2017 **F-150 Owner's Manual**

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ABOUT THIS MANUAL

Thank you for choosing Ford. We recommend that you take some time to get to know your vehicle by reading this manual. The more that you know about your vehicle, the greater the safety and pleasure you will get from driving it.

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.

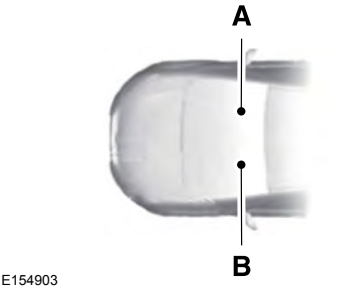
Note: *This manual describes product features and options available throughout the range of available models, sometimes even before they are generally available. It may describe options not fitted to the vehicle you have purchased.*

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

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

Note: *Pass on this manual when selling your vehicle. It is an integral part of your vehicle.*

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.



E154903

A Right-hand side.
B Left-hand side.

SYMBOLS GLOSSARY

These are some of the symbols you may see on your vehicle.


Air conditioning system


Air conditioning system lubricant type



Anti-lock braking system


Avoid smoking, flames or sparks


Battery


Battery acid


Brake fluid - non petroleum based


Brake system


Cabin air filter


Check fuel cap


Child safety door lock or unlock


Child seat lower anchor


Child seat tether anchor


Cruise control


Do not open when hot


Engine air filter


Engine coolant


Engine coolant temperature


Engine oil


Explosive gas


Fan warning


Fasten seatbelt


Flammable


Front airbag


Front fog lamps


Fuel pump reset


Fuse compartment


Hazard warning flashers


Heated rear window


Heated windshield


Interior luggage compartment release


Jack


Keep out of reach of children


Lighting control


Low tire pressure warning


Maintain correct fluid level


Note operating instructions


Panic alarm


Parking aid


Parking brake


Power steering fluid


Power windows front/rear


Power window lockout


Requires registered technician


Safety alert


See Owner's Manual


See Service Manual


Service engine soon


Side airbag


Shield the eyes


Stability control


Windshield wash and wipe

DATA RECORDING

Service Data Recording

Service data recorders in your vehicle are capable of collecting and storing diagnostic information about your vehicle. This potentially includes information about the performance or status of various systems and modules in the vehicle, such as engine, throttle, steering or brake systems. In order to properly diagnose and service your vehicle, Ford Motor Company (Ford of Canada in Canada), and service and repair facilities may access or share among them vehicle diagnostic information received through a direct connection to your vehicle when diagnosing or servicing your vehicle. Additionally, Ford Motor Company (Ford of Canada, in Canada) 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 U.S. only (if equipped), if you choose to use connected apps and services, such as SYNC Vehicle Health Report or MyFord Mobile App, you consent that certain diagnostic information may also be accessed electronically by Ford Motor Company and Ford authorized service facilities, and that the diagnostic information may be used to provide

services to you, personalizing your experience, troubleshoot, and to improve products and services and offer you products and services that may interest you, where permitted by law. 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. See **SYNC™** (page 417).

Event Data Recording

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 safety belts were buckled/fastened;**
- **How far (if at all) the driver was depressing the accelerator and/or the brake pedal; and**
- **How fast the vehicle was traveling; and**
- **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 (e.g., name, gender, age, and crash location) is recorded (see limitations regarding 911 Assist and Traffic, directions and Information privacy below). 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. Ford Motor Company and Ford of Canada do not access event data recorder information without obtaining consent, unless pursuant to court order or where required by law enforcement, other government authorities or other third parties acting with lawful authority. Other parties may seek to access the information independently of Ford Motor Company and Ford of Canada.

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Note: ***Including to the extent that any law pertaining to Event Data Recorders applies to SYNC or its features, please note the following: Once 911 Assist (if equipped) is enabled (set ON), 911 Assist may, through any paired and connected cell phone, disclose to emergency services that the vehicle has been in a crash involving the deployment of an airbag or, in certain vehicles, the activation of the fuel pump shut-off. Certain versions or updates to 911 Assist may also be capable of being used to electronically or verbally provide to 911 operators the vehicle location (such as latitude and longitude), and/or other details about the vehicle or crash or personal information about the occupants to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not activate the 911 Assist feature.*** *See* ***SYNC™*** *(page 417).*

Additionally, when you connect to Traffic, Directions and Information (if equipped, U.S. only), the service uses GPS technology and advanced vehicle sensors to collect the vehicle's current location, travel direction, and speed ("vehicle travel information"), only to help provide you with the directions, traffic reports, or business searches that you request. If you do not want Ford or its vendors to receive this information, do not activate the service. For more information, see Traffic, Directions and Information, Terms and Conditions. See **SYNC™** (page 417).

CALIFORNIA PROPOSITION 65

WARNINGS

Some constituents of engine exhaust, certain vehicle components, certain fluids contained in vehicles and certain products of component wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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

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:

Web Address
www.dtsc.ca.gov/hazard-ouswaste/perchlorate

FORD CREDIT

US Only

Ford Credit offers a full range of financing and lease plans to help you acquire your vehicle. If you have financed or leased your vehicle through Ford Credit, thank you for your business.

We offer a number of convenient ways for you to contact us, and to manage your account.

Call 1-800-727-7000.

For more information about Ford Credit and access to the Account Manager, go to www.fordcredit.com.

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 do happen. 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.

SPECIAL NOTICES

New Vehicle Limited Warranty

For a detailed description of what is covered and what is not covered by your vehicle's New Vehicle Limited Warranty, see the **Warranty Guide** that is provided to you along with your Owner's Manual.

Special Instructions

For your added safety, your vehicle is fitted with sophisticated electronic controls.

WARNINGS

You risk death or serious injury to yourself and others if you do not follow the instruction highlighted by the warning symbol. Failure to follow the specific warnings and instructions could result in personal injury.

Never place front seat mounted rear-facing child or infant seats in front of an active passenger airbag.

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On Board Diagnostics Data Link Connector

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.

Your vehicle has an OBD Data Link Connector (DLC) that is used in conjunction with a diagnostic scan tool for vehicle diagnostics, repairs and reprogramming services. Installing an aftermarket device that uses the DLC during normal driving for purposes such as remote insurance company monitoring, transmission of vehicle data to other devices or entities, or altering the performance of the vehicle, may cause interference with or even damage to vehicle systems. We do not recommend or endorse the use of aftermarket plug-in devices unless approved by Ford. The vehicle Warranty will not cover damage caused by an aftermarket plug-in device.

Notice to owners of pickup trucks and utility type vehicles

WARNING

Utility vehicles have a significantly higher rollover rate than other types of vehicles.

Before you drive your vehicle, please read this Owner's Manual carefully. Your vehicle is not a passenger car. As with other vehicles of this type, failure to operate your vehicle correctly may result in loss of vehicle control, vehicle rollover, personal injury or death.

Using your vehicle with a snowplow

See **Snowplowing** (page 292).

Using your vehicle as an ambulance

Do not use this vehicle as an ambulance. Your vehicle does not have the Ford Ambulance Preparation Package.

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.

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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. This Owner's Manual is written primarily for the U.S. and Canadian Markets. 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.**

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PROTECTING THE ENVIRONMENT

You must 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.

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GENERAL INFORMATION

See the following sections for directions on how to properly use safety restraints for children.

WARNINGS

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.

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.

WARNINGS

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.

Recommendations for Safety Restraints for Children

Child	Child size, height, weight, or age	Recommended restraint type
Infants or toddlers	Children weighing 40 lb (18 kg) or less (generally age four or younger).	Use a child safety seat (sometimes called an infant carrier, convertible seat, or toddler seat).
Small children	Children who have outgrown or no longer properly fit in a child safety seat (generally children who are less than 4 ft. 9 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.
Larger children	Children who have outgrown or no longer properly fit in a belt-positioning booster seat (generally children who are at least 4 ft. 9 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 safety belt having the lap belt snug and low across the hips, shoulder belt centered across the shoulder and chest, and seatback upright.

- You are required by law to properly use safety seats for infants and toddlers in the United States and Canada.
- Many states and provinces require that small children use approved booster seats until they reach age eight, a height of 4 feet 9 inches (1.45 meters) 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, always 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. See **Front Passenger Sensing System** (page 47).

INSTALLING CHILD RESTRAINTS

Child Seats



E142594

Use a child safety seat (sometimes called an infant carrier, convertible seat, or toddler seat) for infants, toddlers, or children weighing 40 pounds (18 kilograms) or less (generally age four or younger).

Using Lap and Shoulder Belts (Except Front Center Position of Super Cab and Crew Cab)

WARNINGS

Airbags can kill or injure a child in a child restraint. Never place a rear-facing child restraint in front of an active airbag. If you must use a forward-facing child restraint in the front seat, move the seat upon which the child seat is installed all the way back.

Airbags can kill or injure a child in a child restraint. Properly restrain children 12 and under in the rear seat whenever possible.

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, occupants should only use seating positions where they are able to be properly restrained.

When installing a child safety seat with combination lap and shoulder belts:

- Use the correct seatbelt buckle for that seating position.
- Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.
- Keep the buckle release button pointing up and away from the safety seat, with the tongue between the child restraint and the release button, to prevent accidental unbuckling.
- Place the vehicle seat upon which the child restraint will be installed in the upright position.
- Put the seatbelt in the automatic locking mode. This vehicle does not require the use of a locking clip.

Perform the following steps when installing the child restraint with combination lap and shoulder belts:

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



E142528

1. Position the child safety seat in a seat with a combination lap and shoulder belt.



E142529

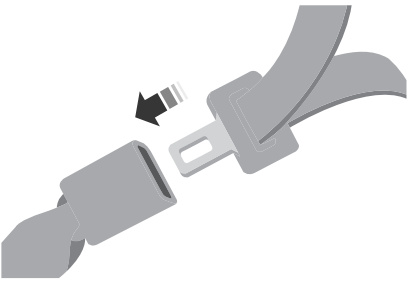
2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.

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E142530

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 the belt webbing is not twisted.



E142531

4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it.



E142875

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 vehicle does not require the use of a locking clip.*

6. Allow the belt to retract to remove slack. The belt will click as it retracts to indicate it is in the automatic locking mode.
7. Try to 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.



E142533

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 will exist once the extra weight of the child is added 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. Attach the tether strap (if the child restraint is equipped).



E142534

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 inch (2.5 centimeters) of movement for proper installation.

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 Lap and Shoulder Belts (Front Center Position of Super Cab and Crew Cab)

WARNINGS

Airbags can kill or injure a child in a child restraint. Never place a rear-facing child restraint in front of an active airbag. If you must use a forward-facing child restraint in the front seat, move the seat upon which the child seat is installed all the way back.

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

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



E142528

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

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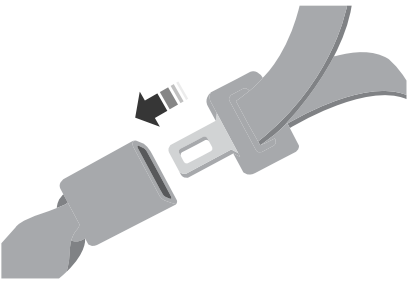
E162708

2. Slide the tongue up the webbing.



E142530

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. Be sure that the belt webbing is not twisted.



E142531

4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it.



E142533

5. While pushing down with your knee on the child restraint, pull up on the shoulder belt portion to tighten the lap belt portion of the combination lap and shoulder belt.
6. Allow the seatbelt to retract and remove any slack in the belt to securely tighten the child safety seat in the vehicle.
7. Attach the tether strap (if the child restraint is equipped).



E142534

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 inch (2.5 centimeters) of movement for proper installation.
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 Inflatable Seatbelts (Rear Seat Outboard Positions) (If Equipped)



E142528

1. Position the child safety seat in a seat with a combination lap and shoulder belt.



E146522

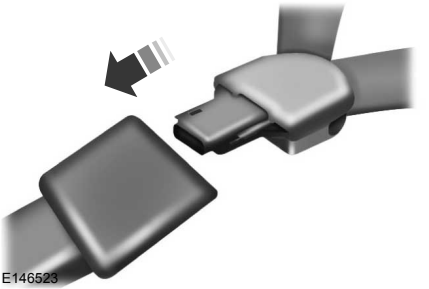
2. After positioning the child safety seat in the proper seating position, grasp the shoulder belt and lap belt together behind the belt tongue.



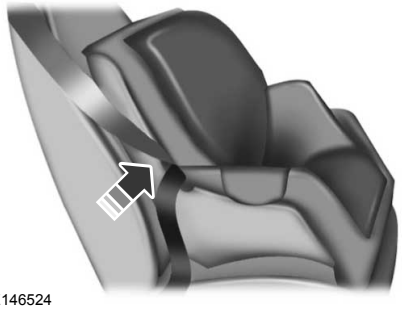
E142530

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. Be sure the belt webbing is not twisted.

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4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it.



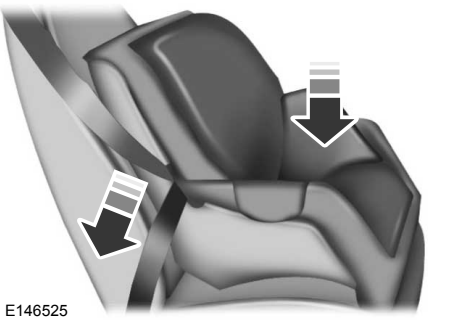
5. To put the retractor in the automatic locking mode, grasp the lap portion of the inflatable seatbelt and pull upward until you pull all of the belt out.

Note: *The automatic locking mode is available on the front passenger and rear seats.*

Note: *Unlike the standard seatbelt, the inflatable seatbelt's unique lap portion locks the child restraint for installation. The ability for the shoulder portion of the belt to move freely is normal, even after the lap belt has been put into the automatic locking mode.*

Note: *The lock-off device on some child restraints may not accommodate the shoulder portion of the inflatable seatbelt. Follow all instructions provided by the manufacturer of the child restraint regarding the necessary and proper use of the lock-off device. In some instances, these devices have been provided only for use in vehicles with seatbelt systems that would otherwise require a locking clip.*

6. Allow the belt to retract to remove slack. The belt will click as it retracts to indicate it is in the automatic locking mode.
7. Try to pull the belt 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 down on the lap belt in order to force slack from the belt. This is

necessary to remove the remaining slack that will exist once the extra weight of the child is added 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 will additionally help to remove remaining slack from the belt.

9. Attach the tether strap (if the child restraint is equipped).



E142534

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 inch (2.5 centimeters) of movement for proper installation.

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 (LATCH)

WARNINGS

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.

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, occupants should only use seating positions where they are able to be properly restrained.

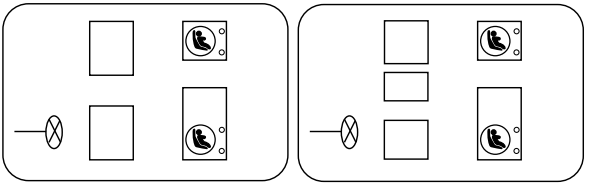
The LATCH system is composed of three vehicle anchor points: two lower anchors where the vehicle seat back and seat cushion meet (called the seat bight) and one top tether anchor behind that seating position.

LATCH compatible child safety seats have two rigid or webbing mounted attachments that 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 the seatbelt can still be used to attach the child restraint if the lower anchors are not used. For forward-facing child restraints, the top tether strap must also be attached to the proper top tether anchor, if a top tether strap has been provided with your child restraint.

Your vehicle has LATCH lower anchors for child restraint installation at the following seating positions (LATCH is not available on Regular Cab):

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Crew Cab and Super Cab



E166694



E166695

The lower LATCH anchors are at the rear section of the rear seat between the cushion and seatback. Follow the child restraint manufacturer's instructions to properly install a child restraint with LATCH attachments.

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

Attach LATCH lower attachments of the child restraint only to the anchors shown.

Use of Inboard Lower Anchors from the Outboard Seating Positions (Center Seating Use)

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 inches (652 millimeters) apart. The standardized spacing for LATCH lower anchors is 11 inches (280 millimeters) center to center. A child restraint with rigid LATCH attachments cannot be installed at the center seating position. LATCH compatible child restraints (with attachments on belt webbing) can only be used 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 an adjacent child restraint is attached to that anchor.

Each time you use the safety seat, 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 one inch when you do this for a proper installation.

If the safety seat is not anchored properly, the risk of a child being injured in a crash greatly increases.

Combining Seatbelt and LATCH Lower Anchors for Attaching Child Safety Seats

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

Using Tether Straps

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

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 safety seat does not reach the appropriate top tether anchor in the vehicle.

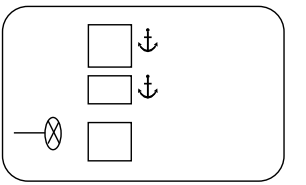
The passenger seats of your vehicle may have built-in tether strap anchors behind the seats.

The tether anchors in your vehicle may be loops of webbing above the seatback or an anchor bracket behind the seat on the rear edge of the seat cushion.

The rear seat in the Crew Cab and Super Cab has three straps along the top of the seat back that function as both routing loops for the tether straps and anchor loops.

The tether strap anchors in your vehicle are in the following positions (shown from top view):

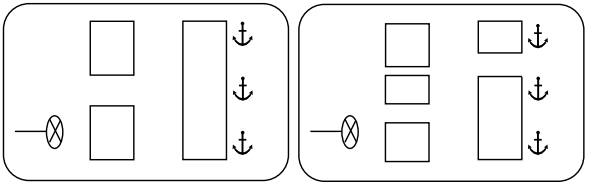
Regular Cab



E166696

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Crew Cab and Super Cab



E166697

Attach the tether strap only to the appropriate tether anchor as shown. 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 the child safety seat has been installed using either the seatbelt, the lower anchors of the LATCH system, or both, you can attach the top tether strap.

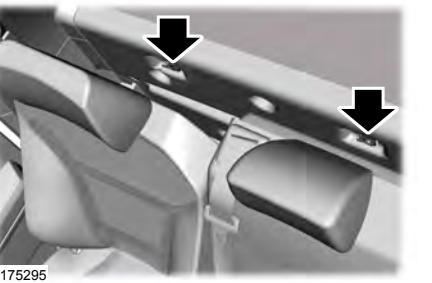
Front Seat Tether Strap Attachment (Regular Cab)

1. Route the child safety seat 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 back.*

2. Locate the correct anchor for the selected seating position. You may need to pull the seatback 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 safety seat tether strap according to the manufacturer's instructions.

Regular Cab passenger and center seats (on back panel)



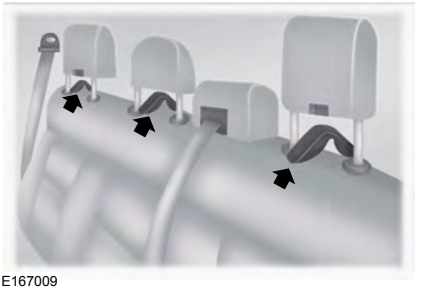
E175295

If the tether strap is clipped incorrectly, the child safety seat may not be retained properly in the event of a crash.

If the safety seat is not anchored properly, 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.

Rear Seat Tether Strap Attachment (Crew Cab and Super Cab)

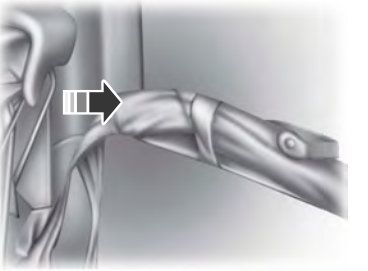


E167009

There are three loops of webbing just above the back of the rear seat (along the bottom edge of the rear window). Use these loops as both routing loops and anchor loops for up to three child safety seat tether straps.

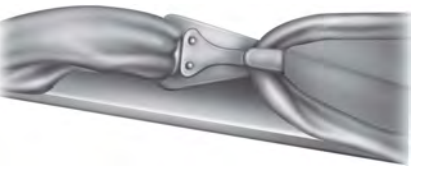
For example, the center loop can be used as a routing loop for a child safety seat in the center rear seat and as an anchoring loop for child restraints installed in the outboard rear seats.

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:



E162714

1. Route the tether strap under the head restraint and through the loop directly behind the child restraint.



E162715

2. Route the tether strap behind the head restraint supports to a loop behind an adjacent seating position, and hook the strap hook onto the loop. If using the driver side, pass the strap behind the shoulder belt for the center seat. Always put the tether strap through the routing loop. The head restraint support post will hold 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.

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If the safety seat is not anchored properly, 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

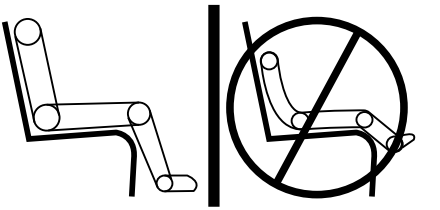
WARNING

Never place, or allow a child to place, the shoulder belt under a child's arm or behind the back because it reduces the protection for the upper part of the body and may increase the risk of injury or death in a crash.

Note: *Some booster seat safety belt guides may not accommodate the shoulder portion of the inflatable safety belt.*

Use a belt-positioning booster seat for children who have outgrown or no longer properly fit in a child safety seat (generally children who are less than 4 feet 9 inches (1.45 meters) tall, are greater than age four (4) and less than age twelve (12), and between 40 pounds (18 kilograms) and 80 pounds (36 kilograms) and upward to 100 pounds (45 kilograms) if recommended by your child restraint manufacturer). Many state and provincial laws require that children use approved booster seats until they reach age eight, a height of 4 feet 9 inches (1.45 meters) tall, or 80 pounds (36 kilograms).

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



E142595

- Can the child sit all the way back against their vehicle seat back 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



E68924

- Backless booster seats

If your backless booster seat has a removable shield, remove the shield. If a vehicle seating position has a low seat back 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 back or head restraint and lap and shoulder belts, or consider using a high back booster seat.



E70710

- 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 (center) 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.



E142596


E142597

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 introduce any item thicker than this under the booster seat. Check with the booster seat manufacturer's instructions.

CHILD RESTRAINT POSITIONING

WARNINGS

Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the vehicle seat upon which the child seat is installed all the way back. When possible, all children age 12 and under should be properly restrained in a rear seating position. If all children cannot be seated and restrained properly in a rear seating position, properly restrain the largest child in the front seat.

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.

WARNINGS

Never let a passenger hold a child on his or her lap while your vehicle is moving. The passenger cannot protect the child from injury in a crash, which may result in serious injury or death.

Never use pillows, books, or towels to boost a child. They can slide around and increase the likelihood of injury or death in a crash.

Always restrain an unoccupied child seat or booster seat. These objects may become projectiles in a crash or sudden stop, which may increase the risk of serious injury.

Never place, or allow a child to place, the shoulder belt under a child's arm or behind the back because it reduces the protection for the upper part of the body and may increase the risk of injury or death in a crash.

WARNINGS



To avoid risk of injury, do not leave children or pets unattended in your vehicle.

Recommendations for attaching child safety restraints for children

Restraint Type	Combined weight of child and child seat	Use any attachment method as indicated below by X				
		LATCH (lower anchors and top tether anchor)	LATCH (lower anchors only)	Safety belt and top tether anchor	Safety belt and LATCH (lower anchors and top tether anchor)	Safety belt only
Rear facing child seat	Up to 65 lb (29.5 kg)		X			X
Rear facing child seat	Over 65 lb (29.5 kg)					X
Forward facing child seat	Up to 65 lb (29.5 kg)	X		X	X	
Forward facing child seat	Over 65 lb (29.5 kg)			X	X	

Note: *The child seat must rest tightly against the vehicle seat upon which it is installed. It may be necessary to lift or remove the head restraint. See* ***Seats*** *(page 148).*

CHILD SAFETY LOCKS (If Equipped)

When these locks are set, the rear doors cannot be opened from the inside.

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E112197

The childproof locks are located on the rear edge of each rear door and must be set separately for each door.

Left-Hand Side

Turn counterclockwise to lock and clockwise to unlock.

Right-Hand Side

Turn clockwise to lock and counterclockwise to unlock.

PRINCIPLE OF OPERATION

WARNINGS

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

To reduce the risk of injury, make sure children sit where they can be properly restrained.

Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a crash, which may result in serious injury or death.

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

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 safety belts. Be sure everyone in your vehicle is in a seat and using a safety belt properly.

In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a safety belt.

Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair. 1) Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. 2) Never swing the safety belt around your neck over the inside shoulder. 3) Never use a single belt for more than one person.

WARNINGS

When possible, all children 12 years old and under should be properly restrained in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

Safety belts and seats can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check seat covers and buckles before you place a child anywhere near them.

Front and rear seat occupants, including pregnant women, should wear safety belts for optimum protection in an accident.

All seating positions in this vehicle have lap and shoulder safety belts. All occupants of the vehicle should always properly wear their safety belts, even when an airbag supplemental restraint system is provided.

The safety belt system consists of:

- Lap and shoulder safety belts.
- Shoulder safety belt with automatic locking mode, (except driver safety belt).
- Height adjuster at the front outboard seating positions.
- Safety belt pretensioner at the front outboard seating positions.



- Safety belt warning light and chime.



- Crash sensors and monitoring system with readiness indicator.

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The safety belt pretensioners at the front seating positions are designed to tighten the safety belts when activated. In frontal and near-frontal crashes, the safety belt 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 THE SEATBELTS

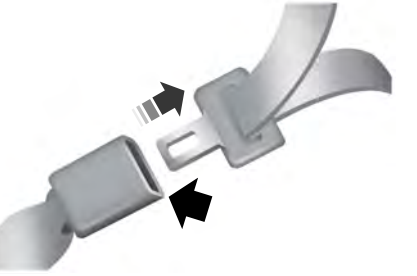
Standard belts shown, inflatable belts similar

The front outboard and rear safety restraints in the vehicle are combination lap and shoulder belts.



E142587

1. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) until you hear a snap and feel it latch. Make sure you securely fasten the tongue in the buckle.



E142588

2. To unfasten, press the release button and remove the tongue from the buckle.

Using the Seatbelt with Cinch Tongue (Front Center Seat)

The cinch tongue slides up and down the seatbelt webbing when you stow the belt or when you put the seatbelts on. When you buckle the lap and shoulder 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 always wear the shoulder belt properly and do not allow any slack in either the lap or shoulder portions.

Before you can reach and latch a lap and shoulder belt having a cinch tongue into the buckle, you may have to lengthen the lap belt portion of it.

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E162708

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

Fastening the Cinch Tongue

WARNING

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

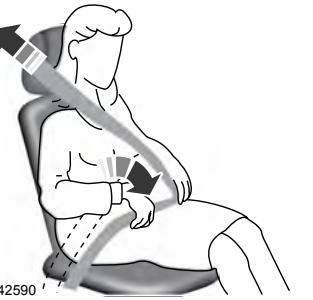
1. Pull the lap and shoulder belt from the retractor so that the shoulder belt portion of the seatbelt crosses your shoulder and chest.
2. Be sure the belt is not twisted. If the belt is twisted, remove the twist.
3. Insert the belt tongue into the proper buckle for your seating position until you hear a snap and feel it latch.
4. Make sure you securely fasten the tongue to the buckle by pulling on the tongue.

While you are fastened in the seatbelt, the lap and shoulder belt 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.

Using 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.


E142590

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.

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Seatbelt Locking Modes

WARNING

After a crash, have a qualified technician check all the seatbelts to make sure the seatbelts including the automatic locking retractor feature for child restraints operate properly. We recommend replacing any system that has damage or does not operate properly. Failure to do so can result in personal injury or death in the event of a sudden stop or another crash.

All safety restraints in the vehicle are combination lap and shoulder belts. The driver seatbelt has the first type of locking mode, and the front outboard passenger and rear seat seatbelts have both types of locking modes described as follows:

Vehicle Sensitive Mode

This is the normal retractor mode, which allows free shoulder belt length adjustment to your movements and locking in response to vehicle movement. For example, if the driver brakes suddenly, turns a corner sharply, or the vehicle receives an impact of about 5 mph (8 km/h) or more, the combination seatbelts lock to help reduce forward movement of the driver and passengers.

In addition, the retractor is designed to lock if you pull the webbing out too quickly. If the seatbelt 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. For rear seatbelts, recline the rear seat backrest or push the seat backrest cushion away from the seatbelt. Feed a small length of webbing back toward the stowed position.

Automatic Locking Mode

In this mode, the shoulder belt automatically pre-locks. The belt still retracts to remove any slack in the shoulder belt. The automatic locking mode is not available on the driver seatbelt.

When to Use the Automatic Locking Mode

Use this mode any time you install a child safety seat in a front outboard passenger seating position in a Regular Cab, SuperCab, SuperCrew or any rear seating position of a SuperCab or SuperCrew. The optional front seat center seatbelt has a cinch mechanism. Properly restrain children 12 years old and under in a rear seat whenever possible. See **Child Safety** (page 16).

How to Use the Automatic Locking Mode

Non-inflatable seatbelts



E142591

1. Buckle the combination lap and shoulder belt.
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.

Rear outboard inflatable seatbelts (second row only– if equipped)


E146363

1. Buckle the combination lap and shoulder belt.
2. Grasp the lap portion of the belt and pull upward 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.

How to Disengage the 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 (emergency) locking mode.

Rear Inflatable Seatbelt (If Equipped)

WARNING

Do not attempt to service, repair, or modify rear inflatable seatbelts.

The rear inflatable seatbelts are in the shoulder portion of the seatbelts of the second-row outboard seating positions.

Note: *The rear inflatable seatbelts are compatible with most infant and child safety car seats and belt positioning booster seats when properly installed. This is because they are designed to fill with a cooled gas at a lower pressure and at a slower rate than traditional airbags. After inflation, the shoulder portion of the seatbelt remains cool to the touch.*

The rear inflatable seatbelt consists of the following:

- An inflatable bag in the shoulder seatbelt webbing.
- Lap seatbelt webbing with automatic locking mode.
- The same warning light, electronic control and diagnostic unit as used for the front seatbelts.
- Impact sensors in various parts of the vehicle.

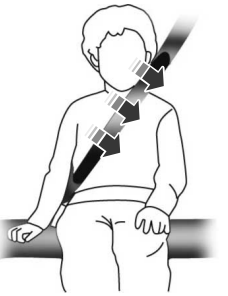
How does the rear inflatable seatbelt system work?

WARNING

If the rear inflatable seatbelt has deployed, it will not function again and must be replaced immediately. If the seatbelt is not replaced, the unrepaired area will increase the risk of injury in a crash.

The rear inflatable seatbelts function like standard restraints in everyday usage.

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E146364

During a crash of sufficient force, the inflatable belt inflates from inside the webbing.



E146365

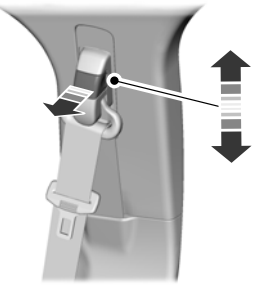
The fully inflated belt's increased diameter more effectively holds the occupant in the appropriate seating position, and spreads crash forces over more area of the body than regular seatbelts. This helps reduce pressure on the chest and helps control head and neck motion for passengers.

The rear inflatable seatbelts are designed to inflate in frontal or near-frontal crashes, rollovers and some side impact crashes. The fact that the rear inflatable seatbelt did not inflate in a crash does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation.

SEATBELT HEIGHT ADJUSTMENT

WARNING

Position the safety belt height adjuster so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the safety belt and increase the risk of injury in a crash.



E145664

Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

To adjust the shoulder belt height:

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.

SEATBELT WARNING LAMP AND INDICATOR CHIME



This lamp illuminates and an audible warning will sound if the driver's safety belt has not been fastened when the vehicle's ignition is turned on.

Conditions of operation

If...	Then...
The driver's safety belt is not buckled before the ignition switch is turned to the on position...	The safety belt warning light illuminates 1-2 minutes and the warning chime sounds 4-8 seconds.
The driver's safety belt is buckled while the indicator light is illuminated and the warning chime is sounding...	The safety belt warning light and warning chime turn off.
The driver's safety belt is buckled before the ignition switch is turned to the on position...	The safety belt warning light and indicator chime remain off.

SEATBELT REMINDER

Belt-Minder™

This feature supplements the safety belt warning function by providing additional reminders that intermittently sound a tone and illuminate the safety belt warning light when you are in the driver seat or you have a front seat passenger and a safety belt is unbuckled.

The system uses information from the front passenger sensing system to determine if a front seat passenger is present and therefore potentially in need of a warning. To avoid activating the Belt-Minder feature for objects you place in the front passenger seat, only the front seat passengers receive warnings as determined by the front passenger sensing system.

If the Belt-Minder warnings expire (warnings for about five minutes) for one passenger (driver or front passenger), the other passenger can still cause the Belt-Minder feature to turn on.

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If...	Then...
You and the front seat passenger buckle your safety belts before you switch the ignition on or less than 1-2 minutes elapse after you switch the ignition on...	The Belt-Minder feature will not activate.
You or the front seat passenger do not buckle your safety belts before your vehicle reaches at least 6 mph (9.7 km/h) and 1-2 minutes elapse after you switch the ignition on...	The Belt-Minder feature activates, the safety belt warning light illuminates and a warning tone sounds for 6 seconds every 25 seconds, repeating for about 5 minutes or until you and the front seat passenger buckle your safety belts.
The safety belt for the driver or front passenger is unbuckled for about 1 minute while the vehicle is traveling at least 6 mph (9.7 km/h) and more than 1-2 minutes elapse after you switch the ignition on...	The Belt-Minder feature activates, the safety belt warning light illuminates and a warning tone sounds for 6 seconds every 25 seconds, repeating for about 5 minutes or until you and the front seat passenger buckle your safety belts.

Deactivating and Activating the Belt-Minder Feature

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 on and off independently. When you perform this procedure for one seating position, do not buckle the other position as this will terminate the process.*

Note: *If you are using MyKey, you cannot disable the Belt-Minder. Also, if the Belt-Minder has been previously disabled, it will be re-enabled during the use of MyKey. See* ***MyKey™*** *(page 59).*

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

Before following the procedure, make sure that:

- The parking brake is set.
- The transmission is in park (P).
- The ignition is off.
- The driver and front passenger safety belt is unbuckled.

1. Switch the ignition on. Do not start the engine.
2. Wait until the safety belt warning light turns off (about one minute). After Step 2, wait an additional 5 seconds before proceeding with Step 3. Once you start Step 3, you must complete the procedure within 30 seconds.

3. For the seating position you are switching off, buckle then unbuckle the safety belt three times at a moderate speed, ending in the unbuckled state. After Step 3, the safety belt warning light turns on.
4. While the safety belt warning light is on, buckle then unbuckle the safety belt. After Step 4, the safety belt warning light flashes for confirmation.

- This will switch the feature off for that seating position if it is currently on.
- This will switch the feature on for that seating position if it is currently off.

CHILD RESTRAINT AND SEATBELT MAINTENANCE

Inspect the vehicle safety belts and child safety seat systems periodically to make sure they work properly and are not damaged. Inspect the vehicle and child seat safety belts to make sure there are no nicks, tears or cuts. Replace if necessary. All vehicle safety belt assemblies, including retractors, buckles, front safety belt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seat back (if equipped), child safety seat LATCH and tether anchors, and attaching hardware, should be inspected after a crash. Read the child restraint manufacturer's instructions for additional inspection and maintenance information specific to the child restraint.

Ford Motor Company recommends that all safety belt 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. Safety belt assemblies not in use during a crash should also be inspected and replaced if either damage or improper operation is noted.

Properly care for safety belts. See **Vehicle Care** (page 343).

SEATBELT EXTENSION

WARNINGS

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.

Only use extensions provided free of charge by Ford Motor Company dealers. The dealer will provide an extension designed specifically for this vehicle, model year 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.

Never use seatbelt extensions to install child restraints.

Do not use a seatbelt extension with an inflatable seatbelt.

Do not use extensions to change the fit of the belt across the torso, over the lap or to make the seatbelt buckle easier to reach.

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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 Ford Motor Company dealers. Only Ford seatbelt extensions made by the original equipment seatbelts manufacturer should be used with Ford seatbelts. Ask your authorized dealer if your extension is compatible with your Ford vehicle restraint system.

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The Personal Safety System provides an improved overall level of frontal crash protection to front seat occupants and is designed to help further reduce the risk of airbag-related injuries. The system is able to analyze different occupant conditions and crash severity before activating the appropriate safety devices to help better protect a range of occupants in a variety of frontal crash situations.

The Vehicle Personal Safety System consists of:

- Driver and passenger dual-stage airbag supplemental restraints.
- Front seat outboard safety belts with pretensioners, energy management retractors and safety belt usage sensors.
- Driver seat position sensor.
- Front passenger sensing system.
- Passenger airbag off and on indicator lamp.
- Front crash severity sensors.
- Restraints control module with impact and safing sensors.
- Restraint system warning light and backup tone.
- The electrical wiring for the airbags, crash sensors, safety belt pretensioners, front safety belt usage sensors, driver seat position sensor, front passenger sensing system and indicator lights.

How Does the Personal Safety System Work?

The Personal Safety System can adapt the deployment strategy of the safety devices according to crash severity and occupant conditions. A collection of crash and occupant sensors provides information to the restraints control module. During a crash, the restraints control module may deploy the safety belt pretensioners, one or both stages of the dual-stage airbags based on crash severity and occupant conditions.

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PRINCIPLE OF OPERATION

WARNINGS

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.

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

Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints. Failure to follow this could seriously increase the risk of injury or death.

Never place your arm over the airbag module as a deploying airbag can result in serious arm fractures or other injuries.

Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the seat upon which the child seat is installed all the way back.

Do not attempt to service, repair, or modify the airbag supplemental restraint systems or its fuses as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.

Several airbag system components get hot after inflation. To avoid risk of injury, do not touch them after inflation.

If the airbag has deployed, the airbag will not function again and must be replaced immediately. If the airbag is not replaced, the unrepaired area will increase the risk of injury in a crash.

The airbags are a supplemental restraint system and are designed to work with the safety belts 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.

While the system is designed to help reduce serious injuries, contact with a deploying airbag may also 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.

Routine maintenance of the airbags is not required.

DRIVER AND PASSENGER AIRBAGS

WARNINGS

Never place your arm or any objects over an airbag module. Placing your arm over a deploying airbag can result in serious arm fractures or other injuries. Objects placed on or over the airbag inflation area may cause those objects to be propelled by the airbag into your face and torso causing serious injury.

Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the vehicle seat upon which the child seat is installed all the way back.



E151127

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

The driver and passenger front airbag system consists of:

- driver and passenger airbag modules.
- front passenger sensing system.

· crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 51).

Proper Driver and Front Passenger Seating Adjustment

WARNING

The National Highway Traffic Safety Administration recommends a minimum distance of at least 10 inches (25 centimeters) 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 safety belts, it is very important that they continue to sit properly. Properly seated occupants sit upright, lean against the seat back, 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 is greatly increased.

Children and Airbags

WARNING

Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.

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E142846

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 Regular Cab, properly restrain the child in the center front 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 not incur risk of serious injury from the airbags.

FRONT PASSENGER SENSING SYSTEM

WARNINGS

Even with Advanced Restraints Systems, children 12 and under should be properly restrained in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

WARNINGS

Sitting improperly out of position or with the seatback reclined too far can take off weight from the seat cushion and affect the decision of the front passenger sensing system, resulting in serious injury or death in a crash. Always sit upright against your seatback, with your feet on the floor.

Any alteration or modification to the front passenger seat may affect the performance of the front passenger sensing system which could seriously increase the risk of injury or death.



E181984

The front passenger sensing system uses a passenger airbag status indicator which will illuminate indicating that the front passenger frontal airbag is either ON (enabled) or OFF (disabled). The indicator lamp is located in the center stack of the instrument panel.

Note: *When the ignition is first turned on, the passenger airbag status indicator OFF and ON lamps will illuminate for a short period to confirm it is functional.*

The front passenger sensing system is designed to disable (will not inflate) the front passenger frontal airbag under certain conditions:

- The front passenger seat is unoccupied.
- The system determines an infant is present in a child restraint.

- A passenger takes their weight off of the seat for a period of time.
- If there is a problem with the airbag system or the passenger sensing system.

Even with this technology, parents are **strongly** encouraged to always properly restrain children in the rear seat.

- When the front passenger sensing system disables (will not inflate) the front passenger frontal airbag, the passenger airbag status indicator will illuminate the OFF lamp and stay lit to remind you that the front passenger frontal airbag is disabled.
- If the child restraint has been installed and the passenger airbag status indicator illuminates the ON lamp, then turn your vehicle off, remove the child restraint from your vehicle and reinstall the restraint following the child restraint manufacturer's instructions.

The front passenger sensing system works with sensors that are part of the front passenger seat and safety belt. The sensors are designed to detect the presence of a properly seated occupant and determine if the front passenger frontal airbag should be enabled.

- When the front passenger sensing system enables the front passenger frontal airbag (may inflate), the passenger airbag status indicator will illuminate the ON lamp and remain illuminated.

If a person of adult size is sitting in the front passenger seat, but the passenger airbag status indicator OFF lamp is lit, it is possible that the person is not sitting properly in the seat. If this happens:

- Turn your vehicle off and ask the person to place the seatback in the full upright position.
- Have the person sit upright in the seat, centered on the seat cushion, with the person's legs comfortably extended.
- Restart your vehicle and have the person remain in this position for about two minutes. This will allow the system to detect that person and enable the passenger's frontal airbag.
- If the indicator OFF lamp remains lit even after this, you should advise the person to ride in the rear seat.

Note: *When the passenger airbag status indicator OFF lamp is illuminated, the passenger side airbag (seat mounted) may be disabled to avoid the risk of airbag deployment issues.*

After all occupants have adjusted their seats and put on safety belts, it is very important that they continue to sit properly. A properly seated occupant sits upright, leaning against the seatback, and centered 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 is greatly increased.

If you think that the state of the passenger airbag status indicator lamp is incorrect, check for the following:

- Objects lodged underneath the seat.
- Objects between the seat cushion and the center console.

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- Objects hanging off the seatback.
- Objects stowed in the seatback map pocket.
- Objects placed on the occupant's lap.
- Cargo interference with the seat
- Other passengers pushing or pulling on the seat.
- Rear passenger feet and knees resting or pushing on the seat.

The conditions listed above may cause the weight of a properly seated occupant to be incorrectly interpreted by the front passenger sensing system. The person in the front passenger seat may appear heavier or lighter due to the conditions described in the previous list.



Make sure the front passenger sensing system is operating properly. See **Crash Sensors and Airbag Indicator** (page 51).

If the airbag readiness light is lit, do the following:

The driver and adult passengers should check for objects lodged underneath the front passenger seat or cargo interfering with the seat.

If objects are lodged or cargo is interfering with the seat, please take the following steps to remove the obstruction:

- Pull your vehicle over.
- Turn your vehicle off.
- Driver or adult passengers should check for any objects lodged underneath the front passenger seat or cargo interfering with the seat.
- Remove the obstruction(s) (if found).
- Restart your vehicle.
- Wait at least two minutes and verify that the airbag readiness light in the instrument cluster is no longer illuminated.
- If the airbag readiness light in the instrument cluster remains illuminated, this may or may not be a problem due to the front passenger sensing system.

Do not attempt to repair or service the system. Take your vehicle immediately to an authorized dealer.

If it is necessary to modify an advanced front airbag system to accommodate a person with disabilities, contact the Ford Customer Relationship Center.

SIDE AIRBAGS

WARNINGS

Do not place objects or mount equipment on or near the airbag cover, on the side of the seatbacks (of the front seats), or in front seat 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.

Do not use accessory seat covers. The use of accessory seat covers may prevent the deployment of the side airbags and increase the risk of injury in an accident.

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

Do not attempt to service, repair, or modify the airbag, its fuses or the seat cover on a seat containing an airbag as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.

WARNINGS

If the side airbag has deployed, the airbag will not function again. The side airbag system (including the seat) must be inspected and serviced by an authorized dealer. If the airbag is not replaced, the unrepaired area will increase the risk of injury in a crash.

The side airbags are located on the outboard side of the seatbacks of the front seats. In certain sideways crashes, the airbag on the side affected by the crash will be inflated. The airbag was designed to inflate between the door panel and occupant to further enhance the protection provided occupants in side impact crashes.



E152533

The system consists of the following:

- A label or embossed side panel indicating that side airbags are fitted to your vehicle.
- Side airbags located inside the driver and front passenger seatbacks.
- Front passenger sensing system.



- Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 51).

Note: *The passenger sensing system will deactivate the passenger seat-mounted side airbag if it detects an empty passenger seat.*

The design and development of the side airbag system included recommended testing procedures that were developed by a group of automotive safety experts known as the Side Airbag Technical Working Group. These recommended testing procedures help reduce the risk of injuries related to the deployment of side airbags.

SAFETY CANOPY™

WARNINGS

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.

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

Do not attempt to service, repair, or modify the curtain airbag supplemental restraint system, its fuses, the A, B, or C pillar trim, or the headliner on a vehicle containing curtain airbags as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.

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.

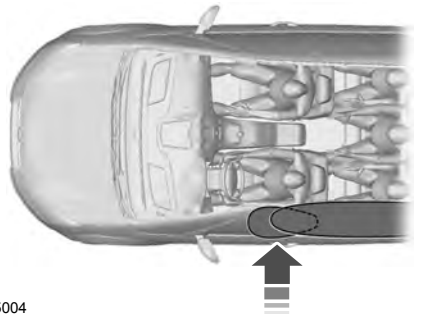
To reduce risk of injury, do not obstruct or place objects in the deployment path of the airbag.

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WARNINGS

If the curtain airbags have deployed, the curtain airbags will not function again. The curtain airbags (including the A, B and C pillar trim and headliner) must be inspected and serviced as soon as possible. If the curtain airbag is not replaced, the unrepaired area will increase the risk of injury in a crash.

The Safety Canopy deploys during significant side crashes or when a certain likelihood of a rollover event is detected by the rollover sensor. 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 is designed to inflate between the side window area and occupants to further enhance protection provided in side impact crashes and rollover events.



E75004

The system consists of the following:

- Safety Canopy curtain airbags located 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 51).

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.

The design and development of the Safety Canopy included recommended testing procedures that were developed by a group of automotive safety experts known as the Side Airbag Technical Working Group. These recommended testing procedures help reduce the risk of injuries related to the deployment of side airbags (including the Safety Canopy).

CRASH SENSORS AND AIRBAG INDICATOR

WARNING

Modifying or adding equipment to the front end of the vehicle (including frame, bumper, front end body structure and tow hooks) may affect the performance of the airbag system, increasing the risk of injury. Do not modify the front end of the vehicle.

Your vehicle has a collection of crash and occupant sensors which provide information to the restraints control module which deploys (activates) the front safety belt pretensioners, optional rear inflatable safety belts, driver airbag, passenger airbag, seat mounted side airbags, and the Safety Canopy®. Based on the type of crash (frontal impact, side impact or rollover), the restraints control module will deploy 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. See **Instrument Cluster** (page 101). Routine maintenance of the airbag is not required.

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



The readiness light will not illuminate immediately after the ignition is turned on.

- The readiness light will either flash or stay lit.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem, the light or both are repaired.

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

The fact that the safety belt 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, belt usage) were not appropriate to activate these safety devices.

- The design of the front airbags is to activate only in frontal and near-frontal crashes (not rollovers, side impacts or rear impacts unless the crash causes sufficient frontal deceleration).
- The design of the safety belt pretensioners and optional rear inflatable safety belts is to activate in frontal, near-frontal and side crashes, and in rollovers.
- The design of the side airbags is to inflate in certain side impact crashes. Side airbags may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation.
- The design of the Safety Canopy is to inflate 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.

AIRBAG DISPOSAL

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

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GENERAL INFORMATION ON RADIO FREQUENCIES

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.

Note: *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.*

The typical operating range for your transmitter is approximately 33 feet (10 meters). Vehicles with the remote start feature will have a greater range. One of the following could cause a decrease in operating range:

- weather conditions
- nearby radio towers
- structures around the vehicle
- other vehicles parked next to your vehicle

Other short-distance radio transmitters, such as amateur radios, medical equipment, wireless headphones, remote controls and alarm systems may operate on the same frequency as your remote control. If other transmitters are operating on those frequencies, you may not be able to use your remote control. Using your remote control near some types of electronic equipment, such as USB devices, computers or cell phones can interfere with remote operation. Operating your remote control near metal or metallic-finished purses, bags or clothing can interfere with remote operation. You can lock and unlock the doors with the key.

Note: *Make sure to lock your vehicle before leaving it unattended.*

Note: *If you are in range, the remote control will operate if you press any button unintentionally.*

Intelligent Access

The system uses a radio frequency signal to communicate with your vehicle and authorize your vehicle to unlock when one of the following conditions are met:

- You touch the inside of the front exterior door handle within 3 ft (1 m) proximity of an intelligent access key.
- You press the tailgate release button.
- You press a button on the transmitter.

If excessive radio frequency interference is present in the area or if the transmitter battery is low, you may need to mechanically unlock your door. You can use the mechanical key blade in your intelligent access key to open the driver door in this situation. See **Remote Control** (page 53).

REMOTE CONTROL

Integrated Keyhead Transmitters

(If Equipped)

Use the key blade to start your vehicle and unlock or lock the driver door from outside your vehicle. The transmitter portion functions as the remote control.



E191532

Press the button to release the key. Press and hold the button to fold the key back in when not in use.



E151795

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

Intelligent Access Key (If Equipped)

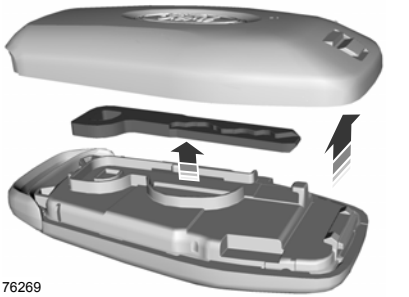


E191531

Your intelligent access keys operate the power locks and the remote start system. The key must be in your vehicle to activate the push-button start system.

Removable Key Blade

The intelligent access key also contains a removable mechanical key blade that you can use to unlock the driver door.



E176269

Slide the release on the back of the remote control and pivot the cover off to access the key blade.



E151795

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

Replacing the Battery

Note: *Refer to local regulations when disposing of transmitter 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 delete the transmitter from the vehicle. The transmitter should operate normally.*

A message appears in the information display when the remote control battery is low. See **General Information** (page 109).

Integrated Keyhead Transmitter

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

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



E191533

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


E151799

3. Carefully remove the cover.


E151800

4. Insert a screwdriver as shown to release the battery. Do not touch the battery contacts or the printed circuit board with the screwdriver.


E151801

5. Remove the battery.

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

Intelligent Access Transmitter

The remote control uses two coin-type three-volt lithium batteries CR2025 or equivalent.



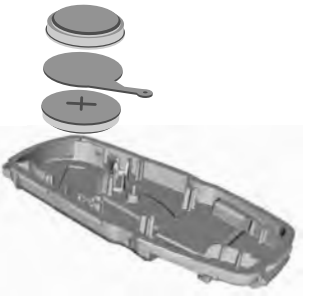
E151796

1. Slide the release on the back of the remote control and pivot the cover off.



E153890

2. Insert a coin into the slot and twist to separate the housing.



E176226

3. Remove the batteries.
4. Install new batteries with the + facing each other.

Note: *Make sure to replace the label between the two batteries.*

5. Reinstall the housing and cover.

Memory Feature (If Equipped)

You can use the remote control to recall memory positions.

Press the unlock button on a linked remote control to recall the memory positions. If you enable the easy-entry-and-exit feature, the seat moves to the easy-entry position. The seat moves to the driver memory position when you put the key in the ignition.

Linking a Preset Position to your Remote Control or Intelligent Access Key Fob

See **Memory Function** (page 153).

Car Finder



Press the button twice within three seconds. The horn sounds and the direction indicators flash. We recommend you use this method to locate your vehicle, rather than using the panic alarm.

Sounding a Panic Alarm

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



Press the button to activate the alarm. Press the button again or switch the ignition on to deactivate.

Remote Start (If Equipped)

WARNING



To avoid exhaust fumes, do not use remote start if your vehicle is parked indoors or in areas that are not well ventilated.

Note: *Do not use remote start if your vehicle is low on fuel.*



The remote start button is on the transmitter.

This feature allows you to start your vehicle from outside the vehicle. The transmitter has an extended operating range.

You can configure vehicles with automatic climate control to turn on the automatic climate control when you remote start your vehicle. See **Automatic Climate Control** (page 142). A manual climate control system runs at the setting you set it to when you switched off the vehicle.

Many states and provinces restrict the use of remote start. Check your local and state or provincial laws for specific requirements regarding remote start systems.

The remote start system does not work if:

- The ignition is on.
- The alarm system triggers.
- You disable the feature.
- The hood is open.
- The transmission is not in **P**.
- The vehicle battery voltage is too low.
- The service engine soon light is on.

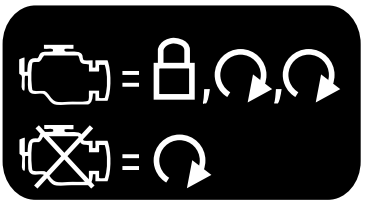
Remote Control Feedback

An LED on the remote control provides status feedback of remote start or stop commands.

LED	Status
Solid Green	Remote start or extension successful
Solid Red	Remote stop successful; vehicle off
Blinking Red	Remote start or stop failed
Blinking Green	Waiting for status update

Remote Starting the Vehicle

Note: *You must press each button within three seconds of each other. Your vehicle remote starts only if you follow this sequence.*



E138626

The tag with your transmitter details the starting procedure.

To remote start your vehicle:

1. Press the lock button.
2. Press the remote start button twice. The exterior lamps flash twice.

The horn sounds if the system fails to start.

Note: *If you have remote started your vehicle with an integrated keyhead transmitter, you must switch on the ignition before driving your vehicle. With an intelligent access transmitter, you must press the brake pedal before driving your vehicle.*

The power windows do not work during the remote start and the radio does not turn on automatically.

The parking lamps remain on and the vehicle runs for 5, 10 or 15 minutes depending on the setting.

Extending the Vehicle Run Time

Repeat Steps 1 and 2 with the vehicle still running to extend the run time for another remote start period. If you programmed the periods to last 10 minutes, the second 10 minutes begins after what is left of the first activation time. For example, if the vehicle has run from the first remote start for five minutes, the vehicle continues to run now for a total of 20 minutes. You can extend the remote start up to a maximum of 30 minutes.

Wait at least five seconds before remote starting after a vehicle shutdown.

Turning the Vehicle Off After Remote Starting



Press the button once. The parking lamps turn off.

You may have to be closer to the vehicle than when starting due to ground reflection and the added noise of the running vehicle.

You can disable or enable the remote start system through the information display. See **General Information** (page 109).

REPLACING A LOST KEY OR REMOTE CONTROL

Replacement keys or remote controls can be purchased from an authorized dealer. Authorized dealers can program remote controls for your vehicle. See **Passive Anti-Theft System** (page 75).

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PRINCIPLE OF OPERATION

MyKey allows you to program keys with restricted driving modes to promote good driving habits. You can program the restrictions to all keys but one. Any keys that you did not program are administrator keys or admin keys.

You can use admin keys to:

- Create a MyKey with certain vehicle restrictions.
- Program certain MyKey settings.
- Clear all MyKey restrictions.

After you program a MyKey, you can view the following information through the information display:

- The total number of admin keys and MyKeys for your vehicle.
- The total distance a MyKey driver traveled with your vehicle.

Note: *Every MyKey receives the same restrictions and settings. You cannot program them individually.*

Note: *For vehicles equipped with a push-button start switch: When both a MyKey and an admin key are present when you start your vehicle, the system recognizes the admin key only.*

Standard Settings

Not every vehicle includes the features listed below. If your vehicle has this equipment, then you cannot change the following settings when using a MyKey:

- Seatbelt reminder or Belt-Minder™. MyKey mutes the audio system until drivers, and in some instances, passengers, fasten their seatbelts.
- Earlier low-fuel warning. The low-fuel warning activates earlier for MyKey drivers, giving them more time to refuel.
- Certain driver alerts, stability systems or parking aids turn on automatically when you use the MyKey system. For example, Blind Spot Information System (BLIS), cross traffic alert, lane departure warning or forward collision warning.
- Restricted touchscreen operation in some markets. For example, MyKey may prevent manual navigation destination input while the vehicle is in any gear other than park (P) or when the vehicle reaches a certain rate of speed.
- Satellite radio adult content restrictions, if this feature is available in your market.

Note: *MyKey drivers may be able to switch the lane departure warning feature off, but this feature turns back on automatically with every new key cycle.*

Note: *MyKey drivers can turn on the forward collision warning when it is turned off by an admin key.*

Note: *If your vehicle includes an AM/FM radio or a very basic audio system, then the radio may not mute.*

Optional Settings

You can configure certain vehicle feature settings when you first create a MyKey. You can also change the settings afterward with an admin key.

Note: *Not every feature applies to every vehicle in every market. When they are available for your vehicle, then they appear in your information display, providing choices to switch them on or off, or to select a more specific setting.*

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- Various vehicle speed limits so the MyKey driver cannot exceed certain speeds. The information display shows warnings followed by an audible tone when the MyKey driver reaches the set speed. You cannot override the set speed by fully depressing the accelerator pedal.

WARNING

Do not set MyKey maximum speed limit to a limit that will prevent the driver from maintaining a safe speed considering posted speed limits and prevailing road conditions. The driver is always responsible to drive in accordance with local laws and prevailing conditions. Failure to do so could result in accident or injury.

- Various vehicle speed reminders so MyKey drivers know when their vehicle speed approaches the limits. Warnings appear in your information display and a tone sounds when the MyKey drivers exceed the set vehicle speed.
- The audio system's maximum volume limits to 45% so MyKey drivers can concentrate on the road. A message appears in the information display when MyKey drivers attempt to exceed the limited volume. MyKey also disables the automatic volume control.
- Always on setting. This setting forces certain features to remain on and active for MyKey drivers. For example, E911 or emergency assistance and the do not disturb features stay on even if a MyKey driver uses the feature's control to switch it off.

Note: *If your vehicle includes an AM/FM radio or a very basic audio system, then the radio may not mute.*

CREATING A MYKEY

Use the information display to create a MyKey.

To create a MyKey:

1. Place your key into the ignition or, if your vehicle is equipped with keyless start, place your transmitter into the backup position. Details on the backup position's location are in another chapter. See **Starting a Gasoline Engine** (page 168).
2. Switch the ignition on.
3. Access the main menu using your left-hand-side steering wheel controls.
4. Depending on your display options, select either **Settings** or **Advanced Settings**, then **MyKey** and finally **Create MyKey**.
5. When the menu reads **Hold OK to Create MyKey**, press and hold the **OK** button to program a MyKey.
6. The display then prompts you to program the Configurable settings.

You can program the configurable features now or at any time. You can advance through the settings without programming them by pressing the **OK** button. MyKey then keeps all of the default settings.

When you finish programming your MyKey, the Type 3 information display adds a confirmation screen, **New MyKey Has Been Created**.

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Programming/Changing Configurable Settings

Use the information display to program or change your configurable MyKey settings.

1. Place your admin key into the ignition or, if your vehicle is equipped with keyless start, place your admin transmitter into the backup position. Details on the backup position's location are in another chapter. See **Starting a Gasoline Engine** (page 168).
2. Depending on your display options, select either **Settings** or **Advanced Settings**, then **MyKey** and finally to various configurable features.
3. Scroll down through the choices, and then highlight the feature you want to configure.

Note: *You can clear or change your MyKey settings at any time during the same key cycle as you created the MyKey. Once you have switched the engine off, however, you will need an admin key to change or clear your MyKey settings.*

CLEARING ALL MYKEYS

You can clear all MyKeys within the same key cycle as you created the MyKey. If you switch your ignition off, however, you will need to use an admin key to clear your MyKeys.

Note: *When you clear your MyKeys, you remove all restrictions and return all MyKeys to their original admin key status at once.*

To clear all MyKeys of all MyKey settings, use the information display and the left-hand-side steering wheel controls:

1. Access the main menu and select **Settings**, then **MyKey** and finally **Clear MyKeys**.
2. Press and hold **OK**.
3. When you finish clearing all MyKeys, the Type 3 information display adds a confirmation screen, **MyKey Cleared**.

CHECKING MYKEY SYSTEM STATUS

You can find information on programmed MyKey(s) using the information display control on the steering wheel. See **Information Displays** (page 109).

To find information on programmed MyKey(s), press the left arrow button to access the main menu and scroll to:

Message	Description
Settings	Press the **OK** button.
MyKey	Press the **OK** button.
Select one of the following:	

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Message	Description
MyKey Dist.	Tracks the distance when drivers use a MyKey. The only way to delete the accumulated distance is by using an admin key to clear your MyKeys. If the distance does not accumulate as expected, then the intended user is not using the MyKey, or an admin key user recently cleared and then recreated a MyKey.
{0} MyKeys	Indicates the number of MyKeys programmed to your vehicle. Use this feature to detect how many MyKeys you have for your vehicle and determine when a MyKey has been deleted.
{0} Admin Keys	Indicates how many admin keys are programmed to your vehicle. Use this feature to determine how many unrestricted keys you have for your vehicle, and detect if an additional MyKey has been programmed.

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USING MYKEY WITH REMOTE START SYSTEMS

MyKey is not compatible with non Ford-approved, aftermarket remote start systems. If you choose to install a remote start system, see an authorized dealer for a Ford-approved remote start system.

MYKEY TROUBLESHOOTING

Condition	Potential Causes
I cannot create a MyKey.	• The key or transmitter used to start the vehicle does not have admin privileges. • The key or transmitter used to start the vehicle is the only admin key (there always has to be at least one admin key). • Vehicles with keyless start: The keyless start transmitter is not placed in the backup position. See **Starting a Gasoline Engine** (page 168). • SecuriLock passive anti-theft system is disabled or in unlimited mode.
I cannot program the configurable settings.	• The key or transmitter used to start your vehicle does not have admin privileges. • No MyKeys are created. See **Creating a MyKey** (page 60).
I cannot clear the MyKeys.	• The key or transmitter used to start your vehicle does not have admin privileges. • No MyKeys are created. See **Creating a MyKey** (page 60).
I lost the only admin key.	Purchase a new key from an authorized dealer.

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Condition	Potential Causes
I lost a key.	Program a spare key. See **Passive Anti-Theft System** (page 75).
MyKey distances do not accumulate.	• The MyKey user is not using the MyKey. • An admin key holder cleared the MyKeys and created new MyKeys. • The key system has been reset.
No MyKey functions with the keyless entry transmitter.	• An admin transmitter is present at vehicle start. • No MyKeys are created. See **Creating a MyKey** (page 60).

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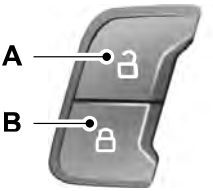
LOCKING AND UNLOCKING

You can use the power door lock control or the remote control to lock and unlock your vehicle.

See **Electronic Tailgate** (page 70).

Power Door Locks (If Equipped)

The power door lock control is on the driver and front passenger door panels.



E138628

A Unlock.
B Lock.

Remote Control (If Equipped)

You can use the remote control at any time your vehicle is not running.

Unlocking the Vehicle (Two-Stage Unlock)



Press the button to unlock the driver door. Press the button again within three seconds to unlock all doors. The direction indicators flash.

Press and hold both the lock and unlock buttons on the remote control for four seconds to disable or enable two-stage unlocking. Disabling two-stage unlocking allows your entire vehicle to unlock with one press of the button. The direction indicators flash twice to indicate a change to the unlocking mode. The unlocking mode applies to the remote control and keyless entry keypad.

Intelligent access at the driver door will unlock your entire vehicle when you disable two-stage unlocking.

Locking the Vehicle



Press the button to lock all doors. The direction indicators flash.

Press the button again within three seconds to confirm that all the doors are closed. The doors lock again, the horn sounds and the direction indicators flash if all the doors are closed.

Mislock

If any door is open, or if the hood is open on vehicles with an anti-theft alarm or remote start, the horn will sound twice and the direction indicators will not flash.

Activating Intelligent Access (If Equipped)

General Information

You can unlock and lock the vehicle without taking the keys out of your pocket or purse when your intelligent access key is within 3 ft (1 m) of your vehicle. Intelligent access uses a sensor on the back of the door handle for unlocking and a separate sensor on the face of each door handle for locking.

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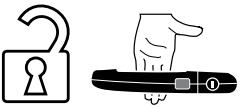
The system will not function if:

- Your vehicle battery has no charge.
- The key battery has no charge.
- The passive key frequencies are jammed.

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: *If the system does not function, use the key blade to lock and unlock your vehicle. See* ***Remote Control*** *(page 53).*

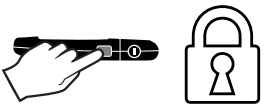
Unlocking Using Intelligent Access



E248555

With your intelligent access 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 to not touch the lock sensor at the same time or pulling the door handle too quickly. The intelligent access system requires a brief delay to authenticate your intelligent access key fob.

Locking Using Intelligent Access



E248556

With your intelligent access key within 3 ft (1 m) of your vehicle, touch the outer door handle lock sensor for approximately one second to lock, being careful to not 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.

At the Electronic Tailgate



E187693

Press the exterior tailgate release button inside of the tailgate handle. The tailgate will unlock and open. See **Electronic Tailgate** (page 70).

Smart Unlock (If Equipped)

This feature helps to prevent you from locking your intelligent access key inside your vehicle's passenger compartment or rear cargo area.

If you leave your key in the ignition, when you open the driver door and lock your vehicle with the power door lock control, the doors lock then unlock.

You can still lock your vehicle with the key in the ignition by:

- Using the manual lock on the inside of the door.
- Locking the driver door with a key.

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- Using the keyless entry keypad.
- Using the lock button on the remote control.

Smart Unlocks for Intelligent Access Keys (If Equipped)

This feature helps to prevent you from locking your intelligent access key inside your vehicle's passenger compartment or rear cargo area.

When you lock your vehicle using the power door lock control (with the door open, vehicle in park and ignition off), your vehicle will search for an intelligent access key in the passenger compartment after you close the door. If your vehicle finds a key, all of the doors will immediately unlock.

In order to override the smart unlock feature and intentionally lock the intelligent access key inside your vehicle, you can lock your vehicle after all doors are closed by using the keyless entry keypad, pressing the lock button on another intelligent access key or touching the locking area on the handle with another intelligent access key in your hand.

When you open one of the front doors and lock your vehicle using the power door lock control, all doors will lock then unlock if the ignition is on.

Autolock and Autounlock (If Equipped)

The autolock feature locks all the doors when your doors are closed, the ignition is on, and your vehicle reaches a speed greater than 12 mph (20 km/h).

When your doors autolock while driving, stopping the vehicle then switching the ignition off or to accessory and opening the driver door unlocks all your doors. This autounlock feature remains active for 10 minutes after stopping.

Note: *The doors do not autounlock if you have electronically locked them before opening the driver door.*

Enabling or Disabling Autolock and Autounlock

You can enable or disable these features independently of each other using the information display. An authorized dealer can also help you enable or disable these features. See **General Information** (page 109).

Illuminated Entry

The interior lamps and select exterior lamps illuminate when you unlock the doors with the remote entry system.

The illuminated entry system turns off the lights if:

- The ignition is on.
- You press the remote control lock button.
- After 25 seconds of illumination.

The dome lamp does not turn on if the control is set to the off position.

The lights do not turn off if:

- You switch them on with the dimmer control.
- Any door is open.

Battery Saver

The battery saver turns off the interior lamps 30 minutes after you switch off the ignition if a door is open and the dome lamp switch is on. It turns off the interior lamps after 10 minutes if the dome lamp switch is off.

Accessory Mode Battery Saver for Intelligent Access Keys (If Equipped)

If you leave the ignition on after leaving your vehicle, it turns off 15 minutes after you close all of the doors.

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KEYLESS ENTRY (If Equipped)

SECURICODE™ KEYLESS ENTRY KEYPAD

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

Note: *If you enter your entry code too fast on the keypad, the unlock function may not work. Re-enter your entry code more slowly.*



E190936

You can use the keypad to:

- Lock or unlock the doors and liftgate.
- Program and erase user codes.
- Arm and disarm the anti-theft alarm.

You can operate the keypad with the factory-set five-digit entry code. The code is located on the owner's wallet card in the glove box and is available from an authorized dealer. You can also create up to five of your own five-digit personal entry codes.

Programming a Personal Entry Code

To create your own personal entry code:

1. Enter the factory-set code.
2. Press **1•2** on the keypad within five seconds.
3. Enter your personal five-digit code. You must enter each number within five seconds of each other.
4. Press **1•2** on the keypad to save personal code one.

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

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

- Press **3•4** to save personal code two.
- Press **5•6** to save personal code three.
- Press **7•8** to save personal code four.
- Press **9•0** to save personal code five.

Tips:

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

Erasing a Personal Code

1. Enter the factory-set five-digit code.
2. Press and release **1•2** on the keypad within five seconds.
3. Press and hold **1•2** for two seconds. This must be done within five seconds of completing Step 2.

All personal codes erase and only the factory-set five-digit code will work.

Recalling Memory Positions (If Equipped)

The programmed entry codes will recall driver memory positions as follows:

- Entry code one will recall driver 1 memory positions.
- Entry code two will recall driver 2 memory positions.
- Entry code three will recall driver 3 memory positions.

Note: *Personal entry codes four and five will not recall memory positions*

Anti-Scan Feature

The keypad will go into an anti-scan mode if you enter the wrong code seven times (35 consecutive button presses). This mode disables the keypad for one minute and the keypad lamp will flash.

The anti-scan feature will turn off after:

- One minute of keypad inactivity.
- Pressing the unlock button on the remote control.
- Switching the ignition on.
- Unlocking the vehicle using intelligent access.

Unlocking and Locking the Doors

To Unlock 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. The interior lamps illuminate.

Note: *All doors unlock if you disable the two-stage unlocking feature. See* ***General Information*** *(page 109).*

To Unlock All Doors

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

To Lock All Doors

Press and hold **7·8** and **9·0** at the same time with the driver door closed. You do not need to enter the keypad code first.

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TAILGATE LOCK

The tailgate lock can help prevent theft of the tailgate.



E224958

Insert the ignition key into the tailgate lock. Turn it to the left to lock the tailgate. Turn it to the right to unlock the tailgate.

MANUAL TAILGATE (If Equipped)



E187692

1. Unlock the tailgate.
2. Pull up on the manual tailgate handle to release the tailgate.

ELECTRONIC TAILGATE (If Equipped)

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 safety belts. Make sure everyone in your vehicle is in a seat and properly using a safety belt. Failure to follow this warning could result in serious personal injury or death.

The electronic tailgate release will not operate when:

- The battery voltage is below the minimum operating voltage.
- The vehicle speed is at or above 3 mph (5 km/h).

With the Remote Control

Press the remote control button twice within three seconds.

With the Outside Control Button

1. Unlock the vehicle with the remote control or power door unlock control. If an intelligent access transmitter is within 3 ft (1 m) of the tailgate, the tailgate will unlock when you press the tailgate release button.

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E187693

2. Press the button in the top of the tailgate handle.
3. Push the tailgate up to close the tailgate.

Note: *The electronic tailgate is not a powered tailgate. The use of a tonneau cover or other aftermarket accessories, freezing conditions or being parked downhill may stop your tailgate from opening automatically after it is unlatched. You may need to pull the handle to open the tailgate if the tailgate does not automatically lower after being unlatched.*

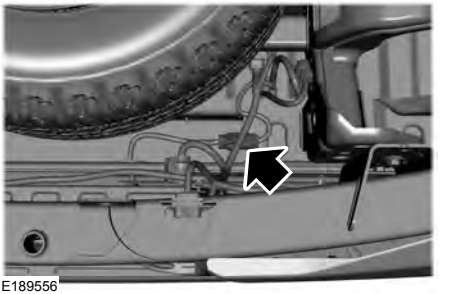
REMOVING THE TAILGATE

WARNING

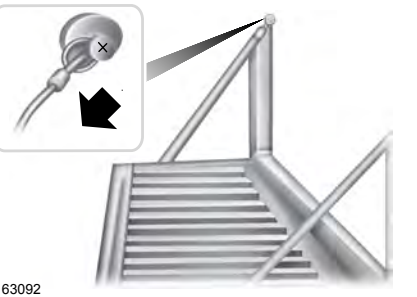
Always properly secure cargo to prevent shifting cargo or cargo falling from vehicle, which could result in compromised vehicle stability and serious personal injury to vehicle occupants or others.

You can remove the tailgate for more loading room.

Note: *Skip to Step 4 if your vehicle does not have a rearview camera.*


E189556

1. Locate and disconnect the rearview camera in-line connector. It is under the pickup box on the right-hand side of the vehicle near the spare tire.
2. There is a protective cap in the glove box. Install it on the in-line connector 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.


E163092

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 45º from horizontal.

8. Lift the right side off its hinge.
9. Lift the tailgate to 80º from horizontal.
10. Remove the tailgate from the left side hinge by sliding it to the right.

Reverse the steps to reinstall the tailgate.

TAILGATE STEP (If Equipped)

Use the step to make entering the truck bed easier.

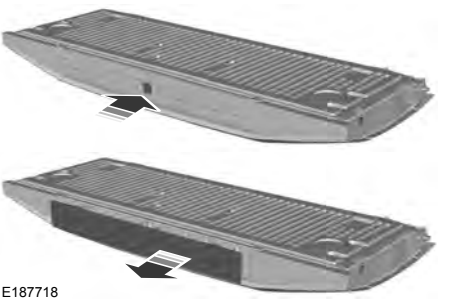
To reduce the risk of falling:

- Only operate the step when your vehicle is on a level surface.
- Only operate the step in areas with sufficient lighting.
- Always open the step panel to widen the step.
- Always 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, you plus the load, below 350 lb (159 kg).

Opening the Step

Note: *Make sure to close and fully latch the step before moving your vehicle. Never drive with the step or grab handle open.*

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



E187718

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



E189557

4. Pull the yellow handle stop backward out of the tailgate.
5. Rotate the handle up from horizontal to vertical until you hear a click. You have locked the handle in place.

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

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

Closing the Step

1. Press handle button 1 to lower the telescoping handle extension, and then press button 2 to release the handle. Rotate the handle down from vertical to horizontal.

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

BED EXTENDER (If Equipped)

Note: *Do not use the bed extender when driving off road.*

Note: *Make sure to engage the locking pins and knobs fully before driving your vehicle.*

Note: *Make sure to secure all cargo.*

Note: *Do not exceed 150 lb (68 kg) on the tailgate when your vehicle is moving.*

Note: *Do not keep the bed extender in the tailgate mode when you are not using it for restraining cargo. Always keep the bed extender in the grocery mode or the stowed position with the tailgate closed.*

Tailgate Mode


E163095

1. Pull the locking pin toward the center of your vehicle.


E163096

2. Open the latches to release the panels.

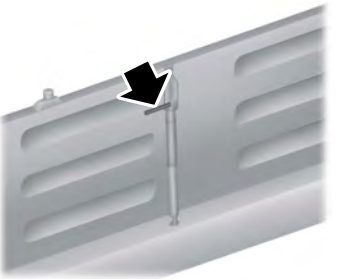

E163097

3. Rotate the panels toward the tailgate. Repeat Steps 1-3 on the other side of your vehicle.


E163098

4. Connect the two panels. Rotate both knobs one-quarter turn clockwise to secure the panels.

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E163099

5. Make sure to insert the latch rod into the tailgate hole. Make sure to engage both sides of the locking pins into their holes in the pick-up box.

Reverse the steps to store the bed extender.

Grocery Mode



E163100

Follow Steps 1-4 of the **Tailgate Mode** instructions by rotating the panels away from the tailgate. Close the tailgate.

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PASSIVE ANTI-THEFT SYSTEM (If Equipped)

Note: *The system is not compatible with non-Ford aftermarket remote start systems. Use of these systems may result in vehicle starting problems and a loss of security protection.*

Note: *Metallic objects, electronic devices or a second coded key on the same key chain may cause vehicle starting problems if they are too close to the key when starting the engine. Prevent these objects from touching the coded key while starting the engine. Switch the ignition off, move all objects on the key chain away from the coded key and restart the engine if a problem occurs.*

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

SecuriLock™

The system is an engine immobilization system. It helps prevent the engine from starting unless you use a coded key programmed to your vehicle. Using the wrong key may prevent the engine from starting. A message may appear in the information display.

If you are unable to start the engine with a correctly coded key, the system has malfunctioned. A message may appear in the information display.

Automatic Arming

The system arms immediately after you switch the ignition off.

Automatic Disarming

Switching the ignition on with a coded key disarms the system.

Replacement Keys

Note: *Your vehicle may have two integrated keyhead transmitters.*

The integrated keyhead transmitter functions as a programmed ignition key. It operates all the locks, starts the vehicle and acts as a remote control.

If your programmed transmitters or standard SecuriLock coded keys are lost or stolen and you do not have an extra coded key, you need to have your vehicle towed to an authorized dealer. You need to erase the key codes from your vehicle and program new coded keys.

Store an extra programmed key away from your vehicle in a safe place to help prevent any inconveniences. Contact an authorized dealer to purchase additional spare or replacement keys.

Programming a Spare Integrated Keyhead Transmitter

Note: *You can program a maximum of eight coded keys to your vehicle. All eight can be integrated keyhead transmitters.*

You can program your own integrated keyhead transmitter or standard SecuriLock coded keys 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 integrated keyhead transmitters or standard SecuriLock keys.

You must have two previously programmed coded keys and the new unprogrammed key readily accessible. Contact an authorized dealer to have the spare key programmed if two previously programmed coded keys are not available.

Read and understand the entire procedure before you begin.

1. Insert the first previously programmed coded 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 coded key from the ignition.
4. After three seconds but within 10 seconds of switching the ignition off, insert the second previously coded 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 coded key from the ignition.
7. After three seconds but within 10 seconds of switching the ignition off and removing the previously programmed coded 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 coded key from the ignition.

The key starts the engine if programming is successful. You can operate the remote entry system if the new key is an integrated keyhead transmitter.

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

Programming a Spare Intelligent Access Key

Note: *You can program a maximum of four intelligent access keys to your vehicle.*

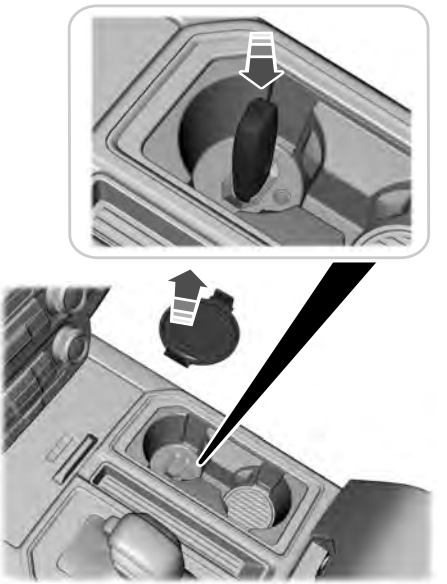
Note: *If your programmed transmitters are lost or stolen and you do not have an extra coded key, you need to have your vehicle towed to an authorized dealer. You need to erase the key codes from your vehicle and program new coded keys. Store an extra programmed key away from your vehicle in a safe place to help prevent any inconvenience. Contact an authorized dealer to purchase additional spare or replacement keys.*

You must have two previously programmed intelligent access keys inside your vehicle and the new unprogrammed intelligent access keys readily accessible. Contact an authorized dealer to have the spare key programmed if two previously programmed keys 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.

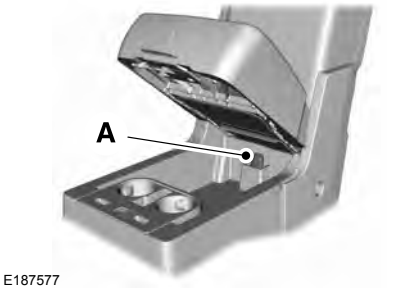
Read and understand the entire procedure before you begin.

Type One



E244507

Type Two



E187577

1. Place the first programmed key in the backup slot (A) in the center console, then press the push button ignition switch. Insert the first previously programmed coded key into the ignition.
2. Wait five seconds and then press the push button ignition switch again. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
3. Remove the intelligent access key. Switch the ignition off and remove the first coded key from the ignition.
4. Within 10 seconds, place a second programmed intelligent access key in the backup slot. Press the push button ignition switch. After three seconds but within 10 seconds of switching the ignition off, insert the second previously coded key into the ignition.
5. Wait five seconds and then press the push button ignition switch again. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
6. Remove the intelligent access key. Switch the ignition off and remove the second previously programmed coded key from the ignition.
7. Place the unprogrammed intelligent access key in the backup slot and press the push button ignition switch. After three seconds but within 10 seconds of switching the ignition off and removing the previously programmed coded key, insert the new unprogrammed key into the ignition.

Programming is now complete. Verify the remote control functions operate and your vehicle starts with the new intelligent access key.

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.

ANTI-THEFT ALARM (If Equipped)

The active anti-theft system is designed to warn you in the event of unauthorized vehicle entry and is also designed to help prevent unwanted towing of your vehicle. You can choose what is monitored by arming the system in different ways. See **Information Displays** (page 109).

The direction indicators flash and the horn sounds if the system triggers while the alarm is armed.

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

Reduced Guard (If Equipped)

To monitor the following:

- Doors.
- Hood.
- Tailgate.

Lock your vehicle using the key in the driver door lock cylinder.

Full Guard (If Equipped)

To monitor the following:

- Doors.
- Hood.
- Tailgate.
- Movement inside your vehicle.
- Change in vehicle inclination, for example, unwanted towing.

Lock your vehicle using the remote control or the power door lock control with the accompanying door open and then close all doors.

Note: *Do not choose full monitor mode if movement within the vehicle is likely to occur or when the vehicle is in transport.*

Note: *For correct operation of the interior motion detection system, make sure all windows are closed prior to arming the system. This helps prevent accidental alarm activation due to external influences and make sure of correct interior motion detection. Additionally, the interior motion sensing system will not arm if any door is ajar.*

Arming the Alarm

The alarm is ready to arm when there is not a key in the ignition. Lock your vehicle to arm the alarm.

The direction indicators flash once after you lock your vehicle. This indicates the alarm is in the pre-armed mode. It fully arms after 20 seconds.

Disarming the Alarm

Disarm the alarm by any of the following actions:

- Press the power door unlock button within the 20-second pre-armed mode.
- Unlock the doors with the remote control or keyless entry keypad.
- Switch the ignition on or start your vehicle.
- Use a key in the driver door lock cylinder to unlock your vehicle, then switch the ignition on within 12 seconds.

Note: *Pressing the panic button on the remote control stops the horn and direction indicators, but will not disarm the system.*

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USING POWER RUNNING BOARDS

WARNINGS

In extreme climates, excessive ice buildup may occur, causing the running boards not to deploy. Make sure that the running boards have deployed, and have finished moving before attempting to step on them. The running boards will resume normal function once the blockage is cleared.

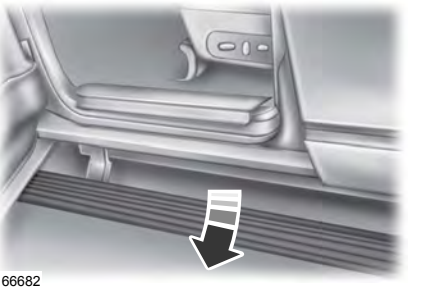
Switch off the running boards before jacking or placing any object under your vehicle. Never place your hand between the extended running board and your vehicle. A moving running board may cause injury.

Note: *Do not use the running boards, front and rear hinge assemblies, running board motors, or the running board underbody mounts to lift your vehicle when jacking. Always use proper jacking points.*

Note: *The running boards may operate more slowly in cool temperatures.*

Note: *The running board mechanism may trap debris such as mud, dirt, snow, ice and salt. This may cause unwanted noise. If this happens, manually set the running boards to the deployed position. Then, wash the system, in particular the front and rear hinge arms, with a high-pressure car wash wand.*

Automatic Power Deploy


E166682

The running boards automatically extend down and out when you open the door. This can help you enter and exit your vehicle.

Automatic Power Stow

When you close the doors, the running boards return to the stowed position after a two-second delay.

Manual Power Deploy

You can manually operate the running boards in the information display. See **General Information** (page 109).

Set the running boards in the deployed position (**OUT**) to access the roof.

The running boards return to the stowed position and enter automatic mode when the vehicle speed exceeds 3 mph (5 km/h).

Enabling and Disabling

You can enable and disable the power running board feature in the information display. See **General Information** (page 109).

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- When disabled (**OFF**), the running boards move to the stowed position regardless of the door position.
- When enabled (**AUTO**), the running boards move back to the correct positions based on the door position.

Bounce-back

The running board will reverse direction and move to the end of travel if it encounters an object while moving.

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ADJUSTING THE STEERING WHEEL

WARNING

Do not adjust the steering wheel when your vehicle is moving.

Note: *Make sure that you are sitting in the correct position.*



E180482

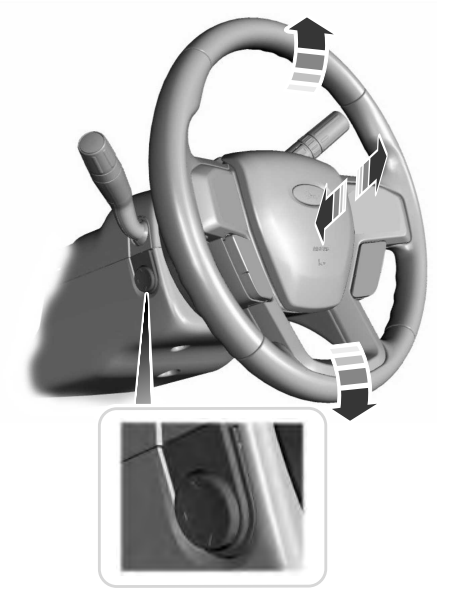
1. Unlock the steering column.
2. Adjust the steering wheel to the desired position.



E180534

3. Lock the steering column.

Power Tilt and Telescope Steering Column (If Equipped)



E180535

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.

Memory Feature

You can save and recall the steering column position with the memory function.

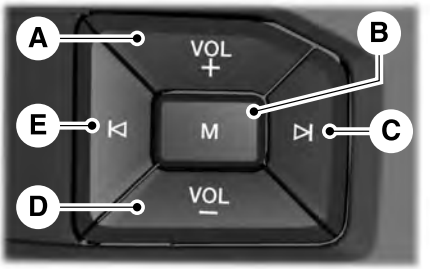
Pressing the adjustment control during memory recall cancels the operation.

Easy Entry and Exit Feature

The column moves to the full up and in position when you switch the ignition off. It returns to the previous setting when you switch the ignition on. You can switch this feature on or off in the information display.

AUDIO CONTROL (If Equipped)

You can operate the following functions with the control:



E191327

A	Volume up.
B	Media.
C	Seek up or next.
D	Volume down.
E	Seek down or previous.

Media

Press repeatedly to scroll through available audio modes.

Seek, Next or Previous

Press the seek button to:

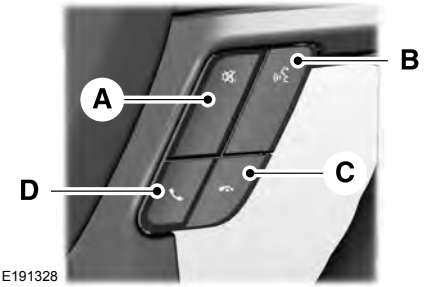
- Tune the radio to the next or previous stored preset.
- Play the next or previous track.

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Press and hold the seek button to:

- Tune the radio to the next station up or down the frequency band.
- Seek through a track.

VOICE CONTROL (If Equipped)



E191328

A Mute.
B Voice recognition.
C End call.
D Answer call.

See your SYNC information.

CRUISE CONTROL (If Equipped)

Type 1



E191329

Type 2



E191337

See **Cruise Control** (page 224).

INFORMATION DISPLAY CONTROL



E191336

See **Information Displays** (page 109).

ADJUSTING THE PEDALS (If Equipped)

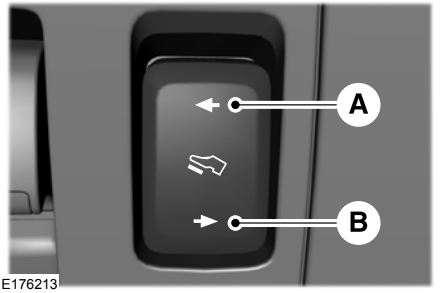
Note: *Never use the controls when your feet are on the accelerator or brake pedals, especially when the vehicle is moving.*

Note: *Adjust the pedals only when your vehicle is in park (P).*

Depending on your vehicle and equipment level, the shape and location of your power-adjustable pedal control can vary.

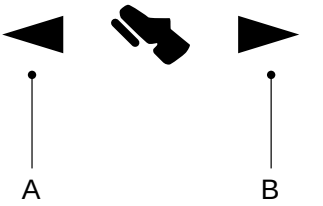
- If your control is vertical, then it is to the left of the steering column and on the instrument panel.
- If your control is horizontal, then it is on the left side of the steering column.

The Vertical Control



A. Farther.
B. Closer.

The Horizontal Control



A. Farther.
B. Closer.

Both horizontal and vertical controls operate the same way:

1. Press and hold A to move the pedals away from you.
2. Press and hold B to move the pedals closer to you.

You can save and recall the pedal positions with the memory feature. See **Memory Function** (page 153).

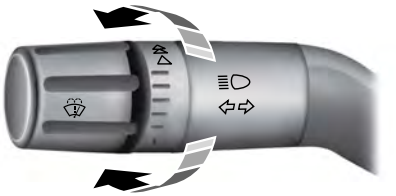
WINDSHIELD WIPERS

Note: *Fully defrost the windshield before you switch the windshield wipers on.*

Note: *Make sure you switch the windshield wipers off before entering a car wash.*

Note: *If streaks or smears appear on the windshield, clean the windshield and the wiper blades. If that does not resolve the issue, install new wiper blades.*

Note: *Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washers before wiping a dry windshield.*



E172816

Rotate the end of the control:

- Away from you to increase the wiper speed.
- Toward you to decrease the wiper speed.

Speed Dependent Wipers

When your vehicle speed increases, the interval between wipes decreases.

AUTOWIPERS (If Equipped)

Note: *Fully defrost the windshield before you switch the windshield wipers on.*

Note: *Make sure you switch the windshield wipers off before entering a car wash.*

Note: *If streaks or smears appear on the windshield, clean the windshield and the wiper blades. If that does not resolve the issue, install new wiper blades.*

Note: *The courtesy wipe feature turns on after using the windshield washers to remove any excess washer fluid and debris. You can adjust the courtesy wipe settings in the instrument display.*

Wet or winter driving conditions with ice, snow or salty road mist can cause inconsistent and unexpected wiping or smearing.



E172817

Use the rotary control to adjust the sensitivity of the autowipers. 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.

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.

In these conditions, you can do the following:

- Lower the sensitivity of the autowipers to reduce the amount of smearing on the windshield.
- Switch to normal or high-speed wipe.
- Switch autowipers off.

WINDSHIELD WASHERS

Note: *Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washer before wiping a dry windshield.*

Note: *Do not operate the washers when the washer reservoir is empty. This may cause the washer pump to overheat.*



E172818

- A brief press causes a single wipe without washer fluid.
- A brief press and hold causes the wipers to swipe three times with washer fluid.
- A long press and hold turns on the wipers and washer fluid for up to 10 seconds.

A wipe occurs a few seconds after washing to clear any remaining washer fluid. You can switch this feature on or off in the information display.

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LIGHTING CONTROL



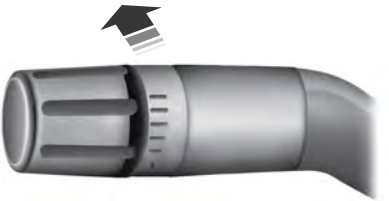
E142449

A Off.

B Parking lamps, instrument panel lamps, license plate lamps and rear lamps.

C Headlamps.

Headlamp High Beam

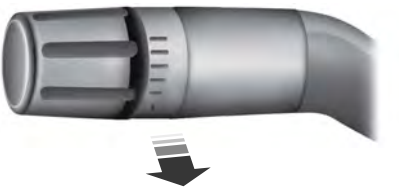


E167827

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.

Headlamp Flasher



E163268

Slightly pull the lever toward you and release it to flash the headlamps.

AUTOLAMPS (If Equipped)

WARNING

The autolamps switch position may not activate the headlamps in all low visibility conditions, such as daytime fog. Always ensure that your headlamps are switched to auto or on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.



E142451

When the lighting control is in the autolamps position, the headlamps automatically turn on in low light situations or when the wipers turn on.

When the lighting control is in the autolamps position, you can switch on the following in the information display:

- Configurable daytime running lamps.
- Automatic high beam control.
- Adaptive headlamp control.

The headlamps remain on for a period of time after you switch the ignition off. Use the information display controls to adjust the period of time that the headlamps remain on.

Note: *If you switch on the autolamps, you cannot switch the high beam headlamps on until the autolamps system turns the low beam headlamps on.*

Windshield Wiper Activated Headlamps

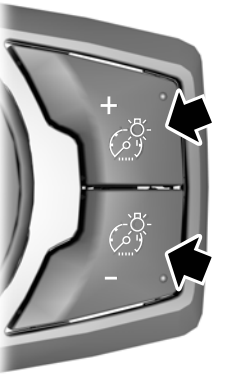
Note: *If you switch autolamps and autowipers on, the headlamps automatically turn on when the windshield wipers continuously operate.*

When you switch the autolamps on, the windshield wiper activated headlamps turn on within 10 seconds of switching on the wipers. They turn off approximately 60 seconds after you switch the windshield wipers off.

The headlamps do not turn on with the wipers:

- During a single wipe.
- When you use the windshield washer.
- If the wipers are in intermittent mode.

INSTRUMENT LIGHTING DIMMER



E231828

DAYTIME RUNNING LAMPS (If Equipped)

WARNING

The daytime running lamps system does not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Also, the autolamps switch position may not activate the headlamps in all low visibility conditions, such as daytime fog. Make sure the headlamps are switched to auto or on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.

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Type 1 - Conventional (Non-Configurable)

The daytime running lamps turn on when:

1. You switch the ignition on.
2. The transmission is not in park (P) for vehicles with automatic transmissions, or you release the parking brake for vehicles with manual transmissions.
3. The lighting control is in the off, parking lamp or autolamps positions.
4. The headlamps are off.

Type 2 - Configurable

Switch the daytime running lamps on or off using the information display. See **Information Displays** (page 109).

The daytime running lamps turn on when:

1. You switch the lamps on in the information display.
2. You switch the ignition on.
3. The transmission is not in park (P) for vehicles with automatic transmissions, or you release the parking brake for vehicles with manual transmissions.
4. The lighting control is in the autolamps position.
5. The headlamps are off.

The other lighting control switch positions do not activate the daytime running lamps.

When you switch off the daytime running lamps in the information display, the lamps stay off in all switch positions.

AUTOMATIC HIGH BEAM CONTROL (If Equipped)

WARNING

The system does not relieve you of your responsibility to drive with due care and attention. You may need to manually override the system if it does not turn the high beams on or off.

The system automatically turns on high beams 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 off high beam before it can distract other road users. Low beam remains on.

Note: *The system may not operate properly if the sensor is blocked. Keep the windshield free from obstruction or damage.*

Note: *The system may not operate properly in cold or inclement conditions. You can switch on the high beams by manually overriding the system.*

Note: *If the system detects a blockage, for example bird droppings, bug splatter, snow or ice, the system goes into low beam mode until you clear the blockage. A message may appear in the information display if the camera is blocked.*

Note: *Using much larger tires or equipping vehicle accessories such as snowplows can modify your vehicle's ride height and degrade automatic high beam control performance.*

A camera sensor, centrally mounted behind the windshield of your vehicle, continuously monitors conditions to turn the high beams on and off.

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Once the system is active, the high beams turn on if:

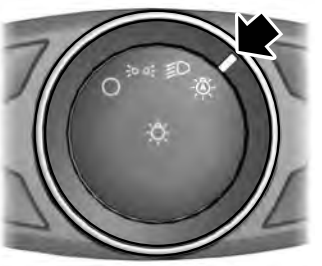
- The ambient light level is low enough.
- There is no traffic in front of your vehicle.
- The vehicle speed is greater than approximately 32 mph (51 km/h).

The high beams turn off if:

- The ambient light level is high enough that high beams are not required.
- The system detects an approaching vehicle's headlamps or tail lamps.
- The vehicle speed falls below approximately 27 mph (43 km/h).
- The system detects severe rain, snow or fog.
- The camera is blocked.

Switching the System On and Off

Switch the system on using the information display.



E142451

Switch the lighting control to the autolamps position.

Manually Overriding the System

When you switch on the high beams, pushing or pulling the stalk provides a temporary override to low beam.

FRONT FOG LAMPS (If Equipped)



E142453

Press the control to switch the fog lamps on or off.

You can switch the fog lamps on when the lighting control is in any position except Off and the high beams are not on.

DIRECTION INDICATORS



E163272

- To operate the left direction indicator, push the lever down until it stops.
- To operate the right direction indicator, push the lever up until it stops.

Note: *Tap the lever up or down to make the direction indicators flash three times.*

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SPOT LAMPS (If Equipped)

The spot lamps are on the forward-facing side of the exterior mirrors. You can switch on the spot lamps by pressing the buttons above the lighting control with the parking lamps on.



E176842

If you switch on the spot lamps, the area in front of and to the side of your vehicle illuminates.

Adjust the aim of the spot lamps by moving the position of the exterior mirrors.

For manual folding mirrors, adjust the aim of the lamps by folding the exterior mirrors into or away from the windows. For power-folding mirrors, use the switch on the driver-side door.

Note: *The spot lamps turn off automatically when you reach a speed of 6 mph (10 km/h).*

Cargo and Trailer Hookup Lamps

The cargo lamps are in the central high mounted stop lamp, and to either side of the cargo box.

The trailer hookup lamp is on the tailgate next to the handle.



Pressing the button in the lighting control panel or the button in the cargo box near the lamp turns on both of these lamps.



E190880

If you switch on the cargo lamps, the cargo and trailer hitch area illuminate.

Note: *The cargo and trailer hookup lamps turn off automatically when you reach a speed of 3 mph (5 km/h). They also turn off automatically after 10 minutes, fading gradually to off.*

INTERIOR LAMPS

The lamps turn on when you have met one of the following conditions:

- You open any door.
- You press a remote control button.

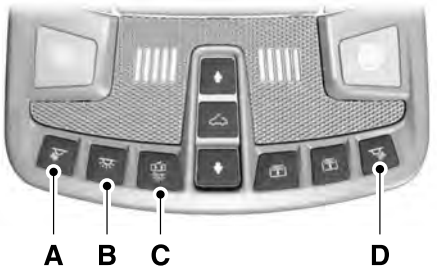
Front Interior Lamps

Note: *The front interior lamp switches are on the overhead console. The exact location of each button on the overhead console depends upon your vehicle features.*

Note: *Press the required button to switch the door function off when you open any door. When the door function is off and you open a door, the courtesy and door lamps stay off.*

Note: *Press the button again to switch the door function back on. When the door function is on and you open a door, the courtesy and door lamps turn on.*

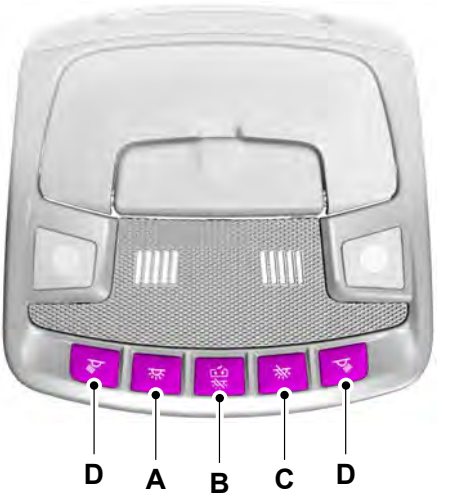
Type 1



E230569

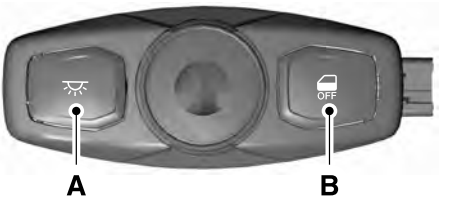
A. Left-hand side map lamp.
B. All lamps on.
C. Door function.
D. Right-hand side map lamp.

Type 2



E192153

A. All lamps on.
B. Door function.
C. All lamps off.
D. Map lamps.



E187342

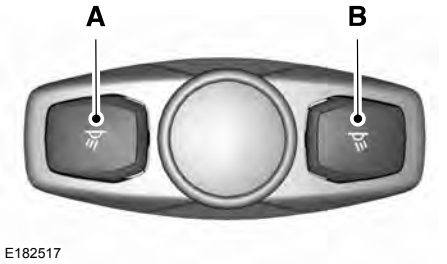
A. All lamps on.
B. Door function.

Rear Interior Lamps (If Equipped)



E187343

Press to switch the lamps on or off.



E182517

A. Left-hand side map lamp.
B. Right-hand side map lamp.



E187345

Press to switch the lamps on or off.

AMBIENT LIGHTING (If Equipped)

Adjust the ambient lighting using the touchscreen. See your SYNC information.

POWER WINDOWS (If Equipped)

WARNINGS

Do not leave children unattended in your vehicle and do not let them play with the power windows. They may seriously injure themselves.

When closing the power windows, you should verify they are free of obstructions and make sure that children and pets are not in the proximity of the window openings.



E176215

Press the control to open the window.

Lift the control to close the window.

Note: *You may hear a pulsing noise when just one of the windows is open. Lower the opposite window slightly to reduce this noise.*

One-Touch Up or Down (If Equipped)

Press or lift the switch fully and release it. Press or lift it again to stop the window.

Note: *The window may disable for up to five minutes if you cycle it up and down repeatedly. This helps prevent damage to the motor. Normal operation will resume once the motor cools.*

Restoring the One-Touch Up Function

You may lose the one-touch function if the vehicle battery is low.

To reset the function after the battery recharges:

1. Pull the switch all the way up.
2. Hold the switch until the glass stops and continue to hold for two seconds.
3. Press the switch down and operate the window to the full down position. One-touch up will now be functional.

Note: *Perform one-touch up re-calibration with the door closed. Calibrating with the door open will cause the window to continuously bounce back.*

Bounce-Back (If Equipped)

The window will automatically stop and reverse some distance if it detects an obstacle while closing.

Overriding the Bounce-Back Feature

WARNING

When you override the bounce-back feature the window will not reverse if it detects an obstacle. Take care when closing the windows to avoid personal injury or damage to your vehicle.

Pull up the window switch and hold within two seconds of the window reaching the bounce-back position. The window will travel up with no bounce-back protection. The window will stop if you release the switch before the window closes fully.

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Window Lock (If Equipped)



E176216

Press the control to lock or unlock the rear window controls.

Accessory Delay (If Equipped)

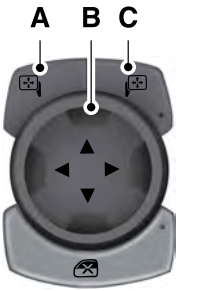
The window switches remain operational for several minutes when you switch the ignition off or until you open either front door.

EXTERIOR MIRRORS

Power Exterior Mirrors (If Equipped)

WARNING

Do not adjust the mirrors when your vehicle is moving.



E144073

A Left-hand mirror.
B Adjustment control.
C Right-hand mirror.

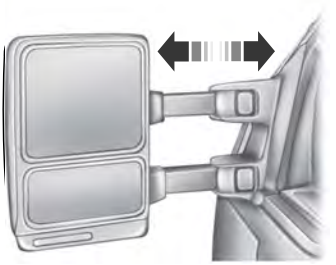
To adjust your mirrors, switch your vehicle on (with the ignition in accessory mode or the engine running) and then:

1. Select the mirror you want to adjust. The control lights.
2. Use the adjustment control to adjust the position of the mirror.
3. Press the mirror control again. The control light turns off.

Fold-Away Exterior 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.

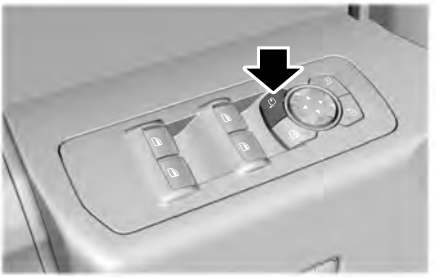
Telescoping Mirrors (If Equipped)



E163061

This 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 the desired position.

Power-Folding Mirrors (If Equipped)



E176218

To fold both mirrors, switch your vehicle on (with the ignition in accessory mode or the engine running) and then:

1. Press the control.
2. Press control 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.
Moving the mirrors 10 or more times within one minute, or repeated folding and unfolding of the mirrors while holding the control down during full travel, may 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.

Loose Mirror

If your power-folding mirrors are manually folded, they may not work properly even after you re-position them. You need to reset them if:

- The mirrors vibrate when you drive.
- The mirrors feel loose.
- The mirrors do not stay in the folded or unfolded position.
- One of the mirrors is not in its normal driving position.

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. Repeat this process as needed each time the mirrors are manually folded.

PowerScope™ Power Telescoping Mirrors (If Equipped)

This feature lets you position both mirrors at the same time.

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E176218

To adjust your mirrors, make sure you switch your vehicle on (with the ignition in accessory mode or the engine running) and then:

1. Press and release the control. It lights.
2. Press the adjustment control to position the mirrors.
   - Press the left arrow to extend the mirrors out. Press the right arrow to retract the mirrors in.
   - Press the up or down arrow to fold the mirrors toward the window glass. Press the up or down arrow again to fold the mirrors out.

Note: *Moving the mirrors 10 or more times within one minute, or repeated folding and unfolding of the mirrors while holding the control down during full travel, may 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.*

Heated Exterior Mirrors (If Equipped)

See **Heated Windows and Mirrors** (page 146).

Memory Mirrors (If Equipped)

You can save and recall the mirror positions through the memory function. See **Memory Function** (page 153).

Auto-dimming Feature (If Equipped)

The driver exterior mirror automatically dims when the interior auto-dimming mirror turns on.

Direction Indicator Mirrors (If Equipped)

While the vehicle is running, the forward-facing portion of the appropriate mirror housing blinks when you switch on the direction indicator.

Puddle Lamps (If Equipped)

The lamps on the bottom part of the mirror housing light when you use your transmitter to unlock the doors or when you open a door.

Clearance Lamps (If Equipped)

The lower, outer part of the mirror housings light when you switch the headlamps or parking lamps on.

Spot Lamps (If Equipped)

The area lights are on the forward-facing portion of the mirror housing. You can switch them on and off by using the controls located on the instrument panel. See **Lighting** (page 87).

360-Degree Camera (If Equipped)

Each mirror includes a camera.

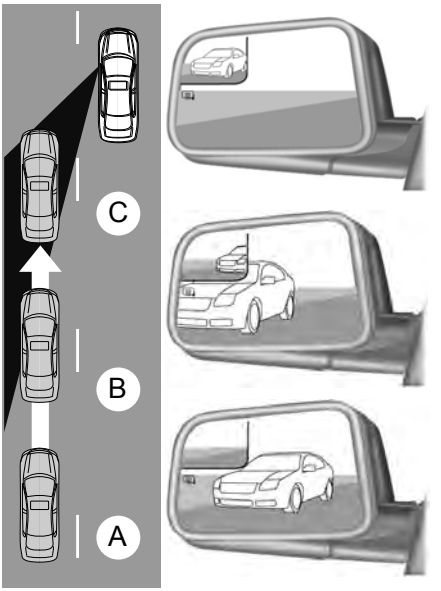
Integrated Blind Spot Mirror (If Equipped)

WARNING

Objects in the blind spot mirror are closer than they appear.

Blind spot mirrors have an integrated convex mirror built into the upper outboard corner of the exterior mirrors. They can assist you by increasing visibility along the side of your vehicle. The blind spot mirror is only on the driver exterior mirror.

Check the main mirror first before a lane change, then check the blind spot mirror. If no vehicles are present in the blind spot mirror and the traffic in the adjacent lane is at a safe distance, signal that you are going to change lanes. Glance over your shoulder to verify traffic is clear, and carefully change lanes.



E138665

The image of the approaching vehicle is small and near the inboard edge of the main mirror when it is at a distance. The image becomes larger and begins to move outboard across the main mirror as the vehicle approaches (A). The image transitions from the main mirror and begins to appear in the blind spot mirror as the vehicle approaches (B). The vehicle transitions to your peripheral field of view as it leaves the blind spot mirror (C).

Blind Spot Information System (If Equipped)

See **Blind Spot Information System** (page 237).

INTERIOR MIRROR

WARNING

Do not adjust the mirror when your vehicle is moving.

Note: *Do not clean the housing or glass of any mirror with harsh abrasives, fuel or other petroleum or ammonia-based cleaning products.*

You can adjust the interior mirror to your preference. Some mirrors also have a second pivot point. This lets you move the mirror head up or down and from side to side.

Pull the tab below the mirror toward you to reduce glare at night.

Auto-Dimming Mirror (If Equipped)

Note: *Do not block the sensors on the front and back of the mirror. Mirror performance may be affected. A rear center passenger or raised rear center head restraint may also block light from reaching the sensor.*

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The mirror will dim automatically to reduce glare when bright lights are detected from behind your vehicle. It will automatically return to normal reflection when you select reverse gear to make sure you have a clear view when backing up.

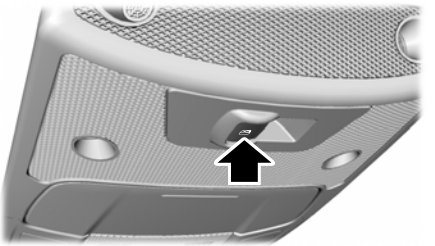
SLIDING WINDOWS (If Equipped)

Power Sliding Back Window (If Equipped)

WARNINGS

When operating the power sliding back window, you must make sure all rear seat occupants and cargo are not in the proximity of the back window.

Do not leave children unattended in your vehicle and do not let them play with the power sliding back window. They may seriously injure themselves.

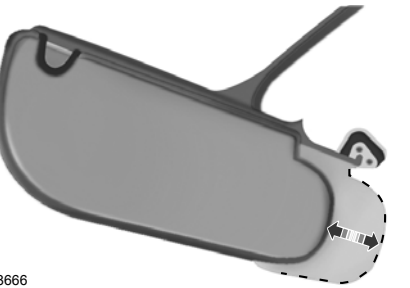


E176217

The control is on the overhead console.

Press and hold the control to open the window. Pull and hold the control to close the window.

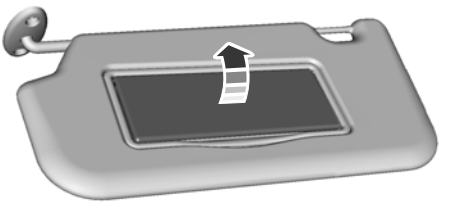
SUN VISORS



E138666

Rotate the sun visor toward the side window and extend it rearward for extra shade.

Illuminated Vanity Mirror (If Equipped)



E162197

Lift the cover to switch the lamp on.

MOONROOF (If Equipped)

WARNINGS

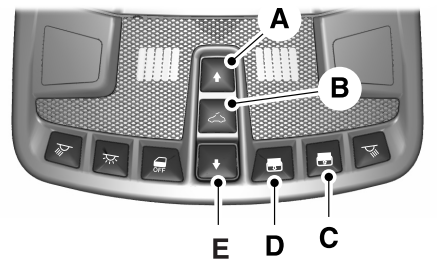
Do not leave children unattended in your vehicle and do not let them play with the moonroof. They may seriously injure themselves.

WARNINGS

When closing the moonroof, you should verify that it is free of obstructions and make sure that children and pets are not in the proximity of the roof opening.

The moonroof controls are located on the overhead console and have a one-touch open and close feature. To stop its movement during one-touch operation, press the control a second time.

Opening and Closing the Moonroof



E191272

A Moonroof open.
B Moonroof vent.
C Sunshade open.
D Sunshade close.
E Moonroof close.

Moonroof Open

Press and release to open the moonroof.

Note: *The moonroof stops short of the fully opened position to reduce wind noise or rumbling that may happen with the moonroof fully open. Press and release the control again to open the moonroof fully.*

Moonroof Vent

Press and release to vent the moonroof.

Sunshade Open

Press and release to open the sunshade. The sunshade opens automatically with the moonroof. You can also open the sunshade with the moonroof closed.

Note: *The sunshade stops short of its fully opened position for the comfort of rear passengers. To open the sunshade fully, press the control again.*

Sunshade Close

Press and release to close the sunshade.

Moonroof Close

Press and release to close the moonroof from either the open or vent positions.

Bounce-Back

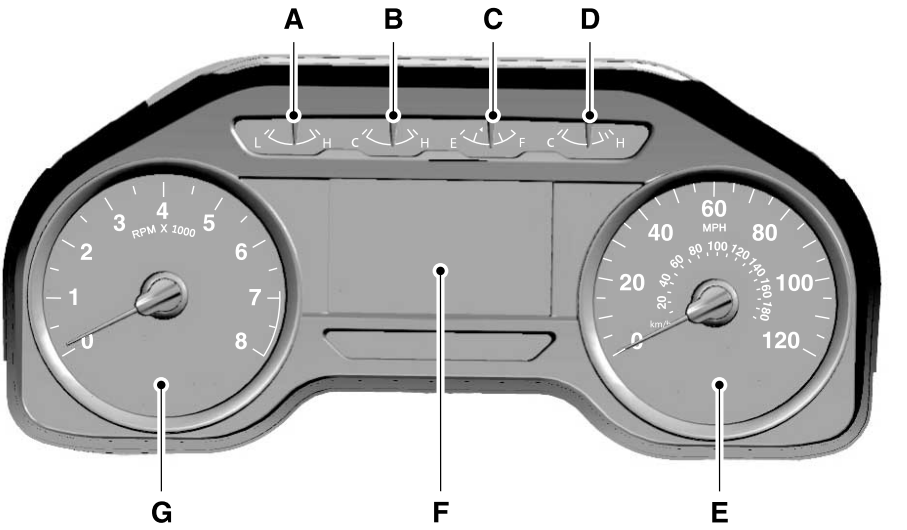
The moonroof automatically reverses some distance if an obstacle is detected while closing.

To override this feature, press and hold (E) within two seconds after the roof comes to a stop following a bounce-back reversal.

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GAUGES

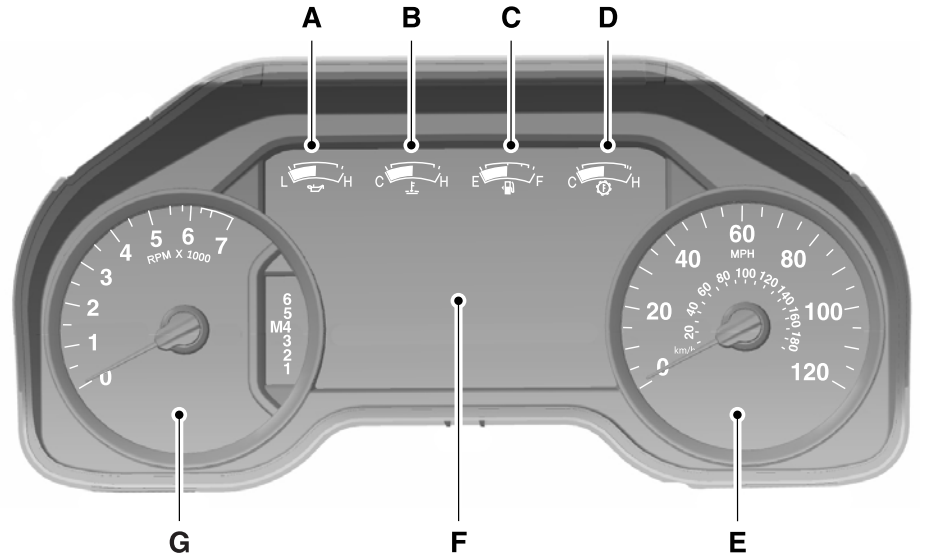
Type 1 and 2



E176090

A Engine oil pressure gauge
B Engine coolant temperature gauge
C Fuel gauge
D Transmission fluid temperature gauge
E Speedometer
F Information display See **General Information** (page 109).
G Tachometer

Type 3



E176091

A Engine oil pressure gauge
B Engine coolant temperature gauge
C Fuel gauge
D Transmission fluid temperature or Turbo boost (Ecoboost engine only) gauge
E Speedometer
F Information display See **General Information** (page 109).
G Tachometer

Engine Oil Pressure Gauge

Indicates engine oil pressure. The needle should stay in the normal operating range (between L and H). If the needle falls below the normal range, stop your vehicle, turn off the engine and check the engine oil level. Add oil if needed. If the oil level is correct, have your vehicle checked by an authorized dealer.

Engine Coolant Temperature Gauge

WARNING

Never remove the coolant reservoir cap while the engine is running or hot.

Indicates engine coolant temperature. At normal operating temperature, the level indicator will be in the normal range. If the engine coolant temperature exceeds the normal range, stop your vehicle as soon as safely possible, switch off the engine and let the engine cool.

Fuel Gauge

Note: *The fuel gauge may vary slightly when your vehicle is moving or on a gradient.*

Switch the ignition on. The fuel gauge will indicate approximately how much fuel is left in the fuel tank. The arrow adjacent to the fuel pump symbol indicates on which side of your vehicle the fuel filler door is located.

The needle should move toward F when you refuel your vehicle. If the needle points to E after adding fuel, this indicates your vehicle needs service soon.

After refueling some variability in needle position is normal:

- It may take a short time for the needle to reach F after leaving the gas station. This is normal and depends upon the slope of pavement at the gas station.
- The fuel amount dispensed into the tank is a little less or more than the gauge indicated. This is normal and depends upon the slope of pavement at the gas station.
- If the gas station nozzle shuts off before the tank is full, try a different gas pump nozzle.

Low Fuel Reminder

A low fuel reminder triggers at 50 mi (80 km) to empty.

Transmission Fluid Temperature Gauge

Indicates transmission fluid temperature. At normal operating temperature, the level indicator will be in the normal range. If the transmission fluid temperature exceeds the normal range, stop the vehicle as soon as safely possible and verify the airflow is not restricted such as snow or debris blocking airflow through the grill. Also, higher than normal operating temperature can be caused by special operation conditions (i.e. snowplowing, towing or off-road use). Refer to Special operating conditions in the scheduled maintenance information for instructions. Operating the transmission for extended periods with the gauge in the higher than normal area may cause internal transmission damage. You need to alter the severity of your driving conditions to lower the transmission temperature into the normal range. If the gauge continues to show high temperatures, see an authorized dealer.

Information Display

Odometer

Located in the bottom of the information display. Registers the accumulated distance your vehicle has traveled.

Compass

Displays the vehicle's heading direction.

Trip Computer

See **General Information** (page 109).

Vehicle Settings and Personalization

See **General Information** (page 109).

WARNING LAMPS AND INDICATORS

The following warning lamps and indicators will alert you to a vehicle condition that may become serious. Some lamps will illuminate when you start your vehicle to make sure they work. If any lamps remain on after starting your vehicle, refer to the respective system warning lamp for further information.

Note: *Some warning indicators appear in the information display and function the same as a warning lamp but do not display when you start your vehicle.*

Adaptive Cruise Control (If Equipped)



The speed control system indicator light changes color to indicate what mode the system is in: See **Using Adaptive Cruise Control** (page 225).

Anti-Lock Braking System



If it illuminates when you are driving, this indicates a malfunction. You will continue to have normal braking (without Anti-lock braking system) unless the brake system warning lamp is also illuminated. Have the system checked by an authorized dealer.

Automatic High Beam (If Equipped)



Illuminates when this feature is on. See **Automatic High Beam Control** (page 89).

Auto Start-stop (If Equipped)



It will illuminate to inform you when the engine shuts down or in conjunction with a message.

Battery



If it illuminates while driving, it indicates a malfunction. Switch off all unnecessary electrical equipment and have the system checked by an authorized dealer immediately.

Blind Spot Monitor (If Equipped)



It will illuminate when you switch this feature off or in conjunction with a message. See **Blind Spot Information System** (page 237).

Brake System



It will illuminate when you engage the parking brake with the ignition on.

If it illuminates when you are driving, check that you do not have the parking brake engaged. If you do not have the parking brake engaged, this indicates low brake fluid level or a brake system malfunction. Have the system checked immediately by an authorized dealer.

WARNING

Driving your vehicle with the warning lamp on is dangerous. A significant decrease in braking performance may occur. It will take you longer to stop your vehicle. Have your vehicle checked by your authorized dealer immediately. Driving extended distances with the parking brake engaged can cause brake failure and the risk of personal injury.

Check 4X4 (If Equipped)

Illuminates with the message CHECK 4X4 when a four-wheel drive fault is present. See **Using Four-Wheel Drive** (page 193).

Cruise Control (If Equipped)

Illuminates gray or green when you switch this feature on. See **Using Cruise Control** (page 224).

Direction Indicator

Illuminates when the left or right turn signal or the hazard warning flasher is turned on. If the indicators stay on or flash faster, check for a burned out bulb.

Door Ajar

Displays when the ignition is on and any door is not completely closed.

Electronic Locking Differential

Illuminates when using the electronic locking differential.

Electric Park Brake (If Equipped)

It will illuminate or flash when the electric parking brake has a malfunction. See **Electric Parking Brake** (page 204).

Engine Coolant Temperature

Illuminates when the engine coolant temperature is high. Stop the vehicle as soon as possible, switch off the engine and let cool. See **Engine Coolant Check** (page 326).

Engine Oil

If it illuminates with the engine running or when you are driving, this indicates a malfunction. Stop your vehicle as soon as it is safe to do so and switch the engine off. Check the engine oil level. See **Engine Oil Check** (page 324).

Note: *Do not resume your journey if it illuminates despite the level being correct. Have the system checked by your authorized dealer immediately.*

Fasten Safety Belt

It will illuminate and a chime will sound to remind you to fasten your safety belt.

Four-Wheel Drive Indicators (If Equipped)

Note: *Some indicators will appear different depending on vehicle options.*

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4x2

2H

Illuminates momentarily when you select two-wheel drive high.

4A

Illuminates when the automatic four-wheel drive system is engaged.

4L

Illuminates when four-wheel drive low is engaged.

4H

Illuminates when four-wheel drive high is engaged.

Front Airbag



If it fails to illuminate when you start your vehicle, continues to flash or remains on, it indicates a malfunction. Have the system checked by an authorized dealer.

Front Fog Lamps (If Equipped)



It will illuminate when you switch the front fog lamps on.

High Beam



Illuminates when you switch the high beam headlamps on. It will flash when you use the headlamp flasher.

Hill Descent (If Equipped)



Illuminates when hill descent is switched on.

Low Fuel Level



Illuminates when the fuel level is low or the fuel tank is nearly empty. Refuel as soon as possible.

Low Tire Pressure Warning



Illuminates when your tire pressure is low. If the lamp remains on with the engine running or when driving, check your tire pressure as soon as possible.

It will also illuminate momentarily 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 your authorized dealer.

Parking Lamps



It will illuminate when you switch the parking lamps on.

Powertrain Malfunction/Reduced Power/Electronic Throttle Control



Illuminates when the system has detected a powertrain or an all-wheel drive fault. Contact an authorized dealer as soon as possible.

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Service Engine Soon



If the service engine soon indicator light stays illuminated after you start the engine, it indicates that the On Board Diagnostics system (OBD) has detected a malfunction of your vehicle emissions control system. Refer to On board diagnostics (OBD) in the Fuel and Refueling chapter for more information about having your vehicle serviced. See **Emission Control System** (page 183).

If the light is blinking, engine misfire is occurring which could damage your catalytic converter. Drive in a moderate fashion (avoid heavy acceleration and deceleration) and have your vehicle serviced immediately.

WARNING

Under engine misfire conditions, excessive exhaust temperatures could damage the catalytic converter, the fuel system, interior floor coverings or other vehicle components, possibly causing a fire. Have an authorized dealer service your vehicle immediately.

When you first switch the ignition on, before engine start, the service engine soon indicator light illuminates to check the bulb and to indicate whether your vehicle is ready for inspection maintenance testing.

Normally, the service engine soon light will stay on until you crank the engine, and then turn itself off if no malfunctions are present. However, if after 15 seconds the service engine soon light blinks eight times, it means that your vehicle is not ready for inspection maintenance testing. See **Emission Control System** (page 183).

Sport Mode



Illuminates when you switch the sport mode on.

Traction and Stability Control



Illuminates when the system is active. If it remains illuminated or does not illuminate when you switch the ignition on, this indicates a malfunction. During a malfunction the system will switch off. Have the system checked by an authorized dealer immediately. See **Using Stability Control** (page 210).

Traction and Stability Control Off



Illuminates when you switch the system off. It will go out when you switch the system back on or when you switch the ignition off. See **Using Stability Control** (page 210).

Transmission Tow/Haul (If Equipped)



Illuminates when the tow/haul feature has been activated. If the light flashes steadily, have the system serviced immediately, damage to the transmission could occur. See **Automatic Transmission** (page 186).

AUDIBLE WARNINGS AND INDICATORS

Airbag Secondary Warning

Sounds if there is a malfunction with the safety belt warning lamp and there is a fault in the supplemental restraints system.

Beltminder Warning

Sounds when a safety belt is unfastened in an occupied seat and your vehicle is moving.

Door Ajar Warning

Sounds when any door is not completely closed and your vehicle speed exceeds 3 mph (5 km/h).

Headlamps On Warning

Sounds when you remove the key from the ignition and open the driver's door and you have left the headlamps or parking lamps on.

Key in Ignition Warning

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

Keyless Warning Alert (If Equipped)

Sounds the horn twice when you exit your vehicle with the intelligent access key, after the last door is closed and your keyless vehicle is in RUN, indicating your vehicle is still on.

Rear Park Aid Warning

A detection warning sounds when obstacles are within a certain range of the bumper area. The system turns on automatically whenever you switch the ignition on.

Parking Brake On Warning

Sounds when you have left the parking brake on and drive your vehicle. If the warning chime remains on after you have released the parking brake, have the system checked by your authorized dealer immediately.

Service Advancetrac Warning

Sounds when there is a malfunction with the Electronic Stability Control (ESC) or Rollover Stability Control (RSC) system.

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GENERAL INFORMATION

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.

Various systems on your vehicle can be controlled using the information display controls on the steering wheel. Corresponding information is displayed in the information display.

Note: *Some options may appear slightly different or not at all if the items are optional.*

Note: *Trailer options are not available if your vehicle speed is greater than 3 mph (5 km/h).*

Note: *Some MyKey menu options only appear if MyKey is enabled and at least one MyKey is programmed.*



This icon gives you the ability to switch a feature on or off. A check in the box indicates the feature is enabled, and unchecked indicates the feature is disabled.

Information Display Controls (Type 1 and 2)



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- Press the up and down arrow buttons to scroll through and highlight the options within a menu.
- Press the right arrow button to enter a sub-menu.
- Press the left arrow button to exit a menu.
- Press the **OK** button to choose and confirm a setting or messages.

Main menu (Type 1)

- Trip 1 & 2
- Fuel economy
- Driver assist
- Settings

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Trip 1 & 2

Note: *Use the arrow buttons to choose between the following trip options.*

Trip 1 & 2
Digital Speed - Press OK for km/h
Trip Odometer
Trip Timer
DTE
Average Fuel

- Digital Speed - Shows a digital display of your vehicle speed.
- Trip Odometer - Registers the mileage of individual journeys.
- Trip Timer - Registers the time of individual journeys.
- DTE - Shows the approximate distance your vehicle can travel before running out of fuel.
- Average Fuel - Shows the average fuel economy for a given trip.

Note: *Press and hold **OK** to reset the currently displayed trip information.*

Fuel Economy

Note: *Use the arrow buttons to choose the desired fuel economy display.*

Fuel Economy
Distance to E
Instant Fuel Economy
Average Fuel Economy
Auto StartStop status

- Distance to E - Shows the approximate distance your vehicle can travel before running out of fuel.
- Instant Fuel Economy - Shows your instantaneous fuel usage.
- Average Fuel Economy - Shows the average fuel usage based on time. Press and hold OK to reset this value.
- Auto StartStop status - Shows the current status of the auto startstop system.

Note: *You can reset your average fuel economy by pressing and holding the **OK** button on the left hand steering wheel controls.*

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Driver Assist

Note: *Use the arrow buttons to configure different driver setting choices.*

Driver Assist		
Driver Assist	Engine Hours	Engine Hours XXXXXX
		Engine Idle Hours XXXXXX
	Prog Range Sel	Shows the current gear the transmission is in and what the range is set to.
	Tire Pressure	Vehicle graphic with tire pressures. See **Tire Pressure Monitoring System** (page 370).
	Rear Park Aid	
	Brake Type	Select Your Setting
	Trailer Sway	

Settings

Settings			
Vehicle	DTE Calculate	Select Your Setting	
	Lighting	Autolamp Delay	Select Your Setting
		Daytime Light	
	Locks	Autolock	
		Autounlock	
		Remote Unlock	Select Your Setting
	Oil Life Reset	Remaining Life XX% - Hold OK to reset	
	Remote Start	Climate Control	Select Your Setting
		Duration	
		System	
	Wiper Controls	Courtesy Wipe	
MyKey	MyKey Status	Admin Keys and MyKeys	

Settings		
		MyKey Mileage
	Create MyKey	Hold OK to Create MyKey
	911 Assist	Select Your Setting
	Do Not Disturb	
	AdvanceTrac	
	Max Speed	
	Speed Minder	
	Vol. Limiter	
	Clear MyKeys	Clear MyKeys - Press OK to clear MyKeys
Display Setup	Units	Select Your Setting
	Temperature	
	Tire Pressure	
	Language	

Main menu (Type 2)

- Display Mode
- Trip/Fuel
- Towing
- Off Road
- Settings

Display Mode

Note: *Use the arrow buttons to choose between the following display options.*

Display Mode
DTE
Transmission Temp.
Tire Pressure
Digital Speedometer - Press OK for km/h

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Display Mode
Engine Information - Oil Life, Engine Hours, Engine Idle Hours - Hold OK to Reset
MyKey Status - Admin Keys and MyKey Mileage

- DTE - Shows the approximate distance your vehicle can travel before running out of fuel.
- Transmission Temp - Shows the trans temp value.
- Tire Pressure - Shows the tire pressure psi. See **Tire Pressure Monitoring System** (page 370).
- Engine Information - Shows engine information.
- MyKey Status - Shows the status of your MyKeys.

Trip/Fuel

Note: *Use the arrow buttons to choose between the following trip and fuel options.*

Trip/Fuel	
Trip 1 or 2	
Fuel Economy	
Fuel History	
Compass	Select Your Setting
Auto StartStop status	

Trip 1 or 2

- Trip Timer - Registers the time of individual journeys.
- DTE - Shows the approximate distance your vehicle can travel before running out of fuel.
- Mi - Registers the mileage of individual journeys.
- Avg mpg - Shows the average fuel economy for a given trip.

Fuel

- Fuel Economy - Shows your instantaneous fuel usage as a bar graph and average mpg.
- Fuel History - Shows your fuel usage based on time. The graph is updated each minute with the fuel economy that you achieved during 30 minutes of driving.
- Auto StartStop status - Shows the current status of the auto startstop system.

Note: *Press and hold **OK** to reset the currently displayed information.*

Towing

Note: *Use the arrow buttons to configure different towing setting choices.*

Note: *Once you select a trailer, it remains active until you set it as no longer active. An active trailer still accumulates miles even after you physically disconnect it from your vehicle.*

Towing			
Trailer Status	Trailer connection status		
	BLIS with Trailer Ready/Not Available/Not Setup/Off		
	Pro Trailer Backup Assist: Ready or Not Setup or Not Calibrated		
	active trailer name or Default Trailer		
	accumulated trailer miles		
	Trailer brake gain		
	Output		
Trailer Options	Trailer Sway Control		
	Select Trailer	no active trailer	
		Programmed trailers	
		Default Trailer	
	Change Trailer Settings	Rename Trailer	List of named trailers, No Stored Trailers - Press OK to rename
		Reset Trailer Distance	List of named or default trailers - Press OK to select
		Change BLIS Measurement	List of named or default trailers - Press OK to select
		Add BLIS Measurement	List of named or default trailers - Press OK to select
		Change Pro Trailer Sticker	Name of stored Pro Trailer Backup Assist trailer

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Towing			
			No stored Pro Backup trailers - Press OK to select
		Add Pro Trailer Backup	Name of stored conventional trailer
			No stored conventional trailer - Press OK to select
		Change Brake Type	Select Your Setting
		Change Brake Effort	
		Delete Trailer	List of named trailers, No stored trailers - Press OK to select
		Change Trailer Setup	List of named trailers or default trailers - Press OK to Select
	Add Trailer	New Trailer - Press OK to select	
		Trailer Brake Type	Select Your Setting
		Trailer Brake Effort	
		Change Trailer Setup	Select Your Setting
			Pro Trailer Backup Assist only Supports Trailers with Conventional Hitches. Press OK to Exit
Connection Checklist	Conventional		
	Fifth Wheel		
	Gooseneck		

Off Road

Note: *Use the arrow buttons to configure different off road choices.*

Off Road
Pitch, steering angle and roll
Power Distribution

Settings

Settings				
Blind Spot				
Cross Traffic Alert				
Rear Park Aid				
Trailer BLIS				
DTE Calculation	Select Your Setting			
Advanced Settings	Vehicle	Easy Entry/Exit		
		Lighting	Autolamp Delay	Select Your Setting
			Daytime Lights	
		Locks	Autolock	
			Autounlock	
			Remote Unlock	Select Your Setting
		Remote Start	Climate Control	
			Seats	
			Duration	
			System	
		Wiper Controls	Courtesy Wipe	
			Rain Sensing	
	MyKey	Create MyKey	Hold OK to Create MyKey	
		911 Assist	Select Your Setting	

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Settings			
		Do Not Disturb	
		AdvanceTrac	
		Max Speed	
		Speed Minder	
		Volume Limiter	
		Clear MyKeys	Hold OK to Clear MyKeys
	Display Setup	Units	Select Your Setting
		Temperature	
		Tire Pressure	
		Language	

Information Display Controls (Type 3) (If Equipped)



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- Press the up and down arrow buttons to scroll through and highlight the options within a menu.
- Press the right arrow button to enter a sub-menu.
- Press the left arrow button to exit a menu.
- Press the **OK** button to choose and confirm a setting or messages.

Main menu

You can access the menus using the information display control.


My View


Trip/Fuel


Truck Info


Towing


Off Road


Settings

My View


Use the arrow buttons to choose between the following My View options.

MyView			
Configure MyView	Add/Remove Screens	Trip/Fuel Screens	Trip 1
			Trip 2
			Fuel Economy
			Fuel History
			Navigation/Compass
			Auto StartStop

MyView			
		Truck Info Screens	Gauge View
			Tire Pressure
			Digital Speedometer
			Engine Information
			MyKey Status
		Towing Screens	Trailer Status
			Trailer Information
			Trailer Light Check
		Off Road Screens	Off Road Status
			Power Distribution
	Reorder Screens	Screen Selection 1 - 7	Up/Down moves selection in the list
		Press OK to select	

Trip/Fuel



Use the arrow buttons to choose between the following trip and fuel options.

Trip/Fuel
Trip 1 or 2
Fuel Economy
Fuel History
Navigation

Trip/Fuel	
Compass	Select Your Setting
Auto StartStop status	

Trip 1 or 2

- Trip Timer - Registers the time of individual journeys.
- DTE - Shows the approximate distance your vehicle can travel before running out of fuel.
- Mi - Registers the mileage of individual journeys.
- Avg mpg - Shows the average fuel economy for a given trip.

Fuel

- Fuel Economy - Shows your instantaneous fuel usage as a bar graph and average mpg.
- Fuel History - Shows your fuel usage based on time. The graph is updated each minute with the fuel economy that you achieved during 30 minutes of driving.
- Navigation - Shows navigation turn by turn (Compass displayed when a route in Navigation is not set).
- Auto StartStop status - Shows the current status of the auto startstop system.

Note: *Press and hold **OK** to reset the currently displayed information.*

Truck Info



In this mode, off-road information depicted with graphics are available.

Note: *Use the arrow buttons to choose between the following display options.*

Truck Info
Gauge View
Tire Pressure
Digital Speedometer - Press OK for km/h

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Truck Info
Engine Information - Oil Life, Engine Hours, Engine Idle Hours - Hold OK to Reset
MyKey Status - Admin Keys, MyKeys and MyKey Mileage

- Gauge View - Shows the turbo boost or transmission temp value.
- Tire Pressure - Shows the tire pressure psi. See **Tire Pressure Monitoring System** (page 370).
- Digital Speedometer - Shows a digital display of your vehicle speed.
- Engine Information - Shows engine information.
- MyKey Status - Shows the status of your MyKeys.

Towing



Use the arrow buttons to choose between the following towing options.

Note: *Once you select a trailer, it remains active until you set it as no longer active. An active trailer still accumulates miles even after you physically disconnect it from your vehicle.*

Towing			
Towing Status	% Grade, steering angle, gain and output display		
Towing Information	Trailer Name, Accumulated Miles, Pro Trailer Backup Assist Status and Trailer BLIS Status - Press OK for Trailer Options		
Trailer Light Status	Running, Brake and Turn Signal Light Status or No Trailer Detected		
Trailer Setup	Trailer Sway Control		
	Select trailer	no active trailer	
		Programmed trailers	
		Default Trailer	
	Change Trailer Settings	Rename Trailer	List of named trailers, No Stored Trailers - Press OK to rename

Towing			
		Reset Trailer Distance	List of named or default trailers - Press OK to select
		Change BLIS Measurement	List of named or default trailers - Press OK to select
		Add BLIS Measurement	List of named or default trailers - Press OK to select
		Change Pro Trailer Sticker	Name of stored Pro Trailer Backup Assist trailer name
			No stored Pro Backup trailers - Press OK to select
		Add Pro Trailer Backup	Name of stored conventional trailer
			No stored conventional trailer - Press OK to select
		Change Brake Type	Select Your Setting
		Change Brake Effort	
		Delete Trailer	List of named trailers, No stored trailers - Press OK to select
		Change Trailer Setup	Conventional, Fifth Wheel or Gooseneck
	Add Trailer	New Trailer - Press OK to select	
		Trailer Brake Type	Select Your Setting
		Trailer Brake Effort	
		Pro Trailer Backup Assist™ setup	Select Your Setting

Towing			
			Pro Trailer Backup Assist only Supports Trailers with Conventional Hitches. Press OK to Exit
Connection Checklist	Conventional		
	Fifth Wheel		
	Gooseneck		

Off Road



Use the arrow buttons to choose between the following off road options.

Off Road
Pitch, steering angle, roll, Elocker and 4X4
Power Distribution

Settings



Use the arrow buttons to configure different driver setting choices.

Settings		
Auto Highbeam		
Blind Spot		
Cross Traffic Alert		
Driver Alert		
Rear Park Aid		
Trailer BLIS		
Collision Warn	Alert Sensitivity	Select Your Setting

Settings				
	Warn			
Cruise Control	Select Your Setting			
Lane Keeping System	Mode	Select Your Setting		
	Sensitivity			
	Alert Intensity			
DTE Calculation	Select Your Setting			
Advanced Settings	Vehicle	Auto Engine Off		
		Easy Entry/Exit		
		Lighting	Autolamp Delay	Select Your Setting
			Daytime Lights	
		Locks	Autolock	
			Autounlock	
			Remote Unlock	Select Your Setting
		Alarm	Select Your Setting	
			Ask on Exit	
		Power Running Boards	Select Your Setting	
		Remote Start	Climate Control	Select Your Setting
			Seats and Wheel or Seats	
			Duration	
			System	
		Wiper Controls	Courtesy Wipe	
			Rain Sensing	
	MyKey	Create MyKey	Hold OK to Create MyKey	

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Settings			
		911 Assist	Select Your Setting
		Do Not Disturb	
		AdvanceTrac	
		Max Speed	
		Speed Minder	
		Volume Limiter	
		Clear MyKeys	Hold OK to Clear MyKeys
	Display Setup	Units	Select Your Setting
		Temperature	
		Tire Pressure	
		Language	

INFORMATION MESSAGES

Note: *Depending on your vehicle options and instrument cluster type, not all of the messages will display or be available. The information display may abbreviate or shorten certain messages.*



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Press the ***OK*** button to acknowledge and remove some messages from the information display. The information display will automatically remove other messages after a short time.

You need to confirm certain messages before you can access the menus.

Active Park

Message	Action
Active Park Fault	The system requires service due to a malfunction. Have the system checked by an authorized dealer.

Adaptive Cruise Control

Message	Action
Adaptive Cruise Malfunction	A radar malfunction is preventing the adaptive cruise control from engaging. See **Using Adaptive Cruise Control** (page 225).
Adaptive Cruise Not Available	A condition exists such that the adaptive cruise cannot function properly. See **Using Adaptive Cruise Control** (page 225).
Adaptive Cruise Not Available Sensor Blocked See Manual	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. See **Using Adaptive Cruise Control** (page 225).
Normal Cruise Active Automatic Braking Turned Off	The system has disabled the automatic braking.
Front Sensor Not Aligned	A radar malfunction is preventing the adaptive cruise control from engaging.
Adaptive Cruise - Driver Resume Control	The adaptive cruise has reinstated controls to the driver.
Adaptive Cruise Speed Too Low to Activate	Your vehicle speed is too slow to activate the adaptive cruise.
Adaptive Cruise Shift Down	The adaptive cruise is automatically adjusting the gap distance and you need to shift the transmission into a lower gear.

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AdvanceTrac and Traction Control

Message	Action
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.
AdvanceTrac SPORT MODE	The status of the AdvanceTrac sport mode after you switched it on.
Traction Control Off	The status of the traction control system after you switched it off. See **Using Traction Control** (page 208).
Traction Control On	The status of the traction control system after you switched it on. See **Using Traction Control** (page 208).

Airbag

Message	Action
Occupant Sensor BLOCKED Remove Objects Near Passenger Seat	Displays when the system detects a malfunction due to a blocked sensor.

Alarm and Security

Message	Action
Vehicle Alarm To Stop Alarm, Start Vehicle.	Alarm triggered due to unauthorized entry. See **Anti-Theft Alarm** (page 78).

Battery and Charging System

Message	Action
Check Charging System	The charging system needs servicing. If the warning stays on or continues to come on, contact an authorized dealer as soon as possible.
Low Battery Features Temporarily Turned Off	The battery management system detects an extended low-voltage condition. Your vehicle will disable various features to help preserve the battery. Turn off as many of the electrical loads as soon as possible to improve system voltage. If the system voltage has recovered, the disabled features will operate again as normal.
Turn Power Off To Save Battery	The battery management system determines that the battery is at a low state of charge. Turn your ignition off as soon as possible to protect the battery. This message will clear once you restart your vehicle and the battery state of charge has recovered. Turning off unnecessary electrical loads will allow faster battery state-of-charge recovery.
Charging System Service Soon	The charging system needs servicing. If the warning stays on or continues to come on, contact an authorized dealer as soon as possible.
Charging System Service Now	The charging system needs servicing. Contact an authorized dealer as soon as possible.
Battery State of Charge Low	The battery management system determines that the battery is at a low state of charge. Turn your ignition off as soon as possible to protect the battery. This message clears once you restart your vehicle and the battery state of charge has recovered.

Blind Spot Information and Cross Traffic Alert System

Message	Action
Blindspot System Fault	A fault with the system has occurred. Contact an authorized dealer as soon as possible.
Blindspot Not Available Sensor Blocked See Manual	The system sensors are blocked. See **Blind Spot Information System** (page 237).
Cross Traffic Vehicle Coming From X	The system detects a vehicle. See **Blind Spot Information System** (page 237).

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Message	Action
Cross Traffic Not Available Sensor Blocked See Manual	The blind spot information system and cross traffic alert system sensors are blocked. See **Blind Spot Information System** (page 237).
Cross Traffic System Fault	A fault with the system has occurred. Contact an authorized dealer as soon as possible.
Cross Traffic Alert Deactivated Trailer Attached	The system automatically turns off and displays this message when you connect a trailer to the vehicle that does not have a trailer blind spot system or when you switch the trailer blind spot system off through the information display. See **Blind Spot Information System** (page 237).
Blind Spot Alert Deactivated Trailer Attached	The system automatically turns off and displays this message when you connect a trailer to the vehicle that does not have a trailer blind spot system or when you switch the trailer blind spot system off through the information display. See **Blind Spot Information System** (page 237).
Trailer Blind Spot Not available Due to Invalid Trailer	Displays when the trailer connected is a fifth wheel or gooseneck, or when the trailer width is wider than 10 ft (2.7 m) or longer than 33 ft (10 m).

Collision Warning System

Message	Action
Collision Warning Malfunction	A fault with the system has occurred. Contact an authorized dealer as soon as possible.
Collision Warning Not Available Sensor Blocked See Manual	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. See **Collision Warning System** (page 245).
Collision Warning Not Available	A fault with the system has occurred. Contact an authorized dealer as soon as possible.

Doors and Locks

Message	Action
X Door Ajar	The door(s) listed is not completely closed.
Tailgate Ajar	The tailgate is not completed closed.

Driver Alert

Message	Action
Driver Alert Warning Rest Now	Stop and rest as soon as it is safe to do so.
Driver Alert Warning Rest Suggested	Take a rest soon.

Drivetrain

Message	Action
To Engage Locking Differential Slow to XX mph/km/h	The electronic locking differential requests a certain speed requirement to engage.
To Engage Locking Differential Release Accelerator Pedal	The electronic locking differential requests the accelerator to be released in order to engage.
Check Locking Differential	An electronic locking differential (ELD) system fault is present. Contact an authorized dealer as soon as possible.
Neutral Tow Enabled Leave Transmission in Neutral	The transfer case is in the neutral position. This message indicates that your vehicle is safe to be towed with all four wheels on the ground.
Neutral Tow Disabled	The transfer case is NOT in the neutral position. This message indicates that your vehicle is NOT safe to be towed with all four wheels on the ground.

Engine

Message	Action
Power Reduced to Lower Engine Temp	The engine has reduced power to help reduce high engine temperature.

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Fuel

Message	Action
Fuel Level Low	An early reminder of a low fuel condition.
Check Fuel Fill Inlet	The fuel fill inlet may not be properly closed.

Keys and Intelligent Access

Message	Action
To START Press Brake	A reminder to press the brake while starting the vehicle.
No Key Detected	The system does not detect a key in your vehicle. See **Keyless Starting** (page 167).
Restart Now or Key is Needed	You pressed the StartStop button to switch off the engine and your vehicle does not detect your intelligent access key inside your vehicle.
Run Power Active	Your vehicle is in the run ignition state.
Starting System Fault	There is a problem with your vehicle's starting system. See an authorized dealer for service.
Key Program Successful	You have successfully programmed an intelligent access key to the system.
Key Program Failure	You have failed to program an intelligent access key to the system.
Max Number of Keys Learned	You have programmed the maximum number of keys to the system.
Not Enough Keys Learned	You have not programmed enough keys to the system.
Key Battery Low Replace Soon	The key battery is low. Change the battery as soon as possible.
Engine ON	Informs you that you are exiting your vehicle and the engine is on.

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Lane Keeping System

Message	Action
Lane Keeping Sys. Malfunction Service Required	The system has malfunctioned. Contact an authorized dealer as soon as possible.
Front Camera Temporarily Not Available	The system has detected a condition that has caused the system to be temporarily unavailable.
Front Camera Low Visibility Clean Screen	The system has detected a condition that requires you to clean the windshield in order for it to operate properly.
Front Camera Malfunction Service Required	The system has malfunctioned. Contact an authorized dealer as soon as possible.
Keep Hands on Steering Wheel	The system requests you to keep your hands on the steering wheel.

Maintenance

Message	Action
Low Engine Oil Pressure	Stop your vehicle as soon as safely possible and turn off the engine. Check the oil level. If the warning stays on or continues to come on with your engine running, contact an authorized dealer as soon as possible.
Change Engine Oil Soon	The engine oil life remaining is 10% or less. See **Engine Oil Check** (page 324).
Oil Change Required	The oil life left is at 0%. See **Engine Oil Check** (page 324).
Brake Fluid Level Low	The brake fluid level is low, inspected the brake system immediately. See **Brake Fluid Check** (page 331).
Check Brake System	The brake system needs servicing. Stop your vehicle in a safe place. Contact an authorized dealer.
Transport / Factory Mode Contact Dealer	Your vehicle is still in Transport or Factory mode. This may not allow some features to operate properly. See an authorized dealer.
See Manual	The powertrain needs service due to a powertrain malfunction.

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MyKey

Message	Action
MyKey not Created	You cannot program a MyKey.
MyKey Active Drive Safely	MyKey is active.
Speed Limited to XX MPH/km/h	When switching on your vehicle and MyKey is in use, displays that the MyKey speed limit is on.
Near Vehicle Top Speed	MyKey is in use and the MyKey speed limit is on and the vehicle speed is approaching 81 mph (130 km/h).
Vehicle at Top Speed of MyKey Setting	You have reached the speed limit set for your MyKey.
Check Speed Drive Safely	You have an active MyKey with a programmed set speed limit.
Buckle Up to Unmute Audio	Belt-Minder turns on with a MyKey in use.
AdvanceTrac On - MyKey Setting	With a MyKey in use, AdvanceTrac turns on.
Traction Control On - MyKey Setting	With a MyKey in use, traction control turns on.
MyKey Park Aid Cannot be Deactivated	With a MyKey in use, park aid is always on.
Lane Keeping Alert On MyKey Setting	With a MyKey in use, lane keeping alert turns on.

Off Road

Message	Action
Hill Descent Control Active	Hill descent control mode is active.
Hill Descent Control OFF	Hill descent control mode is inactive.
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.

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Message	Action
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 Ready	The hill descent control system is ready.

Park Aid

Message	Action
Check Front Park Aid	The system has detected a condition that requires service. Contact an authorized dealer. See **Principle of Operation** (page 213).
Check Rear Park Aid	The system has detected a condition that requires service. Contact an authorized dealer. See **Principle of Operation** (page 213).
Front Park Aid On Off	Displays the park aid status.
Rear Park Aid On Off	Displays the park aid status.

Park Brake

Message	Action
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 park brake is set and an automatic release is attempted but cannot be performed. Perform a manual release.
Release Park Brake	The electric park brake is set and your vehicle speed exceeds 3 mph (5 km/h). Release park brake before continued driving.
Park Brake Not Applied	The electric park brake is not fully applied.
Park Brake Not Released	The electric park brake is not fully released.

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Message	Action
Park Brake Maintenance Mode	The electric park brake system has been put into a special mode that is used to allow service of the rear brakes. Contact an authorized dealer.
Park Brake Limited Function Service Required	The electric park brake system has detected a condition that requires service. Some functionality may still be available. Contact an authorized dealer.
Park Brake Malfunction Service Now	The electric park brake system has detected a condition that requires service. Contact an authorized dealer.

Power Steering

Message	Action
Steering Fault Service Now	The power steering system has detected a condition that requires service. See an authorized dealer.
Steering Loss Stop Safely	The power steering system is not working. Stop your vehicle in a safe place. Contact an authorized dealer.
Steering Assist Fault Service Required	The power steering system has detected a condition within the power steering system or passive entry or passive start system requires service. Contact an authorized dealer.
Steering Lock Malfunction Service Now	The steering lock system has detected a condition that requires service. See an authorized dealer.

Pro Trailer Backup Assist

Message	Action
Pro Trailer Backup Assist™ Not Active Stop Vehicle to Activate	Pro Trailer Backup Assist can only be activated when the vehicle is stopped.
Pro Trailer Backup Assist™ Locating Sticker Please wait... Press Knob to Exit	Camera System is locating the sticker. Wait until the sticker is found before attempting to use Pro Trailer Backup Assist.
Pro Trailer Backup Assist™ Stop now Maximum trailer angle Press Knob to Exit	Stop Now. Pro Trailer Backup Assist has reached max trailer angle.
Pro Trailer Backup Assist™ Stop Now Take Control of Steering Wheel	Stop Now. Pro Trailer Backup Assist is no longer controlling steering.

Message	Action
Pro Trailer Backup Assist™ Reduce Speed Turn Knob to Steer Press Knob to Exit	Slow vehicle speed. Vehicle is approaching the exit speed for the Pro Trailer Backup Assist feature.
Pro Trailer Backup Assist™ System is Not Available	Conditions for Pro Trailer Backup Assist operation are not met. See **Trailer Reversing Aids** (page 258).
Pro Trailer Backup Assist™ Remove Hands from Steering Wheel to Activate Press Knob to Exit	Pro Trailer Backup Assist cannot operate with hands on wheel. Remove hands to activate.
Pro Trailer Backup Assist™ Cancelled by Driver Take Control of Steering Wheel	Pro Trailer Backup Assist knob has been pushed to deactivate the system.
Pro Trailer Backup Assist™ Shift to Reverse to Activate. Press Knob to Exit	Pro Trailer Backup Assist operation is only available in reverse gear. Shift gear selector into reverse to activate.
Pro Trailer Backup Assist™ Sticker Not Found Shift to Park Press Knob to Exit	Camera system cannot locate sticker. Shift to park.
Pro Trailer Backup Assist™ Sticker Not Found Refer to Owner's Manual. Press Knob to Exit	Camera system cannot locate sticker. See **Trailer Reversing Aids** (page 258).
Pro Trailer Backup Assist™ Drive Straight Forward to Calibrate. Press Knob to Exit	Drive between 4–24 mph (6–39 km/h) straight forward to calibrate Pro Trailer Backup Assist.
Pro Trailer Backup Assist™ Calibration Complete Stop Vehicle	The system has completed calibration. Stop the vehicle to use Pro Trailer Backup Assist feature.

Remote Start

Message	Action
To Drive: Press Start Button	A reminder to push the start button to drive your vehicle after a remote start.

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Seats

Message	Action
Memory Recall Not Permitted While Driving	A reminder that memory seats are not available while driving.
Memory {0} Saved	Shows where you have saved your memory setting.

Side-Wind

Message	Action
Side-Wind Stabilization Active	This message displays when the side-wind system turns on in response to strong wind conditions. See **Principle of Operation** (page 209).

Starting System

Message	Action
To START Press Brake	A reminder to apply the brake when starting your vehicle .
Cranking Time Exceeded	The starter has exceeded its cranking time in attempting to start your vehicle.
Engine Start Pending Please Wait	The starter is attempting to start your vehicle.
Pending Start Cancelled	The system has cancelled the pending start.

Tire Pressure Monitoring System

Message	Action
Tire Pressure Low	One or more tires on your vehicle has low tire pressure. See **Tire Pressure Monitoring System** (page 370).
Tire Pressure Monitor Fault	The tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, contact an authorized dealer. See **Tire Pressure Monitoring System** (page 370).
Tire Pressure Sensor Fault	A tire pressure sensor is malfunctioning or your spare tire is in use. See **Tire Pressure Monitoring System** (page 370). If the warning stays on or continues to come on, contact an authorized dealer as soon as possible.

Trailer

Message	Action
Trailer Brake Gain: {trailer gain value:#0.0}	The current gain setting for the trailer brake.
Trailer Brake Gain: {trailer gain value:#0.0} No Trailer	The current gain setting for the trailer brake when a trailer is not connected.
Trailer Brake Module Fault	Faults sensed in the Integrated Trailer Brake Control Module followed by a single chime. See **Towing a Trailer** (page 257).
Trailer Connected	A correct trailer connection is sensed during a given ignition cycle.
Trailer Disconnected	A trailer connection becomes disconnected, either intentionally or unintentionally, and has been sensed during a given ignition cycle.
Trailer Sway Reduce Speed	The trailer sway control has detected trailer sway.
Trailer Wiring Fault	There are certain faults in your vehicle wiring and trailer wiring/brake system. See **Towing a Trailer** (page 257).
Trailer Left Turn Lamps Fault Check Lamps	There is a fault with your trailer turn lamp. Check your lamp.

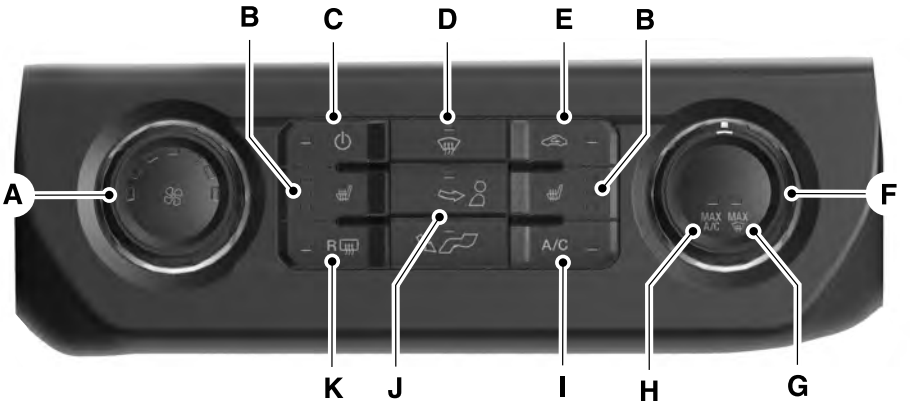
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Message	Action
Trailer Right Turn Lamps Fault Check Lamps	There is a fault with your trailer turn lamp. Check your lamp.
Trailer Battery Not Charging See Manual	There is a fault with your trailer battery. See **Towing a Trailer** (page 257).
Trailer Lighting Module Fault See Manual	There is a fault with your vehicle trailer lighting module. See **Towing a Trailer** (page 257).

4WD

Message	Action
Check 4x4	A 4X4 system fault is present. Contact an authorized dealer as soon as possible.
4x4 Shift in Progress	The 4X4 system is making a shift.
For 4x4 LOW Shift to N	Displays when you attempt to switch to 4X4 LOW and you do not shift the transmission to neutral (N).
For 4x4 LOW Slow to 3 MPH	Displays when you attempt to switch to 4X4 LOW and your vehicle's speed is greater than 3 mph (5 km/h).
To Exit 4x4 LOW Shift to N	Displays when you attempt to switch from 4X4 LOW 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 4X4 LOW and your vehicle's speed is greater than 3 mph (5 km/h).
Shift Delayed Pull Forward	May display when there is a Transfer case gear tooth blockage while shifting to or from 4L or to the neutral state.
4x4 Temporarily Disabled	Displays when the system turns off the clutch due to excessive stress. The system automatically turns on the clutch after it cools.
4x4 Restored	Displays when the 4X4 system restores to the 4A setting.
4x4 Temporarily Locked	Displays when the 4X4 system temporarily turns on 4H from 4A after detecting driving conditions that require greater 4X4 performance. The system automatically returns to 4A after the system no longer detects these driving conditions.

MANUAL CLIMATE CONTROL



E217932

A **Fan speed control:** Adjusts the volume of air circulated in the vehicle.

B **Heated seats:** Press to switch the heated seats on and off. See **Heated Seats** (page 155).

C **Power:** Press to switch the system on and off. When the system is off, it prevents outside air from entering the vehicle.

D **Defrost:** Press to distribute air through the windshield air vents and de-mister. Air distribution to the instrument panel and footwell vents turns off. You can also use this setting to defrost and clear the windshield of a thin covering of ice.

E **Recirculated air:** Press to switch between outside air and recirculated air. The air currently in the passenger compartment recirculates. This may reduce the time needed to cool the interior (when used with A/C) and reduce unwanted odors from entering your vehicle.

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Note: Recirculated air may turn on and off automatically (or prevent you from switching on) in all modes except MAX A/C to reduce the risk of fogging or to improve cooling efficiency.

F **Temperature control:** Adjusts the temperature of the air circulated in your vehicle.

G **MAX Defrost:** Press to switch on defrost. The driver and passenger settings set to HI, outside air flows through the windshield vents, and fan automatically adjusts to the highest speed. You can also use this setting to defrost and clear the windshield of a thin covering of ice. The heated rear window also automatically turns on when you select maximum defrost.

Note: To prevent window fogging, you cannot select recirculated air when maximum defrost is on.

H **MAX A/C:** Press for maximum cooling. The driver and passenger settings set to LO, recirculated air flows through the instrument panel vents, air conditioning automatically turns on and the fan automatically adjusts to the highest speed.

I **A/C:** Press to switch the air conditioning on or off. Air conditioning cools your vehicle using outside air. Use A/C with recirculated air to improve performance and efficiency.

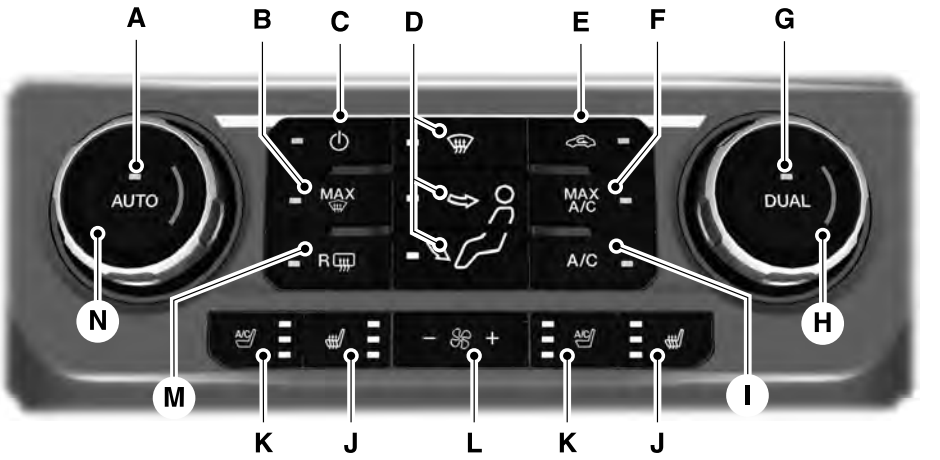
Note: In certain conditions (for example, maximum defrost), the air conditioning compressor may continue to operate even though you switch off the air conditioning.

J **Air distribution control:** Press to switch airflow from the windshield, instrument panel or footwell vents on or off. You can distribute air through any combination of these vents.

Note: At least one of these buttons illuminates on when the system is on.

K **Heated rear window:** Press to switch the heated rear window on and off. See **Heated Windows and Mirrors** (page 146).

AUTOMATIC CLIMATE CONTROL



E217905

A **AUTO:** Press to switch on automatic operation. Adjust to select the desired temperature. Fan speed, air distribution, air conditioning operation, and outside or recirculated air automatically adjust to heat or cool the vehicle to maintain the desired temperature. You can also switch off dual zone mode by pressing and holding for more than two seconds.

B **MAX Defrost:** Press to switch on defrost. The driver and passenger settings set to HI, outside air flows through the windshield vents, and fan automatically adjusts to the highest speed. You can also use this setting to defog and clear the windshield of a thin covering of ice. The heated rear window also automatically turns on when you select maximum defrost.

Note: To prevent window fogging, you cannot select recirculated air when maximum defrost is on.

C **Power:** Press to switch the system on and off. When the system is off, it prevents outside air from entering the vehicle.

D **Air distribution control:** Press to switch airflow from the windshield, instrument panel or footwell vents on or off. You can distribute air through any combination of these vents.

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E **Recirculated air:** Press to switch between outside air and recirculated air. The air currently in the passenger compartment recirculates. This may reduce the time needed to cool the interior (when used with A/C) and reduce unwanted odors from entering your vehicle.

Note: Recirculated air may turn off automatically (or prevent you from switching on) in all modes except MAX A/C to reduce the risk of fogging. Recirculation may also turn on and off automatically in Panel or Panel/Floor airflow modes during hot weather in order to improve cooling efficiency.

F **MAX A/C:** Press for maximum cooling. The driver and passenger settings set to LO, recirculated air flows through the instrument panel vents, air conditioning automatically turns on and the fan automatically adjusts to the highest speed.

G **DUAL:** Press to switch on temperature control for the passenger side of the vehicle. When dual zone is off, passenger temperature settings remain the same as the driver settings.

H **Passenger temperature control:** Adjusts the temperature setting on the passenger side.

I **A/C:** Press to switch the air conditioning on or off. Use A/C with recirculated air to improve performance and efficiency.

Note: In certain conditions (for example, maximum defrost), the air conditioning compressor may continue to operate even though you switch off the air conditioning.

J **Heated seats:** Press to switch the heated seats on and off. See **Heated Seats** (page 155).

K **Climate controlled seats:** Press to switch the climate controlled seats on and off. See **Climate Controlled Seats** (page 156).

L **Fan speed control:** Adjusts the volume of air circulated in the vehicle.

M **Heated rear window:** Press to switch the heated rear window on and off. See **Heated Windows and Mirrors** (page 146).

N **Driver temperature control:** Adjusts the temperature setting on the driver side. This control also adjusts the passenger side temperature when you switch off dual zone mode.

HINTS ON CONTROLLING THE INTERIOR CLIMATE

General Hints

WARNING

Prolonged use of recirculated air may cause the windows to fog up. If the windows fog up, follow the settings for demisting the windshield.

Note: *You may feel a small amount of air from the footwell air vents regardless of the air distribution setting.*

Note: *To reduce humidity build-up inside your vehicle, do not drive with the system switched off or with recirculated air always switched on.*

Note: *Do not place objects under the front seats as this may interfere with the airflow to the rear seats.*

Note: *Remove any snow, ice or leaves from the air intake area at the base of the windshield.*

Note: *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.*

Manual Climate Control

Note: *To reduce fogging of the windshield during humid weather, adjust the air distribution control to the windshield air vents position.*

Automatic Climate Control

Note: *Adjusting the settings when your vehicle interior is extremely hot or cold is not necessary. The system automatically adjusts to heat or cool the interior to your selected temperature as quickly as possible. For the system to function efficiently, the instrument panel and side air vents should be fully open.*

Note: *If you select **AUTO** during cold temperatures, the system directs airflow to the windshield and side window vents. In addition, the fan may run at a slower speed until the engine warms up.*

Note: *If you select **AUTO** during hot temperatures, or the inside of the vehicle is hot, the system automatically uses recirculated air to maximize interior cooling. When the interior reaches the selected temperature, the system automatically switches to using outside air.*

Quickly Heating the Interior

	Vehicle with manual climate control	Vehicle with automatic climate control
1	Adjust the fan speed to the highest setting.	Press ***AUTO***.
2	Adjust the temperature control to the full heat setting.	Adjust the temperature control to the desired setting.
3	Direct air to the footwell using the air distribution buttons.	

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Recommended Settings for Heating

	Vehicle with manual climate control	Vehicle with automatic climate control
1	Adjust the fan speed to the center setting.	Press ***AUTO***.
2	Adjust the temperature control to the midway point of the hot settings.	Adjust the temperature control to the desired setting. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.
3	Direct air to the footwell using the air distribution buttons.	

Quickly Cooling the Interior

	Vehicle with manual climate control	Vehicle with automatic climate control
1	Press ***MAX A/C***.	Press ***MAX A/C***.
2	Drive with the windows open until you feel cold air through the air vents.	

Recommended Settings for Cooling

	Vehicle with manual climate control	Vehicle with automatic climate control
1	Adjust the fan speed to the center setting.	Press ***AUTO***.
2	Adjust the temperature control to the midway point of the cold settings.	Adjust the temperature control to the desired setting. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.
3	Direct air to the instrument panel using the air distribution buttons.	

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Defogging the Side Windows in Cold Weather

	Vehicle with manual climate control	Vehicle with automatic climate control
1	Direct air to the windshield using the air distribution buttons.	Press the defrost button.
2	Press ***A/C***.	Adjust the temperature control to the desired setting. Use 72ºF (22ºC) as a starting point, then adjust the setting as necessary.
3	Adjust the temperature control to the desired setting.	
4	Adjust the fan speed to the highest setting.	

HEATED WINDOWS AND MIRRORS

Heated Rear Window

Note: *Make sure the engine is running before operating the heated windows.*



Press the button to clear the heated rear window of thin ice and fog. The heated rear window automatically turns off after a short period of time.

Note: *Do not use razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. The vehicle warranty does not cover damage caused to the heated rear window grid lines.*

Heated Exterior Mirrors

When you switch the heated rear window on, the heated exterior mirrors automatically turn on.

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.*

CABIN AIR FILTER

Your vehicle is equipped with a cabin air filter, which gives you and your passengers the following benefits:

- It improves your driving comfort by reducing particle concentration.
- It improves the interior compartment cleanliness.
- It protects the climate control components from particle deposits.

You can locate the cabin air filter behind the glove box.

Note: *Make sure you have a cabin air filter installed at all times. This prevents foreign objects from entering the system. Running the system without a filter in place could result in degradation or damage to the system.*

Replace the filter at regular intervals. See **Scheduled Maintenance** (page 533).

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For additional cabin air filter information, or to replace the filter, see an authorized dealer.

REMOTE START (If Equipped)

You can switch this feature on or off and adjust the settings using the information display.

The system adjusts the interior temperature depending on your chosen settings during remote start.

You cannot adjust the climate control setting during remote start operation. When you switch the ignition on, the climate control system returns to the previous settings. You can now make adjustments.

You need to switch on certain vehicle-dependent features, such as:

- Heated seats.
- Cooled seats.
- Heated steering wheel.
- Heated mirrors.
- Heated rear window.

Automatic Settings

In hot weather, the system is set to 72°F (22°C). The cooled seats are set to high (if available, and selected to ***AUTO*** in the information display).

In moderate weather, the system either heats or cools (based on previous settings). The rear defroster, heated mirrors and heated or cooled seats do not automatically turn on.

In cold weather, the system is set to 72°F (22°C). The heated seats are set to high (if available, and selected to ***AUTO*** in the information display). The heated rear window and heated mirrors automatically turn on.

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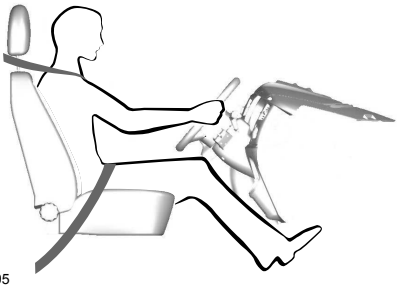
SITTING IN THE CORRECT POSITION

WARNINGS

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.

Do not recline the seatback as this can cause the occupant to slide under the safety belt, resulting in serious injury in the event of a crash.

Do not place objects higher than the seatback to reduce the risk of serious injury in the event of a crash or during heavy braking.



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When you use them properly, the seat, head restraint, safety belt 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 seatback more than 30 degrees.
- 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 safety belt 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.

HEAD RESTRAINTS

WARNINGS

Fully adjust the head restraint before you 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.

The head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. An improperly adjusted head restraint may not adequately protect an occupant during an impact from the rear.

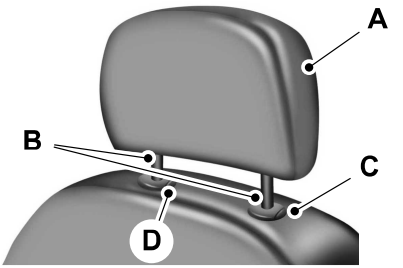
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WARNINGS

Install the head restraint properly to help minimize the risk of neck injury in the event of a crash.

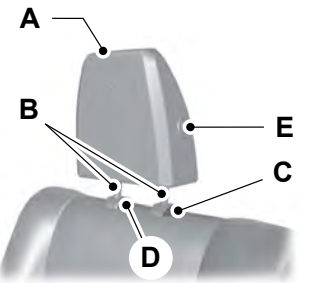
Note: *Adjust the seatback to an upright driving position before adjusting the head restraint. Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible. Make sure that you remain comfortable. If you are extremely tall, adjust the head restraint to its highest position.*

Front Seat Head Restraint



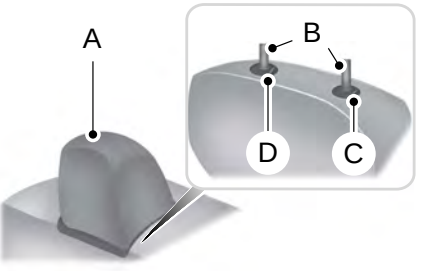
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Rear Seat Outboard Head Restraints



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Rear Seat Center Head Restraint



E166701

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.
E	Fold button (rear seat outboard only).

Adjusting the Head Restraint

Raising the Head Restraint

Pull the head restraint up.

Lowering the Head Restraint

1. Press and hold button C.
2. Push the head restraint down.

Removing the Head Restraint

1. Pull up the head restraint until it reaches the highest adjustment position.
2. Press and hold buttons C and D.
3. Pull up the head restraint.

Note: *For rear seat outboard seats, you can fold the head restraint forward for easier removal.*

Installing the Head Restraint

Align the steel stems into the guide sleeves and push the head restraint down until it locks.

Folding the Head Restraint

Note: *The rear seat outboard head restraints may fold forward for improved visibility.*

1. Press and hold button E.
2. Pull it back up to reset.

Front Seat Center Head Restraint

Your vehicle may be equipped with a front row center head restraint that you cannot adjust or remove.

Tilting Head Restraints (If Equipped)

The front head restraints tilt for extra comfort. To tilt the head restraint, do the following:



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1. Adjust the seatback to an upright driving or riding position.
2. Pivot the head restraint forward toward your head to the desired 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.*

MANUAL SEATS (If Equipped)

WARNING

Do not adjust the driver's seat or seatback when your vehicle is moving.

Moving the Seat Backward and Forward



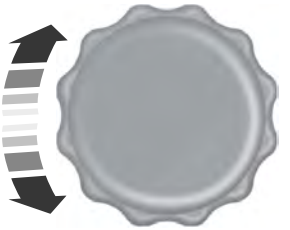
E175314

Recline Adjustment



E175315

Manual Lumbar (If Equipped)



E166702

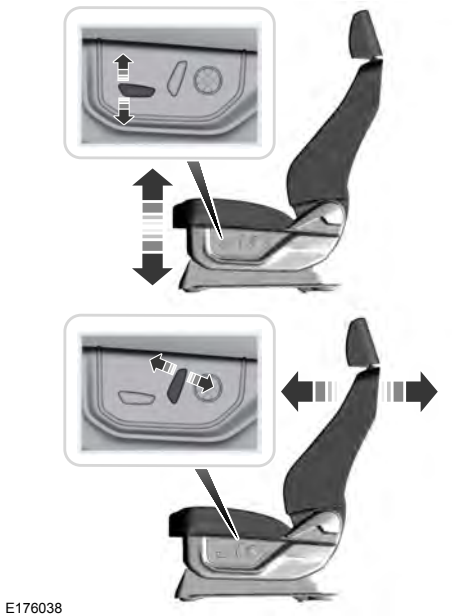
The lumbar support control is located on the outboard side of the seat. Turn the control to adjust your support.

POWER SEATS (If Equipped)

WARNINGS

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.

Do not place cargo or any objects behind the seatback before returning it to the original position.



E176038

Power Lumbar **(If Equipped)**



E176039

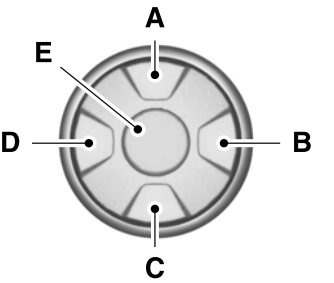
Multi-Contour Front Seats With Active Motion **(If Equipped)**

Note: *The massage system turns off after 20 minutes.*



Note: *The engine must be running or the vehicle must be in accessory mode to activate the seats.*

Note: *Allow a few seconds for any selection to activate. When the seatback and cushion are both active, the massage will alternate between zones*



E156301

	Massage mode	Lumbar and bolster mode
A	Back massage intensity adjustment	Upper lumbar
B	Massage intensity decrease and off*	Lumbar decrease
C	Cushion massage intensity adjustment	Lower lumbar**
D	Massage intensity increase	Lumbar increase
E	On and off	-

*The massage feature defaults to an alternating massage mode with back massage intensity adjustment. The lumbar and bolster feature defaults to the middle lumbar mode.

**Press C a second time to adjust the back bolster. Press C a third time to adjust the cushion bolster.

You can also adjust this feature through the touchscreen. When switched on, the system displays directions for you to adjust the lumbar settings in your seat or to set the massage function. To access and make adjustments to the lumbar setting:

1. Press the Menu Settings icon > Vehicle > Multi-contour Seat.
2. Choose the desired seat to adjust.
3. Press the + or - to adjust the lumbar intensity.

To access and make adjustments to the massage setting:

1. Press the Menu Settings icon > Vehicle >Multi-contour Seat.
2. Choose the desired seat to adjust.
3. Press Off, Low or High.

MEMORY FUNCTION (If Equipped)

WARNINGS

Before activating the seat memory, make sure that the area immediately surrounding the seat is clear of obstructions and that all occupants are clear of moving parts.

Do not use the memory function when your vehicle is moving.

This function automatically recalls the position of these features:

- Driver seat.
- Power mirrors.
- Optional power steering column.
- Optional power adjustable pedals.

The memory control is on the driver door.



E142554

Saving a PreSet Position

1. Switch the ignition on.
2. Adjust the seat, exterior mirrors, power adjustable pedals and power steering column to your desired position.
3. Press and hold the desired preset button until you hear a single tone.

Note: *A confirmation that you saved a memory preset appears in the information display.*

You can save up to three preset memory positions. You can save a memory preset at any time.

Recalling a PreSet Position

Press and release the preset button associated with your desired driving position. The seat, mirrors, pedals and steering column move to the position stored for that preset.

Note: *You can only recall a preset memory position when the ignition is off, or when you place the transmission in park (P) or neutral (N) if the ignition is on.*

Note: *Press any seat or mirror adjustment switch (or any memory button) during a memory recall to cancel the operation.*

You can also recall a preset memory position by:

- Pressing the unlock button on your intelligent access key fob if you linked it to a preset position.
- Unlocking the intelligent driver door handle if a linked key fob is present.
- Entering a personal entry code on the Securicode keypad. See **Keyless Entry** (page 68).

Note: *Using a linked key fob to recall your memory position when the ignition is off will move the seat and steering column to the Easy Entry position.*

Linking a PreSet Position to your Remote Control or Intelligent Access Key

Your vehicle can save the preset memory positions for up to three remote controls or intelligent access (IA) keys.

1. With the ignition on, move the memory features to the position you desire.
2. Press and hold the desired preset button for about five seconds. A tone sounds after about two seconds. Continue holding until you hear a second tone.
3. Within three seconds, press the lock button on the remote control you are linking.

To unlink a remote control, follow the same procedure – except in Step 3, press the unlock button on the remote control.

Easy Entry and Exit Feature

If you enable the easy entry and exit feature, it automatically moves the driver seat position rearward up to two inches (five centimeters) when you switch the ignition off. The driver seat returns to the previous position when you switch the ignition on.

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You can enable or disable this feature in the information display. See **Information Displays** (page 109).

REAR SEATS

Folding Up the Rear Seat Cushion

The rear seat has a split 60/40 cushion. You can flip each seat cushion up into a vertical storage position.



E181250

Rotate the seat cushion up until it locks into the vertical storage position.

Returning the Seat to the Seating Position

WARNING

Make sure that cargo or any objects are not trapped underneath the seat cushion before returning the seat cushion to its original position, and that the seat cushion returns to the full down position. Failure to do so may prevent the seat from operating properly in the event of a crash, which could increase the risk of serious injury.



E166704

Pull the control on the bottom of the seat cushion to release the seat cushion from the storage position.

HEATED SEATS (If Equipped)

WARNING

People who are unable to feel pain to their skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical conditions, must exercise care when using the heated seat. The heated seat may cause burns even at low temperatures, especially if used for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket or cushion. This may cause the heated seat to overheat. Do not puncture the seat with pins, needles or other pointed objects. This may damage the heating element which may cause the heated seat to overheat. An overheated seat may cause serious personal injury.

Do not do the following:

- 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 thoroughly.

Note: *The engine must be running to use this feature.*



E146322

Press the heated seat symbol to cycle through the various heat settings and off. More indicator lights indicate warmer settings.

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.*

Rear Heated Seats (If Equipped)

WARNING

People who are unable to feel pain to their skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical conditions, must exercise care when using the heated seat. The heated seat may cause burns even at low temperatures, especially if used for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket or cushion. This may cause the heated seat to overheat. Do not puncture the seat with pins, needles or other pointed objects. This may damage the heating element which may cause the heated seat to overheat. An overheated seat may cause serious personal injury.

Do not do the following:

- 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 thoroughly.

Note: *The engine must be running to use this feature.*

The rear seat heat controls are on the rear of the center console.



E146322

Press the heated seat symbol to cycle through the various heat settings and off. More indicator lights indicate warmer settings.

The heated seat module resets at every ignition run cycle. While the ignition is in the on position, press the heated seat switch to enable heating mode. When activated, they turn off automatically when you switch off the engine.

CLIMATE CONTROLLED SEATS

(If Equipped)

Heated Seats

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WARNING

Persons who are unable to feel pain to the skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion, or other physical conditions, must exercise care when using the seat heater. The seat heater may cause burns even at low temperatures, especially if used for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket or cushion, because this may cause the seat heater to overheat. Do not puncture the seat with pins, needles, or other pointed objects because this may damage the heating element which may cause the seat heater to overheat. An overheated seat may cause serious personal injury.

Note: *Do not do the following:*

- Place heavy objects on the seat.
- Operate the seat heater if water or any other liquid spills on the seat. Allow the seat to dry thoroughly.
- Operate the heated seats unless the engine is running. Doing so can cause the battery to lose charge.



E146322

Touch the heated seat symbol to cycle through the various heat settings and off. More indicator lights indicate warmer settings.

Cooled Seats

The cooled seats only function when the engine is running.



E146309

To operate the cooled seats:

Touch the cooled seat symbol to cycle through the various cooling settings and off. More indicator lights indicate cooler settings.

If the engine falls below 350 RPM while the cooled seats are on, the feature turns itself off. You need to reactivate it.

Climate controlled seat air filter replacement

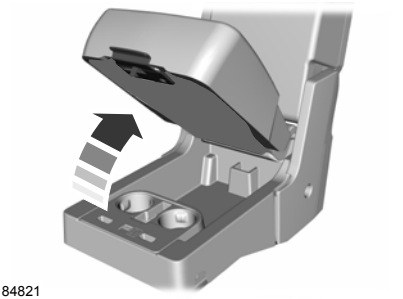
Your vehicle is equipped with lifetime air filters that are integrated with the seats. Regular maintenance or replacement is not needed.

FRONT SEAT ARMREST (If Equipped)



E175382

Press the release control to move the front seat armrest up or down.



E184821

Lift the latch to open the lid and gain access to the optional storage compartment under the center seat cushion.

The cupholder is located inside the front seat armrest. You can also flip the cupholder so that it faces forward. See **Center Console** (page 165).

REAR SEAT ARMREST (If Equipped)



E181222

Pull the strap located on the center seatback to access the armrest and cupholders.

The cupholders are located inside the rear seat armrest.

To open the cupholders:

1. Push in gently on the center of the plastic panel at the front edge of the armrest. The cupholders will partially open.
2. Pull the cupholder fully open before using.

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HomeLink Wireless Control System

WARNINGS

Make sure that the garage door and security device are free from obstruction when you are programming. Do not program the system with the vehicle in the garage.

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.

Note: *Make sure you keep the original remote control transmitter for use in other vehicles as well as for future system programming.*

Note: *We recommend that upon the sale or lease termination of your vehicle, you erase the programmed function buttons for security reasons. See* ***Erasing the Function Button Codes*** *later in this section.*

Note: *You can program a maximum of three devices. To change or replace any of the three devices after it has been initially programmed, you must first erase the current settings. See* ***Erasing the Function Button Codes****.*



E188211

The universal garage door opener replaces the common hand-held garage door opener with a three-button transmitter integrated into the driver's sun visor.

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.

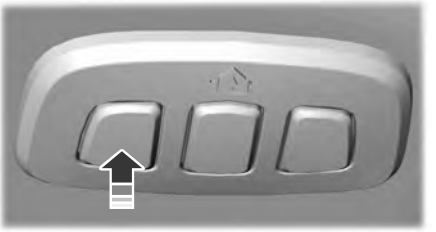
Additional system information can be found online at www.homelink.com, www.youtube.com/user/HomeLinkGentex or by calling the toll-free help line at 1-800-355-3515.

In-Vehicle Programming

This process is to program your in-vehicle HomeLink function button with your hand-held transmitter.

Note: *The programming steps below assume you will be programming HomeLink that was not previously programmed. If your HomeLink was previously programmed, you may need to erase your HomeLink buttons. See* ***Erasing the Function Button Codes.***

Note: *Put a new battery in the hand-held transmitter. This helps ensure quicker training and accurate transmission of the radio-frequency signal.*



E188212

1. With your vehicle parked outside of the garage, switch your ignition to the **on** position, but do not start your vehicle.
2. Press and release the function button that you would like to program.
3. Hold your hand-held garage door transmitter 1–3 in (2–8 cm) away from the HomeLink button you want to program.
4. Press and hold the hand-held transmitter button you want to program while watching the indicator light on HomeLink. Continue to hold the hand-held button until the HomeLink indicator light flashes rapidly or is continuously on.

Note: *You may need to use a different method if you live in Canada or have difficulties programming your gate operator or garage door opener. See* ***Gate Operator / Canadian Programming.***

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 your garage door does not operate, watch the HomeLink indicator light.

If the indicator light stays on, the programming is complete. Your device should activate when the HomeLink button is pressed and released.

If the indicator light flashes rapidly, press and hold for two seconds and release the programmed HomeLink button. Repeat the "press/hold/release" sequence up to three times to complete the programming process. If your device still does not operate, you must program your garage door. See **Programming Your Garage Door Opener Motor.**

To program additional buttons, repeat Steps 1 – 4.

For questions or comments, please contact HomeLink at www.homelink.com, www.youtube.com/user/HomeLinkGentex or by calling the toll-free help line at 1-800-355-3515.

Programming Your Garage Door Opener Motor

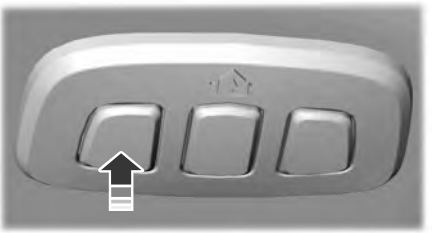
Note: *You may need a ladder to reach the unit and you may need to remove the cover or lamp lens on your garage door opener.*



E142659

1. Press the learn button on the garage door opener motor and then you have 30 seconds to complete the next two steps.
2. Return to your vehicle.

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E188212

3. Press and hold the function button you want to program for 2 seconds, then release. Repeat this step. Depending on your brand of garage door opener, you may need to repeat this sequence a third time.

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.

Note: *If programming a garage door opener or gate operator, it is advised to unplug the device during the "cycling" process to prevent possible overheating.*

1. Press and release, **every two seconds**, your hand-held transmitter until the HomeLink indicator light changes to a rapidly blinking or continuously on light.
2. Release the hand-held transmitter button.
3. Continue programing HomeLink. See **In-Vehicle Programming, Step 4**.

Erasing the Function Button Codes

Note: *You cannot erase individual buttons.*



E188213

1. Press and hold the outer two function buttons simultaneously for approximately 10 seconds until the indicator light above the buttons flashes rapidly.
2. When the indicator light flashes, release the buttons. You erased the codes for all buttons.

Reprogramming a Single Button

To program a device to a previously trained button, follow these steps:

1. Press and hold the desired button. Do NOT release the button.
2. The indicator light begins to flash after 20 seconds. Without releasing the button, follow Step 1 in the Programming section.

For questions or comments, contact HomeLink at www.homelink.com, www.youtube.com/user/HomeLinkGentex or by calling the toll-free help line at 1-800-355-3515.

FCC and RSS-210 Industry Canada Compliance

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.

Note: *Changes or modifications to your device not expressly approved by the party responsible for compliance can void the user's authority to operate the equipment.*

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.

The term "IC:" before the certification/registration number only signifies that Industry Canada technical specifications were met.

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12 Volt DC Power Point

WARNING

Do not plug optional electrical accessories into the cigar lighter socket. Incorrect use of the cigar lighter can cause damage not covered by the vehicle warranty, and can result in fire or serious injury.

Note: *When you switch the ignition on, you can use the socket to power 12 volt appliances with a maximum current rating of 20 amps.*

Note: *Do not plug in any device that supplies power to the vehicle through the power points, this may result in damage to vehicle systems.*

Note: *Do not hang any accessory from the accessory plug.*

Note: *Do not use the power point over the vehicle capacity of 12 volt DC 240 watts or a fuse may blow.*

Note: *Always keep the power point caps closed when not in use.*

Do not insert objects other than an accessory plug into the power point. This damages the power point and may blow the fuse.

Run the vehicle for full capacity use of the power point.

To prevent the battery from running out of charge:

- Do not use the power point longer than necessary when the vehicle is not running.
- Do not leave devices plugged in overnight or when you park your vehicle for extended periods.

Locations

Note: *Timed power points remain on for 30 minutes if the vehicle is in accessory mode. If you switch the vehicle off, the timed power points remain on for 75 minutes.*

Power points may be in the following locations:

- On the instrument panel.
- Inside the center console.
- On the rear of the center console.
- Inside the front under-seat storage compartment.

110 Volt - 400 Watt Capacity AC Power Outlet

WARNING

Do not keep electrical devices plugged in the power point whenever the device is not in use. Do not use any extension cord with the 110 volt AC power point, since it will defeat the safety protection design. Doing so may cause the power point to overload due to powering multiple devices that can reach beyond the 400 watt load limit and could result in fire or serious injury.

Note: *This feature works only when the vehicle is running.*

Note: *This feature has a maximum output of 400 watts when the vehicle is in park (P).*

Note: *While in drive (D), the maximum outlet output is 300 watts.*

Note: *The vehicle must be running when powering electric devices more than 10 watts in vehicles with keyless start. It does not allow you to switch the ignition off or switch the ignition to accessory mode.*

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E191617

When the indicator light on the power point is:

- On: The power point is working, the ignition is on and a device is plugged in.
- Off: The power point is off, the ignition is off or no device is plugged in.
- Flashing: The power point is in fault mode.

The power outlet temporarily turns off power when in fault mode if the device exceeds the 400 watt limit. Unplug your device and switch the ignition off. Switch the ignition back on, but do not plug your device back in. Let the system cool off and switch the ignition off to reset the fault mode. Switch the ignition back on and make sure the indicator light remains on.

You can use the 400 watt power outlet for these types of electric devices:

- Electric hand drills.
- Rechargeable power tools.
- Video games.
- Laptops.
- Televisions.

Do not use the power point for certain electric devices, including:

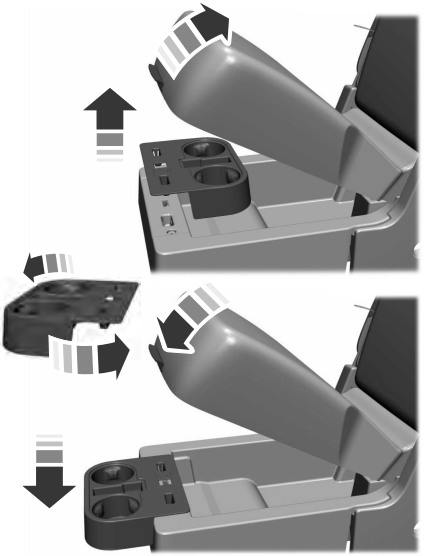
- Cathode-ray, tube-type televisions.
- Motor loads, such as vacuum cleaners, electric saws and other electric power tools or compressor-driven refrigerators.
- Measuring devices, which process precise data, such as medical equipment or measuring equipment.
- Other appliances requiring an extremely stable power supply such as microcomputer-controlled electric blankets or touch-sensor lamps.

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CENTER CONSOLE (If Equipped)

Stow items in the cup holder carefully as items may become loose during hard braking, acceleration or crashes, including hot drinks which may spill.

In vehicles with a 40-20-40 split-bench seat, the cup holders are inside of the folding console.

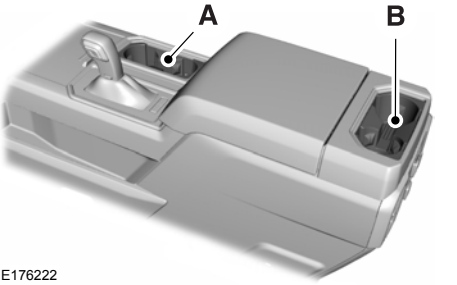


E185121

To use the cup holders:

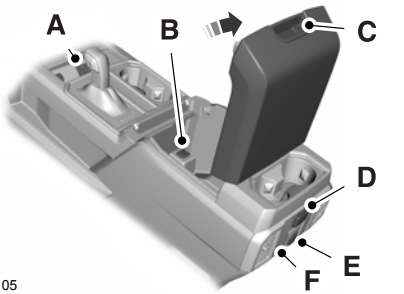
1. Lift the console lid up to open.
2. Lift the cup holders up and rotate them outward.
3. Close the console.

Vehicles with a console-mounted shifter feature cup holders molded into the console.



E176222

A. Front cup holders.
B. Rear cup holders.

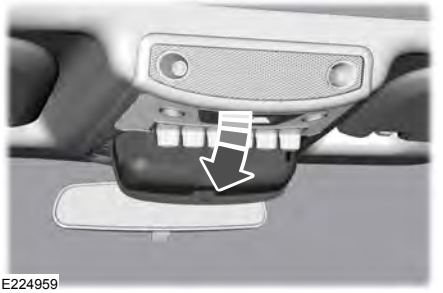


E244105

Available console features include:

A. One of the following:
   - USB ports.
   - Audio input jack.
B. Auxiliary power point.
C. Locking storage compartment with hanging file folder supports and room for a laptop computer.
D. AC power point.
E. Auxiliary power point.
F. USB port.

OVERHEAD CONSOLE (If Equipped)


E224959

Press near the rear edge of the door to open it.

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GENERAL INFORMATION

WARNINGS

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.

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.

Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes can be toxic. Always open the garage door before you start the engine.

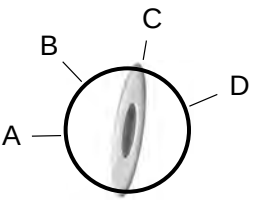
Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

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.

The powertrain control system meets all Canadian interference-causing equipment standard requirements regulating the impulse electrical field or radio noise.

When you start the engine, avoid pressing the accelerator pedal before and during operation. Only use the accelerator pedal when you have difficulty starting the engine.

IGNITION SWITCH (If Equipped)



E163165

A (off) - The ignition is off.

Note: *When you switch the ignition off and leave your vehicle, do not leave your key in the ignition. This could cause your vehicle battery to lose charge.*

B (accessory) - Allows the electrical accessories, such as the radio, to operate while the engine is not running.

Note: *Do not leave the ignition key in this position for too long. This could cause your vehicle battery to lose charge.*

C (on) - All electrical circuits are operational and the warning lamps and indicators illuminate.

D (start) - Cranks the engine.

KEYLESS STARTING (If Equipped)

Note: *The keyless starting system may not function if the key is close to metal objects or electronic devices such as cellular phones.*

Note: *A valid key must be located inside your vehicle to switch the ignition on and start the engine.*

Ignition Modes



E144447

The keyless starting system has three modes:

Off: Turns the ignition off.

- Without applying the brake pedal, press and release the button once when the ignition is in the on mode, or when the engine is running but the vehicle is not moving.

On: All electrical circuits are operational and the warning lamps and indicators illuminate.

- Without applying the brake pedal, press and release the button once.

Start: Starts the vehicle. The engine may not start when the vehicle starts.

- Press the brake pedal, and then press the button for any length of time. An indicator light on the button illuminates when then ignition is on and when the engine starts.

STEERING WHEEL LOCK (If Equipped)

WARNING

Always check that the steering is unlocked before attempting to move your vehicle.

To lock the steering wheel:

1. Remove the key from the ignition.
2. Rotate the steering wheel 180º from the straight ahead position to engage the lock.

To unlock the steering wheel:

1. Insert the key in the ignition.
2. Turn the key to the on position.

Note: *You may need to rotate the steering wheel slightly to assist unlocking if there is a steering wheel load applied.*

STARTING A GASOLINE ENGINE

When you start the engine, the idle speed increases. This helps to warm up the engine. If the engine idle speed does not slow down automatically, have your vehicle checked by an authorized dealer.

Note: *You can crank the engine for a total of 60 seconds (without the engine starting) before the starting system temporarily disables. The 60 seconds does not have to be all at once. For example, if you crank the engine three times for 20 seconds each time, without the engine starting, you reached the 60-second time limit. A message appears in the information display alerting you that you exceeded the cranking time. You cannot attempt to start the engine for at least 15 minutes. After 15 minutes, you are limited to a 15-second engine cranking time. You need to wait 60 minutes before you can crank the engine for 60 seconds again.*

Before starting the engine, check the following:

- Make sure all occupants have fastened their safety belts.
- Make sure the headlamps and electrical accessories are off.
- Make sure the parking brake is on.

- Move the transmission selector lever to position **P**.
- Turn the ignition key to on. If your vehicle is equipped with a keyless ignition, see the following instructions.

Vehicles with an Ignition Key

Note: *Do not touch the accelerator pedal.*

1. Fully depress the brake pedal.
2. Turn the key to start the engine. Release the key when the engine starts.

Note: *The engine may continue cranking for up to 15 seconds or until it starts.*

Note: *If you cannot start the engine on the first try, wait for a short period and try again.*

Vehicles with Keyless Start

Note: *Do not touch the accelerator pedal.*

Note: *You must have your intelligent access key in the vehicle in order to shift the transmission out of position **P**.*

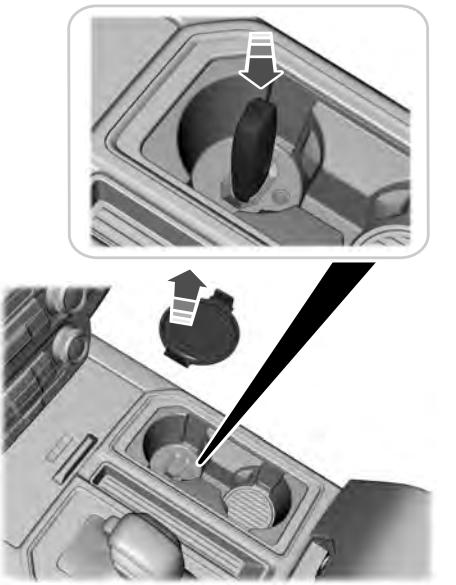
1. Fully depress the brake pedal.
2. Press the button.

The system does not function if:

- The key frequencies are jammed.
- The key battery has no charge.

If you are unable to start the engine, locate the backup slot (A) in one of two positions:

Type One



E244507

Type Two



E187577

1. If your vehicle is equipped with Type One, make sure to place the key properly into the backup slot.

2. If your vehicle is equipped with Type Two, make sure the buttons are facing the rear of the vehicle and the key ring up. Place the key into the backup slot.
3. With the key in this position, press the brake pedal, and then the button to switch on the engine.

Fast Restart

The fast restart feature allows you to restart the engine within 20 seconds of switching it off, even if a valid key is not present.

Within 20 seconds of switching the engine off, press the brake pedal and press the button. After 20 seconds have expired, you can no longer restart the engine without the key present inside your vehicle.

Once the engine has started, it remains running until you press the button, even if the system does not detect a valid key. If you open and close a door while the engine is running, the system searches for a valid key. You cannot restart the engine if the system does not detect a valid key within 20 seconds.

Failure to Start

If you cannot start the engine after three attempts, wait 10 seconds and follow this procedure:

1. Fully press the brake pedal.
2. Move the transmission selector lever to position **P**.
3. Fully press the accelerator pedal and hold it there.
4. Start the engine.

Automatic Engine Shutdown

If your vehicle is equipped with a keyless ignition, it has a feature that automatically shuts down the engine if it has been idling for an extended period. The ignition also turns off in order to save battery power. Before the engine shuts down, a message appears in the information display showing a timer counting down from 30 seconds. If you do not intervene within 30 seconds, the engine shuts down. Another message appears in the information display to inform you that the engine has shut down in order to save fuel. Start your vehicle as you normally do.

Automatic Engine Shutdown Override

Note: *You cannot permanently switch off the automatic engine shutdown feature. When you switch it off temporarily, it turns on at the next ignition cycle.*

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:

- You can reset the timer by interacting with your vehicle (such as pressing the brake pedal or accelerator pedal).
- You can temporarily switch off the shutdown feature any time the ignition is on (for the current ignition cycle only). Use the information display to do so. See **Information Displays** (page 109).
- During the countdown before engine shutdown, you are prompted to press OK or RESET (depending on your type of information display) to temporarily switch the feature off (for the current ignition cycle only).

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Stopping the Engine When Your Vehicle is Stationary

Vehicles with an Ignition Key

1. Move the transmission selector lever to position **P**.
2. Turn the key to off.
3. Apply the parking brake.

Vehicles with Keyless Start

1. Move the transmission selector lever to position **P**.
2. Press the button once.
3. Apply the parking brake.

Note: *This switches off the ignition, all electrical circuits, warning lamps and indicators.*

Note: *If the engine is idling for 30 minutes, the ignition and engine automatically shut down.*

Stopping the Engine When Your Vehicle is Moving

WARNING

Switching off the engine when the vehicle is still moving will result in a loss of brake and steering assistance. The steering will not lock, but higher effort will be required. When the ignition is switched off, some electrical circuits, including air bags, warning lamps and indicators may also be off. If the ignition was turned off accidentally, you can shift into neutral (N) and re-start the engine.

Vehicles with an Ignition Key

1. Move the transmission selector lever to position **N** and use the brakes to bring your vehicle to a safe stop.
2. When your vehicle has stopped, move the transmission selector lever to position **P** and turn the key to off.
3. Apply the parking brake.

Vehicles with Keyless Start

1. Move the transmission selector lever to position **N** and use the brakes to bring your vehicle to a safe stop.
2. When your vehicle has stopped, move the transmission selector lever to position **P**.
3. Press and hold the button for one second, or press it three times within two seconds.
4. Apply the parking brake.

Guarding Against Exhaust Fumes

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.

Important Ventilating Information

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.

ENGINE BLOCK HEATER (If Equipped)

WARNINGS

Failure to follow engine block heater instructions could result in property damage or serious personal injury.

WARNINGS

Do not use your heater with ungrounded electrical systems or two-pronged adapters. There is a risk of electrical shock.

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.

Note: *The heater is most effective when outdoor temperatures are below 0°F (-18°C).*

The heater acts as a starting aid by warming the engine coolant. This allows the climate control system to respond quickly. The equipment includes a heater element (installed in the engine block) and a wire harness. You can connect the system to a grounded 120-volt AC electrical source.

We recommend that you do the following for a safe and correct operation:

- Use a 16-gauge outdoor extension cord that is product certified by Underwriter's Laboratory (UL) or Canadian Standards Association (CSA). This extension cord must be suitable for use outdoors, in cold temperatures, and be clearly marked 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 as short an extension cord as possible.
- Do not use multiple extension cords.
- Make sure that when in operation, the extension cord plug and heater cord plug connections are free and clear of water. This could cause an electric shock or fire.
- Make sure your vehicle is parked in a clean area, clear of combustibles.
- Make sure the heater, heater cord and extension cord are firmly connected.
- Check for heat anywhere in the electrical hookup once the system has been operating for approximately 30 minutes.
- Make sure the system is unplugged and properly stowed before starting and driving your vehicle. Make sure the protective cover seals the prongs of the block heater cord plug when not in use.
- Make sure the heater system is checked for proper operation before winter.

Using the Engine Block Heater

Make sure the receptacle terminals are clean and dry prior to use. Clean them with a dry cloth if necessary.

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. Using the heater longer than three hours does not improve system performance and unnecessarily uses electricity.

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AUTO-START-STOP (If Equipped)

The system helps reduce fuel consumption by automatically stopping and restarting the engine when your vehicle has stopped. The engine restarts automatically when you release the brake pedal.

In some situations, your vehicle may restart automatically, for example:

- To maintain interior comfort.
- To recharge the battery.

Note: *Power assist steering turns off when the engine is off.*

Note: *If your vehicle is flex fuel capable, Auto-Start-Stop will be inhibited for a short time after a refuel event while the system is verifying the fuel type being used.*

WARNINGS

Always fully apply the parking brake. Make sure you shift into park (P) for vehicles with an automatic transmission. Switch the ignition off and remove the key whenever you leave your vehicle.

Before opening the hood or performing any maintenance, fully apply the parking brake, shift into park (P) or neutral (N) and switch the ignition off.

Always switch the ignition off before leaving the vehicle. If the ignition is switched on an automatic restart may occur at any time.

The system may require the engine to automatically restart when the auto-start-stop indicator illuminates green or flashes amber. Failure to follow this instruction could result in personal injury.

The Auto-Start-Stop system status is available at a glance within the information display. See **Information Displays** (page 109).

Enabling Auto-Start-Stop

The system automatically enables every time you start your vehicle if:

- You do not press the Auto-Start-Stop button (not illuminated).
- Your vehicle exceeds an initial speed of 3 mph (5 km/h) after you have initially started your vehicle.
- You have stopped your vehicle.
- Your foot is on the brake pedal.
- The transmission is in drive (D) or Sport mode (enable by pressing the Auto-Start-Stop button).
- The driver door is closed.
- There is adequate brake vacuum.
- The interior compartment has cooled or warmed to an acceptable level.
- The front windshield defroster is off.
- You have not turned the steering wheel rapidly or you do not have it at a sharp angle.
- The vehicle is not on a steep road grade.
- The battery is within optimal operating conditions (battery state of charge and temperature in range).
- The engine coolant is at operating temperature.
- Elevation is below about 11,000 ft (3,350 m).
- Ambient temperature is moderate.
- You have selected 4X2 or Auto mode.
- If equipped with Terrain mode, and you select auto snow/ice mode only.
- The trailer is not connected.

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- You have not selected Tow haul.
- You have not selected Manual mode.

The green Auto-Start-Stop indicator light on the instrument cluster will illuminate to indicate when the automatic engine stop occurs.

If the instrument cluster is equipped with a grey Auto-Start-Stop indicator light, it illuminates when automatic engine stop is not available due to one of the above noted conditions not being met.

Automatic Engine Restart

Any of the following conditions will result in an automatic restart of the engine:

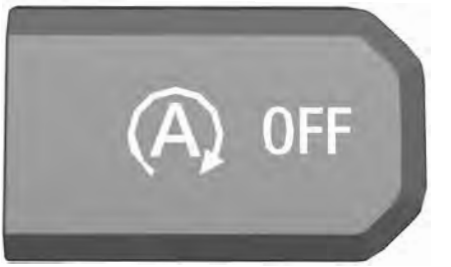
- You have removed your foot from the brake pedal.
- You press the accelerator pedal.
- You press the accelerator and the brake pedal at the same time.
- The driver safety belt becomes unfastened or the driver door is ajar.
- You have moved the transmission from drive (D) to any gear except park (P).
- Your vehicle is moving.
- The interior compartment does not meet customer comfort when air conditioning or heat is on.
- Fogging of the windows could occur and the air conditioning is on.
- The battery is not within optimal operating conditions.
- You have exceeded the maximum engine off time.
- When you press the Auto-Start-Stop button with the engine automatically stopped.
- The front defroster is turned to the Max setting.

Any of the following conditions may result in an automatic restart of the engine:

- You have increased the blower fan speed or changed the climate control temperature.
- You have an electrical accessory turned on or plugged in.

Note: *You may notice that the climate seat fan fluctuates during an automatic restart.*

Disabling Auto-Start-Stop



E181352

Press the Auto-Start-Stop button located on the center console to switch the system off. The button will illuminate. This will only deactivate the system for the current ignition cycle. Press the button again to restore Auto-Start-Stop function.

You can switch the system off using the Information Display Controls. See **Information Displays** (page 109).

Note: *If the Shift to P, Restart Engine message appears and the amber Auto-Start-Stop indicator light is flashing, automatic restart is not available. You must restart the vehicle manually. See* ***Information Displays*** *(page 109).*

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If your vehicle is in an engine off Auto-Start-Stop state and you change the transmission to reverse (R) while the brake pedal is not pressed, the message Auto-Start-Stop Press Brake to Start Engine will appear. You must press the brake pedal within 60 seconds or a shift to park (P) and a manual restart will be required.

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SAFETY PRECAUTIONS

WARNINGS

Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

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.

Automotive fuels can cause serious injury or death if misused or mishandled.

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.

Fuel may contain benzene, which is a cancer-causing agent.

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.

Observe the following guidelines when handling automotive fuel:

- Extinguish all smoking materials and any open flames before refueling your vehicle.
- Always turn off the vehicle before refueling.
- Automotive fuels can be harmful or fatal if swallowed. Fuel such as gasoline is highly toxic and if swallowed can cause death or permanent injury. If fuel is swallowed, call a physician immediately, even if no symptoms are immediately apparent. The toxic effects of fuel may not be visible for hours.
- Avoid inhaling fuel vapors. Inhaling too much fuel vapor of any kind 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 liquid in your eyes. If fuel is splashed in the eyes, 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 also be harmful if absorbed through the skin. If fuel is splashed on the skin, clothing or both, promptly remove contaminated clothing and wash skin thoroughly with soap and water. Repeated or prolonged skin contact with fuel liquid or vapor causes skin irritation.
- Be particularly careful if you are taking Antabuse or other forms of Disulfiram for the treatment of alcoholism. Breathing gasoline vapors could cause an adverse reaction, serious personal injury or sickness. If fuel is splashed on the skin, wash the affected areas immediately with plenty of soap and water. Consult a physician immediately if you experience any adverse reactions.

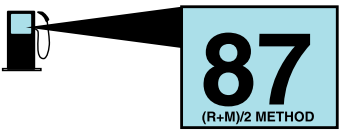
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FUEL QUALITY - E85

Choosing the Right Fuel - Flex Fuel Vehicles

Flex fuel vehicles have one of the following identifiers:

- Yellow fuel filler cap.
- Yellow bezel around the fuel filler inlet.
- Yellow fuel filler housing.
- Yellow E85 label on the fuel tank filler door.



E161513

Your vehicle is designed to operate on regular unleaded gasoline with a minimum pump (R+M)/2 octane rating of 87 or regular unleaded gasoline blended with a maximum of 85% ethanol (E85).

Some fuel stations, particularly those in high altitude areas, offer fuels posted as regular unleaded gasoline with an octane rating below 87. We do not recommend these fuels.

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** (page 257).

Do not use any fuel other than those recommended because they could lead to engine damage that will not be covered by the vehicle Warranty.

Note: *Use of any fuel other than those recommended can impair the emission control system and cause a loss of vehicle performance.*

Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuels containing more than 85% ethanol or E100 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 (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

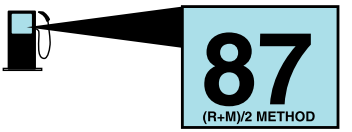
Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

Switching Between E85 and Gasoline

We do not recommend repeatedly alternating between E85 and gasoline. If you switch from using E85 to gasoline, or from gasoline to E85, add as much fuel as possible, at least half a tank. Drive your vehicle immediately for a minimum of 5 mi (8 km) to allow it to adapt to the change in ethanol concentration. If you use E85 exclusively, we recommend that you fill the fuel tank with regular unleaded gasoline at each scheduled oil change.

FUEL QUALITY - GASOLINE

Choosing the Right Fuel



E161513

Your vehicle is designed to operate 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. We do not recommend these fuels.

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** (page 257).

Do not use any fuel other than those recommended because they could lead to engine damage that will not be covered by the vehicle Warranty.

Note: *Use of any fuel other than those recommended can impair the emission control system and cause a loss of vehicle performance.*

Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuel containing more than 15% ethanol 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 (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

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.

FUEL FILLER FUNNEL LOCATION - REGULAR CAB

The fuel filler funnel is behind the right-hand front seat.

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FUEL FILLER FUNNEL LOCATION - SUPERCAB/ SUPERCREW

The fuel filler funnel is under the second row right-hand rear seat.

RUNNING OUT OF FUEL

Running out of fuel can cause damage not covered by the vehicle Warranty.

If your vehicle runs out of fuel:

- Add a minimum of 1.3 gal (5 L) of fuel to restart the engine. If your vehicle is out of fuel and on a steep slope, more fuel may be required.
- 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.

Filling a Portable 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

WARNINGS

Do not insert the nozzle of a fuel container or an aftermarket funnel into the fuel system filler neck. This may damage the fuel system filler neck or its seal and cause fuel to run onto the ground.

Do not try to pry open or push open the capless fuel system with foreign objects. This could damage the fuel system and its seal and cause injury to you or others.

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, use the fuel filler funnel included with your vehicle. See **Fuel Filler Funnel Location** (page 178).

Note: *Do not use aftermarket funnels as they will not work with the capless fuel system and can damage it.*

When refueling the vehicle fuel tank from a fuel container, do the following:

1. Fully open the fuel tank filler door until it engages.
2. Fully insert the fuel filler funnel into the fuel tank filler pipe opening.

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E157452

3. Add fuel to your vehicle from the fuel container.
4. Remove the fuel filler funnel from the fuel tank filler pipe opening.
5. Fully close the fuel tank filler door.
6. Clean the fuel filler funnel and place it back in your vehicle or correctly dispose of it.

Note: *Extra funnels can be purchased from an authorized dealer if you choose to dispose of the funnel.*

REFUELING

WARNINGS

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.

The fuel system may be under pressure. If you hear a hissing sound near the fuel filler door, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

WARNINGS

Do not remove the fuel pump nozzle from its fully inserted position when refueling.

Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

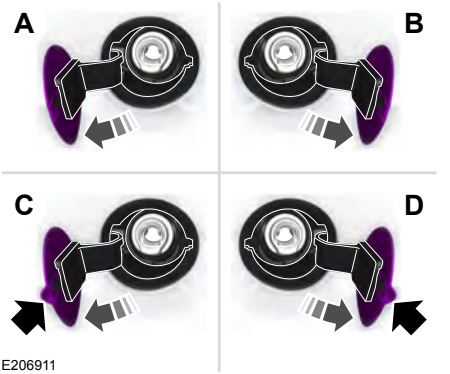
Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

Wait at least 10 seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

Do not try to pry open or push open the capless fuel system with foreign objects. This could damage the fuel system and its seal and cause injury to you or others.

Note: *Your vehicle does not have a fuel filler cap.*

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E206911

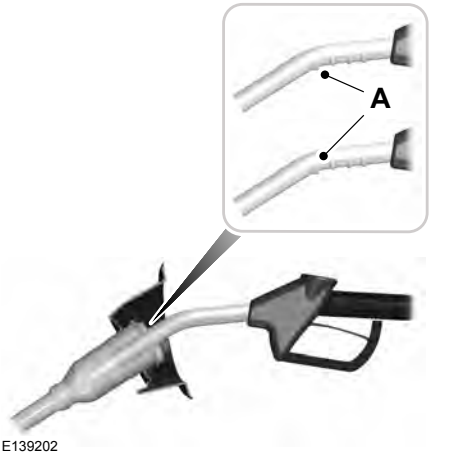
A Left-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.

B Right-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.

C Left-hand side. Pull the rear of the fuel tank filler door to open it.

D Right-hand side. Pull the rear of the fuel tank filler door to open it.

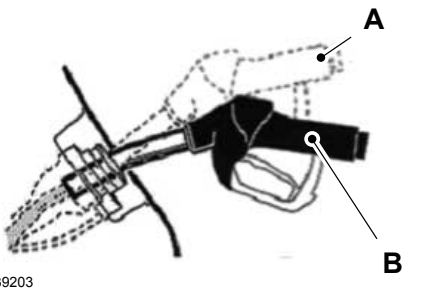
1. Fully open the fuel tank filler door until it engages.



E139202

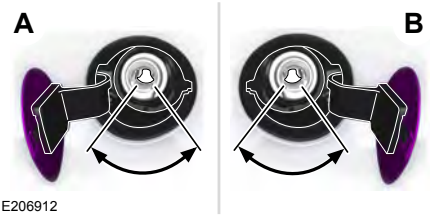
Note: *When you insert the correct size fuel pump nozzle a spring loaded inhibitor will open.*

2. Insert the fuel pump nozzle up to the first notch on the nozzle A. Keep it resting on the cover of the fuel tank filler pipe opening.



E139203

3. Hold the fuel pump nozzle in position B when refueling. Holding the fuel nozzle in position A can affect the flow of fuel and shut off the fuel nozzle before the fuel tank is full.



E206912

4. Operate the fuel pump nozzle within the area shown.


E119081

5. Slightly raise the fuel pump nozzle and then slowly remove it.
6. Fully close the fuel tank filler door.

Note: *Do not attempt to start the engine if you have filled the fuel tank with incorrect fuel. Incorrect fuel use can cause damage not covered by the vehicle Warranty. Have your vehicle checked immediately.*

System Warnings (If Equipped)

If the fuel filler inlet does not fully close a warning message appears in the information display.

1. Stop your vehicle as soon as safely possible and shift the transmission into park (P) or neutral (N).
2. Apply the parking brake and switch the ignition off.
3. Fully open the fuel tank filler door until it engages.
4. Check the fuel filler inlet and the area around it for any items or debris that may be obstructing its movement.
5. Insert a fuel pump nozzle or the fuel filler funnel provided with your vehicle in to the fuel tank filler pipe opening. This action should dislodge any debris that may be preventing the fuel filler inlet from fully closing.

Note: *If this action corrects the problem the message may not reset immediately. If the message remains and the service engine soon warning lamp appears in the information display, have your vehicle checked as soon as possible.*

FUEL CONSUMPTION

The advertised capacity is the maximum amount of fuel that you can add to the fuel tank after running out of fuel. Included in the advertised capacity is an empty reserve. The empty reserve is an unspecified amount of fuel that remains in the fuel tank when the fuel gauge indicates empty.

Note: *The amount of fuel in the empty reserve varies and should not be relied upon to increase driving range.*

Filling the Fuel Tank

For consistent results when refueling:

- Turn the ignition off before fueling; an inaccurate reading results if the engine is left running.
- Use the same fill rate (low-medium-high) each time the tank is filled.
- Allow no more than one automatic shut-off when refueling.

Results are most accurate when the filling method is consistent.

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Calculating Fuel Economy

Do not measure fuel economy during the first 1,000 mi (1,600 km) of driving (this is your engine's break-in period). A more accurate measurement is obtained after 2,000 mi (3,200 km) to 3,000 mi (4,800 km). Also, fuel expense, frequency of fill ups or fuel gauge readings are not accurate ways to measure fuel economy.

1. Fill the fuel tank completely and record the initial odometer reading.
2. Each time you fill the fuel tank, record the amount of fuel added.
3. After at least three fill ups, fill the fuel tank and record the current odometer reading.
4. Subtract your initial odometer reading from the current odometer reading.

To calculate L/100 km (liters per 100 kilometers) fuel consumption, multiply the liters used by 100, then divide by kilometers traveled. To calculate MPG (miles per gallon) fuel consumption, divide miles traveled by gallons used.

Keep a record for at least one month and record the type of driving (city or highway). This provides an accurate estimate of your vehicle's fuel economy under current driving conditions. Keeping records during summer and winter will show how temperature impacts fuel economy.

Conditions

- Heavily loading your vehicle reduces fuel economy.
- Carrying unnecessary weight in your vehicle may reduce fuel economy.
- Adding certain accessories to your vehicle such as bug deflectors, rollbars or light bars, running boards and ski racks may reduce fuel economy.
- Using fuel blended with alcohol may lower fuel economy.
- Fuel economy may decrease with lower temperatures.
- Fuel economy may decrease when driving short distances.
- You will get better fuel economy when driving on flat terrain than when driving on hilly terrain.

EMISSION CONTROL SYSTEM

WARNINGS

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.

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.

Your vehicle has various emission control components and a catalytic converter that enables it to comply with applicable exhaust emission standards.

To make sure that the catalytic converter and other emission control components continue to work properly:

- Use only the specified fuel listed.
- Avoid running out of fuel.
- Do not turn off the ignition while your vehicle is moving, especially at high speeds.
- Have the items listed in scheduled maintenance information performed according to the specified schedule.

The scheduled maintenance items listed in scheduled maintenance information are essential to the life and performance of your vehicle and to its emissions system.

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If you use anything other than Ford, Motorcraft or Ford-authorized parts for maintenance replacements or for service of components affecting emission control, such non-Ford parts should be equivalent to genuine Ford Motor Company parts in performance and durability.

Illumination of the service engine soon indicator, charging system warning light or the temperature warning light, fluid leaks, strange odors, smoke or loss of engine power could indicate that the emission control system is not working properly.

An improperly operating or damaged exhaust system may allow exhaust to enter the vehicle. Have a damaged or improperly operating exhaust system inspected and repaired immediately.

Do not make any unauthorized changes to your vehicle or engine. By law, vehicle owners and anyone who manufactures, repairs, services, sells, leases, trades vehicles, or supervises a fleet of vehicles are not permitted to intentionally remove an emission control device or prevent it from working. Information about your vehicle's emission system is on the Vehicle Emission Control Information Decal located on or near the engine. This decal also lists engine displacement.

Please consult your warranty information for complete details.

On-Board Diagnostics (OBD-II)

Your vehicle has a computer known as the on-board diagnostics system (OBD-II) that monitors the engine's emission control system. The system protects the environment by making sure that your vehicle continues to meet government emission standards. The OBD-II system also assists a service technician in properly servicing your vehicle.



When the service engine soon indicator illuminates, the OBD-II system has detected a malfunction. Temporary malfunctions may cause the service engine soon indicator to illuminate. Examples are:

1. Your vehicle has run out of fuel—the engine may misfire or run poorly.
2. Poor fuel quality or water in the fuel—the engine may misfire or run poorly.
3. The fuel fill inlet may not have closed properly. See **Refueling** (page 180).
4. Driving through deep water—the electrical system may be wet.

You can correct these temporary malfunctions by filling the fuel tank with good quality fuel, properly closing the fuel fill inlet or letting the electrical system dry out. After three driving cycles without these or any other temporary malfunctions present, the service engine soon indicator should stay off the next time you start the engine. A driving cycle consists of a cold engine startup followed by mixed city and highway driving. No additional vehicle service is required.

If the service engine soon indicator remains on, have your vehicle serviced at the first available opportunity. Although some malfunctions detected by the OBD-II may not have symptoms that are apparent, continued driving with the service engine soon indicator on can result in increased emissions, lower fuel economy, reduced engine and transmission smoothness and lead to more costly repairs.

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Readiness for Inspection and Maintenance (I/M) Testing

Some state and provincial and local governments may have Inspection/Maintenance (I/M) programs to inspect the emission control equipment on your vehicle. Failure to pass this inspection could prevent you from getting a vehicle registration.



If the service engine soon indicator is on or the bulb does not work, your vehicle may need service. See On-Board Diagnostics.

Your vehicle may not pass the I/M test if the service engine soon indicator is on or not working properly (bulb is burned out), or if the OBD-II system has determined that some of the emission control systems have not been properly checked. In this case, the vehicle is not ready for I/M testing.

If the vehicle's engine or transmission has just been serviced, or the battery has recently run down or been replaced, the OBD-II system may indicate that the vehicle is not ready for I/M testing. To determine if the vehicle is ready for I/M testing, turn the ignition key to the on position for 15 seconds without cranking the engine. If the service engine soon indicator blinks eight times, it means that the vehicle is not ready for I/M testing; if the service engine soon indicator stays on solid, it means that your vehicle is ready for I/M testing.

The OBD-II system checks the emission control system during normal driving. A complete check may take several days.

If the vehicle is not ready for I/M testing, you can perform the following driving cycle consisting of mixed city and highway driving:

1. 15 minutes of steady driving on an expressway or highway followed by 20 minutes of stop-and-go driving with at least four 30-second idle periods.
2. Allow your vehicle to sit for at least eight hours with the ignition off. Then, start the vehicle and complete the above driving cycle. The vehicle must warm up to its normal operating temperature. Once started, do not turn off the vehicle until the above driving cycle is complete.

If the vehicle is still not ready for I/M testing, you need to repeat the above driving cycle.

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AUTOMATIC TRANSMISSION

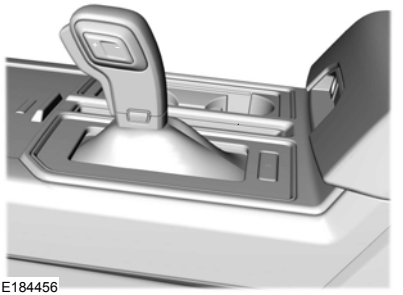
WARNINGS

Always fully apply the parking brake and make sure you shift into park (P). Switch the ignition off and remove the key whenever you leave your vehicle.

Do not use tow/haul or engine braking when driving in icy or slippery conditions as the increased braking can cause the rear wheels to slide and your vehicle to swing around with the possible loss of vehicle control.

Understanding the Shift Positions of your Automatic Transmission

Floor shifter



E184456

Column shifter



E184457

Putting your vehicle in or out of gear:

1. Fully press down the brake pedal.
2. Move the gearshift lever into the desired gear.
3. Come to a complete stop.
4. Move the gearshift lever and securely latch it in park (P).

Park (P)

This position locks the transmission and prevents the rear wheels from turning.

Reverse (R)

With the gearshift lever in reverse (R), your vehicle will move backward. Always come to a complete stop before shifting into and out of reverse (R).

Neutral (N)

With the gearshift lever in neutral (N), your vehicle can be started and is free to roll. Hold the brake pedal down while in this position.

Drive (D)

Drive (D) is the normal driving position for the best fuel economy. The overdrive function allows automatic upshifts and downshifts through all available gears.

Manual (M) with Floor-shifter

With the gearshift lever in manual (M), the driver can change gears up or down as desired. By moving the gearshift lever from drive position drive (D) to manual (M) you now have control of selecting the gear you desire using buttons on the shift lever. See Understanding your SelectShift Automatic™ transmission later in this section.

To return to normal drive (D) position, move the shift lever back from manual (M) to drive (D).

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The transmission will operate in all available gears.

Third (3) with Column-shifter (6-speed)

Transmission operates in third (3) gear only. Use third (3) gear for improved traction on slippery roads.

Second (2) (6-speed)

Transmission operates in second (2) gear only. Use second (2) gear to start-up on slippery roads.

First (1) (6-speed)

- Transmission operates in first (1) gear only.
- Provides maximum engine braking.
- Allows upshifts by moving gearshift lever.
- Will not downshift into first (1) gear at high speeds; allows for first (1) gear when vehicle reaches slower speeds.

Tow Mode



To activate tow mode, press the button on the gearshift lever once. The indicator light illuminates in the instrument cluster when the system becomes active.

The tow mode feature:

- Moves upshifts to higher engine speeds to reduce the frequency of transmission shifting.
- Provides engine braking in all forward gears, which will slow your vehicle and assist you in controlling your vehicle when descending a grade.
- Depending on driving conditions and load conditions, may downshift the transmission, slow your vehicle and control your vehicle speed when descending a hill, without pressing the accelerator pedal. The amount of downshift braking provided will vary based upon the amount the brake pedal is pressed.

The tow mode feature improves transmission operation when towing a trailer or a heavy load. All transmission gear ranges are available when using tow mode.

To deactivate the tow mode feature and return to normal driving mode, press the button on the gearshift lever twice. The indicator light deactivates when the system turns off. Tow mode also deactivates when you power down your vehicle.

Sport Mode



To activate Sport Mode, press the button on the gearshift lever. The SPORT or **S** indicator light illuminates in the instrument display when the system becomes active.

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The sport mode feature:

- Provides additional grade (engine) braking and extends lower gear operation to enhance performance for uphill climbs, hilly terrain or mountainous areas. This will increase engine RPM during engine braking.
- Provides additional lower gear operation through the automatic transmission shift strategy.
- Selects gears more quickly and at higher engine speeds.

To deactivate the sport mode feature and return to normal driving mode, press the button on the gearshift lever again. The SPORT or **S** indicator light deactivates when the system turns off. The sport mode feature also deactivates when you power down your vehicle.

Automatic Transmission Adaptive Learning

This feature increases durability and provides consistent shift feel over the life of your vehicle. A new vehicle or transmission may have firm shifts, soft shifts or both. This operation is considered normal and will not affect function or durability of the transmission. Over time, the adaptive learning process will fully update transmission operation.

Forced Downshifts

- Allowed in drive (D) with the tow mode feature on or off.
- Press the accelerator to the floor.
- Allows transmission to select an appropriate gear.

Understanding your SelectShift™ Automatic Transmission (If Equipped)

Your vehicle is equipped with a SelectShift Automatic transmission gearshift lever. The SelectShift Automatic transmission gives you the ability to change gears up or down (without a clutch) as desired.

In order to prevent the engine from running at too low an RPM, which may cause it to stall, SelectShift will still automatically make some downshifts if it has determined that you have not downshifted in time. Although SelectShift will make some downshifts for you, it will still allow you to downshift at any time as long as the SelectShift determines that damage will not be caused to the engine from over-revving.

SelectShift will not automatically upshift, even if the engine is approaching the RPM limit. It must be shifted manually by pressing the + button.

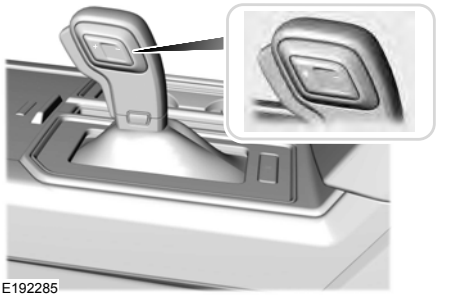
Note: *Engine damage may occur if you maintain excessive engine revving without shifting.*

The SelectShift Automatic transmission feature has two modes: PRS and M mode.

Manual (M) with Floor-shifter

Moving the gearshift lever to the manual (M) position will allow you to manually select the gear you desire. Only the current gear will display. Use the buttons on the gearshift lever or steering wheel to manually select gears. Press the + button to upshift or the – button to downshift. Return the transmission to a different gearshift position to deactivate manual control.

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Upshift to the recommended shift speeds according to the following chart:

6-speed

Upshifts when accelerating (recommended for best fuel economy)	
Shift from:	
1 – 2	15 mph (24 km/h)
2 – 3	25 mph (40 km/h)
3 – 4	40 mph (64 km/h)
4 – 5	45 mph (72 km/h)
5 – 6	50 mph (80 km/h)

10-speed

Upshifts when accelerating (recommended for best fuel economy)	
Shift from:	
1 – 2	15 mph (24 km/h)
2 – 3	20 mph (32 km/h)
3 – 4	27 mph (43 km/h)
4 – 5	32 mph (51 km/h)
5 – 6	37 mph (60 km/h)
6 – 7	42 mph (68 km/h)

Upshifts when accelerating (recommended for best fuel economy)	
7 – 8	48 mph (77 km/h)
8 – 9	52 mph (84 km/h)
9 – 10	60 mph (97 km/h)

Progressive Range Selection

Progressive Range Selection gives you the ability to lockout gears from the automatic shifting range. This may provide you with an improved driving experience (for example, in slippery conditions or when experiencing a steep grade).

With the transmission in drive (D), press the **–** button to active PRS. The available and selected gears are indicated on the instrument cluster.

All available gears display with the current gear indicated. Press the **–** button again to lock out gears beginning with the highest gear. Only the available gears display and the transmission automatically shifts between the available gears. Press the **+** button to unlock gears to allow the transmission to shift to higher gears. The transmission shifts automatically within the gear range you select.

Brake-Shift Interlock

WARNINGS

Do not drive your vehicle until you verify that the brake lamps are working.

When doing this procedure, you need to take the transmission out of park (P) which means your vehicle can roll freely. To avoid unwanted vehicle movement, always fully apply the parking brake prior to doing this procedure. Use wheels chocks if appropriate.

WARNINGS

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.

Your vehicle is equipped with a brake-shift interlock feature that prevents moving the gearshift lever from park (P) when the ignition is in the on position and the brake pedal is not pressed.

If you cannot move the gearshift lever out of park (P) position with the ignition in the on position and the brake pedal pressed, a malfunction may have occurred. It is possible that a fuse has blown or your vehicle's brake lamps are not operating properly. See **Fuse Specification Chart** (page 309).

If the fuse is not blown and the brake lamps are working properly, the following procedure will allow you to move the gearshift lever from park (P):

Column-shifter

1. Apply the parking brake and switch off your vehicle.
2. Move the steering column to the full down and full rearward position (toward the driver's seat).
3. Remove the gearshift lever boot.

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4. Place fingers into gearshift lever boot hole and pull top half of shroud up and forward to separate it from the lower half of the shroud. There is a hinge at the forward edge of the top shroud. Roll the top half of the shroud upward on the hinge point, then pull straight rearward toward the driver's seat to remove.
5. Remove the top half of the shroud.
6. Remove the three fasteners under the column that secure the lower shroud half to the column.



E163185

7. Pull the lock lever into the full unlocked position and remove the lower shroud cover by pulling the lever handle through the slot in the cover.



E163186

8. Apply the brake, pull the white disk then move the shifter to neutral (N).
9. Start your vehicle.

Perform Steps 4 through 8 in reverse order, making sure to engage the hinge pivots between the upper and lower halves of the shroud. Keep slight pressure in the forward direction as the halves rotate together.

Floor-shifter

1. Apply the parking brake and switch off your vehicle.
2. Remove the rubber mat between the shifter and cup holder. Using a screwdriver (or similar tool), carefully pry up the access panel from the attachment points and disconnect it from the console to expose the inside of the gearshift.



E182464

3. Locate the white brake shift interlock lever on the passenger side of the shifter assembly.



E183128

4. Apply the brake pedal. Using light finger pressure move the white lever forward while pulling the gearshift lever out of the park (P) position and into the neutral (N) position.
5. Install the access panel and rubber mat.
6. Apply brake pedal, start your vehicle, and release the parking brake. See your authorized dealer as soon as possible if this procedure is used.

If Your Vehicle Gets Stuck In Mud or Snow

Note: *Do not rock your vehicle if the engine is not at normal operating temperature or damage to the transmission may occur.*

Note: *Do not rock your vehicle for more than a minute or damage to the transmission and tires may occur, or the engine may overheat.*

If your vehicle gets stuck in mud or snow, you may rock it out by shifting between forward and reverse gears, stopping between shifts in a steady pattern. Press lightly on the accelerator in each gear.

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USING FOUR-WHEEL DRIVE

Note: *For important information regarding safe operation of this type of vehicle, see General Information in the Wheels and Tires chapter.*

Note: *Do not use 4H or 4L mode on dry, hard surfaced roads. Doing so can produce excessive noise, increase tire wear and may damage drive components. 4H or 4L mode is only intended for consistently slippery or loose surfaces. Use of 4L mode on these surfaces may produce some noise (such as occasional clunks), but will not damage drive components.*

Note: *If 4L is selected while your vehicle is moving above 3 mph (5 km/h), the 4WD system will not perform a shift. This is normal and should be no reason for concern. Refer to Shifting to or from 4L (4X4 Low) for proper operation.*

Note: *You can switch on and switch off the electronic locking differential by pulling the 4WD control (4WD vehicles) or turning the electronic locking differential control (2WD vehicles). See* ***Electronic Locking Differential*** *(page 201).*

4WD Indicator Lights

Note: *When a 4X4 system fault is present, the system will typically remain in whichever 4X4 mode was selected prior to the fault condition occurring. It will not default to 4X2 in all circumstances. When this warning is displayed, have your vehicle serviced by an authorized dealer.*

4X2



Momentarily illuminates when 2H is selected.

4X4 Auto



Continuously illuminates when 4A is selected (2-Speed Automatic 4WD vehicles only).

4X4 HIGH



Continuously illuminates when 4H is selected.

4X4 LOW



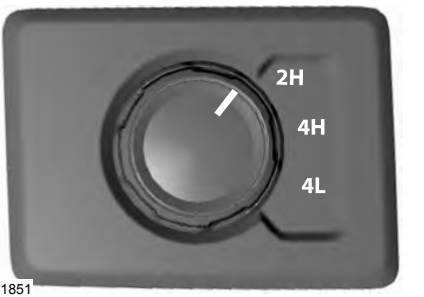
Continuously illuminates when 4L is selected.

CHECK 4X4



Displays when a 4X4 fault is present.

Using the Electronic Shift on the Fly 4WD system (If Equipped)



E191851

2H (4X2)

For general on-road driving. Sends power to the rear wheels only and should be used for street and highway driving. Provides optimal smoothness and fuel economy at high speeds.

4H (4X4 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.

4L (4X4 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. Intended only for off-road applications such as deep sand, steep grades, or pulling heavy objects. 4L (4X4 low) will not engage while your vehicle is moving above 3 mph (5 km/h); this is normal and should be no reason for concern. Refer to Shifting to or from 4L (4X4 low) for proper operation.

Shifting between system modes

Note: *Momentarily releasing the accelerator pedal while a shift in progress message displays will improve engagement/disengagement performance.*

Note: *Do not perform this operation if the rear wheels are slipping or while applying the accelerator pedal.*

Note: *You may hear some noise as the system shifts or engages; this is normal.*

You can move the control from 2H or 4H at a stop or while driving. The information display may display a message indicating a 4X4 shift is in progress. Once the shift is complete the message center will then display the system mode selected.

Shifting to or from 4L (4X4 low)

Note: *You may hear some noise as the system shifts or engages; this is normal.*

1. Bring your vehicle to a speed of 3 mph (5 km/h) or less.
2. Place the transmission in neutral (N).
3. Move the 4WD control to the desired position.

The information display will display a message indicating a 4X4 shift is in progress. The information display will then display the system mode selected. If any of the above shift conditions are not present, the shift will not occur and the information display will display information guiding the driver through the proper shifting procedures.

If ***Shift Delayed Pull Forward*** displays in the information display, a transfer case gear tooth blockage is present. 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.

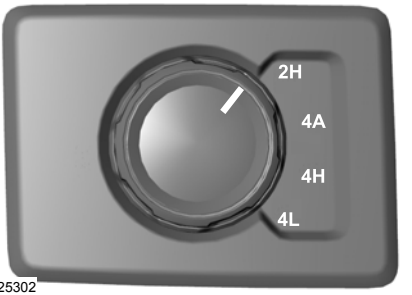
Using the 2-Speed Automatic 4WD System (If Equipped)

This system includes an electronically controlled transfer case with a high capacity clutch. The system is interactive with the road, continually monitoring and adjusting power delivery to the front and rear wheels to optimize traction.

Note: *The AdvanceTrac system has the ability to take over control of the transfer case clutch in 4A mode and disable it during driving maneuvers when necessary.*

Note: *The information display may show messages during 4WD operation. See* ***Information Messages*** *(page 125).*

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E225302

2H (4X2)

For general on-road driving, this mode provides optimal smoothness and fuel economy at high speeds. Sends power to the rear wheels only.

4A (4X4 AUTO)

Provides electronic controlled four-wheel drive with power delivered to the front and rear wheels, as required, for increased traction. This is appropriate for all on-road driving conditions, including dry road surfaces, but is especially useful on wet pavement, snow, dirt, or gravel.

4H (4X4 HIGH)

Provides electronically 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.

4L (4X4 LOW)

Provides electronically 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. Intended only for off-road applications such as deep sand, steep grades, or pulling heavy objects. 4L (4X4 low) will not engage while your vehicle is moving above 3 mph (5 km/h); this is normal and should be no reason for concern. Refer to Shifting to or from 4L (4X4 low) for proper operation.

Shifting between system modes

Note: *Momentarily releasing the accelerator pedal while a shift in progress message displays will improve engagement/disengagement performance.*

Note: *Do not perform this operation if the rear wheels are slipping or while applying the accelerator pedal.*

Note: *You may hear some noise as the system shifts or engages; this is normal.*

You can move the control from 2H to 4A or 4H at a stop or while driving. The information display may display a message indicating a 4X4 shift is in progress. Once the shift is complete the message center will then display the system mode selected.

Shifting to or from 4L (4X4 low)

Note: *You may hear some noise as the system shifts or engages; this is normal.*

1. Bring your vehicle to a speed of 3 mph (5 km/h) or less.
2. Place the transmission in neutral (N).
3. Move the 4WD control to the desired position.

The information display will display a message indicating a 4X4 shift is in progress. The information display will then display the system mode selected. If any of the above shift conditions are not present, the shift will not occur and the information display will display information guiding the driver through the proper shifting procedures.

If ***Shift Delayed Pull Forward*** displays in the information display, a transfer case gear tooth blockage is present. 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.

How Your Vehicle Differs From Other Vehicles

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.

Truck and utility vehicles can differ from some other vehicles. Your vehicle may be higher to allow it to travel over rough terrain without getting hung up or damaging underbody components.

The differences that make your vehicle so versatile also make it handle differently than an ordinary passenger car.

Maintain steering wheel control at all times, 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.

You should either know the terrain or examine maps of the area before driving. Map out your route before driving in the area. To maintain steering and braking control of your vehicle, you must have all four wheels on the ground and they must be rolling, not sliding or spinning.

Driving Off-Road With Truck and Utility Vehicles

Note: *On some models, the initial shift from two-wheel drive to four-wheel drive while your vehicle is moving can cause some momentary clunk and ratcheting sounds. This is the front drivetrain coming up to speed and the automatic locking hubs engaging and is not cause for concern.*

Note: *Your vehicle may be equipped with a front air dam that can become damaged (due to reduced ground clearance) when taking your vehicle off-road. You may remove this air dam by removing eight bolts.*

Note: *Vehicles equipped with 2.7L Ecoboost, 3.5L Ecoboost and 3.5L TiVCT engines have an underbody transmission shield and brackets that may become damaged (due to reduced ground clearance) when taking your vehicle off-road. Remove the shield by disengaging the fasteners at each corner of the shield. Then, remove the shield rear brackets by removing the bracket to frame bolts.*

Four-wheel drive vehicles are specially equipped for driving on sand, snow, mud and rough terrain and have operating characteristics that are somewhat different from conventional vehicles, both on and off the road.

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The transfer case supplies power to all four wheels. On four-wheel drive vehicles, the transfer case allows you to select different 4WD modes when necessary. You can find information on transfer case operation and shifting procedures in this chapter. You can find information on transfer case maintenance in the Maintenance chapter. You should become thoroughly familiar with this information before you operate your vehicle.

Four-wheel drive (when you select a 4WD mode) uses all four wheels to power your vehicle. This increases traction, enabling you to drive over terrain and road conditions that a conventional two-wheel drive vehicle cannot.

Basic Operating Principles

- Drive slower in strong crosswinds which can affect the normal steering characteristics of your vehicle.
- When driving your vehicle on surfaces made slippery by loose sand, water, gravel, snow or ice proceed with care.
- Do not use 4H or 4L on dry, hard surfaced roads. Doing so will produce excessive noise, increase tire wear and may damage drive components. 4H or 4L modes are only for consistently slippery or loose surfaces.

If Your Vehicle leaves the Road

If your vehicle leaves the road, reduce your vehicle speed and avoid severe braking. When your vehicle speed decreases, ease your vehicle back onto the road. Do not turn the steering wheel sharply while returning your vehicle to the road.

It may be safer to stay on the shoulder of the road and slow down gradually before returning to the road. You may lose control if you do not slow down or if you turn the steering wheel too sharply or abruptly.

It may be less risky to strike small objects, such as freeway reflectors, with minor damage to your vehicle rather than attempt a sudden return to the road which could cause your vehicle to slide sideways out of control or roll over. Remember, your safety and the safety of others should be your primary concern.

Emergency Maneuvers

In an unavoidable emergency situation where a sudden sharp turn must be made, remember to avoid over-driving your vehicle (i.e. turn the steering wheel only as rapidly and as far as required to avoid the emergency). Excessive steering can result in loss of vehicle control. Apply smooth pressure to the accelerator pedal or brake pedal when changes in vehicle speed are required. Avoid abrupt steering, acceleration and braking. This could result in an increased risk of vehicle roll over, loss of vehicle control and personal injury. Use all available road surface to bring your vehicle to a safe direction of travel.

In the event of an emergency stop, avoid skidding the tires and do not attempt any sharp steering wheel movements.

If your vehicle goes from one type of surface to another (i.e. from concrete to gravel) there will be a change in the way your vehicle responds to a maneuver (i.e. steering, acceleration or braking).

Sand

When driving over sand, try to keep all four wheels on the most solid area of the trail. Avoid reducing the tire pressures but shift to a lower gear and drive steadily through the terrain. Apply the accelerator slowly and avoid excessive wheel slip.

When driving at slow speeds in deep sand under high outside temperatures, use a low gear when possible. Low gear operation will maximize the engine and transmission cooling capability.

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Avoid driving at excessive speeds, this causes vehicle momentum to work against you and your vehicle could become stuck to the point that assistance may be required from another vehicle. Remember, you may be able to back out the way you came if you proceed with caution.

Mud and Water

Mud

Be cautious of sudden changes in vehicle speed or direction when you are driving in mud. Even four-wheel drive vehicles can lose traction in slick mud. If your vehicle does slide, 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 mud stuck on tires and rotating driveshafts can cause an imbalance that could damage drive components.

Water

If you must drive through high water, drive slowly. Traction or brake capability may be limited.

When driving through water, determine the depth and avoid water higher than the bottom of the hubs. If the ignition system gets wet, your vehicle may stall.

Once through water, always try the brakes. Wet brakes do not stop your vehicle as effectively as dry brakes. Drying improves by applying light pressure to the brake pedal while moving slowly.

Note: *Driving through deep water may damage the transmission. If the front or rear axle is submerged in water, the axle lubricant and power transfer unit lubricant should be checked and changed if necessary.*

Driving on Hilly or Sloping Terrain

Although natural obstacles may make it necessary to travel diagonally up or down a hill or steep incline, you should always 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 roll over. Whenever driving on a hill, determine beforehand the route you will 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.*

When climbing a steep slope or hill, start in a lower gear rather than downshifting to a lower gear from a higher gear once the ascent has started. This reduces strain on the engine and the possibility of stalling.

If your vehicle stalls, do not try to turn around because this could cause vehicle roll over. It is better to reverse back to a safe location.

Apply just enough power to the wheels to climb the hill. Too much power will cause the tires to slip, spin or lose traction, resulting in loss of vehicle control.


E143949

Descend a hill in the same gear you would use to climb up the hill to avoid excessive brake application and brake overheating. Do not descend in neutral. Disengage overdrive or move the transmission selector lever to a lower gear. When descending a steep hill, avoid sudden hard braking as you could lose control. The front wheels have to be turning in order to steer your vehicle.

If your vehicle has anti-lock brakes, apply the brakes steadily. Do not pump the brakes.

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.

Note: *Excessive tire slippage can cause transmission damage.*

Four-wheel drive vehicles have advantages over two-wheel drive vehicles in snow and ice but can skid like any other vehicle. Should you start to slide while driving on snowy or icy roads, turn the steering wheel in the direction of the slide until you regain control.

Avoid sudden applications of power and quick changes of direction on snow and ice. Apply the accelerator slowly and steadily when starting from a full stop.

Avoid sudden braking. Although a four-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in snow and ice, it will not stop any faster as braking occurs at all four wheels. Do not become overconfident as to road conditions.

Make sure you allow sufficient distance between you and other vehicles for stopping. Drive slower than usual and consider using one of the lower gears. In emergency stopping situations, apply the brake steadily. Do not pump the brake pedal. See **Hints on Driving With Anti-Lock Brakes** (page 203).

If Your Vehicle Gets Stuck In Mud or Snow

WARNING

Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

If your vehicle gets stuck in mud or snow, you may rock it out by shifting between forward and reverse gears, stopping between shifts in a steady pattern. Press lightly on the accelerator in each gear.

Note: *Do not rock your vehicle if the engine is not at normal operating temperature, damage to the transmission may occur.*

Note: *Do not rock your vehicle for more than a minute, damage to the transmission and tires may occur or the engine may overheat.*

Parking

WARNINGS

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.

WARNINGS


Always apply the parking brake fully and make sure you shift into park (P). Switch the ignition off and remove the key whenever you leave your vehicle.

On some four-wheel drive vehicles, when the transfer case is in the neutral (N) position, the engine and transmission disconnect from the rest of the driveline. Therefore, your vehicle is free to roll even if it is parked. Do not leave your vehicle unattended with the transfer case in the neutral (N) position. Always set the parking brake fully and turn off the ignition when leaving your vehicle.

Maintenance and Modifications

The suspension and steering systems on your vehicle have been designed and tested to provide predictable performance whether loaded or empty. For this reason, we strongly recommend that you do not make modifications such as adding or removing parts (for example, lift kits or stabilizer bars) or by using replacement parts not equivalent to the original factory equipment.

We recommend that you use caution when your vehicle has either a high load or device (such as ladders or luggage racks). Any modifications to your vehicle that raise the center of gravity may cause your vehicle to roll over when there is a loss of vehicle control.

Failure to maintain your vehicle correctly may void the warranty, increase your repair cost, reduce vehicle performance and operational capabilities and adversely affect you and your passenger's safety. We recommend you frequently inspect your vehicle's chassis components when your vehicle is subject to off road usage.

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ELECTRONIC LOCKING DIFFERENTIAL (If Equipped)

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 will result in increased tire wear, noise and vibration.*

The electronic locking differential is a device housed in the rear axle that allows both rear wheels to turn at the same speed. The electronic locking differential can provide additional traction should your vehicle become stuck. You can activate the differential electronically and shift it on the fly within the differential operating speed range. The differential is for use in mud, rocks, sand, or any off-road condition where you need maximum traction. It is not for use on dry pavement.

The following conditions will affect the electronic locking differential:

- The electronic locking differential will not engage if your vehicle speed is above 20 mph (32 km/h) in 4x2, 4x4 Auto, or 4x4 High modes.
- The electronic locking differential will not engage if your vehicle speed is above or 56 mph (90 km/h) in 4X4 Low.
- The electronic locking differential may not engage if you press your accelerator pedal during an engagement attempt. A message may display in the instrument display guiding you to release the accelerator pedal.
- In 4x2, 4x4 Auto, and 4x4 High modes, the electronic locking differential will automatically disengage at speeds above 25 mph (41 km/h) and will automatically reengage at speeds below 20 mph (32 km/h).
- In 4L (4X4 low), the electronic locking differential will automatically disengage at speeds above 62 mph (100 km/h) and will automatically reengage at speeds below 56 mph (90 km/h).
- The AdvanceTrac system has the ability to take over control of the electronic locking differential and disable it during driving maneuvers when necessary.

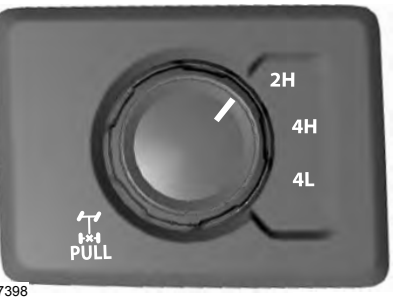
When you switch the system on, if you do not meet the required conditions for electronic locking differential activation, the instrument cluster will display the appropriate information guiding you through the proper activation process.

Activating the Electronic Locking Differential

Note: *Do not use electronic locking differential on dry, hard surfaced roads. Doing so will produce excessive noise, vibration and increase tire wear.*

Note: *If the electronic locking differential has difficulty disengaging, release the accelerator pedal and turn the steering wheel in the opposite direction while rolling.*

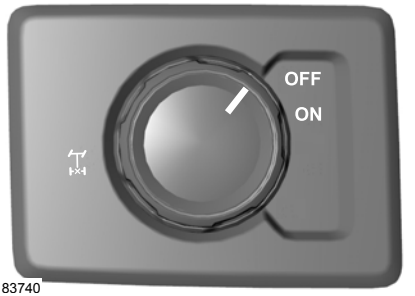
For 4WD vehicles



E227398

Pull the 4WD control knob toward you.

For 2WD vehicles



E183740

Turn the control to ON.

Once the indicator light illuminates in the information display, both rear wheel axle shafts will be locked together providing added traction.

If the indicator does not come on, or the indicator turns off while driving, one of the following has occurred:

- The vehicle speed is too high.
- The left and right rear wheel speed difference is too high during an engagement attempt.
- The system has malfunctioned and is accompanied by a message in the information display. See your authorized Ford dealer for assistance.
- The vehicle is experiencing an anti-lock brake activation.

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GENERAL INFORMATION

Note: *Occasional brake noise is normal. If a metal-to-metal, continuous grinding or continuous squeal sound is present, the brake linings may be worn-out. Have the system checked by an authorized dealer. If your vehicle has continuous vibration or shudder in the steering wheel while braking, have it checked by an authorized dealer.*

Note: *Brake dust may accumulate on the wheels, even under normal driving conditions. Some dust is inevitable as the brakes wear and does not contribute to brake noise. See* ***Cleaning the Wheels*** *(page 349).*



See **Warning Lamps and Indicators** (page 104).

Wet brakes result in reduced braking efficiency. Gently press the brake pedal a few times when driving from a car wash or standing water to dry the brakes.

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.

Brake Assist

Brake assist detects when you brake rapidly by measuring the rate at which you press the brake pedal. It provides maximum braking efficiency as long as you press the pedal, and can reduce stopping distances in critical situations.

Anti-lock Brake System

This system helps you maintain steering control during emergency stops by keeping the brakes from locking.



This lamp momentarily illuminates when you turn the ignition on. If the light does not illuminate during start up, remains on or flashes, the system may be disabled. Have the system checked by an authorized dealer. If the anti-lock brake system is disabled, normal braking is still effective.



If the brake warning lamp remains illuminated after you release the parking brake, have the system checked by an authorized dealer.

HINTS ON DRIVING WITH ANTI-LOCK BRAKES

Note: *When the system is operating, the brake pedal may pulse and may travel further. Maintain pressure on the brake pedal. You may also hear a noise from the system. This is normal.*

The anti-lock braking system will not eliminate the risks 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.

PARKING BRAKE

WARNING

Always set the parking brake fully and make sure the transmission is locked in park (P). Failure to set the parking brake and engage park could result in vehicle roll-away, property damage or bodily injury.

To set the parking brake, press the parking brake pedal down to its fullest extent. The brake warning lamp in the instrument cluster will illuminate and remains illuminated until the parking brake is released.

To release the parking brake, press the parking brake pedal down again.

If you are parking your vehicle on a grade or with a trailer, press and hold the brake pedal down, then set the parking brake. There may be a little vehicle movement as the parking brake sets to hold the vehicle's weight. This is normal and should be no reason for concern. If needed, press and hold the service brake pedal down, then try reapplying the parking brake. Chock the wheels if required. If the parking brake cannot hold the weight of the vehicle, the parking brake may need to be serviced or the vehicle may be overloaded.

ELECTRIC PARKING BRAKE (If Equipped)

The electric parking brake replaces the conventional foot brake. The operating switch is on the instrument panel left of the steering wheel.

WARNING

Always set the parking brake and leave your vehicle with the transmission in park (P).

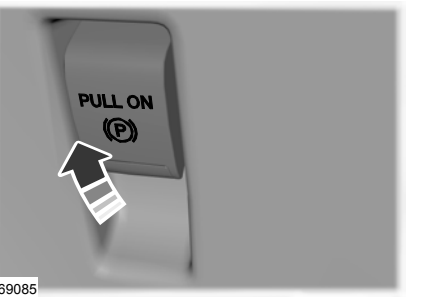
Note: *When you apply the electric parking brake in certain conditions, for example, on a steep hill, the electric parking brake may reapply the brakes within ten minutes.*

Note: *You may notice various noises when you apply and release the electric parking brake. This is normal and no cause for concern.*

Applying the Electric Parking Brake

WARNING

The brake system warning lamp will flash when applying the electric parking brake. If the brake system warning lamp continues to flash there could be a problem with your electric parking brake. Have your vehicle checked as soon as possible.



E169085

Pull the switch up to apply the electric parking brake.

The brake system warning lamp flashes for about two seconds and then illuminates to confirm that you have applied the electric parking brake. See **Information Displays** (page 109).

Note: *The brake system warning lamp remains illuminated for about ten seconds if you switch the ignition off with the parking brake applied, or apply the parking brake while the ignition is off.*

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Note: *The electric parking brake will not automatically apply. You must apply the electric parking brake using the electric parking brake switch.*

Using the Electric Parking Brake In An Emergency

WARNINGS

Applying the electric parking brake while moving will result in the engagement of the anti-lock braking system. Do not use the electric parking brake system when the vehicle is moving unless the normal brake system is unable to stop the vehicle.

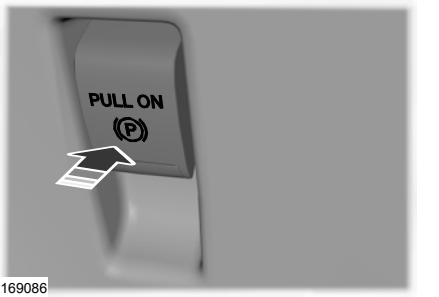
With the exception of emergency conditions (for example, the brake pedal is broken or is blocked), do not apply the electric parking brake while the vehicle is moving. On bends, or poor road surfaces or weather conditions, emergency braking can cause the vehicle to skid out of control or off the road.

Note: *Repeated use of the electric parking brake to slow the vehicle while moving may cause damage to the brake system.*

If you apply the electric parking brake when your vehicle is moving, the rear brake lights turn on, the brake system warning lamp illuminates and a warning tone sounds. See **Information Displays** (page 109).

If your vehicle speed is above 4 mph (6 km/h), the braking force is applied as long as you pull the switch. Release or press the switch or press the accelerator pedal to stop the braking force.

Releasing the Electric Parking Brake



E169086

You can release the electric parking brake either manually by pressing the switch or automatically.

Manual Release

WARNING

If the brake system warning light remains illuminated or flashes for more than four seconds after you have released the parking brake, there could be a problem with your braking system. Have your vehicle checked as soon as possible.

You can manually release the electric parking brake by:

- Switching the ignition on.
- Pressing the brake pedal.
- Pressing the electric parking brake switch.

When you release the electric parking brake, the brake system warning lamp turns off.

Driving With a Trailer

Depending on the grade and the weight of the trailer, your vehicle and trailer may roll backwards slightly when you start on a slope.

To prevent this from happening, do the following:

1. Pull the switch up and hold it in this position.
2. Drive your vehicle, then release the switch when you notice that the engine has developed sufficient driving force.

Automatic Release - Drive Away Release

Your vehicle automatically releases the parking brake if:

- The driver door is closed.
- The transmission is in a forward or reverse gear.
- The vehicle is accelerated.
- There are no faults detected in the parking brake system.

The brake system warning lamp will go off to confirm that you have released the electric parking brake.

Note: *If the electric parking brake warning lamp stays illuminated, the electric parking brake will not automatically release. You must release the electric parking brake using the electric parking brake switch.*

Note: *The electric parking brake drive away release makes starting on a hill easier. This feature releases the parking brake automatically when the vehicle has sufficient drive force to move up the hill.*

Battery With No Charge

WARNING

You will not be able to apply or release the electric parking brake if the battery is low or has no charge. If the battery is low or has no charge, use jumper cables and a booster battery.

HILL START ASSIST

WARNINGS

The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake. Failure to leave your vehicle securely parked may lead to a crash or injury. See **Parking Brake** (page 204).

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 take care may result in the loss of control of your vehicle, serious personal injury or death.

The system will turn off if a malfunction is apparent or if you rev the engine excessively. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

The system makes it easier to pull away when your vehicle is on a slope without the need to use the parking brake.

When the system is active, your vehicle remains stationary on the slope for two to three seconds after you release the brake pedal. This allows time to move your foot from the brake to the accelerator pedal. The system releases the brakes automatically once the engine has developed sufficient torque to prevent your vehicle from rolling down the slope. This is an advantage when pulling away on a slope, for example from a car park ramp, traffic lights or when reversing uphill into a parking space.

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Note: *The system only functions when you bring your vehicle to a complete standstill in an uphill gear (for example, drive (D) when facing uphill or reverse (R) when facing downhill).*

Note: *There is no warning light to indicate the system is either on or off.*

Using Hill Start Assist

1. Press the brake pedal to bring your vehicle to a complete standstill. Keep the brake pedal pressed.
2. If the sensors detect that your vehicle is on a slope, the system activates automatically.
3. When you remove your foot from the brake pedal, your vehicle remains on the slope without rolling away for about two to three seconds. This hold time automatically extends if you are in the process of driving off.
4. Drive off in the normal manner. The system releases the brakes automatically.

Note: *When you remove your foot from the brake pedal and press the pedal again when the system is active, you will experience significantly reduced brake pedal travel. This is normal.*

Switching the System On and Off

Vehicles with Manual Transmission

You can switch this feature on or off in the information display. The system remembers the last setting when you start your vehicle.

Vehicles with Automatic Transmission

You cannot turn the system on or off. When you switch the ignition on, the system automatically turns on.

PRINCIPLE OF OPERATION

The traction control system helps avoid drive wheel spin and loss of traction.

If your vehicle begins to slide, the system applies the brakes to individual wheels and, when needed, reduces engine power at the same time. If the wheels spin when accelerating on slippery or loose surfaces, the system reduces engine power in order to increase traction.

USING TRACTION CONTROL

WARNING

The stability and traction control light illuminates steadily if the system detects a failure. Make sure you did not manually disable the traction control system using the switch. If the stability control and traction control light is still illuminating steadily, have the system serviced by an authorized dealer immediately. Operating your vehicle with traction control disabled could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

The system automatically turns on each time you switch the ignition on.

If your vehicle is stuck in mud or snow, switching traction control off may be beneficial as this allows the wheels to spin.

Note: *When you switch traction control off, stability control remains fully active.*

Switching the System Off



E166706

The switch for the stability and traction control system is on the instrument panel.

When you switch the system off, a message and an illuminated icon appear on the instrument cluster.

Use the switch again to return the traction control system to normal operation.

Your vehicle may have MyKey restrictions regarding this feature. See **Principle of Operation** (page 59).

System Indicator Lights and Messages



The stability and traction control light temporarily illuminates on engine start-up and flashes:

- When a driving condition activates either of the systems.
- If a problem occurs in either of the systems.



The stability and traction control off light temporarily illuminates on engine start-up and stays on:

- When you switch the traction control system off.
- When you select an alternative stability control mode.

PRINCIPLE OF OPERATION

WARNINGS

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 loudspeakers may interfere with and adversely affect the electronic stability control system. Install any aftermarket stereo loudspeaker as far as possible from the front center console, the tunnel, and the front seats in order to minimize the risk of interfering with the electronic stability control sensors. 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.

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. If your electronic stability control system activates, SLOW DOWN.

The system automatically turns on each time you switch the ignition on.

If the stability control or traction control system detects a fault, the following may occur:

- The stability and traction control light illuminates steadily.
- The stability control and traction control systems do not enhance your vehicle's ability to maintain traction of the wheels.

If the stability control or traction control system activates, the following may occur:

- The stability and traction control light flashes.
- Your vehicle slows down.
- Reduced engine power.
- A vibration in the brake pedal.
- The brake pedal is stiffer than usual.
- If the driving condition is severe and your foot is not on the brake pedal, the pedal may move as the system applies higher brake force.

The stability control system has several features built into it to help you maintain control of your vehicle.

Electronic Stability Control

The system enhances your vehicle's ability to prevent skids or lateral slides by applying the brakes to one or more of the wheels individually and, if necessary, reducing engine power.

Roll Stability Control

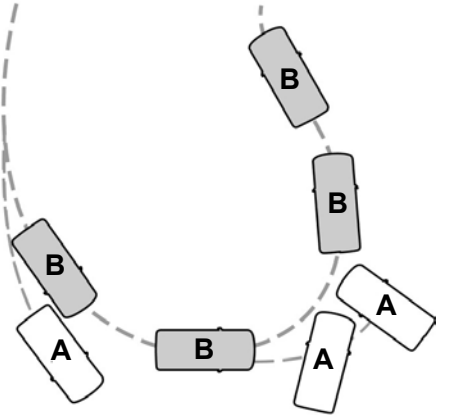
The system enhances your vehicle's ability to prevent rollovers by detecting your vehicle's roll motion and the rate at which it changes by applying the brakes to one or more wheels individually.

Side-Wind Stabilization

The system applies the brakes on one side of your vehicle to reduce the effect of a sudden side-wind gust on your vehicle's path. When the system turns on, the stability and traction control light flashes, and a message may appear in the information display. You may notice a slight deceleration and may still need to make a steering correction to maintain the intended vehicle path. The system does not turn on for a continuous side-wind or during turns.

Traction Control

The system enhances your vehicle's ability to maintain traction of the wheels by detecting and controlling wheel spin. See **Using Traction Control** (page 208).



E72903

A Vehicle without stability control skidding off its intended route.

B Vehicle with stability control maintaining control on a slippery surface.

USING STABILITY CONTROL

AdvanceTrac™ with Roll Stability Control™ (RSC™)

The system automatically turns on each time you switch the ignition on.

You can switch the electronic stability control systems off.

When you shift the transmission into reverse (R), the systems are disabled.

You can switch the traction control system off or on independently. See **Using Traction Control** (page 208).

AdvanceTrac with RSC Features				
Button functions	**Stability control OFF light**	**Roll stability control**	**Electronic stability control**	**Traction control system**
Default at start-up	Illuminated during bulb check	Enabled	Enabled	Enabled
Button pressed momentarily	Illuminated	Enabled	Enabled	Disabled
Button pressed and held for more than 5 seconds	Illuminated	Enabled	Disabled	Disabled
Double press * Sport Mode	Illuminated	Enabled	Enabled with higher threshold target	Enabled with higher threshold target
Button pressed again after deactivation	Not illuminated	Enabled	Enabled	Enabled
Transfer case switched to 4WD Low	Illuminated	Disabled	Disabled	Disabled

*On F-150 Raptor models, the double press function to put your vehicle into sport mode is not available. You can access sport mode through the terrain management system.

PRINCIPLE OF OPERATION

WARNINGS

Hill descent control cannot control descent in all surface conditions and circumstances, such as ice or extremely steep grades. Hill descent control is a driver assist system and cannot substitute for good judgment by the driver. Failure to do so may result in loss of vehicle control, crash or serious injury.

Hill descent control does not provide hill hold at zero miles per hour (0 kilometers per hour). When stopped, you must apply the parking brake or place the vehicle in **P** (Park), or it may roll away.

Hill descent control allows you to set and maintain vehicle speed while descending steep grades in various surface conditions.

Hill descent control can maintain vehicle speeds on downhill grades between 2 mph (3 km/h) and 12 mph (20 km/h). Above 20 mph (32 km/h), the system remains armed, but you cannot use the system to set or maintain the descent speed.

Hill descent control requires a cooling down interval after a period of sustained use. The amount of time that the feature can remain active before cooling varies with conditions. The system provides a warning in the message center and a tone sounds when the system is about to disengage for cooling. At this time, manually apply the brakes as needed to maintain descent speed.

USING HILL DESCENT CONTROL



Press and release the hill descent button on the instrument panel. A light in the cluster illuminates and a tone sounds when you switch this on.

To increase descent speed, press the accelerator pedal until you reach the speed you desire. To decrease descent speed, press the brake pedal until you reach the speed you desire.

When accelerating or decelerating, once you reach the descent speed you desire, remove your feet from the pedals and the hill descent control maintains the vehicle speed you chose.

Note: *You may observe a noise from the ABS pump motor during hill descent control operation. This is a normal characteristic of the ABS and is no reason for concern.*

Hill descent modes

- At speeds between 2 mph (3 km/h) and 20 mph (32 km/h): When you press this button, the light flashes indicating this feature is active. Your vehicle maintains the speed you desire while in this mode.
- At speeds between 20 mph (32 km/h) and 40 mph (64 km/h): When you press this button, the light is solid and a message appears in the information display indicating this feature is active. Your vehicle does not maintain the speed you desire and you cannot set your descent speed.
- At speeds above 40 mph (64 km/h): When you press this button, the system turns this feature off and no light or message appears in the information display. You need to switch this feature back on to use.

Refer to the Information Displays for additional hill descent control messages. See **Information Messages** (page 125).

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PRINCIPLE OF OPERATION

WARNINGS

To help avoid personal injury, always use caution when in reverse (R) and when using the sensing system.

The system may not detect objects with surfaces that absorb reflection. Always drive with due care and attention. Failure to take care may result in a crash.

Traffic control systems, inclement weather, air brakes, external motors and fans may affect the correct operation of the sensing system.This may cause reduced performance or false alerts.

The system may not detect small or moving objects, particularly those close to the ground.

Note: *Certain add-on devices installed around the bumper or fascia may create false beeps. For example, large trailer hitches, bike or surfboard racks, license plate brackets, bumper covers or any other device that may block the normal detection zone of the system.*

Note: *Keep the sensors, located on the bumper or fascia, free from snow, ice and large accumulations of dirt. If the sensors are covered, the system's accuracy can be affected. Do not clean the sensors with sharp objects.*

Note: *If your vehicle sustains damage to the bumper or fascia, leaving it misaligned or bent, the sensing zone may be altered causing inaccurate measurement of obstacles or false alarms.*

Note: *If your vehicle is equipped with MyKey™, the sensing system cannot be turned off when a MyKey™ is present. See* ***Principle of Operation*** *(page 59).*

Note: *When a trailer is connected to the vehicle, the rear parking aid may detect the trailer and therefore provide warnings. It is suggested that you disable the system when a trailer is connected to the vehicle to prevent these warnings.*

Note: *If your vehicle is equipped with a trailer tow package and a trailer is connected to your vehicle, the rear sensing system disables and you cannot switch the system on through the information display.*

The sensing system warns the driver of obstacles within a certain range of your vehicle. The system turns on automatically whenever you switch the ignition on.

When receiving a detection warning, the radio volume reduces to a predetermined level. After the warning goes away, the radio volume returns to the previous level.

The system can be switched off through the information display menu or from the pop-up message that appears once you shift the transmission into reverse (R). See **General Information** (page 109).

If a fault is present in the system, a warning message appears in the information display and you cannot switch the system on through the pop-up message. See **Information Messages** (page 125).

REAR PARKING AID (If Equipped)

The rear sensors are only active when the transmission is in reverse (R). As your vehicle moves closer to the obstacle, the rate of the audible warning increases. When the obstacle is less than 12 in (30 cm) away, the warning sounds continuously. If the system detects a stationary or receding object farther than 12 in (30 cm) from the corners of the bumper, the tone sounds for only three seconds. Once the system detects an object approaching, the warning sounds again.

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Coverage area of up to 6 ft (1.8 m) from the rear bumper. There may be decreased coverage area at the outer corners of the bumper.

The system detects certain objects while the transmission is in reverse (R) :

- Your vehicle is moving toward a stationary object at a speed of 3 mph (5 km/h) or less.
- Your vehicle is not moving, but a moving object is approaching the rear of your vehicle at a speed of 3 mph (5 km/h) or less.
- Your vehicle is moving at a speed of less than 3 mph (5 km/h) and a moving object is approaching the rear of your vehicle at a speed of less than 3 mph (5 km/h).

The system provides audio warnings only when your vehicle is moving or when your vehicle is stationary and the detected obstacle is less than 12 in (30 cm) away from the bumper.

Obstacle Distance Indicator (If Equipped)

The system provides obstacle distance indication through the display screen. See **Rear View Camera** (page 218).

ACTIVE PARK ASSIST (If Equipped)

Parallel Parking Assist

WARNINGS

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 take care may result in the loss of control of your vehicle, serious personal injury or death.

The sensors may not detect objects in heavy rain or other conditions that cause interference.

Active park assist does not apply the brakes under any circumstances.

The system is designed to aid the driver. It is not intended to replace your attention and judgment. You are still responsible to drive with due care and attention.

Note: *Active Park Assist is a multi-step process and may require you to shift your transmission multiple times. Follow the on-screen instructions until you complete the parking process.*

Note: *The Blind Spot Information System does not detect traffic alongside or behind your vehicle during an Active Park Assist maneuver.*

Active Park Assist detects an available parallel parking space and automatically steers your vehicle into the space (hands-free) while you control the accelerator, gearshift and brakes. The system visually and audibly guides you to park your vehicle.

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If you are uncomfortable with the proximity to any vehicle or object, you may choose to override the system by grabbing the steering wheel or by pressing the Active Park Assist button.

The system may not correctly operate in any of the following conditions:

- You use a spare tire or a tire significantly worn more than the other tires.
- One or more tires are improperly inflated.
- You try to park on a tight curve.
- Something passes between the front bumper and the parking space. For example, a pedestrian or cyclist.
- The edge of the neighboring parked vehicle is high off the ground. For example, a bus, tow truck or flatbed truck.
- The weather conditions are poor. For example, during heavy rain, snow or fog.

Note: *Keep the sensors on the bumper or fascia free from snow, ice and large accumulations of dirt. Covered sensors can affect the system's accuracy. Do not clean the sensors with sharp objects.*

Note: *The sensors may not detect objects with surfaces that absorb ultrasonic waves or cause ultrasonic interference. For example, motorcycle exhaust, truck air brakes or horns.*

Note: *Following a change in tire size, the system must recalibrate and operation may be impaired for a short time.*

Do not use the system if:

- You have attached a foreign object close to the sensors on the front or rear of your vehicle. For example, a bike rack or trailer.
- You attach an overhanging object to the roof. For example, a surfboard.
- A foreign object damages or obstructs the front or rear bumper or side sensors.
- The correct tire size is not in use on your vehicle. For example, a mini-spare tire.

Using Active Park Assist - Parallel Parking



Press the Active Park Assist button once to search for a parallel parking space.

When driving at a speed less than 22 mph (35 km/h), the system automatically scans both sides of your vehicle for an available parking space. The system displays a message and a corresponding graphic to indicate it is searching for a parking space. Use the direction indicator to select searching either to the left-hand side or right-hand side of your vehicle.

Note: *If the direction indicators are not used, the system defaults to the passenger side of your vehicle.*

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E130107

Note: *You can also switch the system on after you have already driven partially or completely past a parking space. Press the Active Park Assist button and the system informs you if you have recently passed a suitable parking space.*

When the system finds a suitable space, it displays a message and a tone sounds. Stop your vehicle and follow the instructions on the screen. If your vehicle is moving very slowly, you may need to pull forward a short distance before the system is ready to park.

Note: *You must observe that the space the system selects remains clear of obstructions at all times during the maneuver.*

Note: *Drive your vehicle within 5 ft (1.5 m) and as parallel as possible to the other vehicles while passing a parking space.*

Note: *The system always offers the last parking space it detects. For example, if your vehicle detects multiple spaces while you are driving, it offers the last one.*

Note: *If driven above approximately 22 mph (35 km/h), the system shows a message to alert you to reduce your vehicle speed.*

Automatically Steering into a Parking Space

Note: *If your vehicle speed exceeds approximately 6 mph (9 km/h) or you interrupt the maneuver, the system switches off and you need to take full control of your vehicle.*

When you shift the transmission into reverse (R), with your hands off the steering wheel and nothing obstructing its movement, your vehicle steers itself into the space (hands-free). The system displays instructions to move your vehicle backward and forward in the space.


E130108

When you believe your vehicle is properly parked, or you hear a solid tone accompanied by a display message, bring your vehicle to a complete stop.

When the Active Park Assist maneuver is complete, the system displays a message and a tone sounds.

Note: *You are responsible for checking your parked vehicle and making any necessary corrections before leaving your vehicle.*

Troubleshooting the System

Symptom	Possible Cause
The system does not look for a space.	You may have the traction control system switched off.
	The transmission is in reverse (R). Your vehicle must be moving forward to be able to detect a parking space.
The system does not offer a parking space.	The sensors may be covered. For example, snow, ice or dirt buildup. Covered sensors can affect how the system functions.
	There is not enough room in the parking space for your vehicle to safely park.
	There is not enough space for the parking maneuver on the opposite side of the parking space.
	The parking space is more than 5 ft (1.5 m) or less than 16 in (0.4 m) away.
	Your vehicle speed is greater than 22 mph (35 km/h).
	You recently disconnected or replaced the battery. After a battery disconnect, you must drive your vehicle on a straight road for a short period of time.
The system does not position the vehicle correctly.	Your vehicle is rolling in the opposite direction of the current transmission position. For example, rolling forward when in reverse (R).
	An irregular curb along the parking space prevents the system from aligning your vehicle properly.
	Improperly parked vehicles or objects are boarding the space.
	Your vehicle is too far past the parking space. The system performs best when you drive the same distance past the parking space.

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Symptom	Possible Cause
	You have incorrectly installed or maintained the tires. For example, not inflated correctly, improper size, or of different sizes.
	A repair or alteration changes the detection capabilities.
	A parked vehicle has a high attachment. For example, a salt sprayer, snowplow or moving truck bed.
	The parking space length or position of parked objects changes after your vehicle passes the space.
	The temperature around your vehicle quickly changes. For example, driving from a heated garage into the cold, or after leaving a car wash.

REAR VIEW CAMERA (If Equipped)

WARNINGS

The rear view camera system is a reverse aid supplement device that still requires the driver to use it in conjunction with the interior and exterior mirrors for maximum coverage.

Objects that are close to either corner of the bumper or under the bumper, might not be seen on the screen due to the limited coverage of the camera system.

Reverse your vehicle as slow as possible, higher speeds may limit your reaction time to stop your vehicle.

Use caution when the rear cargo door is ajar. If the rear cargo door is ajar, the camera will be out of position and the video image may be incorrect. All guidelines disappear when the rear cargo door is ajar. Some vehicles may not come equipped with guidelines.

WARNINGS

Use caution when turning camera features on or off when the transmission is not in park (P). Make sure your vehicle is not moving.

The rear view camera system provides a video image of the area behind your vehicle.

During operation, lines appear in the display which represent your vehicle's path and proximity to objects behind your vehicle.


E184050

The rear view camera is located on the tailgate.

Using the Rear View Camera System

The rear view camera system displays what is behind your vehicle when you place the transmission in reverse (R).

Note: *The reverse sensing system is not effective at speeds above 3 mph (5 km/h) and may not detect certain angular or moving objects.*

The system uses three types of guides to help you see what is behind your vehicle:

- Active guidelines: Show the intended path of your vehicle while reversing.
- Fixed guidelines: Show the actual path your vehicle is moving in while reversing in a straight line. This can be helpful when backing into a parking space or aligning your vehicle with another object behind you.
- Centerline: Helps align the center of your vehicle with an object (for example, a trailer).

Note: *If the image comes on while the transmission is not in reverse (R), have the system inspected by your authorized dealer.*

Note: *When towing, the camera only sees what you are towing behind your vehicle. This might not provide adequate coverage as it usually provides in normal operation and you might not see some objects. In some vehicles, the guidelines may disappear once you engage the trailer tow connector.*

Note: *If your vehicle is equipped with Pro Trailer Backup Assist you can set-up the trailer to work with the Rear View Camera system. See* ***Trailer Reversing Aids*** *(page 258).*

The camera may not operate correctly under the following conditions:

- Nighttime or dark areas if the reverse lamps are not operating.
- Mud, water or debris obstructs the camera's view. Clean the lens with a soft, lint-free cloth and non-abrasive cleaner.
- The rear of your vehicle is hit or damaged, causing the camera to become misaligned.

Camera System Settings

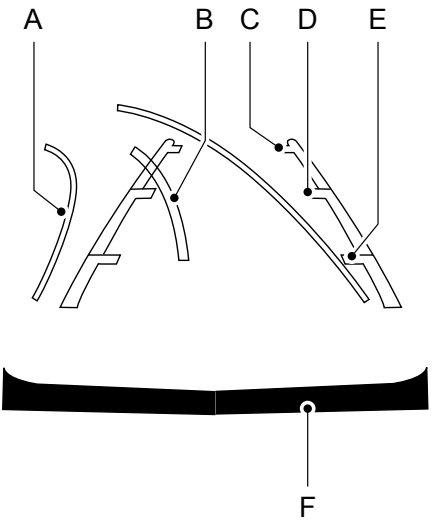
You can access the rear view camera system settings in the display screen. See **General Information** (page 109).

Camera guidelines

Note: *Active guidelines and fixed guidelines are only available when the transmission is in reverse (R).*

Note: *The centerline is only available if active or fixed guidelines are on.*

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E142436

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 original intended path.

The fixed and active guidelines fade in and out depending on the steering wheel position. The active guidelines do not show when the steering wheel position is straight.

Always use caution while reversing. Objects in the red zone are closest to your vehicle and objects in the green zone are farther away. Objects are getting 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.

Obstacle Distance Indicator (If Equipped)



E190459

The system will provide an image of your vehicle and the sensor zones. The zones will highlight green, yellow and red when the parking aid sensors detect an object in the coverage area.

Manual Zoom

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.

Note: *Manual zoom is only available when the transmission is in reverse (R).*

Note: *Only the centerline shows when you enable manual zoom.*

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).

Rear Camera Delay

Selectable settings for this feature are ON and OFF. The default setting for the rear camera delay is 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 6 mph (10 km/h). This occurs when the rear camera delay feature is on, or until a radio button is pressed.

360 DEGREE CAMERA (If Equipped)

WARNINGS

The 360 degree camera system still requires the driver to use it in conjunction with looking out of the windows, and checking the interior and exterior mirrors for maximum coverage.

WARNINGS

Objects that are close to either corner of the bumper or under the bumper, might not be seen on the screen due to the limited coverage of the camera system.

Use caution when turning camera features on or off when the transmission is not in park (P). Make sure your vehicle is not moving.

The 360 degree camera system consists of front, side and rear cameras. The system:

- Allows you to see what is directly in front or behind your vehicle.
- Provides cross traffic view in front and behind your vehicle.
- Allows you to see a top-down view of the area outside your vehicle, including the blind spots.
- Provides visibility around your vehicle to you in parking maneuvers such as:
  - Centering in a parking space.
  - Obstacles near vehicle.
  - Parallel parking.



The 360 degree camera system button is located on the instrument panel and allows you to toggle through different camera views. The front and rear cameras have multiple screens which consist of: Normal view with 360, Normal view, and split view. When in park (P), neutral (N) or drive (D), only the front images will be displayed when the button is pressed. When in reverse (R), only the rear images will be displayed when the button is pressed.

Note: *The 360 degree camera system will turn OFF when your vehicle is in motion at low speed, except when in reverse (R).*

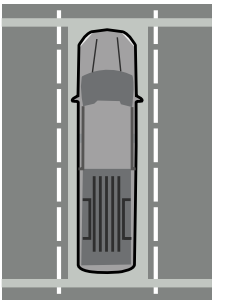
Camera Views

The small vehicle icon displayed on the top left corner of the image illustrates the camera view being displayed. Camera views are laid out in the order the screens will appear once the button is pressed.

Note: *The front video image will be disabled when your vehicle is in motion at low speed, except when in reverse (R).*

- **Front 360 + Normal:** Contains the normal front camera view next to a 360 degree camera view. This view will appear on the screen when the button is pressed in any gear other than reverse (R).
- **Front Normal View:** Provides an image of what is directly in front of your vehicle. Access this view by pressing the camera button from the Front 360 + Normal View screen.
- **Front Split View:** Provides an extended view of what is in front of your vehicle. Access this view by pressing the camera button from the Front Normal View screen.
- **Rear 360 + Normal:** Contains the normal rear camera view next to a 360 degree camera view. This view can be accessed by putting your vehicle in reverse (R), or by pressing the camera button from the Rear Split View screen.
- **Rear Normal View:** Provides an image of what is directly behind your vehicle. Access this view by pressing the camera button from the Rear 360 + Normal screen.
- **Rear Split View:** Provides an extended view of what is behind your vehicle. Access this view by pressing the camera button from the Rear Normal View screen.

Keep Out Zone



E184448

The Keep Out Zone is represented by the yellow dotted lines running parallel to your vehicle. It is designed to give you the indication on the ground of the fully extended outside mirror position.

Front Camera

WARNING

The front camera system still requires the driver to use it in conjunction with looking out of your vehicle.



E184044

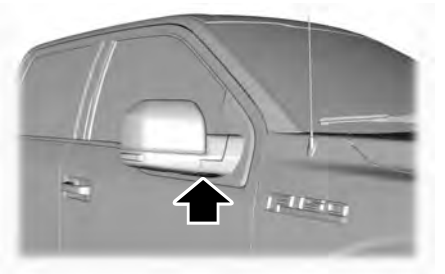
The front video camera, located in the grille, provides a video image of the area in front of your vehicle. It adds assistance to the driver while driving forward at low speeds.

To use the front video camera system, place the transmission in any gear except reverse (R) and press the small icon in the corner of the screen.

Note: *The front camera system will automatically switch on when you are in mud/sand, rock crawl, or Baja mode and your speed is less than 15 mph (24 km/h) (F150 Raptor only).*

The area displayed on the screen may vary according to your vehicle's orientation and road conditions.

Side Camera



E206263

The side view camera, located in the outside mirror, provide a video image of the area on the sides of your vehicle as part of the front 360 + normal view and rear 360 + normal view. It aids you while parking your vehicle either forward or backwards.

Note: *Use caution when using the 360 view while any of the doors are ajar. If a door is ajar, the camera will be out of position and the video image may be incorrect.*

PRINCIPLE OF OPERATION

Cruise control lets you maintain a set speed without keeping your foot on the accelerator pedal. You can use cruise control when your vehicle speed is greater than 20 mph (30 km/h).

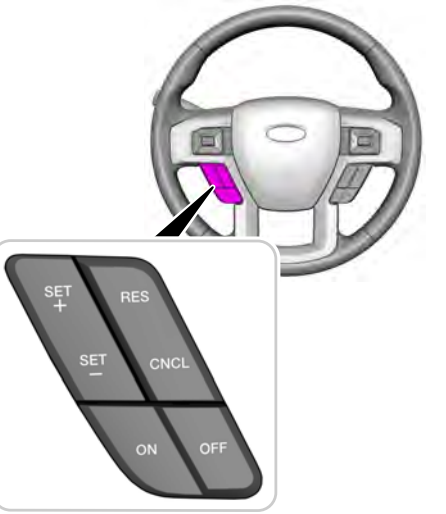
USING CRUISE CONTROL

WARNINGS

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.

When you are going downhill, your vehicle speed could increase above the set speed. The system does not apply the brakes.

Note: *Cruise control disengages if the vehicle speed decreases more than 10 mph (16 km/h) below the set speed when driving uphill.*



E191819

The cruise controls are on the steering wheel.

Switching Cruise Control On

Press ***ON***.


The indicator appears in the information display.

Setting the Cruise Speed

1. Drive to desired speed.
2. Press ***SET+*** or ***SET-***.
3. Take your foot off the accelerator pedal.

Note: *The indicator changes color.*

Changing the Set Speed

Note: *If you accelerate by pressing the accelerator pedal, the set speed will not change. When you release the accelerator pedal, your vehicle returns to the speed that you previously set.*

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- Press ***SET+*** or ***SET-*** to change the set speed in small increments.
- Press the accelerator or brake pedal until you reach the desired speed. Press ***SET+*** or ***SET-***.
- Press and hold ***SET+*** or ***SET-***. Release the control when you reach the desired speed.

Canceling the Set Speed

Press ***CNCL*** or tap the brake pedal. The set speed does not erase.

Resuming the Set Speed

Press ***RES***.

Switching Cruise Control Off

Note: *You erase the set speed when you switch the system off.*

Press ***OFF*** when the system is in standby mode, or switch the ignition off.

USING ADAPTIVE CRUISE CONTROL (If Equipped)

WARNINGS

Always pay close attention to changing road conditions when using adaptive cruise control. The system does not replace attentive driving. Failing to pay attention to the road may result in a crash, serious injury or death.

Do not use the adaptive cruise control when entering or leaving a highway, on roads with intersections or roundabouts or non-vehicular traffic or roads that are winding, slippery, unpaved, or steep slopes.

Do not use the system in poor visibility, for example fog, heavy rain, spray or snow.

WARNINGS

Do not use the system when towing a trailer with aftermarket trailer brake controls. Aftermarket trailer brakes will not function properly when you switch the system on because the brakes are electronically controlled. Failing to do so may result in loss of vehicle control, which could result in serious injury.

Do not use tire sizes other than those recommended because this can affect the normal operation of the system. Failure to do so may result in a loss of vehicle control, which could result in serious injury.

Adaptive cruise control may not detect stationary or slow moving vehicles below 6 mph (10 km/h).

Adaptive cruise control does not detect pedestrians or objects in the road.

Adaptive cruise control does not detect oncoming vehicles in the same lane.

Adaptive cruise control is not a crash warning or avoidance system.

Note: *It is your responsibility to stay alert, drive safely and be in control of the vehicle at all times.*

The system adjusts your vehicle speed to maintain the set gap between you and the vehicle in front of you in the same lane. You can select four gap settings.

The system uses a radar sensor that projects a beam directly in front of your vehicle.



E183737

The adaptive cruise controls are on the steering wheel.

Switching Adaptive Cruise Control On

Press ***ON***.



The indicator, current gap setting and set speed appear in the information display.



E183738

Setting the Adaptive Cruise Speed

Note: *When adaptive cruise control is active, the speedometer may vary slightly from the set speed displayed in the information display.*

1. Drive to desired speed.
2. Press ***SET+*** or ***SET-***.
3. A green indicator light, the current gap setting and your set speed appear in the information display.
4. Take your foot off the accelerator pedal.



E183738

5. A vehicle graphic illuminates if there is a vehicle detected in front of you.

Following a Vehicle

WARNINGS

When following a vehicle, your vehicle does not decelerate automatically to a stop, nor does your vehicle always decelerate quickly enough to avoid a crash without driver intervention. Always apply the brakes when necessary. Failing to do so may result in a crash, serious injury or death.

Adaptive cruise control only warns of vehicles detected by the radar sensor. In some cases there may be no warning or a delayed warning. You should always apply the brakes when necessary. Failure to do so may result in a crash, serious injury or death.

Note: *When you are following a vehicle and you switch on a direction indicator, adaptive cruise control may provide a small temporary acceleration to help you pass.*

Note: *The brakes may emit noise when applied by the system.*

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 a preset gap distance. A vehicle graphic illuminates in the instrument cluster.

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.
- Your vehicle speed falls below 12 mph (20 km/h).
- You set a new gap distance.

The system applies the brakes to slow your vehicle to maintain a safe gap distance from the vehicle in front. The system only applies limited braking. You can override the system by applying the brakes.

If the system determines that its maximum braking level will not be sufficient, an audible warning sounds when the system continues to brake. A red warning bar displays on the windshield and you must take immediate action.

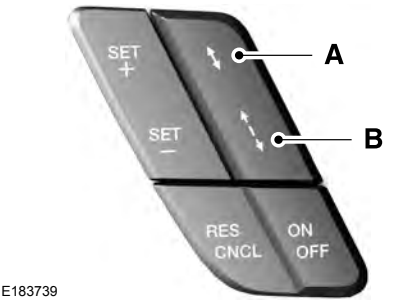
Setting the Gap Distance

Note: *The gap setting is time dependent and therefore the distance automatically adjusts with your vehicle speed.*

Note: *When you select Tow/Haul Mode, the gap distance increases slightly.*

Note: *It is your responsibility to select a gap appropriate to the driving conditions.*

You can decrease or increase the distance between your vehicle and the vehicle in front by pressing the gap control.



E183739

A Gap decrease.

B Gap increase.



E183738

The selected gap appears in the information display as shown by the bars in the image.

Adaptive Cruise Control Gap Settings

Graphic display, bars indicated between vehicles	Dynamic behavior
1	Sport.
2	Normal.
3	Normal.
4	Comfort.

Each time you switch the system on, it selects the last chosen gap setting.

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.

When you press the accelerator pedal, you override the set speed and gap distance.

When you override the system, the green indicator light illuminates and the vehicle graphic does not appear in the information 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.

Changing the Set Speed

- Press ***SET+*** or ***SET-*** to change the set speed in small increments.
- Press the accelerator or brake pedal until you reach the desired speed. Press ***SET+*** or ***SET-***.
- Press and hold ***SET+*** or ***SET-*** to change the set speed in large increments. Release the control when you reach the desired speed.

The system may apply the brakes to slow the vehicle to the new set speed. The set speed displays continuously in the information display when the system is active.

Canceling the Set Speed

Press ***CNCL*** or tap the brake pedal. The set speed does not erase.

Resuming the Set Speed

Note: *Only use resume if you are aware of the set speed and intend to return to it.*

Press ***RES***. Your vehicle speed returns to the previously set speed and gap setting. The set speed displays continuously in the information display when the system is active.

Automatic Cancellation

The system is not functional at vehicle speeds below 12 mph (20 km/h). An audible alarm sounds and the automatic braking releases if your vehicle drops below this speed. The system cancels at low speeds if you switch off electronic stability control.

Hilly Condition and Trailer Tow Usage

Note: *An audible alarm sounds and the system shuts down if it applies brakes for an extended period of time. This allows the brakes to cool. The system functions normally again when the brakes have cooled.*

Note: *When towing with adaptive cruise control, switch on Tow/Haul Mode and Diesel Engine Brake.*

Select a lower gear when the system is active in situations such as prolonged downhill driving on steep grades, for example in mountainous areas. The system needs additional engine braking in these situations to reduce the load on the vehicle's regular brake system to prevent it from overheating.

Switching Adaptive Cruise Control Off

Note: *You erase the set speed and gap setting when you switch the system off.*

Press ***OFF*** when the system is in standby mode, or switch the ignition off.

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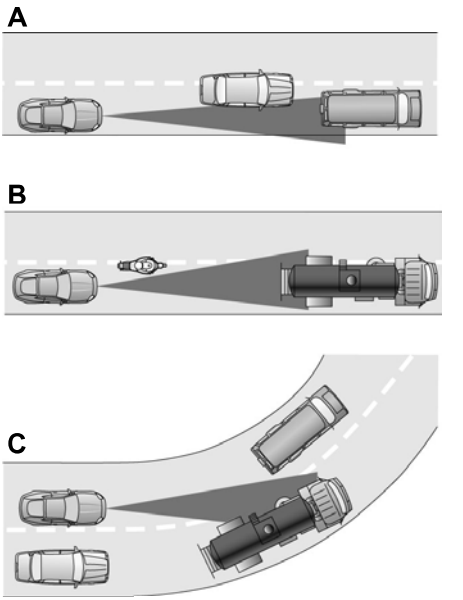
Detection Issues

WARNINGS

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.

If the system malfunctions, have your vehicle checked as soon as possible.

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 graphic does not illuminate if the system does not detect a vehicle in front of you.



E71621

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. You should stay alert and take action when necessary.

If something hits the front end of your vehicle or damage occurs, the radar-sensing zone may change. This could cause missed or false vehicle detection.

System Not Available

The system may not turn on if there is:

- A blocked sensor.
- High brake temperature.
- A failure in the system or a related system.

Blocked Sensor



E183741

Note: *You cannot see the sensor. It is behind a fascia panel.*

A message displays if something obstructs the radar signals from the sensor. The sensor is in the lower grille. The system cannot detect a vehicle ahead and does not function when something blocks the sensor.

Possible Causes and Actions for This Message Displaying:

Cause	Action
The surface of the radar is dirty or obstructed.	Clean the grille surface in front of the radar or remove the object causing the obstruction.
The surface of the radar is clean but the message remains in the display.	Wait a short time. It may take several minutes for the radar to detect that it is free from obstruction.
Heavy rain or snow is interfering with the radar signals.	Do not use the system in these conditions because it may not detect any vehicles ahead.
Water, snow or ice on the surface of the road may interfere with the radar signals.	Do not use the system in these conditions because it may not detect any vehicles ahead.
You are in a desert or remote area with no other vehicles and no roadside objects.	Wait a short time or switch to normal cruise control.

Due to the nature of radar technology, it is possible to get a blockage warning with no actual block. This happens, for example, when driving in sparse rural or desert environments. A false blocked condition either self clears, or clears after you restart your vehicle.

Switching to Normal 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.

You can manually change from adaptive cruise control to normal cruise control through the information display.

The cruise control indicator light replaces the adaptive cruise control indicator light if you select normal cruise control. The gap setting does not display, and the system does not automatically respond to lead vehicles. Automatic braking remains active to maintain set speed.

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DRIVER ALERT (If Equipped)

WARNINGS

The system is designed to aid the driver. It is not intended to replace your attention and judgment. You are still responsible to drive with due care and attention.

At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

The system may not function if the sensor is blocked.

Take regular rest breaks if you feel tired. Do not wait for the system to warn you.

Certain driving styles may result in the system warning you even if you are not feeling tired.

In cold and severe weather conditions the system may not function. Rain, snow and spray can all limit sensor performance.

The system will not operate if the sensor cannot track the road lane markings.

If damage occurs in the immediate area surrounding the sensor, have your vehicle checked as soon as possible.

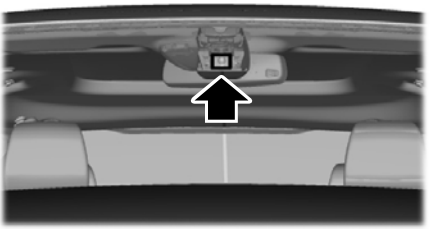
The system may not correctly operate if your vehicle is fitted with a suspension kit not approved by us.

Note: *Keep the windshield free from obstructions. For example, bird droppings, insects and snow or ice.*

Note: *If the camera is blocked or if the windshield is damaged, the system may not function.*

Note: *The system remembers the last setting when you start your vehicle, unless a MyKey™ is detected.*

Note: *If enabled in the menu, the system activates at speeds above 40 mph (64 km/h).*



E249505

The system automatically monitors your driving behavior using various inputs including the front camera sensor.

If the system detects that your driving alertness is reduced below a certain threshold, the system will alert you using a chime and a message in the information display.

Using Driver Alert

Switching the system on and off

You may switch the system on or off through the information display by selecting Settings then Driver Assist then Driver Alert in the menu. When activated, the system will monitor your alertness level based upon your driving behavior in relation to the lane markings, and other factors.

System Warnings

Note: *The system will not issue warnings below approximately 40 mph (64 km/h).*

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The warning system is in two stages. At first the system issues a temporary warning that you need to take a rest. This message will only appear for a short time. If the system detects further reduction in driving alertness, another warning may be issued which will remain in the information display for a longer time. Press OK on the steering wheel control to clear the warning. When active the system will run automatically in the background and only issue a warning if required.

Resetting the System

You can reset the system by either:

- Switching the ignition off and on.
- Stopping the vehicle and then opening and closing the driver's door.

LANE KEEPING SYSTEM (If Equipped)

WARNINGS

The system is designed to aid the driver. It is not intended to replace your attention and judgment. You are still responsible to drive with due care and attention.

Always drive with due care and attention when using and operating the controls and features on your vehicle.

At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

In cold and severe weather conditions the system may not function. Rain, snow and spray can all limit sensor performance.

WARNINGS

The system will not operate if the sensor cannot track the road lane markings.

The sensor may incorrectly track lane markings as other structures or objects. This can result in a false or missed warning.

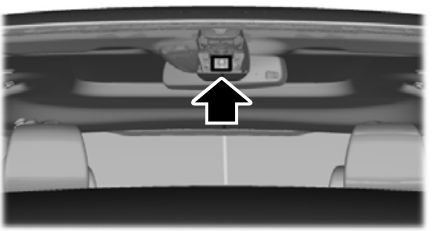
The system may not operate properly if the sensor is blocked. Keep the windshield free from obstruction.

If damage occurs in the immediate area surrounding the sensor, have your vehicle checked as soon as possible.

Note: *The system works above 40 mph (64 km/h).*

Note: *The system works as long as the camera can detect one lane marking.*

Note: *When Aid or both modes are selected and the system detects no steering activity for a short period, 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.*



E249505

The system notifies you to stay in your lane through the steering system and the instrument cluster display when the front camera detects an unintentional drift out of your lane is likely to occur. The system automatically detects and tracks the road lane markings using a camera mounted behind the interior rear view mirror.

Switching the System On and Off

Note: *The system on or off setting is stored until it is manually changed, unless a MyKey™ is detected. If the system detects a MyKey™, it defaults to on and the mode is set to alert.*

Note: *If a MyKey™ is detected, pressing the button will not affect the on or off status of the system. You can only change the mode and intensity settings.*



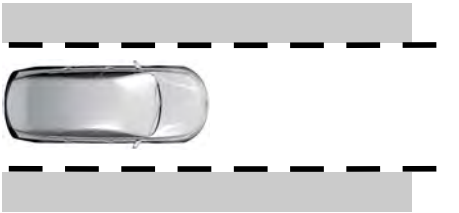
Press the button located on the center console to switch the system on or off.

System Settings

The system has optional menu settings available. See **General Information** (page 109). The system stores the last known selection for each of these settings. You do not need to readjust your settings each time you turn on the system.

Adjust the settings to enable one of the three modes:

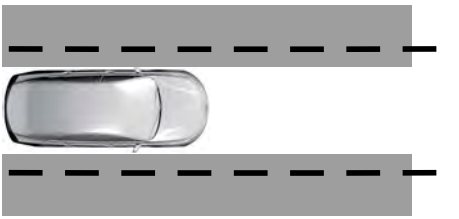
Alert Only



E165515

Alert Only mode provides a steering wheel vibration when an unintended lane departure is detected.

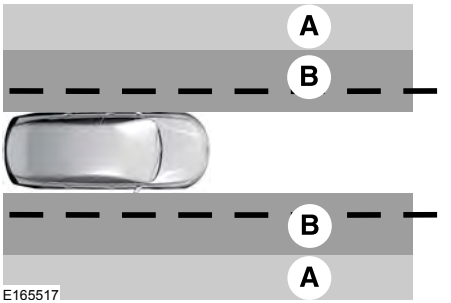
Aid Only



E165516

Aid Only mode provides an assistance steering torque input toward the lane center.

Alert and Aid Mode



A Alert
B Aid

Alert and Aid mode provides an assistance steering torque input toward the lane center. If your vehicle continues drifting out of the lane, the system provides a steering wheel vibration.

Note: *The alert and aid diagrams illustrate general zone coverage. They do not provide exact zone parameters.*

Intensity: This setting affects the intensity of the steering wheel vibration used for the alert and alert + aid modes. This setting does not affect the aid mode.

- Low
- Medium
- High

System Display



When you switch on the system, an overhead graphic of a vehicle with lane markings will display in the information display.



If you select aid mode when you switch on the system, arrows will be displayed with lane markings.

When you switch off the system, the lane marking graphics will not display.

Note: *The overhead vehicle graphic may still be displayed if adaptive cruise control is enabled.*

While the system is on, the color of the lane markings will change to indicate the system status.

Gray: Indicates that the system is temporarily unable to provide a warning or intervention on the indicated side(s). This may be because:

- Your vehicle is under the activation speed.
- Your turn indicator is active.
- Your vehicle is in a dynamic maneuver.
- Quick braking.
- Fast acceleration.
- The road has no or poor lane markings in the camera field-of-view.
- The camera is obscured or unable to detect the lane markings due to environmental conditions (significant sun angles, shadows, snow, heavy rain, fog), traffic conditions (following a large vehicle that is blocking or shadowing the lane), or vehicle conditions (poor headlamp illumination).

See **Troubleshooting** for additional information.

Green: Indicates that the system is available or ready to provide a warning or intervention, on the indicated side(s).

Yellow: Indicates that the system is providing or has just provided a lane keeping aid intervention.

Red: Indicates that the system is providing or has just provided a lane keeping alert warning.

Troubleshooting

Why is the feature not available (line markings are gray) when I can see the lane markings on the road?
Vehicle speed is outside the operational range of the feature
Sun is shining directly into the camera lens
Quick intentional lane change
Staying too close to the lane marking
Driving at high speeds in curves
Previous feature activation happened within the last one second
Ambiguous lane markings (mainly in construction zones)
Rapid transition from light to dark or vice versa
Sudden offset in lane markings
ABS or AdvanceTrac activation
Camera blockage due to dirt, grime, fog, frost or water on the windshield
Driving too close to the vehicle in front of you
Transitioning between no lane markings to lane markings or vice versa
Standing water on the road
Faint lane markings (partial yellow lane markings on concrete roads)
Lane width too narrow or too wide
Camera not calibrated after a windshield replacement
Driving on tight roads or on uneven roads
Vehicle accessories such as snow plows

Why does the vehicle not come back into the middle of the lane always, as expected, in the Aid or Aid + Alert mode?
High cross winds
Large road crown
Rough roads, grooves, shoulder drop-offs

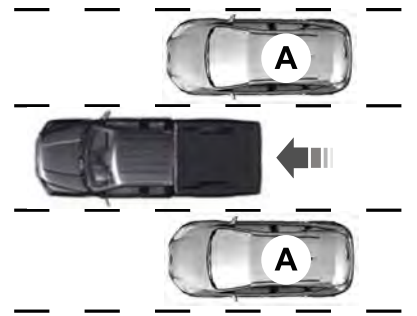
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Why does the vehicle not come back into the middle of the lane always, as expected, in the Aid or Aid + Alert mode?
Heavy uneven loading of the vehicle or improper tire inflation pressure
If the tires have been exchanged (including snow tires), or the suspension has been modified
Vehicle accessories such as snow plows or trailers

BLIND SPOT INFORMATION SYSTEM

WARNING

To help avoid injuries, NEVER use the Blind Spot Information System as a replacement for using the interior and exterior mirrors or looking over your shoulder before changing lanes. The Blind Spot Information System is not a replacement for careful driving.



E227388

The Blind Spot Information System is designed to aid you in detecting vehicles that may have entered the blind spot zone (A). The detection area is on both sides of your vehicle, extending rearward from the exterior mirrors to approximately 13 ft (4 m) beyond the bumper. The system is designed to alert you if certain vehicles enter the blind spot zone while driving.

Note: *The Blind Spot Information System does not prevent contact with other vehicles or objects; nor detect parked vehicles, people, animals or infrastructure (fences, guardrails, trees). It's only designed to alert you to moving vehicles in the blind spot zones.*

Note: *When a vehicle passes quickly through the blind spot zone, typically fewer than two seconds, the system does not trigger.*

Using the System

The Blind Spot Information System turns on when you start the engine and you drive your vehicle forward above 5 mph (8 km/h).

For automatic transmissions, the Blind Spot Information System remains on while the transmission is in drive (D). If shifted into reverse (R) or park (P) the Blind Spot Information System turns off. Once shifted back into drive (D), the Blind Spot Information System turns back on when you drive your vehicle above 5 mph (8 km/h).

For manual transmissions, the Blind Spot Information System is on for all gears except the reverse (R).

Note: *For automatic transmissions, the Blind Spot Information System does not function in reverse (R) or park (P).*

System Lights and Messages



E142442

The Blind Spot Information System illuminates an amber alert indicator in the outside mirror on the side of your vehicle the approaching vehicle is coming from. When the Blind Spot Information System is alerting on a vehicle and the corresponding turn signal is ON, the Blind Spot Information System alert indicator flashes as an increased warning level.

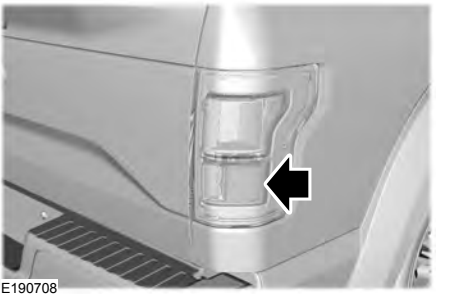
The alert indicator dims when the system detects nighttime darkness.

Note: *The alert indicator flashes in case of an alert and the turn signal is set to that side at the same time.*

System Sensor Blockage

WARNING

To help avoid injuries, NEVER use the Blind Spot Information System as a replacement for using the interior and exterior mirrors or looking over your shoulder before changing lanes. The Blind Spot Information System is not a replacement for careful driving.



E190708

The system uses radar sensors that are located inside the tail lamp on each side of your vehicle. Any dirt, mud and snow in front of the sensors and/or driving in heavy rain can cause system degradation. Also, other types of obstructions in front of the sensor can cause system degradation. This is referred to as a 'blocked' condition.

Note: *Do not apply bumper stickers and/or repair compound to these areas, this can cause degraded system performance.*

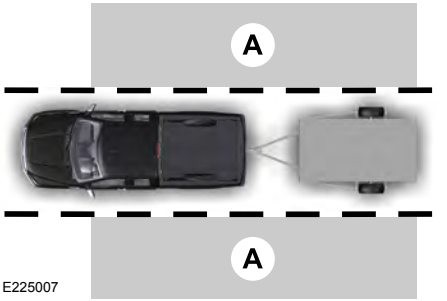
If the system detects a degraded performance condition, a message warning of a blocked sensor will appear in the information display. Also the BLIS alert indicators will remain ON and BLIS will no longer provide any vehicle warnings. You can clear the information display warning but the alert indicators will remain illuminated.

A "blocked" condition can be cleared in two ways:

- After the blockage in front of the sensors is removed or the rainfall/snowfall rate decreases or stops, drive for a few minutes in traffic to allow the sensors to detect passing vehicles.
- By cycling the ignition from ON to OFF and then back ON.

Note: *If your vehicle has a tow bar with a factory equipped trailer tow module and it is towing a trailer, the sensors will automatically turn the Blind Spot Information System off. If your vehicle has a tow bar but no factory equipped trailer tow module, it is recommended to turn the Blind Spot Information System off manually. Operating the Blind Spot Information System without the Blind Spot Trailer Tow package and a trailer attached will cause poor system performance.*

Blind Spot Information System with Trailer Tow (If Equipped)



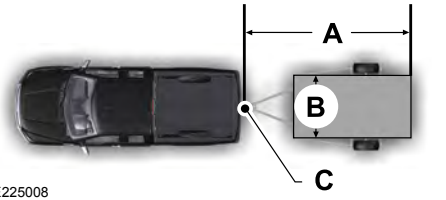
E225007

The Blind Spot Information System with Trailer Tow is designed to aid you in detecting vehicles that may have entered the detection area zone (A). 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 a trailer is attached and the customer has set up a Blind Spot Trailer, the Blind Spot Information System with Trailer Tow becomes active when driving forward above 6 mph (10 km/h). See **Trailer Reversing Aids** (page 258).

The Blind Spot Information System with Trailer Tow can be turned off in the instrument cluster. If the Blind Spot Information System is turned off, then the Blind Spot Information System with Trailer Tow automatically turns off.

Setting up a Blind Spot Trailer



E225008

A	Trailer length
B	Trailer width
C	Trailer hitch ball

You can set-up any trailer to work with the Blind Spot Information System with Trailer Tow through the instrument cluster menu. See **General Information** (page 109). While setting up a trailer, a sequence of screens appear asking for trailer information. The Blind Spot Information System with Trailer Tow specific screens are described below:

- Select type of trailer screen - Conventional, fifth wheel or gooseneck.

The Blind Spot Information System with Trailer Tow only supports conventional trailers. If fifth wheel or gooseneck is selected, the system automatically turns off.

- Do you want to set up BLIS with trailer screen?

If no, the Blind Spot Information System turns off.

If yes, the menu goes to the next screen.

- Is the width less than 9 ft (2.7 m) and length less than 33 ft (9 m)?

If no, the Blind Spot Information System turns off.

If yes, the menu goes to the next screen.

- Trailer width measurement:

The width of the trailer is measured at the front of the trailer. It is not measured at the widest point of the trailer. The maximum width at the front of the trailer that the Blind Spot Information System with Trailer Tow can support is 8.5 ft (2.6 m).

Note: *You do not need to enter an exact trailer width measurement; just measure that it is 8.5 ft (2.6 m) or less.*

- Trailer length measurement:

The trailer length is the distance between the trailer hitch ball and the rear of the trailer. The maximum length that the Blind Spot Information System with Trailer Tow can support is 33 ft (9 m).

- Enter length of trailer:

The default setting is 18 ft (5.5 m). Toggling up or down using the menu buttons will increase/decrease the measurement by 3 ft (1 m). Select the length so that the value is equal to or within 3 ft (1 m) of the actual measured length. For example, if the actual measured length is 25 ft (7.6 m), then toggle the length in the menu to 27 ft (8.2 m). When the length has been entered, the Blind Spot Information System with Trailer Tow setup is saved.

If you do not set up a Blind Spot Trailer, a warning appears in the instrument cluster when a trailer is connected stating that the system has been turned off due to a trailer connect.

Note: *If the trailer is actually a bike rack or cargo rack with electrical lighting, then the length will be 3 ft (1 m). Cross Traffic Alert will remain on for trailers 3ft (1 m) or less.*

Note: *Proper measurement and measurement entry is required for Blind Spot Information System with Trailer Tow to function as designed.*

System Operation

If you select a trailer in the display screen prior to connecting the trailer, the system will load that configuration and the information cluster displays a message when the trailer is connected. A second message appears stating Cross Traffic Alert has been turned off; the Blind Spot Information System with Trailer Tow still functions normally when driving forward.

If no trailer has been set up and a trailer is connected, the instrument cluster provides a message indicating a trailer is connected followed by a message asking to select a trailer from the existing list of trailers or to add a trailer. In order for the Blind Spot Information System with Trailer Tow to function, an existing trailer must be selected or a new trailer must be added. If the request is ignored or if you exit the screen, a message appears prompting you that the system has been turned off due to a trailer connect. This message may not appear until your vehicle speed reaches 22 mph (35 km/h).

The Blind Spot Information System with Trailer Tow activates when driving forward for that particular trailer set up. If the ignition is cycled, the Blind Spot Information System with Trailer Tow continues to function using the last trailer selected.

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Trailer Considerations

The Blind Spot Information System with Trailer Tow is designed to work with any trailer whose front width is 8.5 ft (2.6 m) or less and total length from the trailer hitch ball to the rear of the trailer is 33 ft (9 m) or less. Different trailers may cause a slight change in performance as outlined below.

Large box trailers may cause false alerts to trigger when driving next to buildings or near parking cars. A false alert may also occur while making a 90-degree turn.

Trailers that are 8.5 ft (2.6 m) wide at the front and have a total length greater than 20 ft (6 m) may have delayed alerts from passing vehicles when the vehicle is passing at high speed.

A box trailer whose front width is 8.5 ft (2.6 m) may cause early alerts when you are over taking a vehicle.

When towing a clam shell or V-Nose box trailer with a front width of 8.5 ft (2.6 m), delayed alerts on merging vehicles that are traveling the same speed as your vehicle may occur.

System Errors

If the system senses a problem with the left or right sensor, the telltale will illuminate and a message will appear in the information display. See **Information Messages** (page 125).

Switching the System Off and On

You can temporarily switch the Blind Spot Information System off in the information display. See **General Information** (page 109). When the Blind Spot Information System switches off, you will not receive alerts and the information display shows a system off message. The telltale in the cluster also illuminates. When you switch the Blind Spot Information System on or off, the alert indicators flash twice.

Note: *The Blind Spot Information System remembers the last selected on or off setting.*

You can also have the Blind Spot Information System switched off permanently at an authorized dealer. Once switched off permanently, the system can only be switched back on at an authorized dealer.

CROSS TRAFFIC ALERT

WARNING

Do not use the cross traffic alert system as a replacement for using the interior and exterior mirrors or looking over your shoulder before reversing out of a parking space. The cross traffic alert system is not a replacement for careful driving.

Note: *When a trailer is detected, Cross Traffic Alert automatically turns off.*

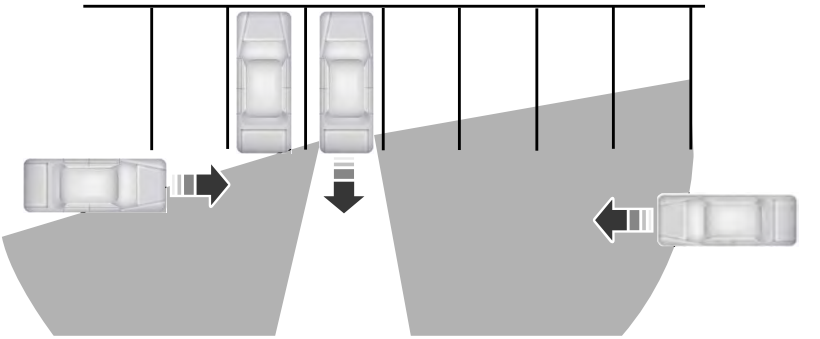
Cross Traffic Alert is designed to warn you of vehicles approaching from the sides when the transmission is in reverse (R).

Using the System

Cross Traffic Alert turns on when you start the engine and you shift into reverse (R). Once shifted out of reverse (R), Cross Traffic Alert turns off.

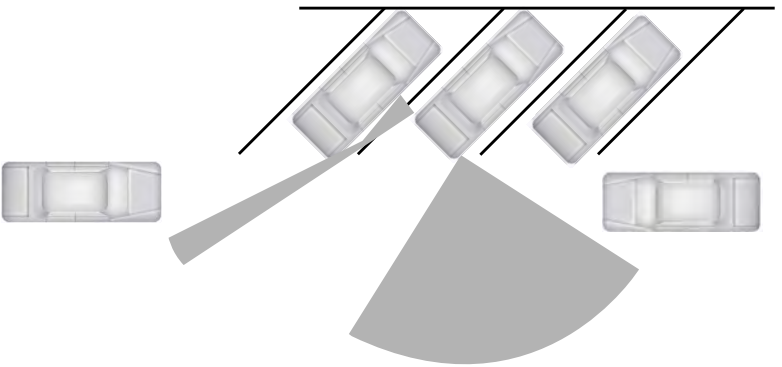
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Cross Traffic Alert is designed to detect vehicles that approach with a speed up to 37 mph (60 km/h). Coverage decreases when the sensors are partially, mostly or fully obstructed. Reversing slowly helps increase the coverage area and effectiveness.



E142440

In this first example, the left sensor is only partially obstructed; zone coverage to the right is nearly maximized.



E142441

Zone coverage also decreases when parking at shallow angles. Here, the left sensor is mostly obstructed; zone coverage on that side is severely limited.

System Lights, Messages and Audible Alerts



E142442

The Cross Traffic Alert illuminates an amber alert indicator in the outside mirror on the side of your vehicle the approaching vehicle is coming from. Cross Traffic Alert also sounds an audible alert and a message appears in the information display indicating a vehicle is coming from the right or left. Cross Traffic Alert works with the reverse sensing system that sounds its own series of tones. See **Principle of Operation** (page 213).



E190708

The system uses radar sensors that are located in the tail lamp on each side of your vehicle. Do not allow mud, snow or bumper stickers to obstruct these areas, this can cause degraded system performance. See **Blind Spot Information System** (page 237). If the Blind Spot Information System is blocked, Cross Traffic Alert is also blocked. A Cross Traffic Alert blocked message appears in the information display when the transmission is shifted into reverse (R).

System Limitations

Cross Traffic Alert has its limitations; situations such as severe weather conditions or debris build-up on the sensor area may limit vehicle detection and cause false alerts.

The following are other situations that may limit the Cross Traffic Alert performance:

- Adjacently parked vehicles or objects obstructing the sensors.
- Approaching vehicles passing at speeds greater than 37 mph (60 km/h).
- Driving in reverse faster than 7 mph (12 km/h).
- Backing out of an angled parking spot.

False Alerts

Note: *If your vehicle has a tow bar with a factory equipped trailer tow module and it is towing a trailer, the sensors will automatically turn the Cross Traffic Alert off. If your vehicle has a tow bar but no factory equipped trailer tow module, it is recommended to turn the Cross Traffic Alert off manually. Operating Cross Traffic Alert with a trailer attached will cause poor Cross Traffic Alert performance.*

Note: *The system may illuminate the amber alert indicator and sound the audible alert during heavy rain even though no vehicle is approaching from left or right.*

There may be certain instances when there is a false alert by the Cross Traffic Alert system that illuminates the alert indicator with no vehicle in the coverage zone. Some amount of false alerts are normal; they are temporary and self-correct.

System Errors

If Cross Traffic Alert senses a problem with the left or right sensor a message will appear in the information display. See **Information Messages** (page 125).

Switching the System Off and On

You can temporarily switch Cross Traffic Alert off in the information display. See **General Information** (page 109). When you switch Cross Traffic Alert off, you will not receive alerts and the information display will display a system off message.

Note: *The system switches on whenever the ignition is switched on and ready to provide appropriate alerts when the transmission is in reverse (R). Cross Traffic Alert does not remember the last selected on or off setting.*

You can also have Cross Traffic Alert switched off permanently at an authorized dealer. Once switched off permanently, the system can only be switched back on at an authorized dealer.

STEERING

Electric Power Steering

WARNINGS

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 by an authorized dealer.

If the system detects an error, you may not feel a difference in the steering, however a serious condition may exist. Obtain immediate service from an authorized dealer, failure to do so may result in loss of steering control.

Your vehicle has an electric power steering system. There is no fluid reservoir. No maintenance is required.

If your vehicle loses electrical power while you are driving, electric power steering assistance is lost. The steering system still operates and you can steer your vehicle manually. Manually steering your vehicle 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.

Steering Tips

If the steering wanders or pulls, check for:

- Correct tire pressures.
- Uneven tire wear.
- Loose or worn suspension components.
- Loose or worn steering components.
- Improper vehicle alignment.

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Note: *A high crown in the road or high crosswinds may also make the steering seem to wander or pull.*

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. Additionally, 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.

COLLISION WARNING SYSTEM

(If Equipped)

Principle Of Operation (If Equipped)

WARNINGS

This system is an extra driving aid. It does not replace your attention and judgment, or the need to apply the brakes. This system does NOT automatically brake your vehicle. If you fail to press the brake pedal when necessary, you may collide with another vehicle.

The collision warning system with brake support cannot help prevent all collisions. Do not rely on this system to replace your judgment and the need to maintain correct distance and speed.

Note: *The system does not detect, warn or respond to potential collisions with vehicles to the rear or sides of your vehicle.*

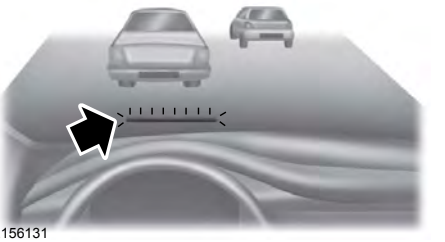
Note: *The collision warning system is active at speeds above approximately 5 mph (8 km/h).*

Note: *The collision warning system will be unavailable if you disable the electronic stability control. See* ***Using Stability Control*** *(page 210).*



E156130

The system alerts you of certain collision risks. The system's sensor detects your vehicle's rapid approach to other vehicles traveling in the same direction as your vehicle.



E156131

When your vehicle rapidly approaches another vehicle, a red warning light flashes and a tone sounds.

The brake support system assists you in reducing any collision speed by pre-charging the brakes. If the risk of collision continues to increases after the audio-visual warning, the brake support prepares the brake system for rapid braking. The system does not automatically activate the brakes, but if the brake pedal is pressed even lightly, the brakes apply full stopping power.

Using the Collision Warning System

WARNING

The collision warning system's brake support reduces collision speed only if you brake your vehicle before any collision. As in any typical braking situation, you must press your brake pedal.

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You can use your information display control to adjust the collision warning system's sensitivity or to turn the system On or Off. Your vehicle will remember these settings across key cycles. You may change the collision warning system sensitivity to any one of three possible settings. See **General Information** (page 109).

Note: *It is recommended that you turn the collision warning system off if a snow plow or similar object is installed in such a way that it may block the radar sensor. Your vehicle will remember the selected setting across key cycles.*

Note: *When possible, the manufacturer recommends using the highest sensitivity setting. If warnings are too frequent, you can reduce your system's sensitivity. Reduced sensitivity causes fewer and later system warnings. See* ***General Information*** *(page 109).*

Blocked Sensors



E183741

If a blocked sensor message appears in the information display, dirt, water, or an object is blocking the sensor. The sensor is located behind a cover near the driver side of the lower grille. If anything blocks the sensor, your vehicle cannot see through the sensor, and the collision warning system will not work. Possible causes for the blocked sensor message and corrective actions are listed below.

Cause	Action
The radar sensor cover in the grille is dirty or obstructed	Clean the radar sensor cover or remove the obstruction
The surface of the radar sensor cover is clean but the message remains in the display	Wait a short time. The radar may take several minutes to reset after you remove the obstruction
Heavy rain, spray, snow or fog in the air interferes with the radar signals	The collision warning system is temporarily disabled. Shortly after weather conditions improve, the collision warning system automatically reactivates
Swirling water, snow or ice on the road surface interferes with the radar signals	The collision warning system is temporarily disabled. Shortly after weather conditions improve, the collision warning system automatically reactivates

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System Limitations

WARNING

The collision warning system's brake support only reduces collision speed if you first apply your brakes. You must brake as you would in any typical braking situation.

Due to the nature of radar technology, there may be certain instances where vehicles do not provide a collision warning. These include:

- Stationary vehicles or vehicles moving below 6 mph (10 km/h).
- Pedestrians or objects in the roadway.
- Oncoming vehicles in the same lane.
- Severe weather conditions (see blocked sensor section).
- Debris build-up on the grille near the headlamps (see blocked sensor section).
- Small distance to vehicle ahead.
- Large steering wheel and pedal movements (very active driving style).

Damage to the front end of your vehicle may alter the radar sensor's coverage area. This may result in missed or false collision warnings. Have an authorized dealer check your radar sensor for proper coverage and operation.

DRIVE CONTROL (If Equipped)

Selectable Steering

Note: *The steering setting defaults to Normal if the battery is disconnected or removed.*



To change the steering feel, toggle the switch on the instrument panel. The first press illuminates the selected mode, subsequent presses will change the selected mode.

Modes:

- Normal - Default factory setting.
- Sport - Slightly higher effort required for steering with more road force felt through the steering wheel.
- Comfort - Slightly less effort required for steering with less road force felt through the steering wheel.

After selecting the desired setting, you may feel a soft feedback bump in the steering wheel when the changeover occurs.

Note: *If your vehicle is equipped with the selectable drive modes feature, the steering feel will change when you select a new drive mode. You can override this automatic selection by pressing the steering button or switch.*

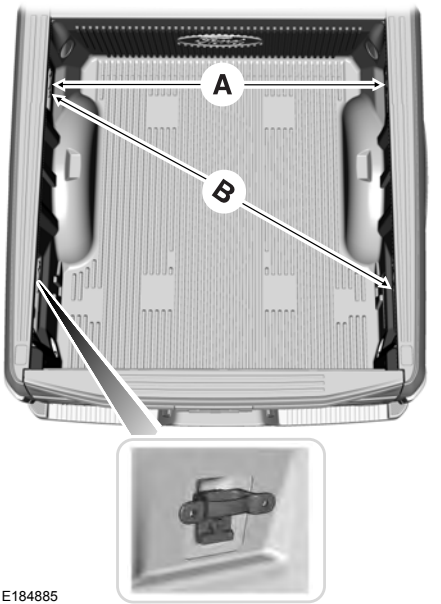
LOAD RETAINING FIXTURES (If Equipped)

BoxLink™ Cleats

These cleats attach to the inner box walls to help you to tie down cargo. The cleats can be locked to prevent removal or unlocked for removal.

BoxLink Cleats

Note: *Leave the key in the lock when removing or installing the cleats. The key cannot be removed from the lock unless it is in the locked position.*



E184885

A. 275 lb (1,223 N) maximum force between directly opposed cleats.

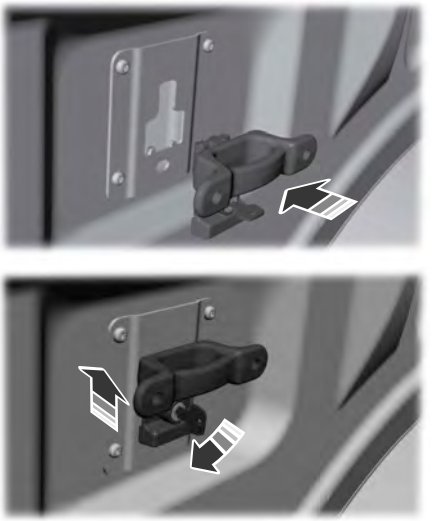
B. 600 lb (2,669 N) maximum force between diagonally opposed cleats.

Secure cargo with up to 275 lb (1,223 N) force applied between opposing box link cleats, or up to 600 lb (2,669 N) force applied between diagonal box link cleats.

Removing Locking BoxLink Cleats

1. Insert the key into the lock and turn clockwise to unlock.
2. Pull bottom of the cleat outward while pushing top of cleat down.
3. Hold on to the cleat as it clears the mounting slot.

Installing Locking BoxLink Cleats



E189558

1. Insert the key into lock and turn clockwise to unlock.
2. Insert the cleat into the mounting slot and push upward. Make sure the cleat is fully engaged.

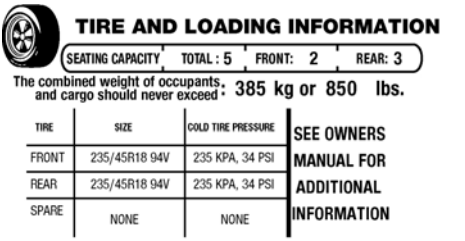
3. Turn the key counterclockwise to lock.
4. Remove the key.

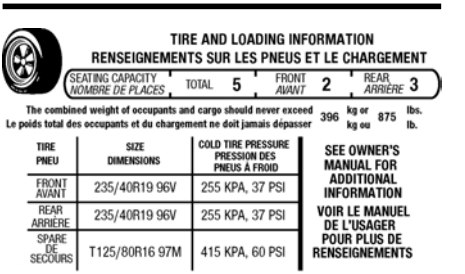
LOAD LIMIT

Vehicle Loading - with and without a Trailer

This section guides you in the proper loading of your vehicle, trailer, or both. 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.

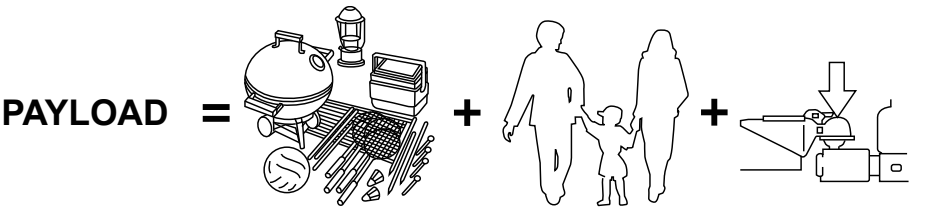
Tire and Loading Label Information Example:





E198719

Payload



E143816

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.

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.

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. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

The total load on each axle must never exceed its Gross Axle Weight Rating.

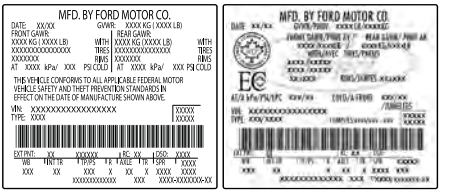
GVWR (Gross Vehicle Weight Rating)

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. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

The gross vehicle weight must never exceed the Gross Vehicle Weight Rating.

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Safety Compliance Certification Label Example:



E198828

WARNING

Exceeding the Safety Compliance Certification label vehicle weight rating limits could result in substandard vehicle handling or performance, engine, transmission and/or structural damage, serious damage to the vehicle, loss of control and personal injury.

Maximum Loaded Trailer Weight

Maximum loaded trailer weight is the highest possible weight of a fully loaded trailer the vehicle can tow. Consult an authorized dealer (or the RV and Trailer Towing Guide available at an authorized dealer) for more detailed information.

GCWR (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.

The gross combined weight must never exceed the Gross Combined Weight Rating.

Note: *For trailer towing information refer to the RV and Trailer Towing Guide available at an authorized dealer.*

WARNINGS

Do not exceed the GVWR or the GAWR specified on the Safety Compliance Certification label.

Do not use replacement tires with lower load carrying capacities than the original tires because they may lower your vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the original tires do not increase the GVWR and GAWR limitations.

Exceeding any vehicle weight rating limitation could result in serious damage to your vehicle, personal injury or both.

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

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- 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.

Special Loading Instructions for Owners of Pick-up Trucks and Utility-type Vehicles

WARNING

Loaded vehicles may handle differently than unloaded vehicles. Take extra precautions, such as slower speeds and increased stopping distance, when driving a heavily loaded vehicle.

BED ACCESS (If Equipped)

Box Side Step

Use the step for easier access to the vehicle bed.

Note: *Close the step before driving.*

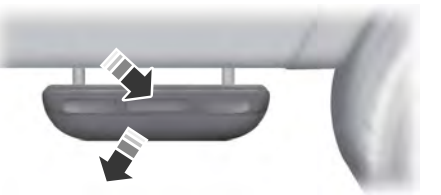
Note: *Do not exceed 500 lb (227 kg) on the step. This includes you plus cargo.*

Note: *Do not use the step to lift the vehicle. Only use proper jacking points.*

Note: *The step may operate more slowly in cool temperatures.*

Note: *The step mechanism may trap debris such as mud, dirt, snow, ice and salt. This may prevent the step from deploying automatically when you press the button. If this happens, make sure that you press the button down and carefully pull out the step manually. Wash off the debris with a high-pressure sprayer and stow the step.*

Deploying the Step



E167268

Push down on the button with your foot. The step automatically extends from the stowed position.

Stowing the Step



E167269

Push the step under your vehicle with your foot until it fully latches. Do not push on the button while stowing the step.

BED RAMPS (If Equipped)

WARNINGS

When sliding the ramp up or down, take care not to get your fingers or hands caught in the mechanism. Failure to follow this instruction could result in personal injury.

Make sure that you correctly install the ramp to the tailgate plate. Failure to follow this instruction could result in personal injury.

Do not step or sit on the ramp when it is in the stowed position. Failure to follow this instruction could result in personal injury.

Only install the ramp within the prescribed ramp angles. Failure to follow this instruction could result in personal injury.

Note: *The ramp maximum capacity is 800 lb (363 kg).*

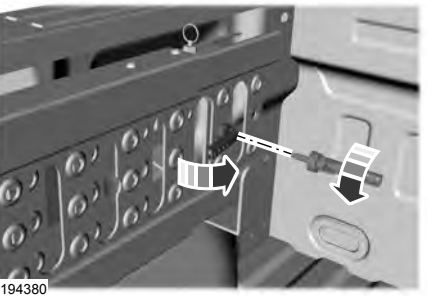
Note: *Verify the ramp is on stable ground before usage.*

Note: *For loading and unloading equipment, your ramp should be set between 10° upward and 26° downward to avoid damage to the ramp claw and tailgate plate.*

Note: *When using your vehicle for off-road operation, remove the bed ramps from the vehicle and store them in a safe location away from your vehicle.*

Using the Bed Ramp

1. Remove the front and rear cables.



E194380

2. Open the cam lever arms and unscrew the cam bolts.
3. Remove the ramp from the ramp holder.



E211150

4. Rotate the stops at the underside of the ramp to the open position.

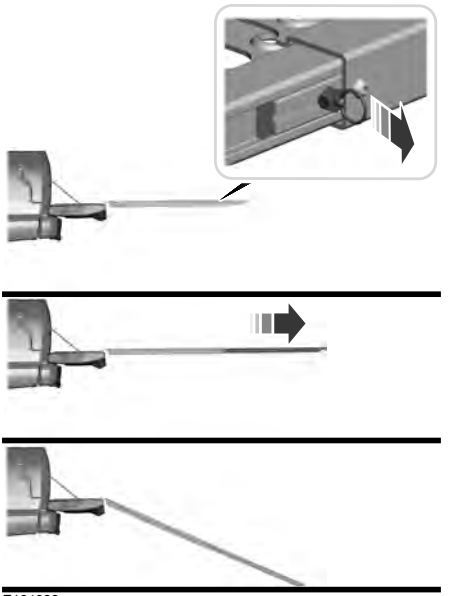
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Note: *You can use a smooth surface tool to rotate the stops.*



E194382

5. Slide the ramp claw onto the tailgate plate.



E194383

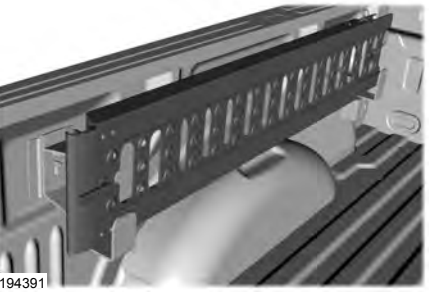
6. Pull the location pin outward and extend the ramp until the pin is seated in the usage position, then set the ramp on even ground.

Stowing the Bed Ramp

1. Pick up the ramp. Pull the location pin outward.
2. Slide the ramp into the storage position until the location pin locks.

Note: *Make sure the proper pin location has been applied for your bed size.*

3. Slide the ramp claw off of the tailgate plate.
4. Rotate the stops at the underside of the ramp to the closed position.

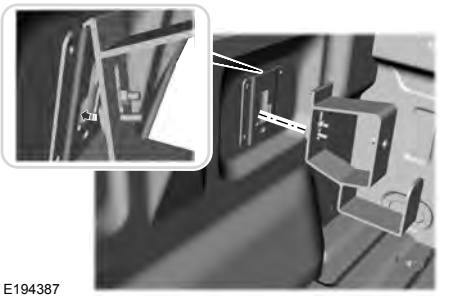


E194391

5. Place the ramp into the ramp holder.
6. Install the cam bolts and close the cam lever arms.
7. Attach the front and rear cables.

Note: *Make sure you properly secure the locking cable. If the locking cable is unsecured, you may hear a rattling noise.*

Installing the Ramp Holder


E194387

1. Hook the top of the ramp holder over the mounting plate and rotate the ramp holder into position.


E194388

2. Slide the ramp holder studs upwards into the installed position.
3. Tighten the ramp holder nut.

Note: *The nut should be on the upper stud.*

TOWING A TRAILER

WARNINGS

Do not exceed the GVWR or the GAWR specified on the certification label.

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.

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.

Do not cut, drill, weld or modify the trailer hitch. Modifying the trailer hitch could reduce the hitch rating.

Note: *To prevent your trailer from accumulating distance, and the trailer information status appearing when you restart your vehicle after disconnecting your trailer, you must deactivate your trailer. Using the information display, go to the Towing menu and then the Select Trailer option. Select the No active trailer option. See* ***Information Displays*** *(page 109).*

Your vehicle may have electrical items, such as fuses or relays, related to towing. See **Fuses** (page 309).

Your vehicle may have ability to modify trailer towing features. See **General Information** (page 109).

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 places an extra load on your vehicle's engine, transmission, axle, brakes, tires and suspension. Inspect these components periodically during, and after, any towing operation.

Load Placement

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 and right 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.
- Select a ball mount with the correct rise or drop. When both the loaded vehicle and trailer are connected, the trailer frame should be level, or slightly angled down toward your vehicle, when viewed from the side.

When driving with a trailer or payload, a slight takeoff vibration or shudder may be present due to the increased payload weight. Additional information regarding proper trailer loading and setting your vehicle up for towing is located in another chapter of this manual. See **Load Limit** (page 249).

You can also find information in the **RV & Trailer Towing Guide** available at your authorized dealer, or online.

RV & Trailer Towing Guide Online	
Website	http://www.fleet.ford.com/towing-guides/

TRAILER REVERSING AIDS

Pro Trailer Backup Assist™

WARNINGS

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.

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WARNINGS

This system is an extra driving aid. It does not replace your attention and judgment, or the need to apply the brakes. This system does NOT automatically brake your vehicle. If you fail to press the brake pedal when necessary, you may collide with another vehicle.

Note: *The system is not a substitute for safe driving practices.*

Note: *You must always be aware of the vehicle and trailer combination and the surrounding environment.*

Note: *The system does not detect or prevent the vehicle or trailer from making contact with obstacles in the surrounding environment.*

Note: *Keep in mind that the front end of the vehicle swings out when changing the direction of the trailer.*

Note: *The system relies on user measurements to determine sticker placement and system limits. It is critical to take the key measurements correctly. Incorrect measurements can result in the improper function of the system up to and including contact between the vehicle and trailer.*

Note: *The system limits vehicle speed when backing up. The system is not a replacement for proper use of the throttle and brake pedals.*

Principle of Operation

This feature helps you to steer your vehicle when backing up with a trailer attached. Turn and hold the control knob in the direction you want the trailer to go and the system takes over the steering. This allows you to focus on checking the mirrors and operating the brake and accelerator.

Each trailer you use with your vehicle has to be setup once.

You must take care to follow the setup process accurately, to make sure the sticker is placed correctly.

Setting Up Pro Trailer Backup Assist

Note: *Once you have entered a trailer's information into the system, it is stored for easy recall. A maximum of 10 trailers can be added to the system.*

Step 1: Position your Vehicle and Trailer

Hitch your conventional trailer to your vehicle. See **Essential Towing Checks** (page 280).

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 it your vehicle. More information on selecting your towbar is available in the Towing section. See **Towing** (page 257).



E209759

Make sure your vehicle and the trailer are in line with each other. You can do this by driving straight forward.



E209760

Step 2: Follow the Information Display Prompts

Press the button to turn the system on.

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E209765

1. Select the option to add a trailer in the instrument cluster menu, using the steering wheel control. See **General Information** (page 109).
2. Add a personalized name for the trailer using the screen prompts. Use the down arrow to scroll to the desired letter and then press the right arrow to advance to the next letter. Press OK to continue.
3. Select the type of trailer brake system for the trailer you are adding.
4. Select the brake effort level for the trailer.

Note: *The default option is low. This is recommended for most trailers. If the trailer's brakes require more initial voltage, or if you prefer more aggressive braking then select the other options as required.*

5. Select the trailer type.

Some examples of conventional type trailers are shown below.

Note: *You cannot use the system with the types of trailers marked with the cross.*

The system only works with conventional trailers. It does not work with other types including goose neck and fifth wheel.



E209766

Follow the information display prompts.

Step 3: Place the Sticker on the Trailer Frame

The supplied sticker must be placed in an area visible by the Rear View Camera.

Note: *The cargo and trailer hookup lamps turn on automatically to improve visibility.*

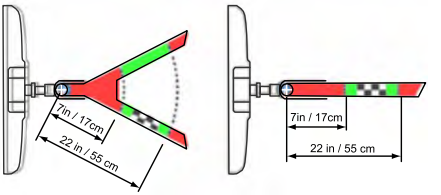
Note: *An assistant can help to carry out the following procedure.*

Note: *Make sure nothing can obstruct the Rear View Camera's view of the sticker. For example, items 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 32°F (0°C).*

Note: *Do not move stickers after they are placed. Do not re-use any stickers if removed.*

Note: *Additional stickers may be purchased through your Ford Dealers parts department.*



E209805

Use the supplied measurement card, a tape measure and pen to carefully mark the area where to attach the sticker (supplied in the back cover pocket of your quick start guide). Make sure the whole sticker is within the zone between the two arcs or distance markers on the diagram, and is also visible in the Rear View Camera display.

Step 4: Take Measurements

After the sticker is correctly placed on the trailer you must take some key measurements.

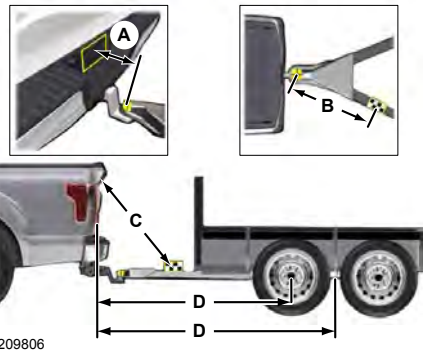
Note: *Accurate measurements must be taken for the system to operate properly.*

Note: *Round measurement figures to the nearest half inch.*

Note: *Round upward if the measured length is a quarter inch or greater. Round downward if the measure length is less than a quarter inch. For example 12.25 in (31.11 cm) would be rounded up to 12.50 in (31.75 cm). 12.13 in (30.8 cm) would be rounded down to 12.00 in (30.48 cm).*

Note: *Use consistent metric or imperial units as required by your country or vehicle.*

Record the four key distances (A, B, C, D) as required by the measurement card. Record the trailer name for these measurements.



E209806

Distance A

The horizontal distance from the license plate to the center of the ball hitch on the trailer.

Distance B

The horizontal distance from the center of the ball hitch to the center of the sticker.

Distance C

The distance from the Rear View Camera to the center of the sticker.

Distance D

The horizontal distance from the tailgate to the center of the trailer axle (single axle trailers), or the center of the axles (trailers with dual axles or more).

Step 5: Enter Measurements Using the Information Display

Using the recorded measurements, enter the required data into the system. Follow the on screen prompts to enter each of the measurements taken in step 4. When all four distances have been entered, a confirmation display will appear. Check the values are correct before proceeding, or go back to change any if required.

Step 6: Confirming the Sticker Location

Check the Rear View Camera display to see if the sticker is identified by the system and marked with a red circle.

Confirm that the red circle is correctly located over the sticker image in the display. The on screen prompt will ask you to confirm this.

Note: *If the system cannot locate the sticker try cleaning the camera lens, and also make sure the sticker is within the green zone as indicated in step 3. Check your measurements to make sure you measured from the correct points.*

Calibrating the System

To complete setup, drive your vehicle straight forward between 4 mph (6 km/h) and 24 mph (39 km/h) following the on screen prompt.

Note: *If you move the steering wheel during this procedure, the calibration pauses.*

Note: *We recommend that you do not do this at night.*

A message will be displayed during calibration and after calibration is complete.

Using Pro Trailer Backup Assist

To use the system press the button and select the required trailer from the display.



E209765

When the sticker is located, the display prompts you to shift into reverse (R). The system turns on.

Note: *The system does not function if your hands are on the steering wheel. Remove your hands to resume operation.*

Follow the screen prompts to steer your vehicle and trailer.

Note: *You may have to drive forward to straighten the trailer.*

Take your hands off the steering wheel and turn the Pro Trailer Backup Assist control knob instead. The knob acts as the steering control for the trailer.

Note: *The more you turn the knob, the sharper the trailer turns.*



E209812

Turn and hold counterclockwise to make the trailer go left.



E209813

Turn and hold clockwise to make the trailer go right.

Note: *Practice maneuvering with the system in a safe open area first.*

Note: *Try backing up in a straight line and then turning the knob slowly in the direction you want to go.*

Note: *Quickly turning and releasing the knob results in a jerky movement of the vehicle.*



E209814

Release the knob when the trailer is moving in the direction you want. Control the accelerator and brakes while the system steers your vehicle automatically to keep the trailer moving straight back.

Note: *You may have to use the knob to correct the trailer direction when attempting to move the trailer straight back under some conditions.*

Note: *Your vehicle speed is automatically limited.*

Note: *When you release the knob or turn it to the center position, your vehicle follows the trailer's path.*

Troubleshooting

Note: *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 operate correctly.*

Setup

The system is designed to be used with a wide variety of trailers. However there are some trailers that do not have a proper surface and location to mount the sticker. These trailers are not supported. Attempts to place the sticker on a surface that does not meet the sticker placement requirement listed in Step 3 of the setup instruction or entering inaccurate measurements to proceed through setup can result in improper system function.

Accurate measurements are critical to correct system function. If you need to check measurements entered or change them you can access them through the trailer menus in the instrument cluster. Choose the option to change the sticker from the change trailer settings menu. It is not necessary to remove the sticker if you are just reviewing or changing measurements.

The following menu warnings or difficulties may occur during setup. Tips to resolve them are listed below.

Note: *If you still experience issues with the system's ability to detect the sticker, see the information in the next section regarding sticker lost during system operation.*

Measurement A has reached maximum or minimum value:

- The system is designed to work with drawbars that have a license plate to hitch ball center measurement of 9.4 in (24 cm) to 16 in (40 cm) when installed. Do not attempt to use drawbars that have a length outside this range as the system performance will be degraded and could cause improper system function.
- Make sure that the measurement being made is the horizontal distance only from license plate and the hitch ball center. A straight line distance that includes any vertical rise or drop will increase the measurement and make it inaccurate. Inaccurate measurements will degrade system performance and could cause improper system function. See step 4 of the setup instruction to review measurement instructions.

Measurement B has reached maximum or minimum value:

- Make sure that the sticker placement instruction in step 3 of the setup has been followed. Stickers placed outside the allowed zone will adversely affect the system performance and could cause improper feature function.
- Make sure that the measurement being made is the horizontal distance only from center of sticker to the hitch ball center. A straight line distance that includes any vertical rise or drop will increase the measurement and cause an inaccurate value to be entered into the system. See step 4 of the setup for additional measurement instructions.

Measurement C has reached maximum or minimum value:

- Make sure that the sticker placement instructions in step 3 of the setup have been followed. Stickers placed outside the allowed zone will adversely affect the system performance and could cause improper feature function. If you have met all the criteria for sticker placement and you see this message this sticker is either too far below or too close to the camera to properly recognize the sticker. In order for the system to operate correctly the sticker height must be lowered if you receive the minimum warning or the sticker height must be raised if you receive the maximum warning.
- Only one sticker can be placed on the trailer for correct system function. The previous sticker must be removed or covered so only one sticker is visible to the camera.
- Measurement B and C must be measured again if a new sticker is placed on the trailer.

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Measurement D has reached maximum or minimum value:

- Make sure that the measurement being made is the horizontal distance only from tailgate to the center of the single axle or the center of all the axles on the trailer. See step 4 of the setup for additional measurement instructions. The TBA system does not support trailer lengths outside the range allowed by the information display.

System is circling something beside the sticker or system cannot find the sticker:

- Make sure the rear camera is clean and the sticker is clearly visible in the camera image. Clean the camera and sticker if necessary.
- The camera system uses the entered measurements to help locate the sticker. Inaccurate sticker measurements will degrade the system's ability to locate the sticker. Verify the measurements entered into the system are accurate.
- Remove the incorrectly circled label or decal if possible.
- If you cannot resolve the issue a new sticker location should be tried. The sticker location must still meet the requirements noted in step 3 of the setup instructions. Only one sticker can be placed on the trailer for correct system function. The previous sticker must be removed or covered so only one sticker is visible to the camera.

Calibration

The system monitors various vehicle parameters to ensure your vehicle is being driven straight and the trailer straight behind your vehicle. Any steering input or trailer movement will pause the calibration.

For best results:

- Use a long, straight, smooth and level road when attempting to calibrate.
- Drive straight forward.
- Drive between 4 mph (6 km/h) and 24 mph (39 km/h).

System Operation

The following warnings or difficulties may occur during feature operation. Tips to resolve them are listed below.

The system is not available:

- The system relies on many sub-systems in your vehicle to operate correctly. If those sub-systems are not operating correctly the system may not be available.
- Low battery voltage is a condition which will prevent the system from operating. Please make sure the battery is correctly charged if the system is not available.
- You may need to drive your vehicle straight forward above 25 mph (40 km/h) before the system is available again.
- If the message still displays take your vehicle to an authorized dealer for service.

Sticker lost:

- If the system cannot initially find the sticker, it may be necessary for you to change the lighting conditions by moving the vehicle and trailer or waiting until conditions change.
- Check for the following if you receive the lost sticker message while using the system.
- Stop your vehicle as soon as the message displays.
- Make sure the sticker is visible and the pattern is discernable in the rear view camera image.

- Clean the sticker and camera to make sure they are unobstructed.
- Clean the lens with a soft, lint-free cloth and water.
- Clean the sticker with isopropyl rubbing alcohol sprayed directly onto the sticker, and then wipe clean with a soft cloth.
- Remove any items that may be blocking the view of the sticker. Depending on your trailer configuration and any equipment mounted to your trailer it is possible for the sticker to be blocked from view of the camera as it rotates on the hitch ball but not be blocked during setup. Remove the obstruction if possible. It will be necessary to remove the sticker from it's current location if the obstruction cannot be cleared and place a new sticker that will be visible to the camera in all positions of the trailer behind your vehicle.
- Placing the sticker on a surface angled away from the vehicle reduces performance. Use a drawbar that positions the trailer level to the ground when attached to vehicle. This typically provides a level surface to mount the sticker. Place the sticker on a bracket or other object when no level surface is available.
- Make sure the entire sticker is on a flat surface that is completely visible to the camera. Do not fold the sticker over an edge on the trailer frame. This can degrade performance.
- Shadows on the sticker may effect tracking performance under some lighting conditions. Moving the sticker to another location within the allowed placement area may improve performance. Use the change sticker option in your Towing menu if you move the sticker.
- You can change your sticker location by going into the Towing menu, selecting trailer options, selecting change trailer settings and then selecting the change sticker option. The previous sticker must be removed. **ONLY ONE STICKER SHOULD BE PLACED ON THE TRAILER FOR CORRECT SYSTEM FUNCTION.**
- The camera system uses the entered measurements to help locate the sticker. Inaccurate measurements will reduce the system's ability to locate the sticker. Check the measurements entered into the system are correct. Refer to the step 4 of Pro trailer backup Assist setup for instructions on measurements.
- You can change your measurement by going into the Towing menu, selecting trailer options, selecting change trailer setting and then selecting the change sticker option. Disregard the prompt to remove this sticker and continue to the next step if you only plan to update the measurements for the current sticker location.

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System will not backup straight:

- Factors such as the drawbar connection to the hitch receiver, road camber, road grade and compliance in the trailer suspension can influence how straight the system is able to back your trailer when the knob is not turned. You can compensate for the trailer drifting to the right or left by slowly turning the Pro Trailer Backup Assist knob until the trailer is following your desired path and then holding the knob in that position. If you would like to recalibrate the system for straight backing, you can do so with the following procedure.
- Go into the Towing menu, select trailer options, select change trailer setting and then select the change sticker option. Your saved measurements will be displayed. Do not change them but continue to confirm measurements. Once you confirm the measurements, the system will then prompt you to perform the calibration procedure.

System consistently shows Stop Now Max trailer angle reached warning:

- The system uses your measurements to determine sticker position and establish system limits. Accurate sticker placement and trailer measurements will provide the best system performance. If you are consistently receiving this warning it is likely there is an issue with sticker placement or the entered measurements. Make sure that the sticker is placed correctly based on steps 3 and the measurements were made correctly according to Step 4. The troubleshooting guide for trailer measurements can also be reviewed for help in making measurements.
- To change sticker location or change trailer measurements, go into the Towing menu, select trailer options, select change trailer setting and then select the change sticker option.
- If the sticker location needs to be changed, the previous sticker must be removed and a new sticker needs to be placed on the trailer. **ONLY ONE STICKER SHOULD BE PLACED ON THE TRAILER FOR PROPER SYSTEM FUNCTION.**
- Disregard the prompt to remove this sticker and continue to the next step if you only plan to update the measurements for the current sticker location.

System consistently shows Stop now take control of steering warning:

- The system displays this warning when it can no longer steer the vehicle and you must take over steering. There are four reasons why this warning displays and additional information regarding the reason for the warning is available on the center display.
- The steering wheel is touched while the system is controlling it. Avoid touching the wheel during system operation.
- The maximum speed for feature operation is exceeded. System performance is optimized at slower speeds. Backup slowly.

- The sticker was lost by the camera system. Once your vehicle is stopped additional warnings will indicate the sticker was lost. Refer to sticker lost trouble shooting tips.
- An internal condition for system operation was not met which requires your vehicle return to manual control of the steering.

Note: *The system is designed to be used with the same trailer connection every time the trailer is chosen from the selection menu. Using a different drawbar or a different pin hole (on drawbars with more than one) when connecting the drawbar to your vehicle will affect the trailer measurements. Take the measurements again and update if required.*

TRAILER SWAY CONTROL (If Equipped)

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 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.*

This feature applies your vehicle brakes at individual wheels and, if necessary, reduces engine power. If the trailer begins to sway, the stability control light flashes and the message **TRAILER SWAY REDUCE SPEED** appears in the information display. The first thing to do is slow your vehicle down, then pull safely to the side of the road and check for proper tongue load and trailer load distribution. See **Load Carrying** (page 248).

RECOMMENDED TOWING WEIGHTS

Note: *Do not exceed a trailer weight of 5,100 lb (2,313 kg) when towing with, or by, bumper only.*

Note: *For vehicles equipped with a 3.5 L TiVCT engine without a Heavy Duty Trailer Towing Package, do not exceed a trailer weight of 5,100 lb (2,313 kg).*

Note: *Make sure to take into consideration trailer frontal area. Vehicles not equipped with the Trailer Tow Package or the Heavy Duty Payload Package should not exceed 36.6 feet^2 (3.4 meters^2) trailer frontal area. Vehicles equipped with the Trailer Tow Package or the Heavy Duty Payload Package should not exceed 60 feet^2 (5.6 meters^2) trailer frontal area.*

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Note: *Exceeding this limitation may significantly reduce the performance of your towing vehicle. Selecting a trailer with a low aerodynamic drag and rounded front design helps optimize performance and fuel economy.*

Note: *For high altitude operation, reduce the gross combined weight by 2% per 1,000 ft (305 m) starting at the 1,000 ft (305 m) elevation point.*

Note: *Certain states require electric trailer brakes for trailers over a specified weight. Be sure to check state regulations for this specified weight. The maximum trailer weights listed may be limited to this specified weight, as your vehicle's electrical system may not include the wiring connector needed to use electric trailer brakes.*

Your vehicle may tow a trailer provided the maximum trailer weight is less than or equal to the maximum trailer weight listed for your vehicle configuration on the following charts.

Driveline – 4x2[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
Regular cab – 122	3.5L TiVCT	3.55	9400 lb (4264 kg)[4]
		3.73	12000 lb (5443 kg)
	2.7L GTDI	3.15, 3.31	12200 lb (5533 kg)
		3.73	13100 lb (5942 kg)
	5.0L TiVCT	3.31	13000 lb (5897 kg)
		3.55	13800 lb (6260 kg)
Regular cab – 141	3.5L TiVCT	3.55	9500 lb (4309 kg)[4]
		3.73	12100 lb (5488 kg)

Driveline – 4x2[1]			
Cab – wheel-base (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
	2.7L GTDI	3.15, 3.31	12300 lb (5579 kg)
		3.73	13100 lb (5942 kg)
		3.73	13300 lb (6032 kg)[5]
	5.0L TiVCT	3.31	13900 lb (6305 kg)
		3.55	14900 lb (6758 kg)
		3.73	16000 lb (7257 kg)[6]
	3.5L GTDI	3.15	15500 lb (7030 kg)
		3.55	17100 lb (7756 kg)[7]
		3.73	17100 lb (7756 kg)[6,7]
Super Cab – 145	3.5L TiVCT	3.55	9800 lb (4445 kg)[4]
		3.73	12200 lb (5534 kg)
	2.7L GTDI	3.15, 3.31	12500 lb (5670 kg)
		3.73	13100 lb (5942 kg)
		3.73	13300 lb (6032 kg)[5]
	5.0L TiVCT	3.31	13000 lb (5897 kg)[8]

Driveline – 4x2[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
			14200 lb (6441 kg)
		3.55	14000 lb (6350 kg)[8]
			15200 lb (6895 kg)
	3.5L GTDI	3.15	15800 lb (7167 kg)
		3.55	17100 lb (7756 kg)[7]
Super Cab – 163	2.7L GTDI	3.15, 3.31	12600 lb (5715 kg)
		3.73	13100 lb (5942 kg)
		3.73	13300 lb (6032 kg)[5]
	5.0L TiVCT	3.31	14300 lb (6486 kg)
		3.55	15300 lb (6940 kg)
		3.73	16200 lb (7348 kg)[6]
	3.5L GTDI	3.15	15900 lb (7212 kg)
		3.55	17100 lb (7756 kg)[7]
		3.73	17100 lb (7756 kg)[6,7]
Crew cab – 145	3.5L TiVCT	3.55	9900 lb (4491 kg)
		3.73	12200 lb (5534 kg)[3]

Driveline – 4x2[1]			
Cab – wheel-base (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
	2.7L GTDI	3.15, 3.31	12600 lb (5715 kg)
		3.73	13100 lb (5942 kg)
		3.73	13300 lb (6032 kg)[5]
	5.0L TiVCT	3.31	13000 lb (5897 kg)[8]
			14200 lb (6441 kg)
		3.55	14000 lb (6350 kg)[8]
			15200 lb (6895 kg)
	3.5L GTDI	3.15	15800 lb (7167 kg)
		3.55	17000 lb (7711 kg)[7]
Crew cab – 157	2.7L GTDI	3.15, 3.31	12600 lb (5715 kg)
		3.73	13100 lb (5942 kg)
		3.73	13300 lb (6032 kg)[5]
	5.0L TiVCT	3.31	13000 lb (5897 kg)[8]
			14200 lb (6441 kg)
		3.55	14000 lb (6350 kg)[8]
			15200 lb (6895 kg)

Driveline – 4x2[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.73	16200 lb (7348 kg)[6]
	3.5L GTDI	3.15	15900 lb (7212 kg)
		3.55	17100 lb (7756 kg)[7]
		3.73	17100 lb (7756 kg)[6,7]

[1]For vehicles equipped with a 3.5 L TiVCT engine without a Heavy Duty or MAX Trailer Towing Package, do not exceed a trailer weight of 5,100 lb (2,313 kg).

[2]Calculated with SAE J2807 method.

[3]Heavy Duty Trailer Tow Payload Package (unless stated otherwise).

[4]Medium Duty Trailer Tow package – 5100 pound (2313 kilogram) maximum trailer weight.

[5]2.7L EcoBoost Payload Package.

[6]Heavy Duty Payload Package.

[7]MAX Trailer Tow Payload Package.

[8]Special Edition package.

Driveline – 4x4[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
Regular cab – 122	3.5L TiVCT	3.55	9700 lb (4400 kg)
		3.73	12200 lb (5534 kg)[3]
	2.7L GTDI	3.55	12500 lb (5670 kg)
		3.73	13300 lb (6032 kg)
	5.0L TiVCT	3.31, 3.55	13200 lb (5987 kg)
		3.73	14600 lb (6622 kg)
Regular cab – 141	3.5L TiVCT	3.73	12200 lb (5534 kg)
	2.7L GTDI	3.55	12500 lb (5670 kg)
		3.73	13300 lb (6032 kg)
		3.73	13300 lb (6032 kg)[4]
	5.0L TiVCT	3.31, 3.55	14100 lb (6396 kg)
		3.73	16200 lb (7348 kg)
		3.73	16100 lb (7303 kg)[5,8]
			16200 lb (7348 kg)[5,9]
	3.5L GTDI	3.31, 3.55	15800 lb (7167 kg)

Driveline – 4x4[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.55	17100 lb (7756 kg)[6]
		3.73	17000 lb (7711 kg)[5,6,8]
			17100 lb (7756 kg)[5,6,9]
Super Cab – 145	3.5L TiVCT	3.73	12200 lb (5534 kg)
	2.7L GTDI	3.55	12700 lb (5761 kg)
		3.73	13300 lb (6032 kg)
		3.73	13300 lb (6032 kg)[4]
	5.0L TiVCT	3.31	13000 lb (5897 kg)[7]
			14300 lb (6486 kg)
		3.55	14000 lb (6350 kg)[7]
			14400 lb (6532 kg)
		3.73	15000 lb (6804 kg)[7]
			16200 lb (7348 kg)
	3.5L GTDI	3.31, 3.55	16000 lb (7167 kg)

Driveline – 4x4[1]			
Cab – wheel-base (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.55	17100 lb (7756 kg)[6]
Super Cab – 163	5.0L TiVCT	3.31	14300 lb (6486 kg)
		3.55	14500 lb (6577 kg)
		3.73	16200 lb (7348 kg)
		3.73	16200 lb (7348 kg)[5]
	3.5L GTDI	3.31, 3.55	16200 lb (7348 kg)
		3.55	17100 lb (7756 kg)[6]
		3.73	17100 lb (7756 kg)[5, 6]
Crew cab – 145	3.5L TiVCT	3.73	12200 lb (5534 kg)
	2.7L GTDI	3.55	12800 lb (5806 kg)
		3.73	13300 lb (6033 kg)
		3.73	13300 lb (6033 kg)[4]
	5.0L TiVCT	3.31	13000 lb (5897 kg)[7]
			14300 lb (6486 kg)

Driveline – 4x4[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.55	14000 lb (6350 kg)[7]
			14400 lb (6532 kg)
		3.73	16200 lb (7348 kg)
			15000 lb (6804 kg)[7]
	3.5L GTDI	3.31, 3.55	16100 lb (7303 kg)
		3.55	16700 lb (7666 kg)[10]
			16900 lb (7666 kg)[6]
Crew cab – 157	5.0L TiVCT	3.31	13000 lb (5897 kg)[7]
			14300 lb (6486 kg)
		3.55	14000 lb (6350 kg)[7]
			14500 lb (6577 kg)
		3.73	15000 lb (6804 kg)[7]
			16200 lb (7348 kg)

Driveline – 4x4[1]			
Cab – wheel-base (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.73	14000 lb (6350 kg)[7]
			16200 lb (7348 kg)
			16200 lb (7348 kg)[5]
	3.5L GTDI	3.31, 3.55	16100 lb (7303 kg)
		3.55	16700 lb (7303 kg)

Driveline – 4x4[1]			
Cab – wheelbase (inches)	**Engine**	**Axle ratio**	**Maximum GCWR[2,3]**
		3.73	17000 lb (7756 kg)[5,6,8]
			17100 lb (7756 kg)[5,6,9]

[1]For vehicles equipped with a 3.5 L TiVCT engine without a Heavy Duty or MAX Trailer Towing Package, do not exceed a trailer weight of 5,100 lb (2,313 kg).

[2]Calculated with SAE J2807 method.

[3]Heavy Duty Trailer Tow Payload Package (unless stated otherwise).

[4]2.7L EcoBoost Payload Package.

[5]Heavy Duty Payload Package.

[6]MAX Trailer Tow Payload Package.

[7]Special Edition package.

[8]17 inch wheels.

[9]18 inch wheels.

[10]Limited.

Calculating the Maximum Loaded Trailer Weight for Your Vehicle

1. Start with the gross combined weight rating for your vehicle model and axle ratio. See the previous charts.
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(s) 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.*

ESSENTIAL TOWING CHECKS

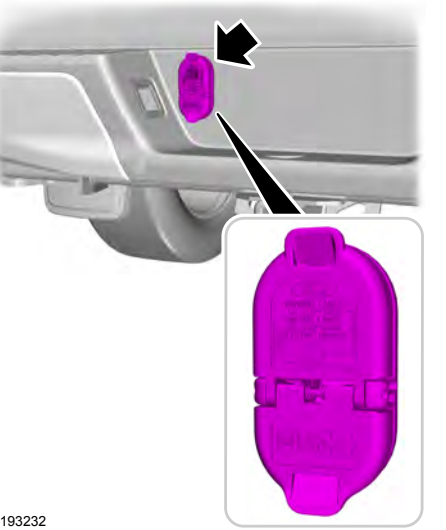
Follow these guidelines for safe towing:

- Do not tow a trailer until you drive your vehicle at least 1000 miles (1600 kilometers).
- 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 your scheduled maintenance information.
- If you use a rental trailer, follow the instructions the rental agency gives you.

See **Load limits** in the Load Carrying chapter for load specification terms found on the tire label and Safety Compliance label and instructions on calculating your vehicle's load.

Remember to account for the trailer tongue weight as part of your vehicle load when calculating the total vehicle weight.

Trailer Towing Connector



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When attaching the trailer wiring connector to your vehicle, only use a proper fitting connector that works with the vehicle and trailer functions. Some seven-position connectors may have the SAE J2863 logo, which confirms that it is the proper wiring connector and works correctly with your vehicle.

Color	Function
Yellow	Left turn signal and stop lamp
White	Ground (-)
Blue	Electric brakes
Green	Right turn signal and stop lamp

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Color	Function
Orange	Battery (+)*
Brown	Running lights
Grey	Reverse lights

*Your vehicle must recognize the trailer before the trailer can receive power.

Recognizing a Trailer

1. Attach the trailer and wiring connector to your vehicle.
2. Switch on your vehicle.
3. Press the brake pedal for a few seconds.

A confirmation message appears in the information display. See **Information Messages** (page 125).

Hitches

Do not use a hitch that either clamps onto the bumper or attaches to the axle. You must distribute the load in your trailer so that 10-15% of the total weight of the trailer is on the tongue.

Weight-distributing Hitches

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.

When hooking-up a trailer using a weight-distributing hitch, always use the following procedure:

1. Park the loaded vehicle, without the trailer, on a level surface.
2. Measure the height to the top of your vehicle's front wheel opening on the fender. This is H1.
3. Attach the loaded trailer to your vehicle without the weight-distributing bars connected.
4. Measure the height to the top of your vehicle's front wheel opening on the fender a second time. This is H2.
5. Install and adjust the tension in the weight-distributing bars so that the height of your vehicle's front wheel opening on the fender is approximately a quarter the way down from H2, toward H1.
6. Check that the trailer is level or slightly nose down toward your vehicle. If not, adjust the ball height accordingly and repeat Steps 2-6.

Once the trailer is level or slightly nose down toward the vehicle:

- Lock the bar tension adjuster in place.
- Check that the trailer tongue securely attaches and locks onto the hitch.
- Install safety chains, lighting, and trailer brake controls as required by law or the trailer manufacturer.

Safety Chains

Note: *Do not attach safety chains to the bumper.*

Always connect the safety chains to the frame or hook retainers of your vehicle hitch.

To connect the safety chains, cross the chains under the trailer tongue and allow enough slack for turning tight corners. Do not allow the chains to drag on the ground.

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Trailer Brakes

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.

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.

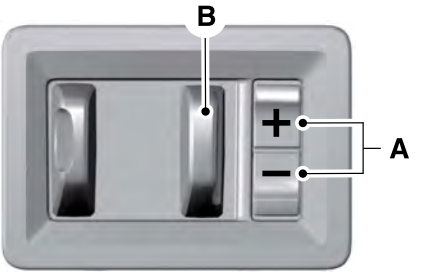
The rating for the tow vehicle's braking system operation is at the gross vehicle weight rating, not the gross combined weight rating.

Separate functioning brake systems are required for safe control of towed vehicles and trailers weighing more than 1500 pounds (680 kilograms) when loaded.

Integrated Trailer Brake Controller (If Equipped)

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.



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When used properly, the trailer brake controller assists in smooth and effective trailer braking by powering the trailer's electric or electric-over-hydraulic brakes with a proportional output based on the towing vehicle's brake pressure.

You can adjust the level of initial trailer brake output by selecting one of three settings using the information display. Choose Low, Medium or High for the initial trailer brake output you require. See **Information Displays** (page 109).

The controller user interface consists of the following:

A: + and - (Gain adjustment buttons): Pressing these buttons adjusts the controller's power output to the trailer brakes in 0.5 increments. You can increase the gain setting to 10.0 (maximum trailer braking) or decrease it to 0 (no trailer braking). The gain setting displays in the message center.

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The controller shows gain setting, output bar graph, and trailer connectivity status in the information display. They appear in the information display as follows:

- Trailer Brake Controller Gain (without trailer connected): Shows the current gain setting during a given ignition cycle and when adjusting the gain. This also displays if you use the manual control lever or make gain adjustments with no trailer connected.
- Trailer Brake Controller Gain Output: Displays when you push your vehicle's brake pedal, or upon use of the manual control. Bar indicators illuminate in the information display to indicate the amount of power going to the trailer brakes relative to the brake pedal or manual control input. One bar indicates the least amount of output; six bars indicate maximum output.
- Trailer Connected: Displays when the system senses a correct trailer wiring connection (a trailer with electric trailer brakes) during a given ignition cycle.
- Trailer Disconnected: Displays, accompanied by a single audible time, when the system senses a trailer connection and then a disconnection, either intentional or unintentional, during a given ignition cycle. It also displays if a truck or trailer-wiring fault occurs causing the trailer to appear disconnected. This message can also display if you use the manual control lever without a trailer connected. After disconnecting the trailer connector, press the brake pedal for approximately five seconds to allow the system to detect and update the trailer status.

B: Manual control lever: Slide the control lever to the left to turn on the trailer's electric brakes independent of the tow vehicle's. See the following **Procedure for adjusting gain** section for instructions on proper use of this feature. If you use the manual control while the brake is also applied, the greater of the two inputs determines the power sent to the trailer brakes.

- **Stop lamps:** Using the manual control lever illuminates both the trailer brake lamps and your vehicle brake lamps except the center high-mount stop lamp, if you make the proper electrical connection to the trailer. Pressing your vehicle brake pedal also illuminates both trailer and vehicle brake lamps.

Procedure for Setting Trailer Brake Controller Mode

Select the correct option using the information display. Choose electric for trailers with electromagnetic drum brakes or EOH for trailers with electric over hydraulic brake systems. See **Information Displays** (page 109).

Trailer Brake Effort Setting

The trailer brake controller allows the user to customize how aggressively the trailer brakes engage. The default value is "Low" and is the recommended setting for most trailers. If your trailer's brakes require more initial voltage, or if you prefer more aggressive trailer braking, then select either the "Medium" or the "High" setting.

Procedure for Adjusting Gain

Note: *Only perform this procedure in a traffic-free environment at speeds of approximately 20-25 mph (30-40 km/h).*

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The gain setting sets the trailer brake controller for the specific towing condition. You should change the setting as towing conditions change. Changes to towing conditions include trailer load, vehicle load, road conditions and weather.

The gain should be set 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.

1. Make sure the trailer brakes are in good working condition, functioning normally and properly adjusted. See your trailer dealer if necessary.
2. Hook up the trailer and make the electrical connections according to the trailer manufacturer's instructions.
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 (+ and -) buttons to increase or decrease the gain setting to the desired starting point. A gain setting of 6.0 is a good starting point for heavier loads.
5. In a traffic-free environment, tow the trailer on a dry, level surface at a speed of 20-25 mph (30-40 km/h) and squeeze the manual control lever completely.
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.

Explanation of Information Display Warning Messages

Note: *An authorized dealer can diagnose the trailer brake controller to determine exactly which trailer fault has occurred. However, your Ford warranty does not cover this diagnosis if the fault is with the trailer.*

A message indicating a trailer brake module fault may display in response to faults sensed by the trailer brake controller, accompanied by a single tone. If this message appears, contact an authorized dealer as soon as possible for diagnosis and repair. The controller may still function, but performance may be degraded.

A message indicating a trailer wiring fault may display when there is a short circuit on the electric brake output wire. If this message displays, accompanied by a single tone, with no trailer connected, the problem is with your vehicle wiring between the trailer brake controller and the 7-pin connector at the bumper. If the message only displays with a trailer connected, the problem is with the trailer wiring. Consult your trailer dealer for assistance. This can be a short to ground (such as a chaffed wire), short to voltage (such as a pulled pin on trailer emergency breakaway battery) or the trailer brakes may be drawing too much current.

Points to Remember

Note: *Do not attempt removal of the trailer brake controller without consulting the Workshop Manual. Damage to the unit may result.*

- Adjust gain setting before using the trailer brake controller for the first time.
- Adjust gain setting, using the procedure above, whenever road, weather and trailer or vehicle loading conditions change from when the gain was initially set.

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- 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 equipped with a feature that reduces output at vehicle speeds below 11 mph (18 km/h) so 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.
- The controller interacts with the brake control system and powertrain control system of your vehicle to provide the best performance on different road conditions.
- 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.
- When you switch the engine off, the controller output is disabled and the display and module shut down. The controller module and display turn on when you switch the ignition on.
- 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.

Trailer Lamps

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 lamps are required on most towed vehicles. Make sure all running lights, brake lights, turn signals and hazard lights are working.

Using a Step Bumper (If Equipped)

The rear bumper is equipped with an integral hitch and only requires a ball with a one-inch (25.4 millimeter) shank diameter. The bumper has a 5000-pound (2268 kilogram) trailer weight and a 500-pound (227 kilogram) tongue weight capacity.

If it is necessary to relocate the hitch ball position, you must install a frame-mounted trailer hitch.

Before Towing a Trailer

Practice turning, stopping and backing up to get the feel of your vehicle-trailer combination before starting on a trip. When turning, make wider turns so the trailer wheels clear curbs and other obstacles.

When Towing a Trailer

- Do not drive faster than 70 mph (113 km/h) during the first 500 miles (800 kilometers).
- Do not make full-throttle starts.

- Check your hitch, electrical connections and trailer wheel lug nuts thoroughly after you have traveled 50 miles (80 kilometers).
- When stopped in congested or heavy traffic during hot weather, place the gearshift in position **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 automatically when you are towing on long, steep grades.
- Shift to a lower gear when driving down a long or steep hill. Do not apply the brakes continuously, as they may overheat and become less effective.
- If your transmission is equipped with a Grade Assist or Tow/Haul feature, 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 is equipped with AdvanceTrac with RSC, this system may turn on during typical cornering maneuvers with a heavily loaded trailer. This is normal. Turning the corner at a slower speed while towing may reduce this tendency.
- If you are towing a trailer frequently in hot weather, hilly conditions, at the gross combined weight rating (or any combination of these factors), consider refilling your rear axle with synthetic gear lubricant (if the axle is not already filled with it). See **Capacities and Specifications** (page 384).
- Allow more distance for stopping with a trailer attached. Anticipate stops and brake gradually.
- Avoid parking on a grade. However, if you must park on a grade:

1. Turn the steering wheel to point your vehicle tires away from traffic flow.
2. Set your vehicle parking brake.
3. Place the automatic transmission in position **P**.
4. Place wheel chocks in front and back of the trailer wheels. (Chocks not included with vehicle.)

Your vehicle may be equipped with a temporary or conventional spare tire. A "temporary" spare tire is different in size (diameter or width), tread-type (All-Season or All Terrain) 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.

Launching or Retrieving a Boat or Personal Watercraft (PWC)

Note: *Disconnect the wiring to the trailer **before** backing the trailer into the water.*

Note: *Reconnect the wiring to the trailer **after** removing the trailer from the water.*

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 inches (15 centimeters) above the bottom edge of the rear bumper.

Exceeding these limits may allow water to enter vehicle components:

- Causing internal damage to the components.
- Affecting driveability, emissions, and reliability.

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Replace the rear axle lubricant anytime the rear axle has been submerged in water. Water may have contaminated the rear axle lubricant, which is not normally checked or changed unless a leak is suspected or other axle repair is required.

TOWING THE VEHICLE ON FOUR WHEELS

WARNING

If your vehicle has a steering wheel lock make sure the ignition is in the accessory or on position when being towed.

Emergency Towing

If your vehicle becomes inoperable (without access to wheel dollies, car-hauling trailer, or flatbed transport vehicle), it can be flat-towed (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.
- Place the transmission in position **N**. If you cannot move the transmission into **N**, you may need to override it. See **Transmission** (page 186).
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

Recreational Towing

Note: *Put your climate control system in recirculated air mode to prevent exhaust fumes from entering your vehicle. See **Climate Control** (page 140).*

Follow these guidelines if you have a need for recreational towing, such as towing your vehicle behind a motorhome. We designed these guidelines to prevent damage to your transmission.

Two-wheel Drive Vehicles

You cannot tow a two-wheel drive vehicle with any wheels on the ground as vehicle or transmission damage may occur. You must tow your vehicle with all four wheels off the ground, such as when using a car-hauling trailer.

Four-wheel Drive Vehicles

You can only tow a four-wheel drive vehicle with all wheels on the ground by placing the transfer case in its neutral position and engaging the four-wheel-down towing feature. Perform the steps outlined in the following section after positioning your vehicle behind the tow vehicle and properly securing them together.

Note: *Make sure you properly secure your vehicle to the tow vehicle.*

Four-wheel-down Towing

1. Put the ignition in the on position, but do not start the engine. If your vehicle has an ignition key, turn the key to on. If your vehicle has intelligent access, press the engine **START/STOP** button once without pressing the brake pedal.
2. Press and hold the brake pedal.
3. Rotate the four-wheel drive switch to **2H**.
4. Shift the transmission to position **N**.
5. Rotate the four-wheel drive switch from **2H** to **4L** and back to **2H** five times within seven seconds.

Note: *If completed successfully, the information display shows **NEUTRAL TOW LEAVE IN N** or **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 the message in the display, you must perform the procedure again from the beginning.*

Note: *You may hear an audible noise as the transfer case shifts into its neutral position. This is normal.*

6. Leave the transmission in position **N** and turn the ignition as far as it will go toward the off position (it will not turn fully off when the transmission is in position **N**). If your vehicle has an ignition key, you must leave the key in the ignition while towing. To lock and unlock your vehicle, use the keyless entry keypad or extra set of keys. If your vehicle has intelligent access, press the engine **START/STOP** button once without pressing the brake pedal. You do not need to leave your keys in the vehicle. You can lock and unlock your vehicle as you normally do.
7. Release the brake pedal.

WARNINGS

Do not disconnect the battery during recreational towing. Doing so will prevent the transfer case from shifting properly and may cause the vehicle to roll even if the transmission is in P (Park).

Shifting the transfer case to its neutral position for recreational towing may cause the vehicle to be able to roll even if the transmission is in P (Park). The driver or others could be injured. Make sure the foot brake is depressed and the vehicle is in a secure and safe position while the transfer case is being shifted to its neutral position.

Failing to put the transfer case in its neutral position will damage vehicle components.

Note: *You can check four-wheel-down towing status at any time by opening the driver's door or turning the ignition to the accessory or on position and verifying the **NEUTRAL TOW ENABLED** message displays in the cluster.*

To exit four-wheel-down towing and return the transfer case to its **2H** position:

1. With your vehicle still properly secured to the tow vehicle, put the ignition in the on position, but do not start the engine. If your vehicle has an ignition key, turn the key to on. If your vehicle has intelligent access, press the engine **START/STOP** button once without pressing the brake pedal.
2. Press and hold the brake pedal.
3. Shift the transmission out of **N** and into any gear.
4. Release the brake pedal.

Note: *If completed successfully, the instrument cluster displays **4X2**, and **NEUTRAL TOW DISABLED**.*

Note: *If the indicator light and message do not display, you must perform the procedure again from the beginning.*

Note: *You may hear an audible noise as the transfer case shifts out of its neutral position. This is normal.*

Note: *If **SHIFT DELAY PULL FORWARD** displays in the instrument cluster, transfer case gear tooth blockage is present. See the instructions after this section.*

5. Apply the parking brake, and then disconnect the vehicle from the tow vehicle.
6. Release the parking brake, start the engine, and shift the transmission to position **D** to make sure the transfer case is out of position **N**.
7. If the transfer case does not successfully shift out of position **N**, set the parking brake until you can have your vehicle serviced.

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Resolving the SHIFT DELAY PULL FORWARD Message

If the instrument cluster displays **SHIFT DELAY PULL FORWARD** perform the following:

1. Press and hold the brake pedal.
2. Put the transmission into position **N**, and then start the engine.
3. With the engine running, shift the transmission to position **D** and let the vehicle roll forward, up to 3 feet (1 meter). You may hear an audible noise as the transfer case shifts out of its neutral position. This is normal.
4. Make sure the instrument cluster displays **NEUTRAL TOW DISABLED**.

BREAKING-IN

You need to break in new tires for approximately 300 mi (480 km). During this time, your vehicle may exhibit some unusual driving characteristics.

Avoid driving too fast during the first 1,000 mi (1,600 km). Vary your speed frequently and change up through the gears early. Do not labor the engine.

Do not tow during the first 1,000 mi (1,600 km).

ECONOMICAL DRIVING

Your fuel economy is affected by several things, such as how you drive, the conditions you drive under, and how you maintain your vehicle.

You may improve your fuel economy by keeping these things in mind:

- Accelerate and slow down in a smooth, moderate fashion.
- Drive at steady speeds without stopping.
- Anticipate stops; slowing down may eliminate the need to stop.
- Combine errands and minimize stop-and-go driving.
- Close the windows for high-speed driving.
- Drive at reasonable speeds (traveling at 55 mph [88 km/h] uses 15% less fuel than traveling at 65 mph [105 km/h]).
- Keep the tires properly inflated and use only the recommended size.
- Use the recommended engine oil.
- Perform all regularly scheduled maintenance.

Avoid these actions; they reduce your fuel economy:

- Sudden accelerations or hard accelerations.
- Revving the engine before turning it off.
- Idle for periods longer than one minute.
- Warm up your vehicle on cold mornings.
- Use the air conditioner or front defroster.
- Use the speed control in hilly terrain.
- Rest your foot on the brake pedal while driving.
- Drive a heavily loaded vehicle or tow a trailer.
- Carry unnecessary weight (approximately 1 mpg [0.4 km/L] is lost for every 400 lb [180 kilogram] of weight carried).
- Driving with the wheels out of alignment.

Conditions

- Heavily loading a vehicle or towing a trailer may reduce fuel economy at any speed.
- Adding certain accessories to your vehicle (for example bug deflectors, rollbars, light bars, running boards, ski racks or luggage racks) may reduce fuel economy.
- To maximize the fuel economy, drive with the tonneau cover installed (if equipped).
- Using fuel blended with alcohol may lower fuel economy.
- Fuel economy may decrease with lower temperatures during the first 8–10 miles (12–16 kilometers) of driving.
- Driving on flat terrain offers improved fuel economy as compared to driving on hilly terrain.

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- Transmissions give their best fuel economy when operated in the top cruise gear and with steady pressure on the gas pedal.
- Four-wheel-drive operation (if equipped) is less fuel efficient than two-wheel-drive operation.
- Close the windows for high-speed driving.

DRIVING THROUGH WATER

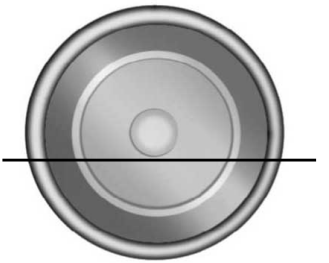
WARNING

Do not drive through flowing or deep water as you may lose control of your vehicle.

Note: *Driving through standing water can cause vehicle damage.*

Note: *Engine damage can occur if water enters the air filter.*

Before driving through standing water, check the depth. Never drive through water that is higher than the bottom of the wheel hubs.



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When driving through standing water, drive very slowly and do not stop your vehicle. Your brake performance and traction may be limited. After driving through water and as soon as it is safe to do so:

- Lightly press the brake pedal to dry the brakes and to check that they work.
- Check that the horn works.
- Check that the exterior lights work.
- Turn the steering wheel to check that the steering power assist works.

FLOOR MATS

WARNINGS

Always use floor mats that are designed to fit the foot well of your vehicle. Only use floor mats that leave the pedal area unobstructed. Only use floor mats that are firmly secured to retention posts so that they cannot slip out of position and interfere with the pedals or impair safe operation of your vehicle in other ways.

Pedals that cannot move freely can cause loss of vehicle control and increase the risk of serious personal injury.

Always make sure that the floor mats are properly attached to the retention posts in the carpet that are supplied with your vehicle. Floor mats must be properly secured to both retention posts to make sure mats do not shift out of position.

Never place floor mats or any other covering in the vehicle foot well that cannot be properly secured to prevent them from moving and interfering with the pedals or the ability to control the vehicle.

Never place floor mats or any other covering on top of already installed floor mats. Floor mats should always rest on top of vehicle carpeting surface and not another floor mat or other covering. Additional floor mats or any other covering will reduce the pedal clearance and potentially interfere with pedal operation.

WARNINGS

Check attachment of floor mats on a regular basis. Always properly reinstall and secure floor mats that have been removed for cleaning or replacement.

Always make sure that objects cannot fall into the driver foot well while the vehicle is moving. Objects that are loose can become trapped under the pedals causing a loss of vehicle control.

Failure to properly follow floor mat installation or attachment instructions can potentially cause interference with pedal operation causing a loss of vehicle control.


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To install floor mats, position the floor mat so that the eyelet is over the retention post and press down to lock in.

To remove the floor mat, reverse the installation procedure.

SNOWPLOWING

We recommend the four-wheel drive F-150 in XL, XLT or Lariat trim levels with the 5.0L engine and snowplow option for residential snowplowing only. We do not recommend the F-150 with the automatic four-wheel drive system for snowplowing.

Do not use F-150 vehicles equipped with the 2.7L, 3.3L or 3.5L engines for snowplowing.

Installing the Snowplow

Weight limits and guidelines for selecting and installing the snowplow are in the Ford Truck Body Builders Layout Book, snowplow section, found at www.fleet.ford.com/truckbbas.

A typical installation affects the following:

- Certification to government safety laws such as occupant protection and airbag deployment, braking, and lighting. 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).
- The Front Gross Axle Weight Rating (GAWR) is on the upper left side of the vehicle's Safety Compliance Certification Label. This is the total weight that front axle supports, which includes the vehicle weight plus any auxiliary equipment such as snowplow frame-mounted hardware that can be added to the vehicle and satisfy Ford compliance certification to FMVSS. Do not exceed FGAWR or Gross Vehicle Weight Rating (GVWR).
- Rear ballast weight behind the rear axle may be required to prevent exceeding the FGAWR, and provide front-to-rear weight balance for proper braking and steering.
- Front wheel toe may require re-adjustment to prevent premature uneven tire wear. Specifications are in the Ford Workshop Manual.
- Headlight aim may require adjustment.

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- The tire air pressures recommended for general driving are on the vehicle's Safety Certification Label. The maximum cold inflation pressure for the tire and associated load rating are on the tire sidewall. Tire air pressure may require re-adjustment within these pressure limits to accommodate the additional weight of the snowplow installation.
- Federal and some local regulations require additional exterior lamps for snowplow-equipped vehicles. Contact an authorized dealer for additional information.

Snowplow Mode (If Equipped)

Press the snowplow button on the instrument panel to switch on snowplow mode. The button illuminates when in snowplow mode. A message appears in the information display indicating that features are turned off when in snowplow mode.

The following features are disabled when in snowplow mode:

- 110V inverter.
- Fog lamps.
- Heated steering wheel.
- Heated front and rear seats.
- Massaging seats.

The body module also activates the snowplow relay that provides power to aftermarket snowplow controls.

Switch off snowplow mode by pressing the snowplow button or switching off the ignition. The snowplow button is no longer illuminated and features are turned on.

Note: *The electrical system is designed to support the addition of a residential snowplow (up to 60 Amps continuous) and snowplow lights (up to 20 Amps continuous) using snowplow mode. The system is not designed to support snowplow usage with additional electrical aftermarket accessories.*

Operating the Vehicle with the Snowplow Attached

Note: *Drive the vehicle at least 500 mi (800 km) before using your vehicle for snow removal.*

We recommend vehicle speed does not exceed 45 mph (72 km/h) when snowplowing.

The attached snowplow blade restricts airflow to the radiator, and may cause the engine to run at a higher temperature. Attention to engine temperature is especially important when outside temperatures are above freezing. Angle the blade to maximize airflow to the radiator and monitor engine temperature to determine whether a left or right angle provides the best performance.

Follow the severe duty schedule in your Scheduled Maintenance information for engine oil and transmission fluid change intervals.

Snowplowing with your Airbag Equipped Vehicle

WARNINGS

Do not attempt to service, repair, or modify the airbag supplemental restraint systems or its fuses on a vehicle containing air bags as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.

WARNINGS

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.

Modifying or adding equipment to the front end of your vehicle (including hood, bumper system, frame, front end body structure, tow hooks and hood pins) may affect the performance of the airbag system, increasing the risk of injury. Do not modify or add equipment to the front end of your vehicle.

Note: *Please refer to the Body Builders Layout Book for instructions about the appropriate installation of additional equipment.*

Your vehicle is equipped with 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.

Careless or high speed driving while snowplowing, which results in significant vehicle decelerations, can deploy the airbag. Such driving also increases the risk of accidents.

Never remove or defeat the tripping mechanisms designed into the snow removal equipment by its manufacturer. Doing so may cause damage to the vehicle and the snow removal equipment as well as possible airbag deployment.

Engine Temperature while Plowing

Your engine may run at a higher temperature than normal because the attached snowplow blade restricts airflow to the radiator:

- 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.

Transmission Operation while Plowing

WARNING

Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

- Shift transfer case to **4L** (4WD Low) when plowing in small areas at speeds below 5.0 mph (8 km/h).
- Shift transfer case to **4H** (4WD High) when plowing larger areas or light snow at higher speeds. Do not exceed 15 mph (24 km/h).
- Do not shift the transmission from a forward gear to **R** (Reverse) until the engine is at idle and the wheels have stopped.

Outside Air Temperature While Plowing

While plowing with your vehicle, the plow blade can block the sensor airflow and cause the outside air temperature reading to be inaccurate.

A Ford wiring kit is available to relocate the Outside Air Temperature sensor to the plow blade frame to provide more accurate outside air temperature readings. Contact an authorized dealer for more information.

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ROADSIDE ASSISTANCE

Vehicles Sold in the United States: Getting Roadside Assistance

To fully assist you should 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 listed on the Roadside Assistance Card included in your Owner's Manual portfolio.

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 35 mi (56 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 35 mi (56 km) from the disablement location, the member shall be responsible for any mileage costs in excess of 35 mi (56 km).
- 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

Complete the roadside assistance identification card and place it in your wallet for quick reference. This card is in the owner's information portfolio in the glove compartment.

United States vehicle customers who require Roadside Assistance, call 1-800-241-3673.

If you need to arrange roadside assistance for yourself, Ford Motor Company reimburses a reasonable amount for towing to the nearest dealership within 35 mi (56 km). To obtain reimbursement information, United States vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

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Vehicles Sold in Canada: Getting Roadside Assistance

To fully assist you should 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.

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle.

Canadian customers who require roadside assistance, call 1-800-665-2006.

Vehicles Sold in Canada: Using Roadside Assistance

Complete the roadside assistance identification card and place it in your wallet for quick reference.

In Canada, this card is found in the Warranty Guide in the glove compartment of your vehicle.

Vehicles Sold in Canada: Roadside Assistance Program Coverage

The service is available 24 hours a day, seven days a week.

Canadian roadside coverage and benefits may differ from the U.S. coverage.

If you require more information, please refer to the coverage section of your warranty guide, call us in Canada at 1-800-665-2006, or visit our website at www.ford.ca.

HAZARD FLASHERS

Note: *The hazard flashers operate when the ignition is in any position, or if the key is not in the ignition. If used when the vehicle is not running, the battery loses charge. As a result, there may be insufficient power to restart your vehicle.*



The flasher control is on the instrument panel. Use your hazard flashers when your vehicle is creating a safety hazard for other motorists.

- Press the flasher control and all front and rear direction indicators flash.
- Press the button again to switch them off.

FUEL SHUTOFF

WARNING



Failure to inspect and, if necessary, repair fuel leaks after a collision may increase the risk of fire and serious injury. Ford Motor Company recommends that the fuel system be inspected by an authorized dealer after any collision.

Note: *When you try to restart your vehicle after a fuel shutoff, the vehicle makes sure that various systems are safe to restart. Once the vehicle determines the systems are safe, then the vehicle allows you to restart.*

Note: *In the event that your vehicle does not restart after your third attempt, contact a qualified technician.*

The fuel pump shutoff stops the flow of fuel to the engine in the event of a moderate to severe crash. Not every impact causes a shutoff.

Should your vehicle shut off after a crash, you may restart your vehicle.

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If your vehicle is equipped with a key system:

1. Switch off the vehicle.
2. Switch on the vehicle.
3. Repeat steps 1 and 2 to re-enable the fuel pump.

If your vehicle is equipped with a push button start system:

1. Press the ***START/STOP*** button to switch off your vehicle.
2. Press the brake pedal and the ***START/STOP*** button to switch on your vehicle.
3. Remove your foot from the brake pedal and press the ***START/STOP*** button to switch off your vehicle.
4. You can attempt to start the vehicle by pressing the brake pedal and the ***START/STOP*** button, or press the ***START/STOP*** button without pressing the brake pedal.

JUMP STARTING THE VEHICLE

WARNINGS

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.

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.

WARNINGS

Use only adequately sized cables with insulated clamps.

Preparing Your Vehicle

Do not attempt to push-start your automatic transmission vehicle.

Note: *Attempting to push-start a vehicle with an automatic transmission may cause transmission damage.*

Note: *Use only a 12-volt supply to start your vehicle.*

Note: *Do not disconnect the battery of the disabled vehicle as this could damage the vehicle electrical system.*

Park the booster vehicle close to the hood of the disabled vehicle, making sure the two vehicles do not touch.

Connecting the Jumper Cables

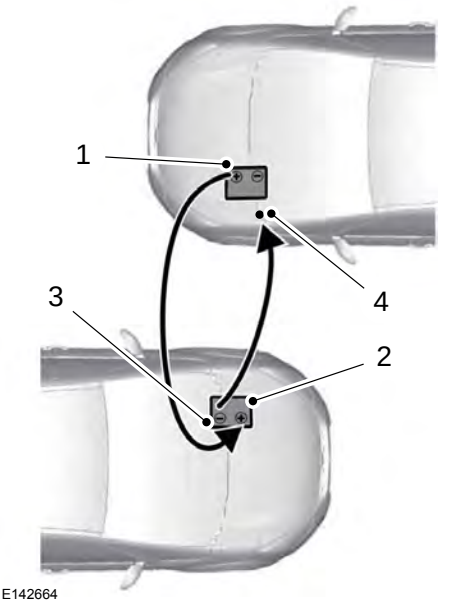
WARNINGS

Do not attach the cables to fuel lines, engine rocker covers, the intake manifold or electrical components as grounding points. Stay clear of moving parts. To avoid reverse polarity connections, make sure that you correctly identify the positive (+) and negative (-) terminals on both the disabled and booster vehicles before connecting the cables.

Do not attach the end of the positive cable to the studs or L-shaped eyelet located above the positive (+) terminal of your vehicle's battery. High current may flow through and cause damage to the fuses.

Do not connect the end of the second cable to the negative (-) terminal of the battery to be jumped. A spark may cause an explosion of the gases that surround the battery.

Note: *In the illustration, the bottom vehicle represents the booster vehicle.*



E142664

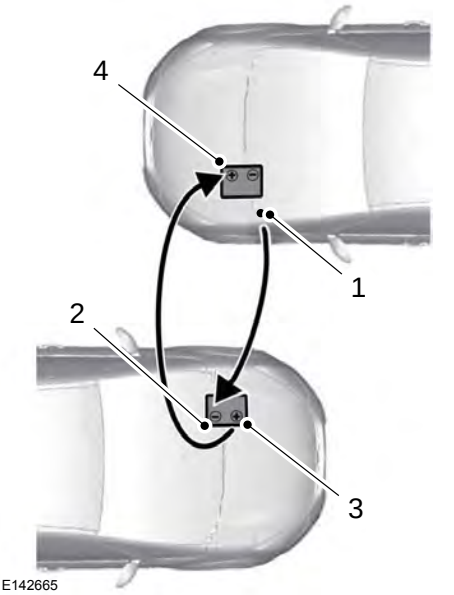
1. Connect the positive (+) jumper cable to the positive (+) terminal of the discharged battery.
2. Connect the other end of the positive (+) cable to the positive (+) terminal of the booster vehicle battery.
3. Connect the negative (-) cable to the negative (-) terminal of the booster vehicle battery.
4. Make the final connection of the negative (-) cable to an exposed metal part of the stalled vehicle's engine, away from the battery and the fuel injection system, or connect the negative (-) cable to a ground connection point if available.

Jump Starting

1. Start the engine of the booster vehicle and rev the engine moderately, or press the accelerator gently to keep your engine speed between 2000 and 3000 RPM, as shown in your tachometer.
2. Start the engine of the disabled vehicle.
3. Once the disabled vehicle has been started, run both vehicle engines 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.



E142665

1. Remove the negative (-) jumper cable from the disabled vehicle.

2. Remove the jumper cable on the negative (-) terminal of the booster vehicle battery.
3. Remove the jumper cable from the positive (+) terminal of the booster vehicle battery.
4. Remove the jumper cable from the positive (+) terminal of the disabled vehicle battery.
5. Allow the engine to idle for at least one minute.

POST-CRASH ALERT SYSTEM

The system flashes the direction indicators and sounds the horn (intermittently) in the event of a serious impact that deploys an airbag (front, side, side curtain or Safety Canopy) or the seatbelt pretensioners.

The horn and indicators turn off when:

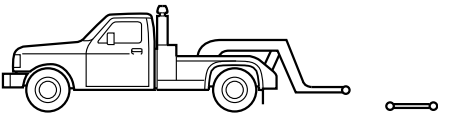
- You press the hazard control button.
- You press the panic button on the remote entry transmitter (if equipped).
- Your vehicle runs out of power.

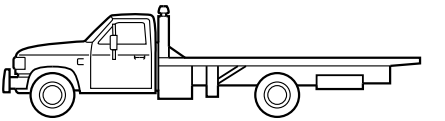
TRANSPORTING THE VEHICLE

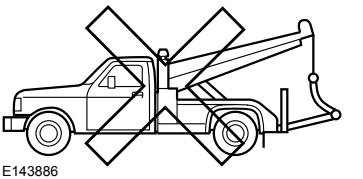
WARNINGS

Block the wheels to help prevent the vehicle from moving.

Unexpected and possibly sudden vehicle movement may occur if you do not take these precautions.







E143886

If you need to tow your vehicle, contact a professional towing service or, if you are a member of a roadside assistance program, your roadside assistance service provider.

We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Do not tow with a slingbelt. Ford Motor Company does not approve a slingbelt towing procedure. If you tow your vehicle incorrectly, or by any other means, vehicle damage may occur.

Ford Motor Company 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 for your vehicle.

It is acceptable to have your two-wheel drive vehicle towed with the front wheels on the ground (without dollies) and the rear wheels off the ground.

We recommend towing a four-wheel drive vehicle with all wheels off the ground, such as using a wheel lift and dollies or flatbed equipment. However, it is acceptable to use a wheel lift to raise the rear of your vehicle so long as, depending on vehicle configuration, you perform the following before towing:

- If your vehicle has a manual-shift transfer case, make sure the front wheel hub locks are in the **FREE** position before towing.
- If your vehicle has an electronic shift-on-the-fly transfer case, make sure you switch the four-wheel drive control to the **2H** position before towing.

Note: *Towing an electronic shift-on-the-fly four-wheel drive vehicle with the front wheels on the ground without disengaging the front hubs may cause damage to the automatic transmission.*

Note: *Towing a two-wheel drive vehicle or an electronic shift-on-the-fly four-wheel drive vehicle with the rear wheels on the ground for more than 50 mi (80 km) or faster than 35 mph (56 km/h) may cause damage to the automatic transmission.*

Note: *Using wheel lift equipment to tow a dual rear wheel vehicle requires removing an outer rear wheel before towing.*

TOWING POINTS

WARNINGS

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.

WARNINGS

Always 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.

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.

Your vehicle comes equipped with frame-mounted front recovery hooks. These hooks should never have a load applied to them 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.
- Never 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 draped 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.

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- Always 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.

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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.

A reasonable time must be allowed 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.

In the United States:

Mailing address

Ford Motor Company
Customer Relationship Center
P.O. Box 6248
Dearborn, MI 48126

Telephone

1-800-392-3673 (FORD)
(TDD for the hearing impaired:
1-800-232-5952)

Additional information and resources are available online:

Website
www.owner.ford.com

These are some of the items that can be found 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.

In Canada:

Mailing address

Customer Relationship Centre
Ford Motor Company of Canada, Limited
P.O. Box 2000
Oakville, Ontario L6K 0C8

Telephone

1-800-565-3673 (FORD)

Website
www.ford.ca

Twitter

@FordServiceCA (English Canada)
@FordServiceQC (Quebec)

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.

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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 must 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.

THE BETTER BUSINESS BUREAU (BBB) AUTO LINE PROGRAM (U.S. ONLY)

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 will consider the testimony provided and make a decision after the hearing.

Disputes submitted to the BBB AUTO LINE program are usually decided within forty 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 provided below, please 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 will need to be completed, signed and returned to the BBB along with proof of ownership. Upon receipt, the BBB will review 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
3033 Wilson Boulevard, Suite 600
Arlington, Virginia 22201

BBB AUTO LINE applications can also be requested by calling the Ford Motor Company Customer Relationship Center at 1-800-392-3673.

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.*

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UTILIZING THE MEDIATION/ARBITRATION PROGRAM (CANADA ONLY)

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 straight forward 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 Customer Assistance Center:

FORD MOTOR COMPANY

Customer Relationship Centers in:

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Customer Relationship Center	Phone	Fax	E-mail
Asia Pacific	N/A	N/A	apemcrc@ford.com
Caribbean and Central America	+1 313 594 4857	-	expcac@ford.com
Middle East	Ford 80004443673	971 4 3327 266	menacac@ford.com
	Lincoln 80004441067		
	UAE 80004441066		
	Saudi Arabia 8008443673		
	Mobily and Zain cell phone users in Saudi 800850078		
Puerto Rico and U.S. Virgin Islands	+1-800-841-3673	N/A	prcac@ford.com
Sub-Saharan Africa	+1-313-594-4857	N/A	ssacrc@ford.com
South Korea	+63-2-717-6410	N/A	infokr1@ford.com or infokr@lincoln.com

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 listed.

Customers in the U.S. should call 1-800-392-3673.

ORDERING ADDITIONAL OWNER'S LITERATURE

To order the publications in this portfolio, contact Helm, Incorporated at:

HELM, INCORPORATED
47911 Halyard Drive
Plymouth, Michigan 48170
Attention: Customer Service

Or to order a free publication catalog, call toll free: 1-800-782-4356

Monday-Friday 8:00 a.m. - 6:00 p.m. EST

Helm, Incorporated can also be reached by their website:

www.helminc.com

(Items in this catalog may be purchased by credit card, check or money order.)

Obtaining a French Owner's Manual

French Owner's Manual can be obtained from your authorized dealer or by contacting Helm, Incorporated using the contact information listed previously in this section.

REPORTING SAFETY DEFECTS (U.S. ONLY)



E142557

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 http://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 http://www.safercar.gov.

REPORTING SAFETY DEFECTS (CANADA ONLY)

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	http://www.tc.gc.ca/eng/motorvehiclesafety/reporting-defects-motor-vehicles.html (English)
Website	http://www.tc.gc.ca/fra/securiteautomobile/signaler-defauts-vehicules-automobiles.html (French)
Phone	1–800–333–0510

Ford of Canada Contact Information	
Website	www.ford.ca
Phone	1–800–565-3673

FUSE SPECIFICATION CHART

Power Distribution Box

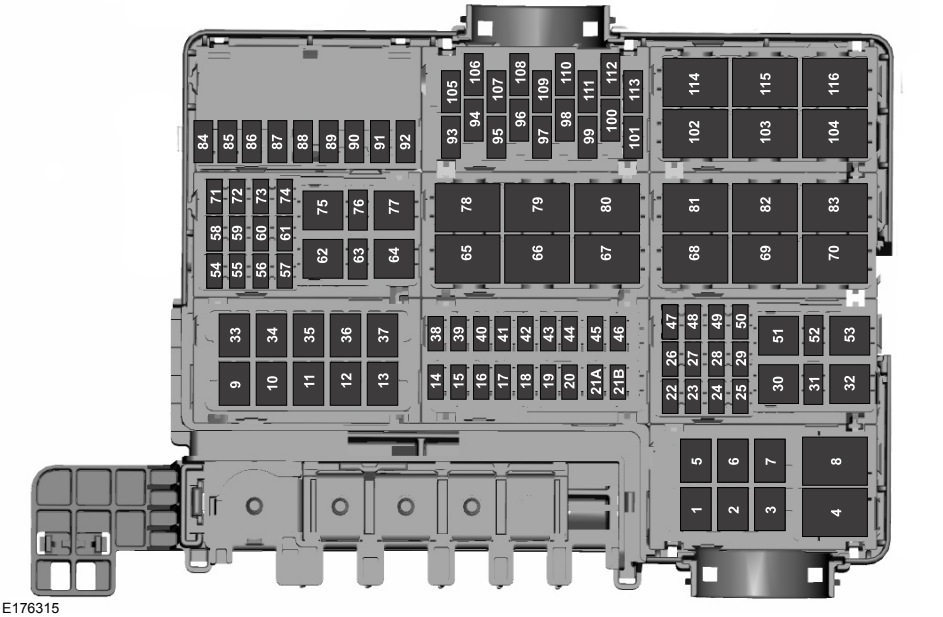
WARNINGS

Always disconnect the battery before servicing high current fuses.

To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.

The power distribution box is located in the engine compartment. It has high-current fuses that protect your vehicle's main electrical systems from overloads.

If you disconnect and reconnect the battery, you will need to reset some features. See **Changing the 12V Battery** (page 331).



Fuse or relay number	Fuse amp rating	Protected components
1	—	Not used.
2	—	Not used.
3	—	Not used.

Fuse or relay number	Fuse amp rating	Protected components
4	—	Telescoping side-view mirror.
5	40A*	Rear window defroster.
6	—	Not used.
7	—	Not used.
8	—	Telescoping side-view mirror.
9	30A*	Fuel pump.
10	40A*	Charge air cooler fans (Raptor only).
11	60A*	Automatic brake system motor.
12	50A*	Body control module 1.
13	60A*	Body control module 2.
14	20A**	Amplifier.
15	25A**	4x4.
16	10A**	Spot light module.
17	15A**	Heated seat.
18	10A**	Steering-column lock.
19	10A**	Power seats.
20	15A**	Snow plow. Rear heated seats.
21A	15A**	Transmission control module.
21B	—	Not used.
22	30A*	Windshield wiper motor.
23	15A*	Rain sensor.
24	25A*	Series fan feed.
25	—	Not used.
26	30A*	Driver seat motors.
27	30A*	Passenger power seat.
28	30A*	Climate controlled seat.

Fuse or relay number	Fuse amp rating	Protected components
29	25A*	Upfitter fuses 94, 96, 98 and 100 (Raptor only).
30	—	Air conditioner clutch relay.
31	—	Not used.
32	—	Not used.
33	50A*	Electric fan 3.
34	25A*	Trailer tow park lamps.
35	20A*	Trailer tow stop-turn relay fuse.
36	25A*	Trailer tow lamps module.
37	50A*	Electric fan 1.
38	10A**	Alt A sensor.
39	10A**	Integrated wheel end solenoid.
40	15A**	E-locker.
41	10A**	Telescoping mirror.
42	30A**	Transmission fluid pump.
43	25A**	Horn.
44	10A**	Air conditioner clutch.
45	10A**	Powertrain control module relay coil.
46	10A**	Wiper relay coil.
47	15A*	Upfitter 1 (Raptor only).
48	15A*	Upfitter 2 (Raptor only).
49	30A*	Trailer brake control module.
50	30A*	Power running boards.
51	—	Fuel pump relay.
52	—	Not used.
53	—	Upfitter 5 relay (Raptor only).
54	30A*	Voltage quality module.

Fuse or relay number	Fuse amp rating	Protected components
		Body-control-module voltage-quality-module feed.
55	40A*	Body control module RP2 feed.
56	20A*	Fuel pump.
57	30A*	Right-hand electric parking brake actuator.
58	30A*	Left-hand electric parking brake actuator.
59	30A*	Starter.
60	40A*	Blower motor.
61	30A*	Brake control module. Automatic brake system valves.
62	—	Power seat relay.
63	15A**	Heated mirrors.
64	—	Upfitter 6 relay (Raptor only).
65	—	Starter relay.
66	—	Powertrain control module relay.
67	—	Windshield wiper relay.
68	—	Blower motor relay.
69	—	Power sliding back window relay.
70	—	Electric fan 1 relay.
71	—	Not used.
72	25A*	4x4.
73	—	Not used.
74	30A*	PDRG motor.
75	—	Horn relay.
76	—	Not used.
77	—	Steering column lock relay.
78	—	Not used.
79	—	Trailer tow parking lamp relay.

Fuse or relay number	Fuse amp rating	Protected components
80	—	Rear window defroster relay.
81	—	Upfitter 1 relay (Raptor only).
82	—	PDRG close relay.
83	—	Upfitter 2 relay (Raptor only).
84	—	Not used.
85	—	Not used.
86	—	Not used.
87	10A**	Trailer tow backup lamps.
88	—	Not used.
89	20A*	Cigar lighter power point 1.
90	20A*	Power point 2.
91	20A*	Power point 3.
92	20A*	Power point 4.
93	25A**	GTDI vehicle power 1.
	10A**	PFI vehicle power 1.
94	10A**	Upfitter 3 (Raptor only).
95	25A**	Vehicle power 2.
96	10A**	Upfitter 4 (Raptor only).
97	10A**	Vehicle power 3.
98	5A**	Upfitter 5 (Raptor only).
99	20A**	Vehicle power 4 (PFI).
	15A**	Vehicle power 4 (GTDI).
100	5A**	Upfitter 6 (Raptor only).
101	—	Not used.
102	—	Snow plow relay.
103	—	Charge air cooler fan (Raptor only).
104	—	Electronic fan 3 relay.

Fuse or relay number	Fuse amp rating	Protected components
105	10A**	Power steering.
106	—	Not used.
107	10A**	Anti-lock brakes.
108	—	Not used.
109	10A**	Powertrain control module. Transmission control module run-start power.
110	10A**	4x4 run/start. Adaptive cruise control.
111	15A**	Transmission pump run-start.
112	10A**	Charge air cooler relay coil run-start (Raptor only).
113	7.5A**	Blind spot information system. Rear view camera. Front view camera. Voltage quality module.
114	—	Electric fan 2 relay.
115	—	Upfitter 3 relay (Raptor only).
116	—	Upfitter 4 relay (Raptor only).

*Cartridge fuses

**Mini fuses

Passenger Compartment Fuse Panel

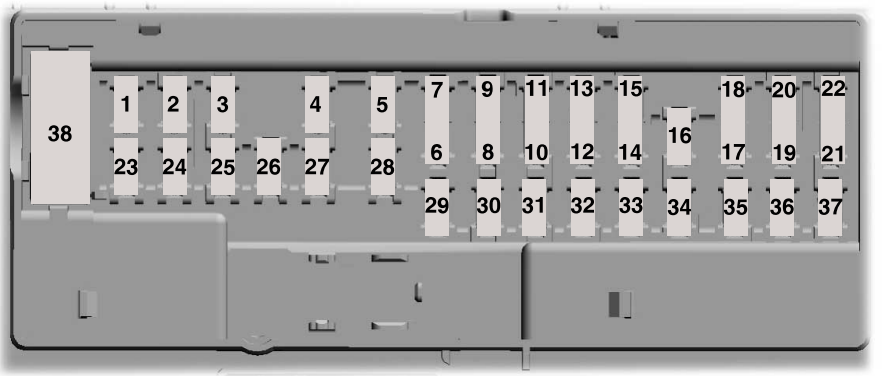
The fuse panel is in the right-hand side of the passenger footwell behind a trim panel.

To remove the trim panel, pull it toward you and swing it away from the side. To reinstall it, line up the tabs with the grooves on the panel, and then push it shut.

To remove the fuse panel cover, press in the tabs on both sides of the cover, and then pull it off.

To reinstall the fuse panel cover, place the top part of the cover on the fuse panel and push the bottom part until it latches. Gently pull on the cover to make sure it has latched properly.

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E145984

Fuse or relay number	Fuse amp rating	Protected components
1	10A	Demand lamp relay. Power seats relay. Glove box. Vanity lamps. Overhead console. Dome. Courtesy. Map lamps.
2	7.5A	Memory module logic. Memory seat switches. Lumbar motor.
3	20A	Driver door lock motor.
4	5A	Trailer brake control.
5	20A	Not used.
6	10A	Not used.
7	10A	Not used.
8	10A	Not used.
9	10A	Not used (spare).

Fuse or relay number	Fuse amp rating	Protected components
10	5A	Embedded modem module.
11	5A	Combined sensor module.
12	7.5A	Climate head module. Smart datalink converter.
13	7.5A	Cluster. SCCM.
14	10A	Brake.
15	10A	Smart datalink converter.
16	15A	Tailgate release.
17	5A	HUD. Terrain switch.
18	5A	Ignition switch and passive-entry passive-start start stop switch. Key inhibit solenoid.
19	7.5A	Tow haul (O/D) cancel for floor or column shifter.
20	—	Not used.
21	5A	HUD. In car temperature with humidity sensor.
22	5A	EPB. Power seat.
23	10A	PDRG switch. Inverter. Driver side window. Moonroof. Vista roof.
24	20A	Central lock/unlock.
25	30A	Driver door control module.
26	30A	Passenger door control module.
27	30A	Vista roof. Moonroof.
28	20A	Not used.

Fuse or relay number	Fuse amp rating	Protected components
29	30A	Not used.
30	30A	Not used.
31	15A	Adjustable pedal switch and motor.
32	10A	Multi-function display. Global position system. SYNC. Radio frequency receiver.
33	20A	Radio.
34	30A	Run-start relay.
35	5A	Restraints module.
36	15A	360 camera module. Heated steering wheel module. Rear-view mirror. Rear heated seats.
37	20A	Power distribution box run-start fuses.
38	30A Circuit breaker.	Rear window switches and motors.

CHANGING A FUSE

Fuses

WARNING

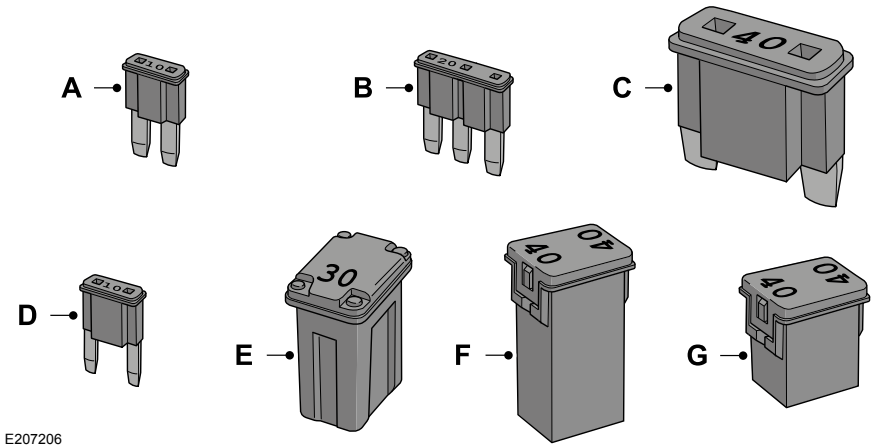
Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.



E217331

If electrical components in the vehicle are not working, a fuse may have blown. Blown fuses are identified by a broken wire within the fuse. Check the appropriate fuses before replacing any electrical components.

Fuse Types



E207206

Callout	Fuse Type
A	Micro 2
B	Micro 3
C	Maxi
D	Mini
E	M Case
F	J Case
G	J Case Low Profile

GENERAL INFORMATION

Have your vehicle serviced 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. Motorcraft® parts are designed and built to provide the best performance in your vehicle.

Precautions

- 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.

Working with the Engine Off

1. Set the parking brake and shift to park (P).
2. Switch off the engine.
3. Block the wheels.

Working with the Engine On

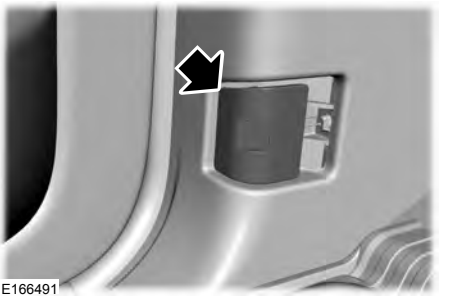
WARNING

To reduce the risk of vehicle damage and/or personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

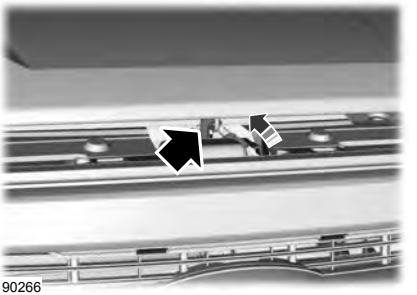
1. Set the parking brake and shift to park (P).
2. Block the wheels.

OPENING AND CLOSING THE HOOD

1. Inside the vehicle, pull the hood release handle located under the left hand side of the instrument panel.


E166491

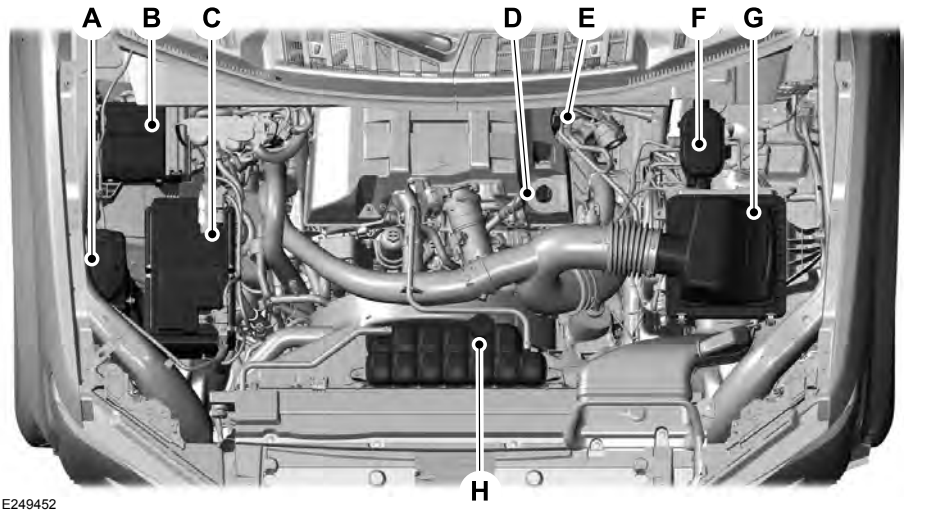
2. Go to the front of your vehicle and locate the secondary release lever under the front of the hood near the center of your vehicle.


E190266

3. Raise the hood until the lift cylinders hold it open.
4. To close, lower the hood and make sure that it is closed properly and fully latched.

UNDER HOOD OVERVIEW - 2.7L ECOBOOST™

2.7L EcoBoost

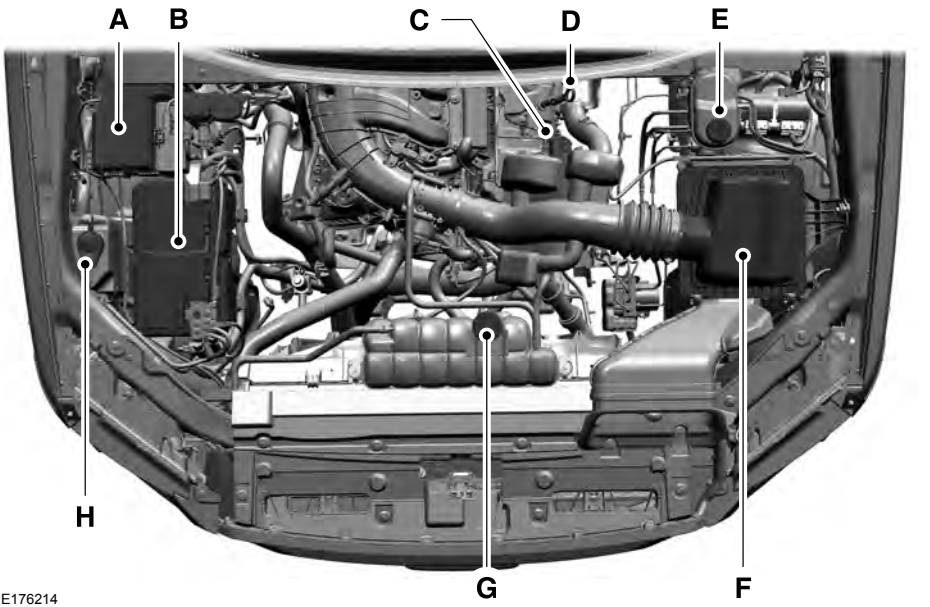


E249452

A. Windshield washer fluid reservoir. See **Washer Fluid Check** (page 331).
B. Power distribution box. See **Fuses** (page 309).
C. Battery. See **Changing the 12V Battery** (page 331).
D. Engine oil filler cap. See **Engine Oil Check** (page 324).

E. Engine oil dipstick. See **Engine Oil Dipstick** (page 324).
F. Brake fluid reservoir. See **Brake Fluid Check** (page 331).
G. Air filter assembly. See **Changing the Engine Air Filter** (page 342).
H. Engine coolant reservoir. See **Engine Coolant Check** (page 326).

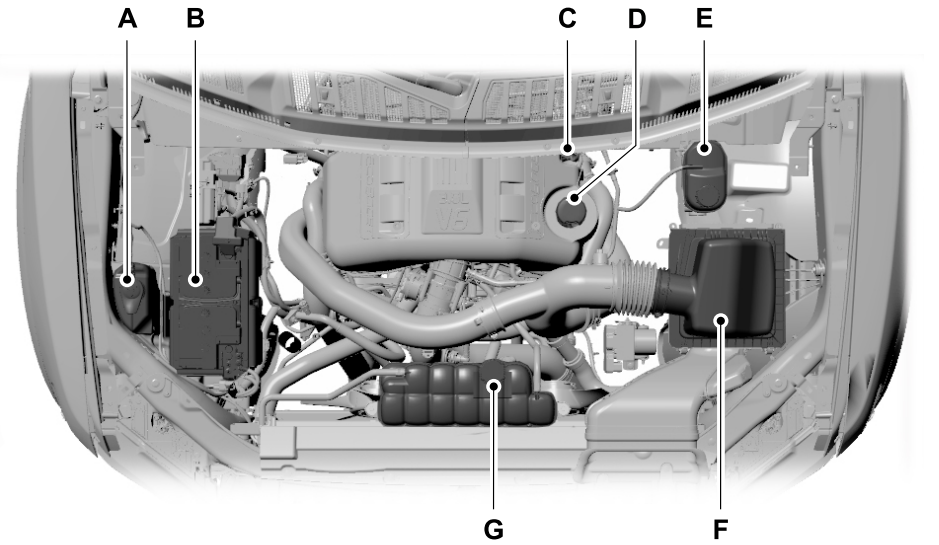
UNDER HOOD OVERVIEW - 3.5L



A. Power distribution box. See **Fuses** (page 309).
B. Battery. See **Changing the 12V Battery** (page 331).
C. Engine oil filler cap. See **Engine Oil Check** (page 324).
D. Engine oil dipstick. See **Engine Oil Dipstick** (page 324).
E. Brake fluid reservoir. See **Brake Fluid Check** (page 331).
F. Air filter assembly. See **Changing the Engine Air Filter** (page 342).

G. Engine coolant reservoir. See **Engine Coolant Check** (page 326).
H. Windshield washer fluid reservoir. See **Washer Fluid Check** (page 331).

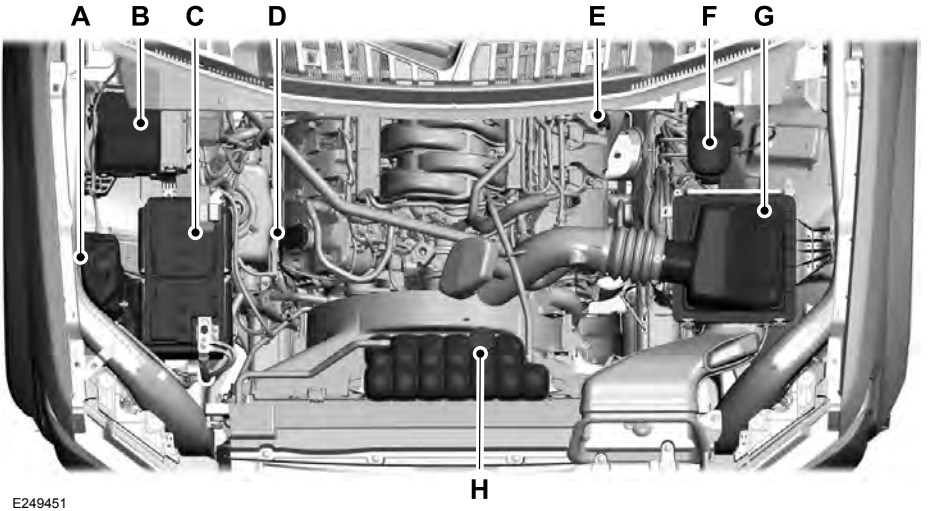
UNDER HOOD OVERVIEW - 3.5L ECOBOOST™



E250141

A. Windshield washer fluid reservoir. See **Washer Fluid Check** (page 331).
B. Battery. See **Changing the 12V Battery** (page 331).
C. Engine oil dipstick. See **Engine Oil Dipstick** (page 324).
D. Engine oil filler cap. See **Engine Oil Check** (page 324).
E. Brake fluid reservoir. See **Brake Fluid Check** (page 331).
F. Air filter assembly. See **Changing the Engine Air Filter** (page 342).
G. Engine coolant reservoir. See **Engine Coolant Check** (page 326).

UNDER HOOD OVERVIEW - 5.0L



A. Windshield washer fluid reservoir. See **Washer Fluid Check** (page 331).
B. Power distribution box. See **Fuses** (page 309).
C. Battery. See **Changing the 12V Battery** (page 331).
D. Engine oil filler cap. See **Engine Oil Check** (page 324).
E. Engine oil dipstick. See **Engine Oil Dipstick** (page 324).
F. Brake fluid reservoir. See **Brake Fluid Check** (page 331).
G. Air filter assembly. See **Changing the Engine Air Filter** (page 342).
H. Engine coolant reservoir. See **Engine Coolant Check** (page 326).

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ENGINE OIL DIPSTICK



E161560

A MIN
B MAX

ENGINE OIL CHECK

To check the engine oil level consistently and accurately, do the following:

1. Make sure the parking brake is on. Make sure the transmission is in park (P) or neutral (N).
2. Run the engine until it reaches normal operating temperature.
3. Make sure that your vehicle is on level ground.
4. Switch the engine off and wait 15 minutes for the oil to drain into the oil pan. Checking the engine oil level too soon after you switch the engine off may result in an inaccurate reading.
5. Open the hood. See **Opening and Closing the Hood** (page 319).
6. Remove the dipstick and wipe it with a clean, lint-free cloth. See **Under Hood Overview** (page 321).
7. Replace the dipstick and remove it again to check the oil level. See **Engine Oil Dipstick** (page 324).
8. Make sure that the oil level is between the maximum and minimum marks. If the oil level is at the minimum mark, add oil immediately. See **Capacities and Specifications** (page 391).
9. If the oil level is correct, replace the dipstick and make sure it is fully seated.

Note: *Do not remove the dipstick when the engine is running.*

Note: *If the oil level is between the maximum and minimum marks, the oil level is acceptable. Do not add oil.*

Note: *The oil consumption of new engines reaches its normal level after approximately 3,100 mi (5,000 km).*

Adding Engine Oil

WARNING

Do not remove the filler cap when the engine is running.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by the vehicle Warranty.



E142732

Only use oils certified for gasoline engines by the American Petroleum Institute (API). An oil with this trademark symbol conforms to the current engine and emission system protection standards and fuel economy requirements of the International Lubricants Specification Advisory Committee (ILSAC).

To top up the engine oil level do the following:

1. Clean the area surrounding the engine oil filler cap before you remove it.
2. Remove the engine oil filler cap. See **Under Hood Overview** (page 321). Turn it counterclockwise and remove it.
3. Add engine oil that meets Ford specifications. See **Capacities and Specifications** (page 391). You may have to use a funnel to pour the engine oil into the opening.
4. Recheck the oil level.
5. If the oil level is correct, replace the dipstick and make sure it is fully seated.
6. Replace 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: *Make sure you install the oil filler cap correctly.*

Note: *Soak up any spillage with an absorbent cloth immediately.*

OIL CHANGE INDICATOR RESET

Use the information display controls on the steering wheel to reset the oil change indicator.

From the main menu scroll to:

Message	Action and description
Settings	Press the right arrow button, then from this menu scroll to the following message.
Convenience	Press the right arrow button, then from this menu scroll to the following message.
Oil Life Reset	Press the right arrow button, then from this menu scroll to the following message.
Hold OK to Reset	Press and hold the **OK** button until the instrument cluster displays the following message. Reset Successful
	When the oil change indicator resets the instrument cluster displays 100%. Remaining Life {00}%
	If the instrument cluster displays one of the following messages, repeat the process. Not Reset Reset Cancelled

ENGINE COOLANT CHECK

WARNINGS

Do not remove the coolant reservoir cap when 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.

Do not put coolant in the windshield washer fluid reservoir. If sprayed on the windshield, coolant could make it difficult to see through the windshield.

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.

Do not add coolant further than the ***MAX*** mark.

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 533).

Note: *Make sure that the coolant level is between the **MIN** and **MAX** marks on the coolant reservoir.*

Note: *Coolant expands when it is hot. The level may extend beyond the **MAX** mark.*

Maintain coolant concentration within 48% to 50%, which equates to a freeze point between -30ºF (-34ºC) and -34ºF (-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

Never remove the coolant reservoir cap when the engine is running or hot.

Note: *Automotive fluids are not interchangeable. Take care not to put engine coolant in the windshield washer fluid reservoir or windshield washer fluid in the engine coolant reservoir.*

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.*

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. See **Capacities and Specifications** (page 384). 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 distilled water. See **Capacities and Specifications** (page 384). 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 Ford specifications and may cause damage to the cooling system. Resulting component damage may not be covered by the vehicle Warranty.*

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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. See **Capacities and Specifications** (page 384).
3. Add enough prediluted coolant to reach the correct level.
4. Replace the coolant reservoir cap, turn it clockwise until you feel a strong resistance.
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.

Note: *During normal vehicle operation, the coolant may change color from orange to pink or light red. As long as the coolant is clear and uncontaminated, this color change does not indicate the coolant has degraded nor does it require the coolant to be drained, the system to be flushed, or the coolant to be replaced.*

In case of emergency, you can add a large amount of water without engine coolant in order to reach a vehicle service location. In this instance, qualified personnel:

1. Must drain the cooling system.
2. Chemically clean the coolant system with Motorcraft Premium Cooling System Flush.
3. Refill with engine coolant as soon as possible.

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.

Recycled Coolant

We do not recommend the use of recycled coolant as an approved recycling process is not yet available.

Dispose of used engine coolant in an appropriate manner. Follow your community's regulations and standards for recycling and disposing of automotive fluids.

Severe Climates

If you drive in extremely cold climates:

- It may be necessary to increase the coolant concentration above 50%.
- A coolant concentration of 60% provides improved freeze point protection. Coolant concentrations above 60% decrease the overheat protection characteristics of the coolant and may cause engine damage.

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If you drive in extremely hot climates:

- You can decrease the coolant concentration to 40%.
- Coolant concentrations below 40% decrease the freeze and corrosion protection characteristics of the coolant and may cause engine damage.

Vehicles driven year-round in non-extreme climates should use prediluted coolant for optimum cooling system and engine protection.

Coolant Change

At specific mileage intervals, as listed in the scheduled maintenance information, the coolant should be changed. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 384).

Fail-Safe Cooling

Fail-safe cooling allows you to temporarily drive your vehicle before any incremental component damage occurs. The fail-safe distance depends on ambient temperature, vehicle load and terrain.

How Fail-Safe Cooling Works



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.

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. Have your vehicle checked as soon as possible to minimize engine damage.

When Fail-Safe Mode Is Activated

WARNINGS

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.

Never remove the coolant reservoir cap when the engine is running or hot.

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.

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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 a short period 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.*

Engine Coolant Temperature Management (If Equipped)

WARNING

To reduce the risk of crash and injury, be prepared that the vehicle speed may reduce and the vehicle may not be able to accelerate with full power until the coolant temperature reduces.

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.

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 ambient temperature. If this occurs, there is no need to pull off the road. You can continue to drive your vehicle.

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. Pull off the road as soon as safely possible and shift the transmission into park **(P)**.
2. Leave the engine running until the coolant temperature gauge needle returns to the normal position. After several minutes, if the temperature does not drop, 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.

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AUTOMATIC TRANSMISSION FLUID CHECK

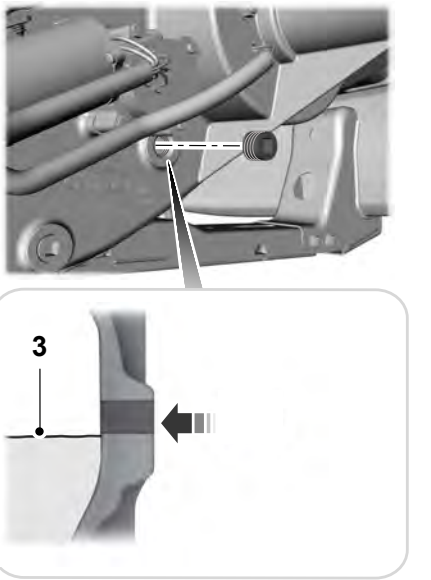
If required, have an authorized dealer check and change the transmission fluid at the correct service interval. See **Scheduled Maintenance** (page 533).

The automatic transmission does not have a transmission fluid dipstick.

Refer to your scheduled maintenance information for scheduled intervals for fluid checks and changes. Your transmission does not consume fluid. However, if the transmission slips, shifts slowly or if you notice a sign of leaking fluid, contact an authorized dealer.

Do not use supplemental transmission fluid additives, treatments or cleaning agents. The use of these materials may affect transmission operation and result in damage to internal transmission components.

TRANSFER CASE FLUID CHECK



E170444

1. Clean the filler plug.
2. Remove the filler plug.
3. Inspect the fluid level. The fluid level should be within 0.12 in (3 mm) from the bottom of the hole.
4. Add fluid through the filler hole.

Use only fluid that meets Ford specifications. See **Capacities and Specifications** (page 384).

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BRAKE FLUID CHECK

WARNINGS

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.

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.

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.

A fluid level between the ***MAX*** and ***MIN*** lines is within the normal operating range and there is no need to add fluid. A fluid level not in the normal operating range could compromise the performance of the system. Have your vehicle checked immediately.

To avoid fluid contamination, the reservoir cap must remain in place and fully tight, unless you are adding fluid.

Only use fluid that meets Ford specifications. See **Capacities and Specifications** (page 384).

POWER STEERING FLUID CHECK

Your vehicle is equipped with an electric power steering (EPS) system. There is no fluid reservoir to check or fill.

WASHER FLUID CHECK

WARNING

If you operate your vehicle in temperatures below 40ºF (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.

Add fluid to fill the reservoir if the level is low. Only use a washer fluid that meets Ford specifications. See **Capacities and Specifications** (page 384).

State or local regulations on volatile organic compounds may restrict the use of methanol, a common windshield washer antifreeze additive. Washer fluids containing non-methanol antifreeze agents should be used only if they provide cold weather protection without damaging the vehicle's paint finish, wiper blades or washer system.

FUEL FILTER

Your vehicle is equipped with a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.

CHANGING THE 12V BATTERY

WARNINGS

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.

WARNINGS

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.

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.

Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

This vehicle may be fitted with 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.

Your vehicle is fitted with a Motorcraft maintenance-free battery which normally does not require additional water.

When a battery replacement is required, you must use a recommended replacement battery that matches the electrical requirements of the vehicle.

Note: *After cleaning or replacing the battery, make sure you reinstall the battery cover or shield.*

Note: *If you add electrical accessories or components to the vehicle, it may adversely affect the low voltage battery performance and durability. This may also affect the performance of other electrical systems in the vehicle.*

For longer, trouble-free operation, keep the top of the battery clean and dry.

If you see any corrosion 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.

Because your vehicle's engine is electronically controlled by a computer, some control conditions are maintained by power from the battery. When the battery is disconnected or a new battery is installed, the engine must relearn its idle and fuel trim strategy for optimum driveability and performance. Flexible fuel vehicles (FFV) must also relearn the ethanol content of the fuel for optimum driveability and performance.

To restore the settings, do the following:

1. Apply the parking brake.
2. Shift into park (P) or neutral (N).
3. Switch off all accessories.
4. Press the brake pedal and start your vehicle.
5. Run the engine until it reaches normal operating temperature. While the engine is warming up, complete the following: Reset the clock. See **Audio System** (page 410). Reset the power windows bounce-back feature. See **Windows and Mirrors** (page 94). Reset the radio station presets. See **Audio System** (page 410).
6. Allow the engine to idle for at least one minute.

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7. Drive the vehicle at least 10 mi (16 km) to completely relearn the idle trim and fuel trim strategy.

Note: *If you do not allow the engine to relearn the idle and fuel trim strategy, the idle quality of your vehicle may be adversely affected until the engine computer eventually relearns the idle trim and fuel trim strategy.*

Note: *For flexible fuel vehicles, if you are operating on E85, you may experience poor starts or an inability to start the engine and driveability problems until the fuel trim and ethanol content have been relearned.*

Make sure that you dispose of old batteries in an environmentally friendly way. Seek advice from your local authority about recycling old batteries.

If storing your vehicle for more than 30 days without recharging the battery, we recommend that you disconnect the battery cables to maintain battery charge for quick starting.

Battery Management System (If Equipped)

The battery management system monitors battery conditions and takes actions to extend battery life. 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 may appear in the information displays to alert you that battery protection actions are active. These messages are only for notification that an action is taking place, and not intended to indicate an electrical problem or that the battery requires replacement.

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 may 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 may adversely affect battery performance and durability. This may also affect the performance of other electrical systems in the vehicle.*

CHECKING THE WIPER BLADES



E142463

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

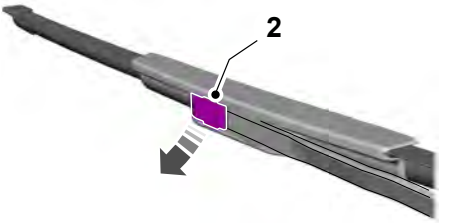
Clean the wiper blades with washer fluid or water applied with a soft sponge or cloth.

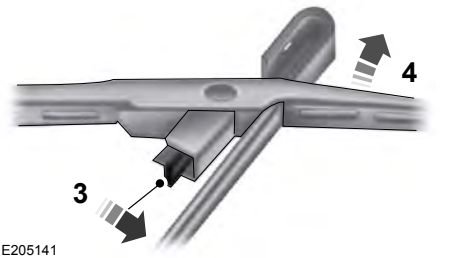
CHANGING THE WIPER BLADES

Note: *Do not hold the wiper blade when lifting the wiper arm.*


E165804

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





E205141

2. Lift the wiper blade primary locking clip.
3. Press the wiper blade secondary locking clip.
4. 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.*

5. Install in the reverse order.

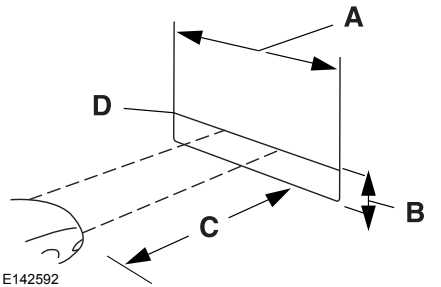
Note: *Make sure that the wiper blade locks into place.*

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, contact an authorized dealer to check and realign your headlamps.

Headlamp Aiming Target



E142592

A 8 feet (2.4 meters).
B Center height of lamp to ground.
C 25 feet (7.6 meters).
D Horizontal reference line.

Vertical Aim Adjustment

1. Park your vehicle directly in front of a wall or screen on a level surface, approximately 25 feet (7.6 meters) away.
2. Measure the height from the center of your headlamp (indicated by a 3.0 millimeter circle on the lens) to the ground and mark an 8 foot (2.4 meter) horizontal reference line on the vertical wall or screen at this height (a piece of masking tape works well).

Note: *To see a clearer light pattern for adjusting, you may want to block the light from one headlamp while adjusting the other.*

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.


E167358

4. **For halogen or LED headlamps:** On the wall or screen you will observe a light pattern with a distinct horizontal edge toward the right. If this edge is not at the horizontal reference line, you will need to adjust the beam so the edge is at the same height as the horizontal reference line.


E163806

5. Locate the vertical adjuster on each headlamp. Use a #2 Phillips screwdriver to turn the adjuster either counterclockwise or clockwise in order to adjust the vertical aim of the headlamp.
6. Repeat Steps 3 through 7 to adjust the other headlamp.
7. Close the hood and turn off the lamps.

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Horizontal Aim Adjustment

Horizontal aim is not required for this vehicle and is not adjustable.

CHANGING A BULB

WARNING

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 the headlamps are operated.

Note: *If the bulb is accidentally touched, clean it with rubbing alcohol before installing it.*

Lamp Assembly Condensation

Exterior lamps are vented to accommodate normal changes in 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 thin film of mist can form on the interior of the lens. The thin mist eventually clears and exits through the vents during normal operation. Clearing time may take as long as 48 hours under dry weather conditions.

Examples of acceptable condensation are:

- Presence of thin mist (no streaks, drip marks or droplets).
- Fine mist covers less than 50% of the lens.

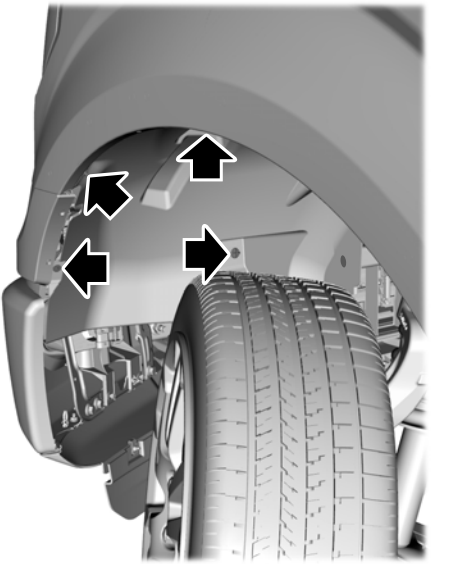
Examples of unacceptable moisture (usually caused by a lamp water leak) are:

- Water puddle inside the lamp.
- Large water droplets, drip marks or streaks present on the interior of the lens.

Take your vehicle to a dealer for service if any of the above conditions of unacceptable moisture are present.

Accessing the Halogen High Beam, Low Beam and Direction Indicator Bulbs

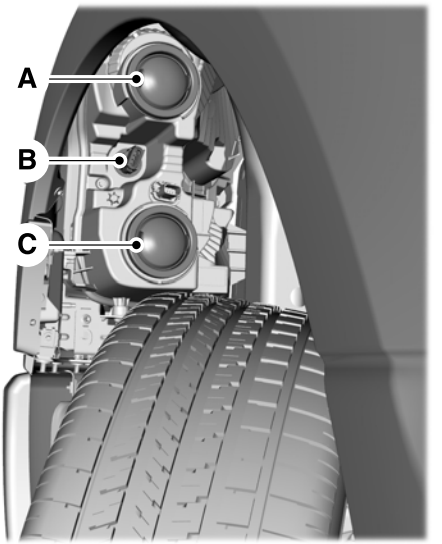
1. Rotate the steering wheel to the opposite side of the bulb needing replacement.
2. Remove two screws and one push pin from the front of the wheel liner.



E183762

3. Pull the wheel liner back towards the tire to gain access to the bulbs.

Replacing the Halogen High Beam, Low Beam and Direction Indicator Bulbs



E183500

A. Low beam headlamp bulb.
B. Direction indicator bulb.
C. High beam headlamp bulb.

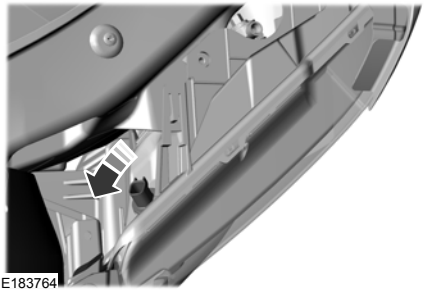


E183763

1. Make sure the headlamps are off.
2. For the high beam and low beam bulbs, remove the rubber cap to access the bulbs.
3. Remove the bulb holder from the lamp assembly by turning it counterclockwise and pulling it straight out.
4. Disconnect the bulb from the electrical connector.
5. Install the new bulb in reverse order.

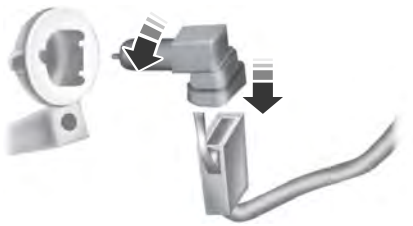
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Replacing Side Marker Bulb


E183764

1. Make sure the headlamps are off.
2. With the hood open, locate the side marker on the top of the headlamp assembly.
3. Remove the bulb holder from the lamp assembly by turning it counterclockwise and pulling it straight out.
4. Install the new bulb in reverse order.

Replacing Fog Lamp Bulbs (If Equipped)


E163826

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. Install the new bulb in reverse order.

Replacing LED Headlamp Bulbs (If Equipped)

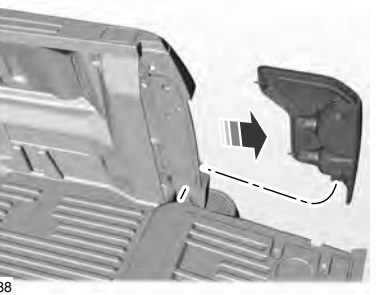
These lamps have LED bulbs. Contact an authorized dealer.

Replacing LED Direction Indicator and Side Marker Bulbs (If Equipped)

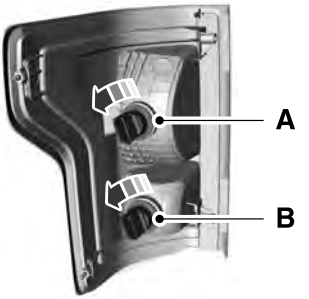
These lamps have LED bulbs. Contact an authorized dealer.

Replacing Brake, Rear, Direction Indicator and Reverse Lamp Bulbs

1. Make sure the headlamps are off.
2. Open the tailgate to access the rear lamp assemblies


E187288

3. Remove the two bolts from the tail lamp assembly. Then, carefully pull the lamp assembly from the tailgate pillar by releasing the two retaining tabs.
4. Disconnect the electrical connector from the bulb.



E187289

A. Brake, rear and direction indicator bulb.

B. Reverse lamp bulb.

1. Rotate the bulb socket counterclockwise and remove it from the rear lamp assembly.
2. Install the new bulb in reverse order.

Replacing LED Brake, Rear, Direction Indicator and Reverse Lamp Bulbs (If Equipped)

These lamps have LED bulbs. Contact an authorized dealer.

Replacing Cargo Lamp and High-mount Brake Lamp Bulbs

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.



E187290

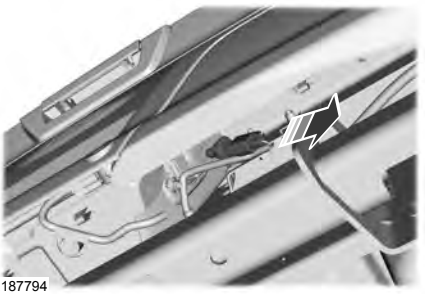
3. Remove the bulb socket by rotating it counterclockwise and pulling it out of the lamp assembly.
4. Pull the bulb straight out of the socket.
5. Install the new bulb in reverse order.

Replacing LED Cargo Lamp, Spot Lamp and High-mount Brake Lamp Bulbs (If Equipped)

These lamps have LED bulbs. Contact an authorized dealer.

Replacing the License Plate Lamp Bulb

Note: *The license plate bulbs are located behind the rear bumper.*



E187794

1. Reach behind the rear bumper to locate the bulb.

2. Twist the bulb socket counterclockwise and carefully pull to remove it from the lamp assembly.
3. Pull the bulb straight out of the socket.
4. Install the new bulb in reverse order.

Replacing Exterior Mounted Mirror Direction Indicator Lamp Bulbs

These lamps have LED bulbs. Contact an authorized dealer.

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.

Exterior Lamps

Lamp	Specification	Power (Watt)
Front direction indicator and parking lamps.	7444NA	21/5W
Daytime running lamps.	LED	LED
Headlamp high beam.	9005	65W
Headlamp low beam.	H11	55W
Front fog lamps.	9140	55W
Front side marker lamps.	W5W	5W
Side direction indicator.	LED	LED
Puddle lamp.	LED	LED
Rear lamps, brake lamps, rear direction indicator and rear side marker lamps.*	3157	27/8W
Central high mounted brake lamp.*	921	16W
Central high mounted brake lamp. Vehicles with cargo box.	LED	LED
Reversing lamps.	3156K	27W
License plate lamp.	168	5W

*May have optional LED lamps.

Note: *LED lamps are not serviceable. See an authorized dealer if they fail.*

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Interior Lamps

Lamp	Specification	Power (Watt)
Glove compartment lamp.	LED	LED
Map lamp.	LED	LED
Rear dome and courtesy lamps.	LED	LED
Rear cargo box lamps.	LED	LED

Note: *LED lamps are not serviceable. See an authorized dealer if they fail.*

CHANGING THE ENGINE AIR FILTER

WARNING

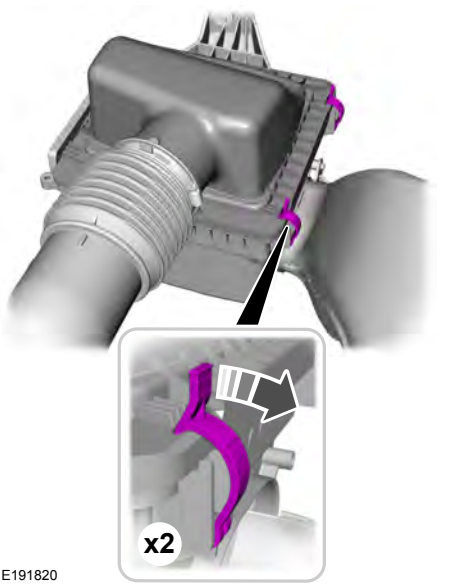
To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

Note: *Failure to use the correct air filter element may result in severe engine damage. Resulting component damage may not be covered by the vehicle Warranty.*

Note: *When servicing the air cleaner, do not allow foreign material to enter the air induction system. The engine is susceptible to damage from even small particles.*

When changing the air filter element, use only the air filter element listed. See **Capacities and Specifications** (page 384).

Change the air filter element at the proper intervals. See **Scheduled Maintenance** (page 533).



E191820

1. Release the clamps that secure the air filter cover to the housing.
2. Carefully lift the air filter housing cover.
3. Remove the air filter element from the air filter housing.
4. Install in the reverse order.

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GENERAL INFORMATION

Your dealer has many quality products available to clean your vehicle and protect its finishes.

CLEANING PRODUCTS

For best results, use the following products or products of equivalent quality:

Materials

Name	Specification
Motorcraft® Bug and Tar Remover *(U.S.)* Motorcraft® Bug and Tar Remover / Dissolvant de goudron et éliminateur d'insectes *(Canada)* ZC-42 *(U.S. & Canada)*	-
Motorcraft® Custom Bright Metal Cleaner *(U.S.)* Custom Bright Metal Cleaner / Nettoyant pour métal brillant *(Canada)* ZC-15 *(U.S. & Canada)*	-
Motorcraft® Detail Wash *(U.S.)* Detail Wash / Shampooing superfin *(Canada)* ZC-3-A *(U.S. & Canada)*	ESR-M14P4-A
Motorcraft® Engine Shampoo and Degreaser Engine Shampoo and Degreaser ZC-20 *(U.S.)*	-
Engine Shampoo Engine Shampoo / Shampooing pour moteur *(Canada)* CXC-66-A *(Canada)*	-
Motorcraft® Leather and Vinyl Cleaner *(U.S.)* Premium Leather and Vinyl Cleaner / Nettoyant pour cuir et vinyle de haute qualité *(Canada)* ZC-56 *(U.S. & Canada)*	-
Multi-Purpose Cleaner Multi-Purpose Cleaner / Nettoyant multi-usage *(Canada)* CXC-101 *(Canada)*	-
Motorcraft® Premium Windshield Wash Concentrate with Bitterant *(U.S.)* Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité *(Canada)* ZC-32-B2 *(U.S.)* CXC-37-A/B/D/F *(Canada)*	WSS-M14P19-A
Professional Strength Carpet and Upholstery Cleaner *(U.S.)* Professional Strength Carpet & Upholstery Cleaner / Nettoyant professionnel pour sellerie et moquette *(Canada)* ZC-54 *(U.S. & Canada)*	-
Motorcraft® Spot and Stain Remover Spot and Stain Remover ZC-14 *(U.S.)*	-
Motorcraft® Ultra-Clear Spray Glass Cleaner *(U.S.)*	ESR-M14P5-A

Name	Specification
Premium Glass Cleaner / Nettoie-vitres de qualité supérieure *(Canada)* ZC-23 *(U.S.)* CXC-100 *(Canada)*	
Motorcraft® Wheel and Tire Cleaner *(U.S.)* Wheel and Tire Cleaner / Nettoyant pour roues et pneus *(Canada)* ZC-37-A *(U.S. & Canada)*	-

CLEANING THE EXTERIOR

Wash your vehicle regularly with cool or lukewarm water and a neutral pH shampoo, we recommend Motorcraft Detail Wash.

- Never use strong household detergents or soap, for example dish washing or laundry liquid. These products can discolor and spot painted surfaces.
- Never wash your vehicle when it is hot to the touch, or during strong or direct sunlight.
- Dry your vehicle with a chamois or soft terry cloth towel to eliminate water spotting.
- Immediately remove fuel spillages, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time. We recommend Motorcraft Bug and Tar Remover.
- Remove any exterior accessories, for example antennas, before entering a car wash.

Note: *Suntan lotions and insect repellents can damage painted surfaces. If these substances come in contact with your vehicle, wash the affected area as soon as possible.*

Exterior Chrome Parts

- Apply a high quality-cleaning product to bumpers and other chrome parts. Follow the manufacturer's instructions. We recommend Motorcraft Custom Bright Metal Cleaner.
- Do not apply the cleaning product to hot surfaces. Do not leave the cleaning product on chrome surfaces longer than the time recommended.
- Using other non-recommended cleaners can result in severe and permanent cosmetic damage.

Note: *Never use abrasive materials, for example steel wool or plastic pads as they can scratch the chrome surface.*

Note: *Do not use chrome cleaner, metal cleaner or polish on wheels or wheel covers.*

Exterior Plastic Parts

For routine cleaning we recommend Motorcraft Detail Wash. If tar or grease spots are present, we recommend Motorcraft Bug and Tar Remover.

Stripes or Graphics (If Equipped)

Hand washing your vehicle is preferred however, pressure washing may be used under the following conditions:

- Do not use water pressure higher than 2,000 psi (14,000 kPa).
- Do not use water hotter than 179ºF (82ºC).

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- Use a spray with a 40º wide spray angle pattern.
- Keep the nozzle at a 12 in (305 mm) distance and 90º angle to your vehicle's surface.

Note: *Holding the pressure washer nozzle at an angle to the vehicle's surface may damage graphics and cause the edges to peel away from the vehicle's surface.*

Underbody

Flush the complete underside of your vehicle frequently. Keep body and door drain holes free of debris or foreign material.

Under Hood

For removing black rubber marks from under the hood we recommend Motorcraft Wheel and Tire Cleaner or Motorcraft Bug and Tar Remover.

WAXING

Regular waxing is necessary to protect your car's paint from the elements. We recommend that you wash and wax the painted surface once or twice a year.

When washing and waxing, park your vehicle in a shaded area out of direct sunlight. Always wash your vehicle before applying wax.

- Use a quality wax that does not contain abrasives.
- Follow the manufacturer's instructions to apply and remove the wax.
- Apply a small amount of wax in a back-and-forth motion, not in circles.
- Do not allow wax to come in contact with any non-body (low-gloss black) colored trim. The wax will discolor or stain the parts over time.
  - Roof racks.
  - Bumpers.
  - Grained door handles.
  - Side moldings.
  - Mirror housings.
  - Windshield cowl area.
- Do not apply wax to glass areas.
- After waxing, your car's paint should feel smooth, and be free of streaks and smudges.

CLEANING THE ENGINE

Engines are more efficient when they are clean because grease and dirt buildup keep the engine warmer than normal.

When washing:

- Take care when using a power washer to clean the engine. The high-pressure fluid could penetrate the sealed parts and cause damage.
- Do not spray a hot engine with cold water to avoid cracking the engine block or other engine components.
- Spray Motorcraft Engine Shampoo and Degreaser on all parts that require cleaning and pressure rinse clean. In Canada, use Motorcraft Engine Shampoo.
- Never wash or rinse the engine while it is hot or running; water in the running engine may cause internal damage.

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- Never wash or rinse any ignition coil, spark plug wire or spark plug well, or the area in and around these locations.
- Cover the battery, power distribution box, and air filter assembly to prevent water damage when cleaning the engine.

CLEANING THE WINDOWS AND WIPER BLADES

Car wash chemicals and environmental fallout can result in windshield and wiper blade contamination. Dirty windshield and wipers will result in poor windshield wiper operation. Keep the windshield and wiper blades clean to maintain windshield wiper performance.

To clean the windshield and wiper blades:

- Clean the windshield with a non-abrasive glass cleaner. 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.
- For windshields contaminated with tree sap, chemicals, wax or bugs, clean the entire windshield using steel wool (no greater than 0000 grade) in a circular motion and rinse with water.
- Clean the wiper blades with isopropyl rubbing alcohol or windshield washer concentrate.

Note: *Do not use razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. The vehicle warranty does not cover damage caused to the heated rear window grid lines.*

CLEANING THE INTERIOR

WARNINGS

Do not use cleaning solvents, bleach or dye on the vehicle's safety belts, as these actions may weaken the belt webbing.

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 collision.

For fabric, carpets, cloth seats, safety belts and seats equipped with side airbags:

- Remove dust and loose dirt with a vacuum cleaner.
- Remove light stains and soil with Motorcraft Professional Strength Carpet & Upholstery Cleaner.
- If grease or tar is present on the material, spot-clean the area first with Motorcraft Spot and Stain Remover. In Canada, use Motorcraft Multi-Purpose Cleaner.
- If a ring forms on the fabric after spot cleaning, clean the entire area immediately (but do not oversaturate) or the ring will set.
- Do not use household cleaning products or glass cleaners, which can stain and discolor the fabric and affect the flame retardant abilities of the seat materials.

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CLEANING THE INSTRUMENT PANEL AND INSTRUMENT CLUSTER LENS

WARNING

Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the airbag system.

Clean the instrument panel and cluster lens with a clean, damp, white cotton cloth, then use a clean and dry white cotton cloth to dry these areas.

- 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.
- Be certain to wash or wipe your hands clean if you have been in contact with certain products such as insect repellent and suntan lotion in order to avoid possible damage to the interior painted surfaces.
- Do not use household or glass cleaners as these may damage the finish of the instrument panel, interior trim and cluster lens.
- Do not allow air fresheners and hand sanitizers to spill onto interior surfaces. If a spill occurs, wipe off immediately. Damage may not be covered by your warranty.

If a staining liquid like coffee or juice has been spilled on the instrument panel or on interior trim surfaces, clean as follows:

1. Wipe up spilled liquid using a clean, white, cotton cloth.
2. Wipe the surface with a damp, clean, white cotton cloth. For more thorough cleaning, use a mild soap and water solution. If the spot cannot be completely cleaned by this method, the area may be cleaned using a commercially available cleaning product designed for automotive interiors.
3. If necessary, apply more soap and water solution or cleaning product to a clean, white, cotton cloth and press the cloth onto the soiled area. Allow this to set at room temperature for 30 minutes.
4. Remove the soaked cloth and if it is not soiled badly, use this cloth to clean the area by using a rubbing motion for 60 seconds.
5. Following this, wipe area dry with a clean, white, cotton cloth.

CLEANING LEATHER SEATS (If Equipped)

Without King Ranch Edition

Note: *Follow the same procedure as cleaning leather seats for cleaning leather instrument panels and leather interior trim surfaces.*

For routine cleaning, wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

For cleaning and removing spots and stains such as dye transfer, use Motorcraft Premium Leather and Vinyl Cleaner or a commercially available leather cleaning product for automotive interiors.

Note: *Test any cleaner or stain remover on an inconspicuous area.*

You should:

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- Remove dust and loose dirt with a vacuum cleaner.
- Clean and treat spills and stains as soon as possible.

Do not use the following products as these may damage the leather:

- Oil and petroleum or silicone-based leather conditioners.
- Household cleaners.
- Alcohol solutions.
- Solvents or cleaners intended specifically for rubber, vinyl and plastics.

With King Ranch Edition

Your vehicle has seating covered in premium, top-grain leather that is extremely durable, but still requires special care and maintenance in order to preserve longevity and comfort.

Regular cleaning and conditioning maintains the appearance of the leather.

Cleaning

For dirt, use a vacuum cleaner then use a clean, damp cloth or soft brush.

For routine cleaning, wipe the surface with a soft, damp cloth. For more thorough cleaning, wipe the surface with a mild soap and water solution.

- Clean spills as quickly as possible.
- Test any cleaner or stain remover on an inconspicuous part of the leather as cleaners may darken the leather.
- Do not spill coffee, ketchup, mustard, orange juice or oil-based products on the leather as they may permanently stain the leather.
- Do not use household cleaning products, alcohol solutions, solvents or cleaners intended for rubber, vinyl or plastics.

Scratches

Because the leather in the seat comes from genuine steer hides, there may be evidence of naturally occurring markings, such as small scars. These markings give character to the seating covers and are considered to be proof of a genuine leather product.

In order to lessen the appearance of certain scratches and other wear marks, apply conditioner on the affected area following the same instructions as in the **Conditioning** section.

Conditioning

Bottles of King Ranch Leather Conditioner are available at the King Ranch Saddle Shop. Visit the website at www.krsaddleshop.com, or call 1–800–282–KING (5464) in the United States. If you are unable to obtain King Ranch Leather Conditioner, use another premium leather conditioner.

- Clean the surfaces using the steps outlined in the Cleaning section.
- Make sure the leather is dry then apply a nickel-sized amount of conditioner to a clean, dry cloth.
- 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.

REPAIRING MINOR PAINT DAMAGE

Authorized dealers have touch-up paint to match your vehicle's color. Your vehicle color code is printed on a sticker on the front, left-hand side door jamb. Take your color code to your authorized dealer to make sure you get the correct color.

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Before repairing minor paint damage, use a cleaner such as Motorcraft Bug and Tar Remover to remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout.

Always read the instructions before using cleaning products.

CLEANING THE WHEELS (If Equipped)

Note: *Do not apply a cleaning chemical to warm or hot wheel rims and covers.*

Note: *Some automatic car washes may cause damage to the finish on your wheel rims and covers.*

Note: *Industrial-strength or heavy-duty cleaners in combination with brush agitation to remove brake dust and dirt, could wear away the clear coat finish over a period time.*

Note: *Do not use hydrofluoric acid-based or high caustic-based wheel cleaners, steel wool, fuels or strong household detergents.*

Note: *If you intend parking your vehicle for an extended period after cleaning the wheels with a wheel cleaner, drive your vehicle for a few minutes before doing so. This will reduce the risk of increased corrosion of the brake discs.*

Alloy wheels and wheel covers are coated with a clear coat paint finish. To maintain their condition we recommend that you:

- Clean the wheels weekly using Motorcraft Wheel and Tire Cleaner. Apply using manufacturer's instructions.
- Use a sponge to remove heavy deposits of dirt and brake dust accumulation.
- Rinse thoroughly with a strong stream of water when you have completed the cleaning process.
- To remove tar and grease, use Motorcraft Bug and Tar Remover.

VEHICLE STORAGE

If you plan on storing your vehicle for 30 days or more, read the following maintenance recommendations to make sure your vehicle stays in good operating condition.

We engineer and test all motor vehicles and their components for reliable, regular driving. Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve engine components.

General

- Store all vehicles in a dry, ventilated place.
- Protect from sunlight, if possible.
- If vehicles are stored outside, they require regular maintenance to protect against rust and damage.

Body

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear-wheel housing 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. Re-wax 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.

Engine

- Change the engine oil and filter prior to storage because used engine oil contains contaminates 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.
- We recommend that you change the engine oil before you use your vehicle again.

Fuel system

- Fill the fuel tank with high-quality fuel until the first automatic shutoff of the fuel pump nozzle.

Cooling system

- Protect against freezing temperatures.
- When removing your vehicle from storage, check coolant fluid level. Confirm that there are no cooling system leaks and that fluid is at the recommended level.

Battery

- Check and recharge as necessary. Keep connections clean.
- If storing your vehicle for more than 30 days without recharging the battery, we recommend that you disconnect the battery cables to maintain battery charge for quick starting.

Note: *It is necessary to reset memory features if battery cables are disconnected.*

Brakes

- Make sure the brakes and parking brake release fully.

Tires

- Maintain recommended air pressure.

Miscellaneous

- 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.

Removing Vehicle From Storage

When your vehicle is ready to come out of storage, do the following:

- Wash your vehicle to remove any dirt or grease film build-up on window surfaces.
- Check windshield wipers for any deterioration.
- Check under the hood for any foreign material that may have collected during storage such as mice or squirrel nests.
- Check the exhaust for any foreign material that may have collected during storage.

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- Check tire pressures and set tire inflation per the Tire Label.
- Check brake pedal operation. Drive your vehicle 15 ft (4.5 m) back and forth to remove rust build-up.
- 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.

GENERAL INFORMATION

Notice to utility vehicle and truck owners

WARNINGS

Utility vehicles have a significantly higher rollover rate than other types of vehicles. To reduce the risk of serious injury or death from a rollover or other crash you must avoid sharp turns and abrupt maneuvers, drive at safe speeds for the conditions, keep tires properly inflated, never overload or improperly load your vehicle, and make sure every passenger is properly restrained.

In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seat belt. All occupants must wear seat belts, and children and infants must use appropriate restraints to minimize the risk of injury or ejection.

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.



E145298

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.

Study your owner's manual and any supplements for specific information about equipment features, instructions for safe driving and additional precautions to reduce the risk of an accident or serious injury.

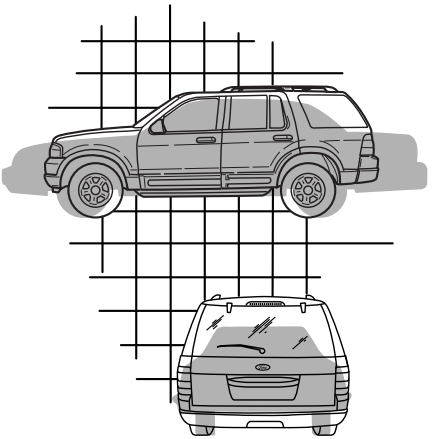
Four-wheel drive system (if equipped)

A vehicle equipped 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.

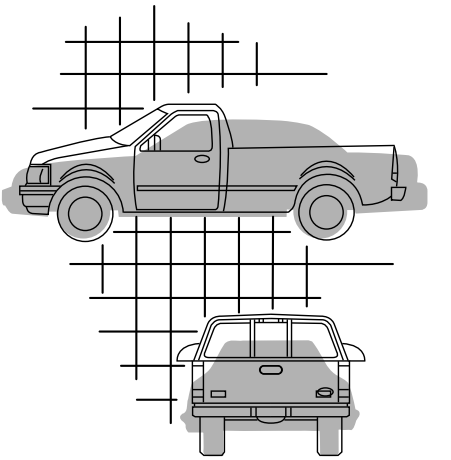
On some four-wheel drive models, the initial shift from two-wheel drive to four-wheel drive while the vehicle is moving can cause a momentary clunk and ratcheting sound. These sounds are normal as the front drivetrain comes up to speed and are not cause for concern.

How your vehicle differs from other vehicles

Sport utility vehicles and trucks can differ from some other vehicles in a few noticeable ways. Your vehicle may be:



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- Higher - to allow higher load carrying capacity and to allow it to travel over rough terrain without getting hung up or damaging underbody components.
- Shorter - to give it the capability to approach inclines and drive over the crest of a hill without getting hung up or damaging underbody components. All other things held equal, a shorter wheelbase may make your vehicle quicker to respond to steering inputs than a vehicle with a longer wheelbase.
- Narrower - to provide greater maneuverability in tight spaces, particularly in off-road use.

As a result of the above dimensional differences, Sport utility vehicles and trucks often will have a higher center of gravity and a greater difference in center of gravity between the loaded and unloaded condition. These differences that make your vehicle so versatile also make it handle differently than an ordinary passenger car.

TIRE CARE

Information About Uniform Tire Quality Grading



E142542

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 Ford Motor Company 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 one and one-half (1 ½) 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.

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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.

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 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.

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*__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 mile (1.6 kilometers).

*__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's 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.

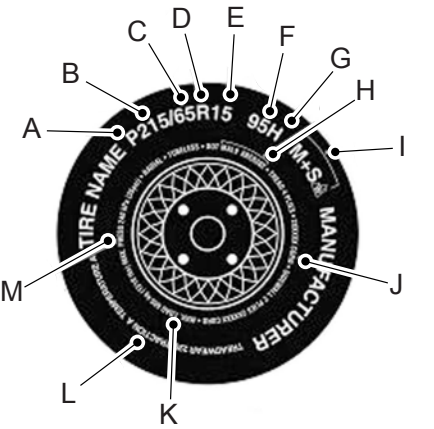
*__Tread area of the tire:__ Area of the perimeter of the tire that contacts the road when mounted on the vehicle.

*__Rim:__ The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.

Information Contained 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



E142543

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 (299 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	mph (km/h)
M	81 (130)
N	87 (140)
Q	99 (159)
R	106 (171)
S	112 (180)
T	118 (190)
U	124 (200)
H	130 (210)
V	149 (240)

Letter rating	mph (km/h)
W	168 (270)
Y	186 (299)

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:** 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 (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's door.

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 1½ times as well on the government course as a tire graded 100.

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*__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.

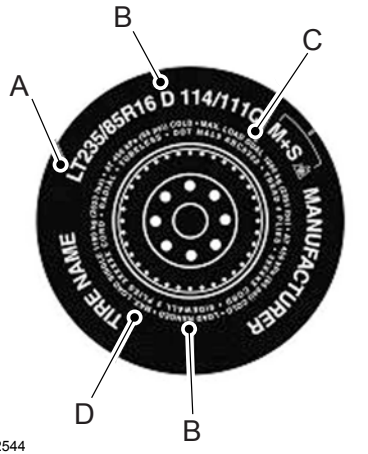
*__Temperature:__ The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel.

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 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.*



E142544

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.

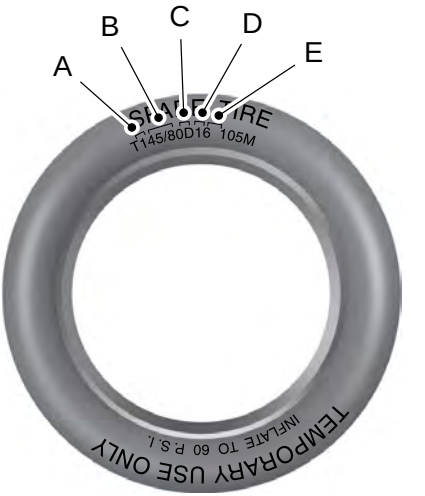
C. **Maximum Load Dual lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a dual; defined as four tires on the rear axle (a total of six or more tires on the vehicle).

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.*



E142545

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.

Location of 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 **Load Carrying** (page 248).

Inflating Your Tires

Safe operation of your vehicle requires that your tires are properly inflated. Remember that a tire can lose up to half of its air pressure without appearing flat.

Every day before you drive, check your tires. If one looks lower than the others, use a tire gauge to check pressure of all tires and adjust if required.

At least once a month and before long trips, inspect each tire and check the tire pressure with a tire gauge (including spare, if equipped). Inflate all tires to the inflation pressure recommended by Ford Motor Company.

You are strongly urged to buy a reliable tire pressure gauge, as automatic service station gauges may be inaccurate. Ford recommends the use of a digital or dial-type tire pressure gauge rather than a stick-type tire pressure gauge.

Use the recommended cold inflation pressure for optimum tire performance and wear. Under-inflation or over-inflation may cause uneven treadwear patterns.

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!

Always inflate your tires to the Ford recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. The Ford recommended tire inflation pressure is found on the Safety Compliance Certification Label or

Tire 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's door. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

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.*

Maximum Inflation Pressure is the tire manufacturer's maximum permissible pressure and the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the 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 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 Safety Compliance Certification Label or Tire Label.

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.

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.

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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.*

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.*

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). 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.*

6. Visually inspect the tires to make sure there are no nails or other objects embedded that could poke a hole in the tire and cause an air leak.

7. Check the sidewalls to make sure there are no gouges, cuts or bulges.

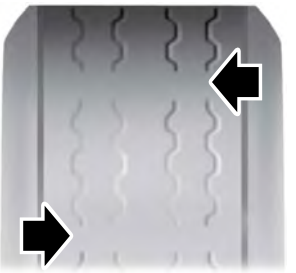
Inspecting Your Tires and Wheel Valve Stems

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. Check the tire and valve stems for holes, cracks, or cuts that may permit air leakage and repair or replace the tire and replace the valve stem. 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 demounted 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.

Improper or inadequate vehicle maintenance can cause tires to wear abnormally. Inspect all your tires, including the spare, frequently, and replace them if one or more of the following conditions exist:

Tire Wear



E142546

When the tread is worn down to one sixteenth of an inch (2 millimeters), 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 one sixteenth of an inch (2 millimeters).

When the tire tread wears down to the same height as these wear bars, the tire is worn out and must be replaced.

Damage

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.

Age

WARNINGS

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.

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WARNINGS

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.

WARNINGS

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.

WARNINGS

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.

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.

WARNINGS

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.

WARNINGS

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.

Important: Remember to replace the wheel valve stems when the road tires are replaced on your vehicle.

The two front tires or two rear tires should generally be replaced as a pair, except if the vehicle is equipped with four wheel drive. Vehicles equipped with four wheel drive should have all four tires replaced simultaneously. Unevenly worn tires, mismatched makes, models or brands can be different in size, resulting in potential damage to the four wheel drive system.

The tire pressure sensors mounted in the wheels are not designed to be used in aftermarket wheels.

The use of wheels or tires not recommended by Ford Motor Company may affect the operation of your tire pressure monitoring system.

If the tire pressure monitoring system indicator is flashing, the system is malfunctioning. Your replacement tire might be incompatible with your tire pressure monitoring system, or some component of the system may be damaged.

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Safety Practices

WARNINGS

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.

Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

Driving habits have a great deal to do with your tire mileage and safety.

*Observe posted speed limits

*Avoid fast starts, stops and turns

*Avoid potholes and objects on the road

*Do not run over curbs or hit the tire against a curb when parking

Highway Hazards

No matter how carefully you drive there's always the possibility that you may eventually have a flat tire on the highway. Drive slowly to the closest safe area out of traffic. This may 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 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're driving, the wheels may 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. Front-wheel drive vehicles and those with an independent rear suspension may require alignment of all four wheels.

The tires should also be balanced periodically. An unbalanced tire and wheel assembly may result in irregular tire wear.

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.

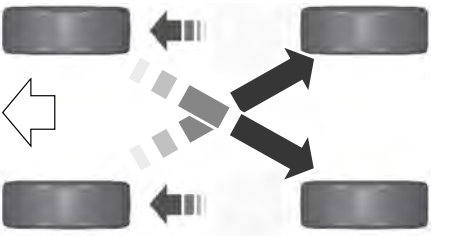
Note: *If your tires show uneven wear ask an authorized dealer to check for and correct any wheel misalignment, tire imbalance or mechanical problem involved before tire rotation.*

Note: *Your vehicle may be equipped with a dissimilar spare wheel and tire assembly. 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. 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.*

Rotating your tires at the recommended interval (as indicated in the Scheduled Maintenance chapter) will help your tires wear more evenly, providing better tire performance and longer tire life.

Rear-wheel drive vehicles and four-wheel drive vehicles (front tires at left of diagram)



E142548

Sometimes irregular tire wear can be corrected by rotating the tires.

USING SNOW CHAINS

WARNING

Snow tires must be the same size, load index and speed rating as those originally provided by Ford. 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 control, vehicle rollover, personal injury and death. Additionally, the use of non-recommended tires and wheels can cause steering, suspension, axle, transfer case or power transfer unit failure. Follow the Ford recommended tire inflation pressure found on 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 Tire Label on the B-Pillar or 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: *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, it is recommended that steel wheels (of the same size and specifications) be used, as cables may chip aluminum wheels.

Follow these guidelines when using snow tires and chains:

- If possible, avoid fully loading your vehicle.
- Conventional link type chains may contact and cause damage to the vehicle's wheel house and/or body.
- Do not install chains on the front tires as this may interfere with suspension components.
- Only certain snow cables or chains have been approved by Ford/Lincoln as safe for use on your vehicle with the following tires: 245/70R17, LT245/70R17, 265/70R17 and 265/60R18.
- You should install snow cables or chains that have been rated as SAE Class S.
- Install chains securely, verifying that the chains do not touch any wiring, brake lines, or fuel lines.
- Do not exceed 30 mph (48 km/h) or less if recommended by the chain manufacturer while using snow chains.
- 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 they are no longer needed. Do not use tire chains on dry roads.
- Purchase chains or cables from a manufacturer that clearly labels body to tire dimension restrictions. The snow chains or cables must be mounted in pairs on the rear tires only.

If you have any questions regarding snow chains or cables, please contact your Ford/Lincoln authorized dealer.

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TIRE PRESSURE MONITORING SYSTEM

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.

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.

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.

The tire pressure monitoring system 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.

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This device complies with part 15 of the FCC Rules and with Licence exempt RSS Standards of Industry Canada. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Changing Tires With a Tire Pressure Monitoring System


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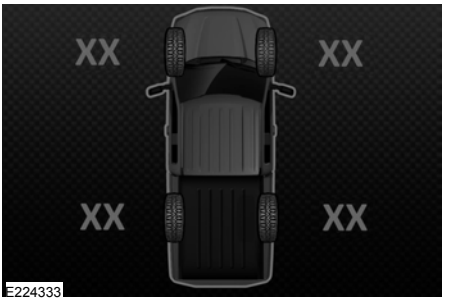
Note: *Each road tire is equipped with a tire pressure sensor located inside the wheel and tire assembly cavity. The pressure sensor is attached to the valve stem. The pressure sensor is covered by the tire and is not visible unless the tire is removed. Take care when changing the tire to avoid damaging the sensor.*

You should always have your tires serviced by an authorized dealer.

Check the tire pressure periodically (at least monthly) using an accurate tire gauge. See Inflating Your Tires in this chapter.

Understanding Your Tire Pressure Monitoring System

The tire pressure monitoring system measures pressure in your four road tires and sends the tire pressure readings to your vehicle.



E224333

The low tire pressure warning light will turn on if the tire pressure is significantly low. Once the light is illuminated, your tires are under-inflated and need to be inflated to the manufacturer's recommended tire pressure. Even if the light turns on and a short time later turns off, your tire pressure still needs to be checked.

When Your Temporary Spare Tire is Installed

When one of your road tires needs to be replaced with the temporary spare, the system will continue to identify an issue to remind you that the damaged road wheel and tire assembly needs to be repaired and put back on your vehicle.

To restore the full function of the tire pressure monitoring system, have the damaged road wheel and tire assembly repaired and remounted on your vehicle.

When You Believe Your System is Not Operating Properly

The main function of the tire pressure monitoring system is to warn you when your tires need air. It can also warn you in the event the system is no longer capable of functioning as intended. See the following chart for information concerning your tire pressure monitoring system:

Low tire pressure warning light	Possible cause	Customer action required
Solid warning light	Tire(s) under-inflated	Make sure tires are at the proper pressure. See Inflating your tires in this chapter. After inflating your tires to the manufacturer's recommended pressure as shown on the Tire Label (located on the edge of driver's door or the B-Pillar), the vehicle must be driven for at least two minutes over 20 mph (32 km/h) before the light turns off.
	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see **When your temporary spare tire is installed** in this section.
	Tire pressure monitoring system malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.
	Tire rotation without sensor training	On vehicles with different front and rear tire pressures, the system must be retrained following every tire rotation. See **Tire Care** (page 354).
Flashing warning light	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see **When your temporary spare tire is installed** in this section.
	Tire pressure monitoring system malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.

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When Inflating Your Tires

When putting air into your tires (such as at a gas station or in your garage), the tire pressure monitoring system may not respond immediately to the air added to your tires.

It may take up to two minutes of driving over 20 mph (32 km/h) for the light to turn off after you have filled your tires to the recommended inflation pressure.

How Temperature Affects Your Tire Pressure

The tire pressure monitoring system monitors tire pressure in each pneumatic tire. While driving in a normal manner, a typical passenger tire inflation pressure may increase about 2 to 4 psi (14 to 28 kPa) from a cold start situation. If the vehicle is stationary overnight with the outside temperature significantly lower than the daytime temperature, the tire pressure may decrease about 3 psi (21 kPa) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value may be detected by the tire pressure monitoring system as being significantly lower than the recommended inflation pressure and activate the system warning light for low tire pressure.

If the low tire pressure warning light is on, visually check each tire to verify that no tire is flat. If one or more tires are flat, repair as necessary. Check the air pressure in the road tires. If any tire is under-inflated, carefully drive the vehicle to the nearest location where air can be added to the tires. Inflate all the tires to the recommended inflation pressure.

Tire Pressure Monitoring System Reset Procedure

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.

Note: *You need to perform the tire pressure monitoring system reset procedure after each tire rotation on vehicles that require different recommended tire pressures in the front tires as compared to the rear tires.*

Overview

To provide the vehicle's load carrying capability, some vehicles require different recommended tire pressures in the front tires as compared to the rear tires. The tire pressure monitoring system equipped on these vehicles is designed to illuminate the low tire pressure warning light at two different pressures; one for the front tires and one for the rear tires.

Since tires need to be rotated to provide consistent performance and maximum tire life, the tire pressure monitoring system needs to know when the tires are rotated to determine which set of tires are on the front and which are on the rear. With this information, the system can detect and properly warn of low tire pressures.

System reset tips:

- To reduce the chances of interference from another vehicle, perform the system reset procedure at least three feet (one meter) away from another Ford Motor Company vehicle undergoing the system reset procedure at the same time.
- Do not wait more than two minutes between resetting each tire sensor or the system will time-out and the entire procedure will have to be repeated on all four wheels.
- A double horn will sound indicating the need to repeat the procedure.

Performing the System Reset Procedure

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 four 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 the reset mode has been entered successfully, the horn will sound once, the system indicator will flash and a message is shown in the information display. If this does not occur, please try again 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 is shown in the information display, seek service from your authorized dealer.
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 clockwise order: Left front (driver's side front tire), Right front (passenger's side front tire), Right rear (passenger's side rear tire), Left rear (driver's side rear 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 rear tire. Decrease the air pressure until the horn sounds.
9. Remove the valve cap from the valve stem on the left rear tire. Decrease the air pressure until the horn sounds. Training is complete after the horn sounds for the last tire trained (driver's side rear tire), the system indicator stops flashing, and a message is shown in the information display.
10. 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, seek assistance from your authorized dealer.

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11. Set all four 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's seating position) or Tire Label located on the B-Pillar or the edge of the driver's door.

CHANGING A ROAD WHEEL

WARNINGS

Do not use tire sealants as they may damage the tire pressure monitoring system.

If the tire pressure monitor sensor becomes damaged it may not function.

Note: *The tire pressure monitoring system indicator light will illuminate when the spare tire is in use. To restore the full function of the monitoring system, all road wheels equipped with tire pressure monitoring sensors must be mounted on this vehicle.*

If you get a flat tire while 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 in order to prevent damage to the system sensors See **Tire Pressure Monitoring System** (page 370). Replace the spare tire with a road tire as soon as possible. During repairing or replacing of the flat tire, have the authorized dealer inspect the system sensor for damage.

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 and can be one of three types:

1. **T-type mini-spare:** This spare tire begins with the letter T for tire size and may have Temporary Use Only molded in the sidewall.

2. **Full-size dissimilar spare with label on wheel:** This spare tire has a label on the wheel that states: THIS WHEEL AND TIRE ASSEMBLY FOR TEMPORARY USE ONLY

When driving with one of the dissimilar spare tires listed above, do not:

- Exceed 50 mph (80 km/h).
- Load the vehicle beyond maximum vehicle load rating listed on the Safety Compliance Label.
- Tow a trailer.
- Use snow chains on the end of the vehicle with the dissimilar spare tire.
- Use more than one dissimilar spare tire at a time.

- Use commercial car washing equipment.
- Try to repair the dissimilar spare tire.

Use of one of the dissimilar spare tires listed above at any one wheel location can lead to impairment 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.
- All-wheel driving capability.

3. **Full-size dissimilar spare without label on wheel**

When driving with the full-size dissimilar spare wheel and tire assembly, do not:

- Exceed 75 mph (120 km/h).
- Use more than one dissimilar spare wheel and tire assembly at a time.
- Use commercial car washing equipment.
- Use snow chains on the end of the vehicle with the dissimilar spare wheel and tire assembly.

The usage of a full-size dissimilar spare wheel and tire assembly can lead to impairment 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.
- All-wheel driving 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.

Tire Change Procedure

WARNINGS

When one of the front wheels is off the ground, the transmission alone will not prevent the vehicle from moving or slipping off the jack, even if the transmission is in park (P).

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.

Do not work on your vehicle when the jack is the only support. If the vehicle slips off the jack, you or someone else could be seriously injured.

Do not attempt to change a tire on the side of the vehicle close to moving traffic. Pull far enough off the road to avoid the danger of being hit when operating the jack or changing the wheel.

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WARNINGS

Always use the jack provided as original equipment with your vehicle. If using a jack other than the one provided, make sure the jack capacity is adequate for the vehicle weight, including any vehicle cargo or modifications. If you are unsure if the jack capacity is adequate, contact the authorized dealer.

Switch off the running boards before jacking or placing any object under your vehicle. Never place your hand between the extended running board and your vehicle. A moving running board may cause injury.

Note: *Only use the spare tire carrier to stow the tire and wheel combination provided with your vehicle. Other tire and wheel combinations can cause the tire carrier to fail.*

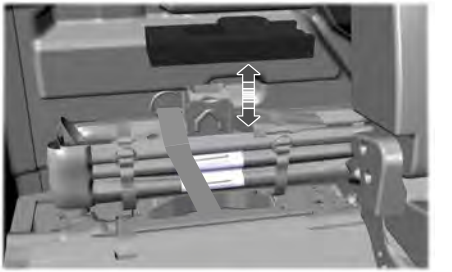
Note: *Do not use impact tools or power tools operating at over 200 RPM on the spare tire carrier, this may cause a winch malfunction and prevent a secure fit. Override the winch at least three times (there will be an audible click each time) to make sure the wheel and tire have been installed securely.*

Note: *Passengers should not remain in the vehicle when the vehicle is being jacked.*

Park on a level surface, activate the hazard flashers and set the parking brake. Then, place the transmission in park (P) and turn the engine off.

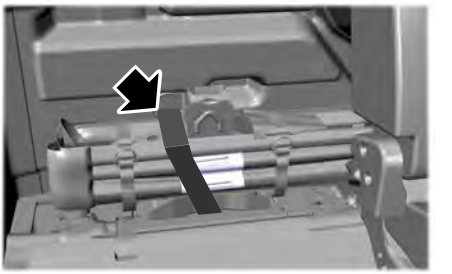
Remove the Vehicle Jack and Tool Bag

The vehicle jack and tool bag are located on the rear passenger side of your vehicle.



E233621

1. Remove the foam top.



E233622

2. Release the strap securing the vehicle jack and tool bag to the vehicle.
3. With slight downward pressure, slide the vehicle jack and tool bag outward, toward the passenger side of the vehicle.
4. Lift the vehicle jack and tool bag off the floor posts and remove from your vehicle.

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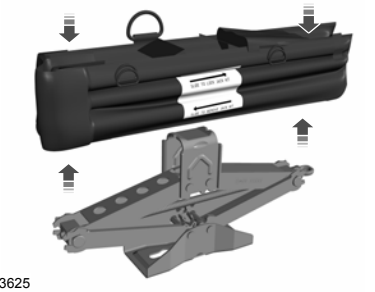
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5. With the vehicle jack and tool bag removed from your vehicle, remove the fuel funnel.



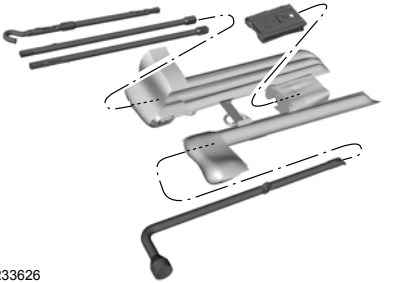
E233624

6. Release the D-ring straps.



E233625

7. Lift the tool bag off of the vehicle jack.



E233626

8. Remove the tools from the tool bag.

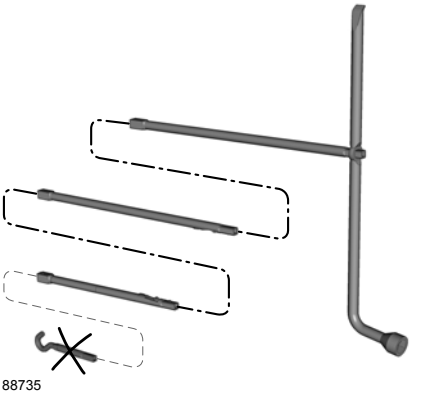
Note: *Only F-150 Raptor trim vehicles receive a wheel chock with the tool bag.*

Removing the Spare Tire

Note: *Remove the hook end from the assembled jack handle before continuing.*

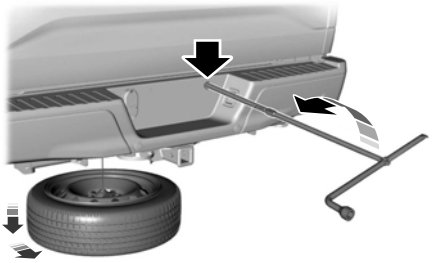
The spare tire is located under the vehicle, just forward of the rear bumper.

1. Use your key to remove the lock cylinder from the access hole of the bumper to allow access to the guide tube.



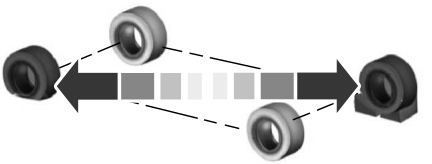
E188735

2. Assemble the jack handle as shown in the illustration.



E184020

3. Fully insert the jack handle through the bumper hole and into the guide tube through the access hole in the rear bumper.
4. Turn the handle counterclockwise until the tire is lowered to the ground, the tire can be slid rearward and the cable is slightly slack.
5. Remove the retainer from the center of the wheel.

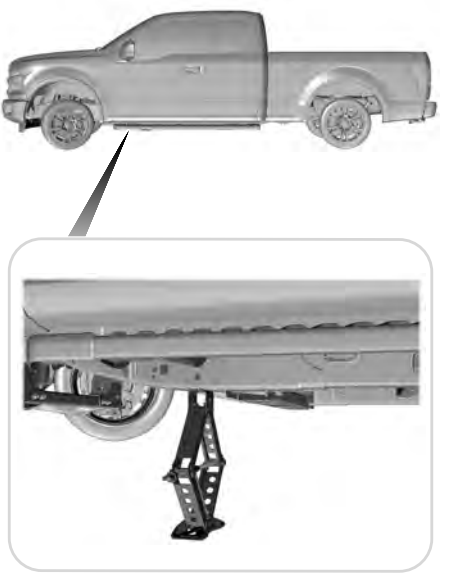


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6. Block both the front and rear of the wheel diagonally opposite the flat tire. For example, if the left front tire is flat, block the right rear wheel.
7. Obtain the spare tire and vehicle jack from their storage locations.
8. Loosen each wheel lug nut on the affected flat tire one-half turn counterclockwise, but do not remove them.

Jacking the Vehicle

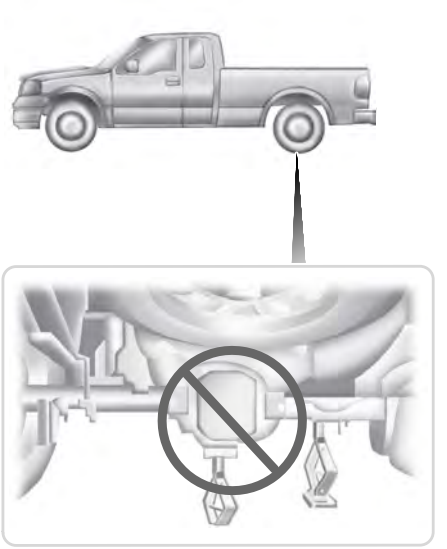
Front Jacking Points



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Note: *Use the frame rail as the jacking location point, not the control arm. The frame rail is marked with an arrow.*

Rear Jacking Points



E166718

Note: *Jack at the specified locations to avoid damage to the vehicle.*

1. Place the vehicle jack at the jacking point next to the tire you are changing. Turn the jack handle clockwise until the wheel is completely off the ground.
2. Remove the lug nuts with the lug wrench.
3. Replace the flat tire with the spare tire, making sure the valve stem is facing outward. Reinstall the lug nuts until the wheel is snug against the hub. Do not fully tighten the lug nuts until the wheel has been lowered.
4. Lower the wheel by turning the jack handle counterclockwise.
5. Remove the vehicle jack and fully tighten the lug nuts in the order shown. See **Technical Specifications** (page 383).
6. Stow the flat tire. See the Stowing the Flat or Spare Tire.
7. Stow the vehicle jack and lug wrench. Make sure the jack is fastened securely before you drive. See Stowing the Vehicle Jack and Tool Bag.
8. Unblock the wheels.



E166719

Stowing the Flat or Spare Tire

Note: *Failure to follow the spare tire stowage instructions may result in failure of the cable or loss of the spare tire.*

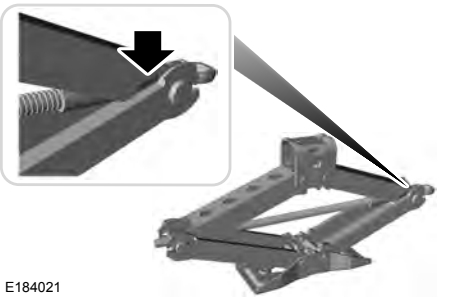
1. Lay the tire on the ground with the valve stem facing up.
2. Slide the wheel partially under the vehicle and install the retainer through the wheel center. Pull on the cable to align the components at the end of the cable.
3. Turn the jack handle clockwise until the tire is raised to its stowed position underneath the vehicle. The effort to turn the jack handle increases significantly and the spare tire carrier ratchets or slips when the tire is raised to the maximum tightness. Tighten to

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the best of your ability, to the point where the ratchet or slip occurs, if possible. The spare tire carrier will not allow you to overtighten. If the spare tire carrier ratchets or slips with little effort, contact your authorized dealer.

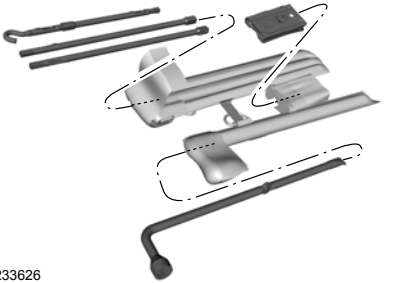
4. Check that the tire lies flat against the frame and is properly tightened. Try to push or pull, then turn the tire to be sure it will not move. Loosen and retighten, if necessary. Failure to properly stow the spare tire may result in failure of the winch cable and loss of the tire.
5. Repeat this tightness check procedure when servicing the spare tire pressure (every six months, as per your scheduled maintenance information), or at any time that the spare tire is disturbed through service of other components.
6. If removed, install the spare tire lock into the bumper drive tube with the spare tire lock key and jack handle.

Stowing the Vehicle Jack and Tool Bag



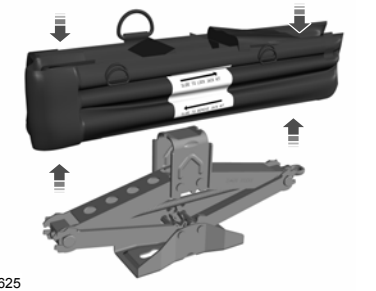
E184021

1. Adjust the jack up or down by rotating the lead screw located on the end of the jack. The stowage markings should line up with the bottom channel.



E233626

2. Place the tools inside of the tool bag.



E233625

3. Install the tool bag to the top of the vehicle jack.



E233624

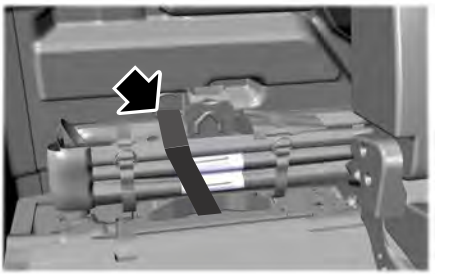
4. Install the D-ring straps that secure the tool bag to the vehicle jack.

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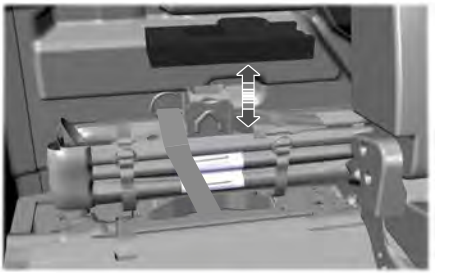
E233623

5. Install the fuel funnel.
6. Position the jack base so the key hole slots align with the posts in the floor.
7. With slight downward pressure, slide the vehicle jack and tool bag inwards toward the driver side of the vehicle until it stops.



E233622

8. Secure the strap that holds the vehicle jack and tool bag to the vehicle.



E233621

9. Install the foam top.

TECHNICAL SPECIFICATIONS

Wheel Lug Nut Torque Specifications

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)
M14 x 1.5	150 lb.ft (204 Nm)

Torque specifications are for nut and bolt threads free of dirt and rust. Use only Ford recommended replacement fasteners.

Retighten the lug nuts to the specified torque within 100 miles (160 kilometers) after any wheel disturbance (such as tire rotation, changing a flat tire, wheel removal).



E145950

A Wheel pilot bore

Inspect the wheel pilot hole and mounting surface prior to installation. Remove any visible corrosion or loose particles.

ENGINE SPECIFICATIONS - 2.7L ECOBOOST™

Measurement	Specification
Cubic inches	164
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	.028-.031 (0.7 - 0.8 mm)
Compression ratio	10.0:1

Drivebelt Routing



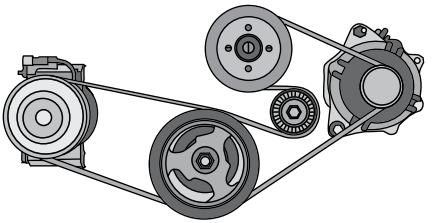
E176088

ENGINE SPECIFICATIONS - 3.5L

Engine	3.5L V6 TiVCT
Cubic inches	213
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	.049-.053 in. (1.25 - 1.35 mm)
Compression ratio	10.8:1

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Drivebelt Routing

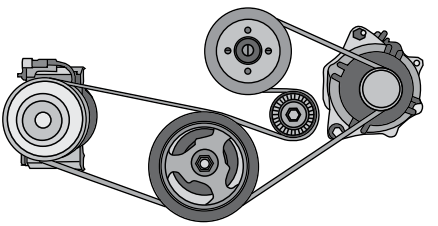


E167467

ENGINE SPECIFICATIONS - 3.5L ECOBOOST™

Measurement	Specification
Cubic inches	213
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	.030-.033 in. (0.75 - 0.85 mm)
Compression ratio	10.5:1

Drivebelt Routing



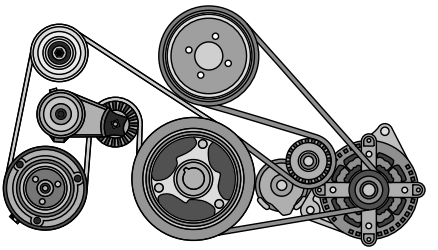
E167467

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ENGINE SPECIFICATIONS - 5.0L

Measurement	Specification
Cubic inches	302
Firing order	1-3-7-2-6-5-4-8
Ignition system	Coil on plug
Spark plug gap	.049-.053 in. (1.25 - 1.35 mm)
Compression ratio	10.5:1

Drivebelt Routing



E167465

MOTORCRAFT PARTS - 2.7L ECOBOOST™

Component	Part Number
Air filter element.	FA-1883
Oil filter.	FL-2062
Battery.	BAGM-48H6-760
	BAGM-94RH7-800 (King Ranch, Lariat and Premium)
Spark plugs.	SP-542
Windshield wiper blade.	WW-2242
Cabin air filter.	FP-79

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For scheduled maintenance, we recommend Motorcraft® replacement parts available at your Ford dealer or at fordparts.com. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft® oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 533).

MOTORCRAFT PARTS - 3.5L

Component	Motorcraft Part number
Air filter element.	FA-1883
Oil filter.	FL-500-S
Battery.	BXT-48H6-610
Spark plugs.	SP-520
Transmission filter.	FT-138
Windshield wiper blade.	WW-2242
Cabin air filter.	FP-79

We recommend Motorcraft replacement parts available at your Ford dealer or at fordparts.com for scheduled maintenance. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 533).

MOTORCRAFT PARTS - 3.5L ECOBOOST™

Component	3.5L Ecoboost
Air filter element.	FA-1883
Oil filter.	FL-500-S
Battery.	BXT-48H6-610
	BXT-94RH7-730 (King Ranch, Lariat and Premium)
Spark plugs.	SP-534
Windshield wiper blade.	WW-2242
Cabin air filter.	FP-79

For scheduled maintenance, we recommend Motorcraft® replacement parts available at your Ford dealer or at fordparts.com. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft® oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 533).

MOTORCRAFT PARTS - 5.0L

Component	Part Number
Air filter element.	FA-1883
Oil filter.	FL-500-S
Battery.	BXT-48H6-610
	BXT-94RH7-730 (King Ranch, Lariat and Premium)
Spark plugs.	SP-519
Windshield wiper blade.	WW-2242
Cabin air filter.	FP-79

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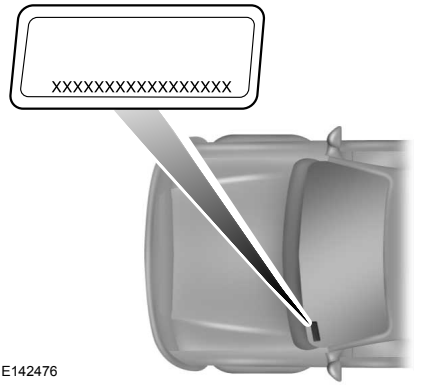
For scheduled maintenance, we recommend Motorcraft® replacement parts available at your Ford dealer or at fordparts.com. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft® oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 533).

VEHICLE IDENTIFICATION NUMBER

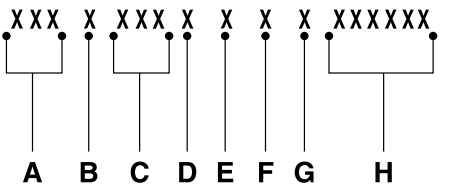
The vehicle identification number is located on the left-hand side of the instrument panel.



E142476

Please note that in the graphic, XXXX is representative of your vehicle identification number.

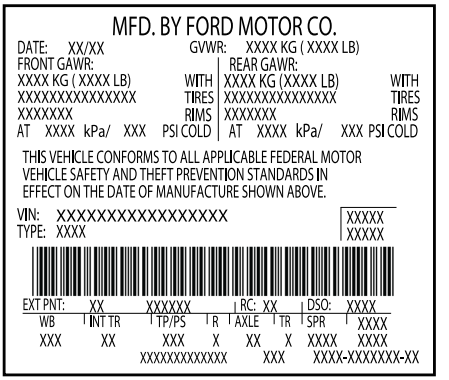
The Vehicle Identification Number contains the following information:



E142477

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 type
E	Check digit
F	Model year
G	Assembly plant
H	Production sequence number

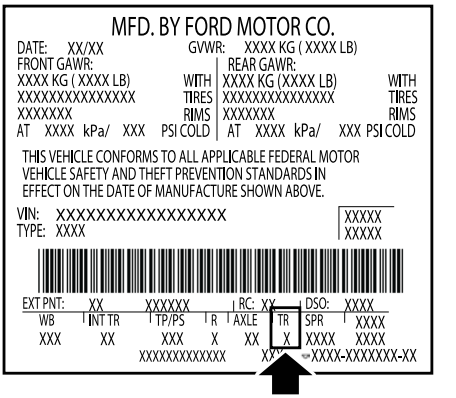
VEHICLE CERTIFICATION LABEL



E167469

The National Highway Traffic Safety Administration Regulations require that a Safety Compliance Certification Label be affixed to a vehicle and prescribe where the Safety Compliance Certification Label may be located. The Safety Compliance Certification Label shall be affixed to either the door hinge pillar, the door latch post, or the edge of the door near the door latch, next to the driver's seating position.

TRANSMISSION CODE DESIGNATION



E167814

The transmission code is on the Safety Compliance Certification Label. The following table shows the transmission code along with the transmission description.

Description	Code
Six-speed automatic transmission 6R80	6
Ten-speed automatic transmission 10R80	G

CAPACITIES AND SPECIFICATIONS - 2.7L ECOBOOST™

Capacities

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.

Item	Capacity
Engine oil (with oil filter)	6.0 qt (5.7 L)
Engine coolant	16.4 qt (15.5 L)
Brake fluid	Between MIN/MAX on brake fluid reservoir
Front axle fluid (Four-wheel drive)	3.5 pt (1.7 L)
Rear axle fluid	5.5 pt (2.6 L)
Automatic transmission fluid	13.1 qt (12.4 L) *
Transfer case fluid Four-wheel drive (Electronic Shift-on-the-Fly)	1.5 qt (1.4 L)
Transfer case fluid Automatic four-wheel drive (Torque on demand)	1.5 qt (1.4 L)
Windshield washer fluid	Fill as required
Fuel tank	23.0 gal (87.1 L)
Fuel tank (Optional)	36.0 gal (136.2 L)
A/C Refrigerant	24 oz (0.68 kg)
A/C Refrigerant Compressor Oil	3.4 fl oz (100.5 ml)

*Approximate dry fill capacity. Actual amount may vary during fluid changes.

Specifications

Materials

Name	Specification
Recommended motor oil (U.S.): Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil XO-5W30-QSP	WSS-M2C946-A
Recommended Motor oil (Canada): Motorcraft® SAE 5W-30 Super Premium Motor Oil CXO-5W30-LSP12	WSS-M2C946-A
Recommended motor oil (Mexico): Motorcraft® SAE 5W-30 Synthetic Motor Oil MXO-5W30-QSP	WSS-M2C946-A
Optional motor oil (U.S. and Mexico): Motorcraft® SAE 5W-30 Full Synthetic Motor Oil XO-5W30-QFS	WSS-M2C946-A
Optional Motor oil (Canada): Motorcraft® SAE 5W-30 Synthetic Motor Oil CXO-5W30-LFS12	WSS-M2C946-A
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Front axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Automatic transmission fluid (U.S. and Mexico):	WSS-M2C938-A

Name	Specification
Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	MERCON LV
Automatic transmission fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Transfer case fluid (U.S. and Mexico): Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Transfer case fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S. and Mexico): R-1234yf Refrigerant HS7Z-19B519-AA	WSS-M17B21-A
A/C refrigerant (Canada): R-1234yf Refrigerant HS7Z-19B519-BA	WSS-M17B21-A
A/C refrigerant compressor oil: R-1234yf Refrigerant PAG Oil YN-35	WSS-M2C300-A2
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5	ESB-M1C93-B

Name	Specification
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	-
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	-
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	-

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage which is not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

We recommend Motorcraft motor oil for your vehicle. If Motorcraft oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



E142732

An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of the International Lubricants Specification Advisory Committee (ILSAC).

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by your vehicle warranty.

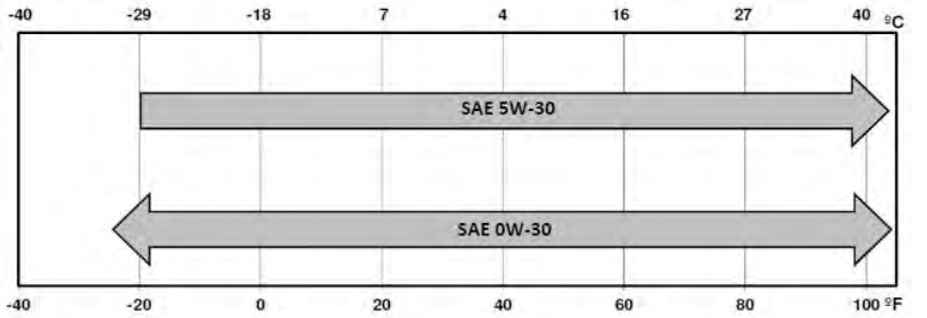
Note: *Ford recommends using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid may cause degraded brake performance and not meet the Ford performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.*

Note: *Automatic transmissions that require MERCON® LV transmission fluid should only use MERCON® LV transmission fluid. The use of any other fluid may cause transmission damage.*

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 -22.0ºF (-30ºC) or below.

Name	Specification
Motorcraft® SAE 0W-30 Premium Synthetic Blend Motor Oil: Engine oil - SAE 0W-30 XO-0W30-QSP	WSS-M2C953-A1



E240523

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.

CAPACITIES AND SPECIFICATIONS - 3.5L

Capacities

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.

Item	Capacity
Engine oil (with oil filter)	6.3 qt (6 L)
Engine coolant	15.1 qt (14.25 L)
Brake fluid	Between MIN/MAX on brake fluid reservoir
Front axle fluid (Four-wheel drive)	3.5 pt (1.7 L)
Rear axle fluid	5.5 pt (2.6 L)
Automatic transmission fluid	13.1 qt (12.4 L) *
Transfer case fluid Four-wheel drive (Electronic Shift-on-the-Fly)	1.5 qt (1.4 L)
Transfer case fluid Automatic four-wheel drive (Torque on demand)	1.5 qt (1.4 L)
Windshield washer fluid	Fill as required
Fuel tank	23.0 gal (87.1 L)
Fuel tank (Optional)	36.0 gal (136.2 L)
A/C Refrigerant	1.5 lb (0.68 kg)
A/C Refrigerant Compressor Oil	3.4 fl oz (100.5 ml)

*Approximate dry fill capacity. Actual amount may vary during fluid changes.

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Specifications

Materials

Name	Specification
Recommended motor oil (U.S.): Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP	WSS-M2C945-A
Recommended motor oil (Canada): Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12	WSS-M2C945-A
Recommended motor oil (Mexico): Motorcraft® SAE 5W-20 Synthetic Motor Oil MXO-5W20-QSP	WSS-M2C945-A
Optional motor oil (U.S. and Mexico): Motorcraft® SAE 5W-20 Full Synthetic Motor Oil XO-5W20-QFS	WSS-M2C945-A
Optional motor oil (Canada): Motorcraft® SAE 5W-20 Synthetic Motor Oil CXO-5W20-LFS12	WSS-M2C945-A
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Front axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Automatic transmission fluid (U.S. and Mexico):	WSS-M2C938-A

Name	Specification
Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	MERCON LV
Automatic transmission fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Transfer case fluid (U.S. and Mexico): Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Transfer case fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S. and Mexico): R-1234yf Refrigerant HS7Z-19B519-AA	WSS-M17B21-A
A/C refrigerant (Canada): R-1234yf Refrigerant HS7Z-19B519-BA	WSS-M17B21-A
A/C refrigerant compressor oil: R-1234yf Refrigerant PAG Oil YN-35	WSS-M2C300-A2
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5	ESB-M1C93-B

Name	Specification
Lock cylinders (U.S. and Mexico): Penetrating and Lock Lubricant XL-1	--
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	--
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	--

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage which is not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

We recommend Motorcraft motor oil for your vehicle. If Motorcraft oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



E142732

An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of the International Lubricants Specification Advisory Committee (ILSAC).

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by your vehicle warranty.

Note: *Ford recommends using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid may cause degraded brake performance and not meet the Ford performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.*

Note: *Automatic transmissions that require MERCON LV transmission fluid should only use MERCON LV transmission fluid. The use of any other fluid may cause transmission damage.*

CAPACITIES AND SPECIFICATIONS - 3.5L ECOBOOST™

Capacities

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.

Item	Capacity
Engine oil (with oil filter)	6.0 qt (5.7 L)
Engine coolant	15.6 qt (14.75 L)
Brake fluid	Between MIN/MAX on brake fluid reservoir
Front axle fluid (Four-wheel drive)	3.5 pt (1.7 L)
Rear axle fluid	5.5 pt (2.6 L)
Automatic transmission fluid	13.1 qt (12.4 L) *
Transfer case fluid Four-wheel drive (Electronic Shift-on-the-Fly)	1.5 qt (1.4 L)
Transfer case fluid Automatic four-wheel drive (Torque on demand)	1.5 qt (1.4 L)
Windshield washer fluid	Fill as required
Fuel tank	23.0 gal (87.1 L)
Fuel tank (Optional)	36.0 gal (136.2 L)
A/C Refrigerant	24 oz (0.68 kg)
A/C Refrigerant Compressor Oil	3.4 fl oz (100.5 ml)

*Approximate dry fill capacity. Actual amount may vary during fluid changes.

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Specifications

Materials

Name	Specification
Recommended motor oil (U.S.): Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil XO-5W30-QSP	WSS-M2C946-A
Recommended Motor oil (Canada): Motorcraft® SAE 5W-30 Super Premium Motor Oil CXO-5W30-LSP12	WSS-M2C946-A
Recommended motor oil (Mexico): Motorcraft® SAE 5W-30 Synthetic Motor Oil MXO-5W30-QSP	WSS-M2C946-A
Optional motor oil (U.S. and Mexico): Motorcraft® SAE 5W-30 Full Synthetic Motor Oil XO-5W30-QFS	WSS-M2C946-A
Optional Motor oil (Canada): Motorcraft® SAE 5W-30 Synthetic Motor Oil CXO-5W30-LFS12	WSS-M2C946-A
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Front axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Automatic transmission fluid:	WSS-M2C94-A

Name	Specification
Motorcraft MERCON ULV Automatic Transmission Fluid XT-12-ULV	MERCON ULV
Transfer case fluid (U.S. and Mexico): Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Transfer case fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S. and Mexico): R-1234yf Refrigerant HS7Z-19B519-AA	WSS-M17B21-A
A/C refrigerant (Canada): R-1234yf Refrigerant HS7Z-19B519-BA	WSS-M17B21-A
A/C refrigerant compressor oil: R-1234yf Refrigerant PAG Oil YN-35	WSS-M2C300-A2
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5	ESB-M1C93-B

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Name	Specification
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	-
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	-
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	-

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage which is not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

We recommend Motorcraft motor oil for your vehicle. If Motorcraft oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



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An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of the International Lubricants Specification Advisory Committee (ILSAC).

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by your vehicle warranty.

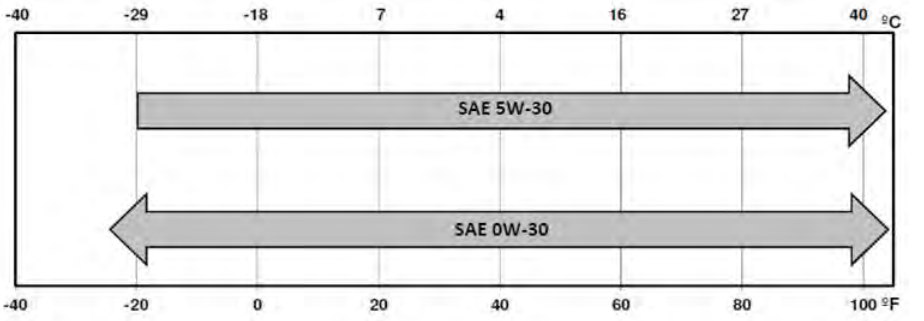
Note: *Ford recommends using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid may cause degraded brake performance and not meet the Ford performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.*

Note: *Automatic transmissions that require MERCON® LV transmission fluid should only use MERCON® LV transmission fluid. The use of any other fluid may cause transmission damage.*

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.

Name	Specification
Motorcraft® SAE 0W-30 Premium Synthetic Blend Motor Oil: Engine oil - SAE 0W-30 XO-0W30-QSP	WSS-M2C953-A1



E240523

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.

CAPACITIES AND SPECIFICATIONS - 5.0L

Capacities

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.

Item	Capacity
Engine oil (with oil filter)	7.7 qt (7.3 L)
Engine coolant	15.9 qt (15 L)
Brake fluid	Between MIN/MAX on brake fluid reservoir
Front axle fluid (Four-wheel drive)	3.5 pt (1.7 L)
Rear axle fluid	5.5 pt (2.6 L)
Automatic transmission fluid	13.1 qt (12.4 L) *
Transfer case fluid Four-wheel drive (Electronic Shift-on-the-Fly)	1.5 qt (1.4 L)
Transfer case fluid Automatic four-wheel drive (Torque on demand)	1.5 qt (1.4 L)
Windshield washer fluid	Fill as required
Fuel tank	23.0 gal (87.1 L)
Fuel tank (Optional)	36.0 gal (136.2 L)
A/C Refrigerant	1.5 lb (0.68 kg)
A/C Refrigerant Compressor Oil	3.4 fl oz (100.5 ml)

*Approximate dry fill capacity. Actual amount may vary during fluid changes.

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Specifications

Materials

Name	Specification
Recommended motor oil (U.S.): Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP	WSS-M2C945-A
Recommended motor oil (Canada): Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12	WSS-M2C945-A
Recommended motor oil (Mexico): Motorcraft® SAE 5W-20 Synthetic Motor Oil MXO-5W20-QSP	WSS-M2C945-A
Optional motor oil (U.S. and Mexico): Motorcraft® SAE 5W-20 Full Synthetic Motor Oil XO-5W20-QFS	WSS-M2C945-A
Optional motor oil (Canada): Motorcraft® SAE 5W-20 Synthetic Motor Oil CXO-5W20-LFS12	WSS-M2C945-A
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Front axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid: Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Automatic transmission fluid (U.S. and Mexico):	WSS-M2C938-A

Name	Specification
Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	MERCON LV
Automatic transmission fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Transfer case fluid (U.S. and Mexico): Motorcraft® MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Transfer case fluid (Canada): Motorcraft® MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S. and Mexico): R-1234yf Refrigerant HS7Z-19B519-AA	WSS-M17B21-A
A/C refrigerant (Canada): R-1234yf Refrigerant HS7Z-19B519-BA	WSS-M17B21-A
A/C refrigerant compressor oil: R-1234yf Refrigerant PAG Oil YN-35	WSS-M2C300-A2
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5	ESB-M1C93-B

Name	Specification
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	--
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	--
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	--

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage which is not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

We recommend Motorcraft motor oil for your vehicle. If Motorcraft oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



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An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of the International Lubricants Specification Advisory Committee (ILSAC).

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by your vehicle warranty.

Note: *Ford recommends using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid may cause degraded brake performance and not meet the Ford performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.*

Note: *Automatic transmissions that require MERCON LV transmission fluid should only use MERCON LV transmission fluid. The use of any other fluid may cause transmission damage.*

GENERAL INFORMATION

Radio Frequencies and Reception Factors

AM and FM frequencies are established by the Federal Communications Commission (FCC) and the Canadian Radio and Telecommunications Commission (CRTC). Those frequencies are:

- AM: 530, 540-1700, 1710 kHz
- FM: 87.9-107.7, 107.9 MHz

Radio Reception Factors	
Distance and strength	The further you travel from an AM or FM station, the weaker the signal and the weaker the reception.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.
Station overload	When you pass a ground-based broadcast repeating tower, a stronger signal may overtake a weaker one and result in the audio system muting.

CD and CD Player Information

Note: *CD units play commercially pressed 4.7 in (12 cm) audio compact discs only. Due to technical incompatibility, certain recordable and re-recordable compact discs may not function correctly when used in Ford CD players.*

Note: *Do not insert CDs with homemade paper (adhesive) labels into the CD player as the label may peel and cause the CD to become jammed. You should use a permanent felt tip marker rather than adhesive labels on your homemade CDs. Ballpoint pens may damage CDs. Please contact an authorized dealer for further information.*

Note: *Do not use any irregularly shaped discs or discs with a scratch protection film attached.*

Always handle discs by their edges only. Clean the disc with an approved CD cleaner only. Wipe it from the center of the disc toward the edge. Do not clean in a circular motion.

Do not expose discs to direct sunlight or heat sources for extended periods.

MP3 and WMA Track and Folder Structure

Audio systems capable of recognizing and playing MP3 and WMA individual tracks and folder structures work as follows:

- There are two different modes for MP3 and WMA disc playback: MP3 and WMA track mode (system default) and MP3 and WMA folder mode.
- MP3 and WMA track mode ignores any folder structure on the MP3 and WMA disc. The player numbers each MP3 and WMA track on the disc (noted by the MP3 or WMA file extension) from T001 to a maximum of T255. The maximum number of playable MP3 and WMA files may be less depending on the structure of the CD and exact model of radio present.

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- MP3 and WMA folder mode represents a folder structure consisting of one level of folders. The CD player numbers all MP3 and WMA tracks on the disc (noted by the MP3 or WMA file extension) and all folders containing MP3 and WMA files, from F001 (folder) T001 (track) to F253 T255.
- Creating discs with only one level of folders helps with navigation through the disc files.

If you are burning your own MP3 and WMA discs, it is important to understand how the system reads the structures you create. While various files may be present (files with extensions other than MP3 and WMA), only files with the MP3 and WMA extension are played; other files are ignored by the system. This enables you to use the same MP3 and WMA disc for a variety of tasks on your work computer, home computer and your in-vehicle system.

In track mode, the system displays and plays the structure as if it were only one level deep (all MP3 and WMA files play, regardless of being in a specific folder). In folder mode, the system only plays the MP3 and WMA files in the current folder.

DIGITAL RADIO

Note: *HD Radio broadcasts are not available in all markets.*

HD Radio technology is the digital evolution of analog AM/FM radio. Your system has a special receiver that allows it to receive digital broadcasts (where available) in addition to the analog broadcasts, it already receives. Digital broadcasts provide a better sound quality than analog broadcasts with free, crystal-clear audio and no static or distortion. For more information, and a guide to available stations and programming, please visit www.hdradio.com.

When HD Radio is on and you tune to a station broadcasting HD Radio technology, you may notice the HD Radio logo on your screen. When this logo is available, you may also see Title and Artist fields on-screen.

The multicast indicator appears in FM mode (only) if the current station is broadcasting multiple digital broadcasts. The highlighted numbers signify available digital channels where new or different content is available. HD1 signifies the main programming status and is available in analog and digital broadcasts. Other multicast stations (HD2 through HD7) are only available digitally.

When HD Radio broadcasts are active, you can access the following functions:

- ***Scan*** allows you to hear a brief sampling of all available stations. This feature still works when HD Radio reception is on, although it does not scan for HD2-HD7 channels. You may see the HD logo appear if the station has a digital broadcast.
- **Memory presets** allow you to save an active channel as a memory preset. Touch and hold a memory preset slot until the sound returns. There is a brief mute while the radio saves the station. Sound returns when finished. When switching to an HD2 or HD3 memory preset, the sound mutes before the digital audio plays, because the system has to reacquire the digital signal.

Note: *As with any saved radio station, you cannot access a station you save if your vehicle is outside the station's reception area.*

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HD Radio Reception and Station Troubleshooting

	Potential Reception Issues
Reception area	If you are listening to a multicast station and you are on the fringe of the reception area, the station may mute due to weak signal strength.
	If you are listening to HD1, the system switches back to the analog broadcast until the digital broadcast is available again. However, if you are listening to any of the possible HD2-HD7 multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.
Station blending	When the system first receives a station (aside from HD2-HD7 multicast stations), it first plays the station in the analog version. Once the receiver verifies the station is an HD Radio station, it shifts to the digital version. Depending on the station quality, you may hear a slight sound change when the station changes from analog to digital. Blending is the shift from analog to digital sound or digital back to analog sound.

In order to provide the best possible experience, use the contact form to report any station issues found while listening to a station broadcasting with HD Radio technology. Independent entities own and operate each station. These stations are responsible for ensuring all audio streams and data fields are accurate.

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Potential Station Issues		
Issues	**Cause**	**Action**
Echo, stutter, skip or repeat in audio. Increase or decrease in audio volume.	This is poor time alignment by the radio broadcaster.	No action required. This is a broadcast issue.
Sound fading or blending in and out.	The radio is shifting between analog and digital audio.	No action required. The reception issue may clear up as you continue to drive.
There is an audio mute delay when selecting HD2 or HD3, multicast preset or ***Direct Tune***.	The digital multicast is not available until the HD Radio broadcast is decoded. Once decoded, the audio is available.	No action required. This is normal behavior. Wait until the audio is available.
Cannot access HD2 or HD3 multicast channel when recalling a preset or from a direct tune.	The previously stored multicast preset or direct tune is not available in your current reception area.	No action required. The station is not available in your current location.
Text information does not match currently playing audio.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below.*
There is no text information shown for currently selected frequency.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below.*
HD2-HD7 stations not found when ***Scan*** is pressed.	Pressing ***Scan*** disables HD2-HD7 channel search.	No action required. This is normal behavior.

*http://hdradio.com/stations/feedback

HD Radio Technology manufactured under license from DTS U.S. and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of DTS Ford Motor Company and DTS 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.

SATELLITE RADIO (If Equipped)

SIRIUS® broadcasts a variety of music, news, sports, weather, traffic and entertainment satellite radio channels. For more information and a complete list of SIRIUS satellite radio channels, visit www.siriusxm.com in the United States, www.siriusxm.ca in Canada, or call SIRIUS at 1-888-539-7474.

Note: *This receiver includes the eCos real-time operating system. eCos is published under the eCos License.*

Satellite Radio Reception Factors

Potential satellite radio reception issues	
Antenna obstructions	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.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.
Station overload	When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and the audio system may mute.
Satellite radio signal interference	Your display may show ACQUIRING . . . to indicate the interference and the audio system may mute.

SIRIUS® Satellite Radio Service

Note: *SIRIUS 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. Ford Motor Company shall not be responsible for any such programming changes.*

E208625

SIRIUS satellite radio is a subscription-based satellite radio service that broadcasts a variety of music, sports, news, weather, traffic and entertainment programming. Your factory-installed SIRIUS satellite radio system includes hardware and a limited subscription term, which begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For more information on extended subscription terms (a service fee is required), the online media player and a complete list of SIRIUS satellite radio channels, and other features, please visit www.siriusxm.com in the United States, www.siriusxm.ca in Canada, or call SIRIUS at 1-888-539-7474.

Satellite Radio Electronic Serial Number (ESN)

You need your ESN to activate, modify or track your satellite radio account. When in satellite radio mode, tune to channel 0.

Troubleshooting

Message	Condition	Action
Acquiring...	Radio requires more than two seconds to produce audio for the selected channel.	No action required. This message should disappear shortly.
Satellite antenna fault SIRIUS system failure	There is an internal module or system failure present.	If this message does not clear shortly, or with an ignition key cycle, your receiver may have a fault. See an authorized dealer for service.
Invalid Channel	The channel is no longer available.	Tune to another channel or choose another preset.
Unsubscribed Channel	Your subscription does not include this channel.	Contact SIRIUS at 1-888-539-7474 to subscribe to the channel, or tune to another channel.
No Signal	The signal is lost from the SIRIUS satellite or SIRIUS tower to your vehicle antenna.	The signal is blocked. When you move into an open area, the signal should return.
Updating...	Update of channel programming in progress.	No action required. The process may take up to three minutes.
Questions? Call 1-888-539-7474	Your satellite service is no longer available.	Contact SIRIUS at 1-888-539-7474 to resolve subscription issues.
None found Check Channel Guide	All the channels in the selected category are either skipped or locked.	Use the channel guide to turn off the Lock or Skip function on that station.
Subscription Updated	SIRIUS has updated the channels available for your vehicle.	No action required.

USB PORT (If Equipped)

WARNING

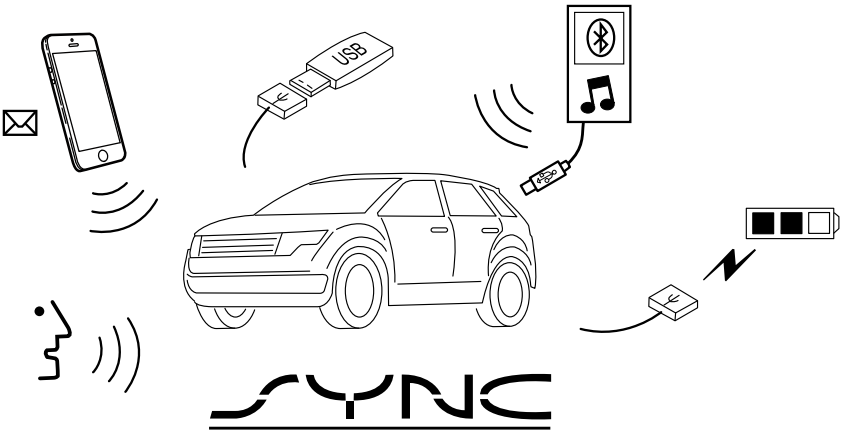
Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held 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.



E205592

The USB port allows you to plug in media playing devices, memory sticks and charge devices (if supported). See your SYNC information.

GENERAL INFORMATION



E198355

SYNC is an in-vehicle communications system that works with your Bluetooth-enabled cellular phone and portable media player. This allows you to:

- Make and receive calls.
- Access and play music from your portable music player.
- Use 911 Assist and applications, such as Spotify and Glympse, via SYNC AppLink.*
- Access phonebook contacts and music using voice commands.
- Stream music from your connected phone.
- Text message.
- Use the advanced voice recognition system.
- Charge your USB device (if your device supports this).

*These features are not available in all markets and may require activation. Available AppLink enabled apps vary by market.

Make sure that you review your device's manual before using it with SYNC.

Support

The SYNC support team is available to help you with any questions you cannot answer on your own.

Monday-Saturday, 8:30am-9:00pm EST.

Sunday, 10:30am-7:30pm EST.

In the United States, call 1-800-392-3673.

In Canada, call 1-800-565-3673.

Times are subject to change due to holidays.

SYNC Owner Account

Why do I need a SYNC owner account?

- Essential for keeping up with the latest software downloads available for SYNC.
- Access to customer support for any questions you may have.

Driving Restrictions

For your safety, certain features are speed-dependent and restricted when your vehicle is traveling over 3 mi (5 km).

Safety Information

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.

When using SYNC:

- Do not operate playing devices if the power cords or cables are broken, split or damaged. Place cords and cables out of the way, so they do not interfere with the operation of pedals, seats, compartments or safe driving abilities.
- Do not leave playing devices in your vehicle during extreme conditions as it could cause them damage. See your device's manual for further information.
- Do not attempt to service or repair the system. See an authorized dealer.

Privacy Information

When a cellular phone is connected to SYNC, the system creates a profile within your vehicle that is linked to that cellular phone. This profile is created in order to offer you more cellular features and to operate more efficiently. Among other things, this profile may contain data about your cellular phone book, text messages (read and unread), and call history, including history of calls when your cellular phone was not connected to the system. In addition, if you connect a media device, the system creates and retains an index of supported media content. The system also records a short development log of approximately 10 minutes of all recent system activity. The log profile and other system data may be used to improve the system and help diagnose any problems that may occur.

The cellular profile, media device index, and development log will remain in the vehicle unless you delete them and are generally accessible only in the vehicle when the cellular phone or media player is connected. If you no longer plan to use the system or the vehicle, we recommend you perform a Master Reset to erase all stored information.

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System data cannot be accessed without special equipment and access to the vehicle's SYNC module. Ford Motor Company and Ford of Canada will not access the system data for any purpose other than as described absent consent, a court order, or where required by law enforcement, other government authorities, or other third parties acting with lawful authority. Other parties may seek to access the information independently of Ford Motor Company and Ford of Canada. For further privacy information, see the section on 911 Assist. See **SYNC™ Applications and Services** (page 433).

USING VOICE RECOGNITION

This system helps you control many features using voice commands. This allows you to keep your hands on the wheel and focus on what is around you.

Initiating a Voice Session



Press the voice button. A list of available voice commands appears in the display.

Global Voice Commands

These voice commands are always available. You can say them at any time.

Global voice commands	
(cancel | exit)	This command ends the voice session. You can also cancel a session by holding the voice button for two or more seconds.
help	This command provides you with hints, examples and instructions.
(main menu | start again)	This command restarts the voice session from the initial starting point.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where; (cancel | exit) appears you say; cancel or exit.

Helpful Hints

- Make sure the interior of your vehicle is as quiet as possible. Wind noise from open windows and road vibrations may prevent the system from correctly recognizing spoken commands.
- Before giving a voice command, wait for the system announcement to finish, followed by a single tone. Any command spoken before this does not register with the system.
- Speak naturally, without long pauses between words.
- You can interrupt the system at any time while it is speaking by pressing the voice button. You can cancel a voice session by pressing and holding the voice button.

System Interaction and Feedback

The system provides feedback through audible tones, prompts, questions and spoken confirmations depending on the situation and the chosen level of interaction. You can customize the voice recognition system to provide more or less instruction and feedback.

The default setting is to a higher level of interaction in order to help you learn to use the system. You can change these settings at any time.

Adjusting the Interaction Level



Press the voice button. When prompted, say:

Voice Command	Action and Description
voice settings	
Then either of the following:	
interaction mode novice	Provides more detailed interaction and guidance. (Recommended for first time users.)
interaction mode advanced	Provides less audible interaction and guidance.

Confirmation Prompts

Confirmation prompts are short questions the system asks when it is not sure of your request or when there is more than one possible response to your request.

To adjust this setting press the voice button, when prompted say:

Voice Command	Action and Description
voice settings	
Then either of the following:	
confirmation prompts off	Make a best guess from the command; you may still occasionally be asked to confirm settings.
confirmation prompts on	Clarify your voice command with a short question.

Phone Confirmation

Using phone confirmations the system asks you to verify before placing any calls.

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To adjust this setting press the voice button, when prompted say:

Voice Command	Action and Description
voice settings	
Then any of the following:	
phone confirmation on	When enabled, this feature will prompt you to confirm any voice initiated call command prior to the call being placed.
phone confirmation off	The system will make a best guess; you may still occasionally be asked to confirm settings.

Changing the Voice Settings

In addition to using voice commands to change the voice settings, you can also use the menu in the audio display.

To change the voice settings press the Menu button then select:

Menu Item
SYNC-Settings
Voice settings

Note: *Depending on the current climate control settings, the fan speed may automatically go down while issuing voice commands or while making and receiving phone calls via SYNC to reduce the amount of background noise in the vehicle. The fan speed will automatically return to normal operation once the voice session ends. Fan speed can also be adjusted normally during a voice session, simply press fan buttons (or turn fan knob) to increase or decrease fan speed to desired setting.*

To disable this automatic fan speed reduction feature during voice sessions, press and hold the climate control AC and Recirculated air buttons simultaneously, release and then increase fan speed within 2 seconds. To re-enable this feature, repeat the above sequence.

USING SYNC™ WITH YOUR PHONE

Hands-free calling is one of the main features of SYNC. While the system supports a variety of features, many are dependent on your cellular phone's functionality. At a minimum, most cellular phones with Bluetooth wireless technology support the following functions:

- Answering an incoming call.
- Ending a call.
- Using privacy mode.
- Dialing a number.
- Redialing.
- Call waiting notification.
- Caller ID.

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Other features, such as text messaging using Bluetooth and automatic phonebook download, are phone-dependent features. To check your phone's compatibility, see your phone's manual and visit www.SYNCMyRide.com, www.SYNCMyRide.ca or www.syncmaroute.ca.

Pairing a Phone for the First Time

Wirelessly pairing your phone with SYNC allows you to make and receive hands-free calls.

Note: *SYNC can support downloading up to approximately 4000 entries per Bluetooth-enabled cellular phone.*

Note: *Make sure to switch on the ignition and the radio. Shift the transmission into park (P) for automatic transmission or first gear for manual transmission.*

Using the Audio System

Note: *To scroll through the menus, press the up and down arrows on your audio system.*

1. Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.
2. Press the **PHONE** button. When the audio display indicates there is no paired phone, select the option to add.
3. When a message to begin pairing appears in the audio display, search for SYNC on your phone to start the pairing process.
4. When prompted on your cell phone's display, confirm that the PIN provided by SYNC matches the PIN displayed on your cell phone. Your phone is now paired and the display indicates that the pairing was successful. If you are prompted to enter a PIN on your device, enter the PIN displayed on the screen. The display indicates when the pairing is successful.

Depending on your phone's capability and your market, the system may prompt you with questions, such as setting the current phone as the primary phone (the phone SYNC automatically tries to connect with first upon vehicle start-up) and downloading your phonebook.

Using Voice Commands



Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.

Press the voice and when prompted say:

Voice Command	Action and Description
(pair ([Bluetooth] device | phone | Bluetooth audio) | add phone)	Follow the instructions on the audio display.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where; (what's | what is) appears you say; what's or what is.

The commands that have [ ] around the word means that the word is optional.

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Depending on your phone's capability and your market, the system may prompt you with questions, such as setting the current phone as the primary phone (the phone SYNC automatically tries to connect with first upon vehicle start-up) and downloading your phonebook.

Pairing Subsequent Phones

Note: *Make sure to switch on the ignition and the radio. Shift the transmission into park (P) for automatic transmission or first gear for manual transmission.*

Note: *To scroll through the menus, press the up and down arrows on your audio system.*

1. Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.
2. Press the **PHONE** button.
3. Select the option for Bluetooth Devices.
4. Press the **OK** button.
5. Select the option to add. This starts the pairing process.
6. When a message to begin pairing appears in the audio display, search for SYNC on your device.
7. When prompted on your cell phone's display, confirm that the PIN provided by SYNC matches the PIN displayed on your cell phone. Your phone is now paired and the display indicates that the pairing was successful. If you are prompted to enter a PIN on your device, enter the PIN displayed on the screen. The display indicates when the pairing is successful.

SYNC may prompt you with more cell phone options. Your cell phone may also prompt you to give SYNC permission to access information. For more information on your cell phone's capability, see your cell phone's manual and visit the website.

Phone Voice Commands



Press the voice button. When prompted, say any of the following:

Voice Command	
(phone | Blackberry | iPhone)	
Then say any of the following:	
call (___)	
call ___ at home	
call ___ ((in|at) [the] office | at work)	
call ___ on (cell | mobile)	
call ___ on other	
dial [[a] number]	1
([go to] privacy | transfer to phone | privacy on)	2
(hold call [on] | place call on hold)	2
join (calls | call)	2
mute call [on]	2
(mute call off | un-mute call)	2
(turn ringer on | silent mode off)	
(turn ringer off | silent mode [on])	

Voice Command
[text] (messages | message) [3]
help

___ is a dynamic listing that should be the name of a contact in your phonebook. For example you could say "Call Home".

[1] See **Dial** table below.

[2] These commands are only valid while in a phone call.

[3] See the text message table below.

Dial Commands

Press the voice button and when prompted say any of the following commands:

Voice Commands
411 (four-one-one), 911 (nine-one-one)
700 (seven hundred)
800 (eight hundred)
900 (nine hundred)
Clear (deletes all entered digits)
Delete (deletes last set of digits entered)
Number <0-9>
Plus
Pound (#)
Star (*)

Note: *To exit dial mode, press and hold the phone button or press any button on the audio system.*

To access text messages say:

Voice Command
[text] (messages | message)
Then say any of the following:
(listen to | read) ([text] message)
forward (text | [text] message)
reply to (text | [text] message)
call [sender]

Phonebook Hints

To hear how the SYNC system speaks a name browse phonebook, select a contact and press:

Menu Item
Hear it

Changing Devices Using Voice Commands

Using SYNC, you can easily access multiple phones, ipods, or USB devices. to switch devices say:

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Voice Command	
(connect | device) ___	You can state the name of the desired device, such as "My iPhone","My Galaxy" or"My iPod". SYNC may ask you to confirm the type of device (Phone, USB, or Bluetooth Audio).

Making Calls



Press the voice button. When prompted, say:

Voice Command	
call [[a] name]	
dial [[a] number]	SYNC prompts you to say the numbers that you wish to dial. After you say the numbers, the system confirms it. You can then say:

When the system has stated the number, you say any of the following:

Voice Command	
(dial | send)	This initiates the call.
(delete | correct)	This erases the spoken digits.

To end the call, press the end call button on the steering wheel or select the end call option in the audio display.

Receiving Calls

Accepting calls

When receiving a call, you can answer the call by pressing the accept call button on the steering wheel or use the screen.

To use the screen to accept a call select:

Menu Item
Accept

Rejecting Calls

When receiving a call, you can reject the call by pressing the reject call button on the steering wheel or use the screen.

To use the screen to reject a call select:

Menu Item
Reject

Ignore the call by doing nothing.

Phone Options during an Active Call

During an active call, you have more menu features that become available, such as putting a call on hold or joining calls.

To access this menu, choose one of the options available at the bottom of the audio display or select **More** to choose from the following options:

Menu Item	Description and action
Mic. off	Switch your vehicle's microphone off. To switch the microphone on, select the option again.
Privacy	Switch a call from an active hands-free environment to your cellular phone for a more private conversation. When selected, the audio display indicates the call is private.
Hold	Put an active call on hold. When selected, the audio display indicates the call is on hold.
Dial a number	Enter numbers using the audio system's numeric keypad (for example, numbers for passwords).
Join calls	Join two separate calls. The system supports a maximum of three callers on a multiparty or conference call. 1. Select the **More** option. 2. Access the desired contact through the system or use voice commands to place the second call. Once actively in the second call, select the **More** option. 3. Scroll to the option to join calls and press the **OK** button.
Phonebook	Access your phonebook contacts. 1. Select the **More** option. 2. Scroll to the option for phonebook and press the **OK** button. 3. Scroll through your phonebook contacts. 4. Press the **OK** button again when the desired contact appears in the audio display. 5. Press the **OK** button or dial button to call the selection.
Call History	Access your call history log. 1. Select the **More** option. 2. Scroll to the option for call history and press the **OK** button. 3. Scroll through your call history options (incoming, outgoing or missed). 4. Press the **OK** button again when the desired selection appears in the audio display. 5. Press the **OK** button or dial button to call the selection.

Accessing Features through the Phone Menu

You can access your call history, phonebook, sent text messages, as well as access phone and system settings.

1. Press the **PHONE** button to enter the phone menu.
2. Select one of the options available.

Display	Description and action
Dial a number	Enter numbers using the audio system's numeric keypad.
Phonebook	Access your downloaded phonebook. 1. Press the **OK** button to confirm and enter. You can use the options at the bottom of the screen to access an alphabetical category quickly. You can also use the letters on the audio system's numeric keypad to jump in the list. 2. Scroll through your phonebook contacts. 3. Press the **OK** button again when the desired selection appears in the audio display. 4. Press the **OK** button or dial button to call the selection.
Call History	Access any previously dialed, received or missed calls. 1. Press the **OK** button to select. 2. Scroll to select incoming, outgoing or missed calls. Press the **OK** button to make your selection. 3. Press the **OK** button or dial button to call the selection.
Speed Dial	Select 1 of 10 speed dial entries. To set a speed dial entry, go to the phonebook and then press and hold one of the numbers on the audio system's numeric keypad.
Text messaging	Send, download and delete text messages.
BT Devices	Access the option for Bluetooth Device menu listings (add, connect, set as primary, on or off, delete).
Phone settings	View various settings and features on your phone.

Text Messaging

Note: *This is a phone-dependent feature.*

SYNC allows you to receive, send, download and delete text messages. The system can also read incoming text messages to you so that you do not have to take your eyes off the road.

Receiving a Text Message

Note: *This is a phone-dependent feature. Your phone must support downloading text messages using Bluetooth to receive incoming text messages.*

Note: *This is a speed-dependent feature and is only available when your vehicle is traveling at 3.1 mph (5 km/h) or less.*

When a new message arrives, an audible tone sounds and the audio display indicates you have a new message.

To hear the message you can say:

Voice command	Description and action
(listen to | read) ([text] message)	Select this option to have the system read the message to you.

Using the screen you also have the following options:

Menu Item	Description and action		
Ignore	Select this option, or do nothing, and the message goes into your text message inbox.		
View	Select the view option to open the text message. Once selected, you have the ability to have the message read to you, to view other messages. For additional options select:		
	More...	If you select this option, use the arrow button to scroll through the following options:	
		Reply to sender	Press the **OK** button to access, and then scroll through a list of pre-defined messages to send.
		Call sender	Press the **OK** button to call the sender of the message.
		Forward msg.	Press the **OK** button to forward the message to anyone in your phonebook or call history. You can also choose to enter a number.

Sending, Downloading and Deleting Your Text Messages

1. Press the **PHONE** button.
2. Select the text messaging option, and then press the **OK** button.

Choose from the following options:

Menu Item	Description and action
New	Allows you to send a new text message based on a pre-defined set of 15 messages.
View	Allows you to read the full message and, in addition, provides the option to have the system read the message to you. To go to the next message, select the **More** option. This allows you to reply to the sender, call the sender or forward the message.
Delete	Allows you to delete current text messages from the system (not your cellular phone). The audio display indicates when the system has deleted all your text messages.
More...	Allows you to delete all messages or manually trigger a download of all unread messages from your cellular phone.

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Sending a Text Message

Note: *You can only send a text message to one recipient at a time.*

1. Select the send option when the desired selection highlights in the audio display.
2. Select the confirmation option when the contact appears.
3. Press the OK button again to confirm when the system asks if you want to send the message. A pre-defined signature appears on each text message.

Note: *You can send text messages either by choosing a contact from the phonebook and selecting the text option from the audio display or by replying to a received message in the inbox.*

Accessing Your Phone Settings

These are phone-dependent features. Your phone settings allow you to access and adjust features such as your ring tone and text message notification, modify your phonebook, and set up automatic download.

1. Press the **PHONE** button.
2. Scroll until the phone settings option appears, and then press the **OK** button.

Scroll to select from the following options:

Menu Item	Description and action
Set as master	If this option is checked, the system uses the cellular phone as the master when there is more than one cellular phone paired to the system. This option can be changed for all cellular phones (not only the active phone) using the Bluetooth Devices menu.
Phone status	See the cellular phone name, provider name, cellular phone number, and signal level. When done, press the left arrow buttons to return to the phone status menu.
Set ringtone	Select which ringtone sounds during an incoming call (one of the system's tones or your cellular phone's). If your phone supports in-band ringing, your phone's ringtone sounds when you choose the cellular phone ringtone option. 1. Press the **OK** button to select and scroll to hear each ringtone. 2. Press the **OK** button to select a ringtone.
Text msg notify	Have the option of hearing an audible tone to notify you when a text message arrives. Press the **OK** button to switch the audible tone off or on.
Phonebook pref.	Modify the contents of your phonebook (such as add, delete or download). Press the **OK** button to select and scroll between the choices in the phonebook preferences table below.

Menu Item	Phonebook preferences	
Add contacts	Push the desired contacts on your cellular phone. See your device's manual on how to push contacts. Press the **OK** button to add more contacts from your phonebook.	
Delete	When a message asking you to delete appears, select the option to confirm. Press the **OK** button to delete the current phonebook and call history. The system takes you back to the menu for phone settings.	
Download now	Press the OK button to select and download your phonebook to the system.	
Auto-download	When automatic download is on, the system deletes any changes (additions or deletions) saved in the system since your last download.	
	When automatic download is off, the system does not download your phonebook when your cellular phone connects to SYNC.	
	You can only access your phonebook, call history and text messages when your paired cellular phone connects to the system. Check or uncheck this option to download your phonebook automatically each time your phone connects to the system. Download times are phone-dependent and quantity-dependent.	
Sorting Pref.	Enabling this feature allows you to select how your contacts are displayed. You can select:	
	First/Last name	Last/First name

Bluetooth Devices

The Bluetooth Devices menu allows you to add, connect and delete devices as well as set a phone as primary.

1. Press the **PHONE** button.
2. Scroll until Bluetooth Devices appears, and then press the **OK** button.

Select from the following options:

Menu Item	Description and action
Add	Pair additional phones to the system. 1. Select the option to add to start the pairing process.

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Menu Item	Description and action
	2. When a message to begin pairing appears in the audio display, search for SYNC on your phone. See your phone's manual if necessary. 3. When prompted on your cell phone's display, confirm that the PIN provided by SYNC matches the PIN displayed on your cell phone. Skip the next step. If you are prompted to enter a PIN on your device, it does not support Secure Simple Pairing. To pair, enter the PIN displayed on the screen. The display indicates when the pairing is successful. 4. When the option to set the phone as primary appears, select either yes or no. 5. SYNC may prompt you with more cell phone options. Your cell phone may also prompt you to give SYNC permission to access information. For more information on your cell phone's capability, see your cell phone's manual and visit the website.
Delete	Select the delete option and confirm when the system asks to delete the selected device. After deleting a phone from the list, you have to repeat the pairing process to pair it again.
Master	The system attempts to connect with the primary cellular phone each time you switch on the ignition. When you select a cellular phone as primary, it appears first in the list, marked with an asterisk. Set a previously paired phone as master by selecting the master option and confirming it as the primary.
Conn.	Connect a previously connected phone. You can only have one phone connected at a time to use the phone's functionality. When you connect another phone, the previous phone disconnects from the telephone services. The system allows you to use different Bluetooth devices for the cellular phone functionality and the Bluetooth audio music playback feature at the same time.
Discon.	Disconnects the selected cellular phone. Select this option and confirm when asked. After disconnecting a phone, you can reconnect it again without repeating the full pairing process.

System Settings

1. Press the **MENU** button.
2. Select the SYNC settings option, and then press the **OK** button.

Scroll to select from the following options:

Display	Description and action
Bluetooth on	Check or uncheck this option to switch the system's Bluetooth interface off or on. Select this option, and then press the **OK** button to change the option's status.
Set defaults	Return to the factory default settings without erasing your indexed information (such as phonebook, call history, text messages and paired devices). Select this option and confirm when prompted in the audio display.
Master reset	Completely erase all information stored in the system (such as phonebook, call history, text messages and paired devices) and return to factory default settings.
Install on SYNC	Install downloaded applications or software updates. Select this option and confirm when prompted in the audio display. There must be a valid SYNC application or update available on the USB drive in order to finish an installation successfully.
System info	Display the system's version numbers as well as its serial number. Press the **OK** button to select.
Voice settings	The voice settings submenu contains various options. See **Using Voice Recognition** (page 419).
Browse USB	Browse the actual menu structure of the connected USB device. Press the **OK** button and use the up and down arrow buttons to scroll through the folders and files. Use the left or right arrow buttons to enter or leave a folder. You can select media content for playback from this menu.

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SYNC™ APPLICATIONS AND SERVICES (If Equipped)

In order for the following features to work, your cellular phone must be compatible with SYNC. To check your phone's compatibility, visit www.SYNCMyRide.com, www.SYNCMyRide.ca or www.syncmaroute.ca.

- 911 Assist: Can alert 911 in the event of an emergency.
- SYNC AppLink: Allows you to connect to and use certain applications such as Spotify and Glympse (if your phone is compatible).

These features may require activation. Available AppLink enabled apps vary by market.

911 Assist

WARNINGS

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.

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.

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.

Note: *The SYNC 911 Assist feature must be set on before the incident.*

Note: *The SYNC 911 Assist feature only operates in the U.S., Canada or in a territory in which 911 is the emergency number.*

Note: *Before setting this feature on, make sure that you read the 911 Assist Privacy Notice later in this section for important information.*

Note: *If any user switches 911 Assist to on or off, that setting applies for all paired phones. If 911 Assist is switched off, either a voice message plays or a display message or an icon comes on when your vehicle is started and after a previously paired phone connects.*

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

If a crash deploys an airbag (excluding knee airbags and rear inflatable safety belts [if equipped]) or activates the fuel pump shut-off, your SYNC-equipped vehicle may be able to contact emergency services by dialing 911 through a paired and connected Bluetooth-enabled phone. You can learn more about the 911 Assist feature, visit www.SYNCMyRide.com, www.SYNCMyRide.ca or www.syncmaroute.ca.

See **Supplementary Restraints System** (page 45). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 295). Important information about the fuel pump shut-off is in this chapter.

Setting 911 Assist On or Off

Press Menu then select

Menu Item	Action and Description
SYNC-Applications	
911 Assist	Select the desired option, on or off.

If you choose not to activate this feature you will have the following options:

Menu Item	Action and Description
Voice Reminder ON	Provides a display and voice reminder at phone connection at vehicle start.
Voice Reminder OFF	Provides a display reminder only without a voice reminder at phone connection.

To make sure that 911 Assist works properly:

- SYNC must be powered and working properly at the time of the incident and throughout feature activation and use.
- The 911 Assist feature must be set on before the incident.
- You must pair and connect a Bluetooth-enabled and compatible cell phone to SYNC.
- A connected Bluetooth-enabled phone must have the ability to make and maintain an outgoing call at the time of the incident.
- A connected Bluetooth-enabled phone must have adequate network coverage, battery power and signal strength.
- 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.

In the Event of a Crash

Not all crashes deploy an airbag or activate the fuel pump shut-off (the triggers for 911 Assist). If a connected cell phone sustains damage or loses its connection to SYNC during a crash, SYNC searches for and tries to connect to a previously paired cell phone; SYNC then attempts to call the emergency services.

Before making the call:

- SYNC provides a short window of time (about 10 seconds) to cancel the call. If you fail to cancel the call, SYNC attempts to dial 911.
- SYNC says the following, or a similar message: "SYNC 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 SYNC makes a successful call, a pre-recorded message plays for the 911 operator, and then the occupant(s) in your vehicle is able to talk with the operator. Be prepared to provide your name, phone number and location immediately, because not all 911 systems are capable of receiving this information electronically.

911 Assist May Not Work If

- Your cellular phone or 911 Assist hardware sustains damage in a crash.
- The vehicle's battery or the SYNC system has no power.
- The phone(s) thrown from your vehicle are the ones paired and connected to the system.

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911 Assist Privacy Notice

When you switch on 911 Assist, 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. Certain versions or updates to 911 Assist may also be capable of electronically or verbally disclosing to 911 operators your vehicle location or other details about your vehicle or crash to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not switch the feature on.

SYNC Mobile Apps

The system enables voice and steering wheel control of SYNC AppLink enabled smartphone apps. When an app is running through AppLink, you can control main features of the app through voice commands and steering wheel controls.

Note: *You must pair and connect your smartphone to SYNC to access AppLink.*

Note: *iPhone users need to connect the phone to the USB port.*

Note: *Android users need to connect the phone to SYNC using Bluetooth.*

Note: *For information on available apps, supported smartphone devices and troubleshooting tips please visit the Ford website.*

Availability of SYNC AppLink enabled Apps will vary by region.

Note: *Make sure you have an active account for the app that you have downloaded. Some apps work automatically with no setup. Other apps want you to configure your personal settings and personalize your experience by creating stations or favorites. We recommend you do this at home or outside of your vehicle.*

Note: *AppLink is not available if your vehicle is equipped with the MyFordTouch system.*

To Access Using the SYNC Menu

Press the MENU button to access the menu on-screen. Then select:

Menu Item	Action and Description
SYNC-Apps	
Mobile Apps	Scroll through the list of available applications and select a particular app or select:
	Find New Apps

Note: *If you cannot find a compatible SYNC AppLink app, make sure the required app is running on the mobile device.*

Accessing an App's Menu

When an app is running through SYNC, press the right arrow button on the steering wheel control to access the app menu.

You can access various app features from here, for example thumbs up and thumbs down.

Press the left arrow button on the steering wheel control to exit the app menu.

To Access Using Voice Commands

Press the voice button then when prompted say:

Menu Item	Action and Description
mobile (apps | applications)	Say the name of the application after the tone. The app should start. When an app is running through SYNC, you can press the voice button and speak commands specific to the app, for example "Play Playlist Road Trip".
help	Use this command to discover the available voice commands.

SYNC Mobile App Voice Commands

The following voice commands are always available:

Menu Item	Action and Description
mobile (apps | applications)	SYNC prompts you to say the name of an app to start it on SYNC.
list [mobile] (apps | applications)	SYNC lists all of the currently available mobile apps.
find [new] [mobile] (apps | applications)	Searches your connected mobile device for SYNC-compatible mobile apps.
help	
You can say the name of a mobile app at any time to start the mobile app on SYNC.	

App Permissions

App permissions are organized by groups. You can grant these group permissions individually. You can change a permission group status any time when not driving, by using the settings menu.

When you launch an app using SYNC, the system may ask you to grant certain permissions, for example:

- To allow your vehicle to provide vehicle information to the app such as, but not limited to: Fuel level, fuel economy, fuel consumption, engine speed, rain sensor, odometer, VIN, external temperature, gear position, tire pressure, and head lamp status.
- To allow your vehicle to provide driving characteristic information such as, but not limited to: MyKey, seat belt status, engine revolutions per minute, gear position, braking events, steering wheel angle, and accelerator pedal position.

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- To allow your vehicle to provide location information, including: GPS and speed.
- To allow the app to send push notifications using the vehicle display and voice capabilities while running in a background state. Push notifications may be particularly useful for news or location based apps.

Note: *You only need to grant permissions the first time you use an app with SYNC.*

Note: *Ford is not responsible or liable for any damages or loss of privacy relating to usage of an app, or dissemination of any vehicle data that you approve Ford to provide to an app.*

Enabling and Disabling App Permissions Using the SYNC Menu

Press the MENU button to access the SYNC menu then select:

Menu Item	Action and Description
SYNC-Apps	
Mobile Apps	
All Apps	You can also select a specific app. If the app supports push notifications, this setting is listed. Select to enable or disable the feature as required.

Enabling SYNC Mobile Apps

In order to enable mobile apps, SYNC requires user consent to send and receive app authorization information and updates using the data plan associated with the connected device.

Data is sent to Ford in the United States through the connected device. The information is encrypted and includes your VIN, SYNC module number, anonymous usage statistics and debugging information. Updates may take place automatically.

Note: *You must enable mobile apps for each connected device the first time you select a mobile app using the system.*

Note: *Standard data rates apply. Ford is not responsible for any additional charges you may receive from your service provider, when your vehicle sends or receives data through the connected device. This includes any additional charges incurred due to driving in areas when roaming out of a home network.*

App Status

You can view the current status of an app in the settings menu.

There are three possible statuses:

Menu Item	Action and Description
Update Needed	The system has detected a new app requiring authorization or a general permissions update is required.
Up-To-Date	No update is required.
Updating...	The system is trying to receive an update.

Update settings

Menu Item	Action and Description
Request Update	Select this option from the settings menu to manually preform a needed update.
Disable Updates	Select this option from the settings menu to disable automatic updates. Doing so also disables the use of Mobile Apps on SYNC.

USING SYNC™ WITH YOUR MEDIA PLAYER

You can access and play music from your digital music player over your vehicle's speaker system using the system's media menu or voice commands. You can also sort and play your music by specific categories, such as artist and album.

Note: *The system is capable of indexing up to 15,000 songs.*

SYNC is capable of hosting nearly any digital media player including: iPod, Zune, plays from device players, and most USB drives. SYNC also supports audio formats, such as MP3, WMA, WAV and ACC.

Confirm that the USB device has been formatted correctly and has the following specifications:

- USB 2.0.
- File format must be FAT16/32.

The format of the audio files on the USB device must be:

- MP3.
- Non DRM protected WMA.
- WAV.
- AAC.

Connecting Your Digital Media Player to the USB Port

Note: *If your digital media player has a power switch, make sure you switch it on before plugging it in.*

To Connect Using Voice Commands

Plug the device into one of the vehicle's USB ports.

Press the voice button and when prompted, say:

Voice Command	Action and Description
(USB [stick] | iPod | MP3 [player])	You can now play music by saying any of the appropriate voice commands. See the media voice commands.

Words in brackets [ ] are optional and do not have to be spoken for the system to understand the command. For example, for where (USB [stick] | iPOD | MP3 [player]) appears, you can say USB or USB stick.

To Connect Using the System Menu

1. Plug the device into one of the vehicle's USB ports.
2. Press the **MEDIA** button and select either USB 1 or USB 2 from the media source list in the audio display.

To view USB content select:

Message	Description and Action
Browse USB	Depending on how many media files are on your connected device, an indexing message may appear in the display. When indexing is complete, the selected source starts to playback audio automatically.

You can browse the files on the USB device in categories. Select BROWSE from the buttons at the bottom of the audio display and choose from the following:

Message
Play all
Playlists
Songs
Artists

Message
Albums
Genres
Browse USB
Reset USB

Media Voice Commands



Press the voice button and when prompted say:

Voice Command	Description and Action
(USB [stick] | iPod | MP3 [player])	You can now play music by saying any of the appropriate voice commands.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where; (what's | what is) appears you say; what's or what is.

You must say any of the voice commands that appear outside of open and close brackets. For example, where; (what's | what is) playing, you must say either "what's playing" or "what is playing".

Command	Description and Action
pause	Pauses device playback.
play	Resumes device playback.
play [album] ___	
play all	Play all media on the device from the first track to the last.
play [artist] ___	
play [genre] ___	
play [playlist] ___	
next [track | title | song | file | podcast | chapter | episode]	Plays the next track on the current media.
previous [track | title | song | file | podcast | chapter | episode]	Plays the previous track on current media.
[play] (similar music | more like this)	Creates a playlist with a similar genre to the one currently playing.
play [song | track | title | file] ___	
repeat off	
repeat (one | track) [on]	Repeats the current track.

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Command	Description and Action
shuffle [all] [on]	Plays the current playlist in a random order. (Not all devices support this command.)
shuffle off	
((who's | who is) this | who plays this | (what's | what is) playing [now] | (what | which) (song | track | artist) is this | (who's | who is) playing | (what's | what is) this)	At any time during playback, you can press the voice button and ask the system what is playing. The system reads the metadata tags (if populated) of the current track.

___ is a dynamic listing, meaning that it could be the name of anything, such as a group, artist or song. For example you could say "Play artist The Beatles".

Examples of USB Commands

SYNC provides the user with many intuitive ways to find and play a song using voice. For example, if we have a song called "Penny Lane" from the album "Magical Mystery Tour" we can say the following to play this song:

- Play song "Penny Lane".
- Play "Penny Lane".

If we wanted to play the entire album, we can say:

- Play album "Magical Mystery Tour".
- Play "Magical Mystery Tour".

Bluetooth Audio

The system is also capable of playing music from your cellular phone through Bluetooth.

To switch the Bluetooth Audio on, press the MEDIA button and select:

Menu Item
BT audio

Then any of the following:

Voice Command
pause
play
next [track | title | song | file | podcast | chapter | episode]
previous [track | title | song | file | podcast | chapter | episode]

Media Menu Features

The media menu allows you to select how to play your music (such as by artist, genre, shuffle or repeat), find similar music or reset the index of your USB devices.

Press the **MEDIA** button and select either USB 1 or USB 2 from the media source list in the audio display to start USB playback.

Message	Description and Action
Options	This will enter the media menu.

Then any of the following:

Message	Description and Action
Shuffle	Choose to shuffle or repeat your music. Once you make your choice, it remains on until you switch it off.
Repeat track	Choose to shuffle or repeat your music. Once you make your choice, it remains on until you switch it off.
Similar music	You can play similar types of music to the current playlist from the USB port. The system uses the metadata information of each track to compile a playlist. The system then creates a new list of similar tracks and then begins playing. Each track must have the metadata tags populated for this feature. With certain playing devices, if your metadata tags are not populated, the tracks will not be available in voice recognition, the play menu or this option. However, if you place these tracks onto your playing device in mass storage device mode they are available in voice recognition, the play menu or this option. The system places unknowns into any unpopulated metadata tag.
Reset USB	Resets the USB index. After the new indexing is complete you can choose what to play from the USB song library.

Accessing Your USB Song Library

1. Plug the device into your vehicle's USB port.
2. Press the **MEDIA** button (next to the audio display) to select USB playback.

Message	Description and Action
Browse USB	This menu allows you to select and play your media files by artist, album, genre, playlist or track.

If there are no media files to access, the display indicates there is no media.

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If there are media files, you have the following options:

Display	Description and Action
Play all	Play all indexed media files from your device one at a time in numerical order.* Press the **OK** button to select. The first track title appears in the display.
Playlists	Access your playlists (from formats like ASX, M3U, WPL, or MTP).* 1. Press the **OK** button to select. 2. Scroll to select the desired playlist, and then press the **OK** button.
Songs	Search for and play a specific indexed track.* 1. Press the **OK** button to select. 2. Scroll to select the desired track, and then press the **OK** button.
Artists	Sort all indexed media files by artist. The system then lists and plays all artists and tracks alphabetically.* 1. Press the **OK** button to select. 2. Scroll to select the desired artist, and then press the **OK** button.
Albums	Sort all indexed media files by album.* 1. Press the **OK** button to select. 2. Scroll to select the desired album, and then press the **OK** button.
Genres	Sort all indexed media files by genre (category) type.* 1. Press the **OK** button to select. 2. Scroll to select the desired genre, and then press the **OK** button.
Browse USB	Browse all supported media files on your media player connected to the USB port. You can only view media files that are compatible with SYNC. (Other files are not visible.) 1. Press the **OK** button to select.

Display	Description and Action
	2. Scroll to browse indexed media files on the device, and then press the **OK** button.
Reset USB	Resets the USB index. After the new indexing is complete, you can choose what to play from the USB song library.

*You can use the buttons at the bottom of the audio display to jump to a certain alphabetical category quickly. You can also use the letters on the audio system's numeric keypad to jump in the list.

Using Voice Commands

You can access and view your USB songs using voice commands.

Plug the device into your vehicle's USB port.

Press the voice button and when prompted, say any of the following commands:

Accessing and Viewing USB Media
(browse | search | show) all (album | albums)
(browse | search | show) all (artist | artists)
(browse | search | show) all (genre | genres)
(browse | search | show) all (playlist | playlists)
(browse | search | show) all (song | songs | title | titles | file | files | track | tracks)
(browse | search | show) album ___
(browse | search | show) artist ___
(browse | search | show) genre ___
(browse | search | show) playlist ___

USB 2 (If Equipped)

Your vehicle may come equipped with an additional USB port. If so, USB 1 is located at the front of the vehicle at the bottom of the instrument panel. USB 2 is located inside the storage compartment of the vehicle's center console.

You can plug in an additional USB device into the second USB port.

You can access both USB devices by using voice commands.

To access a USB device press the voice button and when prompted say:

Voice command
USB 1
USB 2

Note: *SYNC only supports one connected iOS (Apple) devices at a time (whichever one you plug in first). When you connect a second iOS device, the systems charges it, but does not support playback from it.*

Bluetooth Devices and System Settings

You can access these menus using the audio display. See **Using SYNC™ With Your Phone** (page 421).

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Voice Commands for Audio Sources

Your voice system allows you to change audio sources with a simple voice command.



Press the voice button and when prompted say:

Voice Command
(music | audio | entertainment) [system]
Below are a few examples of voice commands you can use.
[tune [to]] AM
[tune [to]] AM1
[tune [to]] AM (autostore | AST | autoset)
[tune [to]] AM 2
Bluetooth (audio | stereo)
(disc | CD [player]) play
[tune [to]] FM
[tune [to]] FM1
[tune [to]] FM (autostore | AST | autoset)
[tune [to]] FM 2
Radio
tune [to] SAT *
Sirius *
(USB [stick] | iPod | MP3 [player])
((who's | who is) this | who plays this | (what's | what is) playing [now] | (what | which) (song | track | artist) is this | (who's | who is) playing | (what's | what is) this)
help

* If equipped.

Radio Voice Commands



If you are listening to the radio, press the voice button, and then say any of the commands in the following table.

If you are not listening to the radio, press the voice button and, after the tone, say:

Voice Command
Radio
You can then say any of the following commands.
[tune [to]] AM
[tune [to]] AM1
[tune [to]] AM (autostore | AST | autoset)
[tune [to]] AM 2
[tune [to]] (AM ___ | ___ [AM])
[tune [to]] AM preset ___
[tune [to]] AM1 preset ___
[tune [to]] FM
[tune [to]] FM1
[tune [to]] FM (autostore | AST | autoset) preset ___

Voice Command
[tune [to]] FM 2
[tune [to]] (FM ___ | ___ [FM])
[tune [to]] FM preset ___
FM ___ HD ___ *
[tune [to]] FM 2 preset ___
HD ___ *
[tune [to]] preset ___
Tune
help

* If equipped.

Sirius Satellite Radio Voice Commands (If equipped)

To listen to Sirius satellite radio, press the voice button and, after the tone, say:

Voice Commands
Sirius

When you are listening to Sirius satellite radio, you can press the voice button, and say any of the commands in the following table.

Voice Commands
tune [to] SAT
[tune [to]] SAT 1
[tune [to]] SAT 2
[tune [to]] SAT 3
[tune [to]] preset ___
[tune [to]] SAT 1 preset ___
[tune [to]] SAT 2 preset ___
[tune [to]] SAT 3 preset ___
tune [to] [Sirius]
Help
[tune [to]] Sirius [channel] ___ — You can say the channel number (0-233) to listen to that Sirius station.

CD Voice Commands

If you are listening to a CD, press the voice button, and then say any of the commands in the following table.

If you are not listening to a CD, press the voice button and, after the tone, say:

Voice Command
(disc | CD [player]) play
You can then say any of the following commands.
pause
play
[play] next track
[play] previous track
[play | change to] track [number] ___
repeat (track | song) [on]
repeat folder [on]
repeat off
(shuffle | random | mix) [on | (tracks | songs) [on]]

Voice Command
(shuffle | random | mix) (CD [player] | disc) [on]
(shuffle | random | mix) folder [on]
shuffle off

Use the website at any time to check your phone's compatibility, register your account and set preferences as well as access a customer representative via an online chat (during certain hours). Visit www.SYNCMyRide.com, www.SYNCMyRide.ca or www.syncmaroute.ca for more information.

SYNC™ TROUBLESHOOTING

Your SYNC system is easy to use. However, should questions arise, see the tables below.

Phone issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
There is excessive background noise during a phone call.	The audio control settings on your phone may be affecting SYNC performance.	Review your phone's manual about audio adjustments.
During a call, I can hear the other person but they cannot hear me.	This may be a possible phone malfunction.	Try turning off the device, resetting the device, removing the device's battery, then trying again.
SYNC is not able to download my phonebook.	This is a phone-dependent feature.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again. Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.
	This may be a possible phone malfunction.	Use the SYNCmyphone feature available on the website.
The system says Phonebook Downloaded but the phonebook in SYNC is empty or missing contacts.	This may be a limitation on your phone's capability.	Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.

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Phone issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
		If the missing contacts are stored on your SIM card, try moving them to the device memory. Remove any pictures or special ring tones associated with the missing contact. Depending upon your phone, you may have to grant SYNC permission to access your phonebook contacts. Make sure to confirm when prompted by your phone during the phonebook download.
I am having trouble connecting my phone to SYNC.	This is a phone-dependent feature. This may be a possible phone malfunction.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again. Try deleting your device from SYNC, deleting SYNC from your device and trying again. Check the security and auto accept and prompt always settings relative to the SYNC Bluetooth connection on your phone. Update your device's firmware.

Phone issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
		Turn off the Auto phone-book download setting.
Text messaging is not working on SYNC.	This is a phone-dependent feature. This may be a possible phone malfunction.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again.

USB and media issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
I am having trouble connecting my device.	This may be a possible device malfunction.	Try turning off the device, resetting the device, removing the device's battery, then trying again. Make sure you are using the manufacturer's cable. Make sure you insert the USB cable correctly into the device and the USB port. Make sure that the device does not have an auto-install program or active security settings.
SYNC does not recognize my device when I turn on the car.	This is a device limitation.	Make sure you are not leaving the device in your vehicle during very hot or cold temperatures.
Bluetooth audio does not stream.	This is a phone-dependent feature.	Review the device compatibility chart on the SYNC website to confirm your phone supports the Bluetooth audio streaming function.

USB and media issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
	The device is not connected.	Make sure you correctly connect the device to SYNC, and that you have pressed play on your device.
SYNC does not recognize music that is on my device.	Your music files may not contain the correct artist, song title, album or genre information.	Make sure that all song details are populated.
	The file may be corrupted.	
	The song may have copy-right protection, which does not allow it to play.	Some devices require you to change the USB settings from mass storage to MTP class.

Voice command issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
SYNC does not understand what I am saying.	You may be using the wrong voice commands.	Review the phone voice commands and the media voice commands at the beginning of their respective sections.
	You may be speaking too soon or at the wrong time.	After pressing the voice icon, wait until after the tone sounds and Listening appears before saying a command. Any command spoken before this does not register with the system.
SYNC does not understand the name of a song or artist.	You may be using the wrong voice commands.	Review the media voice commands at the beginning of the media section.

Voice command issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
	You may be saying the name differently than the way you saved it.	Say the song or artist exactly as listed. If you say "Play Artist Prince", the system does not play music by Prince and the Revolution or Prince and the New Power Generation. Make sure you are saying the complete title, such as "California remix featuring Jennifer Nettles".
	The system may not be reading the name the same way you are saying it.	If the song titles are in all CAPS, you have to spell them. LOLA requires you to say "L-O-L-A". Do not use special characters in the title. The system does not recognize them.
SYNC does not understand or is calling the wrong contact when I want to make a call.	You may be using the wrong voice commands.	Review the Phone voice commands at the beginning of the phone section. Make sure you are saying the contacts exactly as they are listed. For example, if you save a contact as Joe Wilson, say "Call Joe Wilson".
	You may be saying the name differently than the way you saved it.	Using the SYNC phone menu, open the phonebook and scroll to the name SYNC is having trouble understanding. SYNC will read the name to you, giving you some idea of the pronunciation SYNC is expecting.

Voice command issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
	The system may not be reading the name the same way you are saying it.	The system works better if you list full names, such as "Joe Wilson" rather than "Joe".
	Contacts in your phonebook may be very short and similar, or they may contain special characters.	Do not use special characters, such as 123 or ICE, as the system does not recognize them.
	Your phonebook contacts may be in CAPS.	If a contact is in CAPS, you have to spell it. JAKE requires you to say "Call J-A-K-E".

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
AppLink Mobile Applications: When I select "Find New Apps," SYNC does not find any applications.	An AppLink capable phone is not connected to SYNC.	Ensure you have a compatible smartphone; an Android with OS 2.3 or higher or an iPhone 3GS or newer with iOS 5.0 or higher. Additionally, ensure your phone is paired and connected to SYNC in order to find AppLink-capable apps on your device. iPhone users must also connect to SYNC's USB port with an Apple USB cable.
My phone is connected, but I still cannot find any apps.	AppLink-enabled apps are not installed and running on your mobile device.	Ensure you have downloaded and installed the latest version of the app from your phone's app store. Ensure the app is running on your phone. Some apps require you to register or

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
		login on the app on the phone before using them with AppLink. Also, some may have a "Ford SYNC" setting, so check the app's settings menu on the phone.
My phone is connected, my app(s) are running, but I still cannot find any apps.	Sometime apps do not properly close and re-open their connection to SYNC, over ignition cycles, for example.	Closing and restarting apps may help SYNC find the application if you cannot discover it inside the vehicle. On an Android device, if apps have an "Exit' or 'Quit' option, select that then restart the app. If the app does not have that option, you can also manually "Force Close" the app by going to the phone's settings menu, selecting 'Apps.' then finding the particular app and choosing 'Force stop.' Don't forget to restart the app afterwards, then select "Find New Apps" on SYNC. On an iPhone with iOS7+, to force close an app, double tab the home button then swipe up on the app to close it. Tab the home button again, then select the app again to restart it. After a few seconds, the app should then appear in SYNC's Mobile App's Menu.
My Android phone is connected, my app(s) are running, I restarted them, but I still cannot find any apps.	There is a Bluetooth bug on some order versions of the Android operating system that may cause apps that were found on your previous vehicle drive to not be found again if you have not turned off Bluetooth.	Reset the Bluetooth on your phone by turning it off and then turning Bluetooth back on. If you are in your vehicle, SYNC should be able to automatically re-connect to your phone if you press the "Phone" button.

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
My iPhone phone is connected, my app is running, I restarted the app but I still cannot find it on SYNC.	The USB connection to SYNC may need to be reset.	Unplug the USB cable from the phone, wait a moment, and plug the USB cable back in to the phone. After a few seconds, the app should appear in SYNC's Mobile Apps Menu. If not, "Force Close" the application and restart it.
I have an Android phone. I found and started my media app on SYNC, but there is no sound or the sound is very low.	The bluetooth volume on the phone may be low.	Try increasing the Bluetooth volume of the device by using the device's volume control buttons which are most often found on the side of the device.
I can only see some of the AppLink apps running on my phone listed in SYNC's Mobile Apps Menu.	Some Android devices have a limited number of bluetooth ports apps can use to connect. If you have more AppLink apps on your phone than the number of available Bluetooth ports, you will not see all of your apps listed in SYNC's mobile apps menu.	Force close or uninstall the apps you do not want SYNC to find. If the app has a "Ford SYNC" setting, disable that setting in the app's settings menu on the phone.

SYNC System Reset
The SYNC system in your vehicle has System Reset feature that can be performed if the function of a SYNC feature is lost. This reset is intended to restore functionality and will not erase any information previously stored in the system (Such as paired devices, phonebook, call history, text messages, or user settings). To perform a System Reset, press and hold the Seek Up (>>) button while pressing and holding the Radio Power button. Release both buttons after 2-3 seconds. Please allow a few minutes for the reset to complete. After a few minutes has passed you can resume using the SYNC system.

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GENERAL INFORMATION

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.

Getting to Know Your System

The SYNC 3 system allows you to interact with a variety of features using the touchscreen and voice commands. By integrating with your Bluetooth-enabled phone, the touchscreen provides easy interaction with audio, multimedia, climate control, navigation, and your phone's SYNC 3 compatible apps.

Using the Touchscreen

To operate the touchscreen, you can simply touch the item or option that you want to select. The button changes color when you select it.

The SYNC 3 layout allows you to quickly select the feature you wish to use.



Item	Menu Item	Action and Description
A	Status Bar	This bar displays icons and messages pertaining to current system activities including climate settings, voice commands and phone functions such as text messages.
B	Home	This button is available on the main screens. Pressing it takes you to the home screen view.
C	Clock	This shows the current time. You can set the clock manually or have it controlled by the vehicle's GPS location. See **Settings** (page 503).
D	Outside Temperature	This displays the current outside temperature.
E	Feature Bar	You can touch any of the buttons on this bar to select a feature.

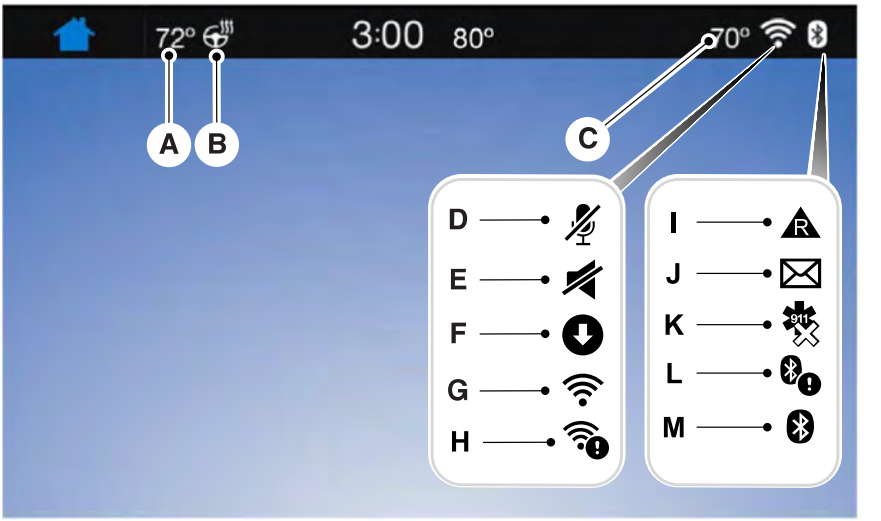
The touchscreen allows you quick access to all of your comfort, navigation, communication and entertainment options. Using the status and feature bar you can quickly select the feature you want to use.

Note: *Your system is equipped with a feature that allows you to access and control audio features for 10 minutes after you switch the ignition off (and no doors open).*

The Status Bar

Additional icons also display in the status bar depending on market, vehicle options and current operation. If a feature is not active, the icon does not display. Certain icons may move to the left or right depending on what options are active.

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Callout	Item	Description
A	Driver Temperature	This shows the temperature the driver selects through the climate control system.
B	Heated steering wheel (If equipped)	When you activate the heated steering wheel option on the touch screen, this icon displays. It only displays when there is not a physical button for the heated steering wheel.
C	Passenger Temperature	When the passenger's temperature has been adjusted and is no longer linked to the driver's temperature, it displays here. If Dual is turned off and the temperatures are linked, the passenger's temperature does not display.
D	Microphone Mute	This icon displays when your phone's microphone is muted. A caller cannot hear you.
E	Mute	This icon displays when the audio system is muted.

Callout	Item	Description
F	Download	This icon appears when SYNC 3 receives a software update. Pressing the icon shows more details about the new software.
G	Wi-Fi	This icon appears if a Wi-Fi network is connected.
H	Wi-Fi in Range	An available Wi-Fi network is within range.
I	Roaming	This icon displays when your cell phone is roaming.
J	Text Message	This icon displays when you receive a text message on your phone.
K	911 Assist Off	This icon displays when 911 Assist is set to off and your phone is connected to SYNC.
L	Bluetooth Alert	The Bluetooth alert icon displays when there is an active Bluetooth alert.
M	Bluetooth	This icon displays to show an active Bluetooth connection.

Messages may also appear in the status bar to provide you with notifications. You can select the message to view the associated feature.

Feature Bar

Feature Bar Item	Functions
Audio	Allows you to control the media playing in your vehicle. You can control all audio features including AM, FM and satellite radio, CDs, and media streaming over a Bluetooth device or through a USB connection.
Climate	Allows you to adjust the temperature, fan speed and airflow within the vehicle.
Phone	Allows you to make calls, receive calls, and access the phonebook of your connected device.

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Feature Bar Item	Functions
Navigation (If equipped)	Allows you to see your vehicle's location on a virtual road map, get driving directions to your destination and find points of interest along your route.
Apps	Connect and control SYNC 3 compatible apps running on your iphone or android device. Also, access built-in additional features such as SiriusXM Traffic and Travel Link (if equipped).
Settings	You can customize your system with various settings for the touchscreen display, feature preferences, and how you want to interact with your vehicle.

Cleaning the Touchscreen

You can remove fingerprints with a dry, clean, soft cloth.

If dirt or fingerprints are still on the screen, apply a small amount of alcohol to the cloth and try to clean it again.

Note: *Do not use detergent or any type of solvent to clean the touchscreen.*

Note: *Do not pour or spray alcohol onto the touchscreen.*

Using Voice Recognition

Using voice commands allows you to keep your hands on the wheel and focus on what is in front of you. The system provides feedback through audible tones, prompts, questions and spoken confirmations depending on the situation and the chosen level of interaction (voice settings).

The system also asks short questions (confirmation prompts) when it is not sure of your request or when there are multiple possible responses to your request.

When using voice commands, words and icons may appear in the status bar indicating the status of the voice command session. See **Using Voice Recognition** (page 467).

Using the Steering Wheel Controls

Depending on your vehicle and option package, you can use different controls on your steering wheel to interact with the touchscreen system in different ways.

VOL: Control the volume of audio output.

Mute: Mute the audio output.

Voice: Press to start a voice session. Press again to stop the voice prompt and immediately begin speaking. Press and hold to end a voice session.

SEEK NEXT:

- While in radio mode, press to seek between memory presets.
- While in USB, Bluetooth Audio or CD mode, press to seek between songs or press and hold to fast seek.

SEEK PREVIOUS:

- While in radio mode, press to seek between memory presets.
- While in USB, Bluetooth Audio or CD mode, press to seek between songs or press and hold to fast seek.

PHONE ACCEPT: Press to answer a call or switch between calls.

PHONE REJECT: Press to end a call or reject an incoming call.

Note: *On some models,* ***SEEK NEXT*** *may be combined with* ***PHONE REJECT*** *and* ***SEEK PREVIOUS*** *may be combined with* ***PHONE ACCEPT.***

M: Touch the control repeatedly to switch between media sources (modes).

See **Steering Wheel** (page 81).

Using Your Bezel Controls

Depending on your vehicle and option package, you may also have these controls on your instrument panel:

- **Power:** Switch the audio system on and off.
- **VOL:** Control the volume of playing audio.
- **Seek** and **Tune:** Use as you normally would in audio modes.
- **Eject:** Eject a CD from the audio system.
- **SOURCE** or **MEDIA:** Press repeatedly to advance through available media modes.
- **SOUND:** Press to access the Sound menu where you can adjust sound and other audio settings.
- **1-6:** Press and hold to store or press to select an AM, FM or SIRIUS memory preset. See **Audio System** (page 410).
- **DISP:** Switch the display on or off. You can also touch the screen to switch the display back on.
- **Temperature, fan and climate control buttons:** Control the temperature, fan speed or settings of the climate control system. See **Climate Control** (page 140).

911 Assist

WARNINGS

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.

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.

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.

Note: *The SYNC 911 Assist feature must be set on before the incident.*

Note: *The SYNC 911 Assist feature only operates in the U.S., Canada or in a territory in which 911 is the emergency number.*

Note: *Before setting this feature on, make sure that you read the 911 Assist Privacy Notice later in this section for important information.*

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

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

If a crash deploys an airbag (excluding knee airbags and rear inflatable safety belts [if equipped]) or activates the fuel pump shut-off, your SYNC-equipped vehicle may be able to contact emergency services by dialing 911 through a paired and connected Bluetooth-enabled phone. You can learn more about the 911 Assist feature, by visiting:

Website
www.owner.ford.com www.syncmyride.ca www.syncmaroute.ca

See **Supplementary Restraints System** (page 45). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 295). Important information about the fuel pump shut-off is in this chapter.

To switch 911 Assist on and off please view the settings information. See **Settings** (page 503).

To make sure that 911 Assist works correctly:

- SYNC must be powered and working properly at the time of the incident and throughout feature activation and use.
- The 911 Assist feature must be set on before the incident.
- You must pair and connect a Bluetooth-enabled and compatible cell phone to SYNC.
- A connected Bluetooth-enabled phone must have the ability to make and maintain an outgoing call at the time of the incident.
- A connected Bluetooth-enabled phone must have adequate network coverage, battery power and signal strength.
- 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.

In the Event of a Crash

Not all crashes will deploy an airbag or activate the fuel pump shut-off (the triggers for 911 Assist). If a connected cell phone sustains damage or loses its connection to SYNC during a crash, SYNC will search for and try to connect to a previously paired cell phone; SYNC will then attempt to call the emergency services.

Before making the call:

- SYNC provides a short window of time (about 10 seconds) to cancel the call. If you fail to cancel the call, SYNC attempts to dial 911.
- SYNC says the following, or a similar message: "SYNC 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 SYNC makes a successful call, a pre-recorded message plays for the 911 operator, and then the occupant(s) in your vehicle is able to talk with the operator. Be prepared to provide your name, phone number and location immediately, because not all 911 systems are capable of receiving this information electronically.

911 Assist May Not Work If

- Your cellular phone or 911 Assist hardware sustains damage in a crash.
- The vehicle's battery or the SYNC system has no power.
- The phone(s) thrown from your vehicle are the ones paired and connected to the system.

911 Assist Privacy Notice

When you switch on 911 Assist, 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. Certain versions or updates to 911 Assist may also be capable of electronically or verbally disclosing to 911 operators your vehicle location or other details about your vehicle or crash to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not switch the feature on.

Safety Information

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.

- Do not attempt to service or repair the system. Have an authorized dealer check your vehicle.
- Do not operate playing devices if the power cords or cables are broken, split or damaged. Place cords and cables out of the way, so they do not interfere with the operation of pedals, seats, compartments or safe driving abilities.
- Do not leave playing devices in your vehicle during extreme conditions as it could cause them damage. See your device's user guide for further information.
- For your safety, some SYNC 3 functions are speed-dependent. Their use is limited to when your vehicle is traveling at speeds under 3 mph (5 km/h). Make sure that you review your device's manual before using it with SYNC 3.

Speed-restricted Features

Some features of this system may be too difficult to use while your vehicle is moving so they are restricted from use unless your vehicle is stationary.

- Screens crowded with information, such as Point of Interest reviews and ratings, SiriusXM Traffic and Travel Link sports scores, movie times or ski conditions.
- Any action that requires you to use a keyboard is restricted, such as entering a navigation destination or editing information.
- All lists are limited so the user can view fewer entries (such as phone contacts or recent phone call entries).

See the following chart for more specific examples.

Restricted features	
Cellular Phone	Pairing a Bluetooth phone.
	Browsing of list entries is limited for phone contacts and recent phone calls.
System Functionality	Editing the keypad code.
	Enabling Valet Mode.
	Editing settings while the rear view camera or active park assist are active.
Wi-Fi	Editing Wi-Fi settings.
	Editing the list of wireless networks.
	Connecting to a new Wi-Fi network.
Text Messages	Viewing received text messages.
Navigation	Using the keyboard to enter a destination.
	Adding or editing Navigation Favorites entries or Avoid Areas.

Creating a SYNC Owner Account

Why do I need a SYNC owner account?

- Essential for keeping up with the latest software and connected features.
- Access to customer support for any questions you may have.
- Maintain account permissions.

Visit the website to sign up and register.

Website
www.owner.ford.com www.syncmyride.ca

Website
www.syncmaroute.ca

SYNC Connect (If Equipped)

With a SYNC® Connect-equipped vehicle, you can use FordPass® to track your vehicle's location and remotely access vehicle features such as start, lock and unlock and vehicle status including fuel level and approximate mileage. You can also schedule specific times to remotely start your vehicle so it's ready to hit the road as soon as you are. SYNC Connect is an optional feature on select 2017 MY vehicles. FordPass® is available through a free download via the Apple App Store® or Google Play™. Message and data rates may apply. Services may be limited by mobile phone network coverage area.

- FCC: LHJ-FAN
- IC: 2807E-FAN

Updating Your System

You can choose to download the update onto a USB drive or use Wi-Fi to deliver automatic updates.

USB Updates

To use the USB update you need to log into your owner account and visit the SYNC software update page.

Website
www.owner.ford.com www.syncmyride.ca www.syncmaroute.ca

The website notifies you if an update is available. You can then select to download the update.

You will need an empty USB drive. Please check the website for minimum requirements. Once you have inserted the USB drive into your computer, choose to start the download. Follow the instructions provided to download the files to the USB drive.

The installation of most files occurs in the background, and does not interrupt your use of the system. Navigation updates cannot be installed in the background, because the files are too large.

To install the update in your vehicle, remove anything that is plugged in the USB ports on the media hub and plug in the USB drive containing the update. When the USB drive is plugged in, the installation should begin immediately. After a successful installation, the update is available the next time the vehicle is started.

Please refer to the website for any further actions.

Updating Over Wi-Fi

To update your System over Wi-Fi your vehicle must be within the range of a Wi-Fi access point. Data rates may apply.

To connect your system to Wi-Fi, select:

Menu Item	
Settings	
Wi-Fi	
Available Wi-Fi Networks	You can then select your Wi-Fi network. You may have to enter the security code if the network is secured. The system confirms when it has connected to the network.

You must also give the system permission to update automatically. Upon vehicle delivery, the System asks you if you would like to use the automatic update feature. If you agree to automatic updates, you can press OK to confirm. If this selection does not appear upon vehicle delivery you can access it through the General Settings. See **Settings** (page 503). You can also perform a master reset. See **SYNC™ 3 Troubleshooting** (page 515).

If you would like to switch this feature on later, select:

Menu Item	
Settings	
General	
Automatic System Updates	From this menu, you can enable automatic updates. If you have not done so already, the system prompts you to set up a Wi-Fi connection when you enable this feature.

When Wi-Fi and automatic updates are enabled, your system checks for software updates periodically. If a new version is available, it downloads at that time. Software downloads can take place for up to 30 minutes after you have switched your vehicle off. The updates do not interrupt the normal use of your SYNC 3 system. If a download does not complete for any reason, the download continues where it left off at the next Wi-Fi connected opportunity. Upon activation of an update, a banner displays on the touchscreen indicating the system update. Select the icon to see more detail. This icon displays for two ignition cycles.

To switch this feature off:

Menu Item	
Settings	
General	
Automatic System Updates	In this menu selection, you can change the selection for automatic updates to OFF.

Support

The SYNC support team is available to help you with any questions you are not able to answer on your own.

Monday-Saturday, 8:30am-8:00pm EST.

For Ford:

United States: 1-800-392-3673.

Canada: 1-800-565-3673.

Times are subject to change due to holidays.

Privacy Information

When you connect a cellular phone to SYNC 3, the system creates a profile within your vehicle that links to that cellular phone. This profile helps in offering you more cellular features and operating more efficiently. Among other things, this profile may contain data about your cellular phone book, text messages (read and unread), and call history, including history of calls when your cell phone was not connected to the system. In addition, if you connect a media device, the system creates and retains an index of supported media content. The system also records a short diagnostic log of approximately 10 minutes of all recent system activity. The log profile and other system data may be used to improve the system and help diagnose any problems that may occur.

The cellular profile, media device index, and diagnostic log remain in your vehicle unless you delete them and are generally accessible only in your vehicle when the cellular phone or media player is connected.

If you no longer plan to use the system or your vehicle, we recommend you perform a Master Reset to erase all stored information. You can find more information about the Master Reset in General Settings. See **Settings** (page 503). System

data cannot be accessed without special equipment and access to your vehicle's SYNC 3 module. Ford Motor Company and Ford of Canada do not access the system data for any purpose other than as described absent consent, a court order, or where required by law enforcement, other government authorities, or other third parties acting with lawful authority. Other parties may seek to access the information independently of Ford Motor Company and Ford of Canada.

HOME SCREEN



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Item	Tile	Home screen display
A	Audio	Shows the active media source.

Item	Tile	Home screen display
		If your vehicle does not have navigation, this space contains the compass.
B	Phone	The name of the connected phone appears on the screen. The status of the phone features also appear. This includes signal strength, battery charge, 911 assist setting state (On or Off), text messaging and roaming.
C	Navigation[1]	This map displays your current location or current route in real time. When you have navigation active, you also see the next turn and the length of time and distance to your destination. If your vehicle does not have navigation, this space contains the audio information.

[1] If equipped.

You can touch any of the feature displays to access that feature.

Anytime you select the home button, the system returns you to this screen.

USING VOICE RECOGNITION

The SYNC 3 system allows you to use voice commands, to control features like audio and climate controls. By using voice commands, you can keep your hands on the wheel and your eyes on the road.

You can access each feature controlled by SYNC 3 through a variety of commands.



To activate the SYNC 3 voice commands push the voice button on the steering wheel and wait for the prompt.

___ is a dynamic listing, meaning that it can be the name of anything, such as artist, the name of contact or number. The context and the description of the command tell you what to say for this dynamic option.

There are some commands that work for every feature, these commands are:

Voice Command	Action and Description
Main Menu	Brings you to the main menu.
Go back	Returns you to the previous screen.
Cancel	Ends the voice session.
List of Commands	Gives you a list of possible voice commands.
___ List of Commands	You can name any feature and the system gives a list of commands available for the feature. For example, you could say:

Voice Command	Action and Description
	Phone List of Commands
	Navigation List of Commands
Next Page	You can use this command to view the next page of options on any screen where multiple pages of choices are given.
Previous Page	You can use this command to view the previous page of options on any screen where multiple pages of choices are given.
Help	Gives you available commands you can use on the current screen.

Included here are some of the most popular commands for each SYNC 3 feature.

Audio Voice Commands

___ is a dynamic listing, meaning that for audio voice commands it can be the name of a Sirius channel or a channel number, a radio frequency number, or the name of an artist, album, song or a genre.

To control the media features, press the voice button and when prompted, say:

Voice command	Description
Sirius Channel ___ [1]	You can say the Sirius channel name or number such as "Sirius channel 16".
You can also turn to a Sirius channel by saying the channel's name, such as "The Pulse".	
AM ___ FM ___	Allows you to tune to a specific FM or AM frequency such as "88.7 FM" or "1580 AM".
FM ___ HD ___ [1]	Allows you to tune to a specific HD frequency such as “88.7 FM HD 1”.
Bluetooth Audio	Allows you to listen to music on your Bluetooth-connected device.
USB	Allows you to listen to music on your USB connected device.
Play Genre ___ Play Playlist ___ Play Artist ___ Play Album ___	For USB audio only, you can say the name of an artist, album, song or a genre to listen to that selection. Your system must finish indexing before this option is available. For example, you could say "Play artist, The Beatles" or "Play song, Penny Lane".

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Voice command	Description
Play Podcast ___ Play Song ___ Play Audiobook ___	
Browse ___	For USB audio only, you can say the name of an artist, album, or a genre to browse by that selection. Your system must finish indexing before this option is available. For example you can say "Browse The Beatles" or "Browse folk".

[1] This option may not be available in all markets or may require a subscription.

Climate Voice Commands

You can control the temperature of the vehicle using voice commands.

___ is a dynamic listing, meaning that for climate voice commands it can be the desired degrees for the temperature setting.

To adjust the temperature, say:

Voice command	Description
Climate Set Temperature ___	Adjust the temperature between 60–85ºF (15.5–29.5ºC).
Climate Help	

Phone Voice Commands

Pairing a Phone

You can use voice commands to connect your Bluetooth-enabled phone to the system.

To pair your phone, press the voice button and when prompted, say:

Voice command	Description
Pair Phone	Follow the on-screen instructions to complete the pairing process. See **Settings** (page 503).

Making Calls

___ is a dynamic listing, meaning that for phone voice commands it can be the name of the contact you wish to call or the digits you want to dial.

Press the voice button and say a command similar to the following:

Voice command	Description
Call ___	Allows you to call a specific contact from your phonebook such as "Call Jenny".
Call ___ at ___	Allows you to call a specific contact from your phonebook at a specific location such as "Call Jenny at Home".
Dial ___	Allows you to dial a specific number such as “Dial 867-5309”.

Please make sure that you are saying the contact name exactly as it appears in your contact list.

Once you have provided the digits of the phone number, you can say the following commands:

Voice Command	Description
<0-9>	If the full number was not entered with the first command, you can continue saying the number.
Dial	Tells SYNC 3 to make the phone call.
Delete	Tells SYNC 3 to erase the last block of digits stated.
Clear	Tells SYNC 3 to erase the entire number.

Text Message Voice Commands

To access text message options, press the voice button and say:

Voice command	Description
Listen to Message	
Listen to text message ___	You can say the number of the message you would like to hear.
Reply to Message	

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Navigation Voice Commands (If Equipped)

Setting a Destination

You can use any of the following commands to set a destination or find a point of interest.

___ is a dynamic listing, meaning that for navigation voice commands it can be a POI category or an address.

You can find an address, a point of interest (POI), or search for points of interest by category:

Voice command	Description
Find an Address	Allows you to enter the address search functionality.
Find a ___	State the name of the POI category you would like to search for such as "Find restaurants".
Find POI	Allows you to enter the POI search functionality.
Find Intersection	Allows you to enter the intersection search functionality.
Destination Nearest ___	State the name of the POI category you would like to search for nearby such as "Destination nearest restaurants".
Destination Previous Destination	Allows you to see a list of your previous destinations.
Destination Home	Allows you to route to your home address.

In addition, you can say these commands when a route is active:

Voice command	Description
Cancel Route	Cancels the current route.
Detour	Allows you to select an alternate route.
Repeat Instruction	Repeats the last guidance prompt.
Show Route	Displays the active route.
Where Am I	Provides current location.
Zoom in	Allows you to zoom in on the map.
Zoom out	Allows you to zoom out from the map.

Mobile App Voice Commands (If Equipped)

The following voice commands are always available:

Voice command	Description
Mobile Apps	SYNC 3 will prompt you to say the name of an app to start it on SYNC 3.
List Mobile Apps	SYNC 3 will list all of the currently available Mobile Apps.
Find New Apps	SYNC 3 will search and connect to compatible app(s) running on your mobile device.

There are also voice commands that you can use when app(s) are connected to SYNC 3:

Voice command	Description
Say the name of an app	At any time, you can say the name of a mobile app to start the mobile app on SYNC 3.
Say the name of an app, followed by help	SYNC 3 will list the available voice commands for the specified app if the app is running on SYNC 3.

SiriusXM Traffic and Travel Link Voice Commands (If Equipped)

SiriusXM Traffic and Travel Link may not be available in all markets. Activation and a subscription are required.

You can say the following commands to access SiriusXM Traffic and Travel Link:

Voice command	Description
Show Traffic	Displays a list of traffic incidents.
Show Weather Map	Displays the current weather map.
Show Fuel Prices	Displays a list of fuel prices.
Show 5 Day Forecast	Displays the 5 day weather forecast.
Help	

Voice Settings Commands

You can say the following commands to access the voice settings:

Voice command	Description
Voice Settings	Allows you to enter the voice settings functionality.
Interaction Mode Standard	Sets standard prompting with longer prompts.
Interaction Mode Advanced	Sets advanced prompting with shorter prompts.
Phone Confirmation On	Allows the system to confirm before making a phone call.
Phone Confirmation Off	The system does not confirm before placing a call.
Voice Command Lists On	The system displays a short list of available commands.
Voice Command Lists Off	The system does not display the list of commands.

You can use the volume control to adjust the volume of the system voice prompts. While prompt is active, adjust the volume control up or down to your desired setting.

Note: *Depending on the current climate control settings, the fan speed may automatically go down while issuing voice commands or while making and receiving phone calls via SYNC to reduce the amount of background noise in the vehicle. The fan speed will automatically return to normal operation once the voice session ends. Fan speed can also be adjusted normally during a voice session, simply press fan buttons (or turn fan knob) to increase or decrease fan speed to desired setting.*

To disable this automatic fan speed reduction feature during voice sessions, press and hold the climate control AC and Recirculated air buttons simultaneously, release and then increase fan speed within 2 seconds. To re-enable this feature, repeat the above sequence.

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ENTERTAINMENT



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Message	Message and description
A	Sources
B	Direct Tune
C	Presets

You can access these options using the touchscreen or voice commands.

Sources

Press this button to select the source of media you want to listen to.

Menu item	
AM	
FM	
SIRIUS [1]	
CD [1]	
USB	The name of the USB that is plugged in displays here.
Bluetooth Stereo	
Apps	If you have SYNC 3 compatible apps on your connected smart phone, they display here as individual source selections.

[1] This feature may not be available in all markets and requires an active subscription.

AM/FM Radio

Tuning a Station

You can use the tune or seek controls on the radio bezel to select a station.

To tune a station using the touchscreen, select:

Menu item
Direct Tune

A pop up appears, allowing you to type in the frequency of a station. You can only enter a valid station for the source you are currently listening to.

You can press the backspace button to delete the previously entered number.

Once you have entered the station's call numbers, you can select:

Menu item	Action and description
Enter	Press to begin playing the station you have entered.
Cancel	Press to exit without changing the station.

Presets

To set a new preset, tune to the station and then press and hold one of the memory preset buttons. The audio mutes briefly while the system saves the station and then returns.

There are two preset banks available for AM and three banks for FM. To access additional presets, tap the preset button. The indicator on the preset button shows which bank of presets you are currently viewing.

SIRIUS® Satellite Radio (If Activated)

Note: *This feature may not be available in all markets and requires an active subscription.*



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SIRIUS satellite radio is a subscription-based satellite radio service that broadcasts a variety of music, sports, news, weather, traffic and entertainment programming. Your factory-installed SIRIUS satellite radio system includes hardware and a limited subscription term that begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For more information on extended subscription terms (a service fee is required), the online media player and a list of SIRIUS satellite radio channels, and other features, please visit www.siriusxm.com in the United States, www.siriusxm.ca in Canada, or call SIRIUS at 1-888-539-7474.

Note: *SIRIUS reserves the unrestricted right to change, rearrange, add or delete programming. This includes canceling, moving or adding particular channels, and its prices, at any time, with or without notice to you. Ford Motor Company shall not be responsible for any such programming changes.*

Note: *This receiver includes the eCos real-time operating system. eCos is published under the eCos License.*

The following buttons are available for Sirius:

Menu item	Action and description	
Browse	Touch this button to see a list of available stations.	
Direct Tune	A pop-up appears, allowing you to type in the call numbers of a station. Once you enter the stations call numbers, you can select:	
	Enter	The system tunes to the station you select.
	Cancel	You exit the pop-up and the current station continues to play.
	You can press the backspace button to delete the previous number.	

Menu item	Action and description	
Replay	Replay audio on the current channel. You can replay approximately 45 minutes of audio as long as you remain tuned to the current station. Changing stations erases the previous audio.	
	Live	When you are in replay mode, you are not able to select a different preset until you return to live audio. Pressing this button returns you to the live broadcast.
ALERT	Save the current song, artist, or team as a favorite. The system alerts you when it plays again on any channel. Selecting this button allows you to enable and edit alerts. See **Settings** (page 503).	

Memory Presets

To set a preset, tune to the station then press and hold one of the memory preset buttons. The audio mutes briefly while the system saves the station and returns once the station is stored.

There are three preset banks available for SIRIUS. To access additional presets, tap the preset button. The indicator on the preset button shows which bank of presets you are currently viewing.

Satellite Radio Electronic Serial Number (ESN)

You need your ESN to activate, modify or track your satellite radio account. See **Settings** (page 503).

SIRIUS Satellite Radio Reception Factors and Troubleshooting

Potential reception issues	
Antenna obstructions	For optimal reception performance, keep the antenna clear of snow and ice build-up and keep luggage and other materials as far away from the antenna as possible.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.
Station overload	When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and the audio system may mute.
Satellite radio signal interference	Your display may show ACQUIRING... to indicate the interference and the audio system may mute.

Troubleshooting tips		
Message	**Cause**	**Action**
Acquiring Signal	Radio requires more than two seconds to produce audio for the selected channel.	No action required. This message should disappear shortly.
Satellite antenna fault SIRIUS system failure	There is an internal module or system failure present.	If this message does not clear shortly, or with an ignition key cycle, your receiver may have a fault. See an authorized dealer for service.
Invalid Channel	The channel is no longer available.	Tune to another channel or choose another preset.
Unsubscribed Channel	Your subscription does not include this channel.	Contact SIRIUS at 1-888-539-7474 to subscribe to the channel, or tune to another channel.
Satellite acquiring signal...	The signal is lost from the SIRIUS satellite or SIRIUS tower to your vehicle antenna.	The signal is blocked. When you move into an open area, the signal should return.
Updating...	Update of channel programming in progress.	No action required. The process may take up to three minutes.
Questions? Call 1-888-539-7474	Your satellite service is no longer available.	Contact SIRIUS at 1-888-539-7474 to resolve subscription issues.
None found. Check channel guide.	All the channels in the selected category are either skipped or locked.	Use the channel guide to turn off the Lock or Skip function on that station.
SIRIUS Subscription updated	SIRIUS has updated the channels available for your vehicle.	No action required.

HD Radio™ Information (If Available)

Note: *This feature may not be available in all markets.*

To activate HD radio, please see the Radio Settings in the Settings Chapter. See **Settings** (page 503).

Note: *HD Radio broadcasts are not available in all markets.*

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HD Radio technology is the digital evolution of analog AM/FM radio. Your system has a special receiver that allows it to receive digital broadcasts (where available) in addition to the analog broadcasts, it already receives. Digital broadcasts provide a better sound quality than analog broadcasts with free, crystal-clear audio and no static or distortion. For more information, and a guide to available stations and programming, please visit:

Website
www.hdradio.com

When HD Radio is on and you tune to a station broadcasting HD Radio technology, you may notice the following indicators on your screen:



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The HD logo is grey when acquiring a digital station, and then changes to orange when digital audio is playing. When this logo is available, you may also see Title and Artist fields on-screen.

The multicast indicator appears in FM mode (only) if the current station is broadcasting multiple digital broadcasts. The highlighted numbers signify available digital channels where new or different content is available. HD1 signifies the main programming status and is available in analog and digital broadcasts. Other multicast stations (HD2 through HD7) are only available digitally.

Note: *There is also an additional feature for stations that have more than 1 HD multicast (For example, HD1 or HD2). The HD logo and Radio text appears as a button. Pressing this button allows you cycle through all of the HD stations on that specific frequency. For example, if you are on 101.1 and it has HD1, HD2, HD3, pressing the button repeatedly causes the radio to cycle through the HD stations in a cyclic increasing order.*

When HD Radio broadcasts are active, you can access the following functions:

Message	Action and description
Presets	Allows you to save an active channel as a memory preset. Touch and hold a memory preset slot until the sound returns. There is a brief mute while the radio saves the station. Sound returns when the channel saves. When switching to an HD2 or HD3 memory preset, the sound mutes before the digital audio plays, because the system has to reacquire the digital signal.

Note: *As with any station you save, you cannot access the saved station if your vehicle is outside the station's reception area.*

HD Radio Reception and Station Troubleshooting

Potential reception issues	
Reception area	If you are listening to a multicast station and you are on the fringe of the reception area, the station may mute due to weak signal strength.
	If you are listening to HD1, the system changes back to the analog broadcast until the digital broadcast is available again. However, if you are listening to any of the possible HD2-HD7 multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.
Station blending	When the system first receives a station (aside from HD2-HD7 multicast stations), it first plays the station in the analog version. Once the receiver verifies the station is an HD Radio station, it shifts to the digital version. Depending on the station quality, you may hear a slight sound change when the station changes from analog to digital. Blending is the shift from analog to digital sound or digital back to analog sound.

In order to provide the best possible experience, use the contact form to report any station issues found while listening to a station broadcasting with HD Radio technology. Independent entities own and operate each station. These stations are responsible for ensuring all audio streams and data fields are accurate.

Potential station issues		
Issues	**Cause**	**Action**
Echo, stutter, skip or repeat in audio. Increase or decrease in audio volume.	This is poor time alignment by the radio broadcaster.	No action required. This is a broadcast issue.
Sound fading or blending in and out.	The radio is shifting between analog and digital audio.	No action required. The reception issue may clear up as you continue to drive.
There is an audio mute delay when selecting HD2 or HD3, multicast preset or Direct Tune.	The digital multicast is not available until the HD Radio broadcast is decoded. Once decoded, the audio is available.	No action required. This is normal behavior. Wait until the audio is available.

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Potential station issues		
Issues	**Cause**	**Action**
Cannot access HD2 or HD3 multicast channel when recalling a preset or from a direct tune.	The previously stored multicast preset or direct tune is not available in your current reception area.	No action required. The station is not available in your current location.
Text information does not match currently playing audio.	Data service issue by the radio broadcaster.	Fill out the station issue form.[1]
There is no text information shown for currently selected frequency.	Data service issue by the radio broadcaster.	Fill out the station issue form.[1]

[1] You can find the form here:

Website
http://www.ibiquity.com/automotive/report_radio_station_experiences

HD Radio Technology manufactured under license from iBiquity Digital Corp. U.S. and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of iBiquity Digital Corp. Ford Motor Company and iBiquity Digital Corp. 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.

CD (If equipped)

Once you select this option, the system returns you to the main audio screen.

The current audio information appears on the screen.

The following buttons are also available:

Button	Function
Browse	You can use the browse button to select a track.
Repeat	Select this button and a small number one displays to indicate the track is set to repeat.

Button	Function
	For MP3 CDs, this button allows you to toggle through repeat off, repeat one track (a small number one displays), and repeat current folder (a small folder displays).
Shuffle	Select the shuffle symbol to have the audio on the disk play in random order.

You can use the forward, reverse, pause or play buttons to control the audio playback.

Bluetooth Stereo or USB

Bluetooth Stereo and USB allow you to access media that you store on your Bluetooth device or USB device such as music, audio books or podcasts.

The following buttons are available for Bluetooth and USB:

Button	Function
Repeat	Pressing the repeat button toggles the repeat setting through three modes: repeat off (button not highlighted), repeat all (button highlighted) and repeat track (button highlighted with a small number one).
Shuffle	Play the tracks in random order.

You can use the forward, reverse, pause or play buttons to control the audio playback.

To get more information about the currently playing track, press the cover art or Info button.

For some devices, SYNC 3 is able to provide 30-second skip buttons when you listen to audio books or podcasts. These buttons allow you to skip forward or backward within a track.

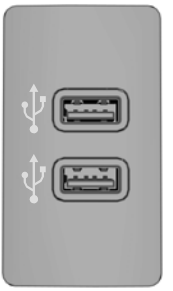
While playing audio from a USB device you can look for certain music by selecting the following:

Button	Function
Browse	If available, displays the list of tracks in the Now Playing playlist.
New Search	This option, which is available under browse, allows you to play all tracks or to filter the available media into one of the below categories.
	Play All

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Button	Function
	Playlists
	Artists
	Albums
	Songs
	Genres
	Podcasts
	Audio books
	Composers
A-Z Jump	This button allows you to choose a specific letter to view within the category you are browsing.
Explore Device	If available, this allows you to browse the folders and files on your USB device.

USB Ports



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The USB ports are in the center console or behind a small access door in the instrument panel.

This feature allows you to plug in USB media devices, memory sticks, flash drives or thumb drives, and charge devices if they support this feature.

Select this option to play audio from your USB device.

Apps

The system supports the use of certain audio apps such as iHeartRadio through a USB or bluetooth-enabled device.

Each app gives you different on-screen options depending on the app's content. See **Apps** (page 500).

Supported Media Players, Formats and Metadata Information

The system is capable of hosting nearly any digital media player, including iPod, iPhone, and most USB drives.

Supported audio formats include MP3, WMA, WAV, AAC, and FLAC.

Supported audio file extensions include MP3, WMA, WAV, M4A, M4B, AAC, and FLAC.

Supported USB file systems include: FAT, exFAT, and NTFS.

SYNC 3 is also able to organize the media from your USB device by metadata tags. Metadata tags, which are descriptive software identifiers embedded in the media files, provide information about the file.

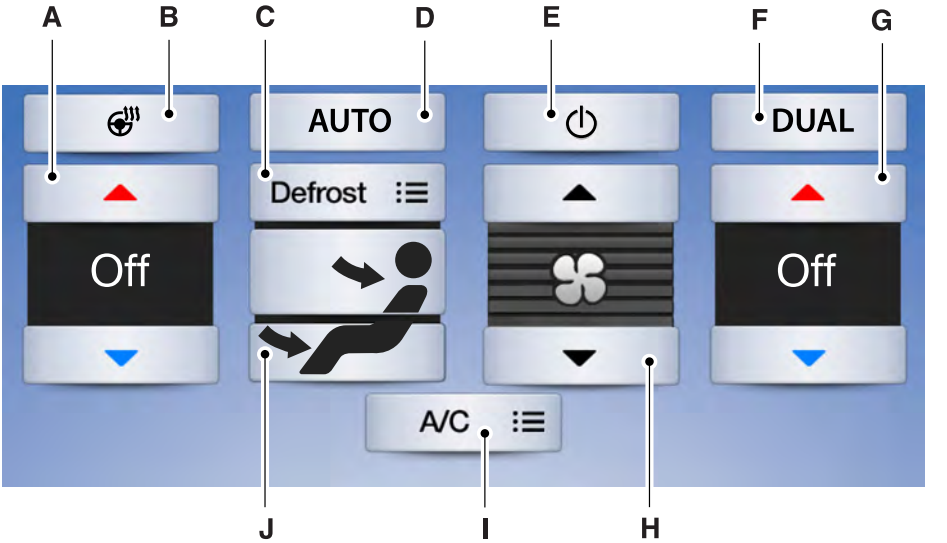
If your indexed media files contain no information embedded in these metadata tags, SYNC 3 may classify the empty metadata tags as unknown.

SYNC 3 is capable of indexing up to 50,000 songs per USB device, for up to 10 devices.

CLIMATE

Touch the climate button on the touchscreen to access your climate control features. Depending on your vehicle line and option package, your climate screen may look different from one of the screens shown below. Your screen may not contain all of the features shown.

Note: *You can switch temperature units between Fahrenheit and Celsius. See* ***Settings*** *(page 503).*



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A **Driver temperature:** Touch up or down to adjust the temperature.

B **Heated steering wheel:** Touch this icon to switch the heated steering wheel on and off. It takes about 5 minutes to warm the steering wheel to 74°F (23.3°C) in temperatures as low as -4°F (-21.7°C). The wheel maintains an approximate temperature of 90°F (32.2°C) and operates independently from the heated seats and other climate-control functions. The heating element is in between the leather covering and foam core to help provide maximum heat without adversely affecting the feel of the steering wheel.

Note: This feature only functions when you switch the engine on.

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

Note: For steering wheels with wood trim, the heating feature will not heat the wheel between the 10 and 2 o'clock positions.

C **Defrost:** A pop up appears on the screen to display the defrost options.

MAX Defrost: Touch the button to maximize defrosting. Air flows through the windshield vents, the fan automatically adjusts to the highest speed and the driver and passenger temperatures are set to HI. You can use this setting to defog or clear a thin covering of ice from the windshield. The heated rear window also automatically turns on when you select MAX Defrost.

Defrost: Distributes air through the windshield defroster vents and demister vents.

D **AUTO:** Touch the button to switch on automatic operation. Select the desired temperature using the temperature control. The system adjusts fan speed, air distribution, air conditioning operation, and selects outside air or recirculated air to heat or cool the vehicle in order to maintain the desired temperature.

E **Power:** Touch the button to switch the system on and off. Switching off the climate control system prevents outside air from entering the vehicle.

F **DUAL:** This button lights up when the passenger controls are active. To switch it off and link the passenger temperature to the driver temperature, touch the DUAL button.

Note: the passenger side temperature and the DUAL indication automatically turn on when you or your passenger adjust the passenger temperature.

G **Passenger temperature:** Touch up or down to adjust the temperature.

H **Fan speed:** Touch up or down to increase or decrease the volume of air that circulates in your vehicle.

Note: You cannot adjust the fan speed when the system is set to AUTO or MAX A/C.

I **A/C:** A pop-up appears on the screen to display the air conditioning options.

MAX A/C: Touch the button to activate and maximize cooling. The driver and passenger temperatures are set to LO, recirculated air flows through the instrument panel vents, air conditioning automatically turns on and the fan automatically adjusts to the highest speed.

A/C: Touch to switch the air conditioning on or off. Use A/C with recirculated air to improve cooling performance and efficiency.

Note: In certain conditions (for example, Max Defrost), the air conditioning compressor may continue to operate even when you switch the air conditioning A/C button off.

Recirculated air: Touch to switch the recirculated air on or off. When recirculated air is on, it may reduce the amount of time needed to cool down the interior (when used with A/C) and help reduce odors from reaching the interior.

Note: Recirculatied air may turn off automatically (or the system may not allow recirculatied air to turn on) in all airflow modes except MAX A/C to reduce risk of fogging. It may also turn on and off automatically in Panel or Panel/Floor airflow modes during hot weather in order to improve cooling efficiency.

J **Manual airflow distribution controls:** Select these controls individually, together, or with Defrost to direct the air flow to the area you desire.

Panel: Distributes air through the instrument panel vents.

Floor: Distributes air through the demister vents, floor vents and rear seat floor vents.

PHONE

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.

Hands-free calling is one of the main features of the system. Once you pair your cell phone, you can access many options using the touchscreen or voice commands. While the system supports a variety of features, many are dependent on your cell phone's functionality.

Pairing Your Cell Phone for the First Time

Pair your Bluetooth-enabled phone with the system before using the functions in hands-free mode.

Switch on Bluetooth on your device to begin pairing. See your phone's manual if necessary.

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To add a phone, select:

Menu Item
Add Phone

1. Follow the on-screen instructions.
2. A prompt alerts you to search for the system on your phone.
3. Select your vehicle's make and model as it displays on your phone.
4. Confirm that the six-digit number appearing on your phone matches the six-digit number on the touchscreen.
5. The touchscreen indicates when the pairing is successful.
6. Your phone may prompt you to give the system permission to access information. To check your phone's compatibility, see your phone's manual or visit the website.

Alternatively, to add a phone, select:

Menu Item
Add Phone
Then select:
Discover Other Bluetooth Devices

1. Follow the on-screen instructions.
2. Select your phone's name when it appears on the touchscreen.
3. Confirm that the six-digit number appearing on your phone matches the six-digit number on the touchscreen.
4. The touchscreen indicates when the pairing is successful.
5. Your phone may prompt you to give the system permission to access information. To check your phone's compatibility, see your phone's manual or visit the website.

At a minimum, most cell phones with Bluetooth wireless technology support the following functions:

- Answering an incoming call.
- Ending a call.
- Dialing a number.
- Call waiting notification.
- Caller identification.

Other features, such as text messaging using Bluetooth and automatic phonebook download, are phone-dependent features.

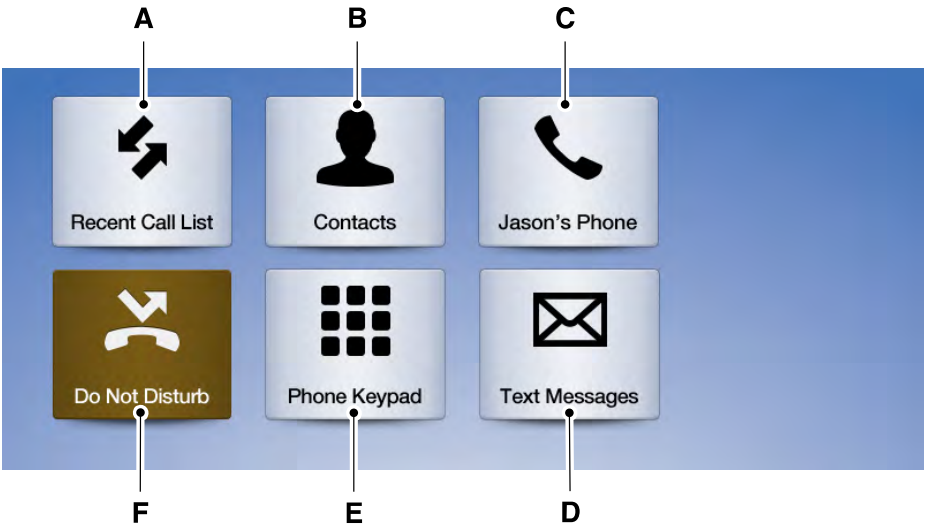
To check your phone's compatibility, see your phone's manual or visit the website:

Websites
owner.ford.com www.syncmyride.ca www.syncmaroute.ca

Phone Menu

This menu becomes available after pairing a phone.

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Item	Menu Item	Action and Description			
A	Recent Call List	Displays your recent calls. You can place a call by selecting an entry from this list. You can also sort the calls by selecting the drop down menu at the top of the screen. You can choose:			
		All	Incoming	Outgoing	Missed
B	Contacts	All of your contacts from your phone display in alphabetical order.			
		A-Z Jump		Selecting this button allows you to choose a specific letter to view.	
C	Phone Settings	Displays the name of your phone and takes you to the phone settings options. From this menu, you can pair subsequent devices, set ring tones and alerts. See **Settings** (page 503).			

Item	Menu Item	Action and Description	
D	Text Messages	Displays all recent text messages.	
E	Phone Keypad	Use this keypad to dial in a phone number. Use the backspace button to delete numbers.	
		Call	Press this button to begin a call.
F	Do Not Disturb	Touch this button to send all calls directly to your voicemail. New text message notifications are not displayed on the screen and all ringtones and alerts are set to silent.	

Users with phones having voice services may see a button to access the feature. For example, iPhone users see a Siri button. A press and hold of the voice button on the steering wheel also accesses this feature.

Making Calls

There are many ways to make calls from the SYNC 3 system, including using voice commands. See **Using Voice Recognition** (page 467). You can use the touchscreen to place calls as well.

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 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

Note: *You can also reject the call by pressing the phone button on the steering wheel.*

Ignore the call by doing nothing. SYNC 3 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.
- 911 Assist (United States and Canada only). See **Settings** (page 503).

You can select any of the following during an active phone call:

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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.
Mute	You can switch the microphone off so the caller does not hear you.
Privacy	Transfer the call to the cell phone or back to SYNC 3.

Text Messaging

Note: *Downloading and sending text messages using Bluetooth are cell phone-dependent features.*

Note: *Certain features in text messaging are speed-dependent and not available when your vehicle is traveling at speeds over 3 mph (5 km/h).*

Receiving a Text Message

When a new message arrives, an audible tone sounds and the screen displays a pop-up with the caller name and ID, if supported by your cell phone. You can select:

Menu Item	Action and Description
Hear It	Have SYNC 3 read the message to you.
View	View the text on the touchscreen.
Call	To call the sender.
Reply	You can select from 15 preset messages. Press the message that you would like to use and confirm to send the message. SYNC 3 confirms when the message is sent successfully.
Close	To exit the screen.

Smartphone Connectivity (If Equipped)

SYNC 3 allows you to use Apple CarPlay and Android Auto to access your phone.

When you use Apple CarPlay or Android Auto, you can:

- Make calls.
- Send and receive messages.
- Listen to music.
- Use your phone's voice assistant.

Apple CarPlay and Android Auto disable some SYNC 3 features.

Most Apple CarPlay and Android Auto features use mobile data.

Apple CarPlay

Apple CarPlay requires an iPhone 5 or newer with iOS 7.1 or newer. Updating to the latest iOS version is recommended.

1. Plug your phone into a USB port. See **USB Port** (page 416).

2. Select Apple CarPlay on the touchscreen.

To disable this feature from the Settings screen, select:

Menu Item
Apple CarPlay Preferences
Your device is listed if SYNC detects Apple CarPlay. Select the name of your device and select:
Disable

To return to SYNC 3, go to the Apple CarPlay home screen and select the SYNC app.

Note: *Contact Apple for Apple CarPlay support.*

Android Auto

Android Auto is compatible with most devices with Android 5.0 or newer.

1. Download the Android Auto app to your device from Google Play to prepare your device (this may require mobile data usage).

Note: *The Android Auto App may not be available within your current market.*

2. To switch this feature on from the Settings screen, scroll left on the screen and select:

Menu Item
Android Auto Preferences
Enable Android Auto

Note: *Android Auto must be switched on prior to plugging your device.*

You can then plug your device into a USB port. See **USB Port** (page 416).

To disable this feature from the Settings screen, select:

Menu Item
Android Auto Preferences
Your device is listed if SYNC detects Android Auto. Select the name of your device and select:
Disable

Note: *You may need to slide your Settings screen to the left to select **Apple CarPlay Preferences** or **Android Auto Preferences**.*

To return to SYNC 3, select the speedometer icon in the Android Auto menu bar at the bottom of the touchscreen, and then touch the option to return to SYNC.

Note: *Contact Google for Android Auto support.*

NAVIGATION

Your navigation system is comprised of two main features, destination mode and map mode.

Map Mode

Map mode shows advanced viewing comprised of 2D city maps, 3D landmarks and 3D city models (when available). 2D city maps show detailed outlines of buildings, visible land use, landscape features, and detailed railroad infrastructure for the most essential cities around the globe.

3D landmarks appear as clear, visible objects that are typically recognizable and have a certain tourism value.

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3D city models are complete 3D models of entire city areas including navigable roads, parks, rivers and rendered buildings. 3D landmarks and city models appear in 3D map mode only. Coverage of these varies and improves with updated map releases.



Select the zoom in icon to see a closer view of the map.



Select the zoom out icon to see a farther away view of the map.

You can adjust the view in preset increments. You can also pinch to zoom in or out of the map.

The information bar tells you the names of streets, cities or landmarks as you hover over them with the crosshair curser.

You can change your view of the map by tapping on the location indicator icon on the right hand side of the screen. You can choose from the following options:



Heading up (2D map) This always shows the direction of forward travel to be upward on the screen. This view is available for map scales up to 3 mi (5 km).



North up (2D map) always shows the northern direction to be upward on the screen.



3D map mode provides an elevated perspective of the map. Adjust this viewing angle and rotate the map 180 degrees by touching the map twice, and then dragging your finger along the shaded bar with arrows at the bottom of the map.



Re-center the map by pressing this icon whenever you scroll the map away from your vehicle's current location.



Points of Interest (POI) grouping icon: You can choose up to three POI icons to display on the map. If the chosen POIs are located close together or are at the same location a box is used to display a single category icon instead of repeating the same icon, in order to reduce clutter. When you select the box on the map, a pop-up appears indicating how many POIs are in this location. Select the pop up to see a list of the available POIs. You can scroll through and select POIs from this list.

If your vehicle is low on charge or fuel, station icons automatically display on the map.

If you have subscribed to SiriusXM Traffic and Travel Link (where available), traffic flow will be indicated on the map by green (clear), yellow (slowing), and red (stopped) road highlights. Traffic flow is indicated where the information is available and varies across the US.

You can choose to display traffic icons on the map representing twelve different types of incidents. See **Settings** (page 503).

You can set a destination by hovering above a location and selecting:

Button
Start

Destination Mode

To set a destination, press:

Menu Item	Description
Destination	
Enter a navigation destination in any of the following formats:	
Search	Street Address (number, street, city, state) For example "12 Mainstreet Dearborn MI"
	Partial Address (number, street) if searching in current state (number, street and zip code (or postal code in Canada)) if searching out of state You can enter unique addresses that contain door number prefixes with or without the prefix. For example, you could enter "6N340 Fairway Lane" or "340 Fairway Lane".
	City (name or zip code)
	Point of Interest (name or category)
	Intersection (street 1 / street 2) (street 1 and street 2) (street 1 & street 2) (street 1 @ street 2) (street 1 at street 2)
	Latitude and Longitude (##.###### , ##.######) This is in a decimal degrees format, one to six decimal places are accepted.
	You are given autocomplete options below the address bar to select as you type. If you do not give an exact destination, a menu displays with your possible selections.
Previous Destinations	Collections of your last 40 navigation destinations display here. You can select any option from the list to select it as your destination.

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Menu Item	Description	
	Delete All	Select this option to remove all previous destinations.
Home	Select to navigate to your set Home destination. The time it takes to travel from your current location to Home displays. To set your Home, press:	
	Home	A prompt appears asking if you would like to create a favorite for home. Select:
	Yes	Enter a location into the search bar and press:
	Save	
Work	Select to navigate to your set Work destination. The time it takes to travel from your current location to Work displays. To set your Work:	
	Work	A prompt appears asking if you would like to create a favorite for work. Select:
	Yes	Enter a location into the search bar and press:
	Save	
Favorites	Favorites include any location you have previously saved. To add Favorites:	
	Add a Favorite	Select this button and enter a location into the destination bar.
	Search	Select this option to have the system locate the address you have entered.
	Save	Select this button when the address you have entered appears on the screen.
	The address saves as a favorite and you see the favorites screen. You can now select this address from the favorites screen.	
Point of Interest (POI) Categories	POI categories that may display (based on market and vehicle configuration):	
	Food	
	Fuel	
	Hotel	
	ATM	

Menu Item	Description	
	See All	Press to view additional categories. Once you have selected a category, follow the menus to find what you are looking for.
	Inside of these categories you can search by:	
	Nearby	
	Along Route	
	Near Destination	
	In a City	

Once you have chosen your destination, press:

Menu Item	Action and Description	
Save	This saves the destination to your favorites.	
Start	This shows you a map of your entire route. You can then choose your route from three different options.	
	Fastest	Uses the fastest moving roads possible.
	Shortest	Uses the shortest distance possible.
	Economical Route	Uses the most fuel-efficient route.
	The time and distance for each route also displays.	
Cancel	On the route screen, you can choose to cancel the current navigation. The system asks for confirmation then returns you to the map mode screen.	

Once you have chosen you destination, press:

Menu Item	Action and Description
Start	The system uses a variety of screens and prompts to guide you to your destination. During Route guidance, you can press the maneuver arrow icon on the map if you want the system to repeat route guidance instructions. When the system repeats the last guidance instruction, it updates the distance to the next guidance instruction, since it detects that the vehicle is moving.

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Menu Item	Action and Description
	The navigation map shows your estimated time of arrival, remaining travel time and the distance to your destination. SYNC 3 may not always announce vehicle arrival at the exact point of your destination and you may have to cancel a route manually.

Navigation Menu

In map mode and during active navigation you can access the navigation menu.

During active navigation, touch the bottom of the screen to view the menu and other buttons.

To access the Navigation menu, press:

Button		
Menu		
You can then select:		
Screen View	Full Map	A full screen map displays during navigation.
	Highway Exit Info	Highway exit information displays on the right hand side of the screen during navigation. Points of interest icons display for restaurants, hotels, fuel stations and ATMs when they are present at the exit. You can select the POI icons to receive a listing of specific locations. You can select the POI location as a waypoint or destination if desired.
	Turn List	Only available during an active route. Displays all of the turns on the current route. You can choose to avoid any road on the turn list by selecting the road from the list. A screen then appears and you can press:
		Avoid
		The system calculates a new route and displays a new turn list.
Traffic List	You can find the SiriusXM Traffic and Travel Link information by pressing this button. This information requires an active subscription to SiriusXM Traffic and Travel Link. When a route is not active, a list of nearby traffic incidents displays (if any are present). When a route is active, you can choose to display a list of traffic nearby or on the route.	

Button		
Navigation Settings	Press this button to adjust your preferences. See **Settings** (page 503).	
Where Am I?	Provides your current location city and the nearest road.	
The following are only available on the menu during an active navigation route:		
Cancel Route	The system asks for confirmation and then returns you to the map mode screen.	
Mute Guidance	Selecting this option switches off the audio navigation guidance. Press the button again to un-mute guidance.	
View Route	Press this to see a map of the full route.	
Detour	An alternate route displays in comparison with the current route.	
Edit Waypoints	Only available if you have an active waypoint on your route. See **Waypoints** later in this section for information on how to set waypoints.	
	Use this button to re-order or remove your waypoints.	
	You can also have the system set the order for you by pressing:	Optimize Order
	To return to your route press:	Go

Waypoints

You can add a waypoint to a navigation route as a destination along your route.

To add a waypoint:

1. Select the search icon (magnifying glass) while on an active route. This brings up the destination menu.
2. Set your destination using any of the given methods. Once the destination has been selected, the screen allows you to set the destination as a waypoint by selecting:

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Menu Item	
Add Waypoint	The waypoint list then appears and you are able to re-order all of your waypoints by selecting the menu icon on the right hand side of the location. You can select up to five waypoints.
You can also have the system set the order for you by pressing:	Optimize Order
To return to your route, press:	Go

cityseeker (If Equipped)

Note: *cityseeker point of interest (POI) information is limited to approximately 1,110 cities (1,049 in the United States, 36 in Canada and 15 in Mexico).*



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cityseeker, when available, is a service that provides more information about certain points of interest such as restaurants, hotels and attractions.

When you have selected a point of interest, the location and information appear, such as address, phone number and a star rating.

Press **More Information** to see a photo, a review, a list of services and facilities, the average room or meal price and the web address. This screen displays the point of interest icons.

For restaurants, cityseeker can provide information such as star rating, average cost, review, handicap access, hours of operation, and website address.

For hotels, cityseeker can provide information such as star rating, price category, review, check-in and checkout times, hotel service icons and website address. Hotel service icons include:

- Restaurant
- Business center
- Handicap facilities
- Laundry
- Refrigerator
- 24 hour room service
- Fitness center
- Internet access
- Pool
- Wi-Fi

Attractions include nearby landmarks, amusement parks, historic buildings and more. cityseeker can provide information such as star rating, reviews, hour of operation and admission price.

SiriusXM Traffic and Travel Link

SiriusXM Traffic and Travel Link is available on vehicles equipped with navigation and only in select markets. You must activate and subscribe to receive SiriusXM Traffic and Travel Link information. It helps you locate the best gas prices, find movie listings, get current traffic alerts, view the weather map, get accurate ski conditions and see current sports scores. See **Apps** (page 500).

The system calculates a reasonable efficient route based on available speed limits, traffic, and road conditions. You may know a local short cut that is more efficient at a given time than the route provided by SYNC 3, but you should expect a slight difference in minutes or miles with the SYNC 3 route.

Navigation Map Updates

Annual navigation map updates are available for purchase through your dealership, by calling 1-866-462-8837 in the United States and Canada or 01-800-557-5539 in Mexico. You can also visit:

Website
www.navigation.com/sync

You need to specify the make and model of your vehicle to determine if there is an update available.

HERE is the digital map provider for the navigation application. If you find map data errors, you may report them directly to HERE by going to www.here.com/mapcreator. HERE evaluates all reported map errors and responds with the result of their investigation by e-mail.

Map coverage includes the USA (including Puerto Rico and the US Virgin Islands), Canada and Mexico.

APPS

The system enables voice, steering wheel, and touch screen control of SYNC 3 AppLink enabled smartphone apps.

Once an app is running through AppLink, you can control main features of the app through voice commands and steering wheel controls.

Note: *Available AppLink enabled apps will vary by market.*

Note: *You must pair and connect your smartphone via Bluetooth to SYNC 3 to access AppLink.*

Note: *iPhone users need to connect the phone to the USB port.*

Note: *For information on available apps, supported smartphone devices and troubleshooting tips please visit:*

Websites
owner.ford.com www.syncmyride.ca www.syncmaroute.ca

Note: *Make sure you have an active account for the app that you have downloaded. Some apps will work automatically with no setup. Other apps will want you to configure your personal settings and personalize your experience by creating stations or favorites.We recommend you do this at home or outside of your vehicle.*

Note: *We encourage you to review the smartphone app's terms of service and privacy policies because Ford is not responsible for your app or its use of data.*

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Note: *AppLink is a native SYNC system feature. Accessing mobile apps through AppLink is only possible when Android Auto or Apple CarPlay are disabled. Some apps may only be accessible in the car through AppLink and others only through Android Auto or Apple CarPlay. Please refer to the Smartphone Connectivity information to disable Android Auto or Apple CarPlay.*

Note: *In order to use an app with SYNC 3, the app needs to be running in the background of your phone. If you shut down the app on your phone, it shuts down the app on SYNC 3 as well.*

Note: *If a SYNC 3 AppLink compatible app is not shown in the Apps Domain, make sure the required app is running on the mobile device.*

Menu Item	Action and Description
Connect Mobile Apps	SYNC 3 will search and connect to compatible app(s) running on your mobile device.

Enabling SYNC 3 Mobile Apps

In order to enable mobile apps, SYNC 3 requires user consent to send and receive app authorization information and updates using the data plan associated with the connected device.

The connected device sends data to Ford in the United States. The information is encrypted and includes your VIN, SYNC 3 module number, odometer, usage statistics and debugging information. We retain this data for only as long as necessary to provide this service, troubleshoot, and improve products and services and to offer you products and services that may interest you where allowed by law.

Note: *You must enable mobile apps for each connected device the first time you select a mobile app using the system.*

Note: *Ford reserves the right to limit functionality or deactivate mobile apps at any time.*

Note: *Standard data rates apply. Ford is not responsible for any additional charges you may receive from your service provider, when your vehicle sends or receives data through the connected device. This includes any additional charges incurred due to driving in areas when roaming out of a home network.*

You can enable and disable apps through settings. See **Settings** (page 503).

App Permissions

The system organizes the aFpp permissions into groups. You can grant these group permissions individually. You can change a permission group status any time when not driving, by using the settings menu. While in the settings menu, you can also see the data included in each group.

When you launch an app using SYNC 3, the system may ask you to grant certain permissions, for example Vehicle information, Driving characteristics, GPS and Speed, and/or Push notifications. You can enable all groups or none of them during the initial app permissions prompts. The settings menu offers individual group permission control.

Note: *You are only prompted to grant permissions the first time you use an app with SYNC 3.*

Note: *If you disable group permissions, apps will still be enabled to work with SYNC 3 unless you deactivate All Apps in the settings menu.*

SiriusXM Traffic and Travel Link (If Equipped)

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.

Note: *SiriusXM Traffic and Travel Link may not be available in all markets.*

Note: *In order to use SiriusXM Traffic and Travel Link, your vehicle must have navigation.*

Note: *A paid subscription is required to access and use these features. Go to www.siriusxm.com/travellink for more information.*

Note: *Visit www.siriusxm.com/traffic and click on Coverage map and details for a complete listing of all traffic areas covered by SiriusXM Traffic and Travel Link.*

Note: *Neither Sirius nor Ford is responsible for any errors or inaccuracies in the SiriusXM Traffic and Travel Link services or its use in vehicles.*

When you subscribe to SiriusXM Traffic and Travel Link, it can help you locate the best gas prices, find movie listings, get current traffic alerts, view the current weather map, get accurate ski conditions and see scores to current sports games.

Menu Item	Action and Description	
Traffic on Route	Touch these buttons to identify traffic incidents on your route, near your vehicle's current location or near any of your favorite places, if programmed.	
Traffic Nearby		
Fuel Prices	Touch this button to view fuel prices at stations close to your vehicle's location or on an active navigation route.	
Movie Listings	Touch this button to view nearby movie theaters and their show times, if available.	
Weather	Touch this button to view the nearby weather, current weather, or the five-day forecast for the chosen area.	
	Map	Select to see the weather map, which can show storms, radar information, charts and winds.

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Menu Item	Action and Description	
	Area	Select to choose from a listing of weather locations.
Sports Info	Touch this button to view scores and schedules from a variety of sports. You can also save up to 10 favorite teams for easier access. The score automatically refreshes when a game is in progress.	
Ski Conditions	Touch this button to view ski conditions for a specific area.	

SETTINGS

Under this menu, you can access and adjust the settings for many of the system features. To access additional settings, swipe the screen left or right.

Sound

Pressing this button allows you to adjust the following:

Sound Settings	
Reset All	Returns Treble, Midrange, and Bass sound settings to factory levels.
Treble	Adjusts the high frequency level.
Midrange	Adjusts the middle frequency level.
Bass	Adjusts the low frequency level.
Balance / Fade	Adjusts the sound ratio from side to side or front to back.
Speed Compensated Vol.	Adjusts the amount the audio system volume increases with speed, or turns the feature off.
Occupancy Mode	Optimizes the sound based on the location of the listeners.
Sound Settings	Stereo
	Surround

Your vehicle might not have all of these features.

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Media Player

This button is available when a media device such as a Bluetooth Stereo or USB device is the active audio source. Pressing the button allows you to access the following options for active devices only.

Menu Item	Action and Description		
Podcast Speed	For some USB devices, SYNC 3 can adjust the playback speed of podcasts. When a podcast is playing, you can choose:		
	Slower	Normal	Faster
Audiobook Speed	For some USB devices, SYNC 3 can adjust the playback speed of audiobooks. When an audiobook is playing, you can choose:		
	Slower	Normal	Faster
Cover Art Priority	Media Player	Cover art displays from your device's music files. If no cover art for the files exists on the device, then the Gracenote Database provides cover art.	
	Gracenote®	The Gracenote Database supplied cover art is used for your music files. This overrides any cover art from your device.	
Gracenote® Management	Switches on and off Gracenote® to provide metadata information such as genre, artist, album.		
Gracenote® Database Info	This allows you to view the version level of the Gracenote Database.		
Device Information	This allows you to view the manufacturer and model number of your media device.		
Update Media Index	Erase the stored in media information in order to re-index.		

Clock

To adjust the time, select the up and down arrows on either side of the screen. The arrows on the left adjust the hour and arrows on the right adjust the minute. You can then select AM or PM.

You can adjust the following features:

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Menu Item	Action and Description
Clock Format	Select how time displays.
Auto Time Zone Update	When active, the clock adjusts to time zone changes. This feature is only available in vehicles with navigation.
Reset Clock to GPS Time	When selected, the vehicle clock resets to GPS satellite time.

The system automatically saves any updates you make to the settings.

Bluetooth

Pressing this button allows you to access the following:

Menu Item	Action
Bluetooth	Turning Bluetooth off disconnects all devices and does not permit new connections.

You must activate Bluetooth to pair a Bluetooth-enabled device.

The processes of pairing a Bluetooth device is the same as pairing a phone. **See Pairing a Device** in Phone settings for how to pair a device and the available options.

Phone

Pair your Bluetooth-enabled phone with the system before using the functions in hands-free mode.

Switch on Bluetooth on your device to begin pairing. See your phone's manual if necessary.

To add a phone, select:

Menu Item
Add Phone

1. Follow the on-screen instructions.
2. A prompt alerts you to search for the system on your phone.
3. Select your vehicle's make and model as it displays on your phone.
4. Confirm that the six-digit number appearing on your phone matches the six-digit number on the touchscreen.
5. The touchscreen indicates when the pairing is successful.
6. Your phone may prompt you to give the system permission to access information. To check your phone's compatibility, see your phone's manual or visit the website.

Alternatively, to add a phone, select:

Menu Item
Add Phone
Then select:
Discover Other Bluetooth Devices

1. Follow the on-screen instructions.
2. Select your phone's name when it appears on the touchscreen.

3. Confirm that the six-digit number appearing on your phone matches the six-digit number on the touchscreen.
4. The touchscreen indicates when the pairing is successful.
5. Your phone may prompt you to give the system permission to access information. To check your phone's compatibility, see your phone's manual or visit the website.

Other features, such as text messaging using Bluetooth and automatic phonebook download, are phone-dependent features.

To check your phone's compatibility, see your phone's manual or visit the website:

Website
owner.ford.com www.syncmyride.ca www.syncmaroute.ca

Once you have paired a device you can adjust the following options.

Menu Item	Action and Description
View Devices	
You can then select:	
Add a Bluetooth Device	You can add a Bluetooth-enabled device by following the steps in the previous table.
You can select a phone by touching the name of the phone on the screen. You then have the following options:	
Connect	Depending on the status of the device, you can select either of these options to interact with the selected device.
Disconnect	
Device Information	Allows you to see phone and device information.
Make Primary	Allows you to select this device to be your preferred device.
Delete	Removes the selected device from the system.

Menu Item	Action and Description
Manage Contacts	
You can then select:	
Auto-Download Contacts	Enable this option to have SYNC 3 periodically re-download your phonebook to keep your contact list up to date.
Sort By:	Choose how you would like the system to display your contacts. You can choose:

Menu Item	Action and Description	
	First Name	Last Name
Re-download Contacts	Select this option to re-download your contact list manually.	
Delete Contacts	Select this option to delete the in vehicle contact list. Deleting the in vehicle list does not erase the contact list on the connected phone.	

Menu Item	Action and Description
Set Phone Ringtone	
You can then select:	
No Ringtone	No sound plays when a call comes to your phone.
Use Phone Ringtone	The currently selected ringtone on your phone plays when you receive a call. This option may not be available for all phones. If this option is available, it is the default setting.
You can also select one of the three available ringers.	

Menu Item	Action and Description
Text Messaging	
You can then select:	
No Alert (Silence)	No sound plays when a message comes to your phone.
You can select one of the three available notification sounds.	
Voice Readout	When enabled, a voice prompt alerts you when you receive a new message.

You can enable and disable the following options as well:

Menu Item	Action and Description
Mute Audio in Privacy	When enabled, vehicle audio (such as radio or apps) is muted for the duration of the phone call even when the phone call is in privacy.
Roaming Warning	When enabled, an alert displays that your phone is roaming when you attempt to place a call.
Low Battery Notification	When enabled, a message displays when the battery on your phone is running low.

911 Assist

Note: *This service is only available in the United States and Canada.*

Select this button to modify the on or off setting for this feature. If the mobile phone's contacts have been downloaded, you can adjust the following option:

Menu Item	Action and Description
Set Emergency Contacts	You can select up to two numbers from your mobile device's phone-book as emergency contacts for quick access at the end of the 911 Assist call process.

Radio

This button is available if a Radio source such as AM or FM is the active media source. Pressing the button allows you to access the following features:

Menu Item	Action and Description
FM HD Radio AM HD Radio (Dependent on current radio source, If Available)	Activation of this feature allows you to listen to HD radio broadcasts.
Radio Text	This feature is available when FM Radio is your active media source. Activate this feature to have the system display radio text.
Autoset Presets (AST)	Refresh
	Selecting this option stores the six strongest stations in your current location to the last preset bank of the currently tuned source.

Navigation

You can adjust many of the Navigation preferences by selecting the following menus.

Map Preferences

Menu Item	Action and Description	
Map Preferences		
Then select any of the following:		
3D City Model	When this option is active, the system shows 3D renderings of buildings.	
Breadcrumbs	When enabled, your vehicle's previously traveled route displays with white dots.	
POI Icons	Enable this feature to display up to 3 POI icons on the navigation map.	
	Once this feature is activated you can select the icons you want displayed by selecting:	Select POIs
Incident Map Icons	This menu allows you to choose which incident icons you would like to have displayed on the navigation map.	

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Route Preferences

Menu Item	Second Level Messages, Actions and Descriptions		
Route Preferences			
Then select any of the following:			
Preferred Route	Choose to have the system display your chosen route type.		
	Shortest	Fastest	Eco
Always Use ___ Route	Bypass route selection in destination programming. The system only calculates one route based on your preferred route setting. When activated, the system uses your selected route type to calculate only one route to the desired destination.		
Use HOV Lanes	The system selects High Occupancy Vehicle or car pool lanes when providing route guidance.		
Automatically Find Parking	The system searches for and displays available parking locations as you approach your destination.		
Eco Time Penalty	Select a level of cost for the calculated Eco Route. The higher the setting, the longer the time allotment is for the route.		
Dynamic Route Guidance	Enable or disable considering traffic information when planning a route. The system can find a faster route based on heavy traffic flow information or detect a Road Closed incident and find a detour route if possible.		
Avoid Freeways	If selected, SYNC 3 avoids freeways when computing a navigation route.		
Avoid Toll Roads	If selected, SYNC 3 avoids Toll Roads when computing a navigation route.		
Avoid Ferries/Car Trains	If selected, SYNC 3 avoids the use of Ferries or Trains when computing a navigation route.		

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Navigation Preferences

Menu Item	Action and Description
Navigation Preferences	
Guidance Prompts	You can adjust how the system provides prompts.
Then select any of the following:	
Voice and Tones	A tone sounds followed by voice instructions.
Voice Only	Only voice instructions are given.
Tones Only	Only a tone sounds to prompt you.

Mobile Apps

You can enable the control of compatible mobile apps running on your Bluetooth or USB device on SYNC 3. In order to enable mobile apps, SYNC 3 requires user consent to send and receive app authorization information and updates using the data plan associated with the connected device.

The connected devices sends data to Ford in the United States. The encrypted information includes your VIN, SYNC 3 module number, anonymous usage statistics and debugging information. Updates may take place automatically.

Note: *All Mobile Apps may not be compatible with the system.*

Note: *Standard data rates will apply. Ford is not responsible for any additional charges you may receive from your service provider, when your vehicle sends or receives data through the connected device. This includes any additional charges incurred due to driving in areas when roaming out of a home network.*

Menu Item	Action and Description
Mobile Apps	Enable or disable the use of mobile apps on SYNC 3. Disabling mobile apps in the settings menu disables automatic updates and the use of mobile apps on SYNC 3.
	You can view the status of mobile app permissions in the settings menu.
Once Mobile Apps is enabled, you have the following options:	
Update Mobile Apps	This provides information on the current state of available app updates.
	There are three possible statuses:

Menu Item	Action and Description		
	Update Needed	Up-To-Date	Updating Mobile Apps...
	The system has detected a new app requiring authorization or a general permissions update is required.	No update is required.	The system is trying to receive an update.
	Request Update		Select this button if an update is required and you want to request this update manually. For example, when your mobile device is connected to a Wi-Fi hotspot, select:
			Request Update
All Apps	Grant or deny permissions to all apps at once.		
There may also be SYNC 3 enabled apps listed under these options.	Grant or deny an individual app particular permissions. App permissions are organized into groups. By pressing the info book icon, you can see which signals are included in each group.		

Note: *Ford is not responsible or liable for any damages or loss of privacy relating to usage of an app, or dissemination of any vehicle data that you approve Ford to provide to an app.*

General

Access and adjust the system settings, voice features, as well as phone, navigation and wireless settings.

Menu Item	
Language	Select to have the touchscreen display in English, Spanish or French.
Distance	Select to display units in kilometers or miles.
Temperature	Select to display units in Celsius or Fahrenheit.
Touch Screen Beep	Select to have the system beep to confirm choices made through the touchscreen.

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Menu Item	
Automatic System Updates	When you activate this option, the system automatically updates when you have an available Internet connection through a Wi-Fi network or mobile connection.
About	Information pertaining to the system and its software.
Software Licenses	Documentation of the software license for the system.
Master Reset	Select to restore factory defaults. This erases all personal settings and personal data.

Wi-Fi

You can adjust the following:

Menu Item	Action and Description
Wi-Fi	Enable this option to connect to Wi-Fi for SYNC 3 vehicle software updates.
View Available Networks	This provides you with a list of available Wi-Fi networks within range.
	Clicking on a network from the list allows you to connect or disconnect from that network. The system may require a security code to connect.
	When you click the information button next to a network, more information about the network displays such as the signal strength, connection status and security type.
Wi-Fi Available Notifications	The system alerts you when your vehicle is parked and a Wi-Fi network is within range if SYNC is not already connected.

Ambient Lighting (If Equipped)

Tap a color once to active ambient lighting. This sets the color to the highest intensity.

You can drag the colors up and down to increase or decrease the intensity.

To switch ambient lighting off, press the active color once or drag the active color all the way down to zero intensity.

Vehicle

Note: *Your vehicle may not have all of these features.*

You can select the following features to update their settings.

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Door Keypad Code

Select this button to add or erase a personal door keypad code. To add or erase a personal code, you first need to enter the five-digit factory set code. You can find this code on the owner's wallet card in the glove box or from your authorized dealer.

Camera Settings

To make adjustments using the touchscreen, select:

Message	Action and Description
Camera Settings	
Then select from the following:	
Rear Camera Delay	You can enable or disable this option using the slider.

You can find more information on the rear-view camera system in the parking aids chapter of your owner manual.

Onboard Modem Serial Number (ESN)

Selecting this button on the settings menu shows you the ESN number for your system. You need this number for certain registrations such as Satellite Radio.

Display

To make adjustments using the touchscreen, select:

Menu Item	Action and Description	
Brightness	Make the screen display brighter or dimmer.	
Mode	You can select:	
	Auto	The screen automatically switches between day and night modes based on the outside light level.
	Day	The screen displays with a light background to enhance daytime viewing.

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Menu Item	Action and Description	
	Night	The screen displays with a darker background to make nighttime viewing easier.
	Off	The screen goes black and does not display anything. To switch the screen back on, simply tap the screen.
Auto Dim	Enable this option to automatically dim the display brightness based on ambient lighting conditions.	

Voice Control

You can adjust the voice control settings by selecting the following options.

Menu Item	
Advanced Mode	Enable this option to remove additional voice prompts and confirmations.
Phone Confirmation	Enable this option to have the system confirm a contacts name with you before making a call.
Voice Command List	Enable this option to have the system display a list of available voice commands when the voice button is pressed.

Valet Mode

Valet mode allows you to lock the system. No information is accessible until the system is unlocked with the correct PIN.

When you select valet mode a pop up appears informing you that a four digit code must be entered to enable and disable valet mode. You can use any PIN you chose but you must use the same PIN to disable valet mode. The system asks you to input the code.

Note: *If the system is locked and you cannot remember the PIN, please contact the Customer Relationship Center.*

United States: 1-800-392-3673
Canada: 1-800-565-3673

To enable valet mode, enter your chosen PIN. The system then asks to confirm your PIN by reentering it. The system then locks.

To unlock the system, enter the same pin number. The system reconnects to your phone and all of your options are available again.

SYNC™ 3 TROUBLESHOOTING

Your SYNC 3 system is easy to use. However, should questions arise, please refer to the tables below.

To check your cell phone's compatibility, visit the Ford website.

Website
owner.ford.com

Website
www.syncmyride.ca www.syncmaroute.ca

Cell phone issues		
Issue	**Possible cause**	**Possible solution**
There is background noise during a phone call.	The audio control settings on your cell phone may be affecting SYNC 3 performance.	Refer to your device's manual about audio adjustments.
During a call, I can hear the other person but they cannot hear me.	Possible cell phone malfunction.	Try switching your cell phone off, resetting it or removing the battery, then try again.
		Make sure that the microphone for SYNC 3 is not set to off. Look for the microphone icon on the phone screen.
During a call, I cannot hear the other person and they cannot hear me.	The system may need to be restarted.	To restart your system, shut down the engine, open and close the door, and then lock the door and wait for 2-3 minutes. Make sure that your SYNC 3 screen is black and the lighted USB port is off.
SYNC 3 is not able to download my phonebook.	This is a cell phone-dependent feature.	Check your cell phone's compatibility.
	Possible cell phone malfunction.	Make sure you allow SYNC 3 to retrieve contacts from your phone. Refer to your cell manual.
		You must switch on your cell phone and the automatic phonebook download feature on SYNC 3.
		Try switching your cell phone off, resetting it or removing the battery, then try again.
The system says "Phonebook downloaded" but my SYNC 3 phonebook is empty or is missing contacts.	Limitations on your cell phone's capability.	Make sure you allow SYNC 3 to retrieve contacts from your phone. Refer to your cell manual.
		If the missing contacts are stored on your SIM card, move them to your cell phone's memory.

Cell phone issues		
Issue	**Possible cause**	**Possible solution**
		You must switch on your cell phone and the automatic phonebook download feature on SYNC 3.
I am having trouble connecting my cell phone to SYNC 3.	This is a cell phone-dependent feature.	Check your cell phone's compatibility.
	Possible cell phone malfunction.	Try switching your cell phone off, resetting it or removing the battery, then try again.
		Try deleting your device from SYNC 3 and deleting SYNC from your device, then trying again.
		Always check the security and auto accept prompt settings relative to the SYNC 3 Bluetooth connection on your cell phone.
		Update your cell phone's firmware.
		Switch the auto download setting off.
Text messaging is not working on SYNC 3.	This is a cell phone-dependent feature.	Check your cell phone's compatibility.
	Possible cell phone malfunction.	Try switching your cell phone off, resetting it or removing the battery, then try again.
	iPhone	• Go to your cell phone's Settings. • Go to the Bluetooth Menu. • Press the blue circle to the right of the device named with your vehicle make and model to enter the next menu. • Turn Show Notifications on. • Disconnect then reconnect your iPhone from the SYNC 3 system to activate this settings update. Your iPhone is now set up to forward incoming text messages to SYNC 3. Repeat these steps for every other SYNC 3 vehicle that you connect. Your iPhone will only forward incoming text messages to SYNC 3 if the iPhone is not unlocked in the messaging application.

Cell phone issues		
Issue	**Possible cause**	**Possible solution**
		Replying to text messages using SYNC 3 is not supported by iPhone. Text messages from WhatsApp and Facebook Messenger are not supported.
Audible text messages do not work on my cell phone.	This is a cell phone-dependent feature.	Your cell phone must support downloading text messages through Bluetooth to receive incoming text messages.
	This is a cell phone limitation.	Because each cell phone is different, refer to your device's manual for the specific cell phone you are pairing. In fact, there can be differences between cell phones due to brand, model, service provider and software version.

USB and Bluetooth Stereo issues		
Issue	**Possible cause**	**Possible solution**
I am having trouble connecting my device.	Possible device malfunction.	Disconnect the device from SYNC 3. Try switching your device off, resetting it or removing the battery, then reconnect it to SYNC 3.
		Make sure you are using the manufacturer's cable.
		Make sure to correctly insert the USB cable into the device and your vehicle's USB port.
		Make sure that the device does not have an auto-install program or active security settings.
	The device has a lock screen enabled.	Make sure your device is unlocked before connecting it to SYNC 3.
SYNC 3 does not recognize my device when I start my vehicle.	This is a device limitation.	Make sure you are not leaving the device in your vehicle during very hot or cold temperatures.

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USB and Bluetooth Stereo issues		
Issue	**Possible cause**	**Possible solution**
Bluetooth audio does not stream.	This is a device-dependent feature.	Make sure you connect the device to SYNC 3 and that you have started the media player on your device.
	The device is not connected.	
SYNC 3 does not recognize music that is on my device.	Your music files may not contain the correct artist, song title, album or genre information.	Make sure that all song details are populated.
	The file may be corrupted.	Try replacing the corrupt file with a new version.
	The song may have copyright protection that does not allow it to play.	Some devices require you to change the USB settings from mass storage to media transfer protocol class.
	The file format is not supported by SYNC 3.	Convert the file to a supported format. See **Entertainment** (page 474).
	The device needs to be re-indexed.	Update media index. See **Settings** (page 503).
	The device has a lock screen enabled.	Make sure your device is unlocked before connecting it to SYNC 3.
When I connect my device, I sometimes do not hear any sound.	This is a device limitation.	Disconnect the device from SYNC 3. Try switching your device off, resetting it or removing the battery, then connect it back to SYNC 3.
		To listen to Apple devices through USB, select AirPlay from the devices Control Center, then select Dock Connector.
		To listen to Apple devices through Bluetooth Stereo, select AirPlay from the devices Control Center, then select SYNC.

Wi-Fi Issues		
Issue	**Possible cause**	**Possible solution**
Failed connection.	Password error.	Verify password.
	Weak signal.	Check for a poor Wi-Fi signal.
	Multiple Access points within range with the same SSID.	Use a unique name for your SSID, don't use the default name unless it contains a unique identifier, such as part of the MAC address.
Disconnecting after successful connection.	Weak signal probably due to distance from the hotspot, obstruction or high interference.	Position the vehicle close to the hotspot with the front of the vehicle facing the hotspot direction and remove obstacles if possible. Other Wi-Fi, Bluetooth, microwave and cordless phones may cause interference.
Poor signal seen by SYNC 3 despite being near a hotspot.	There may be an obstruction between SYNC 3 and the hotspot.	If the vehicle is equipped with heated windshield, try positioning the vehicle so that the windshield is not facing the hotspot. If you have metallic window tinting but not on the windshield, position the vehicle to face the hotspot. If all windows are tinted, you can open the windows in the direction of the hotspot if that is feasible. Try to remove other obstructions that may impact signal quality such as opening the garage door.
A hotspot is not listed in the list of available networks.	The hotspot was defined as a hidden network.	Please set the network to visible and try again.

Wi-Fi Issues		
Issue	**Possible cause**	**Possible solution**
SYNC 3 is not seen when searching for Wi-Fi networks from your phone or other devices.	SYNC 3 does not currently provide a hotspot.	SYNC 3 currently does not provide a hotspot
Software download takes too long.	Poor signal strength, too far from the hotspot, hotspot is supporting multiple connections, slow Internet connection or other problems.	Check the signal quality (under network details), if SYNC 3 indicates good or excellent, test with another high-speed equipped hotspot where the environment is more predictable.
SYNC 3 seems to connect with a hotspot and the signal strength is excellent but the software is not being updated.	It is possible that there is no new software. The connected hotspot may be a managed one and it requires either a subscription or agreeing to the terms and conditions.	Test the connection with another device, if the hotspot requires a subscription, you may contact the service provider.

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
AppLink Mobile Applications: When I select "Connect Mobile Apps," SYNC 3 does not find any applications.	You did not connect an Applink Compatible phone to SYNC 3.	Make sure you have a compatible smartphone; an Android with OS 2.3 or higher or an iPhone 3GS or newer with iOS 5.0 or higher. Additionally, make sure you pair and connect your phone

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
		to SYNC 3 in order to find AppLink-capable apps on your device. iPhone users must also connect to a USB port with an Apple USB cable.
My phone is connected, but I still cannot find any apps.	AppLink-enabled apps are not installed and running on your mobile device.	Make sure you have downloaded and installed the latest version of the app from your phone's app store. Make sure the app is running on your phone. Some apps require you to register or login to the app on the phone before using them with AppLink. Also, some may have a "Ford SYNC" setting, so check the app's settings menu on the phone.
My phone is connected, my app(s) are running, but I still cannot find any apps.	Sometimes apps do not properly close and re-open their connection to SYNC 3, over ignition cycles, for example.	Closing and restarting apps may help SYNC 3 find the application if you cannot discover it inside the vehicle. On an Android device, if apps have an 'Exit' or 'Quit' option, then select it and restart the app. If the app does not have that option, select the phone's settings menu and select 'Apps', then find the particular app and choose 'Force stop.' Do not forget to restart the app afterward, then select "Connect Mobile Apps" on SYNC 3.

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AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
		On an iPhone with iOS7+, to force close an app, double tap the home button then swipe up on the app to close it. Tap the home button again, then select the app again to restart it. After a few seconds, the app should then appear in SYNC 3's Mobile App's Menu.
My Android phone is connected, my app(s) are running, I restarted them, but I still cannot find any apps.	There is a Bluetooth issue on some older versions of the Android operating system that may cause apps that were found on your previous vehicle drive to not be found again if you did not switch Bluetooth off.	Switch Bluetooth off and then on to reset it on your phone. If you are in your vehicle, SYNC 3 should be able to automatically re-connect to your phone if you press the "Phone" button.

AppLink issues		
Issue	**Possible cause(s)**	**Possible solution(s)**
My iPhone is connected, my app is running, I restarted the app but I still cannot find it on SYNC 3.	You may need to reset the USB connection to SYNC 3.	Unplug the USB cable from the phone, wait a moment, and plug the USB cable back in to the phone. After a few seconds, the app should appear in SYNC 3's Mobile Apps Menu. If not, "Force Close" the application and restart it.
I have an Android phone. I found and started my media app on SYNC 3, but there is no sound or the sound is very low.	The Bluetooth volume on the phone may be low.	Increase the Bluetooth volume of the device by using the device's volume control buttons which are most often found on the side of the device.
I can only see some of the AppLink apps running on my phone listed in the SYNC 3 Mobile Apps Menu.	Some Android devices have a limited number of Bluetooth ports that apps can use to connect. If you have more AppLink apps on your phone than the number of available Bluetooth ports, you will not see all of your apps listed in the SYNC 3 mobile apps menu.	Force close or uninstall the apps you do not want SYNC 3 to find. If the app has a "Ford SYNC" setting, disable that setting in the app's settings menu on the phone.

Voice command issues		
Issue	**Possible cause**	**Possible solution**
SYNC 3 does not understand what I am saying.	You may be using the wrong voice commands.	Review the cell phone voice commands and the media voice commands at the beginning of their respective sections.
		Refer to the audio display during an active voice session to find a list of voice commands there.
	You may be speaking too soon or at the wrong time.	Wait for the system to prompt you before you state your command.

Voice command issues		
Issue	**Possible cause**	**Possible solution**
SYNC 3 does not understand the name of a song or artist.	You may be using the wrong voice commands.	Review the media voice commands at the beginning of the media section.
	You may not be saying the name exactly as it appears on your device.	Say the song or artist name exactly as it is displayed on your device. For example, say "Play Artist Prince" or "Play song Purple Rain".
		Make sure you are saying the complete title such as "California remix featuring Jennifer Nettles".
		If there are any abbreviations in the name, like ESPN or CNN, you have to spell those: "E-S-P-N" or "C-N-N".
	The song or artist name may have some special characters that are not being recognized by SYNC 3.	Make sure that song titles, artists, album, and playlists names do not have any special characters like *, - or +.
SYNC 3 does not understand or is calling the wrong contact when I want to make a call.	You may not be saying the name exactly as it appears on your phonebook.	Make sure that you are saying the name exactly as it appears on your phone. For example, if your contact is "Joe Wilson", say "Call Joe Wilson". If your contact name is "Mom", say "Call Mom".
	The contact name may contain special characters.	Make sure that your contact names do not have any special characters like *, - or +.
The SYNC 3 voice control system is having trouble recognizing foreign names stored on my cell phone.	You may not be saying the name exactly as it appears on your phonebook.	SYNC 3 applies the phonetic pronunciation rules of the selected language to the contact names stored on your cell phone.
		Helpful Hint: You can select your contact manually. Press **PHONE**. Select the option for phonebook and then contact name. Press the soft-key option to hear it. SYNC 3 will read the contact name to you, giving you some idea of the pronunciation it is expecting.

Voice command issues		
Issue	**Possible cause**	**Possible solution**
The SYNC 3 voice control system is having trouble recognizing foreign tracks, artists, albums, genres and playlist names from my media player or USB flash drive.	You may be saying the foreign names using the currently selected language for SYNC 3.	SYNC 3 applies the phonetic pronunciation rules of the selected language to the names stored on your media player or USB flash drive. It is able to make some exceptions for very popular artist names (for example, U2) such that you can always use the English pronunciation for these artists.
The system generates voice prompts and the pronunciation of some words may not be accurate for my language.	SYNC 3 uses text-to-speech voice prompt technology.	SYNC 3 uses a synthetically generated voice rather than pre-recorded human voice.
		SYNC 3 offers several new voice control features for a wide range of languages. Dialing a contact name directly from the phonebook without pre-recording (for example, “call John Smith”) or selecting a track, artist, album, genre or playlist directly from your media player (for example, "play artist Madonna").

General		
Issue	**Possible cause**	**Possible solution**
The language selected for the instrument cluster and information and entertainment display does not match the SYNC 3 language (phone, USB, Bluetooth audio, voice control and voice prompts).	SYNC 3 does not support the currently selected language for the instrument cluster and information and entertainment display.	SYNC 3 only supports four languages in a single module for text display, voice control and voice prompts. The country where you bought your vehicle dictates the four languages based on the most popular languages spoken. If the selected language is not available, SYNC 3 remains in the current active language.
		SYNC 3 offers several new voice control features for a wide range of languages. Dialing a contact name directly from the phonebook without pre-recording (for example, “call John Smith”) or selecting a track, artist, album, genre or playlist directly from your media player (for example, "play artist Madonna").

SYNC 3 System Reset
The system has a System Reset feature that can be performed if the function of a SYNC 3 feature is lost. This reset is intended to restore functionality and will not erase any information previously stored in the system (such as paired devices, phonebook, call history, text messages, or user settings). To perform a System Reset, press and hold the Seek Up (>>|) button while pressing and holding the Radio Power button. After approximately 5 seconds the screen will go black. Allow 1-2 minutes for the system reset to complete. You may then resume using the SYNC 3 system.

For additional assistance with SYNC 3 troubleshooting please call or visit the Ford Website.

Ford Support	
Customer Relationship Center	United States: 1-800-392-3673
	Canada: 1-800-565-3673
Website	owner.ford.com www.syncmyride.ca www.syncmaroute.ca

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:

Web Address (United States)
www.Accessories.Ford.com

Web Address (Canada)
www.Accessories.Ford.ca

Ford Accessories are available for your vehicle through an authorized Ford dealer. Ford Motor Company 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.

Ford Motor Company will warrant your 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.

Exterior style

- Bed rails.
- Chrome exhaust tips.
- Custom graphics*.
- Fender flares.
- Hood deflector.
- Running boards.
- Side window deflectors*.
- Splash guards.
- Tailgate dampener.
- Tow hooks.
- Trim kits.

Interior style

- Ambient lighting.
- Floor mats.
- Tray floor liners.

Lifestyle

- Bed extender.
- Bedliners and bedmats.
- Bed ramps.
- Bed side step.
- Ford Telematics™*.
- Hitch balls and towbars.
- Interior cargo organization and management.
- In-vehicle safe*.
- Racks and carriers*.
- Rear-seat entertainment*.
- Smoker's package.
- Sportliner cargo liner*.
- Tonneau covers*.
- Towing mirrors.
- Trailer brake controller.
- Trailer hitches, wiring harnesses and accessories.
- Truck bed camping tent*.
- Truck bed cargo organization and management.

Peace of mind

- Back-up alarm*.
- Bed hooks*.
- Bumper- and hitch-mounted parking sensors*.
- Keyless entry keypad.
- Protective seat covers*.

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- Remote start.
- Roadside assistance kits.
- Tool or cargo boxes*.
- Vehicle security systems.
- Wheel locks.
- Wheel well liners.

Footnote
*Ford Licensed Accessory. The accessory manufacturer designs, 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.

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- Mobile communications systems may harm the operation of your vehicle, particularly if their manufacturer did not design them 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, and may adversely affect the performance of other electrical systems in the vehicle.

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PROTECT YOURSELF FROM THE RISING COST OF VEHICLE REPAIRS WITH A FORD PROTECT EXTENDED SERVICE PLAN.

Ford Protect Extended Service Plans (U.S. Only)

Ford Protect Extended Service Plan means peace of mind. It's the extended service plan backed by Ford Motor Company, and provides more protection beyond the New Vehicle Limited Warranty coverage. When you visit your Ford Dealer, Insist on Ford Protect Extended Service Plans!

Ford Protect Can Quickly Pay for Itself

One trip to the Service Center could easily exceed the price of your Ford Protect Extended Service Plan. With Ford Protect you minimize your risk for unexpected repair bills and rising repair costs.

Up to 1,000+ Covered Vehicle Components

There are four mechanical Ford Protect Extended Service Plans with different levels of coverage. Ask your authorized dealer for details.

1. PremiumCARE - Our most comprehensive coverage. With over 1,000 covered components, this plan is so complete it's probably easier to list what's 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 U.S., Canada and Mexico.

That means you get:

- Reliable, quality service at any Ford or Lincoln dealership.
- Repairs performed by factory trained technicians, using genuine parts.

Rental Car Reimbursement

1st day Rental Benefit

If you bring your car into your dealer for service, we'll give you a loaner to use for the day.

Extended Rental Benefits

If your vehicle is kept overnight for covered repairs, you are eligible for rental car coverage, including warranty repairs, and Field Service Actions.

Roadside Assistance

Exclusive 24/7 roadside assistance, including:

- Towing, flat-tire change and battery jump starts.
- Out of fuel and lock-out assistance.
- Travel expense reimbursement for lodging, meals and rental car.
- Assistance for taxi, shuttle, rental car coverage or other transportation.

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. Which should give you and your potential buyer a little more peace of mind.

Less Cost to Properly Maintain Your Vehicle

Ford Protect Extended Service Plan also offers a Premium Maintenance Plan that covers all scheduled maintenance, and selected wear items. The coverage is prepaid, so you never have to worry about the cost of your vehicle's maintenance.

Covered maintenance includes:

- Windshield wiper blades.
- Spark plugs.
- The clutch disc.
- Brake pads and linings.
- Shock absorbers.
- Struts.
- Engine Belts.
- Engine coolant hoses, clamps and o-rings.
- Diesel exhaust fluid replenishment.
- Cabin air filter replacement every 20,000 mi (32,000 km) (electric vehicles only).

Interest Free Finance Options

Just a 10% down payment will provide you with an affordable, no interest, no fee payment program allowing you all the security and benefits Ford Protect Extended Service Plan has to offer while paying over time. You are pre-approved with no credit check or hassles. To learn more, call our Ford Protect Extended Service Plan specialists at 800-367-3377.

Ford Protect Extended Service Plan
P.O. Box 321067
Detroit, MI 48232

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 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, the United States and Mexico are not eligible for Ford Protect Extended Service Plan coverage.*

This information is subject to change. For more information; visit your local Ford of Canada dealer or www.ford.ca to find the Ford Protect Extended Service Plan that is right for you.

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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.

We have established regular maintenance intervals for your vehicle based upon rigorous testing. It is important that you have your vehicle serviced at the proper times. These intervals serve two purposes; one is to maintain the reliability of your vehicle and the second is to keep your 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 **Capacities and Specifications** (page 384).

Failure to perform scheduled maintenance invalidates warranty coverage on parts affected by the lack of maintenance.

Why Maintain Your Vehicle at Your Dealership?

Factory-Trained Technicians

Service technicians participate in extensive factory-sponsored certification training to help them become experts on the operation of your vehicle. Ask your dealership about the training and certification their technicians have received.

Genuine Ford and Motorcraft® Replacement Parts

Dealerships stock Ford, Motorcraft and Ford-authorized branded re-manufactured 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 Ford authorized parts they may not meet our specifications and depending on the part, it could affect emissions compliance.

Convenience

Many dealerships have extended evening and Saturday hours to make your service visit more convenient and they offer one stop shopping. They can perform any services that are required on your vehicle, from general maintenance to collision repairs.

Note: *Not all dealers have extended hours or body shops. Please contact your dealer for details.*

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 is equipped with the Intelligent Oil-Life Monitor system, which displays a message in the information display at the proper oil change interval. This interval may be up to one year or 10000 miles (16000 kilometers).

When the oil change message appears in the information display, it is time for an oil change. Make sure you perform the oil change within two weeks or 500 miles (800 kilometers) of the message appearing. Make sure you reset the Intelligent Oil-Life Monitor after each oil change. See **General Information** (page 109).

If your information display resets prematurely or becomes inoperative, you should perform the oil change interval at six months or 5000 miles (8000 kilometers) from your last oil change. Never exceed one year or 10000 miles (16000 kilometers) between oil change intervals.

Your vehicle is very sophisticated and built with multiple, complex, performance systems. Every manufacturer develops these systems using different specifications and performance features. That is why it is important to rely upon your dealership to properly diagnose and repair your vehicle.

Ford Motor Company has recommended maintenance intervals for various parts and component systems based upon engineering testing. Ford Motor Company relies upon this testing to determine the most appropriate mileage for replacement of oils and fluids to protect your vehicle at the lowest overall cost to you and recommends against maintenance schedules that deviate from the scheduled maintenance information.

We strongly recommend the use of only genuine Ford, Motorcraft or Ford-authorized re-manufactured replacement parts engineered for your vehicle.

Additives and Chemicals

This owner's manual and the Ford Workshop Manual list the recommended additives and chemicals for your vehicle. 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 the fluid needs to be changed. However, a qualified expert, such as the factory-trained technicians at your dealership, should inspect discolored fluids that also show signs of overheating or foreign material contamination immediately.

Make sure to change your 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 a Ford-approved flushing chemical.

Owner Checks and Services

Make sure you perform the following basic maintenance checks and inspections every month or at six-month intervals.

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Check every month
Engine oil level.
Function of all interior and exterior lights.
Tires (including spare) for wear and proper pressure.
Windshield washer fluid level.

Check every six months
Battery connections. Clean if necessary.
Body and door drain holes for obstructions. Clean if necessary.
Cooling system fluid level and coolant strength.
Door weatherstrips for wear. Lubricate if necessary.
Hinges, latches and outside locks for proper operation. Lubricate if necessary.
Parking brake for proper operation.
Safety belts and seat latches for wear and function.
Safety warning lamps (brake, ABS, airbag and safety belt) for operation.
Washer spray and wiper operation. Clean or replace blades as necessary.

Multi-Point Inspection

In order to keep your vehicle running right, it is important to have the systems on your vehicle checked regularly. 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.

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Multi-Point inspection	
Accessory drive belt(s)	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*; fill if necessary	Tires (including spare) for wear and proper pressure**
For oil and fluid leaks	Windshield for cracks, chips or pits
Half-shaft dust boots	Washer spray and wiper operation

* Brake, coolant recovery reservoir, automatic transmission and window washer

**If your vehicle is equipped with a temporary mobility kit, check the tire sealant expiration Use By date on the canister. Replace as needed.

Be 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.

NORMAL SCHEDULED MAINTENANCE

Intelligent Oil-Life Monitor

Your vehicle is equipped with an Intelligent Oil-Life Monitor that determines when you should change the engine oil based on how your vehicle is used. 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 information 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.

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When to expect the message prompting you to change your oil	
Interval	**Vehicle use and example**
7500-10000 miles (12000-16000 km)	**Normal**
	Normal commuting with highway driving No, or moderate, load or towing Flat to moderately hilly roads No extended idling
5000-7499 miles (8000-11999 km)	**Severe**
	Moderate to heavy load or towing Mountainous or off-road conditions Extended idling Extended hot or cold operation
3000-4999 miles (4800-7999 km)	**Extreme**
	Maximum load or towing Extreme hot or cold operation

Normal Maintenance Intervals

At every oil change interval as indicated by the information display*
Change engine oil and filter.**
Rotate tires, inspect tire wear and measure tread depth.
Perform a multi-point inspection (recommended).
Inspect the automatic transmission fluid level (if equipped with dipstick). Consult your dealer for requirements.
Inspect the brake pads, shoes, rotors, drums, brake linings, hoses and parking brake.
Inspect the engine cooling system strength and hoses.
Inspect the exhaust system and heat shields.
Inspect front axle and U-joints. Lubricate if equipped with grease fittings (Four–wheel drive vehicles).
Inspect the half-shaft boots.

At every oil change interval as indicated by the information display*
Inspect the steering linkage, ball joints, suspension, tire-rod ends, driveshaft and U-joints. Lubricate any areas with grease fittings.
Inspect the wheels and related components for abnormal noise, wear, looseness or drag.

* Do not exceed one year or 10000 miles (16000 kilometers) between service intervals.

** Reset the Intelligent Oil-Life Monitor after engine oil and filter changes.

Other maintenance items [1]	
Every 20000 miles (32000 km)	Replace cabin air filter.
Every 30000 miles (48000 km)	Replace engine air filter.
At 100000 miles (160000 km)	Change engine coolant. [2]
Every 100000 miles (160000 km)	Replace spark plugs.
	Inspect accessory drive belt(s). [3]
Every 150000 miles (240000 km)	Change automatic transmission fluid and filter.
	Change front axle fluid (Four-wheel drive vehicles).
	Change rear axle fluid.
	Change transfer case fluid (Four-wheel drive vehicles).
	Replace accessory drive belt(s).

[1] Perform these maintenance items within 3000 miles (4800 kilometers) of the last engine oil and filter change. Do not exceed the designated distance for the interval.

[2] Initial replacement at six years or 100000 miles (160000 kilometers), then every three years or 50000 miles (80000 kilometers).

[3] After initial inspection, inspect every other oil change until replaced.

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SPECIAL OPERATING CONDITIONS SCHEDULED MAINTENANCE

If you operate your vehicle **primarily** in any of the following conditions, you need to perform extra maintenance, as indicated. If you operate your vehicle **occasionally** under any of these conditions, it is not necessary to perform the extra maintenance. For specific recommendations, see your dealership service advisor or technician.

Perform the services shown in the following tables when specified or within 3,000 mi (4,800 km) of the **OIL CHANGE REQUIRED** message appearing in the information display.

- **Example 1**: The **OIL CHANGE REQUIRED** message comes on at 28,751 mi (46,270 km). Perform the 30,000 mi (48,000 km) automatic transmission fluid replacement.
- **Example 2**: The **OIL CHANGE REQUIRED** message has **not** come on, but the odometer reads 30,000 mi (48,000 km) (for example, the Intelligent Oil-Life Monitor was reset at 25,000 mi (40,000 km)). Perform the engine air filter replacement.

Towing a trailer or using a car-top carrier	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Inspect and lubricate U-joints.
	See axle maintenance items under **Exceptions**.
Every 60,000 mi (96,000 km)	Change transfer case fluid (Four-wheel drive vehicles).
	Replace spark plugs.

Extensive idling or low-speed driving for long distances, as in heavy commercial use (such as delivery, taxi, patrol car or livery)	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Replace engine air filter.
Every 60,000 mi (96,000 km)	Change transfer case fluid (Four-wheel drive vehicles).
	Replace spark plugs.

Operating in dusty or sandy conditions (such as unpaved or dusty roads)	
Inspect frequently, service as required	Replace engine air filter.
Every 5,000 mi (8,000 km)	Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
	Rotate tires, inspect tires for wear and measure tread depth.
Every 5,000 mi (8,000 km) or six months	Change engine oil and filter.*
Every 60,000 mi (96,000 km)	Change transfer case fluid (Four-wheel drive vehicles).

*Reset your Intelligent Oil-Life Monitor after each engine oil and filter change.

Off-road operation	
Inspect frequently, service as required	Inspect steering linkage, ball joints and U-joints. Lubricate if equipped with grease fittings.
	Replace engine air filter.
Every 5,000 mi (8,000 km) or six months	Change engine oil and filter.*
	Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
	Rotate tires, inspect tires for wear and measure tread depth.
Every 30,000 mi (48,000 km)	Replace front wheel bearing grease and grease seals if non-sealed bearings are used (Two-wheel drive vehicles).
Every 60,000 mi (96,000 km)	Change transfer case fluid (Four-wheel drive vehicles).

*Reset your Intelligent Oil-Life Monitor after each engine oil and filter change.

Exclusive use of E85 (Flex fuel vehicles only)	
Every oil change interval	If ran exclusively on E85, fill the fuel tank full with regular unleaded fuel.

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Exceptions

There are several exceptions to the Normal Schedule.

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 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 (240,000km) service interval can continue if the rear axle is filled with 75W85 synthetic gear fluid meeting Ford specification WSS-M2C942-A, part number XY-75W85-QL, or equivalent. Add friction modifier XL-3 (EST-M2C118-A) or equivalent for complete refill of Traction-Lok rear axles.

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 using an American Petroleum Institute (API) Certified for Gasoline Engines (Certification mark) oil of SM or SN quality, the normal oil change interval is 3,000 mi (4,800 km).

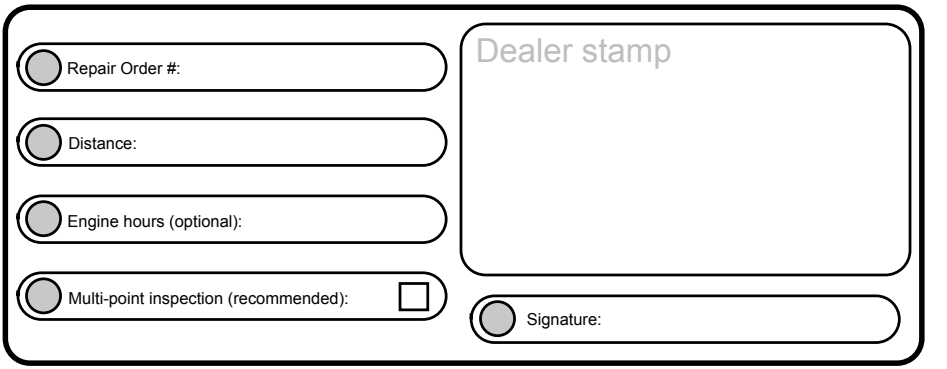
If the available API SM or SN oils are not available, then the oil change interval is 1,800 mi (2,900 km).

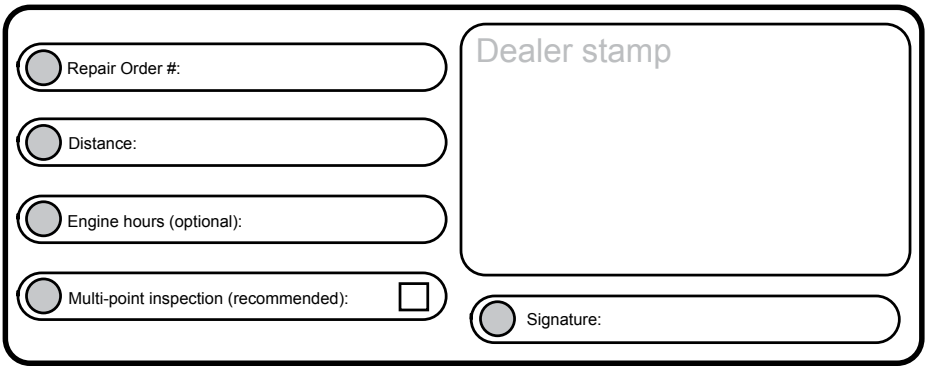
Engine Air Filter Replacement

The life of the engine 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.

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SCHEDULED MAINTENANCE RECORD





Repair Order #:

Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

Signature:

Repair Order #:

Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

Signature:

Repair Order #:

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Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

Signature:

Repair Order #:

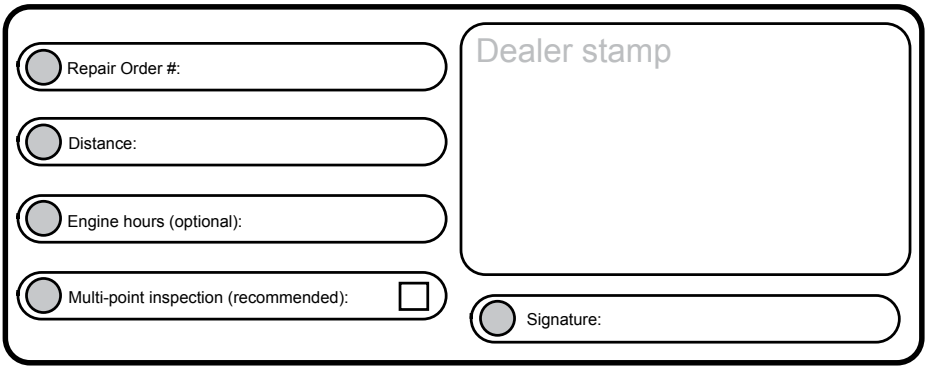
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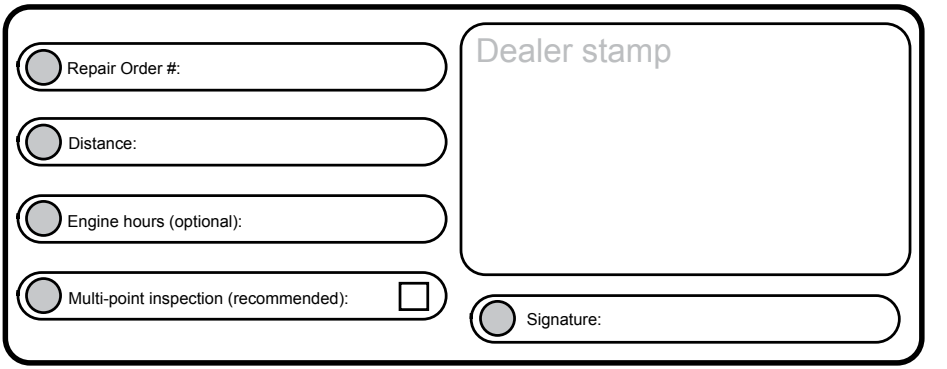
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Multi-point inspection (recommended):

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Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

Signature:

Repair Order #:

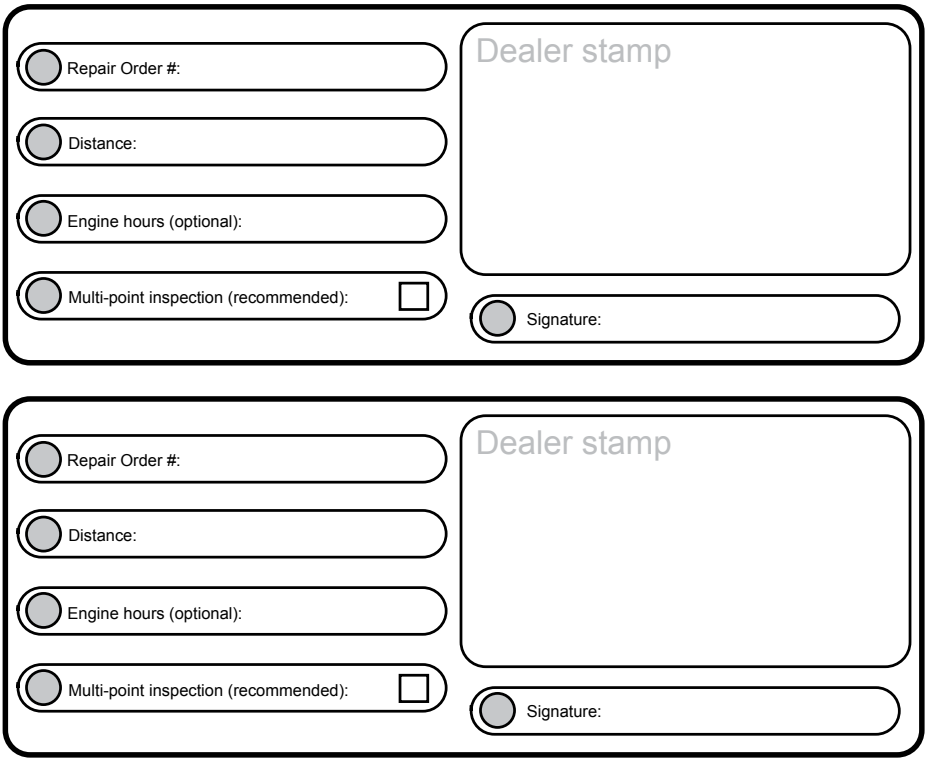
Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

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Repair Order #:

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Multi-point inspection (recommended):

Dealer stamp

Signature:

Repair Order #:

Distance:

Engine hours (optional):

Multi-point inspection (recommended):

Dealer stamp

Signature:

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.

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- **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.

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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;(c) 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.

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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 AN ARTICULAR 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, (c) 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.

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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.

(c) 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 http://www.telenav.com from time to time to review the then current version of this Agreement and of the privacy policy.

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;

(c) 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; **(c)** 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)**

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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

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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.

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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.

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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.

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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.
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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:

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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
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.; (c) 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

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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."
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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:

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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."

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.

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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.

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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.

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Radio Frequency Statement

FCC ID: ACJ-SYNCG3-L

IC: 216B-SYNCG3-L

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.

Note: *Changes or modifications not expressly 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.*

The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Taiwan Territory

Note: In accordance with the management approach of low-power radio wave radiation motors:

Article 12: For approved and certified low-power radiation motor models, companies, firms or users must not alter the frequency, increase the power or change the characteristics and functions of the original design without authorization.

Article 14: The usage of low-power radio-frequency motors must not affect aviation safety and interfere with legal telecommunications. Should interference be detected, immediately stop using the device and only resume usage after ensuring that there is no longer any interference. For the legal telecommunication and wireless telecommunication of the telco, the low-power radio frequency motor must be able to tolerate legal limits of interference from telecommunication, industrial, scientific and radio wave equipment.

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www.sunatraffic.com.au/termsandconditions/

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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.

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.

TYPE APPROVALS

RF Certification Logos for Tire Pressure Monitoring Sensor(s)



E207816

Argentina



E207817

Abu Dhabi, Dubai



E197509



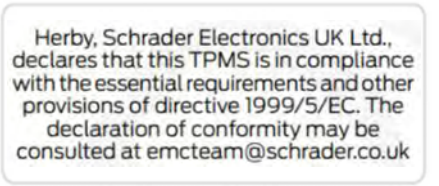
E202555

Brazil



E197811

Moldova



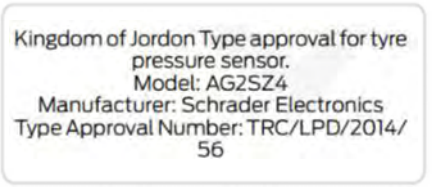
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European Union EU



E207821

Morocco



E207819

Jordan



E198001

Philippines



E207820

Malaysia



E197844

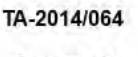
Serbia



E207822

Singapore





E198002

South Africa



E203899



E203679

Taiwan



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регламенту радіообладнання і
телекомунікаційного кінцевого
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Ukraine

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