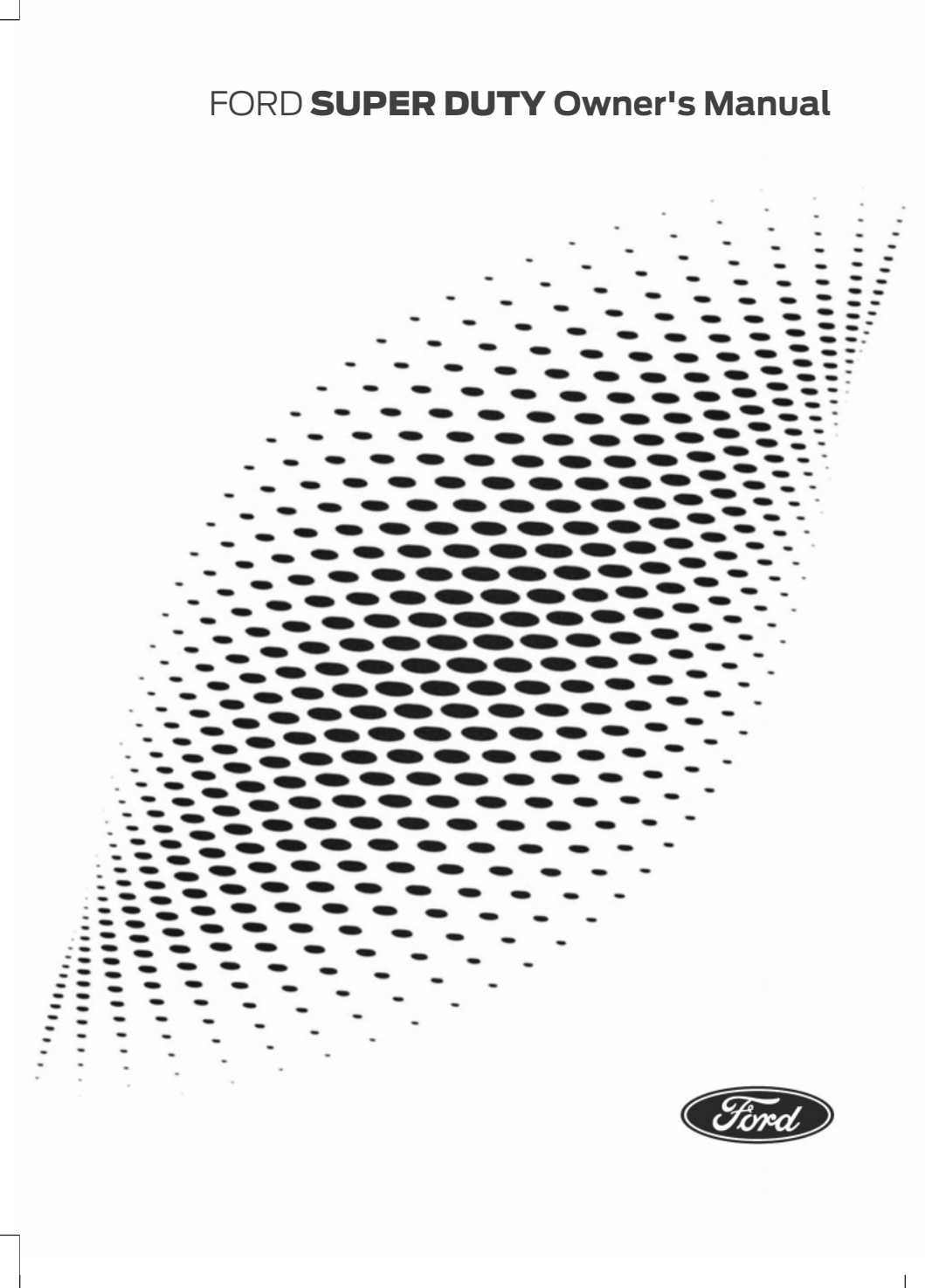
FORD **SUPER DUTY** Owner's Manual



The information contained in this publication was correct at the time of release. In the interest of continuous development, we reserve the right to change specifications, design or equipment at any time without notice or obligation. No part of this publication may be reproduced, transmitted, stored in a retrieval system or translated into any language in any form by any means without our written permission. Errors and omissions excepted.

© Ford Motor Company 2026

All rights reserved.

Part Number: -202606-20260611161501

California Proposition 65

WARNING: Operating, servicing and maintaining a passenger vehicle or off-highway motor vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to *www.P65Warnings.ca.gov/passenger-vehicle*.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling**.

Table of Contents

Introduction
About This Publication 15
Using This Publication 17

Symbols Glossary
Symbols Used On Your Instrument Cluster 18

Data Privacy
Data Privacy 21
Service Data 22
Event Data 22
Settings Data 23
Connected Vehicle Data 23
Mobile Device Data 24
Emergency Call System Data 24

Environment
Protecting the Environment 25

Visual Search
Interior Overview 26
Exterior Overview 27

Child Safety
Child Safety Precautions 28
Child Restraint Anchor Points 29
Child Restraints 31
Installing Child Restraints 32
Booster Seats 39
Child Safety Locks 41

Seatbelts
Seatbelt Precautions 42
Fastening and Unfastening the Seatbelts 43
Sensitive Locking Mode 44
Automatic Locking Mode 44
Adjusting the Seatbelts During Pregnancy 45
Adjusting the Seatbelt Height 45
Adjusting the Seatbelt Length 46
Seatbelt Reminder 46
Checking the Seatbelts 48
Seatbelt Extensions 48

Airbags
How Do the Front Airbags Work 49
How Do the Side Airbags Work 49
How Does the Safety Canopy™ Work 50
Airbag Precautions 51
Switching the Passenger Airbag On and Off 52
Properly Adjusting the Driver and Front Passenger Seats 56
Children and Airbags 56
Crash Sensors and Airbag Indicator 57
Disposing of Airbags 58

911 Assist
911 Assist 59

Keys and Remote Controls
Remote Control Limitations 61
Using the Remote Control 61
Opening and Closing the Flip Key - Vehicles With: Flip Key 62
Removing the Key Blade - Vehicles With: Push Button Start 62
Sounding the Panic Alarm 63
Locating Your Vehicle 63
Changing the Remote Control Battery - Vehicles With: Flip Key 63
Changing the Remote Control Battery - Vehicles With: Push Button Start 64
Replacing a Lost Key or Remote Control 65
Programming the Remote Control - Vehicles With: Flip Key 66
Programming the Remote Control - Vehicles With: Push Button Start 67

Keys and Remote Controls Audible Warnings - Vehicles With: Push Button Start 68
Keys and Remote Controls Audible Warnings - Vehicles With: Flip Key 68
Using the Valet Mode 68
Keys and Remote Controls – Troubleshooting 69

Doors and Locks

Operating the Doors From Outside Your Vehicle 70
Operating the Doors From Inside Your Vehicle 70
Autounlock 71
Autolock 71
Mislock 71
Doors and Locks Audible Warnings 72
Doors and Locks – Troubleshooting 72

Keyless Entry

What Is Keyless Entry 74
Keyless Entry Limitations 74
Keyless Entry Settings 74
Using Keyless Entry 74
Keyless Entry – Troubleshooting 75

Keyless Entry Keypad

What Is the Keyless Entry Keypad 76
Keyless Entry Keypad Limitations 76
Locating the Keyless Entry Keypad 76
Keyless Entry Keypad Master Access Code 76
Keyless Entry Keypad Personal Access Codes 77
Using the Keyless Entry Keypad 77
Keyless Entry Keypad – Troubleshooting 78

Easy Entry and Exit

How Does Easy Entry and Exit Work 79
Switching Easy Entry and Exit On and Off 79

Tailgate - Vehicles With: Manual Tailgate

Tailgate Precautions 80
Opening the Tailgate 80
Removing and Installing the Tailgate 80
Tailgate Step 81

Tailgate - Vehicles With: Power Tailgate

Tailgate Precautions 83
Opening the Tailgate 83
Closing the Tailgate 83
Removing and Installing the Tailgate 84
Tailgate Step 86
Tailgate – Troubleshooting 87

Tailgate - Vehicles With: Remote Power Tailgate Release

Tailgate Precautions 89
Opening the Tailgate 89
Removing and Installing the Tailgate 89
Tailgate Step 90
Tailgate – Troubleshooting 92

Security

Passive Anti-Theft System 94
Anti-Theft Alarm System 94
Security – Troubleshooting 95

Power Running Boards

Power Running Board Precautions 96

Power Running Board Settings 96
Power Running Boards – Troubleshooting 97

Steering Wheel

Adjusting the Steering Wheel - Vehicles With: Manual Adjustable Steering Column 98
Adjusting the Steering Wheel - Vehicles With: Power Adjustable Steering Column 98
Resetting the Stopping Position - Vehicles With: Power Adjustable Steering Column 99
Horn 99
Switching the Heated Steering Wheel On and Off - Vehicles With: Heated Steering Wheel 100

Adjustable Pedals

Adjusting the Pedals 101

Wipers and Washers

Wipers 102
Autowipers 102
Checking the Wiper Blades 103
Replacing the Front Wiper Blades 103
Washers 104
Wipers and Washers – Troubleshooting 105

Exterior Lighting

Exterior Lighting Control 107
Headlamps 107
Autolamps 108
Exterior Lamps 108
Exterior Zone Lighting 111
Automatic High Beam Control 112
Automatic High Beam Control – Troubleshooting 114
Adaptive Front Lighting 114
Exterior Lighting – Frequently Asked Questions 115

Interior Lighting

Switching All of the Interior Lamps On and Off 117
Switching the Front Interior Lamps On and Off 117
Switching the Rear Interior Lamps On and Off 117
Interior Lamp Function 117
Adjusting the Instrument Panel Lighting Brightness 118
Ambient Lighting - Vehicles With: Ambient Lighting 118
Interior Lighting – Troubleshooting 118

Windows

Opening and Closing the Windows 119
Global Opening 120
Window Bounce-Back 121
Locking the Rear Window Controls - Crew Cab/SuperCab 121
Opening and Closing the Sliding Windows - Vehicles With: Power Sliding Rear Window 121

Interior Mirror

Interior Mirror Precautions 123
Manually Dimming the Interior Mirror 123
Auto-Dimming Interior Mirror 123
Digital Interior Mirror 123

Exterior Mirrors

Adjusting the Exterior Mirrors 125
Folding the Exterior Mirrors - Vehicles With: Manual Folding Mirrors 125
Folding the Exterior Mirrors - Vehicles With: Power Folding Mirrors 125
Extending the Exterior Mirrors 126

Glass Roof

Opening and Closing the Sunshade 128
Opening and Closing the Glass Roof 128
Venting the Glass Roof 129
Glass Roof Bounce-Back 129

Instrument Cluster

Instrument Cluster Overview - Vehicles With: 4.2 Inch Screen 130
Instrument Cluster Overview - Vehicles With: 12 Inch Screen 131
Tachometer 131
Speedometer 131
Fuel Gauge 131
Engine Coolant Temperature Gauge 132
Engine Oil Pressure Gauge 132
Engine Oil Temperature Gauge 132
Transmission Fluid Temperature Gauge 132
Boost Gauge 132
Diesel Exhaust Fluid Gauge 132

Instrument Cluster Display

Using the Instrument Cluster Display Controls 133
Instrument Cluster Display Main Menu - Vehicles With: 4.2 Inch Screen 133
Instrument Cluster Display Main Menu - Vehicles With: 12 Inch Screen 134
Customizing the Instrument Cluster Display - Vehicles With: 4.2 Inch Screen 134
Customizing the Instrument Cluster Display - Vehicles With: 12 Inch Screen 134

Trip Computer

Accessing the Trip Computer - Vehicles With: 4.2 Inch Screen 135
Accessing the Trip Computer - Vehicles With: 12 Inch Screen 135
Resetting the Trip Computer 135
Trip Data 135

Head Up Display

What Is the Head Up Display 136
Switching the Head Up Display On and Off 136
Head Up Display Settings 136
Head Up Display – Troubleshooting 137

Remote Start

Using Remote Start 138
Remote Start Settings 138

Climate Control - Vehicles With: Automatic Temperature Control

Identifying the Climate Control Unit 139
Switching Climate Control On and Off 139
Switching Recirculated Air On and Off 139
Switching Air Conditioning On and Off 139
Switching Defrost On and Off 139
Switching Maximum Defrost On and Off 139
Switching Maximum Cooling On and Off 140
Switching the Heated Rear Window On and Off 140
Setting the Blower Motor Speed 140
Switching the Heated Mirrors On and Off 140
Setting the Temperature 140
Directing the Flow of Air 141
Auto Mode 141
Climate Control Hints 141
Air Conditioning System Refrigerant 142

Climate Control - Vehicles With: Manual Temperature Control

Identifying the Climate Control Unit 144
Switching Climate Control On and Off 144
Switching Recirculated Air On and Off 144
Switching Air Conditioning On and Off 144
Switching Defrost On and Off 144
Switching Maximum Defrost On and Off 144
Switching Maximum Cooling On and Off 145
Switching the Heated Rear Window On and Off 145
Setting the Blower Motor Speed 145
Switching the Heated Mirrors On and Off 145
Setting the Temperature 146
Directing the Flow of Air 146
Climate Control Hints 146

Interior Air Quality

What Is the Cabin Air Filter 148
Replacing the Cabin Air Filter 148

Front Seats

Front Seat Precautions 149
Sitting in the Correct Position 149
Manual Seats 150
Power Seats 152
Seat Features 156

Rear Seats

Manual Seats 158
Heated Seats 160

Rear Occupant Alert System

What is the Rear Occupant Alert System 162
How Does the Rear Occupant Alert System Work 162
Rear Occupant Alert System Precautions 162
Rear Occupant Alert System Limitations 162
Rear Occupant Alert System Settings 163
Rear Occupant Alert System Indicators 163
Rear Occupant Alert System Audible Warnings 163

Memory Function

What Is the Memory Function 164
Memory Function Precautions 164
Locating the Memory Function Buttons 164
Using the Memory Function 164

Garage Door Opener

Universal Garage Door Opener 165

Power Outlets and Device Charging

Power Outlets and Device Charging Overview 169
Power Outlet Precautions 170
DC Power Outlet - Vehicles With: 12V Power Outlet 170
AC Power Outlet - Vehicles With: 110-120V 400W Power Outlet 170
USB Ports 171
Wireless Accessory Charger 172

Onboard Generator - Vehicles With: 110-120V 2kW Pickup Bed Power Outlet

What Is the Onboard Generator 174
Onboard Generator Precautions 174
Locating the Outlets 175
Onboard Generator Indicators 175
Switching the Outlets On and Off 176
Generator Mode 177
Utility Idle Mode - Vehicles With: Keyed Ignition 177
Ground Fault Detection 178
Onboard Generator – Troubleshooting 179

Center Console Work Surface

Using the Center Console Work Surface 181
Center Console Work Surface – Troubleshooting 182

Storage

Cup Holders 183
Glove Compartment 183
Center Console 184
Under Seat Storage 185
Glasses Holder 187

Starting and Stopping the Engine

Starting and Stopping the Engine – Precautions 188
Ignition Switch - Vehicles With: Keyed Ignition 188
Push Button Ignition Switch - Vehicles With: Push Button Start 189
Starting the Engine 189
Engine Block Heater 191
Stopping the Engine 192
Idle Timer - Vehicles With: Engine Idle Shutdown Timer 194
Automatic Engine Stop - Vehicles With: Push Button Start 194
Accessing the Passive Key Backup Position - Vehicles With: Push Button Start 195
Starting and Stopping the Engine – Troubleshooting 196

Fuel and Refueling

Fuel and Refueling Precautions 202
Fuel Quality 202
Running Out of Fuel 206
Refueling 206
Fuel Tank Capacity - Diesel 210
Fuel Tank Capacity - Gasoline 211
Fuel and Refueling – Troubleshooting 211

Diesel Particulate Filter - Diesel

What Is the Diesel Particulate Filter 212
How Does the Diesel Particulate Filter Work 212
Diesel Particulate Filter Precautions 212
Diesel Particulate Filter Requirements 213
Diesel Particulate Filter Manual Regeneration 213
Diesel Particulate Filter – Troubleshooting 215

Selective Catalytic Reduction System - Diesel

What Is the Selective Catalytic Reduction System 217
How Does the Selective Catalytic Reduction System Work 217
Selective Catalytic Reduction System Precautions 217

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Selective Catalytic Reduction System Requirements 219
Selective Catalytic Reduction System Guidelines 219
Filling the Selective Catalytic Reduction System Tank 219
Checking the Selective Catalytic Reduction System Status 221
Diesel Exhaust Fluid Capacity and Specification 221
Selective Catalytic Reduction System – Troubleshooting 222

Catalytic Converter

What Is the Catalytic Converter 225
Catalytic Converter Precautions 225
Catalytic Converter – Troubleshooting 225

Automatic Transmission

Automatic Transmission Positions 226
Manually Shifting Gears 228
Using Power Take-Off 228
Automatic Transmission Audible Warnings 229
Using Progressive Range Selection 229
Automatic Transmission Fluid Capacity and Specification 230

Four-Wheel Drive

How Does Four-Wheel Drive Work 231
Four-Wheel Drive Precautions 232
Four-Wheel Drive Limitations 232
Switching Four-Wheel Drive On and Off 233
Selecting a Four-Wheel Drive Mode 234
Four-Wheel Drive Modes 235
Four-Wheel Drive Indicators 235
Transfer Case Fluid Capacity and Specification 235
Four-Wheel Drive – Troubleshooting 236

Front Axle

Front Axle Fluid Capacity and Specification 239

Rear Axle

Limited Slip Differential 241
Rear Axle Fluid Capacity and Specification 241

Electronic Locking Differential

What Is the Electronic Locking Differential 246
How Does the Electronic Locking Differential Work 246
Electronic Locking Differential Precautions 246
Switching the Electronic Locking Differential On and Off - 4x4 246
Switching the Electronic Locking Differential On and Off - 4x2 248
Electronic Locking Differential Indicators 248
Electronic Locking Differential – Troubleshooting 249

Drive Mode Control

What Is Drive Mode Control 250
How Does Drive Mode Control Work 250
Selecting a Drive Mode 250
Drive Modes 250
Drive Mode Control – Troubleshooting 253

Brakes

Brake Precautions 256
Anti-Lock Braking System 256
Brake Over Accelerator 256
Locating the Brake Fluid Reservoir 256
Checking the Brake Fluid 256
Brake Fluid Specification 257

Brakes – Troubleshooting 258

Electric Parking Brake

What Is the Electric Parking Brake 260
Applying the Electric Parking Brake 260
Applying the Electric Parking Brake in an Emergency 260
Manually Releasing the Electric Parking Brake 260
Automatically Releasing the Electric Parking Brake 261
Electric Parking Brake Audible Warning 261
Releasing the Electric Parking Brake if the Vehicle Battery Has Run Out of Charge 261
Electric Parking Brake – Troubleshooting 261

Diesel Engine Exhaust Brake

Diesel Engine Exhaust Brake – Precautions 263
Using the Diesel Engine Exhaust Brake 263
Diesel Engine Exhaust Brake Indicators 264
Diesel Engine Exhaust Brake Gauge - Vehicles With: 4.2 Inch Instrument Cluster Display Screen 264
Diesel Engine Exhaust Brake Gauge - Vehicles With: 12.3 Inch Instrument Cluster Display Screen 264
Diesel Engine Exhaust Brake – Troubleshooting 265

Hill Start Assist

What Is Hill Start Assist 266
How Does Hill Start Assist Work 266
Hill Start Assist Precautions 266
Switching Hill Start Assist On and Off 266
Hill Start Assist – Troubleshooting 266

Traction Control

What Is Traction Control 267
How Does Traction Control Work 267
Switching Traction Control On and Off 267
Traction Control Indicator 267
Traction Control – Troubleshooting 268

Stability Control

How Does Stability Control Work 269
Switching Stability Control On and Off 270
Stability Control Indicator 271

Trail Control

What Is Trail Control 272
Trail Control Limitations 272
Switching Trail Control On and Off 272
Setting the Trail Control Speed 272
Canceling the Set Speed 273
Trail Control Indicators 273
Trail Control – Troubleshooting 274

Trail Turn Assist

What Is Trail Turn Assist 275
Trail Turn Assist Precautions and Limitations 275
Switching Trail Turn Assist On and Off 275
Trail Turn Assist Indicators 275
Trail Turn Assist – Troubleshooting 276

Hill Descent Control

What Is Hill Descent Control 277
How Does Hill Descent Control Work 277
Hill Descent Control Precautions 277
Switching Hill Descent Control On and Off 277
Setting the Hill Descent Speed 277
Hill Descent Control Indicator 277

Hill Descent Control – Troubleshooting 278

Steering

Hydraulic Power Steering 279
Steering – Troubleshooting 281

Driver Assistance Systems

Driver Assistance Systems Overview 282
Pre-Collision Assist 287
Rear View Camera 291
360 Degree Camera 294
Parking Aids 298
Cross Traffic Alert 302
Reverse Brake Assist 305
Exit Warning 308
Blind Spot Information System 310
Driver Alert 313
Lane Keeping System 314
Speed Sign Recognition 322
Cruise Control 324
Adaptive Cruise Control 325
Lane Centering 333
Predictive Speed Assist 336

Load Carrying

Load Carrying Precautions 340
Using a Slide-In Camper 341
Locating the Safety Compliance Certification Labels 341
What Is the Gross Axle Weight Rating 341
What Is the Gross Vehicle Weight Rating 342
What Is the Gross Combined Weight Rating 342
Calculating Payload 342
Calculating the Load Limit 343

Pickup Bed

Pickup Bed Precautions 345
Pickup Bed Anchor Points 345
Tailgate Anchor Points 347

Connecting a Trailer

Connecting a Trailer Precautions 348
Hitches 348
Connecting a Trailer 350
Trailer Lighting Check 352
Connecting a Trailer – Troubleshooting 354

Towing a Trailer

Towing a Trailer Precautions 355
Trailer Brake Precautions 355
Towing a Trailer Limitations 356
Loading Your Trailer 356
Trailer Towing Hints 357
Launching or Retrieving a Boat or Personal Watercraft 357
Towing Weights and Dimensions 358
Towing a Trailer – Troubleshooting 360

Integrated Trailer Brake Controller

What Is the Integrated Trailer Brake Controller 362
Integrated Trailer Brake Controller Precautions 362
Using the Integrated Trailer Brake Controller 362
Adjusting the Integrated Trailer Brake Controller Mode 364
Integrated Trailer Brake Controller – Troubleshooting 365

Trailer Sway Control

How Does Trailer Sway Control Work 367
Trailer Sway Control Precautions 367

Switching Trailer Sway Control On and Off 367

Trailer Hitching Assistance

How Does Trailer Hitching Assistance Work 368
Trailer Hitching Assistance Precautions 368
Trailer Hitching Assistance Limitations 368
Switching Trailer Hitching Assistance On and Off 369
Using Trailer Hitching Assistance 369
Trailer Hitching Assistance Indicators 370
Trailer Hitching Assistance – Troubleshooting 372

Smart Hitch

Smart Hitch 374

Onboard Scales

Onboard Scales 376

Trailer Backup Assistance

How Does Trailer Backup Assistance Work 377
Trailer Backup Assistance Precautions 377
Setting Up the Trailer Backup Assistance for a Conventional Trailer 377
Setting Up the Trailer Backup Assistance for a Fifth-Wheel or Gooseneck Trailer 381
Switching Trailer Backup Assistance On and Off 383
Using the Trailer Backup Assistance Controller 383
Using the Trailer Backup Assistance Views 384
Trailer Backup Assistance – Troubleshooting 386

Trailer Reverse Guidance

How Does Trailer Reverse Guidance Work 391
Trailer Reverse Guidance Precautions 391
Setting Up Trailer Reverse Guidance for a Conventional Trailer 391
Switching Trailer Reverse Guidance On and Off 394
Using Trailer Reverse Guidance Views 395
Trailer Reverse Guidance – Troubleshooting 397

Off-Road Driving

Basic Off-Road Driving Techniques 402
After Driving Your Vehicle Off-Road 403

Driving Hints

Breaking-In 404
Driving Economically 404
Driving in Cold Weather - 6.7L Diesel 404
Driving in Cold Weather - 6.8L/7.3L 406
Driving Through Water 406
Driving on Hilly or Sloping Terrain 408
Driving In Sand 408
Floor Mats 409

Snow Plowing

Snow Plowing Precautions 410
Operating Your Vehicle With a Snowplow 410

Crash and Breakdown Information

Roadside Assistance 412
Switching the Hazard Flashers On and Off 413
Jump Starting the Vehicle 413
Post-Crash Alert System 416

Post-Collision Braking 416
Automatic Crash Shutoff 416
Recovery Towing 417
Transporting the Vehicle 418
Fail-Safe Cooling 418

Towing Your Vehicle

Towing Your Vehicle Precautions 420
Recreationally Towing Your Vehicle - 4x4 420
Recreationally Towing Your Vehicle - 4x2 422
Emergency Towing 422
Towing Your Vehicle – Troubleshooting 422

Fuses

Fuse Precautions 423
Under Hood Fuse Box 423
Battery Fuse Box 428
Interior Fuse Box 429
Identifying Fuse Types 433
Fuses – Troubleshooting 433

Maintenance

Maintenance Precautions 434
Opening and Closing the Hood 434
Under Hood Overview - 6.7L Diesel 435
Under Hood Overview - 7.3L, Gasoline 436
Engine Oil 437
Engine Air Filter 443
Draining the Fuel Filter Water Trap - Diesel 445
Coolant 448
Changing the Fuel Filter - Diesel 452
Changing the Fuel Filter - Gasoline 452
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: 110-120V 2kW Pickup Bed Power Outlet/Dual Generators 453
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: Dual Generators 453
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: Single Generator 453
Drive Belt Routing Overview - 7.3L, Gasoline, Vehicles With: Dual Generators 454
Drive Belt Routing Overview - 7.3L, Gasoline, Vehicles With: Single Generator 454
12V Battery 454
12V Battery – Troubleshooting 457
Adjusting the Headlamps 458
Exterior Bulbs 460
Interior Bulbs 467

Vehicle Specifications

Engine Specifications - 6.7L Diesel 468
Engine Specifications - 7.3L, Gasoline 469
Motorcraft Parts - 6.7L Diesel 470
Motorcraft Parts - 7.3L, Gasoline 471

Vehicle Care

Cleaning Products 472
Cleaning the Exterior 473
Cleaning the Interior 476
Repairing Minor Paint Damage 478
Waxing Your Vehicle 478

Storing Your Vehicle

Preparing Your Vehicle for Storage 479
Removing Your Vehicle From Storage 480

Wheel and Tire Information

Locating the Tire label 481
Department of Transportation Uniform Tire Quality Grades 481
Information on the Tire Sidewall 482
Glossary of Tire Terminology 487
Tire Replacement Requirements 488

Using Snow Chains 490

Tire Care

Checking the Tire Pressures 493
Inflating the Tires 493
Inspecting the Tire for Wear 497
Inspecting the Tire for Damage 497
Inspecting the Wheel Valve Stems 501
Tire Rotation 501

Tire Pressure Monitoring System

What Is the Tire Pressure Monitoring System 504
Tire Pressure Monitoring System Overview 504
Tire Pressure Monitoring System Precautions 505
Tire Pressure Monitoring System Limitations 505
Viewing the Tire Pressures 506
Resetting Tire Pressure Monitoring System 506
Tire Pressure Monitoring System – Troubleshooting 510

Changing a Road Wheel

Changing a Flat Tire 513
Wheel Nuts 523

Vehicle Identification

Vehicle Identification Number 525

Connected Vehicle

What Is a Connected Vehicle 526
Connected Vehicle Requirements 526
Connected Vehicle Limitations 526
Connecting the Vehicle to a Mobile Network 526
Connecting the Vehicle to a Wi-Fi Network 526
Connected Vehicle Settings 527
Connected Vehicle – Troubleshooting 527

Vehicle Hotspot

Vehicle Hotspot 529

Audio System

Audio System Precautions 530
Identifying the Audio Unit 530
Switching the Audio Unit On and Off 530
Selecting the Audio Source 530
Media Control Buttons 530
Adjusting the Volume 531
Setting a Memory Preset 531
Muting the Audio 531
Adjusting the Sound Settings 531
Setting the Clock and Date 531
AM/FM Radio 532
Digital Radio 533
Satellite Radio 534
Audio System – Troubleshooting 536

Center Display

Center Display Overview 540
Status Bar 540
Information On Demand Screen 541
Feature Bar 541
Settings 542
Driver Assistance Menu 542
Rebooting the Center Display 542

Voice Interaction

Ford Assistant 544

Alexa Built-In

What is Alexa Built-In 546
Alexa Built-In Requirements 546
Signing In to Your Account 546

Using Alexa Built-In 546
Alexa Built-In Settings 546

Phone
Phone Precautions 548
Connecting Your Phone 548
Phone Menu 548
Making and Receiving a Phone Call 550
Sending and Receiving a Text Message 551
Switching Text Message Notification On and Off 552
Enabling Apps on a Mobile Device 552
Switching Apple CarPlay On and Off 552
Switching Android Auto™ On and Off 554

Bluetooth®
Connecting a Bluetooth® Device 556
Playing Media Using Bluetooth® 556

Personal Profiles
How Do Personal Profiles Work 557
Enabling or Disabling Personal Profiles 557
Creating a Personal Profile 557
Linking or Unlinking a Personal Profile 557
Selecting a Personal Profile 558
Deleting a Personal Profile 558

Navigation
Connected Navigation 559
Accessing Navigation 559
Navigation Map Updates 559
Adjusting the Map 559
Live Traffic 559
Setting a Destination 559
Waypoints 560
Route Guidance 560
Trailer Towing Navigation 561

Vehicle Software Updates
Vehicle Software Updates 562
Software Update Settings 562
Software Update Indicators 563

Vehicle System Reset
Performing a System Reset 564

Accessories
Accessories 565

Auxiliary Switches
What Are the Auxiliary Switches 567
Locating the Auxiliary Switches 567
Locating the Auxiliary Switch Wiring 567
Identifying the Auxiliary Switch Wiring 568

Ford Protect
What Is Ford Protect 569

Scheduled Maintenance
Scheduled Maintenance 571
General Maintenance Information 575

Customer Information
Rollover Warning 581
Getting the Services You Need 581
In California (U.S. Only) 583
The Better Business Bureau Auto Line Program 585
The Mediation and Arbitration Program 585
Getting Assistance Outside the U.S. and Canada 586
Reporting Safety Defects in the United States 587

Reporting Safety Defects in Canada 587
Third Party Software Copyright Acknowledgment 588
Radio Frequency Certification Labels 588
Perchlorate 588
Replacement Parts Recommendation 588
Mobile Communications Equipment 589
Federal Highway Administration Regulation 589
End User License Agreement 590
Emission Law 615
Export Unique Options 616
Warranty Information 617

Appendices

Electromagnetic Compatibility 619

ABOUT THIS PUBLICATION

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

WARNING: You risk death, fire, or serious injury to yourself and others if you do not follow the instruction highlighted by the warning symbol.

Thank you for choosing Ford. We recommend that you take some time to get to know your vehicle in order to benefit from greater safety and pleasure from driving it. Use this publication, whether in-vehicle center display screen, print, in Ford app or online, to familiarize yourself with the features on your vehicle.

Note: *Use and operate your vehicle in line with all applicable laws and regulations.*

Note: *Pass on all printed owner's information when selling this vehicle.*

Features and Options

This publication describes product features and options available throughout the range of available models, sometimes even before they are generally available. It could describe options that are not available on the vehicle you have purchased.

Driver Assistance Systems

Your vehicle may contain certain Driver Assistance Systems (for example Pre-Collision Assist, Adaptive Cruise Control, Lane Keeping System, and BlueCruise). Use of these technologies still requires your complete attention while driving. Your hands need to be on the steering wheel at all times unless you are actively operating BlueCruise and your vehicle informs you that you do not need to have your hands on the steering wheel. With all driving technologies, your eyes need to be on the road, and you must be alert to your surroundings. Your complete attention is required while driving since you may need to take immediate control due to the presence of roadway hazards or a change in road, weather, or lighting conditions. Use of these features does not relieve you of your responsibility to drive with due care and attention. Always be prepared to manually control the speed and direction of your vehicle. Please refer to this publication for information pertaining to each Driver Assistance feature.

Aftermarket Modifications, Add-ons, Accessories, and Repairs

Unapproved modifications to your vehicle may affect your vehicle's height or suspension and could shift the sensors out of the position from which they were designed and tested. Unapproved aftermarket parts or add-on accessories could also block or interfere with your vehicle's sensors or electronic systems.

Do not modify your vehicle with unapproved aftermarket products or repairs. Unapproved modifications may affect your vehicle warranty, performance, safety, or durability. We are not responsible for any damage or adverse effects caused by unapproved modifications to your vehicle or its systems.

Providing Feedback

If you would like to provide feedback to the Owner's Manual team, please email us at OWNERMANUALFEEDBACK@ford.com.

You will not receive a direct email response. Your submission will be investigated and necessary changes will be made to the Owner's Manual content.

To help investigate your submission, please include the following information:

- Your vehicle model
- The country in which your vehicle was purchased
- The Owner's Manual section needing investigation

Illustrations

Note: *Some of the illustrations in this publication could show features as used in different models, so could appear different to you on your vehicle.*

Location of Components

This manual may qualify the location of a component as left-hand side or right-hand side. The side is determined when facing forward in the seat.



A Right-hand side.

B Left-hand side.

Accessing the Digital Owner's Manual

If your vehicle is connected, you can find the latest version of the Owner's Manual through the Owner's Manual icon on the touchscreen. You can also scan the code displayed on the touchscreen with your smart device which leads you to the same version of the Owner's Manual online. This is the most up-to-date content and may vary slightly from any material originally provided with your vehicle.

Vehicles with a Portrait Center Display Screen

The Owner's Manual application is located in the Apps list.

Vehicles with a Landscape Center Display Screen

Depending on your vehicle, the Owner's Manual application is located in either the Apps list or the Features list.

Accessing the Online and Printed Owner's Manual

Online Owner's Manual

- Through your device's app store, you can download the Ford app.
- You can visit the local Ford Website.

Note: *To find the local Ford website, visit https://corporate.ford.com/operations/locations/global-links.html.*

Note: *We strongly recommend downloading a copy of the Owner's Manual and having it with you whenever you drive, and to view the information if you are unable to be inside the vehicle.*

Printed Owner's Manual

In U.S. and Canada, visit *https://www.helminc.com* or see an authorized dealer.



In Europe, visit *https://www.z-order.eu* or see an authorized dealer.



For all other Countries, see your authorized dealer.

USING THIS PUBLICATION

To quickly locate information about your vehicle, use the word search within the Owner's Manual application.

SYMBOLS USED ON YOUR INSTRUMENT CLUSTER

Depending on your vehicle options, market, and instrument cluster type, not all symbols shown are available.

Lighting and Signaling


High beams. See **Headlamp Indicators** (page 107).


Auto high beams. See **Automatic High Beam Control Indicators** (page 113).


Front fog lamps. See **Using the Front Fog Lamps** (page 109).


Turn signal - right. See **Using the Turn Signal Lamps** (page 108).


Turn signal - left. See **Using the Turn Signal Lamps** (page 108).


Positioning/side lights. See **Headlamp Indicators** (page 107).

Brakes


Brake failure. See **Brakes – Warning Lamps** (page 258). See **Electric Parking Brake – Warning Lamps** (page 261).



Brake failure. See **Brakes – Warning Lamps** (page 258). See **Electric Parking Brake – Warning Lamps** (page 261).


Electric parking brake fault. See **Electric Parking Brake – Warning Lamps** (page 261).



Anti-lock brake system malfunction. See **Brakes – Warning Lamps** (page 258).


Exhaust brake. See **Diesel Engine Exhaust Brake Indicators** (page 264).


Automatic exhaust brake. See **Diesel Engine Exhaust Brake Indicators** (page 264).

Visibility


Windshield washer fluid level. See **Wipers and Washers – Warning Lamps** (page 105).

Engine


Check engine. See **Starting and Stopping the Engine – Warning Lamps** (page 196). See **Catalytic Converter – Warning Lamps** (page 225). See **Coolant – Warning Lamps** (page 452). See **Emission Law** (page 615). See **Starting Diesel Particulate Filter Manual Regeneration** (page 214). See **Diesel Particulate Filter – Warning Lamps** (page 215).


Engine oil pressure. See **Starting and Stopping the Engine – Warning Lamps** (page 196).


Engine coolant temperature. See **Catalytic Converter – Warning Lamps** (page 225). See **Coolant – Warning Lamps** (page 452).


Automatic Regeneration Control Off. See **Diesel Particulate Filter – Warning Lamps** (page 215).



Diesel exhaust fluid. See **Selective Catalytic Reduction System – Warning Lamps** (page 222).



Diesel pre-heat. See **Starting a Diesel Engine** (page 190). See **Starting a Diesel Engine** (page 190).

Fuel



Fuel. See **Fuel and Refueling – Warning Lamps** (page 211).



Water/Moisture in fuel system. See **Draining the Fuel Filter Water Trap** (page 445).

Transmission



Non-emission powertrain fault. See **Starting and Stopping the Engine – Warning Lamps** (page 196). See **Four-Wheel Drive – Warning Lamps** (page 236). See **Diesel Particulate Filter – Warning Lamps** (page 215).

Vehicle Handling



Selectable drive mode - normal. See **Normal** (page 251). See **Normal** (page 251).



Selectable drive mode - ECO. See **Eco** (page 250). See **Eco** (page 251).



Selectable drive mode - tow/haul. See **Tow/Haul** (page 253). See **Tow/Haul** (page 253).



Selectable drive mode - slippery. See **Slippery** (page 252). See **Slippery** (page 252).



Selectable drive mode - trail. See **Trail** (page 253).



Selectable drive mode - rock crawl. See **Rock Crawl** (page 252).



Selectable drive mode - Off-road. See **Off-Road** (page 251).



Differential lock - rear axle. See **Electronic Locking Differential Indicators** (page 248).



Off road turn assist - right. See **Trail Turn Assist Indicators** (page 275).



Off road turn assist - left. See **Trail Turn Assist Indicators** (page 275).



Two-wheel drive high. See **Four-Wheel Drive Indicators** (page 235).



Four-wheel drive high. See **Four-Wheel Drive Indicators** (page 235).



Four-wheel drive low. See **Four-Wheel Drive Indicators** (page 235).

Driver Assistance



Cruise control. See **Switching From Adaptive Cruise Control to Cruise Control** (page 331).



Adaptive cruise control. See **Adaptive Cruise Control Indicators** (page 331).



Hill descent control. See **Hill Descent Control Indicator** (page 277).



Trail control. See **Trail Control Indicators** (page 273).



Lane centering assist. See **Lane Centering Indicators** (page 335).



Lane keeping system. See **Lane Keeping System Indicators** (page 317).



Trailer Distance To Empty. See **What Is Distance to Empty** (page 132).

Safety



Seatbelt. See **Seatbelt Reminder Indicators** (page 47). See **Seatbelt Precautions** (page 42).



Seatbelt reminder. See **Seatbelt Reminder Indicators** (page 47).



Airbag. See **How Does the Safety Canopy™ Work** (page 50). See **Crash Sensors and Airbag Indicator** (page 57). See **Seatbelt Precautions** (page 42).



Stability control system active or not available. See **Traction Control Indicator** (page 267). See **Stability Control Indicator** (page 271).



Stability control system off. See **Traction Control Indicator** (page 267). See **Drive Mode Control – Warning Lamps** (page 253).



Tire failure/Low tire pressure. See **What Is the Tire Pressure Monitoring System** (page 504). See **Tire Pressure Monitoring System – Warning Lamps** (page 510).



Forward collision warning system. See **How Does Pre-Collision Assist Work** (page 287).



Blind spot information system off or unavailable. See **Blind Spot Information System Indicators** (page 311).



Forward collision warning system off or unavailable. See **Pre-Collision Assist – Warning Lamps** (page 290).



Door(s) ajar. See **Doors and Locks – Warning Lamps** (page 72).

Security



Hood release/ajar. See **Opening and Closing the Hood** (page 434).



Tailgate release/ajar. See **Tailgate – Warning Lamps** (page 87).

Electrical Systems



Battery charge level. See **12V Battery – Warning Lamps** (page 457). See **Catalytic Converter – Warning Lamps** (page 225).

WARNING: Do not connect wireless plug-in devices to the data link connector. Unauthorized third parties could gain access to vehicle data and impair the performance of safety related systems. Only allow repair facilities that follow our service and repair instructions to connect their equipment to the data link connector.

We respect your privacy and are committed to protecting it. The information contained in this publication was correct at the time of release, but as technology rapidly changes, we recommend that you visit the local Ford website for the latest information.

Your vehicle has electronic control units that have data recording functionality and the ability to permanently or temporarily store data. This data could include information on the condition and status of your vehicle, vehicle maintenance requirements, events and malfunctions. The types of data that can be recorded are described in this section. Some of the data recorded is stored in event logs or error logs.

Note: *Error logs are reset following a service or repair.*

Note: *We may provide information in response to requests from law enforcement, other government authorities and third parties acting with lawful authority or through a legal process. Such information could be used by them in legal proceedings.*

Data recorded includes, for example:

- For vehicles with a driver-facing camera, driver engagement including eye and head position processed by the camera.
- Operating states of system components, for example fuel level, tire pressure and battery charge level.
- Vehicle system and component status, for example wheel speed, deceleration, lateral acceleration and seatbelt status.
- Events or errors in essential systems, for example headlamps and brakes.
- System responses to driving situations, for example driver warnings, airbag deployment and stability control.
- Environmental conditions, for example temperature.

Some of this data, when used in combination with other information, for example an accident report, damage to a vehicle or eyewitness statements, could be associated with a specific person.

Services That We Provide

If you use our services, we collect and use data, for example account information, vehicle location and driving characteristics, that could identify you. We transmit this data through a dedicated, protected connection. We only collect and use data to enable your use of our services to which you have subscribed, with your consent or where permitted by law. For additional information, see the terms and conditions of the services to which you have subscribed.

For additional information about our privacy policy, refer to the local Ford website.

Services That Third Parties Provide

We recommend that you review the terms and conditions and data privacy information for any services equipped with your vehicle or to which you subscribe. We take no responsibility for services that third parties provide.

Where equipped, SiriusXM with 360L could use the modem. To disable, turn off the SiriusXM with 360L or Vehicle Connectivity setting. See **Enabling and Disabling the Modem** (page 526).

SERVICE DATA

Service data recorders in your vehicle may collect and store diagnostic information about your vehicle, which may include information about the performance or status of various systems and modules in the vehicle, such as engine or high voltage battery, throttle, steering or brake systems. Ford, and service and repair facilities may access or share among them vehicle diagnostic information received through a direct connection to your vehicle. Ford may, where permitted by law, use vehicle diagnostic information for vehicle improvement or with other information we may have about you, for example, your contact information, to offer you products or services that may interest you. Data may be provided to our service providers such as part suppliers that may help diagnose malfunctions, and who are similarly obligated to protect data. We retain this data only as long as necessary to perform these functions or to comply with law. We may provide information where required in response to official requests to law enforcement or other government authorities or third parties acting with lawful authority or court order, and such information may be used in legal proceedings. For Canada only, for more information, please review the Ford of Canada privacy policy at *www.ford.ca*, including our U.S. data storage and use of service providers in other jurisdictions who may be subject to legal requirements in Canada, the United States and other countries applicable to them, for example, lawful requirements to disclose personal information to governmental authorities in those countries.

EVENT DATA

This vehicle is equipped with an event data recorder. The main purpose of an event data recorder is to record, in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle; this data will assist in understanding how a vehicle's systems performed. The event data recorder is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less.

The event data recorder in this vehicle is designed to record such data as:

- **How various systems in your vehicle were operating.**
- **Whether or not the driver and passenger seatbelts were buckled/fastened.**
- **How far (if at all) the driver was depressing the accelerator and/or the brake pedal.**
- **How fast the vehicle was traveling.**
- **Where the driver was positioning the steering wheel.**

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Note: ***Event data recorder data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the event data recorder under normal driving conditions and no personal data or information (for example name, gender, age, and crash location) is recorded. However, parties, such as law enforcement, could combine the event data recorder data with the type of personally identifying data routinely acquired during a crash investigation.***

To read data recorded by an event data recorder, special equipment is required, and access to the vehicle or the event data recorder is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have such special equipment, can read the information if they have access to the vehicle or the event data recorder.

BlueCruise Data (If Equipped)

If BlueCruise is active in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle, the system may record driver attentiveness, based on the direction of eyes and duration, and photographs of the driver seat area.

Note: ***No data is recorded under normal driving conditions.***

SETTINGS DATA

Your vehicle has electronic control units that have the ability to store data based on your personalized settings. The data is stored locally in the vehicle or on devices that you connect to it, for example, a USB drive or digital music player. You can delete some of this data and also choose whether to share it through the services to which you subscribe.

Comfort and Convenience Data

Data recorded includes, for example:

- Seat and steering wheel position.
- Climate control settings.
- Radio presets.

Entertainment Data

Data recorded includes, for example:

- Music, videos or album art.
- Contacts and corresponding address book entries.
- Navigation destinations.

CONNECTED VEHICLE DATA



The modem has a SIM. The modem was enabled when your vehicle was built and periodically sends messages to stay connected to the cell phone network, receive automatic software updates and send vehicle-related information to us, for example diagnostic information, subject to your settings. These messages could include information that identifies your vehicle, the SIM and the electronic serial number of the modem. Cell phone network service providers could have access to additional information, for example cell phone network tower identification. For additional information about our privacy policy, visit www.FordConnected.com or refer to your local Ford website.

Subject to your settings, the vehicle may send data such as Vehicle Data, Driving Data and Location Data.

Note: *The modem continues to send this information unless you disable the modem or stop the modem from sharing vehicle data by changing the modem settings.* *See* ***Connected Vehicle*** *(page 526).*

Note: *The service can be unavailable or interrupted for a number of reasons, for example environmental or topographical conditions and data plan coverage.*

Note: *To find out if your vehicle has a modem, visit https://www.fordconnected.com.*

Note: *If you buy or sell a vehicle, review the privacy settings and perform a factory reset.*

Note: *Check privacy settings after the vehicle has been reset to ensure they reflect your choices.*

MOBILE DEVICE DATA

If you connect a mobile device to your vehicle, you can display data from your device on the touchscreen for example, music and album art. You can share your vehicle data with mobile apps on your device through the system. See **Enabling Apps on a Mobile Device** (page 552).

The mobile apps function operates by your connected device sending data to us in the United States. The data is encrypted and includes, for example, the vehicle identification number of your vehicle, the SYNC module serial number, odometer, enabled apps, usage statistics and debugging information. We retain it only as long as necessary to provide the service, to troubleshoot, for continuous improvement and to offer you products and services that may be of interest to you according to your preferences and where allowed by law.

If you connect a cell phone to the system, the system creates a profile that links to that cell phone. The cell phone profile enables more mobile features and efficient operation. The profile contains, for example data from your phonebook, read and unread text messages and call history, including history of calls when your cell phone was not connected to the system.

If you connect a media device, the system creates and retains a media device index of supported media content. The system also records a short diagnostic log of approximately 10 minutes of all recent system activity. The cell phone profile, media device index and diagnostic log remain in your vehicle unless you delete them and are generally accessible only in your vehicle when you connect your cell phone or media device.

We recommend a system reset when no longer using the system or vehicle. See **Performing a System Reset** (page 564).

System data cannot be accessed without special equipment and access to your vehicle's module. For additional information about our privacy policy, refer to the local Ford website.

Note: *To find out if your vehicle has connectivity technology, visit https://www.fordconnected.com.*

EMERGENCY CALL SYSTEM DATA

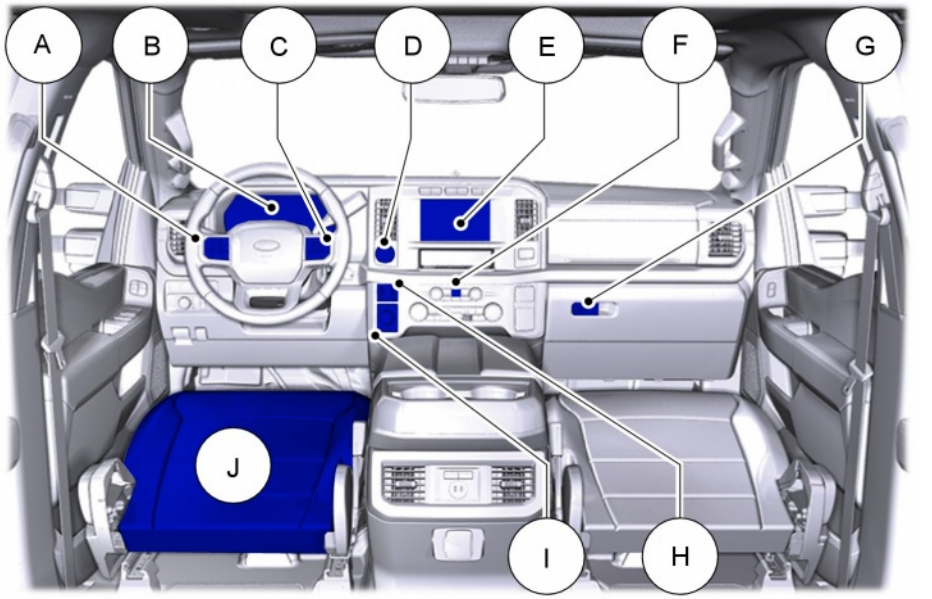
When the emergency call system is active, it may disclose to emergency services that your vehicle has been in a crash involving the deployment of an airbag or activation of the fuel pump shut-off, or deactivation of the high-voltage battery if equipped. Certain versions or updates to the emergency call system may also be capable of electronically or verbally disclosing to emergency services operators your vehicle location or other details about your vehicle or crash to assist emergency services operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not activate the emergency call system.

Note: *You cannot deactivate emergency call systems that are required by law.*

PROTECTING THE ENVIRONMENT

You should play your part in protecting the environment. Correct vehicle usage and the authorized disposal of waste, cleaning and lubrication materials are significant steps toward this aim.

INTERIOR OVERVIEW



A See **Using Cruise Control** (page 324). See **Switching Adaptive Cruise Control On and Off** (page 327).

B See **Instrument Cluster Overview** (page 130). See **Instrument Cluster Overview** (page 131).

C See **Using the Instrument Cluster Display Controls** (page 133).

D See **Using the Trailer Backup Assistance Controller** (page 383).

E See **Center Display Overview** (page 540).

F See **Switching the Hazard Flashers On and Off** (page 413).

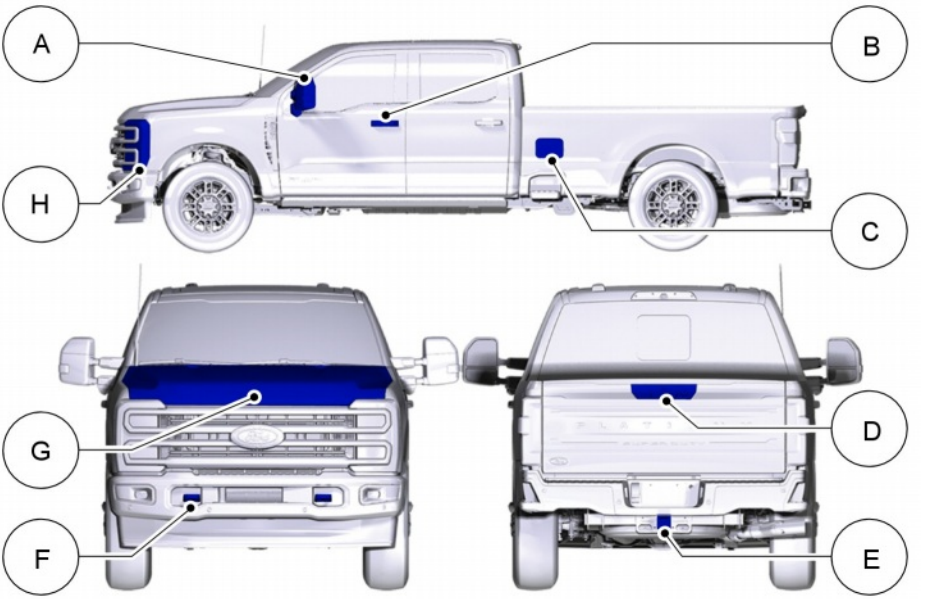
G See **Opening the Glove Compartment** (page 183).

H See **Using the Integrated Trailer Brake Controller** (page 362).

I See **Selecting a Four-Wheel Drive Mode** (page 234).

J See **Sitting in the Correct Position** (page 149).

EXTERIOR OVERVIEW



A See **Folding the Exterior Mirrors** (page 125). See **Folding the Exterior Mirrors** (page 125).

B See **Unlocking and Locking the Doors Using the Key Blade** (page 70).

C See **Refueling Your Vehicle** (page 208).

D See **Opening the Tailgate From Outside Your Vehicle** (page 80). See **Opening the Tailgate From Outside Your Vehicle** (page 83). See **Opening the Tailgate From Outside Your Vehicle** (page 89).

E See **Connecting a Trailer** (page 350).

F See **Accessing the Front Towing Point** (page 417).

G See **Opening and Closing the Hood** (page 434).

H See **Using the High Beam Headlamps** (page 107).

CHILD SAFETY PRECAUTIONS

WARNING: Always make sure your child is secured properly in a device that is appropriate for their height, age and weight. Child safety restraints must be bought separately from your vehicle. Failure to follow these instructions and guidelines may result in an increased risk of serious injury or death to your child.

WARNING: All children are shaped differently. The National Highway Traffic Safety Administration and other safety organizations, base their recommendations for child restraints on probable child height, age and weight thresholds, or on the minimum requirements of the law. We recommend that you check with a NHTSA Certified Child Passenger Safety Technician (CPST) to make sure that you properly install the child restraint in your vehicle and that you consult your pediatrician to make sure you have a child restraint appropriate for your child. To locate a child restraint fitting station and CPST, contact NHTSA toll free at 1-888-327-4236 or go to www.nhtsa.dot.gov. In Canada, contact Transport Canada toll free at 1-800-333-0371 or go to www.tc.gc.ca to find a Child Car Seat Clinic in your area. Failure to properly restrain children in child restraints made especially for their height, age and weight, may result in an increased risk of serious injury or death to your child.

WARNING: On hot days, the temperature inside the vehicle can rise very quickly. Exposure of people or animals to these high temperatures for even a short time can cause death or serious heat related injuries, including brain damage. Small children are particularly at risk.

WARNING: Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.

WARNING: Properly secure children 12 years old and under in a rear seating position whenever possible. If you are unable to properly secure all children in a rear seating position, properly secure the largest child on the front seat. If you must use a forward facing child restraint on the front seat, move the seat as far back as possible. Failure to follow these instructions could result in personal injury or death.

WARNING: Always carefully follow the instructions and warnings provided by the manufacturer of any child restraint to determine if the restraint device is appropriate for your child's size, height, weight, or age. Follow the child restraint manufacturer's instructions and warnings provided for installation and use in conjunction with the instructions and warnings provided by your vehicle manufacturer. A safety seat that is improperly installed or utilized, is inappropriate for your child's height, age, or weight or does not properly fit the child may increase the risk of serious injury or death.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WARNING: Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

WARNING: Do not use pillows, books or towels to boost your child's height. Failure to follow this instruction could result in personal injury or death.

WARNING: Properly secure child restraints or booster seats when they are not in use. They could become projectiles in a sudden stop or crash. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not put the shoulder section of the seatbelt or allow the child to put the shoulder section of the seatbelt under their arm or behind their back. Failure to follow this instruction could reduce the effectiveness of the seatbelt and increase the risk of injury or death in a crash.

WARNING: Do not leave children or pets unattended in your vehicle. Failure to follow this instruction could result in personal injury or death.

When installing a child restraint with seatbelts:

- Place the vehicle seat in the upright position before you install the child restraint.
- Use the correct seatbelt buckle for that seating position.
- Insert the belt tongue into the buckle. Make sure the tongue is securely fastened in the buckle.
- Keep the buckle release button pointing up and away from the child restraint, with the tongue between the child restraint and the release button, to prevent accidental unbuckling.
- Put the seatbelt in the automatic locking mode.

CHILD RESTRAINT ANCHOR POINTS

WHAT ARE THE CHILD RESTRAINT ANCHOR POINTS

Anchor points allow you to quickly and safely install a child restraint.

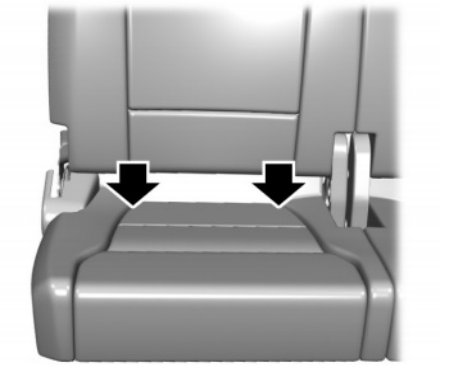
LOCATING THE CHILD RESTRAINT LOWER ANCHOR POINTS

Crew Cab



Super Cab (With Rear Seat)



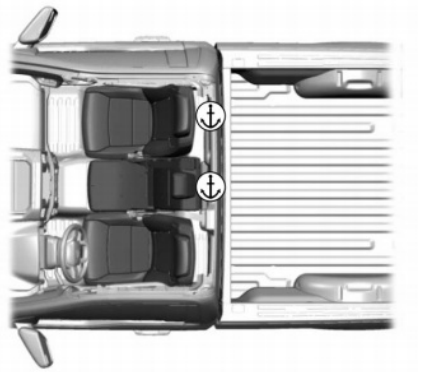


The lower child restraint anchors are at the rear section of the rear seat between the cushion and seat backrest.

Note: *Regular Cab vehicles do not have lower anchors.*

LOCATING THE CHILD RESTRAINT TOP TETHER ANCHOR POINTS

Regular Cab



Crew Cab



Super Cab (With Rear Seat)



CHILD RESTRAINTS

CHILD RESTRAINT POSITION INFORMATION

Install the child restraint tightly against the vehicle seat. It may be necessary to lift or remove the head restraint.

Rear Facing Child Restraints

Combined Weight of Child and Child Restraint	LATCH (Lower Anchors Only)	Seatbelt Only
Up to 65 lb (29 kg)	X	X
Over 65 lb (29 kg)		X

Forward Facing Child Restraints

Combined Weight of Child and Child Restraint	LATCH (Lower Anchors and Top Tether Anchor)	Seatbelt and Top Tether Anchor	Seatbelt and LATCH (Lower Anchors and Top Tether Anchor)
Up to 65 lb (29 kg)	X	X	X
Over 65 lb (29 kg)		X	X

CHILD RESTRAINTS RECOMMENDATION

Child Size, Height, Weight, or Age	Recommended Restraint Type
Children weighing 40 lb (18 kg) or less (generally age four or younger).	Use a child restraint (sometimes called an infant carrier, convertible seat, or toddler seat).
Children who have outgrown or no longer properly fit in a child restraint (generally children who are less than 57 in (1.45 m) tall, are greater than age four and less than age 12, and between 40 lb (18 kg) and 80 lb (36 kg) and upward to 100 lb (45 kg) if recommended by your child restraint manufacturer).	Use a belt-positioning booster seat.
Children who have outgrown or no longer properly fit in a belt-positioning booster seat (generally children who are at least 57 in (1.45 m) tall or greater than 80 lb (36 kg) or 100 lb (45 kg) if recommended by child restraint manufacturer).	Use a vehicle seatbelt having the lap belt snug and low across the hips, shoulder belt centered across the shoulder and chest, and seat backrest upright.

You are required by law to properly use child restraints for infants and toddlers in the United States, Canada and Mexico.

Many states and provinces require that small children use approved booster seats until they reach age eight, a height of 57 in (1.45 m) tall, or 80 lb (36 kg). Check your local and state or provincial laws for specific requirements about the safety of children in your vehicle.

When possible, properly restrain children 12 years of age and under in a rear seating position of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in a front seating position.

When installing a rear facing child restraint, adjust the vehicle seats to avoid interference between the child restraint and the vehicle seat in front of the child restraint.

INSTALLING CHILD RESTRAINTS

USING SEATBELTS

WARNING: Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain seatbelt buckle assemblies and LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, make sure occupants only use seating positions where they are able to be properly restrained.

Note: *The following does not apply to the front center position of Super Cab and Crew Cab vehicles.*

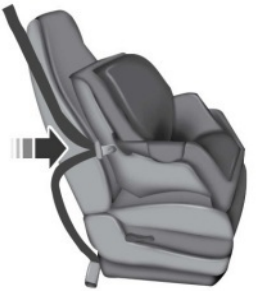
Note: *Although the child restraint illustrated is a forward facing child restraint, the steps are the same for installing a rear facing child restraint.*

Perform the following steps when installing a child restraint with seatbelts.

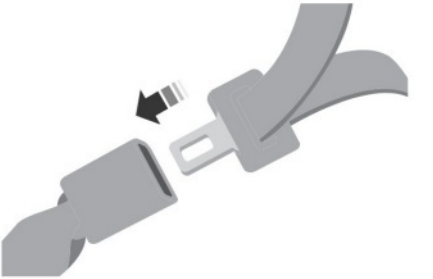
1. Position the child restraint in a seat with a seatbelt.



2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.



3. While holding the shoulder and lap belt portions together, route the tongue through the child restraint according to the child restraint manufacturer's instructions. Make sure you did not twist the belt webbing.



4. Insert the belt tongue into the proper buckle for that seating position until the latch engages. Make sure the tongue is latched securely by pulling on it.



5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until you pull all of the seatbelt out.

Note: *The automatic locking mode is available on the front passenger and rear seats. This mode is also available on the center seat of a Regular Cab. This vehicle does not require the use of a locking clip.*

6. Allow the belt to retract to remove slack. The seatbelt clicks as it retracts to indicate it is in the automatic locking mode.

7. Pull the seatbelt out of the retractor to make sure the retractor is in the automatic locking mode. You should not be able to pull more belt out. If the retractor is not locked, unbuckle the belt and repeat Steps 5 and 6.



8. Remove remaining slack from the belt. Force the seat down with extra weight, for example, by pressing down or kneeling on the child restraint while pulling up on the shoulder belt in order to force slack from the belt. This is necessary to remove the remaining slack that exists once you add the extra weight of the child to the child restraint. It also helps to achieve the proper snugness of the child restraint to your vehicle. Sometimes, a slight lean toward the buckle helps to remove remaining slack from the belt.
9. If the child restraint has a tether strap, attach it.



10. Before placing the child in the seat, forcibly move the seat forward and back to make sure the seat is securely held in place.

To check this, grab the seat at the belt path and attempt to move it side to side and forward and back. There should be no more than 1 in (2.5 cm) of movement.

We recommend checking with a NHTSA Certified Child Passenger Safety Technician to make certain the child restraint is properly installed. In Canada, check with Transport Canada for referral to a Child Car Seat Clinic.

Using Seatbelts

WARNING: Always use both the lap and shoulder portion of the seatbelt in the center seating position.

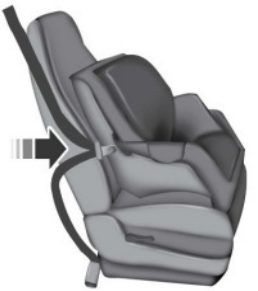
Note: *The following applies to the front center position of Super Cab and Crew Cab vehicles.*

The seatbelt webbing below the tongue is the lap portion of the seatbelt. The webbing above the tongue is the shoulder belt portion of the seatbelt.

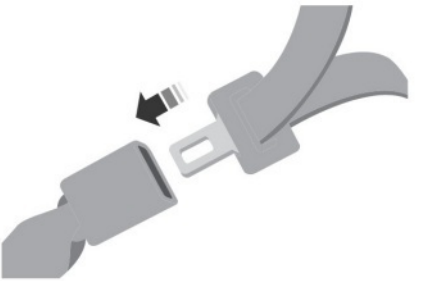
1. Position the child restraint in the front center seat.



2. Slide the tongue up the webbing.



3. While holding both shoulder and lap portions next to the tongue, route the tongue and webbing through the child restraint according to the child restraint manufacturer's instructions. Make sure you did not twist the belt webbing.



4. Insert the belt tongue into the proper buckle for that seating position until the latch engages. Make sure the tongue is latched securely by pulling on it.



5. When pushing down with your knee on the child restraint, pull up on the shoulder belt portion to tighten the lap belt portion of the seatbelt.
6. Allow the seatbelt to retract and remove any slack in the belt to securely tighten the child restraint in the vehicle.
7. If the child restraint has a tether strap, attach it.



8. Before placing the child in the seat, forcibly move the seat forward and back to make sure the seat is securely held in place. To check this, grab the seat at the belt path and attempt to move it side to side and forward and back. There should be no more than 1 in (2.5 cm) of movement.
9. Check from time to time to be sure that there is no slack in the lap and shoulder belt. The shoulder belt must be snug to keep the lap belt tight during a crash.

We recommend checking with a NHTSA Certified Child Passenger Safety Technician to make certain the child restraint is properly installed. In Canada, check with Transport Canada for referral to a Child Car Seat Clinic.

USING LOWER ANCHORS AND TETHERS FOR CHILDREN

WARNING: Do not attach two child safety restraints to the same anchor. In a crash, one anchor may not be strong enough to hold two child safety restraint attachments and may break, causing serious injury or death.

WARNING: Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain seatbelt buckle assemblies and LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, make sure occupants only use seating positions where they are able to be properly restrained.

The Lower Anchors and Tethers for Children (LATCH) system has three vehicle anchor points:

- Two lower anchors where the vehicle seat backrest and seat cushion meet, called the seat bight.
- One top tether anchor behind that seating position.

LATCH compatible child restraints have two rigid or webbing mounted attachments. These attachments connect to the two lower anchors at the LATCH equipped seating positions in your vehicle. This type of attachment method eliminates the need to use seatbelts to attach the child restraint.

However, you can still use the seatbelt to attach the child restraint if the lower anchors are not used. For forward-facing child restraints, you must also attach the top tether strap to the proper top tether anchor if a top tether strap has been provided with your child restraint.

Follow the instructions later in this chapter on attaching child restraints with tether straps.

INSTALLING A CHILD RESTRAINT IN A CENTER SEAT

WARNING: The standardized spacing for LATCH lower anchors is 11 in (280 mm) center to center. Do not use LATCH lower anchors for the center seating position unless the child restraint manufacturer's instructions permit and specify using anchors spaced at least as far apart as those in this vehicle.

The lower anchors at the center of the second row rear seat are spaced 25.7 in (652 mm) apart. The standardized spacing for LATCH lower anchors is 11 in (280 mm) center to center.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

You cannot install a child restraint with rigid LATCH attachments at the center seating position. You can only use LATCH compatible child restraints with attachments on belt webbing at this seating position provided that the child restraint manufacturer's instructions permit use with the anchor spacing stated. Do not attach a child restraint to any lower anchor if another child restraint is attached to that anchor.

Each time you use the child restraint, check that the seat is properly attached to the lower anchors and tether anchor, if applicable. Tug the child restraint from side to side and forward and back where it is secured to the vehicle. The seat should move less than 1 in (2.5 cm).

If you did not properly anchor the child restraint, the risk of a child being injured in a crash greatly increases.

COMBINING THE SEATBELT AND LOWER ANCHORS FOR ATTACHING CHILD RESTRAINTS

When used in combination, you may attach either the seatbelt or the LATCH lower anchors first, provided a proper installation is achieved. Attach the tether strap afterward, if it is included with the child restraint.

USING TETHER STRAPS

Many forward-facing child restraints include a tether strap which extends from the back of the child restraint and hooks to an anchoring point called the top tether anchor. Tether straps are available as an accessory for many older child restraints.

Contact the manufacturer of your child restraint for information about ordering a tether strap, or to obtain a longer tether strap if the tether strap on your child restraint does not reach the appropriate top tether anchor in the vehicle.

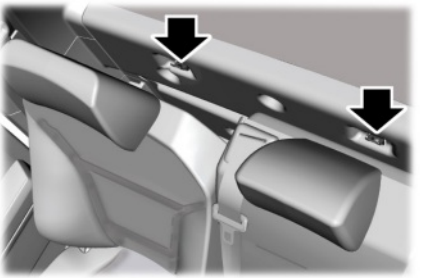
Attach the tether strap only to the appropriate tether anchor. The tether strap may not work properly if attached somewhere other than the correct tether anchor.

If you install a child restraint with rigid LATCH attachments, do not tighten the tether strap enough to lift the child restraint off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child restraint. Keeping the child restraint just touching the vehicle seat gives the best protection in a severe crash.

Once you have installed the child restraint using either the seatbelt, the lower anchors of the LATCH system, or both, you can attach the top tether strap.

ATTACHING THE FRONT SEAT TETHER STRAP

Regular Cab



1. Route the child restraint tether strap over the back of the seat and under the head restraint.

Note: *For vehicles with adjustable head restraints, route the tether strap under the head restraint and between the head restraint posts. Otherwise, route the tether strap over the top of the seat backrest.*

2. Locate the correct anchor for the selected seating position. You may need to pull the seat backrest forward to access the tether anchors. Make sure the seat is locked in the upright position before installing the child restraint.
3. Clip the tether strap to the anchor.
4. Tighten the child restraint tether strap according to the manufacturer's instructions.

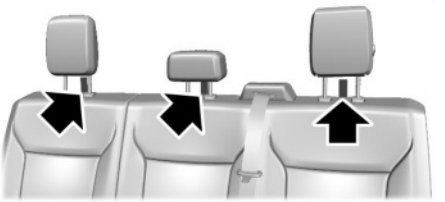
If you incorrectly clip the tether strap, the child restraint may not be retained properly in the event of a crash.

If you did not properly anchor the child restraint, the risk of a child being injured in a crash greatly increases.

If your child restraint system has a tether strap, and the child restraint manufacturer recommends its use, we also recommend its use.

ATTACHING THE REAR SEAT TETHER STRAP

Crew Cab and Super Cab



There are three loops of webbing above the back of the rear seat. Use these loops as routing loops and anchor loops for up to three child restraint tether straps.

For example, you can use the center loop as a routing loop for a child restraint in the center rear seat and as an anchoring loop for child restraints installed in the outermost rear seats.

Many tether straps cannot be tightened if the tether strap is hooked to the loop directly behind the child restraint.

To provide a tight tether strap:



1. Route the vehicle tether loop between the head restraint posts, then route the child restraint tether strap through the loop, forward of the head restraint.
2. Hook the strap to the vehicle tether anchor loop in the adjacent seating position. If using the driver side, pass the strap behind the shoulder belt for the center seat. Put the tether strap through the routing loop. The head restraint support post holds the child restraint tightly, but the head restraint post is not strong enough to hold the child restraint during a crash.
3. Tighten the tether strap according to the child restraint manufacturer's instructions.

If you did not properly anchor the child restraint, the risk of a child being injured in a crash greatly increases.

If your child restraint system has a tether strap, and the child restraint manufacturer recommends its use, we also recommend its use.

BOOSTER SEATS

Use a belt-positioning booster seat for children who have outgrown or no longer properly fit in a child restraint and meet the following criteria.

- Generally children who are less than 57 in (1.45 m) tall.
- Are greater than age four (4) and less than age twelve (12).
- Are between 40 lb (18 kg) and 80 lb (36 kg) and upward to 100 lb (45 kg).

Many state and provincial laws require that children use approved booster seats until they reach age eight, a height of 57 in (1.45 m) tall, or 80 lb (36 kg).

Booster seats should be used until you can answer yes to all of these questions when seated without a booster seat:



- Can the child sit all the way back against their vehicle seat backrest with knees bent comfortably at the edge of the seat cushion?
- Can the child sit without slouching?
- Does the lap belt rest low across the hips?
- Is the shoulder belt centered on the shoulder and chest?
- Can the child stay seated like this for the whole trip?

Always use booster seats in conjunction with your vehicle lap and shoulder belt.

Types of Booster Seats



- Backless booster seats

If your backless booster seat has a removable shield, remove the shield.

If a vehicle seating position has a low seat backrest or no head restraint, a backless booster seat may place your child's head, as measured at the tops of the ears, above the top of the seat. In this case, move the backless booster to another seating position with a higher seat backrest or head restraint and lap and shoulder belts, or consider using a high-back booster seat.



- High-back booster seats

If, with a backless booster seat, you cannot find a seating position that adequately supports your child's head, a high-back booster seat would be a better choice.

Children and booster seats vary in size and shape. Choose a booster that keeps the lap belt low and snug across the hips, never up across the stomach, and lets you adjust the shoulder belt to cross the chest and rest snugly near the center of the shoulder.

The following drawings compare the ideal fit to a shoulder belt uncomfortably close to the neck and a shoulder belt that could slip off the shoulder. The drawings also show how the lap belt should be low and snug across the child's hips.



If the booster seat slides on the vehicle seat upon which it is being used, placing a rubberized mesh sold as shelf or carpet liner under the booster seat may improve this condition. Do not use any item thicker than this under the booster seat. Check with the booster seat manufacturer's instructions.

CHILD SAFETY LOCKS (IF EQUIPPED)

WARNING: You cannot open the rear doors from inside if you have put the child safety locks on.



A child safety lock is on the rear edge of each rear door. You must switch the child safety lock separately on each door.

Left-Hand Side

Turn the key clockwise to switch the child lock on and counterclockwise to switch it off.

Right-Hand Side

Turn the key counterclockwise to switch the child lock on and clockwise to switch it off.

Note: *To make sure the child safety lock is on, pull the inside door handle twice to verify the door does not open.*

Note: *To open the rear doors from inside the vehicle when the child lock is engaged, roll down the rear window and use the outside door handle. Or have someone outside the vehicle open the door.*

SEATBELT PRECAUTIONS

WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

WARNING: Children must always be properly restrained.

WARNING: Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

WARNING: All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

WARNING: In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seatbelt.

WARNING: Each seating position in your vehicle has a specific seatbelt assembly made up of one buckle and one tongue designed to be used as a pair. Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never use a single seatbelt for more than one person.

WARNING: Even with advanced restraints systems, properly restrain children 12 and under in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

WARNING: Seatbelts and seats may be hot in a vehicle that is in the sunshine. The hot seatbelts or seats may burn a small child. Check seat covers and buckles before you place a child anywhere near them.

WARNING: If your vehicle is involved in a crash, have the seatbelts and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

All seating positions in this vehicle have seatbelts. All occupants of the vehicle should properly wear their seatbelts, even when an airbag supplemental restraint system is provided.

The seatbelt system consists of:

- Lap and shoulder seatbelts.
- A shoulder seatbelt with automatic locking mode, except driver seatbelt.
- Height adjusters at the front outermost seating positions.
- Seatbelt pretensioners at the front outermost and rear outermost seating positions.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

A seatbelt warning light and chime.

Crash sensors and monitoring system with readiness indicator.

The seatbelt pretensioners are designed to tighten the seatbelts when activated. In frontal and near-frontal crashes, the seatbelt pretensioners may be activated alone or, if the crash is of sufficient severity, together with the front airbags. In side crashes and rollovers, the pretensioners will be activated when the Safety Canopy is activated.

FASTENING AND UNFASTENING THE SEATBELTS

WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

All seatbelts in your vehicle are a three-point combination lap and shoulder seatbelt.



A Seatbelt tongue.
B Seatbelt buckle.

1. Pull the seatbelt out steadily.

Note: *It may lock if you pull it sharply or if the vehicle is on a slope.*

2. Insert the tongue into the buckle.
3. Pull the seatbelt tight to remove any slack.

Unfastening the Seatbelts

1. Press the red button on the buckle to release the seatbelt.
2. Hold the seatbelt tongue and let it retract completely and smoothly to its stowed position.

Using the Seatbelt With Cinch Tongue

This applies to the front center seating position of Super Cab and Crew Cab.

The cinch tongue slides up and down the seatbelt webbing when you stow the seatbelt or when you put the seatbelts on. When you buckle the seatbelt, the cinch tongue allows you to shorten the lap portion, but pinches the webbing to keep the lap portion from getting longer. The cinch tongue is designed to slip during a crash, so wear the shoulder belt properly and do not allow any slack in either the lap or shoulder portions.

While you are fastened in the seatbelt, the seatbelt with a cinch tongue adjusts to your movement. However, if you brake hard, turn hard, or if your vehicle receives an impact of 5 mph (8 km/h) or more, the seatbelt locks and helps reduce your forward movement.

SENSITIVE LOCKING MODE

WHAT IS SENSITIVE LOCKING MODE

Sensitive locking mode is a seatbelt retractor feature that allows shoulder belt length adjustment according to your movements and locking in response to vehicle movement.

HOW DOES SENSITIVE LOCKING MODE WORK

If the driver suddenly brakes, turns a corner sharply, or the vehicle receives an impact of about 5 mph (8 km/h) or more, the seatbelts lock to help reduce forward movement of the driver and passengers.

In addition, the seatbelt retractor locks if you pull the seatbelt webbing out too quickly. If the retractor locks, slowly lower the height adjuster to allow the seatbelt to retract.

If the retractor does not unlock, pull the seatbelt out slowly then feed a small length of webbing back toward the stowed position.

AUTOMATIC LOCKING MODE

WHAT IS AUTOMATIC LOCKING MODE

This feature keeps the seatbelts pre-locked. The belt still retracts to remove any slack in the shoulder belt.

WHEN TO USE AUTOMATIC LOCKING MODE

Use this mode any time you install a child restraint in a front or rear seating position. Properly restrain children 12 years old and under in a rear seat whenever possible. See **Child Safety** (page 28).

Note: *Automatic locking mode is not available on the driver seatbelt.*

Note: *Vehicles with optional front seat center may not have this function.*

ENGAGING AUTOMATIC LOCKING MODE



1. Fasten the combination lap and shoulder belt.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

2. Grasp the shoulder portion and pull downward until you pull the entire belt out.
3. Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates the seatbelt is now in the automatic locking mode.

DISENGAGING AUTOMATIC LOCKING MODE

Unbuckle the combination lap and shoulder belt and allow it to retract completely to disengage the automatic locking mode and activate the vehicle sensitive locking mode.

ADJUSTING THE SEATBELTS DURING PREGNANCY

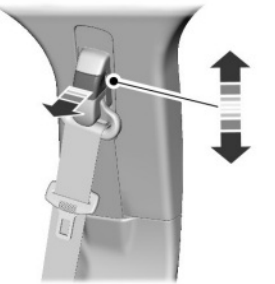
WARNING: Always ride and drive with your seatback upright and properly fasten your seatbelt. Fit the lap portion of the seatbelt snugly and low across the hips. Position the shoulder portion of the seatbelt across your chest. Pregnant women must follow this practice. See the following figure.



Pregnant women should always wear their seatbelt. Position the lap belt portion of a combination lap and shoulder belt low across the hips below the belly and worn as tight as comfort allows. Position the shoulder belt to cross the middle of the shoulder and the center of the chest.

ADJUSTING THE SEATBELT HEIGHT

WARNING: Position the seatbelt height adjuster so that the seatbelt rests across the middle of your shoulder. Failure to adjust the seatbelt correctly could reduce its effectiveness and increase the risk of injury in a crash.



1. Pull the button and slide the height adjuster up or down.
2. Release the button and pull down on the height adjuster to make sure it is locked in place.

ADJUSTING THE SEATBELT LENGTH



1. Pull some seatbelt webbing out of the shoulder belt retractor.
2. While holding the webbing below the tongue, grasp the metal tip of the tongue so that it is parallel to the webbing and slide the tongue up.
3. Provide enough lap belt length so that the tongue can reach the buckle.

SEATBELT REMINDER

HOW DOES THE SEATBELT REMINDER WORK

This feature supplements the seatbelt warning function. It provides an audible or visual alert when you or an occupant unfastens a seatbelt.

The alert remains on until:

- You open and close a door.
- You fasten the seatbelt for any seat that is occupied.
- You switch the vehicle off and then on.

If	Then
You switch your vehicle on and do not fasten one of the front occupant seatbelts...	The seatbelt reminder activates.
You do not fasten your seatbelt before your vehicle reaches at least 6 mph (9 km/h) ...	The seatbelt reminder activates, the seatbelt warning light illuminates and a warning tone sounds until you fasten your seatbelt.
Rear seats becomes occupied...	The seatbelt reminder becomes active when a rear seat passenger fastens a seatbelt.

This feature also informs the driver that an occupant unfastened their seatbelt.



- When the ignition is on, a warning informs the driver about the status of each seat, following each seat buckle or unbuckle. You can acknowledge this, or the system will time out after 60 seconds.
- If a seatbelt is unfastened, a second warning informs the driver about which seatbelt was unfastened. A warning remains until all occupants fasten their seatbelt.

SEATBELT REMINDER INDICATORS

A warning lamp illuminates if the ignition is on, a front seat is occupied and the seatbelt has not been fastened.



The warning lamp illuminates until you fasten your seatbelt.

SEATBELT REMINDER AUDIBLE WARNINGS

A warning tone sounds and the warning lamp illuminates if you are not wearing your seatbelt when your vehicle exceeds a relatively low speed.

The warning tone sounds for a short period of time or until you fasten your seatbelt.

SWITCHING THE SEATBELT REMINDER ON AND OFF

WARNING: While the system allows you to deactivate it, this system is designed to improve your chances of being safely belted and surviving an accident. We recommend you leave the system activated for yourself and others who may use the vehicle.

Note: *The driver and front passenger warnings switch off independently. When you perform this procedure for one seating position, do not buckle the other position as this cancels the process.*

Read Steps 1 - 4 before proceeding with the programming procedure.

Make sure that:

- You set the parking brake.
- The transmission is in park (P).
- The ignition is off.
- You close all vehicle doors.
- You unfasten the driver and front passenger seatbelts.

1. Start the engine.
2. Wait for a short period of time until the seatbelt warning tone switches off. After Step 2, wait an additional five seconds before proceeding with Step 3. Once you start Step 3, complete the procedure within 30 seconds.
3. For the seating position you are switching off, fasten then unfasten the seatbelt four times at a moderate speed, ending in the unfastened state. After Step 3, the seatbelt warning light switches on and off with each fasten.
4. The seatbelt warning light flashes for confirmation.

This switches the feature off for that seating position if it is currently on.

This switches the feature on for that seating position if it is currently off.

CHECKING THE SEATBELTS

Check the seatbelts and child restraints periodically to make sure they work properly and are not damaged. Make sure there are no nicks, tears or cuts. Replace if necessary.

Check the following seatbelt assemblies after a crash.

- Retractors.
- Buckles.
- Front seatbelt buckle assemblies.
- Shoulder belt height adjusters.
- Shoulder belt guide on seat backrest.
- Child restraint LATCH and tether anchors.
- Attaching hardware.

Read the child restraint manufacturer's instructions for additional inspection and maintenance information specific to the child restraint.

We recommend that all seatbelt assemblies in use in vehicles involved in a crash be replaced. However, if the crash was minor and an authorized dealer finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Seatbelt assemblies not in use during a crash should also be checked and replaced if either damage or improper operation is noted.

Properly care for seatbelts. See **Cleaning Seatbelts** (page 477).

SEATBELT EXTENSIONS

WARNING: Persons who fit into the vehicle's seatbelt should not use an extension. Unnecessary use could result in serious personal injury in the event of a crash.

WARNING: Only use extensions provided by our dealers. The dealer will provide an extension designed specifically for this vehicle and seating position. The use of an extension intended for another vehicle, model year or seating position may not offer you the full protection of your vehicle's seatbelt restraint system.

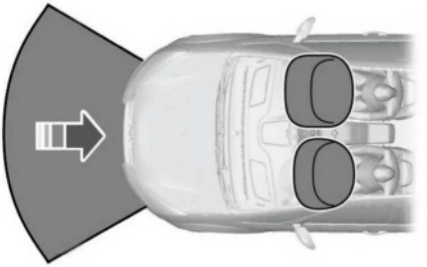
WARNING: Never use seatbelt extensions to install child restraints.

WARNING: Do not use extensions to change the way the seatbelt fits across the torso, over the lap or to make the seatbelt buckle easier to reach.

If, because of body size or driving position, it is not possible to properly fasten the seatbelt over your lap and shoulder, an extension that is compatible with the seatbelts is available free of charge from our dealers. Only use our seatbelt extensions made by the original equipment seatbelt manufacturer with our seatbelts. Ask your authorized dealer if your extension is compatible with your vehicle restraint system.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

HOW DO THE FRONT AIRBAGS WORK



The driver and front passenger airbags deploy during significant frontal and near frontal crashes.

The driver and passenger front airbag system consists of:

- Driver and passenger airbag modules.
- Crash sensors and monitoring system with a readiness indicator. See **Crash Sensors and Airbag Indicator** (page 57).

The airbags are a supplemental restraint system and are designed to work with the seatbelts to help protect the driver and right front passenger from certain upper body injuries. Airbags do not inflate slowly. There is a risk of injury from a deploying airbag.

Note: *You will hear a loud bang and see a cloud of harmless powdery residue if an airbag deploys. This is normal.*

The airbags inflate and deflate rapidly upon activation. After airbag deployment, it is normal to notice a smoke-like, powdery residue or smell the burnt propellant. This may consist of cornstarch, talcum powder, to lubricate the bag, or sodium compounds (for example, baking soda) that result from the combustion process that inflates the airbag. Small amounts of sodium hydroxide may be present which may irritate the skin and eyes, but none of the residue is toxic.

Contact with a deploying airbag may cause abrasions or swelling. Temporary hearing loss is also a possibility as a result of the noise associated with a deploying airbag.

Because airbags must inflate rapidly and with considerable force, there is the risk of death or serious injuries such as fractures, facial and eye injuries or internal injuries, particularly to occupants who are not properly restrained or are otherwise out of position at the time of airbag deployment. Thus, it is extremely important that occupants be properly restrained as far away from the airbag module as possible while maintaining vehicle control.

The airbag does not require routine maintenance.

HOW DO THE SIDE AIRBAGS WORK

WARNING: Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.

WARNING: Accessory seat covers not released by Ford Motor Company could prevent the deployment of the airbags and increase the risk of injuries in a crash.

WARNING: Do not lean your head on the door. The side airbag could injure you as it deploys from the side of the seatback.

The side airbags are on the outermost side of the seat backrests of the front seats. In certain sideways crashes or rollovers, the airbags will be inflated. The airbag was designed to inflate between the door panel and occupant to further enhance the protection provided to occupants in side impact crashes.



The system consists of the following:

- A label or embossed side panel indicating that side airbags are fitted to your vehicle.
- Side airbags inside the driver and front passenger seat backrests.
- Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 57).

HOW DOES THE SAFETY CANOPY™ WORK

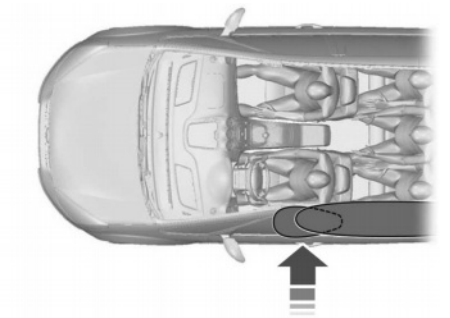
WARNING: Do not place objects or mount equipment on or near the headliner at the siderail that may come into contact with a deploying curtain airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.

WARNING: Do not lean your head on the door. The curtain airbag could injure you as it deploys from the headliner.

WARNING: To reduce risk of injury, do not obstruct or place objects in the deployment path of the airbag.

The Safety Canopy deploys during significant side crashes or when a certain likelihood of a rollover event is detected. The Safety Canopy is mounted to the roof side-rail sheet metal, behind the headliner, above each row of seats. In certain sideways crashes or rollover events, the Safety Canopy will be activated, regardless of which seats are occupied. The Safety Canopy inflates between the side window area and occupants to further enhance protection provided in side impact crashes and rollover events.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM



The system consists of the following:

- Safety Canopy curtain airbags above the trim panels over the front and rear side windows identified by a label or wording on the headliner or roof-pillar trim.
- A flexible headliner which opens above the side doors to allow air curtain deployment.

Crash sensors and monitoring system with a readiness indicator. See **Crash Sensors and Airbag Indicator** (page 57).

Properly restrain children 12 years old and under in the rear seats. The Safety Canopy will not interfere with children restrained using a properly installed child or booster seat because it is designed to inflate downward from the headliner above the doors along the side window opening.

AIRBAG PRECAUTIONS

WARNING: Airbags do not inflate slowly or gently, and the risk of injury from a deploying airbag is the greatest close to the trim covering the airbag module.

WARNING: All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.

WARNING: Properly secure children 12 years old and under in a rear seating position whenever possible. If you are unable to properly secure all children in a rear seating position, properly secure the largest child on the front seat. If you must use a forward facing child restraint on the front seat, move the seat as far back as possible. Failure to follow these instructions could result in personal injury or death.

WARNING: Do not place your arms on the airbag cover or through the steering wheel. Failure to follow this instruction could result in personal injury.

WARNING: Keep the areas in front of the airbags free from obstruction. Do not affix anything to or over the airbag covers. Objects could become projectiles during airbag deployment. Failure to follow this instruction could result in personal injury or death.

WARNING: To reduce risk of injury, do not obstruct or place objects in the deployment path of the airbag.

WARNING: Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.

WARNING: Several airbag system components get hot after inflation. To reduce the risk of injury, do not touch them after inflation.

WARNING: If a supplementary restraint system component has deployed, it will not function again. Have the system and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

SWITCHING THE PASSENGER AIRBAG ON AND OFF

WARNING: Even with advanced restraints systems, properly restrain children 12 and under in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

WARNING: The front passenger airbag is not designed to offer protection to an occupant in the center seating position.

WARNING: Your vehicle may have an airbag deactivation switch. Before driving, always look at the switch to make sure it is in the appropriate position. Failure to put the switch in the proper position can increase the risk of serious injury or death in a crash.



The front passenger airbag on and off switch has indicators that illuminate, indicating that the front passenger frontal airbag is either on or off. The indicators are located in the overhead console.

Note: *The indicators illuminate for a short period of time when you switch the ignition on to confirm it is functional.*

Switch Position	Passenger Airbag Status Indicator	Passenger Airbag
Off	OFF: Illuminated	Disabled
	ON: Not Illuminated	
On	OFF: Not Illuminated	Enabled
	ON: Illuminated	

Switching the Passenger Airbag Off

WARNING: If the light does not illuminate when the passenger airbag switch is off and you switch the ignition on, have the passenger airbag switch serviced immediately by a qualified technician.

WARNING: To avoid switching on the airbag, always remove the ignition key with the switch in the off position.

WARNING: If your vehicle has rear seats, always transport children who are 12 and younger in the rear seat. Always use seatbelts and child restraints properly. Do not place a child in a rear facing infant seat in the front seat unless your vehicle is equipped with an airbag on and off switch and the passenger airbag is turned off. This is because the back of the infant seat is too close to the inflating airbag and the risk of a fatal injury to the infant when the airbag inflates is substantial.

The passenger airbag on and off switch is in the glovebox.



1. Insert the ignition key, turn the switch to OFF and hold in OFF while removing the key.
2. When you switch the ignition on, the passenger airbag off light illuminates briefly, momentarily shuts off and then switches back on. This indicates that the passenger airbag is deactivated.

Switching the Passenger Airbag On

WARNING: The seatbelts for the driver and right front passenger seating positions are specifically designed to operate together with the airbags in certain types of crashes. When you switch off your airbag, you not only lose the protection of the airbag, you also may reduce the effectiveness of your seatbelt system. If the passenger does not meet the requirements stated in the National Highway Traffic Safety Administration or Transport Canada deactivation criteria, switching off the airbag can increase the risk of serious injury or death in a crash.

WARNING: If your vehicle has rear seats, always transport children who are 12 and younger in the rear seat. Always use seatbelts and child restraints properly. Do not place a child in a rear facing infant seat in the front seat unless your vehicle is equipped with an airbag on and off switch and the passenger airbag is turned off. This is because the back of the infant seat is too close to the inflating airbag and the risk of a fatal injury to the infant when the airbag inflates is substantial.

WARNING: If the passenger airbag off light is illuminated when the passenger airbag switch is on and the ignition is on, have the passenger airbag switch serviced immediately by a qualified technician.

The passenger airbag remains off until you switch it back on.



1. Insert the ignition key and turn the switch to ON.
2. The passenger airbag off light briefly illuminates when you switch the ignition on. This indicates that the passenger airbag is operational.

The passenger side airbag should always be on, and the passenger airbag off light should not be illuminated, unless the passenger is a person who meets the requirements stated either in Category 1, 2 or 3 of the National Highway Traffic Safety Administration or Transport Canada deactivation criteria which follows.

The vast majority of drivers and passengers are much safer with an airbag than without. To do their job and reduce the risk of life threatening injuries, airbags must open with great force, and this force can pose a potentially deadly risk in some situations, particularly when a front seat occupant is not properly buckled up. The most effective way to reduce the risk of unnecessary airbag injuries without reducing the overall safety of the vehicle is to make sure all occupants are properly restrained in the vehicle, especially in the front seat. This provides the protection of seatbelts and permits the airbags to provide the additional protection they were designed to provide. If you choose to deactivate your airbag, you are losing the very significant risk reducing benefits of the airbag and you are also reducing the effectiveness of the seatbelts. Seatbelts in modern vehicles are designed to work as a safety system with the airbags.

National Highway Traffic Safety Administration Deactivation Criteria-Excluding Canada

WARNING: This vehicle has special energy management seatbelts for the driver and right front passenger. These particular seatbelts are specifically designed to work with airbags to help reduce the risk of injury in a crash. The energy management seatbelt gives or releases additional seatbelt webbing in some accidents to reduce the concentration of force on an occupant's chest and to reduce the risk of certain bone fractures and injuries to underlying organs. In a crash, if the airbag is off, this energy management seatbelt might permit the passenger wearing the seatbelt to move forward enough to have a serious or fatal injury. The more

severe the crash, and the heavier the occupant, the greater the risk. Make sure the airbag is on for any passenger who does not qualify under the National Highway Traffic Safety Administration deactivation criteria.

1. **Infant.** An infant, less than 1 year old, must ride in the front seat because:

- The vehicle has no rear seat.
- The vehicle has a rear seat too small to accommodate a rear-facing infant seat.
- The infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front so that the driver can constantly monitor the child's condition.

2. **Children age 1 to 12.** Children age 1 to 12 must ride in the front seat because:

- The vehicle has no rear seat.
- Although children ages 1 to 12 ride in the rear seat(s) whenever possible, children ages 1 to 12 sometimes must ride in the front because no space is available in the rear seat(s) of your vehicle.
- The child has a medical condition which, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can constantly monitor the child's condition.

3. Medical condition. A passenger has a medical condition which, according to his or her physician:

- Causes the passenger airbag to pose a special risk for the passenger.
- Makes the potential harm from the passenger airbag in a crash greater than the potential harm from turning off the airbag and allowing the passenger, even if belted, to hit the dashboard or windshield in a crash.

Transport Canada Deactivation Criteria-Canada Only

WARNING: This vehicle has special energy management seatbelts for the driver and right front passenger. These particular seatbelts are specifically designed to work with airbags to help reduce the risk of injury in a crash. The energy management seatbelt gives or releases additional seatbelt webbing in some accidents to reduce the concentration of force on an occupant's chest and to reduce the risk of certain bone fractures and injuries to underlying organs. In a crash, if the airbag is off, this energy management seatbelt might permit the passenger wearing the seatbelt to move forward enough to have a serious or fatal injury. The more severe the crash, and the heavier the occupant, the greater the risk. Make sure the airbag is on for any passenger who does not qualify under the Transport Canada deactivation criteria.

1. **Infant:** An infant, less than 1 year old, must ride in the front seat because:

- The vehicle has no rear seat.
- The rear seat in my vehicle cannot accommodate a rear-facing infant seat.
- The infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front seat so that the driver can monitor the infant's condition.

2. **Children age 12 or under:** Children age 12 or under must ride in the front seat because:

- The vehicle has no rear seat.
- Although children age 12 and under ride in the rear seat whenever possible, children age 12 and under have no option but to sometimes ride in the front seat because rear seat space is insufficient.
- The child has a medical condition that, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can monitor the child's condition.

3. **Medical condition:** A passenger has a medical condition that, according to his or her physician:

- Poses a special risk for the passenger if the airbag deploys.
- Makes the potential harm from the passenger airbag deployment greater than the potential harm from turning off the airbag and experiencing a crash without the protection offered by the airbag.

PROPERLY ADJUSTING THE DRIVER AND FRONT PASSENGER SEATS

WARNING: National Highway Traffic Safety Administration (NHTSA) recommends a minimum distance of at least 10 in (25 cm) between an occupant's chest and the driver airbag module.

To properly position yourself away from the airbag:

- Move your seat to the rear as far as you can while still reaching the pedals comfortably.
- Recline the seat slightly one or two degrees from the upright position.

After all occupants have adjusted their seats and put on seatbelts, it is very important that they continue to sit properly. Properly seated occupants sit upright, lean against the seat backrest, and center themselves on the seat cushion, with their feet comfortably extended on the floor. Sitting improperly can increase the chance of injury in a crash event. For example, if an occupant slouches, lies down, turns sideways, sits forward, leans forward or sideways, or puts one or both feet up, the chance of injury during a crash greatly increases.

CHILDREN AND AIRBAGS

WARNING: Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.



Children must always be properly restrained. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position. Failure to follow these instructions may increase the risk of injury in a crash.

If two adults and a child occupy a vehicle without rear seats, properly restrain the child in the center front seat unless doing so would interfere with driving your vehicle. This provides lap and shoulder belt protection for all occupants, and airbag protection for the adults. A child or infant properly restrained in the center front seat should have a reduced risk to serious injury from the airbags.

CRASH SENSORS AND AIRBAG INDICATOR

WARNING: Modifying or adding equipment to the front of your vehicle could affect the performance of the airbag system, increasing the risk of injury. This includes the hood, bumper system, frame, front body structure, tow hooks, hood pins, push bar and snowplows.

Your vehicle has a collection of crash and occupant sensors. These sensors provide information to the restraints control module which activates the following:

- Seatbelt pretensioners.
- Adaptive steering column.
- Driver airbag.
- Passenger airbag.
- Seat mounted side airbags.
- Safety Canopy.

Based on the type of crash, the restraints control module deploys the appropriate safety devices.

The restraints control module also monitors the readiness of the above safety devices plus the crash and occupant sensors. The readiness of the safety system is indicated by a warning indicator light in the instrument cluster or by a backup tone if the warning light is not working. The airbag does not require routine maintenance.

A difficulty with the system is indicated by one or more of the following:



The readiness light will not illuminate immediately after you switch the ignition on.

- The readiness light either flashes or stays on.
- You hear a series of five tones. The tone pattern repeats periodically until the problem, the light or both are repaired.

If any of these things happen, even intermittently, have the supplemental restraint system serviced immediately. Unless serviced, the system may not function properly in the event of a crash.

The fact that the seatbelt pretensioners or front airbags did not activate for both front seat occupants in a crash does not mean that something is wrong with the system. Rather, it means the restraints control module determined the accident conditions (crash severity, seatbelt usage) were not appropriate to activate these safety devices.

- The front airbags activate only in frontal and near-frontal crashes. Front airbags may activate in rollovers, side impacts or rear impacts if the crash causes sufficient frontal deceleration.
- The adaptive steering column activates only in frontal and near-frontal crashes. It may activate in rollovers, side impacts or rear impacts if the crash causes sufficient frontal deceleration.
- The seatbelt pretensioners activate in frontal, near-frontal and side crashes, and in rollovers.
- The side airbags inflate in certain side impact crashes or rollover events. Side airbags may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation.
- The Safety Canopy inflates in certain side impact crashes or rollover events. The Safety Canopy may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation, or a certain likelihood of rollover.

DISPOSING OF AIRBAGS

Contact your authorized dealer as soon as possible. Airbags must be disposed of by qualified personnel.

In the event of a crash where an airbag is deployed or the fuel pump shut-off is activated, 911 Assist uses a paired and connected phone to dial 911. Not all crashes deploy an airbag or activate the fuel pump shut-off. Knee airbags and rear inflatable seatbelts do not activate the system.

If a connected phone sustains damage or loses its connection during a crash, the system searches for and tries to connect to a previously paired phone. 911 Assist attempts to call emergency services.

Before making the call:

- 911 Assist provides about 10 seconds to cancel the call. If you fail to cancel the call, the system attempts to dial 911.
- 911 Assist says the following, or a similar message: the system will attempt to call 911, to cancel the call, press Cancel on your screen or press and hold the phone button on your steering wheel.

If you do not cancel the call and the call is successful, a pre-recorded message plays for the 911 operator. The occupants in your vehicle are able to talk with the operator. Be prepared to provide your name, phone number and location because not all 911 systems are capable of receiving this information electronically.

During an emergency call the system transmits vehicle data to the emergency service.

Emergency Call Requirements

WARNING: Do not wait for 911 Assist to make an emergency call if you can do it yourself. Dial emergency services immediately to avoid delayed response time which could increase the risk of serious injury or death after a crash. If you do not hear 911 Assist within five seconds of the crash, the system or phone may be damaged or non-functional.

WARNING: Always place your phone in a secure location in your vehicle so it does not become a projectile or get damaged in a crash. Failure to do so may cause serious injury to someone or damage the phone which could prevent 911 Assist from working properly.

WARNING: Unless the 911 Assist setting is set on before a crash, the system will not dial for help which could delay response time, potentially increasing the risk of serious injury or death after a crash.

- The operating system must be powered and working properly at the time of the incident.
- 911 Assist must be set to on before the incident. See **Center Display** (page 540).
- A paired and connect phone able to make and maintain an outgoing call at the time of the incident. See **Connecting Your Phone** (page 548).
- The vehicle must have battery power and be located in the U.S., Canada or in a territory in which 911 is the emergency number.

Note: *If 911 Assist is set to on or off, that setting applies for all paired phones. If 911 Assist is switched off and the phone is connected to the vehicle, an icon displays on the status bar.*

Note: *Every phone operates differently. While 911 Assist works with most cellular phones, some may have trouble using this feature.*

Emergency Call Limitations

911 Assist only operates in the U.S., Canada or in a territory in which 911 is the emergency number.

This feature does not operate properly if:

- Your phone or 911 Assist hardware sustains damage in a crash.
- The vehicle's battery or the operating system has no power.
- Paired and connected phone(s) have been thrown from the vehicle.

REMOTE CONTROL LIMITATIONS

WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Make sure a valid remote control is within 3 ft (1 m) from the front door handles and rear of vehicle.

The system may not function if:

- The remote control remains stationary for about a minute.
- The vehicle battery has no charge.
- The remote control battery has no charge.
- There is interference causing issues with the remote control frequencies.
- The remote control is too close to metal objects or electronic devices, for example keys or a cell phone.

USING THE REMOTE CONTROL

WARNING: Do not leave a key or remote control unattended in the vehicle. Children or pets could operate the power windows, moonroof or other controls. Failure to follow this instruction could result in personal injury or death.

Use your remote control to access various vehicle systems.

Note: *The buttons on your remote may vary depending on the vehicle region or options.*

Unlock



Press the button to unlock all doors. See **Unlocking and Locking the Doors Using the Remote Control** (page 70).

Lock



Press the button to lock all doors. See **Unlocking and Locking the Doors Using the Remote Control** (page 70).

Remote Start (If Equipped)



Press the button twice within three seconds to remote start. See **Using Remote Start** (page 138).

Tailgate (If Equipped)



Press the button twice within three seconds to open the tailgate. See **Opening the Tailgate Using the Remote Control** (page 89).

Panic Alarm (If Equipped)

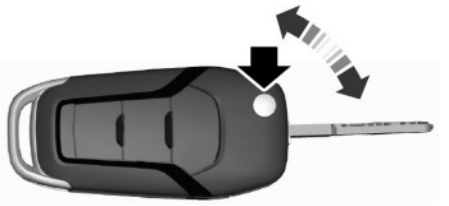


Press the button to sound the panic alarm. See **Sounding the Panic Alarm** (page 63).

OPENING AND CLOSING THE FLIP KEY - VEHICLES WITH: FLIP KEY

Opening Your Flip Key

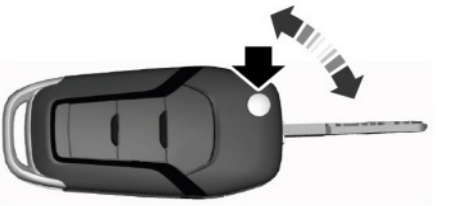
Press the round button on the remote control to extend the flip key.



Note: *Inspect the key blade for debris. Periodically clean with a brush.*

Closing Your Flip Key

Press and hold the round button on the remote control to fold the key blade when not in use.



REMOVING THE KEY BLADE - VEHICLES WITH: PUSH BUTTON START



Push the release button on your passive key and pull the key blade out.

SOUNDING THE PANIC ALARM

Press the button to sound the panic alarm. Press the button again, or switch the ignition on to turn it off.

Note: *The panic alarm only operates when the ignition is off.*

LOCATING YOUR VEHICLE

Press the lock button twice within three seconds. The turn signal lamps flash.

Note: *We recommend you use this method to locate your vehicle.*

CHANGING THE REMOTE CONTROL BATTERY - VEHICLES WITH: FLIP KEY

WARNING: Keep batteries away from children to prevent ingestion. Failure to follow this instruction could result in personal injury or death. If ingested, immediately seek medical attention.

WARNING: If the battery compartment does not securely close, stop using the remote control and replace it as soon as possible. In the meantime, keep the remote control away from children. Failure to follow this instruction could result in personal injury or death.

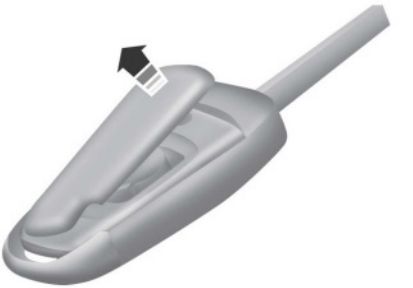
Battery Replacement Procedure

The remote control uses one coin-type 3-volt lithium battery CR2032 or equivalent.

Press the button to release the key blade before beginning the procedure.



1. Insert a screwdriver, in the position shown and gently push the clip.
2. Press the clip down to release the battery cover.



3. Carefully remove the cover.



Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

4. Insert a screwdriver as shown to release the battery.



Note: *Do not touch the battery contacts or the printed circuit board with the screwdriver.*

5. Remove the battery.
6. Install a new battery with the **+** facing up.
7. Replace the battery cover.



Seek advice from your local authority about recycling old batteries.

Note: *Do not wipe off any grease on the battery terminals or on the back surface of the circuit board.*

Note: *Replacing the battery does not erase the programmed key from your vehicle. The remote control should operate normally.*

CHANGING THE REMOTE CONTROL BATTERY - VEHICLES WITH: PUSH BUTTON START

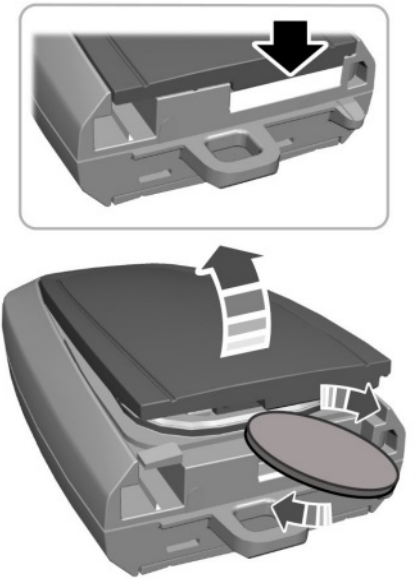
WARNING: Keep batteries away from children to prevent ingestion. Failure to follow this instruction could result in personal injury or death. If ingested, immediately seek medical attention.

WARNING: If the battery compartment does not securely close, stop using the remote control and replace it as soon as possible. In the meantime, keep the remote control away from children. Failure to follow this instruction could result in personal injury or death.

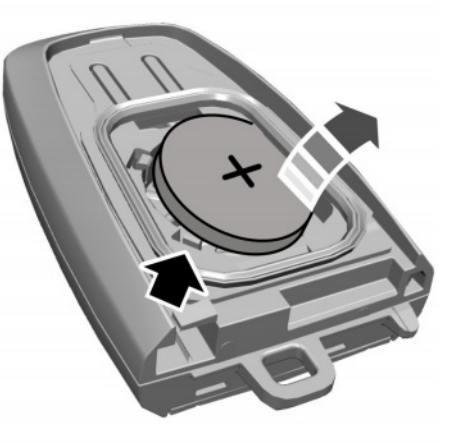
The remote control uses one coin-type 3-volt lithium battery CR2450 or equivalent.



1. Push the release button and pull the key blade out.



2. Twist a thin coin under the tab hidden behind the key blade head to remove the battery cover.



3. Insert a screwdriver, and carefully remove the battery.
4. Install a new battery with the + facing upward.
5. Reinstall the battery housing cover onto the transmitter and install the key blade.



Seek advice from your local authority about recycling old batteries.

Note: *Do not wipe off any grease on the battery terminals or on the back surface of the circuit board.*

Note: *Replacing the battery does not erase the programmed key from your vehicle. The remote control should operate normally.*

REPLACING A LOST KEY OR REMOTE CONTROL

You can purchase replacement keys or remote controls from an authorized dealer. Authorized dealers can program remote controls for your vehicle.



Note: *Your vehicle keys came with a security label that provides important key cut information. Keep the label in a safe place for future reference.*

PROGRAMMING THE REMOTE CONTROL - VEHICLES WITH: FLIP KEY

General Information

You can program your own remote control to your vehicle. This procedure programs both the engine immobilizer keycode and the remote entry portion of the remote control to your vehicle.

Only use remote controls with an integrated mechanical key.

You must have two previously programmed remote controls and the new unprogrammed remote readily accessible. Contact an authorized dealer to have the spare remote control programmed if the two previously programmed remote controls are not available.

Read and understand the entire procedure before you begin.

Steps for Programming Your Spare Remote Control

1. Insert the first previously programmed key into the ignition.
2. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
3. Switch the ignition off and remove the first previously programmed key from the ignition.
4. After three seconds but within 10 seconds of switching the ignition off, insert the second previously programmed key into the ignition.
5. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
6. Switch the ignition off and remove the second previously programmed key from the ignition.
7. After three seconds but within 10 seconds of switching the ignition off and removing the previously programmed key, insert the new unprogrammed key into the ignition.
8. Switch the ignition from off to on. Keep the ignition on for at least six seconds until you hear the door locks cycle.
9. Remove the newly programmed key from the ignition.

The key starts the engine if programming is successful. You can operate the keyless remote entry system with the new remote control with integrated key.

If programming is not successful, wait 20 seconds and repeat steps 1 through 8. If you are still unsuccessful, take your vehicle to an authorized dealer.

Note: *You can program a maximum of six remote controls to your vehicle.*

PROGRAMMING THE REMOTE CONTROL - VEHICLES WITH: PUSH BUTTON START

General Information

You must have two previously programmed remote controls inside your vehicle and the new unprogrammed remote controls readily accessible. Contact an authorized dealer to have the spare remote control programmed if two previously programmed remotes are not available. Make sure that your vehicle is off before beginning this procedure. Make sure that you close all the doors before beginning and that they remain closed throughout the procedure. Perform all steps within 30 seconds of starting the sequence. Stop and wait for at least one minute before starting again if you perform any steps out of sequence.

Read and understand the entire procedure before you begin.

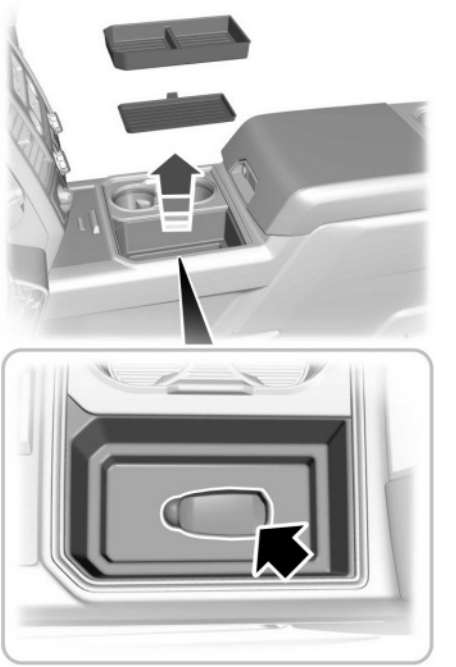
Note: *You can program a maximum of four remote controls to your vehicle.*

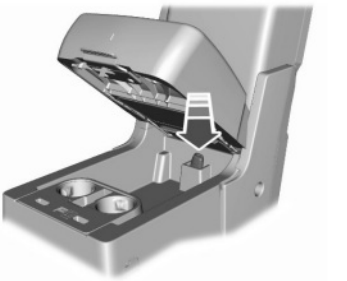
Note: *If your programmed remote controls are lost or stolen and you do not have an extra coded remote, you need to have your vehicle towed to an authorized dealer. Store an extra programmed remote away from your vehicle in a safe place to help prevent any inconvenience. Contact an authorized dealer to purchase additional spare or replacement remotes.*

Steps for Programming Your Spare Remote Control

Note: *Your vehicle is equipped with one of the following center consoles.*

Programming Backup Location





1. Place the first programmed remote in the backup slot inside the center console with your foot off the brake pedal, press and release the push button ignition switch.
2. Wait five seconds and then press and release the push button ignition switch again.
3. Remove the remote control.
4. Within 10 seconds, place a second programmed remote control in the backup slot. Press and release the push button ignition switch.
5. Wait five seconds and then press and release the push button ignition switch again. Keep the ignition on for at least three seconds, but no more than 10 seconds.
6. Remove the remote control.
7. Place the unprogrammed remote control in the backup slot and press and release the push button ignition switch.

Programming is now complete. With your foot on the brake pedal, press the push button ignition switch to verify the remote control functions operate and your vehicle starts with the new remote control.

If programming was not successful, wait 10 seconds and repeat Steps 1 through 7. If you are still unsuccessful, take your vehicle to an authorized dealer.

KEYS AND REMOTE CONTROLS AUDIBLE WARNINGS - VEHICLES WITH: PUSH BUTTON START

Key In Reminder

Sounds when the following conditions are met:

- Vehicle is out of park (P).
- You switch the vehicle off.
- You open the driver's door.
- You have left the key inside the vehicle.

KEYS AND REMOTE CONTROLS AUDIBLE WARNINGS - VEHICLES WITH: FLIP KEY

Sounds when you open the driver's door, turn off the vehicle and you have left the key in the ignition.

USING THE VALET MODE

What is Valet Mode

The valet mode allows you to limit the access to some features on the touchscreen.

Enabling Classic Valet Mode

Make sure the remote control is in your vehicle.

1. From the settings menu, press Valet Mode. See **Center Display** (page 540).
2. Enter a four digit code to lock the touchscreen.
3. Re-enter the same four digit code to complete enabling valet mode.

Disabling Classic Valet Mode

1. Press Exit Valet Mode.
2. Enter your four digit code to disable valet mode and unlock the touchscreen.

KEYS AND REMOTE CONTROLS – TROUBLESHOOTING

KEYS AND REMOTE CONTROLS – INFORMATION MESSAGES

Message	Details
Key battery low Replace soon	Replace remote control battery.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

OPERATING THE DOORS FROM OUTSIDE YOUR VEHICLE

UNLOCKING AND LOCKING THE DOORS USING THE REMOTE CONTROL

You can only use the remote control when your vehicle is stationary.

Unlocking the Doors

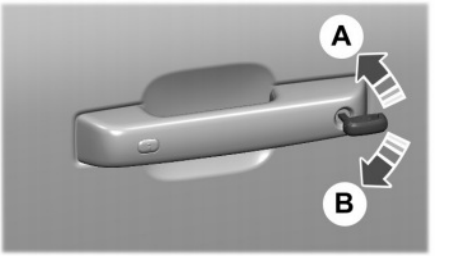
Press the button to unlock all doors. One long flash of the turn signal lamps confirms that your vehicle has unlocked.

Locking the Doors

Press the button to lock all doors. One short flash of the turn signal lamps confirms that your vehicle has locked.

UNLOCKING AND LOCKING THE DOORS USING THE KEY BLADE

If there is a power door lock fault you can use the key blade to lock and unlock the doors.



A Lock.
B Unlock.

OPERATING THE DOORS FROM INSIDE YOUR VEHICLE

UNLOCKING AND LOCKING THE DOORS USING THE CENTRAL LOCKING

The power door lock control is on the front doors.

Press the button to unlock all doors.

Press the button to lock all doors.

Note: *The central locking only operates if the front doors are fully closed.*

OPENING THE DOORS FROM INSIDE YOUR VEHICLE

Pull the interior door handle twice to unlock and open a rear door. The first pull unlocks the door and the second pull opens the door.

AUTOUNLOCK

WHAT IS AUTOUNLOCK

Autounlock is a feature that centrally unlocks the vehicle doors when your vehicle comes to a stop and you open the driver door using the interior door handle.

AUTOUNLOCK REQUIREMENTS

Autounlock only works if all the preconditions are met:

1. The vehicle speed exceeds 12 mph (20 km/h).
2. Your vehicle comes to a stop.
3. You open the driver door.

Note: *Autounlock operates for only 10 minutes after the ignition is switched off.*

SWITCHING AUTOUNLOCK ON AND OFF

1. Press Settings on the touchscreen.
2. Press Vehicle Settings.
3. Press Locks.
4. Switch Autounlock on or off.

AUTOLOCK

WHAT IS AUTOLOCK

Autolock locks all the doors when you start driving.

Note: *Depending on your vehicle's market or regional requirements and installed equipment, you may not be able to switch autolock on and off.*

AUTOLOCK REQUIREMENTS

Autolock locks all the doors after:

1. All doors are closed and the ignition is on.
2. Your vehicle speed exceeds 12 mph (20 km/h).

Autolock repeats if:

1. Your vehicle is stopped.
2. Any door is opened and closed again.
3. Your vehicle speed exceeds 12 mph (20 km/h).

MISLOCK

WHAT IS MISLOCK

Mislock is a locking feature that warns you if your vehicle has not locked after requesting a lock.

MISLOCK LIMITATIONS

When you press the lock button once, the turn signals do not flash if:

- Any door or the tailgate is open.
- The hood is open.

If you switch mislock off, the horn does not sound if you press the lock button on the remote control when a door is open.

SWITCHING MISLOCK ON AND OFF

1. Press Settings on the touchscreen.
2. Press Vehicle Settings.
3. Press Locks.
4. Switch Mislock Chirp on or off.

DOORS AND LOCKS AUDIBLE WARNINGS

Door Ajar Audible Warning

Sounds when any front door is not fully closed and your vehicle is moving.

DOORS AND LOCKS – TROUBLESHOOTING

DOORS AND LOCKS – WARNING LAMPS

Door Ajar Warning Lamp



It illuminates when you switch the ignition on and remains on if any door is open.

DOORS AND LOCKS – INFORMATION MESSAGES

Message	Details
Driver door ajar	Displays if a door is open. Fully close the door.
Passenger door ajar	
Rear left door ajar	
Rear right door ajar	
Hood ajar	Displays if a hood is open. Fully close the hood.

DOORS AND LOCKS – FREQUENTLY ASKED QUESTIONS

Can accessories such as steps or handles be used with the latch assembly?

- Do not use the door latch assembly to attach any accessory, such as handles or steps, as this can cause damage to your vehicle.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WHAT IS KEYLESS ENTRY

The system allows you to lock and unlock your vehicle without taking the passive key out of your pocket or purse.

KEYLESS ENTRY LIMITATIONS

Make sure your remote control is within 3 ft (1 m) from the front door handles and the tailgate.

The system could not function if:

- The remote control remains stationary for about a minute.
- The vehicle battery has no charge.
- The remote control battery has no charge.
- There is interference causing issues with the remote control frequencies.
- The remote control is too close to metal objects or electronic devices, for example keys or a cell phone.

KEYLESS ENTRY SETTINGS

Reprogramming the Unlocking Function (If Equipped)

You can enable the two-stage unlocking function allowing you to unlock only the driver door when you touch the unlock sensor.

Press and hold both the lock and unlock buttons on the remote control for four seconds to disable or enable two-stage unlocking.

If you program the unlocking function so that only the driver door unlocks, you can unlock all of the other doors from inside your vehicle using the power door lock control. You can unlock individual doors by pulling the interior door handles on those doors.

Key Detection Alert

Displays a message in the instrument cluster if no valid key is detected, when you exit your vehicle with a key, after the last front door is closed and your keyless vehicle is in run, indicating your vehicle is still on. An audible alert sounds if you have driven the vehicle and reached a speed of 16 mph (25 km/h) and the above mentioned conditions are met.

You can switch the audible alert on or off.

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Switch Key Detection Alert On or Off.

USING KEYLESS ENTRY

Unlocking the Doors



With your passive key within 3 ft (1 m) of your vehicle, touch the unlock sensor on the back of the door handle for a brief period and then pull on the door handle to unlock, being careful not to touch the lock sensor at the same time or pull on the door handle too quickly. The intelligent access system requires a brief delay to authenticate your passive key.

Locking the Doors



With your passive key within 3 ft (1 m) of your vehicle, touch the outer door handle lock sensor for approximately one second to lock, being careful not to touch the unlock sensor on the back of the door handle at the same time. After locking, you can immediately pull on the door handle to confirm locking occurred without inadvertently unlocking.

KEYLESS ENTRY – TROUBLESHOOTING

KEYLESS ENTRY – FREQUENTLY ASKED QUESTIONS

Why does the keyless entry system not function?

If the system does not function it may be limited. See **Keyless Entry Limitations** (page 74). If the system still does not function use the remote control or the key blade to lock and unlock your vehicle.

Why can I not lock my vehicle?

If you electronically lock your vehicle with a rear door or the tailgate open, the system searches for a passive key inside your vehicle after you close the last door. If the system detects a key, all doors unlock indicating that a key is inside. Your vehicle locks if another passive key is within the detection range after you close the last door.

WHAT IS THE KEYLESS ENTRY KEYPAD

The keyless entry keypad allows you to lock and unlock your vehicle using the keypad on the window trim.

KEYLESS ENTRY KEYPAD LIMITATIONS

The system may not function if:

- The vehicle battery has no charge.

LOCATING THE KEYLESS ENTRY KEYPAD

The keypad is near the driver window and illuminates when you press it.



KEYLESS ENTRY KEYPAD MASTER ACCESS CODE

What is the Master Access Code

The master access code is a factory-set five-digit entry code. You can operate the keypad with the master access code at any time. The master access code can be displayed in the instrument cluster display.

Displaying the Master Access Code in the Instrument Cluster Display

Read and understand the following before you begin the process.

- You must have two keys inside your vehicle.
- Make sure that you close all the doors and that they remain closed throughout the procedure.
- Do not place the keys on the wireless accessory charging area during the procedure.

Perform all steps within 30 seconds of starting the sequence. If you perform any of the steps out of sequence, stop and wait for at least one minute before starting again.

1. Turn the vehicle off.
2. Locate the backup slot inside the vehicle. See **Accessing the Passive Key Backup Position** (page 195).
3. Place the first key in the backup slot with the buttons upright and facing toward the rear of the vehicle.
4. Without pressing the brake pedal, push the start button to put the vehicle into accessory mode and wait for four seconds.
5. Turn off the vehicle and replace the first key with the second key.
6. Without pressing the brake pedal, push the start button to put the vehicle into accessory mode.

The master access code appears in the instrument cluster display for a few seconds.

Note: *In case of warning messages appearing in the instrument cluster, the master access code displays only after you dismiss them.*

KEYLESS ENTRY KEYPAD PERSONAL ACCESS CODES

Programming a Personal Entry Code

1. Enter the five-digit master code.
2. Press **1·2** on the keypad within five seconds.
3. Enter your personal five-digit code. You must do this within five seconds of completing Step 2.
4. Press **1·2** on the keypad to save personal code 1.

The doors lock then unlock to confirm that programming was successful.

To program additional personal entry codes, repeat Steps 1 through 3, then for Step 4:

- Press **3·4** to save personal code 2.
- Press **5·6** to save personal code 3.
- Press **7·8** to save personal code 4.
- Press **9·0** to save personal code 5.

If your vehicle comes with the operating system, you can also program the system with one personal entry code.

Note: *Programming a code using the operating system overwrites any code that was already saved on the position 9·0 of the Keypad.*

Hints:

- Do not set a code that uses five of the same number.
- Do not use five numbers in sequential order.
- The five-digit master code works even if you have set your own personal code.

Erasing a Personal Code

1. Enter the five-digit master code.
2. Press and release **1·2** on the keypad within five seconds.
3. Press and hold **1·2** for two seconds. You must do this within five seconds of completing Step 2.

All personal codes erase and only the five-digit master code works.

Anti-Scan Feature

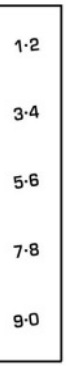
The keypad goes into an anti-scan mode if you enter the wrong code seven times. This mode turns off the keypad for one minute and the keypad lamp flashes.

The anti-scan feature turns off after:

- One minute of keypad inactivity.
- You press the unlock button on the remote control.
- You switch the ignition on.
- You unlock your vehicle using keyless entry.

USING THE KEYLESS ENTRY KEYPAD

Unlocking the Driver Door



Enter the factory-set five-digit code or your personal code. You must press each number within five seconds of each other.

Note: *All doors unlock if the two-stage unlocking feature is disabled. See* ***Keyless Entry Settings*** *(page 74).*

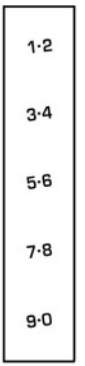
Unlocking All Doors

Enter the factory-set code or your personal code, then press **3-4** within five seconds.

To Release the Remote Power Release Tailgate

Enter the factory-set code or your personal code, then press **5-6** control within five seconds.

Locking the Doors



Press and hold **7·8** and **9·0** at the same time with the driver door closed.

Note: *You do not need to enter the code first.*

KEYLESS ENTRY KEYPAD – TROUBLESHOOTING

KEYLESS ENTRY KEYPAD – FREQUENTLY ASKED QUESTIONS

Why does the keypad not accept the access code?

If you enter the access code too fast on the keypad, the unlock function may not work. Slowly re-enter the access code.

Why does the keypad not function?

The keypad goes into an anti-scan mode if you enter a wrong code seven times. The anti-scan mode disables the keypad for one minute and the red light flashes.

HOW DOES EASY ENTRY AND EXIT WORK

Easy entry and exit moves the driver seat rearward and the steering column up when you switch the ignition off. The driver seat and steering column return to their previous positions when you switch the ignition on.

Note: *Depending on your vehicle, the column may move up and in.*

SWITCHING EASY ENTRY AND EXIT ON AND OFF

1. Press ***Settings*** on the touchscreen.
2. Press ***Vehicle***.
3. Press ***Easy Entry/Exit***.

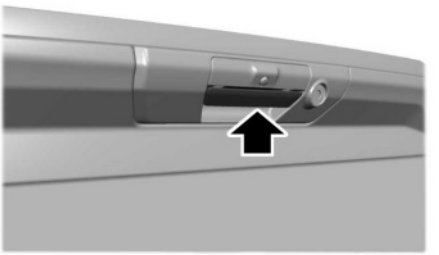
If you press any adjustment or memory button when in easy exit mode, the system cancels the operation.

TAILGATE PRECAUTIONS

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

OPENING THE TAILGATE

OPENING THE TAILGATE FROM OUTSIDE YOUR VEHICLE



Pull up on the handle to release the tailgate.

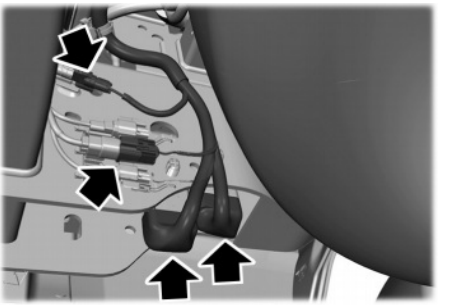
Note: *You may need to unlock the tailgate first.*

REMOVING AND INSTALLING THE TAILGATE

WARNING: Always properly secure cargo to prevent shifting cargo or cargo falling from the vehicle. Failure to do so could result in compromised vehicle stability and serious personal injury to vehicle occupants or others.

WARNING: The tailgate is heavy. Removal of the tailgate requires two adults. Failure to follow this instruction could result in personal injury or property damage.

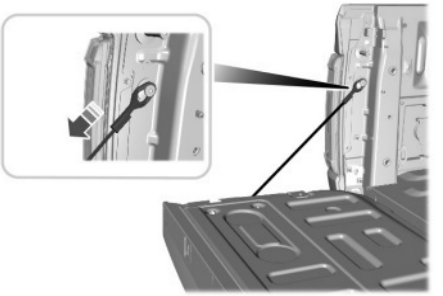
Note: *Before removing the tailgate, make sure the tailgate removal kit with the protective caps is in the glove compartment. If it is not, one can be provided free of charge by your authorized dealer. Failure to install the protective caps results in damage to the electrical system not covered by the vehicle warranty.*



1. Locate and disconnect the frame connections. They are on the left-hand side of the vehicle.

Note: *Your vehicle may have up to four frame connections.*

2. Install the protective caps on the in-line connector portion that remains under the pickup box.
3. Partially lower the tailgate. Carefully feed the tailgate harness up through the gap between the pickup box and the bumper and place it out of the way under the pickup box.
4. Lower the tailgate.

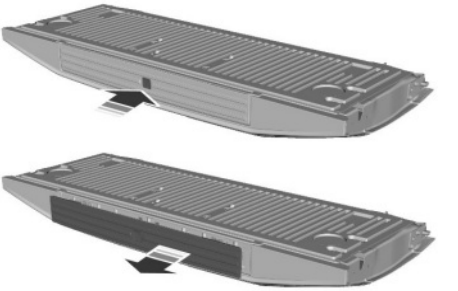


5. Use a screwdriver to gently pry the spring clip on each connector past the head of the support screw. Disconnect the cable.
6. Disconnect the other cable.
7. Lift the tailgate to 45 degrees from the horizontal position.
8. Lift the right-hand side off its hinge.
9. Lift the tailgate to 80 degrees from the horizontal position.
10. Remove the tailgate from the left-hand side hinge by sliding it to the right.
11. Install the tailgate in reverse order.

TAILGATE STEP

ACCESSING THE TAILGATE STEP

1. Lower the tailgate.
2. Push the button in the center of the step molding. The step pops out slightly.



3. Pull the step out fully. Lower the step to its lowest position.



4. Pull the yellow handle stop backward out of the tailgate until it fully extends.
5. To lock the handle in place, rotate the handle up from the horizontal to the vertical position until you hear a click.

Note: *Do not tow with the step or grab handle.*

Replace the slip resistance tape or grab handle molding if it appears as worn or damaged.

To reduce the risk of falling:

- Only operate the step when your vehicle is on a level surface.
- Only operate the step in areas with sufficient lighting.
- Make sure you use the grab handle when climbing on the step.
- Do not use the step with bare feet.
- Make sure the step is clean before use.
- Keep the step load below the total maximum load of 350 lb (159 kg).

STOWING THE TAILGATE STEP

1. Press the yellow button on the handle to lower and then press the yellow lever at the bottom of the handle to unlock. Rotate the handle down from the vertical to the horizontal position and push it into the tailgate.
2. Rotate the step up until it is horizontal, then push it back into the tailgate until the step is secure.

Note: *Make sure to close and fully latch the step before moving your vehicle. Do not drive with the step or grab handle open.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

TAILGATE PRECAUTIONS

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

OPENING THE TAILGATE

OPENING THE TAILGATE FROM INSIDE YOUR VEHICLE

To operate the power tailgate, the vehicle must be in park (P) or reverse (R) and the vehicle speed is less than 2.5 mph (4 km/h).

Press the tailgate release button located near the headlight control.

Note: *A tone sounds while the tailgate opens.*

Note: *The tailgate stops and reverses if it detects an obstruction when opening.*

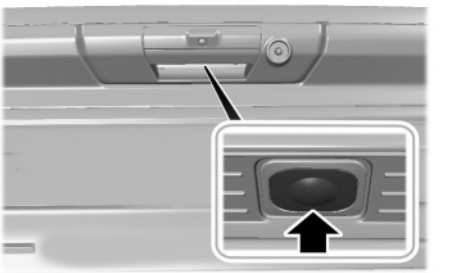
Note: *An alert sounds if the electronic tailgate is in manual mode.*

Note: *A pop-up message appears on the touchscreen if the tailgate is in manual mode asking if you want to change back to power mode.*

OPENING THE TAILGATE FROM OUTSIDE YOUR VEHICLE

1. Unlock the vehicle with the remote control or power door unlock control.

Note: *If an authorized device is within 3 ft (1 m) of the tailgate, the tailgate unlocks when you press the tailgate release button.*



2. Press the button on the middle of the tailgate.

OPENING THE TAILGATE USING THE REMOTE CONTROL

Press the remote control button twice within three seconds.

CLOSING THE TAILGATE

CLOSING THE TAILGATE FROM INSIDE YOUR VEHICLE

Press the tailgate release button located near the headlight control.

Note: *The tailgate does not close if the vehicle speed is at or above 2.5 mph (4 km/h).*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *The tailgate does not close with the tailgate step ajar. A Step Ajar message displays on the instrument cluster.*

CLOSING THE TAILGATE FROM OUTSIDE YOUR VEHICLE

You can close the power tailgate by:

- Pressing the tailgate button on your remote control twice within three seconds.
- Pressing the button on the tailgate once.

Note: *A tone sounds while the tailgate closes.*

Note: *The tailgate stops and reverses if it detects an obstruction when closing.*

Lift-to-Close

To automatically close the tailgate using lift-to-close, lift the tailgate approximately 4 in (10 cm) and hold it for a few seconds.

Note: *If the tailgate position is more than halfway closed, it may not automatically close.*

Manual Close

You can manually close the tailgate when you lift the tailgate in a continuous motion.

If you stop the tailgate motion, the lift-to-close feature engages and power closes the tailgate.

Putting the Tailgate in Manual Mode

You can put the tailgate in manual mode through the vehicle settings in your touchscreen.

Note: *In manual mode, the tailgate only opens by the tailgate release button on the tailgate and messaging is reduced.*

Note: *A pop-up message appears on the touchscreen if you press the tailgate button on the instrument panel when the tailgate is in manual mode.*

CLOSING THE TAILGATE USING THE REMOTE CONTROL



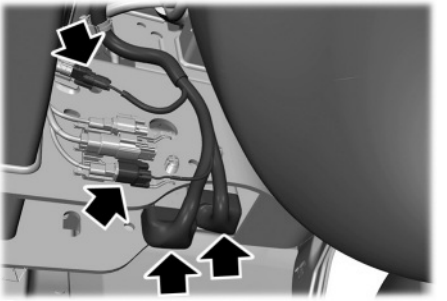
Press the remote control button twice within three seconds.

REMOVING AND INSTALLING THE TAILGATE

WARNING: Always properly secure cargo to prevent shifting cargo or cargo falling from the vehicle. Failure to do so could result in compromised vehicle stability and serious personal injury to vehicle occupants or others.

WARNING: The tailgate is heavy. Removal of the tailgate requires two adults. Failure to follow this instruction could result in personal injury or property damage.

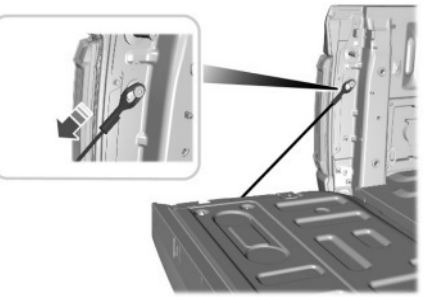
Note: *Before removing the tailgate, make sure the tailgate removal kit with the protective caps is in the glove compartment. If it is not, one can be provided free of charge by your authorized dealer. Failure to install the protective caps results in damage to the electrical system not covered by the vehicle warranty.*



1. Put the tailgate into manual mode by accessing the vehicle settings using the touchscreen.
2. Open the tailgate.
3. Disconnect the power door locks in-line connector located under the pickup box on the right-hand side of the vehicle near the spare tire.
4. Install the protective cap on the in-line connector portion that remains under the pickup box.
5. Partially raise the tailgate. Carefully feed the tailgate harness up through the gap between the pickup box and the bumper and place it out of the way under the pickup box.
6. Fully lower the tailgate.



7. Remove the retaining screw.



8. Use a screwdriver to gently pry the spring clip on each connector past the head of the support screw. Disconnect the cable.
9. Disconnect the other cable.
10. Lift the tailgate to 45 degrees from the horizontal position.
11. Lift the right-hand side off its hinge.

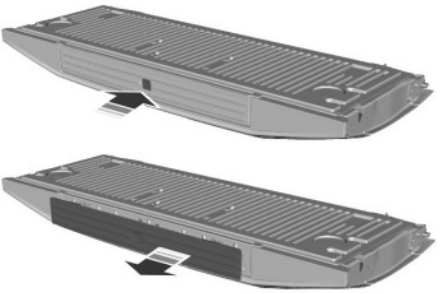
12. Lift the tailgate to 80 degrees from the horizontal position.
13. Remove the tailgate from the left-hand side hinge by sliding it to the right.
14. Install the tailgate in reverse order.

Note: *After reinstalling the tailgate it is important to reinstall the retaining screw to the recommended torque,11.06 lb.ft (15 Nm). Failure to install the retaining screw can cause the tailgate to detach.*

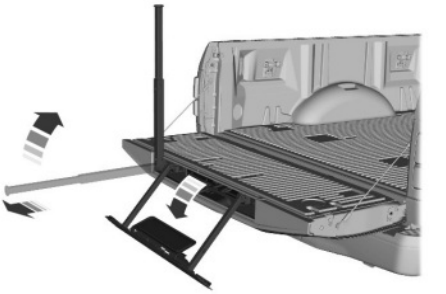
TAILGATE STEP

ACCESSING THE TAILGATE STEP

1. Lower the tailgate.
2. Push the button in the center of the step molding. The step pops out slightly.



3. Pull the step out fully. Lower the step to its lowest position.



4. Pull the yellow handle stop backward out of the tailgate until it fully extends.
5. To lock the handle in place, rotate the handle up from the horizontal to the vertical position until you hear a click.

Note: *Do not tow with the step or grab handle.*

Replace the slip resistance tape or grab handle molding if it appears as worn or damaged.

To reduce the risk of falling:

- Only operate the step when your vehicle is on a level surface.
- Only operate the step in areas with sufficient lighting.
- Make sure you use the grab handle when climbing on the step.
- Do not use the step with bare feet.
- Make sure the step is clean before use.
- Keep the step load below the total maximum load of 350 lb (159 kg).

STOWING THE TAILGATE STEP

1. Press the yellow button on the handle to lower and then press the yellow lever at the bottom of the handle to unlock. Rotate the handle down from the vertical to the horizontal position and push it into the tailgate.

2. Rotate the step up until it is horizontal, then push it back into the tailgate until the step is secure.

Note: *Make sure to close and fully latch the step before moving your vehicle. Do not drive with the step or grab handle open.*

Note: *The power tailgate cannot close if the step is open. A warning message appears and a tone sounds. After stowing the step the power close function is restored.*

TAILGATE – TROUBLESHOOTING

TAILGATE – WARNING LAMPS



Illuminates when the tailgate is not completely closed.

TAILGATE – INFORMATION MESSAGES

Message	Details
Tailgate ajar	The tailgate is not completely closed.
Shift to Park to operate tailgate	The vehicle must be in park (P) or reverse (R) and below 2.5 mph (4 km/h) to open the tailgate. The tailgate can be closed in any gear below 2.5 mph (4 km/h)
Power Tailgate Stow step	The step must be stowed for the tailgate to close.

TAILGATE – FREQUENTLY ASKED QUESTIONS

Why won't my power tailgate open?

- Make sure the tailgate is in power mode.
- Make sure the vehicle is in park (P) or reverse (R) and the vehicle speed is less than 4 km/h.
- The tailgate will not close if your vehicle speed is at or above 2.5 mph (4 km/h).
- Make sure nothing is obstructing the tailgate path and or causing resistance such as tonneau cover or other aftermarket accessory, freezing conditions or being parked downhill.
- If you have continued issues, the battery voltage may be low or other system issues. See an authorized dealer.

Why won't my power tailgate close?

- Make sure the tailgate is in power mode.
- Make sure the ignition is on and the vehicle is in park (P) or reverse (R) and the vehicle speed is less than 4 km/h.
- The tailgate will not close if your vehicle speed is at or above 2.5 mph (4 km/h).
- Make sure nothing is obstructing the tailgate path and or causing resistance such as tonneau cover or other aftermarket accessory, freezing conditions or being parked downhill.
- If you have continued issues, the battery voltage may be low or other system issues. See an authorized dealer.

TAILGATE PRECAUTIONS

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

OPENING THE TAILGATE

OPENING THE TAILGATE FROM INSIDE YOUR VEHICLE

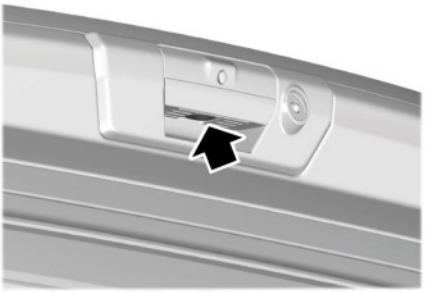
The vehicle must be in park (P) to operate the tailgate.

Press the button on the instrument panel twice within three seconds.

OPENING THE TAILGATE FROM OUTSIDE YOUR VEHICLE

1. Unlock the vehicle with the remote control or power door unlock control.

Note: *If an intelligent access transmitter is within 3 ft (1 m) of the tailgate, the tailgate unlocks when you press the tailgate release button.*



2. Press the button in the top of the tailgate handle twice within three seconds.

OPENING THE TAILGATE USING THE REMOTE CONTROL

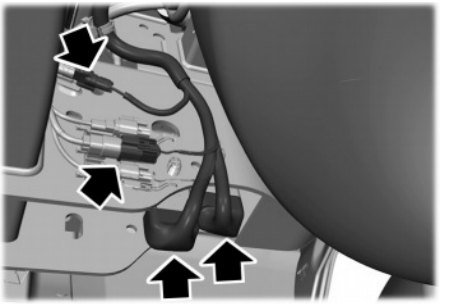
Press the remote control button twice within three seconds.

REMOVING AND INSTALLING THE TAILGATE

WARNING: Always properly secure cargo to prevent shifting cargo or cargo falling from the vehicle. Failure to do so could result in compromised vehicle stability and serious personal injury to vehicle occupants or others.

WARNING: The tailgate is heavy. Removal of the tailgate requires two adults. Failure to follow this instruction could result in personal injury or property damage.

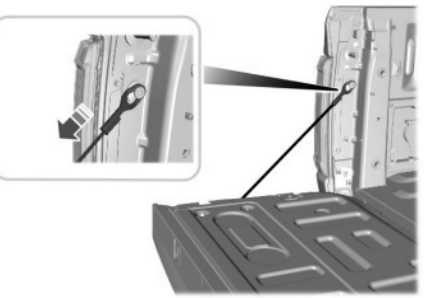
Note: *Before removing the tailgate, make sure the tailgate removal kit with the protective caps is in the glove compartment. If it is not, one can be provided free of charge by your authorized dealer. Failure to install the protective caps results in damage to the electrical system not covered by the vehicle warranty.*



1. Locate and disconnect the frame connections. They are on the left-hand side of the vehicle.

Note: *Your vehicle may have up to four frame connections.*

2. Install the protective caps on the in-line connector portion that remains under the pickup box.
3. Partially lower the tailgate. Carefully feed the tailgate harness up through the gap between the pickup box and the bumper and place it out of the way under the pickup box.
4. Lower the tailgate.

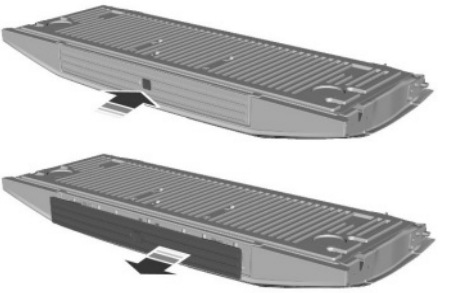


5. Use a screwdriver to gently pry the spring clip on each connector past the head of the support screw. Disconnect the cable.
6. Disconnect the other cable.
7. Lift the tailgate to 45 degrees from the horizontal position.
8. Lift the right-hand side off its hinge.
9. Lift the tailgate to 80 degrees from the horizontal position.
10. Remove the tailgate from the left-hand side hinge by sliding it to the right.
11. Install the tailgate in reverse order.

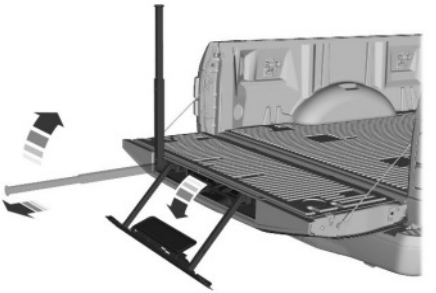
TAILGATE STEP

ACCESSING THE TAILGATE STEP

1. Lower the tailgate.
2. Push the button in the center of the step molding. The step pops out slightly.



3. Pull the step out fully. Lower the step to its lowest position.



4. Pull the yellow handle stop backward out of the tailgate until it fully extends.
5. To lock the handle in place, rotate the handle up from the horizontal to the vertical position until you hear a click.

Note: *Do not tow with the step or grab handle.*

Replace the slip resistance tape or grab handle molding if it appears as worn or damaged.

To reduce the risk of falling:

- Only operate the step when your vehicle is on a level surface.
- Only operate the step in areas with sufficient lighting.
- Make sure you use the grab handle when climbing on the step.
- Do not use the step with bare feet.
- Make sure the step is clean before use.
- Keep the step load below the total maximum load of 350 lb (159 kg).

STOWING THE TAILGATE STEP

1. Press the yellow button on the handle to lower and then press the yellow lever at the bottom of the handle to unlock. Rotate the handle down from the vertical to the horizontal position and push it into the tailgate.
2. Rotate the step up until it is horizontal, then push it back into the tailgate until the step is secure.

Note: *Make sure to close and fully latch the step before moving your vehicle. Do not drive with the step or grab handle open.*

Note: *The power tailgate cannot close if the step is open. A warning message appears and a tone sounds. After stowing the step the power close function is restored.*

TAILGATE – TROUBLESHOOTING

TAILGATE – INFORMATION MESSAGES

Message	Action
Tailgate ajar	The tailgate is not completely closed.
Shift to Park to operate tailgate	The vehicle must be in park (P) to operate the remote release tailgate.

TAILGATE – FREQUENTLY ASKED QUESTIONS

Why won't my tailgate open?

- Make sure the transmission is in park (P), ensure nothing is obstructing the tailgate path and or causing resistance (tonneau cover or other aftermarket accessories, freezing conditions or being parked downhill). If you have continued issues, the battery voltage may be low or other system issues. See an authorized dealer.

PASSIVE ANTI-THEFT SYSTEM

WHAT IS THE PASSIVE ANTI-THEFT SYSTEM

The passive anti-theft system prevents someone from starting your vehicle with an incorrectly coded key.

Note: *Do not leave a duplicate coded key in your vehicle. Always take the keys and lock all the doors when leaving your vehicle.*

HOW DOES THE PASSIVE ANTI-THEFT SYSTEM WORK

The passive anti-theft system arms when you switch your vehicle off.

It disarms when you switch your vehicle on with a correctly coded key.

Note: *The system is not compatible with non-Ford aftermarket remote start systems.*

Note: *Do not leave a duplicate coded key in your vehicle. Always take the keys and lock all doors when leaving your vehicle.*

ANTI-THEFT ALARM SYSTEM

WHAT IS THE ANTI-THEFT ALARM SYSTEM

The anti-theft alarm system warns you of an unauthorized entry to your vehicle.

HOW DOES THE ANTI-THEFT ALARM SYSTEM WORK

When armed, the anti-theft alarm is triggered in any of the following ways:

- Opening a door, the tailgate or hood without a correctly coded key or remote control.
- If you turn the power on without a correctly coded key.
- Disconnecting the battery.
- Disconnecting the trailer. See **Connecting a Trailer** (page 348).

Any further attempts to carry out one of the above, sounds the alarm again.

If the anti-theft alarm is triggered, the alarm horn sounds for 30 seconds and the turn signals flash for five minutes.

WHAT IS THE PERIMETER ALARM

The perimeter alarm is designed to detect unauthorized access to your vehicle.

ARMING THE ANTI-THEFT ALARM SYSTEM

The alarm is ready to arm when you switch your vehicle off.

Lock your vehicle with your remote control to arm the alarm.

DISARMING THE ANTI-THEFT ALARM SYSTEM

Disarm the alarm by performing any of the following actions:

- Unlock the doors or luggage compartment with the remote control.
- Switch your vehicle on or start your vehicle.

SECURITY – TROUBLESHOOTING

SECURITY – INFORMATION MESSAGES

No key detected	The system has not detected a correctly coded key.
Starting system fault	The system has malfunctioned. Have your vehicle checked as soon as possible.
Vehicle alarm To stop alarm, start vehicle	Displays when the alarm has been triggered due to unauthorized entry.

SECURITY – FREQUENTLY ASKED QUESTIONS

What should I do if there is a potential alarm problem with my vehicle?

- Take all remote controls to an authorized dealer if there is a potential alarm problem with your vehicle.

What should I do if my vehicle is unable to start with a correctly coded key?

- Have your vehicle checked as soon as possible.

POWER RUNNING BOARD PRECAUTIONS

WARNING: Do not step on a running board that is moving or not fully deployed. Failure to follow this instruction may result in personal injury.

WARNING: Switch off the running boards before jacking or placing any object under your vehicle. Failure to follow this instruction may result in personal injury or property damage.

WARNING: Never place your hands or feet near a moving running board. Failure to follow this instruction may cause personal injury.

Note: *The power running boards could be exposed to factors such as ice, mud, or rocks, causing the running boards to not deploy or stow properly. The power running boards resume normal operation once the mechanical device that allows movement of the running boards is cleaned and lubricated following the maintenance instructions.*

POWER RUNNING BOARD SETTINGS

1. Press ***Features*** on the touchscreen.
2. Press ***Power Running Board***.
3. Press ***SETTINGS***.

Power Boards Modes

Note: *When the vehicle speed is more than 3 mph (5 km/h), the option to select the modes disables, to avoid unintended operation.*

Note: *The power running boards reverse direction and move to the end of travel if they encounter an object when moving. Keep the power running boards and brackets clean for optimum performance.*

Off

The power running boards remain stowed, regardless of door position.

Auto

The power running boards deploy when you approach your vehicle with a remote control, unlock the door or open the door.

The power running boards stow:

- After a few seconds when you close the doors.
- Instantly after you close and lock the doors.
- If you unlock the door but do not open it, after the timeout.
- If you have switched approach detection on and do not open a door before the auto timer setting expires.
- When the vehicle speed is more than 3 mph (5 km/h).

Note: *When you select this mode, an option displays that allows you to select how long the running boards stay deployed without opening the door.*

Out

The power running boards remain deployed, regardless of door position. The power running boards stow when the vehicle speed is more than 5 km/h, and the mode changes to auto. You need to select Out mode again if you want the power running boards to stay deployed at the end of each trip.

Approach detection

When you switch approach detection on with auto switched on, the running boards deploy when you approach your vehicle with a remote control.

POWER RUNNING BOARDS – TROUBLESHOOTING

POWER RUNNING BOARDS – FREQUENTLY ASKED QUESTIONS

Why are my power running boards not deploying and/or stowing as expected?

- The power running boards may produce unwanted noises, move in and out randomly, move slowly, or get stuck mid-travel when the power running boards mechanism has trapped debris such as mud, dirt, snow, ice, and/or salt. If this happens, follow the maintenance procedure below.

What maintenance should my power running boards have?

- Set the running boards to the deployed position by selecting the out mode. Wash the system, in particular the front and rear hinge arms, with a high-pressure car wash wand. Avoid using a wand that is not designed for car wash use, as excessive water pressure could damage nearby components.
- Apply Motorcraft penetrating and lock lubricant to clean the bushing locations on both running board hinges. This removes any embedded rust or debris that pressure washing may not have removed. If any leftover debris or rust is present after using the penetrating lubricant, use a pressure washer to remove it.
- To help prevent power running board deployment issues, use lithium grease to help keep debris away from the moving parts of the running board. Apply Motorcraft® multi-purpose grease on each bushing location and the motor output shaft.
- Remember to properly clean the power running boards every time you notice slow movement or improper behavior. Apply multi-purpose grease to the mechanism every 6 months.

ADJUSTING THE STEERING WHEEL - VEHICLES WITH: MANUAL ADJUSTABLE STEERING COLUMN

WARNING: Do not adjust the steering wheel when your vehicle is moving. Failure to follow this instruction could result in the loss of vehicle control, personal injury or death.

Note: *Make sure that you are sitting in the correct position. See* ***Sitting in the Correct Position*** *(page 149).*

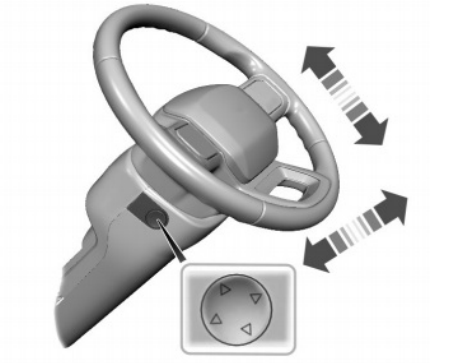


1. Unlock the steering column by pulling the lever down.
2. Adjust the steering wheel to the preferred position. The wheel can move up or down, in or out.
3. Lock the steering column into position by pushing the lever up into the locked position.

ADJUSTING THE STEERING WHEEL - VEHICLES WITH: POWER ADJUSTABLE STEERING COLUMN

WARNING: Do not adjust the steering wheel when your vehicle is moving. Failure to follow this instruction could result in the loss of vehicle control, personal injury or death.

Note: *Make sure that you are sitting in the correct position. See* ***Sitting in the Correct Position*** *(page 149).*



Use the control on the side of the steering column to adjust the position.

To adjust:

- Tilt: Press the top or bottom of the control.
- Telescope: Press the front or rear of the control.

End of Travel Position

The steering column sets a stopping position just short of the end of the column position to prevent damage to the steering column. A new stopping position sets if the steering column encounters an object when tilting or telescoping.

To reset the steering column to its normal stopping position:

1. Confirm there is nothing obstructing the motion of the steering column.
2. Press and hold the steering column control until the steering column stops moving.
3. Press the steering column control again.

Note: *The steering column may begin to move again.*

4. When the steering column stops, continue holding the control for a few seconds.
5. Repeat for each direction as necessary.

A new stopping position sets. The next time you tilt or telescope the steering column, it stops just short of the end of the column position.

Memory Feature (If Equipped)

You can save and recall the steering column position with the memory function. See **Memory Function** (page 164).

Pressing the adjustment control during a memory recall cancels the operation.

Easy Entry and Exit Feature

The column moves up when you switch the ignition off. Switch the ignition on to return the system to its previous settings. You can switch this feature on or off in the touchscreen.

Note: *If you press any adjustment or memory button when in easy exit mode, the system cancels the operation.*

Note: *Depending on your vehicle, the column may move up and in.*

RESETTING THE STOPPING POSITION - VEHICLES WITH: POWER ADJUSTABLE STEERING COLUMN

Note: *The steering wheel stops when it detects an obstruction. This sets a new stopping position.*

To reset the steering column to its normal stopping position:

1. Confirm there is nothing obstructing the motion of the steering column.
2. Press and hold the steering column control until the steering column stops moving.
3. Press the steering column control again.

Note: *The steering column may start to move again.*

4. When the steering column stops, continue holding the control for a few seconds.
5. Repeat for each direction, as necessary.

HORN



Press on the center of the steering wheel near the horn icon to activate the horn.

SWITCHING THE HEATED STEERING WHEEL ON AND OFF - VEHICLES WITH: HEATED STEERING WHEEL

WARNING: Use caution when using the heated steering wheel if you are unable to feel pain to your skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, exhaustion or other physical conditions. Failure to follow this instruction could result in personal injury, especially if the heated steering wheel is used for long periods of time.



To activate the heated steering wheel, press the button on the climate control unit. An indicator illuminates when the heated steering wheel is on. To turn it off, press the heated steering wheel button again.

Note: *The engine must be running to use the heated steering wheel.*

Note: *A sensor regulates the temperature of the steering wheel.*

Note: *The heated steering wheel may remain on after remote starting your vehicle, depending on the remote start settings. It may also turn on when you start your vehicle if it was on the last time the engine was switched off.*

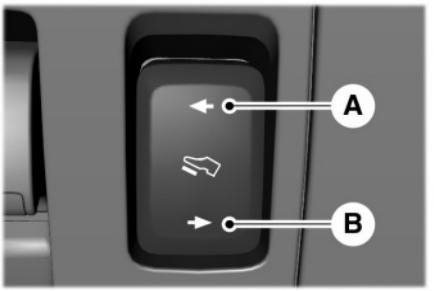
Note: *In warm temperatures, the steering wheel quickly reaches its maximum temperature and the system reduces the current to the heating element. This could cause you to think that the system has stopped working but it has not. This is normal.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

ADJUSTING THE PEDALS

WARNING: Do not use the pedal adjustment controls when the vehicle is moving. Failure to follow this instruction could result in personal injury or death.

Your control is on the left-hand side of the steering column or on the instrument panel.



A. Farther away from you.
B. Closer to you.

You can save and recall the pedal positions with the memory feature. See **Memory Function** (page 164).

WIPERS

WIPER PRECAUTIONS

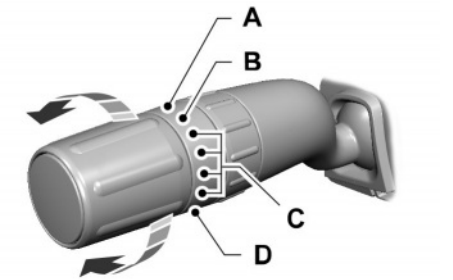
Do not operate the wipers on a dry windshield. This could scratch the glass or damage the wiper blades. Use the windshield washers before wiping a dry windshield.

Fully defrost the windshield before you switch the windshield wipers on.

Switch the windshield wipers off before entering a car wash.

Note: *Do not use tap water in the windshield washer reservoir. Mineral deposits in tap water can clog the system. Only use approved windshield washer fluid or demineralized water.*

SWITCHING WINDSHIELD WIPERS ON AND OFF



A High-speed wipe.

B Low-speed wipe.

C Auto Wipe/Intermittent wipe.

D Off.


Use the rotary control.

AUTOWIPERS (IF EQUIPPED)

WHAT ARE AUTOWIPERS

Autowipers, when turned on, automatically control the speed and frequency of the windshield wipers if the rain sensor detects moisture on the windshield.

Note: *Keep the outside of the windshield clean. The rain sensor is very sensitive and the wipers may operate if dirt, mist or insects hit the windshield.*

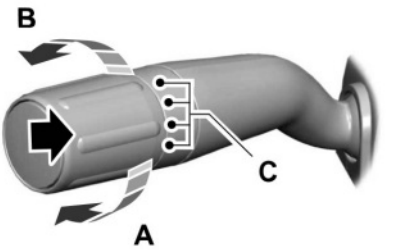
AUTOWIPERS SETTINGS

1. From the settings menu, press Vehicle.
2. Press Wipers.
3. Switch Rain sensing on or off.

Note: *When you switch the feature off, the wipers do not operate based on the rain sensor. When you switch on the windshield wipers to the intermittent wipe position with the feature off, the wipers use the wipe speed set by the rotary control.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

ADJUSTING THE SENSITIVITY OF THE RAIN SENSOR



A Low sensitivity.
B High sensitivity.
C Intermittent wipe/Autowipers.

Use the rotary control to set the rain sensor sensitivity.

Note: *Use intermittent wipe positions to adjust the rain sensor sensitivity.*

When you select low sensitivity, the wipers operate when the sensor detects a large amount of water on the windshield.

When you select high sensitivity, the wipers operate when the sensor detects a small amount of water on the windshield.

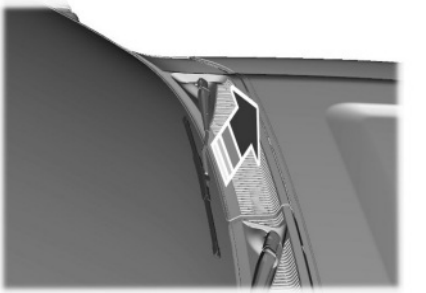
CHECKING THE WIPER BLADES



Run the tip of your fingers over the edge of the blade to check for roughness.

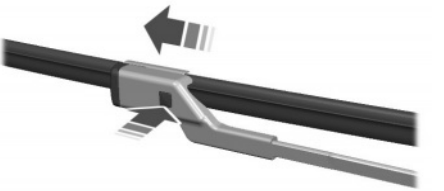
REPLACING THE FRONT WIPER BLADES

Make sure your vehicle is off before beginning this procedure.



1. Pull the wiper blade and arm away from the glass.

Note: *Do not hold the wiper blade to lift the wiper arm.*



2. Press the wiper blade locking clip.
3. Remove the wiper blade.

Note: *Make sure that the wiper arm does not spring back against the glass when the wiper blade is not attached.*

4. To install, reverse the removal procedure.

Note: *Make sure that the wiper blade locks into place.*

WASHERS

WASHER PRECAUTIONS

WARNING: If you operate your vehicle in temperatures below 41ºF (5ºC), use washer fluid with antifreeze protection. Failure to use washer fluid with antifreeze protection in cold weather could result in impaired windshield vision and increase the risk of injury or accident.

Do not operate the washers when the washer reservoir is empty. This can cause the pump to overheat and fail.

Keep the windshield clean. The rain sensor is very sensitive and may activate the wipers due to dirt, mist, or insects.

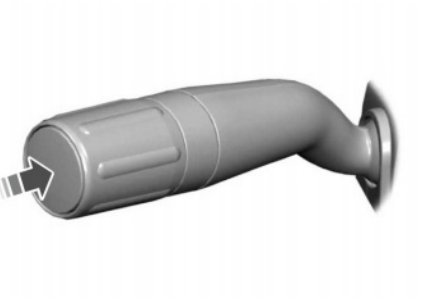
Do not mix water with ready to use washer fluid. Water dilutes the solution, causing it to freeze, potentially damaging the tank, lines, and pump.

Turn your vehicle off before adding washer fluid. Washer fluid is flammable. If spilled on hot components, it can ignite.

Avoid using washer fluid additives that contain silicone. Products that contain silicone provide a water repelling effect that can damage the wiper and washer system over time.

Use only the correct fluid. Never add brake fluid, coolant, or other liquids to the washer reservoir. If using concentrated washer fluid, follow the manufacturer instructions for adding water for reservoir location and identification. See **Adding Washer Fluid** (page 105).

USING THE WINDSHIELD WASHER



Press and hold the button at the end of the lever to operate the windshield washer.

Note: *A courtesy wipe occurs a short time after the wipers stop to clear any remaining washer fluid when switched on. See* ***Switching the Courtesy Wipe On and Off*** *(page 104).*

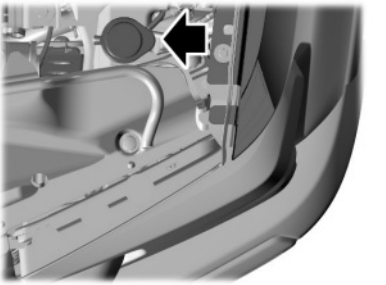
SWITCHING THE COURTESY WIPE ON AND OFF

1. From the settings menu, press Vehicle.
2. Press Wipers.
3. Switch Courtesy Wipe on or off.

Note: *When you switch the feature on, the wipers make an additional single wipe at the end of the washer request. When you switch it off, the wipers finish the current washer request.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

ADDING WASHER FLUID



WASHER FLUID SPECIFICATION

Capacities

Variant	Quantity
All.	Fill as required.

Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant(U.S.) Motorcraft® Premium Quality Windshield Washer Fluid -35 ºC / Liquide lave-glace de haute qualité -35 ºC Motorcraft®(Canada) ZC-32-B2(U.S.) CXC-37-M(Canada)	WSS-M14P19-A

WIPERS AND WASHERS – TROUBLESHOOTING

WIPERS AND WASHERS – WARNING LAMPS



Illuminates when the windshield washer fluid is low for vehicles equipped with a washer fluid level sensor.

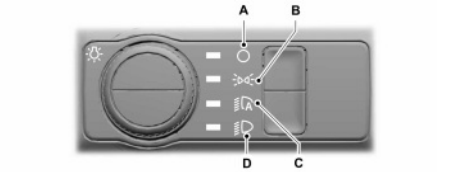
WIPERS AND WASHERS – FREQUENTLY ASKED QUESTIONS

Why are there streaks and smears on the windshield?

- The wiper blades could be dirty, worn or damaged. Check the wiper blades. See **Checking the Wiper Blades** (page 103). If the wiper blades are dirty, clean them with washer fluid or water applied with a soft sponge or cloth. If the wiper blades are worn or damaged, install new ones. See **Replacing the Front Wiper Blades** (page 103).

EXTERIOR LIGHTING CONTROL

The exterior lighting control is on the dashboard to the left of the steering wheel, where you can access the following settings.



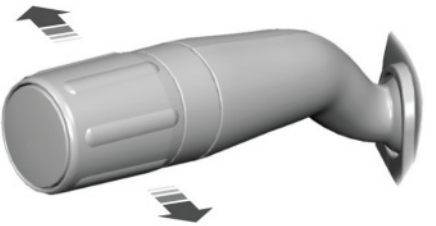
A Lamps off.
B Parking lamps on.
C Autolamps on.
D Headlamps on.

Rotate the control to make a selection.

Note: *The lighting control defaults to autolamps every time you switch your vehicle on.*

HEADLAMPS

USING THE HIGH BEAM HEADLAMPS



Push the lever away from you to switch the high beam on.

Push the lever forward again or pull the lever toward you to switch the high beams off.

Slightly pull the lever toward you and release it to flash the headlamps.

Note: *Continuous activation only with headlamps on.*

SWITCHING HEADLAMP EXIT DELAY ON AND OFF

To switch headlamp exit delay on, pull the turn signal lever toward you when the headlamps are off and the ignition is off. A short tone sounds when the system is on.

To switch headlamp exit delay off, pull the turn signal lever toward you again or switch your vehicle on.

Note: *The headlamps turn off after three minutes with any door open or 30 seconds after the last door closes.*

ADJUSTING THE LEVEL OF THE HEADLAMPS

Your vehicle has a dynamic leveling system. The headlamps do not require additional aim adjustment.

HEADLAMP INDICATORS

Lamps On

Illuminates when you switch the low beam headlamps or the parking lamps on.

Headlamp High Beam

Illuminates when you switch the high beam headlamps on.

AUTOLAMPS

What Are Autolamps

WARNING: The system does not relieve you of your responsibility to drive with due care and attention. You may need to override the system if it does not turn the headlamps on in low visibility conditions, for example daytime fog.

Autolamps turn the headlamps on in low light situations or when the windshield wipers operate.

Autolamp Settings

Autolamp Exit Delay:

You can adjust the amount of time the autolamps remain on after you switch off your vehicle. Use the touchscreen to choose a delay setting.

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Lighting.
3. Press Autolamp Delay.
4. Select a setting.

Note: *If the setting is off, the external lamps switch off immediately when you shut down your vehicle.*

Note: *You can pull the turn signal lever toward you to manually switch off the autolamp exit delay.*

EXTERIOR LAMPS

USING THE TURN SIGNAL LAMPS



Push the lever up or down to switch the turn signal lamps on.

Set the lever to the middle position to switch the turn signal lamps off.

Note: *Tap the lever up or down to make the turn signal lamps flash three times.*

Turn Signal Lamp Indicator

It flashes when you switch the turn signal lamps on.

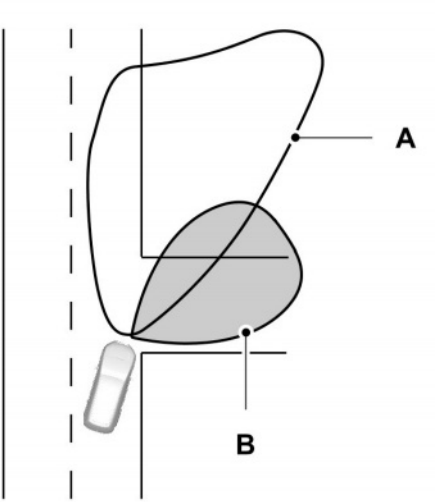
Note: *An increase in the rate of flashing warns of a failed turn signal lamp.*

HOW DO CORNERING LAMPS WORK

The cornering lamps illuminate the inside of a corner when you are turning the steering wheel or when you switch the turn signal lamps on. They turn on when the vehicle speed is below 25 mph (40 km/h).

Note: *Only the cornering lamp on the side your vehicle is turning illuminates.*

Note: *Cornering lamps do not operate if you switch the front fog lamps on.*



A Headlamp beam.
B Cornering lamp beam.

SWITCHING THE DAYTIME RUNNING LAMPS ON AND OFF - VEHICLES WITH: CONFIGURABLE DAYTIME RUNNING LAMPS

WARNING: The daytime running lamps system does not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Make sure you switch the headlamps on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.

1. From the settings menu, press Vehicle.
2. Press Lighting.
3. Switch Daytime Running Lights on or off.

The daytime running lamps turn on when all of the following occur:

- You switch the system on.
- You switch the vehicle on.
- The transmission is not in park (P) for vehicles with automatic transmissions or you release the parking brake for vehicles with manual transmissions.
- The lighting control is in the autolamps position.
- The headlamps are off.

Note: *Other lighting control positions do not turn on the daytime running lamps.*

SWITCHING THE DAYTIME RUNNING LAMPS ON AND OFF - VEHICLES WITH: DAYTIME RUNNING LAMPS (DRL)

WARNING: The daytime running lamps system may not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Make sure you switch the headlamps on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.

Daytime running lamps are always on unless you switch on the headlamps or your vehicle is in park (P).

USING THE FRONT FOG LAMPS (If Equipped)

To switch the lamps on or off:

1. Set the lighting control to the parking lamps, headlamps or autolamps position.

Note: *When the lighting control is in the autolamps position, you cannot switch the fog lamps on unless the low beam headlamps are on.*

2.  Press the button on the lighting control to switch the front fog lamps on or off.

Note: *Only switch the front fog lamps on during reduced visibility.*

Note: *The brightness of the daytime running lamps may decrease when the front fog lamps are switched on.*

Note: *The front fog lamps lights switch off automatically when high beams are activated.*

Front Fog Lamps Indicator

 It illuminates when you switch the front fog lamps on.

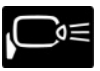
SWITCHING THE CARGO LAMPS ON (If Equipped)

 Press the button in the lighting control or in the rear cargo box.

SWITCHING THE SPOT LAMPS ON AND OFF (If Equipped)

The spot lamp buttons are near the lighting control.

 Press the button to switch on the left-hand spot lamp.

 Press the button to switch on the right-hand spot lamp.

Move the position of the exterior mirrors to adjust the aim.

Note: *Make sure you switch your vehicle on, with the vehicle in accessory mode or running.*

Note: *The spot lamps turn off after 6 mph (10 km/h).*

Note: *The spot lamps illuminate the area in front of and to the side of your vehicle.*

SWITCHING WELCOME LIGHTING ON AND OFF

The system turns on the exterior lamps when you approach your vehicle with an authenticated device, unlock your vehicle or interact with any of the doors. If you open or close any door, the lamps stay on for a short period of time to provide courtesy lighting.

Note: *Welcome lighting still displays when you use your remote control to unlock your vehicle or interact with any of the doors.*

To switch the system on or off:

1. Press Settings on the touchscreen.
2. Press Vehicle.
3. Press Lighting.
4. Switch welcome lighting on or off.

Note: *Depending on your vehicle's configuration, you may not have the option to switch the feature on and off.*

To conserve power, the system may not work when you are approaching your vehicle if:

- The 12-volt battery is low.
- The system was triggered a number of times prior to starting the vehicle.
- The vehicle is left unused for a few days.

EXTERIOR LAMPS ON AUDIBLE WARNING

Sounds when you open the driver door and the exterior lamps are on.

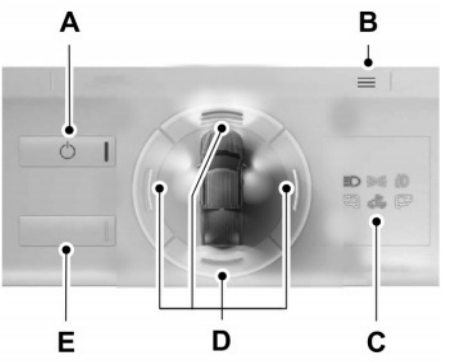
EXTERIOR ZONE LIGHTING (IF EQUIPPED)

WHAT IS EXTERIOR ZONE LIGHTING

Exterior zone lighting divides the exterior lighting into zones and allows you to switch them on and off to provide lighting around the perimeter of your vehicle.

USING THE EXTERIOR ZONE LIGHTING

1. Press ***Features*** on the touchscreen.
2. Press ***Zone Lighting***.



A	On and off button.
B	Settings menu.
C	Exterior lamp indicators.
D	Individual zones on and off.
E	All zones on and off.

You can use zone lighting when your vehicle is on or off. When it is off, the lighting turns off after a certain period of time.

You can also use individual zone controls to switch on each zone.

Note: *Make sure to remove exterior lighting covers when using zone lighting.*

Note: *When your vehicle is off and the timer has one minute remaining, the turn signals flash six times.*

Note: *Indicators on the touchscreen illuminate when the lights outside of the zone lighting control are on.*

Note: *Vehicles without spot lamps only have two zones.*

EXTERIOR ZONE LIGHTING SETTINGS

1. Press ***Features*** on the touchscreen.
2. Press ***Zone Lighting***.
3. Press the settings menu in the upper right-hand corner.
4. Press a setting.

Enable Autolamp Override

This setting allows your vehicle to override the autolamps when using zone lighting.

When you access zone lighting for the first time, you can choose this setting. You can change this setting at any time.

Include Reverse Lamps

This setting turns the reverse lamps on when you switch the rear lighting zone on.

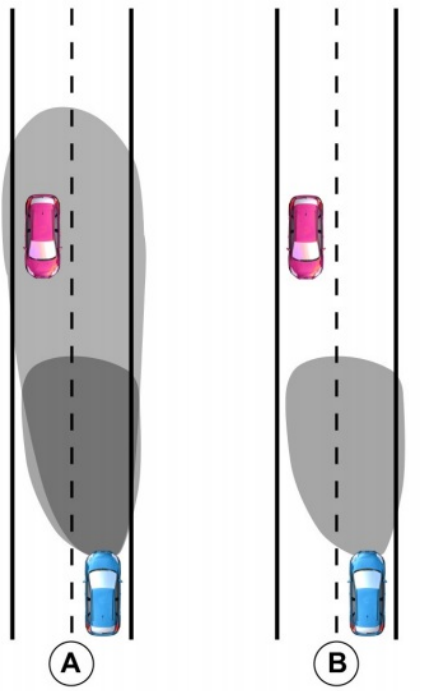
Switch this setting off if you have a backup alarm installed to prevent the reverse lamps from turning on and sounding the alarm when using zone lighting.

AUTOMATIC HIGH BEAM CONTROL (IF EQUIPPED)

HOW DOES AUTOMATIC HIGH BEAM CONTROL WORK

Automatic high beam control turns the high beams on if it is dark enough and no other traffic is present. If it detects an approaching vehicle's headlamps or tail lamps, or street lighting ahead, the system turns the high beams off.

A camera sensor, centrally mounted behind the windshield of your vehicle, continuously monitors conditions to turn the high beams on and off.



A Without automatic high beam control.

B With automatic high beam control.

AUTOMATIC HIGH BEAM CONTROL PRECAUTIONS AND LIMITATIONS

WARNING: The system does not relieve you of your responsibility to drive with due care and attention. You may need to override the system if it does not turn the high beams on or off.

WARNING: The system may not switch the high beams off if the lights of oncoming vehicles are hidden by obstacles, for example guard rails.

WARNING: You may need to override the system when approaching other road users.

WARNING: In situations with poor visibility, such as fog, heavy rain or other inclement weather, you may need to override or completely switch off the system.

Automatic High Beam Control Limitations

The system turns the high beams off if any of the following occur:

- You switch the system off.
- You set the lighting control to any position except autolamps.
- The ambient light level is high enough that you do not require high beams.
- The system detects an approaching vehicle's headlamps or a leading vehicle's tail lamps.
- The system detects severe rain, snow or fog.
- The system detects street lighting.
- The camera has reduced visibility.
- The vehicle speed falls below approximately 19 mph (30 km/h).

Note: *The deactivation speed may be lower on curves.*

Automatic High Beam Control Requirements

The system turns the high beams on if all of the following occur:

- You switch the system on.
- You set the lighting control to the autolamps position.
- The ambient light level is low enough that you require high beams.
- There is no traffic in front of your vehicle.
- The vehicle speed is greater than approximately 25 mph (40 km/h).

SWITCHING AUTOMATIC HIGH BEAM CONTROL ON AND OFF

The settings to switch automatic high beam control on and off may be located on your instrument cluster or your touchscreen.

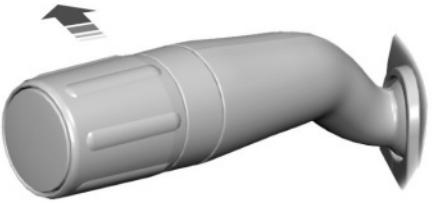
1. Using the instrument cluster controls on the steering wheel or the touchscreen, select Settings.
2. Select ***Vehicle***.
3. Select ***Lighting***.
4. Switch ***Auto High Beam*** on or off.

AUTOMATIC HIGH BEAM CONTROL INDICATORS



Illuminates to confirm when the system is ready to assist.

OVERRIDING AUTOMATIC HIGH BEAM CONTROL



Push the lever away from you to switch the high beams on.

Push the lever away from you again to switch the high beams off.

Push the lever away from you for a third time to switch automatic high beam control back on.

AUTOMATIC HIGH BEAM CONTROL – TROUBLESHOOTING (IF EQUIPPED)

AUTOMATIC HIGH BEAM CONTROL – INFORMATION MESSAGES

Message	Details
Front Camera Low Visibility Clean Screen	The camera has reduced visibility. Clean the windshield. If the message continues to appear, have your vehicle checked as soon as possible.
Front Camera Temporarily Not Available	The camera has malfunctioned. Wait a short period of time for the camera to cool down. If the message continues to appear, have your vehicle checked as soon as possible.
Windshield camera fault Service required	The camera has malfunctioned. Have your vehicle checked as soon as possible.

ADAPTIVE FRONT LIGHTING (IF EQUIPPED)

HOW DOES ADAPTIVE FRONT LIGHTING WORK

Adaptive front lighting adjusts the headlamps to improve visibility in certain situations.

Note: *There are several types of adaptive front lighting. Availability and activation conditions may vary based on your vehicle.*

Switching Adaptive Front Lighting On or Off

Set the lighting control to the autolamps position to use adaptive front lighting.

Note: *Other lighting control positions do not turn on adaptive front lighting.*

Adaptive Front Lighting Types

Name	Details
Speed Dependent Light Mode	Provides additional light on the road depending on your vehicle speed and weather conditions.
Dynamic Bending Light	Directs the light beam based on your steering around a curve. Additionally, lane markings detected by the front windshield camera and map data also help direct the light beam.
Static Bending Light	Adds lighting at the inside of a curve or corner when you are turning the steering wheel.
Sign Based Light Mode	Activates targeted lighting when certain traffic signs are detected in intersection and roundabout scenarios.

Note: *This feature may use map data. We recommend having all connected vehicle settings enabled to allow the map content to be updated to the latest version. See* ***Connected Vehicle Settings*** *(page 527). If your vehicle does not receive automatic updates, take your vehicle to an authorized dealer to receive periodic updates.*

EXTERIOR LIGHTING – FREQUENTLY ASKED QUESTIONS

Why is there condensation in the exterior lamps?

- Exterior lamps have vents to accommodate normal changes in air pressure. Condensation can be a natural by-product of this design. When moist air enters the lamp assembly through the vents, there is a possibility that condensation can occur when the temperature is cold. When normal condensation occurs, a fine mist can form on the interior of the lens. The fine mist eventually clears and exits through the vents during normal operation.

How much condensation is acceptable?

- The presence of a fine mist or small droplets without streak marks is normal condensation. This may occur under certain environmental conditions and will clear on its own.

How long does it take for the acceptable condensation to clear?

- Clearing time may vary depending on the outside temperature and environment, the drive duration or speed.

How much condensation is unacceptable?

- Standing water or a water puddle inside the lamp. Condensation with drip marks present on the interior of the lens.

What should I do if unacceptable condensation is present?

- Have your vehicle checked as soon as possible.

Why do my headlamps turn off when I have them switched on when I switch my vehicle off?

- The battery saver turns the headlamps off after a short period of time after you switch your vehicle off.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

SWITCHING ALL OF THE INTERIOR LAMPS ON AND OFF

The lamps turn on under the following conditions:

- You open any door.
- You press a button on the remote control.
- You press the all lamps on button on the overhead console.

Press the button on the overhead console to switch all interior lamps on or off.

SWITCHING THE FRONT INTERIOR LAMPS ON AND OFF



The front interior lamp switches are on the overhead console.

Note: *The position of each button on the overhead console depends on your vehicle.*

Individual Map Lamps

Press to switch the left-hand individual dome lamp on and off.

Press to switch the right-hand individual dome lamp on and off.

SWITCHING THE REAR INTERIOR LAMPS ON AND OFF



The rear interior lamps may be above the rear seat or above the rear windows.

Press to switch the lamps on or off.

Note: *If you switch the rear lamps on through the overhead console, you cannot switch them off with the rear lamp switch.*

INTERIOR LAMP FUNCTION

WHAT IS THE INTERIOR LAMP FUNCTION

The interior lamp function switches the courtesy and door lamps on or off.

SWITCHING THE INTERIOR LAMP FUNCTION ON AND OFF

Press to switch the interior lamp function on and off.

Note: *The indicator lamp illuminates amber when the door function is off.*

ADJUSTING THE INSTRUMENT PANEL LIGHTING BRIGHTNESS

The instrument lighting dimmer buttons are on the lighting control.



Repeatedly press one of the buttons to adjust the brightness.

Note: *There are six levels of brightness adjustments available during the day and twelve levels of brightness adjustments available at night.*

AMBIENT LIGHTING - VEHICLES WITH: AMBIENT LIGHTING

The ambient lighting system illuminates the interior of your vehicle.

The ambient lighting controls are on the touchscreen and to access, press Vehicle from the settings menu and then press Ambient Lighting.

Switching Ambient Lighting On



Press the button once to switch on the ambient lighting.

Adjusting the Brightness



Drag the slider left or right to adjust the ambient lighting intensity.

Switching Ambient Lighting Off



Press the button once to switch off the ambient lighting.

INTERIOR LIGHTING – TROUBLESHOOTING

INTERIOR LIGHTING – FREQUENTLY ASKED QUESTIONS

Why do my courtesy lamps or interior lamps turn off when I have them switched on when I switch my vehicle off?

- The battery saver turns the courtesy lamps and interior lamps off after a short period of time after you switch your vehicle off.

OPENING AND CLOSING THE WINDOWS

WARNING: Do not leave children or pets unattended in your vehicle and do not let children play with the power windows. Failure to follow this instruction could result in personal injury or death.

WARNING: When closing the power windows, verify that they are free of obstructions and make sure children and pets are not in the proximity of the window openings. Failure to follow this instruction could result in personal injury or death.

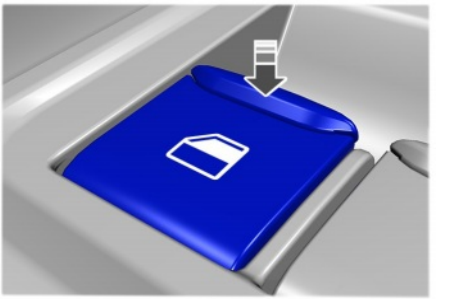
WARNING: If an obstruction is detected, release the switch and reverse the window immediately. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not leave a key or remote control unattended in the vehicle. Children or pets could operate the power windows and could become trapped in a closing window. Failure to follow this instruction could result in personal injury or death.



1. Manual power window close
2. One -touch power window close
3. Manual power window open
4. One -touch power window open

OPENING THE WINDOWS

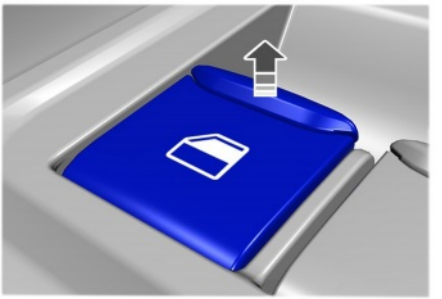


To fully open the window, press the switch down firmly and release. The one-touch open feature lowers the window completely.

To partially open the window, press it lightly and release when you want it to stop.

Note: *Depending on your vehicle, the windows may not be equipped with the one-touch up and down feature.*

CLOSING THE WINDOWS



To fully close the window, lift the switch firmly and release. The one-touch close feature raises the window completely.

To partially close the window, lift it lightly and release when you want it to stop.

Note: *Depending on your vehicle, the windows may not be equipped with the one-touch up and down feature.*

Note: *After turning off your vehicle, you can still operate the windows for a few minutes or until one of the front doors is opened.*

Note: *If you notice noise or vibration when a window is open and the opposite window is closed, slightly open the opposite window.*

RESETTING WINDOW ONE-TOUCH

If one-touch up or down stops working, use the following steps to reset it.

Note: *You must complete this entire routine within 30 seconds.*

1. Close the window.
2. Press and hold the switch to fully open the window. Keep holding the switch for two seconds after the window is fully open.
3. Pull and hold the switch to fully close the window. Keep holding the switch for two seconds after the window is fully closed.
4. Press and hold the switch to fully open the window. Keep holding the switch for two seconds after the window is fully open.
5. Pull and hold the switch to fully close the window. Keep holding the switch for two seconds after the window is fully closed.

Note: *Repeat the procedure if the window does not return when you use one-touch. If you still cannot restore function, see your dealer as soon as possible.*

Note: *If the window reverses before reaching the top. See* ***Windows*** *(page 119).*

GLOBAL OPENING

WHAT IS GLOBAL OPENING

You can use the remote control to open the windows with the ignition off.

USING GLOBAL OPENING

1. Press and release the unlock button on the remote control.
2. Within one second, press and hold the unlock button on the remote control.
3. Release the button when the windows start to open.

Press the lock or the unlock button on the remote control to stop global opening.

Note: *Global opening only responds to a press and hold of the unlock button for a short time after the unlock button is pressed on the remote control.*

SWITCHING GLOBAL OPENING ON AND OFF

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Windows.
3. Switch Remote Open on or off.

WINDOW BOUNCE-BACK

WHAT IS WINDOW BOUNCE-BACK

Bounce-back is when the window reverses direction after detecting an object in its path.

OVERRIDING WINDOWS BOUNCE-BACK

WARNING: If you override bounce-back, the window does not reverse if it detects an obstacle. Take care when closing the windows to avoid personal injury or damage to your vehicle.

WARNING: Bounce-back is off until you reset the memory. Take care when closing the windows to avoid personal injury or damage to your vehicle.

1. Lift the switch firmly and release.
2. Wait for the reversal movement to stop.
3. Within two seconds, fully close the window by lifting and holding the window switch.

Note: *If the window still reverses before it reaches the top, repeat the procedure. If the window continues to reverse after several attempts, see an authorized dealer.*

Note: *If one-touch stops working. See* ***Opening and Closing the Windows*** *(page 119).*

LOCKING THE REAR WINDOW CONTROLS - CREW CAB/ SUPERCAB

WARNING: When children and pets are in the rear seat, use the power window lockout button to prevent accidental operation of the power windows.



Press the window control switch to lock or unlock the rear window controls. It illuminates when you lock the rear window controls.

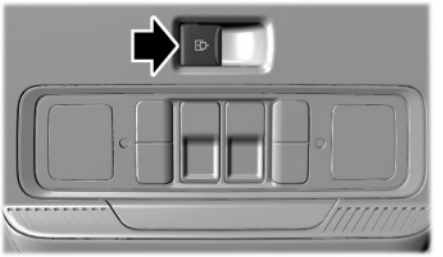
OPENING AND CLOSING THE SLIDING WINDOWS - VEHICLES WITH: POWER SLIDING REAR WINDOW

WARNING: Do not leave children or pets unattended in your vehicle and do not let children play with the power windows. Failure to follow this instruction could result in personal injury or death.

WARNING: When closing the power windows, verify that they are free of obstructions and make sure children and pets are not in the proximity of the window openings. Failure to follow this instruction could result in personal injury or death.

WARNING: If an obstruction is detected, release the switch and reverse the window immediately. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not leave a key or remote control unattended in the vehicle. Children or pets could operate the power windows and could become trapped in a closing window. Failure to follow this instruction could result in personal injury or death.



The sliding rear window control switch is on the overhead console.

Press and hold the sliding rear window control switch to open the rear window. Pull and hold the sliding rear window control switch to close the rear window.

INTERIOR MIRROR PRECAUTIONS

WARNING: Do not adjust the mirrors when your vehicle is moving. This could result in the loss of control of your vehicle, serious personal injury or death.

Note: *Do not clean the mirror housing or glass with harsh abrasives, fuel or other petroleum-based cleaning products.*

MANUALLY DIMMING THE INTERIOR MIRROR (IF EQUIPPED)

Pull the tab below the mirror toward you to reduce glare at night.

AUTO-DIMMING INTERIOR MIRROR (IF EQUIPPED)

WHAT IS THE AUTO-DIMMING INTERIOR MIRROR

The mirror dims to reduce the effect of bright light from behind. It returns to normal when the bright light from behind is no longer present or if you shift into reverse (R).

AUTO-DIMMING INTERIOR MIRROR LIMITATIONS

Do not block the sensors on the front and back of the mirror.

Note: *A rear center passenger or raised rear center head restraint could prevent light from reaching the sensor.*

DIGITAL INTERIOR MIRROR (IF EQUIPPED)

WHAT IS THE DIGITAL INTERIOR MIRROR

The digital interior mirror provides a normal rear view and a panoramic rear view.

When in normal rear view, the mirror functions as a regular auto-dimming mirror and dims in response to bright light from behind. When it is switched to camera view, it displays a clear panoramic rear view using a camera at the back of your vehicle.

DIGITAL INTERIOR MIRROR LIMITATIONS

The system may not function, or may function with reduced performance, if the exterior camera is dirty or obstructed. If dirty, clean the camera. Optimal system performance requires a clear view by the camera lens.

SWITCHING BETWEEN NORMAL VIEW AND CAMERA VIEW



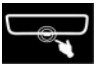
Push the tab away from you to activate the normal view. Pull the tab toward you to switch to camera view.



This indicates that the camera view is active.



This indicates that the camera view has stopped working due to a system error. In such cases, the mirror display turns off and automatically resumes operation as a normal mirror.



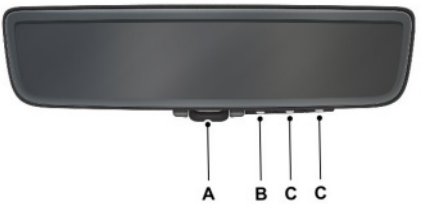
This displays for a few seconds when the camera view mode is inoperable indicating you should switch to normal mode. Move the tab away from you to activate this mode with auto-dimming feature. Auto-dimming feature does not resume until the normal mode is activated.

If the fault persists, have your system checked.

Locating the Digital Interior Mirror Camera

The camera is next to the rear lamp assembly above the rear window.

DIGITAL INTERIOR MIRROR SETTINGS



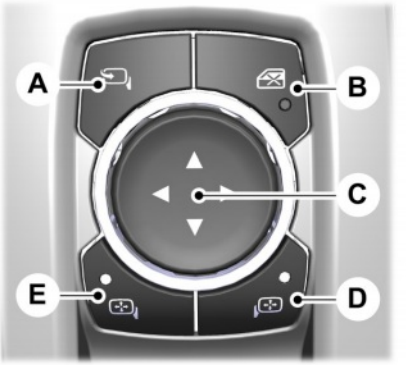
A Tab.
B Menu.
C Adjustment controls.

1. Start your vehicle.
2. Press the menu button to select any of the desired settings and modify them with the adjustment controls.

Note: *When you are in camera mode, the mirror allows screen brightness and horizon height adjustments. To aid your vehicle in reversing, this mode also features a reverse tilt-down that, when activated, lowers the camera focus to show an image of the area behind the vehicle. No adjustments are available in normal view.*

ADJUSTING THE EXTERIOR MIRRORS

WARNING: Do not adjust the mirrors when your vehicle is moving. This could result in the loss of control of your vehicle, serious personal injury or death.



A	Power fold.
B	Window lock.
C	Adjustment control.
D	Right-hand mirror.
E	Left-hand mirror.

To adjust the mirrors, switch your vehicle on, with the push button start in accessory mode or your vehicle running.

1. Select the mirror you want to adjust. The control light turns on.
2. Use the adjustment control to adjust the position of the mirror.
3. Press the mirror control again. The control light turns off.

FOLDING THE EXTERIOR MIRRORS - VEHICLES WITH: MANUAL FOLDING MIRRORS

Push the mirror toward the door window glass.

Make sure that you fully engage the mirror in its support when returning it to its original position.

FOLDING THE EXTERIOR MIRRORS - VEHICLES WITH: POWER FOLDING MIRRORS

The exterior mirrors fold when you lock your vehicle and unfold when you unlock your vehicle.

Note: *This feature requires you to switch the exterior mirrors auto fold on.*



For tight parking conditions, press the control switch to fold the mirrors.

Press the control switch again to unfold the mirrors.

Note: *Do not stop the mirrors midway through their movement. Wait until the mirrors stop moving and press the control again.*

The left-hand and right-hand mirrors move at different rates. For example, one mirror may stop while the other one continues to move. This is normal.

If you press the control switch to fold the mirrors with auto fold on, the mirrors do not unfold when you unlock your vehicle.

Note: *The power folding mirrors operate with the vehicle on, and for several minutes after you switch the vehicle off.*

Note: *If you fold and unfold the mirrors several times within one minute, the power fold function may turn off to protect the motors from overheating. Wait approximately three minutes with your vehicle running, and up to 10 minutes with your vehicle off, for the system to reset and operate as normal.*

Switching Auto fold On and Off

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Mirrors.
3. Switch Autofold on or off.

Loose, Noisy or Intermittently Working Mirrors

If you manually fold the power folding mirrors, they may not work properly even after you reposition them. Reset the mirrors if:

- They vibrate when you drive.
- They feel loose.
- They do not stay in the folded or unfolded position.
- One of the mirrors is not in its normal driving position.
- The mirrors are intermittently working.

To reset the power fold feature, use the power folding mirror control to fold and unfold the mirrors. You may hear a loud noise as you reset the power folding mirrors. This sound is normal. Operate the power folding mirrors an additional 3 to 4 times to synchronize the mirrors.

If the above process does not help you to fix the mirror, perform the following steps.

1. Fold or retract both mirrors manually.
2. Using the power folding control switch, operate the mirrors until you hear an audible click.
3. Operate the power folding an additional 3 to 4 times to synchronize the mirrors.

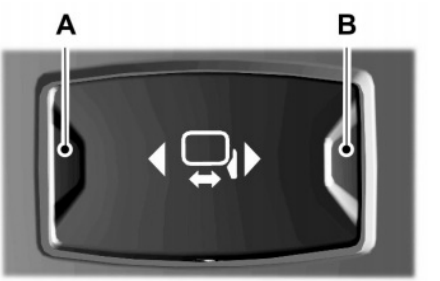
Repeat this process as needed each time you manually fold the mirrors.

EXTENDING THE EXTERIOR MIRRORS

This optional feature lets you extend the mirror about 3 in (75 mm). It is useful when towing a trailer. You can manually pull out or push in the mirrors to various positions.

Power Telescoping Mirrors (If Equipped)

This feature lets you position both mirrors at the same time.



A. Extend.
B. Retract.

To adjust your mirrors, make sure you switch your vehicle on, with the ignition in accessory mode or the engine running.

1. Press and release the control switch.
2. Press the adjustment control to position the mirrors.
3. Press the left arrow to extend the mirrors out. Press the right arrow to retract the mirrors in.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *Moving the mirrors 10 or more times within one minute, or repeated folding and unfolding of the mirrors when holding the control down during full travel, could disable the system to protect the motors from overheating. Wait approximately three minutes with the vehicle running, and up to 10 minutes with the vehicle off, for the system to reset and for function to return to normal.*

OPENING AND CLOSING THE SUNSHADE

WARNING: Do not leave a key or remote control unattended in the vehicle. Children or pets could operate the sunshade and get caught in a closing sunshade. Failure to follow this instruction could result in personal injury.

WARNING: Do not leave children or pets unattended in your vehicle and do not let children play with the sunshade. Failure to follow this instruction could result in personal injury.

The controls are on the overhead console.

Opening the Sunshade



Press and release the switch to activate the one-touch open feature. To stop movement, press the switch a second time. The sunshade also opens when you open the glass roof.

Note: *The sunshade stops short of its fully opened position for the comfort of rear passengers. To fully open the sunshade, press the switch again.*

Closing the Sunshade

WARNING: When closing the sunshade, verify that it is free of obstructions and make sure children and pets are not in the proximity of the sunshade. Failure to follow this instruction could result in personal injury.

WARNING: If an obstruction is detected, press the switch a second time and reverse the sunshade immediately. Failure to follow this instruction could result in personal injury.



Press and release the switch to activate the one-touch close feature. To stop movement, press the switch a second time.

Note: *If fully open, the sunshade stops after covering the rear glass panel. Press and release again to fully close the sunshade.*

Note: *If the glass roof is either in the open or vent position and the sunshade is in the mid-open position, press and release the switch to close the glass roof first and then the sunshade.*

OPENING AND CLOSING THE GLASS ROOF

WARNING: Do not allow anyone to stand or place any portion of their body through the open glass roof while the vehicle is in motion. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious injury or death in the event of a sudden stop or crash.

WARNING: Do not leave children or pets unattended in your vehicle and do not let children play with the glass roof. Failure to follow this instruction could result in personal injury.

WARNING: Do not leave a key or remote control unattended in the vehicle. Children or pets could operate the glass roof and could become trapped in a closing glass roof. Failure to follow this instruction could result in personal injury or death.

The controls are on the overhead console.

Opening the Glass Roof

Press and release the switch to activate the one-touch open feature. To stop movement, press the switch a second time.

Note: *The glass roof stops short of the fully opened position to reduce wind noise or rumbling that may happen with the glass roof fully open.*

Press and release the switch again to fully open the glass roof.

Closing the Glass Roof

WARNING: When closing the glass roof, verify that it is free of obstructions and make sure children and pets are not in the proximity of the glass roof. Failure to follow this instruction could result in personal injury or death.

WARNING: If an obstruction is detected, release the switch and reverse the glass roof immediately. Failure to follow this instruction could result in personal injury or death.

VENT

Press and release the switch to activate the one-touch close feature, from either the open or vent positions. To stop movement, press the switch a second time.

VENTING THE GLASS ROOF

WARNING: Do not leave children or pets unattended in your vehicle and do not let children play with the glass roof. Failure to follow this instruction could result in personal injury.

The glass roof controls are on the overhead console.

VENT

With the glass roof in the closed position, press and release the switch to vent the glass roof. To close the glass roof from the vent position, press and release the switch again.

GLASS ROOF BOUNCE-BACK

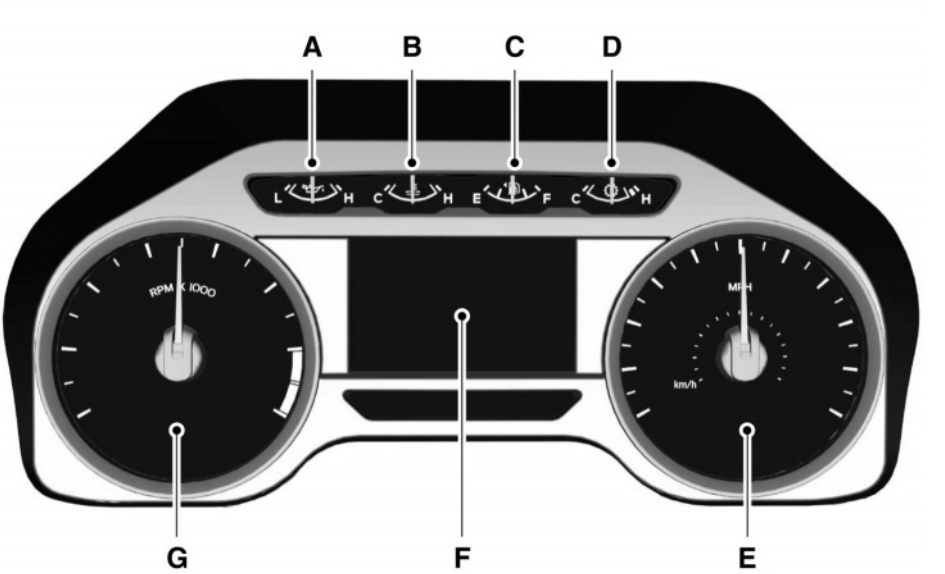
What Is Glass Roof Bounce-Back

If the glass roof detects an obstacle while closing, it stops and partially reopens.

Overriding Glass Roof Bounce-Back

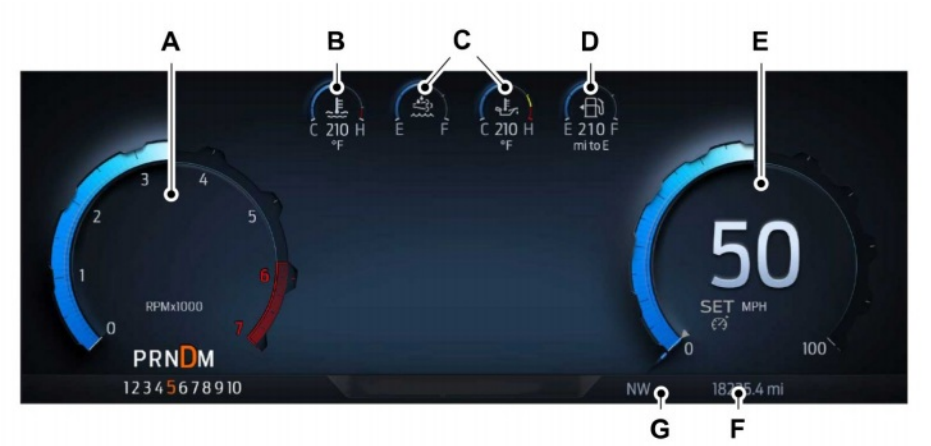
Press and hold the close switch within two seconds after the glass roof comes to a stop.

INSTRUMENT CLUSTER OVERVIEW - VEHICLES WITH: 4.2 INCH SCREEN



A Engine oil pressure gauge.
B Engine coolant temperature gauge.
C Fuel gauge.
D Transmission fluid temperature gauge (gas), turbo boost (diesel).
E Speedometer.
F Instrument cluster display.
G Tachometer.

INSTRUMENT CLUSTER OVERVIEW - VEHICLES WITH: 12 INCH SCREEN



A Tachometer.

B Engine coolant temperature gauge.

C Configurable gauges. Oil pressure, engine oil temperature, transmission fluid temperature, turbo boost or diesel exhaust fluid level.

D Fuel gauge.

E Speedometer.

F Odometer.

G Compass.

TACHOMETER

Indicates the rotational speed of the engine to the driver at any given moment.

SPEEDOMETER

Indicates the speed of the vehicle to the driver at any given moment.

FUEL GAUGE

WHAT IS THE FUEL GAUGE

Indicates approximately how much fuel is in the fuel tank.

FUEL GAUGE LIMITATIONS

The fuel gauge may not provide an accurate reading when your vehicle is on an incline.

LOCATING THE FUEL FILLER DOOR

The arrow adjacent to the fuel pump symbol indicates on which side of your vehicle the fuel filler door is located.

WHAT IS THE LOW FUEL REMINDER

A low fuel level reminder displays and sounds when the distance to empty reaches 50 mi (80 km), 25 mi (40 km), 10 mi (20 km) and 0 mi (0 km).

Note: *The low fuel reminder can appear at different fuel gauge positions depending on fuel economy conditions. This variation is normal.*

WHAT IS DISTANCE TO EMPTY

Shows the approximate distance you can travel with the fuel left in the tank. The estimate can increase, decrease, or stay the same depending on your driving conditions.



When you have a trailer connected, the distance to empty adjusts for the added load.

ENGINE COOLANT TEMPERATURE GAUGE

Indicates the engine coolant temperature.

ENGINE OIL PRESSURE GAUGE

Indicates the engine oil pressure.

Note: *This is a configurable gauge.*

ENGINE OIL TEMPERATURE GAUGE

Indicates the engine oil temperature.

Note: *This is a configurable gauge.*

TRANSMISSION FLUID TEMPERATURE GAUGE

Indicates the transmission fluid temperature.

Special operating conditions can cause higher than normal operating temperatures. See **General Maintenance Information** (page 575).

Note: *This is a configurable gauge.*

BOOST GAUGE

Indicates the amount of manifold air pressure in the engine.

Note: *This is a configurable gauge.*

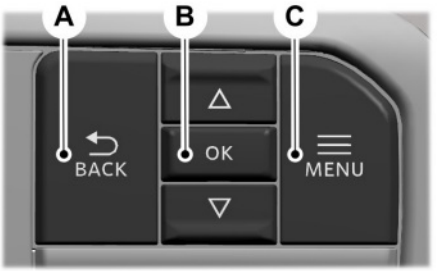
DIESEL EXHAUST FLUID GAUGE

Indicates the current diesel exhaust fluid level.

USING THE INSTRUMENT CLUSTER DISPLAY CONTROLS

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

The controls are on the steering wheel.



A Back button.
B OK button.
C Menu button.

Back Button

Press to go back or to exit a menu.

OK Button

Press to make a selection.

Menu Button

Press to display the submenus.

Scroll Buttons

Press the up or down buttons to scroll through the menu items.

Status Indicator



Menu items with a check box indicates a feature's status. A check in the box indicates the feature is on, and unchecked indicates the feature is off.

INSTRUMENT CLUSTER DISPLAY MAIN MENU - VEHICLES WITH: 4.2 INCH SCREEN

Depending on your vehicle options, some menu items can appear different or not at all.

Note: *For your safety, some features are speed-dependent and could be unavailable when your vehicle is above a certain speed.*

Menu Item
Select Screens
Truck Info
Towing
Vehicle Maintenance
Settings

INSTRUMENT CLUSTER DISPLAY MAIN MENU - VEHICLES WITH: 12 INCH SCREEN

Depending on your vehicle options, some menu items can appear different or not at all.

Note: *For your safety, some features are speed-dependent and could be unavailable when your vehicle is above a certain speed.*

Menu Item
MyView
Trip/Fuel
HUD
Gauges
Off Road
Towing
Status/Information
Navigation
Phone
Audio
Vehicle Maintenance
Settings

CUSTOMIZING THE INSTRUMENT CLUSTER DISPLAY - VEHICLES WITH: 4.2 INCH SCREEN

Adding Screens Using Select Screens

1. Select Select Screens.
2. Use the controls on the steering wheel to highlight a screen to add.
3. Press the ***OK*** button.

Note: *The number of screens you can add is limited. If the selected screen does not appear you must deselect screens from the Select Screens menu.*

Configuring Gauges

1. Select Settings using the instrument cluster display controls.
2. Select Gauge Selection.
3. Select to swap or change left-hand side and right-hand side gauges.

CUSTOMIZING THE INSTRUMENT CLUSTER DISPLAY - VEHICLES WITH: 12 INCH SCREEN

Adding Screens Using MyView

1. Using the instrument cluster display controls on the steering wheel, select MyView.
2. Select Configure MyView.
3. Select a screen.
4. Press the ***OK*** button.

Note: *The number of screens you can add is limited. If the selected screen does not appear you must deselect screens from the MyView menu.*

Configuring Gauges

1. Select Settings.
2. Select Configure Gauges.
3. Select to swap or change left-hand side and right-hand side gauges.

ACCESSING THE TRIP COMPUTER - VEHICLES WITH: 4.2 INCH SCREEN

Using Select Screens

1. Select ***Select Screens***.
2. Use the controls on the steering wheel to navigate the menu. See **Customizing the Instrument Cluster Display** (page 134). or See **Customizing the Instrument Cluster Display** (page 134).

Using the Home Screen

After screens have been added, use the controls on the steering wheel to view each trip screen.

ACCESSING THE TRIP COMPUTER - VEHICLES WITH: 12 INCH SCREEN

1. Select Trip/Fuel.
2. Select Trip 1 or Trip 2.

RESETTING THE TRIP COMPUTER

1. Use the instrument cluster display controls to navigate the home screen.
2. Select the trip screen you want to reset.
3. Press and hold the ***OK*** button until the system reset confirmation appears.

TRIP DATA

Trip 1 and 2

Provides trip timer, trip average fuel economy and total trip distance traveled.

Note: *Trip 1 and 2 are selectable screens. See **Accessing the Trip Computer** (page 135). See **Accessing the Trip Computer** (page 135).*

WHAT IS THE HEAD UP DISPLAY

The system displays information on a display screen in your field of vision, allowing you to keep your eyes on the road. You can select which information the system displays.

SWITCHING THE HEAD UP DISPLAY ON AND OFF

1. Using the instrument cluster display controls on the steering wheel, select HUD.
2. Switch ***Head-Up Display (HUD)*** on or off.

Note: *The system remembers the last setting when you start your vehicle.*

HEAD UP DISPLAY SETTINGS

1. Using the instrument cluster display controls on the steering wheel, select HUD.

Note: *If **HUD On** is unchecked, other options of the system are hidden.*

You can adjust the following settings in the HUD menu:

- Brightness.
- Vertical position.
- Image rotation.
- Content.
- Drive mode layout.

Note: *The head up display menu automatically closes after a certain period of inactivity.*

Note: *The head up display image brightness automatically adjusts to the brightness of the ambient environment. You have the ability to adjust the brightness further according to your preference.*

Note: *In some instances, sunlight can cause some reflections in and around the head up display image.*

Note: *When you save a memory preset position, your current HUD settings are also saved to that memory preset position. See **Memory Function** (page 164).*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

HEAD UP DISPLAY – TROUBLESHOOTING

HEAD UP DISPLAY – INFORMATION MESSAGES

Message	Action
Head-Up Display System fault See manual	The system is malfunctioning or something is obstructing the display. Make sure that the head up display is free from obstruction. If the message continues to appear, have your vehicle checked as soon as possible.
Head-Up Display To position use the information display	Press the button on the steering wheel or center console. The head up display menu appears in the instrument cluster display. Make sure the blue frame is fully visible. Do not manually move the screen. This can cause damage not covered by your vehicle's warranty.

USING REMOTE START

WARNING: Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes are toxic. Always open the garage door before you start the engine. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not keep electrical devices plugged in the power outlet whenever the device is not in use. Power outlets power up during remote start.

WARNING: Always disable the remote start feature or connectivity, using the center display settings, before initiating or receiving any service, inspection, or maintenance that requires work underneath or around the vehicle. If you do not disable the remote start feature, the vehicle could be remotely started at any time. Failure to follow this instruction could result in personal injury or death.

The system allows you to remotely start your vehicle to heat or cool the interior to a preset temperature.

1.  Press the button on the remote control.
2.  Press the button twice within a few seconds.

When you successfully remote start your vehicle:

- The vehicle doors lock.
- The turn signal lamps flash twice.
- The parking lamps turn on.
- The vehicle remains locked. A valid key must be inside to start and drive the vehicle.
- All other vehicle systems remain off when you have remotely started the vehicle.

The horn sounds if the system fails to start.

Note: *You cannot adjust any comfort settings until you switch your vehicle on.*

Remote start does not work under the following conditions:

- Remote start is not enabled.
- The horn is sounding.
- The hood is open.
- The transmission is not in park (P).
- Your vehicle is already on.

Note: *Do not use remote start if your fuel level is low.*

Note: *A maximum of two remote starts are allowed. After that you have to switch your vehicle on and off before you can use remote start again.*

 To remotely stop your vehicle, press the button.

REMOTE START SETTINGS

1. From the settings menu, press Vehicle.
2. Press Remote Start Setup.

You can adjust the following in the remote start settings menu:

- Enable or disable remote start.
- Climate control settings.
- Heated seat settings.
- Heated steering wheel settings.
- Remote start duration.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

IDENTIFYING THE CLIMATE CONTROL UNIT



Depending on your vehicle options, the controls could look different than what you see here.

SWITCHING CLIMATE CONTROL ON AND OFF



Press the button.

SWITCHING RECIRCULATED AIR ON AND OFF



Press the button to recirculate air currently in the passenger compartment.

Note: *Recirculated air may turn off automatically, or prevent you from switching on in all air flow modes except MAX A/C to reduce the risk of fogging. Recirculation may also turn on and off automatically in various air distribution control combinations to improve heating or cooling efficiency.*

SWITCHING AIR CONDITIONING ON AND OFF



Press the button.

Note: *Under certain conditions, the air conditioning compressor could continue to operate after you switch air conditioning off.*

Note: *To keep the system and its components fully functional, switch air conditioning on and let your vehicle idle at least once per month for a minimum of two minutes.*

SWITCHING DEFROST ON AND OFF



Press the button to activate the selection screen.



Press the button on the touchscreen to switch the windshield air vents on.



Make sure that the instrument panel air vents are switched off.



Make sure that the footwell air vents are switched off.

SWITCHING MAXIMUM DEFROST ON AND OFF



Press the button.

Air flows through the windshield air vents, and the blower motor adjusts to the highest speed.

You can also use this setting to defog and clear the windshield of a thin covering of ice.

Note: *To prevent window fogging, you cannot select recirculated air when maximum defrost is on.*

Note: *The heated rear window also turns on when you select maximum defrost.*

Note: *When maximum defrost is on, the air conditioning compressor may continue to operate even though you switch off the air conditioning.*

SWITCHING MAXIMUM COOLING ON AND OFF



Press the button.

Note: *When you switch maximum cooling off, air conditioning remains on.*

SWITCHING THE HEATED REAR WINDOW ON AND OFF



Press the button to clear the rear window of thin ice and fog. The heated rear window turns off after a short period of time.

Note: *This button also activates the heated mirrors.*

Note: *Do not use harsh chemicals, razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window as this could cause damage to the heated rear window grid lines not covered by the vehicle Warranty.*

SETTING THE BLOWER MOTOR SPEED



Press up or down on the control to select the blower motor speed.

Note: *For Hybrid Electric Vehicle (HEV) and Plug-In Hybrid Electric Vehicle (PHEV) vehicles, the blower motor may run, and you may feel airflow when the climate control is off, to provide cooling to the battery.*

SWITCHING THE HEATED MIRRORS ON AND OFF

When you switch the heated rear window on, the heated exterior mirrors turn on. See **Switching the Heated Rear Window On and Off** (page 140).



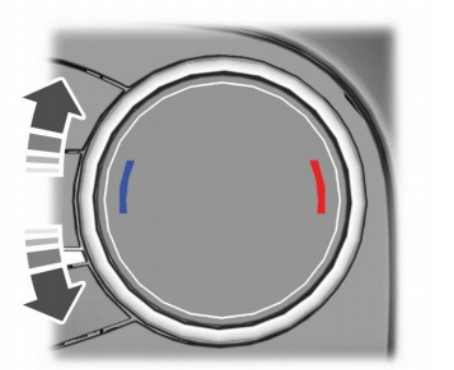
You can also turn on and off the heated exterior mirrors using the mirror defrost button.

Note: *Do not remove ice from the mirrors with a scraper or adjust the mirror glass when it is frozen in place.*

Note: *Do not clean the mirror housing or glass with harsh abrasives, fuel or other petroleum-based cleaning products. The vehicle warranty may not cover damage caused to the mirror housing or glass.*

Note: *The engine must be running or your vehicle must be ready to drive to switch the system on.*

SETTING THE TEMPERATURE



Turn the control on the left-hand side of the climate control to set the left-hand temperature.

Note: *This control also sets the right-hand side temperature when you switch off dual zone mode.*

Turn the control on the right-hand side of the climate control to set the right-hand temperature.

DIRECTING THE FLOW OF AIR

Directing Air to the Windshield Air Vents



Press the button to activate the selection screen.



Press the button on the touchscreen.

Directing Air to the Instrument Panel Air Vents



Press the button to activate the selection screen.



Press the button on the touchscreen.

Directing Air to the Footwell Air Vents



Press the button to activate the selection screen.



Press the button on the touchscreen.

AUTO MODE

SWITCHING AUTO MODE ON AND OFF



Press the button to switch auto mode on. Repeatedly press the button to adjust auto mode.

Note: *When you switch auto mode on, lights on the blower motor control do not illuminate to indicate the blower motor speed.*

Adjust the blower motor control or air distribution control to switch auto mode off.

SWITCHING DUAL MODE ON AND OFF



Press the button.

CLIMATE CONTROL HINTS

General Hints

- Prolonged use of recirculated air may cause the windows to fog up.
- You may feel a small amount of air from the footwell air vents regardless of the air distribution setting.
- To reduce humidity build-up inside your vehicle, do not drive with the system switched off or with recirculated air always switched on.
- Do not place objects under the front seats as this may interfere with the airflow to the rear seats.
- Remove any snow, ice or leaves from the air intake area at the base of the windshield.
- To improve the time to reach a comfortable temperature in hot weather, drive with the windows open until you feel cold air through the air vents.

Automatic Climate Control

- Adjusting the settings when your vehicle interior is extremely hot or cold is not necessary. Automatic mode is best recommended to maintain set temperature.
- The system adjusts to heat or cool the interior to the temperature you select as quickly as possible.
- For the system to function efficiently, the instrument panel and side air vents should be fully open.
- If you press AUTO during cold outside temperatures, the system directs air flow to the windshield and side window air vents.In addition, the blower motor may run at a slower speed until the engine warms up.
- If you press AUTO during hot temperatures and the inside of the vehicle is hot, the system uses recirculated air to maximize interior cooling. Blower motor speed may also reduce until the air cools.

Quickly Heating the Interior

1. Press AUTO.
2. Adjust the temperature function to the setting you prefer.

Recommended Settings for Heating

1. Press AUTO.
2. Adjust the temperature function to the setting you prefer. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.

Quickly Cooling the Interior

1. Press MAX A/C.
2. Drive with the windows open for a short period of time.

Recommended Settings for Cooling

1. Press AUTO.
2. Adjust the temperature function to the setting you prefer. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.

Defogging the Side Windows in Cold Weather

1. Press and release defrost or maximum defrost.
2. Adjust the temperature control to the setting you prefer. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.

AIR CONDITIONING SYSTEM REFRIGERANT

WARNING: The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening the air conditioning refrigerant system can cause personal injury.

Your vehicle has an under hood label that identifies the refrigerant used by the air conditioning system.

Note: *Only allow a trained and certified technician service the refrigerant system to ensure proper and safe operation, as per local regulatory requirements.*

Note: *Never repair or replace the air conditioning evaporator with one from a salvage vehicle. Only replace it with a new evaporator to ensure proper and safe operation.*

The meaning of each symbol on the under hood label are as follows:


Caution


Air conditioning system.


System lubricant type.


See vehicle service manual for service information.


Requires registered technician to service.


Flammable refrigerant.


Replace safety system components. Do not repair, reuse or try to salvage.

IDENTIFYING THE CLIMATE CONTROL UNIT



Depending on your vehicle options, the controls could look different than what you see here.

SWITCHING CLIMATE CONTROL ON AND OFF

Press the button.

SWITCHING RECIRCULATED AIR ON AND OFF

Press the button to recirculate air currently in the passenger compartment.

Note: *Recirculated air may turn off automatically, or prevent you from switching on in all air flow modes except MAX A/C to reduce the risk of fogging. Recirculation may also turn on and off automatically in various air distribution control combinations to improve heating or cooling efficiency.*

SWITCHING AIR CONDITIONING ON AND OFF

Press the button.

Note: *Under certain conditions, the air conditioning compressor could continue to operate after you switch air conditioning off.*

Note: *To keep the system and its components fully functional, switch air conditioning on and let your vehicle idle at least once per month for a minimum of two minutes.*

SWITCHING DEFROST ON AND OFF

Press the button to switch the windshield air vents on.

Make sure that the instrument panel air vents are switched off.

Make sure that the footwell air vents are switched off.

SWITCHING MAXIMUM DEFROST ON AND OFF

Turn the temperature control clockwise past the highest setting to maximize defrosting.

Note: *The temperature control springs back to the highest setting.*

Air flows through the windshield air vents, and the blower motor adjusts to the highest speed.

Note: *To prevent window fogging, you cannot select recirculated air when maximum defrost is on.*

Note: *The heated rear window also turns on when you select maximum defrost.*

SWITCHING MAXIMUM COOLING ON AND OFF

MAX A/C Turn the temperature control counterclockwise past the lowest setting to maximize cooling.

Note: *The temperature control springs back to the lowest setting.*

Note: *When you switch maximum cooling off, air conditioning remains on.*

SWITCHING THE HEATED REAR WINDOW ON AND OFF (IF EQUIPPED)

REAR Press the button to clear the rear window of thin ice and fog. The heated rear window turns off after a short period of time.

Note: *Do not use harsh chemicals, razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window as this could cause damage to the heated rear window grid lines not covered by the vehicle Warranty.*

SETTING THE BLOWER MOTOR SPEED



Turn the blower motor control counterclockwise for a lower blower setting.

Turn the blower motor control clockwise for a higher blower setting.

Note: *Lights on the control illuminate to indicate the blower motor speed.*

Note: *When you switch the blower motor off, air conditioning turns off and the windows could fog up.*

SWITCHING THE HEATED MIRRORS ON AND OFF

When you switch the heated rear window on, the heated exterior mirrors turn on. See **Switching the Heated Rear Window On and Off** (page 140).

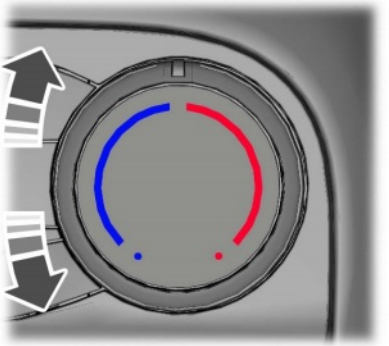
You can also turn on and off the heated exterior mirrors using the mirror defrost button.

Note: *Do not remove ice from the mirrors with a scraper or adjust the mirror glass when it is frozen in place.*

Note: *Do not clean the mirror housing or glass with harsh abrasives, fuel or other petroleum-based cleaning products. The vehicle warranty may not cover damage caused to the mirror housing or glass.*

Note: *The engine must be running or your vehicle must be ready to drive to switch the system on.*

SETTING THE TEMPERATURE



Turn the temperature control counterclockwise for cooler temperature settings.

Turn the temperature control clockwise for warmer temperature settings.

DIRECTING THE FLOW OF AIR

Directing Air to the Windshield Air Vents



Press the button.

Directing Air to the Instrument Panel Air Vents



Press the button.

Directing Air to the Footwell Air Vents



Press the button.

CLIMATE CONTROL HINTS

General Hints

- Prolonged use of recirculated air may cause the windows to fog up.
- You may feel a small amount of air from the footwell air vents regardless of the air distribution setting.
- To reduce humidity build-up inside your vehicle, do not drive with the system switched off or with recirculated air always switched on.
- Do not place objects under the front seats as this may interfere with the airflow to the rear seats.
- Remove any snow, ice or leaves from the air intake area at the base of the windshield.
- To improve the time to reach a comfortable temperature in hot weather, drive with the windows open until you feel cold air through the air vents.

Quickly Heating the Interior

1. Adjust the blower motor speed to the highest speed setting.
2. Adjust the temperature control to the highest setting.
3. Direct air to the footwell air vents.

Recommended Settings for Heating

1. Adjust the blower motor speed to the center setting.
2. Adjust the temperature control to the midway point of the hot settings.
3. Direct air to the footwell air vents.

Quickly Cooling the Interior

1. Turn the temperature control counterclockwise past the lowest setting.
2. Drive with the windows open for a short period of time.

Recommended Settings for Cooling

1. Adjust the blower motor speed to the center setting.
2. Adjust the temperature control to the midway point of the cold settings.
3. Direct air to the instrument panel air vents.

Defogging the Side Windows in Cold Weather

1. Direct air to the instrument panel and windshield air vents.
2. Press and release A/C.
3. Adjust the temperature control to the setting you prefer.
4. Adjust the blower motor speed to the highest setting.
5. Direct air toward the side windows.
6. Close the instrument panel air vents.

WHAT IS THE CABIN AIR FILTER

The cabin air filter improves the quality of air in your vehicle by trapping dust, pollen and other particles.

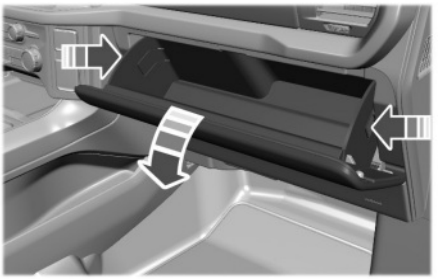
REPLACING THE CABIN AIR FILTER

Replace the filter at regular intervals.

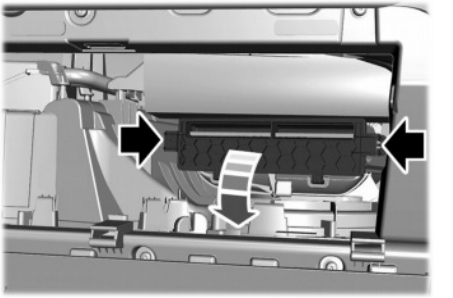
The cabin air filter is behind the glove compartment.

To remove the lower glove compartment and access the filter:

1. Open the glove compartment.



2. Press the tab on each side.
3. Fully lower the glove compartment.
4. Pull the glove compartment toward you.
5. Unclip both sides of the filter door and swing door down to access filter .



6. Remove the old filter and replace with a new filter.

FRONT SEAT PRECAUTIONS

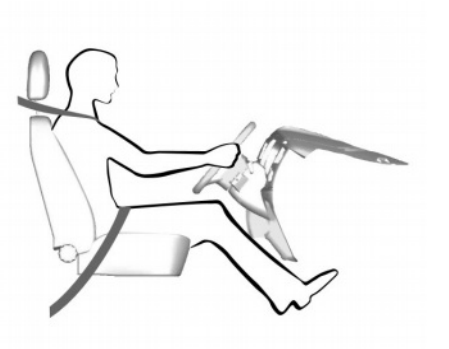
WARNING: Sitting improperly, out of position or with the seatback reclined too far can take weight off the seat cushion and affect the decision of the passenger sensing system, resulting in serious injury or death in the event of a crash. Always sit upright against your seat back, with your feet on the floor.

WARNING: Do not recline the seat backrest too far. This can cause an occupant to slide under the seatbelt in the event of a sudden stop or crash. Failure to follow this instruction can result in personal injury or death.

WARNING: Do not place objects higher than the top of the seat backrest. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

WARNING: Do not adjust the driver seat or seat backrest when your vehicle is moving. This may result in sudden seat movement, causing the loss of control of your vehicle.

SITTING IN THE CORRECT POSITION



When you use them properly, the seat, head restraint, seatbelt and airbags will provide optimum protection in the event of a crash.

We recommend that you follow these guidelines:

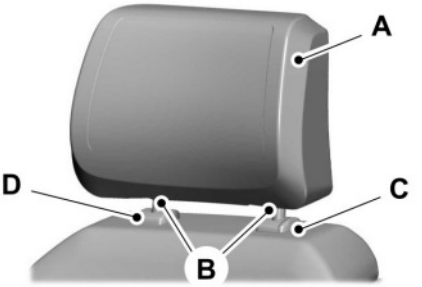
- Sit in an upright position with the base of your spine as far back as possible.
- Do not recline the seat backrest so that your torso is more than 30 degrees from the upright position.
- Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible. Make sure that you remain comfortable.
- Keep sufficient distance between yourself and the steering wheel. We recommend a minimum of 10 in (25 cm) between your breastbone and the airbag cover.
- Hold the steering wheel with your arms slightly bent.

- Bend your legs slightly so that you can press the pedals fully.
- Position the shoulder strap of the seatbelt over the center of your shoulder and position the lap strap tightly across your hips.

Make sure that your driving position is comfortable and that you can maintain full control of your vehicle.

MANUAL SEATS

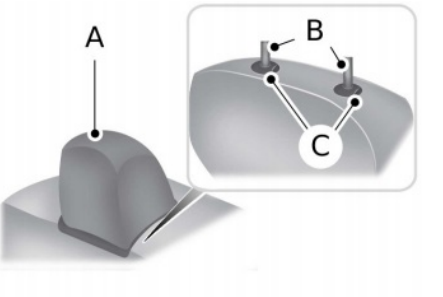
HEAD RESTRAINT COMPONENTS



The head restraints consist of:

A	An energy absorbing head restraint.
B	Two steel stems.
C	Guide sleeve adjust and release button.
D	Guide sleeve unlock and remove button - if equipped.

Center Head Restraint - If Equipped



A	An energy absorbing head restraint.
B	Two steel stems.
C	Guide sleeve unlock and remove buttons.

ADJUSTING THE HEAD RESTRAINT

WARNING: Fully adjust the head restraint before you sit in or operate your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraint when your vehicle is moving.

WARNING: The head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. Failure to adjust the head restraint properly could reduce its effectiveness during certain impacts.

WARNING: Adjust the head restraints for all passengers before you drive your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraints when your vehicle is moving.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *Adjust the seat backrest to an upright driving position before adjusting the head restraint. Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible. Make sure that you remain comfortable. If you are extremely tall, adjust the head restraint to its highest position.*

Pull the head restraint up to raise it.

To lower the head restraint:

1. Press and hold the adjust and release button.
2. Push the head restraint down.



For vehicles with tilting head restraints:

1. Adjust the seat backrest to an upright driving or riding position.
2. Pivot the head restraint forward toward your head to the preferred position.

After the head restraint reaches the forward-most tilt position, pivot it forward again to release it to the rearward, untilted position.

Note: *Do not attempt to force the head restraint backward after it is tilted. Instead, continue tilting it forward until the head restraint releases to the upright position.*

REMOVING THE HEAD RESTRAINT

1. Pull up the head restraint until it reaches the highest adjustment position.
2. Press and hold the adjust and release button and the unlock and remove button.
3. Pull up the head restraint.

Note: *Your vehicle may have a front row center head restraint that you cannot adjust or remove.*

INSTALLING THE HEAD RESTRAINT

Align the steel stems into the guide sleeves and push the head restraint down until it locks.

MOVING THE SEAT BACKWARD AND FORWARD

WARNING: Do not adjust the driver seat or seat backrest when your vehicle is moving. This may result in sudden seat movement, causing the loss of control of your vehicle.

WARNING: Make sure the seat fully locks into place by rocking it backward and forward. Not securing the seat into the locked position can be dangerous in a crash and could cause serious personal injury or death.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM



ADJUSTING THE SEAT BACKREST

WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

WARNING: Do not place cargo or any objects behind the seat backrest before returning it to the original position. Pull on the seat backrest to make sure that it has fully latched after returning the seat backrest to its original position. An unlatched seat may become dangerous if you stop suddenly or have a crash.

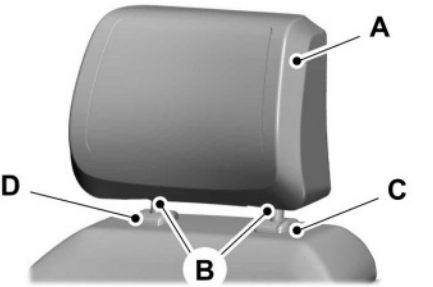


ADJUSTING THE LUMBAR SUPPORT



POWER SEATS (IF EQUIPPED)

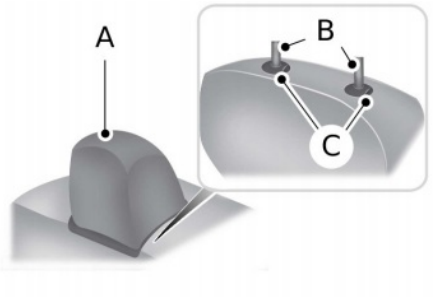
HEAD RESTRAINT COMPONENTS



The head restraints consist of:

A	An energy absorbing head restraint.
B	Two steel stems.
C	Guide sleeve adjust and release button.
D	Guide sleeve unlock and remove button.

Center Head Restraint - If Equipped



A An energy absorbing head restraint.

B Two steel stems.

C Guide sleeve unlock and remove buttons.

ADJUSTING THE HEAD RESTRAINT

WARNING: Fully adjust the head restraint before you sit in or operate your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraint when your vehicle is moving.

WARNING: The head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. Failure to adjust the head restraint properly could reduce its effectiveness during certain impacts.

WARNING: Adjust the head restraints for all passengers before you drive your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraints when your vehicle is moving.

To raise the head restraint, pull the head restraint up.

To lower the head restraint:

1. Press and hold the adjust and release button.
2. Push the head restraint down.

To tilt the head restraint:



1. Adjust the seat backrest to an upright driving or riding position.
2. Pivot the head restraint forward toward your head to the preferred position.

After the head restraint reaches the forward-most tilt position, pivot it forward again to release it to the rearward, untilted position.

Note: *Do not attempt to force the head restraint backward after it is tilted. Instead, continue tilting it forward until the head restraint releases to the upright position.*

REMOVING THE HEAD RESTRAINT

1. Pull up the head restraint until it reaches its highest position.
2. Press and hold the adjust and release button and the unlock and remove button.
3. Pull up the head restraint.

Note: *Your vehicle may have a front row center head restraint that you cannot adjust or remove.*

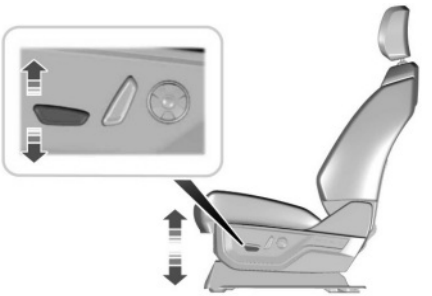
INSTALLING THE HEAD RESTRAINT

Align the steel stems into the guide sleeves and push the head restraint down until it locks.

MOVING THE SEAT BACKWARD AND FORWARD



ADJUSTING THE SEAT CUSHION



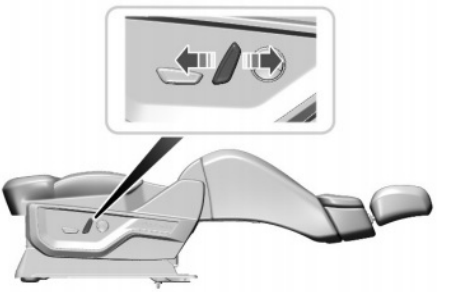
ADJUSTING THE SEAT BACKREST

WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

WARNING: Do not place cargo or any objects behind the seatback before returning it to the original position.



Adjusting the Seat Flat (If Equipped)



This feature allows the occupant to find a comfortable position to rest when the vehicle is not moving.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

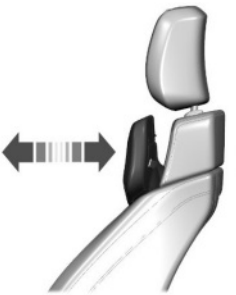
Note: *Before adjusting the seat backrest fully flat, place the rear seat cushion into the upright position and remove any objects that could obstruct the movement of the flat seat. See* ***Folding the Seats*** *(page 159).*

As the seat folds flat, the cushion adjusts to support the hips and lower back. For additional support, you can also adjust the upper seat backrest.

If you fully recline the passenger seat and the vehicle is moving, a message appears on the instrument cluster and a tone sounds. To switch the warning off, return the seat to an upright position.

Adjusting the Upper Seat Backrest

(If Equipped)



The front upper seat backrest tilts for extra comfort. To tilt the upper seat backrest, pivot the upper seat backrest toward your shoulders.

After the upper seat backrest reaches the forward-most tilt position, pivot it forward again to release it to the rearward, untilted position.

ADJUSTING THE SEAT HEIGHT



E390743

ADJUSTING THE LUMBAR SUPPORT



SEAT FEATURES

HEATED SEATS

Heated Seat Precautions

WARNING: Use caution when using the heated seat if you are unable to feel pain to your skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical conditions. The heated seat could cause burns even at low temperatures, especially if used for long periods of time. Failure to follow this instruction could result in personal injury.

WARNING: Do not poke sharp objects into the seat cushion or seat backrest. This could damage the heated seat element and cause it to overheat. Failure to follow this instruction could result in personal injury.

WARNING: Do not place anything on the seat that blocks the heat, for example a seat cover or a cushion. This could cause the seat to overheat. Failure to follow this instruction could result in personal injury.

Do not:

- Place heavy objects on the seat.
- Operate the heated seat if water or any other liquid spills on the seat. Allow the seat to dry.

Switching the Heated Seats On and Off

The vehicle must be running to use this feature.



Press the heated seat symbol on the climate controls or touchscreen to cycle through the various heat settings and off. The more indicators that display, the warmer the temperature of the seat.

Note: *The heated seats may remain on after you remote start your vehicle, based on your remote start settings. The heated seats may also turn on when you start your vehicle if they were on when you switched your vehicle off.*

VENTILATED SEATS (If Equipped)

Ventilated Seat Precautions

Do not:

- Spill liquid on the front seats. This may cause the air vent holes to become blocked and not work properly.
- Place cargo or objects under the seats. They may block the air intake causing the air vents to not work properly.

Switching the Ventilated Seats On and Off

The vehicle must be running to use this feature.



Press this symbol on the climate controls or the touchscreen to cycle through the various ventilation settings and off. More indicator lights indicate higher fan speeds.

Note: *When you switch the climate control fan speed and the ventilated seats to their maximum settings, the ventilated seats provide increased cooling.*

If the engine falls below 350 RPM while the ventilated seats are on, the feature turns itself off unless the vehicle is in Auto-Start-Stop mode. You may need to reactivate the ventilated seats.

Note: *The ventilated seats may remain on after you remote start your vehicle, based on your remote start settings. The ventilated seats may also turn on when you start your vehicle if they were on when you switched your vehicle off.*

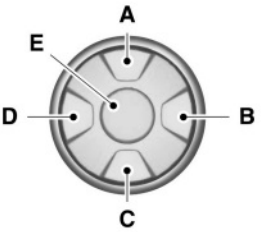
MASSAGE SEATS (If Equipped)

Massage Seat Limitations

Your vehicle must be running or be in accessory mode to activate the seats.

Allow a few seconds for any selection to activate. Selecting a different adjustment cancels the current one in progress. When the seat backrest and cushion are both active, the massage alternates between zones.

Adjusting the Massage Seat Settings



E156301

A	Select the previous massage pattern or lumbar area.
B	Decrease the massage or lumbar Intensity.
C	Select the next massage pattern or lumbar area.
D	Increase the massage or lumbar Intensity.
E	Select the massage or lumbar mode.

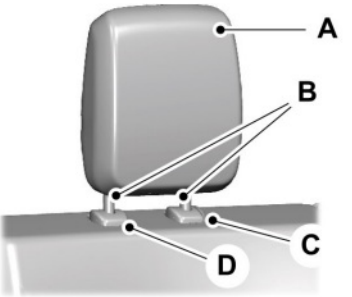
You can also adjust this feature through the touchscreen.

MANUAL SEATS

HEAD RESTRAINT COMPONENTS

(If Equipped)

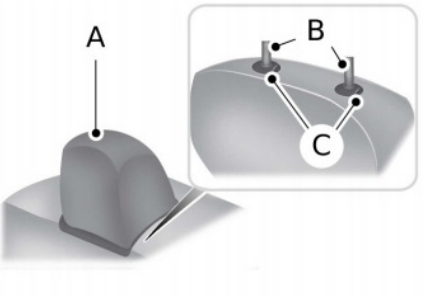
Outermost Head Restraints



The head restraints consist of:

A	An energy absorbing head restraint.
B	Two steel stems.
C	Guide sleeve adjust and release button.
D	Guide sleeve unlock and remove button.

Center Head Restraint - Crew Cab and Super Cab



A	An energy absorbing head restraint.
B	Two steel stems.
C	Guide sleeve unlock and remove buttons.

ADJUSTING THE HEAD RESTRAINT (If Equipped)

Pull the head restraint up to raise it.

To lower the head restraint:

1. Press and hold the adjust and release button.
2. Push the head restraint down.

Your vehicle may have a rear seat center head restraint that you cannot adjust or remove.

REMOVING THE HEAD RESTRAINT

(If Equipped)

1. Pull up the head restraint until it reaches its highest position.
2. Press and hold the adjust and release button and the unlock and remove button.
3. Pull up the head restraint.

INSTALLING THE HEAD RESTRAINT (If Equipped)

Align the steel stems into the guide sleeves and push the head restraint down until it locks.

FOLDING THE SEATS (If Equipped)

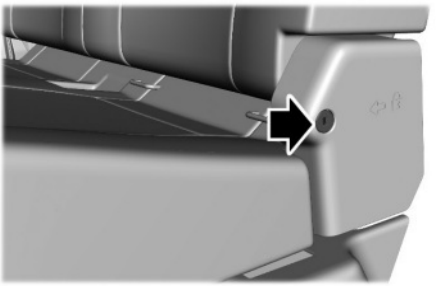
If your vehicle has a split folding rear seat, you can flip each seat cushion up into a vertical storage position.



Rotate the seat cushion up until it locks in place.

Locking the Cushion (If Equipped)

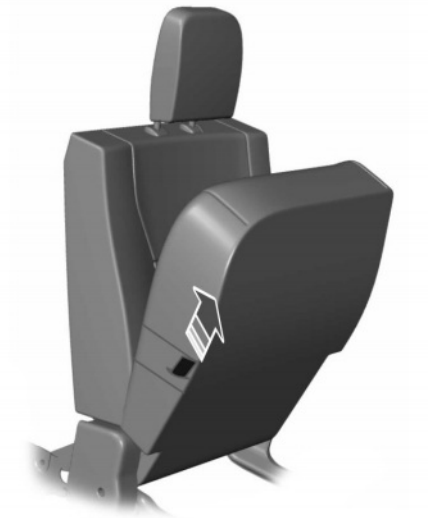
The locking key is in the remote control. See **Using the Remote Control** (page 61).



Turn the key to lock or unlock.

UNFOLDING THE SEATS (If Equipped)

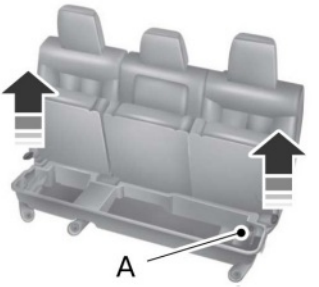
WARNING: Make sure that cargo and other objects are not trapped under the seat cushion and that you return the seat cushion to the full-down position. Failure to do so may prevent the seat from operating properly, which could increase the risk of serious injury in a crash.



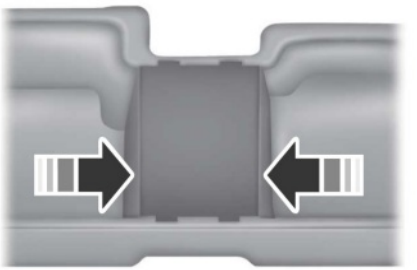
Pull the strap to lower the seat cushion.

Rear Under Seat Storage (If Equipped)

The rear seat has storage space under the seat cushion.



Lift the lever and flip up the seat cushion to access the storage space and the power point (A).



To remove the storage space divider, squeeze the sides and lift it from the storage tub.



Use your vehicle key to lock the storage space. See **Keys and Remote Controls** (page 61).

HEATED SEATS (IF EQUIPPED)

HEATED SEAT PRECAUTIONS

WARNING: Use caution when using the heated seat if you are unable to feel pain to your skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical conditions. The heated seat could cause burns even at low temperatures, especially if used for long periods of time. Failure to follow this instruction could result in personal injury.

WARNING: Do not poke sharp objects into the seat cushion or seat backrest. This could damage the heated seat element and cause it to overheat. Failure to follow this instruction could result in personal injury.

WARNING: Do not place anything on the seat that blocks the heat, for example a seat cover or a cushion. This could cause the seat to overheat. Failure to follow this instruction could result in personal injury.

Do not:

- Place heavy objects on the seat.
- Operate the heated seat if water or any other liquid spills on the seat. Allow the seat to dry.

SWITCHING THE HEATED SEATS ON AND OFF

The vehicle must be running to use this feature.

The rear seat heat controls are on the rear of the center console.



Press the heated seat symbol to cycle through the various heat settings and off. More indicator lights indicate warmer settings.

The heated seats turn off when you switch off the vehicle.

WHAT IS THE REAR OCCUPANT ALERT SYSTEM

The rear occupant alert system monitors vehicle conditions and notifies you to check for rear seat occupants when you switch the ignition off. The notifications can be in the form of warnings inside the vehicle and sounding of the horn if activated for a short period of time.

HOW DOES THE REAR OCCUPANT ALERT SYSTEM WORK

The system monitors the activity of the buckle on the rear seatbelt and the opening and closing of the rear doors to indicate the potential presence of an occupant in the rear seat.

When Child Seat Installed is selected, the system monitors only the opening and closing of the rear doors to indicate the potential presence of an occupant in the rear seat.

When Child Seat Installed is not selected, the system monitors the rear seatbelt buckle activity and the opening and closing of the rear doors to indicate the potential presence of an occupant in the rear seat.

A message displays in the touchscreen and an audible warning sounds when you switch the ignition off after any of the following conditions have been met:

- A rear door is opened or closed while the ignition is on.
- You switch the ignition on within 15 minutes of a rear door opening and closing.
- You switch the ignition on within 15 minutes of the alert having displayed or sounded.

If you do not open a rear door within a short period of time of the message appearing in the center display, the first audible warning sounding and driver door open to close, the horn sounds for a short period of time.

Note: *Horn sounds only when the Rear Occupant Alert is set to Alert & Horn. If you change the setting, then there is no horn sound.*

REAR OCCUPANT ALERT SYSTEM PRECAUTIONS

WARNING: On hot days, the temperature inside the vehicle can rise very quickly. Exposure of people or animals to these high temperatures for even a short time can cause death or serious heat related injuries, including brain damage. Small children are particularly at risk.

WARNING: Do not leave children or pets unattended in your vehicle. Failure to follow this instruction could result in personal injury or death.

REAR OCCUPANT ALERT SYSTEM LIMITATIONS

The system does not detect the presence of objects or passengers in the rear seat. It monitors the activity of the buckle on the rear seatbelt and the opening and closing of the rear doors.

Note: *It is possible to receive an alert when there is no rear seat occupant, but alert conditions are met.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *It is possible to receive no alert when there is an occupant in the rear seat, if alert conditions are not met. For example, if a rear seat occupant does not enter the vehicle through a rear door.*

REAR OCCUPANT ALERT SYSTEM SETTINGS

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Rear Occupant Alert.
3. Select Alert & Horn or Alert Only or Off.

Note: *The default setting is Alert Only.*

Note: *If you choose Alert only, the horn does not sound even when the alert conditions are met.*

Note: *You may also be able to switch the system off through the alert when it appears.*

Note: *Performing a system reset switches the system on.*

Switching Child Seat Installed On and Off

When the system is switched on, it monitors the opening and closing of the rear doors to indicate the potential presence of an occupant in the rear seat.

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Rear Occupant Alert.
3. Switch Child Seat Installed on or off.

Note: *The default setting is on.*

Switch the system on when the child restraint is mounted on any of the following:

- Forward facing seat.
- Rear facing seat.
- Toddler in a LATCH system child seat.

Switch the system off when the child is using any of the following:

- Seatbelt.
- Booster seat.

Semiannual Reminder

If the system is switched off, a reminder message appears on April 1st and October 1st. You can turn the system back on or leave it off.

REAR OCCUPANT ALERT SYSTEM INDICATORS

When you turn off the vehicle, a reminder may appear on the touchscreen to check the rear seat. Use the on-screen options to dismiss the reminder or turn the feature off.

REAR OCCUPANT ALERT SYSTEM AUDIBLE WARNINGS

The first audible warning is an alert tone within the vehicle, which sounds when you switch your vehicle off after the alert conditions are met. The warning sounds for a short period of time.

The second audible warning is from the horn. It sounds when you do not open a rear door within a short period of time of the message appearing in the center display, the first audible warning sounding, and driver door open to close. The warning sounds for a short period of time.

WHAT IS THE MEMORY FUNCTION

The memory function recalls the position of these features:

- Driver seat.
- Power mirrors.
- Optional power steering column.
- Optional power adjustable pedals.

MEMORY FUNCTION PRECAUTIONS

WARNING: Before activating the memory seat, make sure that the area immediately surrounding the seat is clear of obstructions and that all occupants are clear of moving parts.

WARNING: Do not use the memory function when your vehicle is moving.

LOCATING THE MEMORY FUNCTION BUTTONS



The memory function buttons are on the driver door.

USING THE MEMORY FUNCTION

Saving a Preset Position

1. Adjust the memory features to your preferred position.
2. Press and hold the preferred preset button until you hear a single tone.

A confirmation message appears in the instrument cluster display.

You can save up to three preset memory positions at any time.

Recalling a Preset Position

Press and release a preset button.

Note: *You can recall a preset memory position when the vehicle is off, or when you place the transmission in park (P) or neutral (N) if the vehicle is on and it is not moving.*

Note: *Pressing any of the preset buttons during a memory recall cancels the operation.*

You can also recall a preset memory position by:

- Pressing the unlock button on your remote control if you linked it to a preset position.
- Unlocking the intelligent driver door handle if a linked remote control is present.

Using a linked remote control to recall your memory position when the vehicle is off moves the seat and steering column to the easy entry position.

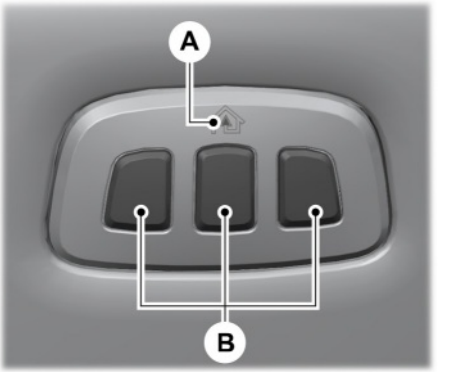
Linking a preset position to your remote control or passive key. See **Linking or Unlinking a Personal Profile** (page 557).

UNIVERSAL GARAGE DOOR OPENER

HomeLink Wireless Control System

WARNING: Do not use the system with any garage door opener that does not have the safety stop and reverse feature as required by U.S. Federal Safety Standards (this includes any garage door opener manufactured before April 1, 1982). A garage door opener which cannot detect an object, signaling the door to stop and reverse, does not meet current federal safety standards. Using a garage door opener without these features increases the risk of serious injury or death.

The universal garage door opener replaces the common handheld garage door opener with a three-button transmitter integrated into the driver side sun visor.



A Homelink indicator.
B Homelink function buttons.

The system includes two primary features, a garage door opener and a platform for remote activation of devices within the home. You can program garage doors as well as entry gate operators, security systems, entry door locks and home or office lighting. You can program a maximum of three devices.

To change or replace any of the three buttons after they have been initially programmed, you must either clear all codes, or reprogram each individual button. To clear all stored codes in the garage door opener in your vehicle, use the clear function. To override one button, use the reprogram function.

Clearing Stored Codes	Reprogramming Individual Buttons
To clear all stored codes in the garage door opener in the vehicle:	If a button on your garage door opener has already been programmed, you can override it. To program a device to a previously trained button:
1. Press and hold the outer two Homelink function buttons simultaneously for approximately 10 seconds until the Homelink indicator flashes rapidly. 2. When the indicator flashes, release the Homelink function buttons. This clears all stored codes. You cannot erase codes for individual buttons.	1. Press and hold the desired Homelink function button for approximately 20 seconds until the indicator begins to flash. 2. Without releasing the Homelink function button, proceed to Step 3 of **Programming the Garage Door Opener to your Handheld Transmitter**.

We recommend that upon the sale or lease termination of your vehicle, you erase the programmed function buttons for security reasons.

Additional assistance can be found online at *https://www.homelink.com/Ford* by scanning the code below or by calling the toll-free help line at 1-800-355-3515.

Programming the Garage Door Opener

Canadian radio frequency laws require transmitter signals to time out, or quit, after several seconds, which may not be long enough for HomeLink to pick up the signal. U.S. gate operators time out in the same manner. For these transmitters, use the Programming the Garage Door Opener to your Gate Opener Motor information.

Before programming:

- Put a new or unused battery in the handheld transmitter. This allows for quicker training and accurate transmission of the radio frequency signal. Using an old battery may result in the Homelink producing a weak signal.
- Make sure that the garage door and security device are free from obstruction when you are programming. Do not program the universal garage door opener with the vehicle in the garage.

Homelink Indicator Status

Indicator Status	Details
Slow Flash	The transmitter is searching for a program code.
Solid or Continuous Light	The transmitter is programmed to a fixed code.
Rapid Flash	The transmitter is programmed to a rolling code and may need additional programming.

Programming the Garage Door Opener to your Handheld Transmitter

The programming steps below assume you are programming a HomeLink that was not previously programmed. If your HomeLink was previously programmed, you may need to clear or reprogram your HomeLink buttons.

To program your in-vehicle HomeLink function button with your handheld transmitter:

1. With your vehicle parked outside the garage, switch the ignition on, but do not start the engine.
2. Press and release one of the three HomeLink function buttons that you would like to program. The indicator should begin to flash. If the indicator does not flash, press and hold the function button for 20 seconds until the indicator begins to flash.
3. Hold your handheld garage door transmitter 1–3 in (2–8 cm) away from the HomeLink button you are programming.
4. Press and hold the handheld transmitter button you want to program while watching the indicator on HomeLink. Continue to hold the handheld button until the HomeLink indicator flashes rapidly or is continuously on. You may need to use a different method if you live in Canada or have difficulties programming your gate operator or garage door opener.
5. Press and hold the HomeLink button you programmed for two seconds, then release. You may need to do this twice to activate the door. If the HomeLink indicator stays on, the programming is complete. If the HomeLink indicator flashes rapidly, the transmitter is programmed to a rolling code system, repeat this step. If your device still does not operate, you must program your garage door opener to your garage door opener motor.
6. To program additional buttons, repeat Steps 1–4.

Make sure you keep the original remote control transmitter for use in other vehicles as well as for future system programming.

Programming the Garage Door Opener to your Garage Door Opener Motor



1. Press the Learn button on the garage door opener motor. You have 30 seconds to complete the next two steps.
2. Return to your vehicle.

3. Press and hold one of the three HomeLink function buttons you want to program for two seconds, then release.
4. Repeat Step 3. Depending on your brand of garage door opener, you may need to repeat this sequence a third time.

Programming the Garage Door Opener to your Gate Opener Motor

Gate Operator / Canadian Programming

Canadian radio frequency laws require transmitter signals to time out (or quit) after several seconds of transmission, which may not be long enough for HomeLink to pick up the signal during programming. Similar to this Canadian law, some U.S. gate operators are designed to time out in the same manner.

If programming a garage door opener or gate operator, unplug the device during the **cycling** process to prevent possible overheating.

1. Press and release your handheld transmitter, **every two seconds**, until the HomeLink indicator flashes rapidly or is continuously on.
2. Release the handheld transmitter button.
3. Press and hold the HomeLink function button you want to program for two seconds, then release. You may need to do this twice to activate the door. If the HomeLink indicator stays on, the programming is complete. If the HomeLink indicator flashes rapidly, the transmitter is programmed to a rolling code system, repeat Step 3.
4. To program additional buttons, repeat Steps 1–4.

Additional assistance can be found online at *https://www.homelink.com/Ford* or by calling the toll-free help line at 1-800-355-3515.

FCC and RSS-210 Industry Canada Compliance

WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

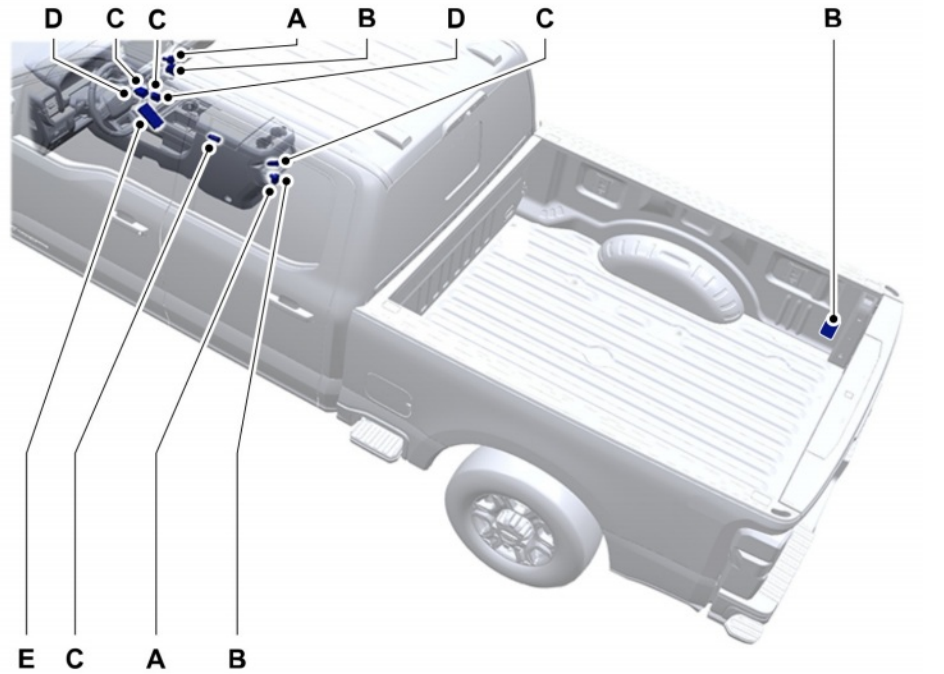
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End Users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must be at least 8 in (20 cm) from the user and must not be co-located or operating in conjunction with any other antenna or transmitter.

POWER OUTLETS AND DEVICE CHARGING OVERVIEW

Your vehicle provides power through the outlets, USB ports, and wireless accessory charger to operate electrical devices and charge portable devices.

Note: *Depending on your vehicle's options, it may not have all the power outlets and charging options shown below.*

Note: *The graphic may be different for your vehicle.*



A DC power outlet. See **DC Power Outlet** (page 170).

B AC power outlet. See **AC Power Outlet** (page 170). See **Onboard Generator** (page 174).

C Charge only USB ports. See **USB Ports** (page 171).

D Data transfer USB ports. See **USB Ports** (page 171).

E Wireless accessory charger. See **Wireless Accessory Charger** (page 172).

POWER OUTLET PRECAUTIONS

WARNING: Do not plug electrical devices into the power outlets that exceed the maximum power rating. Incorrect use of the power outlets can cause damage not covered by the vehicle warranty, and can result in fire or personal injury.

WARNING: Do not use an extension cord or connect multiple devices to the power outlet. Doing so could result in overloading the power outlet. Failure to follow this instruction could result in fire, personal injury or property damage.

WARNING: Do not keep electrical devices plugged into the power outlet whenever the device is not in use. The outlet provides power when the vehicle is on. Failure to follow this instruction could result in personal injury.

WARNING: Do not connect any vehicle power outlets to any premises or the main power supply. This can create a backfeed to utility lines. Failure to follow this instruction could result in damage not covered by the vehicle warranty, property damage, fire, electrical shock or death.

Note: *Always keep the power outlet covers closed when the outlets are not in use.*

DC POWER OUTLET - VEHICLES WITH: 12V POWER OUTLET

The DC power outlet provides 12V, 180 Watts of power with a maximum current rating of 15A for your 12V electrical devices.

The 12V power outlets provide power when the vehicle is in accessory mode or when the vehicle is on. They turn off when you switch the vehicle off.

Limitations

To prevent damage to the power outlets:

- Do not insert objects other than an accessory plug into the power outlets.
- Do not hang any accessory from the accessory plug.
- Do not plug in any device that supplies power to the vehicle through the power outlets. This could result in damage to vehicle systems.

To prevent your vehicle's battery from running out of charge:

- Do not use the power outlets longer than necessary when your vehicle is in accessory mode.
- Do not leave devices plugged in overnight or when you park your vehicle for extended periods.
- If you use devices for extended periods, you may need to start and run the engine to recharge the battery.

AC POWER OUTLET - VEHICLES WITH: 110-120V 400W POWER OUTLET

The AC power outlet provides up to 400 Watts of power for your electrical devices.

The AC power outlet provides power when the vehicle is on. It turns off when you switch the vehicle off.

Note: *The power outlet automatically turns off when the battery voltage drops below 11 volts.*

Limitations

Do not use the AC power outlet to connect these types of devices:

- Cathode ray tube type televisions.
- Items with an electric motor, such as vacuum cleaners, electric power tools, or refrigerators.
- Measuring devices which process precise data, such as medical or measuring equipment.
- Other appliances requiring an extremely stable power supply, for example electric blankets or touch sensor lamps.

The power outlet provides maximum power when your vehicle is on and in park (P). Power may be reduced when your vehicle is in drive (D).

If your vehicle has more than one outlet, the available power is shared when multiple outlets are in use.

Power Outlet Indicators

The power outlet indicator illuminates to indicate AC power outlet status.

Indicator Status	Description
On	The outlet is providing power.
Off	There is no power to the outlet.
Flashing	The outlet is in a fault mode.

Resetting Fault Mode

If the plugged-in device exceeds the maximum power available from the power outlet and causes a system fault, the power outlet indicator flashes and the power outlet turns off.

Note: *The power outlet automatically turns off after five attempts to stay on.*

To reset the fault and turn on the power outlet, do the following:

1. Unplug your device.
2. Switch your vehicle off to let the system cool and reset the fault mode.
3. Switch your vehicle back on, but do not plug your device back in.
4. With your vehicle on, make sure the indicator remains on.
5. Make sure your device does not exceed the power limits.
6. Plug in your device and check again.

Note: *If a fault occurs again, your plugged-in device may exceed the maximum power available from the power outlet.*

Note: *Some devices may exceed the power rating on the device label when you initially plug them in, which can also trigger a fault mode.*

USB PORTS

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any

hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

The USB ports provide power to charge your portable devices. Depending on the type of USB ports in your vehicle, they can also transfer data and play media.

Charge Only USB Ports



Connect your device to charge when the vehicle is in accessory mode or when the vehicle is on.

Data Transfer USB Ports



Connect your device to charge and transfer data when the touchscreen is on.

For playing media, connect your device to the data transfer USB port and select the USB option as the audio source on the touchscreen. See **Selecting the Audio Source** (page 530). See **Media Control Buttons** (page 530).

Note: *For transferring data and playing media, we recommend connecting your device only using USB-IF certified cables and adapters, as non-certified cables and adapters may not work.*

WIRELESS ACCESSORY CHARGER (IF EQUIPPED)

The wireless accessory charger allows you to charge one compatible Qi wireless charging device on the charging area.

Wireless Accessory Charger Precautions

WARNING: Wireless charging devices can affect the operation of implanted medical devices, including cardiac pacemakers. If you have any implanted medical devices, we recommend that you consult with your physician.

WARNING: Remove all metal objects like coins and keys from the charging surface and remove any metal objects attached to your mobile phone before placing the device on the charging surface. Some mobile devices or cases may attract metal objects. Metal objects on the charging surface or attached to the phone may become hot while charging is active. If an object is left on or near the charging surface or attached to the phone while the device is charging, let the objects cool before removing to prevent personal injury.

Keep the charging area clean and remove foreign objects prior to charging a device.

Do not place items with a magnetic strip or radio-frequency identification chip, for example passports, parking tickets, transportation passes or credit cards, near the charging area when charging a device. Damage could occur to the magnetic strip or radio-frequency identification chip.

Do not place metal objects, for example remote controls, coins and candy wrappers, on or near the charging area when charging a device. Metal objects may heat up and degrade the charging performance, in addition to causing interruptions in charging.

Charging could be interrupted, degraded, or could stop if any of the following occur:

- The system detects a foreign object.
- The device is misaligned on the charging area.
- The device moves on the active charging area when the vehicle is in motion.
- The vehicle ambient temperature is too high.
- You attempt to charge a non-Qi compatible device on the wireless charger.

Note: *During charging, the device and the charger could heat up, this is normal. If the battery gets hotter than usual, the device may stop charging.*

Charging a Wireless Device

Place the device on the center of the charging surface with the charging side down. The charging stops after your device reaches a full charge.

You can use the charger when the vehicle is in accessory mode, when the vehicle is on, or when the touchscreen is on.



Displays on the touchscreen status bar when wireless charging is in progress.



Displays on the touchscreen status bar when wireless charging has been interrupted.

Note: *The charging performance may be affected if your device is in a case. It may be necessary to remove the case to wirelessly charge your device.*

Note: *Software and firmware updates may affect device compatibility, including the use of unofficial software or firmware. You should verify charging functionality with your specific devices in-vehicle.*

Note: *The use of streaming services and other applications while the device is charging can decrease charging efficiency.*

WHAT IS THE ONBOARD GENERATOR

The vehicle functions as a portable generator and can power devices that require up to the rating listed on the power outlet label.

ONBOARD GENERATOR PRECAUTIONS

WARNING: Do not connect any vehicle power outlets to any premises or the main power supply. This can create a backfeed to utility lines. Failure to follow this instruction could result in damage not covered by the vehicle warranty, property damage, fire, electrical shock or death.

WARNING: Do not keep electrical devices plugged into the power outlet whenever the device is not in use. The outlet provides power when the vehicle is on. Failure to follow this instruction could result in personal injury.

WARNING: Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes are toxic. Always open the garage door before you start the engine. Failure to follow this instruction could result in personal injury or death.

WARNING: Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

WARNING: The vehicle's engine runs while the generator is switched on. Running engines emit carbon monoxide. Only use the generator when the vehicle is outdoors. Failure to follow this instruction could result in personal injury or death.

Note: *We recommend using UL and/or Ford approved devices for use with the power outlet.*

Note: *Make sure that plugged in devices do not exceed the ratings displayed on the outlet covers.*

Note: *Unplug electrical devices from the power outlet when they are not switched on.*

Note: *Make sure there is no damage to the outlets before driving your vehicle.*

Note: *Power could be limited during extreme hot or cold temperatures to optimize system performance.*

Note: *Close all outlet covers when not in use.*

Note: *Make sure that objects are not blocking the inverter inlet and exhaust near the rear underseat storage compartment.*

Note: *The climate control system may turn on and power may be limited during extreme hot or cold temperatures to optimize system performance.*

Grounding Type

Neutral Floating

The neutral of the inverter generator is isolated from system ground.

Note: *If additional grounding measures are required, consult with a qualified electrician.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

LOCATING THE OUTLETS

The power outlets are in the cabin and bed of the vehicle.

Bed Outlet



Note: *The outlet may be on the left or right-hand side of the bed depending on the vehicle.*

Instrument Panel Outlet



Rear Center Console Outlet



ONBOARD GENERATOR INDICATORS

Power Outlet Status Indicator

The power outlet indicator illuminates to let you know the status of the system.

Indicator Status	Description
On	The power outlet is working and the vehicle is on.
Off	The power outlet is off and the vehicle is off.
Flashing	The power outlet is in fault mode.

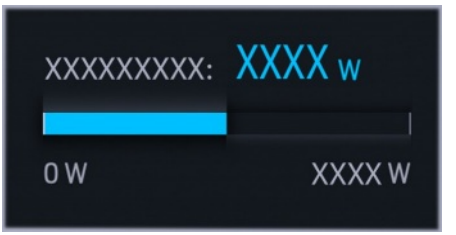
Fault Mode

The power outlet temporarily turns off power if the device exceeds the watt limit.

1. Unplug your device.
2. Switch your vehicle off to let the system cool and reset the fault mode.
3. Switch your vehicle back on, but do not plug your device back in.
4. With your vehicle on, make sure the indicator remains on.
5. Make sure your device does not exceed the power limits.
6. Plug in your device and check again.

Note: *If a fault occurs again, your device may exceed the capacity available from the power outlet.*

Generator Mode Power Indicator



The generator mode power indicator displays the currently used power and total available power level on the touchscreen. When generator mode is switched off the indicator displays a reduced available power level. When generator mode is switched on the indicator displays the full available power.

Note: *Additional indicators may be available based on vehicle configuration.*

Note: *Make sure that plugged in devices do not exceed the available power displayed on the generator mode power indicator.*

Note: *Maximum power may be reduced when the vehicle is in drive (D).*

SWITCHING THE OUTLETS ON AND OFF

Using the Touchscreen

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).
2. From the features menu, press Pro Power Onboard. See **Center Display** (page 540).
3.  Press the button on the touchscreen to switch Pro Power Onboard on and off.

Note: *When you switch on the vehicle, the cabin power outlets default to low power mode and provide power up to 400W.*

Using the Bed Controls

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).



2. Press the button to switch the power outlets on and off.

GENERATOR MODE

Generator mode enables your vehicle's powertrain to run the inverter and provide electricity up to the rating listed on the power outlet label.

Switching Generator Mode On and Off

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).
2. From the features menu, press Pro Power Onboard. See **Center Display** (page 540).
3. Press Generator Mode to switch on or off.

Note: *When you switch the generator mode on, the 30min Max Idle is disabled and the engine continues to idle. See **Automatic Engine Stop** (page 194).*

Note: *If the low fuel warning is displayed while generator mode is on, the generator mode turns off after 30 minutes. Once it turns off, you can only turn on generator mode while you are driving or after refueling your vehicle.*

Note: *When the generator mode is off and the vehicle is on, you can power the devices up to 400W through the cabin power outlets in low power mode.*

UTILITY IDLE MODE - VEHICLES WITH: KEYED IGNITION

Utility idle mode allows you to remove the key from the ignition and keep the vehicle and bed power outlet running.

Switching Utility Idle On

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).
2. From the features menu, press Pro Power Onboard. See **Center Display** (page 540).
3. Press Generator Mode.
4. Press Utility Idle.
5. Press the brake pedal once.
6. Turn the key to position ***0***.
7. Remove the key from the ignition.

Switching Utility Idle Off using the Key

1. Insert the key into the ignition.
2. Turn the key to position ***III***.

Switching Utility Idle Off using the Touchcreen

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).
2. From the features menu, press Pro Power Onboard. See **Center Display** (page 540).
3. Press Generator Mode.
4. Press Utility Idle.
5. Press Turn Vehicle Off.

GROUND FAULT DETECTION

Ground Fault Detection Circuit Testing

The ground fault test option allows you to check the ground fault detection capability of the power outlets. To test it, do the following:

1. Start the vehicle. See **Starting and Stopping the Engine** (page 188).
2. From the features menu, press Pro Power Onboard. See **Center Display** (page 540).
3. Test Press the button on the touchscreen.
4. A pop-up message appears on the touchscreen. See **Onboard Generator – Information Messages** (page 179).
5. Test Press the button in the popup message on the touchscreen to simulate a ground fault.
6. Press Reset on the touchscreen or the bed power outlet switch to reset the ground fault and turn on the power outlets.

Note: *If the test was successful, a ground fault detected message appears on the touchscreen and the power outlets turn off.*

Real Ground Fault Detection

The system shows a ground fault detected message when it identifies a real ground fault condition. This can occur due to connecting a defective electrical device, damage in the inverter wiring, or water intrusion into the power outlets. See **Onboard Generator – Information Messages** (page 179).

To reset a ground fault and turn on the power outlets, do the following:

1. Disconnect all devices from the power outlets.
2. Make sure all power outlets are clean and dry.
3. Make sure all power outlet covers are closed properly.
4. Press Reset on the touchscreen or the bed power outlet switch.

Note: *If these steps do not fix the fault, have your vehicle checked as soon as possible.*

ONBOARD GENERATOR – TROUBLESHOOTING

ONBOARD GENERATOR – INFORMATION MESSAGES

Message	Details
Item(s) plugged in exceeded the system's maximum capacity. Try unplugging one or more items and reset. See Owner's Manual for details.	Check the displayed available power before plugging in devices. The actual power used by a device can sometimes be higher than what is printed on its label. If you overload the system, unplug the device and restart the vehicle to reset it. Under certain environmental operating conditions, using Pro Power Onboard right after you start and drive your vehicle limits the power to 400W, even when the generator mode is on. To improve performance, do one or more of the following: Shift the transmission to park (P) to use more than 400W of power. Before using Pro Power Onboard, switch on your vehicle and keep it in park (P) for two to three minutes. Reduce the existing load on Pro Power Onboard by unplugging devices.
Generator System is outside its operating temperature and capability is reduced. See Owner's Manual for details.	Power could be limited during extreme hot or cold temperatures to optimize system performance.
Another power source is trying to supply power to your vehicle's AC outlets. Disconnect vehicle from that power source. See Owner's Manual for details.	Do not plug in any device that supplies power to the vehicle through the power outlets. This could result in damage to vehicle systems.
This button tests outlets for proper operation of ground fault protection. In a successful test, Pro Power Onboard turns off and displays a message.	Displays when you press the Test button on the touchscreen to test the ground fault detection circuit. See **Ground Fault Detection** (page 178).
Pro Power Onboard detected a ground fault and turned off the affected circuit. If you did not press the Test button, see Owner's Manual.	Displays when the ground fault detection circuit test is successful or when the system detects a real ground fault condition. See **Ground Fault Detection** (page 178).

ONBOARD GENERATOR – FREQUENTLY ASKED QUESTIONS

Why is there a warning about something being plugged into the bed power outlet when I do not have anything plugged in?

- One or more bed power outlet covers may be ajar or damaged. Make sure the bed power outlets are off and the power outlet covers are properly closed and not damaged. Select OK on the instrument cluster display to acknowledge the warning.
- If the bed power outlet covers are damaged, have your vehicle checked as soon as possible.

Why can I not shift my vehicle out of park (P)?

- Make sure the bed power outlet covers are properly closed and not damaged. Press OK on the instrument cluster display to acknowledge the warning and to shift out of park (P).

What should I do if my instrument cluster display is malfunctioning and I cannot acknowledge the warning to put the vehicle in drive (D)?

- Turn off the vehicle and make sure nothing is plugged into the bed power outlets and all outlet covers are closed. Start the vehicle and select OK on the instrument cluster display to acknowledge the warning. Have your vehicle checked as soon as possible.

What happens when I press the Test button on the touchscreen?

- The system checks the power outlets to make sure the ground fault detection circuit is functioning correctly. If the test is successful, a ground fault detected message appears on the touchscreen and the power outlets turn off. This is normal operation during the test.

Why am I getting ground fault detected message without pressing the Test button?

- The system shows a ground fault detected message when it identifies a real ground fault condition. This can happen due to connecting a defective electrical device, damage in the inverter wiring, or water intrusion into the power outlets.

What should I do to reset the ground fault detected message?

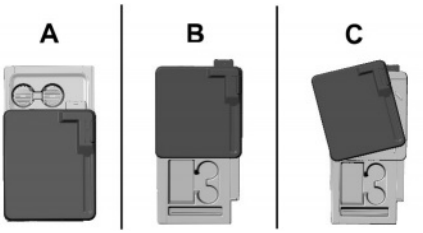
- Disconnect all electrical devices from the power outlets and make sure all power outlets are clean and dry. Press Reset on the touchscreen or the bed power outlet switch.
- If these steps do not fix the fault, have your vehicle checked as soon as possible.

USING THE CENTER CONSOLE WORK SURFACE



Push the lever on the side of the seat and fold the seat down.

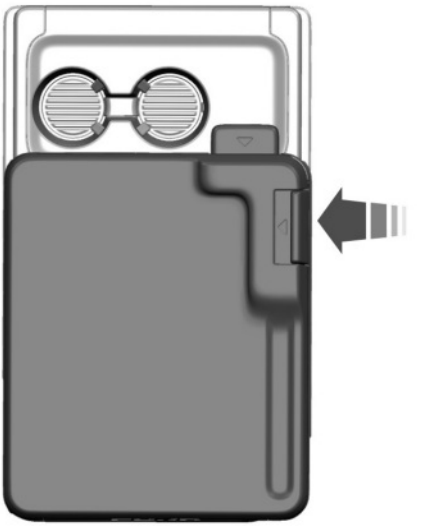
There are three different positions:



A. Home.
B. Forward.
C. Rotated.



Push the latch down on the top of the work surface to move it to the forward position. There are 11 lockable positions.



Push the latch on the side of the work surface to rotate it toward the driver. It rotates into 4 lockable positions in 5º increments.

Note: *The work surface must be in the home position when driving your vehicle.*

Note: *Do not drive with the work surface rotated. This could interfere with steering your vehicle.*

Note: *Do not adjust the steering column with a rotated work surface.*

Note: *Do not raise the seat when the work surface is in the forward or rotated positions to avoid damage.*

Note: *To avoid damaging the work surface, do not use it as a handle when entering or exiting the vehicle.*

CENTER CONSOLE WORK SURFACE – TROUBLESHOOTING

CENTER CONSOLE WORK SURFACE – INFORMATION MESSAGES

Message	Details
Stow work surface before driving	Displays when the work surface is not stowed and the vehicle is out of park(P).

CUP HOLDERS

CUP HOLDER PRECAUTIONS

WARNING: Use caution when stowing items or hot drinks in the cup holders. Items could become loose or spill during hard braking, acceleration or crashes. Failure to follow this instruction could result in personal injury.

GLOVE COMPARTMENT

OPENING THE GLOVE COMPARTMENT

Upper Glove Compartment (If Equipped)



Push the button on the instrument panel to open.

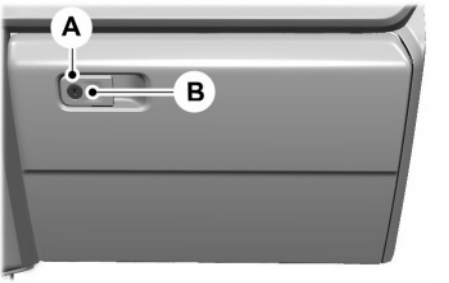
Lower Glove Compartment



Pull the handle to the left to open.

LOCKING THE GLOVE COMPARTMENT

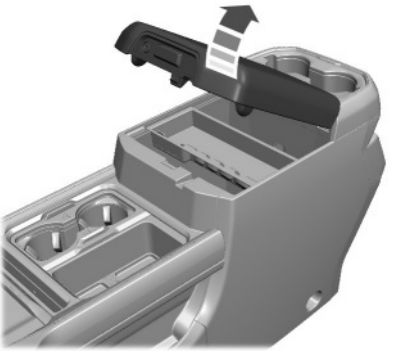
Use the key to lock the lower glove compartment.



A Unlock.
B Lock.

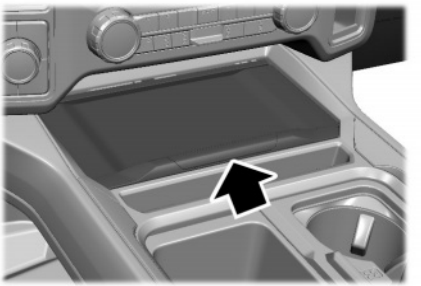
CENTER CONSOLE (IF EQUIPPED)

OPENING THE CENTER CONSOLE

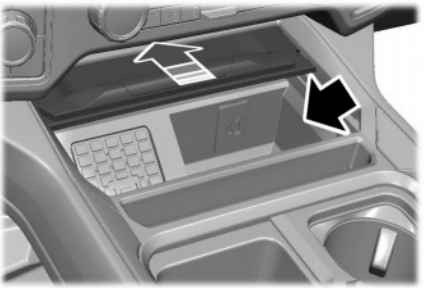


To open the center console push the button and lift up.

Media Bin



Push the door forward until it clicks. This allows access to the media bin.



Pull the door rearward until the compartment is fully closed.



UNDER SEAT STORAGE (IF EQUIPPED)

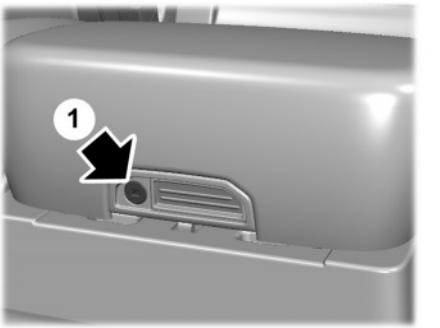
LOCATING THE UNDER SEAT STORAGE COMPARTMENT

Front Under Seat Storage



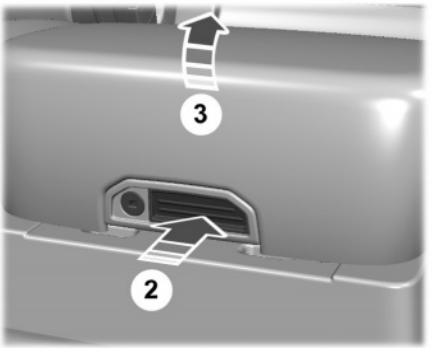
Lift the cushion to access the storage compartment under the center seat cushion.

Locking the Front Under Seat Storage



Lift the front seat to access the front under seat storage compartment.

1. Use the key in the remote control to unlock.



2. Press the button to release the cushion.
3. Lift the cushion to access the storage compartment.

Rear Under Seat Storage

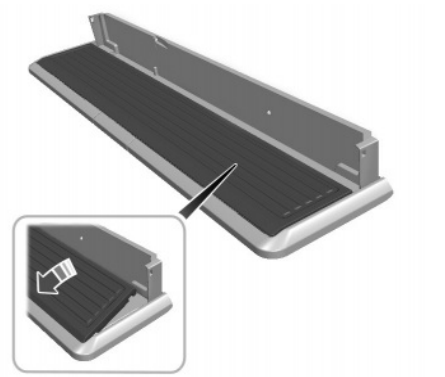


Lift the rear seat to access the under seat storage bin.

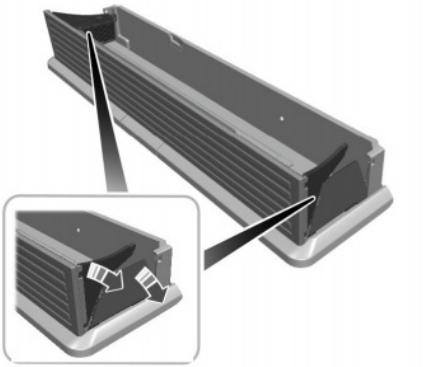
Locking the Rear Under Seat Storage



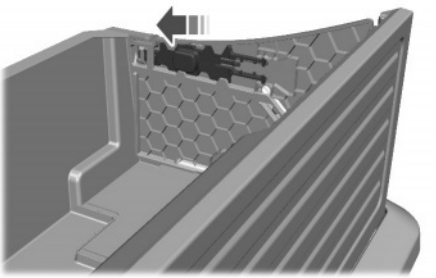
1. Lift the rear seat to access the under seat storage bin.



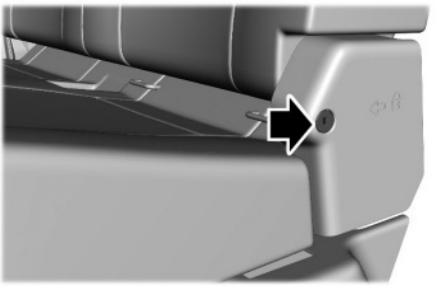
2. Lift the front panel to expand the storage bin.



3. Lock the front and side panels in an open position.



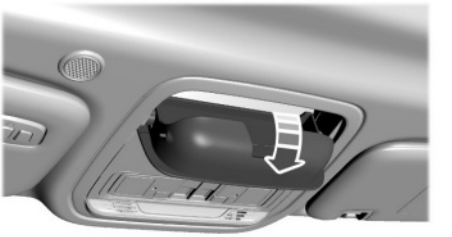
4. To collapse, unlatch the side panels, push down to the stowed position and fold in the side and front panels.



The locking key is in the remote control. Turn the key to lock or unlock the cushion.

GLASSES HOLDER

LOCATING THE GLASSES HOLDER



The glasses holder is in the overhead console.

Press near the rear edge of the door to open it.

STARTING AND STOPPING THE ENGINE – PRECAUTIONS

WARNING: Extended idling at high engine speeds can produce very high temperatures in the engine and exhaust system, creating the risk of fire or other damage.

WARNING: Do not park, idle or drive your vehicle on dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, creating the risk of fire.

WARNING: Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes are toxic. Always open the garage door before you start the engine. Failure to follow this instruction could result in personal injury or death.

WARNING: Do not use starting fluid, for example ether, in the air intake system. Such fluid could cause immediate explosive damage to the engine and possible personal injury.

WARNING: Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

The powertrain control system meets all Canadian interference-causing equipment standard requirements regulating the impulse electrical field or radio noise.

If you stop your vehicle and leave the engine idling for long periods, we recommend that you do one of the following:

- Open the windows at least 1 in (2.5 cm).
- Set your climate control to outside air.

IGNITION SWITCH - VEHICLES WITH: KEYED IGNITION



Note: *Make sure the key is clean before inserting it into any lock cylinder.*

Note: *Do not leave the key in the ignition for an extended period of time when the engine is not running. This is to prevent the vehicle battery from losing charge.*

Switching the Ignition Off

Turn the key to position ***0***.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Switching the Ignition to Accessory Mode

Turn the key to position ***I***. Electrical accessories, for example the radio, operate without the engine running.

Switching the Ignition On

Turn the key to position ***II***. All electrical circuits and accessories are operational and the warning lamps and indicators illuminate.

PUSH BUTTON IGNITION SWITCH - VEHICLES WITH: PUSH BUTTON START



Switching the Ignition Off

When the ignition is on or in accessory mode, press the push button ignition switch once without your foot on the brake pedal.

Switching the Ignition to Accessory Mode

When the ignition is off, press the push button ignition switch once without your foot on the brake pedal.

All electrical circuits and accessories are operational and the warning lamps and indicators illuminate.

Note: *Your vehicle has a battery saver feature that shuts your vehicle off when it detects a certain amount of battery drain, or after approximately 30 minutes of inactivity in accessory mode.*

Note: *The system may not function if the passive key is close to metal objects or electronic devices, for example keys or a cell phone.*

Note: *You need a valid passive key inside your vehicle to switch the ignition on and start the engine.*

STARTING THE ENGINE

STARTING A GASOLINE ENGINE - VEHICLES WITHOUT: PUSH BUTTON START

Before starting your vehicle, check the following:

- Make sure that the parking brake is on.
- Make sure that the transmission is in park (P).

1. Fully press the brake pedal.

Note: *Do not touch the accelerator pedal.*



2. Turn the key to position ***III***. Release the key and wait until the engine starts.

Note: *The engine may continue cranking for up to 15 seconds or until it starts.*

Note: *The engine takes longer to start at lower temperatures. It may crank for several seconds when very cold.*

STARTING A GASOLINE ENGINE - VEHICLES WITH: PUSH BUTTON START

Before starting your vehicle, check the following:

- Make sure that the parking brake is on.
- Make sure that the transmission is in park (P).

1. Fully press the brake pedal.

Note: *Do not touch the accelerator pedal.*

2. Press the push button ignition switch. See **Push Button Ignition Switch** (page 189).

Note: *The engine may continue cranking for up to 15 seconds or until it starts.*

Note: *The engine takes longer to start at lower temperatures. It may crank for several seconds when very cold.*

STARTING A DIESEL ENGINE - VEHICLES WITHOUT: PUSH BUTTON START

Before starting your vehicle, check the following:

- Make sure that the parking brake is on.
- Make sure that the transmission is in park (P).



1. Turn the key to position ***II***.

Note: *Wait until the glow plug indicator turns off.*

2. Fully press the brake pedal.

Note: *Do not touch the accelerator pedal.*



3. Turn the key to position ***III***. Release the key and wait until the engine starts.

Note: *The engine may continue cranking for up to 15 seconds or until it starts.*

Note: *The engine takes longer to start at lower temperatures. It may crank for several seconds when very cold.*

Glow Plug Indicator



If it illuminates, wait until the glow plug indicator turns off before starting the engine.

STARTING A DIESEL ENGINE - VEHICLES WITH: PUSH BUTTON START

Before starting your vehicle, check the following:

- Make sure that the parking brake is on.
- Make sure that the transmission is in park (P).

1. Fully press the brake pedal.

Note: *Do not touch the accelerator pedal.*

2. Press the push button ignition switch. See **Push Button Ignition Switch** (page 189).

Note: *The engine may continue cranking for up to 15 seconds or until it starts.*

Note: *The engine takes longer to start at lower temperatures. It may crank for several seconds when very cold.*

Glow Plug Indicator



The engine does not start until the glow plug indicator turns off. This may take several seconds in extremely cold conditions.

RESTARTING THE ENGINE AFTER STOPPING IT - VEHICLES WITH: PUSH BUTTON START

The system allows you to start the engine within 10 seconds of switching it off, even if it does not detect a valid passive key, by pressing the brake pedal and the push button ignition. After 10 seconds, you cannot start the engine without a valid passive key.

When you start the engine, it remains running until you press the push button ignition to turn the engine off, even if your vehicle does not detect a valid passive key. If you open and close a door when the engine is running, the system searches for a valid passive key.

ENGINE BLOCK HEATER (IF EQUIPPED)

ENGINE BLOCK HEATER PRECAUTIONS

WARNING: Failure to follow engine block heater instructions could result in property damage or serious personal injury.

WARNING: Do not use your heater with ungrounded electrical systems or two-pronged adapters. There is a risk of electrical shock.

WARNING: Do not fully close the hood, or allow it to drop under its own weight when using the engine block heater. This could damage the power cable and may cause an electrical short resulting in fire, injury and property damage.

WARNING: Before driving your vehicle, unplug the engine block heater cord, reattach the protective cover, and secure the cord away from any moving parts. Failure to follow these instructions could damage the cord and may cause an electrical short resulting in fire, personal injury, and property damage.

We recommend that you do the following for a safe and correct operation:

- Use a minimum 16-gauge outdoor extension cord that can handle at least 10 A of current and is certified by Underwriter's Laboratory (UL) or Canadian Standards Association (CSA). This extension cord must be suitable for outdoor use in cold temperatures and clearly marked as Suitable for Use with Outdoor Appliances. Do not use an indoor extension cord outdoors. This could result in an electric shock or become a fire hazard.
- Use the shortest extension cord possible.
- Do not use multiple extension cords.
- Make sure the heater cord and extension cord are firmly connected.
- When in use, make sure the extension cord and engine block heater plug connections are dry. Moisture at the connection points could cause electric shock or fire.

- If the engine block heater cord is under the hood, do not remove the wiring from its original location. Do not close the hood on the extension cord.
- Park your vehicle in a clean area, clear of combustible materials.
- After the system has been operating for about 30 minutes, check the electrical connections for excessive heat.
- Check the engine block heater system before winter to ensure proper operation.

HOW DOES THE ENGINE BLOCK HEATER WORK

The engine block heater warms the engine coolant. This allows the climate control system to quickly respond. The equipment includes a heater element installed in the engine block and a wire harness. You can connect the system to a grounded 110 volt AC electrical source.

Note: *The engine block heater is most effective when outdoor temperatures are below 0°F (-18°C). We recommend the use of engine block heater to improve engine cold start performance.*

USING THE ENGINE BLOCK HEATER

1. Make sure the engine is off.
2. Locate the engine block heater cord plug. It may be found under the hood, in the front fog lamp bezel, or in the front lower grille.
3. Open the protective cover and make sure the terminals are clean and dry. Clean them with a dry cloth if necessary.
4. Check both the engine block heater cord and the extension cord for damage. Do not use them if damaged.
5. Connect the engine block heater cord to the extension cord.
6. Plug the extension cord into a grounded 110 volt AC outlet with ground fault protection.

Note: *The heater uses 0.4 to 1.0 kilowatt-hours of energy per hour of use. The system does not have a thermostat. It achieves maximum temperature after approximately three hours of operation.*

Note: *To prevent damage to your vehicle and reduce electrical consumption, do not operate the engine block heater for more than three hours.*

7. Before starting the engine, unplug the extension cord from the power outlet and the engine block heater cord.

Note: *Make sure the protective cover is closed when not in use.*

STOPPING THE ENGINE

STOPPING THE ENGINE WHEN YOUR VEHICLE IS STATIONARY - VEHICLES WITHOUT: PUSH BUTTON START

1. Shift into park (P).
2. Apply the parking brake.
3. Wait until the engine reaches idle speed.



4. Turn the key to position ***0***.

STOPPING THE ENGINE WHEN YOUR VEHICLE IS STATIONARY - VEHICLES WITH: PUSH BUTTON START

1. Make sure that the transmission is in park (P).
2. Apply the parking brake.
3. Wait until the engine reaches idle speed.
4. Press the push button ignition switch. See **Push Button Ignition Switch** (page 189).

STOPPING THE ENGINE WHEN YOUR VEHICLE IS MOVING - VEHICLES WITHOUT: PUSH BUTTON START

WARNING: Switching off the engine when your vehicle is still moving results in a significant decrease in braking assistance. Higher effort is required to apply the brakes and to stop your vehicle. A significant decrease in steering assistance could also occur. The steering does not lock, but higher effort could be required to steer your vehicle. When you switch the ignition off, some electrical circuits, for example airbags, also turn off. If you unintentionally switch the ignition off, shift into neutral (N) and restart the engine.

Only in case of emergency, do the following:



1. Turn the key to position ***0***.
2. Shift into neutral (N) and use the brakes to safely bring your vehicle to a complete stop.
3. Shift into park (P).
4. Apply the parking brake.

STOPPING THE ENGINE WHEN YOUR VEHICLE IS MOVING - VEHICLES WITH: PUSH BUTTON START

WARNING: Switching off the engine when your vehicle is still moving results in a significant decrease in braking assistance. Higher effort is required to apply the brakes and to stop your vehicle. A significant decrease in steering assistance could also occur. The steering does not lock, but higher effort could be required to steer your vehicle. When you switch the ignition off, some electrical circuits, for example airbags, also turn off. If you unintentionally switch the ignition off, shift into neutral (N) and restart the engine.

Only in case of emergency, do the following:

1. Press and hold the push button ignition switch until the engine stops, or press it three times within two seconds. See **Push Button Ignition Switch** (page 189).
2. Shift into neutral (N) and use the brakes to bring your vehicle to a safe stop.
3. Make sure that the transmission is in park (P).
4. Apply the parking brake.

IDLE TIMER - VEHICLES WITH: ENGINE IDLE SHUTDOWN TIMER

WHAT IS IDLE TIMER

The idle timer system allows you to select how long the engine will idle before shutting down. It provides power to all equipment and accessories of the vehicle while active.

HOW DOES IDLE TIMER WORK

The vehicle shuts down after a set amount of time when you are done driving and you place the shifter in park (P) and leave the vehicle idling.

The idle timer defaults to active with the length of idle set to 30 minutes. You can change the length of time you would like the vehicle to idle before shutting down. It is possible to select any value from 1 to 30 minutes, in 1 minute increments. See **Idle Timer Settings** (page 194).

When the idle timer is active and your vehicle is idling, you retain full control of the vehicle's accessories and equipment.

After the idle time expires, the system turns your vehicle off. Your vehicle does not restart until you switch it on.

IDLE TIMER PRECAUTIONS

WARNING: Apply the parking brake, shift into park (P), switch the ignition off and remove the key before you open the hood or have any service or repair work completed. If you do not switch the ignition off, the engine could restart at any time. Failure to follow this instruction could result in personal injury or death.

IDLE TIMER SETTINGS

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Press Idle Settings.
3. Adjust the duration you wish the vehicle to idle.

AUTOMATIC ENGINE STOP - VEHICLES WITH: PUSH BUTTON START

WHAT IS AUTOMATIC ENGINE STOP

Automatic engine stop switches the engine off if it has been idling for an extended period to help you save fuel.

HOW DOES AUTOMATIC ENGINE STOP WORK

Automatic engine stop turns the engine off. The ignition also turns off to save battery power. Before the engine shuts down, a message appears in the instrument cluster display showing a timer counting down. If you do not intervene within 30 seconds, the engine shuts down. Another message appears in the instrument cluster display to inform you that the engine has shut down to save fuel. Start your vehicle as you normally do.

SWITCHING AUTOMATIC ENGINE STOP ON AND OFF

1. From the settings menu, press Vehicle. See **Center Display** (page 540).
2. Switch 30min Max Idle on or off.

Note: *You cannot permanently switch off the automatic engine stop feature. If you switch it off, it turns on automatically at the next ignition cycle.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

OVERRIDING AUTOMATIC ENGINE STOP

You can stop the engine shutdown, or reset the timer, at any point before the 30-second countdown has expired by doing any of the following:

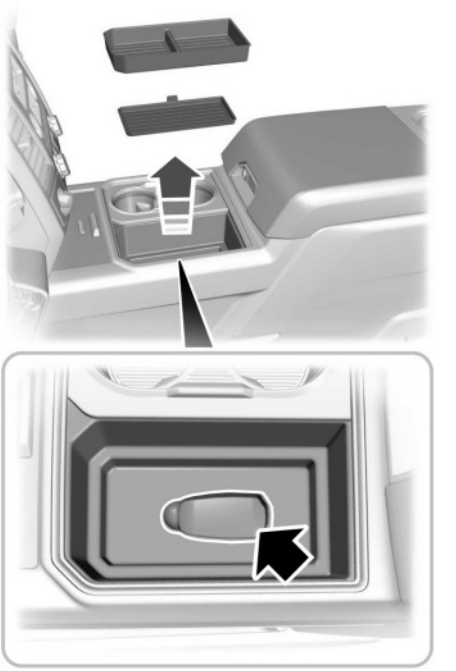
- Pressing the brake pedal or accelerator pedal.
- Pressing the **OK** or **RESET** button during the countdown.

Note: *You cannot permanently switch off the automatic engine stop feature. If you switch it off, it turns on automatically at the next ignition cycle.*

ACCESSING THE PASSIVE KEY BACKUP POSITION - VEHICLES WITH: PUSH BUTTON START

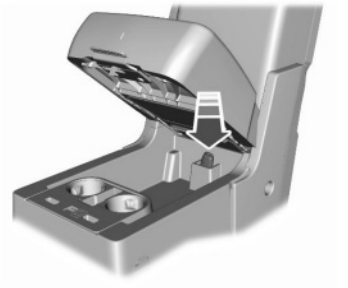
If you are unable to start your vehicle, locate the backup slot in one of two positions:

Vehicles with center console:



1. Remove the mat from the center console storage area.
2. With the buttons facing upward, place the passive key into the backup slot.
3. Press the brake pedal and the push button ignition switch to switch the ignition on and start your vehicle.

Vehicles without center console:



1. Raise the storage compartment lid.
2. With the buttons facing toward the rear of the vehicle, place the passive key into the backup slot.
3. Press the brake pedal and the push button ignition switch to switch the ignition on and start your vehicle.

STARTING AND STOPPING THE ENGINE – TROUBLESHOOTING

STARTING AND STOPPING THE ENGINE – WARNING LAMPS

Malfunction Indicator Lamp



If it illuminates amber when the engine is running, the on-board diagnostics system is detecting a malfunction of the vehicle emission control system.

If it flashes amber, engine misfire could be occurring. Increased exhaust gas temperatures could damage the catalytic converter or other vehicle components. Avoid heavy acceleration and deceleration, and have your vehicle checked as soon as possible.

Powertrain Warning Lamp



If it illuminates when the engine is running, this indicates a powertrain or four-wheel drive fault.

If it flashes when you are driving, immediately reduce the vehicle speed. Avoid heavy acceleration and deceleration, and have your vehicle checked as soon as possible.

Oil Pressure Warning Lamp



It illuminates when you switch the ignition on.

If it illuminates when the engine is running, this indicates a malfunction. Stop your vehicle and switch the engine off. Check the engine oil level. If the oil level is sufficient, this indicates a system malfunction. Have your vehicle checked as soon as possible.

Note: *If the indicator or warning lamps illuminate when the engine is running, stop your vehicle as soon as it is safe to do so. Continuing to drive your vehicle could cause reduced power or the engine to stop. Switch the ignition off and attempt to restart the engine. Have your vehicle checked as soon as possible.*

STARTING AND STOPPING THE ENGINE – INFORMATION MESSAGES

Message	Details
Cranking time exceeded	Displays if you exceed the starting time limit. You cannot attempt to start the engine for 15 minutes. If you cannot start the engine after 15 minutes passes, have your vehicle immediately checked.
Starting system fault	Displays if you are unable to start your vehicle with a correctly coded key. The system has detected a fault that requires service. Have your vehicle checked as soon as possible.
No key detected	Displays if the system does not detect a valid passive key.

STARTING AND STOPPING THE ENGINE – FREQUENTLY ASKED QUESTIONS - DIESEL, VEHICLES WITHOUT: PUSH BUTTON START

Why is the engine idle speed high when I start the engine?

- The speed the engine idles immediately after starting is optimized to minimize vehicle emissions and maximize cabin comfort and fuel economy.

Why is the engine not cranking?

The engine will not crank if:

- The vehicle battery does not have sufficient charge.
- The brake pedal is not pressed.
- The transmission is not in the park (P) or neutral (N).
- The starting system has been disabled after multiple attempts of starting the engine.

What should I do if the starting system is disabled?

- You can only attempt to start the engine for a set number of times before the starting system temporarily disables. If you exceed the limit, a message may appear and you need to wait at least 15 minutes to start the engine again.

Why do I experience different driving characteristics?

- If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for approximately 5 mi (8 km) after you reconnect it. This is because the engine management system must realign itself with the engine. You can disregard any unusual driving characteristics during this period.

STARTING AND STOPPING THE ENGINE – FREQUENTLY ASKED QUESTIONS - DIESEL, VEHICLES WITH: PUSH BUTTON START

Why is the engine idle speed high when I start the engine?

- The speed the engine idles immediately after starting is optimized to minimize vehicle emissions and maximize cabin comfort and fuel economy.

Why is the engine not cranking?

The engine does not crank if:

- The system does not detect a valid passive key.
- The passive key battery has no charge.
- The vehicle battery does not have sufficient charge.
- The brake pedal is not pressed.
- The transmission is not in the park (P) or neutral (N).
- The starting system has been disabled after multiple attempts of starting the engine.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

What should I do if the starting system is disabled?

- You can only attempt to start the engine for a set number of times before the starting system temporarily disables. If you exceed the limit, a message may appear and you need to wait at least 15 minutes to start the engine again.

Why do I experience different driving characteristics?

- If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for about 5 mi (8 km) after you reconnect it. This is because the engine management system must realign itself with the engine. You can disregard any unusual driving characteristics during this period.

What happens if the system does not detect a valid passive key?

- If the system does not detect a valid passive key, the engine does not start and a warning message displays in the instrument cluster display. To start the engine insert the passive key into the backup position and press the push button ignition switch to start the engine. See **Accessing the Passive Key Backup Position** (page 195).

What happens when driving the vehicle without a valid key?

- When you drive the vehicle without a valid passive key and reach a speed of 3 mph (5 km/h) for the first time after starting the engine, a warning message displays in the instrument cluster display.
- When the ignition is on or in accessory mode and you exit your vehicle with a valid passive key and close all of the doors, a warning message displays in the instrument cluster display.
- A horn sounds in addition to the warning message in the instrument cluster display, when the ignition is on and you exit your vehicle with a valid passive key and close any one of the front doors, and the following conditions are met:
  - Key detection alert is turned on in the center display. See **Keyless Entry Settings** (page 74).
  - A vehicle speed of 16 mph (25 km/h) is reached at least once in the current drive cycle.

Note: *A valid passive key is required to start the engine again if you turned the engine off when the warning message was present in the instrument cluster display.*

STARTING AND STOPPING THE ENGINE – FREQUENTLY ASKED QUESTIONS - GASOLINE, VEHICLES WITHOUT: PUSH BUTTON START

Why is the engine idle speed high when I start the engine?

- The speed the engine idles immediately after starting is optimized to minimize vehicle emissions and maximize cabin comfort and fuel economy.

Why is the engine not cranking?

The engine will not crank if:

- The vehicle battery does not have sufficient charge.
- The brake pedal is not pressed.
- The transmission is not in the park (P) or neutral (N).
- The starting system has been disabled after multiple attempts of starting the engine.

What should I do if the starting system is disabled?

- You can only attempt to start the engine for a set number of times before the starting system temporarily disables. If you exceed the limit, a message may appear and you need to wait at least 15 minutes to start the engine again.

What should I do if the engine does not start?

- If you cannot start the engine after three attempts, wait 10 seconds and do the following:

1. Fully press the brake pedal.

Note: *Make sure that the parking brake is applied.*

Note: *Make sure that the transmission is in park (P) or neutral (N).*

2. Fully press and hold the accelerator pedal.



3. Turn the key to position ***III***. Release the key and wait until the engine stops cranking.
4. Release the accelerator pedal.
5. Turn the key to position ***III***. Release the key and wait until the engine starts.

Why do I experience different driving characteristics?

- If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for approximately 5 mi (8 km) after you reconnect it. This is because the engine management system must realign itself with the engine. You can disregard any unusual driving characteristics during this period.

STARTING AND STOPPING THE ENGINE – FREQUENTLY ASKED QUESTIONS - GASOLINE, VEHICLES WITH: PUSH BUTTON START

Why is the engine idle speed high when I start the engine?

- The speed the engine idles immediately after starting is optimized to minimize vehicle emissions and maximize cabin comfort and fuel economy.

Why is the engine not cranking?

The engine does not crank if:

- The system does not detect a valid passive key.
- The passive key battery has no charge.
- The vehicle battery does not have sufficient charge.
- The brake pedal is not pressed.
- The transmission is not in the park (P) or neutral (N).
- The starting system has been disabled after multiple attempts of starting the engine.

What should I do if the starting system is disabled?

- You can only attempt to start the engine for a set number of times before the starting system temporarily disables. If you exceed the limit, a message may appear and you need to wait at least 15 minutes to start the engine again.

What should I do if the engine does not start?

- If you cannot start the engine after three attempts, wait 10 seconds and do the following:

1. Fully press the brake pedal.

Note: *Make sure that the parking brake is applied.*

Note: *Make sure that the transmission is in park (P) or neutral (N).*

2. Fully press and hold the accelerator pedal.
3. Press the push button ignition switch. See **Push Button Ignition Switch** (page 189).

Note: *The engine cranks for a short period of time and then stops.*

4. Release the accelerator pedal.
5. Press the push button ignition switch. See **Push Button Ignition Switch** (page 189).

Why do I experience different driving characteristics?

- If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for about 5 mi (8 km) after you reconnect it. This is because the engine management system must realign itself with the engine. You can disregard any unusual driving characteristics during this period.

What happens if the system does not detect a valid passive key?

- If the system does not detect a valid passive key, the engine does not start and a warning message displays in the instrument cluster display. To start the engine insert the passive key into the backup position and press the push button ignition switch to start the engine. See **Accessing the Passive Key Backup Position** (page 195).

What happens when driving the vehicle without a valid key?

- When you drive the vehicle without a valid passive key and reach a speed of 3 mph (5 km/h) for the first time after starting the engine, a warning message displays in the instrument cluster display.
- When the ignition is on or in accessory mode and you exit your vehicle with a valid passive key and close all of the doors, a warning message displays in the instrument cluster display.
- A horn sounds in addition to the warning message in the instrument cluster display, when the ignition is on and you exit your vehicle with a valid passive key and close any one of the front doors, and the following conditions are met:
  - Key detection alert is turned on in the center display. See **Keyless Entry Settings** (page 74).
  - A vehicle speed of 16 mph (25 km/h) is reached at least once in the current drive cycle.

Note: *A valid passive key is required to start the engine again if you turned the engine off when the warning message was present in the instrument cluster display.*

FUEL AND REFUELING PRECAUTIONS

WARNING: Fuels can cause serious injury or death if misused or mishandled.

WARNING: Fuel may contain benzene, which is a cancer-causing agent.

WARNING: Read and follow all the instructions on the pump island.

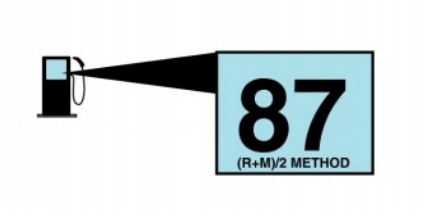
WARNING: When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

Follow these guidelines when refueling:

- Extinguish all smoking materials and any open flames before refueling your vehicle.
- Switch the engine off before refueling.
- Automotive fuels can be harmful or fatal if swallowed. Fuel is highly toxic and if swallowed can cause death or permanent injury. If fuel is swallowed immediately call a physician, even if no symptoms are immediately apparent. The toxic effects of fuel may not be apparent for hours.
- Avoid inhaling fuel vapors. Inhaling fuel vapor can lead to eye and respiratory tract irritation. In severe cases, excessive or prolonged breathing of fuel vapor can cause serious illness and permanent injury.
- Avoid getting fuel in your eyes. If you splash fuel in your eyes, immediately remove contact lenses, if worn, flush with water for 15 minutes and seek medical attention. Failure to seek proper medical attention could lead to permanent injury.
- Fuels can be harmful if absorbed through the skin. If you splash fuel on your skin, clothing or both, promptly remove contaminated clothing and thoroughly wash your skin with soap and water. Repeated or prolonged skin contact causes skin irritation.
- Be particularly careful if you are taking Antabuse or other forms of Disulfiram for the treatment of alcoholism. Breathing fuel vapors could cause an adverse reaction, serious personal injury or sickness. Immediately call a physician if you experience any adverse reactions.

FUEL QUALITY

SELECTING THE CORRECT FUEL - GASOLINE



Your vehicle operates on regular unleaded gasoline with a minimum pump (R+M)/2 octane rating of 87.

Some fuel stations, particularly those in high altitude areas, offer fuels posted as regular unleaded gasoline with an octane rating below 87. The use of these fuels could result in engine damage that will not be covered by the vehicle Warranty.

For best overall vehicle and engine performance, premium fuel with an octane rating of 91 or higher is recommended. The performance gained by using premium fuel is most noticeable in hot weather as well as other conditions, for example when towing a trailer. See **Towing a Trailer** (page 355).

Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

We recommend Top Tier detergent gasolines, where available to help minimize engine deposits and maintain optimal vehicle and engine performance.

For additional information, visit *https://www.toptiergas.com*.



Note: *Use of any fuel for which the vehicle was not designed can impair the emission control system, cause loss of vehicle performance, and cause damage to the engine which may not be covered by the vehicle Warranty.*

Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuel containing more than 15% ethanol (E15) or E85 fuel.
- Fuels containing methanol.
- Fuels containing metallic-based additives, including manganese-based compounds.
- Fuels containing the octane booster additive, methylcyclopentadienyl manganese tricarbonyl (MMT).
- Leaded fuel, using leaded fuel is prohibited by law.

The use of fuels with metallic compounds such as methylcyclopentadienyl manganese tricarbonyl, which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

SELECTING THE CORRECT FUEL FOR COLD WEATHER - 6.7L DIESEL

Choosing the Right Fuel: Vehicles Operated Where Ultra Low Sulfur Diesel Fuel Is Required (United States/Canada/Puerto Rico/U.S. Virgin Islands And Other Locales)

Note: *Your Warranty will not cover damage caused by using an improper type of fuel or fuel additive.*

Note: *Do not blend used engine oil with diesel fuel under any circumstances. Blending used oil with the fuel significantly increases your vehicle's exhaust emissions and reduce engine life due to increased internal wear.*

We recommend Top Tier diesel fuel where available to help minimize engine deposits and maintain optimal vehicle and engine performance.

For additional information, visit *https://www.toptiergas.com*.

You should use ultra-low sulfur diesel fuel designated as number 1-D or 2-D with a maximum of 15-ppm sulfur in your diesel vehicle. You can operate your vehicle on diesel fuels containing up to 20% biodiesel, also known as B20. These fuels should meet the ASTM D975 diesel or the ASTM D7467 B6-B20 biodiesel industry specifications. Outside of North America, use fuels meeting EN590 or equivalent local market standard.



Using low-sulfur diesel fuel (16-500 ppm) or high-sulfur diesel fuel (greater than 500 ppm) in your diesel engine will cause certain emission components to malfunction which could also cause the service engine soon light to illuminate indicating an emissions-related concern.

Diesel fuel is adjusted seasonally for cold temperature. For best results at temperatures below 19°F (-7°C), we recommend using a diesel fuel which has been seasonally adjusted for the ambient conditions.

Choosing the Right Fuel: Vehicles Operated Where Ultra Low Sulfur Diesel Fuel Is Not Required

For the engine to operate reliably on low-sulfur or high-sulfur diesel fuel, the engine must be a factory-built high-sulfur engine (available as a dealer order option for select markets) or an ultra-low sulfur diesel fuel configured engine that has been retrofitted for high-sulfur diesel fuel using authorized dealer service parts. Failure to use retrofit components other than those available through your authorized dealer results in coolant system damage, engine overheating, selective catalyst reduction system or diesel particulate filter damage and possible base engine damage.

Use only a diesel engine configured for use with high-sulfur diesel fuel in markets with diesel fuel that has sulfur content greater than 15 ppm. Using low-sulfur diesel fuel (16–500 ppm) or high-sulfur diesel fuel (greater than 500 ppm) in a diesel engine designed to use only ultra-low sulfur diesel fuel could result in damage to engine emission control devices and the after treatment system, potentially rendering the vehicle inoperable.

Vehicles with engines configured for use with high-sulfur diesel fuel are only available for sale in countries where ultra-low sulfur diesel fuel is generally not available or mandated by the government. Vehicles originally sold in an ultra-low sulfur diesel fuel market that are subsequently exported to non-ultra low sulfur diesel fuel markets will need to be retrofitted at the customer's expense using Ford authorized dealer service parts in order to be reliably operated on non-ultra low sulfur diesel fuel.

Biodiesel

WARNING: Do not mix diesel with gasoline, gasohol or alcohol. This could cause an explosion.

Note: *Do not use home heating oil, agricultural fuel, raw fats and oils, waste cooking greases, biodiesel greater than 20% or any diesel not intended for highway use. Damage to the fuel injection system, engine and exhaust catalyst, and diesel particulate filter can occur if you use an improper fuel. Red dye is used to identify fuels intended for agricultural and non-highway use.*

You can operate your vehicle on diesel fuels containing up to 20% biodiesel, also known as B20.

Biodiesel fuel is a chemically converted product from renewable fuel sources, such as vegetable oils, animal fats and waste cooking greases.

To help achieve acceptable engine performance and durability when using biodiesel in your vehicle:

- Confirm the biodiesel content of the fuel to be B20 (20% biodiesel) or less.
- Only use biodiesel fuel of good quality that complies with industry standards.
- Follow the recommended service maintenance intervals. See **General Maintenance Information** (page 575).
- Do not store biodiesel fuel in the fuel tank for more than 1 month.
- Consider changing brands or reducing biodiesel content if you have cold temperature fuel gelling issues or a frequently appearing LOW FUEL PRESSURE message.

Use of biodiesel in concentrations greater than 20% can cause damage to your vehicle, including engine and/or exhaust after-treatment hardware (exhaust catalyst and particulate filter) failures. Concentrations greater than 20% can also cause fuel filter restrictions that could result in a lack of power or damage to fuel system components, including fuel pump and fuel injector failures.

We recommend SAE 5W-40 oil for fuels with greater than 5% biodiesel (B5). For more information about oil change intervals and other maintenance when operating on biodiesel. See **General Maintenance Information** (page 575).

Look for a label on the fuel pump to confirm the amount of biodiesel contained in diesel fuel. Ask the service station attendant to confirm the biodiesel content of diesel fuel, if you do not see a label on the fuel pump.

If you plan to park or store your vehicle for more than 1 month, then you should empty your vehicle fuel tank of biodiesel fuel. You should fill the tank with a pure petroleum-based diesel fuel and run your vehicle for a minimum of 30 minutes.

Note: *Degraded or oxidized biodiesel can damage fuel system seals and plastics and corrode steel parts.*

During cold weather, if you have problems operating on biodiesel, you may need to use diesel fuel with lower biodiesel content, try another brand or discontinue the use of biodiesel.

Diesel Fuel Additives

It should not be necessary to add any aftermarket additives to your fuel if you use a high-quality diesel fuel that conforms to ASTM industry specifications. Aftermarket additives can damage the fuel injector system or engine.

Use Motorcraft® cetane booster or an equivalent cetane booster additive if you suspect fuel has low cetane. Use Motorcraft® anti-gel and performance improver or an equivalent additive if there is fuel gelling.

Do not use alcohol-based additives to improve cetane quality, to prevent fuel gelling or any other use. The use of alcohol additives could result in damage to the fuel injectors and system.

Your Warranty may not cover repairs needed to correct the effects of using an aftermarket product that does not meet our specifications in your fuel.

RUNNING OUT OF FUEL

Filling a Portable Fuel Container

WARNING: Flow of fuel through a fuel pump nozzle can produce static electricity. This can cause a fire if you are filling an ungrounded fuel container.

Use the following guidelines to avoid electrostatic charge build-up, which can produce a spark, when filling an ungrounded fuel container:

- Only use an approved fuel container to transfer fuel to your vehicle. Place the container on the ground when filling it.
- Do not fill a fuel container when it is inside your vehicle (including the cargo area).
- Keep the fuel pump nozzle in contact with the fuel container when filling it.
- Do not use a device that holds the fuel pump nozzle lever in the fill position.

Adding Fuel From a Portable Fuel Container

WARNING: Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

WARNING: Do not dispose of fuel in the household refuse or the public sewage system. Use an authorized waste disposal facility.

When refueling the vehicle fuel tank from a fuel container, do the following:

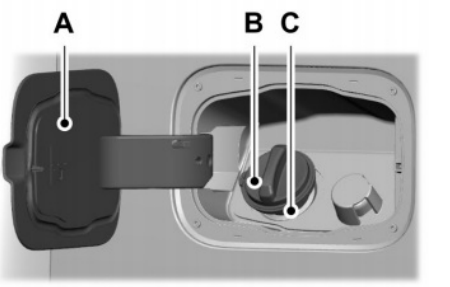
1. Fully open the fuel filler door.
2. Turn the fuel filler cap counterclockwise and remove it.
3. Add fuel to your vehicle from the fuel container.
4. To replace the fuel filler cap, turn it clockwise until you feel a strong resistance and it clicks.
5. Fully close the fuel filler door.

Note: *If your vehicle runs out of fuel add a minimum of 3.8 L of fuel to restart the engine.*

Note: *You may need to switch the ignition from off to on several times after refueling to allow the fuel system to pump the fuel from the tank to the engine. When restarting, cranking time takes a few seconds longer than normal.*

REFUELING

REFUELING SYSTEM OVERVIEW



A Fuel filler door.
B Fuel cap.
C Fuel tank filler pipe.

REFUELING YOUR VEHICLE - DIESEL

WARNING: When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

WARNING: Fuel vapor burns violently and a fuel fire can cause severe injuries.

WARNING: The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

WARNING: Keep children away from the fuel pump. Never let children pump fuel.

WARNING: Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

WARNING: Stay outside your vehicle and do not leave the fuel pump unattended when refueling your vehicle.

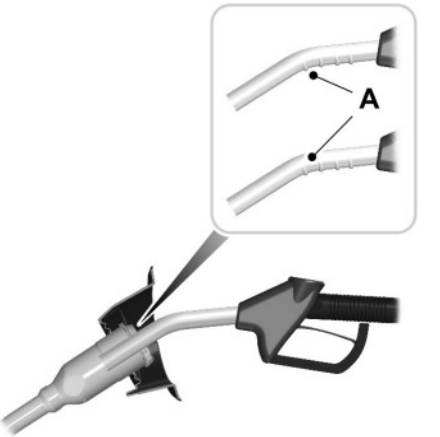
WARNING: Do not remove the fuel pump nozzle from its fully inserted position when refueling.

WARNING: Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

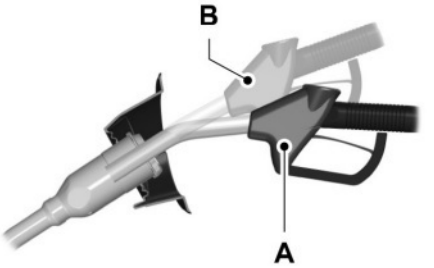
WARNING: Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

WARNING: Wait at least five seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

1. Fully open the fuel filler door.
2. Remove the fuel filler cap by turning it counterclockwise.
3. Select the correct fuel pump nozzle for your vehicle.



4. Insert the fuel pump nozzle up to the first notch. Keep the fuel pump nozzle resting on the fuel tank filler pipe.



5. Hold the fuel pump nozzle in position A when refueling. Holding the fuel pump nozzle in position B can affect the flow of fuel and shut off the fuel pump nozzle before the fuel tank is full.



6. When the pump shuts off, wait five seconds, then raise the fuel pump nozzle and slowly remove it.
7. Install the fuel filler cap by turning it clockwise until it clicks.
8. Fully close the fuel filler door.

Note: *Do not attempt to start the engine if you have filled the fuel tank with incorrect fuel. Incorrect fuel use could cause damage not covered by the vehicle Warranty. Have your vehicle immediately checked.*

Dual Fuel Tanks (If Equipped)

Your vehicle may have a dual fuel tank delivery system which operates independently and automatically. The fuel pump in the front fuel tank delivers fuel to the engine. When the fuel level in the front fuel tank drops below three quarter full, fuel automatically transfers from the rear fuel tank to the front fuel tank. Whenever there is fuel in the rear fuel tank, the front fuel tank level remains between half and three quarter full.

Note: *If your vehicle runs out of fuel, you must add fuel to the front fuel tank to restart the engine.*

REFUELING YOUR VEHICLE - GASOLINE

WARNING: When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

WARNING: Fuel vapor burns violently and a fuel fire can cause severe injuries.

WARNING: The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

WARNING: Keep children away from the fuel pump. Never let children pump fuel.

WARNING: Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

WARNING: Stay outside your vehicle and do not leave the fuel pump unattended when refueling your vehicle.

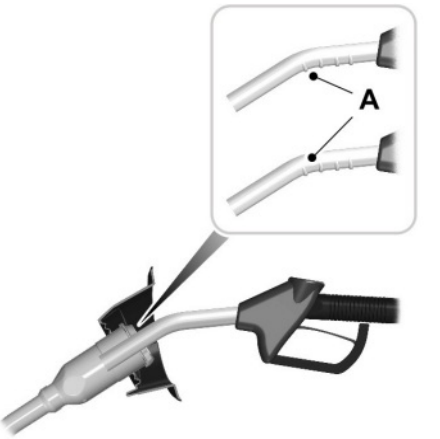
WARNING: Do not remove the fuel pump nozzle from its fully inserted position when refueling.

WARNING: Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

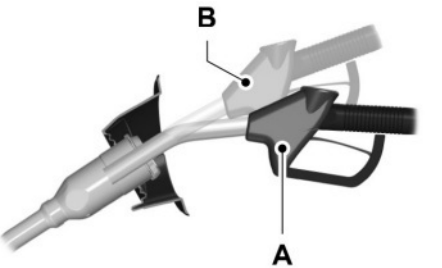
WARNING: Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

WARNING: Wait at least five seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

1. Fully open the fuel filler door.
2. Remove the fuel filler cap by turning it counterclockwise.
3. Select the correct fuel pump nozzle for your vehicle.



4. Insert the fuel pump nozzle up to the first notch. Keep the fuel pump nozzle resting on the fuel tank filler pipe.



5. Hold the fuel pump nozzle in position A when refueling. Holding the fuel pump nozzle in position B can affect the flow of fuel and shut off the fuel pump nozzle before the fuel tank is full.



6. When the pump shuts off, wait five seconds, then raise the fuel pump nozzle and slowly remove it.
7. Install the fuel filler cap by turning it clockwise until it clicks.
8. Fully close the fuel filler door.

Note: *Do not attempt to start the engine if you have filled the fuel tank with incorrect fuel. Incorrect fuel use could cause damage not covered by the vehicle Warranty. Have your vehicle immediately checked.*

FUEL TANK CAPACITY - DIESEL

Capacities

Variant	Quantity
Pickup - 142 inch and 148 inch wheelbase.	29.0 gal (109.8 L)
Pickup - 160 inch and 164 inch wheelbase.	34.0 gal (128.7 L)
Pickup - 176 inch wheelbase.	48.0 gal (181.7 L)
Chassis cab - between the front and rear axles fuel tank.	26.5 gal (100.3 L)
Chassis cab - aft axle fuel tank.	40.0 gal (151.4 L)
Chassis cab with dual fuel tanks.	66.5 gal (251.7 L)

Advertised Capacity

The advertised capacity is the maximum amount of fuel available for your use.

Note: *You may not be able to refuel to the full advertised capacity, even when the fuel gauge indicates empty or below. This happens because your fuel tank contains an empty reserve. This reserve is an unspecified amount of fuel that remains in the fuel tank when the fuel gauge indicates empty.*

FUEL TANK CAPACITY - GASOLINE

Capacities

Variant	Quantity
Pickup - all except 176 inch wheelbase.	34.0 gal (128.7 L)
Pickup - 176 inch wheelbase.	48.0 gal (181.7 L)
Chassis cab - aft axle fuel tank.	38.5 gal (145.7 L)
Chassis cab - between the front and rear axles fuel tank.	26.5 gal (100.3 L)

Advertised Capacity

The advertised capacity is the maximum amount of fuel available for your use.

Note: *You may not be able to refuel to the full advertised capacity, even when the fuel gauge indicates empty or below. This happens because your fuel tank contains an empty reserve. This reserve is an unspecified amount of fuel that remains in the fuel tank when the fuel gauge indicates empty.*

FUEL AND REFUELING – TROUBLESHOOTING

FUEL AND REFUELING – WARNING LAMPS



If it illuminates when you are driving, refuel as soon as possible.

FUEL AND REFUELING – INFORMATION MESSAGES

Message	Action
Check Fuel Cap	You may not have installed the fuel filler cap properly. At the next opportunity, safely pull off of the road, remove the fuel filler cap, align the cap properly and reinstall it.

WHAT IS THE DIESEL PARTICULATE FILTER

The diesel particulate filter is part of your vehicle's emissions system and filters harmful diesel particulates from the exhaust gas.

HOW DOES THE DIESEL PARTICULATE FILTER WORK

The diesel particulate filter reduces emissions by trapping exhaust particles before they reach the tailpipe. The system must periodically clean the exhaust particles that gather inside the filter. This is carried out in three ways, passive regeneration, active regeneration and manual regeneration.

Passive Regeneration

In passive regeneration, the normal exhaust system temperature cleans the filter by oxidizing the soot. Cleaning occurs during normal vehicle operating conditions due to driving patterns.

Active Regeneration

Once the diesel particulate filter is full, active regeneration raises the exhaust temperature to eliminate the particles.

When the engine control module detects that the diesel particulate filter is nearly full of particulates, and you are not operating your vehicle in a manner to allow effective regeneration, messages appear in the instrument cluster display as a reminder for you to drive your vehicle in order to clean the diesel particulate filter. If you drive your vehicle in a manner to allow effective regeneration, the instrument cluster display shows a cleaning exhaust filter message.

DIESEL PARTICULATE FILTER PRECAUTIONS

WARNING: Do not park or idle your vehicle over dry leaves, dry grass or other combustible materials. The regeneration process creates very high exhaust gas temperatures and the exhaust will radiate a considerable amount of heat during and after regeneration and after you have switched the engine off. This is a potential fire hazard.

WARNING: When the ***Exhaust filter cleaning*** message appears in the information display, do not park near flammable materials, vapors or structures until filter cleaning is complete.

WARNING: The normal operating temperature of the exhaust system is very high. Never work around or attempt to repair any part of the exhaust system until it has cooled. Use special care when working around the diesel oxidation catalytic converter or the diesel particulate filter. The diesel oxidation catalytic converter and the diesel particulate filter heat up to very high temperatures after only a short period of engine operation and remain hot after you switch the engine off.

Note: *Avoid running out of fuel.*

Note: *During regeneration at low speed or engine idle, you may smell a hot metallic odor and could notice a clicking metallic sound. This is due to high temperatures reached during regeneration and is normal.*

Note: *Changes in the engine or exhaust sound may be heard during the regeneration process.*

Failure to perform active or manual regeneration when instructed could result in a clogged diesel particulate filter. If the diesel particulate filter fills beyond the regeneration threshold, your vehicle disables the ability for active and manual regeneration. This could result in irreversible damage your vehicle Warranty may not cover.

DIESEL PARTICULATE FILTER REQUIREMENTS

The diesel particulate filter on your vehicle requires periodic regeneration to maintain its correct function.

If your journeys meet one of the following conditions:

- You drive only short distances.
- You frequently switch the ignition on and off.
- Your journeys contain a high level of acceleration and deceleration.

You must carry out occasional trips with the following conditions to assist the regeneration process:

- Drive your vehicle in more favorable conditions, which you will find at higher vehicle speeds in normal driving, on a main road or freeway for a minimum of 20 minutes. This drive may include short stops that will not affect the regeneration process.
- Avoid prolonged idling and observe speed limits and road conditions.
- Do not switch the ignition off.
- Select a suitable gear to ideally maintain engine speed between 1500 and 3000 RPM.

DIESEL PARTICULATE FILTER MANUAL REGENERATION

WHAT IS DIESEL PARTICULATE FILTER MANUAL REGENERATION

Diesel particulate filter manual regeneration allows you to manually start regeneration of the diesel particulate filter at idle to clean the filter.

Note: *If you are not sure whether your vehicle has this feature, contact your authorized dealer.*

DIESEL PARTICULATE FILTER MANUAL REGENERATION PRECAUTIONS

WARNING: Stay clear of the exhaust tailpipe during regeneration. Hot exhaust gases can burn you badly.

You may not be able to use manual regeneration if the service engine soon warning lamp appears in the instrument cluster display.

Note: *During the use of manual regeneration, you may observe a light amount of white smoke. This is normal.*

DIESEL PARTICULATE FILTER MANUAL REGENERATION REQUIREMENTS

You can use the manual regeneration feature when a message appears in the instrument cluster display and you are not able to drive in a manner that allows effective automatic active regeneration or if you choose to manually start the regeneration of the diesel particulate filter while the vehicle is idle.

Before you start manual regeneration, do the following:

- Make sure the parking brake is on.
- Shift into park (P) on stable, level ground.
- Park your vehicle outside of any structure.
- Park your vehicle 10–15 ft (3–5 m) away from any obstructions and away from materials that can easily combust or melt, for example paper, leaves, petroleum products, fuels, plastics and other dry organic material.
- Make sure there is a minimum of 1/8 tank of fuel.
- Make sure all fluids are at proper levels.

DIESEL PARTICULATE FILTER MANUAL REGENERATION LIMITATIONS

You cannot use manual regeneration until the diesel particulate filter load percentage has reached 100% or Full. The diesel particulate filter load percentage fluctuates up and down when driving your vehicle due to active and passive regenerations.

If your vehicle is operated with significant stationary operation, low speed drive cycles less than 25 mph (40 km/h), short drive cycles, drive time less than 15 minutes or the vehicle does not fully warm up, passive and active regeneration may not sufficiently clean the diesel particulate filter system.

Aftermarket devices or modifications to the exhaust system may reduce the effectiveness of the exhaust system as well as cause damage to the exhaust system or engine. This may also degrade vehicle performance and could lead to engine damage that may not be covered by the vehicle Warranty.

STARTING DIESEL PARTICULATE FILTER MANUAL REGENERATION

Start your vehicle and when it has reached the normal operating temperature, press the instrument cluster display control button on the steering wheel. See **Instrument Cluster Display** (page 133).

If the diesel particulate filter is near or at saturation, a message requesting permission to initiate filter cleaning appears in the instrument cluster display. See **Diesel Particulate Filter – Information Messages** (page 215). Answer yes to this prompt and then follow the next prompts regarding exhaust position required to initiate manual regeneration. Be sure to understand each prompt. If you are not sure what is being asked by each prompt, contact an authorized dealer. The display shows when the operation has started and finished. You can also drive to clean the filter.



When the system is at the point of oversaturation, the malfunction indicator lamp illuminates and a message appears in the instrument cluster display. You cannot initiate filter cleaning. Have your vehicle checked as soon as possible.

Once manual regeneration starts, engine speed increases and the cooling fan speed increases. The engine sound changes when the engine and cooling fan speeds increase.

It is not necessary to open the hood on the engine compartment. Once manual regeneration completes, the engine speed returns to normal idling. The exhaust system remains very hot for several minutes even after regeneration is complete. Do not park the vehicle over materials that could burn until the exhaust

system has had sufficient time to cool. Depending on the amount of soot collected by the diesel particulate filter, ambient temperature and altitude, manual regeneration lasts approximately 30 minutes.

DIESEL PARTICULATE FILTER – TROUBLESHOOTING

DIESEL PARTICULATE FILTER – WARNING LAMPS



Illuminate when your vehicle requires service. You may not be able to initiate filter cleaning. Have your vehicle checked as soon as possible.



Illuminates when the automatic cleaning function is disabled.



DIESEL PARTICULATE FILTER – INFORMATION MESSAGES

Message	Action
Exhaust filter cleaning	Your vehicle has entered the cleaning mode. Various engine actions will raise the exhaust temperature in the Diesel Particulate Filter system to burn off the particles (exhaust soot). After the vehicle burns the particles off, the exhaust temperature will return to normal levels. This message is NORMAL.
Exhaust Filter Overloaded Drive to Clean	The diesel particulate filter is full of particles (exhaust soot) and you are not operating the vehicle in a manner that allows normal cleaning. Drive the vehicle above 30 mph (50 km/h) when it is safe to do so, until the message turns off.
Exhaust Filter Overloaded Clean Now	
Exhaust Filter at Limit Clean Now	The diesel particulate filter is full of particles (exhaust soot) and you are not operating the vehicle in a manner that allows normal cleaning. Drive the vehicle above 30 mph (50 km/h) when it is safe to do so, until the message turns off.
Exhaust Filter at Limit Drive to Clean Now	
Exhaust filter Drive complete	Your diesel particulate filter is clean.

Message	Action
Exhaust filter cleaned	Your diesel particulate filter is clean (OCR Only).
Exhaust filter cleaning stopped	The manual regeneration process has stopped (OCR Only).
Exhaust Filter Over Limit Service Now	You must have your vehicle serviced by an authorized dealer. Ignoring this warning message could lead to reduced drivability and customer expense, including damage to the diesel particulate filter. Your new vehicle warranty may not cover this damage.

WHAT IS THE SELECTIVE CATALYTIC REDUCTION SYSTEM

The selective catalytic reduction system uses diesel exhaust fluid to convert nitrogen oxides into nitrogen and water, reducing tailpipe emissions.

HOW DOES THE SELECTIVE CATALYTIC REDUCTION SYSTEM WORK

The selective catalytic reduction system injects diesel exhaust fluid into the exhaust system to enable correct selective catalytic reduction system function.

The usage of diesel exhaust fluid has increased from prior model years in order to meet more stringent emissions requirements. The diesel exhaust fluid usage ranges from approximately 2-6% of fuel burned (100.00 gal (378.54 L) of fuel requires approximately 2.00 gal (7.57 L)to 6.00 gal (22.71 L) of diesel exhaust fluid) depending on vehicle usage. Factors that influence diesel exhaust fluid usage may include:

- Payload/Towing
- Driving Style
- Altitude
- Humidity
- Temperature

SELECTIVE CATALYTIC REDUCTION SYSTEM PRECAUTIONS

WARNING: Keep diesel exhaust fluid out of reach of children. Avoid contact with skin, eyes or clothing. In case of contact with your eyes, flush immediately with water and get prompt medical attention. In case of contact with your skin, clean immediately with soap and water. If you swallow any diesel exhaust fluid, drink plenty of water, call a physician immediately.

WARNING: Only refill the diesel exhaust fluid tank in a well ventilated area. When you remove the diesel exhaust fluid tank filler cap or a diesel exhaust fluid container cap, ammonia vapors may escape. Ammonia vapors can be irritating to skin, eyes and mucous membranes. Inhaling ammonia vapors can cause burning to the eyes, throat and nose and cause coughing and watery eyes.

WARNING: Diesel exhaust fluid must be refilled when low or replaced when contaminated or your vehicle speed becomes limited to 50 mph (80 km/h). In these conditions, drive with caution and refill diesel exhaust fluid immediately. If the diesel exhaust fluid becomes empty or contaminated and fluid is not replaced, your vehicle becomes limited to engine idle only once stopped. In these conditions, be cautious where you stop your vehicle because you may not be able to drive long distances or maintain highway speeds until you refill or replace the diesel exhaust fluid.

WARNING: Tampering with or disabling the selective catalytic reduction system results in severe vehicle performance limitation including eventual speed limiting to 5 mph (8 km/h).

Note: *Do not put diesel exhaust fluid in the fuel tank. If this happens, do not start the engine, as it can cause serious engine damage that may not be covered by your vehicle's warranty. Completely drain and clean the fuel tank before adding diesel fuel.*

Note: *Selective catalytic reduction systems are sensitive to diesel exhaust fluid contamination. The system has a fluid quality sensor to monitor the diesel exhaust fluid. Keeping the fluid clean is important to avoid system malfunctions. If you drain the diesel exhaust fluid tank, do not use the same fluid to refill the tank.*

Note: *Do not use diesel exhaust fluid additives. Your warranty will not cover damage caused by using an additive.*

Driving without refilling, replacing contaminated diesel exhaust fluid, or having the selective catalytic reduction system repaired results in the following actions as required by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA):

- Within a preset distance to empty, speed is limited upon vehicle restart. Prior to this occurring a message appears in the instrument cluster display.
- Further vehicle operation without refilling or replacing contaminated diesel exhaust fluid causes the engine to enter an idle-only condition. This only occurs upon vehicle refueling, vehicle idling in park for 1 hour, or engine shutdown for 10 minutes or more and is indicated by a message in the instrument cluster display indicating required actions to resume normal operation. It is required to add a minimum of 1.0 gal (3.8 L) of diesel exhaust fluid to the tank to exit the idle-only condition, but your vehicle is still in the speed-limiting mode until you refill the tank completely.

Note: *For vehicle speed limiting or idle-only condition, normal vehicle operation resumes when you refill the diesel exhaust fluid tank or repair the contaminated system. If the system is contaminated or inoperative, have your vehicle checked as soon as possible.*

SELECTIVE CATALYTIC REDUCTION SYSTEM REQUIREMENTS



Only use diesel exhaust fluid that is certified by the American Petroleum Institute (API).

You can purchase diesel exhaust fluid at an authorized dealer, or contact roadside assistance for help in finding a retailer that sells diesel exhaust fluid.

Note: *Non-certified diesel exhaust fluid use can cause damage that your warranty may not cover.*

Note: *Do not use diesel exhaust fluid additives. Your warranty will not cover damage caused by using an additive.*

SELECTIVE CATALYTIC REDUCTION SYSTEM GUIDELINES

- Diesel exhaust fluid is non-flammable, non-toxic, colorless and water-soluble liquid.
- In order for the system to operate correctly you must maintain the diesel exhaust fluid level.
- Do not overfill the diesel exhaust fluid tank.
- Diesel exhaust fluid is corrosive.
- Avoid spilling diesel exhaust fluid on painted surfaces, carpeting or plastic components. Immediately wipe away any diesel exhaust fluid that has spilled with a damp cloth and water. If it has already crystallized, use warm water and a sponge.
- Do not store the diesel exhaust fluid bottle in your vehicle. If it leaks it could cause damage to interior components or release an ammonia odor inside your vehicle.
- Do not re-use the diesel exhaust fluid container once it is emptied.
- Store diesel exhaust fluid out of direct sunlight and in temperatures between 23–68ºF (-5–20ºC).
- The system has a diesel exhaust fluid quality sensor. Dilution of diesel exhaust fluid or use of any other liquid in the selective catalytic reduction system leads to a diesel exhaust fluid system fault, eventually leading to the vehicle only operating in idle-only mode.
- Do not dilute diesel exhaust fluid with water or any other liquid.

FILLING THE SELECTIVE CATALYTIC REDUCTION SYSTEM TANK

FILLING THE SELECTIVE CATALYTIC REDUCTION SYSTEM TANK IN COLD WEATHER

Diesel exhaust fluid may freeze if the ambient temperature is below 12ºF (-11ºC). Your vehicle has a preheating system which allows diesel exhaust fluid to operate below 12ºF (-11ºC). If you do not use your vehicle for an extended period when the ambient temperature is below 12ºF (-11ºC), the fluid in the tank may freeze.

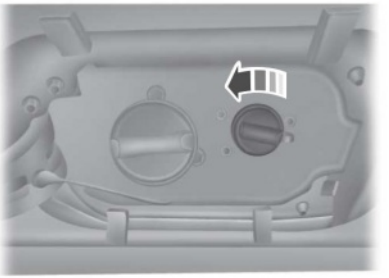
If the DEF tank is frozen, it may not recognize when the tank is refilled. The DEF level will update once the tank thaws out. It is best to fill the DEF tank prior to, or after a drive cycle greater than 20 minutes to allow the remaining frozen DEF in the tank to liquefy. If the tank is overfilled and the fluid freezes it may cause damage that your Warranty will not cover.

Note: *After filling the DEF tank, there may be a short period before the increased level is registered.*

FILLING THE SELECTIVE CATALYTIC REDUCTION SYSTEM TANK USING A FUEL STATION PUMP

Filling the diesel exhaust fluid tank using a fuel station pump is similar to refueling your vehicle.

1. Fully open the fuel filler door.



2. Remove the diesel exhaust fluid tank filler cap.

Note: *The diesel exhaust fluid tank has a blue filler cap.*

3. Fully insert the diesel exhaust fluid pump nozzle.



4. Operate the diesel exhaust fluid pump nozzle within the area shown.

Note: *The pump nozzle shuts off when the tank is full.*

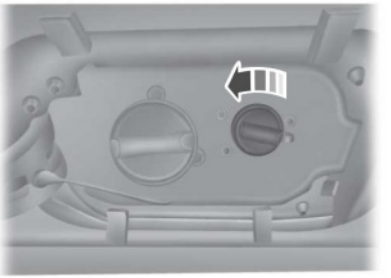
5. Slightly raise the diesel exhaust fluid pump nozzle and then slowly remove it.
6. Replace the diesel exhaust fluid tank filler cap. Turn it clockwise until you feel a strong resistance and it clicks.

Note: *After filling the DEF tank, there may be a short period before the increased level is registered.*

FILLING THE SELECTIVE CATALYTIC REDUCTION SYSTEM TANK USING A PORTABLE CONTAINER

The following procedure applies to Motorcraft diesel exhaust fluid or similar fluid containers. Follow the manufacturer's instructions.

1. Fully open the fuel filler door.
2. Remove the diesel exhaust fluid container cap.
3. Place the spout on to the container and tighten it until you feel a strong resistance.



4. Remove the diesel exhaust fluid tank filler cap.

Note: *The diesel exhaust fluid tank has a blue filler cap.*

5. Insert the spout into the filler neck until the seal on the spout fully seats.
6. Pour the fluid into the tank.

Note: *The fluid stops flowing when the tank is full.*

7. Return the container to the vertical position slightly below the diesel exhaust fluid filler neck.
8. Allow any fluid remaining in the spout to drain back into the container.
9. Remove the spout from the diesel exhaust fluid filler neck.
10. Replace the diesel exhaust fluid tank cap. Turn it clockwise until you feel a strong resistance and it clicks.
11. Remove the spout from the diesel exhaust fluid container and replace the cap.

Note: *If there is diesel exhaust fluid left in the container retain it for later use. The spout is reusable. Wash the spout with clean water prior to storage. Do not use the diesel exhaust fluid spout with any other fluid.*

Note: *After filling the DEF tank, there may be a short period before the increased level is registered.*

CHECKING THE SELECTIVE CATALYTIC REDUCTION SYSTEM STATUS

The instrument cluster display shows a series of messages about the amount of diesel exhaust fluid available. A systems check displays messages indicating the amount of diesel exhaust fluid available or displays a warning message indicating the approximate distance remaining as the fluid in the diesel exhaust fluid tank nears empty. See **Selective Catalytic Reduction System – Information Messages** (page 223).

DIESEL EXHAUST FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification.

If you do not use fluid that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Capacities

Variant	Quantity
Complete vehicle.	7.5 gal (28.4 L)
Incomplete vehicle.	7.2 gal (27.3 L)

Materials

Name	Specification
Motorcraft® Diesel Exhaust Fluid(U.S.) Motorcraft® Diesel Exhaust Fluid / Fluide pour échappement diesel Motorcraft®(Canada) PM-27-GAL,PM-27-JUG(U.S.) CPM-27-JA(Canada)	WSS-M99C130-A

SELECTIVE CATALYTIC REDUCTION SYSTEM – TROUBLESHOOTING

SELECTIVE CATALYTIC REDUCTION SYSTEM – WARNING LAMPS



As the diesel exhaust fluid level nears empty, the warning symbol displays and a series of tones and messages begin at 500 mi (800 km) remaining and continue to just before the diesel exhaust fluid is depleted. This is regardless of the level indicated on the diesel exhaust fluid gauge. In some instances under heavy load, the low diesel exhaust fluid warning could be displayed with more than half of the diesel exhaust fluid tank remaining. The warning symbol and messages continue until you refill the diesel exhaust fluid tank.

The warning lamp illuminates and a message appears in the instrument cluster display if the system becomes contaminated or inoperative.

SELECTIVE CATALYTIC REDUCTION SYSTEM – INFORMATION MESSAGES

Message	Action
DEF Level Range: XX mi/km Refill Now	The distance you can travel before depleting the remaining diesel exhaust fluid. Refill as soon as possible.
DEF Level Empty Speed Limited to XX MPH / km/h in XX mi/km	Your diesel exhaust fluid is nearing empty. Your vehicle's top speed will become limited in the displayed distance. You must replenish the diesel exhaust fluid to resume normal operation of your vehicle. See **Diesel Exhaust Fluid Capacity and Specification** (page 221).
DEF Level Empty Speed Limited to XX MPH/km/h Upon Restart	Your remaining diesel exhaust fluid has depleted. Your speed will be limited upon restart. You must replenish the diesel exhaust fluid to resume normal operation of your vehicle. See **Diesel Exhaust Fluid Capacity and Specification** (page 221).
DEF Level Low Speed Limited to XX MPH/km/h	The diesel exhaust fluid is empty. You must replenish the diesel exhaust fluid to resume normal operation of your vehicle. See **Diesel Exhaust Fluid Capacity and Specification** (page 221).
DEF level empty Engine idled soon	The selective catalytic reduction system detects low exhaust fluid. The engine will eventually enter into an idle only mode. You must replenish the diesel exhaust fluid to resume normal operation of your vehicle. See **Diesel Exhaust Fluid Capacity and Specification** (page 221).
DEF level empty Engine idled See manual	The vehicle will enter into an idle only mode. You must replenish the diesel exhaust fluid to resume normal operation of your vehicle. See **Diesel Exhaust Fluid Capacity and Specification** (page 221).
DEF Fault Speed Limited to XX MPH/km/h in XX mi/km	The selective catalytic reduction system detects a fault. The vehicle's top speed will become limited in the displayed distance and count down from this point. Have your vehicle checked as soon as possible.

Message	Action
DEF Fault Speed Limited to XX MPH/km/h Upon Restart	The selective catalytic reduction system detects a fault. The vehicle's top speed will become limited upon restarting. Have your vehicle checked as soon as possible.
DEF Fault Speed Limited to XX MPH/km/h	The selective catalytic reduction system detects a fault. The vehicle's top speed is limited. Have your vehicle checked as soon as possible.
DEF Fault Engine Idled Soon	The selective catalytic reduction system detects a fault. The engine will eventually enter into an idle only mode. Have your vehicle checked as soon as possible.

WHAT IS THE CATALYTIC CONVERTER

The catalytic converter is part of your vehicle's emissions system and filters harmful pollutants from the exhaust gas.

CATALYTIC CONVERTER PRECAUTIONS

WARNING: Do not park, idle or drive your vehicle on dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, creating the risk of fire.

WARNING: The normal operating temperature of the exhaust system is very high. Never work around or attempt to repair any part of the exhaust system until it has cooled. Use special care when working around the catalytic converter. The catalytic converter heats up to a very high temperature after only a short period of engine operation and stays hot after the engine is switched off.

WARNING: Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

To avoid damaging the catalytic converter:

- Do not crank the engine for more than 10 seconds at a time.
- Do not run the engine with a spark plug lead disconnected.
- Do not push-start or tow-start your vehicle. Use booster cables. See **Jump Starting the Vehicle** (page 414).
- Use the correct fuel. See **Fuel and Refueling** (page 202).
- Do not switch the ignition off when your vehicle is moving.
- Avoid running out of fuel.
- Have the items listed in scheduled maintenance information performed according to the specified schedule.

Note: *Do not make any unauthorized changes to your vehicle or engine. By law, vehicle owners and anyone who manufactures, repairs, or services a fleet of vehicles are not permitted to intentionally remove an emission control device or prevent it from working.*

CATALYTIC CONVERTER – TROUBLESHOOTING

CATALYTIC CONVERTER – WARNING LAMPS

Your vehicle has an on-board diagnostics system that monitors the emission control system. If any of the following warning lamps illuminate, this may indicate that the on-board diagnostics system has detected an emission control system malfunction.



Continuing to drive your vehicle may cause reduced power or the engine to stop. Failure to respond to a warning lamp may cause damage that your vehicle Warranty may not cover. Have your vehicle checked as soon as possible.

AUTOMATIC TRANSMISSION POSITIONS

AUTOMATIC TRANSMISSION PRECAUTIONS

WARNING: Apply the parking brake, shift into park (P), switch the vehicle off and remove the key or remote control before you leave your vehicle. Failure to follow this instruction could result in personal injury or death.

WARNING: When your vehicle is stationary, keep the brake pedal fully pressed when shifting gears. Failure to follow this instruction could result in personal injury, death or property damage.

WARNING: Do not apply the brake pedal and accelerator pedal simultaneously. Applying both pedals simultaneously for more than a few seconds limits vehicle performance, which may result in difficulty maintaining speed in traffic and could lead to serious injury.

Note: *Ford vehicles incorporate innovative transmissions to boost fuel efficiency and reduce greenhouse gases, among other benefits. Optimizing performance involves balancing many vehicle attributes including acceleration, handling, shift-feel, fuel economy, or hauling and towing capacity. Designing a transmission in light of that balance and to meet varied customer expectations and preferences, from smoother shift to quick shift and everything in between, may result in what some operators could perceive as a brief jerking or shaking sensation during gear changes. That is a normal part of transmission operation. If you have concerns about your transmission, please visit your Ford-authorized dealer. If the vehicle has a malfunction during normal use because of a defect in factory-supplied materials or factory workmanship during the warranty term, Ford will service the vehicle under warranty. Transmission service may be a software modification (including calibration upgrades) to alter the subjective driving characteristics of your vehicle, such as transmission shift-feel, that may better fit your personal preferences. To the extent Ford offers a software modification to enhance customer satisfaction, the service is not evidence of the existence of a defect or to cure an impairment to the use, value or safety of the vehicle.*

SHIFTING YOUR VEHICLE INTO GEAR

The transmission selector is on the steering column.



1. Press and hold the brake pedal.
2. Move the lever to select a position.
3. Press the low (L) or manual (M) button when your vehicle is in drive (D) to enter or exit mode.

PARK (P)

WARNING: Shift into park (P) only when your vehicle is stationary.

In park (P) power is not transmitted to the driven wheels.

Note: *A tone sounds if you attempt to exit your vehicle without the vehicle in park (P).*

Note: *Your vehicle may not shift out of park (P) if the 12 V battery has run out of charge.*

Note: *Your vehicle may not shift out of park (P) if a fuse is blown.*

Note: *Your vehicle may not shift out of park (P) unless the key or remote control is inside your vehicle.*

Note: *The electronic parking brake could apply when you power your vehicle on with the selector in park (P).*

Note: *The electronic parking brake could apply if you shift to park (P) without fully pressing the brake pedal.*

Note: *The electronic parking brake could apply if you shift to park (P) on a slope.*

Note: *Do not manually release the parking brake when the selector is in park (P). See* ***Automatically Releasing the Electric Parking Brake*** *(page 261).*

REVERSE (R)

WARNING: Shift into reverse (R) only when your vehicle is stationary.

In reverse (R) power is transmitted to the driven wheels.

NEUTRAL (N)

WARNING: In neutral (N) your vehicle is free to roll.

In neutral (N) power is not transmitted to the driven wheels.

DRIVE (D)

In drive (D) power is transmitted to the driven wheels.

Note: *Progressive range selection is available in drive (D). See* ***Using Progressive Range Selection*** *(page 229).*

MANUAL (M)

In manual (M) you can select a specific gear. See **Manually Shifting Gears** (page 228).

Note: *We recommend using this mode for driving on hilly or mountainous roads or when towing a trailer. See* ***Towing a Trailer*** *(page 355).*

AUTOMATIC TRANSMISSION POSITION INDICATORS

The instrument cluster displays the current position.



Note: *The position could illuminate on the transmission selector.*

MANUALLY SHIFTING GEARS

The instrument cluster displays the current gear. The current gear flashes when your vehicle cannot shift into the requested gear. Your vehicle will not shift if the requested gear raises or lowers the engine speed beyond the limit.

Your vehicle could shift when you fully press the accelerator or brake pedal.

Note: *Prolonged driving with high engine speed could cause vehicle damage not covered by vehicle warranty.*

Note: *Drive modes could affect when the vehicle shifts into the requested gear.*



Manually Shifting Gears in Manual (M)

Use this feature to select a specific gear.

Note: *We recommend using this feature for engine braking, driving on hilly or mountainous roads, or when towing a trailer. See* ***Towing a Trailer*** *(page 355).*

- Shift to manual (M) or with the selector in drive (D) press the manual (M) button to switch the feature on.
- Press the upper (+) button to upshift.
- Press the lower (-) button to downshift.
- Shift to drive (D) or press the manual (M) button again to switch the feature off.

USING POWER TAKE-OFF (IF EQUIPPED)

How Does the Power Take-Off Work

Auxiliary equipment called power take-off, is often added to the engine or transmission to operate utility equipment. Examples include a wheel-lift for tow trucks, cranes, tools for construction or tire service, and pumping fluids. Power take-off applications draw auxiliary horsepower

from the powertrain, often while the vehicle is stationary. In this condition, there is limited cooling air flow through the radiator and around the vehicle that normally occurs when a vehicle is moving. The aftermarket power take-off system installer is responsible for determining whether additional chassis heat protection or powertrain cooling is required.

Note: *Use of auxiliary equipment that exceeds the maximum power take-off load specified in our Truck Body Builders Layout Book can adversely affect the performance of the powertrain system. Refer to the Body Builders Layout Book for instructions about the appropriate installation of additional equipment.*

For more information scan here:



What is the Split Shaft Capability

The split shaft capability feature allows you to install an aftermarket split shaft gearbox in your vehicle's driveline and run one or two power take-offs on the gearbox. The output of the transmission or transfer case connects directly with the split shaft gearbox and allows the engine to power the power take-off when the engine is running and the split shaft software is enabled.

This feature is approved as a stationary power source, within the limits and operating guidelines detailed in our Truck Body Builders Layout Book.

For more information scan here:



AUTOMATIC TRANSMISSION AUDIBLE WARNINGS

Sounds if any of the following occur:

- You switch your vehicle off before shifting into park (P).
- You open the driver door before shifting into park (P).

USING PROGRESSIVE RANGE SELECTION

Progressive range selection gives you the ability to lock out gears from the automatic shifting range. This could provide you with an improved driving experience by reducing transmission shifts, for example in slippery conditions or steep slopes or when towing a trailer. See **Towing a Trailer** (page 355).

With the transmission in drive (D), press the minus (-) button to begin switching the feature on.

Press the minus (-) button again to continue locking out higher gears. Beginning with the highest gear, the instrument cluster indicates the current gear and highest gear available. For example, press the minus (-) button twice to lock out 10th and 9th gears.

Note: *The instrument cluster indicates the current gear and highest gear available.*

Press the plus (+) button to unlock gears to allow the transmission to shift to higher gears.

Note: *The transmission automatically shifts within the gear range you select.*

AUTOMATIC TRANSMISSION FLUID CAPACITY AND SPECIFICATION

Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft®(Canada) XT-12-QULV(U.S. & Canada)	WSS-M2C949-A,

Note: *Transmission fluid capacity is not listed because the system requires specialized equipment and procedures to ensure the correct fluid level. Contact an authorized dealer if service is required.*

Note: *Use transmission fluid that meets the required specifications to make sure the system functions correctly.*

HOW DOES FOUR-WHEEL DRIVE WORK

Using the Electronic Shift On the Fly System (If Equipped)

This four-wheel drive system utilizes a 2-speed Electronic Shift On the Fly (ESOF) transfer case that is also known as a part-time system. The system operates by a push button control located on the instrument panel that allows you to select 2H (Two-wheel drive high), 4H (Four-wheel drive high) or 4L (Four-wheel drive Low). When you select either four-wheel drive high or four-wheel drive low, the system provides mechanically locked four-wheel drive power to both the front and rear wheels for use in off-road or slippery conditions such as deep snow, sand or mud. When you select four-wheel drive low, the system provides additional gearing for increased torque multiplication for conditions like deep sand, steep slopes, or pulling heavy objects. Additionally, the system is capable of recreational flat towing by putting the transfer case into a neutral position. See **Recreationally Towing Your Vehicle** (page 420).

There is further information available on driving in unique driving conditions. See **Off-Road Driving** (page 402).

Hub Lock



Your vehicle is equipped with automatic hub locks on both the driver and passenger side. Make sure that both hub locks are set to the same position (both set to lock or both set to auto).

Hub locks should always be set to auto unless your 4x4 does not engage. If your 4x4 does not engage, the hubs can be manually locked by rotating the hub lock dial clockwise from auto to lock, ensuring the lock arrows align.

Note: *If hub locks are in lock mode while in 4x2, there will be additional noise from the front axle. Driving with both hubs manually locked may decrease fuel economy.*

FOUR-WHEEL DRIVE PRECAUTIONS

WARNING: Vehicles with a higher center of gravity (utility and four-wheel drive vehicles) handle differently than vehicles with a lower center of gravity (passenger cars). Avoid sharp turns, excessive speed and abrupt steering in these vehicles. Failure to drive cautiously increases the risk of losing control of your vehicle, vehicle rollover, personal injury and death.

WARNING: Do not become overconfident in the ability of four-wheel drive vehicles. Although a four-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in low traction situations, it won't stop any faster than two-wheel drive vehicles. Always drive at a safe speed.

Truck and utility vehicles differ from passenger cars. Your vehicle could be higher to allow it to travel over rough terrain without getting stuck or damaging underbody components. The differences that make your vehicle so versatile also make it handle differently than passenger cars. Always maintain steering wheel control, especially in rough terrain. Since sudden changes in terrain can result in abrupt steering wheel motion, make sure you grip the steering wheel from the outside. Do not grip the spokes. Drive cautiously to avoid vehicle damage from concealed objects such as rocks and stumps. Drive slower in strong crosswinds which can affect the normal steering characteristics of your vehicle. Be extremely careful when driving on pavement made slippery by loose sand, water, gravel, snow or ice.

Note: *Your vehicle may come with a front air dam that can become damaged (due to reduced ground clearance) when taking your vehicle off-road. To prevent damage, remove the 15 bolts securing the air dam and remove.*

FOUR-WHEEL DRIVE LIMITATIONS

Do not use four-wheel drive high or four-wheel drive low mode on dry, hard surface roads. Doing so can produce excessive noise, increase tire wear and can damage drive components. Four-wheel drive high or four-wheel drive low modes are intended for consistently slippery or loose surfaces. Use of four low mode on these surfaces could produce some noise, such as occasional clunks, but should not damage drive components. When transitioning from consistently loose or slippery surfaces, be sure the four-wheel drive system is not mechanically blocked once on dry, hard surface roads in two-wheel drive high.

Note: *In certain scenarios, where the four-wheel drive system has difficulty engaging, a* ***To engage 4x4 slow to 3 MPH*** *or* ***To engage 4x4 slow to 5 km/h*** *message could appear in the instrument cluster.*

Operating Four-Wheel Drive with a Spare or Worn Tires

Your four-wheel drive system is not intended to provide full function with tires that have different levels of wear or with a dissimilar spare tire. Incorrect use of four-wheel drive with such tires can cause system damage.

If there is a difference in the level of wear among tires on the vehicle or if you install a dissimilar spare tire on the vehicle, do not use 4WD High or 4WD Low (if equipped) other than to get your vehicle unstuck. After getting your vehicle unstuck, shift to 2H by performing the following steps:

1. Come to a stop on a flat, horizontal surface
2. Shift the transmission to park (P) for automatic transmissions and neutral (N) for manual transmissions.
3. Switch to two-wheel drive mode.
4. Shift the transmission to reverse (R).
5. Shift the transmission to drive (D) for automatic transmissions and to first gear for manual transmissions. This ensures the transfer case system is not trapped in place.

Note: *When the system detects a spare or worn tires and a four-wheel drive engagement request above a designated speed, a warning message appears in the instrument cluster. See* ***Four-Wheel Drive – Information Messages*** *(page 237).*

Note: *In certain scenarios, where the four-wheel drive system has difficulty engaging, a* ***To engage 4x4 slow to 3 MPH*** *or* ***To engage 4x4 slow to 5 km/h*** *message could appear in the instrument cluster.*

Mechanical Shift Blocking

On four-wheel drive vehicles with a mechanically locked four-wheel drive high mode, the transfer case distributes torque to the front wheels by mechanically interlocking the front and rear driveshafts together. Various external factors affect shifting performance of this type of system including, but not limited to:

- Vehicle acceleration.
- Dissimilar tire sizes.
- Steering input.

If the system detects a mechanical shift blockage at speed after you select two-wheel drive high, the message "4x4 Unable to Disengage See Manual", could display momentarily. If this message displays, one or more of the following actions can relieve the mechanical shift block:

- Momentary acceleration.
- Momentary braking.
- Bringing the vehicle to a stop.
- Shifting the transmission to neutral and back to drive.
- Shifting the transmission to reverse and back to drive.
- Driving the vehicle around a tight turn at a slow speed.

Note: *In certain scenarios, where the four-wheel drive system has difficulty engaging, a warning message appears in the instrument cluster. See* ***Four-Wheel Drive – Information Messages*** *(page 237).*

SWITCHING FOUR-WHEEL DRIVE ON AND OFF

A vehicle that comes with four-wheel drive, when selected, has the ability to use all four wheels to power itself. This increases traction, which may enable you to safely drive over terrain and road conditions that a conventional two-wheel drive vehicle cannot.

On some four-wheel drive models, the initial shift from two-wheel drive to four-wheel drive while the vehicle is moving can cause a momentary clunk and ratcheting sound. These sounds are normal as the front drivetrain comes up to speed and are not cause for concern.

SELECTING A FOUR-WHEEL DRIVE MODE



The drive mode control is on the instrument panel.

Press the four-wheel drive mode button that best fits the current driving conditions. You can select two-wheel drive high (2H) or four-wheel drive high (4H) at a stop or while driving. When the shift is complete, the mode you select appears in the instrument cluster display. While shifting, the lights on the drive mode control can flash and you could see messages in the instrument cluster display indicating that a shift is in progress or to release the accelerator pedal to improve shift performance.

Note: *Momentarily releasing the accelerator pedal while a shift in progress message displays improves engagement or disengagement performance.*

Note: *Do not perform this operation when cruise control or trail control is selected and active. The system may not shift as expected.*

Note: *When the light is solid, the system has achieved the desired four-wheel drive mode. When a selected four-wheel drive mode light is blinking, the system is attempting to shift to that specific four-wheel drive mode.*

Note: *When you achieve recreational towing, all lights are off and Neutral Tow Enabled Leave Transmission in Neutral appears in the instrument cluster display.*

Note: *Do not perform this operation if the rear wheels are slipping, when making a tight turn or when applying the accelerator pedal. The system may not shift as expected.*

Note: *In certain scenarios, where the four-wheel drive system has difficulty engaging, a* ***To engage 4x4 slow to 3 MPH*** *or* ***To engage 4x4 slow to 5 km/h*** *message could appear in the instrument cluster.*

Note: *You could hear some noise as the system shifts or engages, this is normal.*

If the system detects a fault, a warning message appears in the instrument cluster display. See **Four-Wheel Drive – Information Messages** (page 237).

Shifting to or from Four-Wheel Drive Low (4L)

To select or exit four-wheel drive low (4L):

1. Bring your vehicle to a speed of 3 mph (5 km/h) or less.
2. Place the transmission in neutral (N)
3. Press the desired four-wheel drive button on the drive mode control.

A message appears in the instrument cluster display indicating a four-wheel drive shift is in progress. If any of the above shift conditions are not present, the shift will not occur and information guiding you through the proper shifting procedures appears in the instrument cluster display. If there is a transfer case tooth blockage a

message appears in the instrument cluster display. To alleviate this condition, place the transmission in a forward gear, move your vehicle forward approximately 5 ft (1.5 m), and shift the transmission back to neutral (N) to allow the transfer case to complete the range shift.

Note: *You could hear some noise as the system shifts or engages, this is normal.*

If the system detects a fault, a warning message appears in the instrument cluster display. See **Four-Wheel Drive – Information Messages** (page 237).

FOUR-WHEEL DRIVE MODES

TWO-WHEEL DRIVE HIGH

Two-wheel drive high is for general on-road driving. Power is sent to the rear wheels only.

Note: *Two-wheel drive high can turn on or off automatically based on Drive Mode selection. See **Drive Mode Control** (page 250).*

FOUR-WHEEL DRIVE HIGH

Four-wheel drive high provides mechanically locked four-wheel drive power to both the front and rear wheels for use in off-road or winter conditions such as deep snow, sand or mud. This mode is not for use on dry pavement.

Note: *Four-wheel drive high can turn on or off automatically based on Drive Mode selection. See **Selecting a Drive Mode** (page 250).*

FOUR-WHEEL DRIVE LOW

Four-wheel drive low provides mechanically locked four-wheel drive power to both the front and rear wheels for use on low traction surfaces, but does so with additional gearing for increased torque multiplication. This mode is only for off-road conditions such as deep sand, steep slopes, or pulling heavy objects.

Note: *Four-wheel drive low can turn on or off automatically based on drive mode selection. See **Selecting a Drive Mode** (page 250).*

FOUR-WHEEL DRIVE INDICATORS

Two-wheel Drive High



Momentarily illuminates when you select two-wheel drive high.

Four-wheel Drive High



Continuously illuminates when you select four-wheel drive high.

Four-wheel Drive Low



Continuously illuminates when you select four-wheel drive low.

TRANSFER CASE FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification.

If you do not use fluid that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Capacities

Variant	Quantity
All.	1.9 qt (1.8 L)

Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® LV Automatic Transmission Fluid / Huile pour boîte automatique MERCON® LV Motorcraft®(Canada) XT-10-QLVC(U.S.) CXT-10-LV6(Canada)	WSS-M2C938-A

FOUR-WHEEL DRIVE – TROUBLESHOOTING

FOUR-WHEEL DRIVE – WARNING LAMPS



Illuminates when a four-wheel drive or power train fault is present.

Note: *When a system fault is present, the system can typically remain in whichever mode was selected prior to the fault condition occurring. It does not default to two-wheel drive in all circumstances. When this warning displays, have your vehicle serviced by an authorized dealer.*

FOUR-WHEEL DRIVE – INFORMATION MESSAGES

Message	Action
Check 4x4	A four-wheel drive system fault is present. Have the system checked as soon as possible.
4x4 shift in progress	The four-wheel drive system is making a shift.
For 4x4 LOW Shift to N	Displays when you attempt to switch to four-wheel drive low mode and you do not shift the transmission to neutral (N).
For 4x4 LOW Slow to 3 MPH	Displays when you attempt to switch to four-wheel drive low mode and your vehicle's speed is greater than 3 mph (5 km/h).
For 4x4 LOW Slow to 5 km/h	
To Exit 4x4 LOW Shift to N	Displays when you attempt to switch from four-wheel drive low mode and you do not shift the transmission to neutral (N).
To Exit 4x4 LOW Slow to 3 MPH	Displays when you attempt to switch from four-wheel drive low mode and your vehicle's speed is greater than 3 mph (5 km/h).
To Exit 4x4 LOW Slow to 5 km/h	
Shift delayed Drive forward	Displays when there is a transfer case gear tooth blockage while shifting to or from four-wheel drive low mode or to the neutral state. Place the transmission in a forward gear, move your vehicle forward approximately 5 ft (1.5 m), and shift the transmission back to neutral (N) to allow the transfer case to complete the range shift.
Shift to Neutral	Displays when the system requires an additional transmission shift to neutral (N) to complete a transfer case shift.
To engage 4x4 slow to 3 MPH	Displays when the system is unable to engage four-wheel drive high and requires the driver to slow down before attempting to engage.

Message	Action
To engage 4x4 slow to 5 km/h	
To engage 4x4 release accelerator pedal	Displays when the four-wheel drive system requests that you release the accelerator pedal to complete a four-wheel drive shift. See **Selecting a Four-Wheel Drive Mode** (page 234).
4x4 unable to disengage See manual	Displays when the four-wheel drive system detects a mechanical shift block when shifting out of four-wheel drive high. See **Four-Wheel Drive Limitations** (page 232).

FRONT AXLE FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Front Axle-9.25

Capacities

Variant	Quantity
Four-wheel drive without limited slip.	2.20 qt (2.08 L)
Four-wheel drive with limited slip.	2.20 qt (2.08 L) [1]

[1] For complete refill of limited slip axles, add 4.4 fl oz. (130 ml) of Additive Friction Modifier XL-3 or equivalent, meeting specification EST-M2C118-A. Include this friction modifier in the total lube volume of 2.2 qt (2.08 L).

Materials

Name	Specification
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A
Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant(U.S.) Motorcraft® SAE 80W-90 Premium Axle Lubricant / Lubrifiant pour essieux de très haute qualité SAE 80W-90 Motorcraft®(Canada) XY-80W90-QL(U.S.) CXY-80W90-1L(Canada)	WSP-M2C197-A

Front Axle-10.08

Capacities

Variant	Quantity
All.	2.75 qt (2.6 L)

Materials

Name	Specification
Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant(U.S.) Motorcraft® SAE 80W-90 Premium Axle Lubricant / Lubrifiant pour essieux de très haute qualité SAE 80W-90 Motorcraft®(Canada) XY-80W90-QL(U.S.) CXY-80W90-1L(Canada)	WSP-M2C197-A

LIMITED SLIP DIFFERENTIAL

(IF EQUIPPED)

This axle provides added traction on slippery surfaces, particularly when one wheel is on a poor traction surface. Under normal conditions, the limited-slip axle functions like a standard rear axle. The axle may exhibit a slight noise or vibration during tight turns with low vehicle speed. This is normal behavior and indicates the axle is working.

REAR AXLE FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Rear Axle - 10.5

Capacities

Variant	Quantity
With electronic locking differential.	3.3–3.5 qt (3.1–3.3 L)
Without electronic locking differential.	3.5–3.6 qt (3.3–3.4 L)

Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant(U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoïdes SAE 75W-85 Motorcraft®(Canada) XY-75W85-QL(U.S. & Canada)	WSS-M2C942-A

Rear Axle - 10.8

Capacities

Variant	Quantity
Open Differential Oil Only.	3.68 qt (3.48 L)
Limited Slip Differential Oil.	3.46 qt (3.271 L) [1]

[1] For complete refill of limited slip axles, add 7.06 fl oz. (208.8 ml) of Additive Friction Modifier XL-3 or equivalent, meeting Ford Specification EST-M2C118-A.

Materials

Name	Specification
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

Rear Axle - 11.6

Capacities

Variant	Quantity
4.30 final Drive ratio .	4.44–4.54 qt (4.2–4.3 L)
All other final Drive ratios (3.31/3.55/3.73).	4.33–4.44 qt (4.1–4.2 L)

Materials

Name	Specification
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

Rear Axle - 11.8 Light Duty and Heavy Duty

Capacities

Variant	Quantity
Open Differential Oil Only.	4.21 qt (3.98 L)
Limited Slip Differential Oil.	3.95 qt (3.741 L) [1]

[1] For complete refill of limited slip axles, add 8.07 fl oz. (238.8 ml) of Additive Friction Modifier XL-3 or equivalent, meeting Ford Specification EST-M2C118-A.

Materials

Name	Specification
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

Rear Axle - 11.8 Single Rear Wheel

Capacities

Variant	Quantity
Electric Locking Differential Oil Only.	4.05 qt (3.83 L)

Materials

Name	Specification
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

Rear Axle - 12.4

Capacities

Variant	Quantity
Limited Slip Differential Oil.	4.65 qt (4.399 L) [1]

[1] For complete refill of limited slip axles, add 9.49 fl oz. (280.8 ml) of Additive Friction Modifier XL-3 or equivalent, meeting Ford Specification EST-M2C118-A.

Materials

Name	Specification
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

WHAT IS THE ELECTRONIC LOCKING DIFFERENTIAL

The electronic locking differential is a device housed in the rear axle and when activated, allows both wheels on that axle to turn at the same speed. The electronic locking differential provides additional traction should your vehicle become stuck.

HOW DOES THE ELECTRONIC LOCKING DIFFERENTIAL WORK

You can activate the differential electronically and shift it on the fly within the operating speed range. The electronic differential disengages when the vehicle speed exceeds a set value and it reengages when the vehicle speed drops below a set value. See **Switching the Electronic Locking Differential On and Off** (page 246). The electronic locking differential could engage based on certain selected drive modes. See **Selecting a Drive Mode** (page 250). The electronic locking differential is for use in mud, rocks, sand, or any off-road condition where you need maximum traction.

Note: *The electronic locking differential is for off-road use only and is not for use on dry pavement. Using the electronic locking differential on dry pavement results in increased tire wear, noise and vibration.*

Note: *The electronic locking differential activates or deactivates automatically based on speed, four-wheel drive mode, and drive mode selection. See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

ELECTRONIC LOCKING DIFFERENTIAL PRECAUTIONS

Operating the Electronic Locking Differential with a Spare or Mismatched Tires

On vehicles with an electronic locking differential, the size of the spare tire can affect performance of the system. If there is a significant difference between the two rear tires, you may have limited electronic locking differential functionality. If the system has difficulty disengaging, release the accelerator pedal and turn the steering wheel in the opposite direction when rolling. We recommend engaging and disengaging the electronic locking differential at a stop when you mount a spare on the rear axle.

SWITCHING THE ELECTRONIC LOCKING DIFFERENTIAL ON AND OFF - 4X4

Press the electronic lock differential switch to engage and disengage the locking differential.



4X4 Rear Electronic Locking Differential Engagement Speed and Availability

Drive Modes	Maximum Engagement Speed	Automatic Disengagement Speed	Automatic Re-Engagement Speed
Eco (2H, 4H)	20 mph (30 km/h)	25 mph (41 km/h)	20 mph (30 km/h)
Tow/Haul Mode (2H,4H)	20 mph (30 km/h)	25 mph (41 km/h)	20 mph (30 km/h)
Normal (2H, 4H)	20 mph (30 km/h)	25 mph (41 km/h)	20 mph (30 km/h)
Slippery (2H, 4H)	20 mph (30 km/h)	25 mph (41 km/h)	20 mph (30 km/h)
Off-Road (4H, 4L)[1]	No Speed Limit	No Speed Limit	No Speed Limit
Rock Crawl (4L)[2]	No Speed Limit	No Speed Limit	No Speed Limit

[1] Engages when you select these drive modes. You have the ability to manually override the automatic engagement by pressing the electronic locking differential.

[2] Engages when you select these drive modes. You have the ability to manually override the automatic engagement by pressing the electronic locking differential. Only available with Tremor Package.

4WD Mode	Maximum Engagement Speed	Automatic Disengagement Speed	Automatic Re-Engagement Speed
Four-Wheel Drive Low (4L)	No Speed Limit	No Speed Limit	No Speed Limit

Note: *The electronic locking differential may not engage if you press the accelerator pedal during an engagement attempt. A message could display in the instrument cluster display guiding you to release the accelerator pedal.*

Note: *Switching the electronic locking differential off while turning results in disengagement difficulties. If the electronic locking differential has difficulty disengaging, release the accelerator pedal and turn the steering wheel back and forth in small increments while maintaining control and following a straight line.*

Note: *The electronic locking differential is for off-road use only and is not for use on dry pavement. Using the electronic locking differential on dry pavement results in increased tire wear, noise and vibration.*

Note: *Do not perform this operation when cruise control or trail control is selected and active. The system may not engage or disengage as expected.*

SWITCHING THE ELECTRONIC LOCKING DIFFERENTIAL ON AND OFF - 4X2

Press the electronic locking differential switch to engage and disengage the electronic locking differential.

4X2 Rear Electronic Locking Differential Engagement Speed and Availability

Maximum Engagement Speed	Automatic Disengagement Speed	Automatic Re-Engagement Speed
20 mph (30 km/h)	25 mph (41 km/h)	20 mph (30 km/h)

Note: *The electronic locking differential can activate or deactivate automatically based on speed, four-wheel drive mode, and drive mode selection. See* ***Selecting a Drive Mode*** *(page 250).*



Note: *The electronic locking differential may not engage if you press the accelerator pedal during an engagement attempt. A message could display in the instrument cluster display guiding you to release the accelerator pedal.*

Note: *Switching the electronic locking differential off while turning results in disengagement difficulties. If the electronic locking differential has difficulty disengaging, release the accelerator pedal and turn the steering wheel back and forth in small increments while maintaining control and following a straight line.*

Note: *The electronic locking differential is for off-road use only and is not for use on dry pavement. Using the electronic locking differential on dry pavement results in increased tire wear, noise and vibration.*

Note: *Do not perform this operation when cruise control or trail control is selected and active. The system may not engage or disengage as expected.*

ELECTRONIC LOCKING DIFFERENTIAL INDICATORS

If both rear wheel axle shafts lock together, the indicator in the cluster is amber, providing additional traction.

If you select the electronic locking differential and the indicator in the cluster is gray or turns from amber to gray while driving, one of the following has occurred:

- The vehicle speed is too high.
- The accelerator pedal is too high during an engagement attempt.
- The vehicle is experiencing an anti-lock brake activation.
- The left and right wheel speed difference is too high during an engagement attempt.

If you select the electronic locking differential and the indicator in the cluster does not turn on, the following has occurred:

- The system has malfunctioned and accompanies a check locking differential message in the information display. See your dealer as soon as possible.

Note: *If the vehicle is experiencing an anti-lock braking event, the electronic locking differential may momentarily disengage.*

ELECTRONIC LOCKING DIFFERENTIAL – TROUBLESHOOTING

ELECTRONIC LOCKING DIFFERENTIAL – INFORMATION MESSAGES

Message	Details
Check locking differential	An electronic locking differential system fault is present. Contact an authorized dealer as soon as possible.
To engage locking differential release accelerator pedal	Release the accelerator pedal to engage.

WHAT IS DRIVE MODE CONTROL

This feature connects multiple vehicle systems through a single interface, providing you with enhanced vehicle control and driving dynamics for different driving scenarios, terrains, weather, or various road conditions.

HOW DOES DRIVE MODE CONTROL WORK

When a drive mode is selected it alters various electrical and mechanical systems within the vehicle to a predetermined configuration. The systems altered and features available depend on which mode is selected.

Note: *: The electronic locking differential is available and automatically engages in some drive modes. See* ***Electronic Locking Differential*** *(page 246).*

Note: *Your vehicle automatically starts in the last selected drive mode, for applicable modes, when you return to your vehicle after short trips up to 2 hours between ignition cycles. At startup, the system displays a prompt on the instrument cluster display that gives you the option to return to the last drive mode that you chose prior to shutting the vehicle off. The system returns to the last selected drive mode and the default four-wheel drive mode associated with that mode.*

SELECTING A DRIVE MODE



Rotate the controller located on the center console. Rotate the drive mode controller once to activate the drive mode selection menu in the display. Rotate the controller a second time to select and engage the drive mode.

Note: *Button icons vary depending on the vehicle's configuration.*

DRIVE MODES

ECO - 4X4



This mode decreases accelerator pedal responsiveness to soften driver inputs and encourage efficient driving.

Depending on your vehicle's options, adaptive cruise control is slower to return to the set speed and auto-start-stop engages more often. The system decreases air conditioning output to conserve energy when set to auto mode.

Use this mode for fuel efficient driving which allows for an extended vehicle range.

Note: *Two-wheel drive high (2H) is the default four-wheel drive mode. Four-wheel drive low (4L) is not available.*

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

ECO - 4X2



This mode decreases accelerator pedal responsiveness to soften driver inputs and encourage efficient driving.

Depending on your vehicle's options, adaptive cruise control is slower to return to the set speed and auto-start- stop engages more often. The system decreases air conditioning output to conserve energy when set to auto mode.

Use this mode for fuel efficient driving which allows for an extended driving range.

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 248).*

NORMAL - 4X4



This mode adjusts all systems to their base settings and balances vehicle performance for all around drivability. Each time you switch your vehicle off it defaults to this mode.

Use this mode for everyday driving, such as city and highway routes or commuting.

Note: *Two-wheel drive high (2H) is the default four-wheel drive mode. All four-wheel drive modes are selectable when in normal mode.*

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

NORMAL - 4X2



This mode adjusts all systems to their base settings and balances vehicle performance for all around drivability. Each time you switch your vehicle off it defaults to this mode.

Use this mode for everyday driving, such as city and highway routes or commuting.

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 248).*

OFF-ROAD - 4X4



This mode lowers accelerator pedal responsiveness and delays transmission upshifts for improved vehicle control in low speed off-road environments. Traction and stability controls allow the wheels to spin to maintain vehicle momentum and clear debris from the tires for improved traction.

Depending on your vehicle's options, the system inhibits auto start stop and engages the rear electronic locking differential.

Use this mode for driving through mud, sand, and rough, uneven off-road terrains.

Note: *Four-wheel drive high (4H) is the default four-wheel drive mode. Depending on your vehicle options, four-wheel drive auto (4A) or two-wheel drive high (2H) is not available.*

Note: *The electronic locking differential engages when you select this mode at any speed, and you can disengage it at any time using the button. See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

Note: *This mode is for Off-Road use only. Do not use this mode when driving on pavement. Depending on the four-wheel drive mode selection, this could cause driveline bind up and damage the system. See* ***Four-Wheel Drive*** *(page 231).*

ROCK CRAWL (If Equipped)



This mode lowers accelerator pedal responsiveness and holds the transmission in lower gears to enhance vehicle control for low speed rock crawling. The system switches the traction and stability controls to their rock crawl settings.

Depending on your vehicle's options, this feature inhibits auto start stop and engages the rear electronic locking differential.

Use this mode when crossing aggressive terrain including rocks, mountain trails, and boulders.

Note: *Four-wheel drive low (4L) is the only four-wheel drive mode available.*

Note: *This mode is for Off-Road use only. Do not use this mode when driving on pavement. This could cause driveline bind up and damage the system depending on the four-wheel drive mode you select. See* ***Four-Wheel Drive*** *(page 231).*

SLIPPERY - 4X4



This mode lowers accelerator pedal responsiveness, adjusts transmission shift points, and optimizes traction and stability controls to help mitigate wheel spin and maintain vehicle control in slick driving conditions.

Depending on your vehicle's options, this feature adjusts all-wheel drive control to provide optimum traction for slippery surfaces.

Use this mode for less than ideal road conditions such as snow and ice covered roads or for firm surfaces that are covered with loose or slippery materials.

Note: *Four-wheel drive high (4H) is the default four-wheel drive mode. All four-wheel drive modes are selectable.*

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

Note: *Do not use this mode when driving on dry pavement. This could cause driveline bind up and damage the system depending on the four-wheel drive mode you select. See* ***Four-Wheel Drive*** *(page 231).*

SLIPPERY - 4X2



This mode lowers accelerator pedal responsiveness, adjusts transmission shift points, and optimizes traction and stability controls to help mitigate wheel spin and maintain vehicle control in slick driving conditions.

Depending on your vehicle's options, this feature adjusts all-wheel drive control to provide optimum traction for slippery surfaces.

Use this mode for less than ideal road conditions such as snow and ice covered roads or for firm surfaces that are covered with loose or slippery materials.

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 248).*

TOW/HAUL - 4X4



For improved vehicle operation when towing a trailer or hauling a heavy load. This mode moves upshifts to higher engine speeds to reduce the frequency of transmission shifting. It also provides downshift engine braking to assist in maintaining vehicle speed when descending a slope.

Depending on your vehicle's options, the system enhances steering response to assist in controlling the vehicle when towing or hauling and auto-start stop is inhibited.

Note: *All four-wheel drive modes are selectable. This mode does not default to a certain four-wheel drive mode and maintains the previous selection.*

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 246).*

TOW/HAUL - 4X2



For improved vehicle operation when towing a trailer or hauling a heavy load. This mode moves upshifts to higher engine speeds to reduce the frequency of transmission shifting. It also provides downshift engine braking to assist in maintaining vehicle speed when descending a slope.

Depending on your vehicle's options, the system enhances steering response to assist in controlling the vehicle when towing or hauling and auto-start stop is inhibited.

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 248).*

TRAIL - 4X2



This mode lowers accelerator pedal responsiveness and delays transmission up-shifts for improved vehicle control in low speed off-road environments. The system optimizes the traction and stability controls for improved traction and to help maintain forward momentum through loose deformable terrains.

Depending on your vehicle's options, the system disables auto-start-stop and optimizes the all-wheel drive system for enhanced traction.

Use this mode for driving on two-track trails, loose gravel and mixed uneven terrain.

Note: *The electronic locking differential is available below 25 mph (40 km/h). See* ***Switching the Electronic Locking Differential On and Off*** *(page 248).*

DRIVE MODE CONTROL – TROUBLESHOOTING

DRIVE MODE CONTROL – WARNING LAMPS



Some drive modes reduce traction and stability control performance and the indicator illuminates in the instrument cluster.

Note: *The system has diagnostic checks that continuously monitor the system for proper operation. If a mode is unavailable due to a system fault, the drive mode system defaults to normal. When the system defaults to normal, the driveline settings remain the same as prior to the system fault.*

DRIVE MODE CONTROL – INFORMATION MESSAGES

Message	Details
Selected 4x4 mode not available in current drive mode	You have selected a four-wheel drive mode that is not available in the current drive mode. Select an available four-wheel drive mode.

DRIVE MODE CONTROL – FREQUENTLY ASKED QUESTIONS

Why did the system default to normal mode?

- If a mode is unavailable due to a system fault, it defaults to normal mode and the driveline settings remain the same as prior to the system fault.

Can I switch drive modes while I am driving?

- In most instances, you can switch drive modes while you are driving (if you maintain attention on the road), or while the vehicle is stationary. However, you should not switch the vehicle into a drive mode intended for off-road or track use while driving on paved, public roads. For example, while driving on a paved highway, it would be acceptable to switch from normal mode to eco mode, but not to off-road mode.

How long does it take for the vehicle to switch modes after I make a selection?

- After switching modes, the new drive mode activates within several seconds, if all the preconditions are met.

How should I decide which drive mode to use?

- Selecting a drive mode usually depends on the driving experience you would like to have, and the driving conditions. For example, if you want to have a more exciting on-road driving experience, you could switch into sport mode. If you find yourself driving on slick roads, you could switch into slippery mode.

Will drive modes impact my vehicle's fuel consumption?

- Drive modes can have an impact on your vehicle's fuel consumption. In addition to the active mode, your driving style also affects the fuel consumption.

BRAKE PRECAUTIONS

Wet brakes result in reduced braking efficiency. Gently press the brake pedal a few times when leaving a car wash or driving from standing water to dry the brakes.

Note: *Depending on applicable laws and regulations in the country for which your vehicle was originally built, your brake lamps may flash during heavy braking. Following this, your hazard lights may also flash when your vehicle comes to a stop.*

ANTI-LOCK BRAKING SYSTEM

ANTI-LOCK BRAKING SYSTEM LIMITATIONS

The anti-lock braking system does not eliminate the risk of crash when:

- You drive too closely to the vehicle in front of you.
- Your vehicle is hydroplaning.
- You take corners too fast.
- The road surface is poor.

Note: *If the system activates, the brake pedal could pulse and travel further. Maintain pressure on the brake pedal.*

BRAKE OVER ACCELERATOR

In the event the accelerator pedal becomes stuck or entrapped, apply steady and firm pressure to the brake pedal to slow the vehicle and reduce engine power. If you experience this condition, apply the brakes and bring your vehicle to a safe stop. Move the transmission to park (P), switch the engine off and apply the parking brake. Inspect the accelerator pedal for any interference. If none are found and the condition persists, have your vehicle towed to the nearest authorized dealer.

LOCATING THE BRAKE FLUID RESERVOIR

See **Under Hood Overview** (page 435).

CHECKING THE BRAKE FLUID

WARNING: Do not use any fluid other than the recommended brake fluid as this will reduce brake efficiency. Use of incorrect fluid could result in the loss of vehicle control, serious personal injury or death.

WARNING: Only use brake fluid from a sealed container. Contamination with dirt, water, petroleum products or other materials may result in brake system damage or failure. Failure to adhere to this warning could result in the loss of vehicle control, serious personal injury or death.

WARNING: Do not allow the fluid to touch your skin or eyes. If this happens, rinse the affected areas immediately with plenty of water and contact your physician.

WARNING: The brake system could be affected if the brake fluid level is below the ***MIN*** mark or above the ***MAX*** mark on the brake fluid reservoir.

1. Park your vehicle on a level surface.



2. Look at the brake fluid reservoir to see where the brake fluid level is relative to the **MIN** and the **MAX** marks on the reservoir.

Note: *To avoid fluid contamination, the reservoir cap must remain in place and fully tight, unless you are adding fluid.*

Only use fluid that meets our specifications. See **Brake Fluid Specification** (page 257).

BRAKE FLUID SPECIFICATION

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced brake performance.

Note: *We recommend you to use Dot 4 Low Viscosity (LV) High Performance Brake Fluid meeting WSS-M6C65-A2 specifications or ISO 4925 Class 6 standards. If you use any fluid other than the recommended fluid, it could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.*

Capacities

Variant	Quantity
All.	Fill as required.

Materials

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

BRAKES – TROUBLESHOOTING

BRAKES – WARNING LAMPS

WARNING: Driving your vehicle with the warning lamp on is dangerous. A significant decrease in braking performance may occur. It may take you longer to stop your vehicle. Have your vehicle checked as soon as possible. Driving extended distances with the parking brake engaged can cause brake failure and the risk of personal injury.

If the ABS indicator illuminates when you are driving, this indicates a malfunction. Your vehicle continues to have normal braking without the anti-lock braking system function. See an authorized dealer.

It also momentarily illuminates when you switch the ignition on to confirm the lamp is functional. If it does not illuminate when you switch the ignition on, or begins to flash at any time, have the system checked by an authorized dealer.

The brake indicator momentarily illuminates when you switch the ignition on to confirm the lamp is functional. It may also illuminate when you apply the parking brake and the ignition is on. If it illuminates when your vehicle is moving, make sure the parking brake is disengaged. If the parking brake is disengaged, this indicates low brake fluid level or a brake system fault. See an authorized dealer.

Note: *Lamps may vary depending on region.*

BRAKES – INFORMATION MESSAGES

Message	Details
Brake fluid level low	The brake fluid level is low, check the brake system immediately. See **Checking the Brake Fluid** (page 256).
Check Brake System	Have the system checked as soon as possible.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

BRAKES – FREQUENTLY ASKED QUESTIONS

Is it normal for my brakes to make noise?

Occasional brake noise is normal. If a metal-to-metal, continuous grinding, or squeal sound is present, the brake lining could be worn. Have the system checked.

There is an electrical motor sound when I press on the brake pedal or activate the park brake switch. Is this normal?

Yes, those sounds are the electronic brake booster or the electronic park brake operating.

Note: *Brake dust could accumulate on the wheels, even under normal driving conditions. Some dust is normal as the brakes wear and does not contribute to brake noise. See* ***Cleaning Wheels*** *(page 473).*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WHAT IS THE ELECTRIC PARKING BRAKE

The electric parking brake is used to hold your vehicle on slopes and flat roads.

APPLYING THE ELECTRIC PARKING BRAKE

WARNING: Apply the parking brake, shift into park (P), switch the ignition off and remove the key before you leave your vehicle. Failure to follow this instruction could result in personal injury or death.

WARNING: If you drive extended distances with the parking brake applied, you could cause damage to the brake system.

WARNING: The electric parking brake does not operate if the vehicle battery has run out of charge.

WARNING: If the parking brake is fully released, but the brake warning lamp remains illuminated, the brakes may not be working properly. Have your vehicle checked as soon as possible.



The switch is on the lower part of the instrument panel.

Pull the switch up to apply the electric parking brake. The red warning lamp flashes, then steadily illuminates when the parking brake is applied.

Note: *You can apply the electric parking brake when the ignition is off.*

Note: *The electric parking brake could automatically apply when park (P) is selected. See* ***Park (P)*** *(page 227).*

APPLYING THE ELECTRIC PARKING BRAKE IN AN EMERGENCY

You can use the electric parking brake to slow or stop your vehicle in an emergency.

Pull the switch up and hold it.

The red warning lamp illuminates, a tone sounds and the stoplamps turn on when you use the electric parking brake in an emergency.

The electric parking brake continues to slow your vehicle down unless you release the switch.

Note: *Do not apply the electric parking brake when your vehicle is moving, except in an emergency. If you repeatedly use the electric parking brake to slow or stop your vehicle, you could cause damage to the brake system.*

MANUALLY RELEASING THE ELECTRIC PARKING BRAKE

1. Switch the ignition on.
2. Press and hold the brake pedal.
3. Push the switch down.

The red warning lamp turns off.

Pulling Away When Towing a Trailer Uphill

1. Press and hold the brake pedal.
2. Pull the switch upward and hold it.
3. Shift into gear.
4. Press the accelerator pedal until engine has developed sufficient torque to prevent your vehicle from rolling down the hill.
5. Release the switch and pull away in a normal manner.

AUTOMATICALLY RELEASING THE ELECTRIC PARKING BRAKE

1. Close the driver door.
2. Shift into gear.
3. Press the accelerator pedal and pull away in a normal manner.

ELECTRIC PARKING BRAKE AUDIBLE WARNING

Sounds when the parking brake is on and your vehicle is moving with at least 5 km/h. If the warning tone continues after you have released the parking brake, this indicates a malfunction. Have your vehicle checked as soon as possible.

RELEASING THE ELECTRIC PARKING BRAKE IF THE VEHICLE BATTERY HAS RUN OUT OF CHARGE

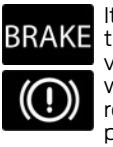
WARNING: The electric parking brake does not operate if the vehicle battery has run out of charge.

Connect a booster battery to the vehicle battery to release the electric parking brake if the vehicle battery has run out of charge. See **Jump Starting the Vehicle** (page 414).

ELECTRIC PARKING BRAKE – TROUBLESHOOTING

ELECTRIC PARKING BRAKE – WARNING LAMPS

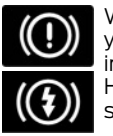
Brake System



It illuminates red when you apply the parking brake and your vehicle is on. If the lamp flashes when the parking brake has been released, this indicates the parking brake system requires service. Have your vehicle checked as soon as possible.

Note: *Lamps may vary depending on region.*

Electric Parking Brake



When the lamp illuminates yellow, it indicates a malfunction in the electric parking brake. Have your vehicle checked as soon as possible.

Note: *Lamps may vary depending on region.*

ELECTRIC PARKING BRAKE – INFORMATION MESSAGES

Message	Details
To Release: Press Brake and Switch	The electric parking brake is set and a manual release is attempted without the brake pedal being pressed.
Park Brake Use Switch to Release	The electric parking brake is set and an automatic release is attempted but cannot be performed. Perform a manual release.
Release Park Brake	The electric parking brake is set and your vehicle speed exceeds 3 mph (5 km/h). Release the electric parking brake before continuing to drive.
Park Brake Not Applied	The electric parking brake is not fully applied.
Park Brake Not Released	The electric parking brake is not fully released.
Brake maintenance mode	The electric parking brake system has been put into a special mode to allow brake service. Have the system checked as soon as possible.
Park Brake Limited Function Service Required	The electric parking brake system has detected a condition that requires service. Some functionality may still be available. Have the system checked as soon as possible.
Park Brake Malfunction Service Now	The electric parking brake system has detected a condition that requires service. Have the system checked as soon as possible.

DIESEL ENGINE EXHAUST BRAKE – PRECAUTIONS

WARNING: Do not use tow/haul when the road surface is slippery. Failure to follow this instruction could result in the loss of control of your vehicle.

WARNING: Do not use diesel engine exhaust braking when the road surface is slippery. Failure to follow this instruction could result in the loss of control of your vehicle.

USING THE DIESEL ENGINE EXHAUST BRAKE

This feature increases engine braking at higher engine speeds to provide better grade descent control with less brake and transmission wear and tear.

Note: *Use this when driving downhill and carrying heavy loads or trailering.*

Benefits of engine braking are:

- Lower brake temperature.
- Reduced brake fade.
- Longer brake life.
- Improved driving and trailering control.



Press the engine brake button above the touchscreen to switch the system on or off.

There are two engine brake modes, manual and automatic.

The following conditions must be met to use exhaust brake:

- Your vehicle is in a forward gear.
- The engine speed is above 1300 RPM.
- Your foot is off the accelerator.

You can use this feature with tow/haul or progressive range selection to provide further increased engine braking. The transmission upshifts to prevent the engine from entering the red zone on the tachometer.

Manual Engine Braking

1. Press the button to switch on manual engine braking.
2. Release the accelerator pedal to maximize engine braking.
3. Apply the brakes. The transmission downshifts to lower gears.

Note: *The engine braking feature only functions when you release the accelerator.*

Note: *You can shift the transmission to lower gears with progressive range selection or manual shifting independent of pressing the brakes.*

Note: *You can also use manual engine braking with cruise control to improve grade descent control.*

Note: *If your vehicle has adaptive cruise control, the speed control system uses the selected engine brake mode, transmission gears, and brakes to maintain the set speed and distance to the vehicle being followed.*

Automatic Engine Braking

1. Press the button twice to switch on automatic engine braking.
2. Release the accelerator or brake pedal. The system remembers your vehicle speed.

Note: *This feature offers smoother, less aggressive engine braking during downhill descents. It may not apply engine braking if the vehicle speed is not increasing, although it applies full engine braking force when needed to prevent acceleration. The system automatically activates the engine brake and, if necessary, downshifts the transmission to lower gears to not exceed your vehicle's set speed when the brake or accelerator were last released.*

DIESEL ENGINE EXHAUST BRAKE INDICATORS



DIESEL ENGINE EXHAUST BRAKE GAUGE - VEHICLES WITH: 4.2 INCH INSTRUMENT CLUSTER DISPLAY SCREEN

Displays the diesel engine exhaust brake power in the form of a percentage. A full fill or 100% represents the total diesel engine exhaust brake power available.

The gauge displays zero to 100% depending on the engine brake power provided by the system.

Note: *When the diesel engine exhaust brake is switched off, the gauge displays zero.*

Accessing the Diesel Engine Exhaust Brake Gauge

You can access the diesel engine exhaust brake gauge in the instrument cluster using the instrument cluster display control on the steering wheel:

- Press the menu button.
- Select Gauges.
- Select Diesel Measurements.

DIESEL ENGINE EXHAUST BRAKE GAUGE - VEHICLES WITH: 12.3 INCH INSTRUMENT CLUSTER DISPLAY SCREEN

Displays the diesel engine exhaust brake power in the form of a percentage. A full fill or 100% represents the total diesel engine exhaust brake power available.

The gauge displays zero to 100% depending on the engine brake power provided by the system.

Note: *When the diesel engine exhaust brake is switched off, the gauge displays zero.*

Accessing the Diesel Engine Exhaust Brake Gauge

You can access the diesel engine exhaust brake gauge in the instrument cluster using the instrument cluster display control on the steering wheel:

- Press the menu button.
- Select Gauges.
- Select Diesel Gauges.

DIESEL ENGINE EXHAUST BRAKE – TROUBLESHOOTING

DIESEL ENGINE EXHAUST BRAKE – WARNING LAMPS

- Illuminates when this feature is switched on and the system is operating properly.
- Flashes when the engine brake is disabled due to a fault.
- Does not illuminate when the switch or indicator is faulty.

You can switch the system on at any time. The braking system becomes active once the braking conditions are met.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WHAT IS HILL START ASSIST

Hill Start Assist applies the brakes to hold your vehicle after you bring it to a stop on a slope. This makes it easier for you to pull away without using the parking brake.

HOW DOES HILL START ASSIST WORK

When the system activates, your vehicle remains stationary for a few seconds after you release the brake pedal. This gives you time to move your foot from the brake pedal to the accelerator pedal. The brakes release when you apply the accelerator pedal and the vehicle begins to move forward, or the system exceeds the time allowed for automatically applying the brakes.

The system activates when your vehicle is in any forward gear and facing uphill, or when your vehicle is in reverse (R) and facing downhill.

HILL START ASSIST PRECAUTIONS

WARNING: The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake.

WARNING: You must remain in your vehicle when the system turns on. At all times you are responsible for controlling your vehicle, supervising the system, and intervening if required. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: The system turns off if there is a malfunction.

SWITCHING HILL START ASSIST ON AND OFF

Hill start assist is active when you switch the ignition on. You cannot switch the system on or off.

HILL START ASSIST – TROUBLESHOOTING

HILL START ASSIST – INFORMATION MESSAGES

Message	Details
Hill Start Assist not available	Displays when system is not available. Have your vehicle checked as soon as possible.

WHAT IS TRACTION CONTROL

The traction control system helps to avoid drive wheel spin and loss of traction.

HOW DOES TRACTION CONTROL WORK

If your wheels begin to spin, the loss of traction can compromise steering control and stability of the vehicle. The traction control system applies the brakes to individual wheels and when needed, reduces engine power at the same time to increase traction.

SWITCHING TRACTION CONTROL ON AND OFF

WARNING: Operating your vehicle with the traction control disabled could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.



The traction control system turns on each time you switch the ignition on.

The button for the stability and traction control system is on the instrument panel.

Press and release the button to switch traction control off. The stability control system remains fully active, to switch it off, press and hold the button for a few seconds, then release.

When you switch traction control off, a message and an illuminated icon appear on the instrument cluster.

Press the switch again to turn the traction control system back on to normal operation.

If your vehicle is stuck in mud or snow, switching traction control off may be beneficial as this allows the wheels to spin.

TRACTION CONTROL INDICATOR

Stability and Traction Control Indicator



If the indicator does not illuminate when you switch the ignition on, or remains on when the engine is running, this indicates a malfunction. Have your vehicle checked by an authorized dealer as soon as possible.



The traction control off indicator illuminates when you switch the traction control system off, or when an alternative stability control mode is selected that requires the traction control off depending on the drive mode selected.

TRACTION CONTROL – TROUBLESHOOTING

TRACTION CONTROL – INFORMATION MESSAGES

Message	Details
Service AdvanceTrac	The system detects a condition that requires service. Contact an authorized dealer as soon as possible.
AdvanceTrac Off	The status of the AdvanceTrac system after you switched it off.
AdvanceTrac On	The status of the AdvanceTrac system after you switched it on.
Traction Control Off	The status of the traction control system after you switched it off.
Traction Control On	The status of the traction control system after you switched it on.

HOW DOES STABILITY CONTROL WORK

WARNING: Vehicle modifications involving braking system, aftermarket roof racks, suspension, steering system, tire construction and wheel and tire size may change the handling characteristics of your vehicle and may adversely affect the performance of the electronic stability control system. In addition, installing any stereo speakers may interfere with and adversely affect the electronic stability control system. Reducing the effectiveness of the electronic stability control system could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

WARNING: Remember that even advanced technology cannot defy the laws of physics. It's always possible to lose control of a vehicle due to inappropriate driver input for the conditions. Aggressive driving on any road condition can cause you to lose control of your vehicle increasing the risk of personal injury or property damage. Activation of the electronic stability control system is an indication that at least some of the tires have exceeded their ability to grip the road; this could reduce the operator's ability to control the vehicle potentially resulting in a loss of vehicle control, vehicle rollover, personal injury and death.

WARNING: You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

If a driving condition activates either the stability control or traction control you may experience the following conditions:

- The stability and traction control light flashes.
- Your vehicle slows down.
- Reduced engine power.

The stability control system has several features built into it to help you maintain control of your vehicle:

Electronic Stability Control

Electronic stability control enhances your vehicle's ability to prevent skids or lateral slides by applying brakes to one or more of the wheels individually and, if necessary, reducing engine power.

Roll Stability Control

Roll stability control enhances your vehicle's ability to prevent rollovers by detecting your vehicle's roll motion and the rate at which it changes by applying the brakes to one or more wheels individually.

Curve Control

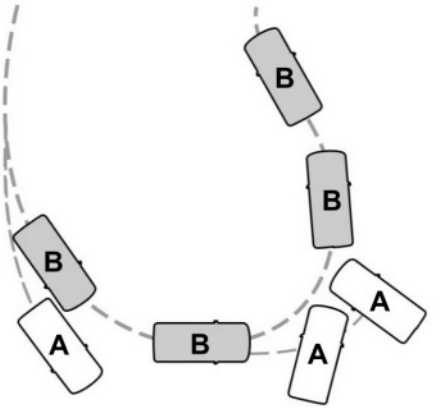
Curve control enhances your vehicle's ability to follow the road when cornering severely or avoiding objects in the roadway. Curve control operates by reducing engine power and, if necessary, applying brakes to one or more of the wheels individually.

Side Wind Stabilization

Side wind stabilization is an advanced feature that works by carefully applying the brakes on one side of the vehicle to reduce the effect of a side wind gust on the vehicle's path.

Traction Control

Traction control enhances your vehicle's ability to maintain traction of the wheels by detecting and controlling wheel spin. See **What Is Traction Control** (page 267).



A Vehicle without stability control skidding off its intended route.

B Vehicle with stability control maintaining control on a slippery surface.

SWITCHING STABILITY CONTROL ON AND OFF

The system turns on each time you switch the ignition on.

You can switch the electronic stability control system off by pressing and holding the ESC off button for over 5 seconds, or you can press the button again to switch the system on.

Shifting the transmission into reverse (R) will disable the system.

You can switch the traction control system off or on independently. See **Switching Traction Control On and Off** (page 267).

Stability Control and Traction Control with Roll Stability Control

	Stability Control OFF Light	Roll Stability Control	Electronic Stability Control	Traction Control System
Default at start-up	Illuminated during bulb check	Enabled	Enabled[3]	Enabled[3]
Button pressed momentarily	Illuminated	Enabled	Enabled[3]	Disabled[1]
Button pressed and held for 5 - 15 seconds	Illuminated	Enabled	Disabled[2]	Disabled[1]
Transfer case is switched to 4x4 Low or put into Rock Crawl Mode	Illuminated	Disabled	Disabled	Disabled[1]

[1] The Traction Control system can still be enabled but with tighter or looser thresholds.

[2] When you press and hold the button, a progress bar will display to show the button hold time progress.

[3] Functions can vary depending on what Selectable Drive Mode the vehicle is currently in.

STABILITY CONTROL INDICATOR



If it does not illuminate when you switch the power on, or remains on, this indicates a malfunction. Have your vehicle checked by an authorized dealer as soon as possible.

WHAT IS TRAIL CONTROL

WARNING: The system does not control speed in low traction conditions or extremely steep slopes. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in personal injury.

WARNING: The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake.

Trail control lets you focus on steering during low-speed and off-road use by controlling your vehicle's acceleration and braking to maintain the speed that you set.

You may hear a noise from the anti-lock brake system pump motor when you use the system. This is normal.

TRAIL CONTROL LIMITATIONS

Trail control is unavailable when any of the following occur:

- Your vehicle speed is greater than 20 mph (32 km/h) in two-wheel drive high (2H) or four-wheel drive high (4H) or four-wheel drive auto (4A) modes.
- Your vehicle speed is greater than 9 mph (15 km/h) in four-wheel drive low (4L) mode.
- Your vehicle speed is greater than 5 mph (8 km/h) in reverse (R).
- The transmission is in park (P).
- The driver side door is open or your seatbelt is off when the driver side door is removed.
- Cruise control is on.
- Pro trailer backup assist is on.
- The parking brake is applied.

SWITCHING TRAIL CONTROL ON AND OFF



Press the button on the instrument panel to turn the trail control on. Press the button again to turn the trail control off.

Note: *The trail control system turns off if you exceed 42 mph (68 km/h).*

SETTING THE TRAIL CONTROL SPEED

Note: *The buttons are located on the steering wheel.*

Drive to your preferred speed.



Press button to increase the set current speed.



Press button to decrease the set current speed.

Note: *The indicator changes color.*

You can adjust the set speed in small or large increments. Press the toggle button upward or downward once to adjust the set speed in small increments. Press and hold the toggle button upward or downward to adjust the set speed in large increments.

You can also decrease the set speed by braking.

Note: *If a set speed is set and the trail control is active and the vehicle is stopped by the brake, releasing the brake will allow the vehicle to accelerate to the set speed. Pressing the brake pedal does not switch off the system.*

CANCELING THE SET SPEED



Press the button to cancel the set speed.

TRAIL CONTROL INDICATORS



When trail control is active, the indicator illuminates green in the instrument cluster. When the system is switched on but is unavailable or in standby mode, it illuminates gray.

TRAIL CONTROL – TROUBLESHOOTING

TRAIL CONTROL – INFORMATION MESSAGES

Message	Details
Reduce speed to enter Trail Control	Displays when you must reduce your vehicle speed to use trail control.
Trail Control not available with park brake applied	Displays when you must release the park brake to use trail control.
Trail Control not available while Pro Trailer Backup Assist active	Displays when you must switch off the trailer backup assist to use trail control.
Trail Control enabled Use SET button to set speed	Displays when you successfully enabled trail control and can set a speed with the Set+ or Set- control.
Trail Control Off Driver resume control	Displays when a system fault has occurred when trail control was active and the driver must resume control.
Trail Control Off	Displays when the system has turned off.
Trail Control fault See manual	Displays when a system fault is present. See the trail control section in your Owner's Manual. See your authorized dealer for diagnosis.
Trail Control To activate select gear	Displays when you must be in drive (D), neutral (N) or reverse (R) to use trail control.
Trail Control not available with Cruise Control active	Displays when you must switch the cruise control off to use trail control.
Trail Control not available with driver door open	Displays when you must close the driver door to use trail control.
Hill Descent Control now active Press Trail Control switch to exit	Due to some driver action, Trail Control propulsion was turned off but the vehicle will still brake if descending a hill. The driver must press the Trail Control switch to turn the feature OFF, they can then turn it back on.
Trail Control not available with seat belt Off	Displays when you must have the seatbelt on to use trail control.

WHAT IS TRAIL TURN ASSIST

Trail turn assist can reduce the turning radius of your vehicle by applying the brakes to the inside rear wheel in low-speed, high steering-angle maneuvers.

TRAIL TURN ASSIST PRECAUTIONS AND LIMITATIONS

Precautions

Note: *Do not use trail turn assist on dry pavement. Doing so can cause excessive noise, increase tire wear, and may damage driveline or brake components. Trail turn assist is intended only for slippery or loose surfaces.*

You may hear noise from the anti-lock brake system while trail turn assist is active. This is normal operation.

Limitations

Only use trail turn assist when the vehicle's four-wheel drive system is in the four-wheel drive high (4H), or four-wheel drive low (4L) modes.

Trail turn assist cannot be used when the vehicle's rear differential is locked. If the rear differential has recently been locked prior to trail turn assist being turned on, trail turn assist may not activate until it can confirm that the rear differential is unlocked.

SWITCHING TRAIL TURN ASSIST ON AND OFF



While your vehicle is in four-wheel drive high (4H) or four-wheel drive low (4L), press the trail turn assist button on the center console to switch the feature on.

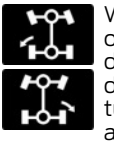
Trail turn assist is on at this time but does not activate until the:

- Vehicle speed is less than 12 mph (19.3 km/h).
- Rear differential is fully unlocked.
- Steering wheel is almost fully turned to the left or right.

Switch trail turn assist off by performing any of the following:

- Press the trail turn assist button again.
- Select two-wheel drive high (2H), or four-wheel drive auto (4A).
- Switch on the rear locking differential.

TRAIL TURN ASSIST INDICATORS



When trail turn assist is on, one of these two indicators will be displayed, depending on the direction of the vehicle's last turn. When the feature is available but not in use, the indicator will be gray. When the feature is active the indicator will be green.

TRAIL TURN ASSIST – TROUBLESHOOTING

TRAIL TURN ASSIST – INFORMATION MESSAGES

Message	Details
Trail Turn Assist available in 4L or 4H	Switch to four-wheel drive low (4L) or four-wheel drive high (4H) to activate trail turn assist. See **Selecting a Four-Wheel Drive Mode** (page 234).
Trail Turn Assist not available See manual	Trail turn assist system malfunction could be present. If this condition persists, have your vehicle serviced.
Trail Turn Assist On	You have activated trail turn assist.
Trail Turn Assist Off	You have switched trail turn assist off.

TRAIL TURN ASSIST – FREQUENTLY ASKED QUESTIONS

Why does Trail Turn Assist not activate after unlocking the rear differential?

- The rear differential may not be fully disengaged. When possible, turn off the rear axle locker while driving straight before using trail turn assist. If you are already in a tight turn, drive a short distance in reverse (R) to allow the differential to fully disengage.

WHAT IS HILL DESCENT CONTROL

Hill descent control allows the driver to set and maintain vehicle speed while descending steep slopes in various surface conditions.

HOW DOES HILL DESCENT CONTROL WORK

Hill descent control can maintain vehicle speeds on downhill slopes between 2–20 mph (3–32 km/h). Above 20 mph (32 km/h), the system remains on but the descent speed cannot be set or maintained.

Note: *The system does not function below 2 mph (3 km/h).*

The system requires a cool down interval after a period of sustained use. Hill descent control provides a warning in the message center when the system is about to disengage for cooling. At this time, manually apply the brakes as needed to maintain descent speed.

Note: *The amount of time that the system can remain active before cooling varies with conditions.*

HILL DESCENT CONTROL PRECAUTIONS

WARNING: The system does not control speed in low traction conditions or extremely steep slopes. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in personal injury.

WARNING: The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake.

SWITCHING HILL DESCENT CONTROL ON AND OFF



Press the button on the instrument panel. A light illuminates on the instrument cluster and a tone sounds when the system is active.

SETTING THE HILL DESCENT SPEED

To increase or decrease the descent speed, press the accelerator or brake pedal, or use the SET **+** and SET **-** buttons on the steering wheel. Once you reach the preferred speed remove your feet from the pedals.

HILL DESCENT CONTROL INDICATOR



Illuminates when you switch hill descent control on.

HILL DESCENT CONTROL – TROUBLESHOOTING

HILL DESCENT CONTROL – INFORMATION MESSAGES

Message	Action
For Hill Descent Reduce Speed XX MPH/km/h or Less	Your vehicle speed requirement for off-road mode entry has not been met.
For Hill Descent Select Gear	You need to select a transmission gear for hill descent mode.
Hill Descent Driver Resume Control	Hill descent control mode is deactivated and you must resume control.
Hill Descent Control Fault	A hill descent system fault is present.
Hill Descent Control Off System Cooling	The hill descent system is cooling due to overuse.
Hill Descent Control not available with Cruise Control Active	The hill descent system cannot activate while Cruise Control is actively controlling speed.

HYDRAULIC POWER STEERING

HYDRAULIC POWER STEERING GUIDELINES

To help prevent damage to the power steering system:

- Do not hold the steering wheel at its furthest turning points for more than three to five seconds when the engine is running.
- Avoid continuously steering back and forth with elevated engine RPM as this may overheat the system. If trying to free a stuck vehicle, pause between attempts to allow the power steering system to cool or seek assistance. Typical steering and driving maneuvers allow the system to cool.
- Do not operate your vehicle if the power steering pump fluid level is below the MIN mark on the reservoir.
- Some noise is normal during operation. If excessive, check for low power steering pump fluid level before seeking service by your dealer.
- Heavy or uneven steering efforts may be caused by low power steering fluid. Check for low power steering pump fluid level before seeking service by your dealer.
- Do not fill the power steering pump reservoir above the MAX mark on the reservoir, as this may result in leaks from the reservoir.

If the power steering system breaks down or if you switch the engine off, you can steer the vehicle manually, but it takes more effort.

If you have any steering components serviced or replaced, install new fasteners. Many fasteners have coatings with thread adhesive, or have prevailing torque features you cannot reuse. Do not reuse a bolt or nut. Torque fasteners to specifications.

Steering Tips

If the steering wanders or pulls, check for:

- An improperly inflated tire.
- Uneven tire wear.
- Loose or worn suspension components.
- Loose or worn steering components.
- Improper vehicle alignment.

Note: *A high crown in the road or high crosswinds may also make the steering seem to wander or pull.*

Electronic Torque Overlay Steering

(If Equipped)

WARNING: The electric power steering system has diagnostic checks that continuously monitor the system. If a fault is detected, a message displays in the information display. Stop your vehicle as soon as it is safe to do so. Switch the ignition off. After at least 10 seconds, switch the ignition on and watch the information display for a steering system warning message. If a steering system warning message returns, have the system checked as soon as possible.

WARNING: If the system detects an error, you may not feel a difference in the steering, however a serious condition may exist. Have your vehicle checked as soon as possible. Failure to do so may result in loss of steering control.

The electronic torque overlay steering system adds supplemental steering assist to the hydraulic gear when needed, dependent on vehicle conditions such as vehicle speed, steering wheel angle, and steering wheel torque. The hydraulic steering system provides the majority of steering assistance. The electronic torque overlay enables features such as pro trailer backup assistance and lane departure warning.

If your vehicle loses electrical power while you are driving, your vehicle loses electric power steering assistance. The steering system still operates, and you can steer your vehicle with hydraulic assist. Steering your vehicle with only hydraulic assist requires more effort.

Extreme continuous steering may increase the effort required for you to steer your vehicle. This increased effort prevents overheating and permanent damage to the steering system. You do not lose the ability to steer your vehicle manually. Typical steering and driving maneuvers allow the system to cool and return to normal operation.

Adaptive Learning

The electronic power steering system adaptive learning helps correct road irregularities and improves overall handling and steering feel. It communicates with the brake system to help operate advanced stability control and accident avoidance systems. Whenever the battery is disconnected or a new battery installed, you must drive your vehicle a short distance before the system relearns the strategy and reactivates all systems.

LOCATING THE HYDRAULIC POWER STEERING FLUID RESERVOIR

The hydraulic power steering fluid reservoir is found in the engine compartment. See **Under Hood Overview** (page 435).

CHECKING THE HYDRAULIC POWER STEERING FLUID

Check the power steering fluid. See **Scheduled Maintenance** (page 571). If adding fluid is necessary, use MERCON LV ATF.

Check the fluid level when it is at ambient temperature.

1. Check the fluid level in the reservoir. It should be between the MIN and MAX range. Do not add fluid if the level is within this range.
2. If the fluid level is low, add fluid to bring the fluid level up to between the MIN and MAX range.
3. Switch the engine on.
4. While the engine idles, turn the steering wheel left and right several times.
5. Switch the engine off.
6. Recheck the fluid level in the reservoir. Do not add fluid if the level is between the MIN and MAX range.
7. If the fluid is low, add fluid in small amounts, continuously checking the level until it is between the MIN and MAX range.

Note: *Make sure to put the reservoir cap back on after adding fluid.*

Capacities

Variant	Quantity
All.	Fill as required.

Materials

Name	Specification
MERCON® LV ATF	WSS-M2C938-A

STEERING – TROUBLESHOOTING

STEERING – INFORMATION MESSAGES

Message	Details
Steering fault Service now	The power steering system has detected a condition that requires service. Have your vehicle checked as soon as possible.
Steering loss Stop safely	The power steering system is not working. Stop your vehicle in a safe place. Have your vehicle checked as soon as possible.
Steering assist fault Service required	The power steering system has detected a condition that requires service. Have your vehicle checked as soon as possible.
Steering lock fault Service now	The steering system has detected a condition that could prevent you from starting your vehicle. Have your vehicle checked as soon as possible.

DRIVER ASSISTANCE SYSTEMS OVERVIEW

Driver assistance systems are features that use a variety of cameras, radars, and parking sensors to detect hazards, provide alerts, assist with braking, steering, acceleration, and certain driving tasks.

WARNING: Driver assistance systems are not collision avoidance systems. They cannot prevent all crashes but may reduce crash severity. Do not drive or use these systems if you are not prepared to pay careful attention to your surroundings. These systems do not take the place of driving with due care and attention at all times. Driver assistance features do not replace the driver. Drivers must remain fully alert at all times to the driving task to safely stop, maneuver, and operate your vehicle. Failure to do so can cause an accident, personal injury or death.

WARNING: Driver assistance systems cannot detect all objects at all speeds or in all circumstances, such as complex roads, busy areas, groups of pedestrians or cyclists, or construction. Mud, inclement weather such as snow, ice, heavy rain, or fog, or dim, glaring, intense, or high contrast lighting may cause missed or false object detections. These systems do not function at all speeds. They can misjudge distances or unexpectedly cancel. Be prepared to take immediate action.

WARNING: Do not use driver assistance systems as a replacement for using the vehicle mirrors or looking over your shoulder before changing lanes.

WARNING: This information must be read in conjunction with the full feature content contained in this manual.

Aftermarket Modifications, Add-ons, Accessories, and Repairs Precautions

WARNING: Unapproved modifications, add-ons, accessories, or repairs could affect the driver assistance systems and may prevent them from working as designed. This could lead to unexpected system responses or other behavior which may result in an accident, personal injury or death.

Driver assistance systems are carefully designed and tested for your vehicle's height and handling characteristics.

Certain modifications, add-ons, accessories, or repairs could prevent the intended function of these systems due to interference with sensors or their perception. Examples include but are not limited to the following:

- Unapproved modifications affecting chassis height and vehicle handling such as wheels and tires.
- Unapproved body armor, paint, or wraps.
- Improper windshield or body repairs.
- Unapproved electrical modifications or accessories.

See an authorized dealer to ensure any modifications or repairs are approved for your vehicle.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Cameras, Radars and Parking Aid Sensors

WARNING: If damage occurs in the immediate area surrounding the cameras, radars or parking aid sensors, have your vehicle checked as soon as possible as damage may affect the proper function of features using the cameras, radars, and sensors.

WARNING: Driver assistance systems may not function if any of the cameras, radars or parking aid sensors are blocked.

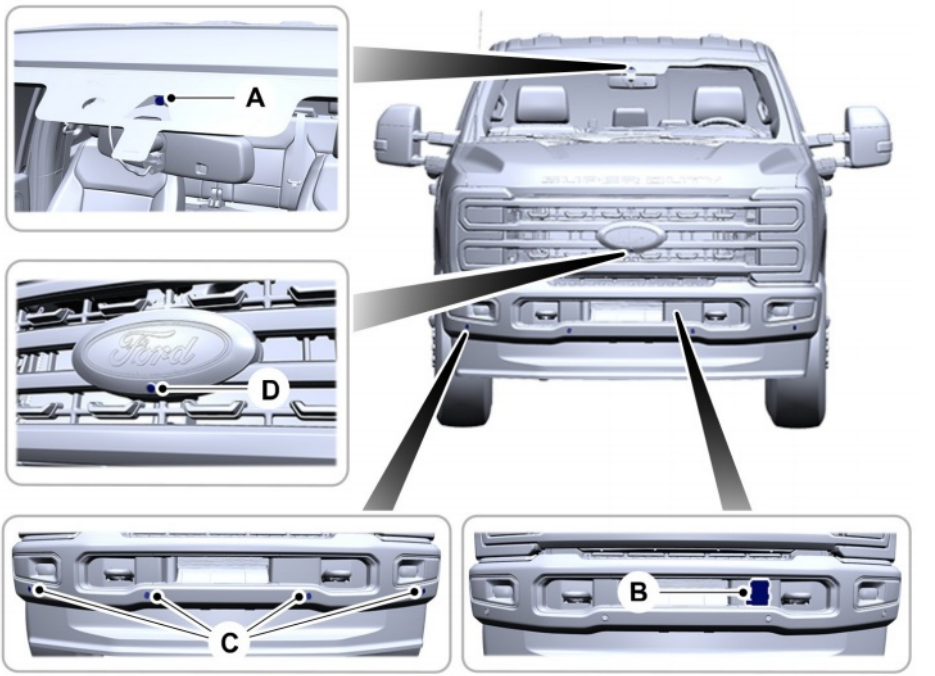
WARNING: Do not perform windshield repairs around the rear-view mirror. Failure to follow this instruction could limit front windshield camera performance.

Driver assistance systems may not operate properly if cameras, radars or parking aid sensors are blocked. Keep them free of obstructions. A message may appear in the instrument cluster display if one is blocked.

Depending on your vehicle options and market, some of the sensors shown may not be available.

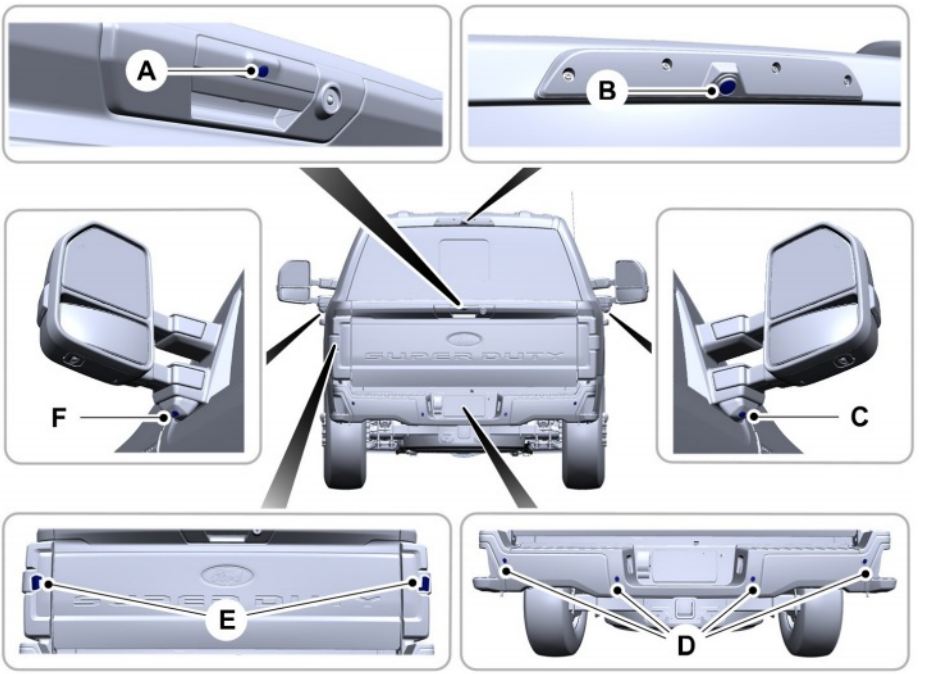
Images provided for reference only.

Vehicle Front



A Front windshield camera.
B Front center radar.
C Front parking aid sensors.
D Front grille camera.

Vehicle Rear



A Rear view camera.
B Truck bed camera.
C Side camera.
D Rear parking aid sensors.
E Rear corner radars (behind the rear fascia).
F Side camera.

All Sensor Limitations

Cameras, radars or parking aid sensors may not function properly or at all in the following conditions:

- Dirt, mud, snow, ice, spray, water droplets, physical objects, or debris blocking the sensor.
- Inclement weather, such as heavy rain, fog, snow, or strong wind.
- Extreme hot or cold conditions.
- Vehicle loading or modifications that cause the sensor angle or perception to change.
- Add-on accessories or modifications that interfere with the sensor field of view or perception such as large trailer hitches, bike racks, license plate brackets, stickers, window tinting, or bumper covers obstruct detection.
- Objects that are not within the sensor's field of view.
- Damage to the vehicle that results in damage or misalignment of the sensor.
- Using non-approved paint or wraps in the immediate area surrounding the sensor.

Camera Specific Limitations

Cameras may not function properly or at all in the following conditions:

- Objects not in the camera's field of view or in blind spots caused by bumpers, hoods, and other body components.
- Sensor temperature too hot.
- Direct sunlight or glare into the camera lens.
- Extreme contrast in lighting.
- Low light conditions.

Note: *After loss of battery power, active guidelines for the camera views often need a short drive to automatically reset them.*

Radar Specific Limitations

Radars may not function properly or at all in the following conditions:

- Objects that are slow moving or stationary such as guardrails.
- Objects that are small or absorb radar/reflection.
- Sharp bends, curves, uneven surfaces, or steep inclines.
- Wet road surfaces.
- External interference from traffic systems, lamps, or motors.
- Interference from a trailer or rear accessories attached.
- Angled parking may result in increased radar blind spots.
- Difficulty detecting vehicles with significant speed differences.
- Problems detecting vehicles traveling at the same speed as your vehicle.
- Difficulty distinguishing multiple vehicles traveling closely together.
- Limited field of view causing late or missed detections.

Note: *After loss of battery power or vehicle service, the front center radar often needs a short drive to automatically reset.*

Note: *Sensor or bumper removal, replacement, or installation requires radar service.*

Parking Aid Sensor Specific Limitations

Parking aid sensors may not function properly or at all in the following conditions:

- Ice, mud, or debris accumulated on the inner and outer surfaces of the bumper and parking sensors.
- Difficulty detecting pedestrians.

- Objects that are stationary, small, or low/close to the ground.
- Interference from other ultrasonic sources or electronic systems.
- Steep slopes, uneven ground, or deep ruts cause inaccurate alerts.

Cleaning Cameras, Radars and Sensors

Use lukewarm or cold water and a soft cloth to clean the camera lens and sensors.

Note: *Do not pressure wash camera lens and sensors.*

PRE-COLLISION ASSIST

HOW DOES PRE-COLLISION ASSIST WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Pre-collision assist detects and warns of roadway traffic hazards within your driving path, providing assistance to help avoid collisions.	Front center radar.
	Front windshield camera.

The system provides multiple levels of assistance to avoid a collision if your vehicle is rapidly approaching another stationary vehicle, a vehicle traveling in the same direction as yours, or a pedestrian or cyclist within your driving path.



If your vehicle is rapidly approaching potential hazards the system provides the following levels of functionality:

- Alert - When active, a flashing visual warning appears and an audible warning tone sounds.
- Brake Support - The system helps reduce the impact speed by preparing the brakes for rapid braking. The system does not automatically apply the brakes. If you press the brake pedal, the system may apply additional braking up to maximum braking force, even if you lightly press the brake pedal.
- Automatic Emergency Braking - Automatic emergency braking may activate if the system determines that a collision is imminent.

Each system has various levels of detection capabilities.

Note: *If the pre-collision assist alerts are too frequent or disturbing, you can reduce the alert sensitivity. Setting the low sensitivity results in fewer and later warnings of a potential forward collision. The manufacturer recommends using the high sensitivity setting where possible.*

Note: *Automatic emergency braking performance is not affected by the sensitivity setting.*

Pedestrian Detection Limitations

Pedestrian detection is active at speeds up to 50 mph (80 km/h).

Pedestrian detection operates optimally when detected hazards are clearly identifiable. System performance may reduce in situations where pedestrians are running, partly obscured, have a complex background, or cannot be distinguished from a group.

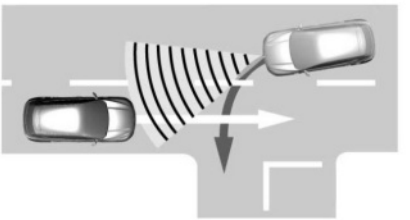
Cyclist Detection Limitations

Cyclist detection is active at speeds up to 50 mph (80 km/h).

Cyclist detection functions optimally when detected hazards are clearly identifiable. System performance may reduce in situations where cyclists are fast-moving, partly obscured, have a complex background, or cannot be distinguished from a group.

Intersection Assist (If Equipped)

The pre-collision assist system may operate in a scenario where you are turning across the path of an oncoming vehicle, or with crossing pedestrians. Detection of vehicles driving in an oncoming direction is active if your vehicle is driving at speeds up to 19 mph (30 km/h). Detection of crossing pedestrians at an intersection is active if your vehicle is driving at speeds up to 19 mph (30 km/h).



PRE-COLLISION ASSIST PRECAUTIONS AND LIMITATIONS

WARNING: The system only provides limited braking. Your vehicle may not always decelerate quickly enough to avoid a crash without driver intervention. Apply the brakes when necessary.

WARNING: The system does not operate during hard acceleration or steering. Failure to take care may lead to a crash or personal injury.

WARNING: Take additional care if your vehicle is heavily loaded or you are towing a trailer. These conditions could result in reduced performance of this system. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: System performance could be reduced in situations where the vehicle camera has limited detection capability. These situations include but are not limited to direct or low sunlight, vehicles at night without tail lights, unconventional vehicle types, pedestrians or cyclists with complex backgrounds, running pedestrians or fast moving cyclists, partly obscured pedestrians or cyclists, pedestrians or cyclists that the system cannot distinguish from a group. Failure to take care may result in the loss of control of your vehicle, personal injury or death.

Automatic emergency braking may activate when a collision is imminent. The system cannot prevent all crashes, but may reduce crash severity. Do not test automatic emergency braking or forward collision warning. Testing this system must only be conducted by authorized test facilities using specialized equipment. Do

not use automatic emergency braking to replace normal braking for any reason. Relying on automatic emergency braking to stop your vehicle may cause an unexpected accident which could lead to serious injury or death.

Note: *The system does not detect animals.*

The system is active at 3 mph (5 km/h) and above.

Note: *The pre-collision assist system automatically disables if your vehicle has four-wheel drive low or rock crawl and you select these drive modes. The system also disables if you manually disable AdvanceTrac™.*

Note: *Brake support and automatic emergency braking can detect other vehicles up to the maximum speed of your vehicle.*

PRE-COLLISION ASSIST SETTINGS

1. From the driver assistance menu, press Pre-Collision Assist. See **Driver Assistance Systems Overview** (page 282).
2. Switch the feature on and off.

Adjusting the Pre-Collision Assist Settings

You can adjust additional feature settings by using the touchscreen controls in the pre-collision assist menu:

- Change alert sensitivity to one of three possible settings.
- If required, switch automatic emergency braking on or off.

Note: *Automatic emergency braking turns on every time you start your vehicle.*

DISTANCE INDICATION

Distance indication displays the gap between your vehicle and the vehicle ahead of you.

Note: *The graphic does not display if you switch on cruise control or adaptive cruise control.*

Vehicle Speed	System Sensitivity	Distance Indicator Color	Distance Gap	Time Gap
62 mph (100 km/h).	Normal.	Blue.	Greater than 82 ft (25 m).	Greater than 0.9 seconds.
		Yellow.	56–82 ft (17–25 m).	0.6-0.9 seconds.
		Red.	Less than 56 ft (17 m).	Less than 0.6 seconds.

Distance Indication Indicator

The indicator displays the time gap between your vehicle and vehicles traveling in the same direction ahead of you.



DISTANCE ALERT

The system alerts you with a warning lamp if the distance to the vehicle ahead is small.

Note: *The warning lamp does not illuminate if cruise control or adaptive cruise control is active.*

Adjusting the Sensitivity of Distance Alert

1. From the driver assistance menu, press Pre-Collision Assist. See **Driver Assistance Menu** (page 542).
2. Press Alert Sensitivity.

FORWARD COLLISION WARNING

A warning flashes and an audible warning sounds if your vehicle rapidly approaches another vehicle to warn you of the risk of a crash with the vehicle in front of you.

Adjusting the Sensitivity of Forward Collision Warning

1. From Driver Assistance menu, press Pre-Collision Assist. See **Driver Assistance Menu** (page 542).
2. Press Alert Sensitivity.
3. Select a setting.

AUTOMATIC EMERGENCY BRAKING

Automatic emergency braking may activate if the system determines that a collision is imminent. The system may help to reduce impact damage or completely avoid the crash.

Switching Automatic Emergency Braking On and Off

1. From the Driver Assistance menu, press Pre-Collision Assist. See **Driver Assistance Menu** (page 542).
2. Press Auto Emergency Braking.
3. Switch the feature on or off.

Note: *A telltale remains illuminated in the instrument cluster when automatic emergency braking is switched off using the settings menu.*

Note: *Automatic emergency braking turns on each time you switch the ignition on.*

PRE-COLLISION ASSIST – WARNING LAMPS



Displays to alert the driver of a potential forward collision.



A telltale illuminates in the instrument cluster display to indicate if the system is disabled, unavailable, or temporarily degraded due to external environmental conditions.

Note: *If the telltale illuminates without a corresponding information message, make sure you have the setting for automatic emergency braking switched on. See* ***Automatic Emergency Braking*** *(page 290). No action is needed unless an information message appears. See* ***Pre-Collision Assist Precautions and Limitations*** *(page 288).*

PRE-COLLISION ASSIST – INFORMATION MESSAGES

Message	Details
Pre-Collision Assist not available Sensor blocked	You have a blocked sensor due to bad weather, ice, mud or water in front of the radar sensor. You can typically clean the sensor to resolve.
Pre-Collision Assist not available	A fault with the system has occurred. Have your vehicle checked as soon as possible.

REAR VIEW CAMERA

HOW DOES THE REAR VIEW CAMERA WORK

WARNING: The following information must be read in conjunction with the full Driver Assistance Overview contained in this manual.

Feature Definition	Technology Used
The rear view camera provides a video image of the area behind your vehicle when the transmission is in reverse (R).	Rear view camera.

See **Driver Assistance Systems Overview** (page 282).



The rear view camera button is on the instrument panel.

REAR VIEW CAMERA PRECAUTIONS AND LIMITATIONS

WARNING: The cameras have blind spots, especially near the corners and bumpers of your vehicle. Do not rely only on the camera images to avoid collisions with objects in the vicinity of your vehicle. Failure to follow this instruction could result in personal injury or property damage.

WARNING: Reverse your vehicle slowly. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

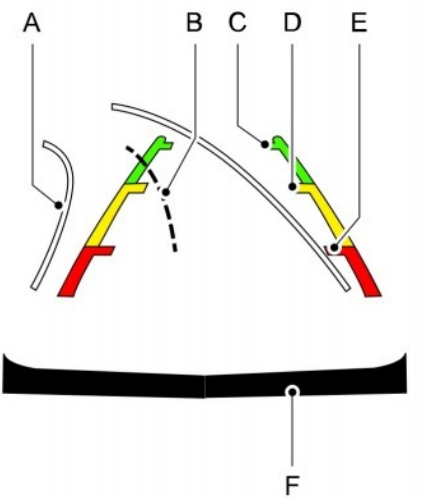
WARNING: Use caution when the liftgate or tailgate is ajar. If the liftgate or tailgate is ajar, the camera will be out of position and the video image could be incorrect. All guide lines disappear when the liftgate or tailgate is ajar. Failure to follow this instruction could result in personal injury.

WARNING: Do not switch the camera features on or off when your vehicle is moving.

Note: *When towing, the camera only sees what you are towing. This might not provide adequate coverage and you might not see some objects. In some vehicles, the guide lines may disappear when you connect the trailer tow connector.*

REAR VIEW CAMERA GUIDELINES

WARNING: The rear camera guidelines may not provide accurate or consistent distances between the rear of your vehicle and the objects displayed in the video image. Do not rely upon the guidelines to provide a safe stopping distance when reversing your vehicle. Failure to follow this instruction could result in personal injury or property damage.



A	Active guidelines.
B	Centerline.
C	Fixed guideline: Green zone.
D	Fixed guideline: Yellow zone.
E	Fixed guideline: Red zone.
F	Rear bumper.

Active guidelines only show with fixed guidelines. To use active guidelines, turn the steering wheel to point the guidelines toward an intended path. If the steering wheel position changes while reversing, your vehicle might deviate from the intended path.

The fixed and active guidelines fade in and out depending on the steering wheel position. The active guidelines do not display when the steering wheel position is straight.

Use caution while reversing. Objects in the red zone are closest to your vehicle and objects in the green zone are farther away. Objects get closer to your vehicle as they move from the green zone to the yellow or red zones. Use the side view mirrors and rear view mirror to get better coverage on both sides and rear of your vehicle.

Note: *Active guidelines and fixed guidelines are only available when the transmission is in reverse (R).*

Note: *The centerline is only available if the active or fixed guidelines are on.*

Note: *Not all camera modes work properly without an auxiliary camera.*

Note: *After loss of battery power, active guidelines often need a short drive to automatically reset them.*

REAR VIEW CAMERA SETTINGS

Zooming the Rear View Camera In and Out

WARNING: When manual zoom is on, the full area behind your vehicle may not show. Be aware of your surroundings when using the manual zoom feature.

Selectable settings for this feature are zoom in (+) and zoom out (-). Press the symbol on the camera screen to change the view. The default setting is zoom off.

This allows you to get a closer view of an object behind your vehicle. The zoomed image keeps the bumper in the image to provide a reference. The zoom is only active while the transmission is in reverse (R).

Note: *Zooming in also engages park hold which applies the electric park brake when you shift to park (P). When you press the zoom button, the electronic park hold button illuminates on the touchscreen. See* ***Connecting a Trailer*** *(page 348).*

Note: *Manual zoom is only available when the transmission is in reverse (R).*

Note: *Only the centerline shows when you enable manual zoom.*

Switching Rear View Camera Delay On and Off

1. From the driver assistance menu, press Rear View Camera. See **Driver Assistance Menu** (page 542).
2. Switch rear view camera delay on or off.

When shifting the transmission out of reverse (R) and into any gear other than park (P), the camera image remains in the display until:

- Your vehicle speed reaches approximately 3 mph (5 km/h).
- You shift your vehicle into park (P).

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Switching the Rear View Camera View


Rear normal view provides a view of what is directly behind your vehicle. This view is available at all speeds in reverse (R), drive (D) and neutral (N). When your vehicle is not in reverse (R), this view may display with different text or graphics.


Rear split view provides a wide-angle view of what is behind your vehicle.


Trailer AUX camera shows a view of what is behind your trailer. This camera is purchased and installed separately.


The hitch view provides a wide-angle view of the area around the tow hitch. This view is available at all speeds in reverse (R), drive (D) and neutral (N).


Zooms in on the view and park hold activates when your vehicle is in park (P). See **Connecting a Trailer** (page 348).

360 DEGREE CAMERA

HOW DOES THE 360 DEGREE CAMERA WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Uses front, side, and rear cameras for a full view around your vehicle.	Rear view camera.
	Front grille camera.
	Side view cameras.

The 360 Degree Camera system:

- Allows you to see what is directly in front of or behind your vehicle.
- Provides a cross traffic view in front of and behind your vehicle.
- Allows you to see a top-down view of the area outside your vehicle, including the blind spots and obstacles near your vehicle.

The 360 degree camera system consists of:

- A rear view camera that provides a video image of the area behind your vehicle.
- A front view camera that provides a video image of the area in front of your vehicle.
- Side view camera that provides a video image of the area on the sides of your vehicle to aid you when parking.

See **Driver Assistance Systems Overview** (page 282).

360 DEGREE CAMERA PRECAUTIONS

WARNING: Use caution when turning camera features on or off when the transmission is not in park (P). Make sure your vehicle is not moving.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

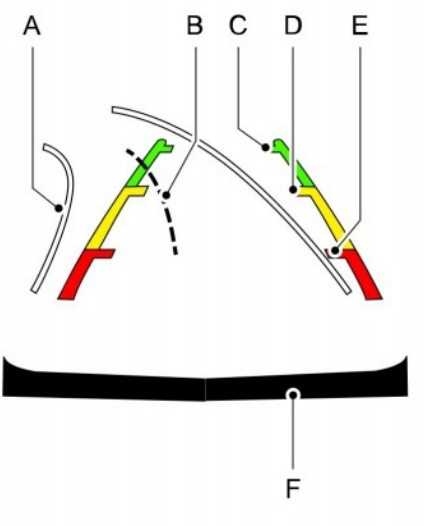
WARNING: Use caution when the liftgate or tailgate is ajar. If the liftgate or tailgate is ajar, the camera will be out of position and the video image could be incorrect. All guide lines disappear when the liftgate or tailgate is ajar. Failure to follow this instruction could result in personal injury.

WARNING: When manual zoom is on, the full area behind your vehicle may not show. Be aware of your surroundings when using the manual zoom feature.

WARNING: The cameras have blind spots, especially near the corners and bumpers of your vehicle. Do not rely only on the camera images to avoid collisions with objects in the vicinity of your vehicle. Failure to follow this instruction could result in personal injury or property damage.

360 DEGREE CAMERA GUIDELINES

WARNING: Do not rely only on the camera guidelines when maneuvering your vehicle with precision. The image and position of the guidelines displayed on the screen may differ from the actual conditions. Failure to follow this instruction could result in personal injury or property damage.



A	Active guide lines.
B	Centerline.
C	Fixed guide line: Green zone.
D	Fixed guide line: Yellow zone.
E	Fixed guide line: Red zone.
F	Rear bumper.

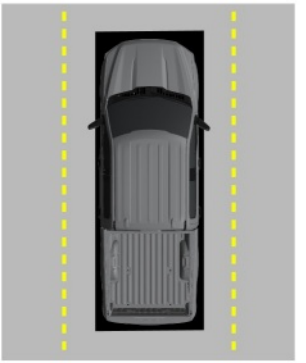
Active guide lines are only available when the transmission is in reverse (R).

Active guide lines only show with fixed guide lines. Turn the steering wheel to point the guide lines toward an intended path. If the steering wheel position changes when reversing, your vehicle could deviate from the intended path.

The fixed and active guide lines fade in and out depending on the steering wheel position. The active guide lines do not display when the steering wheel position is straight.

Objects in the red zone are closest to your vehicle and objects in the green zone are farther away. Objects get closer to your vehicle as they move from the green zone to the yellow or red zones. Use the side view mirrors and rear view mirror to get better coverage on both sides and rear of your vehicle.

Side Mirror Clearance Guide Lines



The yellow dotted guide lines running parallel to your vehicle represent the side mirror clearance zone. These lines are to help protect the mirrors when you park or maneuver in tight spaces.

SWITCHING THE 360 DEGREE CAMERA ON AND OFF

The 360 degree camera system button is on the instrument panel. The front and rear cameras have multiple screens which consist of:

- Normal view.
- Normal view with 360.
- Split view.
- Hitch view.
- Rock crawl view (On select off-road vehicles).

Other camera views may be available when the following cameras are present:

- Bed camera.
- Auxiliary camera.

Note: *The rear view camera activates when you switch into reverse (R). Additional views are then accessible on the touchscreen.*

When in park (P), neutral (N) or drive (D), only the front images display when you press the button. Additional front camera views are accessible on the touchscreen. When in reverse (R), only the rear images display when you press the button.

Note: *Not all cameras are available.*

Note: *The 360 degree camera system remains on when your vehicle is in motion at low speed. The rear camera views remain on at all speeds when in reverse (R). Some rear camera views are available in neutral (N) and in drive (D) at all speeds.*

Note: *The Full View Not Available message may appear on the rear camera view when you are in drive (D) or neutral (N). The full rear view camera image appears only when you shift your vehicle into reverse (R).*

Switching Rear View Camera Delay On and Off

1. From the driver assistance menu, press Rear View Camera. See **Driver Assistance Menu** (page 542).
2. Switch rear view camera delay on or off.

When shifting the transmission out of reverse (R) and into any gear other than park (P), the camera image remains in the display until:

- Your vehicle speed reaches approximately 3 mph (5 km/h).
- You shift your vehicle into park (P).

Switching the 360 Degree Camera View


Press to access the different camera views.


Rear normal view provides an image of what is directly behind your vehicle. This view is available at all speeds in reverse (R), drive (D) and neutral (N). When your vehicle is not in reverse (R), this view may display with different text or graphics.


Front normal view provides an image of what is directly in front of your vehicle.


Normal + 360 degree view contains the normal camera view next to a 360 degree camera view.


Rear split view provides an extended view of what is behind your vehicle.


Front split view provides an extended view of what is in front of your vehicle.


The hitch view provides an image of the area around the tow hitch. This view is available at all speeds in reverse (R), drive (D) and neutral (N).


The rear rock crawl view provides a close-up view of the area around the rear tires in off-road drive modes. This is available on select off-road vehicles.


The front rock crawl view provides a close-up view of the area around the front tires in off-road drive modes. This is available on select off-road vehicles.


Trailer AUX camera view shows a rear view camera image of what is behind your trailer. This camera is purchased and installed separately.


Bed camera shows the truck bed.


Trailer reverse guidance shows the sides of your truck and trailer. See **Trailer Reverse Guidance** (page 391).


Zooms in on the rear normal view and park hold activates when you shift your vehicle to park (P). See **Connecting a Trailer** (page 348).


Provides access to multiple zoom options by touching the zoom button on the 360 degree camera view. View options include the ability to zoom to your vehicle corners or to the front or rear of your vehicle. Depending on what gear and which drive mode you select, guidelines may be available. See **360 Degree Camera Guidelines** (page 295).

Rear Views at Speed

Note: *This view is only available on vehicles with trailer wiring.*

Note: *The rear normal view, hitch view, 50/50 view and bed camera view are also available when your vehicle speed is greater than 6.2 mph (10 km/h) intended for trailering and load carrying purposes.*

Turn on stationary in park (P), neutral (N) or drive (D) and press the camera button on the touchscreen. Then select the required rear view. The view is visible during start and afterward. You can exit the view any time by pressing the X button, returning to the touchscreen.

Note: *Pressing the camera soft button while in motion returns you to the last active view.*

PARKING AIDS

PARKING AID PRECAUTIONS

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Assists in detecting obstacles at parking speeds to avoid collisions.	Rear parking aid sensors.
	Front parking aid sensors.

The parking aid system can only assist you to detect obstacles when your vehicle is moving at parking speeds.

If your vehicle detects a trailer, rear parking aid automatically disables. If your vehicle does not detect a connected trailer, disable rear parking aid in the driver assistance menu to prevent rear parking aid alerts.

REAR PARKING AID

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Rear parking aid detects obstacles behind your vehicle when in reverse (R).	Rear parking aid sensors.

Rear parking aid sensors detect obstacles behind your vehicle when in reverse (R) and any of the following occur:

- Your vehicle is stationary but an obstacle is approaching the rear of your vehicle at a low speed.
- Your vehicle is moving backward at less than 5.0 mph (8 km/h) and an obstacle is moving toward your vehicle, for example another vehicle at a low speed.

The sensor coverage area is up to 70.87 in (180 cm) from the rear bumper. There is a decreased coverage area at the outer corners.

Rear Parking Aid Audible Warnings

A warning tone sounds when your vehicle approaches an obstacle. As your vehicle moves closer to an obstacle, the rate of the tone increases. The warning tone continuously sounds when an obstacle is 11.81 in (30 cm) or less from the rear bumper.

If your vehicle remains stationary for a few seconds, the audible warning turns off. If your vehicle moves backward the tone sounds again.

Note: *When the parking aid system sounds a tone, the audio system may reduce the set volume.*

The system does not provide an audible warning for obstacles behind the vehicle when in neutral (N) gear.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

FRONT PARKING AID

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Front parking aid detects obstacles in front of your vehicle.	Front parking aid sensors.

The front parking aid sensors detect obstacles in front of your vehicle in any position other than park (P) and the vehicle speed is less than 5.0 mph (8 km/h).

The sensor coverage area is up to 47.24 in (120 cm) from the front bumper.

If your vehicle is in reverse (R), the front parking aid detects obstacles and provides an audible warning when your vehicle is moving at a low speed and when an obstacle is moving toward your vehicle, for example, another vehicle at a low speed. If your vehicle remains stationary for a few seconds, the audible warning turns off. A visual indicator is always active in reverse (R).

If your vehicle is in any forward gear, the front parking aid provides audible warnings and a visual indicator when your vehicle is moving at a speed of 5.0 mph (8 km/h) or below and the system detects an obstacle within the detection zone. If your vehicle remains stationary for a few seconds, the visual indicator and audible warning turns off.

If your vehicle is in neutral (N), the front and rear sensors provide a visual indicator only when your vehicle is moving below a speed of 5.0 mph (8 km/h) and the system detects obstacles inside the detection areas. Once your vehicle stops, the visual indicator and audible warning stops after a few seconds.

Front Parking Aid Audible Warnings

A warning tone sounds when there is an obstacle within 47.24 in (120 cm) from the front bumper. As your vehicle moves closer to an obstacle, the rate of the tone increases.

The warning tone continuously sounds when an obstacle is 11.81 in (30 cm) or less from the front bumper.

Note: *If the detected obstacle is 11.81 in (30 cm) or less from your vehicle, the visual indicator remains on.*

PARKING AIDS SETTINGS

Muting the Audible Tone



Shift into reverse (R) and press the button on the rear view camera display screen to switch the system's audible tone on and off.

Switching Parking Aid On and Off Long-Term

The system can be set to stay disabled in between ignition cycles.

1. From the driver assistance menu, press Park Aid sensors. See **Driver Assistance Menu** (page 542).
2. Switch Front Sensors (Always) or Rear Sensors (Always) on or off.

PARKING AID INDICATORS

Parking Aid Indicators Shown When 360 Degree Camera Views are not Available



The system provides object distance indication through the touchscreen.

- As the distance to an object decreases, the indicators change color. The indicators for closer objects appear closer to the vehicle icon.
- The indicators are green when the object is at the farthest detection point. As the object gets closer, the indicators turn amber. When the object is at the closest detection point, the indicators turn red.
- If the system does not detect an object, the distance indicators do not activate.

The active visual indicators continue to display with your vehicle stopped in reverse (R). If stopped in drive (D) or neutral (N), the active visual indicators disappear after four seconds.

Note: *If stopped in drive (D) or neutral (N) with rear camera delay mode showing the rear camera view, the active visual indicators continue to display.*

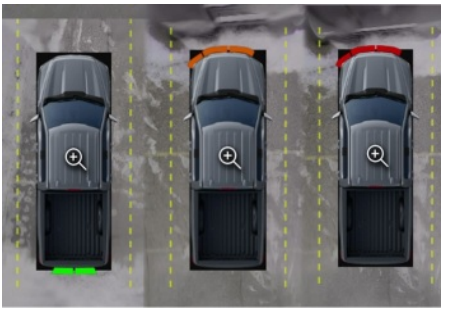
Parking aids are not available in the following situations:

- The system is switched off in the settings menu.
- If the system detects a trailer or an open tailgate, rear parking aid disables. Front parking aid may continue to operate.
- Something is blocking the sensors. Front parking aid disables if any front parking sensor is blocked. Rear parking aid disables if any rear parking sensor is blocked. If all sensors disable, both the front and rear sensors are blocked. A red exclamation point may appear on the touchscreen when a sensor is blocked.
- A system fault occurs.

Note: *If the parking aids are not available, the distance indicators do not display. See* ***Parking Aids*** *(page 301).*

Note: *Front park aid indicators may not be available on all models.*

Parking Aid Indicators Shown in 360 Degree Camera Views (If Equipped)



The system provides object distance indication through the touchscreen.

- As the distance to an object decreases, the indicators change color.
- The indicators are green when the object is at the farthest detection point. As the object gets closer, the indicators turn amber. When the object is at the closest detection point, the indicators turn red.
- If the indicator appears white, the sensor is blocked. See **Parking Aids** (page 301).
- If the system does not detect an object, the distance indicators do not activate.

The active visual indicators continue to display with your vehicle stopped in reverse (R). If stopped in drive (D) or neutral (N), the active visual indicators disappear after four seconds.

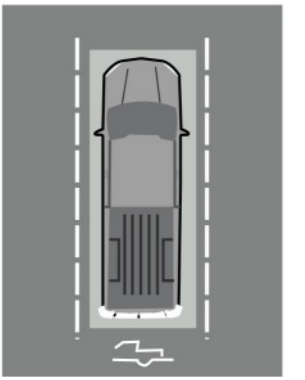
Note: *If stopped in drive (D) or neutral (N) with rear camera delay mode showing the rear camera view, the active visual indicators continue to display.*

Parking aids are not available in the following situations:

- The system is switched off in the settings menu.
- The system detects a trailer or an open tailgate. Rear parking aid disables, but front parking aid may continue to operate.
- Something is blocking the sensors. The distance indicators appear white. Front parking aid disables if any front parking sensor is blocked. Rear parking aid disables if any rear parking sensor is blocked. If all sensors disable, both the front and rear sensors are blocked. Blocked sensors appear with a white indicator.
- A system fault occurs.

Note: *If the parking aids are not available, the distance indicators do not display. See* ***Parking Aids*** *(page 301).*

Parking Aid Indicators with the Tailgate Ajar



If your vehicle has a power open and close tailgate or a power release tailgate, you may see a tailgate ajar icon in the 360-degree view camera image when you do not fully close the tailgate.

Note: *When this icon appears, the rear parking aid disables. Make sure the tailgate is securely closed to enable the rear parking aid.*

PARKING AIDS – INFORMATION MESSAGES

If a fault is present in the parking aids, a warning message appears in the instrument cluster or the touchscreen.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Message	Details
Parking Sensors fault	You may be able to resolve by cleaning the sensors and restarting your vehicle. If this does not resolve the condition, have your vehicle checked as soon as possible.
Parking Sensors not available Sensor blocked See manual Press OK to close	Inclement weather, ice, mud, or water is blocking the sensor, causing the system to become unavailable. You can typically clean the sensor to resolve.
Parking Sensors not available Sensor blocked See manual Press OK to close	Certain add-on devices installed around the bumper or fascia are blocking the sensor. Remove add-on devices to resolve.
Parking Sensors not available Sensor blocked See manual Press OK to close	This message may appear when you drive slowly at a constant distance from a stationary object. It disappears once the distance from the object changes. This may happen when driving slowly close to something like a wall.
Rear Park Aid Deactivated Trailer attached	The system senses an electrical trailer connection during a given ignition cycle.

CROSS TRAFFIC ALERT (IF EQUIPPED)

HOW DOES CROSS TRAFFIC ALERT WORK

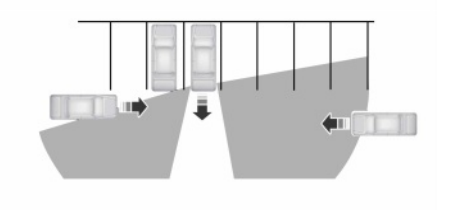
When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Cross traffic alert detects and alerts you of road users and traffic objects approaching from the rear sides and from behind your vehicle when you shift into reverse (R).	Rear corner radars.

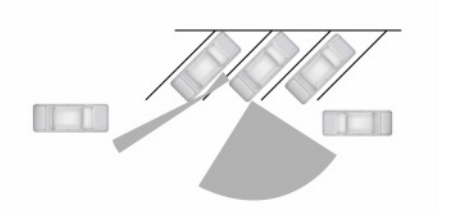
If the system alerts you of detected approaching road users and you continue to reverse at a speed equal to or higher than 1 mph (2 km/h) the system is designed to apply the brakes. If the system applies the brakes, a message appears in the instrument cluster display.

Note: *The system may apply the brakes unexpectedly. To override the braking, firmly press the accelerator pedal.*

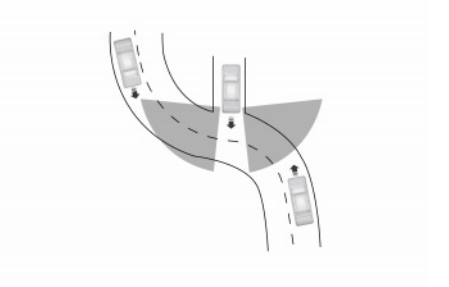
The system detects road users or traffic objects approaching above a minimum speed of 5 mph (8 km/h). Coverage decreases when the sensors are partially, mostly or fully obstructed.



The sensor on the left-hand side is only partially obstructed and zone coverage on the right-hand side is maximized.



Zone coverage decreases when you park at a narrow angle. The sensor on the left-hand side is mostly obstructed and zone coverage on that side is severely reduced.



The sensor viewing area might not cover approaching traffic on curvy roads.

Note: *Reverse slowly to increase the coverage area and effectiveness.*

The system applies the brakes briefly when an event occurs. Take action as soon as you notice the system applying the brakes in order to remain in control of your vehicle, the system does not do this for you.

CROSS TRAFFIC ALERT PRECAUTIONS AND LIMITATIONS

WARNING: Do not use cross traffic alert with accessories that extend beyond the rear of your vehicle, for example a trailer hitch or bike rack. The system is not able to make corrections for the additional length of the accessories.

The system may not correctly operate when any of the following occur:

- Something is blocking the sensors.
- Adjacently parked vehicles or objects are obstructing the sensors.
- Traffic objects approach at speeds less than 5 mph (8 km/h) or greater than 37 mph (60 km/h).

- Your vehicle speed is greater than 7 mph (12 km/h).
- You reverse out of an angled parking space.

If the system applies the brakes, you may experience reduced performance on road surfaces that limit deceleration such as roads with ice, loose gravel, mud or sand.

Note: *The system does not alert for small stationary and moving objects.*

Cross Traffic Alert Limitations with a Trailer Attached

The system remains on when you attach a trailer to vehicles with blind spot information system with trailer coverage under the following conditions:

- You connect a bike rack or cargo rack with a maximum length of 3 ft (1 m).
- You set the trailer length to 3 ft (1 m) in the touchscreen.

Note: *The system may not correctly operate when towing a trailer. For vehicles with an approved trailer tow module and tow bar, the system turns off when you attach a trailer greater than 3 ft (1 m). For vehicles with an aftermarket trailer tow module or tow bar, we recommend that you switch the system off when you attach a trailer.*

SWITCHING CROSS TRAFFIC ALERT ON AND OFF

1. From the driver assistance menu, press Cross Traffic Alert. See **Driver Assistance Menu** (page 542).
2. Switch Cross Traffic Alert on or off.

When you switch the system on or off, the alert indicators flash twice.

Note: *The system switches on every time you switch the ignition on.*

Switching Cross Traffic Braking On and Off

1. From the driver assistance menu, press Cross Traffic Braking. See **Driver Assistance Menu** (page 542).
2. Switch Cross Traffic Braking on and off.

Note: *The system remembers the last setting when you start your vehicle.*

Note: *If your vehicle does not have a cross traffic braking menu item, this functionality is included in reverse brake assist. See **Reverse Brake Assist** (page 305).*

CROSS TRAFFIC ALERT INDICATORS

When the system detects an approaching vehicle, a tone sounds, a pop-up message appears in the instrument cluster display, an alert indicator illuminates in the relevant exterior mirror and arrows appear in the touchscreen to show from which side the vehicle is approaching.

If the system malfunctions, a message appears. Have your vehicle checked as soon as possible.

Note: *In exceptional conditions, the system could alert you or apply the brakes, even when there is nothing in the detection zone, for example a vehicle passing further away from your vehicle.*

CROSS TRAFFIC ALERT – INFORMATION MESSAGES

Message	Details
Cross Traffic Alert	Displays when the system detects a vehicle. Check for approaching traffic.
Cross Traffic Not Available Sensor Blocked See Manual	Displays if the cross traffic alert system sensors are blocked. Clean the sensors. If the message continues to appear, have your vehicle checked as soon as possible.
Cross Traffic System Fault	The system has malfunctioned. Have your vehicle checked as soon as possible.
Cross Traffic Alert Deactivated Trailer Attached	Displays if you attach a trailer to your vehicle.
Cross Traffic Alert Applying Brakes	Displays if the system applies the brakes. Check for approaching traffic.

Note: *If your vehicle has reverse brake assist See* ***Reverse Brake Assist – Information Messages*** *(page 307).*

REVERSE BRAKE ASSIST (IF EQUIPPED)

HOW DOES REVERSE BRAKE ASSIST WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Reverse brake assist helps to reduce impact damage or assist in avoiding a collision while in reverse (R).	Rear view camera.
	Rear corner radars.
	Rear parking aid sensors.

It functions when in reverse (R) and traveling at a speed of 1–7 mph (2–12 km/h).

If the system detects an obstacle behind your vehicle, it provides a warning through the rear parking aid or cross traffic alert system. It can also detect a possible collision and apply the brakes. If full braking occurs, the system attempts to stop the vehicle a safe distance from the obstacle.

REVERSE BRAKE ASSIST PRECAUTIONS

WARNING: Do not use reverse brake assist with accessories that extend beyond the rear of your vehicle, for example a trailer hitch or bike rack. The system is not able to make corrections for the additional length of the accessories.

WARNING: Reverse brake assist may not detect small, moving, or low-lying obstacles, including people and animals.

The system only applies the brakes for a short period of time when an event occurs. Act as soon as you notice the brakes apply to remain in control of the vehicle. If you do not intervene the vehicle may start to move again.

Note: *The system does not react to small or moving objects, particularly those close to the ground.*

The system does not operate during hard acceleration or steering.

Note: *You may experience false alerts due to sensor limitations. See* ***Driver Assistance Systems Overview*** *(page 282).*

When you connect a trailer, the system turns off if it is detected by the vehicle. If the system does not turn off, manually switch the system off.

You may experience reduced system performance on road surfaces that limit deceleration. For example, roads with ice, loose gravel, mud or sand.

SWITCHING REVERSE BRAKE ASSIST ON AND OFF

1. From the driver assistance menu, press Reverse Brake Assist. See **Driver Assistance Menu** (page 542).
2. Switch the feature on or off.

Note: *The system is unavailable when the rear parking aid or cross traffic alert is off.*

Overriding Reverse Brake Assist

There could be instances when unexpected or unwanted braking occurs. Firmly press the accelerator pedal to override the system or switch the system off.

REVERSE BRAKE ASSIST INDICATORS

If the system determines that a collision with an obstacle may occur, full braking may apply.



A message and warning indicator appear when the system applies the brakes.

REVERSE BRAKE ASSIST – INFORMATION MESSAGES

Message	Details
Reverse Brake Assist	Displays for a few seconds when the system applies the brakes.
Reverse Brake Assist not available See manual	Make sure the rear parking aid and cross traffic alert systems are switched on. Make sure that all doors, liftgate or tailgate and hood are closed and no vehicle add-on devices or modifications are interfering with the system. Make sure the rear view camera is clear and the mirrors are not folded while in reverse if 360 degree cameras are installed. Drive the vehicle on a straight road for a short period. If the message remains, have the system checked as soon as possible.
Reverse Brake Assist Off	Displays when reverse brake assist is off.

Reverse Brake Assist – Frequently Asked Questions

What are the precautions to be followed when using the reverse brake assist system?

- The system uses a combination of rear parking aid cameras and parking sensors for operation. Poor visibility or low lighting conditions can impact performance. Make sure the rear parking aid cameras and parking sensors are not dirty or obstructed.
- Reverse your vehicle slowly. On rare occasions, detection issues can occur due to road infrastructure, for example sloped driveways and textured surfaces behind the vehicle or objects close to the reversing path.

Why is reverse brake assist unavailable?

- Make sure you switch the system on. See **Switching Reverse Brake Assist On and Off** (page 306).
- Make sure that the liftgate or tailgate, hood and all doors are closed.
- Make sure the cross traffic alert system is on. See **How Does Cross Traffic Alert Work** (page 302).
- Make sure the rear parking aid system is on. See **Rear Parking Aid** (page 298).
- Make sure that traction control is on. See **Switching Traction Control On and Off** (page 267).
- You recently had your vehicle serviced, or the battery disconnected. Drive your vehicle a short distance to resume system operation.
- The system does not function when you connect a trailer. Operation resumes when you disconnect the trailer.

Note: *If you are still having problems with reverse brake assist, have the system checked as soon as possible.*

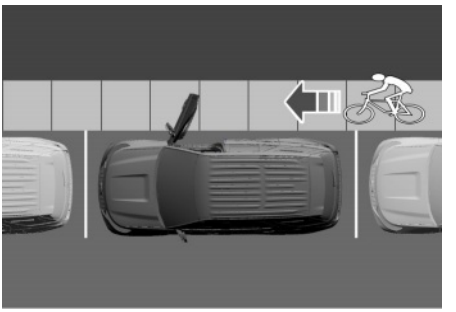
EXIT WARNING (IF EQUIPPED)

HOW DOES EXIT WARNING WORK

WARNING: Always open doors with due care and attention as exit warning may not detect all objects. Failure to follow this instruction may result in property damage, personal injury, or death.

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Exit warning provides visual and audible alerts when an occupant opens a door into approaching traffic.	Rear corner radars.



The exit warning system becomes active once you switch your vehicle on and operates in any gear position when the vehicle is not moving.

After switching your vehicle off, exit warning remains active for approximately three minutes or until you open and close the driver door and lock all doors.

Certain conditions may reduce exit warning performance or may cause it to not function at all, such as:

- If nearby objects or parked vehicles block the sensor field of view and prevents the detection of approaching traffic objects.
- When towing a trailer or bike rack.

Note: *Exit warning does not alert you if it does not detect an approaching traffic object.*

Exit warning does not operate in the following conditions:

- You disable exit warning in the touchscreen.
- You switch your vehicle off, open and close the driver's door and then lock the doors.
- Approximately three or more minutes after you switch your vehicle off.

Note: *Exit warning is not designed to detect stationary objects.*

EXIT WARNING ALERT AND INDICATORS

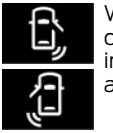
Exit warning uses the following indicators:

Exterior Mirrors



If a door on the same side as the detected approaching traffic object is attempted to be opened, the exit warning alert activates and the indicator flashes.

Instrument Cluster Display



When an alert is active, the corresponding indicator appears in the instrument cluster display along with a message.

Message	Details
Right side: Check surroundings before exiting	Right exit warning alert is active.
Left side: Check surroundings before exiting	Left exit warning alert is active.

Audible Alert

When an alert is active, your vehicle provides an audible alert.

SWITCHING EXIT WARNING ON AND OFF

Switch the exit warning system on or off by using the touchscreen. From the Driver Assistance menu, press Exit Warning to switch the feature on or off. See **Driver Assistance Menu** (page 542).

Note: *The system remembers the last setting when you start your vehicle.*

Note: *If the menu setting is grayed-out, check the sensor for blockages or damage and have your vehicle serviced as soon as possible.*

A message appears in the instrument cluster display when exit warning switches off.

Message	Details
Exit Warning turning off Exit safely	Displays when the exit warning system turns off or shuts down.
Exit Warning system fault	Displays when the exit warning system detects any system error. The system is unavailable. Have your vehicle checked as soon as possible.

EXIT WARNING – FREQUENTLY ASKED QUESTIONS

Why is exit warning sometimes not providing an alert for a particular door when I think it should?

- The traffic conditions were not sufficient to trigger the alert.
- The sensor might be blocked.
- The door latch or door ajar switch may need to be checked for proper operation.

Why is exit warning not providing alerts for any of the doors?

- If no exit warning alerts occur for any of the doors, check the settings menu to ensure you have exit warning switched on. If the menu setting is grayed-out, check the sensors for blockages or damage, or have your vehicle checked as soon as possible.

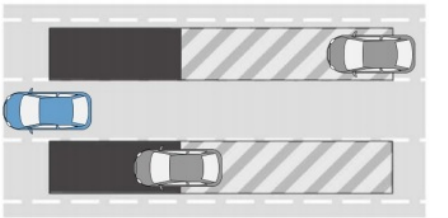
BLIND SPOT INFORMATION SYSTEM (IF EQUIPPED)

HOW DOES BLIND SPOT INFORMATION SYSTEM WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Blind spot information system detects vehicles that may have entered the blind spot zone.	Rear corner radars.

Blind spot information system uses sensors on both sides of your vehicle, detecting rearward from the exterior mirrors to approximately 13 ft (4 m) beyond the rear bumper. The detection area extends to approximately 59 ft (18 m) beyond the rear bumper when the vehicle speed is greater than 30 mph (48 km/h) to alert you of faster approaching vehicles.



BLIND SPOT INFORMATION SYSTEM PRECAUTIONS AND LIMITATIONS

Blind spot information system does not prevent contact with other vehicles. It does not detect parked vehicles, pedestrians, animals or other infrastructure.

Blind spot information system does not operate in park (P) or reverse (R).

The system may not alert you if a vehicle quickly passes through the detection zone while overtaking.

Note: *For vehicles without the trailer coverage feature, we recommend that you switch the blind spot information system off when you attach a trailer.*

Blind spot information system turns on when all the following occur:

- You start your vehicle.
- You shift into drive (D).
- The vehicle speed is greater than 6 mph (10 km/h).

Note: *Bike and cargo racks could cause false alerts due to obstruction of the sensor. We recommend switching the feature off when using a bike or cargo rack.*

SWITCHING BLIND SPOT INFORMATION SYSTEM ON AND OFF

1. From the driver assistance menu, press Blind Spot Information System. See **Driver Assistance Menu** (page 542).
2. Switch Blind Spot Information System on or off.

When you switch blind spot information system off, a warning lamp illuminates. When you switch the system on or off, the alert indicators flash twice. A telltale remains illuminated in the instrument cluster when you switch off the blind spot information system in the settings menu.

Note: *The system switches on every time you restart your vehicle.*

BLIND SPOT INFORMATION SYSTEM INDICATORS



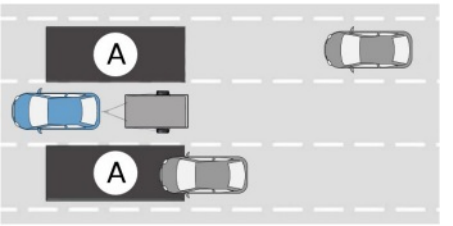


When the blind spot information system detects a vehicle, an alert indicator illuminates in the exterior mirror on the side from which the vehicle is approaching. If you switch on the turn signal for that side of your vehicle, the alert indicator flashes.



When you switch blind spot information system off, a warning lamp illuminates. When you switch the system on or off, the alert indicators flash twice. A telltale remains illuminated in the instrument cluster when the blind spot information system is switched off in the settings menu.

BLIND SPOT INFORMATION SYSTEM WITH TRAILER COVERAGE



A. Trailer coverage detection zone.

Blind spot information system detects vehicles that may have entered the blind spot zone. The detection area is on both sides of your vehicle and trailer, extending rearward from the exterior mirrors to the end of your trailer.

When you connect a trailer to your vehicle, the trailer set up menu appears in the touchscreen. This menu allows you to set up a new trailer or select from a previously set up trailer. A warning message appears and the system turns off if you do not select or add a new trailer. See **Connecting a Trailer** (page 350).

Note: *The warning message may not appear until your vehicle reaches 22 mph (35 km/h).*

Note: *The system requires proper measurement and measure entry to properly function.*

Note: *Measure the entire trailer length when setting up a gooseneck or fifth wheel trailer.*

Blind Spot Information System With Trailer Coverage Limitations

Trailer coverage automatically supports conventional trailers with a width of less than or equal to 8.5 ft (2.6 m) and a length of less than 33 ft (10.1 m). The system turns off if your trailer is too large or you select a fifth wheel or gooseneck trailer type. To function with unconventional trailers such as fifth wheel and gooseneck variants, the vehicle needs to have trailer accessory sensors connected.

Please contact your dealership for more information about trailer blind spot accessory sensors.

Some trailers could cause a slight change in system performance:

- Large box trailers could cause false alerts to occur when driving next to infrastructures or near parked cars. A false alert could also occur while making a 90-degree turn.
- Trailers that have a width greater than 8.5 ft (2.6 m) at the front and have a total length greater than 20 ft (6 m) could cause delayed alerts when a vehicle is passing at high speeds.
- Box trailers that have a width greater than 8.5 ft (2.6 m) at the front could cause early alerts when you pass a vehicle.
- Clamshell or V-nose box trailers with a width greater than 8.5 ft (2.6 m) at the front could cause delayed alerts when a vehicle traveling the same speed as your vehicle merges lanes

Note: *If the trailer is a bike rack or cargo rack with electrical lighting, enter a length of around 3 ft (1 m).*

BLIND SPOT INFORMATION SYSTEM – INFORMATION MESSAGES

Message	Action
Blind Spot System fault	A fault with the system has occurred. Have your vehicle checked as soon as possible.
Blind Spot not available Sensor blocked See manual	Something is blocking the sensors. The alert indicators illuminate but the system does not alert you. Clean the sensors.
Blind Spot Alert deactivated Trailer attached	The system automatically turns off and displays this message when you connect a trailer to your vehicle under any of the following conditions: - Your vehicle does not have blind spot information system with trailer coverage. - You switch the blind spot information system off through the touchscreen. - Your trailer exceeds the limits for the system. See **Connecting a Trailer** (page 350). Only appears if your vehicle has blind spot information system with trailer coverage.

Note: *When connecting a trailer, the system may detect the trailer and turn the system OFF. If the system does not automatically turn OFF, manually switch the blind spot information system OFF. If your vehicle has the blind spot information system with trailer coverage, the system prompts you to set up a trailer that allows the feature to function, if your trailer meets the requirements of the system.*

DRIVER ALERT

HOW DOES DRIVER ALERT WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Driver alert determines your alertness level based on your driving behavior in relation to the lane markings and other factors when the vehicle speed is greater than approximately 40 mph (65 km/h), and alerts you if it determines that you are becoming drowsy or if your driving deteriorates.	Front windshield camera.

System Warnings

The warning system has two stages:

1. A temporary warning message is shown in the instrument cluster display to advise you to take a rest. This message only appears for a short time.
2. If the system continues to detect that your driving deteriorates, it displays another warning that remains until you cancel it.

Resetting Driver Alert

You can reset the system by either:

- Switching the ignition off and on.
- Turning driver alert off then on in the center display. See **Switching Driver Alert On and Off** (page 314).

DRIVER ALERT PRECAUTIONS AND LIMITATIONS

WARNING: Take regular rest breaks if you feel tired. Do not wait for the system to warn you.

WARNING: Certain driving styles may result in the system warning you even if you are not feeling tired.

WARNING: The system will not operate if the sensor cannot track the road lane markings.

SWITCHING DRIVER ALERT ON AND OFF

1. From the driver assistance menu, press Driver Alert. See **Driver Assistance Menu** (page 542).
2. Switch the feature on or off.

DRIVER ALERT – INFORMATION MESSAGES

Message	Details
Driver Alert Rest now	Stop and rest as soon as it is safe to do so.
Driver Alert Rest suggested	Take a rest soon.

LANE KEEPING SYSTEM (IF EQUIPPED)

HOW DOES THE LANE KEEPING SYSTEM WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
The lane keeping system alerts you by providing temporary steering assistance or steering wheel vibration when it detects an unintended lane or road departure.	Front windshield camera.

The lane keeping system uses a forward looking camera mounted on the windshield to monitor vehicle movement within the lane of travel.

When the camera detects a drift out of the lane of travel, the lane keeping system alerts the driver by vibrating the steering wheel, or aids the driver by providing a small steering input to move the vehicle back into the lane of travel.

The driver can select one of three modes:

- Alert (if equipped)
- Aid
- Alert + Aid

LANE KEEPING SYSTEM PRECAUTIONS AND LIMITATIONS

WARNING: The system will not operate if the sensor cannot track the road lane markings.

WARNING: The lane keeping system may incorrectly track lane markings as other structures or objects. This can result in a false or missed warning.

The lane keeping system only operates when the vehicle speed is greater than 40 mph (64 km/h).

The system works when the camera can detect at least one lane marking or the edge of the road.

Note: *When you select Aid or Alert and Aid mode and the system detects no steering activity for a short period of time, the system alerts you to put your hands on the steering wheel. The system may detect a light grip or touch on the steering wheel as hands-off driving.*

The lane keeping system may not correctly operate in any of the following conditions:

- The lane keeping system does not detect at least one lane marking or the edge of the road.
- With the turn signal on.
- While applying direct steering, accelerating fast or braking hard.
- The vehicle speed is less than 40 mph (64 km/h).
- The anti-lock brake, stability control or traction control system activates.
- The lane is too narrow.
- Something is obscuring the camera or it is unable to detect the lane markings due to environment, traffic or vehicle conditions.
- Entering or exiting a tight curve when driving at high speeds.

The lane keeping system may not correct lane positioning in any of the following conditions:

- High winds.
- Uneven road surfaces.
- Heavy or uneven loads.
- Incorrect tire pressure.

SWITCHING THE LANE KEEPING SYSTEM ON AND OFF



To activate the lane keeping system, press the button on the steering wheel.

To deactivate the lane keeping system, press the button again.

Note: *When switching the system on or off, a message appears in the instrument cluster display to show the status.*

Note: *The system stores the on or off setting until manually changed. For some markets, the system defaults to the ON setting at every ignition cycle.*

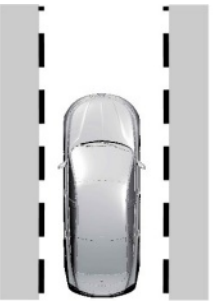
SWITCHING THE LANE KEEPING SYSTEM MODE

1. From the driver assistance menu, press Lane Keeping System. See **Driver Assistance Menu** (page 542).
2. Press Lane Keeping Mode.
3. Select a mode.

Note: *The system remembers the last setting when you start your vehicle.*

Alert Mode

Alert mode vibrates the steering wheel when it detects an unintended lane departure.



When in alert mode, the lane keeping system alerts you by vibrating the steering wheel. The intensity of the vibration is set through the lane keeping system menu.

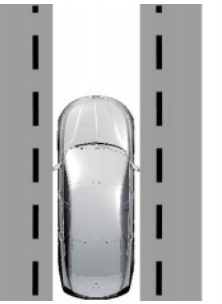
Adjusting the Steering Wheel Vibration Intensity

1. From the driver assistance menu, press Lane Keeping System. See **Driver Assistance Menu** (page 542).
2. Press Lane Keeping Intensity.
3. Select a setting.

Note: *This setting is not available in all modes.*

Aid Mode

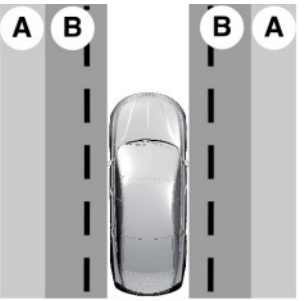
Aid mode provides temporary steering assistance toward the center of the lane.



The lane keeping system aids you when an unintentional lane departure occurs. The system provides a small steering input to move your vehicle toward the center of the lane.

Alert and Aid Mode

Alert and aid mode uses multiple features to keep you in your lane. The system first provides a small steering input to bring your vehicle back toward the center of the lane. If your vehicle moves too far, the system alerts you with a vibration in the steering wheel.



A Alert.

B Aid.

The lane keeping system detects a lane departure and provides aid when your vehicle enters **B** and applies the additional alert warning if **A** is entered.

LANE KEEPING SYSTEM INDICATORS



When you switch the lane keeping system on, an activation icon appears in the instrument cluster display, as well as an overhead vehicle graphic with lane markings.

When the lane keeping system is on, the color of the lane markings change to indicate the system status. When you switch the system off, the lane marking graphics do not display.

Note: *The overhead vehicle graphic may still display if adaptive cruise control is enabled, but does not show lane markings unless the lane keeping system is on.*

Gray	Green or White	Amber	Red
Indicates that the system is temporarily unavailable to provide a warning or intervention on the indicated side.	Indicates that the system is available or ready to provide a warning or intervention on the indicated side.	Indicates that the system is providing or has just provided a lane keeping aid intervention.	Indicates that the system is providing or has just provided a lane keeping alert warning.

BLIND SPOT ASSIST (If Equipped)

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Blind spot assist is an extension of the lane keeping system. The system alerts you and provides steering assistance to help you avoid collisions with adjacent vehicles during lane changes.	Front windshield camera.
	Rear corner radars.



Activate and deactivate the system using the lane keeping system button on the steering wheel.

The blind spot assist feature is enabled whenever you select Aid or Alert + Aid from the lane keeping system.

During lane changes, the blind spot assist feature detects vehicles in, or approaching, your blind spot and provides a warning, plus steering assistance to direct your vehicle back into your lane.

When active, this system functions with or without the use of turn signals and hazard flashers.

Keep your hands on the steering wheel at all times.

Blind Spot Assist Limitations

All system limitations present in the basic lane keeping system also apply to blind spot assist.

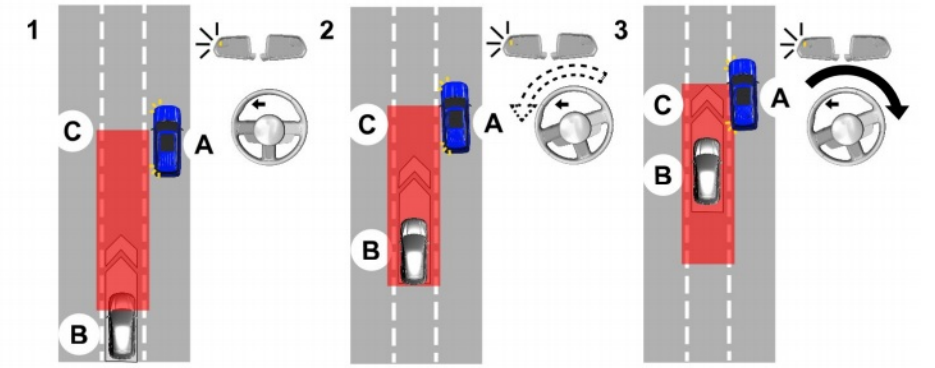
Blind spot assist does not function under the following conditions:

- No lane markings are detected.
- One or both rear radar sensors become blocked or faulty.
- Attaching bike or cargo racks could cause false alerts due to obstruction of the sensor.

Blind spot assist may have difficulty detecting hazards under the following conditions:

- If a vehicle is approaching in an adjacent lane at a speed higher than your vehicle.
- Inclement weather obstructing the sensors.

Blind Spot Assist Indicators



A Your vehicle.
B Approaching vehicle.
C Blind spot assist detection zone.

Note: *The detection zones shown are for illustration purposes and are only estimates. If Vehicle B approaches very quickly, the system may not respond until Vehicle B is much further into the detection zone, and is much closer to your vehicle.*

Diagram 1: Vehicle A uses its left turn signal preparing to change from the right lane to the middle lane. Vehicle B is already in the middle lane and just entered Vehicle A's blind spot causing the blind spot information system alert indicator to flash on the exterior mirror.

Diagram 2: The driver of Vehicle A begins to steer into the center lane not aware of Vehicle B.

Diagram 3: Blind spot assist counter steers to help alert the driver of Vehicle A to direct their vehicle back into the right lane to help avoid a possible collision with Vehicle B.

The lane keeping aid warning lamp or yellow lane marking in your instrument cluster display indicate blind spot assist activation. In addition, the blind spot information system alert indicator flashes on the exterior mirror on the same side as the detection. See **Blind Spot Information System Indicators** (page 311).

Blind Spot Assist with Trailer Coverage

When attaching a trailer, make sure you have properly set up the trailer coverage settings. See **Blind Spot Information System With Trailer Coverage** (page 312).

If you connect a supported trailer, the system reduces to only detect vehicles on both sides of the vehicle and trailer, extending rearward from the exterior mirrors to the end of your trailer. See **How Does Blind Spot Information System Work** (page 310).

Blind Spot Assist with Trailer Coverage Limitations

All blind spot assist limitations also apply to blind spot assist with trailer coverage.

Blind spot assist with trailer coverage does not function under the following conditions:

- You have not configured the attached trailer correctly in the trailer tow menus or you attached an unsupported trailer. The system only supports certain trailer shapes and dimensions.

Blind Spot Assist Information Messages

Message	Action
Blind Spot Assist not available Trailer attached	Displays if you attach a trailer to your vehicle with the blind spot information system switched off or you have not configured the trailer.
Blind Spot Assist not available Side sensor blocked	Displays if something is blocking the blind spot information system sensors.
Blind Spot Assist System fault	The system detects a fault that requires service. Have your vehicle checked as soon as possible.
Trailer brake system fault	Lost communication with the trailer module. The system suppresses blind spot assist until you have the failure fixed.
Trailer lighting module fault See manual	Lost communication with the trailer module. The system suppresses blind spot assist until you have the failure fixed.
Windshield camera fault Service required	Front camera fault. Blind spot assist disables until you have the failure fixed.

LANE KEEPING SYSTEM – INFORMATION MESSAGES

Message	Action
Lane-Keeping System fault Service required	The system detects a fault. Have your vehicle checked as soon as possible.
Windshield camera temporarily not available	The system is over-temperature due to environmental conditions. Cool the cabin by lowering the climate control temperature, parking your vehicle in the shade, or opening the windows. Clear any dirt or debris from the windshield at the front windshield camera.
Windshield camera Low visibility Clean windshield	The system detects a condition that requires you to clean the windshield in order for it to properly operate.
Windshield camera fault Service required	The system detects a fault. Have your vehicle checked as soon as possible.
Keep hands on steering wheel	The system requests that you keep your hands on the steering wheel.

LANE KEEPING SYSTEM – FREQUENTLY ASKED QUESTIONS

Why is the feature not available (lane markings are gray) when I can see the lane markings on the road?

- Your vehicle speed is less than 40 mph (65 km/h).
- The sun is shining directly into the camera lens.
- A quick intentional lane change has occurred.
- You are driving your vehicle too close to the lane markings for an extended interval of time.
- Driving at high speeds in curves.
- The last alert warning or aid intervention occurred a short time ago.
- Ambiguous lane markings, for example, in construction zones.
- Rapid transition from light to dark, or from dark to light.
- Sudden offset in lane markings.
- ABS or AdvanceTrac™ is active.
- There is a camera blockage due to dirt, grime, fog, frost or water on the windshield.
- You are driving too close to the vehicle in front of you.
- Transitioning between no lane markings to lane markings, or vice versa.
- There is standing water on the road.
- Faint lane markings, for example, partial yellow lane markings on concrete roads.
- Lane width is too narrow or too wide.
- The windshield camera may not be properly calibrated after a windshield replacement. Have the system checked.
- Driving on roads with tight curves or uneven surfaces.

Why does the vehicle not come back toward the middle of the lane, as expected, in the Aid, or Aid + Alert mode?

- High cross winds are present.
- There is a large road crown.
- Rough roads, grooves or shoulder drop-offs.
- Heavy, uneven loading of the vehicle or improper tire inflation pressure.
- The tires or suspension do not match the vehicle's original design specifications. Have the system checked.

SPEED SIGN RECOGNITION

HOW DOES SPEED SIGN RECOGNITION WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Speed sign recognition detects speed limit signs to inform you of the current speed limit. Detected speed signs appear in the instrument cluster display.	Front windshield camera
	Map data (if available).

If your vehicle has speed sign recognition with Map Data, stored speed sign data may influence the indicated speed limit value.

SPEED SIGN RECOGNITION PRECAUTIONS AND LIMITATIONS

WARNING: The speed sign recognition system may not recognize all speed signs.

Speed sign recognition may not detect the correct speed due to:

- Construction zones.
- Outdated map data.
- The sensor's inability to correctly recognize speed limit signs on parallel roads or exit ramps.
- Missed recognition of faded, dirty, or distorted signs.

Note: *Use original parts when replacing headlamp bulbs. Other bulbs may reduce system performance.*

Note: *The system may not detect all speed signs and may incorrectly read signs.*

SPEED SIGN RECOGNITION INDICATORS



When the system detects a speed limit sign, it appears in the instrument cluster display.

Note: *Sign indicator image may vary based on your vehicle's display type.*

SPEED SIGN RECOGNITION SETTINGS

From the driver assistance menu, press Speed Limit Assist. See **Driver Assistance Menu** (page 542).

You can adjust the following settings:

- Switch the speed warning on or off.
- Set the speed limit tolerance (if equipped).

If you see this icon next to a menu option, press it for more information.

SPEED SIGN RECOGNITION – FREQUENTLY ASKED QUESTIONS

Why does the speed limit change without any sign on the road?

- The speed limit changes due to the speed limit data stored in the map data.

Why does speed sign recognition show a wrong speed limit?

- The system shows a wrong speed limit due to incorrect and outdated map data or due to incorrect recognition of the speed limits by the camera.

CRUISE CONTROL

HOW DOES CRUISE CONTROL WORK

Cruise control lets you maintain a set speed without keeping your foot on the accelerator pedal.

Use cruise control when the vehicle speed is greater than 15 mph (20 km/h).

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

USING CRUISE CONTROL

WARNING: Do not use cruise control on winding roads, in heavy traffic or when the road surface is slippery. This could result in loss of vehicle control, serious injury or death.

The cruise controls are on the steering wheel.

Switching Cruise Control On and Off



Press the button to activate the system. When the system activates, the set speed is equal to the current vehicle speed or 20 km/h (15 mph), whichever is greater. If the speed is too low, or other conditions are not correct for cruise control activation, the system enters standby mode.



Press the button when the system is active or switch the ignition off.

Note: *When you switch cruise control off, the set speed clears.*

Setting the Cruise Control Speed

WARNING: When you are going downhill, your vehicle speed could increase above the set speed. The system does not apply the brakes.

Drive to the speed you prefer.



Press the SET+ or SET- button to set the current speed.



Take your foot off the accelerator pedal.

Note: *The indicator changes color in the instrument cluster display.*

Changing the Set Speed



Press the SET+ button to increase the set speed in small increments.

Press and hold the SET+ button to accelerate. Release the button when you have reached your preferred speed.



Press the SET- button to decrease the set speed in small increments.

Press and hold the SET- button to decelerate. Release the button when you have reached your preferred speed.

Note: *If you accelerate by pressing the accelerator pedal, the set speed does not change. When you release the accelerator pedal, your vehicle returns to the speed that you previously set.*

Canceling the Set Speed



Press the button, or tap the brake pedal to cancel the set speed.

Note: *The system remembers the set speed.*

Note: *The system cancels if the vehicle speed drops below 10 mph (16 km/h) under the set speed when driving uphill.*

Resuming the Set Speed



Press the button.

Cruise Control Indicators



Illuminates when you switch the system on.

ADAPTIVE CRUISE CONTROL

(IF EQUIPPED)

HOW DOES ADAPTIVE CRUISE CONTROL WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Adaptive cruise control with stop and go maintains a set gap between your vehicle and the vehicle in front of you while following it to a complete stop. From a stop, your vehicle accelerates to follow the vehicle ahead while maintaining a set gap.	Front center radar.
	Front windshield camera.

ADAPTIVE CRUISE CONTROL PRECAUTIONS AND LIMITATIONS

WARNING: Do not use adaptive cruise control on winding roads, in heavy traffic or when the road surface is slippery. This could result in loss of vehicle control, serious injury or death.

WARNING: Pay close attention to changing road conditions such as entering or leaving a highway, on roads with intersections or roundabouts, roads without visible lanes of travel, roads that are unpaved, or steep slopes. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Do not use the system when towing a trailer that has aftermarket electronic trailer brake controls. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Do not use the system with a snow plow blade installed.

WARNING: When following a vehicle that is braking, your vehicle does not always decelerate quickly enough to avoid a crash without driver intervention. Apply the brakes when necessary. Failure to follow this instruction could result in personal injury or death.

WARNING: On rare occasions, detection issues can occur due to the road infrastructures, for example bridges, tunnels and safety barriers. In these cases, the system may brake late or unexpectedly. At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required.

WARNING: The system may not detect stationary or slow moving vehicles below 6 mph (10 km/h).

Select a lower gear when the system is active in situations such as prolonged downhill driving on steep slopes, for example in mountainous areas.

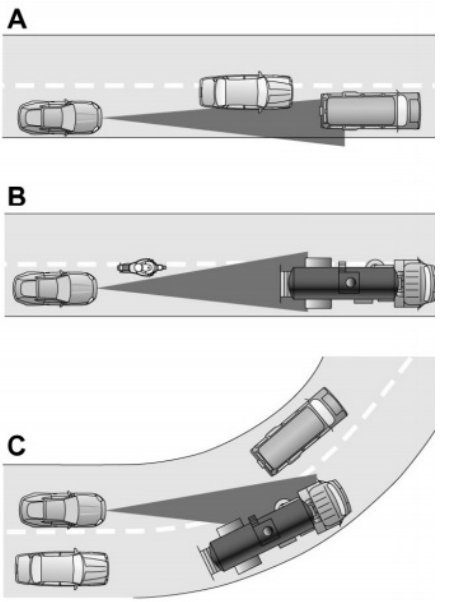
The adaptive cruise control system:

- Does not detect pedestrians or objects in the road.
- Does not detect oncoming vehicles in the same lane.
- Detects and tracks the road lane markings using a front windshield camera mounted behind the interior mirror.

A message displays if something obstructs the camera or the sensor. When something blocks the sensor, the system cannot detect a vehicle ahead and does not function. See **Adaptive Cruise Control – Information Messages** (page 331).

The radar sensor has a limited field of view. It may not detect vehicles at all or detect a vehicle later than expected in some situations. The lead vehicle image does not illuminate if the system does not detect a vehicle in front of you.

Detection Issues Can Occur:



A When driving on a different line than the vehicle in front.

B With vehicles that edge into your lane. The system can only detect these vehicles once they move fully into your lane.

C There may be issues with the detection of vehicles in front when driving into and coming out of a bend or curve in the road.

In these cases, the system may brake late or unexpectedly.

SWITCHING ADAPTIVE CRUISE CONTROL ON AND OFF

The cruise controls are on the steering wheel.

Switching Adaptive Cruise Control On



Press the button to activate adaptive cruise control. When activated, the set speed is whichever is greater, your current vehicle speed or 15 mph (20 km/h). If your speed is too low or other conditions are not met, the system enters standby mode. Adaptive cruise control does not activate below 15 mph (20 km/h) unless you are following another vehicle.

The indicator, current gap setting, and set speed appear in the instrument cluster display.

Switching Adaptive Cruise Control Off



Press the button when the system is in standby mode or switch your vehicle off.

Note: *When you switch the system off, the set speed clears.*

Adaptive Cruise Control Automatic Cancellation

The system may cancel if:

- The tires lose traction.
- You apply the parking brake.

The system may cancel and set the parking brake if:

- You unbuckle the seatbelt and open the driver door after adaptive cruise control stops your vehicle.
- Adaptive cruise control holds your vehicle at a stop for more than three minutes.

The system may deactivate or prevent activating when requested if:

- The vehicle has a blocked sensor.
- The brake temperature is too high.
- There is a failure in the system or a related system.

SETTING THE ADAPTIVE CRUISE CONTROL SPEED AND GAP

Setting the Adaptive Cruise Control Speed

Drive to the speed you prefer.



Press either button to set the current speed.



Take your foot off the accelerator pedal.

The indicator, current gap setting, and set speed appear in the instrument cluster display when initially activating adaptive cruise control.



After a few seconds, the graphic in the instrument cluster display changes to show that adaptive cruise control is active.

A vehicle image illuminates if there is a vehicle detected in front of you.

Note: *When adaptive cruise control is active, the speedometer can vary slightly from the set speed displayed in the instrument cluster display.*

Setting the Adaptive Cruise Speed from a Complete Stop

SET+
SET-

Press the + or - buttons while keeping the brake pedal fully pressed.

The set speed adjusts to 20 km/h when in metric units or 15 mph when in imperial units.

The indicator, current gap setting and set speed appear in the instrument cluster display.

Note: *The system activates from a complete stop only when it detects a lead vehicle in close proximity.*

Manually Changing the Set Speed

SET+

Press the button to increase the set speed in small increments. Press and hold the button to increase the set speed in large increments. Release the button when you have reached the desired speed.

SET-

Press the button to decrease the set speed in small increments. Press and hold the button to decrease the set speed in large increments. Release the button when you have reached the desired speed.

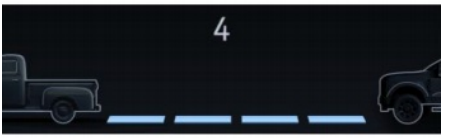
You can also press the accelerator or brake pedal until you reach the desired speed. Press either button to select the current speed as the set speed.

The system could apply the brakes to slow the vehicle to the new set speed. The set speed continuously displays in the instrument cluster display when the system is active.

Setting the Adaptive Cruise Control Gap

You can decrease or increase the distance between your vehicle and the vehicle in front of you by pressing the gap control.

Press the button to cycle through the four gap settings.



The selected gap appears in the instrument cluster display as shown by the bars in the image.

Note: *As your vehicle speed increases, the gap setting increases the following distance to the vehicle ahead.*

Note: *It is your responsibility to select a gap appropriate to the driving conditions.*

Adaptive Cruise Control Gap Settings

Graphic Display, Bars Indicated Between Vehicles	Gap Distance	Dynamic Behavior
1	Closest	Sport
2	Close	Normal
3	Medium	Normal
4	Far	Comfort

Each time you switch the system on, it selects the last chosen gap setting.

Following a Vehicle

When a vehicle ahead of you enters the same lane or a slower vehicle is ahead in the same lane, the vehicle speed adjusts to maintain the gap setting.

Note: *When you are following a vehicle and you switch on a turn signal lamp, adaptive cruise control may provide a small, temporary acceleration to help you pass.*

Your vehicle maintains a consistent gap from the vehicle ahead until:

- The vehicle in front of you accelerates to a speed above the set speed.
- The vehicle in front of you moves out of the lane you are in.
- You set a new gap distance.

The system applies limited braking to maintain a safe gap from the vehicle in front of you. You can override it by pressing the brake pedal.

Note: *The brakes may emit noise when applied by the system.*

If the system determines that its maximum braking level is not sufficient, an audible warning sounds, a message appears in the instrument cluster display, and an indicator flashes when the system continues to brake. Take control of your vehicle immediately.

CANCELING THE SET SPEED



Press the button or tap the brake pedal.

The set speed does not erase.

RESUMING THE SET SPEED



Press the button.

The vehicle speed returns to the previously set speed and gap setting. The set speed displays continuously in the instrument cluster display when the system is active.

Note: *Only use resume if you are aware of the set speed and intend to return to it.*

Resuming the Set Speed from a Complete Stop (If Equipped)

If your vehicle follows a vehicle to a complete stop and remains stationary for less than a few seconds, your vehicle accelerates from a stationary position to follow the vehicle ahead.

If your vehicle follows a vehicle to a complete stop and remains stationary for more than a few seconds, an indicator and message displays.



Information Messages

Message	Details
Auto-Resume	The message displays when you are on a limited access highway after following a vehicle to a complete stop. In this situation, the vehicle resumes following the lead vehicle without pressing a button or the accelerator pedal. The system can remain in auto-resume state for approximately 30 seconds, after which it no longer automatically resumes.
Press button to resume	If the lead vehicle begins to move and all of the auto-resume conditions are not met, press the resume button. Pay attention to the road ahead and surroundings to make sure that it is safe to resume. Press and release the button or use the accelerator pedal to resume following the lead vehicle.
Stopped	Cruise control does not automatically resume when this display is active. Use the accelerator pedal to resume.

OVERRIDING THE SET SPEED

WARNING: If you override the system by pressing the accelerator pedal, it does not automatically apply the brakes to maintain a gap from any vehicle ahead.

Pressing the accelerator pedal overrides the set speed and gap distance, allowing you to intentionally exceed the set speed limit.

When you override the system, the indicator remains blue, the set speed is dimmed and the lead vehicle icon does not appear in the instrument cluster display.

The system resumes operation when you release the accelerator pedal. The vehicle speed decreases to the set speed, or a lower speed if following a slower vehicle.

ADAPTIVE CRUISE CONTROL INDICATORS



Illuminates when you switch adaptive cruise control on. The color of the indicator changes to indicate the system status.

Gray indicates the system is on but inactive.

Blue indicates that you set the speed and the system is active.

SWITCHING FROM ADAPTIVE CRUISE CONTROL TO CRUISE CONTROL

WARNING: Normal cruise control will not brake when your vehicle is approaching slower vehicles. Always be aware of which mode you have selected and apply the brakes when necessary.

1. From the driver assistance menu, press Cruise Control. See **Driver Assistance Menu** (page 542).
2. Press Normal Cruise Control.



When you select normal cruise control, the cruise control indicator replaces the adaptive cruise control indicator. The gap setting does not display, and the system does not respond to lead vehicles. Automatic braking remains active to maintain the set speed. The system remembers the last setting when you start your vehicle.

ADAPTIVE CRUISE CONTROL – INFORMATION MESSAGES

Note: *Depending on your vehicle options and instrument cluster, not all messages display or are available.*

Note: *The system could abbreviate or shorten certain messages depending on your instrument cluster.*

Message	Details
Front sensor not aligned	Contact an authorized dealer to have the radar checked for proper coverage and operation.
Cruise Control not available	Conditions exist preventing the system from being available.
Adaptive Cruise Control not available Sensor blocked See manual	You have a blocked radar sensor due to poor radar visibility caused by inclement weather, or ice, mud, or water in front of the sensor. Cleaning the sensor usually resolves the issue. Sometimes, you may get a blockage warning even when the sensor is not actually blocked. This can happen, for example, when driving in sparse rural or desert environments. A false blocked condition either self-clears or clears after you restart your vehicle.
Normal Cruise Control active Adaptive Braking off	You have selected normal cruise control. The system does not brake or react to traffic.
Resume control	Displays when the adaptive cruise control is going to cancel and you must take control.
Cruise Control Speed too low to activate	Displays when the vehicle speed is too slow to activate the adaptive cruise control and there is no lead vehicle in range.
Cruise Control Not Available Brakes Need Cooling	Displays when the brakes exceed a temperature threshold and adaptive cruise control is going to cancel. Take control of your vehicle.

LANE CENTERING (IF EQUIPPED)

HOW DOES LANE CENTERING WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Lane centering provides continuous steering assistance to keep your vehicle centered in its lane.	Front center radar.
	Front windshield camera.
	Steering sensor.

Note: *The gap setting for adaptive cruise control with lane centering operates in the same way as normal adaptive cruise control.*

LANE CENTERING PRECAUTIONS AND LIMITATIONS

WARNING: Do not use the system when towing a trailer or when the vehicle is loaded to near or over maximum payload. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

Adaptive cruise control precautions apply to lane centering unless stated otherwise or contradicted by a lane centering precaution. See **Adaptive Cruise Control Precautions and Limitations** (page 325).

Lane Centering Limitations

Adaptive cruise control limitations apply to lane centering unless stated otherwise or contradicted by a lane centering limitation.

Lane centering may not be able to center your vehicle in the lane in any of the following conditions:

- The lane is too narrow or wide.
- The curve in the road is too tight.
- The system does not detect the minimum required lane markings or when lanes merge or split.
- When the required steering effort to maintain lane center exceeds the lane centering system limit.
- When driving in areas that are under construction or when road work is in progress.
- If the front windshield camera and/or the front radar are blocked.
- When using a spare tire.
- Inclement weather, such as high wind, heavy rain, and fog.
- Driving into direct sunlight.
- When modifications to the steering system have been made, including alterations to the steering wheel.
- When a trailer is detected, the system disables lane centering.

Note: *The system steering assistance is limited and may not have sufficient effort for all driving situations and/or conditions, such as driving through tight curves or driving through curves at high speeds.*

Note: *In exceptional conditions, the system may deviate from the lane center.*

Lane Centering Requirements

You must keep your hands on the steering wheel at all times.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Lane centering only activates when all of the following occur:

- Adaptive cruise control with lane centering is enabled in the touchscreen. See **Switching Lane Centering On and Off** (page 334).
- You have adaptive cruise control enabled and set.
- The steering system detects your hands on the steering wheel.
- The system detects both lane markings when driving on a straight road.
- Your vehicle is initially centered in the lane between two visible line markings.
- Automatic Emergency Braking is switched on. See **Automatic Emergency Braking** (page 290).
- The driver seatbelt is fastened.
- A trailer is not detected.
- No Tire Pressure Monitoring System (TPMS) warnings or faults are present.

Note: *If the system does not detect valid lane line markings, the system remains in standby until valid line markings are available.*

Note: *If the system does not detect your hands on the steering wheel, slightly tighten your grip on the wheel.*

SWITCHING LANE CENTERING ON AND OFF

Keep your hands on the steering wheel at all times.



Press the button on the steering wheel.

The indicator appears in the instrument cluster display. When the system is on, the color of the indicator changes to indicate the system status.

You can override lane centering by firmly steering the vehicle. If the vehicle stays within the lane, the system resumes centering the vehicle as soon as you stop steering. If the vehicle crosses the lane line, lane centering goes into standby and resumes once the vehicle is completely within a lane and all other requirements are met.

Note: *The correct requirements must be met before you can switch the system on. See **Lane Centering Precautions and Limitations** (page 333).*

Enabling and Disabling Lane Centering

1. From the driver assistance menu, press Cruise Control. See **Driver Assistance Menu** (page 542).
2. Press Adaptive Cruise Control.
3. Press Lane Centering.

Lane Centering Automatic Cancellation

When an external condition cancels the system, such as no lane markings available, an audible warning sounds and a message appears in the instrument cluster display.

When an external condition cancels the system, and your hands are not on the steering wheel, the system immediately alerts you to take control of the vehicle.

If this alert is ignored, the system quickly applies and releases the brakes, activates the hazard lights, and slows your vehicle to a stop within the lane of travel.

If your vehicle slows down or stops and you resume control, a message appears to prompt you to press the accelerator pedal to allow the system to resume.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *If the system detects significant inactivity, a Lane Centering Unavailable message displays in the instrument cluster and lane centering is disabled until the next time you start your vehicle.*

Automatic cancellation can also occur if:

- The lane becomes too wide or too narrow.
- The system cannot detect valid lane markings.
- Lane markings cross over one another.
- The curve of the road is too sharp.

Lane Centering Manual Cancellation

Adaptive cruise control with lane centering will cancel when you perform any of the following actions:

- The brake pedal is pressed.
- Adaptive cruise control button on the steering wheel is switched off.
- Lane centering was switched off with the lane centering button.

The lane centering system is momentarily paused when either of the following actions are performed:

- Turn signal indicator is latched or tapped with added steering input.
- You steer the vehicle out of lane.

LANE CENTERING ALERTS

You must keep your hands on the steering wheel at all times.

When the system is active and detects no steering activity for a period of time, the system alerts you to put your hands on the steering wheel. If you do not react to the warnings the system quickly applies and releases the brakes, activates the hazard lights, and slows your vehicle to a stop within the lane of travel while maintaining steering control. See **Switching Lane Centering On and Off** (page 334).

The system also alerts you if your vehicle crosses lane markings without detected steering activity.

Note: *If a keep hands on the wheel message appears on the instrument cluster display, the system may not detect a light grip or touch on the steering wheel. Slight steering wheel input may be required to cancel the message.*

LANE CENTERING INDICATORS



Illuminates when you switch lane centering on. The color of the indicator changes to indicate the system status.

Gray indicates the system is on but in standby mode.

Blue indicates the system is enabled and applying steering assistance to keep the vehicle in the center of the lane.

Amber with an audible tone, that then changes to gray, indicates a system automatic cancellation.

LANE CENTERING – INFORMATION MESSAGES

Note: *Depending on your vehicle options and instrument cluster type, some messages can appear differently or not at all.*

Message	Details
Keep hands on steering wheel	Return your hands to the steering wheel and provide steering input to cancel the message.
Lane Centering not available	Lane centering is currently not available due to conditions that prevent the system from becoming active. To reset the system when the vehicle is stationary, return the gear selector to park (P) and turn the vehicle off. Restart the vehicle with your foot on the brake pedal.
Driver resume control	Adaptive cruise control with lane centering is about to cancel. You must immediately take full control of the vehicle.
Press accelerator pedal to resume	Adaptive cruise control with lane centering is in standby mode. When safe to do so, you can resume adaptive cruise control with lane centering by applying pressure on the accelerator pedal. Alternatively, you can also re-enable adaptive cruise control with lane centering by pressing the resume button on the steering wheel.
Watch the Road	Return your attention to the road.
Canceled: Sharp Curve	Lane centering canceled due to a sharp curve. Return your attention to the road and your hands to the steering wheel.
Canceled: Lane Conditions	Lane centering canceled due to unclear lane markings being detected.
Cancelled for Road Curvature	Lane centering canceled due to road curvature being detected.

PREDICTIVE SPEED ASSIST (IF EQUIPPED)

HOW DOES PREDICTIVE SPEED ASSIST WORK

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Feature Definition	Technology Used
Predictive speed assist works with adaptive cruise control to adjust the vehicle speed based on road geometry and the speed limit detected by the speed sign recognition system.	Front windshield camera.

As the system identifies curves and highway exits, vehicle speed temporarily decreases ahead of and during the changing road geometry. When passing new speed signs, the set speed updates.

There are limitations that affect the accuracy of the speed sign recognition system and its ability to determine the current speed limit. Predictive speed assist shares these limitations when determining the current speed limit. See **Speed Sign Recognition** (page 322).

Note: *The adaptive cruise control gap setting operates normally when the feature is enabled.*

PREDICTIVE SPEED ASSIST PRECAUTIONS AND LIMITATIONS

WARNING: Pay close attention to changing road conditions. You may need to override the system by pressing the brake or accelerator pedal if the adjusted speed becomes higher or lower than necessary.

WARNING: The system does not activate the turn signal.

WARNING: When approaching a curve, predictive speed assist does not always decelerate your vehicle quickly enough to remain in the lane without driver intervention. Apply the brakes when necessary. Failure to follow this instruction could result in a crash, personal injury, or death

Adaptive cruise control precautions apply to predictive speed assist unless stated otherwise or contradicted by a predictive speed assist precaution. See **Adaptive Cruise Control Precautions and Limitations** (page 325).

You can override the system with the accelerator pedal or cancel the system by applying the brakes.

The system may adapt to various drive modes. See **Drive Mode Control** (page 250). This could influence speed adjustments and accelerations.

WARNING: The system may not always adjust vehicle speed in certain road or weather conditions such as crossing traffic, yield or stop signs, right of way, traffic lights, speed bumps, rain, snow, fog. You must always apply the brake or accelerator pedal when necessary.

The road geometry and speed limit information provided by the navigation map data could be inaccurate or out of date.

The system may not detect and read speed limit signs with conditional information, for example, when a sign is flashing, during specific time ranges, or when children are present.

Note: *The system does not set the vehicle speed to speed limits shown with a supplementary traffic sign.*

Under certain conditions, the system may not adjust the vehicle speed until after your vehicle passes the speed limit.

Detection of road geometry operates only where related information is available. Road geometry information may not be available in some areas.

SWITCHING PREDICTIVE SPEED ASSIST MODE ON AND OFF

1. From the driver assistance menu, press Cruise Control. See **Driver Assistance Menu** (page 542).
2. Press Adaptive Cruise Control.
3. Switch Predictive Speed Assist on or off.

Adjusting the Speed Setting

1. From the driver assistance menu, press Cruise Control. See **Driver Assistance Menu** (page 542).
2. Press Adaptive Cruise Control.
3. Switch Predictive Speed Assist on.
4. Press Tolerance.
5. Use the slider bar to select the speed setting.

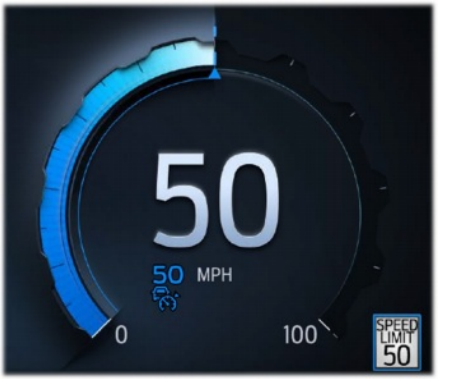
Predictive Speed Assist Alerts

If the speed sign recognition system detects a speed limit below the minimum adaptive cruise control set speed, a tone sounds and the system returns to standby mode.

PREDICTIVE SPEED ASSIST INDICATORS

A blue marker around the road geometry indicator means the system is active.

Speed Sign Indicator



When the system detects a new speed sign, a gray indicator appears above the speed limit icon while the system adjusts the vehicle speed to the speed limit. When the speed limit is reached, the set speed updates and the gray indicator disappears.

Road Geometry Indicator

When the system detects a curve or highway exit, the vehicle starts to decelerate, and the indicator appears and changes color.

Road Geometry Indicator Symbols


Left curve.


Right curve.

PREDICTIVE SPEED ASSIST – INFORMATION MESSAGES

Message	Details
Adaptive Cruise Control Predictive Speed Assist not available	Navigation system based speed limit information is not available. If the message continues to appear, have your vehicle checked as soon as possible.
Adaptive Cruise Control Driver resume control	The system is going to cancel and you must take control.

LOAD CARRYING PRECAUTIONS

Keep your loaded vehicle weight within its design rating capability, with or without a trailer. Properly loading your vehicle provides maximum return of vehicle design performance. Before you load your vehicle, become familiar with the following terms for determining your vehicle's weight rating, with or without a trailer, from the vehicle's Tire and Loading Information label or Safety Compliance Certification label.

WARNING: Vehicles with a higher center of gravity (utility and four-wheel drive vehicles) handle differently than vehicles with a lower center of gravity (passenger cars). Avoid sharp turns, excessive speed and abrupt steering in these vehicles. Failure to drive cautiously increases the risk of losing control of your vehicle, vehicle rollover, personal injury and death.

WARNING: The appropriate loading capacity of your vehicle can be limited either by volume capacity (how much space is available) or by payload capacity (how much weight the vehicle should carry). Once you have reached the maximum payload of your vehicle, do not add more cargo, even if there is space available. Overloading or improperly loading your vehicle can contribute to loss of vehicle control and vehicle rollover.

WARNING: Exceeding the Safety Compliance Certification label vehicle weight limits can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

WARNING: Do not use replacement tires with lower load carrying capacities than the original tires because they may lower your vehicle's Gross Vehicle Weight Rating and Gross Axle Weight Rating limitations. Replacement tires with a higher limit than the original tires do not increase the Gross Vehicle Weight Rating and Gross Axle Weight Rating limitations.

WARNING: Do not exceed the GVWR or the GAWR specified on the certification label.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WARNING: Exceeding any vehicle weight rating can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

WARNING: When loading the roof racks, we recommend you evenly distribute the load, as well as maintain a low center of gravity. Loaded vehicles, with higher centers of gravity, may handle differently than unloaded vehicles. Take extra precautions, such as slower speeds and increased stopping distance, when driving a heavily loaded vehicle.

Load carrying can also impact other systems present in your vehicle. See **Adaptive Cruise Control Precautions and Limitations** (page 325). See **Lane Centering Precautions and Limitations** (page 333).

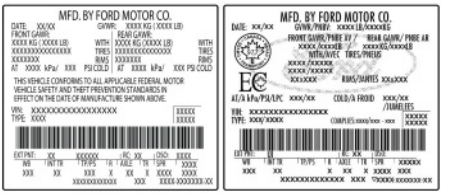
The gross combined weight must never exceed the Gross Combined Weight Rating.

USING A SLIDE-IN CAMPER

For information regarding the use of slide-in campers, consult the Truck Camper Loading document supplied with your vehicle.

LOCATING THE SAFETY COMPLIANCE CERTIFICATION LABELS

Safety Compliance Certification Label Example:





The Safety Compliance Certification label is located on the door pillar, door latch post, or the door edge that meets the door latch post, next to the driver seat.

WHAT IS THE GROSS AXLE WEIGHT RATING

GAWR (Gross Axle Weight Rating)

GAWR is the maximum allowable weight that a single axle (front or rear) can carry. These numbers are on the Safety Compliance Certification label.

WHAT IS THE GROSS VEHICLE WEIGHT RATING

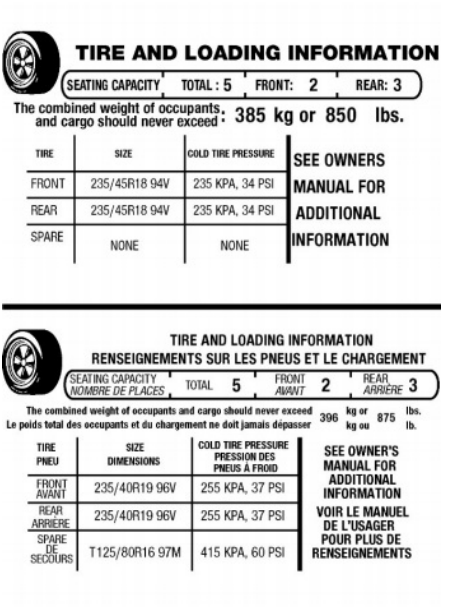
GVWR is the maximum allowable weight of the fully loaded vehicle. This includes all options, equipment, passengers and cargo. It appears on the Safety Compliance Certification label.

WHAT IS THE GROSS COMBINED WEIGHT RATING

Gross Combined Weight Rating (GCWR) is the maximum allowable weight of the vehicle and the loaded trailer, including all cargo and passengers, that the vehicle can handle without risking damage. (Important: The towing vehicle's braking system is rated for operation at Gross Vehicle Weight Rating, not at Gross Combined Weight Rating.) Separate functional brakes should be used for safe control of towed vehicles and for trailers where the Gross Combined Weight of the towing vehicle plus the trailer exceed the Gross Vehicle Weight Rating of the towing vehicle. See **Recommended Towing Weights** (page 358).

CALCULATING PAYLOAD

Tire and Loading Label Information Example:



Payload is the combined weight of cargo and passengers that your vehicle is carrying. The maximum payload for your vehicle appears on the Tire and Loading label. The label is either on the B-pillar or the edge of the driver door. Vehicles exported outside the US and Canada may not have a tire and loading label. Look for "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb" for maximum payload. The payload listed on the Tire and Loading Information label

is the maximum payload for your vehicle as built by the assembly plant. If you install any additional equipment on your vehicle, you must determine the new payload. Subtract the weight of the equipment from the payload listed on the Tire and Loading label. When towing, trailer tongue weight or king pin weight is also part of payload.

CALCULATING THE LOAD LIMIT

Steps for determining the correct load limit:

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lb.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1,400 lb. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lb. (1400-750 (5 x 150) = 650 lb.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

Helpful examples for calculating the available amount of cargo and luggage load capacity

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You decide to go golfing. Is there enough load capacity to carry you, four of your friends and all the golf bags? You and four friends average 220 pounds (99 kilograms) each and the golf bags weigh approximately 30 pounds (13.5 kilograms) each. The calculation would be: 1400 - (5 x 220) - (5 x 30) = 1400 - 1100 - 150 = 150 pounds. Yes, you have enough load capacity in your vehicle to transport four friends and your golf bags. In metric units, the calculation would be: 635 kilograms - (5 x 99 kilograms) - (5 x 13.5 kilograms) = 635 - 495 - 67.5 = 72.5 kilograms.

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You and one of your friends decide to pick up cement from the local home improvement store to finish that patio you have been planning for the past two years. Measuring the inside of the vehicle with the rear seat folded down, you have room for twelve 100-pound (45-kilogram) bags of cement. Do you have enough load capacity to transport the cement to your home? If you and your friend each weigh 220 pounds (99 kilograms), the calculation would be: 1400 - (2 x 220) - (12 x 100) = 1400 - 440 - 1200 = - 240 pounds. No, you do not have enough cargo capacity to carry that much weight. In metric units, the calculation would be: 635 kilograms - (2 x 99 kilograms) - (12 x 45 kilograms) = 635 - 198 - 540 = -103 kilograms. You will need to reduce the load weight by at least 240 pounds (104 kilograms). If you remove three 100-pound (45-kilogram) cement bags, then the load calculation would be: 1400 - (2 x 220) - (9 x 100) = 1400 - 440 - 900 = 60 pounds. Now you have the load capacity to transport the cement and your friend home. In metric units, the calculation would be: 635 kilograms - (2 x 99 kilograms) - (9 x 45 kilograms) = 635 - 198 - 405 = 32 kilograms.

The above calculations also assume that the loads are positioned in your vehicle in a manner that does not overload the front or the rear gross axle weight rating specified for your vehicle on the Safety Compliance Certification label.

PICKUP BED PRECAUTIONS

WARNING: Do not allow people or animals in truck beds that have modifications, such as bed covers or slide-in campers, when the engine is running. Exhaust fumes are toxic. Failure to follow this instruction could result in personal injury or death.

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.

PICKUP BED ANCHOR POINTS

(IF EQUIPPED)

PICKUP BED ANCHOR POINT PRECAUTIONS

WARNING: Always properly secure cargo to prevent shifting cargo or cargo falling from the vehicle. Failure to do so could result in compromised vehicle stability and serious personal injury to vehicle occupants or others.

WARNING: The appropriate loading capacity of your vehicle can be limited either by volume capacity (how much space is available) or by payload capacity (how much weight the vehicle should carry). Once you have reached the maximum payload of your vehicle, do not add more cargo, even if there is space available. Overloading or improperly loading your vehicle can contribute to loss of vehicle control and vehicle rollover.

WARNING: Do not use the load retaining fixtures for towing. Failure to follow this instruction could result in personal injury.

WARNING: Do not exceed the maximum load rating of the load retaining fixtures. Failure to follow this instruction could result in personal injury.

WARNING: Check the load retaining fixtures for damage before using them. Failure to follow this instruction could result in personal injury.

LOCATING THE PICKUP BED ANCHOR POINTS

The pickup bed anchor points are located at each corner of the pickup bed.

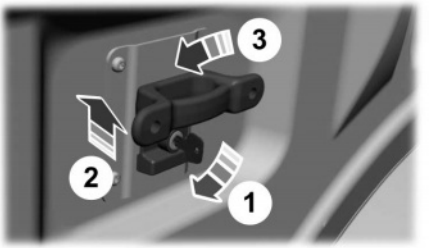


INSTALLING AND REMOVING THE PICKUP BED TIE-DOWN CLEATS

Installing the Cleats

1. Insert the key into the lock and turn clockwise to unlock.
2. Insert the cleat into the pickup bed anchor point and slide upward.
3. Turn the key counterclockwise to lock.



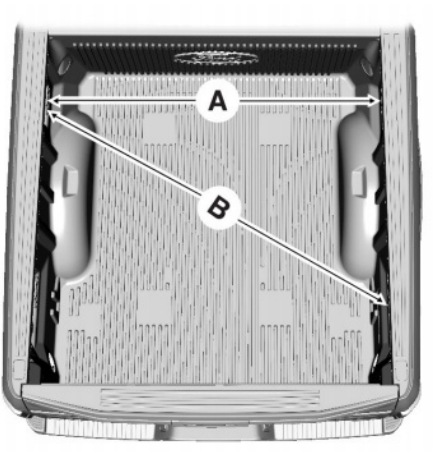


Note: *Leave the key in the lock when removing or installing the cleats. The key cannot be removed unless it is in the locked position.*

Removing the Cleats

To remove, reverse the installation procedure.

PICKUP BED ANCHOR POINT LOAD CAPACITIES



A	B
Maximum force between directly opposed cleats 276 lb (125 kg).	Maximum force between diagonally opposed cleats 600 lb (272 kg).

Note: *You could damage the pickup bed walls if you overload the tie downs.*

Note: *Make sure that you properly balance and secure the cargo load. Failure to do this can cause cargo instability and damage to the box.*

Note: *Do not secure cargo with tie downs connected from the tie down brackets to the cargo box tie downs. This could cause the tailgate to detach.*

TAILGATE ANCHOR POINTS

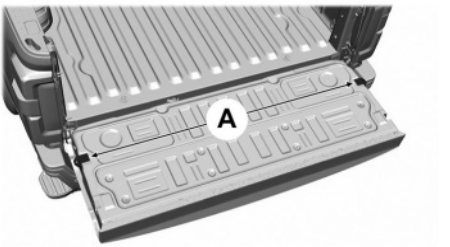
LOCATING THE TAILGATE ANCHOR POINTS

The tailgate anchor points are located at each side of the tailgate.



Note: *You could damage the tailgate if you overload the tie downs.*

TAILGATE ANCHOR POINT LOAD CAPACITIES



A
The maximum force between the tailgate anchor points 400 lb (181 kg).

Note: *Do not secure cargo from a pickup bed anchor point to a tailgate anchor point. This could cause the tailgate to detach.*

CONNECTING A TRAILER PRECAUTIONS

Do not tow a trailer until you drive your vehicle at least 1,000 mi (1,600 km).

Consult your local motor vehicle laws for towing a trailer.

See the instructions included with towing accessories for the proper installation and adjustment specifications.

Service your vehicle more frequently if you tow a trailer. See **General Maintenance Information** (page 575).

If you use a rental trailer, follow the instructions the rental agency gives you.

When attaching the trailer wiring connector to your vehicle, only use a proper fitting connector that works with the vehicle and trailer functions.

Account for the trailer coupler weight as part of your vehicle load when calculating the total vehicle weight.

Do not exceed the load limits. See **Calculating the Load Limit** (page 343).

HITCHES

INSTALLING A HITCH

WARNING: You must use the drawbar pin supplied with your vehicle or a pin that is designed to meet the maximum rating of your hitch. Failure to follow this instruction could cause the trailer to disconnect resulting in the loss of control of your vehicle, personal injury or death.

Do not use a hitch that clamps onto the bumper or attaches to the axle.

Distribute the load in your trailer so that 10-15% for conventional towing or 15-25% for fifth wheel towing of the total weight of the trailer is on the tongue.

Do not exceed the tongue load rating indicated on the conventional hitch receiver.

Note: *On pickup trucks, the trailer hitch provided on the vehicle enhances crash protection for the fuel system. Do not remove.*

Hitch Components

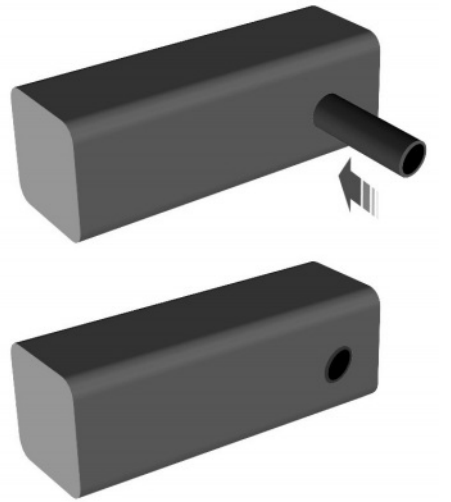
A 2.5-inch hitch receiver comes standard on most models, while some models include a 3-inch hitch receiver.

These 3-inch receivers require specific components, which some vehicles include.

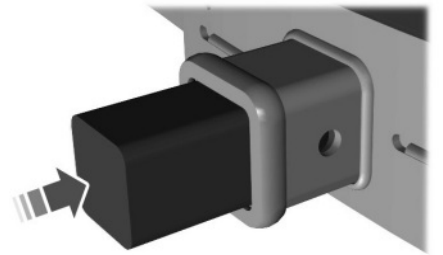
- A trailer hitch with a 3-inch receiver and a 5/8-inch hitch pin. Check the stamped rating number on the pin to determine the 30,000 lb (13,607 kg) hitch pin capacity.
- A hitch pin sleeve stored in the glove compartment to use when mounting the 3-inch drawbar with the 3/4-inch pinhole.
- A cotter pin to help keep the hitch pin in place.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

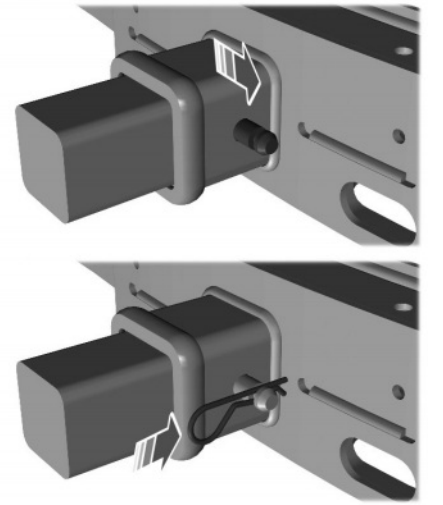
Installing a 3-Inch Drawbar with 3/4-Inch Pin Hole



Insert the pin sleeve in the 3/4-inch pinhole of the 3-inch drawbar.



Remove the reducers before inserting the 3-inch drawbar. Insert the drawbar into the hitch receiver.



Put the 5/8-inch hitch pin through the pinhole.

Place the cotter pin around the neck of the hitch pin to secure it.

HOOKING UP A TRAILER USING A WEIGHT-DISTRIBUTING HITCH

WARNING: Do not adjust the spring bars so that your vehicle's rear bumper is higher than before attaching the trailer. Doing so will defeat the function of the weight-distributing hitch, which may cause unpredictable handling, and could result in serious personal injury.

A weight-distributing hitch helps distribute tongue load to all towing vehicle and trailer wheels. For more information, refer to the RV & Trailer Towing Guide using the following links.

United States of America



https://www.fordpro.com/en-us/fleet-vehicles/manuals-and-guides/

Canada (English)



https://www.fordpro.ca/en-ca/fleet-vehicles/manuals-and-guides/

Canada (French)



https://www.fordpro.ca/fr-ca/fleet-vehicles/manuals-and-guides/

FIFTH-WHEEL TRAILER HITCH (If Equipped)

Your vehicle has a fifth-wheel prep package. This package enables your vehicle to accept certain fifth-wheel trailer hitches and gooseneck ball hitches. The fifth-wheel trailer hitch attaches to the four mounting pads in the pick-up bed. A 7-pin trailer wiring connector could be in the bed as well. The gooseneck ball hitch is a separate mounting pad from the fifth-wheel hitch in the center of the bed.

Shorter pick-up boxes provide less clearance between the cab and the fifth-wheel and gooseneck trailer compared to longer box pick-ups. When selecting a trailer and tow vehicle, it is critical to check that this combination provides clearance between the front of the trailer and tow vehicle for turns up to 90º. Failure to follow this recommendation could result in the trailer contacting the cab of the tow vehicle during tight turns that are typical during low-speed parking and turning maneuvers. This contact could result in damage to the trailer and tow vehicle.

Note: *Contact an authorized dealer to purchase gooseneck and fifth-wheel hitches that are compatible with your vehicle.*

Note: *The mounting pads in the bed are specifically designed for certain fifth-wheel trailer hitches and gooseneck ball hitches. Do not use these mounting pads for other purposes.*

CONNECTING A TRAILER

Recognizing a Trailer

1. Attach the trailer and wiring connector to your vehicle.
2. Switch on your vehicle.
3. Set up a profile for the trailer using the SYNC screen.

Note: *If your vehicle does not recognize the trailer, press and hold the brake pedal for a few seconds.*

Note: *Trailer profiles store trailer types, dimensions, preferences, trailer specific mileage and fuel economy.*

Note: *Disabling the trailer detection notification makes the default trailer profile active when a connection is detected.*

Note: *Trailer profiles allows you to setup several trailer maintenance reminders and maintenance intervals for multiple trailer components by specifying miles and months in service.*

Note: *Trailer maintenance reminder is designed to be an aid and does not relieve you of your responsibility to follow the trailer manufacturers recommended maintenance intervals. You are responsible for inputting maintenance intervals consistent with the trailer manufacturer.*

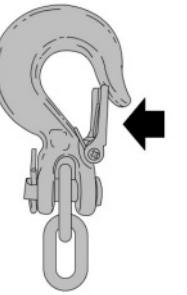


When attaching the trailer wiring connector to your vehicle, only use a proper fitting connector that works with the vehicle and trailer functions.

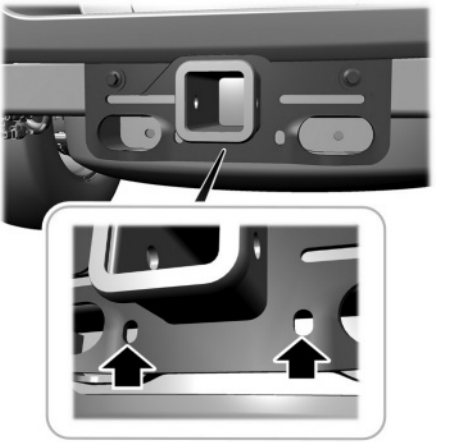
Safety Chains

Install trailer safety chains to the trailer hitch as recommended by the manufacturer. Cross the chains under the trailer coupler and allow enough slack for turning tight corners. Do not allow the chains to drag on the ground.

Note: *Do not attach safety chains to the bumper. Always connect the safety chains to the frame or hook retainers of your trailer hitch.*



If the trailer safety chain hook has a latch, make sure to fully close the latch.



Use the smaller holes in the safety chain bracket for trailer breakaway cables and small 3/8" s-hooks.

Trailer Connection Alarm

The alarm is set when the following occur:

- Your vehicle detects the trailer.
- You lock your vehicle.
- You arm the alarm.

When the trailer disconnects in this state, the vehicle alarm sounds and the system sends an alert to your Ford mobile app.

Note: *For reliable trailer detection, the trailer's lamps must be SAE certified for each intended purpose.*

Note: *If the trailer is not compatible with the feature, the turn signals flash twice.*

Switching the Trailer Connection Alarm On and Off

1. Press ***Features*** on the touchscreen.
2. Press ***Towing***.
3. Press ***Manage trailers***.
4. Press the currently active trailer's name.
5. Switch ***Trailer Connection Alarm*** on or off.

Note: *The alarm disables by default. If the system detects a trailer, it can be configurable.*

Note: *Settings are applicable only for the selected trailer profile.*

TRAILER BATTERY CHARGE/ TRAILER POWER FEED

This feature allows the trailer's battery to charge under the following situations:

- Your vehicle is in the accessory or engine run position
- If the vehicle's battery voltage is in optimum condition, above 12.5 volts, and the trailer's battery can still hold a charge, or is not too old.

The trailer power feed feature allows for a 12 volt power output on a 7-pin connector when the system detects a trailer.

Note: *Trailer power feed can provide a maximum output rate of 15 amps.*

Note: *Never place more demand than 15 amps of power on the trailer power feed, this may damage the trailer lighting.*

TRAILER LIGHTING CHECK

WARNING: Never connect any trailer lamp wiring to the vehicle's tail lamp wiring; this may damage the electrical system resulting in fire. Contact your authorized dealer as soon as possible for assistance in proper trailer tow wiring installation. Additional electrical equipment may be required.

Trailer light check feature allows one person to confirm that all taillights are functioning.

Perform a trailer light illumination sequence to confirm that all lights are functioning using the SYNC screen in the vehicle or the Ford app.

Performing the Trailer Light Check using the SYNC screen in vehicle

1. Press ***Features*** on the touchscreen.
2. Press ***Towing***.
3. Press ***Trailer Light Check***.
4. Press ***Start***.
5. Follow the instructions until the lights sequence completes.

Performing the Trailer Light Check using the Ford app

1. Create or sign-in to the Ford app and add the vehicle identification number to your account.
2. Once you add the vehicle identification number, follow the prompts in the Ford app to complete the Sync Connect Authorization process.

3. After the authorization is complete, navigate to Vehicle Details screen and select Trailer Light Check.
4. Press ***Start***.
5. Follow the instructions until the lights sequence completes.

Note: *Trailer light check feature is available only in vehicles with trailer capability and trailer must be electrically connected for feature to function.*

CONNECTING A TRAILER – TROUBLESHOOTING

CONNECTING A TRAILER – INFORMATION MESSAGES

Message	Description
Trailer disconnected	The system senses a trailer connection becomes disconnected, either intentionally or unintentionally, during a given ignition cycle.
Trailer wiring fault	There are certain faults in your vehicle wiring and trailer wiring or brake system.
Trailer Lighting Module Fault See Manual	The system detects a short induced by the trailer wiring. Inspect and repair the trailer wiring or see your authorized dealer.
Trailer battery not charging See manual	The vehicle's battery voltage is low or there is a fault with your trailer's battery. Your trailer's battery voltage is below 8 volts or it is connected in reverse polarity.
Trailer Tire Pressure Low Specified: {###.#} psi Specified: {###.#} kPa Specified: {###.#} bar	One or more tires on your trailer is below the specified tire pressure.
Trailer tire over temperature	Displays when one or more tires on the trailer is above the recommended temperature.
Trailer tire pressure sensor fault	A trailer tire pressure sensor is malfunctioning. If the warning stays on or continues to come on, have the system checked as soon as possible.
Trailer tire pressure monitor fault	The trailer tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, have the system checked.
Trailer tire pressure monitor capability not detected	The system cannot detect the trailer tire pressure monitoring system.
Trailer tire pressure Indication not set up See manual	The trailer tire pressure monitoring system is not set up.

TOWING A TRAILER PRECAUTIONS

WARNING: Do not exceed the GVWR or the GAWR specified on the certification label.

WARNING: Towing trailers beyond the maximum recommended gross trailer weight exceeds the limit of your vehicle and could result in engine damage, transmission damage, structural damage, loss of vehicle control, vehicle rollover and personal injury.

WARNING: Do not exceed the lowest rating capacity for your vehicle or trailer hitch. Overloading your vehicle or trailer hitch can impair your vehicle stability and handling. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Make sure that the vertical load on the tow ball is between the minimum and maximum recommended weight at all times. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Do not cut, drill, weld or modify the trailer hitch. Modifying the trailer hitch could reduce the hitch rating.

WARNING: The anti-lock brake system does not control the trailer brakes.

TRAILER BRAKE PRECAUTIONS

WARNING: Do not connect a trailer's hydraulic brake system directly to your vehicle's brake system. Your vehicle may not have enough braking power and your chances of having a collision greatly increase.

WARNING: Do not tow a trailer fitted with electric trailer brakes unless your vehicle is fitted with a compatible aftermarket electronic trailer brake controller. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death. For additional information and assistance, we recommend that you contact an authorized dealer.

Electric brakes and manual, automatic or surge-type trailer brakes are safe if you install them properly and adjust them to the manufacturer's specifications. The trailer brakes must meet local and federal regulations.

The rating for the tow vehicle's braking system operation is at the gross vehicle weight rating, not the gross combined weight rating.

Certain states require functioning trailer brakes for trailers over a specified weight. Be sure to check state regulations for this specified weight.

Ford Motor Company recommends separate functioning brake systems for trailers weighing more than 1,500 lb (680 kg) when loaded.

TOWING A TRAILER LIMITATIONS

Your vehicle's load capacity designation is by weight, not by volume, so you cannot necessarily use all available space when loading a vehicle or trailer.

Towing a trailer also requires your understanding of how and when to use or not use additional systems present in your vehicle. The following systems referenced are to be used as a guide and are not a complete list. See **Lane Keeping System Precautions and Limitations** (page 315). See **Adaptive Cruise Control Precautions and Limitations** (page 325).

Note: *Your vehicle could have reduced performance when operating at high altitudes and when heavily loaded or towing a trailer. When driving at elevation, to match driving performance as perceived at sea level, reduce gross vehicle weight and gross combination weight by 2% per 1,000 ft (300 m) elevation.*

LOADING YOUR TRAILER

To help minimize how trailer movement affects your vehicle when driving:

- Load the heaviest items closest to the trailer floor.
- Load the heaviest items centered between the left-hand and right-hand side trailer tires.
- Load the heaviest items above the trailer axles or just slightly forward toward the trailer tongue. Do not allow the final trailer tongue weight to go above or below 10-15% of the loaded trailer weight. The trailer tongue weight should never exceed 10% of the maximum towing capacity when towing a conventional trailer, and should never exceed 15% of the maximum towing capacity when towing a fifth-wheel or gooseneck trailer.
- Select a ball mount with the correct rise or drop. When you connect both the loaded vehicle and trailer, the trailer frame should be level, or slightly angled down toward your vehicle, when viewed from the side.

TRAILER TOWING HINTS

Towing a trailer places an extra load on your vehicle's engine, transmission, axle, brakes, tires and suspension. Periodically inspect these components during and after any towing operation.

When driving with a trailer or payload, a slight takeoff vibration or shudder may be present due to the increased payload weight.

Your vehicle may have a temporary or conventional spare tire. A temporary spare tire is different in diameter or width, tread-type, or is from a different manufacturer than the road tires on your vehicle. Consult information on the tire label or Safety Compliance label for limitations when using.

When towing a trailer:

- Obey country specific regulations for towing a trailer.
- Do not tow during the first 1,000 mi (1,609 km), the driveline requires a break-in during that time. See **Breaking-In** (page 404).
- Do not make full-throttle starts.
- Check your hitch, electrical connections and trailer wheel lug nuts thoroughly after you have traveled 50 mi (80 km).
- When stopped in congested or heavy traffic during hot weather, place the transmission in park (P) to aid engine and transmission cooling and to help A/C performance.
- Turn off the speed control with heavy loads or in hilly terrain. The speed control may turn off when you are towing on long, steep slopes.
- Shift to a lower gear when driving down a long or steep hill. Do not continuously apply the brakes, as they may overheat and become less effective.
- If your transmission has Grade Assist or Tow/Haul, use this feature when towing. This provides engine braking and helps eliminate excessive transmission shifting for optimum fuel economy and transmission cooling.
- If your vehicle has AdvanceTrac with roll stability control, this system may turn on during typical cornering maneuvers with a heavily loaded trailer. This is normal. Turning the corner at a slower speed when towing may reduce this tendency.
- Allow more distance for stopping with a trailer attached. Anticipate stops and gradually brake.
- Avoid parking on a slope. However, if you must park on a slope, turn the steering wheel to point your vehicle tires away from traffic flow, set the parking brake, place the transmission in park (P) and place wheel chocks in front and back of the trailer wheels.

Note: *Chocks are not included with your vehicle.*

LAUNCHING OR RETRIEVING A BOAT OR PERSONAL WATERCRAFT

When backing down a ramp during boat launching or retrieval:

- Do not allow the static water level to rise above the bottom edge of the rear bumper.
- Do not allow waves to break higher than 6 in (15 cm) above the bottom edge of the rear bumper.

Exceeding 6 in (15 cm) could allow water to enter vehicle components, causing internal damage to the components and affecting driveability, emissions and reliability.

Note: *Replace the rear axle lubricant anytime the rear axle has been submerged in water.*

Note: *Disconnect the trailer wiring connector before backing the trailer into the water.*

Note: *Reconnect the trailer wiring connector after removing the trailer from the water.*

TOWING WEIGHTS AND DIMENSIONS

RECOMMENDED TOWING WEIGHTS

United States of America



https://www.fordpro.com/en-us/fleet-vehicles/manuals-and-guides/

Canada (English)



https://www.fordpro.ca/en-ca/fleet-vehicles/manuals-and-guides/

Canada (French)



https://www.fordpro.ca/fr-ca/fleet-vehicles/manuals-and-guides/

WHAT IS THE MAXIMUM LOADED TRAILER WEIGHT

The maximum loaded trailer weight is the highest possible weight of a fully loaded trailer the vehicle can tow.

CALCULATING THE MAXIMUM LOADED TRAILER WEIGHT FOR YOUR VEHICLE

1. Start with the gross combined weight rating for your vehicle model and axle ratio.
2. Subtract all of the following that apply to your vehicle:

- Vehicle curb weight.
- Hitch hardware weight, for example a draw bar, ball, locks or weight distributing hardware.
- Driver weight.
- Passenger weight.
- Payload, cargo and luggage weight.
- Aftermarket equipment weight.

This equals the maximum loaded trailer weight for this combination.

Note: *The trailer tongue load is considered part of the payload for your vehicle. Reduce the total payload by the final trailer tongue weight.*

Note: *Consult an authorized dealer to determine the maximum trailer weight allowed for your vehicle if you are not sure.*

TOWING A TRAILER – TROUBLESHOOTING

TOWING A TRAILER – INFORMATION MESSAGES

Message	Details
Trailer Left Turn Lamps Fault Check Lamps	The left-hand trailer turn lamp requires service.
Trailer right turn lamps fault Check lamps	The right-hand trailer turn lamp requires service.
Trailer battery not charging See manual	The vehicle's battery voltage is low or there is a fault with your trailer's battery. Your trailer's battery voltage is below 8 volts or it is connected in reverse polarity.
Trailer Lighting Module Fault See Manual	The system detects a short created by the trailer lamps. Inspect and repair the trailer wiring, or have the system checked as soon as possible.
Trailer Stop Lamps Fault Check Lamps	The trailer stoplamps require service.
Trailer Sway Control Reduce speed	The trailer sway control detects trailer sway. Reduce the vehicle's speed.
Trailer tire over temperature	Displays when one or more tires on the trailer is above the recommended temperature.
Trailer Tire Pressure Low Specified: {###.#} psi Specified: {###.#} kPa Specified: {###.#} bar	One or more tires on your trailer is below the specified tire pressure.
Trailer tire pressure sensor fault	A trailer tire pressure sensor requires service. If the warning stays on or continues to come on, have the system checked as soon as possible.
Trailer tire pressure monitor fault	The trailer tire pressure monitoring system requires service. If the warning stays on or continues to come on, have the system checked as soon as possible.
Trailer tire pressure monitor capability not detected	The system cannot detect the trailer tire pressure monitoring system.
Trailer tire pressure Indication not set up See manual	The trailer tire pressure monitoring system is not setup.

Message	Details
Trailer Brake Module Fault	Perform a trailer brake and trailer light check if possible. If the message persists, have your vehicle checked as soon as possible.
Trailer brake system fault See manual	Verify the trailer brake connections are secure and that the aftermarket trailer brake controller device is correctly installed. Perform a trailer brake and trailer light check if possible. If the message persists, have your vehicle checked as soon as possible.

WHAT IS THE INTEGRATED TRAILER BRAKE CONTROLLER

The trailer brake controller assists in smooth and effective trailer braking based on the towing vehicle's brake pressure.

INTEGRATED TRAILER BRAKE CONTROLLER PRECAUTIONS

WARNING: Use the integrated trailer brake controller to properly adjust the trailer brakes and check all connections before towing a trailer. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

- Only use the manual control lever for proper adjustment of the gain during trailer setup. Misuse, such as application during trailer sway, could cause instability of trailer or tow vehicle.
- Avoid towing in adverse weather conditions. The trailer brake controller does not provide anti-lock control of the trailer wheels. Trailer wheels can lock up on slippery surfaces, resulting in reduced stability of trailer and tow vehicle.
- The trailer brake controller is only a factory-installed or dealer-installed item. Ford is not responsible for warranty or performance of the controller due to misuse or customer installation.

Note: *Do not attempt removal of the trailer brake controller without consulting the Workshop Manual. Damage to the unit may result.*

Note: *Make sure to set the integrated trailer brake controller gain to 0 if you are using an aftermarket trailer brake controller.*

USING THE INTEGRATED TRAILER BRAKE CONTROLLER

1. Make sure the trailer brakes are in good working condition, functioning normally and properly adjusted. See your trailer dealer if necessary.

Note: *An authorized dealer can diagnose the trailer brake controller to determine exactly which trailer fault has occurred. Your vehicle warranty does not cover issues with your trailer.*

2. Hook up the trailer and make the electrical connections according to the trailer manufacturer's instructions.

Note: *Select default mode if the trailer has surge brakes, or no brakes at all. The system has no effect on the braking performance of the trailer in either of these cases.*

Note: *The system does not support the trailer braking function if it is connected by a four-pin connector.*

3. When you plug in a trailer with electric or electric-over-hydraulic brakes, a message confirming connection appears in the information display.
4. Use the gain adjustment to find the desired starting point. A gain setting of 6.0 is a good starting point for heavier loads.

Note: *Use the following steps to adjust the gain setting whenever road, weather and trailer, or vehicle loading conditions change from when you initially set the gain.*

5. In a traffic-free environment, tow the trailer on a dry, level surface and completely squeeze the manual control lever.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

6. If the trailer wheels lock up, indicated by squealing tires, reduce the gain setting. If the trailer wheels turn freely, increase the gain setting. Repeat Steps 5 and 6 until the gain setting is at a point just below trailer wheel lock-up. If towing a heavier trailer, trailer wheel lock-up may not be attainable even with the maximum gain setting of 10.

Note: *Only perform this procedure at speeds of approximately 20–25 mph (30–40 km/h).*

Note: *The trailer brake controller reduces output at vehicle speeds below 11 mph (18 km/h) so that trailer and vehicle braking is not jerky or harsh. This feature is only available when applying the brakes using your vehicle's brake pedal, not the controller.*

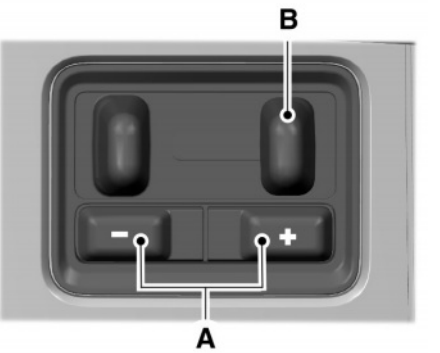
Note: *Your vehicle's brake system and the trailer brake system work independently of each other. Changing the gain setting on the controller does not affect the operation of your vehicle's brakes whether you attach a trailer or not.*

Note: *With the proper electrical connection, pressing your vehicle's brake pedal or using the manual control lever illuminates both trailer and vehicle brake lamps.*

Note: *When you switch the engine off, the controller output disables and the display and module shut down. The controller module and display turn on when you switch the ignition on.*

Note: *The system suspends stop/start when you attach a trailer with electric or electric over hydraulic brakes to your vehicle.*

Adjusting the Trailer Brake Gain



A Use the gain adjustment (+) and (-) buttons to increase or decrease the gain setting to the desired starting point. The trailer brake controller allows adjustment of brake gain from 0% to 100% in 5% increments.

B Use the manual slider to directly apply trailer braking.

Note: *Adjust the gain setting before using the trailer brake controller for the first time.*

Note: *Set the gain to provide the maximum trailer braking assistance while making sure the trailer wheels do not lock when using the brakes. Locked trailer wheels may lead to trailer instability.*

Note: *The system saves the setting adjustments when you select a trailer profile.*

Note: *If you have installed an aftermarket trailer brake controller in addition to the integrated trailer brake controller, set the gain on the integrated trailer brake controller to zero.*

ADJUSTING THE INTEGRATED TRAILER BRAKE CONTROLLER MODE

Select the correct integrated trailer brake controller mode option using the touchscreen.

Note: *Trailer brake gain settings are saved to the active trailer profile.*

Selecting the Trailer Brake Type

1. Press ***Default*** for trailers with electromagnetic drum brake systems or press ***Electric over Hydraulic*** for trailers with electrically actuated hydraulic brake systems.
2. Press ***Save***.

Selecting the Trailer Brake Effort

1. Select a setting for your trailer.

Note: *The default value is **Low** and is the recommended setting for most trailers. Select a different setting if your trailer's brakes require more initial voltage, or you prefer more aggressive trailer braking.*

2. Press ***Save***.

INTEGRATED TRAILER BRAKE CONTROLLER – TROUBLESHOOTING

INTEGRATED TRAILER BRAKE CONTROLLER – INFORMATION MESSAGES

Message	Details
Trailer connected	The system detects a correct trailer connection during a given ignition cycle.
Trailer disconnected	The system detects the trailer wiring connection is disconnected during a given ignition cycle.
Trailer wiring fault	The system detects an electrical fault in the trailer brake circuit. If this message appears without a trailer attached, see your authorized dealer. If a trailer is attached, inspect and repair the trailer wiring.
Trailer brake Gain: {##.#}	Displays the current gain setting for the trailer brake.
Trailer brake Gain: {##.#} No trailer	Displays the current gain setting for the trailer brake when you do not have a trailer connected.
Trailer battery not charging See manual	The vehicle's battery voltage is low or there is a fault with your trailer's battery. Your trailer's battery voltage is below 8 volts or it is connected in reverse polarity.
Trailer Brake Module Fault	Perform a trailer brake and trailer light check if possible. If the message persists, have your vehicle checked as soon as possible.
Trailer brake system fault See manual	Verify the trailer brake connections are secure and that the aftermarket trailer brake controller device is correctly installed. Perform a trailer brake and trailer light check if possible. If the message persists, have your vehicle checked as soon as possible.

INTEGRATED TRAILER BRAKE CONTROLLER – FREQUENTLY ASKED QUESTIONS

How do I determine if there is an issue with the wiring on my vehicle?

- A message displays accompanied by a single tone, when no trailer is connected. This indicates that the issue is between the trailer brake controller and the 7-pin connector at the bumper.

How do I determine if there is an issue with the wiring on my trailer?

- A message only displays with a trailer connected. Consult your trailer dealer for assistance.

HOW DOES TRAILER SWAY CONTROL WORK

The system applies the brakes to the individual wheels and reduces engine torque to aid vehicle stability.

If the trailer begins to sway, the stability control lamp flashes and the message ***Trailer Sway Reduce Speed*** appears in the information display.

Stop your vehicle as soon as it is safe to do so. Check the vertical weight on the tow ball and trailer load distribution.

TRAILER SWAY CONTROL PRECAUTIONS

WARNING: Turning off trailer sway control increases the risk of loss of vehicle control, serious injury or death. Ford does not recommend disabling this feature except in situations where speed reduction may be detrimental (such as hill climbing), the driver has significant trailer towing experience, and can control trailer sway and maintain safe operation.

Note: *This feature only activates when significant trailer sway occurs.*

Note: *This feature does not prevent trailer sway, but reduces it once it begins.*

Note: *This feature cannot stop all trailers from swaying.*

Note: *In some cases, if vehicle speed is too high, the system may activate multiple times, gradually reducing vehicle speed.*

SWITCHING TRAILER SWAY CONTROL ON AND OFF

1. Press ***Features*** on the touchscreen.
2. Press ***Towing***.
3. Switch ***Trailer Sway Control*** on or off.

The system turns on each time you start your vehicle.

HOW DOES TRAILER HITCHING ASSISTANCE WORK

Feature Definition	Technology Used
Trailer hitching assistance is a driver assistance system that helps the driver align the vehicle hitch ball to a trailer coupler.	Rear view camera.
	Rear parking aid sensors.
	Rear corner radars.

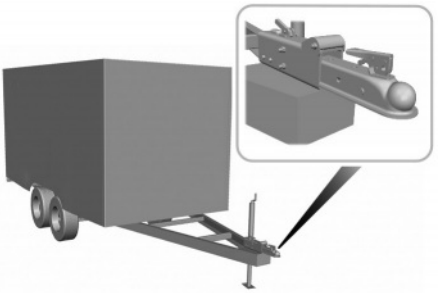
When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

This feature controls the following to align the hitch ball with the trailer coupler:

- Steering.
- Braking and acceleration.

Note: *Blocked sensors could affect system performance. Do not cover the sensors with bumper stickers, tape, repair compound or other objects.*

Note: *Exterior rear lighting provides additional illumination for the system.*



TRAILER HITCHING ASSISTANCE PRECAUTIONS

WARNING: The system is not designed to detect cyclists, motorcyclists, pedestrians or animals. Apply the brakes when necessary. Failure to follow this instruction could result personal injury or death.

Note: *Fifth wheel and gooseneck trailers are not supported.*

Note: *Trailer hitching assistance only works with conventional trailers, couplers and hitch balls.*

Note: *The hitch ball must be properly installed on the vehicle for the system to function as intended. An improperly installed hitch ball could result in damage to your vehicle or trailer.*

Note: *Certain aftermarket modifications such as oversized tires or lift kits could make trailer hitching assistance fail or not work as intended.*

TRAILER HITCHING ASSISTANCE LIMITATIONS

The system could not function, or could function with reduced performance, during the following:

- When using trailer hitching assistance in tall grass and weeds.
- When safety chains, cables or wiring are dangling near the coupler.
- When using trailer hitching assistance on slippery surfaces.
- When using hitches that raise the hitch ball more than 4 in (10 cm), lower the hitch ball by more than 6 in (16 cm) or extend the hitch ball away from the vehicle more than 12 in (30 cm).

- When using hitches that are lower than 10 in (25 cm) off the ground.
- When using objects taller than 8 in (20 cm), such as large blocks under the jack stand.
- When you park the trailer on surfaces that are similar in color to the trailer coupler and hitch ball.
  - A black coupler or hitch ball over a dark asphalt surface.
  - A light color coupler or hitch ball over a light concrete surface.
- When there are low or no light sources, such as at night.
- The feature may not align accurately during cold weather. If this occurs, allowing the engine to reach normal operating temperature may improve performance.

For additional information, refer to the Ford Support website.

SWITCHING TRAILER HITCHING ASSISTANCE ON AND OFF



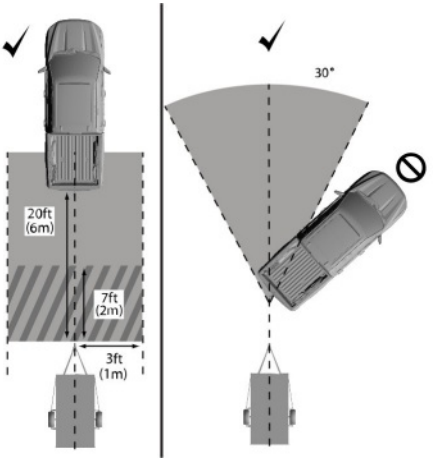
Press the button to switch the system on and off. You can also switch the system off through the touchscreen.

USING TRAILER HITCHING ASSISTANCE

Before switching on the system, make sure that your vehicle:

- Is within 20 ft (6 m) of the trailer and no closer than 7 ft (2 m).
- Is less than a 30º approach angle to the trailer.
- Is within 3 ft (1 m) of the front of the trailer facing the same direction.

- Is clear of obstacles or other vehicles within 6 ft (1.8 m) on either side of your vehicle or the trailer.
- Has the tailgate in the closed position.
- Has radar, sensor, and camera free from snow, ice and dirt.
- Has parking aid sensors switched on in the touchscreen.



1. Press the Pro Trailer button.

Note: *Press the Pro Trailer button to switch the system on and off.*



2. When asked if a trailer is connected, select no on the touchscreen to activate the system.
3. Follow the instructions on the touchscreen.

Note: *Pressing the Pro Trailer button other than when prompted turns off the system.*

TRAILER HITCHING ASSISTANCE INDICATORS



The white indicator represents the system searching for the trailer. Continue moving the vehicle until the trailer coupler is inside this indicator. The indicator turns green once the trailer coupler is in the correct position.



The bracket shows you the estimated location of your trailer.



The yellow indicator represents that you have positioned your vehicle too close to the trailer and you need to pull away from the trailer until the indicator turns green.

Trailer Hitching Assistance Audible Indicators

A tone sounds as part of normal operation of the system to alert the driver that an action needs to be taken or an event has been completed.

TRAILER HITCHING ASSISTANCE – TROUBLESHOOTING

TRAILER HITCHING ASSISTANCE – INFORMATION MESSAGES

Message	Details
Pro Trailer Hitch Assist Not Available Low Light Detected	Displays when your vehicle's light sensor located in the center of the front dashboard is detecting a low light condition. The feature functions only in adequate daylight conditions and it is not designed to operate in low light. Make sure there are no items covering the light sensor.
Pro Trailer Hitch Assist Not Available Refer to Owner's Manual	This message may indicate that your vehicle's camera or steering system requires additional initialization to support this feature. Drive your vehicle straight forward for a few minutes. Then, turn the vehicle off for 5 minutes. Turn it back on to see if the issue is resolved. Due to environmental conditions, some vehicles may take multiple attempts or a longer driving duration to complete the camera or steering system initialization. If the message continues to be displayed, visit your authorized dealer to have your vehicle checked.
Pro Trailer Hitch Assist Canceled System Error	Turn the vehicle off and back on again. Wait 30 seconds before activating the Pro Trailer Hitch Assist feature. If the message continues to be displayed, visit your authorized dealer to have your vehicle checked.
Pro Trailer Hitch Assist Canceled Shift to P	Displays when a condition exists that prevents the system from completing the alignment. Make sure all the items in the USING TRAILER HITCHING ASSISTANCE section are in place. If the message continues to be displayed, visit your authorized dealer to have your vehicle checked.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Message	Details
Pro Trailer Hitch Assist Canceled Trailer Detection Lost	• Check for objects, water, dirt, or ice covering the rear view camera. • Reposition vehicle within the allowable limit as shown in the USING TRAILER HITCHING ASSISTANCE section. • Check for a person, pet, or object in the path between the hitch ball and the trailer coupler. The Pro Trailer Hitch Assist feature monitors the area between the vehicle and trailer. • Make sure the trailer coupler has adequate lighting with minimal shadow and enough contrast from its surroundings for the camera to detect it. The system may not detect your trailer if it cannot distinguish the trailer coupler from the background.
Pro Trailer Hitch Assist Canceled Object Detected In Path	• Check for objects, water, dirt, or ice covering the rear parking aid sensors. • Clear any objects from behind the vehicle or wheels. • Avoid using the system on rough terrain. • Make sure the parking aid sensors are switched ON in the touchscreen. See **Parking Aids Settings** (page 299). See **Parking Aids Settings** (page 299).

Note: *If the system consistently stops too close to the trailer, lowering the trailer coupler to be closer to the minimum of 0.50 in (1.27 cm) higher than the hitch ball may improve the alignment.*

Note: *If the system consistently stops too far from the trailer, raising the trailer coupler to be closer to the maximum of 3.00 in (7.62 cm) higher than the hitch ball may improve the alignment.*

Note: *Any changes or modifications to the vehicle could affect the functionality and performance of the system or prevent it from working.*

Smart hitch indicates if the trailer's load is within the recommended range based on the weight on the trailer and its cargo.

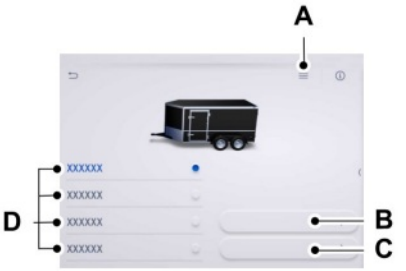
Smart hitch uses sensors mounted to the suspension to calculate the connected trailer's tongue load.

You cannot use the system if any of the following occur:

- The wheels do not point straight ahead.
- Your vehicle is not in park (P) or your vehicle speed is over 5 mph (8 km/h).
- Your vehicle is not on a level surface.
- The tire pressures are below the recommended levels.
- Your vehicle is off.

Using Smart Hitch

From the features menu, press Smart Hitch. See **Center Display** (page 540).



A	Settings menu.
B	Quick setup.
C	Connection checklist.
D	Hitch type selection.

Smart Hitch Settings

Press the settings menu to adjust the smart hitch settings.

Measurement Units

Press to change measurement units between pounds and kilograms.

Quick Setup

Press to skip the trailer setup guide and follow steps to display estimated hitch weight percentage and recommended adjustments.

Connection Checklist

Press to go through the trailer setup guide and follow steps to display estimated hitch weight percentage and recommended adjustments.

Reset Hitch Weight

Press to reset the weight on the hitch to zero.

Loaded Trailer Weight

Press to set the total weight of the loaded trailer.

Note: *Make sure you include both the trailer weight and the trailer cargo in your calculation for total weight of the loaded trailer.*

Unknown Trailer Weight

Press to declare the trailer weight as unknown. The system provides the hitch tongue load estimation without providing a recommended range.

Note: *The value at the top of the graph indicates the maximum percentage of the vehicle's hitch tongue load capacity. The middle value represents the current estimation of the hitch tongue load.*

Tail Lamps

Press to see the estimated hitch weight percentage on the vehicle's tail lamps.

Hitch Type Selection

Press to select the hitch type.

Note: *The vehicle's tongue weight is not available until you attach a trailer.*

Onboard scales provide the estimated payload of your vehicle and warns when your vehicle may be overloaded.

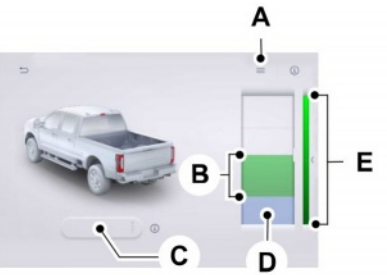
Onboard scales uses sensors mounted to the suspension to calculate the estimated vehicle payload.

You cannot use the system if any of the following occur:

- The wheels are not pointed straight ahead.
- Your vehicle is not in park (P).
- Your vehicle is not on a level surface.
- The tire pressures are below the recommended levels.
- Your vehicle is off.

Using Onboard Scales

From the features menu, press Onboard Scales. See **Center Display** (page 540).



A	Settings menu.
B	Estimated payload.
C	Tail lamps on and off.
D	Passenger and Cargo Load Reminder.
E	Vehicle capacity range.

Tail Lamps

Press to see the estimated payload on the vehicle's tail lamps.

Onboard Scales Settings

Vehicle Mode

Press to see the current estimated payload.

Scale Mode

Press to see a representation of the weight added to the vehicle's current payload and to reset scale mode to zero.

Passenger and Cargo Load Reminder

Press to switch the load reminder on or off.

Set Passenger and Cargo Load Reminder

Press to set a value of weight to be considered in the vehicle that is not present while the vehicle is being loaded.

Example of application: Passenger(s) weight.

The default and minimum value is 150 lb (75 kg).

The maximum value is 1,550 lb (700 kg).

Press **Set Current Load as Estimate** to store the immediate payload reading as a Passenger and Cargo Load Reminder.

Measurement Units

Press to change measurement units between pounds and kilograms.

HOW DOES TRAILER BACKUP ASSISTANCE WORK

Feature Definition	Technology Used
Trailer backup assistance is a driver assistance system that uses a control knob to help steer your trailer in reverse. Turn the control knob in the direction you want the trailer to go and the system steers the vehicle to maneuver the trailer.	Rear view camera

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Trailer backup assistance uses a sticker or sensor attached to the trailer to detect the trailer angle relative to the towing vehicle and provides instructions, graphics and camera views on the touchscreen.

Note: *Exterior rear lighting may be used to provide additional illumination for the system.*

TRAILER BACKUP ASSISTANCE PRECAUTIONS

WARNING: This system does not automatically brake your vehicle. This system is an extra driving aid. It does not replace your attention and judgment, or the need to apply the brakes. If you do not apply the brakes when necessary, you may collide with another vehicle or other objects.

Note: *Always be aware of your vehicle and trailer combination and the surrounding environment.*

Note: *The system does not detect or prevent your vehicle or trailer from making contact with obstacles in the surrounding environment.*

Note: *The front end of your vehicle swings out when changing the direction of the trailer.*

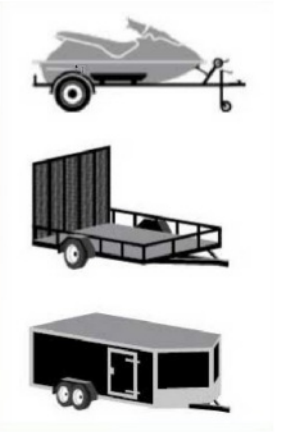
Note: *In certain conditions, the trailer could turn faster or the trailer angle could increase more than anticipated. Always monitor the clearance between the trailer and vehicle and the surroundings.*

SETTING UP THE TRAILER BACKUP ASSISTANCE FOR A CONVENTIONAL TRAILER

CONFIGURING THE TRAILER

You must configure a trailer in the system to use trailer backup assistance. This is a one-time setup process and the system saves the trailer information for the next time you use that trailer.

The following illustration shows examples of conventional trailers.



Positioning the Trailer

Hitch the trailer to your vehicle and connect the electrical wiring harness. Check to make sure that the wiring is working. See **Connecting a Trailer** (page 348).



Park your vehicle and hitched trailer on a level surface.

For best results, make sure that your trailer rides level with the ground when you hitch your vehicle. See **Connecting a Trailer** (page 348).



Make sure that the trailer and your vehicle are in line with each other. You can do this by putting the transmission in drive (D) and pulling straight forward.

Configuring the Trailer in the Touchscreen



1. Press the button to switch the system on.

Note: *A popup window may appear asking you to confirm if a trailer is connected.*

2. Select the corresponding trailer from the list or press Add Trailer.

Note: *If adding a trailer, select a trailer type and enter a name for the new trailer.*

3. Proceed to the sticker or sensor setup. See **Applying the Trailer Reversing Aid Sticker** (page 379).

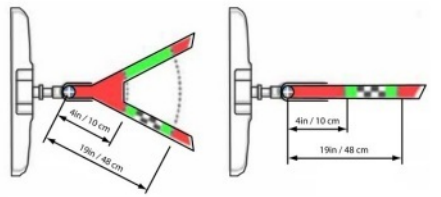
Note: *If using the trailer sensor, the sticker setup is not necessary.*

Note: *Your vehicle has two options for trailer backup assistance set up. The system defaults to the camera based system. See **Applying the Trailer Reversing Aid Sticker** (page 379). You can also set up the system with the trailer sensor that you can purchase from your authorized dealer. You must connect the sensor to your vehicle to set up the system. See **Trailer Sensor Installation** (page 379).*

Note: *If you configure the trailer and install a sensor, the system saves the trailer with that sensor information. If you want to use this trailer with the sticker, you need to delete the trailer from the system and repeat the setup process.*

APPLYING THE TRAILER REVERSING AID STICKER

Place the sticker in an area visible by the rear view camera. The entire sticker must be within 4–19 in (10–48 cm) from the center of the hitch ball, as shown in the following illustration.



Use the supplied sticker placement card, a tape measure and pen to carefully mark the area to attach the sticker. Make sure the entire sticker is within the green zone between the two arcs or distance markers on the diagram, and is also visible in the rear view camera display.

Once you have found the correct location, place the sticker.

Note: *Make sure nothing can obstruct the rear view camera's view of the sticker such as a jack handle or wiring.*

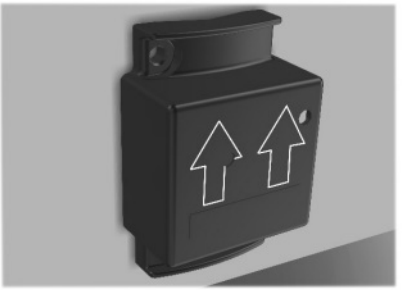
Note: *Position the sticker on a flat, dry and clean horizontal surface. For best results, apply the sticker when temperatures are above 32ºF (0ºC).*

Note: *Do not move stickers after placing them. Do not re-use any stickers if removed.*

Note: *You can purchase additional stickers through your authorized dealer.*

Note: *If you previously setup the trailer with the trailer sensor, make sure it is not plugged in before configuring the trailer and placing the sticker.*

TRAILER SENSOR INSTALLATION





Refer to the instructions included with your trailer sensor for detailed information regarding installation.

Note: *Make sure the arrows on the sensor housing are facing up. Mount the sensor to a vertical part of the trailer that pivots when you turn your vehicle. Do not mount to a stationary surface such as the truck side of the trailer hitch.*

CALIBRATING THE SYSTEM

Calibrating the system requires driving forward and turning left or right. Follow the instructions on the touchscreen to complete the calibration process.



Note: *To calibrate the system, you need an area where you can safely drive forward and turn left or right. An open parking lot is an ideal place to perform the calibration.*

Note: *Keep the steering wheel straight when instructed to by the touchscreen. If the steering wheel is in a turned position during this instruction, the calibration pauses.*

Note: *During calibration, the system determines the trailer length. The system supports trailer lengths of 6–33 ft (1.85–10.05 m) distance from the hitch point to the center of the axle or axles. The system is designed to work with drawbars that have a license plate to hitch ball center measurement of 9–18 in (23–46 cm) when installed. Do not attempt to use drawbars or trailers that have a length outside of this range as the system performance degrades and could cause improper system function.*

Note: *The touchscreen shows if you are going too slow or fast. Calibration pauses if the speed is outside the required range of 2–9 mph (4–15 km/h).*

Note: *You need to complete at least a 90° turn, and longer trailers could require a 180° turn. Camera trailer tracking requires the system to locate the hitch ball as well as determine the trailer length. Some trailers could require you to drive straight then turn multiple times before calibration completes. The touchscreen provides instructions and notifies you when calibration completes.*

Note: *For best results, do not calibrate the system at night when calibrating the system with the sticker.*

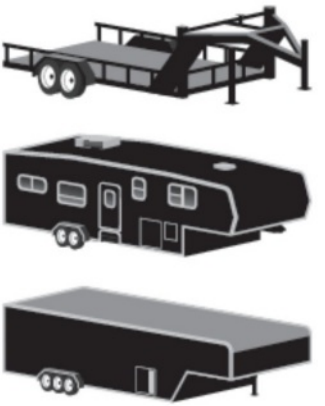
SETTING UP THE TRAILER BACKUP ASSISTANCE FOR A FIFTH-WHEEL OR GOOSENECK TRAILER

CONFIGURING THE TRAILER

You must configure a trailer in the system to use trailer backup assistance. This is a one-time setup process and the trailer information is saved in the system for the next time you use that trailer.

The following illustration shows examples of fifth-wheel and gooseneck trailers.

Note: *Trailer reverse guidance camera views are available with no trailer setup. However, complete functionality including graphics and automatic view switching is enabled by setup. Setup is required to enable trailer backup assistance.*



Configuring the Trailer in the Touchscreen

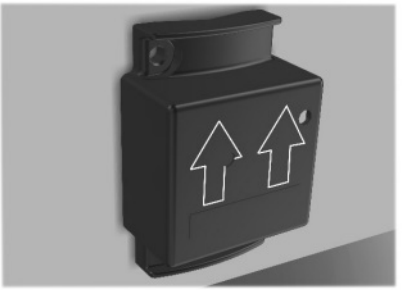


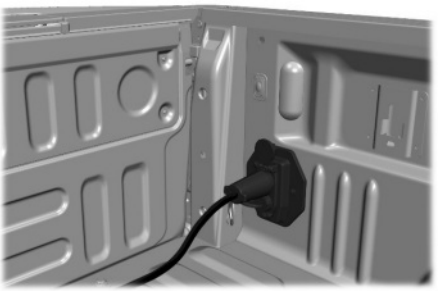
1. Press the button to switch the system on.

Note: *A pop-up window may appear asking you to confirm if a trailer is connected.*

2. Select the corresponding trailer from the list or Press Add Trailer on the touchscreen.
3. Follow the directions on the touchscreen to enter the trailer name and trailer type, then proceed to the sensor setup.

TRAILER SENSOR INSTALLATION





To use the system with a fifth-wheel or gooseneck trailer, you must install a sensor. Refer to the instructions in the sensor kit for proper installation.

Note: *Make sure the arrows on the sensor housing are facing up. Mount the sensor to a vertical part of the trailer that pivots and moves when you turn your vehicle. Do not mount to a stationary surface or to the truck side of the fifth wheel-trailer hitch.*

Note: *You need to replace the 7/4 way connector in the bumper with the recommended 7/12 pin connector if your vehicle did not come with the fifth-wheel prep package. See your authorized dealer.*

Note: *If your vehicle has the fifth-wheel prep package, you have everything you need. If your vehicle does not have the fifth-wheel prep package, see your authorized dealer to purchase the sensor kit and the 7/12 pin connector.*

CALIBRATING THE SYSTEM

Calibrating the system requires driving forward and turning left or right. Follow the instructions on the touchscreen to complete the calibration process.



Note: *Calibrating the system requires an area where you can safely drive forward and turn left or right. An open parking lot is an ideal place to perform the calibration.*

Note: *Keep the steering wheel straight when instructed to by the touchscreen. If the steering wheel is in a turned position during this instruction, the calibration pauses.*

Note: *During calibration, the system determines the trailer length. The system supports trailer lengths of 10–39 ft (3–11.94 m) distance from the hitch point to the center of the axle or axles.*

Note: *The touchscreen shows if you are going too slow or fast. Calibration pauses if the speed is outside the required range of 2–16 mph (4–25 km/h).*

Note: *You need to complete at least a 90° turn, and longer trailers could require a 180° turn.*

SWITCHING TRAILER BACKUP ASSISTANCE ON AND OFF



To switch the system on, press the Pro Trailer Backup Assistance button and use the touchscreen to select the connected trailer.

The system turns off if you do any of the following:

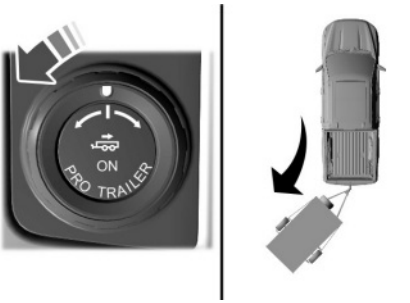
- Press the Pro Trailer Backup Assistance button.
- Exceed 6 mph (10 km/h) in forward gear. This speed limit is higher during setup.
- Turn the steering wheel while the vehicle is in reverse (R) and the system is active.

Note: *A trailer must be configured to use trailer backup assistance. See* ***Configuring the Trailer*** *(page 377).*

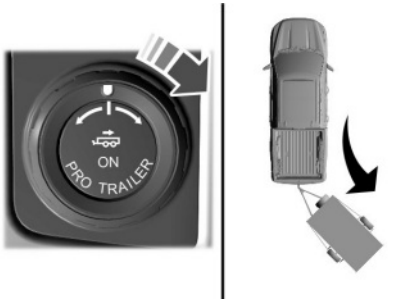
Note: *If the trailer was connected just prior to turning the system on, you may need to drive forward to initialize the system. Follow the instructions on the touchscreen to activate the system.*

USING THE TRAILER BACKUP ASSISTANCE CONTROLLER

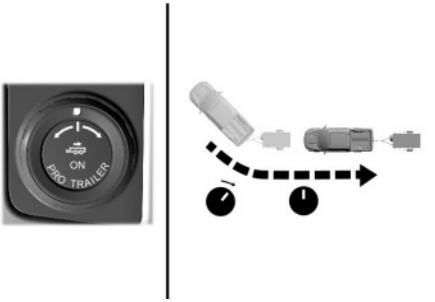
Use the control knob to steer the trailer. Take your hands off the steering wheel and turn the control knob instead. The control knob acts as the steering control for the trailer.



Turn and hold counterclockwise to make the trailer go left.



Turn and hold clockwise to make the trailer go right.



Release the knob when the trailer is moving in the direction you want.

Note: *The more you turn the knob, the sharper the trailer turns.*

Note: *Quickly turning and releasing the knob results in a jerky movement of the vehicle.*

Note: *You may have to use the knob to correct the trailer direction when attempting to move the trailer straight back under some conditions.*

USING THE TRAILER BACKUP ASSISTANCE VIEWS

Up to seven camera views could be available when using trailer backup assistance. Use the view that helps you the most when reversing your vehicle and trailer.

Note: *The rear view camera view is available on all vehicles with trailer backup assistance. Additional views are available on vehicles with trailer reverse guidance.*



360º camera view. Shows a 360º view on the right-hand side of the touchscreen with a rear camera view on the left-hand side of the touchscreen.



Rear view camera view. Shows your trailer hitch or what is directly behind your vehicle.



Rear split view camera view. Shows a 180º degree view of what is behind your vehicle.



Bed camera view. Shows the truck bed.

Note: *This view also provides a picture-in-picture view.*



Trailer AUX camera view. Shows a rear view camera image of what is behind your trailer. You need to separately purchase this camera and have it installed.

Note: *This view also provides a picture-in-picture view.*



Trailer reverse guidance view. Shows you a view of the sides of your truck and the trailer. In auto mode, this view moves as the trailer moves so that you do not have to adjust the camera as you turn. Left and right arrows let you see other camera views.


Picture-in-picture view. Shows a main view and a secondary view when in bed camera view or trailer AUX camera view.

Note: *If you have a 8 in (20 cm) touchscreen, picture-in-picture is off by default. Press the picture-in-picture icon on the touchscreen to switch picture-in-picture view on and off.*

Note: *If you have a 12 in (30 cm) touchscreen, picture-in-picture is on by default and you cannot switch it off.*


Swap. Press to swap between picture-in-picture views.



Auto. Press to return to auto view.

Note: *Auto is the default setting.*

Hitch Angle Graphic

The hitch angle graphic shows a small representation of your truck and trailer with visual feedback to help you monitor the trailer. The graphic shows two different colored lines for the trailer hitch angle. A black line shows you where your trailer is in relation to your vehicle. The white line represents the amount the trailer can turn based on knob input.

The graphic shows a yellow and red zone for the hitch angle to warn you of a high angle condition that could require you to pull forward to reduce the hitch angle. The angle limits for each zone vary based on the trailer length.

The yellow zone indicates you are approaching the maximum controllable trailer angle for the system. When the trailer enters this zone, it is more difficult to reduce the trailer turn when backing up. It may be necessary to put your vehicle back into drive (D) and pull forward to get the truck and trailer back to an in-line position.

The red zone indicates you have exceeded the maximum controllable trailer angle for the system. Immediately stop reversing. Put your vehicle into drive (D) and pull forward until the trailer is no longer in the red zone.

Setting the Trailer Angle Limit

1. Press Features on the touchscreen.
2. Press Towing.
3. Press Manage trailers.
4. Press Pro Trailer Backup Assist.
5. Press Trailer Angle Limit.
6. Press a setting.

Normal Control Angle

Default setting. This provides a balanced limit that returns from a turn to straight backing with minimal change to the trailer direction.

Max Control Angle

Increases the trailer angle limit close to the maximum controllable angle to allow sharper turns but also causes more change in the trailer direction when straightening out from a turn.

TRAILER BACKUP ASSISTANCE – TROUBLESHOOTING

TRAILER BACKUP ASSISTANCE – INFORMATION MESSAGES

Message	Description
Detecting trailer Please wait...	Displays when the system turns on and is initializing.
Pro Trailer Backup Assist System is not available	A condition exists that prevents the system from turning on. If the message continues to display have your vehicle checked as soon as possible.
Pro Trailer Backup Assist Driving required to initialize steering Press knob to exit	The steering system needs to learn internal parameters to fully enable the feature. Drive your vehicle straight forward above 25 mph (40 km/h) for approximately 5 minutes.
Pro Trailer Backup Assist Stop now Maximum trailer angle Press knob to exit	Displays when you reach the maximum controllable trailer angle for the system. Place your vehicle in drive (D) and pull forward to get the truck and trailer back to an in-line position. If this message consistently displays, you may need to repeat the trailer calibration. Delete the trailer from the system and repeat the setup and calibration process.
Stop now. Deactivated by trailer angle.	Displays when you exceed the maximum controllable trailer angle for the system. Place your vehicle in drive (D) and pull forward to get your vehicle and trailer back to an in-line position, then activate the system by selecting the connected trailer and following the instructions on the touchscreen. If this message consistently displays, you may need to repeat the trailer setup and calibration. Delete the trailer from the system and repeat the setup and calibration process.
Pro Trailer Backup Assist Stop now Take control of steering wheel	Displays when the system can no longer steer the vehicle and you must take over steering.

Message	Description
Pro Trailer Backup Assist Sensor not detected Refer to Owner's Manual Press knob to exit	Displays when the system does not detect the sensor. Check the sensor connection, check that there is no damaged wiring between the connector and sensor and check that there is only one sensor connected. If you do not want to use the sensor for this trailer, delete the trailer in the touchscreen then repeat the setup process with the sticker.
Pro Trailer Backup Assist Trailer not detected Shift to Park Press knob to exit	These messages display when the system does not detect the trailer. If your trailer is set up with a sticker, make sure the rear camera is clean, and the sticker is clearly visible in the camera image. You can also move the trailer forward or backward to change the trailer position and lighting conditions. If your trailer is set up with a sensor, check that the sensor is correctly installed and the trailer length is within the allowed range. If these messages continue to display, have your vehicle checked as soon as possible.
Pro Trailer Backup Assist Trailer not detected Refer to Owner's Manual Press knob to exit	
Pro Trailer Backup Assist Trailer not detected Drive forward to initialize Press knob to exit	For trailers set up with a sensor, this message displays when your vehicle has not moved after the trailer sensor is connected or extended operation below 1 mph (1 km/h). Drive forward above 2 mph (3 km/h) to initialize the system.
Pro Trailer Backup Assist Stop now System not active Press knob to exit	Displays when your vehicle is backing up but the system is not activated. Select the connected trailer on the touchscreen and follow the instructions to activate the system. This message also displays when you back up during the calibration process.
Pro Trailer Backup Assist Back up slowly Turn knob to steer Press knob to exit	Displays when the system turns on and is available to use.

TRAILER BACKUP ASSISTANCE – FREQUENTLY ASKED QUESTIONS

Why does the trailer not reverse straight?

Verify the sensor is correctly installed. Other factors such as the hitch connection, road camber, road slope and trailer suspension could influence how straight the system can reverse the trailer when the control knob is not turned. You can compensate for the trailer drifting to the right or left by slowly turning the knob until the trailer is following your desired path and then holding the knob in that position.

Why does the system not detect a sensor?

There could be an issue with the connection, the wiring harness could be damaged, you could have multiple sensors connected or the sensor could be incorrectly installed. Check that the 12-way connector is fully inserted into the 12-way socket. The red rubber seal is not visible when the connector is fully inserted. Also check that the wiring harness sensor connection is fully inserted at the trailer sensor, and check for damaged wiring between the 12-way connector and the trailer sensor. Also, check that the sensor is installed on a vertical surface with the arrows pointing straight up.

What does it mean if the system remains on one message for an extended time during calibration when setting up the system with the sticker?

The camera could need to be cleaned, the sticker could be blocked, the drawbar could be outside the allowed range of 4–19 in (10–48 cm) or you could need to move to a different area to change the lighting and background. Verify the sticker is in the proper location. See **Applying the Trailer Reversing Aid Sticker** (page 379). You can move to a different area or change the direction you are driving or setup the system at a different time of day. Some trailers are not compatible with the sticker and camera system. If the issue persists with the sticker setup, you may choose to setup the trailer with a sensor.

What does it mean if the system pauses during calibration?

There could be steering input or trailer movement during the straight drive portion of the calibration process.

What does it mean if the system remains on one message for an extended time during calibration when setting up the system with the sensor?

The sensor could be incorrectly installed, the trailer length could be outside the allowed range or the road surface could be too rough or bumpy.

What does it mean if the system displays hold steering steady during turn?

Part of the calibration process for the sticker setup requires a steady turn. If you are continually moving the steering wheel during the turn, this delays the calibration process. To enable the calibration process, hold the steering wheel at the same position when turning.

What does it mean if the system displays that it is not available?

There could be a sub-system that the system uses that is not correctly operating or there could be a battery voltage issue. If the system continues to display it is not available, visit your authorized dealer to have your vehicle checked.

What does it mean if the system displays that driving is required to initialize steering?

The steering system needs to learn internal parameters to fully turn on the feature. Drive your vehicle straight forward above 25 mph (40 km/h) for approximately 5 minutes. This could also occur when your vehicle is new, there is a battery voltage issue or if the steering system has been serviced.

What does it mean if the system does not detect a trailer when configured with a sensor?

Verify that the sensor is properly connected. See **Trailer Sensor Installation** (page 379). Repeat calibration on a different route if you have verified sensor installation.

What does it mean if the system requires you to pull forward to initialize?

This occurs when the vehicle has not moved during the current key cycle after you connect and select the trailer in the touchscreen or you operate the system at speeds below 1 mph (1 km/h) for an extended period of time. Drive forward above 2 mph (3 km/h) and the system indicates when it initializes.

What does it mean if the trailer is at its maximum angle or the system deactivated by trailer angle?

You are at the maximum controllable trailer angle for the system. Place your vehicle in drive (D) and pull forward to get the truck and trailer back to an in-line position. If this message consistently displays, this could indicate the sensor is incorrectly installed, the trailer needs to be recalibrated or the drawbar or the trailer dimensions are outside of the supported range. The system is designed to work with drawbars that have a license plate to hitch ball center measurement of 9–18 in (23–46 cm) when installed. The system is designed to work with trailers that have a hitch point to center of the axle or axles measurement of 6–33 ft (1.85–10.05 m). Do not attempt to use drawbars or trailers that have a length outside of this range as the system performance degrades and could cause improper system function. Check that the correct trailer is selected in the touchscreen. Verify the sensor is installed according to the instructions included in the sensor kit and check that the drawbar and the trailer dimensions are within the allowed range. Then, delete the trailer from the system and repeat the setup process to calibrate the trailer.

What does it mean when the system tells you to take control of the steering wheel?

The system is no longer steering the vehicle and you must take over steering. There are four reasons the system could display this message. The first reason the system could display this message is that you have touched the steering wheel when the system is steering. The second reason the system could display this message is that you have exceeded the maximum speed for the feature. The third reason the system could display this message is that the trailer is not detected. The final reason the system could display this message is that an internal condition for system operation is not met that requires your vehicle to return to manual control of the steering.

How do I use a sticker if I have previously setup a trailer with the sensor?

Disconnect the sensor wiring and add a new trailer to the system and follow the instructions for setup with a sticker. See **Applying the Trailer Reversing Aid Sticker** (page 379). If your vehicle does not support the sticker option, the touchscreen instructs you to install the sensor again.

What if I want to use a sensor for the trailer instead of a sticker?

Install the sensor and connect the sensor wiring before adding the new trailer to the system. You must connect the sensor before you add the trailer. If your vehicle did not come with a sensor, you can purchase one from your authorized dealer.

What does it mean if the system does not detect a trailer that is setup with a sticker?

The system requires a clear view of the sticker placed on the trailer. You must keep the camera lens and sticker clean for the system to correctly operate. If the system cannot initially detect the trailer, it could be necessary for you to change the lighting conditions by moving your vehicle and trailer or waiting until the conditions change. See **Applying the Trailer Reversing Aid Sticker** (page 379). Some trailers are not compatible with the sticker and camera system. If the system consistently does not detect the trailer with the sticker setup, you may choose to setup the trailer with a sensor.

Note: *The system is designed to be used with the same trailer connection every time you choose the trailer from the touchscreen. When using a different drawbar or a different pin hole on drawbars with more than one, connecting the drawbar to your vehicle affects the trailer position and you may need to repeat the trailer setup and calibration process.*

HOW DOES TRAILER REVERSE GUIDANCE WORK

Feature Definition	Technology Used
Trailer reverse guidance is a driver assistance system that provides views and graphics on the touchscreen to help you steer your vehicle when backing up a trailer.	Rear view camera

When using driver assistance features, you must understand the driver's responsibility, system limitations, sensor locations, and sensor limitations. See **Driver Assistance Systems Overview** (page 282).

Trailer reverse guidance uses a sticker or sensor attached to the trailer to detect the trailer angle relative to the towing vehicle and provides instructions, graphics and camera views on the touchscreen.

TRAILER REVERSE GUIDANCE PRECAUTIONS

WARNING: This system does not automatically brake your vehicle. This system is an extra driving aid. It does not replace your attention and judgment, or the need to apply the brakes. If you do not apply the brakes when necessary, you may collide with another vehicle or other objects.

Note: *Always be aware of your vehicle and trailer combination and the surrounding environment.*

Note: *The system does not detect or prevent your vehicle or trailer from making contact with obstacles in the surrounding environment.*

Note: *The front end of your vehicle swings out when changing the direction of the trailer.*

Note: *In certain conditions, the trailer could turn faster or the trailer angle could increase more than anticipated. Always monitor the clearance between the trailer and vehicle and the surroundings.*

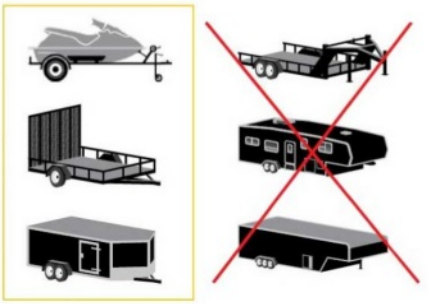
SETTING UP TRAILER REVERSE GUIDANCE FOR A CONVENTIONAL TRAILER

CONFIGURING THE TRAILER

You must configure a trailer in the system to use trailer reverse guidance. This is a one-time setup process and the trailer information is saved in the system for the next time you use that trailer.

The system only works with conventional trailers. It does not work with other types including fifth-wheel and gooseneck. The following illustration shows examples of conventional trailers on the left-hand side.

Note: *Trailer reverse guidance camera views are available with no trailer setup. However, complete functionality including graphics and automatic view switching is enabled by setup. Setup is required to enable trailer backup assistance.*



Positioning the Trailer

Hitch the trailer to your vehicle and connect the electrical wiring harness. Check to make sure that the wiring is working. See **Connecting a Trailer** (page 348).



Park your vehicle and hitched trailer on a level surface.

For best results, make sure that your trailer rides level with the ground when you hitch your vehicle. See **Connecting a Trailer** (page 348).



Make sure that the trailer and your vehicle are in line with each other. You can do this by putting the transmission in drive (D) and pulling straight forward.

Configuring the Trailer in the Touchscreen

1. Shift to reverse (R).
2. Press the camera view button.
3. Press the trailer view icon.

See **Connecting a Trailer** (page 348).

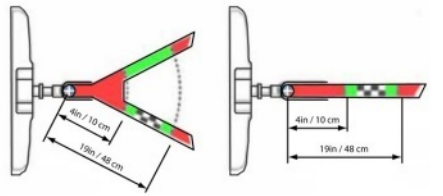
Note: *If you configure the trailer and install a sensor, the trailer is saved with that sensor information. If you want to use this trailer with the sticker, you need to delete the trailer from the system and repeat the setup process.*

Note: *Your vehicle has two options for the trailer reversing aid setup. If it came with a trailer sensor kit or if a message displays to install a sensor, follow the sensor installation instructions. See* ***Trailer Sensor Installation*** *(page 393). If it did not come with a trailer sensor kit, follow the sticker installation instructions. See* ***Applying the Trailer Reverse Aid Sticker*** *(page 392).*

Note: *If your vehicle came with a trailer sensor kit, it receives an update that allows the system to operate with a sensor or sticker. If it did not come with a trailer sensor kit, it can be set up using either method, but you need to purchase the trailer sensor kit separately from your authorized dealer.*

APPLYING THE TRAILER REVERSE AID STICKER

Place the sticker in an area visible by the rear view camera. The entire sticker must be within 4–19 in (10–48 cm) from the center of the hitch ball, as shown in the following illustration.



Use the supplied sticker placement card, a tape measure and pen to carefully mark the area to attach the sticker. Make sure the entire sticker is within the green zone between the two arcs or distance markers on the diagram, and is also visible in the rear view camera display.

Once you have found the correct location, place the sticker.

Note: *Make sure nothing can obstruct the rear view camera's view of the sticker such as a jack handle or wiring.*

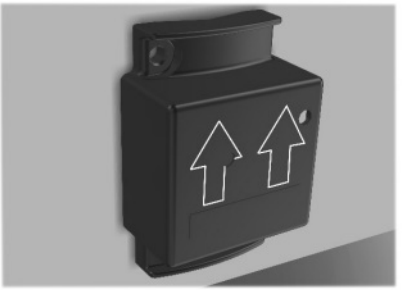
Note: *Position the sticker on a flat, dry and clean horizontal surface. For best results, apply the sticker when temperatures are above 32ºF (0ºC).*

Note: *Do not move stickers after placing them. Do not reuse any stickers if removed.*

Note: *You can purchase additional stickers through your authorized dealer.*

Note: *If you previously set up the trailer with the trailer sensor, make sure it is not plugged in before configuring the trailer and placing the sticker.*

TRAILER SENSOR INSTALLATION





Refer to the instructions included with your trailer sensor for detailed information regarding installation.

Note: *Make sure the arrows on the sensor housing are facing up. Mount the sensor to a vertical part of the trailer that pivots when you turn your vehicle. Do not mount to a stationary surface such as the truck side of the trailer hitch.*

Note: *If your vehicle came with a trailer sensor kit, the vehicle will receive an update that allows the system to operate with a sensor or sticker. If your vehicle did not come with a trailer sensor kit, your vehicle can be setup using either method, but you need to separately purchase the trailer sensor kit from your authorized dealer. Once your vehicle is enabled for sticker setup, the default setup for new trailers requires placement of the sticker. To setup a trailer with a sensor, install the sensor on the trailer and plug the connector into the connector in your bumper prior to configuring the trailer. Trailers that were set up with a sensor still require the sensor to function. To change a trailer to use the sticker, delete the trailer in the system and repeat the trailer setup with the sticker.*

CALIBRATING THE SYSTEM

Calibrating the system requires driving forward and turning left or right. Follow the instructions on the touchscreen to complete the calibration process.



Note: *To calibrate the system, you need an area where you can safely drive forward and turn left or right. An open parking lot is an ideal place to perform the calibration.*

Note: *Keep the steering wheel straight when instructed to by the touchscreen. If the steering wheel is in a turned position during this instruction, the calibration pauses.*

Note: *During calibration, the system determines the trailer length. The system supports trailer lengths of 6–33 ft (1.85–10.05 m) distance from the hitch point to the center of the axle or axles. The system is designed to work with drawbars that have a license plate to hitch ball center measurement of 9–18 in (23–46 cm) when installed. Do not attempt to use drawbars or trailers that have a length outside of this range as the system performance degrades and could cause improper system function.*

Note: *The touchscreen shows if you are going too slow or fast. Calibration pauses if the speed is outside the required range of 2–9 mph (4–15 km/h).*

Note: *You need to complete at least a 90° turn, and longer trailers could require a 180° turn. Camera trailer tracking requires the system to locate the hitch ball as well as determine the trailer length. Some trailers could require you to drive straight then turn multiple times before calibration completes. The touchscreen provides instructions and notifies you when calibration completes.*

Note: *For best results, do not calibrate the system at night when calibrating the system with the sticker.*

SWITCHING TRAILER REVERSE GUIDANCE ON AND OFF

Shift into reverse (R), press the rear camera button to expand the menu, press the trailer icon and use the touchscreen to select the connected trailer.

Note: *If the trailer was connected just prior to turning the system on, you may need to drive forward to initialize the system. Follow the instructions on the touchscreen to activate the system.*

USING TRAILER REVERSE GUIDANCE VIEWS

Up to seven camera views could be available when using trailer reverse guidance. Use the view that helps you the most when reversing your vehicle and trailer.


360º camera view. Shows a 360º view on the right-hand side of the touchscreen with a rear camera view on the left-hand side of the touchscreen.


Rear view camera view. Shows your trailer hitch or what is directly behind your vehicle.


Bed camera view. Shows the truck bed.

Note: *This view also provides a picture-in-picture view.*


Trailer AUX camera view. Shows a rear view camera image of what is behind your trailer. You need to separately purchase this camera and have it installed.

Note: *This view also provides a picture-in-picture view.*


Trailer reverse guidance view. Shows you a view of the sides of your truck and the trailer. In auto mode, this view moves as the trailer moves so that you do not have to adjust the camera as you turn. Left and right arrows let you see other camera views.


Straight backup mode. Shows which way to turn your steering wheel to keep the trailer straight. Use this view when you want to keep your trailer completely in line with your truck.

Note: *This view also provides a picture-in-picture view.*

Note: *It may be helpful to shift your vehicle into drive (D), pull forward and straighten out the vehicle and trailer before engaging straight backup mode.*


Picture-in-picture view. Shows a main view and a secondary view when in bed camera view, trailer AUX camera view or straight backup mode.

Note: *If you have a 8 in (20 cm) touchscreen, picture-in-picture is off by default. Press the picture-in-picture icon on the touchscreen to switch picture-in-picture view on and off.*

Note: *If you have a 12 in (30 cm) touchscreen, picture-in-picture is on by default for bed camera view and trailer AUX camera view and cannot be switched off. Press the picture-in-picture icon on the touchscreen to switch picture-in-picture view on and off in straight backup mode.*


Swap. Press to swap between picture-in-picture views.


This takes you back to the 360º camera system and out of the trailer reverse guidance feature.



Auto. Press to return to auto view.

Note: *Auto mode is the default setting.*

Hitch Angle Graphic

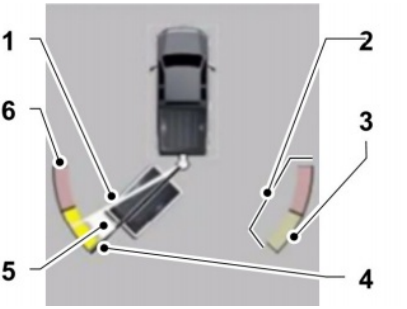


The hitch angle graphic shows a small representation of your truck and trailer with visual feedback to help you monitor the trailer. The graphic shows two different colored lines for the trailer hitch angle. A black line shows you where your trailer is in relation to your vehicle. The white line represents the amount the trailer can turn based on steering wheel position.

The graphic shows a yellow and red zone for the hitch angle to warn you of a high angle condition that could require you to pull forward to reduce the hitch angle. The angle limits for each zone vary based on the trailer length.

The yellow zone indicates you are approaching the maximum controllable trailer angle for the system. When the trailer enters this zone, it is more difficult to reduce the trailer turn when backing up. It may be necessary to put your vehicle back into drive (D) and pull forward to get the truck and trailer back to an in-line position.

The red zone indicates you have exceeded the maximum controllable trailer angle for the system. Immediately stop reversing. Put your vehicle into drive (D) and pull forward until the trailer is no longer in the red zone.



1. Projected line.
2. Dynamic warning zones.
3. Approaching point of no return zone.
4. Current trailer angle.
5. Projection bar.
6. Approaching trailer jackknife zone

TRAILER REVERSE GUIDANCE – TROUBLESHOOTING

TRAILER REVERSE GUIDANCE – INFORMATION MESSAGES

Message	Description
Detecting trailer Please wait...	Displays when the system turns on and is initializing.
Trailer Reverse Guidance System is not available	A condition exists that prevents the system from turning on. If the message continues to display, have your vehicle checked as soon as possible.
Trailer Reverse Guidance Driving required to initialize steering Press OK to exit	The steering system needs to learn internal parameters to fully enable the feature. Drive your vehicle straight forward above 25 mph (40 km/h) for approximately 5 minutes.
Stop now. Deactivated by trailer angle.	Displays when you exceed the maximum controllable trailer angle for the system. Place your vehicle in drive (D) and pull forward to get your vehicle and trailer back to an in-line position, then activate the system by selecting the connected trailer and following the instructions on the touchscreen. If this message consistently displays, you may need to repeat the trailer setup and calibration. Delete the trailer from the system and repeat the setup and calibration process.
Trailer Reverse Guidance Sensor not detected Refer to Owner's Manual Press OK to exit	Displays when the system does not detect the sensor. Check the sensor connection, check that there is no damaged wiring between the connector and sensor and check that there is only one sensor connected. If you do not want to use the sensor for this trailer, delete the trailer in the touchscreen then repeat the setup process with the sticker.

Message	Description
Trailer Reverse Guidance Trailer not detected Refer to Owner's Manual Press OK to exit	Displays when the system does not detect the trailer. If your trailer is setup with a sticker, make sure the rear camera is clean, and the sticker is clearly visible in the camera image. You can also move the trailer forward or backward to change the trailer position and lighting conditions. If your trailer is setup with a sensor, check that the sensor is correctly installed and the trailer length is within the allowed range. If this message continues to display, have your vehicle checked as soon as possible.
Trailer Reverse Guidance Trailer not detected Drive forward to initialize Press OK to exit	Displays when your vehicle has not moved after the trailer sensor is connected or extended operation below 1 mph (1 km/h). Drive forward above 2 mph (3 km/h) to initialize the system.

TRAILER REVERSE GUIDANCE – FREQUENTLY ASKED QUESTIONS

Why does the trailer not reverse straight?

Verify the sensor is correctly installed. Other factors such as the hitch connection, road camber, road slope and trailer suspension could influence how straight the system can reverse the trailer when the control knob is not turned. You can compensate for the trailer drifting to the right or left by slowly turning the knob until the trailer is following your desired path and then holding the knob in that position.

Why does the system not detect a sensor?

There could be an issue with the connection, the wiring harness could be damaged, you could have multiple sensors connected or the sensor could be incorrectly installed. Check that the 12-way connector is fully inserted into the 12-way socket. The red rubber seal is not visible when the connector is fully inserted. Also check that the wiring harness sensor connection is fully inserted at the trailer sensor, and check for damaged wiring between the 12-way connector and the trailer sensor. Also, check that the sensor is installed on a vertical surface with the arrows pointing straight up.

What does it mean if the system remains on one message for an extended time during calibration when setting up the system with the sticker?

The camera could need to be cleaned, the sticker could be blocked, the drawbar could be outside the allowed range of 4–19 in (10–48 cm) or you could need to move to a different area to change the lighting and background. Verify the sticker is in the proper location. See **Applying the Trailer Reverse Aid Sticker** (page 392). You can move to a different area or change the direction you are driving or setup the system at a different time of day. Some trailers are not compatible with the sticker and camera system. If the issue persists with the sticker setup, you may choose to setup the trailer with a sensor.

What does it mean if the system pauses during calibration?

There could be steering input or trailer movement during the straight drive portion of the calibration process.

What does it mean if the system remains on one message for an extended time during calibration when setting up the system with the sensor?

The sensor could be incorrectly installed, the trailer length could be outside the allowed range or the road surface could be too rough or bumpy.

What does it mean if the system displays hold steering steady during turn?

Part of the calibration process for the sticker setup requires a steady turn. If you are continually moving the steering wheel during the turn, this delays the calibration process. To enable the calibration process, hold the steering wheel at the same position when turning.

What does it mean if the system displays that it is not available?

There could be a sub-system that the system uses that is not correctly operating or there could be a battery voltage issue. If the system continues to display it is not available, visit your authorized dealer to have your vehicle checked.

What does it mean if the system displays that driving is required to initialize steering?

The steering system needs to learn internal parameters to fully turn on the feature. Drive your vehicle straight forward above 25 mph (40 km/h) for approximately 5 minutes. This could also occur when your vehicle is new, there is a battery voltage issue or if the steering system has been serviced.

What does it mean if the system does not detect a trailer when configured with a sensor?

Verify that the sensor is properly connected. See **Trailer Sensor Installation** (page 393). Repeat calibration on a different route if you have verified sensor installation.

What does it mean if the system requires you to pull forward to initialize?

This occurs when the vehicle has not moved during the current key cycle after you connect and select the trailer in the touchscreen or you operate the system at speeds below 1 mph (1 km/h) for an extended period of time. Drive forward above 2 mph (3 km/h) and the system indicates when it initializes.

What does it mean if the trailer is at its maximum angle or the system deactivated by trailer angle?

You are at the maximum controllable trailer angle for the system. Place your vehicle in drive (D) and pull forward to get the truck and trailer back to an in-line position. If this message consistently displays, this could indicate the sensor is incorrectly installed, the trailer needs to be recalibrated or the drawbar or the trailer dimensions are outside of the supported range. The system is designed to work with drawbars that have a license plate to hitch ball center measurement of 9–18 in (23–46 cm) when installed. The system is designed to work with trailers that have a hitch point to center of the axle or axles measurement of 6–33 ft (1.85–10.05 m). Do not attempt to use drawbars or trailers that have a length outside of this range as the system performance degrades and could cause improper system function. Check that the correct trailer is selected in the touchscreen. Verify the sensor is installed according to the instructions included in the sensor kit and check that the drawbar and the trailer dimensions are within the allowed range. Then, delete the trailer from the system and repeat the setup process to calibrate the trailer.

What does it mean when the system tells you to take control of the steering wheel?

The system is no longer steering the vehicle and you must take over steering. There are four reasons the system could display this message. The first reason the system could display this message is that you have touched the steering wheel when the system is steering. The second reason the system could display this message is that you have exceeded the maximum speed for the feature. The third reason the system could display this message is that the trailer is not detected. The final reason the system could display this message is that an internal condition for system operation is not met that requires your vehicle to return to manual control of the steering.

How do I use a sticker if I have previously setup a trailer with the sensor?

Disconnect the sensor wiring and add a new trailer to the system and follow the instructions for setup with a sticker. See **Applying the Trailer Reverse Aid Sticker** (page 392). If your vehicle does not support the sticker option, the touchscreen instructs you to install the sensor again.

What if I want to use a sensor for the trailer instead of a sticker?

Install the sensor and connect the sensor wiring before adding the new trailer to the system. You must connect the sensor before you add the trailer. If your vehicle did not come with a sensor, you can purchase one from your authorized dealer.

What does it mean if the system does not detect a trailer that is setup with a sticker?

The system requires a clear view of the sticker placed on the trailer. You must keep the camera lens and sticker clean for the system to correctly operate. If the system cannot initially detect the trailer, it could be necessary for you to change the lighting conditions by moving your vehicle and trailer or waiting until the conditions change. See **Applying the Trailer Reverse Aid Sticker** (page 392). Some trailers are not compatible with the sticker and camera system. If the system consistently does not detect the trailer with the sticker setup, you may choose to setup the trailer with a sensor.

Note: *The system is designed to be used with the same trailer connection every time you choose the trailer from the touchscreen. When using a different drawbar or a different pin hole on drawbars with more than one, connecting the drawbar to your vehicle affects the trailer position and you may need to repeat the trailer setup and calibration process.*

BASIC OFF-ROAD DRIVING TECHNIQUES

Off-road Driving Hints

Before taking your vehicle off-roading, perform a basic inspection to make sure your vehicle is in good working condition.

We recommend that you always use at least two vehicles while off-roading. The buddy system helps make sure that help is close at hand should a vehicle become stuck or damaged. It is also wise to take supplies such as a first aid kit, water, tow strap, cell phone with you.

The following are hints for safe off-road driving:

- Steer, brake and accelerate in a smooth controlled manner. Avoid jerky, unsteady movements.
- Look ahead on your route noting upcoming obstacles, or any other factors that may indicate a change in available traction and adjust the vehicle speed and route accordingly.
- If the front or rear suspension is bottoming out, or you encounter excessive contact with the skid-plates, reduce the vehicle speed to avoid potential damage to your vehicle.
- We recommend that you use vehicle communication, such as, turn signals, brake lights, and hazard flashers to alert other drivers of what you intend to do next, and of obstacles that could cause potential vehicle damage.
- Always keep available ground clearance in mind and pick a route that minimizes the risk of catching the underside of the vehicle on an obstacle.
- When negotiating low speed obstacles, applying light brake pressure in conjunction with the throttle helps prevent your vehicle from jerking and allows you to negotiate the obstacle in a more controlled manner. Using four-wheel drive low (4L) will also help with this.

Crossing Obstacles

- Review the path ahead before attempting to cross an obstacle. It is best if you view the obstacle from outside your vehicle so that you have a good understanding of terrain conditions both in front of and behind the obstacle.
- Approach obstacles slowly.
- If you cannot avoid a large obstacle such as a rock, choose a path that places the rock directly under the tire rather than the undercarriage of your vehicle. This helps prevent damage to your vehicle.
- Cross ditches and washouts at a 45º angle, allowing each wheel to independently cross the obstacle.

Climbing A Hill

WARNING: Extreme care should be used when steering the vehicle in reverse down a slope so as not to cause the vehicle to swerve out of control.

Do not drive over the crest of a hill without seeing what conditions are on the other side. Do not drive in reverse over a hill without the aid of an observer.

- Always attempt to climb a steep hill along the fall line of the slope and not diagonally.
- If the vehicle is unable to make it up the hill, DO NOT attempt to turn back down the slope. Place the vehicle in low range and slowly back down in reverse.
- When descending a steep slope, select low gear and engage hill descent control. Use the accelerator and brake pedals to control your descent speed.

Note: *Hill descent control is functional in reverse and should be used in this situation.*

Note: *Avoid turning on steep slopes or hills. You could lose traction, slip sideways or a possible vehicle roll over.*

Driving Over Rocks and Gravel

Never attempt to straddle a rock that is large enough to strike your axles or undercarriage. Leave a generous gap between your vehicle and other vehicles to minimize the risk of damage. Avoid dust clouds as they reduce visibility.

AFTER DRIVING YOUR VEHICLE OFF-ROAD

WARNING: After off-road use, before returning to the road, check the wheels and tires for damage. Off-road use may cause damage to your wheels and tires that can lead to tire failure, loss of vehicle control, serious injury or death.

WARNING: Always re-inflate tires to recommended tire pressures before the vehicle is operated on-road. The recommended pressure is located on the tire label or safety certification label, located on the B-pillar, inside the driver's door.

After driving off-road check for damage to your vehicle and, if necessary, have your vehicle fixed as soon as possible. Inspect the underbody of your vehicle by checking tires, body structure, steering, suspension, and exhaust system for damage.

Check the radiator for mud and debris and clean as needed.

Remove accumulations of plants or brush. These things could be a fire hazard or hide damage to the fuel lines, brake hoses, and propeller shafts.

With the vehicle off, use a low pressure hose to wash away mud and fine debris. You may need to reach past the active grille shutters to remove larger debris.

If you experience unusual vibration after driving in mud, slush or similar conditions, check the wheels for impacted material. Impacted material can cause vibrations while driving and wheel imbalance. Remove the material to resolve the problem.

BREAKING-IN

Your vehicle requires a break-in period. For the first 1,000 mi (1,600 km), avoid driving at high speeds, heavy braking, aggressive shifting or using your vehicle to tow. During this time, your vehicle may exhibit some unusual driving characteristics.

DRIVING ECONOMICALLY

The following helps to improve fuel consumption:

- Drive smoothly, accelerate gently and anticipate the road ahead to avoid heavy braking.
- Regularly check your tire pressures and make sure that they are inflated to the correct pressure.
- Follow the recommended maintenance schedule and carry out the recommended checks.
- Plan your journey and check the traffic before you set off. It is more efficient to combine errands into a single trip whenever possible.
- Avoid idling the engine in cold weather or for extended periods. Start the engine only when you are ready to set off.
- Do not carry unnecessary weight in your vehicle as extra weight wastes fuel.
- Do not add unnecessary accessories to the exterior of your vehicle, for example running boards. If you use a roof rack, remember to fold it down or remove it when not in use.
- Do not shift into neutral when you are braking or when your vehicle is slowing down.
- Shut all windows when driving at high speeds.
- Switch off all electric systems when not in use, for example air conditioning. Make sure that you unplug any accessories from the auxiliary power points when not in use.

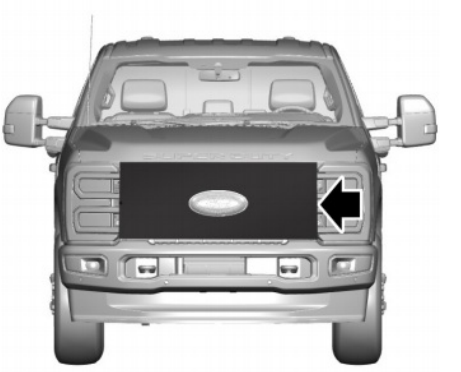
DRIVING IN COLD WEATHER - 6.7L DIESEL

The function of some components and systems can be affected at temperatures below approximately -13°F (-25°C).

Winter Grille Cover (If Equipped)

The winter grille cover enhances heater performance and reduces the amount of time it takes to warm the inside of your vehicle in extremely cold conditions below -0.4°F (-18°C).

The winter grille cover installs over the outside of the front grille and restricts the air flowing to the engine compartment by covering the radiator grille openings.



Note: *Install the grille cover in extremely cold conditions below 10.4°F (-12°C) to prevent possible engine damage.*

Usage Guidelines

The winter grille cover should only be used while operating your vehicle in extremely cold temperatures or in heavy snow for extended periods of time. In these temperatures, the vehicle does not need a large amount of air to properly cool the engine. During periods of operation when more airflow is required to cool the vehicle, the winter grille cover should not be used.

The following usage guidelines allow adequate airflow for proper radiator and air cooler performance:

- Do not use the cover when temperatures are above 50.0°F (10°C). Use of the cover in these conditions could cause your vehicle to overheat. Remove the cover if the vehicle overheats.
- Do not use the cover above 32.0°F (0°C) if towing a trailer. Your vehicle may overheat if the cover is used while towing a trailer.
- Do not modify the cover.

Installation Instructions

Installation and removal instructions are included in the winter grille cover package. Refer to the usage guidelines to understand when to use the cover.

The cover will seem undersized during the first installation, which is normal. The cover stretches during installation to ensure a tight fit. The first installation is best performed when the grille cover is warm.

Driving on Snow and Ice

WARNING: If you are driving in slippery conditions that require tire chains or cables, then it is critical that you drive cautiously. Keep speeds down, allow for longer stopping distances and avoid aggressive steering to reduce the chances of a loss of vehicle control which can lead to serious injury or death. If the rear end of your vehicle slides while cornering, steer in the direction of the slide until you regain control of your vehicle.

On ice and snow, you should drive more slowly than usual. Your vehicle has a four wheel anti-lock brake system, do not pump the brake pedal. See **Anti-Lock Braking System Limitations** (page 256).

In snow and ice, all-wheel drive vehicles have advantages over two-wheel drive vehicles but can still skid. When driving on snowy or icy roads, should you start to slide, turn the steering wheel in the direction of the slide until you regain control.

On snow and ice, avoid suddenly applying power and avoid quick change of direction. Apply the accelerator slowly and steadily when starting from a stop.

Avoid sudden braking. An all-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in snow and ice. However, an all-wheel drive vehicle does not stop any faster, as braking occurs at all four wheels. Do not become overconfident to road conditions.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

DRIVING IN COLD WEATHER - 6.8L/7.3L

The functional operation of some components and systems can be affected at temperatures below approximately -13ºF (-25ºC).

Driving on Snow and Ice

WARNING: If you are driving in slippery conditions that require tire chains or cables, then it is critical that you drive cautiously. Keep speeds down, allow for longer stopping distances and avoid aggressive steering to reduce the chances of a loss of vehicle control which can lead to serious injury or death. If the rear end of your vehicle slides while cornering, steer in the direction of the slide until you regain control of your vehicle.

On ice and snow, you should drive more slowly than usual. Your vehicle has a four wheel anti-lock brake system, do not pump the brake pedal. See **Anti-Lock Braking System Limitations** (page 256).

In snow and ice, all-wheel drive vehicles have advantages over two-wheel drive vehicles but can still skid. When driving on snowy or icy roads, should you start to slide, turn the steering wheel in the direction of the slide until you regain control.

On snow and ice, avoid suddenly applying power and avoid quick change of direction. Apply the accelerator slowly and steadily when starting from a stop.

Avoid sudden braking. An all-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in snow and ice. However, an all-wheel drive vehicle will not stop any faster, as braking occurs at all four wheels. Do not become overconfident to road conditions.

DRIVING THROUGH WATER

WARNING: Do not attempt to cross a deep, fast flowing body of water. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

Note: *Engine damage can occur if water enters the air filter.*

Take extra care crossing any type of water. Do not drive into water unless necessary.

Maximum Wading Capability

The listed maximum wading capabilities are for standing water only. For flowing water, do not attempt to cross flowing water that is deeper than your vehicle's ground clearance.

When driving through deep water, do not exceed 4 mph (7 km/h).

Note: *Failure to follow the recommended speeds can result in vehicle damage.*

Model	Maximum Wading Capability
Vehicles without Tremor or XL Off-Road Packages	22 in (560 mm) [1]
XL Off-Road Package	30 in (762 mm)
Tremor Package	33 in (838 mm)

[1] Bottom of the doors.

Before Driving Through Water

- Determine the water depth. Never drive through water that is higher than the maximum wading capability.
- Determine if the water is flowing or not.
- Consider the bottom of the water's condition. On soft bottoms, the vehicle sinks in, effectively increasing the water level on the vehicle. Make sure to consider this when determining the depth of water. Be aware that obstacles and debris may be beneath the water's surface.
- Determine exit points that are downstream of your entry point to allow for drifting. If there are other vehicles ahead, wait until they have left the water. Unsettled water can make a safe passage more challenging.

When driving too fast in water or through deep water, the engine, transmission, transfer case, axles, electrical components or vehicle interior could ingest water. Muddy waters can reduce the cooling system effectiveness by depositing debris into the radiator. The vehicle warranty does not cover water damage.

Driving Through Standing Water

Note: *Keep the doors fully closed during the water crossing.*

1. Start very slowly when entering, then build momentum. Avoid splashing water any more than is necessary.
2. Proceed with a constant slow speed lightly pressing on the accelerator.

Note: *As the water depth increases, reduce your vehicle speed to avoid potential vehicle damage.*

3. Ease off the accelerator as you reach the other side to diminish the front wave.
4. Apply the accelerator slowly and as necessary to climb out of the other side

Note: *Tread lightly and avoid damage to the environment.*

Never stop or shut a vehicle off when crossing deep water unless your vehicle ingested water into the engine air intake. If the engine stalls, do not attempt to restart it.

Driving Through Flowing Water

Note: *Keep the doors fully closed during the water crossing.*

High currents even in shallow water can wash the dirt out from around your tires or push your vehicle across slippery rocks or surfaces. Never attempt to cross flowing water that is deeper than your vehicle's ground clearance. Even in low currents your vehicle's body surface area can be pushed downstream and out of control. Do not cross any body of water that is fast flowing and rising, wait for the flow rate to reduce.

1. Start very slowly when entering, then build momentum.

Note: *Cross flowing water at an angle heading slightly upstream.*

2. Proceed with a constant slow speed lightly pressing on the accelerator.

Note: *As the water depth increases, reduce your vehicle speed to avoid potential vehicle damage.*

3. Ease off the accelerator as you reach the other side to diminish the front wave.
4. Apply the accelerator slowly and as necessary to climb out of the other side

Note: *Tread lightly and avoid damage to the environment.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Driving Through Mud

WARNING: Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

Be cautious of sudden changes in vehicle speed or direction when you are driving in mud. Even all-wheel drive and four-wheel drive vehicles can lose traction in mud. If your vehicle slides, steer in the direction of the slide until you regain control of your vehicle. After driving through mud, clean off residue stuck to rotating driveshafts and tires. Excess residue can cause an imbalance that could damage drive components.

Note: *If your vehicle gets stuck in mud, it could be rocked out by shifting between forward and reverse gears, stopping between shifts in a steady pattern. Press lightly on the accelerator in each gear.*

After Driving Through Water

As soon as it is safe to do so, check the brakes, horn, lights, and steering wheel to confirm those systems are properly functioning.

Vehicles used to cross water regularly should be periodically inspected for signs of water ingestion in all of the vehicle's fluids. If water is found inside your vehicle fluids, service your vehicle or see an authorized dealer.

DRIVING ON HILLY OR SLOPING TERRAIN

WARNING: Extreme care should be used when steering the vehicle in reverse down a slope so as not to cause the vehicle to swerve out of control.

Although natural obstacles could make it necessary to travel diagonally up or down a hill or steep incline, you should try to drive straight up or straight down.

Note: *Avoid turning on steep slopes or hills. A danger lies in losing traction, slipping sideways and possible vehicle rollover. Whenever driving on a hill, determine beforehand the route you can use. Do not drive over the crest of a hill without seeing what conditions are on the other side. Do not drive in reverse over a hill without the aid of an observer.*

Apply just enough power to the wheels to climb the hill. Too much power causes the tires to slip, spin or lose traction, and you could lose control of your vehicle. When descending a steep hill, do not descend the hill in neutral. Avoid sudden hard braking to keep the front wheels rolling and to maintain your vehicle's steering.

Note: *Your vehicle has an anti-lock braking system, apply the brake pedal steadily. Do not pump the brake pedal.*

DRIVING IN SAND

When driving over sand, try to keep all four wheels on the most solid area of the trail. Steadily drive through the terrain. Apply the accelerator slowly and avoid excessive wheel slip. Do not drive your vehicle in deep sand for an extended period of time. This could overheat the system. A message appears in the instrument cluster display.

Note: *If your vehicle gets stuck in sand, it could be rocked out by shifting between forward and reverse gears, stopping between shifts in a steady pattern. Press lightly on the accelerator pedal in each gear.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

FLOOR MATS

WARNING: Use a floor mat designed to fit the footwell of your vehicle that does not obstruct the pedal area. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Pedals that cannot move freely can cause loss of vehicle control and increase the risk of serious personal injury.

WARNING: Secure the floor mat to both retention devices so that it cannot slip out of position and interfere with the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Do not place additional floor mats or any other covering on top of the original floor mats. This could result in the floor mat interfering with the operation of the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Always make sure that objects cannot fall into the driver foot well while your vehicle is moving. Objects that are loose can become trapped under the pedals causing a loss of vehicle control.



To install floor mats that have eyelets, position the floor mat eyelet over the retention post and press down to lock in position. Repeat for all eyelets on the floor mat.

If the driver side floor mat is not securely fastened, remove it, and contact an authorized dealer as soon as possible. Do not drive with a loose floor mat.

To remove the floor mats, reverse the installation procedure.

Note: *Regularly check the floor mats to make sure they are secure.*

SNOW PLOWING PRECAUTIONS

WARNING: Modifying or adding equipment to the front of your vehicle could affect the performance of the airbag system, increasing the risk of injury. This includes the hood, bumper system, frame, front body structure, tow hooks, hood pins, push bar and snowplows.

WARNING: Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.

WARNING: All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.

WARNING: Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

Note: *Look for an alterer's label on your vehicle from the snowplow installer certifying that the installation meets all applicable Federal Motor Vehicle Safety Standards (FMVSS).*

Note: *Federal and some local regulations require additional exterior lamps for snowplow-equipped vehicles. Contact an authorized dealer for additional information.*

Note: *Do not remove or defeat the tripping mechanisms designed into the snow removal equipment by its manufacturer. Doing so could cause damage to your vehicle and the snow removal equipment as well as possible airbag deployment.*

OPERATING YOUR VEHICLE WITH A SNOWPLOW

Weight limits and guidelines for selecting and installing the snowplow are in the Ford Truck Body Builders Layout Book. For additional information, visit *https://www.fordpro.com/en-us/upfit/publications/*

A typical snowplow installation affects the following:

- Front gross axle weight rating. See **What Is the Gross Axle Weight Rating** (page 341).
- Gross vehicle weight rating. See **What Is the Gross Vehicle Weight Rating** (page 342).
- Braking and steering.
- Front wheel toe. See the **Ford Workshop Manual**.
- Headlight aim. See **Adjusting the Headlamps** (page 458).
- Tire air pressure. See **Information on the Tire Sidewall** (page 482).

Note: *Do not exceed the front gross axle weight rating or gross vehicle weight rating.*

Note: *Your vehicle may require rear ballast weight for proper braking and steering.*

Your vehicle has a driver and passenger airbag supplemental restraint system. The supplemental restraint system activates in certain frontal and offset frontal collisions when the vehicle sustains sufficient longitudinal deceleration.

When operating your vehicle with a snowplow:

- Do not exceed 45 mph (72 km/h).
- Your engine could run at a higher temperature than normal.
  - If you are driving more than 15 mi (24 km) at temperatures above freezing, angle the plow blade either full left or full right to provide maximum airflow to the radiator.
  - If you are driving less than 15 mi (24 km) at speeds up to 45 mph (72 km/h) in cold weather, you do not need to worry about blade position to provide maximum airflow.
- Shift to ***4L*** when plowing in small areas at speeds below 5 mph (8 km/h).
- Shift to ***4H*** when plowing larger areas or light snow at higher speeds above 5 mph (8 km/h). Do not exceed 15 mph (24 km/h).
- Do not shift the transmission from a forward gear to reverse (R) until the engine is at idle and the wheels have stopped.

Note: *Careless or high-speed driving when snowplowing, which results in significant vehicle decelerations, can deploy the airbag. Such driving also increases the risk of accidents.*

Note: *Drive your vehicle at least 500 mi (800 km) before using your vehicle for snowplowing.*

Note: *Follow the severe duty schedule for engine oil and transmission fluid change intervals. See* ***General Maintenance Information*** *(page 575).*

ROADSIDE ASSISTANCE

Vehicles Sold in the United States: Getting Roadside Assistance

If you have a vehicle concern, Ford Motor Company offers a complimentary roadside assistance program. This program is separate from the New Vehicle Limited Warranty.

The service is available:

- 24 hours a day, seven days a week.
- For the coverage period supplied with your vehicle.

Knowing your vehicle's VIN, mileage and your specific location allows help to get to you faster.

Roadside Assistance covers:

- A flat tire change with a good spare (except vehicles supplied with a tire inflation kit).
- Battery jump start.
- Lock-out assistance (key replacement cost is the customer's responsibility).
- Fuel delivery — independent service contractors, if not prohibited by state, local or municipal law, shall deliver up to 2 gal (8 L) of gasoline or 5 gal (20 L) of diesel fuel to a disabled vehicle. Roadside assistance limits fuel delivery service to two no-charge occurrences within a 12-month period.
- Winch out — available within 100 ft (30 m) of a paved or county maintained road, no recoveries.
- Towing — independent service contractors, if not prohibited by state, local or municipal law, shall tow Ford eligible vehicles to an authorized dealer within 50 mi (80 km) of the disablement location or to the nearest authorized dealer. If a member requests a tow to an authorized dealer that is more than 50 mi (80 km) from the disablement location, the member shall be responsible for any mileage costs in excess of 50 mi (80 km). Warranty towing, non-warranty towing and collision towing are available.
- Roadside Assistance includes up to $200 for a towed trailer if the disabled eligible vehicle requires service at the nearest authorized dealer. If the towing vehicle is operational but the trailer is not, then the trailer does not qualify for any roadside services.

Vehicles Sold in the United States: Using Roadside Assistance

United States vehicle customers who require Roadside Assistance, call 1-800-241-3673.

If you need to arrange roadside assistance on your own, Ford Motor Company reimburses a reasonable amount for towing to the nearest dealership within 50 mi (80 km). To obtain reimbursement information, United States vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

Vehicles Sold in Canada: Getting Roadside Assistance

If you have a vehicle concern, Ford Motor Company of Canada, Limited offers a complimentary roadside assistance program. This program is eligible within Canada or the continental United States.

The service is available 24 hours a day, seven days a week.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle. Canadian roadside coverage and benefits may differ from the U.S. coverage. For complete details, see your Warranty Guide at

www.ford.ca/support/owner-manuals

Download the Sykes4Ford Roadside Assistance App for access to your roadside assistance services. For more information, scan here:

If you require more information, please call us in Canada at 1-800-665-2006, or visit our website at *www.ford.ca*.

Ford Motor Company of Canada, Limited reserves the right to modify or discontinue Roadside Assistance at any time. Certain restrictions apply to Roadside Assistance benefits.

For further details, call
1-800-665-2006

SWITCHING THE HAZARD FLASHERS ON AND OFF

The hazard flasher button is on the instrument panel. Press the button to switch the hazard flashers on if your vehicle is creating a safety hazard for other road users.

When you switch the hazard flashers on, all front and rear direction indicators flash.

Note: *The hazard flashers operate when the ignition is in any position, or if the key is not in the ignition. The battery loses charge and could have insufficient power to restart your vehicle.*

Press the button again to switch them off.

JUMP STARTING THE VEHICLE

JUMP STARTING PRECAUTIONS

WARNING: Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.

WARNING: Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

WARNING: Use only adequately sized cables with insulated clamps.

WARNING: Make sure that the cables are clear of any moving parts and fuel delivery system parts.

WARNING: Connect batteries with only the same nominal voltage.

WARNING: Using the jump leads incorrectly or completing the jump start procedure incorrectly can cause the battery to explode, which can lead to severe injuries.

WARNING: All work on the vehicle battery and the electrical system can cause serious chemical burns, fire or electric shocks. Always read the warnings and safety information before carrying out any kind of work on the battery

WARNING: Never charge a 12-volt vehicle battery once it has been frozen. Discharged 12-volt vehicle batteries can even freeze at temperatures of approximately 0ºC (+32ºF).

WARNING: The battery should be replaced if it is or has ever been frozen.

WARNING: A highly explosive mixture of gases is given off when the vehicle battery is jump started. Always keep fire, sparks, naked flames and lit cigarettes away from the vehicle battery. Never use a mobile telephone when the jump leads are being connected or disconnected.

WARNING: Only charge the battery in a well-ventilated space as the battery emits a highly explosive mixture of gases when the vehicle is being jump started.

WARNING: Never confuse the negative and positive terminals or connect the jump leads incorrectly.

WARNING: Observe the jump lead manufacturer's instructions.

WARNING: If the engine is running while the hood is open, stay clear of moving engine components. Failure to follow this warning could result in serious personal injury or death.

Do not attempt to push-start an automatic transmission vehicle. This could cause transmission damage.

Do not disconnect the battery of the disabled vehicle. This could damage your vehicle's electrical system.

PREPARING THE VEHICLE

Use only a 12 volt supply to start your vehicle.

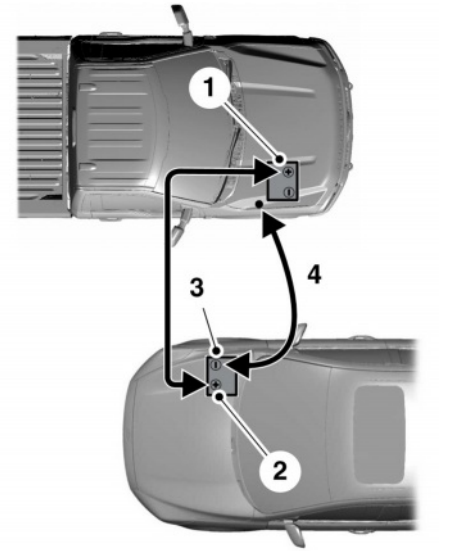
Park the booster vehicle close to the hood of the disabled vehicle, making sure the two vehicles do not touch.

JUMP STARTING THE VEHICLE

Connecting the Jumper Cables

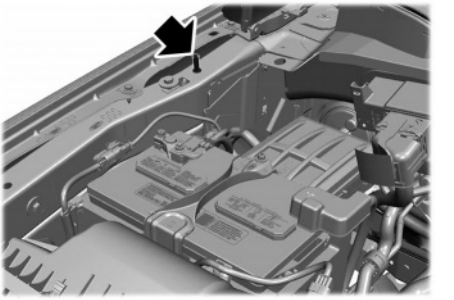
WARNING: Do not connect the negative jumper cable to any other part of your vehicle. Use the ground point.

Note: *If you are using a jump pack or booster box, follow the manufacturer's instructions.*



1. Pull the red rubber boot backward. Connect the positive (+) jumper cable to the positive (+) terminal of the discharged battery.
2. Connect the other end of the positive (+) jumper cable to the positive (+) terminal of the booster vehicle battery.
3. Connect the negative (-) jumper cable to the negative (-) terminal of the booster vehicle battery.
4. Make the final connection of the negative (-) jumper cable to the jump start stud as shown in the following illustration.

Note: *Do not use the hood latch as a negative (-) connection point. This could cause springs in the latch to burn and prevent the hood from operating correctly.*



Starting the Engine

1. If the booster vehicle is fuel powered (non Hybrid), put the vehicle in PARK (automatic transmission) or NEUTRAL with parking brake ON (manual transmission) and rev the engine at a moderately high speed to improve the charging capability of the booster vehicle. If the booster vehicle has a high voltage battery, turn the vehicle on and put it in PARK.

Note: *Do not jump start a fuel powered vehicle from a vehicle with a high voltage battery.*

2. Start the engine of the disabled vehicle.
3. Once you start the disabled vehicle, run both vehicles for an additional three minutes before disconnecting the jumper cables.

Removing the Jumper Cables

Remove the jumper cables in the reverse order that they were connected.

Note: *Do not switch the headlamps on when disconnecting the cables. The peak voltage could blow the bulbs.*

POST-CRASH ALERT SYSTEM

WHAT IS THE POST-CRASH ALERT SYSTEM

The system helps draw attention to your vehicle in the event of a serious impact.

HOW DOES THE POST-CRASH ALERT SYSTEM WORK

The system is designed to turn the hazard flashers on, turn the courtesy lamps on and unlock all doors in the event of a serious impact that deploys an airbag or the seatbelt pretensioners.

SWITCHING THE POST-CRASH ALERT SYSTEM OFF

Press the hazard flasher switch, or the unlock button on the remote control, or the panic button on the remote control or turn your vehicle off and on twice to switch the system off.

Note: *The alert turns off when the vehicle battery runs out of charge.*

POST-COLLISION BRAKING

How Does Post-Collision Braking Work

In the event of a moderate to severe crash, the braking system reduces the vehicle's speed to prevent or reduce the impact of a potential secondary crash.

Post-Collision Braking Limitations

Post-collision braking does not activate if any of the following occur:

- The anti-lock braking system is damaged during the collision.
- Electronic stability control is disabled.

Overriding Post-Collision Braking

You can override post-collision braking by pressing the brake or accelerator pedal.

Post-Collision Braking Indicators



It flashes when a post-collision braking event is occurring.

AUTOMATIC CRASH SHUTOFF

WHAT IS AUTOMATIC CRASH SHUTOFF

The automatic crash shutoff is designed to stop the fuel going to the engine in the event of a moderate or severe crash.

Note: *Not every impact causes a shutoff.*

AUTOMATIC CRASH SHUTOFF PRECAUTIONS

WARNING: If your vehicle has been involved in a crash, have the fuel system checked. Failure to follow this instruction could result in fire, personal injury or death.

RE-ENABLING YOUR VEHICLE

1. Switch the ignition off.
2. Attempt to start your vehicle.
3. Switch the ignition off.
4. Attempt to start your vehicle.

Note: *If your vehicle does not start after the third attempt, have your vehicle checked as soon as possible.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

RECOVERY TOWING

ACCESSING THE FRONT TOWING POINT

WARNING: Using recovery hooks is dangerous and should only be done by a person familiar with proper vehicle recovery safety practices. Improper use of recovery hooks may cause hook failure or separation from the vehicle and could result in serious injury or death.

WARNING: Slowly remove the slack from the recovery strap prior to pulling. Failure to do so can introduce significantly higher loads which can cause the recovery hooks to break off, or the recovery strap to fail which can cause serious injury or death.

WARNING: Never link two straps together with a clevis pin. These heavy metal objects could become projectiles if the strap breaks and can cause serious injury or death.

WARNING: Switch the ignition off before removing the recovery hook. Failure to do so could result in personal injury.

WARNING: The recovery hook can become hot. Let the recovery hook cool down before removing it. Failure to do so could result in personal injury.

Your vehicle has frame-mounted front recovery hooks.

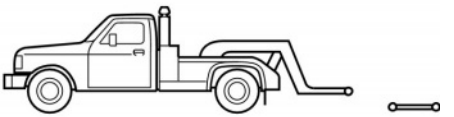
Note: *Do not apply a load to the recovery hooks that is greater than the gross vehicle weight rating of your vehicle.*

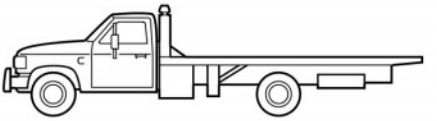
Before using recovery hooks:

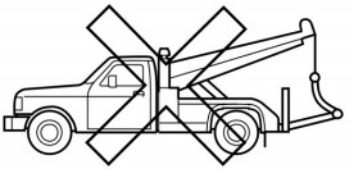
- Make sure all attaching points are secure and capable of withstanding the applied load.
- Do not use chains, cables or tow straps with metal hook ends.
- Only use recovery straps that have a minimum breaking strength two to three times the gross vehicle weight of the stuck vehicle.
- Make sure the recovery strap is in good condition and free of visible cuts, tears or damage.
- Use a damper device such as a tarp, heavy blanket or piece of carpet, and place it over the recovery strap to help absorb the energy in the event the strap breaks.
- Make sure the stuck vehicle is not loaded heavier than its gross vehicle weight rating specified on the certification label.
- Align the tow vehicle and stuck vehicle in a straight line, within 10 degrees.
- Keep bystanders to the sides of the vehicle, at a distance of at least twice the length of the recovery strap. This helps avoid injury from the hazard of a recovery hook or strap breaking, or a vehicle lurching into their path.

Note: *Use towing equipment that is properly rated for your vehicle. Always carefully follow the instructions and warnings provided by the equipment manufacturer.*

TRANSPORTING THE VEHICLE







If you need to tow your vehicle, contact a professional towing service or your roadside assistance service provider.

Your manufacturer produces a towing manual for all authorized tow truck operators. Have your tow truck operator refer to this manual for proper hook-up and towing procedures.

We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Vehicle damage could occur if towed incorrectly, or by any other means.

Front-wheel and rear-wheel drive vehicles must have their designated drive wheels off the ground regardless of towing direction. Use tow dollies to prevent damage to the transmission.

All-wheel or four-wheel drive vehicles require that all wheels be off the ground using a wheel lift and dollies or flatbed equipment. This prevents damage to the transmission and drive system.

Note: *You need to switch on the ignition to unlock the steering.*

Note: *Make sure you check the steering column before towing. It could lock if the battery is dead.*

FAIL-SAFE COOLING

WHAT IS FAIL-SAFE COOLING

Fail-safe cooling allows you to temporarily drive your vehicle before any incremental component damage occurs due to overheating.

The fail-safe distance depends on outside temperature, vehicle load and terrain.

HOW DOES FAIL-SAFE COOLING WORK

If the engine reaches a preset over-temperature condition, the engine automatically switches to alternating cylinder operation. Each disabled cylinder acts as an air pump and cools the engine.

When this occurs, your vehicle still operates, however:

- Engine power is limited.
- The air conditioning system turns off.

Continued operation increases the engine temperature, causing the engine to completely shut down. Your steering and braking effort increases in this situation.

When the engine temperature cools, you can re-start the engine.

Note: *Have your vehicle checked as soon as possible to minimize engine damage.*

DRIVING WHEN FAIL-SAFE MODE IS ACTIVATED

WARNING: Fail-safe mode is for use during emergencies only. Operate your vehicle in fail-safe mode only as long as necessary to bring your vehicle to rest in a safe location and seek immediate repairs. When in fail-safe mode, your vehicle will have limited power, will not be able to maintain high-speed operation, and may completely shut down without warning, potentially losing engine power, power steering assist, and power brake assist, which may increase the possibility of a crash resulting in serious injury.

WARNING: Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.

Continued operation increases the engine temperature, causing the engine to completely shut down. Your steering and braking effort increases in this situation.

When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

Your vehicle has limited engine power when in the fail-safe mode, drive your vehicle with caution. Your vehicle does not maintain high-speed operation and the engine may operate poorly.

Remember that the engine is capable of automatically shutting down to prevent engine damage. In this situation:

1. Pull off the road as soon as safely possible and switch the engine off.
2. If you are a member of a roadside assistance program, we recommend that you contact your roadside assistance service provider.
3. If this is not possible, wait for a short period of time for the engine to cool.
4. Check the coolant level. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
5. When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

Note: *Driving your vehicle without repair increases the chance of engine damage.*

FAIL-SAFE COOLING INDICATORS



If the engine begins to overheat, the coolant temperature gauge moves toward the red zone.



A warning lamp illuminates and a message may appear in the instrument cluster display.

TOWING YOUR VEHICLE PRECAUTIONS

Use the following guidelines when towing your vehicle. Failure to follow this instruction could result in vehicle damage not covered by the vehicle warranty.

Note: *Make sure you properly secure your vehicle to the tow vehicle.*

Note: *If you are unsure of the vehicle's configuration, contact an authorized dealer.*

RECREATIONALLY TOWING YOUR VEHICLE - 4X4

WARNING: Do not disconnect the battery when recreationally towing your vehicle. This prevents the transfer case from shifting properly and could cause the vehicle to roll, even if the transmission is in park (P).

WARNING: Placing the transfer case in its neutral position could cause your vehicle to freely roll. Make sure you press and hold the brake pedal and the vehicle is in a secure, safe position when you place the transfer case in its neutral position.

WARNING: Switch your vehicle off to avoid draining the battery. Battery drainage can cause your vehicle to shift out of neutral tow mode. Failure to follow this instruction could result in fire, personal injury or property damage.

Follow these guidelines if you have a need for recreational towing. An example of recreational towing would be towing your vehicle behind a motorhome. These guidelines are to make sure that you do not damage the transmission.

You can only tow your vehicle with all wheels on the ground by placing the transfer case in its neutral position and engaging the neutral tow feature. Perform the following steps after positioning your vehicle behind the tow vehicle and properly securing them together.

Note: *Put your climate control system in recirculated air mode to prevent exhaust fumes from entering your vehicle.*

Note: *Failure to put the transfer case in its neutral position can damage vehicle components.*

Note: *You can check the towing status at any time by opening the driver door or turning the ignition to the accessory or on position. Neutral Tow Enabled Leave Transmission in Neutral appears in the instrument cluster display to confirm you can recreationally tow your vehicle.*

Note: *If your vehicle has an anti-theft alarm, make sure you switch perimeter sensing off when towing. See* ***What Is the Perimeter Alarm*** *(page 94).*

Switching Neutral Tow On

1. Place your vehicle in accessory mode by pressing the push button ignition switch once without pressing the brake pedal or by turning the ignition key to the on position.
2. Press and hold the brake pedal.
3. Press the **2H** button on the four-wheel drive mode control.
4. Shift the transmission into neutral (N).
5. Using the instrument cluster controls on the steering wheel, select **Settings**.
6. Select **Neutral Tow**.
7. Press and hold the **OK** button until a confirmation message appears in the instrument cluster display.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *If completed successfully, the instrument cluster display shows* ***Neutral Tow Enabled Leave Transmission in Neutral****. This indicates that your vehicle is safe to tow with all wheels on the ground.*

Note: *If you do not see a confirmation message in the instrument cluster display, you must perform the procedure again from the beginning.*

Note: *You may hear noise as the transfer case shifts into its neutral position. This is normal.*

8. Release the brake pedal and leave the transmission in neutral (N) and switch your vehicle off by pressing the push button ignition switch once without pressing the brake pedal or turning the key as far toward the off position as possible.

Note: *If your vehicle has an ignition key, you cannot remove the key from the ignition when the transmission is in neutral (N) and your vehicle is off. Make sure the key is as far toward the off position as possible. Use the keyless entry keypad or an extra set of keys to lock and unlock your vehicle.*

Note: *If you use an add-on flat tow braking system during recreational tow, the battery may discharge during the remainder of the tow. Connect a 12-volt external power source to the towed vehicle's battery for the duration of the tow.*

Switching Neutral Tow Off

1. With your vehicle properly secured to the tow vehicle, place your vehicle in accessory mode by pressing the push button ignition switch once without pressing the brake pedal or by turning the ignition key to the on position.
2. Press and hold the brake pedal.
3. Shift the transmission to Park (P) and continue holding the brake pedal until the instrument cluster display shows **2H** and **Neutral Tow disabled**.
4. Release the brake pedal.

Note: *If completed successfully, the instrument cluster displays* ***2H*** *and* ***Neutral Tow disabled****.*

Note: *You must perform the switching neutral tow on and switching neutral tow off procedures again from the beginning if the indicator and message do not display.*

Note: *You may hear a noise as the transfer case shifts out of its neutral position. This is normal.*

5. Apply the parking brake, then disconnect your vehicle from the tow vehicle.
6. Release the parking brake, start the engine, and shift into drive (D) to make sure the transfer case is out of the neutral tow position.
7. If the transfer case does not successfully shift out of its neutral position, set the parking brake. Have your vehicle checked as soon as possible.

Resolving the Shift Delayed Pull Forward Message

1. Press and hold the brake pedal.
2. Start your vehicle.
3. Shift into neutral (N).
4. With the vehicle running, shift into drive (D) and let the vehicle roll forward up to 3 ft (1 m).

Note: *You may hear a noise as the transfer case shifts out of its neutral position. This is normal.*

5. Make sure the instrument cluster displays **Neutral Tow disabled**.

RECREATIONALLY TOWING YOUR VEHICLE - 4X2

You cannot recreational tow your vehicle with all wheels on the ground because vehicle or transmission damage could occur. You must recreational tow your vehicle with all four wheels off the ground, such as when using a car-hauling trailer. Otherwise, you cannot recreational tow your vehicle.

EMERGENCY TOWING

If your vehicle becomes inoperable without access to wheel dollies or a vehicle transport trailer, it can be flat-towed with all wheels on the ground, regardless of the powertrain and transmission configuration, under the following conditions:

- Your vehicle is facing forward for towing in a forward direction.
- The transmission is in neutral (N).
- You release the parking brake.
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

TOWING YOUR VEHICLE – TROUBLESHOOTING

TOWING YOUR VEHICLE – INFORMATION MESSAGES

Message	Details
Neutral tow enabled Leave transmission in Neutral	The transfer case is in the neutral position and your vehicle is safe to tow with all four wheels on the ground.
Shift delayed Drive forward	There is a transfer case gear tooth blockage present. With your vehicle on, shift the transmission into drive (D) and let the vehicle roll forward, up to 3 ft (1 m).
Neutral tow disabled	The transfer case is not in the neutral position and your vehicle is not safe to tow with all four wheels on the ground.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

FUSE PRECAUTIONS

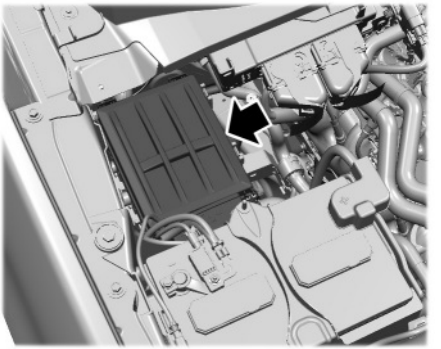
WARNING: Always disconnect the battery before servicing high current fuses.

WARNING: To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.

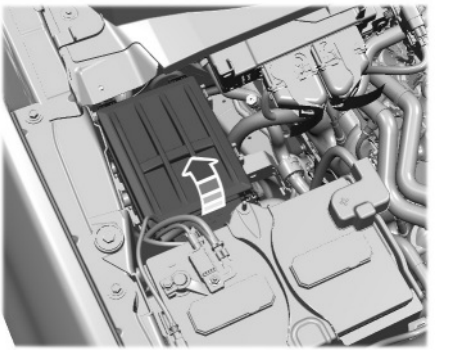
WARNING: Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.

UNDER HOOD FUSE BOX

LOCATING THE UNDER HOOD FUSE BOX



ACCESSING THE UNDER HOOD FUSE BOX



IDENTIFYING THE FUSES IN THE UNDER HOOD FUSE BOX



Item	Rating	Protected Component
1	50 A	Cooling fan 1.
2	50 A	Heater.
3	50 A	Heater.
4	50 A	Heater.
9	30 A	Four-wheel drive module.
10	30 A	Compressed natural gas module switch.
12	60 A	Anti-lock brake system pump.
13	30 A	Passenger power seat.
14	40 A	Anti-lock brake system valve.

Item	Rating	Protected Component
15	30 A	Body control module power bus.
21	10 A	Trailer tow backup lamps.
22	10 A	Four-wheel drive system.
23	20 A	Vehicle power 1.
24	20 A	Vehicle power 2 (gas).
	10 A	Vehicle power 2 (diesel).
25	15 A	Vehicle power 3 (gas).
	10 A	Vehicle power 3 (diesel).
26	20 A	Vehicle power 4.
27	10 A	Vehicle power 5 (gas).
	20 A	Vehicle power 5 (diesel).
29	15 A	Diesel exhaust fluid tank heater.
30	15 A	Diesel exhaust fluid line heater.
31	15 A	Glow plug and dosing module.
34	20 A	Rear heated seats.
36	30 A	Climate controlled seat module.
37	5 A	24 V alternator.
38	10 A	Powertrain control module. Transmission control module.
39	10 A	Anti-lock brake system.
40	10 A	Electronic power assist steering.
41	10 A	Blind spot information system.

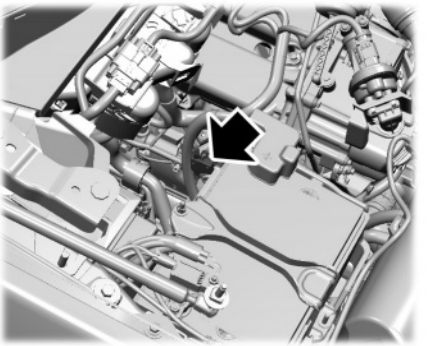
Item	Rating	Protected Component
		Trailer tow tire pressure monitoring system. Rear electronic module controller area network.
42	10 A	Snowplow.
43	15 A	Interior power distribution box run/start.
45	15 A	Heated steering wheel.
46	20 A	Not used (spare).
47	5 A	Not used (spare).
48	30 A	Amplifier.
49	25 A	Not used (spare).
51	40 A	Blower motor.
52	—	Not used.
53	10 A	Four-wheel drive - transfer case control module.
54	10 A	Not used (spare).
55	10 A	Not used (spare).
56	40 A	Electronic power assist steering.
57	25 A	Trailer tow lighting module.
58	50 A	Customer interface module.
59	60 A	Inverter.
60	60 A	Interior power distribution box B+.
61	30 A	Vehicle battery 2.
62	5 A	Smart trailer hitch.
63	10 A	Smart data link connector. Enhanced central gateway.
64	5 A	Glow plug relay coil (diesel).

Item	Rating	Protected Component
65	10 A	Compressed natural gas module power.
74	30 A	Trailer brake control. Aftermarket e-brake access.
75	30 A	Compressed natural gas powered at all times.
76	25 A	Trailer tow lighting module battery charge.
77	30 A	Vehicle battery 1.
78	20 A	Power point 2.
79	20 A	Power point 1.
84	20 A	Horn.
85	40 A	Heated rear windshield.
91	5 A	Headlamp control module.
92	15 A	Left-hand headlamp.
93	15 A	Right-hand headlamp.
94	20 A	Power point 3.
95	20 A	Power point 4. Smart charge module.
98	10 A	Tailgate release.
101	50 A	Customer interface module.
102	5 A	Rain sensor.
103	30 A	Front wiper motor.
105	30 A	Fuel pump.
106	30 A	Body control module power bus.
107	30 A	Trailer tow park lamps.

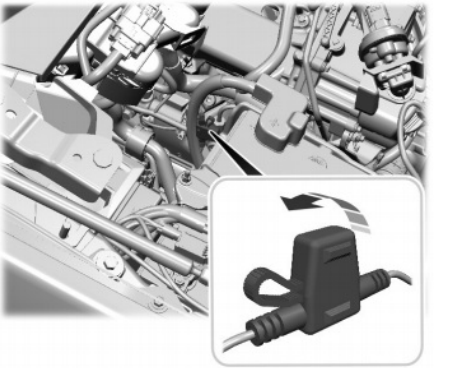
Item	Rating	Protected Component
108	40 A	Driver power seat.
109	30 A	Starter motor.
111	30 A	Power sliding rear window.

BATTERY FUSE BOX

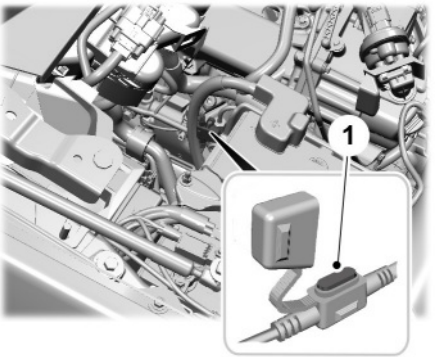
LOCATING THE BATTERY FUSE BOX



ACCESSING THE BATTERY FUSE BOX



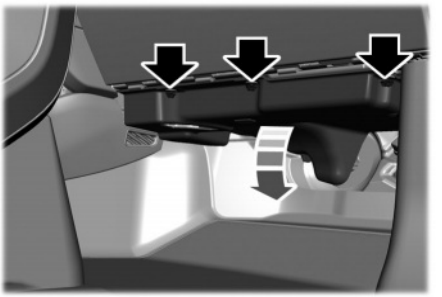
IDENTIFYING THE FUSES IN THE BATTERY FUSE BOX



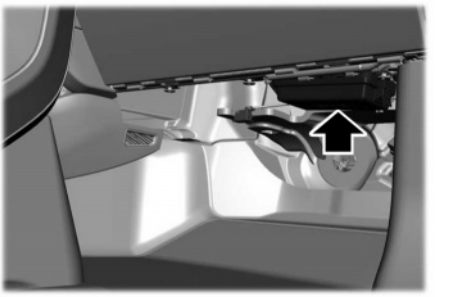
Item	Rating	Protected Component
1	3 A	Battery monitoring system.

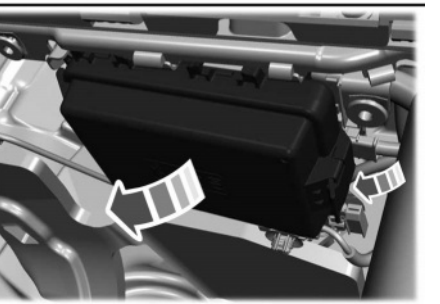
INTERIOR FUSE BOX

LOCATING THE INTERIOR FUSE BOX

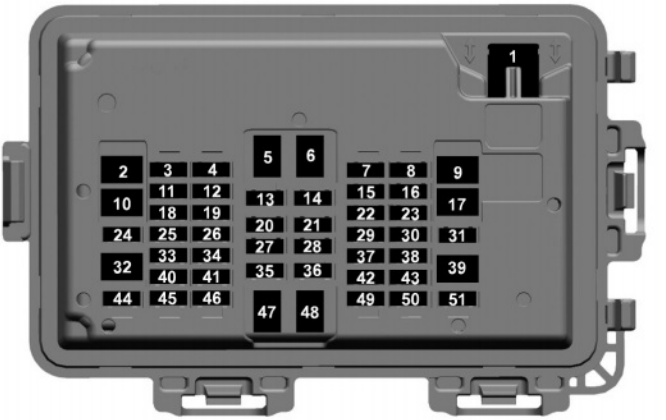


ACCESSING THE INTERIOR FUSE BOX





IDENTIFYING THE FUSES IN THE INTERIOR FUSE BOX

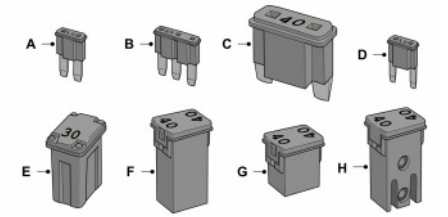


Item	Rating	Protected Component
1	30 A	Power windows.
2	30 A	Powered tailgate module.
3	30 A	Passenger door module.
4	15 A	Multi-contour seats.
5	—	Not used.
6	—	Not used.
7	20 A	Advanced driver assistance system module.
8	10 A	Delayed accessory logic.
9	—	Not used.
10	—	Not used.
11	5 A	Instrument cluster.
12	—	Not used.
13	7.5 A	Not used (spare).

Item	Rating	Protected Component
14	15 A	SYNC.
15	5 A	Center high-mounted stop lamp camera.
16	—	Not used.
17	—	Not used.
18	10 A	Radio transceiver module. Four-wheel drive switch. Enhanced central gateway.
19	—	Not used.
20	5 A	Inverter.
21	5 A	Upfitter switch.
22	10 A	Auxiliary camera.
23	—	Not used.
24	30 A	Moonroof.
25	5 A	Not used (spare).
26	5 A	Not used (spare).
27	5 A	Trailer brake control switch.
28	5 A	Electrochromatic mirror.
29	5 A	Heating, ventilation and air conditioning.
30	—	Not used.
31	—	Not used.
32	—	Not used.
33	10 A	Brake on-off switch.
34	7.5 A	Steering column control module. Instrument cluster.
35	5 A	Rear heated seats.
36	7.5 A	Manual shift. Select shift switch.

Item	Rating	Protected Component
37	5 A	Head up display.
38	7.5 A	Telematics control unit.
39	—	Not used.
40	10 A	Left-hand door switch. Telescopic exterior mirror switch.
41	10 A	Adjustable pedals.
42	5 A	Central security module.
43	5 A	Headlamps. Ignition switch.
44	30 A	Driver door module.
45	7.5 A	Wireless accessory charger module. Driver front seat module.
46	20 A	Radio.
47	—	Not used.
48	—	Not used.
49	7.5 A	SYNC display screen.
50	5 A	Auxiliary smart data link connector.
51	—	Not used.

IDENTIFYING FUSE TYPES



A Micro 2.
B Micro 3.
C Maxi.
D Mini.
E M Case.
F J Case.
G J Case Low Profile.
H Slotted M Case.

FUSES – TROUBLESHOOTING

FUSES – FREQUENTLY ASKED QUESTIONS

When do I need to check a fuse?

- If electrical components in the vehicle are not working.

When do I need to replace a fuse?

- If a fuse has blown.

How do I identify a blown fuse?

- You can identify a blown fuse by a broken wire within the fuse.

MAINTENANCE PRECAUTIONS

Service your vehicle regularly to help maintain its roadworthiness and resale value. There is a large network of authorized dealers that are there to help you with their professional servicing expertise. We believe that their specially trained technicians are best qualified to service your vehicle properly and expertly. They are supported by a wide range of highly specialized tools developed specifically for servicing your vehicle.

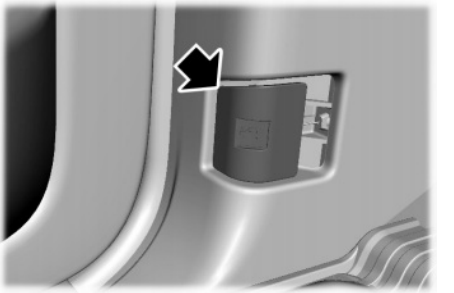
If your vehicle requires professional service, an authorized dealer can provide the necessary parts and service. Check your warranty information to find out which parts and services are covered.

Use only recommended fuels, lubricants, fluids and service parts conforming to specifications.

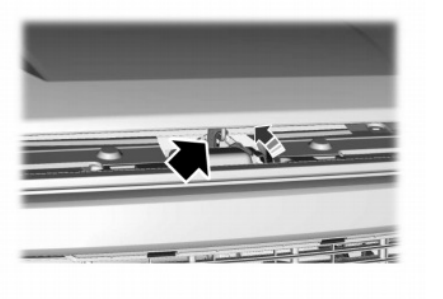
- Do not work on a hot engine.
- Make sure that nothing gets caught in moving parts.
- Do not work on a vehicle with the engine running in an enclosed space, unless you are sure you have enough ventilation.
- Keep all open flames and other burning material, such as cigarettes, away from the battery and all fuel related parts.
- Set the parking brake, shift the transmission to park (P) and block the wheels.

OPENING AND CLOSING THE HOOD

1. Inside the vehicle, pull the hood release handle located under the left-hand side of the instrument panel.



2. Go to the front of your vehicle and locate the secondary release lever under the front of the hood near the center of your vehicle.



3. Raise the hood until the lift cylinders hold it open.
4. To close, lower the hood and make sure that it is properly closed and fully latched.

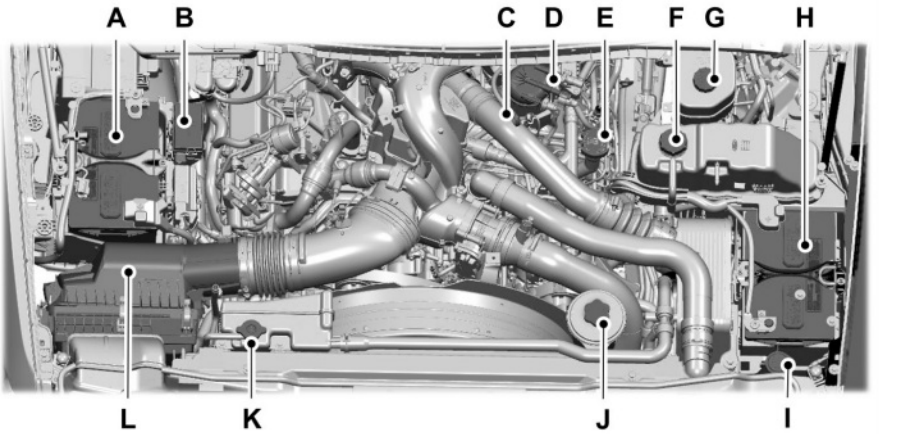
Warning Lamps and Indicators

Hood Ajar



It illuminates when the ignition is on and the hood is not completely closed.

UNDER HOOD OVERVIEW - 6.7L DIESEL



A Battery. See **Changing the 12V Battery** (page 456).

B Under hood fuse box. See **Accessing the Under Hood Fuse Box** (page 423).

C Engine oil dipstick. See **Engine Oil Dipstick Overview** (page 437).

D Secondary fuel filter. See **Changing the Fuel Filter** (page 452).

E Engine oil filler cap. See **Checking the Engine Oil Level** (page 437).

F Engine cooling system coolant reservoir - primary high-temperature cooling system. See **Checking the Coolant Level** (page 448).

G Brake fluid reservoir. See **Checking the Brake Fluid** (page 256).

H Battery. See **Changing the 12V Battery** (page 456).

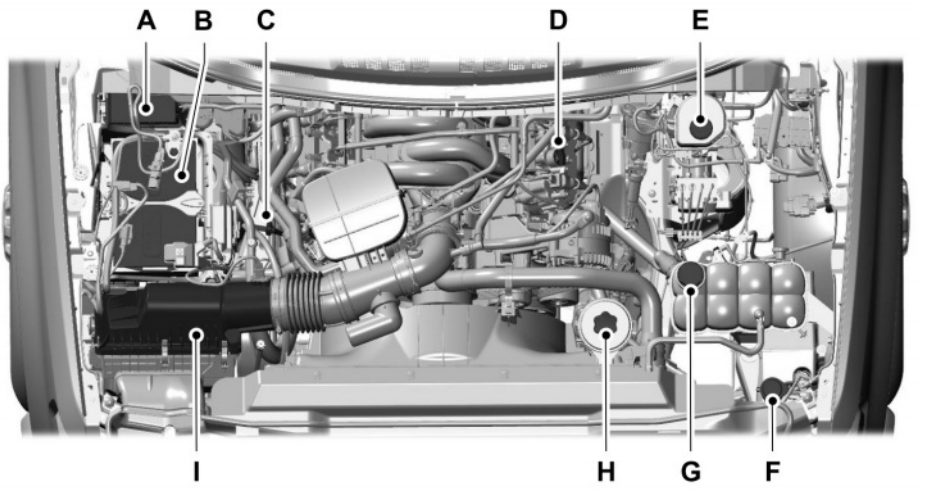
I Windshield washer fluid reservoir. See **Adding Washer Fluid** (page 105).

J Power steering fluid reservoir. See **Checking the Hydraulic Power Steering Fluid** (page 280).

K Secondary cooling system coolant reservoir. See **Checking the Coolant Level** (page 448).

L Air cleaner assembly. See **Changing the Engine Air Filter** (page 443).

UNDER HOOD OVERVIEW - 7.3L, GASOLINE

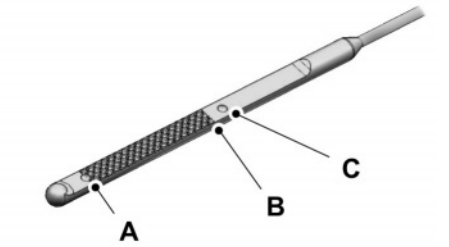


A Under hood fuse box. See **Accessing the Under Hood Fuse Box** (page 423).
B Battery. See **Changing the 12V Battery** (page 456).
C Engine oil dipstick. See **Engine Oil Dipstick Overview** (page 437).
D Engine oil filler cap. See **Adding Engine Oil** (page 438).
E Brake fluid reservoir. See **Checking the Brake Fluid** (page 256).
F Windshield washer fluid reservoir. See **Adding Washer Fluid** (page 105).
G Engine coolant reservoir. See **Checking the Coolant Level** (page 448).
H Power steering fluid reservoir. See **Checking the Hydraulic Power Steering Fluid** (page 280).
I Air cleaner assembly. See **Changing the Engine Air Filter** (page 443).

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

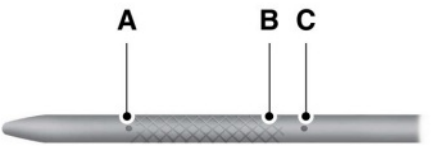
ENGINE OIL

ENGINE OIL DIPSTICK OVERVIEW - DIESEL



A Minimum.
B Nominal.
C Maximum.

ENGINE OIL DIPSTICK OVERVIEW - GASOLINE



A Minimum.
B Nominal.
C Maximum.

CHECKING THE ENGINE OIL LEVEL

1. Make sure that your vehicle is on level ground.
2. Check the oil level before starting the engine, or switch the engine off after warm up and wait 15 minutes for the oil to drain into the oil pan.

Note: *Checking the oil level too soon could result in an inaccurate reading.*

3. Remove the dipstick and wipe it with a clean, lint-free cloth.
4. Reinstall the dipstick and make sure it is fully seated.
5. Remove the dipstick again to check the oil level.

Note: *Read both sides of the dipstick and use the lowest oil level as the correct reading.*

Note: *If the oil level is between the maximum and minimum marks, the oil level is acceptable. Do not add oil.*

6. If the oil level is at the minimum mark, immediately add oil.
7. Reinstall the dipstick. Make sure it is fully seated.

Note: *The oil consumption of new engines reaches its normal level after approximately 3,000 mi (5,000 km).*

Note: *Increases in oil level can occur from frequent short trips that do not allow the engine to get to operating temperature, as well as frequent idling or low speed driving for long periods of time.*

Note: *If oil levels are continuously noted above the maximum mark, have your vehicle checked as soon as possible.*

ADDING ENGINE OIL

WARNING: Do not remove the filler cap when the engine is running.

WARNING: Do not add engine oil when the engine is hot. Failure to follow this instruction could result in personal injury.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that the vehicle warranty may not cover.

1. Clean the area surrounding the engine oil filler cap before you remove it.
2. Remove the engine oil filler cap.
3. Add engine oil that meets our specifications. See **Engine Oil** (page 441). See **Engine Oil Capacity and Specification** (page 438). See **Engine Oil Capacity and Specification** (page 441).
4. Reinstall the engine oil filler cap. Turn it clockwise until you feel a strong resistance.

Note: *Do not add oil further than the maximum mark. Oil levels above the maximum mark may cause engine damage.*

Note: *Immediately soak up any oil spillage with an absorbent cloth.*

INTELLIGENT OIL LIFE MONITOR

Under certain conditions the vehicle's intelligent oil life monitor may determine your oil requires replacement prior to your general service. Should this occur it is recommended you replace your oil within two weeks or 500 mi (800 km) of being alerted.

Your authorized dealer will be able to advise you whether only an engine oil and filter change is recommended or whether you should complete your general service inclusive of oil and oil Filter.

RESETTING THE INTELLIGENT OIL LIFE MONITOR

1. Press the Menu button on the steering wheel to enter the instrument cluster display main menu.
2. Select Vehicle Maintenance.
3. Select Oil Life.
4. Press and hold the ***OK*** button until the system reset confirmation appears.

ENGINE OIL CAPACITY AND SPECIFICATION - 6.7L DIESEL

Use oil that meets the defined specification and viscosity grade.

If you do not use oil that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced vehicle performance.
- Reduced fuel economy.

Engine Oil

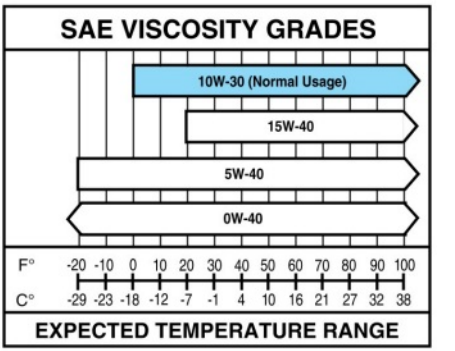
We recommend Motorcraft motor oil for your vehicle. If Motorcraft motor oil is not available, use motor oil of the recommended viscosity grade that meets our specification WSS-M2C171-F1. You can find the list of approved motor oils at www.motorcraft.com.

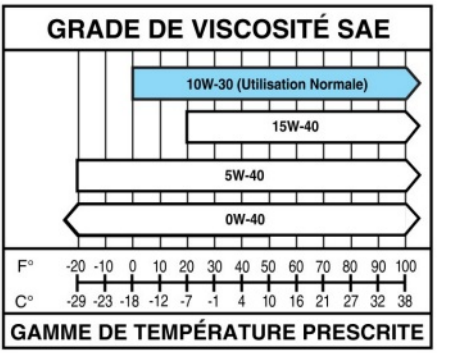
Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

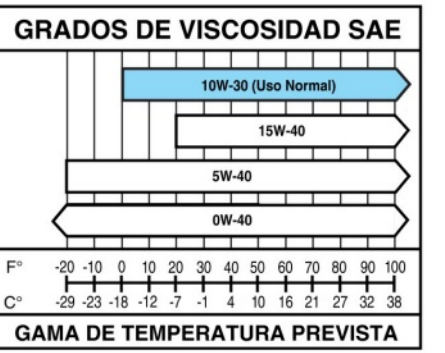
Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty does not cover.

The use of correct oil viscosities for diesel engines is important for satisfactory operation. Determine which oil viscosity best suits the temperature range you expect to encounter for the next service interval from the SAE Viscosity Grades chart.

Note: *An engine block heater is recommended at temperatures below -9ºF (-23ºC).*







Capacities

Variant	Including the Oil Filter
All.	15.0 qt (14.2 L)

Materials

Name	Specification
Motorcraft® SAE 10W-30 Super Duty Diesel Motor Oil(U.S.) Motorcraft® Super Duty Motor Oil SAE 10W-30 / Huile moteur Super Duty SAE 10W-30 Motorcraft®(Canada) XO-10W30-QSDF(U.S.) CXO-10W30-LSD12(Canada)	WSS-M2C171-F1

Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extremely cold climates, where the ambient temperature reaches -22.0°F (-30°C) or below.

Materials

Name	Specification
Engine Oil - SAE 0W-40	WSS-M2C171-F1

Alternative Engine Oil for Biodiesel Fuel Blends (B20 Max)

Materials

Name	Specification
Motorcraft® SAE 5W-40 Full Synthetic Diesel Motor Oil(U.S.) (Canada) XO-5W40-5Q3SD(U.S.)	WSS-M2C171-F1
Motorcraft® SAE 15W-40 Super Duty Diesel Motor Oil(U.S.) Motorcraft® Super Duty Motor Oil SAE 15W-40 / Huile moteur Super Duty SAE 15W-40 Motorcraft®(Canada) XO-15W40-QSDF(U.S.) CXO-15W40-LSD12(Canada)	WSS-M2C171-F1

Alternative Engine Oil for Severe Duty Service

Materials

Name	Specification
Motorcraft® SAE 5W-40 Full Synthetic Diesel Motor Oil(U.S.) (Canada) XO-5W40-5Q3SD(U.S.)	WSS-M2C171-F1

ENGINE OIL CAPACITY AND SPECIFICATION - 7.3L, GASOLINE

Use oil that meets the defined specification and viscosity grade.

If you do not use oil that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced vehicle performance.
- Reduced fuel economy.



An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

We recommend Motorcraft motor oil for your vehicle. If Motorcraft oil is not available, use motor oils of the recommended viscosity grade that display the API Certification Mark for gasoline engines.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty does not cover.

Capacities

Variant	Including the Oil Filter
All.	9.0 qt (8.5 L)

Materials

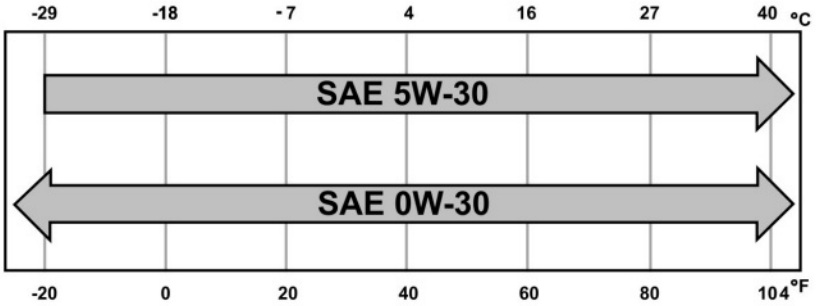
Name	Specification
Motorcraft® SAE 5W-30 Motor Oil(U.S.) Motorcraft® SAE 5W-30 Motor Oil / Huile moteur SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP, XO-5W30-Q1FS(U.S.) CXO-5W30-LSP6, CXO-5W30-LFS6(Canada)	WSS-M2C971-A1

Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extremely cold climates, where the ambient temperature reaches -22°F (-30°C) or below.

Materials

Name	Specification
Engine Oil - SAE 0W-30	WSS-M2C973-A1



Note: *If you use your vehicle regularly above the altitude of 5,000 ft (1,524 m) and under the temperature of -4.0°F (-20°C), it is recommended to use the alternative engine oil.*

ENGINE AIR FILTER

CHANGING THE ENGINE AIR FILTER

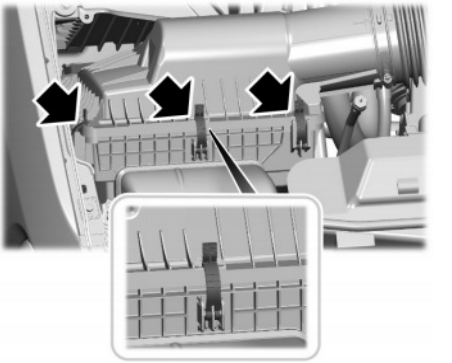
WARNING: To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

Use the correct specification air filter element. See **Engine Air Filter** (page 443).

Note: *Failure to use the correct air filter element may result in severe engine damage not covered by the vehicle warranty.*

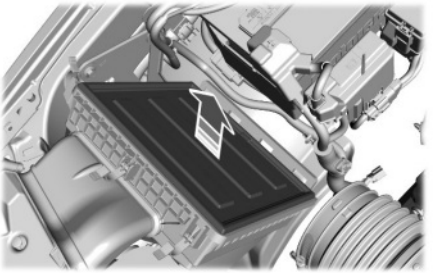
Change the air filter element at the correct service interval. See **Scheduled Maintenance** (page 571).

Your vehicle may be equipped with an electronic engine air filter maintenance minder. The air filter minder provides optimized service intervals and reminders based on driving habits and environmental conditions.



1. Clean any loose dirt or debris around the air filter hosing.
2. Disconnect the mass air flow sensor electrical connector, if required.

3. Remove the three clips that secure the air filter housing cover. Remove the air filter housing cover. Disconnect and pull the air intake tube away, as needed.



4. Remove the air filter element from the air filter housing.
5. Inspect the air filter element for any damage. Replace the air filter element if the seal, paper, foam or steel mesh has any holes, cuts or gouges.
6. Inspect the air filter housing for dirt, dust, snow, ice or debris in the air cleaner tray.
7. Reverse the removal procedure to install. You can oscillate the housing cover slightly left to right as needed until you are able to engage all three clips.

Note: *For diesel applications, make sure the arrow on the new air filter element points toward the front of the vehicle.*

After operating your vehicle during heavy snowfall or extreme rain, do the following:

- Snow: At the earliest opportunity, open the hood, clear any snow and ice from the air filter housing inlet.
- Extreme rain: Allow the air filter element to dry out for approximately 15–30 minutes of driving at highway speeds.

Note: *Do not remove the foam block from the air cleaner tray.*

RESETTING THE AIR FILTER REMINDER - DIESEL

1. Press the menu button on the steering wheel to enter the instrument cluster display main menu.
2. Select Vehicle Maintenance.
3. Select Engine Air Filter.
4. Press and hold the ***OK*** button until the system reset confirmation appears.

Note: *The system displays 100% after being successfully reset.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

ENGINE AIR FILTER – INFORMATION MESSAGES

Message	Details
Replace Engine Air Filter Soon	Replace the engine air filter at the earliest opportunity.
Replace Engine Air Filter Now	Indicates an air filter at the end of useful life. After engine air filter replacement, you must reset the system in order to change the status. See **Resetting the Air Filter Reminder** (page 444).
Check Engine Air Filter See Manual	Indicates that there is a higher-than-expected restriction across the engine air filter, which could represent an air filter at the end of useful life or a filter with an obstruction. When this displays, inspect the engine air filter and replace if necessary. If you do not replace the air filter, there is no need for you to reset the air filter minder. The system resets the minder after you clear the obstruction and drive your vehicle for about an hour. If you replace the air filter, you need to reset the minder to change the status. See **Resetting the Air Filter Reminder** (page 444).
Engine Air Filter Fault See Manual	Indicates that there is an error within the electronic air filter maintenance minder system requiring service.
Engine Power Reduced Inspect Air Filter	When this displays, inspect the engine air filter and replace if necessary. If you do not replace the air filter, there is no need for you to reset the air filter minder. The system resets the minder after you clear the obstruction and drive your vehicle for about an hour. If you replace the air filter, you need to reset the minder to change the status. See **Resetting the Air Filter Reminder** (page 444).

DRAINING THE FUEL FILTER WATER TRAP - DIESEL

WARNING: Do not drain the water-in-fuel separator while the engine is running. Failure to follow this warning may result in fire, serious injury, death or property damage.

WARNING: Do not dispose of fuel in the household refuse or the public sewage system. Use an authorized waste disposal facility.

Your vehicle has a diesel fuel conditioner module. The module is mounted between the outboard side of the fuel tank and the frame rail.

Note: *The module is at the front of the fuel tank or at the front of the aft-axle fuel tank on some models.*



You should drain water from the module assembly whenever the warning light illuminates or a message appears in the information display advising you to drain the water separator. This occurs when approximately 6.76 fl oz (200 ml) of water accumulates in the module. If you allow the water level to exceed this level, the water may pass through to the engine and may cause fuel injection equipment damage.

Filter Location

Use the tables below to find the location of your filter.

Pick-up Truck

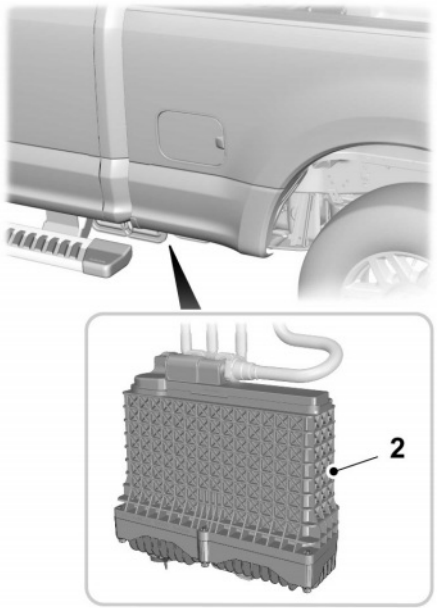
Cab Type	Box Length	Filter Location
Regular.	8 ft (2.4 m)	Left side of fuel tank.
SuperCab.	6.75 ft (2.057 m)	
	8 ft (2.4 m)	In front of fuel tank.
Super Crew Cab.	6.75 ft (2.057 m)	
	8 ft (2.4 m)	Left side of fuel tank.

Chassis Cab

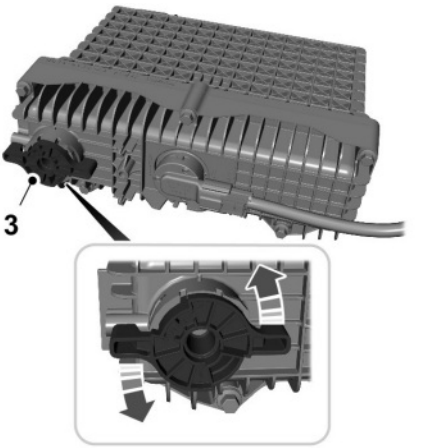
Cab Type	Fuel Tank Type	Filter Location
Chassis Cab.	Single midship fuel tank	Right side of fuel tank.
Chassis Cab.	Aft axle/midship fuel tanks	Right side of midship fuel tank.
Chassis Cab.	Single aft axle fuel tank	Front of fuel tank.

Draining the Diesel Fuel Conditioner Module

1. Switch the engine off.
2. Access the underside of your vehicle.



3. Use the table to find the location of your fuel filter.



4. Drain the diesel fuel conditioner module. Turn the drain plug counterclockwise until it stops. Do not use any tools to loosen the drain plug. Drain the filter, approximately 0.5 gal (2 L), into an appropriate container. Do not re-use the fuel drained from the module.
5. Tighten the drain plug, turn it clockwise until it stops and you feel a strong resistance. Do not use any tools to tighten the drain plug.
6. Prime the system by turning the key to the on position for 30 seconds. Turn the key to the off position, then the on position again for another 30 seconds. Repeat this twice.

COOLANT

CHECKING THE COOLANT LEVEL

WARNING: Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.

WARNING: To reduce the risk of personal injury, make sure the engine is cool before unscrewing the coolant pressure relief cap. The cooling system is under pressure. Steam and hot liquid can come out forcefully when you loosen the cap slightly.

When the engine is cold, check the concentration and level of the coolant at the intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 571).

Note: *Make sure that the coolant level is between the **MIN** and the **MAX** marks on the coolant reservoir.*

Note: *Coolant expands when it is hot. The level may extend beyond the **MAX** mark. This is normal.*

Maintain coolant concentration within 48% to 50%, which equates to a freeze point between -29ºF (-34ºC) and -35ºF (-37ºC). Coolant concentration should be checked using a refractometer. We do not recommend the use of hydrometers or coolant test strips for measuring coolant concentration.

ADDING COOLANT

WARNING: Do not add coolant when the vehicle is on or the cooling system is hot. Failure to follow this instruction could result in personal injury.

WARNING: Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.

WARNING: Do not allow the fluid to touch your skin or eyes. If this happens, rinse the affected areas immediately with plenty of water and contact your physician.

WARNING: Do not put coolant in the windshield washer reservoir. If sprayed on the windshield, coolant could make it difficult to see through the windshield.

WARNING: Do not add coolant further than the **MAX** mark.

Note: *Do not use stop leak pellets, cooling system sealants, or non-specified additives as they can cause damage to the engine cooling or heating systems. Resulting component damage may not be covered by the vehicle Warranty.*

Note: *Automotive fluids are not interchangeable.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

It is very important to use prediluted coolant approved to the correct specification in order to avoid plugging the small passageways in the engine cooling system. Do not mix different colors or types of coolant in your vehicle. Mixing of engine coolants or using an incorrect coolant may harm the engine or cooling system components and may not be covered by the vehicle Warranty.

Note: *If prediluted coolant is not available, use the approved concentrated coolant diluting it to 50/50 with deionised or distilled water. Using water that has not been deionised may contribute to deposit formation, corrosion and plugging of the small cooling system passageways.*

Note: *Coolants marketed for all makes and models may not be approved to our specifications and may cause damage to the cooling system. Resulting component damage may not be covered by the vehicle Warranty.*

If the coolant level is at or below the minimum mark, add prediluted coolant immediately.

To top up the coolant level do the following:

1. Unscrew the cap slowly. Any pressure escapes as you unscrew the cap.
2. Add prediluted coolant approved to the correct specification.
3. Add enough prediluted coolant to reach the correct level.
4. Replace the coolant reservoir cap. Turn the cap clockwise until it contacts the hard stop.
5. Check the coolant level in the coolant reservoir the next few times you drive your vehicle. If necessary, add enough prediluted engine coolant to bring the coolant level to the correct level.

If you have to add more than 1.1 qt (1 L) of engine coolant per month, have your vehicle checked as soon as possible. Operating an engine with a low level of coolant can result in engine overheating and possible engine damage.

In case of emergency, you can add a large amount of water without engine coolant in order to reach a vehicle service location.

Water alone, without engine coolant, can cause engine damage from corrosion, overheating or freezing.

Do not use the following as a coolant substitute:

- Alcohol.
- Methanol.
- Brine.
- Any coolant mixed with alcohol or methanol antifreeze.

Alcohol and other liquids can cause engine damage from overheating or freezing.

Do not add extra inhibitors or additives to the coolant. These can be harmful and compromise the corrosion protection of the coolant.

CHANGING THE COOLANT

For coolant change, see your authorized dealer.

Changing the coolant is necessary at specific mileage intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 571).

MANAGING THE COOLANT TEMPERATURE

If you tow a trailer with your vehicle, the engine may temporarily reach a higher temperature during severe operating conditions, for example ascending a long or steep grade in high ambient temperatures.

At this time, you may notice the coolant temperature gauge moves toward the red zone and a message may appear in the information display.

WARNING: Do not drive your vehicle when the coolant warning lamp is on, as this may indicate your engine could be overheating. As a result, your vehicle speed may reduce, acceleration could be compromised, or the engine might stop without warning. Pull your vehicle over safely as soon as possible. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

You may notice a reduction in vehicle speed caused by reduced engine power in order to manage the engine coolant temperature. Your vehicle may enter this mode if certain high-temperature and high-load conditions take place. The amount of speed reduction depends on vehicle loading, grade and outside temperature. If this occurs, there is no need to stop your vehicle. You can continue to drive. See **Fail-Safe Cooling** (page 418).

The air conditioning may automatically turn on and off during severe operating conditions to protect the engine from overheating. When the coolant temperature decreases to the normal operating temperature, the air conditioning turns on.

If the coolant temperature gauge moves fully into the red zone, or if the coolant temperature warning or service engine soon messages appear in your information display, do the following:

1. Stop your vehicle as soon as it is safe to do so. Fully apply the parking brake, shift into park (P) or neutral (N).
2. Leave the engine running until the coolant temperature gauge needle returns to the normal position. If the temperature does not drop after several minutes, follow the remaining steps.
3. Switch the engine off and wait for it to cool. Check the coolant level.
4. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
5. If the coolant level is normal, restart the engine and continue.

COOLING SYSTEM CAPACITY AND SPECIFICATION - 6.7L DIESEL

Use coolant that meets the defined specification.

If you do not use coolant that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Note: *An engine block heater is recommended at temperatures below -9°F (-23°C).*

Capacities

Variant	Quantity
Primary cooling system.	31.7 qt (30 L)
Primary cooling system with auxiliary radiator.	33.3 qt (31.5 L)
Secondary cooling system with urea injector cooling.	8.2 qt (7.8 L)
Secondary cooling system with urea injector cooling and cooled compressor.	10.0 qt (9.5 L)

Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/ Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

Note: *Yellow coolant may become darker over time. This is normal.*

COOLING SYSTEM CAPACITY AND SPECIFICATION - 7.3L, GASOLINE

Use coolant that meets the defined specification.

If you do not use coolant that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

Capacities

Variant	Quantity
All.	25.0 qt (23.7 L)

Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/ Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

Note: *Yellow coolant may become darker over time. This is normal.*

COOLANT – WARNING LAMPS



If the engine begins to overheat, the coolant temperature gauge moves toward the red zone.



A warning lamp illuminates and a message may appear in the information display.

COOLANT – INFORMATION MESSAGES

Message	Description and Action
High engine temperature Stop safely	Displays when the engine temperature is too high. Stop your vehicle as soon as it is safe to do so, switch the engine off and allow it to cool. If the problem persists, have your vehicle checked as soon as possible. See **Checking the Coolant Level** (page 448).

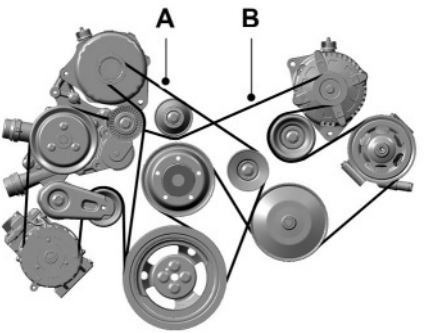
CHANGING THE FUEL FILTER - DIESEL

Your fuel filters must be changed at the correct service interval or when you see the low fuel pressure message appear. Refer to scheduled maintenance for the correct service interval.

CHANGING THE FUEL FILTER - GASOLINE

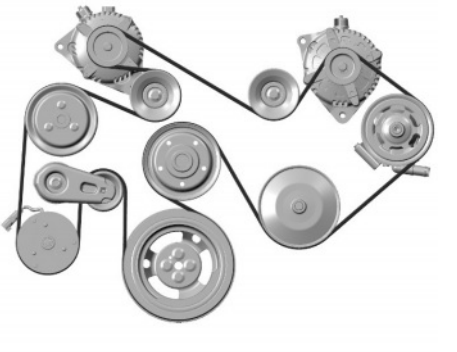
Your vehicle has a lifetime fuel filter that integrates with the fuel tank. It does not need regular maintenance or replacement.

DRIVE BELT ROUTING OVERVIEW - 6.7L DIESEL, VEHICLES WITH: 110-120V 2KW PICKUP BED POWER OUTLET/ DUAL GENERATORS

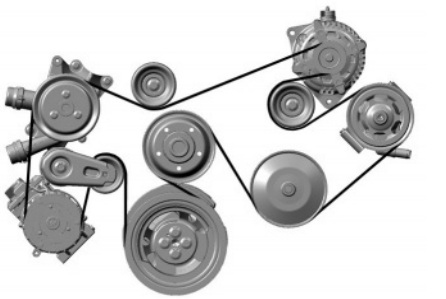


A.	Drivebelt furthest from the engine.
B.	Drivebelt closest to the engine.

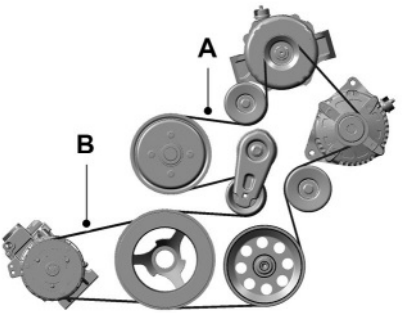
DRIVE BELT ROUTING OVERVIEW - 6.7L DIESEL, VEHICLES WITH: DUAL GENERATORS



DRIVE BELT ROUTING OVERVIEW - 6.7L DIESEL, VEHICLES WITH: SINGLE GENERATOR

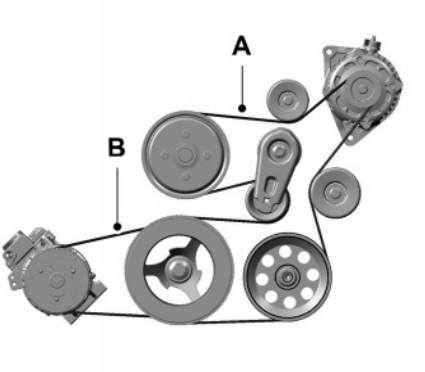


DRIVE BELT ROUTING OVERVIEW - 7.3L, GASOLINE, VEHICLES WITH: DUAL GENERATORS



A.	Drivebelt furthest from the engine.
B.	Drivebelt closest to the engine.

DRIVE BELT ROUTING OVERVIEW - 7.3L, GASOLINE, VEHICLES WITH: SINGLE GENERATOR



A.	Drivebelt furthest from the engine.
B.	Drivebelt closest to the engine.

12V BATTERY

12V BATTERY PRECAUTIONS

WARNING: Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.

WARNING: When lifting a plastic-cased battery, excessive pressure on the end walls could cause acid to flow through the vent caps, resulting in personal injury and damage to the vehicle or battery. Lift the battery with a battery carrier or with your hands on opposite corners.

WARNING: Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling**.

WARNING: This vehicle may have more than one battery. Removing the battery cables from only one battery does not disconnect your vehicle electrical system. Make sure you disconnect the battery cables from all batteries when disconnecting power. Failure to do so may cause serious personal injury or property damage.

WARNING: For vehicles with Auto-Start-Stop the battery requirement is different. You must replace the battery with one of exactly the same specification.

WARNING: For vehicles equipped with a 12V battery vent tube, always properly reconnect the vent tube to the battery after disconnecting. Failure to follow this instruction could allow harmful gasses to enter the vehicle cabin, which could cause personal injury or death.

WHAT IS THE BATTERY MANAGEMENT SYSTEM

The battery management system monitors battery conditions and takes actions to extend battery life.

HOW DOES THE BATTERY MANAGEMENT SYSTEM WORK

If excessive battery drain is detected, the system temporarily disables some electrical systems to protect the battery.

Systems included are:

- Heated rear window.
- Heated seats.
- Climate control.
- Heated steering wheel.
- Audio unit.
- Navigation system.

A message could appear in the information display to alert you that battery protection actions are active. This message is only for notification that an action is taking place, and not intended to indicate an electrical problem or that the battery requires replacement.

BATTERY MANAGEMENT SYSTEM LIMITATIONS

After battery replacement, or in some cases after charging the battery with an external charger, the battery management system requires eight hours of vehicle sleep time to relearn the battery state of charge. During this time, your vehicle must remain fully locked with the ignition switched off.

Note: *Prior to relearning the battery state of charge, the battery management system could temporarily disable some electrical systems.*

Electrical Accessory Installation

To make sure the battery management system works correctly, do not connect an electrical device ground connection directly to the battery negative post. This can cause inaccurate measurements of the battery condition and potential incorrect system operation.

Note: *If you add electrical accessories or components to the vehicle, it could adversely affect battery performance and durability. This could also affect the performance of other electrical systems in the vehicle.*

CHANGING THE 12V BATTERY

The battery is in the engine compartment. See **Maintenance** (page 434).

Your vehicle has a maintenance-free battery. It does not require additional water during service.

Note: *There may be additional components that need to be removed or disconnected before you can safely remove the battery from your vehicle. For specific guidance on which components may need to be addressed, it is best to contact your dealer for detailed information.*

If the vehicle battery has a cover, make sure you correctly install it after cleaning or replacing the battery.

For longer, trouble-free operation, keep the top of the battery clean and dry and the battery cables tightly fastened to the battery terminals. If any corrosion is present on the battery or terminals, remove the cables from the terminals and clean with a wire brush. You can neutralize the acid with a solution of baking soda and water.

We recommend that you disconnect the negative battery cable terminal from the battery if you plan to store your vehicle for an extended period.

Note: *If you only disconnect the negative battery cable terminal, make sure it is isolated or placed away from the battery terminal to avoid unintended connection or arcing.*

If you disconnect or replace the battery and your vehicle has an automatic transmission, it must relearn its adaptive strategy. Because of this, the transmission may shift firmly when first driven. This is normal operation while the transmission fully updates its operation to optimum shift feel.

Removing the Battery

1. Apply the parking brake and switch the ignition off.
2. Switch all electrical equipment off, for example lights and radio.
3. Wait a minimum of two minutes before disconnecting the battery.

Note: *The engine management system has a power hold function and remains powered for a period of time after you switch the ignition off. This allows the system to store diagnostic and adaptive tables. Disconnecting the battery without waiting can cause damage not covered by the vehicle Warranty.*

4. Disconnect and isolate the negative battery cable terminal.
5. Disconnect and isolate the positive battery cable terminal.

Note: *Before removing batteries with a vent tube, disconnect and secure the tube.*

6. Remove the battery securing clamp.
7. Remove the battery.

If you disconnect or replace the vehicle battery, you must reset the following features:

- Window bounce-back. See **Windows** (page 119).
- Clock Settings.
- Pre-set radio stations.

Replacing the Battery

Note: *Before reconnecting the battery, make sure the ignition remains switched off.*

You must replace the battery with one of exactly the same specification.

To install, reverse the removal procedure.

Note: *Make sure that you correctly install the battery cable terminals, battery terminal covers, battery vent tube, battery securing clamp and battery cover.*

RESETTING THE BATTERY SENSOR

When you install a new battery, reset the battery sensor by doing the following:

1. Switch the ignition on, and leave the engine off.

Note: *Complete Steps 2 and 3 within 10 seconds.*

2. Flash the high beam headlamps five times, ending with the high beams off.
3. Press and release the brake pedal three times.

The battery warning lamp flashes three times to confirm that the reset is successful.

RECYCLING AND DISPOSING OF THE 12V BATTERY



Seek advice from your local authority about recycling old batteries.

12V BATTERY – TROUBLESHOOTING

12V BATTERY – WARNING LAMPS



If it illuminates while driving, it indicates a charging system error. Switch off all unnecessary electrical equipment and have your vehicle immediately checked.

12V BATTERY – INFORMATION MESSAGES

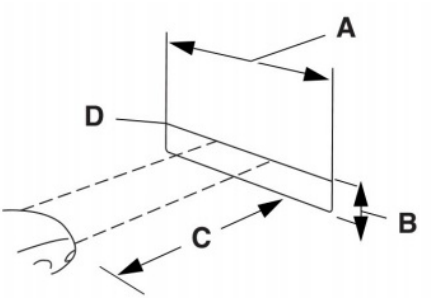
Message	Details
Electrical system fault Service soon Steering and brake assist limited	The charging system needs servicing. If this message stays on or continues to come on, have your vehicle checked as soon as possible.
Electrical system fault Service now Steering and brake assist limited	The charging system needs servicing. Have your vehicle immediately checked.
Turn power off to save battery	The battery management system determines that the battery is at a low state of charge. Switch the ignition off as soon as possible to protect the battery. This message clears when you start your vehicle and the battery state of charge has recovered. Switch off unnecessary electrical loads to allow for a faster battery state-of-charge recovery.
Electrical power saver active Some features turned off See manual	Displays when the battery management system detects an extended low-voltage condition. The system disables various vehicle features to help preserve the battery. Switch off as many of the electrical loads as soon as possible to improve system voltage. When the system voltage recovers, the disabled features begin to operate as normal.

ADJUSTING THE HEADLAMPS

Vertical Aim Adjustment

The headlamps on your vehicle are properly aimed at the assembly plant. If your vehicle has been in an accident, have your vehicle checked as soon as possible.

Headlamp Aiming Target

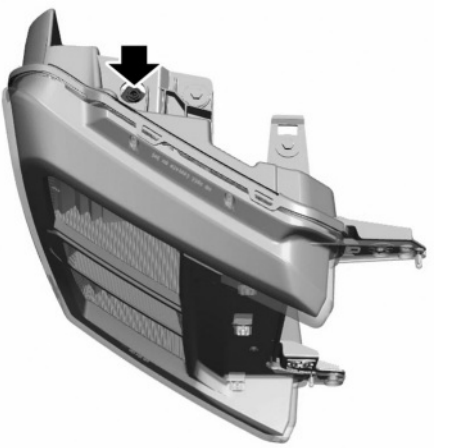


A 8 ft (2.4 m).
B Center height of lamp to ground.
C 25 ft (7.6 m).
D Horizontal reference line.

1. Park your vehicle directly in front of a wall or screen on a level surface, approximately 25 ft (7.6 m) away.
2. Measure the height from the center of your headlamp, indicated by a 3 millimeter circle on the lens, to the ground and mark an 8 ft (2.4 m) horizontal reference line on the vertical wall or screen at this height, a piece of masking tape works well.
3. Switch on the low beam headlamps to illuminate the wall or screen and open the hood. Cover one of the headlamps so no light hits the wall.



4. On the wall or screen, observe a light pattern with a distinct horizontal edge toward the right. If this edge is not at the horizontal reference line, adjust the beam so the edge is at the same height as the horizontal reference line.



5. Locate the vertical adjuster on each headlamp. Using a Phillips #2 screwdriver, turn the adjuster either clockwise or counterclockwise to adjust the vertical aim of the headlamp.

Note: *Low/Mid series lamps: Use a Phillips #2 screwdriver to adjust.*

High Series Lamps: Use a 6 mm hex key or Phillips PH1 screwdriver to adjust.

6. Repeat Steps 3 through 5 to adjust the other headlamp.

Note: *The vertical adjuster is in the same location for all headlamps.*

7. Close the hood and turn off the lamps.

Horizontal Aim Adjustment

Horizontal aim is not required for this vehicle and is not adjustable.

EXTERIOR BULBS

EXTERIOR BULB SPECIFICATION CHART

Replacement bulbs are specified in the chart below. Headlamp bulbs must be marked with an authorized D.O.T. marking for North America to make sure they have the proper lamp performance, light brightness, light pattern and safe visibility. The correct bulbs will not damage the lamp assembly or void the lamp assembly warranty and will provide quality bulb illumination time.

Lamp	Specification	Power (Watt)
Headlamp. Low series.	H11L/9005LL	62/69
Headlamp. Mid/High series.	LED	LED
Front side marker lamp. Low series.	W5W	5
Front side marker lamp. Mid/High series.	LED	LED
Front fog lamp.	H11	62
Front fog lamp.[3]	LED	LED
Front turn signal and parking lamp. Low series.	4257NA	30/7
Front turn signal and parking lamp. Mid/High series.	LED	LED
Rear lamp, brake lamp, and rear side marker lamp. Low/Mid series.[1]	3157K	27/7
Rear turn signal lamp. Low/Mid series.[1]	3175K	27/7
Rear lamp, brake lamp, rear turn signal, rear side marker lamp and reverse lamp. High series.[1]	LED	LED
Rear lamp, brake lamp, rear turn signal and rear side marker lamp.[2]	3157K	27/7
Reversing lamp. Low series.	WT21W	21
License plate lamp. Low series.	168	5
License plate lamp. High series.	LED	LED
Central high mounted cargo lamp.	912	12.8

Lamp	Specification	Power (Watt)
Central high mounted cargo lamp.	LED	LED
Side turn signal and mirror clearance lamp.	LED	LED
Front clearance lamp.	LED	LED
Rear clearance lamp.	LED	LED
Front identification lamp.	LED	LED
Rear identification lamp.	LED	LED
Under hood lamp.	LED	LED

[1] Pickup only.

[2] Chassis cab only.

[3] U.S. and Canada only

Note: *LED lamps are not serviceable. See an authorized dealer if they fail.*

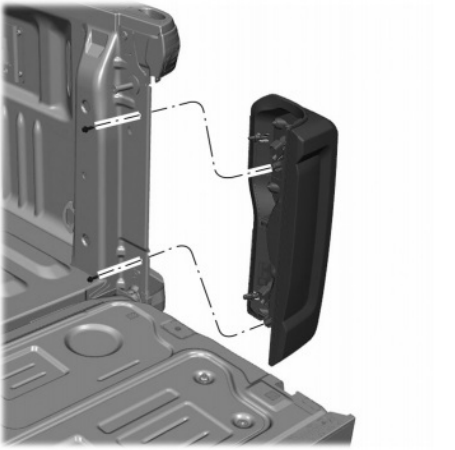
REMOVING A REAR LAMP ASSEMBLY - CHASSIS CAB



1. Switch all of the lamps and the ignition off.
2. Remove the screws and the lamp lens from lamp assembly.
3. To install, reverse the removal procedure.

REMOVING A REAR LAMP ASSEMBLY - PICKUP

1. Make sure the headlamps are off.
2. Open the tailgate to access the rear lamp assemblies.



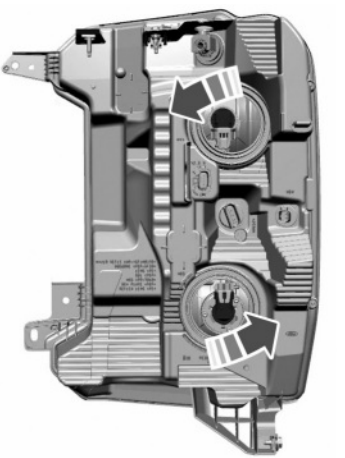
3. Remove the bolts from the tail lamp assembly.
4. Carefully pull the lamp assembly from the tailgate pillar by releasing the two retaining tabs.
5. To install, reverse the removal procedure.

CHANGING A HEADLAMP BULB

WARNING: Make sure the bulbs have cooled down before removing them. Failure to follow this warning could result in serious personal injury.

Note: *To access the right-hand side bulbs, remove the air intake pipe. See* ***Changing the Engine Air Filter*** *(page 443).*

For vehicles with diesel engines, to access the left-hand side bulbs, remove the washer reservoir filler tube.



1. Switch all of the lamps and the ignition off.
2. Disconnect the electrical connector.
3. Turn the bulb holder counterclockwise and remove it.

Note: *You cannot separate the bulb from the bulb holder.*

4. To install, reverse the removal procedure.

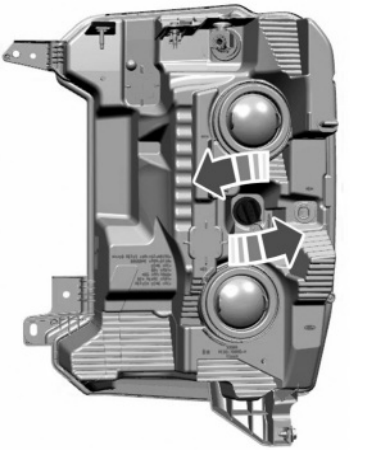
Note: *Handle a halogen headlamp bulb carefully and keep out of children's reach. Grasp the bulb only by its plastic base and do not touch the glass. The oil from your hand could cause the bulb to break the next time you operate the headlamps.*

CHANGING A FRONT TURN SIGNAL LAMP BULB

WARNING: Make sure the bulbs have cooled down before removing them. Failure to follow this warning could result in serious personal injury.

Note: *To access the right-hand side bulbs, remove the air intake pipe. See* ***Changing the Engine Air Filter*** *(page 443).*

To access the left-hand side bulbs, remove the washer reservoir filler tube. Vehicles with diesel engine only.



1. Switch all of the lamps and the ignition off.
2. Disconnect the electrical connector.
3. Turn the bulb holder counterclockwise and remove it.

Note: *You cannot separate the bulb from the bulb holder.*

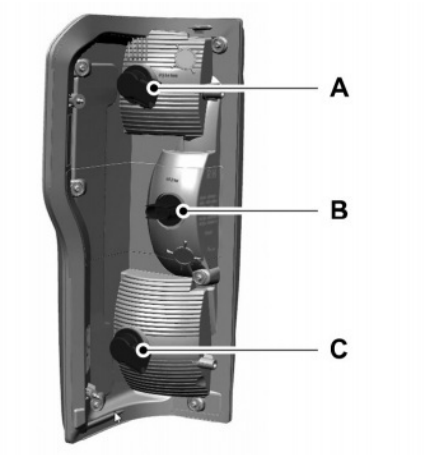
4. To install, reverse the removal procedure.

CHANGING A FRONT FOG LAMP BULB



1. Make sure the fog lamps are off.
2. Disconnect the electrical connector from the fog lamp bulb.
3. Turn the bulb counterclockwise and remove it from the fog lamp.
4. To install, reverse the removal procedure.

CHANGING A REAR LAMP BULB



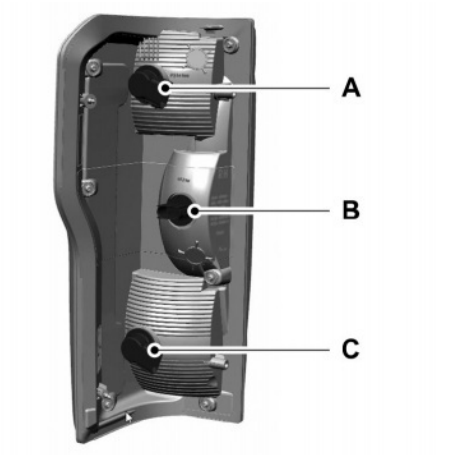
A Stop lamp, rear lamp bulb, and turn signal lamp bulb.

B Reversing lamp bulb.

C Stop lamp, rear lamp bulb, and turn signal lamp bulb.

1. Remove the rear lamp assembly. See **Removing a Rear Lamp Assembly** (page 462).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.
4. To install, reverse the removal procedure.

CHANGING A STOPLAMP BULB



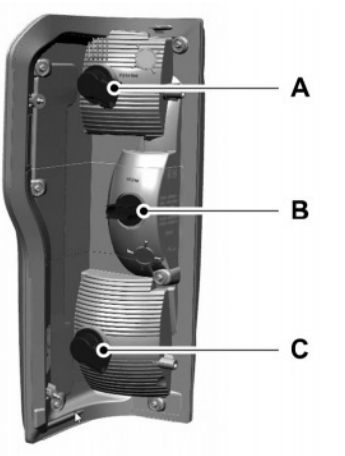
A Stop lamp, rear lamp bulb, and turn signal lamp bulb.

B Reversing lamp bulb.

C Stop lamp, rear lamp bulb, and turn signal lamp bulb.

1. Remove the rear lamp assembly. See **Removing a Rear Lamp Assembly** (page 462).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.
4. To install, reverse the removal procedure.

CHANGING A REAR TURN SIGNAL LAMP BULB



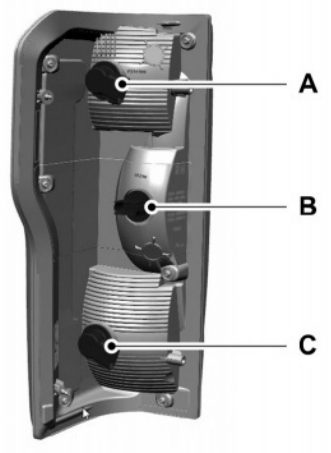
A Stop lamp, rear lamp bulb, and turn signal lamp bulb.

B Reversing lamp bulb.

C Stop lamp, rear lamp bulb, and turn signal lamp bulb.

1. Remove the rear lamp assembly. See **Removing a Rear Lamp Assembly** (page 462).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.
4. To install, reverse the removal procedure.

CHANGING A REVERSING LAMP BULB



A Stop lamp, rear lamp bulb, and Turn signal lamp bulb.

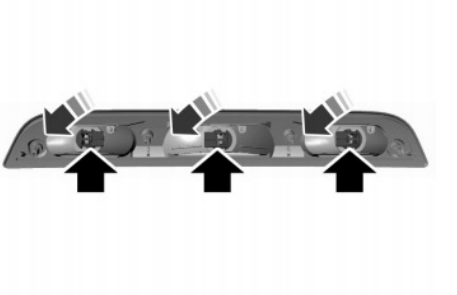
B Reversing lamp bulb.

C Stop lamp, rear lamp bulb, and Turn signal lamp bulb.

1. Remove the rear lamp assembly. See **Removing a Rear Lamp Assembly** (page 462).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.
4. To install, reverse the removal procedure.

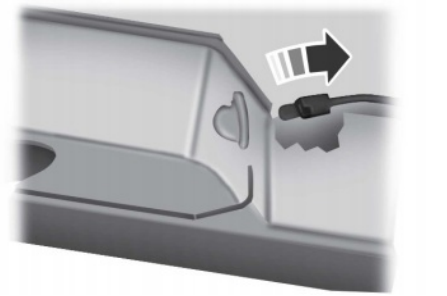
CHANGING A HIGH MOUNTED STOPLAMP BULB

1. Make sure the lamps are off.
2. Remove the four screws and move the lamp assembly away from the vehicle to expose the bulb sockets.



3. Remove the bulb socket by rotating it counterclockwise and pulling it out of the lamp assembly.
4. Pull the bulb straight out of the socket.
5. To install, reverse the removal procedure.

CHANGING A LICENSE PLATE LAMP BULB



1. Switch all of the lamps and the ignition off.
2. To access the bulb, reach behind the bumper.
3. Turn the bulb holder counterclockwise and remove it.

4. Remove the bulb by pulling it straight out.
5. To install, reverse the removal procedure.

INTERIOR BULBS

INTERIOR BULB SPECIFICATION CHART

Your vehicle has LED lamps. These are not serviceable items. See an authorized dealer if they fail.

ENGINE SPECIFICATIONS - 6.7L DIESEL

Engine	6.7L V8 Diesel Engine
Displacement.	406 in^3 (6,651 cm^3)
Required fuel.	Ultra Low Sulfur Diesel up to B20
Firing order.	1-3-7-2-6-5-4-8
Compression ratio.	15.2:1

ENGINE SPECIFICATIONS - 7.3L, GASOLINE

Engine	7.3L V8 Engine
Displacement	445 in³ (7,293 cm³)
Required fuel	Minimum 87 octane
Firing order	1-5-4-8-6-3-7-2
Ignition system	Coil near spark plug with spark plug wire
Spark plug gap	0.049 in (1.25 mm) - 0.053 in (1.35 mm)
Compression ratio	10.8:1

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

MOTORCRAFT PARTS - 6.7L DIESEL

Component	Motorcraft Part Number
Air filter.	FA-2031
Foam pre-filter.	FA-1952
Battery (two required).	See note below.[1]
Cabin air filter.	FP-92
Engine oil filter.[2]	FL-2124-S
Fuel filter.	FD-4647
Ten-speed automatic transmission fluid filter (10R140).	FT-221
Windshield wiper blades.	WW-2998

[1] See your dealer for the most current part number.

[2] If a Motorcraft oil filter is not available, use an oil filter that meets WSS-M99P55-D1.

We recommend Motorcraft® parts that are available at your authorized dealer or at www.fordparts.com. These parts are engineered for your vehicle, and meet or exceed our specifications. Use of other parts could impact vehicle performance, emissions and durability. Your warranty could be void for any damage related to use of other parts.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

MOTORCRAFT PARTS - 7.3L, GASOLINE

Component	Motorcraft Part Number
Air filter element.	FA-1950
One battery, two batteries (optional).	See note below.[1]
Cabin air filter.	FP-92
Engine oil filter.[2]	FL-820-S
Spark plugs.	SP-589
Ten-speed automatic transmission fluid filter (10R140).	FT-221
Ten-speed automatic transmission fluid filter (10R100).	FT-202
Windshield wiper blades.	WW-2998

[1] See your dealer for the most current part number.

[2] If a Motorcraft oil filter is not available, use an oil filter that aligns to SAE/USCAR – 36 Performance Specifications. Filter Type D.

We recommend Motorcraft parts that are available at your authorized dealer or at www.fordparts.com. We engineer these parts for your vehicle to meet or exceed our specifications. Use of other parts could impact vehicle performance, emissions and durability. Your warranty could be void for any damage related to use of other parts.

CLEANING PRODUCTS

Materials

For best results, use the following products or products of equivalent quality:

For additional information and assistance, we recommend that you contact an authorized dealer.

Name	Specification
Motorcraft® Bug and Tar Remover, ZC-42 (U.S. & Canada)	
Motorcraft® Custom Bright Metal Cleaner, ZC-15 (U.S. & Canada)	ESR-M5B194-B
Motorcraft® Detail Wash, ZC-3-A (U.S. & Canada)	ESR-M14P4-A
Motorcraft® Engine Shampoo and Degreaser, ZC-20 (U.S.)	ESR-M14P3-A
Motorcraft® Engine Shampoo, CXC-66-A (Canada)	
Motorcraft® Premium Leather and Vinyl Cleaner, ZC-56 (U.S. & Canada)	
Motorcraft® Multi-Purpose Cleaner, CXC-101 (Canada)	
Motorcraft® Premium Windshield Wash Concentrate with Bitterant, ZC-32-B2 (U.S.)	WSS-M14P19-A
Motorcraft® Premium Quality Windshield Washer Fluid, CXC-37-F/M (Canada)	WSS-M14P19-A
Motorcraft® Professional Strength Carpet & Upholstery Cleaner, ZC-54 (U.S. & Canada)	
Motorcraft® Premium Glass Cleaner, CXC-100 (Canada)	ESR-M14P5-A
Motorcraft® Spot and Stain Remover, ZC-14 (U.S.)	
Motorcraft® Ultra-Clear Spray Glass Cleaner, ZC-23 (U.S.)	ESR-M14P5-A
Motorcraft® Wheel and Tire Cleaner, ZC-37-A (U.S. & Canada)	

CLEANING THE EXTERIOR

CLEANING THE EXTERIOR PRECAUTIONS

Immediately remove fuel spillages, additive residuals, bird droppings, insect deposits and road tar. These may damage your vehicle's paintwork or trim over time. Remove any exterior accessories, for example antennas, before entering a car wash.

Note: *If you intend to park your vehicle for an extended period after cleaning, drive it for few minutes before parking. This reduces the risk of corrosion of the brake discs, brake pads and linings.*

CLEANING HEADLAMPS AND REAR LAMPS

We recommend that you only use cold or lukewarm water containing car shampoo to clean the headlamps and the rear lamps.

Do not scrape the lamps.

Do not wipe lamps when they are dry.

CLEANING WINDOWS AND WIPER BLADES

To clean the windshield and wiper blades:

- Clean the windshield with a non-abrasive glass cleaner.

Note: *When cleaning the interior of the windshield, avoid getting any glass cleaner on the instrument panel or door panels. Wipe any glass cleaner off these surfaces immediately.*

- Clean the wiper blades with washer fluid or water applied with a soft sponge or cloth.

Note: *Do not use razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. This can cause damage not covered by the vehicle Warranty.*

Note: *Do not use chemicals or corrosive products, as they can compromise surfaces and damage critical systems of your vehicle.*

CLEANING CHROME, ALUMINIUM OR STAINLESS STEEL

We recommend that you only use a car shampoo, a soft cloth and water on bumpers and other chrome, aluminium or stainless steel parts.

Note: *For additional information and assistance, we recommend that you contact an authorized dealer.*

Note: *Rinse the area well after cleaning.*

Note: *Do not use abrasive materials, for example steel wool or plastic pads, as they can scratch these surfaces.*

Note: *Do not use chrome cleaner, metal cleaner or polish on wheels or wheel covers.*

CLEANING WHEELS

Only use a recommended wheel and tire cleaner to clean the wheels. For additional information and assistance, contact an authorized dealer.

1. Use a sponge to remove heavy deposits of dirt and brake dust.
2. Rinse well after cleaning.

Note: *Do not apply a cleaning chemical to hot wheel rims, wheel covers, and wheel ornaments.*

If you intend to park your vehicle for an extended period after cleaning the wheels, drive it for few minutes before parking to reduce the risk of corrosion of the brake discs, brake pads, and linings.

Do not clean hot wheel rims, wheel covers and wheel ornaments.

Note: *Some car washes could damage wheel rims, wheel covers, and wheel ornaments.*

Note: *Using non-recommended cleaners, harsh acidic cleaning products, chrome wheel cleaners or abrasive materials could damage wheel rims and covers.*

Note: *Failure to properly clean the stainless steel lug nuts may result in a white, hazy finish, pitting, or an orange/brown rust appearance. Such damage is not covered by your vehicle warranty.*

Cleaning Running Boards

We recommend that you clean your running boards in the following way:

1. Use a clean, soft, non-abrasive sponge or brush to remove heavy deposits of dirt.
2. Allow the cleaner to sit on the running board surface for the time specified. Rinse thoroughly with cold water.
3. For additional information and assistance, contact an authorized dealer.

Note: *Do not leave the cleaner on longer than the recommended wait time. This could damage the running boards.*

Note: *Do not allow the cleaner to dry unless instructed.*

Note: *Some car washes could damage the running boards.*

Note: *Using non-recommended cleaners, harsh cleaning products, chrome wheel cleaners or abrasive materials could damage the running boards.*

CLEANING THE ENGINE COMPARTMENT

Use a vacuum cleaner to remove debris from the screen area below the windshield.

Note: *If you are not familiar with the parts around the engine do not wash the engine compartment. Avoid frequent engine washes.*

When washing the engine compartment:

- Never wash or rinse the engine while it is hot or running.
- Never wash or rinse any ignition coil, spark plug wire or spark plug well.
- Cover the battery, power distribution box, and air filter assembly to prevent water damage.

Note: *If your vehicle has an engine cover remove the cover before application of shampoo and degreaser.*

- Spray an approved engine shampoo and degreaser on all parts that require cleaning and rinse with water.

Note: *Follow the manufacturer's instructions for using engine shampoo and degreaser.*

CLEANING STRIPES OR GRAPHICS

It is recommended to wash your vehicle by hand however, pressure washing may be used under the following conditions:

- Use a spray with a minimum of 40º wide spray angle pattern.
- Keep the nozzle 12 in (30 cm) and at a 90º angle to your vehicle.
- Do not use water pressure higher than 1,000 psi (6,895 kPa).
- Do not use water hotter than 73ºF (23ºC).

Note: *Holding the pressure washer nozzle at an angle to the vehicle's surface may damage graphics and cause the edges to peel away.*

CLEANING CAMERA LENSES AND SENSORS

Use lukewarm or cold water and a soft cloth to clean the camera lens and sensors.

Note: *Do not pressure wash camera lens and sensors.*

CLEANING THE UNDERBODY

Flush the complete underside of your vehicle frequently. Keep body and door drain holes free from packed dirt.

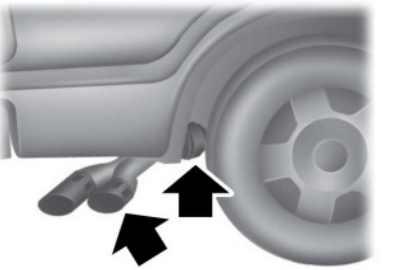
Suspension and steering components may require regular cleaning with a power washer or a thorough rinse with a strong stream of water if the vehicle is operated in dusty or muddy environments. Leaf springs or other suspension components may emit squeaking or popping noises while operating the vehicle if particles, such as dirt, rocks, or other debris, are present in the components.

CLEANING THE EXHAUST

WARNING: Do not modify or remove the exhaust tailpipe. Blocked holes may result in increased exhaust gas temperatures, vehicle damage, property damage or personal injury.

WARNING: Failure to keep the holes in the exhaust tailpipe clean and free of debris or foreign material may result in blocked holes. Blocked holes may result in increased exhaust gas temperatures, vehicle damage, property damage or personal injury.

WARNING: The normal operating temperature of the exhaust system is very high. Never work around or attempt to repair any part of the exhaust system until it has cooled. Use special care when working around the diesel oxidation catalytic converter or the diesel particulate filter. The diesel oxidation catalytic converter and the diesel particulate filter heat up to very high temperatures after only a short period of engine operation and remain hot after you switch the engine off.



The visible holes in the exhaust tip and the holes under the shield just inboard of the right rear tire(s) are functional. Keep the holes clear of mud, debris or foreign material to maintain proper function of the exhaust system. Clean and remove debris or foreign material if present as needed. Spraying with a hose during regular washing of vehicle should help keep holes clean and clear of debris or foreign material.

CLEANING THE INTERIOR

CLEANING THE INSTRUMENT PANEL

WARNING: Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the airbag system.

We recommend that you only clean the instrument panel and cluster lens with a damp soft cloth. Dry the area with a clean, soft cloth.

For additional information and assistance, we recommend that you contact an authorized dealer.

Note: *Avoid cleaners or polishes that increase the gloss of the upper portion of the instrument panel. The dull finish in this area helps protect you from undesirable windshield reflection.*

CLEANING PLASTIC

We recommend that you only use a mild soap and water solution on a soft cloth. Dry the area with a clean, soft cloth.

Note: *Do not allow air fresheners and hand sanitizers to spill onto interior surfaces. If a spill occurs, wipe off immediately. Your warranty may not cover these damages.*

CLEANING DISPLAYS AND SCREENS

We recommend that you only use a microfiber cloth in a circular motion to clean off the fingerprint or dust.

Note: *Do not pour or spray alcohol onto the touchscreen.*

Note: *Do not use detergent or any type of solvent to clean the touchscreen.*

CLEANING FABRIC

WARNING: On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean fabric in the following way:

1. Remove dust and loose dirt with a vacuum cleaner.
2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
3. For additional information and assistance, we recommend that you contact an authorized dealer.

For heavy stains, spot clean the area. If a ring forms on the fabric, clean the entire area immediately, but do not oversaturate or the ring could set.

CLEANING LEATHER

WARNING: On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean the leather surfaces in the following way:

1. Remove dust and loose dirt with a vacuum cleaner.

2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
3. Make sure the leather is dry, then apply a small amount of conditioner to a clean, dry cloth.
4. Rub the conditioner into the leather until it disappears. Allow the conditioner to dry, then repeat the process for the entire interior. If a film appears, wipe it off with a dry, clean cloth.
5. For additional information and assistance, we recommend that you contact an authorized dealer.

CLEANING VINYL

WARNING: On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean vinyl surfaces in the following way:

1. Remove dust and loose dirt with a vacuum cleaner.
2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
3. For additional information and assistance, we recommend that you contact an authorized dealer.

CLEANING CARPETS AND FLOOR MATS

We recommend that you only clean your carpets in the following way:

1. Remove dust and loose dirt with a vacuum cleaner.
2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
3. For additional information and assistance, we recommend that you contact an authorized dealer.

For heavy stains, spot clean the area. If a ring forms on the fabric, clean the entire area immediately, but do not oversaturate or the ring could set.

We recommend that you only clean your floor mats in the following way:

1. Remove dust and loose dirt with a vacuum cleaner.
2. Wash rubber floor mats using mild soap and lukewarm or cold water.
3. Completely dry the floor mat before placing them back in your vehicle.

CLEANING SEATBELTS

WARNING: Do not use cleaning solvents, bleach or dye on the vehicle's seatbelts, as these actions may weaken the belt webbing.

1. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

CLEANING GLASS ROOF TRACKS

1. Remove debris from the tracks with a vacuum cleaner.
2. Wipe the bulb seal and mating painted roof metal surface with a soft, damp cloth and a mild soap and water solution.

Note: *The glass roof rail tracks are greased to maintain proper functionality. Do not wipe off the grease.*

REPAIRING MINOR PAINT DAMAGE

We recommend that you contact an authorized dealer to identify your vehicle color code. Authorized dealers have touch-up paint to match your vehicle's color.

Before repairing minor paint damage, use a cleaner to remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout.

Read the instructions before using cleaning products.

WAXING YOUR VEHICLE

Wax the high-gloss painted surface of your prewashed vehicle once or twice a year.

We recommend that you only use an approved quality wax that does not contain abrasives. Follow the manufacturer's instructions to apply and remove the wax. For additional information and assistance, we recommend that you contact an authorized dealer.

When washing and waxing, park your vehicle in a shaded area out of direct sunlight.

Note: *Avoid waxing unpainted or low-gloss black colored parts, they discolor over time.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

PREPARING YOUR VEHICLE FOR STORAGE

If you plan on storing your vehicle for 30 days or more, the following maintenance recommendations makes sure your vehicle stays in good operating condition.

Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve your vehicle.

General

- Store all vehicles in a dry, ventilated place.
- If vehicles are stored outside, they require regular maintenance to protect against rust and weather damage.
- Make sure all linkages, cables, levers and pins under your vehicle are covered with grease to prevent rust.
- Move vehicles at least 25 ft (7.5 m) every 15 days to lubricate working parts and prevent corrosion.
- Fill the fuel tank with high-quality fuel until the first automatic shutoff of the fuel pump nozzle.

Engine

- Change the engine oil and filter prior to storage because used engine oil contains contaminants which may cause engine damage.
- Start the engine every 15 days for a minimum of 15 minutes. Run at fast idle with the climate controls set to defrost until the engine reaches normal operating temperature.
- With your foot on the brake, shift through all the gears while the engine is running.

Body

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear wheel housings and the underside of front fenders.
- Periodically wash your vehicle if it is stored in exposed locations.
- Touch-up exposed or primed metal to prevent rust.
- Cover chrome and stainless steel parts with a thick coat of auto wax to prevent discoloration. Rewax as necessary when you wash your vehicle.
- Lubricate all hood, door and luggage compartment hinges and latches with a light grade oil.
- Cover interior trim to prevent fading.
- Keep all rubber parts free from oil and solvents.

12 Volt Battery

- When storing your vehicle for longer than 30 days the battery state of charge should be approximately 50%. Additionally, we recommend to disconnect the 12v battery to reduce system loads on the battery, or you can use a trickle charger for longer storage periods.
- Check and recharge as necessary. Keep connections clean.

Note: *It is necessary to reset memory features if you disconnect the battery cables.*

Tires

- Maintain recommended air pressure.
- To minimize flat spots on the tires, inflate all four tires to the recommended cold pressures listed on the Safety Compliance Certification label or Tire Label affixed to your vehicle. When the vehicle is taken out of storage, reset the tire pressures as necessary to the recommended levels listed on the Safety Compliance Certification label or Tire Label affixed to your vehicle.

Note: *If you store your vehicle in a location with low ambient temperatures, follow the instructions for care of summer tires.*

Brakes

Make sure the brakes and parking brake fully release.

Note: *If you intend to park your vehicle for an extended period after cleaning, drive it for few minutes before parking. This reduces the risk of corrosion of the brake discs, brake pads and linings.*

REMOVING YOUR VEHICLE FROM STORAGE

When your vehicle is ready to come out of storage, do the following:

- We recommend that you change the engine oil before you use your vehicle again.
- Wash your vehicle to remove any dirt or grease film build-up on window surfaces.
- Check windshield wipers for any deterioration.
- Check the underhood for any foreign materials such as mice or squirrel nests.
- Check the exhaust for any foreign materials.
- Check tire pressures and set tire inflation per the Tire Label.
- Check brake pedal operation. Corroded brake rotors could cause brake noise. Drive your vehicle and gently apply and release the brakes repeatedly over a 10-minute drive to reduce the corrosion from the brakes.
- Check fluid levels (including coolant, oil and gas) to make sure there are no leaks, and fluids are at recommended levels.
- If you remove the battery, clean the battery cable ends and check for damage.

Contact an authorized dealer if you have any concerns or issues.

LOCATING THE TIRE LABEL

You will find a Tire Label containing tire inflation pressure by tire size and other important information located on the B-Pillar or the edge of the driver's door. See **Locating the Safety Compliance Certification Labels** (page 341).

DEPARTMENT OF TRANSPORTATION UNIFORM TIRE QUALITY GRADES



Tire Quality Grades apply to new pneumatic passenger car tires. The Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example: **Treadwear 200 Traction AA Temperature A**.

These Tire Quality Grades are determined by standards that the United States Department of Transportation has set.

Tire Quality Grades apply to new pneumatic passenger car tires. They do not apply to deep tread, winter-type snow tires, space-saver or temporary use spare tires, light truck or LT type tires, tires with nominal rim diameters of 10 to 12 inches or limited production tires as defined in Title 49 Code of Federal Regulations Part 575.104 (c)(2).

U.S. Department of Transportation Tire quality grades: The U.S. Department of Transportation requires us to give you the following information about tire grades exactly as the government has written it.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear 1½ times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction AA A B C

WARNING: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

Temperature A B C

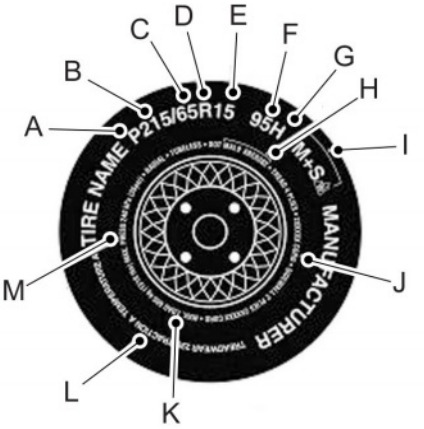
WARNING: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 139. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

INFORMATION ON THE TIRE SIDEWALL

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

Information on P Type Tires



P215/65R15 95H is an example of a tire size, load index and speed rating. The definitions of these items are listed below. (Note that the tire size, load index and speed rating for your vehicle may be different from this example.)

A. **P:** Indicates a tire, designated by the Tire and Rim Association, that may be used for service on cars, sport utility vehicles, minivans and light trucks. **Note:** If your tire size does not begin with a letter this may mean it is designated by either the European Tire and Rim Technical Organization or the Japan Tire Manufacturing Association.

B. **215:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

C. **65:** Indicates the aspect ratio which gives the tire's ratio of height to width.

D. **R:** Indicates a radial type tire.

E. **15:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

F. **95:** Indicates the tire's load index. It is an index that relates to how much weight a tire can carry. You may find this information in your owner's manual. If not, contact a local tire dealer.

Note: *You may not find this information on all tires because it is not required by federal law.*

G. **H:** Indicates the tire's speed rating. The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time under a standard condition of load and inflation pressure. The tires on your vehicle may operate at different conditions for load and inflation pressure. These speed ratings may need to be adjusted for the difference in conditions. The ratings range from 81 mph (130 km/h) to 186 mph (300 km/h). These ratings are listed in the following chart.

Note: *You may not find this information on all tires because it is not required by federal law.*

Letter rating	Speed rating
M	81 mph (130 km/h)
N	87 mph (140 km/h)
Q	99 mph (160 km/h)
R	106 mph (170 km/h)
S	112 mph (180 km/h)
T	118 mph (190 km/h)
U	124 mph (200 km/h)
H	130 mph (210 km/h)
V	149 mph (240 km/h)
W	168 mph (270 km/h)
Y	186 mph (300 km/h)

Note: *For tires with a maximum speed capability over 149 mph (240 km/h), tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph (299 km/h), tire manufacturers always use the letters ZR.*

H. **U.S. DOT Tire Identification Number (TIN):** This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.

I. **M+S or M/S:** Mud and Snow, or

AT: All Terrain, or

AS: All Season.

J. **Tire Ply Composition and Material Used:** Indicates the number of plies or the number of layers of rubber-coated fabric in the tire tread and sidewall. Tire manufacturers also must indicate the ply materials in the tire and the sidewall, which include steel, nylon, polyester, and others.

K. **Maximum Load:** Indicates the maximum load in kilograms and pounds that can be carried by the tire. See the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), for the correct tire pressure for your vehicle.

L. **Treadwear, Traction and Temperature Grades:**

*__Treadwear:__ The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half times as well on the government course as a tire graded 100.

*__Traction:__ The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

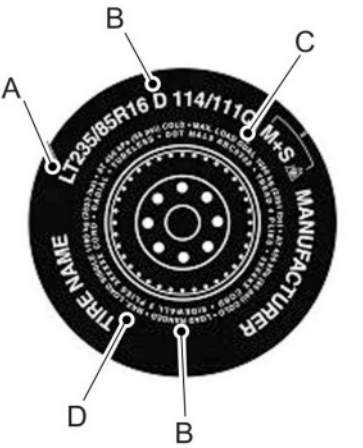
*__Temperature:__ The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel.

M. __Maximum Inflation Pressure:__ Indicates the tire manufacturers' maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the vehicle manufacturer's recommended cold inflation pressure which can be found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label which is located on the B-Pillar or the edge of the driver's door. The cold inflation pressure should never be set lower than the recommended pressure on the vehicle label.

The tire suppliers may have additional markings, notes or warnings such as standard load or radial tubeless.

Additional Information Contained on the Tire Sidewall for LT Type Tires

Note: *Tire Quality Grades do not apply to this type of tire.*



LT type tires have some additional information beyond those of P type tires; these differences are described below.

A. **LT:** Indicates a tire, designated by the Tire and Rim Association, that is intended for service on light trucks.

B. **Load Range and Load Inflation Limits:** Indicates the tire's load-carrying capabilities and its inflation limits.

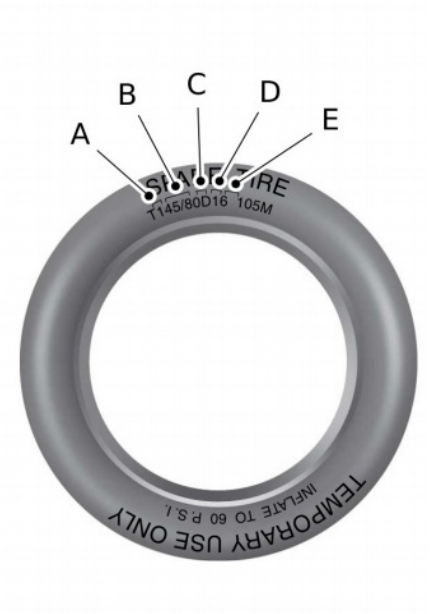
C. **Maximum Load Dual lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a dual, defined as four tires on the rear axle (a total of six or more tires on the vehicle).

D. **Maximum Load Single lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a single, defined as two tires (total) on the rear axle.

Information on T Type Tires

T145/80D16 is an example of a tire size.

Note: *The temporary tire size for your vehicle may be different from this example. Tire Quality Grades do not apply to this type of tire.*



T type tires have some additional information beyond those of P type tires; these differences are described below:

A. **T:** Indicates a type of tire, designated by the Tire and Rim Association, that is intended for temporary service on cars, sport utility vehicles, minivans and light trucks.

B. **145:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

C. **80:** Indicates the aspect ratio which gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall.

D. **D:** Indicates a diagonal type tire.

R: Indicates a radial type tire.

E. **16:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

GLOSSARY OF TIRE TERMINOLOGY

***Tire label:** A label showing the original equipment tire sizes, recommended inflation pressure and the maximum weight the vehicle can carry.

***Tire Identification Number (TIN):** A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture. Also referred to as DOT code.

***Inflation pressure:** A measure of the amount of air in a tire.

***Standard load:** A class of P-metric or Metric tires designed to carry a maximum load at set pressure. For example: For P-metric tires 35 psi (2.4 bar) and for Metric tires 36 psi (2.5 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

***Extra load:** A class of P-metric or Metric tires designed to carry a heavier maximum load at 42 psi (2.9 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

***kPa:** Kilopascal, a metric unit of air pressure.

***PSI:** Pounds per square inch, a standard unit of air pressure.

***Cold tire pressure:** The tire pressure when the vehicle has been stationary and out of direct sunlight for an hour or more and prior to the vehicle being driven for 1 mi (1.6 km).

***Recommended inflation pressure:** The cold inflation pressure found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label located on the B-Pillar or the edge of the driver door.

* **B-pillar:** The structural member at the side of the vehicle behind the front door.

***Bead area of the tire:** Area of the tire next to the rim.

* **Sidewall of the tire:** Area between the bead area and the tread.

***Tread area of the tire:** Area of the perimeter of the tire that contacts the road when mounted on the vehicle.

***Rim:** The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.

TIRE REPLACEMENT REQUIREMENTS

AGE

WARNING: Tires degrade over time depending on many factors such as weather, storage conditions, and conditions of use (load, speed, inflation pressure) the tires experience throughout their lives.
In general, tires should be replaced after six years regardless of tread wear. However, heat caused by hot climates or frequent high loading conditions can accelerate the aging process and may require tires to be replaced more frequently.
You should replace your spare tire when you replace the road tires or after six years due to aging even if it has not been used.

U.S. DOT Tire Identification Number

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.

Tire Replacement Requirements

Your vehicle is equipped with tires designed to provide a safe ride and handling capability.

WARNING: Only use replacement tires and wheels that are the same size, load index, speed rating and type (such as P-metric versus LT-metric or all-season versus all-terrain) as those originally provided by Ford. The recommended tire and wheel size may be found on either the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or the Tire Label which is located on the B-Pillar or edge of the driver's door. If this information is not found on these labels, then you should contact your authorized dealer as soon as possible. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

WARNING: To reduce the risk of serious injury, when mounting replacement tires and wheels, you should not exceed the maximum pressure indicated on the sidewall of the tire to set the beads without additional precautions listed below. If the beads do not seat at the maximum pressure indicated, re-lubricate and try again.

WARNING: For a mounting pressure more than 20 psi (1.38 bar) greater than the maximum pressure, a Ford dealer or other tire service professional should do the mounting.

WARNING: Always inflate steel carcass tires with a remote air fill with the person inflating standing at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.

WARNING: When inflating the tire for mounting pressures up to 20 psi (1.38 bar) greater than the maximum pressure on the tire sidewall, the following precautions must be taken to protect the person mounting the tire:

- Make sure that you have the correct tire and wheel size.
- Lubricate the tire bead and wheel bead seat area again.

- Stand at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.
- Use both eye and ear protection.

Important: Remember to replace the wheel valve stems when the road tires are replaced on your vehicle.

It is recommended that the two front tires or two rear tires generally be replaced as a pair if the worn tires still have usable depth.

To avoid potential Four-Wheel Drive (4WD) malfunction or (4WD) system damage, it is recommended to replace all four tires rather than mixing significantly worn tires with new tires.

The tire pressure sensors mounted in the wheels (originally installed on your vehicle) are not designed to be used in aftermarket wheels.

The use of wheels or tires not recommended may affect the operation of your tire pressure monitoring system.

If the tire pressure monitoring system indicator is flashing, your system is malfunctioning. Your replacement tire might be incompatible with your tire pressure monitoring system, or some component of the system may be damaged.

Tire can be damaged during off-road use, so inspection after off-road use is also recommended.

Replacing a Tire That Is Greenhouse Gas Certified

The tires installed on this vehicle at the factory as original equipment are certified for Greenhouse Gas and Fuel Efficiency regulations. Replacement tires must be of equal or lower rolling resistance level (TRRL or Crr). Consult with your tire supplier(s) for appropriate replacement tires.

USING SNOW CHAINS

WARNING: Do not exceed 30 mph (50 km/h). Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

WARNING: Do not use snow chains on snow-free roads.

WARNING: Only fit snow chains to specified tires.

WARNING: If your vehicle is fitted with wheel trims, remove them before fitting snow chains.

WARNING: Wheels and tires must be the same size, load index and speed rating as those originally fitted on the vehicle. Use of any other tire or wheel can affect the safety and performance of your vehicle. Additionally, the use of non-recommended tires and wheels can

cause steering, suspension, axle, transfer case or power transfer unit failure. Follow the recommended tire inflation pressures found on the Safety Compliance Certification label, or the Tire Label on the B-Pillar or the edge of the driver door. Failure to follow this instruction could result in loss of vehicle control, vehicle rollover, or personal injury or death.

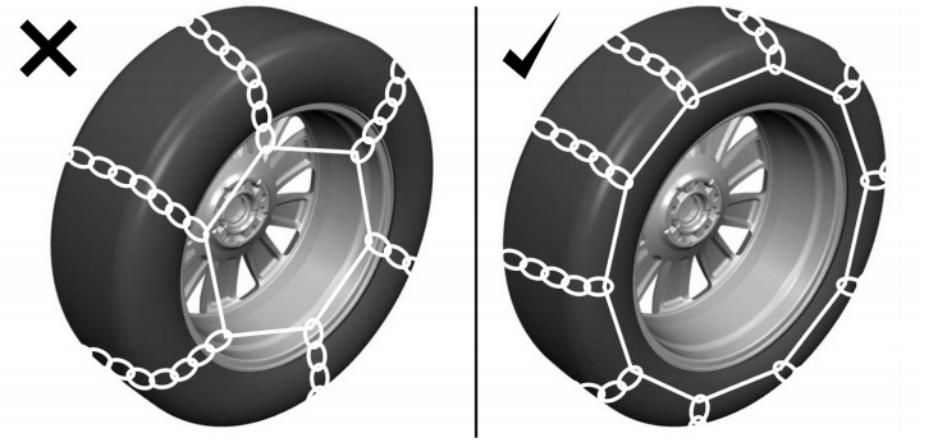
Note: *Do not use snow chains on vehicles with LT275/65R20 or LT 285/75R18 sized tires.*

Note: *The suspension insulation and bumpers will help prevent vehicle damage. Do not remove these components from your vehicle when using snow tires and chains.*

The tires on your vehicle have all-weather treads to provide traction in rain and snow. However, in some climates, you may need to use snow tires and cables. If you need to use cables, we recommend that you use steel wheels of the same size and specification, as cables may chip aluminum wheels.

Follow these guidelines when using snow tires and chains:

- If possible, avoid fully loading your vehicle.
- Use only SAE Class S chains.
- Install chains securely, verifying that the chains do not touch any wiring, brake lines or fuel lines.
- Only install snow chains on the rear axle.
- For Dual Rear Wheel (DRW) vehicles, only install snow chains on the outer wheel of each pair.
- Drive cautiously. If you hear the chains rub or bang against your vehicle, stop and retighten the chains. If this does not work, remove the chains to prevent damage to your vehicle.
- Remove the tire chains when you no longer need them. Do not use tire chains on dry roads.



Use snow chains that fit against the sidewall of the tire to prevent the chains from touching the wheel rims or suspension. Refer to the previous illustration.

If you have any questions regarding snow chains, please contact your authorized dealer.

CHECKING THE TIRE PRESSURES

Safe operation of your vehicle requires that your tires are properly inflated. Every day before you drive, check your tires.

At least once a month and before long trips, inspect each tire and check the tire pressure with a tire gauge. Inflate all tires to the recommended inflation pressure. See **Inflating the Tires** (page 493).

INFLATING THE TIRES

WARNING: Under-inflation is the most common cause of tire failures and may result in severe tire cracking, tread separation or blowout, with unexpected loss of vehicle control and increased risk of injury. Under-inflation increases sidewall flexing and rolling resistance, resulting in heat buildup and internal damage to the tire. It also may result in unnecessary tire stress, irregular wear, loss of vehicle control and accidents. A tire can lose up to half of its air pressure and not appear to be flat!

Use the recommended cold inflation pressure for optimum tire performance and wear. Under-inflation or over-inflation may cause uneven treadwear patterns.

Always inflate your tires to the recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. You will find a Tire Label containing the manufacturer's recommended tire inflation pressure by the tire size and other important information located on the B-Pillar or the edge of the driver door.

The recommended tire inflation pressure is also found on the Safety Compliance Certification Label, affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch on the B-pillar, or on the edge of the driver door.

Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

Note: *If you have to drive a distance to get air for your tire(s), check and record the tire pressure first and add the appropriate air pressure when you get to the pump. It is normal for tires to heat up and the air pressure inside to go up as you drive.*

To check the pressure in your tire(s):

1. Make sure the tires are cool, meaning they are not hot from driving even a mile.

Note: *If you are checking tire pressure when the tire is hot, (for example, driven more than 1 mile [1.6 kilometers]), never bleed or reduce air pressure. The tires are hot from driving and it is normal for pressures to increase above recommended cold pressures. A hot tire at or below recommended cold inflation pressure could be significantly under-inflated.*

2. Remove the cap from the valve on one tire, then firmly press the tire gauge onto the valve and measure the pressure.

3. Add enough air to reach the recommended air pressure.

Note: *If you overfill the tire, release air by pressing on the metal stem in the center of the valve. Then recheck the pressure with your tire gauge.*

4. Replace the valve cap.

5. Repeat this procedure for each tire, including the spare.

Note: *Some spare tires operate at a higher inflation pressure than the other tires. For T type mini-spare tires, (see the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at 60 psi (4.15 bar)60 psi (4.15 bar). For full-size and dissimilar spare tires, see the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at the higher of the front and rear inflation pressure as shown on the Safety Compliance Certification Label or Tire Label.*

Note: *Do not reduce tire pressure to change the ride characteristics of the vehicle. If you do not maintain the inflation pressure at the levels specified by Ford, your vehicle may experience a condition known as shimmy. Shimmy is a severe vibration and oscillation in the steering wheel after the vehicle travels over a bump or dip in the road that does not dampen out by itself. Shimmy may result from significant under-inflation of the tires, improper tires (load range, size, or type), or vehicle modifications such as lift-kits. In the event that your vehicle experiences shimmy, you should slowly reduce speed by either lifting off the accelerator pedal or lightly applying the brakes. The shimmy will cease as the vehicle speed decreases.*

When weather temperature changes occur, tire inflation pressures also change. A 10ºF (6ºC) temperature drop can cause a corresponding drop of 1 psi (7 kPa) in inflation pressure. Check your tire pressures frequently and adjust them to the proper pressure which can be found on the Safety Compliance Certification Label or Tire Label.

Checking Pressure when tires are hot:

If pressures are checked after tires have been driven for more than three minutes or more than 1 mile, (2 km) the tires become hot and the pressures will increase by approximately 4 psi (27.6 kPa). Therefore when the tire pressure is adjusted under these conditions, it should be increased to a gauge reading of 4 psi (27.6 kPa) greater than the recommended cold inflation pressure.

After inflating the tires while hot, make sure to recheck tire pressure later once the tires are cold.

For Example Only

Gauge reading of hot tire	33 psi (230 kPa)
If recommended, cold inflation pressure is	32 psi (220 kPa)
The hot tire pressure is only 1 psi (10 kPa) greater than the recommended cold inflation pressure. Therefore, add 3 psi (20 kPa) more to increase the hot pressure to 4 psi (30 kPa) over the recommended cold inflation pressure.	
New hot pressure	36 psi (250 kPa)

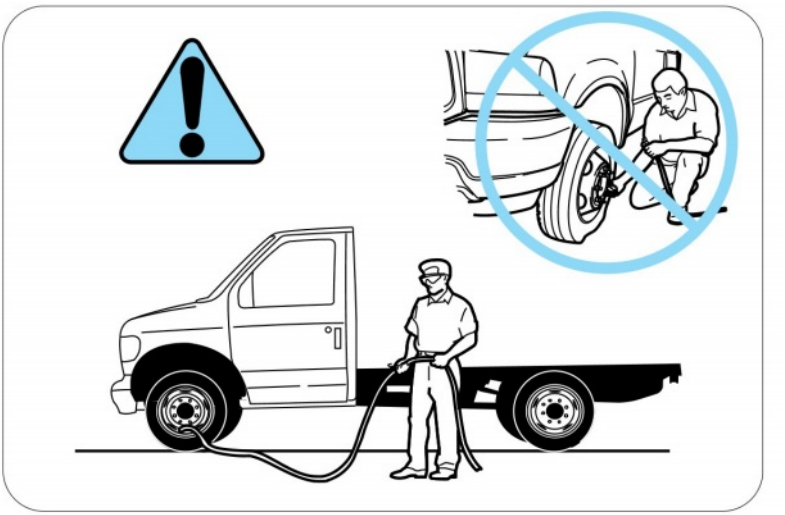
Steel Carcass Plies

WARNING: An inflated tire and rim can be very dangerous if improperly used, serviced or maintained. To reduce the risk of serious injury, never attempt to re-inflate a tire which has been run flat or seriously under-inflated without first removing the tire from the wheel assembly for inspection. Do not attempt to add air to tires or replace tires or wheels without first taking precautions to protect persons and property.

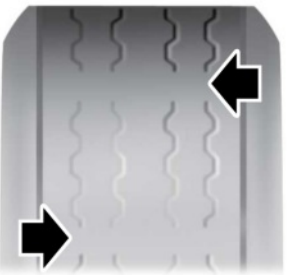
All tires with Steel Carcass Plies (if equipped):

This type of tire utilizes steel cords in the sidewalls. As such, they cannot be treated like normal light truck tires. Tire service, including adjusting tire pressure, must be performed by personnel trained, supervised and equipped according to Federal Occupational Safety and Health Administration regulations. For example, during any procedure involving tire inflation, the technician or individual must utilize a remote inflation device, and ensure that all persons are clear of the trajectory area.

WARNING: Always inflate steel carcass tires with a remote air fill with the person inflating standing at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.



INSPECTING THE TIRE FOR WEAR



When the tread is worn down to 2/32 inch (1.6 mm), tires must be replaced to help prevent your vehicle from skidding and hydroplaning. Built-in treadwear indicators, or wear bars, which look like narrow strips of smooth rubber across the tread will appear on the tire when the tread is worn down to 2/32 inch (1.6 mm).

When the tire tread wears down to the same height as these wear bars, the tire is worn out and must be replaced.

The tires should also be balanced periodically. An unbalanced tire and wheel assembly may result in irregular tire wear.

Periodically inspect the tire treads for uneven or excessive wear and remove objects such as stones, nails or glass that may be wedged in the tread grooves.

INSPECTING THE TIRE FOR DAMAGE

Inspect the tire sidewalls for cracking, cuts, bruises and other signs of damage or excessive wear. If internal damage to the tire is suspected, have the tire dismounted and inspected in case it needs to be repaired or replaced. For your safety, tires that are damaged or show signs of excessive wear should not be used because they are more likely to blow out or fail.

Periodically inspect the tire treads and sidewalls for damage, such as bulges in the tread or sidewalls, cracks in the tread groove and separation in the tread or sidewall. If damage is observed or suspected, have the tire inspected by a tire professional.

Tires can be damaged during off-road use, so inspection after off-road use is also recommended.

Safety Practices

WARNING: If your vehicle is stuck in snow, mud or sand, do not rapidly spin the tires; spinning the tires can tear the tire and cause an explosion. A tire can explode in as little as three to five seconds.

WARNING: Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

HIGH SPEED DRIVING CAN BE DANGEROUS

Correct inflation pressure is especially important. However, at high speeds, even with the correct inflation pressure, a road hazard for example is more difficult to avoid and if contact is made, has a greater chance of causing tire damage than at a lower speed. Moreover, driving at high speed reduces the reaction time available to avoid accidents and bring your vehicle to a safe stop.

If you see any damage to a tire or wheel, replace it with the spare at once and visit a participating Tire Retailer.

Exceeding the maximum speeds shown on the following page for each type of tire will cause the tire to build up excessive heat which can cause tire damage that could result in sudden tire destruction and rapid air loss. Failure to control a vehicle when one or more tires experience a sudden air loss can lead to an accident.

In any case, you should not exceed reasonable speeds as indicated by the legal limits and driving conditions.

DO NOT OVERLOAD: DRIVING ON ANY OVERLOADED TIRE IS DANGEROUS

The maximum load rating of your tires is molded on the tire sidewall. Do not exceed this rating. Follow the loading instructions of the manufacturer of your vehicle and this will ensure that your tires are not overloaded. Tires which are loaded beyond their maximum allowable loads for the particular application will build up excessive heat that may result in sudden tire destruction. Do not exceed the gross axle weight rating for any axle on your vehicle.

TIRE ALTERATIONS

Do not make or allow to be made any alterations on your tires. Alterations may prevent proper performance, leading to tire damage which can result in an accident. Tires which become unserviceable due to alterations such as truing, whitewall inlays, addition of balancing or sealant liquids, or the use of tire dressing containing petroleum distillates are excluded from warranty coverage.

REPAIRS - WHEREVER POSSIBLE, SEE YOUR TIRE RETAILER AT ONCE

If any tire sustains a puncture, have the tire demounted and thoroughly inspected by a tire retailer for possible damage that may have occurred. A tread area puncture in any passenger or light truck tire can be repaired provided that the puncture hole is not more than 1/4" in diameter, not more than one radial cable per casing ply is damaged, and the tire has not been damaged further by the puncturing object or by running underinflated. Tire punctures consistent with these guidelines should only be repaired by following the US Tire Manufacturers Association (USTMA) recommended repair procedures. Plug-only repairs done on-the-wheel are considered improper and therefore, not recommended. Such repairs are not reliable and may cause further damage to the tire.

STORAGE

Tires contain waxes and emollients to protect their outer surfaces from ozone and weather checking. As the tire rolls and flexes, the waxes and emollients continually migrate to the surface, replenishing this protection throughout the normal use of the tire. Consequently, when tires sit unused for long periods of time (a month or more) their surfaces become dry and more susceptible to ozone and weather checking and the casing becomes susceptible to flat spotting. **For this reason, tires should always be stored in a cool, dry, clean, indoor environment. If storage is for one month or more, eliminate the weight from the tires by raising the vehicle or by removing the tires from the vehicle. Failure to store tires in accordance with these instructions could result in damage to your tires or premature aging of the tires and sudden tire failure.**

When tires are stored, be sure they are placed away from sources of heat and ozone such as direct sunlight, hot pipes and electric generators. Be sure that surfaces on which tires are stored are clean and free from grease, gasoline or other substances, which could deteriorate the rubber. Failure to store tires in accordance with these instructions could result in damage to your tires or premature aging of the tires and sudden tire failure.

FOLLOW THESE MOUNTING RECOMMENDATIONS

Tire changing can be dangerous and must be done by professionally trained persons using proper tools and procedures as specified by the US Tire Manufacturers Association (USTMA). Single or dual assemblies must be completely deflated before demounting.

Your tires should be mounted on wheels of correct size and type and which are in good, clean condition. Wheels that are bent, chipped, rusted (steel wheels) or corroded (alloy wheels) may cause tire damage. The inside of the tire must be free from foreign material. Have your retailer check the wheels before mounting new tires. Mismatched tires and rims can explode during mounting. Also, mismatched tires and rims can result in dangerous tire failure on the road. If a tire is mounted by error on the wrong-sized rim, do not remount it on the proper rim - scrap it. It may have been damaged internally (which is not externally visible) by having been dangerously stretched and could fail on the highway.

Old valves may leak. When new tubeless tires are mounted, have new valves of the correct type installed. Tubeless tires must only be mounted on wheels designed for tubeless tires i.e., wheels which have safety humps or ledges.

It is recommended that you have your tires and wheels balanced. Tires and wheels, which are not balanced, may cause steering difficulties, a bumpy ride, and irregular tire wear.

Be sure that all your valves have suitable valve caps. The valve cap is the primary seal against air loss.

TEMPORARY SPARE TIRES

When using any temporary spare tire, be sure to follow the vehicle manufacturer's instructions.

REMEMBER... TO AVOID DAMAGE TO YOUR TIRES AND POSSIBLE ACCIDENT:

- CHECK TIRE PRESSURE AT LEAST ONCE EACH MONTH WHEN TIRES ARE COLD AND BEFORE LONG TRIPS.
- DO NOT UNDERINFLATE/OVERINFLATE.
- DO NOT OVERLOAD.
- DRIVE AT MODERATE SPEEDS, OBSERVE LEGAL LIMITS.

- AVOID DRIVING OVER POTHOLES, OBSTACLES, CURBS OR EDGES OF PAVEMENT.
- AVOID EXCESSIVE WHEEL SPINNING.
- IF YOU SEE ANY DAMAGE TO A TIRE, REPLACE WITH THE SPARE AND VISIT ANY AUTHORIZED RETAILER AT ONCE.
- IF YOU HAVE ANY QUESTIONS, CONTACT YOUR AUTHORIZED RETAILER.

Highway Hazards

No matter how carefully you drive, there is always the possibility that you could eventually have a flat tire on the highway. Drive slowly to the closest safe area out of traffic. This could further damage the flat tire, but your safety is more important.

If you feel a sudden vibration or ride disturbance while driving, or you suspect your tire or vehicle has been damaged, immediately reduce your speed. Drive with caution until you can safely pull off the road. Stop and inspect the tires for damage. If a tire is under-inflated or damaged, deflate it, remove the wheel and replace it with your spare tire and wheel. If you cannot detect a cause, have the vehicle towed to the nearest repair facility or tire dealer to have the vehicle inspected.

Tire and Wheel Alignment

A bad jolt from hitting a curb or pothole can cause the front end of your vehicle to become misaligned or cause damage to your tires. If your vehicle seems to pull to one side when you are driving, the wheels could be out of alignment. Have an authorized dealer check the wheel alignment periodically.

Wheel misalignment in the front or the rear can cause uneven and rapid treadwear of your tires and should be corrected by an authorized dealer.

INSPECTING THE WHEEL VALVE STEMS

Check the valve stems for holes, cracks, or cuts that may permit air leakage and replace the valve stem if damaged.

Note: *A new valve stem (including new nut, new washer & new screw) must be installed whenever a new tire or wheel is installed.*

TIRE ROTATION

WARNING: If the tire label shows different tire pressures for the front and rear tires and the vehicle has a tire pressure monitoring system, then you need to update the settings for the system sensors. Always

perform the system reset procedure after tire rotation. If you do not reset the system, it may not provide a low tire pressure warning when necessary.

Rotating your tires at the recommended interval will help your tires wear more evenly, providing better tire performance and longer tire life.

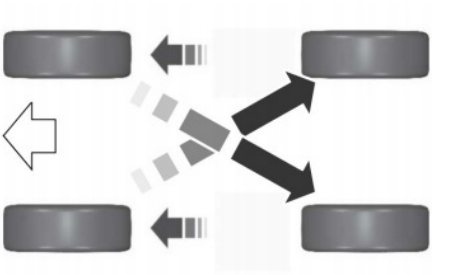
Note: *If your tires show any uneven wear have the alignment checked by an authorized dealer before rotating tires.*

Note: *If you have a dissimilar spare wheel and tire assembly, it is intended for temporary use only and should not be used in a tire rotation.*

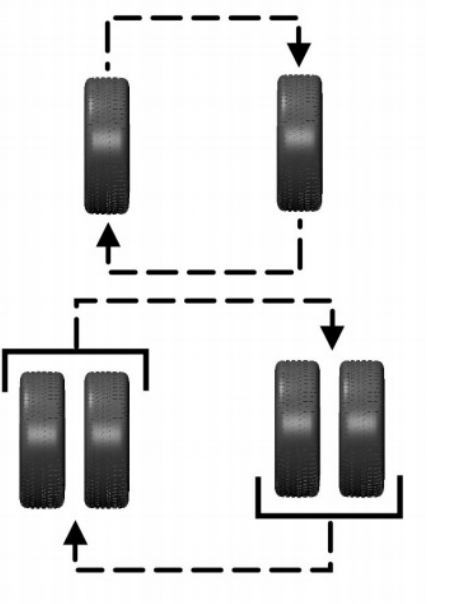
Note: *After having your tires rotated, inflation pressure must be checked and adjusted to the vehicle requirements.*

Tire Rotation Diagram

Follow the diagram indicating the correct tire locations for rotating the tires.

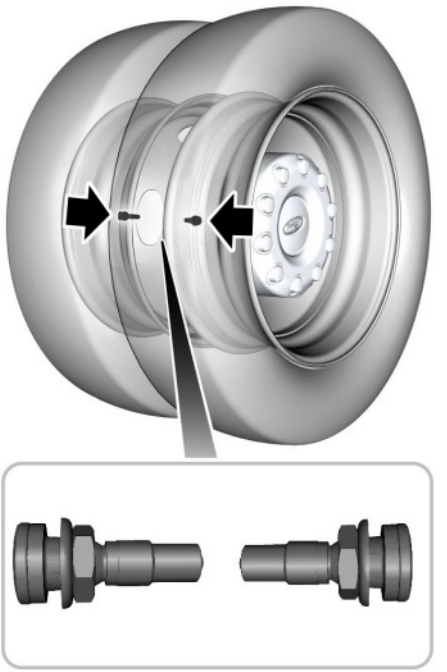


Rear-wheel drive vehicles and four-wheel drive vehicles (front tires at left of diagram).



Dual rear wheel drive vehicle - six tire rotation (front tires at top of diagram).

If your vehicle is equipped with dual rear wheels it is recommended that the front and rear tires (in pairs) be rotated only side to side. We do not recommend splitting up the dual rear wheels. Rotate them side to side as a set. After tire rotation, inflation pressures must be adjusted for the tires' new positions in accordance with vehicle requirements.



Note: *When installing 17-inch dual rear wheels, align the valve stems facing each other. If your vehicle is equipped with 4 rear aluminum wheels, ensure the inner wheel valve stem is accessible through a vent hole in the outer wheel without the valve stem.*

WHAT IS THE TIRE PRESSURE MONITORING SYSTEM



The tire pressure monitoring system measures the vehicle's tire pressures. A warning lamp illuminates if one or more tires are significantly underinflated or if there is a system malfunction.

TIRE PRESSURE MONITORING SYSTEM OVERVIEW

WARNING: Under-inflation is the most common cause of tire failures and may result in severe tire cracking, tread separation or blowout, with unexpected loss of vehicle control and increased risk of injury. Under-inflation increases sidewall flexing and rolling resistance, resulting in heat buildup and internal damage to the tire. It also may result in unnecessary tire stress, irregular wear, loss of vehicle control and accidents. A tire can lose up to half of its air pressure and not appear to be flat!

WARNING: To determine the required pressure(s) for your vehicle, see the Safety Compliance Certification Label (on the door hinge pillar, door-latch post or the door edge that meets the door-latch post, next to the driver seat) or the Tire Label on the B-Pillar or the edge of the driver door.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires).

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

WARNING: Changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

This device complies with Part 15 of the FCC Rules and with License exempt RSS Standards of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

TIRE PRESSURE MONITORING SYSTEM PRECAUTIONS

WARNING: The tire pressure monitoring system is not a substitute for manually checking tire pressures. You should periodically check tire pressures using a pressure gauge. Failure to correctly maintain tire pressures could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.

WARNING: Do not use the tire pressure displayed in the information display as a tire pressure gauge. Failure to follow this instruction could result in personal injury or death.

Note: *The use of tire sealants can damage the tire pressure monitoring system.*

Note: *If the tire pressure monitor sensor becomes damaged it may not function.*

TIRE PRESSURE MONITORING SYSTEM LIMITATIONS

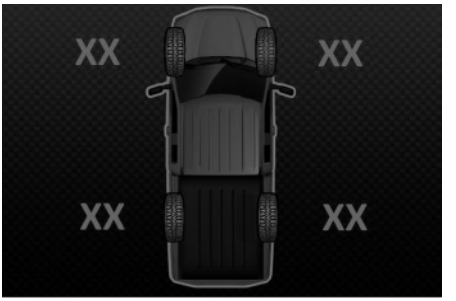
When the outside temperature drops significantly, the tire pressure could decrease and activate the low tire pressure warning lamp.

The warning lamp could also illuminate when you use a spare wheel, or tire sealant from the inflator kit.

Note: *Regularly checking the vehicle tire pressures can reduce the possibility for the warning lamp to illuminate due to outside air temperature changes.*

Note: *After you inflate the tires to the recommended pressure it could take up to two minutes of driving over 20 mph (32 km/h) for the warning indicator to turn off.*

VIEWING THE TIRE PRESSURES



Using the instrument cluster display arrow keys navigate to the truck info section where you can view the tire pressures.

RESETTING TIRE PRESSURE MONITORING SYSTEM

Tire Pressure Monitoring System Reset Procedure - Single Rear Wheel

WARNING: To determine the required pressure(s) for your vehicle, see the Safety Compliance Certification Label (on the door hinge pillar, door-latch post or the door edge that meets the door-latch post, next to the driver seat) or the Tire Label on the B-Pillar or the edge of the driver door.

You must reset the tire pressure monitoring system after each tire rotation on vehicles that require different recommended tire pressures in the front tires as compared to the rear tires.

Note: *To reduce the chances of interference from another vehicle, perform the system reset procedure at least 3 ft (1 m) away from another vehicle undergoing the system reset procedure at the same time.*

Note: *Do not wait more than two minutes between resetting each tire sensor or the system can time-out and you need to repeat the entire procedure on all four wheels.*

1. Drive the vehicle above 20 mph (32 km/h) for at least two minutes, then park in a safe location where you can easily get to all four tires and have access to an air pump.
2. Switch the ignition off.
3. Switch the ignition on but do not start the engine.
4. Switch the hazard flashers on then off three times.

Note: *You must accomplish this within 10 seconds. If you successfully enter the reset mode, the horn sounds once, the system indicator flashes and a message shows in the instrument cluster display.*

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Note: *If the system does not enter reset mode, repeat the procedure starting at step 2. If after repeated attempts to enter the reset mode, the horn does not sound, the system indicator does not flash and no message shows in the instrument cluster display, contact your authorized dealer.*

5. Remove the valve cap from the valve stem on the left front tire. Decrease the air pressure until the horn sounds.

Note: *The single horn tone confirms that the sensor identification code has been learned by the module for this position. If the horn sounds twice, the reset procedure was unsuccessful, and you must repeat it.*

6. Remove the valve cap from the valve stem on the right front tire. Decrease the air pressure until the horn sounds.
7. Repeat the previous step on the right rear tire and then on the left rear tire.
8. Switch the ignition off.

Note: *If the horn sounds twice again after switching the ignition off, and repeating the procedure, contact your authorized dealer and have your vehicle checked as soon as possible.*

9. Set all four tires to the recommended air pressure as indicated on the Safety Compliance Certification Label.

Tire Pressure Monitoring System Reset Procedure - Dual Rear Wheel

For further information see **Understanding Your Tire Pressure Monitoring System** and refer to **Dual Rear Wheel**, earlier in this section.

Read the entire procedure before attempting.

1. Drive the vehicle above 20 mph (32 km/h) for at least two minutes, then park in a safe location where you can easily get to all six tires and have access to an air pump.
2. Place the ignition in the off position and keep the key in the ignition.
3. Cycle the ignition to the on position with the engine off.
4. Turn the hazard flashers on then off three times. You must accomplish this within 10 seconds. If you successfully enter the reset mode, the horn sounds once, the system indicator flashes and a message shows in the instrument cluster display. If this does not occur, repeat the procedure starting at step 2. If after repeated attempts to enter the reset mode, the horn

does not sound, the system indicator does not flash and no message shows in the instrument cluster display, contact your authorized dealer as soon as possible.

5. Train the tire pressure monitoring system sensors in the tires using the following system reset sequence starting with the left front tire in the following order: Left front - driver side front tire, Right front - passenger side front tire, Right outer rear -passenger side rear outer tire, Right inner rear - passenger side rear inner tire, Left outer rear - driver side rear outer tire, Left inner rear - driver side rear inner tire.
6. Remove the valve cap from the valve stem on the left front tire. Decrease the air pressure until the horn sounds.

Note: *The single horn chirp confirms that the sensor identification code has been learned by the module for this position. If a double horn is heard, the reset procedure was unsuccessful, and you must repeat it.*

7. Remove the valve cap from the valve stem on the right front tire. Decrease the air pressure until the horn sounds.
8. Remove the valve cap from the valve stem on the right outer rear tire. Decrease the air pressure until the horn sounds.
9. Remove the valve cap from the valve stem on the right inner rear tire. Decrease the air pressure until the horn sounds.
10. Remove the valve cap from the valve stem on the left outer rear tire. Decrease the air pressure until the horn sounds.
11. Remove the valve cap from the valve stem on the left inner rear tire. Decrease the air pressure until the horn sounds. Training is complete after the horn sounds for the last tire trained, the system indicator stops flashing, and a message is shown in the instrument cluster display.
12. Turn the ignition off. If two short horn beeps are heard, the reset procedure was unsuccessful and you must repeat it. If after repeating the procedure and two short beeps are heard when the ignition is turned to off, contact your authorized dealer as soon as possible.
13. Set all six tires to the recommended air pressure as indicated on the Safety Compliance Certification Label, affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position or tire label located on the B-pillar or the edge of the driver door.

Trailer Tire Pressure Monitoring System (If Equipped)

Note: *Additional equipment may be required for your vehicle to support trailer tire pressure and temperature monitoring. See your authorized dealer for more information.*

Note: *The trailer tire pressure monitoring system is not a substitute for proper tire maintenance. It is your responsibility to maintain correct tire pressures at all times.*

Note: *Replace the screw and valve on the trailer tire pressure sensor anytime the trailer tire is repaired, replaced or in for service. See your authorized dealer for details.*



The trailer tire pressure monitoring system is an added safety feature that allows you to view your trailer tire pressures and temperatures through the instrument cluster display. See **Tire Pressure Monitoring System – Information Messages** (page 512). Tire pressure sensors are mounted into each tire on your trailer. The sensors send a message to your vehicle indicating the current trailer tire pressure and temperature.

If the trailer tire pressure monitoring system detects that a tire is low, a warning message appears in the instrument cluster display. The trailer tire information screen in the instrument cluster display highlights the tire with a low pressure.

If the trailer tire pressure monitoring system detects that a tire temperature is over temp, a warning message appears in the instrument cluster display. The trailer tire information screen in the instrument cluster display highlights the tire with a high temperature.

The main function of the trailer tire pressure monitoring system is to warn you when your trailer tires need air or if the tires are experiencing high temperatures. It can also warn you if the system is no longer capable of functioning as intended. See **Tire Pressure Monitoring System – Information Messages** (page 512).

When a Temporary Spare or New Tire is Installed

If you have replaced a trailer tire with a new or spare tire, a warning message appears and pressure readings are no longer displayed for that tire.

To restore the full function of the trailer tire pressure monitoring system:

- Have the damaged wheel and tire assembly repaired and remounted to your trailer.
- Install the trailer tire pressure monitoring sensor into the new wheel and tire assembly.
- Perform the trailer tire pressure monitoring system reset procedure.

Trailer Tire Pressure Monitoring System Reset Procedure

Note: *You need to perform the tire pressure monitoring system reset procedure after each tire rotation, or when a new trailer tire pressure sensor is installed into a trailer tire.*

The trailer tire pressure monitoring system can be reset through the menu in the instrument cluster display. See **Tire Pressure Monitoring System – Information Messages** (page 512). Performing the trailer setup process also resets the trailer tire pressure monitoring system.

Note: *For further information on the trailer tire pressure monitoring system see the instructions that were included with the trailer tire pressure monitoring system kit.*

TIRE PRESSURE MONITORING SYSTEM – TROUBLESHOOTING

TIRE PRESSURE MONITORING SYSTEM – WARNING LAMPS



The low tire pressure warning lamp has combined functions, as it warns you when your tires need air, and when the system is no longer capable of functioning as intended.

Warning Lamp	Possible Cause	Action Required
Solid warning lamp	One or more tires are significantly under inflated	After inflating your tires to the manufacturer's recommended pressure as shown on the tire label, on the edge of driver door or the B-pillar, drive your vehicle for at least two minutes over 20 mph (32 km/h) before the light turns off.
	Tire rotation without sensor training	On vehicles with different front and rear tire pressures, the system must be retrained following every tire rotation.
Solid warning lamp or flashing warning lamp	Temporary spare wheel in use	Repair the damaged road wheel and tire and refit it to your vehicle to restore operation of the system.
	Tire pressure monitoring system malfunction	If the tires are inflated to the recommended tire pressures and the temporary spare wheel is not in use, the system detected a fault that requires service. Have your vehicle checked as soon as possible.

TIRE PRESSURE MONITORING SYSTEM – INFORMATION MESSAGES

Message	Details
Tire Pressure Low	After inflating your tires to the manufacturer's recommended pressure as shown on the Tire Label, on the edge of the driver door or the B-Pillar, drive your vehicle for at least two minutes over 20 mph (32 km/h) before the light turns off.
Tire Pressure Monitor Fault	The system has detected a fault that requires service. Have your vehicle checked as soon as possible.
Tire Pressure Sensor Fault	The system has detected a fault that requires service or a spare tire is in use. Have your vehicle checked as soon as possible.

Trailer Tire Pressure Monitoring System

Message	Details
Trailer Tire Pressure Low Specified: {###.#} psi Specified: {###.#} kPa Specified: {###.#} bar	One or more tires on your trailer is below the specified tire pressure.
Trailer tire over temperature	Displays when one or more tires on your trailer is above the recommended temperature.
Trailer tire pressure sensor fault	A trailer tire pressure sensor is malfunctioning. If the warning stays on or continues to come on, contact an authorized dealer as soon as possible.
Trailer tire pressure monitor fault	The trailer tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, contact an authorized dealer.
Trailer tire pressure monitor capability not detected	The system cannot detect the trailer tire pressure monitoring system.
Trailer Tire Pressure Indication Not Setup See Manual	The trailer tire pressure monitoring system is not setup. See **Tire Pressure Monitoring System** (page 504).

CHANGING A FLAT TIRE

If you get a flat tire when driving, do not apply the brake heavily. Instead, gradually decrease your speed, hold the steering wheel firmly and slowly move to a safe place on the side of the road.

Have a flat serviced by an authorized dealer to prevent damage to the system sensors. See **Tire Pressure Monitoring System Precautions** (page 505). Replace the spare tire with a road tire as soon as possible. During repairing or replacing the flat tire, have the authorized dealer inspect the system sensor for damage.

Note: *Only use tire sealants in roadside emergencies as they may damage the tire pressure monitoring system sensor.*

Note: *The tire pressure monitoring system indicator light illuminates when the spare tire is in use. To restore the full functionality of the monitoring system, all road wheels equipped with tire pressure monitoring sensors must be mounted on this vehicle.*

Dissimilar Spare Wheel and Tire Assembly Information

WARNING: Failure to follow these guidelines could result in an increased risk of loss of vehicle control, injury or death.

If you have a dissimilar spare wheel and tire, then it is intended for temporary use only. This means that if you need to use it, you should replace it as soon as possible with a road wheel and tire assembly that is the same size and type as the road tires and wheels that were originally provided by Ford. If the dissimilar spare tire or wheel is damaged, it should be replaced rather than repaired.

A dissimilar spare wheel and tire assembly is defined as a spare wheel and tire assembly that is different in brand, size or appearance from the road tires and wheels.

Full-size dissimilar spare

When driving with the full-size dissimilar spare wheel and tire assembly, do not:

- Exceed 70 mph (113 km/h).
- Use more than one dissimilar spare wheel and tire assembly at a time.
- Use snow chains on the end of the vehicle with the dissimilar spare wheel and tire assembly.
- Engage any four-wheel drive mode. See **Four-Wheel Drive Limitations** (page 232).

When driving with the full-size dissimilar spare wheel and tire assembly, 4WD functionality may be limited. You may experience the following:

- Additional noise from the transfer case or other drive components.
- Difficulty shifting out of a mechanically locked 4WD mode.

When driving with the full-size dissimilar spare wheel and tire assembly, it is recommended that you do not:

- Engage 4WD High or 4WD Low, if equipped, other than to get your vehicle unstuck.

Using a full-size dissimilar spare wheel and tire assembly can compromise the effectiveness of the following:

- Handling, stability and braking performance.
- Comfort and noise.
- Ground clearance and parking at curbs.
- Winter weather driving capability.
- Wet weather driving capability.
- Four-wheel drive capability.

When driving with the full-size dissimilar spare wheel and tire assembly additional caution should be given to:

- Towing a trailer.
- Driving vehicles equipped with a camper body.
- Driving vehicles with a load on the cargo rack.

Drive cautiously when using a full-size dissimilar spare wheel and tire assembly and seek service as soon as possible.

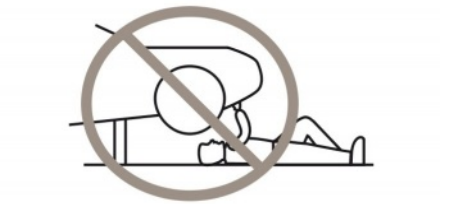
Location of the Spare Tire and Tools

See the following table for their locations:

Item	Location
Spare tire - pick-up trucks only	Under the vehicle, just forward of the rear bumper.
Jack	Fastened to the floor pan behind the rear-most seat on the passenger side.
Jack handle, lug wrench, lug wrench extension - only provided on dual rear wheel vehicles.	Regular Cab: Fastened to floor behind the driver seat. Super Cab and Crew Cab: Fastened to the floor under the rear seat on the driver's side.

Tire Change Procedure

WARNING: The jack supplied with this vehicle is only intended for changing a flat tire in an emergency. Do not attempt to do any other work on your vehicle when it is supported by the jack, as your vehicle could slip off the jack. Failure to follow this instruction could result in personal injury or death.



WARNING: To help prevent your vehicle from moving when changing a wheel, shift the transmission into park (P), set the parking brake and use an appropriate block or wheel chock to secure the wheel diagonally opposite to the wheel being changed. For example, when changing the front left wheel, place an appropriate block or wheel chock on the right rear wheel.

WARNING: Only use the jack provided as original equipment with your vehicle.

WARNING: Failure to follow these guidelines could result in an increased risk of loss of vehicle control, injury or death.

WARNING: Never place anything between the vehicle jack and your vehicle.

WARNING: Never place anything between the vehicle jack and the ground.

WARNING: Do not attempt to change a tire on the side of the vehicle close to moving traffic. Pull far enough off the road to not obstruct the flow of traffic and avoid the danger of being hit when operating the jack or changing the wheel.

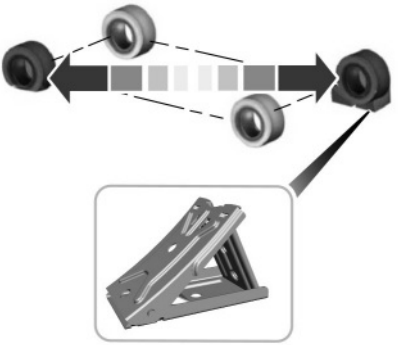
WARNING: The jack supplied with this vehicle is only intended for changing a flat tire in an emergency. Do not attempt to do any other work on your vehicle when it is supported by the jack, as your vehicle could slip off the jack. Failure to follow this instruction could result in personal injury or death.

WARNING: Only use the spare wheel carrier to stow wheels provided with your vehicle.

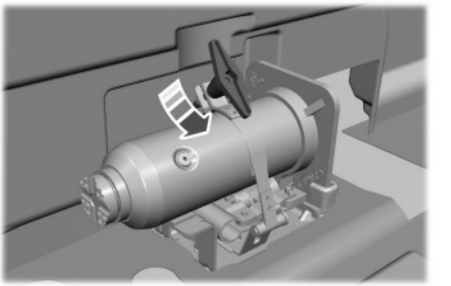
Note: *Do not use impact tools or power tools operating at over 200 RPM on the spare wheel carrier winch, which may cause it to malfunction and result in the wheel and tire not being securely stowed.*

Note: *Passengers should not remain in the vehicle when the vehicle is being jacked.*

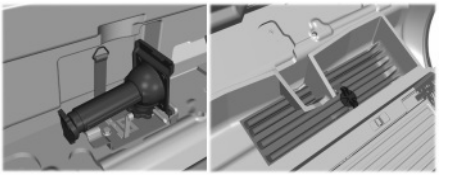
1. Park the vehicle on a level firm ground and activate the hazard flashers.
2. Apply the parking brake, place the transmission in park (P), switch the engine off.
3. Block the wheel diagonally opposite the flat tire. If equipped, use the wheel chocks attached to the tool bag. For example, if the left front tire is flat, block the right rear wheel.



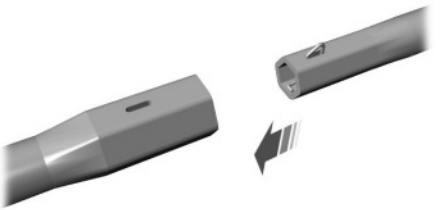
4. The jack is on the floor behind the rearmost seat on the passenger side. Turn the retainers counterclockwise to remove the jack.



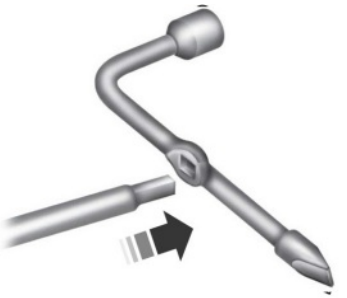
5. The took kit is on the floor under the driver seat or under the rear seat on the driver side. The tool kit could be attached to the floor, inside the storage bin, or attached to a bracket. Turn the retainers counterclockwise to remove the tool kit.



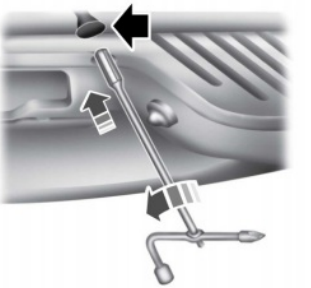
6. Use the ignition key to open the lock at the rear bumper.
7. One or more handle extensions are used to operate the spare tire carrier. To assemble, align the button with the hole and slide the parts together. To disconnect, press the button and pull apart.



8. The lug wrench turns the handle extensions and the jack handle. Slide the square end of the handle extension into the square hold of the lug wrench until it clicks in place.



9. Fully insert the jack handle, with one extension, through the bumper hole and into the guide tube. Additional extensions are needed if the tailgate is in the lowered position and cannot be raised. Turn the handle counterclockwise and lower the spare tire until you can slide the tire rearward and the cable is slack. You will feel some resistance when you turn the jack handle assembly. If not replacing the spare or flat tire to the underbody storage area, raise the wheel retainer up into the installed position. Do not store spare or flat tire at other locations.
10. Slide the retainer through the center of the spare tire wheel and remove the spare tire.



11. Remove the wheel trim with the lug wrench tip, or use the wheel trim tool described later in this section.
12. Loosen each wheel nut one-half turn counterclockwise, but do not remove them until the wheel is raised off the ground. For dual rear wheel, assemble the lug wrench and extension tool together to access the wheel nuts.





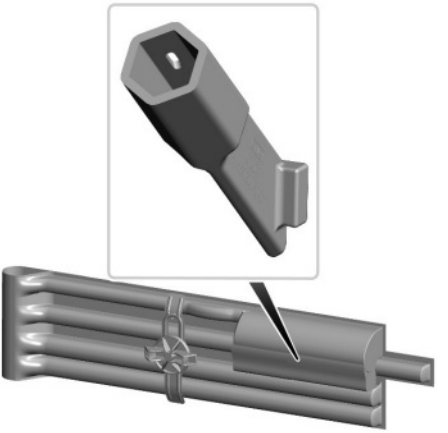


13. Position the jack under the correct jacking points.

Removing Wheel Trim With Single Wheels

1. Insert the flat end of the lug wrench between the wheel rim and the wheel trim.
2. Carefully remove the wheel trim.

Vehicles With Dual Rear Alloy Wheels

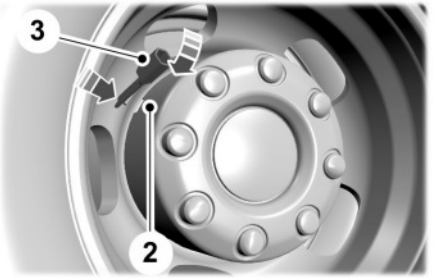


The wheel trim removal tool is in the storage bag near the lug wrench.

Rear Wheel Trim



1. Locate the notch in the wheel trim.

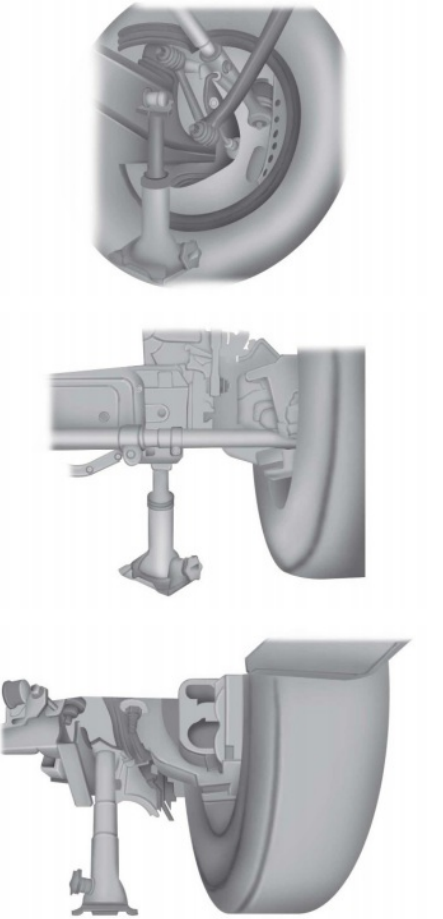


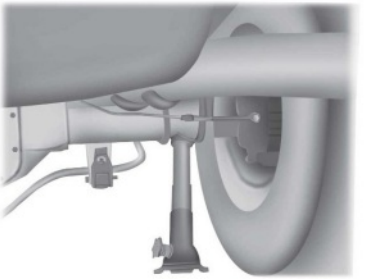
2. Insert the wheel trim removal tool into the notch in the wheel trim.
3. Rotate the wheel trim removal tool and remove the wheel trim.

Jacking the Vehicle

F-250 and F-350 Single Rear Wheel Vehicles

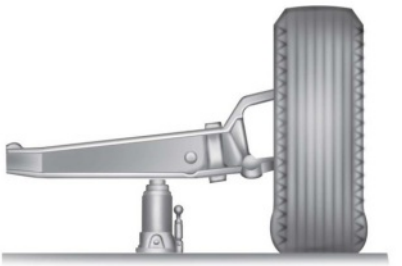






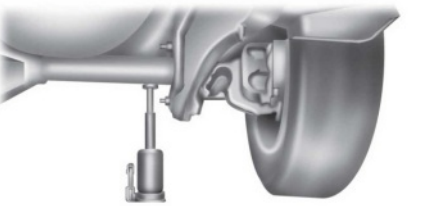
F-350 Dual Rear Wheel, F-450, F-550 and F-600 Vehicles



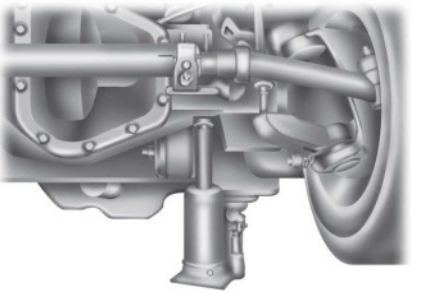


Front (4x2):F350 Dual rear wheel

Note: *Place the jack directly under the I-beam.*

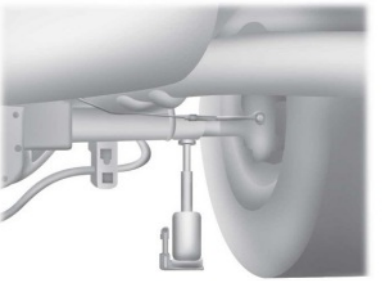


Front passenger side (4x4): F-350 dual rear wheel

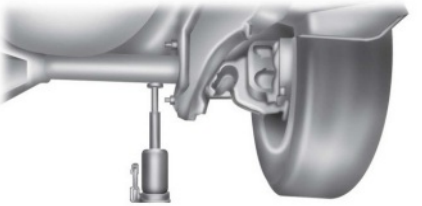


Front driver side (4x4): F-350 dual rear wheel

Note: *Make sure the jack fits onto the flat area on the outboard side of the differential housing.*



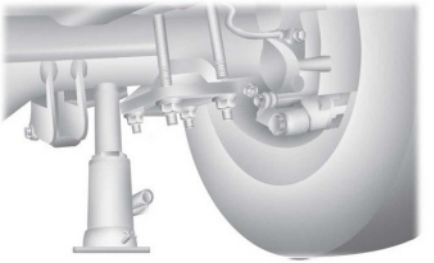
Rear: F-350 dual rear wheel

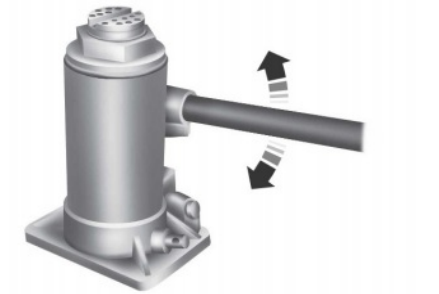




F-350 Dual Rear Wheel Vehicles

Front: F-450 , F-550 and F-600





Rear: F-450 , F-550 and F-600

Insert the hooked end of the jack handle into the jack and turn the jack handle clockwise. For hydraulic jacks, operate the handle up and down until the wheel is completely off the ground and high enough to install the spare tire.

Note: *Hydraulic jacks have a pressure relief valve that prevents lifting loads which exceed the jack's rated capacity.*

F-250 and F-350 Single Rear Wheel Vehicles

Remove the wheel nuts with the lug wrench, replace the flat tire with the spare, making sure the valve stem of the spare is facing outward when replacing a front wheel. For the rear wheel position on vehicles with single rear wheel fitments, install the spare with the valve stem facing outward. For vehicles with dual rear wheels, the valve stem of the spare must face outward when replacing an inner wheel, but must face inward when replacing an outboard wheel.

Reinstall the wheel nuts until the wheel is snug against the hub. Do not fully tighten the wheel nuts until the wheel has been lowered.

Lower the vehicle completely by turning the jack handle counterclockwise until the vehicle is completely lowered.

Note: *For F-350 Dual Rear Wheel, F-450, F-550 and F-600 Vehicles, insert the notched end of the jack handle to the release valve, open the release valve slightly by turning the handle counterclockwise. Stop turning the release valve when vehicle starts to lower. Close the valve when you completely lower your vehicle.*

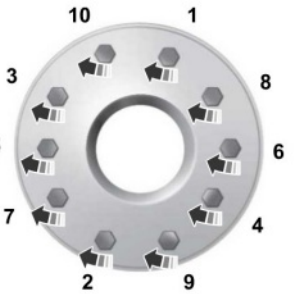
F-350 Dual Rear Wheel, F-450, F-550 and F-600 Vehicles.



Installing the Wheel Nuts and Ornaments

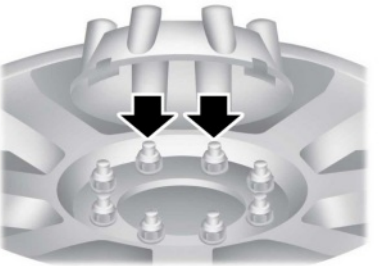


8-wheel nut torque sequence

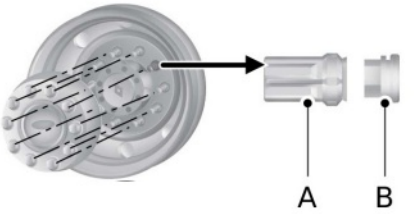


10-wheel nut torque sequence

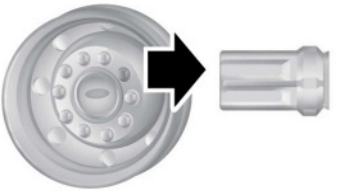
Note: *When installing the wheel center ornaments, align the ornament retention towers on the back side of the ornament with the studs or nuts and retain to the flange on the wheel nuts.*



Note: *For dual rear wheels, align the ornament with the wheel nuts. (A) is the clip in the ornament and (B) is the flange of the wheel nut. Make sure that each of the retention clips are sitting on a wheel nut flange.*



Note: *If the ornament retention clips are misaligned between the studs or wheel nuts, the ornament will be improperly installed. This improper installation may appear and sound correct, but will not keep the ornament on the vehicle. Ornaments improperly installed in this manner may become loose or fall off during driving.*

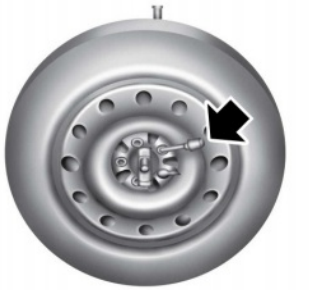


Use your hand or a rubber mallet to tap the ornament until the retention clips snap over the wheel nut flanges. Tap in a star pattern until the ornament seats fully onto the wheel. There should be an even gap between the ornament and the wheel when it is properly installed.



Stowing the Flat Tire or Spare Tire

1. Place the tire on end with the valve stem facing toward the front of the vehicle. Lay the tire on the ground, near the rear of the vehicle, with the valve stem side facing up.



2. Slide the wheel partially under the vehicle and install the retainer through the wheel center. If equipped, you may have to remove the wheel center cap prior to pushing the retainer through the center of the wheel. To remove the center cap, press it off with the lug wrench tip from the inner side of the wheel. Pull on the cable to align the components at the end of the cable.

3. Reinsert the lug wrench extension(s) through the rear bumper and guide tube and turn the lug wrench clockwise until the tire is raised to its stowed position underneath the vehicle. The wrench becomes harder to turn and the spare tire winch ratchets or slips when the tire is raised to maximum tightness. You will hear a clicking sound from the winch indicating that the tire is properly stowed, tighten until a minimum of three clicks are heard. Check that the tire lies flat against the frame and is secure.
4. Carefully place all tools back in the tool kit bag.
5. Reinstall the tool kit bag and tighten the wing nut.



6. Properly reinstall the jack into the bracket and tighten the wing nut.

Note: *For the mechanical style bottle jack tighten the jack counterclockwise as shown in the image above.*

WHEEL NUTS

WARNING: When you install a wheel, always remove any corrosion, dirt or foreign materials present on the mounting surfaces of the wheel or the surface of the wheel hub, brake drum or brake disc that contacts the wheel. Make sure to secure any fasteners that attach the rotor to the hub so they do not interfere with the mounting surfaces of the wheel. Installing wheels without correct metal-to-metal contact at the wheel mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while your vehicle is in motion, resulting in loss of vehicle control, personal injury or death.

Bolt Size	lb.ft (Nm) [1]
M14 x 1.5	150 lb.ft (204 Nm)

[1] Torque specifications are for nut and bolt threads free of dirt and rust. Use only our recommended replacement wheel nuts and or wheel bolts.

Retighten the wheel nuts to the specified torque within 100 mi (160 km) after any wheel disturbance, such as tire rotation, changing a flat tire or wheel removal.

On vehicles equipped with dual rear wheels, retighten the wheel lug nuts to the specified torque at 100 mi (160 km), and again at 500 mi (800 km) of new vehicle operation and after any wheel disturbance, such as tire rotation, changing a flat tire, or wheel removal.

It is important to follow the proper wheel mounting and lug nut torque procedures.



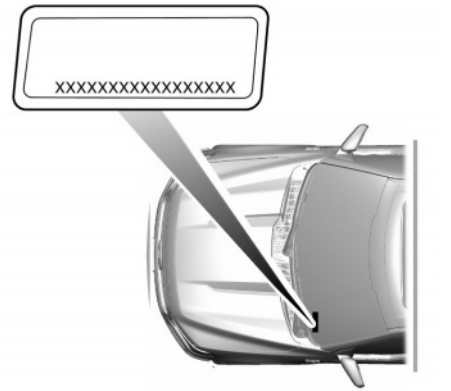
A Hub pilot bore.

Inspect the wheel pilot hole and mounting surface prior to installation. Remove any visible corrosion or loose particles.

VEHICLE IDENTIFICATION NUMBER

LOCATING THE VEHICLE IDENTIFICATION NUMBER

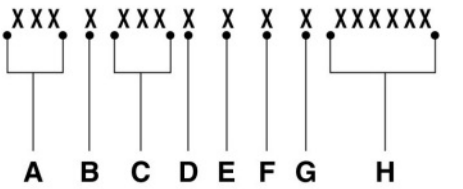
The vehicle identification number is on the left-hand side of the instrument panel.



Note: *In the illustration, XXXX is representative of your vehicle identification number.*

VEHICLE IDENTIFICATION NUMBER OVERVIEW

The vehicle identification number contains the following information:



A	World manufacturer identifier.
B	Brake system, gross vehicle weight rating, restraint devices and their locations.
C	Make, vehicle line, series, body type.
D	Engine or motor type.
E	Check digit.
F	Model year.
G	Assembly plant.
H	Production sequence number.

WHAT IS A CONNECTED VEHICLE

A connected vehicle has technology that allows your vehicle to connect to a mobile network and for you to access a range of features. When used in conjunction with the Ford app, it could allow you to monitor and control your vehicle further, for example checking the tire pressures, the fuel level and the vehicle location. For additional information, refer to the local Ford website.

CONNECTED VEHICLE REQUIREMENTS

Connected service and related feature functionality requires a compatible vehicle network.

Some remote features require additional service activation. Log in to your Ford account for details. Some restrictions, third party terms and message or data rates may apply.

CONNECTED VEHICLE LIMITATIONS

Evolving technology, cellular networks, or regulations could affect functionality and availability, or continued provision of some features. These changes could even stop some features from functioning.

CONNECTING THE VEHICLE TO A MOBILE NETWORK

WHAT IS THE MODEM



The modem allows access to a range of features built into your vehicle.

ENABLING AND DISABLING THE MODEM

1. From the settings menu, press Connectivity.
2. Press Connected Vehicle Features.
3. Switch vehicle connectivity on or off.

CONNECTING THE FORD APP TO THE MODEM

1. Make sure that the modem is enabled using the vehicle settings menu.
2. Open the Ford app on your device and log in.
3. Add your vehicle or select your vehicle if already added.
4. Select the option to activate your vehicle.
5. Make sure that the name on the screen matches the name shown in your Ford account.
6. Confirm that your Ford account is connected to the modem.

Note: *Some connected vehicle services are subscription-based and may require activation through your Ford app. Go to your Ford app for more information.*

CONNECTING THE VEHICLE TO A WI-FI NETWORK

1. From the settings menu, press Connectivity.
2. Press Wi-Fi.
3. Switch Wi-Fi on.
4. Press View Available Networks.
5. Select an available Wi-Fi network.

Note: *Enter the network password to connect to a secure network.*

CONNECTED VEHICLE SETTINGS

You can adjust several settings on the touchscreen under the connected vehicle features menu, such as:

- Vehicle connectivity.
- Share vehicle data.
- Share vehicle location.
- Share driving data.

Note: *Depending on your vehicle, different options may be available.*

Note: *Editing connectivity settings could result in some features not operating correctly or at all. When you edit connectivity settings, pop-up messages may appear to notify you that services will not work without that setting. If you switch a feature on, pop-up messages could appear informing you of the settings that will be turned on. Some features, for example driver assistance features, use map data. We recommend having all connected vehicle settings enabled to allow the map content to be updated to the latest version.*



Press the button next to a menu option for more information.

CONNECTED VEHICLE – TROUBLESHOOTING

CONNECTED VEHICLE – FREQUENTLY ASKED QUESTIONS

Why is my Ford app not connecting to my vehicle?

- The modem is not enabled. Switch vehicle connectivity on.
- The network signal is weak. Move your vehicle closer to a place where the network signal is not obstructed.
- The modem or gateway may need to be reset. Reboot the touchscreen to reset the modem or gateway. See **Rebooting the Center Display** (page 542).

Why can I not connect to a Wi-Fi network?

- You entered the wrong network password. Enter the correct password.
- The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.
- There are multiple access points in range with the same network name. Choose a unique name for your network. Do not use the default name unless it contains a unique identifier, for example as part of the MAC address.

Why does the Wi-Fi connection disconnect after successful connection?

- The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.

What can I do if I am close to a Wi-Fi router but the network signal strength is weak?

- If your vehicle has a heated windshield, position your vehicle so that the windshield is not facing the Wi-Fi router.
- If your vehicle has metallic tinting on the windows but not on the windshield, position your vehicle so that the windshield is facing the Wi-Fi router or open the windows that are facing the router.
- If your vehicle has metallic tinting on the windows and the windshield, open the windows that are facing the router.
- If your vehicle is in a garage and you have the garage door closed, open the garage door as it could block the signal.

Why can I not see a network I expect to see in the list of available networks?

- The network is hidden. Make the network visible and try again, or manually add a network in the Wi-Fi settings menu.
- Some network security types are not supported, for example WEP.

Why do software downloads take too long?

- The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.
- Wi-Fi network is in high demand or has a slow Internet connection. Use a more reliable Wi-Fi network.

Why does the software not update when the system seems to connect to a Wi-Fi network and the signal strength is excellent?

- No software update is available at this time.
- Select automatic updates option in the settings menu to enable automatic software update or contact an authorized dealer.
- There could be a connection problem. Test the network using another device.

Why is a cloud-based feature not connecting to my vehicle?

- The modem or gateway may need to be reset. Reboot the touchscreen to reset the modem or gateway. See **Rebooting the Center Display** (page 542).

With a connected services plan, your hotspot can provide Wi-Fi access to mobile devices in and around your vehicle.

Note: *A mobile device is required to complete hotspot setup.*

Setting Up the Vehicle Hotspot

1. From the settings menu, press Vehicle Hotspot. See **Center Display** (page 540).
2. Scan the code on the touchscreen with your device or follow the instructions on the touchscreen.
3. Follow the instructions on your device to purchase a plan or start a trial.

If you are not given an option to purchase a plan or start a trial, log into your Ford app to access connected services, applicable for US/Canada region.

Through the connected services portal, you can manage your account settings such as renewing your plan.

For regions other than US/Canada, if the website does not open, open a new website and it redirects to the vehicle network carrier's website. Follow the instructions on the carrier portal to purchase a plan or start a trial.

Note: *Hotspot services are subject to coverage and availability.*

Using the Vehicle Hotspot

Use your device to select the hotspot from the list of Wi-Fi networks.

If the vehicle hotspot name does not show up in the list of available Wi-Fi networks on your device:

- Make sure hotspot visibility is switched on.
- The hotspot is transmitting at a frequency the device can see.

Note: *You cannot connect your device to the vehicle hotspot if it does not support the selected frequency band.*

If your mobile device shows No internet connection when connecting to the vehicle hotspot:

- Check the status of your connected services plan.
- If your subscription is active, try moving the vehicle to an open area to improve reception.

If your mobile device shows This network is operating on Wi-Fi channels in use by several other nearby networks when connecting to the vehicle hotspot:

- Restart your vehicle.
- Move your vehicle to a different location.
- Switch between hotspot frequencies in the vehicle hotspot settings.

Vehicle Hotspot Settings

The hotspot information can only be updated once you activate the hotspot.

1. From the settings menu, press Vehicle Hotspot. See **Center Display** (page 540).
2. Press Settings.

You can adjust the following in the vehicle hotspot setting menu:

- Vehicle hotspot name or password.
- Vehicle hotspot frequency.

AUDIO SYSTEM PRECAUTIONS

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

Listening to loud audio for long periods of time could damage your hearing.

IDENTIFYING THE AUDIO UNIT



Depending on your vehicle options, the controls may look different from what you see here.

SWITCHING THE AUDIO UNIT ON AND OFF

Press the button on the volume control.

SELECTING THE AUDIO SOURCE

1. Select Sources.
2. Select the desired source by pressing the tile on the touchscreen.

MEDIA CONTROL BUTTONS

Press to play a track. Press again to pause the track.

Note: *Not all sources can be paused.*

Note: *In case the source is not paused audio is muted.*

Press the button to skip to the next track.

Press and hold the button to fast forward through the track.

Press the button once to return to the beginning of a track. Repeatedly press the button to return to previous tracks.

Press and hold the button to fast rewind through the track.

Press the button on the touchscreen to switch shuffle mode on or off.

Note: *Not all sources have shuffle mode.*

Press the button on the touchscreen to change repeat mode.

Note: *Not all sources have repeat mode.*

ADJUSTING THE VOLUME



E391071

Turn to adjust the volume.

Some vehicles may be able to adjust the volume using buttons on the steering wheel.

SETTING A MEMORY PRESET

Your vehicle comes with default presets that cannot be deleted, but you can overwrite them with your own favorites.

1. Select a station or channel.
2. Press and hold one of the existing presets on the list to replace it with the current station or channel.

Note: *The audio mutes briefly while the system saves the preset, then returns once it is stored.*

Setting the Number of Preset Pages

Depending on your vehicle options, you can have up to six pages.

1. From the Settings menu, press Radio. See **Center Display** (page 540).
2. Press Preset pages.
3. Select the desired number of pages from the dropdown option.

Note: *You can store a maximum of thirty presets depending on the number of preset pages you select.*

MUTING THE AUDIO



Press to mute the signal. Press again to restore the signal.

Note: *The mute function is only available for sources that cannot be paused.*



Press the button on the steering wheel to mute the signal. Press again to restore the signal.

Note: *If the mute button is not available, you can mute the audio system by decreasing the volume to 0.*

ADJUSTING THE SOUND SETTINGS

To access the sound settings menu:

1. From the settings menu, press Sound.

From the menu, you can adjust the following:

- Tone settings.
- Balance and fade.
- Speed compensated volume.
- Volume settings.
- Sound mode/Occupancy mode

Note: *Depending on your vehicle options, not all settings are available.*

SETTING THE CLOCK AND DATE

1. Press Settings on the touchscreen.
2. Press Clock.
3. Set the time.

Note: *The AM and PM options are not available if 24-hour mode is on.*

Switching Automatic Updates On and Off

1. Press Settings on the touchscreen.
2. Press Clock.
3. Switch Auto Time Update on or off.

AM/FM RADIO

AM/FM RADIO LIMITATIONS

The further you travel from an AM or FM station, the weaker the signal and the weaker the reception.

Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.

When you pass a ground-based broadcast repeating tower, a stronger signal may overtake a weaker one and result in the audio system muting.

SELECTING AN AM/FM RADIO STATION

Manually Selecting a Radio Station



Turn to search through the radio frequency band.

Using Direct Tune

1. Press Direct Tune to open the number pad.
2. Enter the frequency you prefer.

Note: *You can only enter a valid frequency for the audio source you are currently listening to.*

Using Seek





Press either button. The system stops at the first station it finds in that direction.

DIGITAL RADIO (IF EQUIPPED)

WHAT IS DIGITAL RADIO

HD Radio™ technology is the digital evolution of analog AM/FM radio.

For additional information, visit www.HDRadio.com.

HD Radio Technology is manufactured under license from iBiquity Digital Corporation and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of XPERI. The vehicle manufacturer and XPERI are not responsible for the content sent using HD Radio technology. Content may be changed, added or deleted at any time at the station owner's discretion.

HOW DOES DIGITAL RADIO WORK

Your system has a special receiver that allows it to receive digital broadcasts in addition to analog broadcasts.

HD1 signifies the main programming status and is available in both analog and digital broadcasts. Other multicast stations are only available digitally and could contain new or different content.

Note: *When the system first receives an HD1 station, it plays the station in the analog version until it verifies the station is an HD Radio station. Then it shifts to the digital version.*

Note: *There is an audio mute delay when switching to an HD2 or HD3 station because the system has to reacquire and decode the digital signal.*

DIGITAL RADIO LIMITATIONS

If you are outside the reception area, the system could not work.

If you are on the fringe of the reception area, the station could mute due to weak signal strength.

Note: *If you are listening to HD1, the system changes back to the analog broadcast until the digital broadcast is available again. If you are listening to any other multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.*

Depending on the station quality, you could hear a slight sound change when the station changes between analog and digital audio.

You cannot access a saved HD station if your vehicle is outside the station's reception area.

SWITCHING DIGITAL RADIO RECEPTION ON AND OFF

1. From the settings menu, press Radio. See **Center Display** (page 540).
2. Switch HD Radio on or off.

DIGITAL RADIO INDICATORS

HD Radio Indicator

The indicator appears when HD Radio is on and you tune to a station broadcasting HD Radio technology.



The color of the indicator changes to indicate the system status.

Gray indicates the system is acquiring a digital station.

Orange indicates digital audio is playing.

Multicast Indicator

The multicast indicator appears if the current station is broadcasting multiple digital broadcasts. The highlighted numbers indicate additional digital channels available.

Note: *For stations that have more than one HD multicast, the HD indicator and radio text appears as a button. Press the button to cycle through all of the HD stations on that specific frequency.*

SATELLITE RADIO (IF EQUIPPED)

WHAT IS SATELLITE RADIO

Your factory-installed SiriusXM radio system includes a limited subscription term, which begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For additional information about extended subscription terms, visit *https://www.SiriusXM.com* in the United States, *https://www.SiriusXM.ca* in Canada, or call SiriusXM at 1-888-539-7474.

Note: *SiriusXM reserves the unrestricted right to change, rearrange, add or delete programming including canceling, moving or adding particular channels, and its prices, at any time, with or without notice to you. Neither SiriusXM and its affiliates nor Ford Motor Company and its affiliates will be liable to you or any third party for any such modification, suspension or termination.*

SATELLITE RADIO LIMITATIONS

For optimal reception performance, keep the antenna clear of snow and ice build-up and keep luggage and other material as far away from the antenna as possible. Placing luggage over the antenna may reduce performance. Factory-installed and aftermarket vehicle structures including, but not limited to, roof racks and soft top roofs in a partially open position could reduce reception performance.

Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.

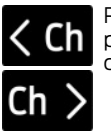
When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and could result in the audio system muting. Your display could show an error message to indicate the interference.

LOCATING THE SATELLITE RADIO IDENTIFICATION NUMBER

1. Select SiriusXM as the audio source.
2. Tune to channel 0.

SELECTING A CHANNEL

Manually Selecting a Channel



Press the button to find the previous or next available radio channel.

Linear Tuner

The linear tuner is displayed when manually selecting a channel. You can swipe left or right on the linear tuner carousel to navigate through the channel list. Tap on a channel title to listen to it.

Using Direct Tune

1. Press the channel up or down button to open the linear tuner screen.
2. Press Direct Tune to open the number pad.
3. Enter the channel you prefer.

Using Browse

1. Press Browse.
2. Select a channel.

SATELLITE RADIO SETTINGS

Subscription

Your subscription status is displayed. You can subscribe or manage your subscription directly from the touchscreen.

SiriusXM Favorites

While you are listening to SiriusXM, you can save favorites by:

- Tapping the currently tuned channel or show logo on the SiriusXM audio screen.
- Tuning to a channel or show you want to save as a favorite. Navigate to the SiriusXM Favorites screen and press the Add Current button. The currently tuned channel or show is saved as a favorite.
- Saving a radio preset. This saves the currently tuned SiriusXM channel or show as a favorite

Note: *Requires a trial or active subscription to use.*

Listening History

Listening history is a list of recently listened to SiriusXM content. You can view, manage and reset the listening history using the controls on the touchscreen.

Note: *Requires a trial or active subscription to use.*

Help and Support

You can contact SiriusXM Customer Care directly from the operating system and view information required to manage your SiriusXM account.

AUDIO SYSTEM – TROUBLESHOOTING

AUDIO SYSTEM – INFORMATION MESSAGES

Satellite Radio Troubleshooting

Error Message	Potential Effects	Recommended Action
Connectivity Disabled	Internet streaming and On Demand shows are unavailable and some SiriusXM features are disabled.	Internet connectivity is turned off. See **Connected Vehicle** (page 526).
No Internet	Audio system may mute. Switch to Satellite button may be displayed on the SiriusXM audio screen if the channel is also available via satellite.	SYNC attempts to connect. See **Satellite Radio Limitations** (page 534). Switch to a satellite connection for the current channel if the option is available.
No Satellite Signal	Audio system may mute. Switch to Internet button may be displayed on the SiriusXM audio screen if the channel is also available via streaming.	Antenna may be obstructed or satellite reception is weak in your location. See **Satellite Radio Limitations** (page 534). Switch to an internet connection for the current channel if the option is available.
Slow Network Connection	Audio system may mute while the audio attempts to load.	Allow some time for the audio to load or tune to a different channel.
Channel Unavailable	Audio system may mute. Radio may tune to a different channel.	A temporary update may be in progress. Allow some time before retrying to tune to the channel. If the issue continues, the channel may no longer be available.
Episode Unavailable	Audio system may mute. Radio may tune to a different channel.	A temporary update may be in progress. Allow some time before retrying to play the episode. If the issue continues, the episode may no longer be available.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Error Message	Potential Effects	Recommended Action
Something went wrong	Audio system may mute. Radio may tune to a different channel.	Allow some time and retry the action.
Subscribe to Listen	Cannot listen to selected content. Content may appear grayed out and some features may be disabled.	Your subscription has expired or you have not yet subscribed for access to the listed content. Navigate to Subscription under the Satellite Radio Settings menu. If you have an active subscription which includes the listed channel or content and you see this error, you may need to refresh your radio. To refresh your SiriusXM radio, visit www.siriusxm.com/refresh in the US, or www.siriusxm.ca/refresh in Canada. You may need to provide your SiriusXM Radio identification number. See **Locating the Satellite Radio Identification Number** (page 534).

Error Message	Potential Effects	Recommended Action
Upgrade to Listen	Cannot listen to selected content. Content may appear grayed out and some features may be disabled.	Your subscription does not include access to the listed content. You may need to upgrade your subscription. Navigate to Subscription under the Satellite Radio Settings menu. If you have an active subscription which includes the listed channel or content and you see this error, you may need to refresh your radio. To refresh your SiriusXM radio, visit www.siriusxm.com/refresh in the US, or www.siriusxm.ca/refresh in Canada. You may need to provide your SiriusXM Radio identification number. See **Locating the Satellite Radio Identification Number** (page 534).
Location Restricted Content	Audio may mute. Not available in your location or Unable to determine your location may be displayed.	Content is not available in your location or SiriusXM is unable to determine your location. Tuning to a different channel may resolve the issue.
Channel Blocked	Audio may mute. Radio may tune to a different channel.	The Block Explicit Content filter is turned on. Navigate to Listener Settings under the Satellite Radio Settings menu to access the Block Explicit Content filter. Navigate to Listener Settings. See **Satellite Radio Settings** (page 535).
Antenna Problem or Hardware Problem	Audio may mute. Access to SiriusXM features may be unavailable.	If issue persists, you may need to visit an authorized dealer for service.

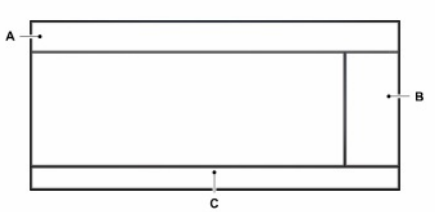
Error Message	Potential Effects	Recommended Action
SiriusXM Updating...	Audio may mute.	Allow SiriusXM some time to complete updating.
Loading...	Audio may mute. Content may be temporarily unavailable while loading.	No action necessary. If loading time is longer than usual, See **Satellite Radio Settings** (page 535).
SiriusXM Loading...	Audio may mute. Content and controls may be temporarily unavailable.	No action necessary. Allow SiriusXM some time to finish loading.

CENTER DISPLAY OVERVIEW

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

For your safety, features that are not critical while driving are not available when the vehicle is moving at or above 5 mph (8 km/h).

Note: *Illustrations are provided for conceptual understanding only and may appear differently on your vehicle.*



A Status bar. See **Status Bar** (page 540).

B Information on demand screen. See **Information On Demand Screen** (page 541).

C Feature bar. See **Feature Bar** (page 541).

STATUS BAR

The status bar appears at the top of the display. The following buttons and icons can appear in the status bar.

Note: *Some buttons and icons may not apply to your vehicle or may not appear exactly as shown.*

Alexa Built-In



Press to set up Alexa. See **Alexa Built-In** (page 546).

Wireless Charging



Wireless charging active.



Device connected and not charging.

Traffic Announcements



Traffic announcements are turned on but are not supported by the selected station.



Traffic announcements are turned on and supported by the selected station but are not active.



Traffic announcements are active.

Note: *If no traffic announcement icons are displayed, traffic announcements are turned off.*

Vehicle Data



Wi-Fi available.



Wi-Fi connected.


Vehicle data sharing on.


Vehicle data sharing off.


Vehicle location sharing on.


Vehicle data and vehicle location sharing on.

Outside Air Temperature


Outside air temperature is active.

Audio System


Audio system muted.

Connected Device


Cell phone microphone muted.


Phone call in progress.


Media player connected using ***Bluetooth***®.


Cell phone network signal strength.


Cell phone roaming.


Text message received.


Unread email message.


Automatic crash notification system off.


Cell phone battery status.

Software Updates


Press to see details about software updates. See **Vehicle Software Updates** (page 562).

Back Button


Some screens have a back button in the top corner. Press the button to return to the previous screen.

INFORMATION ON DEMAND SCREEN

The information on demand screen displays cards on the side of the display and allows you to see information from different features.


Press the button to view the next card.


Press the button to view the previous card.


Press the button to view available cards.

On some screens, you can swipe a card toward the center of the screen to move the content into the main screen.

FEATURE BAR

The feature bar is located on the bottom of the display and allows you to access vehicle features.

Audio

Press to use the radio, a USB, a media player or a ***Bluetooth®*** device.

Phone

Press to make calls and access the phonebook on your cell phone. See **Phone** (page 548).

Navigation

Press to use the navigation system. See **Navigation** (page 559).

Favorite

Press to replace this button with a shortcut to a feature or setting.

Apps

Press to see a list of apps. To open an app, select the app.

Settings

Press to access the settings menu. See **Settings** (page 542).

Features

Press to view features.

Note: *The icon may be different depending on your vehicle.*

SETTINGS

1. Press the button in the feature bar to access the settings menu.
2. Select the required tile to access specific settings.

You can change the display language and other measurement units under the General menu.

If you see this icon next to a menu option, press it for more information.

Display Settings

From the display menu you can do the following:

- Switch the calm screen on.
- Manually adjust the screen brightness.
- Set the display mode.

Touchscreen Brightness

To manually adjust the screen brightness, use the plus or minus buttons.

Note: *The display brightness is limited if the settings of the instrument panel lighting brightness are set to the highest or lowest setting.*

DRIVER ASSISTANCE MENU

To access the driver assistance menu:

1. Press the button in the feature bar to access the features menu.

Note: *The icon may be different depending on your vehicle.*

2. Press Driver Assistance.

REBOOTING THE CENTER DISPLAY

You can reboot the center display using the controls on the steering wheel.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

1. Simultaneously press and hold the seek forward and audio system power button for 10 seconds.

FORD ASSISTANT

USING FORD ASSISTANT

The digital assistant allows you to control vehicle features using conversational requests.

To begin a voice interaction using the wake word, say the selected wake word, then say your command.



Press the voice interaction button on the steering wheel. A tone sounds before you can say your command.

Voice Command Examples

To see examples of what voice commands you can use with different features:

1. From the settings menu, press Ford Assistant. See **Center Display** (page 540).
2. Press Voice Command Help.
3. Select a feature.

FORD ASSISTANT SETTINGS

To access the settings menu:



Press the button on the touchscreen.

1. Press Ford Assistant.

From the settings menu you can do the following:

- Switch listen for wake word on or off.
- Set the preferred wake word.
- Switch advanced mode on or off.
- Switch phone confirmation on or off.
- Switch the commands list on or off.
- View the commands help menu.



Press the button next to a menu option for more information.

FORD ASSISTANT – FREQUENTLY ASKED QUESTIONS

Why does the system not understand what I am saying?

- You are speaking too soon. When using the button of the steering wheel, wait for the tone before you speak.

Why does the system not understand the name of a track or artist?

- **Bluetooth®** does not support voice commands. Connect your device to a USB port.
- You are not saying the name exactly as it appears on your device. Say the name of the track or artist exactly as it appears on your device. Spell out any abbreviations in the name.
- The system does not recognize some special characters contained in the name of a song or artist, for example *, - or +. Rename the files on your device or use the touchscreen to select and play the track.

Why does the system not understand the name of a contact in the phonebook on my device and calls the wrong contact?

- You are not saying the name exactly as it appears on your device. Say the first and last name of the contact exactly as it appears on your device. Spell out any abbreviations in the name.
- The name contains special characters, for example *, - or +. Rename the contact on your device or use the touchscreen to select and call the contact.

Why does the system not understand foreign names of contacts in the phonebook on my device?

- The system applies phonetic pronunciation rules of the selected language to the names of contacts in the phonebook on your device. Select the name of the contact on the touchscreen and use the Hear it option to get an idea of how the system expects you to pronounce it.

Why do the system voice prompts and the pronunciation of some words not seem accurate?

- The system uses text-to-speech technology and a synthetically generated voice rather than a pre-recorded human voice.

WHAT IS ALEXA BUILT-IN

Alexa Built-In allows you to use Alexa in your vehicle for auto-specific use cases on the road and gives you access to an ever-evolving number of skills that help to make your life more productive, entertaining, and connected while using your vehicle.

ALEXA BUILT-IN REQUIREMENTS

To use Alexa, all of the following must occur:

- Your vehicle is added to your Ford app account.
- You are signed in to an existing Amazon account.
- Vehicle location services are enabled.
- Vehicle connectivity and vehicle data sharing are enabled.

Note: *Support and functionality may vary based on the country where your Ford app account is registered.*

SIGNING IN TO YOUR ACCOUNT



Press the button in the status bar and follow the on-screen prompts.

To sign in using the settings menu:

1. Press ***Settings*** on the touchscreen.
2. Press ***Amazon Alexa***.
3. Press ***Get Started***.
4. Sign in to your account by either scanning the QR code or entering the on-screen code into the Amazon website.
5. Once signed in, follow the on-screen prompts.
6. When complete, the vehicle informs you that Alexa is ready to be used in the vehicle.

Signing Out of Your Account

1. Press ***Settings*** on the touchscreen.
2. Press ***Amazon Alexa***.
3. Press ***Sign Out***.

USING ALEXA BUILT-IN

To use Alexa, say “Alexa” or press the voice interaction button on the steering wheel and then say “Alexa” to invoke Alexa to start listening.

Note: *If the wake word is not enabled, you can only use the voice interaction button.*

You can use Alexa for the following and more:

- Entertainment.
- Hands-free calling.
- Traffic and navigation.
- Vehicle controls.
- Smart home device control.
- Weather and news information.

ALEXA BUILT-IN SETTINGS

Enabling the Wake Word

1. Press ***Settings*** on the touchscreen.
2. Press ***Amazon Alexa***.
3. Switch ***Listen for Wake Word*** on or off.

Note: *If the wake word is not enabled, you can only use the voice interaction button.*

Contact List

Displays a list of connected phones and contact sharing status for each phone.

To change the contact sharing status:

1. Press ***Settings*** on the touchscreen.
2. Press ***Amazon Alexa***.
3. Press ***Contact List***.
4. Enable or disable sharing for each phone.

Note: *You can share contacts from more than one phone at a time.*

Things to Try

Learn more about what you can do with Alexa by browsing the things to try.

1. Press ***Settings*** on the touchscreen.
2. Press ***Amazon Alexa***.
3. Press ***Things to Try***.

PHONE PRECAUTIONS

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

CONNECTING YOUR PHONE

Go to the settings menu on your device and switch ***Bluetooth***® on.



Press the phone option on the feature bar.

1. Press Add Phone.

Note: *A prompt alerts you to search for your vehicle on your cell phone.*

2. Select your vehicle on your cell phone.

Note: *A number appears on your cell phone and on the touchscreen.*

3. Confirm the number on your cell phone matches the number on the touchscreen.

Note: *The touchscreen indicates that you have successfully paired your cell phone.*

4. Approve phonebook download request on your cell phone.

PHONE MENU

This menu becomes available after pairing a phone.

Recent Call List

Display and select an entry from a list of previous calls.

Contacts

Display a smart search form to look up your contacts. Use the List button to alphabetically sort your contacts.

Favorites

Display the list of favorite contacts that are set up on your phone.

Messaging

Displays the list of text messages to read, listen to, or respond to.

Email

Displays the list of emails to read, listen to, or respond to.

Phone List

Display the list of paired or connected devices that you can select.

Note: *Up to 12 devices can be stored.*

Do Not Disturb

Reject incoming calls and switch ring tones and alerts off.

Phone Keypad

Directly dial a number.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Voice Control

Press the button and say a command to use the Google or Siri voice assistant available on your connected phone to access supported features.

Note: *Some features under the phone menu may not be available if the feature is not supported through the phone.*

MAKING AND RECEIVING A PHONE CALL

Making Calls

To call a number in your contacts, select:

Menu Item	Action and Description
Contacts	You can then select the name of the contact you want to call. Any numbers stored for that contact display along with any stored contact photos. You can then select the number that you want to call. The system begins the call.

To call a number from your recent calls, select:

Menu Item	Action and Description
Recent Call List	You can then select an entry that you want to call. The system begins the call.

To call a number from your favorites, select:

Menu Item	Action and Description
Favorites	You can then select an entry that you want to call. The system begins the call.

To call a number that is not stored in your phone, select:

Menu Item	Action and Description
Phone Keypad	Select the digits of the number you wish to call.
Call	The system begins the call.

Pressing the backspace button deletes the last digit you typed.

Receiving Calls

During an incoming call, an audible tone sounds. Caller information appears in the display if it is available.

To accept the call, select:

Menu Item
Accept

Note: *You can also accept the call by pressing the phone button on the steering wheel.*

To reject the call, select:

Menu Item
Reject

Ignore the call by doing nothing. The system logs it as a missed call.

During a Phone Call

During a phone call, the contacts name and number display on the screen along with the call duration.

The phone status items are also visible:

- Signal Strength.
- Battery.

You can select any of the following during an active phone call:

Item	
End Call	Immediately end a phone call. You can also press the button on the steering wheel.
Keypad	Press this to access the phone keypad.

Item	
Mute	You can switch the microphone off so the caller does not hear you.
Privacy	Transfer the phone call audio to the cell phone or back to the touchscreen.

SENDING AND RECEIVING A TEXT MESSAGE

Menu Item	Description
Hear It	Hear the text message.
View	View the text message.
Call	Call the sender.
Reply	Reply to the text message with a standard text message.

SWITCHING TEXT MESSAGE NOTIFICATION ON AND OFF

The settings on your device must be enabled to receive text message notifications on the center display. Check your device settings to enable these features.

ENABLING APPS ON A MOBILE DEVICE

When you start an app through the system for the first time, you could be asked to grant certain permissions. You can review and change the permissions that you have granted at any time when your vehicle is not moving. We recommend that you check your data plan before using your apps through the system. Using them could result in additional charges. We also recommend that you check the app provider's terms and conditions and privacy policy before using their app. Make sure that you have an active account for apps that you want to use through the system. Some apps work with no setup. Others require you to configure some personal settings before you can use them.

Enabling Apps on an iOS Device



Select the apps option on the feature bar.

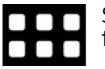
1. Select Mobile Apps Help.
2. Follow the instructions to pair and connect your device via ***Bluetooth***® or with a USB cable.
3. Start the apps on your device that you want to use.
4. Select the app that you want to use on the touchscreen.

Note: *Some apps may run through Apple CarPlay if it is enabled.*

Note: *Closing an app on your device closes it on the touchscreen.*

Note: *For troubleshooting assistance select Mobile Apps List under Mobile Apps Help.*

Enabling Apps on an Android Device



Select the apps option on the feature bar.

1. Select Mobile Apps Help.
2. Follow the instructions to pair and connect your device via ***Bluetooth***® or with a USB cable.
3. Start the apps on your device that you want to use.
4. Select Find Mobile Apps.
5. Select the app that you want to use on the touchscreen.

Note: *Some devices may lose the ability to play music over USB when Mobile Apps are enabled.*

Note: *Some apps may run through Android Auto if it is enabled.*

Note: *Closing an app on your device closes it on the touchscreen.*

Note: *For troubleshooting assistance select Mobile Apps List under Mobile Apps Help.*

SWITCHING APPLE CARPLAY ON AND OFF

Enabling Apple CarPlay with USB

1. Connect your device to a USB port.
2. Follow the instructions on your iPhone and the touchscreen.

Note: *Selecting Enable Wireless CarPlay on your device prepares the device for wireless CarPlay when you enter the vehicle.*

Enabling Wireless Apple CarPlay

1. Pair your device to ***Bluetooth®***.
2. Follow the instructions on your device and the touchscreen.

Disabling Apple CarPlay



Select the settings option on the feature bar.

1. Press Phone List.
2. Select your device from the list.
3. Press Disable.

Re-Enabling Apple CarPlay



Select the settings option on the feature bar.

1. Press Phone List.
2. Select your device from the list.
3. Press Connect to Apple CarPlay.

Apple CarPlay Connection - Troubleshooting

Check that Apple CarPlay is not restricted on iPhone.	On iPhone, open Settings. Tap Screen Time. Tap Content & Privacy Restrictions. If Content & Privacy Restrictions is on, tap Allowed Apps & Features, and make sure that Apple CarPlay is enabled.
Check your iPhone Wi-Fi connections.	On iPhone, open Settings. Tap Wi-Fi. Turn Wi-Fi off, then back on.
Check your iPhone Wi-Fi –> Auto-Join connections.	On iPhone, open Settings. Tap Wi-Fi. Find your vehicle's Wi-Fi network and tap the info button. Make sure Auto-Join is turned on.
Check your iPhone Bluetooth connections.	On iPhone, open Settings. Tap Bluetooth. Turn Bluetooth off, then back on.
Restart iPhone.	Turn your iPhone off, then back on.
Make sure that Siri is on.	On iPhone, open Settings. Tap Apple Intelligence & Siri or Siri & Search. Make sure Apple Intelligence or Siri on.
Pair your iPhone with the vehicle again.	Unpair your iPhone from the vehicle in Settings –> Bluetooth.

	Pair your iPhone with the vehicle again and accept any prompts.
Turn off Personal Hotspot in iPhone's settings.	Some iPhone models and iOS versions cause wireless Apple CarPlay connection problems when the iPhone's Personal Hotspot is enabled. On iPhone, open Settings. Tap on Personal Hotspot. Disable the Allow Others to Join toggle.
Update iPhone to latest iOS version.	On iPhone, open Settings. Tap General. Tap Software Update. If an update is available, tap Download and install and follow the instructions.

Note: *While using Apple CarPlay, some vehicle data such as speed and location is shared with your phone. This data does not identify you. The vehicle manufacturer is not responsible for the way this data is handled and may disable Apple CarPlay at any time.*

SWITCHING ANDROID AUTO™ ON AND OFF

Enabling Android Auto with USB

(If Equipped)

1. Connect your device to a USB port.
2. Follow the instructions on the touchscreen.

Note: *Certain features of the system are not available when you are using Android Auto.*

Enabling Android Auto with Wireless

1. Pair your device to ***Bluetooth®***.
2. Follow the instructions on your device and the touchscreen.

Note: *A compatible Android phone and active data plan are required to use Android Auto.*

Note: *Android Auto Wireless is not supported on certain **Android™** devices.*

For more information, scan here.

Disabling Android Auto



Select the settings option on the feature bar.

1. Press Phone List.
2. Select your device from the list.
3. Press Disable.

Re-Enabling Android Auto



Select the settings option on the feature bar.

1. Press Phone List.
2. Select your device from the list.

3. Press Connect to Android Auto.

Note: *While using Android Auto, some vehicle data such as speed and location is shared with your phone. This data does not identify you. The vehicle manufacturer is not responsible for the way this data is handled and may disable Android Auto at any time.*

CONNECTING A BLUETOOTH® DEVICE

1. From the settings menu, press Connectivity. See **Center Display** (page 540).
2. Press Phone list.
3. Press Add phone.

Note: *A prompt alerts you to search for your vehicle on your device.*

1. Select your vehicle on your device.

Note: *A number appears on your device and on the touchscreen.*

2. Confirm that the number on your device matches the number on the touchscreen.

Note: *The touchscreen indicates that you have successfully paired your device.*

The ***Bluetooth®*** word mark and logos are registered trademarks owned by ***Bluetooth SIG, Inc.*** and any use of such marks by Ford Motor Company is under license. Other trademarks and trade names are those of their respective owners.

PLAYING MEDIA USING BLUETOOTH®

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

Connect your device.


Press the audio button on the feature bar.


Press Sources.


Press the ***Bluetooth®*** option.

To play your selected media file, use the audio system buttons on the touchscreen. See **Media Control Buttons** (page 530).

HOW DO PERSONAL PROFILES WORK

You can create multiple personal profiles enabling users to personalize vehicle settings such as seats and mirrors, as well as non-positional settings like radio, navigation and driver assist system settings. Positional settings are saved by holding a memory function button. Non-positional settings are saved when you change a setting while a profile is active.

ENABLING OR DISABLING PERSONAL PROFILES

1. Press Settings on the touchscreen.
2. Press Personal Profiles.
3. Switch Personal Profiles on or off.

When enabled:

- Unlocking a door with a remote control or mobile device that is not linked to a driver profile does not change the active profile, but remains in the last known profile. It does not change the positional settings.
- Pressing a memory seat button that is not linked to a driver profile or saved to a preset setting does not change the active profile, but remains in the last known profile. It does not change the positional settings.
- Pressing a memory seat button that is not linked to a driver profile but is saved to a preset setting does not change the active profile, but remains in the last known profile. It recalls the positional settings that you saved to that memory seat button.

When disabled:

- Unlocking a door with a remote control or mobile device does not recall any non-positional settings but still recalls positional settings from the driver profile which the remote control or mobile device is linked to.
- Pressing a memory seat button that is not linked to a driver profile or saved to a preset setting does not change the positional or non-positional settings.
- Pressing a memory seat button that is linked to a driver profile or has saved to a preset setting recalls the positional settings that you saved to that memory seat button.

CREATING A PERSONAL PROFILE

You can create one profile for each preset memory seat button. There is also a guest profile.

Note: *The guest profile consists of existing settings when there is no driver profile created. After you create a driver profile, the guest profile serves as an additional driver profile.*

1. Press Settings on the touchscreen.
2. Press Personal Profiles.
3. Press Add Profile.
4. Follow the prompts on the display.

LINKING OR UNLINKING A PERSONAL PROFILE

You can link your profile to a remote control so that your settings are activated when you use the remote control to turn on the vehicle.

Remote Control

You can save preset memory positions for up to three remote controls by assigning a remote control to a personal profile.

1. Press Settings on the touchscreen.
2. Press Personal Profiles.
3. Select the profile to link or unlink.

Note: *You cannot link a remote control to a guest profile.*

4. Select the remote control to link or unlink.
5. Follow the instructions on the touchscreen.

Note: *If more than one linked remote control is in range, the memory function moves to the settings of the first key to initiate a memory recall.*

SELECTING A PERSONAL PROFILE

You can select a profile using the touchscreen or the preset button you selected when you created your profile.

If you use a linked device, such as a remote control or mobile device, the active profile is set to the linked profile.

To change the active profile:

1. Press Settings on the touchscreen.
2. Press Personal Profiles.
3. Select the profile to use.
4. Press Make Profile Active.

DELETING A PERSONAL PROFILE

1. Press Settings on the touchscreen.
2. Press Personal Profiles.
3. Select the profile to delete.
4. Press Delete Profile.

CONNECTED NAVIGATION (IF EQUIPPED)

Your vehicle may have connected navigation as a free trial after purchase. You require a subscription after the trial expires. For additional information, visit https://www.ford.com/technology/connected-services/.

Note: *If you do not sign up or renew your subscription, you can still use navigation through a connected device.*

ACCESSING NAVIGATION



Press the button to access Navigation.

Note: *As the driver, be aware of all local traffic regulations and road attributes, and operate your vehicle in a safe and legal manner.*

NAVIGATION MAP UPDATES

To update your map data over Wi-Fi, your vehicle must be connected to a Wi-Fi access point. For USB updates and other details, contact dealers at 1-866-462-8837 in the United States and Canada, or 800-557-5539 in Mexico.

Note: *If you find map data errors, you may report them by going to www.here.com/mapcreator.*

ADJUSTING THE MAP

ZOOMING THE MAP IN AND OUT

You can use pinch gestures to zoom in and out. Place two fingers on the touchscreen and move them apart to zoom in. Place two fingers on the touchscreen and bring them together to zoom out.

CHANGING THE FORMAT OF THE MAP



Press the Menu button.

1. Press the Map Orientation tile.
2. Select a map orientation.

LIVE TRAFFIC

WHAT IS LIVE TRAFFIC

You can observe real-time road congestion when live traffic is on.

SWITCHING LIVE TRAFFIC ON AND OFF



Press the Menu button.

1. Press the Traffic on Map tile.
2. Press Traffic on or Traffic Off.

SETTING A DESTINATION

SETTING A DESTINATION USING THE TEXT ENTRY SCREEN

1. Press the search bar at the top of the screen.
2. Enter your destination using the keyboard.
3. Press Search.
4. Select a destination from the list.
5. Press Start to begin navigation.

SETTING A DESTINATION USING THE MAP SCREEN

Press and hold on the map to place a pin at that location. Information about the location of the pin appears on the screen.



Press the button to begin navigation to the pin.

SETTING A DESTINATION USING A PREDICTIVE DESTINATION

Press the predicted destination card on the touchscreen to navigate to it. These appear when the navigation system has learned your driving habits.

SETTING A DESTINATION USING A RECENT DESTINATION



Press the button.

Press a destination from the list.

Note: *You can also use the search button to view recent destinations.*

SETTING A DESTINATION USING A SAVED DESTINATION

Press the star icon next when viewing location details to save the location.



Press the button.

Press a destination from the list.

Note: *You can also use the search button to view saved destinations.*

SETTING A DESTINATION USING A POINT OF INTEREST

Press a point of interest icon on the map. Information about the location of the point of interest appears on the screen.



Press the button to begin navigation to the point of interest.

Note: *You can also use the search button to view points of interest.*

WAYPOINTS

ADDING A WAYPOINT

1. Press the search button on the touchscreen during an active navigation session.
2. Press the search bar at the top of the screen.
3. Enter your destination using the keyboard.
4. Press the search button on the keyboard.
5. Select your destination from the list.
6. Follow the prompts on the screen to add a waypoint.

EDITING WAYPOINTS

1. Press the waypoint you would like to edit.
2. Select an option to reorder or delete the waypoint.

ROUTE GUIDANCE

ADJUSTING THE GUIDANCE PROMPT VOLUME

Turn the volume control when a guidance prompt plays to adjust the volume.

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

REPEATING AN INSTRUCTION

Press the next step indicator on the top of the touchscreen during an active navigation session to hear the last voice instruction.

CANCELING ROUTE GUIDANCE



Press the button to cancel route guidance to the selected location.

TRAILER TOWING NAVIGATION

The system calculates the best route for trailer towing by avoiding dangerous road conditions based on the dimensions of your trailer.

Note: *This feature is only available if you properly attach the trailer to your vehicle.*

Switching Trailer Towing Navigation On and Off

1. Press the tools button on the bottom corner of the touchscreen.
2. Press the settings button.
3. Press the guidance button.
4. Press Smart Trailer Navigation.
5. Follow the prompts on the screen to switch trailer towing navigation on or off.

Software updates uses over-the-air technology to deliver the latest features, software enhancements and quality improvements to your vehicle.

When Automatic Updates is turned on updates are downloaded in the background while you are driving.

Some updates require your vehicle to be parked. Set a recurring schedule for a time that you know the vehicle will not be driven (like overnight). Non-drivable updates may take up to 45 minutes, however, some can take longer than that. Check the center display screen or the Lincoln app for the most accurate estimated update time.

Software updates are delivered wirelessly using the vehicle modem or Wi-Fi. To make sure the most seamless experience, See **Connecting the Vehicle to a Wi-Fi Network** (page 526).

Software Update Requirements

The following conditions must be met to receive scheduled updates:

- The vehicle is parked.
- The ignition is off.
- All doors and windows are closed.
- The liftgate/tailgate are closed.
- The parking lights are off.
- The illuminated exit lights are off.
- The hazard lights are off.
- The alarm is not triggered.
- Remote start is not in progress.
- Your vehicle is not DC fast charging.
- Your vehicle is not in 4x4 mode.
- Your vehicle is not in neutral tow mode.
- Your 12V battery is charged.

Software Update Limitations

Once a scheduled update begins you cannot:

- Cancel the update.
- Drive your vehicle.
- Start your ignition.
- Activate the alarm.
- Use the remote control to lock/unlock your vehicle.
- Fast charge your vehicle.
  - If connected to a Level 1 or 2 charger, charging pauses until the update is completed.

Note: *If an update is interrupted a notification is sent to your Lincoln app with instructions to resolve it. If there are no instructions, contact your authorized dealer.*

SOFTWARE UPDATE SETTINGS

From settings menu, press Software Updates. See **Center Display** (page 540).

You can do the following in the Software Updates menu:

- Switch Automatic Updates on and off.
- Schedule and install software updates.
- View software update details.



Press the button next to a menu option for more information.

Switching Automatic Updates On and Off

Your vehicle may come with Automatic Updates switched on or off.

Switch Automatic Updates on. When Automatic Updates is set to on, you agree that software updates may be automatically delivered without any further notice or additional consent from you.

To make sure your vehicle always has the latest software, which could include security or other enhancements, we recommend switching Automatic Updates On.

Note: *Software updates require approval to download or install with Automatic Updates switched off.*

Scheduling and Installing Software Updates

Scheduling Software Updates

From the Software Updates menu:

1. Press Recurring Schedule.
2. Select from the list of available timings or set a custom schedule.

The more days that updates are scheduled, the more frequently your vehicle installs new updates. We recommend selecting a time you normally do not need your vehicle.

Note: *The schedule you set is recurring. If Automatic Updates is on, every time a non-drivable update is available, it installs on this schedule unless you change it. You are notified on your touchscreen prior to a non-drivable update, with an option to reschedule it.*

Installing Software Updates

Using the Status Bar

1. Press the Software Update indicator on your touchscreen when it appears.
2. Follow the instructions on the touchscreen.

Using the Touchscreen

From the Software Updates menu:

1. Press Updates Details.
2. Press Update Now.

Viewing Software Update Details

From the Software Updates menu, press Update Details.

SOFTWARE UPDATE INDICATORS

You can press the indicators in the status bar when they appear for more information.



Vehicle software update reminder, schedule required, confirmation of default schedule required, or consent required.



Vehicle software update canceled, update not successful, or precondition not met.



Vehicle software update successful.

PERFORMING A SYSTEM RESET

1. Press Settings on the touchscreen.
2. Press General.
3. Press Reset.

You can perform multiple resets from this menu.



Press the button next to a menu option for more information.

For a complete listing of the accessories that are available for your vehicle, please contact your authorized dealer or visit the online store web site:

United States of America



For more information scan here or visit:

https://www.ford.com/accessories

Canada



For more information scan here or visit:

www.ford.ca/accessories

We will repair or replace any properly authorized dealer-installed Ford Original Accessory found to be defective in factory-supplied materials or workmanship during the warranty period, as well as any component damaged by the defective accessories.

We will warrant your Ford Original Accessory through the warranty that provides the greatest benefit:

- 24 months, unlimited mileage.
- The remainder of your new vehicle limited warranty.

Contact an authorized dealer for details and a copy of the warranty.

Ford Licensed Accessories are the accessory manufacturer's designs. The manufacturer develops and therefore warrants Ford Licensed Accessories, and does not design or test these accessories to Ford Motor Company engineering requirements. Contact an authorized Ford dealer for the manufacturer's limited warranty details and request a copy of the Ford Licensed Accessories product limited warranty from the accessory manufacturer.

For maximum vehicle performance, keep the following information in mind when adding accessories or equipment to your vehicle:

- When adding accessories, equipment, passengers and luggage to your vehicle, do not exceed the total weight capacity of the vehicle or of the front or rear axle (GVWR or GAWR as indicated on the Safety Compliance Certification label). Ask an authorized dealer for specific weight information.
- The Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulate the use of mobile communications systems that are equipped with radio transmitters, for example two-way radios, telephones and theft alarms. Any such equipment installed in your vehicle should comply with Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulations and should be installed only by an authorized dealer.

- An authorized dealer needs to install mobile communications systems. Improper installation may harm the operation of your vehicle, particularly if the manufacturer did not design the mobile communication system specifically for automotive use.
- If you or an authorized Ford dealer add any non-Ford electrical or electronic accessories or components to your vehicle, you may adversely affect battery performance and durability. In addition, you may also adversely affect the performance of other electrical systems in the vehicle.

WHAT ARE THE AUXILIARY SWITCHES

The auxiliary switchboard on the overhead console makes aftermarket customization easier with six prewired switches connected to the power distribution box. Each circuit is individually fused for connection of electrical accessories. For more information on connecting accessories to the auxiliary switches, see your authorized dealer or refer to the Super Duty Body Builders Layout Book (BBLB), if available.

For maximum vehicle performance, keep the following information in mind when adding accessories or equipment to your vehicle:

- When adding accessories, equipment, passengers and luggage to your vehicle, do not exceed the total weight capacity of the vehicle or of the front or rear axle (GVWR or GAWR as indicated on the safety compliance certification label). Ask an authorized dealer for specific weight information.
- It is your responsibility to ensure that any equipment you have fitted complies with applicable local legislation.
- An authorized dealer needs to install mobile communication systems. Improper installation may harm the operation of your vehicle, particularly if the manufacturer did not design the mobile communication system specifically for automotive use.
- If you or an authorized dealer add any electrical or electronic accessories or components not produced by us to your vehicle, you may adversely affect battery performance and durability. In addition, you may also adversely affect the performance of the other electrical systems in the vehicle.

LOCATING THE AUXILIARY SWITCHES

The switches are labeled AUX 1 through AUX 6.

The auxiliary switches only operate when the ignition is in the on or off position and the delay accessory is active, whether the engine is running or not.

We recommend that you leave the engine running to maintain battery charge when using the switches for an extended time or when using higher current draw accessories.

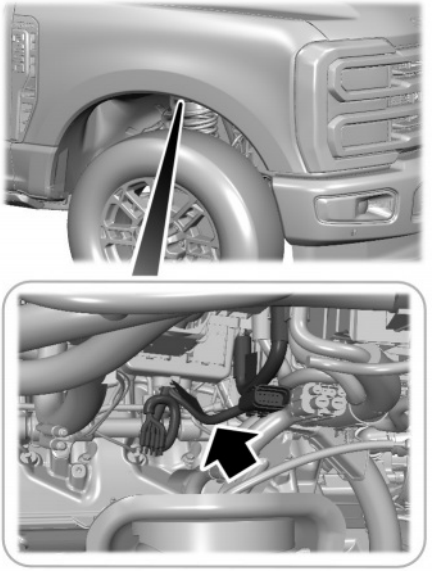
When a switch is turned on, the indicator light on the switch illuminates and the circuit provides power to the device wired to that switch.



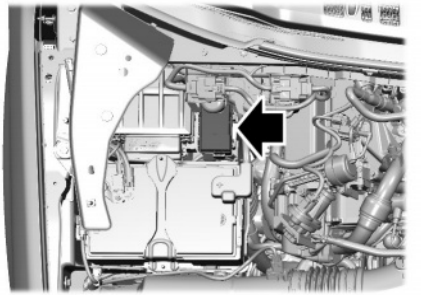
LOCATING THE AUXILIARY SWITCH WIRING

The sealed blunt cuts are located in the front passenger side wheel well.

Remove the tape to access the individual wire.



The auxiliary switch relay box is near the under hood fuse box.



IDENTIFYING THE AUXILIARY SWITCH WIRING

Connection information for auxiliary switch wiring:

Power Distribution Box	Wire Color	Wire Size	Fuse
AUX 1	Brown/ Green	2.0 mm²	25A
AUX 2	Violet/ Orange	2.0 mm²	25A
AUX 3	Blue/ Green	2.0 mm²	25A
AUX 4	Gray/ Brown	2.0 mm²	25A
AUX 5	Brown/ Yellow	4.0 mm²	40A
AUX 6	Gray/ Orange	4.0 mm²	40A

WHAT IS FORD PROTECT

Ford Protect vehicle service contracts are the only service contracts 100% backed by Ford Motor Company. Protect yourself from unforeseen covered repairs with a Ford Protect extended service plan.

Ford Protect Extended Service Plans - United States Only

You can drive on with confidence as Ford Protect extended service plans provide more protection beyond the New Vehicle Limited Warranty. When you visit your Ford Dealer, insist on a Ford Protect extended service plan.

Ford Protect Can Quickly Pay for Itself

One repair bill can easily exceed the price of your Ford Protect extended service plan. With the Ford Protect extended service plan, you have peace of mind from unforeseen covered repairs.

Up to 1,000+ Covered Vehicle Components

There are four mechanical Ford Protect extended service plans with different levels of coverage to fit your individual needs. Ask your Ford dealer for details.

1. PremiumCARE - Our most comprehensive coverage. With over 1,000 covered components, this plan is so complete it is probably easier to list what is not covered.
2. ExtraCARE - Covers 113 components, and includes many high-tech items.
3. BaseCARE - Covers 84 components.
4. PowertrainCARE - Covers 29 critical components.

Ford Protect extended service plans are honored by all authorized Ford dealers in the United States, Canada and Mexico.

That means you get:

- Ford-authorized parts used for covered repairs.
- Factory-trained and certified technicians.
- Rental vehicle benefits for up to 10 days for covered repairs.

24-Hour Roadside Assistance

Roadside assistance includes:

- Tire change, lockout, out-of-fuel and battery jump-start assistance.
- Towing Assistance.
- Emergency Travel Expense.
- Destination Assistance.

Transferable Coverage

If you sell your vehicle before your Ford Protect extended service plan coverage expires, you can transfer any remaining coverage to the new owner.

Premium Maintenance Plan

It is more than just a routine oil change. Keep your vehicle running at its optimum performance with a Ford Protect Premium Maintenance extended service plan. The coverage is prepaid, so you never have to worry about the future cost of your vehicle's maintenance.

Premium Maintenance covers these important maintenance items:

- Engine oil and filter changes.
- Multi-point inspections.
- Tire rotations.
- Brake pads and linings.
- Shock absorbers and struts.
- Spark plugs.
- Clutch discs-if equipped.

- Engine belts, coolant hoses and clamps.
- Wiper blades.

More Information

To learn more about Ford Protect plans and financing options, please contact your selling Ford Dealer.

Ford Protect Extended Service Plan - Canada Only

You can get more protection for your vehicle by purchasing a Ford Protect extended service plan. Ford Protect extended service plan is the only service contract backed by Ford Motor Company of Canada, Limited. Depending on the plan you purchase, Ford Protect extended service plan provides benefits such as:

- Rental reimbursement.
- Coverage for certain maintenance and wear items.
- Protection against repair costs after your New Vehicle Limited Warranty Coverage expires.
- Roadside Assistance benefits.

There are several Ford Protect extended service plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving needs, including reimbursement for towing and rental. When you purchase a Ford Protect extended service plan, you receive added peace-of-mind protection throughout Canada, the United States and Mexico, provided by a network of participating authorized Ford Motor Company dealers.

Note: *Repairs performed outside of Canada and the United States are not eligible for Ford Protect extended service plan coverage.*

This information is subject to change. Visit your local Ford of Canada dealer or www.ford.ca to find the Ford Protect extended service plan that is right for you.

Intelligent Oil-Life Monitor™

Your vehicle has an Intelligent Oil-Life Monitor that determines when you should change the engine oil based on how you use your vehicle. By using several important factors in its calculations, the monitor helps reduce the cost of owning your vehicle and reduces environmental waste at the same time.

This means you do not have to remember to change the oil on a mileage-based schedule. Your vehicle lets you know when an oil change is due by displaying a message in the instrument cluster display.

The following table provides examples of vehicle use and its impact on oil change intervals. It is a guideline only. Actual oil change intervals depend on several factors and generally decrease with severity of use.

Maintenance Intervals

At Every Oil Change Interval as Indicated by the Instrument Cluster Display
Change the engine oil and filter.[1]
Rotate the tires, inspect tire wear and measure the tread depth.[2]
Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
Perform multi-point inspection - recommended.
Inspect the brake pads, shoes, rotors, drums, brake linings, hoses and the parking brake.
Refill the diesel exhaust fluid tank.
For diesel vehicles, drain the fuel and water separator if necessary or if indicated by the instrument cluster display.
Inspect the engine coolant concentration, freeze-point protection, level and the hoses. Add coolant additive if necessary.
Inspect the exhaust system and heat shields.
Inspect the front axle and U-joints. If applicable, lubricate the grease fittings. Four-wheel drive vehicles.
Inspect the steering linkage, ball joints, suspension, tie-rod ends, driveshaft and the U-joints. If applicable, lubricate the grease fittings.
Inspect cabin air filter if equipped, service as required.
Inspect engine air filter, service as required.

[1] Reset the Intelligent Oil-Life Monitor after engine oil and filter changes.

[2] Rotate the front wheels on vehicles with dual rear wheels when specified. Only rotate the rear wheels if you notice unusual wear.

Brake Fluid Maintenance[1]	
Every three years.	Change the brake fluid.[2]

[1] Perform this maintenance item every three years. Do not exceed the designated time for the interval.

[2] Brake fluid servicing requires special equipment available at your authorized dealer.

Other Maintenance Items	
Every 2,500 mi (4,000 km) or three months (if using high sulfur fuel with more than 500 ppm sulfur)	Change engine oil and filter.[5]
Every 5,000 mi (8,000 km) or six months (if using high sulfur fuel with fewer than 500 ppm sulfur)	Change engine oil and filter.[5]
Every 10,000 mi (16,000 km)	For gas vehicle severe service users operating in primarily dusty or sandy conditions, replace the EVAP external filter.[7]
Every 15,000 mi (24,140 km)	For diesel severe service, replace the engine-mounted and frame-mounted fuel filters.
Every 20,000 mi (32,180 km)	Replace the cabin air filter.
Every 30,000 mi (48,000 km)	Replace the engine air filter.[4]
	For diesel vehicles, replace the engine-mounted and frame-mounted fuel filters.
	For severe service, replace the wheel bearing grease and grease seals if using non-sealed bearings (Two-wheel drive vehicles).
	For diesel severe service, replace the air inlet foam filter.
Every 50,000 mi (80,467 km)	For diesel vehicles, replace the engine air inlet foam filter.
	For diesel severe service, change the rear axle fluid (Dana rear axles only - some F- 350s; all F-450s and F-550s).

Other Maintenance Items	
	For diesel severe service, change the transfer case fluid (Four-wheel drive vehicles).
	For diesel severe service, inspect the front axle fluid (Four-wheel drive vehicles).
Every 60,000 mi (96,000 km)	Replace the front wheel bearing grease and grease seal, if you use non-sealed bearings.
	For severe service, change transfer case fluid (Four-wheel drive vehicles).
	For gas vehicle severe service, replace spark plugs.
	For gas vehicles, inspect the accessory drive belt(s).[3]
Every 80,000 mi (128,748 km)	For gas vehicles, replace the EVAP external filter (Under normal use).[6]
Every 90,000 mi (144,841 km)	For diesel vehicles, inspect the accessory drive belt(s).[1]
Every 100,000 mi (160,934 km)	Replace the spark plugs.
	For gas vehicles, inspect the accessory drive belt(s).[1]
	For gas vehicles, replace the accessory drive belt(s).[3]
	For diesel vehicles, replace the accessory drive belt(s).
Every 150,000 mi (240,000 km)	Change the automatic transmission fluid and filter. Consult dealer for requirements.
	For gas vehicles, replace the accessory drive belt(s).
	Replace the front wheel bearings and seals if you use non-sealed bearings.
	Change the axle(s) fluid. See exceptions.

Other Maintenance Items	
	Change the transfer case fluid, if applicable.
At 200,000 mi (320,000 km)	Change the engine coolant.[2]

[1] If not replaced, inspect the accessory drive belt(s) every 15,000 mi (24,000 km).

[2] Initial replacement at 10 years or 200,000 mi (320,000 km), then every 5 years or 100,000 mi (160,000 km).

[3] Only for vehicles with pickup bed power outlet, and severe service use.

[4] For diesel vehicles, reset the engine air filter information monitor after you replace the air filter.

[5] Using Fuel Other Than Ultra-low Sulfur Diesel Fuel - Vehicles Operated Where Ultra-low Sulfur Diesel Fuel is not Required or Available.

[6] For normal usage conditions, chassis cab vehicles equipped with the 38.5 Gallon Aft Axle Fuel Tank require replacement of the EVAP external filter at 80,000 mi (128,748 km) or 8 years, whichever occurs first.

[7] For severe usage conditions (operating primarily in dusty or sandy conditions such as unpaved roads), chassis cab vehicles equipped with the 38.5 Gallon Aft Axle Fuel Tank require replacement of the EVAP external filter at 10,000 mi (16,000 km) or 1 year, whichever occurs first.

Exceptions

Axle and Transfer Case Maintenance

Axle(s) and transfer case (4X4 only) fluid changes or level checks are not required unless a leak is suspected or the assembly has been submerged in water. During long periods of trailer towing with outside temperatures above 70°F (21°C) or at wide-open throttle for long periods above 45 mph (72 km/h), change the rear axle fluid every 30,000 mi (48,000 km) if the rear axle is filled with non-synthetic fluid. This interval can be waived and the 150,000 mi (240,000 km) service interval can continue if the rear axle is filled with 75W140 synthetic gear fluid meeting Ford specification WSL-M2C192-A, part number XY-75W140-QL, or equivalent. Add friction modifier XL-3 (EST-M2C118-A) or equivalent for a complete refill of Traction-Lok rear axles.

Additional Axle Maintenance for Dual Rear Wheels

Change rear axle fluid every 250,000 mi (400,000 km) under normal driving conditions on all commercial applications. When operating your vehicle at or near maximum gross vehicle weights, change the rear axle fluid every 60,000 mi (96,000 km). In addition, follow this 60,000 mi (96,000 km) schedule when operating your vehicle under the special operating conditions where noted.

California Fuel Filter Replacement

If you register your vehicle in California, the California Air Resources Board has determined that the failure to perform this maintenance item does not nullify the emission warranty or limit recall liability before the completion of your vehicle's useful life. Ford Motor Company, however, urges you to have all recommended maintenance services performed at the specified intervals and to record all vehicle service.

Hot Climate Oil Change Intervals

Vehicles operating in the Middle East, North Africa, Sub-Saharan Africa or locations with similar climates use an American Petroleum Institute (API) Certified for Gasoline Engines (Certification mark) oil of SM or SN quality.

Engine Air Filter and Cabin Air Filter Replacement

The life of the engine air filter and cabin air filter is dependent on exposure to dusty and dirty conditions. Vehicles operated in these conditions require frequent inspection and replacement of the engine air filter and cabin air filter.

Diesel Particulate Filter

Over time, a slight amount of ash builds up in the diesel particulate filter, which is not removed during the regeneration process. The filter may need to be replaced with a new or remanufactured part at approximately 250,000 mi (400,000 km). Actual mileage varies depending on engine and vehicle operating conditions.

In this case, If there are any issues with the oxidation catalyst or particulate filter system, the engine control system sets a service light (wrench icon) to inform you to bring your vehicle to the dealer for service.

What Are Considered Severe Driving Conditions

A vehicle that is driven for short trips of less than 5–10 mi (8–16 km) miles, driving in temperatures greatly below or above average, driving in any dusty conditions, idling more than recommended such as in traffic, and driving with a heavy load or while towing a load are considered severe driving conditions. If the vehicle is driven in any of these conditions, follow the severe service maintenance items listed in the scheduled maintenance chart.

GENERAL MAINTENANCE INFORMATION

Why Maintain Your Vehicle?

Carefully following the maintenance schedule helps protect against major repair expenses resulting from neglect or inadequate maintenance and may help to increase the value of your vehicle when you sell or trade it. Keep all receipts for completed maintenance with your vehicle.

It is important that you have your vehicle serviced at the proper times. These intervals serve two purposes: first is to maintain the reliability of your vehicle and the second is to keep the cost of owning your vehicle down.

It is your responsibility to have all scheduled maintenance performed and to make sure that the materials used meet the specifications identified in this owner's manual. See **Front Axle** (page 239).

Failure to perform scheduled maintenance and regularly inspect your vehicle may result in vehicle damage not covered by the vehicle Warranty.

Why Maintain Your Vehicle at Your Dealership?

Our Genuine Replacement Parts

Dealerships stock our parts and our authorized branded remanufactured replacement parts. These parts meet or exceed our specifications. Parts installed at your dealership carry a nationwide 24-month or unlimited mile (kilometer) parts and labor limited warranty.

If you do not use our authorized parts, they may not meet our specifications and could affect emissions compliance.

Protecting Your Investment

Maintenance is an investment that pays dividends in the form of improved reliability, durability and resale value. To maintain the proper performance of your vehicle and its emission control systems, make sure you have scheduled maintenance performed at the designated intervals.

Your vehicle comes with the Intelligent Oil-Life Monitor system, a message appears in the instrument cluster display at the proper oil change interval.

When the oil change message appears in the instrument cluster display, it is time for an oil change. Make sure you perform the oil change within two weeks or 500 mi (800 km) of the message appearing. Make sure to reset the Intelligent Oil-Life Monitor after each oil change. See **Resetting the Intelligent Oil Life Monitor** (page 438).

If your information display resets prematurely or becomes inoperative, you should never exceed one year or 15,000 mi (24,000 km) for diesel vehicles and 10,000 mi (16,000 km) for gas vehicles between oil change intervals.

You can drive vehicles in such a way that may lead to higher oil consumption including extended time at high engine speeds, high loads, engine braking, hard cornering maneuvers, track and off-road usage. Under these conditions, oil consumption of approximately 1 quart per 500 miles (1 liter per 800 km) is possible. Check the engine oil level at every refueling and adjust to maintain proper levels to avoid engine damage.

You can also drive your vehicle in such a way that dilutes and increases the level of oil by frequent short trips that do not allow the engine to get to operating temperature, extended idling and low speed driving for long periods of time.

It is important to rely upon your dealership to properly diagnose and repair your vehicle.

We strongly recommend only using our genuine or our authorized re-manufactured replacement parts engineered for your vehicle.

Additives and Chemicals

We do not recommend using chemicals or additives not approved by us as part of your vehicle's normal maintenance. Please consult your warranty information.

Oils, Fluids and Flushing

In many cases, fluid discoloration is a normal operating characteristic and, by itself, does not necessarily indicate a concern or that you need to have the fluid changed. Have discolored fluids that also show signs of overheating or foreign material contamination immediately checked.

Make sure to change the vehicle's oils and fluids at the specified intervals or in conjunction with a repair. Flushing is a viable way to change fluid for many vehicle sub-systems during scheduled maintenance. It is critical that systems are flushed only with new fluid that is the same as that required to fill and operate the system or using our approved flushing chemical.

Scheduled Maintenance Service Intervals

For your scheduled maintenance service intervals, visit *https://www.ford.com/support/maintenance-schedule*.



Owner Checks and Services

Make sure you perform the following basic maintenance checks and inspections.

Check Every Month
The air filter restriction gauge.[1]
The engine oil level.
Function of all interior and the exterior lights.
The tires including the spare for wear and proper pressure.
The windshield washer fluid level.
The fuel and water separator. Drain if necessary or if indicated by the information display.[1]
The holes and slots in the tail pipe to make sure they are functional and clear of debris.[1]

[1] Diesel vehicles only.

Check Every Six Months
The battery connections. Clean if necessary.
The body and door drain holes for obstructions. Clean if necessary.
The cooling system fluid level and the coolant system strength.
The door weatherstrips for wear. Lubricate if necessary.
The hinges, latches and outside locks for proper operation. Lubricate if necessary.
The parking brake for proper operation.

Check Every Six Months
The seatbelts and seat latches for wear and function.
Safety warning lamps, brake, ABS, airbag and seatbelt for operation.
The washer spray and wiper operation. Clean or replace blades as necessary.

Multi-Point Inspection

It is important to have the systems on your vehicle regularly checked. This can help identify potential issues and prevent major problems. We recommend having the following multi-point inspection performed at every scheduled maintenance interval to help make sure your vehicle keeps running great.

Multi-Point Inspection	
Accessory drive belt or belts	Hazard warning system operation
Battery performance	Horn operation
Engine air filter	Radiator, cooler, heater and air conditioning hoses
Exhaust system	Suspension components for leaks or damage
Exterior lamps operation	Steering and linkage
Fluid levels[1]; fill if necessary	Tires including the spare for wear and proper pressure[2]
For oil and fluid leaks	Windshield for cracks, chips or pits
Halfshaft dust boots	Washer spray and wiper operation

[1] Brake, coolant recovery reservoir, automatic transmission and window washer.

[2] If your vehicle has a temporary mobility kit, check the tire sealant expiration Use By date on the canister. Replace as needed.

Make sure to ask your dealership service advisor or technician about the multi-point vehicle inspection. It is a comprehensive way to perform a thorough inspection of your vehicle. Your checklist gives you immediate feedback on the overall condition of your vehicle.

Severe Driving Conditions

A vehicle that is driven for short trips of less than 5–10 mi (8–16 km) miles, driving in temperatures greatly below or above average, driving in any dusty conditions, idling more than recommended such as in traffic, and driving with a heavy load or while towing a load are considered severe driving conditions. If you drive your vehicle in any of these conditions, follow the severe service maintenance items listed in the scheduled maintenance chart.

Axle and Transfer Case Maintenance

Axle(s) and transfer case (4X4 only) fluid changes or level checks are not required unless you suspect a leak or the assembly has been submerged in water. During long periods of trailer towing with outside temperatures above 70ºF (21ºC) or at wide-open throttle for long periods above 45 mph (72 km/h), change the rear axle fluid every 30,000 mi (48,000 km) if the rear axle is filled with non-synthetic fluid. This interval can be waived and the 150,000 mi (240,000 km) service interval can continue if the rear axle is filled with 75W140 synthetic gear fluid meeting Ford specification WSL-M2C192-A, part number XY-75W140-QL, or equivalent. Add friction modifier XL-3 (EST-M2C118-A) or equivalent for a complete refill of Traction-Lok rear axles. See **Front Axle** (page 239).

Additional Axle Maintenance for Dual Rear Wheels

Change rear axle fluid every 250,000 mi (400,000 km) under normal driving conditions on all commercial applications. When operating your vehicle at or near maximum gross vehicle weights, change the rear axle fluid every 60,000 mi (96,000 km). In addition, follow this 60,000 mi (96,000 km) schedule when operating your vehicle under the special operating conditions where noted.

California Fuel Filter Replacement

If you register your vehicle in California, the California Air Resources Board has determined that the failure to perform this maintenance item does not nullify the emission warranty or limit recall liability before the completion of your vehicle's useful life. Ford Motor Company, however, urges you to have all recommended maintenance services performed at the specified intervals and to record all vehicle service.

Hot Climate Oil Change Intervals

Vehicles operating in the Middle East, North Africa, Sub-Saharan Africa or locations with similar climates use an American Petroleum Institute (API) Certified for Gasoline Engines (Certification mark) oil of SM or SN quality.

Engine Air Filter and Cabin Air Filter Replacement

The life of the engine air filter and cabin air filter is dependent on exposure to dusty and dirty conditions. Vehicles operated in these conditions require frequent inspection and replacement of the engine air filter and cabin air filter.

Diesel Particulate Filter

Over time, a slight amount of ash builds up in the diesel particulate filter, which is not removed during the regeneration process. The filter may need to be replaced with a new or remanufactured part at approximately 250,000 mi (400,000 km). Actual mileage varies depending on engine and vehicle operating conditions.

In this case, the engine control system sets a service light (wrench icon) to inform you to bring your vehicle to the dealer for service. If there are any issues with the oxidation catalyst or particulate filter system, a service light (wrench or engine icon) sets by the engine control system to inform you to bring your vehicle into a dealer for service.

ROLLOVER WARNING

WARNING: Utility vehicles have a significantly higher rollover rate than other types of vehicles.

WARNING: Vehicles with a higher center of gravity (utility, commercial and off-road vehicles) handle differently than vehicles with a lower center of gravity (passenger cars). Avoid sharp turns, excessive speed and abrupt steering in these vehicles. Failure to drive cautiously increases the risk of losing control of your vehicle, vehicle rollover, personal injury and death.

WARNING: In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seatbelt.

WARNING: Do not become overconfident in the ability of four-wheel drive vehicles. Although a four-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in low traction situations, it won't stop any faster than two-wheel drive vehicles. Always drive at a safe speed.

Utility vehicles and trucks handle differently than passenger cars in the various driving conditions that are encountered on streets, highways and off-road. Utility vehicles and trucks are not designed for cornering at speeds as high as passenger cars any more than low-slung sports cars are designed to perform satisfactorily under off-road conditions.

GETTING THE SERVICES YOU NEED

Warranty repairs to your vehicle must be performed by an authorized dealer. While any authorized dealer handling your vehicle line will provide warranty service, we recommend you return to your selling authorized dealer who wants to ensure your continued satisfaction.

Please note that certain warranty repairs require special training and equipment, so not all authorized dealers are authorized to perform all warranty repairs. This means that, depending on the warranty repair needed, you may have to take your vehicle to another authorized dealer.

Allow a reasonable time to perform a repair after taking your vehicle to the authorized dealer. Repairs will be made using Ford or Motorcraft® parts, or remanufactured or other parts that are authorized by Ford.

Away From Home

If you are away from home when your vehicle needs service, contact the Ford Customer Relationship Center or use the online resources listed below to find the nearest authorized dealer.

Additional information and resources are available online:

Market	Website
United States	www.ford.com/support
Canada	www.ford.ca/help/contact





These are some of the items that you can find online:

- U.S. dealer locator by Dealer Name, City/State or Zip Code.
- Owner Manuals.
- Maintenance Schedules.
- Recalls.
- Ford Extended Service Plans.
- Ford Genuine Accessories.
- Service specials and promotions.

Additional Assistance

If you have questions or concerns, or are unsatisfied with the service you are receiving, follow these steps:

1. Contact your Sales Representative or Service Advisor at your selling or servicing authorized dealer.
2. If your inquiry or concern remains unresolved, contact the Sales Manager, Service Manager or Customer Relations Manager.
3. If you require assistance or clarification on Ford Motor Company policies, please contact the Ford Customer Relationship Center.

In order to help us serve you better, please have the following information available when contacting a Customer Relationship Center:

- Vehicle Identification Number.
- Your telephone number (home and business).
- The name of the authorized dealer and city where located.
- The vehicle's current odometer reading.

In some states within the United States, you need to directly notify Ford in writing before pursuing remedies under your state's warranty laws, and Ford is also allowed a final repair attempt.

Additionally, in some states within the United States, a consumer has the option of submitting a warranty dispute to the BBB Auto Line before taking action under the Magnuson-Moss Warranty Act, or to the extent allowed by state law, before pursuing replacement or repurchase remedies provided by certain state laws. This dispute handling procedure is not required prior to enforcing state created rights or other rights which are independent of the Magnuson-Moss Warranty Act or state replacement or repurchase laws.

IN CALIFORNIA (U.S. ONLY)

California Civil Code Section 1793.2(d) requires that, if a manufacturer or its representative is unable to repair a motor vehicle to conform to the vehicle's applicable express warranty after a reasonable number of attempts, the manufacturer shall be required to either replace the vehicle with one substantially identical or repurchase the vehicle and reimburse the buyer in an amount equal to the actual price paid or payable by the consumer (less a reasonable allowance for consumer use). The consumer has the right to choose whether to receive a refund or replacement vehicle.

California Civil Code Section 1793.22(b) presumes that the manufacturer has had a reasonable number of attempts to conform the vehicle to its applicable express warranties if, within the first 18 months of ownership of a new vehicle or the first 18,000 mi (29,000 km), whichever occurs first:

1. Two or more repair attempts are made on the same non-conformity likely to cause death or serious bodily injury OR
2. Four or more repair attempts are made on the same nonconformity (a defect or condition that substantially impairs the use, value or safety of the vehicle) OR
3. The vehicle is out of service for repair of nonconformities for a total of more than 30 calendar days (not necessarily all at one time).

In the case of 1 or 2 above, the consumer must also notify the manufacturer of the need for the repair of the nonconformity at the following address:

Ford Motor Company

16800 Executive Plaza Drive

Mail Drop 3NE-B

Dearborn, MI 48126

You are required to submit your warranty dispute to BBB AUTO LINE before asserting in court any rights or remedies conferred by California Civil Code Section 1793.22(b). You are also required to use BBB AUTO LINE before exercising rights or seeking remedies created by the Federal Magnuson-Moss Warranty Act, 15 U.S.C. sec. 2301 et seq. If you choose to seek redress by pursuing rights and remedies not created by California Civil Code Section 1793.22(b) or the Magnuson-Moss Warranty Act, resort to BBB AUTO LINE is not required by those statutes.

California Lemon Law

Notification requirements in California. Ford and your Ford dealer place a high priority on your satisfaction with our performance. If you are not satisfied with our resolution of a warranty concern and you would like to seek a civil penalty from Ford, you must follow these steps under California law (Cal. Code Civ. Proc., §871.24(a)-(d)):

At least 30 days before filing a lawsuit seeking civil penalties (Civ. Code § 1794(c)), you must:

1. Notify Ford of your name and the name(s) of any other vehicle owner(s), the accurate Vehicle Identification Number ("VIN") of your motor vehicle, and a brief summary of the repair history and problems with your motor vehicle, and
2. Demand that Ford repurchase or replace your motor vehicle.

When you submit the notice to Ford, you must have possession of your motor vehicle.

Your notice to Ford must be in writing and must be sent either by email to LLNOTICE@ford.com or by certified or registered mail, return receipt requested, to:

Ford Motor Company

Office of General Counsel

Attn: California LL Notice

One American Road

Dearborn, MI 48126

THE BETTER BUSINESS BUREAU AUTO LINE PROGRAM

Your satisfaction is important to Ford Motor Company and to your dealer. If a warranty concern has not been resolved using the three-step procedure outlined earlier in this chapter in the Getting the Services you need section, you may be eligible to participate in the BBB AUTO LINE program.

The BBB AUTO LINE program consists of two parts – mediation and arbitration. During mediation, a representative of the BBB will contact both you and Ford Motor Company to explore options for settlement of the claim. If an agreement is not reached during mediation or you do not want to participate in mediation, and if your claim is eligible, you may participate in the arbitration process. An arbitration hearing will be scheduled so that you can present your case in an informal setting before an impartial person. The arbitrator considers the testimony provided and makes a decision after the hearing.

Disputes submitted to the BBB AUTO LINE program are usually decided within 40 days after you file your claim with the BBB. You are not bound by the decision, and may reject the decision and proceed to court where all findings of the BBB Auto Line dispute, and decision, are admissible in the court action. Should you choose to accept the BBB AUTO LINE decision, Ford is then bound by the decision, and must comply with the decision within 30 days of receipt of your acceptance letter.

BBB AUTO LINE Application: Using the information that follows, call or write to request a program application. You will be asked for your name and address, general information about your new vehicle, information about your warranty concerns, and any steps you have already taken to try to resolve them. A Customer Claim Form will be mailed that needs to be completed, signed and returned to the BBB along with proof of ownership. Upon receipt, the BBB reviews the claim for eligibility under the Program Summary Guidelines.

You can get more information by calling BBB AUTO LINE at 1-800-955-5100, or writing to:

BBB AUTO LINE a Division of BBB National Programs, Inc.
1676 International Drive, Suite 550
McLean, VA 22102

BBB AUTO LINE applications can also be requested by calling the Ford Motor Company Customer Relationship Center at 1-800-392-3673.

For additional information, refer to the Better Business Bureau website.

Note: *Ford Motor Company reserves the right to change eligibility limitations, modify procedures, or to discontinue this process at any time without notice and without obligation.*

THE MEDIATION AND ARBITRATION PROGRAM

For vehicles delivered to authorized Canadian dealers. In those cases where you continue to feel that the efforts by Ford of Canada and the authorized dealer to resolve a factory-related vehicle service concern have been unsatisfactory, Ford of Canada participates in an impartial third party mediation/arbitration program administered by the Canadian Motor Vehicle Arbitration Plan (CAMVAP).

The CAMVAP program is a straightforward and relatively speedy alternative to resolve a disagreement when all other efforts to produce a settlement have failed. This procedure is without cost to you and is designed to eliminate the need for lengthy and expensive legal proceedings.

In the CAMVAP program, impartial third-party arbitrators conduct hearings at mutually convenient times and places in an informal environment. These impartial arbitrators review the positions of the parties, make decisions and, when appropriate, render awards to resolve disputes. CAMVAP decisions are fast, fair, and final as the arbitrator's award is binding on both you and Ford of Canada.

CAMVAP services are available in all Canadian territories and provinces. For more information, without charge or obligation, call your CAMVAP Provincial Administrator directly at 1-800-207-0685 or visit www.camvap.ca.

GETTING ASSISTANCE OUTSIDE THE U.S. AND CANADA

Before exporting your vehicle to a foreign country, contact the appropriate foreign embassy or consulate. These officials can inform you of local vehicle registration regulations and where to find unleaded fuel or petrol/gas engines or the proper sulfur fuel for diesel engines.

If you cannot find the proper fuel recommended for your vehicle, contact our Customer Relationship Center.

The use of improper fuels in your vehicle without proper conversion may damage the effectiveness of your emission control system and may cause engine knocking or serious engine damage. Ford Motor Company or Ford of Canada is not responsible for any damage caused by use of improper fuel. Using improper fuels may also result in difficulty importing your vehicle back into the United States.

If your vehicle must be serviced while you are traveling or living in Asia-Pacific Region, Sub-Saharan Africa, U.S. Virgin Islands and/or Puerto Rico, Central America, the Caribbean, and Israel and the Middle East, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact the corresponding Ford Relationship Center or Lincoln Client Relationship.

If you buy your vehicle in North America and then relocate to any of the above locations, register your vehicle identification number (VIN) and new address with Ford Global Trade Services by emailing, expcso@ford.com.

If you are in another foreign country, contact the nearest authorized dealer. In the event your inquiry is unresolved, communicate your concern with the dealership's Sales Manager, Service Manager or Customer Relations Manager. If you require additional assistance or clarification, please contact the respective Customer Relationship Center as previously mentioned.

REPORTING SAFETY DEFECTS IN THE UNITED STATES

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Ford Motor Company.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Ford Motor Company.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to www.safercar.gov; or write to:

Administrator

1200 New Jersey Avenue, Southeast

Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from www.safercar.gov.

REPORTING SAFETY DEFECTS IN CANADA

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada and Ford of Canada.

Transport Canada Contact Information	
Website (English)	https://tc.canada.ca/recalls
Website (French)	http://tc.canada.ca/rappels
Phone	1-800-333-0510

Ford of Canada Contact Information	
Website	https://www.ford.ca
Phone	1-800-565-3673

THIRD PARTY SOFTWARE COPYRIGHT ACKNOWLEDGMENT

Your vehicle could have components that use open source software. For additional information, visit http://corporate.ford.com/ford-open-source.html.

RADIO FREQUENCY CERTIFICATION LABELS

You can locate radio frequency certification labels and declarations of conformity for components on your vehicle at your local Ford or Lincoln website along with your owner information.

For more information scan here:



https://corporate.ford.com/operations/locations/global-links.html

PERCHLORATE

Certain components in your vehicle such as airbag modules, seatbelt pretensioners and remote control batteries may contain perchlorate material. Special handling may apply for service or vehicle end of life disposal.

For more information visit:

dtsc.ca.gov/perchlorate

REPLACEMENT PARTS RECOMMENDATION

We have built your vehicle to the highest standards using quality parts. We recommend that you demand the use of genuine Ford and Motorcraft parts whenever your vehicle requires scheduled maintenance or repair. You can clearly identify genuine Ford and Motorcraft parts by looking for the Ford, FoMoCo or Motorcraft branding on the parts or their packaging.

Scheduled Maintenance and Mechanical Repairs

One of the best ways for you to make sure that your vehicle provides years of service is to have it maintained in line with our recommendations using parts that conform to the specifications detailed in this Owner's Manual.

Genuine Ford and Motorcraft parts meet or exceed these specifications.

Collision Repairs

We hope that you never experience a collision, but accidents happen sometimes.

Genuine Ford replacement collision parts meet our stringent requirements for fit, finish, structural integrity, corrosion protection and dent resistance. During vehicle development we validate that these parts deliver the intended level of protection as a whole system. A great way to know for sure you are getting this level of protection is to use genuine Ford replacement collision parts.

Warranty on Replacement Parts

Genuine Ford and Motorcraft replacement parts are the only replacement parts that benefit from a Ford Warranty.

The Ford Warranty may not cover damage caused to your vehicle as a result of failed non-Ford parts.

For additional information, refer to the terms and conditions of the Ford Warranty.

MOBILE COMMUNICATIONS EQUIPMENT

WARNING: Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

Using mobile communications equipment is becoming increasingly important in the conduct of business and personal affairs. However, you must not compromise your own or others' safety when using such equipment. Mobile communications can enhance personal safety and security when appropriately used, particularly in emergency situations. Safety must be paramount when using mobile communications equipment to avoid negating these benefits. Mobile communication equipment includes, but is not limited to, cellular phones, pagers, portable email devices, text messaging devices and portable two-way radios.

FEDERAL HIGHWAY ADMINISTRATION REGULATION

Regulations such as those issued by the Federal Highway Administration or issued pursuant to the Occupational Safety and Health Act (OSHA), and state and local laws and regulations may require additional equipment for the way you intend to use your vehicle. It is the responsibility of the registered owner to determine the applicability of such laws and regulations to your intended use for the vehicle, and to arrange for the installation of required equipment. The dealer has information about the availability of equipment which can be ordered for your vehicle.

END USER LICENSE AGREEMENT

VEHICLE SOFTWARE END USER LICENSE AGREEMENT (EULA)

- You ("You" or "Your" as applicable) have acquired a vehicle having several devices, including SYNC ® and various control modules, ("DEVICES") that include software licensed or owned by Ford Motor Company and its affiliates ("FORD MOTOR COMPANY"). Those software products of FORD MOTOR COMPANY origin, as well as associated media, printed materials, and "online" or electronic documentation ("SOFTWARE") are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.
- The SOFTWARE may interface with and/or communicate with, or may be later upgraded to interface with and/or communicate with additional software and/or systems provided by FORD MOTOR COMPANY.

IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT ("EULA") DO NOT USE THE DEVICES OR COPY THE SOFTWARE. ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE ON THE DEVICES, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).

GRANT OF SOFTWARE LICENSE: This EULA grants you the following license:

- You may use the SOFTWARE as installed on the DEVICES and as otherwise interfacing with systems and/or services provide by or through FORD MOTOR COMPANY or its third party software and service providers.

Description of Other Rights and Limitations.

- **Speech Recognition:** If the SOFTWARE includes speech recognition component(s), you should understand that speech recognition is an inherently statistical process and that recognition errors are inherent in the process. Neither FORD MOTOR COMPANY nor its suppliers shall be liable for any damages arising out of errors in the speech recognition process. It is your responsibility to monitor any speech recognition functions included in the system.
- **Limitations on Reverse Engineering, Decompilation and Disassembly:** You may not reverse engineer, decompile, translate, disassemble or attempt to discover any source code or underlying ideas or algorithms of the SOFTWARE nor permit others to reverse engineer, decompile or disassemble the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.
- **Limitations on Distributing, Copying, Modifying and Creating Derivative Works:** You may not distribute, copy, make modifications to or create derivative works based on the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.

- **Single EULA:** The end user documentation for the DEVICES and related systems and services may contain multiple EULAs, such as multiple translations and/or multiple media versions (e.g., in the user documentation and in the software). Even if you receive multiple EULAs, you are licensed to use only one (1) copy of the SOFTWARE.
- **SOFTWARE Transfer:** You may permanently transfer your rights under this EULA only as part of a sale or transfer of the DEVICES, provided you retain no copies, you transfer all of the SOFTWARE (including all component parts, the media and printed materials, any upgrades, and, if applicable, the Certificate(s) of Authenticity), and the recipient agrees to the terms of this EULA. If the SOFTWARE is an upgrade, any transfer must include all prior versions of the SOFTWARE.
- **Termination:** Without prejudice to any other rights, FORD MOTOR COMPANY may terminate this EULA if you fail to comply with the terms and conditions of this EULA.
- **Internet-Based Services Components:** The SOFTWARE may contain components that enable and facilitate the use of certain Internet-based services. You acknowledge and agree that FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent may automatically check the version of the SOFTWARE and/or its components that you are utilizing and may provide upgrades or supplements to the SOFTWARE that may be automatically downloaded to your DEVICES.
- **Additional Software/Services:** The SOFTWARE may permit FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent to provide or make available to you SOFTWARE updates, supplements, add-on components, or Internet-based services components of the SOFTWARE after the date you obtain your initial copy of the SOFTWARE ("Supplemental Components".) SOFTWARE updates may cause you to incur additional charges from your wireless service provider. If FORD MOTOR COMPANY or third party software and services suppliers provide or make available to you Supplemental Components and no other EULA terms are provided along with the Supplemental Components, then the terms of this EULA shall apply. FORD MOTOR COMPANY, its affiliates and/or its designated agent reserve the right to discontinue without liability any Internet-based services provided to you or made available to you through the use of the SOFTWARE.

- **Links to Third Party Sites:** The SOFTWARE may provide you with the ability to link to third party sites. The third party sites are not under the control of FORD MOTOR COMPANY, its affiliates and/or its designated agent. Neither FORD MOTOR COMPANY nor its affiliates nor its designated agent are responsible for (I) the contents of any third party sites, any links contained in third party sites, or any changes or updates to third party sites, or (ii) webcasting or any other form of transmission received from any third party sites. If the SOFTWARE provides links to third party sites, those links are provided to you only as a convenience, and the inclusion of any link does not imply an endorsement of the third party site by FORD MOTOR COMPANY, its affiliates and/or its designated agent.
- **Obligation to Drive Responsibly:** You recognize your obligation to drive responsibly and keep attention on the road. You will read and abide with the DEVICES operating instructions particularly as they pertain to safety and you agree to assume any risk associated with the use of the DEVICES.

UPGRADES AND RECOVERY MEDIA: If the SOFTWARE is provided by FORD MOTOR COMPANY separate from the DEVICES on media such as a ROM chip, CD ROM disk(s) or via web download or other means, and is labeled "For Upgrade Purposes Only" or "For Recovery Purposes Only" you may install one (1) copy of such SOFTWARE onto the DEVICES as a replacement copy for the existing SOFTWARE, and use it in accordance with this EULA, including any additional EULA terms accompanying the upgrade SOFTWARE.

INTELLECTUAL PROPERTY RIGHTS: All title and intellectual property rights in and to the SOFTWARE (including but not limited to any images, photographs, animations, video, audio, music, text and "applets" incorporated into the SOFTWARE), the accompanying printed materials, and any copies of the SOFTWARE, are owned by FORD MOTOR COMPANY, or its affiliates or suppliers. The SOFTWARE is licensed, not sold. You may not copy the printed materials accompanying the SOFTWARE. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content outside its intended use. All rights not specifically granted under this EULA are reserved by FORD MOTOR COMPANY, its affiliates, and third party software and service providers and suppliers. Use of any on-line services which may be accessed through the SOFTWARE may be governed by the respective terms of use relating to such services. If this SOFTWARE contains documentation that is provided only in electronic form, you may print one copy of such electronic documentation.

EXPORT RESTRICTIONS: You acknowledge that the SOFTWARE is subject to U.S. and European Union export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments.

TRADEMARKS: This EULA does not grant you any rights in connection with any trademarks or service marks of FORD MOTOR COMPANY, its affiliates, and third party software and service providers.

PRODUCT SUPPORT: Please refer to FORD MOTOR COMPANY instructions provided in the documentation for the DEVICES product support, such as the vehicle owner guide.

Should you have any questions concerning this EULA, or if you desire to contact FORD MOTOR COMPANY for any other reason, please refer to the address provided in the documentation for the DEVICES.

No Liability for Certain Damages: EXCEPT AS PROHIBITED BY LAW, FORD MOTOR COMPANY, ANY THIRD PARTY SOFTWARE OR SERVICES SUPPLIERS, AND THEIR AFFILIATES SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. THERE ARE NO WARRANTIES OTHER THAN THOSE THAT MAY BE EXPRESSLY PROVIDED FOR YOUR NEW VEHICLE.

SYNC® Automotive Important Safety Information Read and follow instructions:

- Before using your SYNC® system, read and follow all instructions and safety information provided in this end user manual ("Owner Guide".) Not following precautions found in the Owner Guide can lead to an accident or other serious injuries.

General Operation

- **Voice Command Control**: Certain functions within the SYNC® system may be accomplished using voice commands. Using voice commands while driving helps you to operate the system without removing your hands from the wheel or eyes from the road.
- **Prolonged Views of Screen:** Do not access any function requiring a prolonged view of the screen while you are driving. Pull over in a safe and legal manner before attempting to access a function of the system requiring prolonged attention.
- **Volume Setting:** Do not raise the volume excessively. Keep the volume at a level where you can still hear outside traffic and emergency signals while driving. Driving while unable to hear these sounds could cause an accident.
- **Navigation Features:** Any navigation features included in the system are intended to provide turn by turn instructions to get you to a desired destination. Please make certain all persons using this system carefully read and follow instructions and safety information fully.
- **Distraction Hazard:** Any navigation features may require manual (non-verbal) setup. Attempting to perform such set-up or insert data while driving can distract your attention and could cause an accident or other serious injury. Stop the vehicle in a safe and legal manner before attempting these operations.
- **Let Your Judgment Prevail:** Any navigation features are provided only as an aid. Make your driving decisions based on your observations of local conditions and existing traffic regulations. Any such feature is not a

substitute for your personal judgment. Any route suggestions made by this system should never replace any local traffic regulations or your personal judgment or knowledge of safe driving practices.

- **Route Safety:** Do not follow the route suggestions if doing so would result in an unsafe or illegal maneuver, if you would be placed in an unsafe situation, or if you would be directed into an area that you consider unsafe. The driver is ultimately responsible for the safe operation of the vehicle and therefore, must evaluate whether it is safe to follow the suggested directions.
- **Potential Map Inaccuracy:** Maps used by this system may be inaccurate because of changes in roads, traffic controls or driving conditions. Always use good judgment and common sense when following the suggested routes.
- **Emergency Services:** Do not rely on any navigation features included in the system to route you to emergency services. Ask local authorities or an emergency services operator for these locations. Not all emergency services such as police, fire stations, hospitals and clinics are likely to be contained in the map database for such navigation features.

Your Responsibilities and Assumptions of Risk

- You agree to each of the following:(a) Any use of the SOFTWARE while driving an automobile or other vehicle in violation of applicable law or otherwise driving in an unsafe manner presents a significant risk of distracted driving and should not be attempted under any circumstances;(b) Use of the SOFTWARE at excessive volume poses a significant risk of hearing damage and should not be attempted under any circumstances;©) The SOFTWARE may not be compatible with new or different versions of an operating system, third party software, or third party services, and the SOFTWARE may potentially cause a critical failure of an operating system, third party software, or third party service.(d) Any third party service accessed by or third party software used with the SOFTWARE (I) may charge an additional fee for access, (ii) may not work correctly, on an uninterrupted basis, or error free, (iii) may change streaming formats or discontinue operation, (iv) may contain adult, profane or offensive content; and (v) may contain inaccurate, false or misleading traffic, weather, financial or safety information or other content; and (e) Use of the SOFTWARE may cause you to incur additional charges from your wireless service provider (WSP) and any data or minute calculators that may be included in the software program are for reference only, are not warranted in any way and should not be relied upon in anyway.
- When using the SOFTWARE, you agree to be responsible for and assume the entire risk to the items set forth in Section (a) – (e) above.

Disclaimer of Warranty

YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT USE OF THE DEVICES AND SOFTWARE IS AT YOUR SOLE RISK AND THAT THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, COMPATIBILITY, ACCURACY AND EFFORT IS WITH YOU. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE SOFTWARE AND ANY THIRD PARTY SOFTWARE OR THIRD-PARTY SERVICES ARE PROVIDED "AS IS" AND “AS AVAILABLE”, WITH ALL FAULTS AND WITHOUT WARRANTY OF ANY KIND, AND FORD MOTOR COMPANY HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH RESPECT TO THE SOFTWARE, THIRD PARTY SOFTWARE, AND THIRD-PARTY SERVICES, EITHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY, OF SATISFACTORY QUALITY, OF FITNESS FOR A PARTICULAR PURPOSE, OF ACCURACY, OF QUIET ENJOYMENT, AND NON-INFRINGEMENT OF THIRD-PARTY RIGHTS. FORD MOTOR COMPANY DOES NOT WARRANT (a) AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES, (b) THAT THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL MEET YOUR REQUIREMENTS, ©) THAT THE OPERATION OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE UNINTERRUPTED OR ERROR-FREE, (d) OR THAT DEFECTS IN THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY FORD MOTOR COMPANY OR ITS AUTHORIZED REPRESENTATIVE SHALL CREATE A WARRANTY. SHOULD THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. SOME JURISDICTIONS DO NOT ALLOW THE DISCLAIMER OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO THE ABOVE DISCLAIMER MAY NOT FULLY APPLY TO YOU. THE SOLE WARRANTY PROVIDED BY FORD MOTOR COMPANY SHALL BE FOUND IN THE WARRANTY INFORMATION INCLUDING WITH YOUR OWNER GUIDE. TO THE EXTENT THAT THERE IS ANY CONFLICT BETWEEN THE TERMS OF THIS SECTION AND THE WARRANTY BOOKLET, THE WARRANTY BOOKLET SHALL CONTROL.

Applicable Law, Venue, Jurisdiction

- The laws of the State of Michigan govern this EULA and Your use of the SOFTWARE. Your use of the SOFTWARE may also be subject to other local, state, national, or international laws. Any litigation arising out of or related to this EULA shall be brought and maintained exclusively in a court of the State of Michigan located in Wayne County or in the United States District Court for the Eastern District of Michigan. You hereby consent to submit to the personal jurisdiction of a court in the State of Michigan located in Wayne County and the United States District Court for the Eastern District of Michigan for any dispute arising out of or relating to this EULA.

Binding Arbitration and Class Action Waiver

(a) Application. This Section applies to any dispute EXCEPT IT DOES NOT INCLUDE A DISPUTE RELATING TO COPYRIGHT INFRINGEMENT, OR TO THE ENFORCEMENT OR VALIDITY OF YOUR, FORD MOTOR COMPANY, OR ANY OF FORD MOTOR COMPANY'S LICENSORS' INTELLECTUAL PROPERTY RIGHTS. Dispute means any dispute, action, or other controversy between You and FORD MOTOR COMPANY, other than the exceptions listed above, concerning the SOFTWARE (including its price) or this EULA, whether in contract, warranty, tort, statute, regulation, ordinance, or any other legal or equitable basis.

(b) Notice of Dispute. In the event of a Dispute, You or FORD MOTOR COMPANY must give the other a "Notice of Dispute", which is a written statement of the name, address, and contact information of the party giving it, the facts giving rise to the dispute, and the relief requested. You and FORD MOTOR COMPANY will attempt to resolve any dispute through informal negotiation within 60 days from the date the Notice of Dispute is sent. After 60 days, You or FORD MOTOR COMPANY may commence arbitration.

©) Small claims court. You may also litigate any dispute in small claims court in your county of residence or FORD MOTOR COMPANY'S principal place of business, if the dispute meets all requirements to be heard in the small claims court. You may litigate in small claims court whether or not You negotiated informally first.

(d) Binding arbitration. If You and FORD MOTOR COMPANY, do not resolve any dispute by informal negotiation or in small claims court, any other effort to resolve the dispute will be conducted exclusively by binding arbitration. You are giving up the right to litigate (or participate in as a party or class member) all disputes in court before a judge or jury. Instead, all disputes will be resolved before a neutral arbitrator, whose decision will be final except for a limited right of appeal under the Federal Arbitration Act. Any court with jurisdiction over the parties may enforce the arbitrator's award.

(e) Class action waiver. Any proceedings to resolve or litigate any dispute in any forum will be conducted solely on an individual basis. Neither you nor FORD MOTOR COMPANY, will seek to have any dispute heard as a class action, as a private attorney general action, or in any other proceeding in which any party acts or proposes to act in a representative capacity. No arbitration or proceeding will be combined with another without the prior written consent of all parties to all affected arbitrations or proceedings.

(f) Arbitration procedure. Any arbitration will be conducted by the American Arbitration Association (the "AAA"), under its Commercial Arbitration Rules. If You are an individual and use the SOFTWARE for personal or vehicle use, or if the value of the dispute is $75,000 or less whether or not You are an individual or how You use the SOFTWARE, the AAA Supplementary Procedures for Consumer-Related Disputes will also apply. To commence arbitration, submit a Commercial Arbitration Rules Demand for Arbitration form to the AAA. You may request a telephonic or in-person hearing by following the AAA rules. In a dispute involving $10,000 or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. For more information, see adr.org or call 1-800-778-7879. You agree to commence arbitration only in your county of residence or FORD MOTOR COMPANY'S principal place of business. The arbitrator

may award the same damages to you individually as a court could. The arbitrator may award declaratory or injunctive relief only to you individually, and only to the extent required to satisfy your individual claim.

(g) Arbitration fees and incentives.

- I. Disputes involving $75,000 or less. FORD MOTOR COMPANY will promptly reimburse your filing fees and pay the AAA's and arbitrator's fees and expenses. If you reject FORD MOTOR COMPANY'S last written settlement offer made before the arbitrator was appointed ("last written offer"), your dispute goes all the way to an arbitrator's decision (called an "award"), and the arbitrator awards you more than the last written offer, FORD MOTOR COMPANY will give you three incentives: (1) pay the greater of the award or $1,000; (2) pay twice your reasonable attorney's fees, if any; and (3) reimburse any expenses (including expert witness fees and costs) that your attorney reasonably accrues for investigating, preparing, and pursuing your claim in arbitration. The arbitrator will determine the amounts.
- ii. Disputes involving more than $75,000. The AAA rules will govern payment of filing fees and the AAA's and arbitrator's fees and expenses.
- iii. Disputes involving any amount. In any arbitration you commence, FORD MOTOR COMPANY will seek its AAA or arbitrator's fees and expenses, or Your filing fees it reimbursed, only if the arbitrator finds the arbitration frivolous or brought for an improper purpose. In any arbitration FORD MOTOR COMPANY commences, it will pay all filing, AAA, and arbitrator's fees and expenses. It will not seek its attorney's fees or expenses from you in any arbitration. Fees and expenses are not counted in determining how much a dispute involves.

(h) Claims or disputes must be filed within one year. To the extent permitted by law, any claim or dispute under this EULA to which this Section applies must be filed within one year in small claims court (Section c) or in arbitration (Section d). The one-year period begins when the claim or dispute first could be filed. If such a claim or dispute is not filed within one year, it is permanently barred.

(I) Severability. If the class action waiver (Section e) is found to be illegal or unenforceable as to all or some parts of a dispute, then that portion of Section e will not apply to those parts. Instead, those parts will be severed and proceed in a court of law, with the remaining parts proceeding in arbitration. If any other provision of that portion Section e is found to be illegal or unenforceable, that provision will be severed with the remainder of Section e remaining in full force and effect.

Telenav Software End User License Agreement

Please read these terms and conditions carefully before you use the TeleNav Software. Your use of the TeleNav Software indicates that you accept these terms and conditions. If you do not accept these terms and conditions, do not break the seal of the package, launch, or otherwise use the TeleNav Software. TeleNav may revise this Agreement and the privacy policy at any time, with or without notice to you. You agree to visit the TeleNav website from time to time to review the then current version of this Agreement and of the privacy policy.

https://www.telenav.com



1. Safe and Lawful Use

You acknowledge that devoting attention to the TeleNav Software may pose a risk of injury or death to you and others in situations that otherwise require your undivided attention, and you therefore agree to comply with the following when using the TeleNav Software:

(a) observe all traffic laws and otherwise drive safely;

(b) use your own personal judgment while driving. If you feel that a route suggested by the TeleNav Software instructs you to perform an unsafe or illegal maneuver, places you in an unsafe situation, or directs you into an area that you consider to be unsafe, do not follow such instructions;

©) do not input destinations, or otherwise manipulate the TeleNav Software, unless your vehicle is stationary and parked;

(d) do not use the TeleNav Software for any illegal, unauthorized, unintended, unsafe, hazardous, or unlawful purposes, or in any manner inconsistent with this Agreement;

(e) arrange all GPS and wireless devices and cables necessary for use of the TeleNav Software in a secure manner in your vehicle so that they will not interfere with your driving and will not prevent the operation of any safety device (such as an airbag).

You agree to indemnify and hold TeleNav harmless against all claims resulting from any dangerous or otherwise inappropriate use of the TeleNav Software in any moving vehicle, including as a result of your failure to comply with the directions above.

2. Account Information

You agree: (a) when registering the TeleNav Software, to provide TeleNav with true, accurate, current, and complete information about yourself, and (b) to inform TeleNav promptly of any changes to such information, and to keep it true, accurate, current and complete.

3. Software License

- Subject to your compliance with the terms of this Agreement, TeleNav hereby grants to you a personal, non-exclusive, non-transferable license (except as expressly permitted below in connection with your permanent transfer of the TeleNav Software license), without the right to sublicense, to use the TeleNav Software (in object code form only) in order to access and use the TeleNav Software. This license shall terminate upon any termination or expiration of this Agreement. You agree that you will use the TeleNav Software only for your personal business or leisure purposes, and not to provide commercial navigation services to other parties.

3.1 License Limitations

- **(a)** reverse engineer, decompile, disassemble, translate, modify, alter or otherwise change the TeleNav Software or any part thereof; **(b)** attempt to derive the source code, audio library or structure of the TeleNav Software without the prior express written consent of TeleNav; **©)** remove from the TeleNav Software, or alter, any of TeleNav's or its

suppliers' trademarks, trade names, logos, patent or copyright notices, or other notices or markings; **(d)** distribute, sublicense or otherwise transfer the TeleNav Software to others, except as part of your permanent transfer of the TeleNav Software; or **(e)** use the TeleNav Software in any manner that

I. infringes the intellectual property or proprietary rights, rights of publicity or privacy or other rights of any party,

ii. violates any law, statute, ordinance or regulation, including but not limited to laws and regulations related to spamming, privacy, consumer and child protection, obscenity or defamation, or

iii. is harmful, threatening, abusive, harassing, tortuous, defamatory, vulgar, obscene, libelous, or otherwise objectionable; and (f) lease, rent out, or otherwise permit unauthorized access by third parties to the TeleNav Software without advanced written permission of TeleNav.

4. Disclaimers

- To the fullest extent permissible pursuant to applicable law, in no event will TeleNav, its licensors and suppliers, or agents or employees of any of the foregoing, be liable for any decision made or action taken by you or anyone else in reliance on the information provided by the TeleNav Software. TeleNav also does not warrant the accuracy of the map or other data used for the TeleNav Software. Such data may not always reflect reality due to, among other things, road closures, construction, weather, new roads and other changing conditions. You are responsible for the entire risk arising out of your use of the TeleNav Software. For example but without limitation, you agree not to rely on the TeleNav Software for critical navigation in areas where the well-being or survival of you or others is dependent on the accuracy of navigation, as the maps or functionality of the TeleNav Software are not intended to support such high risk applications, especially in more remote geographical areas.
- TELENAV EXPRESSLY DISCLAIMS AND EXCLUDES ALL WARRANTIES IN CONNECTION WITH THE TELENAV SOFTWARE, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES WHICH MAY ARISE FROM COURSE OF DEALING, CUSTOM OR TRADE AND INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS WITH RESPECT TO THE TELENAV SOFTWARE.
- Certain jurisdictions do not permit the disclaimer of certain warranties, so this limitation may not apply to you.

5. Limitation of Liability

- TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL TELENAV OR ITS LICENSORS AND SUPPLIERS BE LIABLE TO YOU OR TO ANY THIRD PARTY FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES (INCLUDING IN EACH CASE, BUT NOT LIMITED TO, DAMAGES FOR THE INABILITY TO USE THE EQUIPMENT OR ACCESS DATA, LOSS OF DATA, LOSS OF BUSINESS, LOSS OF PROFITS, BUSINESS INTERRUPTION OR THE LIKE) ARISING OUT OF THE USE OF OR INABILITY TO USE THE TELENAV SOFTWARE, EVEN IF TELENAV HAS BEEN ADVISED OF THE

POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED HEREIN AND ALL DIRECT OR GENERAL DAMAGES IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE), THE ENTIRE LIABILITY OF TELENAV AND OF ALL OF TELENAV'S SUPPLIERS SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE TELENAV SOFTWARE. SOME STATES AND/OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

6. Arbitration and Governing Law

- You agree that any dispute, claim or controversy arising out of or relating to this Agreement or the TeleNav Software shall be settled by independent arbitration involving a neutral arbitrator and administered by the American Arbitration Association in the County of Santa Clara, California. The arbitrator shall apply the Commercial Arbitration Rules of the American Arbitration Association, and the judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction. Note that there is no judge or jury in an arbitration proceeding and the decision of the arbitrator shall be binding upon both parties. You expressly agree to waive your right to a jury trial. This Agreement and performance hereunder will be governed by and construed in accordance with the laws of the State of California, without giving effect to its conflict of law provisions. To the extent judicial action is necessary in connection with the binding arbitration, both TeleNav and you agree to submit to the exclusive jurisdiction of the courts of the County of Santa Clara, California. The United Nations Convention on Contracts for the International Sale of Goods shall not apply.

7. Assignment

- You may not resell, assign, or transfer this Agreement or any of your rights or obligations, except in totality, in connection with your permanent transfer of the TeleNav Software, and expressly conditioned upon the new user of the TeleNav Software agreeing to be bound by the terms and conditions of this Agreement. Any such sale, assignment or transfer that is not expressly permitted under this paragraph will result in immediate termination of this Agreement, without liability to TeleNav, in which case you and all other parties shall immediately cease all use of the TeleNav Software. Notwithstanding the foregoing, TeleNav may assign this Agreement to any other party at any time without notice, provided the assignee remains bound by this Agreement.

8. Miscellaneous

8.1

This Agreement constitutes the entire agreement between TeleNav and you with respect to the subject matter hereof.

8.2

Except for the limited licenses expressly granted in this Agreement, TeleNav retains all right, title and interest in and to the TeleNav Software, including without limitation all related intellectual property rights. No licenses or other rights which are not expressly granted in this Agreement are intended to, or shall be, granted or

conferred by implication, statute, inducement, estoppel or otherwise, and TeleNav and its suppliers and licensors hereby reserve all of their respective rights other than the licenses explicitly granted in this Agreement.

8.3

By using the TeleNav Software, you consent to receive from TeleNav all communications, including notices, agreements, legally required disclosures or other information in connection with the TeleNav Software (collectively, "Notices") electronically. TeleNav may provide such Notices by posting them on TeleNav's Website or by downloading such Notices to your wireless device. If you desire to withdraw your consent to receive Notices electronically, you must discontinue your use of the TeleNav Software.

8.4

TeleNav's or your failure to require performance of any provision shall not affect that party's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this Agreement constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

8.5

If any provision herein is held unenforceable, then such provision will be modified to reflect the intention of the parties, and the remaining provisions of this Agreement will remain in full force and effect.

8.6

The headings in this Agreement are for convenience of reference only, will not be deemed to be a part of this Agreement, and will not be referred to in connection with the construction or interpretation of this Agreement. As used in this Agreement, the words "include" and "including" and variations thereof, will not be deemed to be terms of limitation, but rather will be deemed to be followed by the words "without limitation".

9. Other Vendors Terms and Conditions

- The Telenav Software utilizes map and other data licensed to Telenav by third party vendors for the benefit of you and other end users. This Agreement includes end-user terms applicable to these companies (included at the end of this Agreement), and thus your use of the Telenav Software is also subject to such terms. You agree to comply with the following additional terms and conditions, which are applicable to Telenav's third party vendor licensors.

9.1 End User Terms Required by HERE North America, LLC

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and Telenav ("Telenav") and its licensors (including their licensors and suppliers) on the other hand.

© 2013 HERE. All rights reserved.

The Data for areas of Canada includes information taken with permission from Canadian authorities, including: © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © Department of Natural Resources Canada.

HERE holds a non-exclusive license from the United States Postal Service® to publish and sell ZIP+4® information.

©United States Postal Service® 2014. Prices are not established, controlled or approved by the United States Postal Service®. The following trademarks and registrations are owned by the USPS: United States Postal Service, USPS, and ZIP+4

The Data for Mexico includes certain data from Instituto Nacional de Estadística y Geografía.

9.2 End User Terms Required by NAV2 (Shanghai) Co., Ltd

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and NAV2 (Shanghai) Co., Ltd ("NAV2") and its licensors (including their licensors and suppliers) on the other hand. 20xx. All rights reserved

Terms and Conditions

Permitted Use. You agree to use this Data together with the Telenav Software solely for the internal business and personal purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you agree not to otherwise reproduce, copy, modify, decompile, disassemble, create any derivative works of, or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws.

Restrictions. Except where you have been specifically licensed to do so by Telenav, and without limiting the preceding paragraph, you may not use this Data (a) with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs.

Warning. The Data may contain inaccurate or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results.

No Warranty. This Data is provided to you "as is," and you agree to use it at your own risk. Telenav and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.

Disclaimer of Warranty: TELENAV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A

PARTICULAR PURPOSE OR NON-INFRINGEMENT. Some States, Territories and Countries do not allow certain warranty exclusions, so to that extent the above exclusion may not apply to you.

Disclaimer of Liability: TELENAV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF TELENAV OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some States, Territories and Countries do not allow certain liability exclusions or damages limitations, so to that extent the above may not apply to you.

Export Control. You shall not export from anywhere any part of the Data or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations, including but not limited to the laws, rules and regulations administered by the Office of Foreign Assets Control of the U.S. Department of Commerce and the Bureau of Industry and Security of the U.S. Department of Commerce. To the extent that any such export laws, rules or regulations prohibit HERE from complying with any of its obligations hereunder to deliver or distribute Data, such failure shall be excused and shall not constitute a breach of this Agreement.

Entire Agreement. These terms and conditions constitute the entire agreement between Telenav (and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

Governing Law. The above terms and conditions shall be governed by the laws of the State of Illinois [insert "Netherlands" where European HERE Data is used], without giving effect to (I) its conflict of laws provisions, or (ii) the United Nations Convention for Contracts for the International Sale of Goods, which is explicitly excluded. You agree to submit to the jurisdiction of the State of Illinois [insert "The Netherlands" where European HERE Data is used] for any and all disputes, claims and actions arising from or in connection with the Data provided to you hereunder.

Government End Users. If the Data is being acquired by or on behalf of the United States government or any other entity seeking or applying rights similar to those customarily claimed by the United States government, this Data is a "commercial item" as that term is defined at 48 C.F.R. ("FAR") 2.101, is licensed in accordance with these End-User Terms, and each copy of Data delivered or otherwise furnished shall be marked and embedded as appropriate with the following "Notice of Use," and shall be treated in accordance with such Notice:

NOTICE OF USE
CONTRACTOR (MANUFACTURER/ SUPPLIER) NAME: HERE
CONTRACTOR (MANUFACTURER/ SUPPLIER) ADDRESS: c/o Nokia, 425 West Randolph Street, Chicago, Illinois 60606
This Data is a commercial item as defined in FAR 2.101 and is subject to these End-User Terms under which this Data was provided.
© 1987 – 2014 HERE – All rights reserved.

If the Contracting Officer, federal government agency, or any federal official refuses to use the legend provided herein, the Contracting Officer, federal government agency, or any federal official must notify HERE prior to seeking additional or alternative rights in the Data.

I. US/Canada Territory

A. United States Data. The End-User Terms for any Application containing Data for the United States shall contain the following notices:

"HERE holds a non-exclusive license from the United States Postal Service® to publish and sell ZIP+4® information."

"©United States Postal Service® 20XX. Prices are not established, controlled or approved by the United States Postal Service®. The following trademarks and registrations are owned by the USPS: United States Postal Service, USPS, and ZIP+4."

B. Canada Data. The following provisions apply to the Data for Canada, which may include or reflect data from third party licensors ("Third Party Data"), including Her Majesty the Queen in Right of Canada ("Her Majesty"), Canada Post Corporation ("Canada Post") and the Department of Natural Resources of Canada ("NRCan"):

1. Disclaimer and Limitation: Client agrees that its use of the Third Party Data is subject to the following provisions:

a. Disclaimer: The Third Party Data is licensed on an "as is" basis. The licensors of such data, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data, either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose.

b. Limitation on Liability: The Third Party Data licensors, including Her Majesty, Canada Post and NRCan, shall not be liable: (I) in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of such Data; or (ii) in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the Data.

2. Copyright Notice: In connection with each copy of all or any portion of the Data for the Territory of Canada, Client shall affix in a conspicuous manner the following copyright notice on at least one of: (I) the label for the storage media of the copy; (ii) the packaging for the copy; or (iii) other materials packaged with the copy, such as user manuals or end user license agreements: "This data includes information taken with permission from Canadian authorities, including © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © The Department of Natural Resources Canada. All rights reserved."

3. End-User Terms: Except as otherwise agreed by the parties, in connection with the provision of any portion of the Data for the Territory of Canada to End-Users as may be authorized under the Agreement, Client shall provide such End-Users, in a reasonably conspicuous manner, with terms (set forth with other end user terms required to be provided under the Agreement, or as otherwise may be provided, by Client) which shall include the following provisions on behalf of the Third Party Data licensors, including Her Majesty, Canada Post and NRCan:

The Data may include or reflect data of licensors, including Her Majesty the Queen in the Right of Canada ("Her Majesty"), Canada Post Corporation ("Canada Post") and the Department of Natural Resources Canada ("NRCan"). Such data is licensed on an "as is" basis. The licensors, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data, either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of the data or the Data. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the data or the Data.
End User shall indemnify and save harmless the licensors, including Her Majesty, Canada Post and NRCan, and their officers, employees and agents from and against any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action, alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of the use or possession of the data or the Data.

4. Additional Provisions: The terms contained in this Section are in addition to all of the rights and obligations of the parties under the Agreement. To the extent that any of the provisions of this Section are inconsistent with, or conflict with, any other provisions of the Agreement, the provisions of this Section shall prevail.

II. Mexico. The following provision applies to the Data for Mexico, which includes certain data from the Instituto Nacional de Estadística y Geografía ("INEGI"):

A. Any and all copies of the Data and/or packaging containing Data for Mexico shall contain the following notice: "Fuente: INEGI (Instituto Nacional de Estadística y Geografía)"

III. Latin America Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Territory	Notice
Argentina	IGN "INSTITUTO GEOGRAFICO NACIONAL ARGENTINO"
Ecuador	"INSTITUTO GEOGRAFICO MILITAR DEL ECUADOR AUTORIZACION Nº IGM-2011-01- PCO-01 DEL 25 DE ENERO DE 2011" "source: © IGN 2009 - BD TOPO ®"
Guadeloupe, French Guiana and Martinique	
Mexico	"Fuente: INEGI (Instituto Nacional de Estadística y Geografía)"

IV. Middle East Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Country	Notice
Jordan	"© Royal Jordanian Geographic Centre". The foregoing notice requirement for Jordan Data is a material term of the Agreement. If Client or any of its permitted sublicensees (if any) fail to meet such requirement, HERE shall have the right to terminate Client's license with respect to the Jordan Data.

B. Jordan Data. Client and its permitted sublicensees (if any) are restricted from licensing and/or otherwise distributing HERE's database for the country of Jordan ("Jordan Data") for use in Enterprise Applications to (I) non-Jordanian entities for use of the Jordan Data solely in Jordan or (ii) Jordan-based customers. In addition, Client, its permitted sublicensees (if any) and End-Users are restricted from using the Jordan Data in Enterprise Applications if such party is (I) a non-Jordanian entity using the Jordan Data solely in Jordan or (ii) a Jordan-based customer. For purposes of the foregoing, "Enterprise Applications" shall mean Geomarketing applications, GIS applications, mobile business asset management applications, call center applications, telematics applications, public organization Internet applications or for providing geocoding services.

V. Europe Territory

A. Use of Certain Traffic Codes in Europe

1. General Restrictions Applicable to Traffic Codes. Client acknowledges and agrees that in certain countries of the Europe Territory, Client will need to obtain rights directly from third party RDS-TMC code providers to receive and use the Traffic Codes in the Data and to deliver to End-Users Transactions in any way derived from or based on such Traffic Codes. For such countries, HERE shall deliver the Data incorporating Traffic Codes to Client only after receiving certification from Client of its having obtained such rights.

2. Display of Third Party Rights Legends for Belgium. Client shall, for each Transaction that uses Traffic Codes for Belgium, provide the following notice to the End-User: "Traffic Codes for Belgium are provided by the Ministerie van de Vlaamse Gemeenschap and the Ministèrie de l'Equipement et des Transports."

B. Paper Maps. With respect to any license granted to Client relating to making, selling or distributing paper maps (i.e., a map fixed on a paper or paper-like medium): (a) such license with respect to Data for the Territory of Great Britain is conditioned on Client's entering into and complying with a separate written agreement with the Ordnance Survey ("OS") to create and sell paper maps, Client's paying to the OS any and all applicable paper map royalties, and Client's complying with the OS copyright notice requirements; (b) such license for selling or otherwise distributing for charge with respect to Data for the Territory of Czech Republic is conditioned on Client's obtaining prior written consent from Kartografie a.s.; ©) such license for selling or distributing with respect to Data for the Territory of Switzerland is conditioned on Client's obtaining a permit from Bundesamt für Landestopografie of Switzerland; (d) Client is restricted from using Data for the Territory of France to create paper maps with a scale between 1:5,000 and 1:250,000; and (e) Client is restricted from using any Data to create, sell or distribute paper maps that are the same or substantially similar, in terms of data content and specific use of color, symbols and scale, to paper maps published by the European national mapping agencies, including without limitation, Landervermessungämter of Germany, Topografische Dienst of the Netherlands, Nationaal Geografisch Instituut of Belgium, Bundesamt für Landestopografie of Switzerland, Bundesamt für Eich-und Vermessungswesen of Austria, and the National Land Survey of Sweden.

C. OS Enforcement. Without limiting Section IV(B) above, with respect to Data for the Territory of Great Britain, Client acknowledges and agrees that the Ordnance Survey ("OS") may bring a direct action against Client to enforce compliance with the OS copyright notice (see Section IV(D) below) and paper map requirements (see Section IV(B) above) contained in this Agreement.

D. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Country(ies) Notice

Austria	"© Bundesamt für Eich- und Vermessungswesen"
Croatia Cyprus, Estonia, Latvia, Lithuania, Moldova, Poland, Slovenia and/or Ukraine	"© EuroGeographics"
France	"source: © IGN 2009 – BD TOPO ®"
Germany	"Die Grundlagendaten wurden mit Genehmigung der zuständigen Behörden entnommen"
Great Britain	"Contains Ordnance Survey data © Crown copyright and database right 2010 Contains Royal Mail data © Royal Mail copyright and database right 2010"
Greece	"Copyright Geomatics Ltd."
Hungary	"Copyright © 2003; Top-Map Ltd."
Italy	"La Banca Dati Italiana è stata prodotta usando quale riferimento anche cartografia numerica ed al tratto prodotta e fornita dalla Regione Toscana."
Norway	"Copyright © 2000; Norwegian Mapping Authority"
Portugal	"Source: IgeoE – Portugal"
Spain	"Información geográfica propiedad del CNIG"
Sweden	"Based upon electronic data © National Land Survey Sweden."
Switzerland	"Topografische Grundlage: © Bundesamt für Landestopographie.

E. Respective Country Distribution. Client acknowledges that HERE has not received approvals to distribute map data for the following countries in such respective countries: Albania, Belarus, Kyrgyzstan, Moldova and Uzbekistan. HERE may update such list from time to time. The license rights granted to Client under this TL with respect to the Data for such countries are contingent upon Client's compliance with all applicable laws and regulations, including, without limitation, any required licenses or approvals to distribute the Application incorporating such Data in such respective countries.

VI. Australia Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Copyright. Based on data provided under license from PSMA Australia Limited.

Product incorporates data which is © 20XX Telstra Corporation Limited, GM Holden Limited, Intelematics Australia Pty Ltd and Continental Pty Ltd.

B. Third Party Notices for Australia. In addition to the foregoing, the End-User Terms for any Application containing RDS-TMC Traffic Codes for Australia shall contain the following notice: "Product incorporates traffic location codes which is © 20XX Telstra Corporation Limited and its licensors."

https://www.psma.com.au



AT&T Vehicle Network Carrier Telematics Disclosure

END USER FOR PURPOSES OF THIS SECTION MEANS YOU AND YOUR HEIRS, EXECUTORS, LEGAL PERSONAL REPRESENTATIVES AND PERMITTED ASSIGNS. FOR PURPOSES OF THIS SECTION "UNDERLYING WIRELESS SERVICE CARRIER" INCLUDES ITS AFFILIATES AND CONTRACTORS AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SUCCESSORS AND ASSIGNS. END USER HAS NO CONTRACTUAL RELATIONSHIP WITH THE UNDERLYING WIRELESS SERVICE CARRIER AND END USER IS NOT A THIRD PARTY BENEFICIARY OF ANY AGREEMENT BETWEEN FORD AND UNDERLYING CARRIER. END USER UNDERSTANDS AND AGREES THAT THE UNDERLYING CARRIER HAS NO LEGAL, EQUITABLE, OR OTHER LIABILITY OF ANY KIND TO END USER. IN ANY EVENT, REGARDLESS OF THE FORM OF THE ACTION, WHETHER FOR BREACH OF CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, END USER'S EXCLUSIVE REMEDY FOR CLAIMS ARISING IN ANY WAY IN CONNECTION WITH THIS AGREEMENT, FOR ANY CAUSE WHATSOEVER, INCLUDING BUT NOT LIMITED TO ANY FAILURE OR DISRUPTION OF SERVICE PROVIDED HEREUNDER, IS LIMITED TO PAYMENT OF DAMAGES IN AN AMOUNT NOT TO EXCEED THE AMOUNT PAID BY END USER FOR THE SERVICES DURING THE TWO-MONTH PERIOD PRECEDING THE DATE THE CLAIM AROSE.

(ii) END USER AGREES TO INDEMNIFY AND HOLD HARMLESS THE UNDERLYING WIRELESS SERVICE CARRIER AND ITS OFFICERS, EMPLOYEES, AND AGENTS AGAINST ANY AND ALL CLAIMS, INCLUDING WITHOUT LIMITATION CLAIMS FOR LIBEL, SLANDER, OR ANY PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, ARISING IN ANY WAY, DIRECTLY OR INDIRECTLY, IN CONNECTION WITH THIS AGREEMENT OR THE USE, FAILURE TO USE, OR INABILITY TO USE THE DEVICE EXCEPT WHERE THE CLAIMS RESULT FROM THE UNDERLYING CARRIER'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT. THIS INDEMNITY WILL SURVIVE THE TERMINATION OF THE AGREEMENT.

(iii) END USER HAS NO PROPERTY RIGHT IN ANY NUMBER ASSIGNED TO THE DEVICE.

(iv) END USER UNDERSTANDS THAT FORD AND THE UNDERLYING CARRIER CANNOT GUARANTY THE SECURITY OF WIRELESS TRANSMISSIONS, AND WILL NOT BE LIABLE FOR ANY LACK OF SECURITY RELATING TO THE USE OF THE SERVICES

THE SERVICE IS FOR [END USER'S] USE ONLY AND END USER MAY NOT RESELL THE SERVICE TO ANY OTHER PARTY END USER UNDERSTANDS THAT THE UNDERLYING CARRIER DOES NOT GUARANTEE ANY END USER UNINTERRUPTED SERVICE OR COVERAGE. THE UNDERLYING CARRIER DOES NOT WARRANT THAT END USERS CAN OR WILL BE LOCATED USING THE SERVICE. THE UNDERLYING CARRIER MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SUITABILITY, OR PERFORMANCE REGARDING ANY SERVICES OR GOODS, AND IN NO EVENT SHALL AT&T BE LIABLE, WHETHER OR NOT DUE TO ITS OWN NEGLIGENCE, FOR ANY: (A) ACT OR OMISSION OF A THIRD PARTY; (B) MISTAKES, OMISSIONS, INTERRUPTIONS, ERRORS, FAILURES TO TRANSMIT, DELAYS, OR DEFECTS IN THE SERVICE PROVIDED BY OR THROUGH THE UNDERLYING CARRIER; ©) DAMAGE OR INJURY CAUSED BY SUSPENSION OR TERMINATION BY THE UNDERLYING CARRIER; OR (D) DAMAGE OR INJURY CAUSED BY A FAILURE OR DELAY IN CONNECTING A CALL TO ANY ENTITY, INCLUDING 911 OR ANY OTHER EMERGENCY SERVICE. TO THE FULL EXTENT ALLOWED BY LAW, THE END USER RELEASES, INDEMNIFIES AND HOLDS THE UNDERLYING CARRIER HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS OF ANY PERSON OR ENTITY FOR DAMAGES OF ANY NATURE ARISING IN ANY WAY FROM OR RELATING TO, DIRECTLY OR INDIRECTLY, SERVICES PROVIDED BY THE UNDERLYING CARRIER OR ANY PERSON'S USE THEREOF, INCLUDING CLAIMS ARISING IN WHOLE OR IN PART FROM THE ALLEGED NEGLIGENCE OF THE UNDERLYING CARRIER.

VII. China Territory

Personal Use Only

You agree to use this Data together with [insert name of Client Application] for the solely personal, non-commercial purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you may copy this Data only as necessary for your personal use to (I) view it, and (ii) save it, provided that you do not remove any copyright notices that appear and do not modify the Data in any way. You agree not to otherwise reproduce, copy, modify, decompile, disassemble or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws.

Restrictions

Except where you have been specifically licensed to do so by NAV2 , and without limiting the preceding paragraph, you may not (a) use this Data with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs. You agree to cease using this Data if you fail to comply with these terms and conditions.

Limited Warranty

NAV2 warrants that (a) the Data will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days from the date of receipt, and (b) any support services provided by NAV2 shall be substantially as described in applicable written materials provided to you by NAV2, and NAV2's support engineers will make commercially reasonable efforts to solve any problem issues.

Customer Remedies

NAV2 and its suppliers' entire liability and your exclusive remedy shall be, at NAV2's sole discretion, either (a) return of the price paid, if any, or (b) repair or replacement of the Data that do not meet NAV2's Limited Warranty and that are returned to NAV2 with a copy of your receipt. This Limited Warranty is void if failure of the Data has resulted from accident, abuse, or misapplication. Any replacement Data will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Neither these remedies nor any product support services offered by NAV2 are available without proof of purchase from an authorized international source.

No Other Warranty:

EXCEPT FOR THE LIMITED WARRANTY SET FORTH ABOVE AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NAV2 AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OWNERSHIP OR NON-INFRINGEMENT. Certain warranty exclusions may not be permitted under applicable law, so to that extent the above exclusion may not apply to you.

Limited Liability:

TO THE EXTENT PERMITTED BY APPLICABLE LAW, NAV2 AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF NAV2 OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. UNDER NO CIRCUMSTANCES SHALL NAV2's OR ITS SUPPLIERS' LIABILITY HEREUNDER EXCEED THE PRICE PAID. Certain liability exclusions may not be permitted under applicable law, so to that extent the above exclusion may not apply to you.

Export Control

You agree not to export to anywhere any part of the Data provided to you or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations.

IP Protection

The Data are owned by NAV2 or its suppliers and are protected by applicable copyright and other intellectual property law and treaties. The Data are provided solely on the basis of a license to use, not sale.

Entire Agreement

These terms and conditions constitute the entire agreement between NAV2(and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

Governing Law.

The above terms and conditions shall be governed by the laws of the People's Republic of China, without giving effect to (I) its conflict of laws provisions, or (ii) the United Nations Convention for Contracts for the International Sale of Goods, which is explicitly excluded. Any dispute arising from or in connection with the Data provided to you hereunder shall be submitted to the Shanghai International Economic and Trade Arbitration Commission for arbitration.

Gracenote® Copyright

CD and music-related data from Gracenote, Inc., copyright©

2000-2007 Gracenote. Gracenote Software, copyright © 2000-2007 Gracenote. This product and service may practice one or more of the following U.S. Patents 5,987,525; 6,061,680; 6,154,773; 6,161,132; 6,230,192; 6,230,207; 6.240,459; 6,330,593 and other patents issued or pending. Some services supplied under license from Open Globe, Inc. for U.S. Patent 6,304,523.

Gracenote and CDDB are registered trademarks of Gracenote. The Gracenote logo and logotype, and the "Powered by Gracenote™" logo are trademarks of Gracenote.

Gracenote® End User License Agreement (EULA)

This device contains software from Gracenote, Inc. of 2000 Powell Street Emeryville, California 94608 ("Gracenote").

The software from Gracenote (the "Gracenote Software") enables this device to do disc and music file identification and obtain music-related information, including name, artist, track, and title information ("Gracenote Data") from online servers ("Gracenote Servers"), and to perform other functions. You may use Gracenote Data only by means of the intended End User functions of this device. This device may contain content belonging to Gracenote's providers. If so, all of the restrictions set forth herein with respect to Gracenote Data shall also apply to such content and such content providers shall be entitled to all of the benefits and protections set forth herein that are available to Gracenote. You agree that you will use the content from Gracenote ("Gracenote Content") , Gracenote Data, the Gracenote Software, and Gracenote Servers for your own personal, non-commercial use only. You agree not to assign, copy, transfer or transmit the Gracenote Content, Gracenote Software or any Gracenote Data (except in a Tag associated with a music file) to any third party. YOU AGREE NOT TO USE OR EXPLOIT GRACENOTE CONTENT, GRACENOTE DATA, THE GRACENOTE SOFTWARE, OR GRACENOTE SERVERS, EXCEPT AS EXPRESSLY PERMITTED HEREIN.

You agree that your non-exclusive licenses to use the Gracenote Content, Gracenote Data, the Gracenote Software, and Gracenote Servers will terminate if you violate these restrictions. If your licenses terminate, you agree to cease any and all use of the Gracenote Content, Gracenote Data, the Gracenote Software, and Gracenote Servers.

Gracenote, respectively, reserve all rights in Gracenote Data, the Gracenote Software, and the Gracenote Servers and Gracenote Content, including all ownership rights. Under no circumstances will either Gracenote become liable for any payment to you for any information that you provide, including any copyrighted material or music file information. You agree that Gracenote may enforce its respective rights, collectively or separately, under this agreement against you, directly in each company's own name.

Gracenote uses a unique identifier to track queries for statistical purposes. The purpose of a randomly assigned numeric identifier is to allow Gracenote to count queries without knowing anything about who you are. For more information, see the web page below for the Gracenote Privacy Policy.

https://gracenote.com

THE GRACENOTE SOFTWARE, EACH ITEM OF GRACENOTE DATA AND THE GRACENOTE CONTENT ARE LICENSED TO YOU "AS IS". NEITHER GRACENOTE MAKES ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE ACCURACY OF ANY GRACENOTE DATA FROM THE GRACENOTE SERVERS OR GRACENOTE CONTENT. GRACENOTE COLLECTIVELY AND SEPARATELY RESERVE THE RIGHT TO DELETE DATA AND/OR CONTENT FROM THE COMPANIES' RESPECTIVE SERVERS OR, IN THE CASE OF GRACENOTE, CHANGE DATA CATEGORIES FOR ANY CAUSE THAT GRACENOTE DEEMS SUFFICIENT. NO WARRANTY IS MADE THAT EITHER GRACENOTE CONTENT OR THE GRACENOTE SOFTWARE OR GRACENOTE SERVERS ARE ERROR-FREE OR THAT THE FUNCTIONING OF THE GRACENOTE SOFTWARE OR GRACENOTE SERVERS WILL BE UNINTERRUPTED. GRACENOTE IS NOT OBLIGATED TO PROVIDE YOU WITH ANY ENHANCED OR ADDITIONAL DATA TYPES THAT GRACENOTE MAY CHOOSE TO PROVIDE IN THE FUTURE AND IS FREE TO DISCONTINUE ITS ONLINE SERVICES AT ANY TIME. GRACENOTE DISCLAIM ALL WARRANTIES EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT. NEITHER GRACENOTE WARRANTS THE RESULTS THAT WILL BE OBTAINED BY YOUR USE OF THE GRACENOTE SOFTWARE OR ANY GRACENOTE SERVER. IN NO CASE WILL GRACENOTE BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OR FOR ANY LOST PROFITS OR LOST REVENUES FOR ANY REASON WHATSOEVER. © Gracenote 2007.

Taiwan Territory

According to the "Technical Specifications for Low Power Radio Frequency Equipment" formulated by the National Communications and Communication Committee of the Executive Yuan: 3.8.2. For the low-power radio frequency

equipment that has obtained the verification certificate, the company, firm or user shall not change the frequency, increase the power or change the characteristics and functions of the original design without authorization.

The use of low-power radio frequency equipment must not affect flight safety and interfere with legal communications: when the system detects interference, immediately stop using it until there is no interference.

The aforementioned legal communication refers to the wireless communication operated in accordance with the provisions of the Telecommunications Management Law. Low-power radio frequency equipment needs to endure the interference of legal communication or industrial, scientific and medical radio wave radiation electrical equipment.

SUNA TRAFFIC CHANNEL – TERMS AND CONDITIONS

By activating, using and/or accessing the SUNA Traffic Channel, SUNA Predictive or other content or material provided by Intelematics (together, **SUNA Products and/or Services**), you must accept certain terms and conditions. The following is a brief summary of the terms and conditions that apply to you. To view the full terms and conditions relevant to your use of the SUNA Products and/or Services, please consult:

https://www.sunatraffic.com.au/termsandconditions

1. Acceptance

By using SUNA Products and/or Services, you will be deemed to have accepted and agreed to be bound by the terms and conditions fully detailed at:

https://www.sunatraffic.com.au/termsandconditions

2. Intellectual Property

SUNA Products and/or Services are for your personal use. You may not record, or retransmit the content, nor use the content in association with any other traffic information or route guidance service or device not approved by Intelematics. You obtain no right of ownership in any Intellectual Property Rights (including copyright) in the data that is used to provide SUNA Products and/or Services.

3. Appropriate Use

SUNA Products and/or Services are intended as an aid to personal motoring and travel planning, and do not provide comprehensive or accurate information on all occasions. On occasions, you may experience additional delay as a result of using SUNA Products and/or Services. You acknowledge that it is not intended, or suitable, for use in applications where time of arrival or driving directions may impact the safety of the public or yourself.

4. Use of SUNA Products and Services while driving

You, and other authorized drivers of the vehicle in which SUNA Products and/or Services are available or installed and active, remain at all times responsible for observing all relevant laws and codes of safe driving. In particular, you agree to only actively operate SUNA Products and/or Services when the Vehicle is at a complete stop and it is safe to do so.

5. Service Continuity and Reception of the SUNA Traffic Channel

We will use reasonable endeavors to provide the SUNA Traffic Channel 24 hours a day, 365 days a year. The SUNA Traffic Channel may occasionally be unavailable for technical reasons or for planned maintenance. We will try to perform maintenance at times when congestion is light. We reserve the right to withdraw SUNA Products and/or Services at any time.

Also, we cannot assure the uninterrupted reception of the SUNA Traffic Channel RDS-TMC signal at any particular location.

6. Limitation of Liability

Neither Intelematics (nor its suppliers or the manufacturer of your device (the "**Suppliers**")) shall be liable to you or to any third party for any damages either direct, indirect, incidental, consequential or otherwise arising out of the use of or inability to use SUNA Products and/or Services even if Intelematics or a Supplier has been advised of the possibility of such damages. You also acknowledge that neither Intelematics nor any Supplier guarantees nor make any warranties that relate to the availability, accuracy or completeness of SUNA Products and/or Services, and to the extent which it is lawful to do so, both Intelematics and each Supplier excludes any warranties which might otherwise be implied by any State or Federal legislation in relation to SUNA Products and/or Services.

7. Please Note

Great care has been taken in preparing this manual. Constant product development may mean that some information is not entirely up-to-date. The information in this document is subject to change without notice.

EMISSION LAW

WARNING: Do not remove or alter the original equipment floor covering or insulation between it and the metal floor of the vehicle. The floor covering and insulation protect occupants of the vehicle from the engine and exhaust system heat and noise. On vehicles with no original equipment floor covering insulation, do not carry passengers in a manner that permits prolonged skin contact with the metal floor. Failure to follow these instructions may result in fire or personal injury.

U.S. federal laws and certain state laws prohibit removing or rendering inoperative emission control system components. Similar federal or provincial laws may apply in Canada. We do not approve of any vehicle modification without first determining applicable laws.



Tampering with emissions control systems including related sensors or the Diesel Exhaust Fluid system can result in reduced engine power and the illumination of the service engine soon light.

Tampering With a Noise Control System

Federal laws prohibit the following acts:

- Removal or rendering inoperative by any person other than for purposes of maintenance.
- Repair or replacement of any device or element of the design incorporated into a new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use.
- The use of the vehicle after any person removes or renders inoperative any device or element of the design.

The U.S. Environmental Protection Agency may presume to constitute tampering as follows:

- Removal of hood blanket, fender apron absorbers, fender apron barriers, underbody noise shields or acoustically absorptive material.
- Tampering or rendering inoperative the engine speed governor, to allow engine speed to exceed manufacturer specifications.

If the engine does not start, runs rough, experiences a decrease in engine performance, experiences excess fuel consumption or produces excessive exhaust smoke, check for the following:

- A plugged or disconnected air inlet system hose.
- A plugged engine air filter element.
- Water in the fuel filter and water separator.
- A clogged fuel filter.
- Contaminated fuel.
- Air in the fuel system, due to loose connections.
- An open or pinched sensor hose.
- Incorrect engine oil level.
- Incorrect fuel for climatic conditions.
- Incorrect engine oil viscosity for climatic conditions.

Note: *Some vehicles have a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.*

Note: *If these checks do not help you correct the concern, have your vehicle checked as soon as possible.*

Noise Emissions Warranty, Prohibited Tampering Acts and Maintenance

On January 1, 1978, Federal regulation became effective governing the noise emission on trucks over 10,000 lb (4,536 kg) Gross Vehicle Weight Rating (GVWR). The preceding statements concerning prohibited tampering acts and maintenance, and the noise warranty found in the Warranty Guide, are applicable to complete chassis cabs over 10,000 lb (4,536 kg) GVWR.

EXPORT UNIQUE OPTIONS

For your particular global region, your vehicle may be equipped with features and options that are different from the features and options that are described in this Owner's Manual. A market unique supplement may be supplied that complements this book. By referring to the market unique supplement, if provided, you can properly identify those features, recommendations and specifications that are unique to your vehicle. Features or equipment listed as standard may be different on units built for export. **Refer to this Owner's Manual for all other required information and warnings.**

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

WARRANTY INFORMATION

The following warranties may apply to your vehicle:

- New vehicle limited warranties.
- Emissions warranties, if applicable.
- Other warranties, if applicable.

Detailed warranty information specific to your vehicle can be found in the Warranty Guide at www.ford.com/support/owner-manuals



OWNER'S WARRANTY RESPONSIBILITIES:

- As the vehicle owner, you are responsible for getting your vehicle the required maintenance listed in your owner's manual. We recommend that you retain all receipts covering maintenance on your vehicle. However, we cannot deny you of your vehicle warranty solely for the lack of receipts, or for your failure to have all scheduled maintenance performed on your vehicle.

- You are responsible for bringing your vehicle to an authorized dealer as soon as a problem exists. Have the warranty repairs completed in a reasonable amount of time, not to exceed 30 days.

- As the vehicle owner, be aware that we may deny you warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, you should contact Ford Customer Service at 1-800-392-3673.

New Vehicle Limited Warranty

Your vehicle comes with a New Vehicle Limited Warranty. The express warranties of the New Vehicle Limited Warranty are in substitution for and exclude all other liabilities of any kind whether arising under statute, in tort, by implication of law or otherwise including, to the full extent as may be allowed by law, liability for any other representations respecting the vehicle, statutory warranties or implied warranties or conditions as to its merchantability or fitness.

Download a free electronic copy or order one free printed copy of the most up-to-date Warranty Guide by visiting the Owner Manuals section of www.ford.com/support/owner-manuals (United States).



For Canada, visit www.ford.ca/support/owner-manuals



For Limo/Livery/Hearse vehicles: View and download your Warranty Guide by visiting the Warranty Information section of the Fleet website, www.fordpro.com/en-us/fleet-vehicles/livery (United States only).



ELECTROMAGNETIC COMPATIBILITY

WARNING: Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.

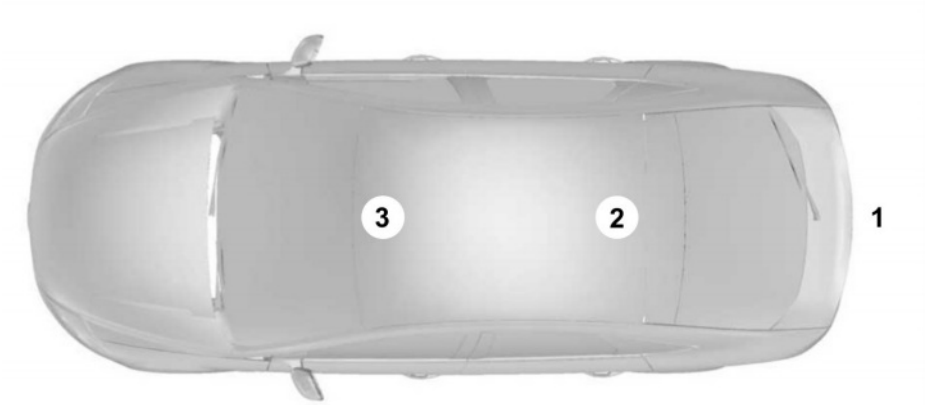
WARNING: Do not fasten antenna cables to vehicle wiring, pipes or hoses. Failure to follow these instructions may increase the risk of equipment malfunction, equipment damage or personal injury.

WARNING: Keep antenna and power cables at least 4 in (10 cm) from any electronic modules and airbags. Failure to follow these instructions may increase the risk of equipment malfunction, equipment damage or personal injury.

Note: *We test and certify your vehicle to meet electromagnetic compatibility legislation. It is your responsibility to make sure that any equipment an authorized dealer installs on your vehicle complies with applicable local legislation and other requirements. Installation of some aftermarket electronic devices could degrade the performance of vehicle functions, which use radio frequency signals such as broadcast radio receiver, tire pressure monitoring system, push button start,* ***Bluetooth****® connectivity or satellite navigation.*

Note: *Any radio frequency transmitter equipment in your vehicle (such as cellular telephones and amateur radio transmitters) must keep to the parameters in the following illustrations and table. We do not provide any other special provisions or conditions for installations or use.*

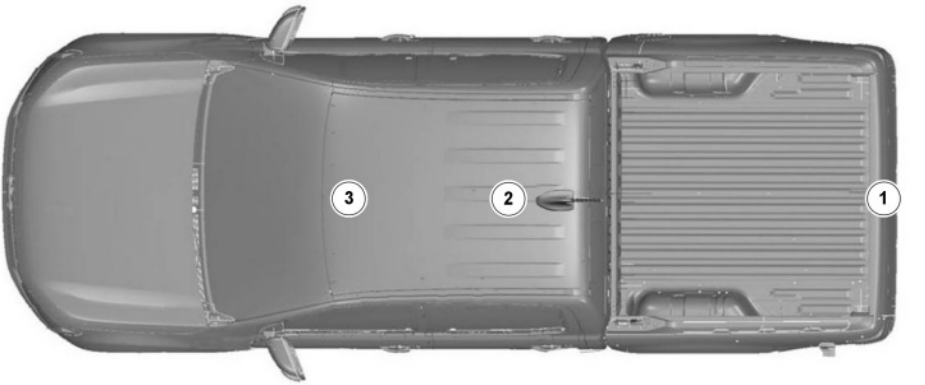
Car



Van



Truck



E239121

Frequency Band MHz	Maximum Output Power Watt (Peak RMS)	Antenna Positions
1-30[1]	50	1
50-54	50	2, 3
68-87	50	2, 3
144-174	50	2, 3
380-512	50	2, 3
806-870	10	2, 3

[1] For battery electric vehicles and plug-in hybrid vehicles, this frequency is not approved when your vehicle is plugged-in and charging.

Note: *After the installation of radio frequency transmitters, check for disturbances from and to all electrical equipment in your vehicle, both in the standby and transmit modes.*

Check all electrical equipment:

- With the ignition ON.
- With the vehicle running.
- During a road test at various speeds.

Check that electromagnetic fields generated inside your vehicle cabin by the transmitter installed do not exceed applicable human exposure requirements.

1

12V Battery....454
12V Battery Precautions....454
Battery Management System Limitations....456
Changing the 12V Battery....456
How Does the Battery Management System Work....455
Recycling and Disposing of the 12V Battery....457
Resetting the Battery Sensor....457
What Is the Battery Management System....455
12V Battery – Troubleshooting....457
12V Battery – Information Messages....458
12V Battery – Warning Lamps....457

3

360 Degree Camera....294
360 Degree Camera Guidelines....295
360 Degree Camera Precautions....294
How Does the 360 Degree Camera Work....294
Switching the 360 Degree Camera On and Off....296

4

4WD
See: Four-Wheel Drive....231

9

911 Assist....59

A

A/C
See: Climate Control - Vehicles With: Automatic Temperature Control....139
See: Climate Control - Vehicles With: Manual Temperature Control....144
About This Publication....15
ABS
See: Brakes....256
Accessing Navigation....559
Accessing the Passive Key Backup Position - Vehicles With: Push Button Start....195
Accessing the Trip Computer - Vehicles With: 12 Inch Screen....135
Accessing the Trip Computer - Vehicles With: 4.2 Inch Screen....135
Accessories....565
AC Power Outlet - Vehicles With: 110-120V 400W Power Outlet....170
Adaptive Cruise Control....325
Adaptive Cruise Control Indicators....331
Adaptive Cruise Control – Information Messages....331
Adaptive Cruise Control Precautions and Limitations....325
Canceling the Set Speed....329
How Does Adaptive Cruise Control Work....325
Overriding the Set Speed....331
Resuming the Set Speed....329
Setting the Adaptive Cruise Control Speed and Gap....327
Switching Adaptive Cruise Control On and Off....327
Switching From Adaptive Cruise Control to Cruise Control....331
Adaptive Front Lighting....114
How Does Adaptive Front Lighting Work....114
Adjustable Pedals....101
Adjusting the Exterior Mirrors....125
Adjusting the Headlamps....458
Adjusting the Instrument Panel Lighting Brightness....118
Adjusting the Integrated Trailer Brake Controller Mode....364
Adjusting the Map....559
Changing the Format of the Map....559
Zooming the Map In and Out....559
Adjusting the Pedals....101
Adjusting the Seatbelt Height....45
Adjusting the Seatbelt Length....46
Adjusting the Seatbelts During Pregnancy....45
Adjusting the Sound Settings....531

Adjusting the Steering Wheel - Vehicles With: Manual Adjustable Steering Column....98
Adjusting the Steering Wheel - Vehicles With: Power Adjustable Steering Column....98
Adjusting the Volume....531
After Driving Your Vehicle Off-Road....403
Airbag Precautions....51
Airbags....49
Air Conditioning
See: Climate Control - Vehicles With: Automatic Temperature Control....139
See: Climate Control - Vehicles With: Manual Temperature Control....144
Air Conditioning System Refrigerant....142
Alarm
See: Connecting a Trailer....350
Alexa Built-In....546
Alexa Built-In Requirements....546
Alexa Built-In Settings....546
AM/FM Radio....532
AM/FM Radio Limitations....532
Selecting an AM/FM Radio Station....532
Ambient Lighting - Vehicles With: Ambient Lighting....118
Anti-Lock Braking System....256
Anti-Lock Braking System Limitations....256
Anti-Theft Alarm System....94
Arming the Anti-Theft Alarm System....94
Disarming the Anti-Theft Alarm System....94
How Does the Anti-Theft Alarm System Work....94
What Is the Anti-Theft Alarm System....94
What Is the Perimeter Alarm....94
Appendices....619
Applying the Electric Parking Brake....260
Applying the Electric Parking Brake in an Emergency....260
Approach Detection
See: Switching Welcome Lighting On and Off....110
Audio System....530
AM/FM Radio....532
Audio System – Troubleshooting....536
Digital Radio....533
Satellite Radio....534
Audio System Precautions....530
Audio System – Troubleshooting....536
Audio System – Information Messages....536
Auto-Dimming Interior Mirror....123
Auto-Dimming Interior Mirror Limitations....123
What Is the Auto-Dimming Interior Mirror....123
Autolamps....108
Autolock....71
Autolock Requirements....71
What Is Autolock....71
Automatically Releasing the Electric Parking Brake....261
Automatic Crash Shutoff....416
Automatic Crash Shutoff Precautions....416
Re-Enabling Your Vehicle....416
What Is Automatic Crash Shutoff....416
Automatic Engine Stop - Vehicles With: Push Button Start....194
How Does Automatic Engine Stop Work....194
Overriding Automatic Engine Stop....195
Switching Automatic Engine Stop On and Off....194
What Is Automatic Engine Stop....194
Automatic High Beam Control....112
Automatic High Beam Control Indicators....113
Automatic High Beam Control Precautions and Limitations....112
How Does Automatic High Beam Control Work....112
Overriding Automatic High Beam Control....114
Switching Automatic High Beam Control On and Off....113
Automatic High Beam Control – Troubleshooting....114
Automatic High Beam Control – Information Messages....114

Automatic Locking Mode.....44
Disengaging Automatic Locking Mode.....45
Engaging Automatic Locking Mode.....44
What Is Automatic Locking Mode.....44
When to Use Automatic Locking Mode.....44
Automatic Transmission Audible Warnings.....229
Automatic Transmission.....226
Automatic Transmission Positions.....226
Automatic Transmission Fluid Capacity and Specification.....230
Automatic Transmission Positions.....226
Automatic Transmission Position Indicators.....228
Automatic Transmission Precautions.....226
Drive (D).....227
Manual (M).....227
Neutral (N).....227
Park (P).....227
Reverse (R).....227
Shifting Your Vehicle Into Gear.....226
Auto Mode.....141
Switching Auto Mode On and Off.....141
Switching Dual Mode On and Off.....141
Autounlock.....71
Autounlock Requirements.....71
Switching Autounlock On and Off.....71
What Is Autounlock.....71
Autowipers.....102
Adjusting the Sensitivity of the Rain Sensor.....103
Autowipers Settings.....102
What Are Autowipers.....102
Auxiliary Switches.....567

B

Basic Off-Road Driving Techniques.....402
Battery Fuse Box.....428
Accessing the Battery Fuse Box.....428
Identifying the Fuses in the Battery Fuse Box.....429
Locating the Battery Fuse Box.....428
Blind Spot Information System.....310
Blind Spot Information System Indicators.....311
Blind Spot Information System – Information Messages.....313
Blind Spot Information System Precautions and Limitations.....310
Blind Spot Information System With Trailer Coverage.....312
How Does Blind Spot Information System Work.....310
Switching Blind Spot Information System On and Off.....311
Bluetooth®.....556
Bonnet Lock
See: Opening and Closing the Hood.....434
Booster Seats.....39
Boost Gauge.....132
Brake Fluid Specification.....257
Brake Over Accelerator.....256
Brake Precautions.....256
Brakes.....256
Anti-Lock Braking System.....256
Brakes – Troubleshooting.....258
Brakes – Troubleshooting.....258
Brakes – Frequently Asked Questions.....259
Brakes – Information Messages.....258
Brakes – Warning Lamps.....258
Breaking-In.....404

C

Calculating Payload.....342
Calculating the Load Limit.....343
Canceling the Set Speed.....273
Catalytic Converter.....225
Catalytic Converter – Troubleshooting.....225
Catalytic Converter Precautions.....225
Catalytic Converter – Troubleshooting.....225
Catalytic Converter – Warning Lamps.....225
Center Console.....184
Opening the Center Console.....184

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Index

Center Console Work Surface.....181
Center Console Work Surface – Troubleshooting.....182
Center Console Work Surface – Troubleshooting.....182
Center Console Work Surface – Information Messages.....182
Center Display.....540
Center Display Overview.....540
Changing a Flat Tire.....513
Changing a Road Wheel.....513
Changing the Fuel Filter - Diesel.....452
Changing the Fuel Filter - Gasoline.....452
Changing the Remote Control Battery - Vehicles With: Flip Key.....63
Changing the Remote Control Battery - Vehicles With: Push Button Start.....64
Checking the Brake Fluid.....256
Checking the Seatbelts.....48
Checking the Selective Catalytic Reduction System Status.....221
Checking the Tire Pressures.....493
Checking the Wiper Blades.....103
Children and Airbags.....56
Child Restraint Anchor Points.....29
Locating the Child Restraint Lower Anchor Points.....29
Locating the Child Restraint Top Tether Anchor Points.....30
What Are the Child Restraint Anchor Points.....29
Child Restraints.....31
Child Restraint Position Information.....31
Child Restraints Recommendation.....32
Child Safety.....28
Child Restraint Anchor Points.....29
Child Restraints.....31
Installing Child Restraints.....32
Child Safety Locks.....41
Child Safety Precautions.....28
Cleaning Products.....472
Cleaning the Exterior.....473
Cleaning Camera Lenses and Sensors.....475
Cleaning Chrome, Aluminium or Stainless Steel.....473
Cleaning Headlamps and Rear Lamps.....473
Cleaning Stripes or Graphics.....474
Cleaning the Engine Compartment.....474
Cleaning the Exhaust.....475
Cleaning the Exterior Precautions.....473
Cleaning the Underbody.....475
Cleaning Wheels.....473
Cleaning Windows and Wiper Blades.....473
Cleaning the Interior.....476
Cleaning Carpets and Floor Mats.....477
Cleaning Displays and Screens.....476
Cleaning Fabric.....476
Cleaning Glass Roof Tracks.....477
Cleaning Leather.....476
Cleaning Plastic.....476
Cleaning Seatbelts.....477
Cleaning the Instrument Panel.....476
Cleaning Vinyl.....477
Climate Control.....139
Auto Mode.....141
Climate Control Hints.....141
Closing the Tailgate.....83
Closing the Tailgate From Inside Your Vehicle.....83
Closing the Tailgate From Outside Your Vehicle.....84
Closing the Tailgate Using the Remote Control.....84
Connected Navigation.....559
Connected Vehicle.....526
Connected Vehicle – Troubleshooting.....527
Connecting the Vehicle to a Mobile Network.....526
Connected Vehicle Data.....23
Connected Vehicle Limitations.....526
Connected Vehicle Requirements.....526
Connected Vehicle Settings.....527
Connected Vehicle – Troubleshooting.....527
Connected Vehicle – Frequently Asked Questions.....527
Connecting a Bluetooth® Device.....556
Connecting a Trailer.....350
Connecting a Trailer – Troubleshooting.....354
Hitches.....348
Connecting a Trailer Precautions.....348

Super Duty (TFH) Canada/United States of America, enUSA, Edition date: 202606, DOM

Connecting a Trailer – Troubleshooting....354
Connecting a Trailer – Information Messages....354
Connecting the Vehicle to a Mobile Network....526
Connecting the Ford App to the Modem....526
Enabling and Disabling the Modem....526
What Is the Modem....526
Connecting the Vehicle to a Wi-Fi Network....526
Connecting Your Phone....548
Coolant....448
Adding Coolant....448
Changing the Coolant....449
Checking the Coolant Level....448
Coolant – Information Messages....452
Coolant – Warning Lamps....452
Cooling System Capacity and Specification....450
Managing the Coolant Temperature....450
Crash and Breakdown Information....412
Automatic Crash Shutoff....416
Fail-Safe Cooling....418
Jump Starting the Vehicle....413
Post-Crash Alert System....416
Recovery Towing....417
Crash Sensors and Airbag Indicator....57
Creating a Personal Profile....557
Cross Traffic Alert....302
Cross Traffic Alert Indicators....304
Cross Traffic Alert – Information Messages....305
Cross Traffic Alert Precautions and Limitations....303
How Does Cross Traffic Alert Work....302
Switching Cross Traffic Alert On and Off....304
Cruise Control....324
How Does Cruise Control Work....324
Using Cruise Control....324
Cup Holders....183
Cup Holder Precautions....183
Customer Information....581
Customizing the Instrument Cluster Display - Vehicles With: 12 Inch Screen....134
Customizing the Instrument Cluster Display - Vehicles With: 4.2 Inch Screen....134

D

Data Privacy....21
DC Power Outlet - Vehicles With: 12V Power Outlet....170
Deleting a Personal Profile....558
Department of Transportation Uniform Tire Quality Grades....481
Diesel Engine Exhaust Brake....263
Diesel Engine Exhaust Brake – Troubleshooting....265
Diesel Engine Exhaust Brake Gauge - Vehicles With: 12.3 Inch Instrument Cluster Display Screen....264
Diesel Engine Exhaust Brake Gauge - Vehicles With: 4.2 Inch Instrument Cluster Display Screen....264
Diesel Engine Exhaust Brake Indicators....264
Diesel Engine Exhaust Brake – Precautions....263
Diesel Engine Exhaust Brake – Troubleshooting....265
Diesel Engine Exhaust Brake – Warning Lamps....265
Diesel Exhaust Fluid Capacity and Specification....221
Diesel Exhaust Fluid Gauge....132
Diesel Particulate Filter....212
Diesel Particulate Filter Manual Regeneration....213
Diesel Particulate Filter – Troubleshooting....215
Diesel Particulate Filter Manual Regeneration....213
Diesel Particulate Filter Manual Regeneration Limitations....214
Diesel Particulate Filter Manual Regeneration Precautions....213
Diesel Particulate Filter Manual Regeneration Requirements....213
Starting Diesel Particulate Filter Manual Regeneration....214

What Is Diesel Particulate Filter Manual Regeneration....213
Diesel Particulate Filter Precautions....212
Diesel Particulate Filter Requirements....213
Diesel Particulate Filter – Troubleshooting....215
Diesel Particulate Filter – Information Messages....215
Diesel Particulate Filter – Warning Lamps....215
Digital Interior Mirror....123
Digital Interior Mirror Limitations....123
Digital Interior Mirror Settings....124
Switching Between Normal View and Camera View....123
What Is the Digital Interior Mirror....123
Digital Radio....533
Digital Radio Indicators....533
Digital Radio Limitations....533
How Does Digital Radio Work....533
Switching Digital Radio Reception On and Off....533
What Is Digital Radio....533
Dinghy Tow
See: Recreationally Towing Your Vehicle - 4x2....422
See: Recreationally Towing Your Vehicle - 4x4....420
Directing the Flow of Air....141
Disposing of Airbags....58
Doors and Locks Audible Warnings....72
Doors and Locks....70
Autolock....71
Autounlock....71
Doors and Locks – Troubleshooting....72
Mislock....71
Operating the Doors From Inside Your Vehicle....70
Operating the Doors From Outside Your Vehicle....70
Doors and Locks – Troubleshooting....72
Doors and Locks – Frequently Asked Questions....73
Doors and Locks – Information Messages....72
Doors and Locks – Warning Lamps....72
Draining the Fuel Filter Water Trap - Diesel....445
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: 110-120V 2kW Pickup Bed Power Outlet/Dual Generators....453
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: Dual Generators....453
Drive Belt Routing Overview - 6.7L Diesel, Vehicles With: Single Generator....453
Drive Belt Routing Overview - 7.3L, Gasoline, Vehicles With: Dual Generators....454
Drive Belt Routing Overview - 7.3L, Gasoline, Vehicles With: Single Generator....454
Drive Mode Control....250
Drive Mode Control – Troubleshooting....253
Drive Modes....250
Drive Mode Control – Troubleshooting....253
Drive Mode Control – Frequently Asked Questions....255
Drive Mode Control – Information Messages....254
Drive Mode Control – Warning Lamps....253
Drive Modes....250
Eco....250
Normal....251
Off-Road....251
Rock Crawl....252
Slippery....252
Tow/Haul....253
Trail....253
Driver Alert....313
Driver Alert – Information Messages....314
Driver Alert Precautions and Limitations....314
How Does Driver Alert Work....313
Switching Driver Alert On and Off....314
Driver Assistance Menu....542
Driver Assistance Systems....282
360 Degree Camera....294
Adaptive Cruise Control....325
Blind Spot Information System....310
Cross Traffic Alert....302

Cruise Control....324
Driver Alert....313
Exit Warning....308
Lane Centering....333
Lane Keeping System....314
Parking Aids....298
Pre-Collision Assist....287
Predictive Speed Assist....336
Rear View Camera....291
Reverse Brake Assist....305
Speed Sign Recognition....322
Driver Assistance Systems Overview....282
Driving Economically....404
Driving Hints....404
Driving in Cold Weather - 6.7L Diesel....404
Driving in Cold Weather - 6.8L/7.3L....406
Driving In Sand....408
Driving on Hilly or Sloping Terrain....408
Driving Through Water....406

E

Easy Entry and Exit....79
Electric Parking Brake Audible Warning....261
Electric Parking Brake....260
Electric Parking Brake – Troubleshooting....261
Electric Parking Brake – Troubleshooting....261
Electric Parking Brake – Information Messages....262
Electric Parking Brake – Warning Lamps....261
Electromagnetic Compatibility....619
Electronic Locking Differential....246
Electronic Locking Differential – Troubleshooting....249
Electronic Locking Differential Indicators....248
Electronic Locking Differential Precautions....246
Electronic Locking Differential – Troubleshooting....249
Electronic Locking Differential – Information Messages....249
Emergency Call System Data....24
Emergency Towing....422
Emission Law....615
Enabling Apps on a Mobile Device....552
Enabling or Disabling Personal Profiles....557
End User License Agreement....590
Engine Air Filter....443
Changing the Engine Air Filter....443
Engine Air Filter – Information Messages....445
Resetting the Air Filter Reminder....444
Engine Block Heater....191
Engine Block Heater Precautions....191
How Does the Engine Block Heater Work....192
Using the Engine Block Heater....192
Engine Coolant Temperature Gauge....132
Engine Oil....437
Adding Engine Oil....438
Checking the Engine Oil Level....437
Engine Oil Capacity and Specification....438
Engine Oil Dipstick Overview....437
Intelligent Oil Life Monitor....438
Resetting the Intelligent Oil Life Monitor....438
Engine Oil Pressure Gauge....132
Engine Oil Temperature Gauge....132
Engine Specifications - 6.7L Diesel....468
Engine Specifications - 7.3L, Gasoline....469
Environment....25
Event Data....22
Exit Warning....308
Exit Warning Alert and Indicators....308
Exit Warning – Frequently Asked Questions....310
How Does Exit Warning Work....308
Switching Exit Warning On and Off....309
Export Unique Options....616
Extending the Exterior Mirrors....126

Exterior Bulbs....460
Changing a Front Fog Lamp Bulb....464
Changing a Front Turn Signal Lamp Bulb....463
Changing a Headlamp Bulb....462
Changing a High Mounted Stoplamp Bulb....466
Changing a License Plate Lamp Bulb....466
Changing a Rear Lamp Bulb....464
Changing a Rear Turn Signal Lamp Bulb....465
Changing a Reversing Lamp Bulb....466
Changing a Stoplamp Bulb....465
Exterior Bulb Specification Chart....460
Removing a Rear Lamp Assembly....462
Exterior Lamps....108
Exterior Lamps On Audible Warning....110
How Do Cornering Lamps Work....108
Switching the Cargo Lamps On....110
Switching the Daytime Running Lamps On and Off....109
Switching the Spot Lamps On and Off....110
Switching Welcome Lighting On and Off....110
Using the Front Fog Lamps....109
Using the Turn Signal Lamps....108
Exterior Lighting Control....107
Exterior Lighting....107
Adaptive Front Lighting....114
Automatic High Beam Control....112
Automatic High Beam Control – Troubleshooting....114
Exterior Lamps....108
Exterior Zone Lighting....111
Headlamps....107
Exterior Lighting – Frequently Asked Questions....115
Exterior Mirrors....125
Exterior Overview....27
Exterior Zone Lighting....111
Exterior Zone Lighting Settings....111
Using the Exterior Zone Lighting....111
What Is Exterior Zone Lighting....111

F

Fail-Safe Cooling....418
Driving When Fail-Safe Mode Is Activated....419
Fail-Safe Cooling Indicators....419
How Does Fail-Safe Cooling Work....418
What Is Fail-Safe Cooling....418
Fastening and Unfastening the Seatbelts....43
Feature Bar....541
Federal Highway Administration Regulation....589
Filling the Selective Catalytic Reduction System Tank....219
Filling the Selective Catalytic Reduction System Tank in Cold Weather....219
Filling the Selective Catalytic Reduction System Tank Using a Fuel Station Pump....220
Filling the Selective Catalytic Reduction System Tank Using a Portable Container....220
Flat Tire
See: Changing a Flat Tire....513
Flat Tow
See: Recreationally Towing Your Vehicle - 4x2....422
See: Recreationally Towing Your Vehicle - 4x4....420
Floor Mats....409
Folding the Exterior Mirrors - Vehicles With: Manual Folding Mirrors....125
Folding the Exterior Mirrors - Vehicles With: Power Folding Mirrors....125
Foot Pedals
See: Adjusting the Pedals....101
Ford Assistant....544
Ford Assistant – Frequently Asked Questions....544
Ford Assistant Settings....544
Using Ford Assistant....544
Ford Protect....569
Four-Wheel Drive....231
Four-Wheel Drive Modes....235
Four-Wheel Drive – Troubleshooting....236
Four-Wheel Drive Indicators....235
Four-Wheel Drive Limitations....232

Four-Wheel Drive Modes.....235
Four-Wheel Drive High.....235
Four-Wheel Drive Low.....235
Two-Wheel Drive High.....235
Four-Wheel Drive Precautions.....232
Four-Wheel Drive – Troubleshooting.....236
Four-Wheel Drive – Information Messages.....237
Four-Wheel Drive – Warning Lamps.....236
Four Wheels Down Tow
See: Recreationally Towing Your Vehicle - 4x2.....422
See: Recreationally Towing Your Vehicle - 4x4.....420
Front Axle Fluid Capacity and Specification.....239
Front Axle.....239
Front Seat Precautions.....149
Front Seats.....149
Manual Seats.....150
Power Seats.....152
Seat Features.....156
Fuel and Refueling.....202
Fuel and Refueling – Troubleshooting.....211
Fuel Quality.....202
Refueling.....206
Fuel and Refueling Precautions.....202
Fuel and Refueling – Troubleshooting.....211
Fuel and Refueling – Information Messages.....211
Fuel and Refueling – Warning Lamps.....211
Fuel Gauge.....131
Fuel Gauge Limitations.....132
Locating the Fuel Filler Door.....132
What Is Distance to Empty.....132
What Is the Fuel Gauge.....131
What Is the Low Fuel Reminder.....132
Fuel Quality.....202
Selecting the Correct Fuel.....202
Selecting the Correct Fuel for Cold Weather.....203
Fuel Tank Capacity - Diesel.....210
Fuel Tank Capacity - Gasoline.....211
Fuse Precautions.....423
Fuses.....423
Battery Fuse Box.....428
Fuses – Troubleshooting.....433
Interior Fuse Box.....429
Under Hood Fuse Box.....423
Fuses – Troubleshooting.....433
Fuses – Frequently Asked Questions.....433

G

Garage Door Opener.....165
Garage Door Opener
See: Universal Garage Door Opener.....165
General Maintenance Information.....575
Generator Mode.....177
Getting Assistance Outside the U.S. and Canada.....586
Getting the Services You Need.....581
Glasses Holder.....187
Locating the Glasses Holder.....187
Glass Roof Bounce-Back.....129
Glass Roof.....128
Global Opening.....120
Switching Global Opening On and Off.....121
Using Global Opening.....120
What Is Global Opening.....120
Glossary of Tire Terminology.....487
Glove Compartment.....183
Locking the Glove Compartment.....183
Opening the Glove Compartment.....183
Ground Fault Detection.....178

H

Headlamp Adjusting
See: Adjusting the Headlamps.....458
Headlamps.....107
Adjusting the Level of the Headlamps.....107
Headlamp Indicators.....107
Switching Headlamp Exit Delay On and Off.....107
Using the High Beam Headlamps.....107
Head Up Display.....136
Head Up Display – Troubleshooting.....137
Head Up Display Settings.....136
Head Up Display – Troubleshooting.....137
Head Up Display – Information Messages.....137

Heated Seats.....160
Heated Seat Precautions.....160
Switching the Heated Seats On and Off.....161
Heating
See: Climate Control - Vehicles With: Automatic Temperature Control.....139
See: Climate Control - Vehicles With: Manual Temperature Control.....144
Hill Descent Control.....277
Hill Descent Control – Troubleshooting.....278
Hill Descent Control Indicator.....277
Hill Descent Control Precautions.....277
Hill Descent Control – Troubleshooting.....278
Hill Descent Control – Information Messages.....278
Hill Start Assist.....266
Hill Start Assist – Troubleshooting.....266
Hill Start Assist Precautions.....266
Hill Start Assist – Troubleshooting.....266
Hill Start Assist – Information Messages.....266
Hitches.....348
Fifth-Wheel Trailer Hitch.....350
Hooking Up a Trailer Using a Weight-Distributing Hitch.....349
Installing a Hitch.....348
Hood Lock
See: Opening and Closing the Hood.....434
Horn.....99
How Does Drive Mode Control Work.....250
How Does Easy Entry and Exit Work.....79
How Does Four-Wheel Drive Work.....231
How Does Hill Descent Control Work.....277
How Does Hill Start Assist Work.....266
How Does Stability Control Work.....269
How Does the Diesel Particulate Filter Work.....212
How Does the Electronic Locking Differential Work.....246
How Does the Rear Occupant Alert System Work.....162
How Does the Safety Canopy™ Work.....50
How Does the Selective Catalytic Reduction System Work.....217
How Does Traction Control Work.....267
How Does Trailer Backup Assistance Work.....377
How Does Trailer Hitching Assistance Work.....368
How Does Trailer Reverse Guidance Work.....391
How Does Trailer Sway Control Work.....367
How Do Personal Profiles Work.....557
How Do the Front Airbags Work.....49
How Do the Side Airbags Work.....49
Hydraulic Power Steering.....279
Checking the Hydraulic Power Steering Fluid.....280
Hydraulic Power Steering Guidelines.....279
Locating the Hydraulic Power Steering Fluid Reservoir.....280

I

Icon Glossary
See: Symbols Glossary.....18
Icons
See: Symbols Glossary.....18
Identifying Fuse Types.....433
Identifying the Audio Unit.....530
Identifying the Auxiliary Switch Wiring.....568
Identifying the Climate Control Unit.....139
Idle Timer - Vehicles With: Engine Idle Shutdown Timer.....194
How Does Idle Timer Work.....194
Idle Timer Precautions.....194
Idle Timer Settings.....194
What is Idle Timer.....194
Ignition Switch - Vehicles With: Keyed Ignition.....188
In California (U.S. Only).....583
Inflating the Tires.....493
Information On Demand Screen.....541
Information on the Tire Sidewall.....482
Inspecting the Tire for Damage.....497

Inspecting the Tire for Wear.....497
Inspecting the Wheel Valve Stems.....501
Installing Child Restraints.....32
Attaching the Front Seat Tether Strap.....37
Attaching the Rear Seat Tether Strap.....38
Combining the Seatbelt and Lower Anchors for Attaching Child Restraints.....37
Installing a Child Restraint in a Center Seat.....36
Using Lower Anchors and Tethers for Children.....36
Using Seatbelts.....32
Using Tether Straps.....37
Instrument Cluster Display.....133
Instrument Cluster Display Main Menu - Vehicles With: 12 Inch Screen.....134
Instrument Cluster Display Main Menu - Vehicles With: 4.2 Inch Screen.....133
Instrument Cluster.....130
Fuel Gauge.....131
Instrument Cluster Overview - Vehicles With: 12 Inch Screen.....131
Instrument Cluster Overview - Vehicles With: 4.2 Inch Screen.....130
Integrated Trailer Brake Controller.....362
Integrated Trailer Brake Controller – Troubleshooting.....365
Integrated Trailer Brake Controller Precautions.....362
Integrated Trailer Brake Controller – Troubleshooting.....365
Integrated Trailer Brake Controller – Frequently Asked Questions.....366
Integrated Trailer Brake Controller – Information Messages.....365
Interior Air Quality.....148
Interior Bulbs.....467
Interior Bulb Specification Chart.....467
Interior Fuse Box.....429
Accessing the Interior Fuse Box.....429
Identifying the Fuses in the Interior Fuse Box.....430
Locating the Interior Fuse Box.....429
Interior Lamp Function.....117
Switching the Interior Lamp Function On and Off.....117
What Is the Interior Lamp Function.....117
Interior Lighting.....117
Interior Lamp Function.....117
Interior Lighting – Troubleshooting.....118
Interior Lighting – Troubleshooting.....118
Interior Lighting – Frequently Asked Questions.....118
Interior Mirror.....123
Auto-Dimming Interior Mirror.....123
Digital Interior Mirror.....123
Interior Mirror Precautions.....123
Interior Overview.....26
Introduction.....15

J

Jump Starting the Vehicle.....413
Jump Starting Precautions.....413
Jump Starting the Vehicle.....414
Preparing the Vehicle.....414

K

Keyless Entry.....74
Keyless Entry – Troubleshooting.....75
Keyless Entry Keypad.....76
Keyless Entry Keypad – Troubleshooting.....78
Keyless Entry Keypad Limitations.....76
Keyless Entry Keypad Master Access Code.....76
Keyless Entry Keypad Personal Access Codes.....77
Keyless Entry Keypad – Troubleshooting.....78
Keyless Entry Keypad – Frequently Asked Questions.....78
Keyless Entry Limitations.....74
Keyless Entry Settings.....74
Keyless Entry – Troubleshooting.....75
Keyless Entry – Frequently Asked Questions.....75
Keys and Remote Controls Audible Warnings - Vehicles With: Flip Key.....68
Keys and Remote Controls Audible Warnings - Vehicles With: Push Button Start.....68

Keys and Remote Controls.....61
Keys and Remote Controls – Troubleshooting.....69
Keys and Remote Controls – Troubleshooting.....69
Keys and Remote Controls – Information Messages.....69

L

Lane Centering.....333
How Does Lane Centering Work.....333
Lane Centering Alerts.....335
Lane Centering Indicators.....335
Lane Centering – Information Messages.....335
Lane Centering Precautions and Limitations.....333
Switching Lane Centering On and Off.....334
Lane Keeping System.....314
Blind Spot Assist.....318
How Does the Lane Keeping System Work.....314
Lane Keeping System – Frequently Asked Questions.....322
Lane Keeping System Indicators.....317
Lane Keeping System – Information Messages.....321
Lane Keeping System Precautions and Limitations.....315
Switching the Lane Keeping System Mode.....316
Switching the Lane Keeping System On and Off.....316
Launching or Retrieving a Boat or Personal Watercraft.....357
Limited Slip Differential.....241
Linking or Unlinking a Personal Profile.....557
Live Traffic.....559
Switching Live Traffic On and Off.....559
What Is Live Traffic.....559
Load Carrying.....340
Load Carrying Precautions.....340
Loading Your Trailer.....356
Locating the Auxiliary Switches.....567
Locating the Auxiliary Switch Wiring.....567
Locating the Brake Fluid Reservoir.....256
Locating the Keyless Entry Keypad.....76
Locating the Memory Function Buttons.....164
Locating the Outlets.....175
Locating the Safety Compliance Certification Labels.....341
Locating the Tire label.....481
Locating Your Vehicle.....63
Locking the Rear Window Controls - Crew Cab/SuperCab.....121

M

Maintenance.....434
12V Battery.....454
12V Battery – Troubleshooting.....457
Coolant.....448
Engine Air Filter.....443
Engine Oil.....437
Exterior Bulbs.....460
Interior Bulbs.....467
Maintenance Precautions.....434
Making and Receiving a Phone Call.....550
Manually Dimming the Interior Mirror.....123
Manually Releasing the Electric Parking Brake.....260
Manually Shifting Gears.....228
Manual Seats.....150
Adjusting the Head Restraint.....150
Adjusting the Lumbar Support.....152
Adjusting the Seat Backrest.....152
Folding the Seats.....159
Head Restraint Components.....150
Installing the Head Restraint.....151
Moving the Seat Backward and Forward.....151
Removing the Head Restraint.....151
Unfolding the Seats.....159
Media Control Buttons.....530
Memory Function.....164
Memory Function Precautions.....164
Mislock.....71
Mislock Limitations.....71

Switching Mislock On and Off....71
What Is Mislock....71
Mobile Communications Equipment....589
Mobile Device Data....24
Moonroof
See: Glass Roof....128
Motorcraft Parts - 6.7L Diesel....470
Motorcraft Parts - 7.3L, Gasoline....471
Muting the Audio....531

N

Navigation Map Updates....559
Navigation....559
Adjusting the Map....559
Live Traffic....559
Route Guidance....560
Setting a Destination....559
Waypoints....560
Neutral Towing
See: Recreationally Towing Your Vehicle - 4x2....422
See: Recreationally Towing Your Vehicle - 4x4....420
Neutral Tow
See: Recreationally Towing Your Vehicle - 4x2....422
See: Recreationally Towing Your Vehicle - 4x4....420

O

Off-Road Driving....402
Onboard Generator Indicators....175
Onboard Generator....174
Onboard Generator – Troubleshooting....179
Onboard Generator Precautions....174
Onboard Generator – Troubleshooting....179
Onboard Generator – Frequently Asked Questions....180
Onboard Generator – Information Messages....179
Onboard Scales....376
Opening and Closing the Flip Key - Vehicles With: Flip Key....62
Opening and Closing the Glass Roof....128
Opening and Closing the Hood....434
Opening and Closing the Sliding Windows - Vehicles With: Power Sliding Rear Window....121
Opening and Closing the Sunshade....128
Opening and Closing the Windows....119
Opening the Tailgate....80
Opening the Tailgate From Inside Your Vehicle....83
Opening the Tailgate From Outside Your Vehicle....80
Opening the Tailgate Using the Remote Control....83
Operating the Doors From Inside Your Vehicle....70
Opening the Doors From Inside Your Vehicle....70
Unlocking and Locking the Doors Using the Central Locking....70
Operating the Doors From Outside Your Vehicle....70
Unlocking and Locking the Doors Using the Key Blade....70
Unlocking and Locking the Doors Using the Remote Control....70
Operating Your Vehicle With a Snowplow....410
OTA
See: Software Update Settings....562
See: Vehicle Software Updates....562
Over the air
See: Software Update Settings....562
Over-the-air
See: Software Update Settings....562
See: Vehicle Software Updates....562
See: Vehicle Software Updates....562

P

Panorama Roof
See: Glass Roof....128
Panoramic Roof
See: Glass Roof....128
Parking Aids....298
Front Parking Aid....299

Parking Aid Indicators....300
Parking Aid Precautions....298
Parking Aids – Information Messages....301
Parking Aids Settings....299
Rear Parking Aid....298
Passive Anti-Theft System....94
How Does the Passive Anti-Theft System Work....94
What Is the Passive Anti-Theft System....94
Perchlorate....588
Performing a System Reset....564
Personal Profiles....557
Phone Menu....548
Phone....548
Phone Precautions....548
Pickup Bed Anchor Points....345
Installing and Removing the Pickup Bed Tie-Down Cleats....346
Locating the Pickup Bed Anchor Points....345
Pickup Bed Anchor Point Load Capacities....346
Pickup Bed Anchor Point Precautions....345
Pickup Bed....345
Pickup Bed Anchor Points....345
Tailgate Anchor Points....347
Pickup Bed Precautions....345
Playing Media Using Bluetooth®....556
Post-Collision Braking....416
Post-Crash Alert System....416
How Does the Post-Crash Alert System Work....416
Switching the Post-Crash Alert System Off....416
What Is the Post-Crash Alert System....416
Power Outlet Precautions....170
Power Outlets and Device Charging Overview....169
Power Outlets and Device Charging....169
Power Running Board Precautions....96
Power Running Board Settings....96
Power Running Boards....96
Power Running Boards – Troubleshooting....97
Power Running Boards – Troubleshooting....97
Power Running Boards – Frequently Asked Questions....97
Power Seats....152
Adjusting the Head Restraint....153
Adjusting the Lumbar Support....155
Adjusting the Seat Backrest....154
Adjusting the Seat Cushion....154
Adjusting the Seat Height....155
Head Restraint Components....152
Installing the Head Restraint....154
Moving the Seat Backward and Forward....154
Removing the Head Restraint....153
Power-Up
See: Software Update Settings....562
See: Vehicle Software Updates....562
Pre-Collision Assist....287
Automatic Emergency Braking....290
Distance Alert....290
Distance Indication....289
Forward Collision Warning....290
How Does Pre-Collision Assist Work....287
Pre-Collision Assist – Information Messages....291
Pre-Collision Assist Precautions and Limitations....288
Pre-Collision Assist Settings....289
Pre-Collision Assist – Warning Lamps....290
Predictive Speed Assist....336
How Does Predictive Speed Assist Work....336
Predictive Speed Assist Indicators....338
Predictive Speed Assist – Information Messages....339
Predictive Speed Assist Precautions and Limitations....337
Switching Predictive Speed Assist Mode On and Off....338
Preparing Your Vehicle for Storage....479
Programming the Remote Control - Vehicles With: Flip Key....66
Programming the Remote Control - Vehicles With: Push Button Start....67

Properly Adjusting the Driver and Front Passenger Seats....56
Protecting the Environment....25
Puncture
See: Changing a Flat Tire....513
Push Button Ignition Switch - Vehicles With: Push Button Start....189

R

Radio Frequency Certification Labels....588
Rear Axle Fluid Capacity and Specification....241
Rear Axle....241
Rear Occupant Alert System Audible Warnings....163
Rear Occupant Alert System Indicators....163
Rear Occupant Alert System Limitations....162
Rear Occupant Alert System Precautions....162
Rear Occupant Alert System....162
Rear Occupant Alert System Settings....163
Rear Seats....158
Heated Seats....160
Manual Seats....158
Rear View Camera....291
How Does the Rear View Camera Work....291
Rear View Camera Guidelines....292
Rear View Camera Precautions and Limitations....292
Rear View Camera Settings....293
Rebooting the Center Display....542
Recovery Towing....417
Accessing the Front Towing Point....417
Recreationally Towing Your Vehicle - 4x2....422
Recreationally Towing Your Vehicle - 4x4....420
Refueling....206
Refueling System Overview....206
Refueling Your Vehicle....207
Releasing the Electric Parking Brake if the Vehicle Battery Has Run Out of Charge....261
Remote Control Limitations....61
Remote Start....138
Remote Start Settings....138
Removing and Installing the Tailgate....80
Removing the Key Blade - Vehicles With: Push Button Start....62
Removing Your Vehicle From Storage....480
Repairing Minor Paint Damage....478
Replacement Parts Recommendation....588
Replacing a Lost Key or Remote Control....65
Replacing the Cabin Air Filter....148
Replacing the Front Wiper Blades....103
Reporting Safety Defects in Canada....587
Reporting Safety Defects in the United States....587
Resetting the Stopping Position - Vehicles With: Power Adjustable Steering Column....99
Resetting the Trip Computer....135
Resetting Tire Pressure Monitoring System....506
Reverse Brake Assist....305
How Does Reverse Brake Assist Work....305
Reverse Brake Assist Indicators....306
Reverse Brake Assist – Information Messages....307
Reverse Brake Assist Precautions....305
Switching Reverse Brake Assist On and Off....306
Roadside Assistance....412
Rollover Warning....581
Route Guidance....560
Adjusting the Guidance Prompt Volume....560
Canceling Route Guidance....561
Repeating an Instruction....561
Running-In
See: Breaking-In....404
Running Out of Fuel....206

S

Satellite Radio....534
Locating the Satellite Radio Identification Number....534
Satellite Radio Limitations....534
Satellite Radio Settings....535
Selecting a Channel....534
What Is Satellite Radio....534
Scheduled Maintenance....571
Seatbelt Extensions....48
Seatbelt Precautions....42
Seatbelt Reminder....46
How Does the Seatbelt Reminder Work....46
Seatbelt Reminder Audible Warnings....47
Seatbelt Reminder Indicators....47
Switching the Seatbelt Reminder On and Off....47
Seatbelts....42
Automatic Locking Mode....44
Seatbelt Reminder....46
Sensitive Locking Mode....44
Seat Features....156
Heated Seats....156
Massage Seats....157
Ventilated Seats....156
SecuriCode
See: Keyless Entry Keypad....76
Security....94
Anti-Theft Alarm System....94
Passive Anti-Theft System....94
Security – Troubleshooting....95
Security – Troubleshooting....95
Security – Frequently Asked Questions....95
Security – Information Messages....95
Selecting a Drive Mode....250
Selecting a Four-Wheel Drive Mode....234
Selecting a Personal Profile....558
Selecting the Audio Source....530
Selective Catalytic Reduction System Guidelines....219
Selective Catalytic Reduction System Precautions....217
Selective Catalytic Reduction System Requirements....219
Selective Catalytic Reduction System....217
Filling the Selective Catalytic Reduction System Tank....219
Selective Catalytic Reduction System – Troubleshooting....222
Selective Catalytic Reduction System – Troubleshooting....222
Selective Catalytic Reduction System – Information Messages....223
Selective Catalytic Reduction System – Warning Lamps....222
Sending and Receiving a Text Message....551
Sensitive Locking Mode....44
How Does Sensitive Locking Mode Work....44
What is Sensitive Locking Mode....44
Service Data....22
Setting a Destination....559
Setting a Destination Using a Point of Interest....560
Setting a Destination Using a Predictive Destination....560
Setting a Destination Using a Recent Destination....560
Setting a Destination Using a Saved Destination....560
Setting a Destination Using the Map Screen....560
Setting a Destination Using the Text Entry Screen....559
Setting a Memory Preset....531
Settings Data....23
Settings....542
Setting the Blower Motor Speed....140
Setting the Clock and Date....531
Setting the Hill Descent Speed....277
Setting the Temperature....140
Setting the Trail Control Speed....272
Setting Up the Trailer Backup Assistance for a Conventional Trailer....377
Applying the Trailer Reversing Aid Sticker....379
Calibrating the System....380
Configuring the Trailer....377
Trailer Sensor Installation....379

Setting Up the Trailer Backup Assistance for a Fifth-Wheel or Gooseneck Trailer....381
Calibrating the System....382
Configuring the Trailer....381
Trailer Sensor Installation....382
Setting Up Trailer Reverse Guidance for a Conventional Trailer....391
Applying the Trailer Reverse Aid Sticker....392
Calibrating the System....394
Configuring the Trailer....391
Trailer Sensor Installation....393
Signing In to Your Account....546
Sitting in the Correct Position....149
Smart Hitch....374
Snow Plowing Precautions....410
Snow Plowing....410
Software Update Indicators....563
Software Update Settings....562
Software Update
See: Software Update Settings....562
See: Vehicle Software Updates....562
Sounding the Panic Alarm....63
Speedometer....131
Speed Sign Recognition....322
How Does Speed Sign Recognition Work....322
Speed Sign Recognition – Frequently Asked Questions....324
Speed Sign Recognition Indicators....323
Speed Sign Recognition Precautions and Limitations....323
Speed Sign Recognition Settings....323
Stability Control Indicator....271
Stability Control....269
Starter Switch
See: Ignition Switch - Vehicles With: Keyed Ignition....188
Starting and Stopping the Engine – Precautions....188
Starting and Stopping the Engine....188
Automatic Engine Stop - Vehicles With: Push Button Start....194
Engine Block Heater....191
Idle Timer - Vehicles With: Engine Idle Shutdown Timer....194
Starting and Stopping the Engine – Troubleshooting....196
Starting the Engine....189
Stopping the Engine....192
Starting and Stopping the Engine – Troubleshooting....196
Starting and Stopping the Engine – Frequently Asked Questions....198
Starting and Stopping the Engine – Information Messages....197
Starting and Stopping the Engine – Warning Lamps....196
Starting the Engine....189
Restarting the Engine After Stopping It....191
Starting a Diesel Engine....190
Starting a Gasoline Engine....189
Status Bar....540
Steering....279
Hydraulic Power Steering....279
Steering – Troubleshooting....281
Steering – Troubleshooting....281
Steering – Information Messages....281
Steering Wheel....98
Stopping the Engine....192
Stopping the Engine When Your Vehicle is Moving....193
Stopping the Engine When Your Vehicle is Stationary....192
Storage....183
Center Console....184
Cup Holders....183
Glasses Holder....187
Glove Compartment....183
Under Seat Storage....185
Storing Your Vehicle....479
Sunroof
See: Glass Roof....128
Switching Air Conditioning On and Off....139
Switching All of the Interior Lamps On and Off....117
Switching Android Auto™ On and Off....554
Switching Apple CarPlay On and Off....552
Switching Climate Control On and Off....139

Switching Defrost On and Off.....139
Switching Easy Entry and Exit On and Off.....79
Switching Four-Wheel Drive On and Off.....233
Switching Hill Descent Control On and Off.....277
Switching Hill Start Assist On and Off.....266
Switching Maximum Cooling On and Off.....140
Switching Maximum Defrost On and Off.....139
Switching Recirculated Air On and Off.....139
Switching Stability Control On and Off.....270
Switching Text Message Notification On and Off.....552
Switching the Audio Unit On and Off.....530
Switching the Electronic Locking Differential On and Off - 4x2.....248
Switching the Electronic Locking Differential On and Off - 4x4.....246
Switching the Front Interior Lamps On and Off.....117
Switching the Hazard Flashers On and Off.....413
Switching the Head Up Display On and Off.....136
Switching the Heated Mirrors On and Off.....140
Switching the Heated Rear Window On and Off.....140
Switching the Heated Steering Wheel On and Off - Vehicles With: Heated Steering Wheel.....100
Switching the Outlets On and Off.....176
Switching the Passenger Airbag On and Off.....52
Switching the Rear Interior Lamps On and Off.....117
Switching Traction Control On and Off.....267
Switching Trail Control On and Off.....272
Switching Trailer Backup Assistance On and Off.....383
Switching Trailer Hitching Assistance On and Off.....369
Switching Trailer Reverse Guidance On and Off.....394
Switching Trailer Sway Control On and Off.....367
Switching Trail Turn Assist On and Off.....275
Symbols Glossary.....18
Symbols Used On Your Instrument Cluster.....18
System Update
See: Software Update Settings.....562
See: Vehicle Software Updates.....562

T

Tachometer.....131
Tailgate Anchor Points.....347
Locating the Tailgate Anchor Points.....347
Tailgate Anchor Point Load Capacities.....347
Tailgate Precautions.....80
Tailgate Step.....81
Accessing the Tailgate Step.....81
Stowing the Tailgate Step.....82
Tailgate.....80
Closing the Tailgate.....83
Opening the Tailgate.....80
Tailgate Step.....81
Tailgate – Troubleshooting.....87
Tailgate – Troubleshooting.....87
Tailgate – Frequently Asked Questions.....88
Tailgate – Information Messages.....87
Tailgate – Warning Lamps.....87
The Better Business Bureau Auto Line Program.....585
The Mediation and Arbitration Program.....585
Third Party Software Copyright Acknowledgment.....588
Tire Care.....493
Tire Pressure Monitoring System Limitations.....505
Tire Pressure Monitoring System Overview.....504

Tire Pressure Monitoring System Precautions....505
Tire Pressure Monitoring System....504
Tire Pressure Monitoring System – Troubleshooting....510
Tire Pressure Monitoring System – Troubleshooting....510
Tire Pressure Monitoring System – Information Messages....512
Tire Pressure Monitoring System – Warning Lamps....510
Tire Replacement Requirements....488
Tire Rotation....501
Towing a Trailer Limitations....356
Towing a Trailer Precautions....355
Towing a Trailer....355
Towing a Trailer – Troubleshooting....360
Towing Weights and Dimensions....358
Towing a Trailer – Troubleshooting....360
Towing a Trailer – Information Messages....360
Towing Weights and Dimensions....358
Calculating the Maximum Loaded Trailer Weight for Your Vehicle....358
Recommended Towing Weights....358
What Is the Maximum Loaded Trailer Weight....358
Towing Your Vehicle Precautions....420
Towing Your Vehicle....420
Towing Your Vehicle – Troubleshooting....422
Towing Your Vehicle – Troubleshooting....422
Towing Your Vehicle – Information Messages....422
Traction Control Indicator....267
Traction Control....267
Traction Control – Troubleshooting....268
Traction Control – Troubleshooting....268
Traction Control – Information Messages....268
Trail Control Indicators....273
Trail Control Limitations....272
Trail Control....272
Trail Control – Troubleshooting....274
Trail Control – Troubleshooting....274
Trail Control – Information Messages....274
Trailer Backup Assistance Precautions....377
Trailer Backup Assistance....377
Setting Up the Trailer Backup Assistance for a Conventional Trailer....377
Setting Up the Trailer Backup Assistance for a Fifth-Wheel or Gooseneck Trailer....381
Trailer Backup Assistance – Troubleshooting....386
Trailer Backup Assistance – Troubleshooting....386
Trailer Backup Assistance – Frequently Asked Questions....388
Trailer Backup Assistance – Information Messages....386
Trailer Brake Precautions....355
Trailer Hitching Assistance Indicators....370
Trailer Hitching Assistance Limitations....368
Trailer Hitching Assistance Precautions....368
Trailer Hitching Assistance....368
Trailer Hitching Assistance – Troubleshooting....372
Trailer Hitching Assistance – Troubleshooting....372
Trailer Hitching Assistance – Information Messages....372
Trailer Lighting Check....352
Trailer Reverse Guidance Precautions....391
Trailer Reverse Guidance....391
Setting Up Trailer Reverse Guidance for a Conventional Trailer....391
Trailer Reverse Guidance – Troubleshooting....397
Trailer Reverse Guidance – Troubleshooting....397
Trailer Reverse Guidance – Frequently Asked Questions....399
Trailer Reverse Guidance – Information Messages....397
Trailer Sway Control Precautions....367

Trailer Sway Control....367
Trailer Towing Hints....357
Trailer Towing Navigation....561
Trail Turn Assist Indicators....275
Trail Turn Assist Precautions and Limitations....275
Trail Turn Assist....275
Trail Turn Assist – Troubleshooting....276
Trail Turn Assist – Troubleshooting....276
Trail Turn Assist – Frequently Asked Questions....276
Trail Turn Assist – Information Messages....276
Transfer Case Fluid Capacity and Specification....235
Transmission Fluid Temperature Gauge....132
Transporting the Vehicle....418
Trip Computer....135
Trip Data....135

U

Under Hood Fuse Box....423
Accessing the Under Hood Fuse Box....423
Identifying the Fuses in the Under Hood Fuse Box....424
Locating the Under Hood Fuse Box....423
Under Hood Overview - 6.7L Diesel....435
Under Hood Overview - 7.3L, Gasoline....436
Under Seat Storage....185
Locating the Under Seat Storage Compartment....185
Universal Garage Door Opener....165
USB Ports....171
Using Alexa Built-In....546
Using a Slide-In Camper....341
Using Keyless Entry....74
Using Power Take-Off....228
Using Progressive Range Selection....229
Using Remote Start....138
Using Snow Chains....490
Using the Center Console Work Surface....181
Using the Diesel Engine Exhaust Brake....263
Using the Instrument Cluster Display Controls....133
Using the Integrated Trailer Brake Controller....362
Using the Keyless Entry Keypad....77
Using the Memory Function....164
Using the Remote Control....61
Using the Trailer Backup Assistance Controller....383
Using the Trailer Backup Assistance Views....384
Using the Valet Mode....68
Using This Publication....17
Using Trailer Hitching Assistance....369
Using Trailer Reverse Guidance Views....395
Utility Idle Mode - Vehicles With: Keyed Ignition....177

V

Vehicle Care....472
Cleaning the Exterior....473
Cleaning the Interior....476
Vehicle Hotspot....529
Vehicle Identification Number....525
Locating the Vehicle Identification Number....525
Vehicle Identification Number Overview....525
Vehicle Identification....525
Vehicle Identification Number....525
Vehicle Software Updates....562
Vehicle Specifications....468
Vehicle System Reset....564
Ventilation
See: Climate Control - Vehicles With: Automatic Temperature Control....139
See: Climate Control - Vehicles With: Manual Temperature Control....144
Venting the Glass Roof....129
Viewing the Tire Pressures....506
Visual Search....26
Voice Interaction....544
Ford Assistant....544

W

Warranty Information....617
Washers....104
Adding Washer Fluid....105
Switching the Courtesy Wipe On and Off....104
Using the Windshield Washer....104
Washer Fluid Specification....105
Washer Precautions....104
Washers
See: Wipers and Washers....102
Waxing Your Vehicle....478
Waypoints....560
Adding a Waypoint....560
Editing Waypoints....560
What Are the Auxiliary Switches....567
What Is a Connected Vehicle....526
What is Alexa Built-In....546
What Is Drive Mode Control....250
What Is Ford Protect....569
What Is Hill Descent Control....277
What Is Hill Start Assist....266
What Is Keyless Entry....74
What Is the Cabin Air Filter....148
What Is the Catalytic Converter....225
What Is the Diesel Particulate Filter....212
What Is the Electric Parking Brake....260
What Is the Electronic Locking Differential....246
What Is the Gross Axle Weight Rating....341
What Is the Gross Combined Weight Rating....342
What Is the Gross Vehicle Weight Rating....342
What Is the Head Up Display....136
What Is the Integrated Trailer Brake Controller....362
What Is the Keyless Entry Keypad....76
What Is the Memory Function....164
What Is the Onboard Generator....174
What is the Rear Occupant Alert System....162
What Is the Selective Catalytic Reduction System....217
What Is the Tire Pressure Monitoring System....504
What Is Traction Control....267
What Is Trail Control....272
What Is Trail Turn Assist....275
Wheel and Tire Information....481
Wheel Nuts....523
Wi Fi
See: Connecting the Vehicle to a Wi-Fi Network....526
Window Bounce-Back....121
Windows....119
Global Opening....120
Wipers and Washers – Troubleshooting....105
Wipers and Washers – Frequently Asked Questions....106
Wipers and Washers – Warning Lamps....105
Wipers and Washers....102
Autowipers....102
Washers....104
Wipers....102
Wipers and Washers – Troubleshooting....105
Wipers....102
Switching Windshield Wipers On and Off....102
Wiper Precautions....102
Wireless Accessory Charger....172