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Introduction

The following warning may be required by California law:

CALIFORNIA Proposition 65 Warning

WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. In addition, 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.

CONGRATULATIONS

Congratulations on acquiring your new Mazda Motor Corporation product. Please take the time to get well acquainted with your vehicle by reading this handbook. The more you know and understand about your vehicle the greater the safety and pleasure you will derive from driving it.

For more information on Mazda Motor Corporation and its products visit the following website:

In the United States: www.mazdausa.com

In Canada: www.mazda.ca

Additional owner information is given in separate publications.

Introduction

WARNING: This Owner's Guide describes every option and model variant available and therefore some of the items covered may not apply to your particular vehicle. Furthermore, due to printing cycles it may describe options before they are generally available.

WARNING: Remember to pass on the Owner's Guide when reselling the vehicle. It is an integral part of the vehicle.

WARNING: In the event of an accident the Fuel pump shut-off switch will automatically cut off the fuel supply to the engine. The switch can also be activated through sudden vibration (e.g. collision when parking). To reset the switch, refer to the *Fuel pump shut-off switch* in the *Roadside emergencies* chapter.

SAFETY AND ENVIRONMENT PROTECTION

Warning symbols in this guide

How can you reduce the risk of personal injury and prevent possible damage to others, your vehicle and its equipment? In this guide, answers to such questions are contained in comments highlighted by the warning triangle symbol. These comments should be read and observed.

Introduction

Warning symbols on your vehicle

When you see this symbol, it is imperative that you consult the relevant section of this guide before touching or attempting adjustment of any kind.

Protecting the environment

We must all play our part in protecting the environment. Correct vehicle usage and the authorized disposal of waste cleaning and lubrication materials are significant steps towards this aim. Information in this respect is highlighted in this guide with the tree symbol.

BREAKING-IN YOUR VEHICLE

There are no particular breaking-in rules for your vehicle. During the first 1,600 km (1,000 miles) of driving, vary speeds frequently. This is necessary to give the moving parts a chance to break in.

SPECIAL NOTICES

Special instructions

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

WARNING: By operating other electronic equipment (e.g. mobile telephone without exterior aerial) electromagnetic fields can occur which can cause malfunctions of the vehicle electronics. Therefore you should observe the instructions of the equipment manufacturers.

WARNING: Please read the section *Air bag* in the *Seating and safety restraints* chapter. Failure to follow the specific warnings and instructions could result in personal injury.

WARNING: Rear facing child or baby seats should NEVER be used in front of a passenger side air bag.

Emission warranty

The New Vehicle Limited Warranty includes Bumper to Bumper Coverage, Safety Restraint Coverage and Corrosion Coverage. In addition, your vehicle is eligible for Emissions Defect and Emissions Performance Warranties. For a detailed description of what is covered and what is not covered, refer to the *Warranty Guide* that is provided to you along with your Owner's Guide.

Introduction

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

Vehicle Symbol Glossary

Safety Alert		See Owner's Guide	
Protecting the Environment		Fasten Safety Belt	
Air Bag-Front		Air Bag-Side	
Child Seat		Child Seat Installation Warning	
Child Seat Tether Anchorage		Brake System	
Anti-Lock Brake System		Brake Fluid - Non-Petroleum Based	
Traction Control		Master Lighting Switch	
Hazard Warning Flasher		Fog Lamps-Front	
Fuse Compartment		Fuel Pump Reset	
Windshield Wash/Wipe		Windshield Defrost/Demist	
Rear Window Defrost/Demist		Power Windows Front/Rear	

Vehicle Symbol Glossary

Power Window Lockout		Child Safety Door Lock/Unlock	
Interior Luggage Compartment Release Symbol		Panic Alarm System Feature	
Engine Oil		Engine Coolant	
Engine Coolant Temperature		Do Not Open When Hot	
Battery		Avoid Smoking, Flames, or Sparks	
Battery Acid		Explosive Gas	
Fan Warning		Power Steering Fluid	
Maintain Correct Fluid Level	MAX MIN	Emission System	
Engine Air Filter		Passenger Compartment Air Filter	
Jack		Check fuel cap	
Low tire warning			

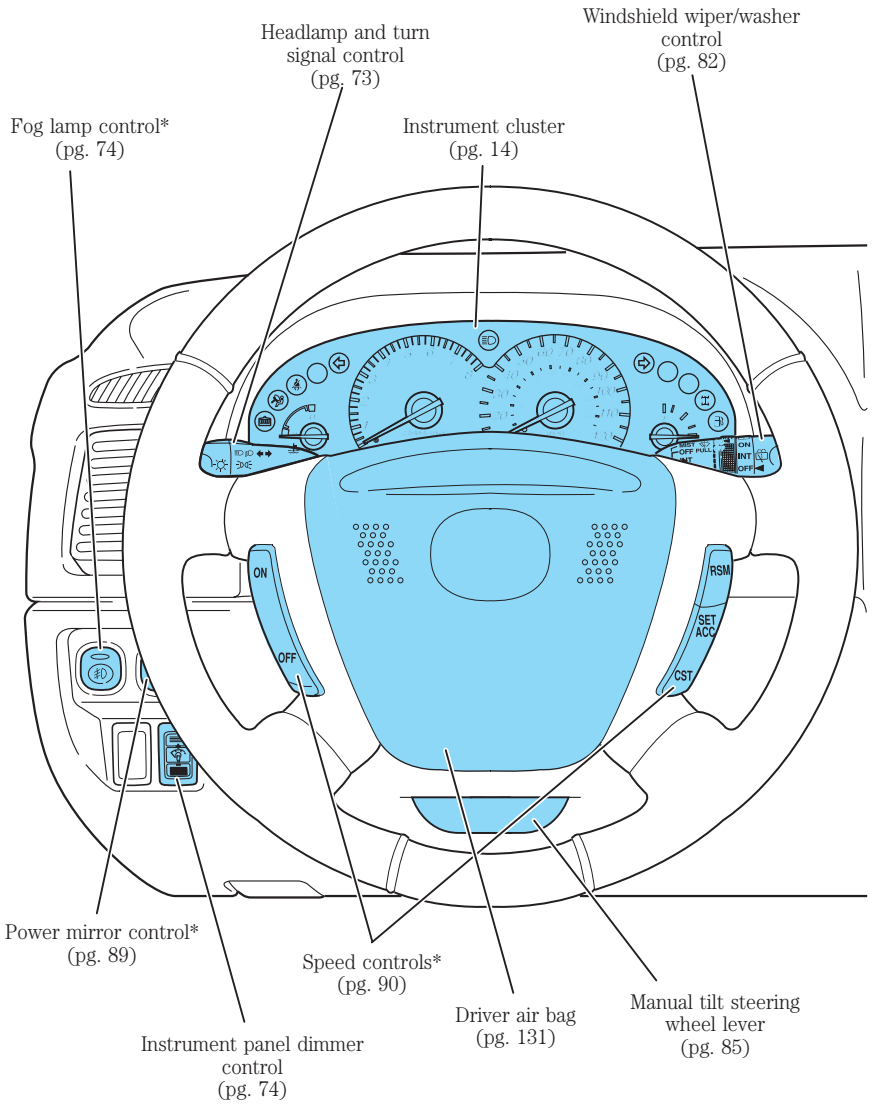
Introduction

INFORMATION ABOUT THIS GUIDE

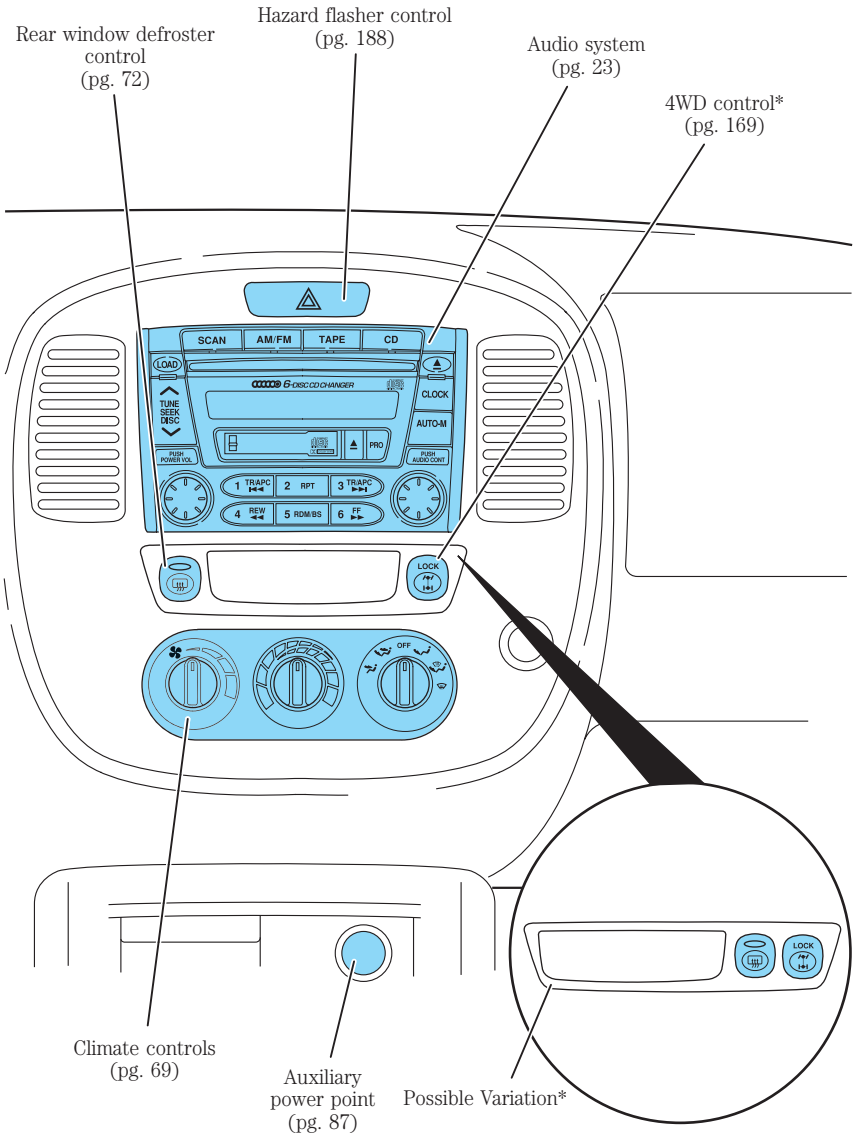
The information found in this guide was accurate at the time of printing. Mazda may change the contents without notice.

Instrument Cluster

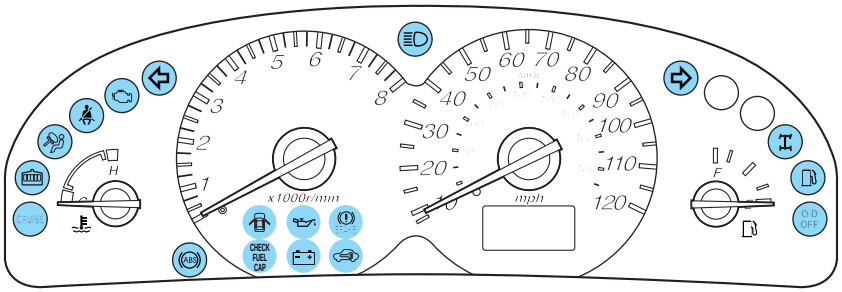
Instrument Cluster



* if equipped

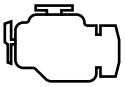

Rear window defroster control (pg. 72)
Hazard flasher control (pg. 188)
Audio system (pg. 23)
4WD control* (pg. 169)
SCAN
AM/FM
TAPE
CD
LOAD
6-DISC CD CHANGER
CLOCK
AUTO-M
TUNE SEEK DISC
PUSH POWER VOL
PRO
PUSH AUDIO CONT
1 TR/APC
2 RPT
3 TR/APC
4 REW
5 RDM/BS
6 FF
LOCK
OFF
Climate controls (pg. 69)
Auxiliary power point (pg. 87)
Possible Variation*

WARNING LIGHTS AND CHIMES



Warning lights and gauges can alert you to a vehicle condition that may become serious enough to cause expensive repairs. A warning light may illuminate when a problem exists with one of your vehicle's functions. Many lights will illuminate when you start your vehicle to make sure the bulb works. **If any light remains on after starting the vehicle, have the respective system inspected immediately.**

Service engine soon



Your vehicle is equipped with a computer that monitors the engine's emission control system. This system is commonly known as the On Board Diagnostics System (OBD II). The OBD II system protects the environment by ensuring that your vehicle continues to meet government emission standards. The OBD II system also assists the service technician in properly servicing your vehicle.

The indicator light illuminates when the ignition is first turned to the RUN position to check the bulb. If it comes on after the engine is started, one of the engine's emission control systems may be malfunctioning. The light may illuminate without a driveability concern being noted. The vehicle will usually be drivable and will not require towing.

What you should do if the ***light illuminates***

Light turns on (without blinking):

This means that the OBD II system has detected a malfunction.

Temporary malfunctions may cause your light to illuminate. Examples are:

1. The vehicle has run out of fuel. (The engine may misfire or run poorly.)
2. Poor fuel quality or water in the fuel.
3. The fuel cap may not have been properly installed and securely tightened.

These temporary malfunctions can be corrected by filling the fuel tank with high quality fuel of the recommended octane and/or properly installing and securely tightening the fuel cap. After three driving cycles without these or any other temporary malfunctions present, the light should turn off. (A driving cycle consists of a cold engine startup followed by mixed city/highway driving.) No additional vehicle service is required.

If the light remains on, have your vehicle serviced at the first available opportunity.

NOTE: The light will illuminate if vehicle refueling is conducted with the engine running.

WARNING: Never refuel vehicle with the engine running.

Light is blinking:

Engine misfire is occurring which could damage your catalytic converter. You should drive in a moderate fashion (avoid heavy acceleration and deceleration) and have your vehicle serviced at the first available opportunity.

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.

Low fuel

Illuminates when the fuel level in the fuel tank is at, or near, empty (refer to *Fuel gauge* in this chapter for more information).

Air bag readiness

Illuminates to confirm that the air bags (front or side) are operational. If the light fails to illuminate, continues to flash or remains on, have the system serviced immediately.

Safety belt

Illuminates to remind you to fasten your safety belts. For more information, refer to the *Seating and safety restraints* chapter.

Brake system warning

Illuminates if the parking brake is engaged. Also momentarily illuminates at start up to ensure the circuit is functional. If the brake warning lamp does not illuminate at these times, or illuminates after releasing the parking brake, seek service immediately. Refer to *Brakes* in the *Driving* chapter for more information.

WARNING: Illumination after releasing the parking brake indicates low brake fluid level and the brake system should be inspected immediately.

Anti-lock brake system (ABS) (if equipped)

Illuminates to ensure the circuit is functional.

WARNING: If the light remains on, continues to flash or fails to illuminate, have the system serviced immediately. With the ABS light on, the anti-lock brake system is disabled and normal braking is still effective unless the brake warning light also remains illuminated with the parking brake released.

Turn signals

Illuminates when the turn signals or the hazard lights are turned on. If the lights stay on continuously or flash faster, check for a burned-out bulb.

High beams

Illuminates when the high beam headlamps are turned on.

Speed control

Illuminates when the speed control is activated.

CRUISE

Anti-theft system

Refer to *SecuriLock™ passive anti-theft system* in the *Locks and Security* chapter.

Charging system

Illuminates when the battery is not charging properly.

Engine oil pressure

Illuminates when the oil pressure falls below the normal range. Check the oil level and add oil if needed. Refer to *Engine oil* in the *Maintenance and specifications* chapter.

To avoid engine damage, stop the vehicle as soon as safely possible and switch off the engine immediately. Check the oil level and add oil if needed.

Four wheel drive indicator (if equipped)

Illuminates when the four-wheel drive is engaged.

NOTE: If the light continues to flash have the system serviced.

Door ajar

Illuminates when any door, liftgate or liftgate window is open.

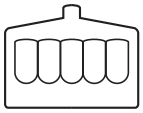
O/D off

O/D
OFF

Illuminates when the overdrive function has been turned OFF using the Transmission Control Switch (TCS).

If the light does not come on or the light flashes steadily, have your vehicle serviced as soon as possible, damage to the transmission could occur.

Low coolant (if equipped)



Illuminates when the coolant level in the coolant reservoir is low and more needs to be added. For more information on adding engine coolant, refer to *Engine coolant* in the *Maintenance and specifications* chapter.

If the lamp stays on, to avoid engine damage you should allow the engine to cool down, then check the coolant level inside the reservoir.

Check fuel cap (if equipped)

CHECK
FUEL
CAP

Momentarily illuminates when the ignition is turned to the ON position to ensure your bulb is working. When this light turns on, check the fuel filler cap. Continuing to operate the vehicle with the check fuel cap light on, can activate the warning light. When the fuel filler cap is properly re-installed, the light(s) will turn off after a period of normal driving. This period will vary depending on driving conditions.

It may take a long period of time for the system to detect an improperly installed fuel filler cap.

For more information, refer to *Fuel filler cap* in the *Maintenance and specifications* chapter.

Safety belt warning chime

Sounds to remind you to fasten your safety belts.

BeltMinder chime

Sounds intermittently to remind you to fasten your safety belts.

Supplemental restraint system (SRS) warning chime

Sounds when a malfunction in the supplemental restraint system (front or side airbags) has been detected. Have the supplemental restraint system inspected immediately.

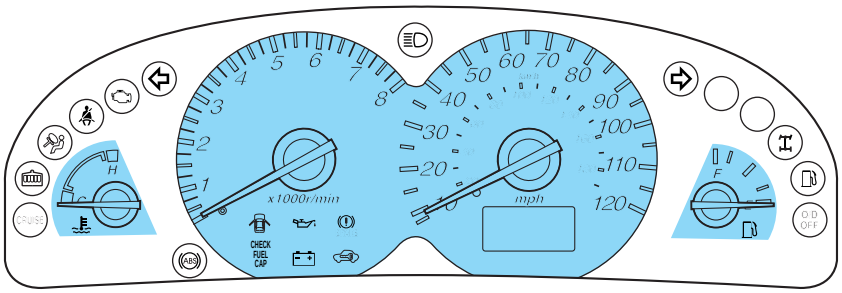
Key-in-ignition warning chime

Sounds when the key is left in the ignition and the door, liftgate or liftgate window is opened.

Headlamps ON warning chime

Sounds when the headlamps or parking lamps are on, the key is removed from the ignition and the driver's door is opened.

GAUGES



Engine coolant temperature gauge

Indicates the temperature of the engine coolant. At normal operating temperature, the needle remains within the normal area (the area between the "H" and "C").

If it enters the red section, the engine is overheating. Stop the vehicle as soon as safely possible, switch off the engine immediately and let the engine cool. Refer to *Engine coolant* in the *Maintenance and care* chapter.

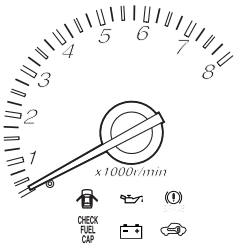
WARNING: Never remove the coolant reservoir cap while the engine is running or hot, this may result in serious burns.

NOTE: This gauge indicates the temperature of the engine coolant, not the coolant level. If the coolant is not at its proper level the gauge indication will not be accurate.

Tachometer

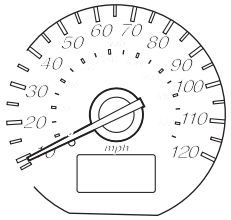
Indicates the engine speed in revolutions per minute.

Driving with your tachometer pointer continuously at the top of the scale may damage the engine.

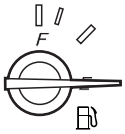


Speedometer

Indicates the current vehicle speed.



Fuel gauge



Displays approximately how much fuel is in the fuel tank. The fuel gauge may vary slightly when the vehicle is in motion or on a grade.

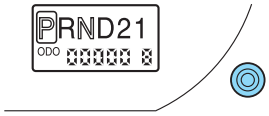
When refueling the vehicle from empty indication, the amount of fuel that can be added will be less than the advertised capacity due to the reserve fuel.

NOTE: The fuel filler door is located on the driver's side of the vehicle.

Odometer

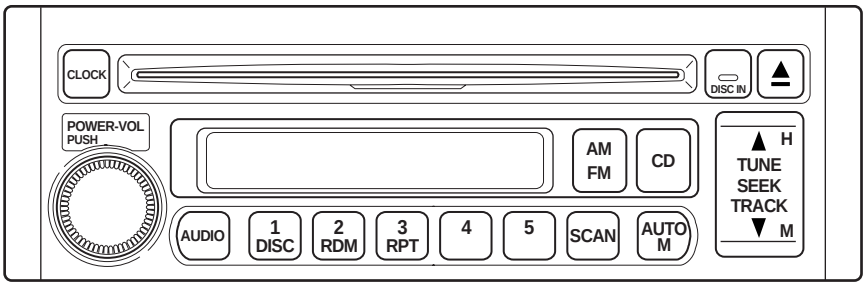
Registers the total kilometers (miles) of the vehicle.

Trip odometer

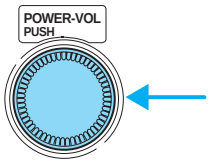


Registers the kilometers (miles) of individual journeys. Press and hold the button for 1 or more seconds to reset. Press and release the button in less than 1 second to toggle between odometer and trip odometer.

AM/FM RADIO WITH COMPACT DISC PLAYER



Volume/power control



Ensure that the ignition switch is in the ACC or ON position.

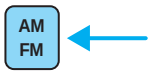
Press the control to turn the audio system on. Turn the control to raise or lower the volume.

Press the control again to turn the audio system off.

NOTE: To prevent the battery from being discharged, do not leave the audio system on for a long period when the engine is not running.

AM/FM select

The AM/FM control works in radio mode.



AM/FM select in radio mode

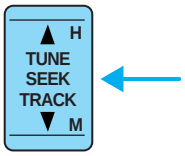
This control allows you to select AM or FM frequency bands. Press the control to toggle between AM, FM1 or FM2 memory preset stations. The selected mode will be indicated in the display. If FM stereo is enabled, ST will be illuminated in the display.

NOTE: If the FM broadcast signal becomes weak, reception automatically changes from STEREO to MONO for reduced noise, and the ST indicator will go out.

Tune adjust

The tune control works in radio mode.

Tune adjust in radio mode

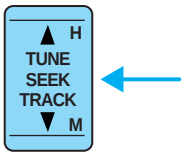


- Press ▲ to move up the frequency band in individual increments.
- Press ▼ to move down the frequency band in individual increments.

Seek function

The seek function control works in radio mode.

Seek function in radio mode



Press and momentarily hold the SEEK control. A beep will sound indicating you have entered seek mode.

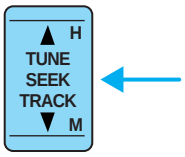
- Press ▲ to find the next listenable station up the frequency band.
- Press ▼ to find the next listenable station down the frequency band.

NOTE: If you continue to press and hold the control, the frequency will continue changing without stopping. Release the control after the beep sounds.

Tracking feature

The tracking feature works in CD mode.

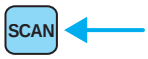
Tracking feature in CD mode



- Press ▲ to advance to the next selection. Press and hold the control to fast forward through the current selection.
- Press ▼ to reverse to the previous selection. Press and hold the control to rewind through the current selection.

Scan function

The scan function works in radio mode.

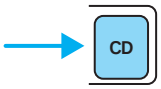


Scan function in radio mode

Press the SCAN control to hear a sampling of strong stations on the frequency band. Each station will play for approximately 5 seconds.

Press the SCAN control again to remain on a station and disable this mode.

CD select

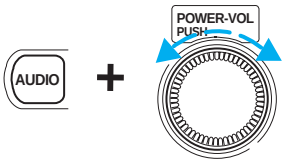


- To begin CD play (if CD is loaded), press the CD control, or
- Insert the compact disc, label side up into the CD slot (if no CD is loaded). The auto loading mechanism will pull in the CD. There will be a short lapse before play begins.
- The first track of the disc will begin playing. The DISC IN control will illuminate.
- The track number will appear in the display.

To disable CD mode, press the power/volume control.

Treble adjust

The treble adjust control allows you to increase or decrease the audio system's treble output.



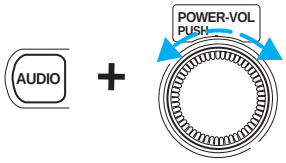
Press the AUDIO control until TREB is illuminated in the display.

Turn the volume control to adjust to the desired level of treble.

NOTE: The volume can be adjusted without pressing the AUDIO function control.

Bass adjust

The bass adjust control allows you to increase or decrease the audio system's bass output.

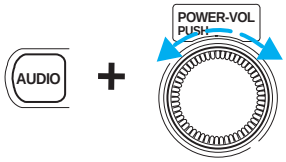


Press the AUDIO control until BASS is illuminated in the display.

Turn the volume control to adjust to the desired level of bass.

Speaker fade adjust

Speaker sound can be adjusted between the front and rear speakers.

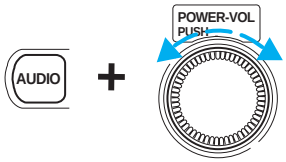


Press the AUDIO control until FADE is illuminated in the display.

Turn the volume control to adjust the speaker output.

Speaker balance adjust

Speaker sound distribution can be adjusted between the right and left speakers.



Press the AUDIO control until BAL is illuminated in the display.

Turn the volume control to adjust the speakers.

NOTE: Approximately 5 seconds after selecting any AUDIO mode (treble, bass, fade, balance or volume), the system will automatically default to the volume function. To reset these modes, press and momentarily hold the AUDIO control. The unit will beep and CL will appear in the display.

Radio station memory preset

The radio is equipped with five station memory preset controls. These controls can be used to select up to five preset AM stations and ten FM stations (five in FM1 and five in FM2).

Setting memory preset stations

1. Select the frequency band with the AM/FM control.
2. Select the desired station.
3. Press and momentarily hold the desired preset control until a beep is heard.

The preset control number will illuminate in the display. This indicates the station is held in memory on the control you selected. Repeat this procedure to store other stations in memory.

Auto memory tuning

Auto memory tuning allows you to set strong radio stations without losing your original manually set preset stations. This is especially useful when you are in an area where the local stations are not known.

Starting auto memory tuning

1. Select a frequency using the AM/FM control.
2. Press and momentarily hold the AUTO M (auto memory) control.

3. The audio system will select the five strongest stations on the frequency band. When the stations are filled, the station stored in memory preset control 1 will start playing.

Press the AUTO M control to recall stations in the auto memory. One station will be selected each time you press the AUTO M control and the auto memory number will be displayed.

NOTE: If the power supply is interrupted (the fuse blows or the battery is disconnected), the preset channels will be canceled.

Random play

The random play feature works in CD mode and plays the selections on the current CD in random order.

Random play in CD mode

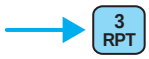
Press the RDM control during play. RDM will illuminate in the display.

The next selection will be randomly selected.

To disengage random play, press the RDM control again.

Repeat play

The repeat play feature works in CD mode and repeats the current CD selection.



Repeat play in CD mode

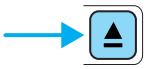
Press the RPT control during play. RPT will illuminate in the display.

The current selection will be repeated.

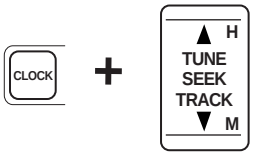
To disengage repeat play, press the RPT control again.

Eject function

Press the control to stop and eject a CD.



Setting the clock



- Ensure that the ignition is in the ACC or ON position.
- Press and momentarily hold the CLOCK control until a beep is heard. The current time will flash in the display.
- Press the ▲ to increase the hours.
- Press the ▼ to increase the minutes.
- Press the CLOCK control again when the desired time is set to activate the clock.

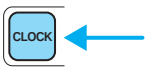
NOTE: If the power supply to the unit is interrupted (if the fuse blows or the vehicle's battery is disconnected), the clock will need to be reset.

NOTE: If the time is not adjusted while the clock's current time is flashing (if neither ▲ or ▼ is pressed), and the CLOCK control is pressed a second time, the minutes will be set to 00. If the current time setting is within the first half of the hour (01–29), the hour setting will

automatically reverse one hour. For example, if the original setting is 3:24, the time will change to 3:00. If the clock's current time setting is within the latter part of the hour (from 30 to 59 minutes), the hour setting will automatically advance one hour. For example, if the original setting is 3:45, the time will change to 4:00.

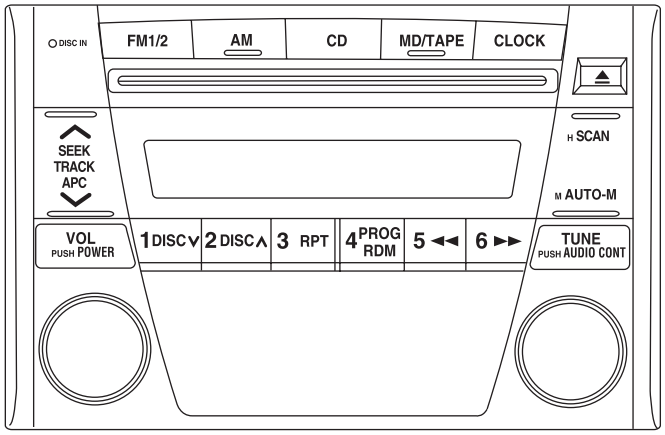
Changing the display mode

Press the CLOCK control to alternate the display between time and audio.



NOTE: If audio operation is selected while the time mode is on, the selected audio mode will be displayed for 10 seconds, then the display will revert to the time mode.

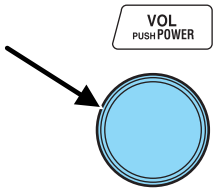
AM/FM RADIO WITH COMPACT DISC PLAYER



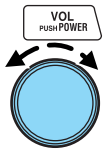
Volume/power control

Ensure that the ignition is either in the ACC or ON position for the audio system to function.

Press the control to turn the audio system on or off.



Turn the control to raise or lower the volume.

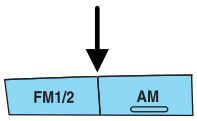


NOTE: To prevent the battery from being discharged, do not leave the audio system on for a long period when the engine is not running.

NOTE: Once the system is turned off, press the VOL control again to listen to the frequency last tuned to.

AM/FM select

Ensure that the ignition is in the ACC or ON position for the radio to operate. Press the AM or FM1/2 control to enter radio mode.



Band selection

Select AM by pressing the AM button and FM1 or FM2 by pressing the FM1/2 button.

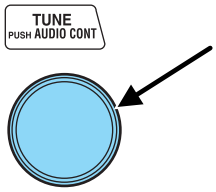
The selected mode will be indicated. If FM stereo is being received, ST will be displayed.

Note: If the FM broadcast signal becomes weak, reception automatically changes form STEREO to MONO for reduced noise and the ST incdicator will go out.

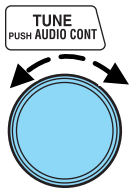
Tune audio control

The TUNE control is a multi-functional control which works in radio, tape and CD modes to adjust the levels of bass, treble, balance, fade and mid-range.

Press the TUNE control to select the desired function.



Turn the TUNE control to adjust the desired levels.

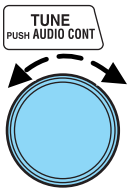


Refer to *Treble adjust* for specific instructions on level adjustments.

The TUNE control will also work in radio mode to manually increase or decrease the frequency.

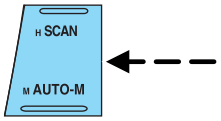
Turn the TUNE control to the left for a lower frequency.

Turn the TUNE control to the right for a higher frequency.



Scan function

The scan function works in radio and CD mode.



Scan function in radio mode

Press the SCAN control to hear a brief sampling of all listenable stations on the frequency band. Press the SCAN control again to disable scan mode.

Scan function in CD mode

Press the SCAN control during CD play to hear the first ten seconds of each track. Press the SCAN control again to stop the scan mode.

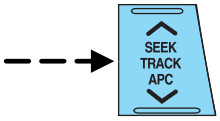
NOTE: If the unit is left in scan mode, normal play will resume where scan was selected.

Seek function

The seek function control works in radio mode.

Seek function in radio mode

Press and momentarily hold the SEEK control.



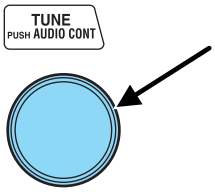
- Press ▲ to find the next listenable station up the frequency band.
- Press ▼ to find the next listenable station down the frequency band.

NOTE: If you continue to press and hold the control, the frequency will continue changing without stopping. Release the control after the beep sounds.

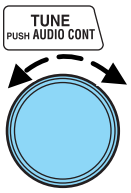
Treble adjust

The treble adjust control allows you to increase or decrease the audio system's treble output.

Press the audio control until TREB is displayed.



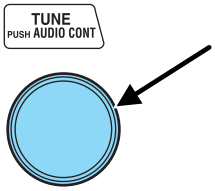
Turn the control to increase (right) or decrease (left) the amount of treble output.



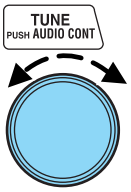
Bass adjust

The bass adjust control allows you to increase or decrease the audio system's bass output.

Press the audio control until BASS appears.



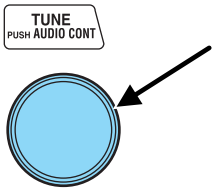
Turn the control to increase (right) or decrease (left) the amount of bass output.



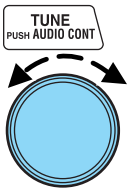
Speaker fade adjust

Speaker sound can be adjusted between the front and rear speakers.

Press the audio control until FADE appears.



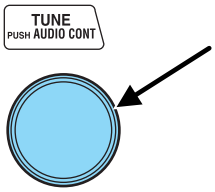
Turn the control (right or left) to adjust between the front and rear speakers.



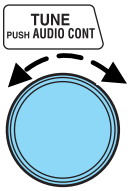
Speaker balance adjust

Speaker sound distribution can be adjusted between the right and left speakers.

Press the audio control until BAL appears.



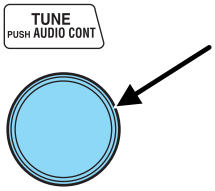
Turn the control (right or left) to adjust between the right and left speakers.



Mid-range adjust (if equipped)

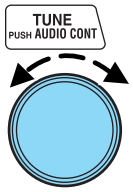
Your vehicle may be equipped with a mid-range adjust. The TUNE control allows you to adjust the mid-range levels.

Press the audio control until MID appears in the display.



Turn the control to the right to increase the mid-range.

Turn the control to the left to decrease the mid-range.



The level will display.

Release the TUNE control when the desired level is reached.

NOTE: Approximately 5 seconds after selecting any mode, the volume function will be automatically selected. To reset the mid-range, press the TUNE control for approximately 2 seconds. The unit will beep and CL will appear in the display.

Radio station memory preset

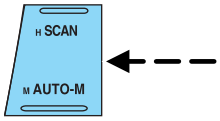
The radio is equipped with six station memory preset controls. These controls can be used to select up to six preset AM stations and 12 FM stations (six in FM1 and six in FM2).

Setting memory preset stations

1. Select the frequency band with the AM/FM control.
2. Select a station.
3. Press and momentarily hold the desired preset control until a beep is heard.

The preset control number will illuminate in the display. This indicates the station is held in memory on the control you selected. Repeat this procedure to store other stations in memory.

To tune one in the memory, select AM, FM1 or FM2 and then press its channel preset button. The station frequency and the channel number will be displayed.

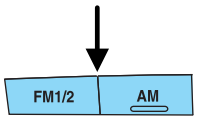


Auto memory tuning

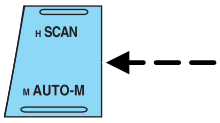
Auto memory tuning allows you to set strong radio stations without losing your original manually set preset stations. This feature is helpful on trips when you travel between cities with different radio stations.

Starting autoset memory preset

1. Press the AM or FM1/2 control to select a frequency.



2. Press and momentarily hold the AUTO-M (Auto memory) control. The system will beep.
3. When the first six strong stations are filled, the strongest station will start playing.



4. Press the AUTO-M (Auto memory) control to select from the stored stations. One stored station will be selected and played each time the control is pressed. The frequency and channel number will be displayed.

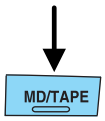
NOTE: If no stations can be tuned after scanning operations, A will appear in the display.

NOTE: If the power supply is interrupted, (fuse blows or the battery is disconnected), the preset channels will be canceled.

Tape select

To begin tape play, insert a cassette tape into the cassette slot, with the open edge facing the right. Once inserted, the cassette tape will automatically begin play and TAPE will appear in the display. At the end of the cassette tape, the unit will automatically reverse the cassette tape play.

To begin tape play (with a tape loaded into the audio system), press the TAPE control. If there is not a cassette tape in the cassette slot, NO TAPE will flash in the display.

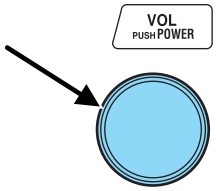


The cassette's top side is playing when ▲ is illuminated in the display.

The cassette's bottom side is playing when ▼ is illuminated in the display.

NOTE: When a metal tape is inserted, the player will automatically compensate and MTL will appear in the display.

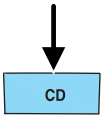
Press the VOL (Volume) control to stop cassette play.



CD select

To begin CD play:

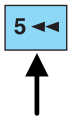
1. Insert a CD into the slot, label side up. The system will auto-load the CD and begin play after a short pause. The disc number and the track number will illuminate in the display.



Rewind

The rewind control works in CD mode.

In CD mode, press and hold the rewind control to reverse through a track at a high speed.



Repeat play

The repeat play feature works in CD mode and allows you to listen to a selection repeatedly.

Repeat play in CD mode

Press the RPT control during play. RPT will illuminate in the display.

The current selection will be repeated.

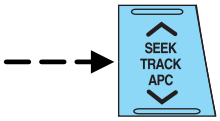
To disengage repeat play, press the RPT control again.

Track search

Track search works in CD mode.

Press the ▲ on the TRACK control to skip forward to the beginning of the next track.

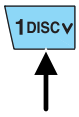
Press the ▼ on the TRACK control to skip back to the beginning of the current track.



Disc search

Disc search works in CD mode.

Press the DISC up control to skip forward to the beginning of the next CD.



Press the DISC down control to skip back to the beginning of the previous CD.

Ejecting a CD

The eject feature works in CD mode.

1. Press the control to stop and eject a CD. The disc number and OUT will appear in the display.
2. Remove the CD.

NOTE: When a CD is ejected during play, the next CD will be played automatically.

Random play

The random play feature works in CD mode and plays the selections on the current CD in random order.

Random play in CD mode

Press the RDM control during play. RDM will illuminate in the display.

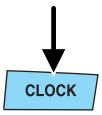
The next selection will be randomly selected.

To disengage random play, press the RDM control again.

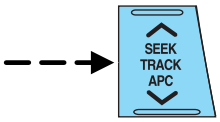
Setting the clock

The clock can be set at any time when the ignition switch is in the ACC or ON position.

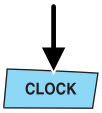
1. Press and hold the CLOCK control for approximately 2 seconds until a beep is heard. The clock's current time will flash.



2. Press ▲ on the hour set control to adjust the hours.
3. Press ▼ on the minute set control to adjust the minutes.



4. Press the CLOCK control again to start the clock.



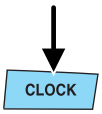
NOTE: If the power supply to the unit is interrupted (if the fuse blows or the vehicle's battery is disconnected), the clock will need to be reset.

NOTE: If the time is not adjusted while the clock's current time is flashing (if neither H nor M is pressed), and the clock control is pressed a second time, the minutes will be set to 00. If the clock's current time setting is within the latter part of the hour (from 30 to 59 min), the hour setting will automatically advance one hour.

Changing the display mode

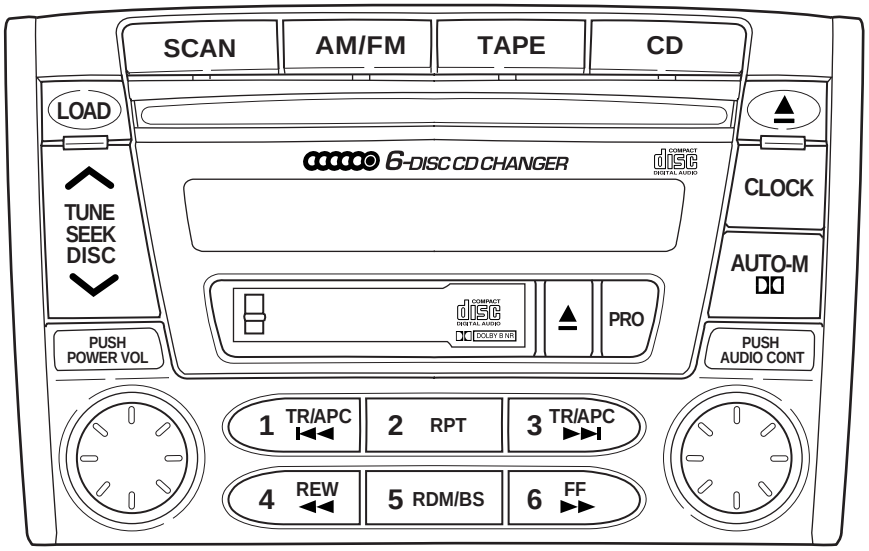
The display can be changed to alternate between the clock and the audio. When the clock mode is selected, the time is displayed.

Press the CLOCK control to alternate the display.



NOTE: If the audio operation is selected while the clock mode is on, the selected audio mode will be displayed for ten seconds, then the display will revert to the clock mode.

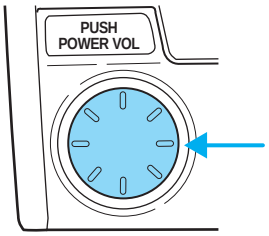
AM/FM RADIO WITH CASSETTE AND 6 DISC CD CHANGER



Volume/power control

Press the control to turn the audio system on or off.

Turn the control to raise or lower volume.



If the volume is set above a certain level and the ignition is turned off, the volume will come back on at a “nominal” listening level when the ignition switch is turned back on.

If the ignition or power is turned off, the last function prior to turning the power off (i.e., radio, CD or tape) will activate when the power is restored.

AM/FM select

The AM/FM select control works in radio, tape and CD modes.

AM/FM select in radio mode

This control allows you to select AM or FM frequency bands. Press the control to switch between AM, FM1 or FM2 memory preset stations.

AM/FM select in tape mode

Press this control to stop tape play and begin radio play.

AM/FM select in CD mode

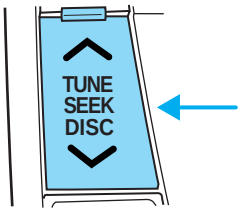
Press this control to stop CD play and begin radio play.

Tune/Seek/Disc function

The tune/seek/disc control works in radio or CD mode.

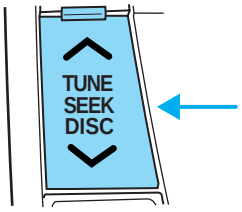
Tune/Seek/Disc function in radio mode

- Press ▲ to find the next available station up the frequency band.
- Press ▼ to find to the next available station down the frequency band.



Tune/Seek/Disc function for CD mode

- Press ▲ to select the next disc in the CD changer.
- Press ▼ to select the previous disc in the CD changer.



Scan function

The scan function works in radio, tape or CD mode.

Scan function in radio mode

Press the SCAN control to hear a brief sampling of all listenable stations on the frequency band. Press the SCAN control again to stop the scan mode.

Scan function in tape mode

Press the SCAN control to hear a short sampling of all selections on the tape. (The tape scans in a forward direction. At the end of the tape's first side, direction automatically reverses to the opposite side of the tape.) To stop on a particular selection, press the control again.

Scan function in CD mode

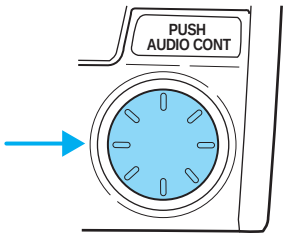
Press the SCAN control to hear a short sampling of all selections on the CD. (The CD scans in a forward direction, wrapping back to the first track at the end of the CD.). To stop on a particular selection, press the control again.

Treble adjust

The treble adjust control allows you to increase or decrease the audio system's treble output.

Press the AUDIO control twice to access the system's treble adjust mode.

Turn the control to increase (right) or decrease (left) the amount of treble output.

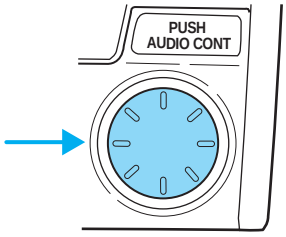


Bass adjust

The bass adjust control allows you to increase or decrease the audio system's bass output.

Press the AUDIO once to access the system's bass adjust mode.

Turn the control to increase (right) or decrease (left) the amount of bass output.

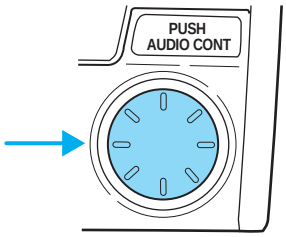


Speaker fade adjust

Speaker sound can be adjusted between the front and rear speakers.

Press the AUDIO control three times to access the system's fade adjust mode.

Turn the control (right or left) to adjust between the front and rear speakers.

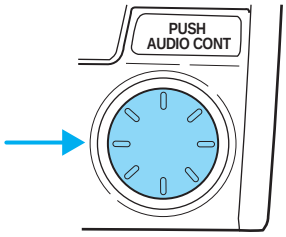


Speaker balance adjust

Speaker sound distribution can be adjusted between the right and left speakers.

Press the AUDIO control four times to access the system's balance adjust mode.

Turn the control (right or left) to adjust between the right and left speakers.



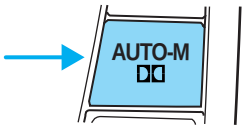
Radio station memory preset

The radio is equipped with five station memory preset controls. These controls can be used to select up to five preset AM stations and ten FM stations (five in FM1 and five in FM2).

Setting memory preset stations

1. Select the frequency band with the AM/FM control.
2. Select a station.
3. Press and momentarily hold the desired preset control until a beep is heard.

The preset control number will illuminate in the display. This indicates the station is held in memory on the control you selected. Repeat this procedure to store other stations in memory.



Autoset memory preset

Autoset allows you to set strong radio stations without losing your original manually set preset stations. This feature is helpful on trips when you travel between cities with different radio stations.

Starting autoset memory preset

1. Select a frequency using the AM/FM select control.
2. Press the control.
3. When the first six strong stations are filled, the station stored in memory preset control 1 will start playing.

If there are less than six strong stations available on the frequency band, the remaining memory preset controls will all store the last strong station available.

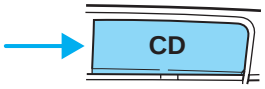
To deactivate autoset and return to your audio system's manually set memory stations, press the control again.

Tape select

To begin tape play (with a tape loaded into the audio system), press the TAPE control. Press the control during rewind or fast forward to stop the rewind or fast forward function.

CD select

To begin CD play (if CD[s] are loaded), press the CD control. The first track of the disc will begin playing. After that, CD play will begin where it stopped last.



Rewind

The rewind control works in tape and CD modes.

- In tape mode, radio play will continue until rewind is stopped (with the TAPE control) or the beginning of the tape is reached.
- In CD mode, pressing the REW control for less than three seconds results in slow rewind. Pressing the control for more than three seconds results in fast rewind.

Fast forward

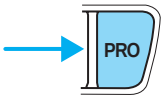
The fast forward control works in tape and CD modes.

- In the tape mode, tape direction will automatically reverse when the end of the tape is reached.
- In CD mode, pressing the control for less than three seconds results in slow forward action. Pressing the control for more than three seconds results in fast forward action.

Tape direction select

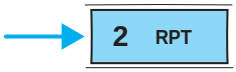
Press the PRO control to play the alternate side of a tape.

When the end of the cassette is reached, the audio system will automatically reverse play.



Repeat play

The repeat play feature works in CD mode and repeats the current CD selection.



Repeat play in CD mode

Press the RPT control during play. RPT will illuminate in the display.

The current selection will be repeated.

To disengage repeat play, press the RPT control again.

Load

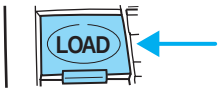
The load feature allows you to load up to six single CDs into the audio system.

This six disc CD player is equipped with a CD door. Compact discs should only be inserted into the player after the door has been opened by the player. When ready, "IN" will be indicated in the display. Do not attempt to force the door open or to load discs until the player is ready. Compact discs should only be loaded by pressing the LOAD control.

- Press the LOAD control.
- WAIT will appear in the display as the system prepares to load the CD.
- IN will appear in the display and the CD door will open when the system is ready to receive a CD.
- Wait until the CD door opens.
- Load the CD into the player.

Multiple CD loading

This feature allows you to autoload up to 6 discs into the multi disc CD player internal to the radio.



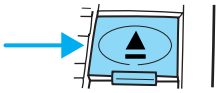
Press and hold the LOAD control until a beep is heard. When IN is displayed, insert the CD. When IN is displayed again, insert the next CD.

The first CD will automatically play when:

- there is not a CD inserted for 15 seconds after IN is displayed
- the CD tray is full

Eject function

Press the control to stop and eject a tape.



Random play/Blank skip feature

Random play in CD mode

The random play feature (RDM) works in CD mode and plays the selections on the current CD in random order.

Press the RDM control during play. RDM will illuminate in the display.

The next selection will be randomly selected.

To disengage random play, press the RDM control again.

Blank skip in tape mode

The blank skip feature (BS) allows you to skip over prerecorded blank spots on a cassette tape.

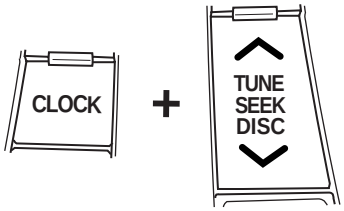
Press the BS control during tape play. The cassette will advance to the next spot on the tape containing recorded selections.

Setting the clock

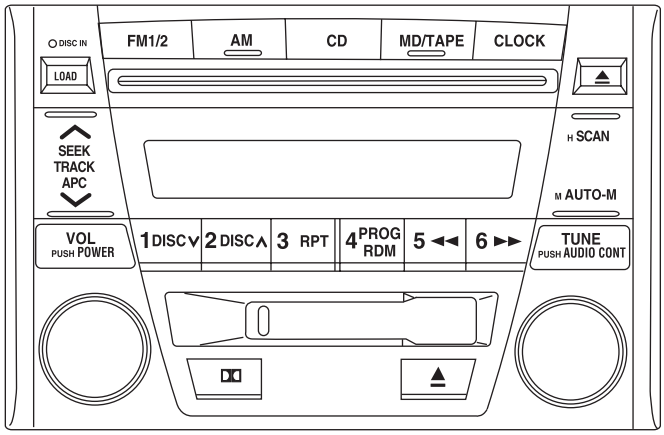
Press the CLOCK control.

Press the TUNE control.

- Press ▲ to adjust the hours.
- Press ▼ to adjust the minutes.



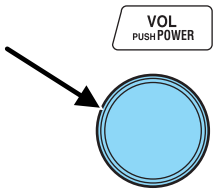
AM/FM RADIO WITH CASSETTE TAPE AND COMPACT DISC PLAYER/CHANGER (IN-DASH CD CHANGER)



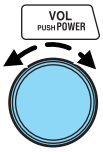
Volume/power control

Ensure that the ignition is either in the ACC or ON position for the audio system to function.

Press the control to turn the audio system on or off.



Turn the control to raise or lower the volume.

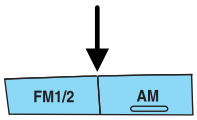


NOTE: To prevent the battery from being discharged, do not leave the audio system on for a long period when the engine is not running.

NOTE: Once the system is turned off, press the VOL control again to listen to the frequency last tuned to.

AM/FM select

Ensure that the ignition is in the ACC or ON position for the radio to operate. Press the AM or FM1/2 control to enter radio mode.



Band selection

Select AM by pressing the AM button and FM1 or FM2 by pressing the FM1/2 button.

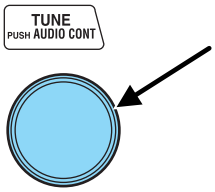
The selected mode will be indicated. If FM stereo is being received, ST will be displayed.

Note: If the FM broadcast signal becomes weak, reception automatically changes form STEREO to MONO for reduced noise and the ST incdicator will go out.

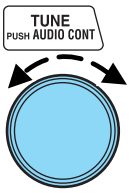
Tune audio control

The TUNE control is a multi-functional control which works in radio, tape and CD modes to adjust the levels of bass, treble, balance, fade and mid-range.

Press the TUNE control to select the desired function.



Turn the TUNE control to adjust the desired levels.

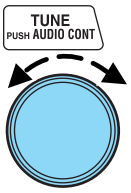


Refer to *Treble adjust* for specific instructions on level adjustments.

The TUNE control will also work in radio mode to manually increase or decrease the frequency.

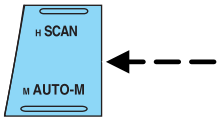
Turn the TUNE control to the left for a lower frequency.

Turn the TUNE control to the right for a higher frequency.



Scan function

The scan function works in radio and CD mode.



Scan function in radio mode

Press the SCAN control to hear a brief sampling of all listenable stations on the frequency band. Press the SCAN control again to disable scan mode.

Scan function in CD mode

Press the SCAN control during CD play to hear the first ten seconds of each track. Press the SCAN control again to stop the scan mode.

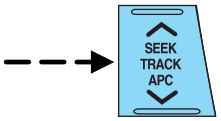
NOTE: If the unit is left in scan mode, normal play will resume where scan was selected.

Seek function

The seek function control works in radio mode.

Seek function in radio mode

Press and momentarily hold the SEEK control.



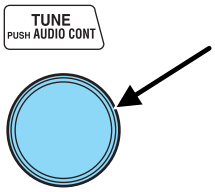
- Press ▲ to find the next listenable station up the frequency band.
- Press ▼ to find the next listenable station down the frequency band.

NOTE: If you continue to press and hold the control, the frequency will continue changing without stopping. Release the control after the beep sounds.

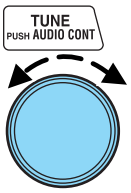
Treble adjust

The treble adjust control allows you to increase or decrease the audio system's treble output.

Press the audio control until TREB is displayed.



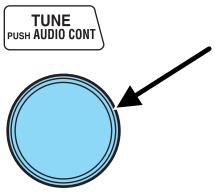
Turn the control to increase (right) or decrease (left) the amount of treble output.



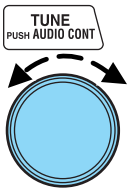
Bass adjust

The bass adjust control allows you to increase or decrease the audio system's bass output.

Press the audio control until BASS appears.



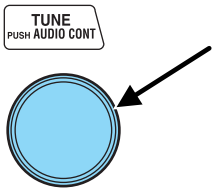
Turn the control to increase (right) or decrease (left) the amount of bass output.



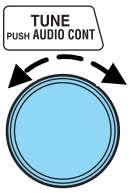
Speaker fade adjust

Speaker sound can be adjusted between the front and rear speakers.

Press the audio control until FADE appears.



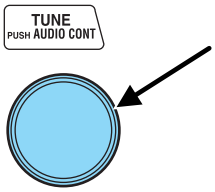
Turn the control (right or left) to adjust between the front and rear speakers.



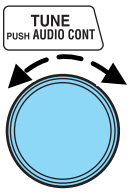
Speaker balance adjust

Speaker sound distribution can be adjusted between the right and left speakers.

Press the audio control until BAL appears.



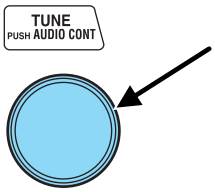
Turn the control (right or left) to adjust between the right and left speakers.

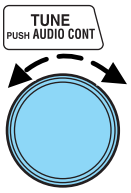


Mid-range adjust (if equipped)

Your vehicle may be equipped with a mid-range adjust. The TUNE control allows you to adjust the mid-range levels.

Press the audio control until MID appears in the display.





Turn the control to the right to increase the mid-range.

Turn the control to the left to decrease the mid-range.

The level will display.

Release the TUNE control when the desired level is reached.

NOTE: Approximately 5 seconds after selecting any mode, the volume function will be automatically selected. To reset the mid-range, press the TUNE control for approximately 2 seconds. The unit will beep and CL will appear in the display.

Radio station memory preset

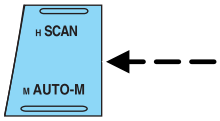
The radio is equipped with six station memory preset controls. These controls can be used to select up to six preset AM stations and 12 FM stations (six in FM1 and six in FM2).

Setting memory preset stations

1. Select the frequency band with the AM/FM control.
2. Select a station.
3. Press and momentarily hold the desired preset control until a beep is heard.

The preset control number will illuminate in the display. This indicates the station is held in memory on the control you selected. Repeat this procedure to store other stations in memory.

To tune one in the memory, select AM, FM1 or FM2 and then press its channel preset button. The station frequency and the channel number will be displayed.

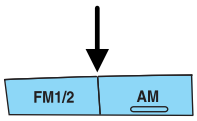


Auto memory tuning

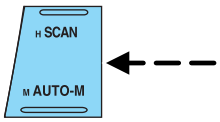
Auto memory tuning allows you to set strong radio stations without losing your original manually set preset stations. This feature is helpful on trips when you travel between cities with different radio stations.

Starting autoset memory preset

1. Press the AM or FM1/2 control to select a frequency.



2. Press and momentarily hold the AUTO-M (Auto memory) control. The system will beep.
3. When the first six strong stations are filled, the strongest station will start playing.



4. Press the AUTO-M (Auto memory) control to select from the stored stations. One stored station will be selected and played each time the control is pressed. The frequency and channel number will be displayed.

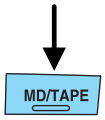
NOTE: If no stations can be tuned after scanning operations, A will appear in the display.

NOTE: If the power supply is interrupted, (fuse blows or the battery is disconnected), the preset channels will be canceled.

Tape select

To begin tape play, insert a cassette tape into the cassette slot, with the open edge facing the right. Once inserted, the cassette tape will automatically begin play and TAPE will appear in the display. At the end of the cassette tape, the unit will automatically reverse the cassette tape play.

To begin tape play (with a tape loaded into the audio system), press the TAPE control. If there is not a cassette tape in the cassette slot, NO TAPE will flash in the display.

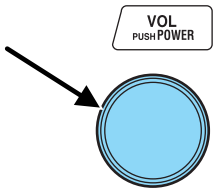


The cassette's top side is playing when ▲ is illuminated in the display.

The cassette's bottom side is playing when ▼ is illuminated in the display.

NOTE: When a metal tape is inserted, the player will automatically compensate and MTL will appear in the display.

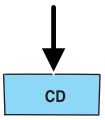
Press the VOL (Volume) control to stop cassette play.



CD select

To begin CD play:

1. Insert a CD into the slot, label side up. The system will auto-load the CD and begin play after a short pause. The disc number and the track number will illuminate in the display.



Tape direction select

Press the PROG RDM control to play the alternate side of a tape.

NOTE: When the end of the cassette is reached, the audio system will automatically reverse play.

Repeat play

The repeat play feature works in tape and CD modes and allows you to listen to a selection repeatedly.

Repeat play in tape mode

Press the RPT control during play. RPT will illuminate in the display.

The current selection will be repeated.

To disengage repeat play, press the RPT control again.

NOTE: RPT may not operate properly if:

- A tape was recorded at a low level.
- A tape has long, silent intervals.
- A tape is a live recording.
- A tape has very short intervals of less than 3 seconds.

Repeat play in CD mode

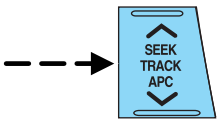
Press the RPT control during play. RPT will illuminate in the display.

The current selection will be repeated.

To disengage repeat play, press the RPT control again.

Track search

Track search works in CD mode.



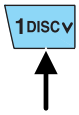
Press the ▲ on the TRACK control to skip forward to the beginning of the next track.

Press the ▼ on the TRACK control to skip back to the beginning of the current track.

Disc search

Disc search works in CD mode.

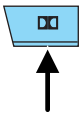
Press the DISC up control to skip forward to the beginning of the next CD.



Press the DISC down control to skip back to the beginning of the previous CD.

Dolby® noise reduction

Dolby® noise reduction operates only in tape mode. Dolby® noise reduction reduces the amount of hiss and static during tape playback.



When using a tape with Dolby NR*, press the DD control to activate (and deactivate) Dolby® noise reduction. When engaged, DD will appear in the display.

The Dolby® noise reduction system is manufactured under license from Dolby Laboratories Licensing Corporation. Dolby® and the double-D symbol are trademarks of Dolby® Labratories Licensing Corporation.

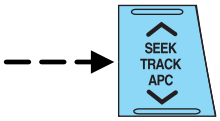
Auto program control (APC)

Auto program control (APC) works in tape mode and is used to find the beginning of either the next program or the one being played.

APC in tape mode

Press the ▲ APC control to advance to the beginning of the next selection.

Press the ▼ APC control to reverse to the beginning of the current selection.



To disengage APC, press the APC control again.

If APC detects 15 seconds of blank space, it will automatically advance the tape to the next selection.

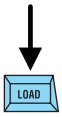
NOTE: APC may not operate properly if:

- A tape was recorded at a low level.
- A tape has long, silent intervals.
- A tape is a live recording.
- A tape has very short intervals of less than 3 seconds.

CD loading

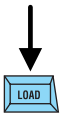
The load feature allows you to load up to six single CDs into the audio system.

1. Press the LOAD control.
2. IN will appear in the display when the system is ready to receive a CD.
3. Load the CD into the player.



Multiple CD loading

This feature allows you to autoload up to 6 discs into the internal multi disc CD player.

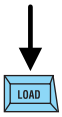


1. Press and hold the LOAD control until a beep is heard.
2. When IN is displayed, insert the CD.
3. When IN is displayed again, insert the next CD.

NOTE: The first CD will automatically play when:

- there is not a CD inserted for 15 seconds after IN is displayed
- the CD tray is full

Inserting CDs into desired tray number



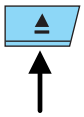
1. Press and hold the LOAD control until a beep is heard.
2. Press the memory preset control for the deisred CD tray within 5 seconds after the beep is heard.
3. When IN is displayed, insert the CD.

NOTE: The CD cannot be inserted to the desired tray number if the number is already occupied.

Eject feature

The eject feature works in both tape and CD mode.

Ejecting a tape



Press the control to stop and eject a tape.

NOTE: The cassette tape can be ejected when the ignition switch is in the OFF position.

Ejecting a CD

1. Press the control to stop and eject a CD. The disc number and OUT will appear in the display.
2. Remove the CD.

NOTE: When a CD is ejected during play, the next CD will be played automatically.

Ejecting CDs from a desired tray

1. Press and hold the CD eject control for approximately 2 seconds until a beep is heard.
2. Press the memory preset control of fhe desired CD within 5 seconds of the beep.
3. Remove the CD.

Multiple ejection

1. Press and hold the CD eject control for approximately 2 seconds until a beep is heard.
2. Wait approximately 5 seconds or press the CD eject control again within 5 seconds after the beep is heard.
3. Remove the CD. The next CD will then be ejected.

NOTE:

- Cds will be ejected in numerical order, lowest number first.
- All CDs in the tray will be ejected continuously.
- Cds can be ejected when the ignition switch is OFF. Press and hold the CD eject control for approximately 2 seconds and all CDs will eject.

Random play

The random play feature works in CD mode and plays the selections on the current CD in random order.

Random play in CD mode

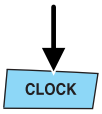
Press the RDM control during play. RDM will illuminate in the display.

The next selection will be randomly selected.

To disengage random play, press the RDM control again.

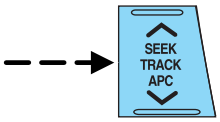
Setting the clock

The clock can be set at any time when the ignition switch is in the ACC or ON position.

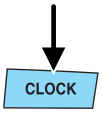


1. Press and hold the CLOCK control for approximately 2 seconds until a beep is heard. The clock's current time will flash.

2. Press ▲ on the hour set control to adjust the hours.
3. Press ▼ on the minute set control to adjust the minutes.



4. Press the CLOCK control again to start the clock.



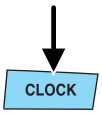
NOTE: If the power supply to the unit is interrupted (if the fuse blows or the vehicle's battery is disconnected), the clock will need to be reset.

NOTE: If the time is not adjusted while the clock's current time is flashing (if neither H nor M is pressed), and the clock control is pressed a second time, the minutes will be set to 00. If the clock's current time setting is within the latter part of the hour (from 30 to 59 min), the hour setting will automatically advance one hour.

Changing the display mode

The display can be changed to alternate between the clock and the audio. When the clock mode is selected, the time is displayed.

Press the CLOCK control to alternate the display.



NOTE: If the audio operation is selected while the clock mode is on, the selected audio mode will be displayed for ten seconds, then the display will revert to the clock mode.

TROUBLESHOOTING THE CD CHANGER (IF EQUIPPED)

If sound skips:

- You may be traveling on a rough road, playing badly scratched discs or the disc may be dirty. Skipping will not scratch the discs or damage the player.

If your changer does not work, it may be that:

- A disc is already loaded where you want to insert a disc.
- The disc is inserted with the label surface downward.
- The disc is dusty or defective.
- The player's internal temperature is above 60°C (140°F). Allow the player to cool down before operating.
- A disc with format and dimensions not within industry standards is inserted.

CD TIPS- CONDENSATION PHENOMENON

Immediately after turning on the heater when the vehicle is cold, the CD or optical components (prism and lens) in the CD player/changer may become clouded with condensation. When this happens, the CD will eject immediately when placed in the unit. A clouded CD can be corrected simply by wiping it with a soft cloth. Clouded optical components will clear naturally in about an hour. Wait for normal operation to return before attempting to use the unit.

HANDLING THE IN-DASH CD PLAYER

- Do not spill any liquid on the audio system.
- Do not insert any objects, other than CDs, into the slot.
- The CD revolves at a high speed within the unit. Defective (cracked or badly bent) CDs should never be used.
- Do not use non-conventional discs such as heart-shaped, octagonal discs, etc. The CD player could be damaged.
- A new CD may have rough edges on its inner and outer perimeters. If a disc with rough edges is used, proper setting will not be possible and the CD player will not play the CD. Remove the rough edges in advance by using a ball-point pen or pencil as shown above. To remove the rough edges, rub the side of the pen or pencil against the inner and outer perimeter of the CD.

- When driving over rough or uneven surfaces, the audio sound may jump.
- The CD player has been designed to play CDs bearing the identification logo as shown. No other discs can be played.
- Do not stick paper or tape on the CD. Avoid scratching the reverse side of the CD (the side without a label).
- Dust, finger smudges, and dirt can decrease the amount of light reflected from the signal surface, thereby effecting sound quality. Gently wipe a soiled CD with a soft cloth from the center to the edge.
- Do not use record sprays, antistatic agents, or household spray cleaners. Volatile chemicals such as benzine and thinner can also damage the surface of the CD and must not be used. Do not use anything that can damage, warp or fog CDs.
- Keep CDs in their cases and avoid direct sunlight to avoid warping.
- The CD player ejects the CD is inserted upside down. Also dirty and/or defective CDs may be ejected.
- Do not insert cleaning discs into the CD player.

Do not insert any promotional (odd shaped or sized) discs, or discs with removable labels into the CD player as jamming may occur.

CD AND CD CHANGER CARE

- Handle discs by their edges only. Never touch the playing surface.
- Do not expose discs to direct sunlight or heat sources for extended periods of time.

RADIO FREQUENCY INFORMATION

The Federal Communications Commission (FCC) and the Canadian Radio and Telecommunications Commission(CRTC) establish the frequencies AM and FM stations may use for their broadcasts. Allowable frequencies are:

AM 530, 540–1600, 1610 kHz

FM 87.7, 87.9–107.7, 107.9 MHz

Not all frequencies are used in a given area.

Radio reception factors

Three factors can affect radio reception:

- **Distance/strength.** The further an FM signal travels, the weaker it is. The listenable range of the average FM station is approximately 40 km (24 miles). This range can be affected by “signal modulation.” Signal modulation is a process radio stations use to increase their strength/volume relative to other stations.
- **Terrain.** Hills, mountains and tall buildings between your vehicle’s antenna and the radio station signal can cause FM reception problems. Static can be caused on AM stations by power lines, electric fences, traffic lights and thunderstorms. Moving away from an interfering structure (out of its “shadow”) returns your reception to normal.
- **Station overload.** Weak signals are sometimes captured by stronger signals when you pass a broadcast tower. A stronger signal may temporarily overtake a weaker signal and play while the weak station frequency is displayed.

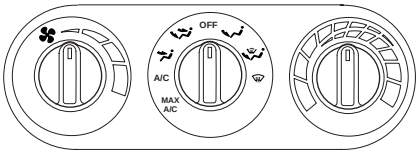
The audio system automatically switches to single channel reception if it will improve the reception of a station normally received in stereo.

AUDIO SYSTEM WARRANTIES AND SERVICE

Refer to the “Warranty Guide” for audio system warranty information.

If service is necessary, see your dealer.

MANUAL HEATING AND AIR CONDITIONING SYSTEM



Fan speed control

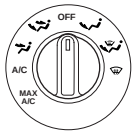
Controls the volume of air circulated in the vehicle.

Temperature control knob

Controls the temperature of the airflow inside the vehicle.

Mode selector control

Controls the direction of the airflow to the inside of the vehicle.



The air conditioning compressor will operate in all modes except , , and . However, the air conditioning will only function if the outside temperature is about 6°C (43°F) or higher.

Since the air conditioner removes considerable moisture from the air during operation, it is normal if clear water drips on the ground under the air conditioner drain while the system is working and even after you have stopped the vehicle.

Under normal conditions, your vehicle's climate control system should be left in any position other than MAX A/C or OFF when the vehicle is parked. This allows the vehicle to "breathe" through the outside air inlet duct.

NOTE: In snowy or dirty conditions, leave the mode selector in the OFF position.

- MAX A/C- Uses recirculated air to cool the vehicle. MAX A/C is noisier than A/C but more economical and will cool the inside of the vehicle faster. Airflow will be from the instrument panel registers. This mode can also be used to prevent undesirable odors from entering the vehicle.
- A/C-Uses outside air to cool the vehicle. It is quieter than MAX A/C but not as economical. Airflow will be from the instrument panel registers.
- (Panel)-Distributes outside air through the instrument panel registers. However, the air will not be cooled below the outside temperature because the air conditioning does not operate in this mode.
- OFF-Outside air is shut out and the fan will not operate. For short periods of time only, use this mode to prevent undesirable odors from entering the vehicle.
- (Panel and floor)-Distributes outside air through the instrument panel registers and the floor ducts. Heating capabilities are provided in this mode. For added customer comfort, when the temperature control knob is anywhere in between the full hot and full cold positions, the air distributed through the floor ducts will be slightly warmer than the air sent to the instrument panel registers. However, the air will not be cooled below the outside temperature because the air conditioning does not operate in this mode.
- (Floor)-Allows for maximum heating by distributing outside air through the floor ducts. However, the air will not be cooled below the outside temperature because the air conditioning does not operate in this mode.
- (Floor and defrost)-Distributes outside air through the windshield defroster ducts and the floor ducts. Heating and air conditioning capabilities are provided in this mode. For added customer comfort, when the temperature control knob is anywhere in between the full hot and full cold positions, the air distributed through the floor ducts will be slightly warmer than the air sent to the windshield defrost ducts. If the temperature is about 6°C (43°F) or higher, the air conditioner will automatically dehumidify the air to reduce fogging.

- (Defrost)-Distributes outside air through the windshield defroster ducts. It can be used to clear ice or fog from the windshield. If the temperature is about 6°C (43°F) or higher, the air conditioner will automatically dehumidify the air to reduce fogging.

Operating tips

- In humid weather conditions, place the climate control system in Defrost mode before driving. This will reduce fogging on your windshield. Once the windshield has been cleared, operate the climate control system as desired.
- To reduce humidity buildup inside the vehicle in cold weather conditions, don't drive with the climate control system in the OFF or MAX A/C position.
- To reduce humidity buildup inside the vehicle in warm weather conditions, don't drive with the climate control system in the OFF position.
- Under normal weather conditions, your vehicle's climate control system should be left in any position other than the MAX A/C or OFF when the vehicle is parked. This allows the vehicle to "breathe" through the outside air inlet duct.
- Under snowy or dirty weather conditions, your vehicle's climate control system should be left in the OFF position when the vehicle is parked. This allows the climate control system to be free from contamination of outside pollutants.
- If your vehicle has been parked with the windows closed during warm weather conditions, the air conditioner will perform more efficiently in cooling the vehicle if driven for two or three minutes with the windows open. This will force most of the hot, stale air out of the vehicle. Once the vehicle has been "aired out", operate the climate control system as desired.
- Do not put objects under the front seat which may interfere with the airflow to the rear seats (if equipped).
- Remove any snow, ice or leaves from the air intake area (at the bottom of the windshield and underneath the hood).

- Do not place objects over the defroster outlets. These objects can block airflow and reduce visibility through your windshield. Avoid placing small objects on top of the instrument panel. These objects may fall down into the defroster outlets and block airflow, in addition to, damaging the climate control system.

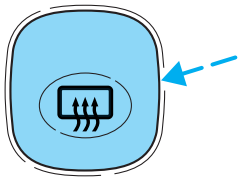
To aid in side window defogging/demisting in cold weather conditions:

1. Select the position that distributes air through the Panel and Floor.
2. Set the temperature control to full heat.
3. Set the fan speed to full fan.
4. Direct the outer panel vents towards the side windows.
5. To increase airflow to the outer panel vents, close the central panel vents.

Do not place objects on top of the instrument panel as these objects may become projectiles in a collision or sudden stop.

REAR WINDOW DEFROSTER CONTROL

The rear defroster control is located on the instrument panel.



Press the rear defroster control to clear the rear window of thin ice and fog.

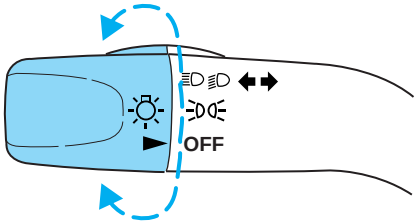
- The small LED will illuminate when the rear defroster is activated.

The ignition must be in the ON position to operate the rear window defroster.

NOTE: The rear defroster does not turn off automatically. Press the control to turn it off after the screen has been cleared. If the heated rear screen is still in operation when the ignition is turned off, the heating function will be reactivated when the ignition is switched on again.

HEADLAMP CONTROL

Rotate the headlamp control to the first position to turn on the parking lamps. Rotate to the second position to turn on the headlamps.



Daytime running lamps (DRL) (if equipped)

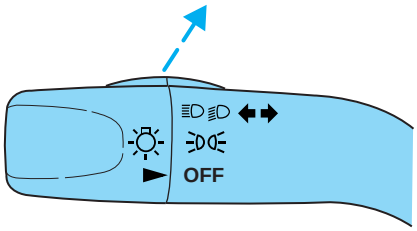
Turns the headlamps on with a reduced output. To activate:

- the ignition must be in the ON position and
- the headlamp control is in the OFF or Parking lamps position.

WARNING: Always remember to turn on your headlamps at dusk or during inclement weather. The Daytime Running Lamp (DRL) system does not activate with your tail lamps and generally may not provide adequate lighting during these conditions. Failure to activate your headlamps under these conditions may result in a collision.

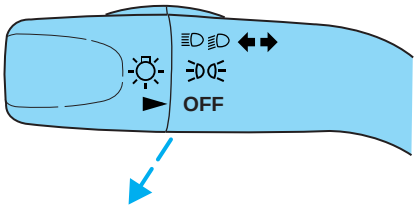
High beams

- Push forward past detent to activate.
- Pull toward you past detent to deactivate.



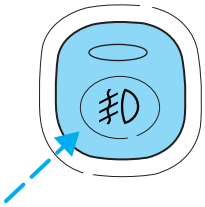
Flash to pass

Pull toward you slightly to activate and release to deactivate.



FOG LAMP CONTROL (IF EQUIPPED)

The fog lamps can only be turned on when the headlamp control is in the low beams position.



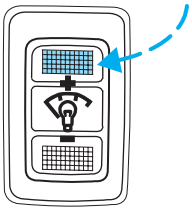
Press the foglamp control to activate the fog lamps. The fog lamp indicator light will illuminate. When the highbeams are activated, the fog lamps will not operate.

Press the fog lamp control again to deactivate the fog lamps.

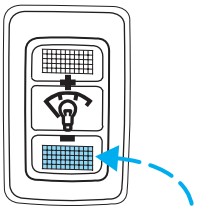
INSTRUMENT PANEL DIMMER CONTROL

Use to adjust the brightness of the instrument panel.

- Push and hold top of control to brighten.



- Push and hold bottom of control to dim.



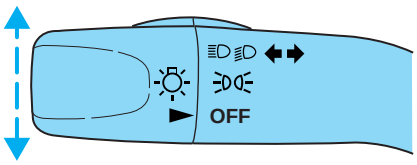
AIMING THE HEADLAMPS

The headlamps on your vehicle are properly aimed at the assembly plant.

If your vehicle has been in an accident the alignment of your headlamps should be checked by your authorized Mazda dealer.

TURN SIGNAL CONTROL

- Push down to activate the left turn signal.
- Push up to activate the right turn signal.

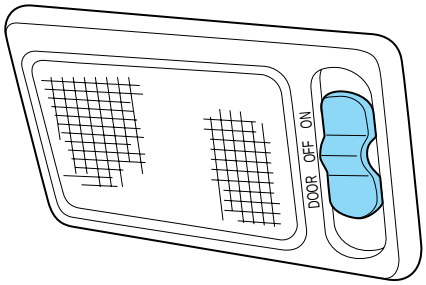


INTERIOR LAMPS

Cargo and dome lamp

Rear cargo lamp equipped with an ON/OFF/DOOR control will light when:

- the doors are closed and the control is in the ON position.
- the control is in the DOOR position and any door is open.
- the headlamp control is rotated fully counterclockwise.

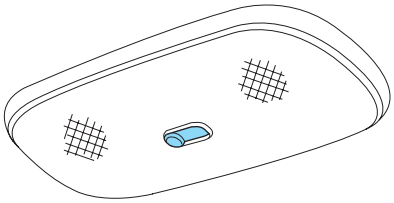


When the control is in the OFF position, it will not illuminate when you open the doors or fully rotate the headlamp control.

Dome lamps and map lamps

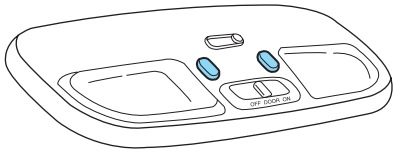
The front dome lamp is located overhead between the driver and passenger seats.

The dome lamp will stay on if the control is moved to the passenger side position. When the control is in the middle position, the lamp will only come on when a door is opened. If the control is moved to the driver's side position, the lamp will not come on at all.

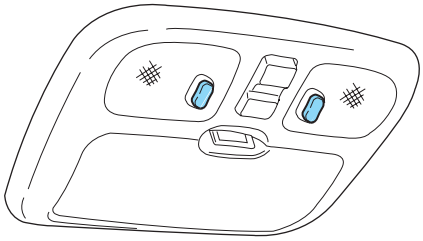


With the control in the middle position, the dome lamp will illuminate whenever any door is opened. If any door has been opened from the outside, the lamp will remain on for 15 seconds after the door is shut.

The map lamp controls (without moon roof) are located on the dome lamp. Press the controls on either side of each map lamp to activate the lamps.



If equipped with a moon roof, the map lamps are located on the moon roof control panel. Press the controls on either side of each map lamp to activate the lamps.



This map lamp will illuminate whenever any door is opened. If any door has been opened from the outside, the lamp will remain on for 15 seconds after the door is closed.

BULBS

Replacing exterior bulbs

Check the operation of the following lamps frequently:

- Headlamps
- Fog lamps (if equipped)
- High-mount brake lamp
- Brake lamps
- Turn signals
- License plate lamp
- Tail lamps
- Back-up lamps

Do not remove lamp bulbs unless they can be replaced immediately with new ones. If a bulb is removed for an extended period of time, contaminants may enter the lamp housings and affect lamp performance.

Replacing the interior bulbs

Check the operation of the following interior bulbs frequently:

- interior overhead lamp
- map lamp

For bulb replacement, see an authorized Mazda dealer.

Using the right bulbs

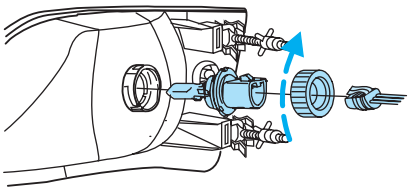
Replacement bulbs are specified in the chart below. Headlamp bulbs must be marked with an authorized “D.O.T.” for North America to assure lamp performance, light brightness and pattern and safe visibility.

NOTE: The correct bulbs will not damage the lamp assembly or void the lamp assembly warranty and will provide quality bulb burn time.

Function	Number of bulbs	Trade number
Park/turn lamps (front)	2	3157 AK (amber)
Headlamps	2	9003
Rear stop/tail lamps	2	3157K
Rear turn lamps	2	3156K
Rear license plate lamps	2	3156K/168
Backup lamp	2	3156K
Rear/turn/sidemarker	2	916NA (amber)
Fog lamp (if equipped)	2	899
Cargo lamp	1	211-2
Interior overhead lamp	1	912 (906)
Front door courtesy lamp	1	168
Map lamps	2	168 (T10)
Ashtray lamp	1	161
All replacement bulbs are clear in color except where noted.		
To replace all instrument panel lights - see your dealer.		

Replacing headlamp bulbs

1. Make sure that the headlamp control is in the OFF position.
2. Open the hood.
3. Disconnect the electrical connector from the bulb by pulling rearward.
4. Remove the rubber boot from the lamp assembly by pulling on one of the tabs.
5. Squeeze the retainer spring together releasing it from bulb hooks and rotate it away from the bulb.



6. Without turning, carefully pull bulb out of headlamp assembly.

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 hands could cause the bulb to break the next time the headlamps are operated.

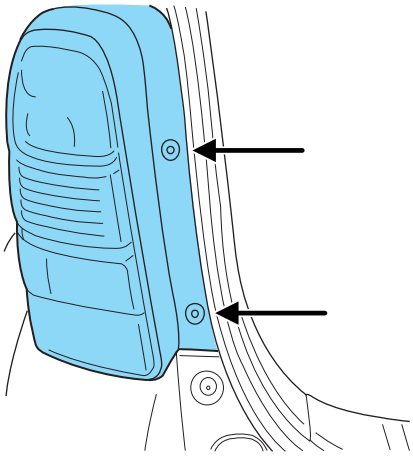
NOTE: If the bulb is accidentally touched, it should be cleaned with rubbing alcohol before being used.

7. Insert the glass end of the new bulb into the headlamp assembly. When the bulb's three metal tabs are aligned with the grooves in the plastic base, push the bulb into the lamp assembly until the bulb's metal base contacts the rear of the lamp assembly.
8. Rotate the retainer spring over the bulb plastic base and secure it on the bulb hooks.
9. Install rubber boot on the lamp assembly.
10. Connect the electrical connector into the rear of the plastic base until it "snaps."

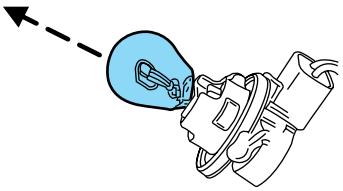
Replacing brake/tail/turn/backup lamps bulbs

The brake/tail/turn/backup lamp bulbs are located in the tail lamp assembly, one just below the other. Follow the same steps to replace either bulb:

1. Open the liftgate to expose the lamp assemblies.
2. Remove the two screws from the lamp assembly.
3. Carefully remove the lamp assembly by pulling it rearward.
4. Twist the bulb socket counterclockwise and remove from lamp assembly.

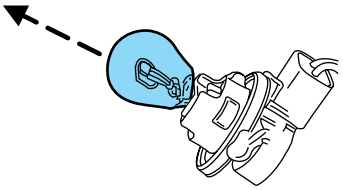


5. Pull the bulb straight out of the socket and push in the new bulb.
6. To complete installation, follow the removal procedure in reverse order.

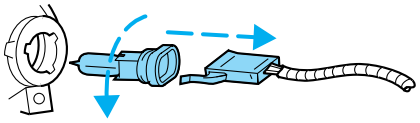


Replacing front parking/turn lamp bulbs

1. Make sure that the headlamp control is in the OFF position.
2. Open the hood. The position lamps are located on the bottom half of each headlamp.
3. Disconnect the electrical connector from the bulb by pulling rearward.
4. Remove the bulb socket from the lamp assembly by turning counterclockwise.
5. Pull the bulb straight out of the socket and push in the new bulb.
6. To complete installation, follow the removal procedure in reverse order.

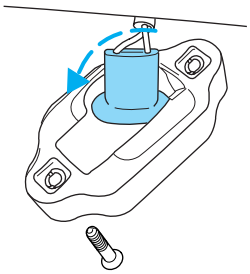


Replacing fog lamp bulbs (if equipped)



1. Remove the bulb socket from the fog lamp by turning counterclockwise.
2. Disconnect the electrical connector from the fog lamp bulb.
3. Connect the electrical connector to the new fog lamp bulb.
4. Install the bulb socket in the fog lamp turning clockwise.

Replacing license plate lamp bulbs



1. Remove two screws and the license plate lamp assembly from the liftgate.
2. Remove bulb socket from lamp assembly by turning counterclockwise.
3. Pull the bulb out from the socket and push in the new bulb.
4. Install the bulb socket in lamp assembly turning it clockwise,
5. Install the lamp assembly on liftgate with two screws.

Replacing front parking lamp/turn signal bulbs

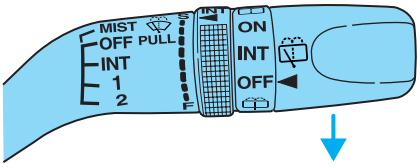
For bulb replacement, see an authorized Mazda dealer.

Replacing high-mount brake lamp bulbs

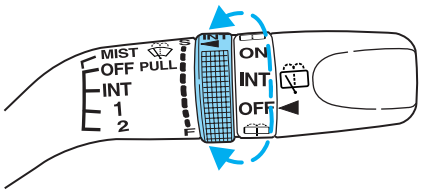
For bulb replacement, see an authorized Mazda dealer.

WINDSHIELD WIPER AND WASHER

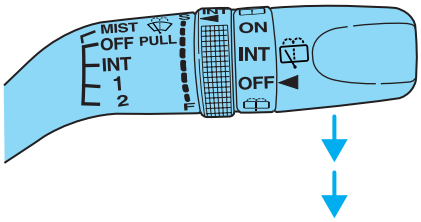
For intermittent operation, move control down one position.



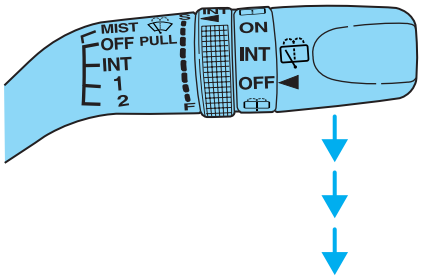
Adjust the rotary control to the desired speed setting.



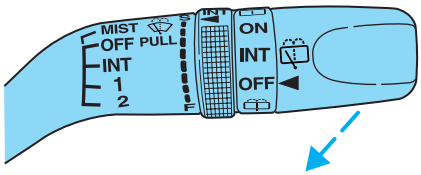
For normal or low speed wiper operation, move control down two positions from OFF.



For high speed wiper operation, move control down three positions from OFF.

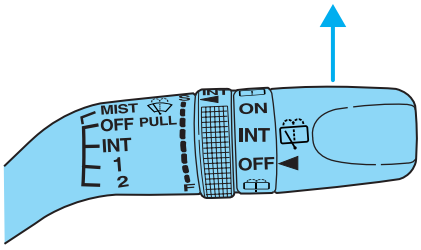


To activate the windshield washer, pull control toward you. Release control to stop washer fluid spray.



MIST FUNCTION

Move control up and release for one wipe.



Windshield wiper blades

Check the wiper blades at least twice a year or when they seem less effective. Substances such as tree sap and some hot wax treatments used by commercial car washes reduce the effectiveness of wiper blades.

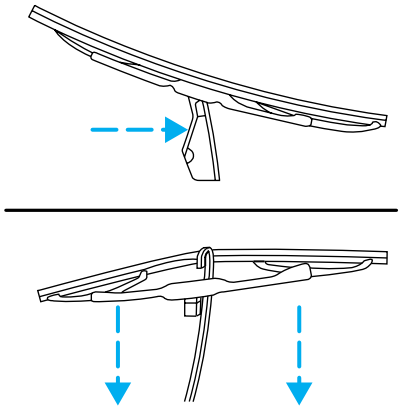
Checking the wiper blades

If the wiper blades do not wipe properly, clean both the windshield and wiper blades using undiluted windshield wiper solution or a mild detergent. Rinse thoroughly with clean water. To avoid damaging the blades, do not use fuel, kerosene, paint thinner or other solvents.

Changing the wiper blades

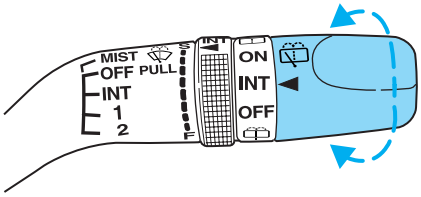
To replace the wiper blades:

1. Pull the wiper arm away from the windshield and lock into the service position.
2. Turn the blade at an angle from the wiper arm. Push the lock pin manually to release the blade and pull the wiper blade down toward the windshield to remove it from the arm.
3. Attach the new wiper to the wiper arm and press it into place until a click is heard.

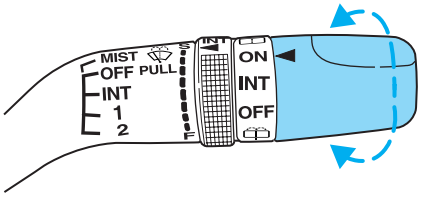


Rear window wiper/washer controls

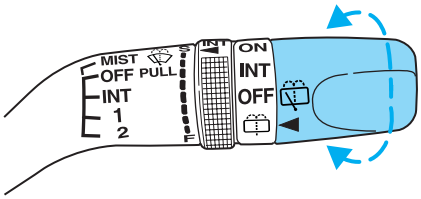
For intermittent operation of rear wiper, rotate end of control upward to the INT position.



For normal speed rear wiper operation, rotate control upward to ON.



To activate the rear washer, rotate the control to the position and release.

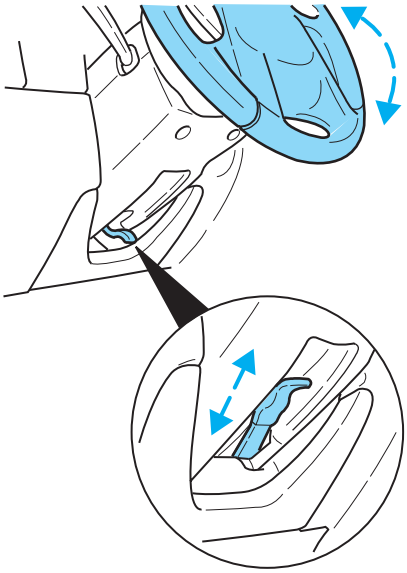


Rear window wiper blades

Refer to *Windshield wiper blades* in this section for more information on rear wiper blades.

MANUAL TILT STEERING COLUMN

Push the tilt steering wheel lever downward to move the steering wheel up or down. Pull the control up into the original position to lock the steering wheel in position.



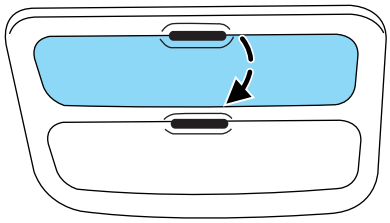
WARNING: Never adjust the steering wheel when the vehicle is moving. You could lose control of the vehicle.

OVERHEAD CONSOLE (IF EQUIPPED)

The appearance of your vehicle's overhead console will vary according to your option package.

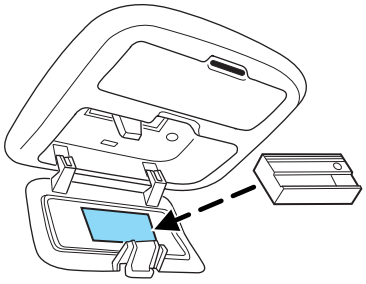
Storage compartment (if equipped)

Press the OPEN control to open the storage compartment. The door will open slightly and can be moved to full open.



Installing a garage door opener (if equipped)

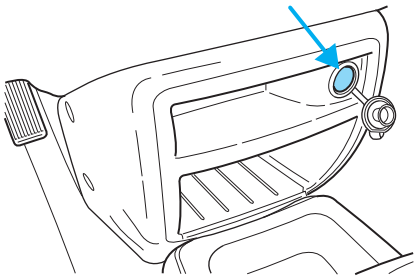
The storage compartment can be converted to accommodate a variety of aftermarket garage door openers:



- Remove the Velcro pad from the storage compartment door.
- Place Velcro on aftermarket transmitter opposite of actuator control.
- Install the transmitter on to storage compartment door aligning the actuator control with the rubber plunger.
- Close the door and press the storage compartment door to activate the transmitter.

AUXILIARY POWER POINT 12V

WARNING: Power outlets are designed for accessory plugs only. Do not hang any type of accessory or accessory bracket from the plug. Improper use of the power outlet can cause damage not covered by your warranty.



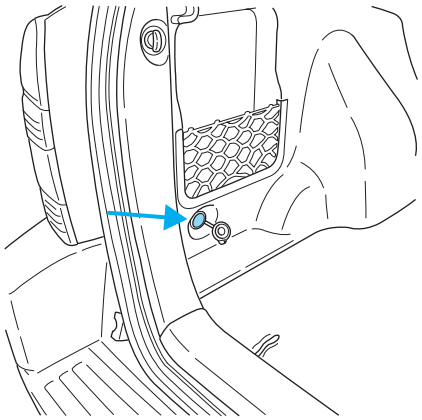
The auxiliary power point is located on the instrument panel below the radio.

Do not plug optional electrical accessories into the cigarette lighter. Use the power point.

CARGO AREA AUXILIARY POWER POINT

An additional auxiliary power point is located in the cargo area.

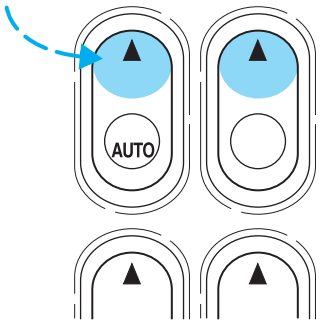
WARNING: Power outlets are designed for accessory plugs only. Do not hang any type of accessory or accessory bracket from the plug. Improper use of the power outlet can cause damage not covered by your warranty.



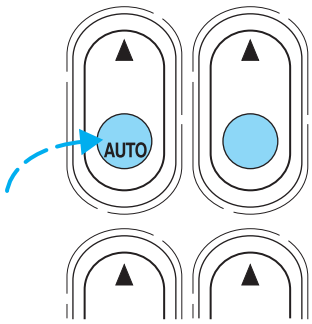
POWER WINDOWS

Press and hold the rocker switches to open and close windows.

- Press the top portion of the rocker switch to close.

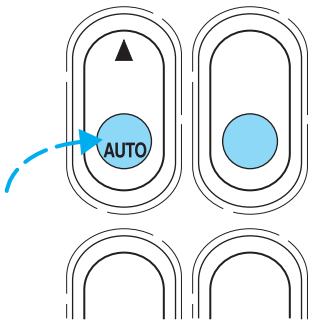


- Press the bottom portion of the rocker switch to open.



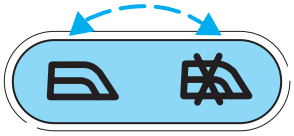
One touch down

- Press AUTO completely down to the second detent. The driver's window will open fully. Depress up to stop window operation.



NOTE: This feature will only operate the driver's side window.

Window lock



The window lock feature allows only the driver to operate the power windows.

To lock out all the window controls except for the driver's press the right side of the control.

NOTE: The window switches will not illuminate when the window control is in the LOCKED position.

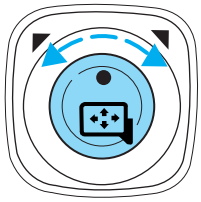
Press the left side to restore the window controls.

POWER MIRROR CONTROL

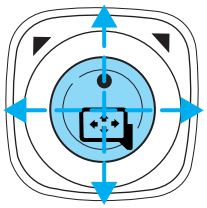
The ignition must be in the ACC or ON position to adjust the power side view mirrors.

To adjust your mirrors:

1. Rotate the control clockwise to the right position to adjust the right mirror and rotate the control counterclockwise to the left position to adjust the left mirror.



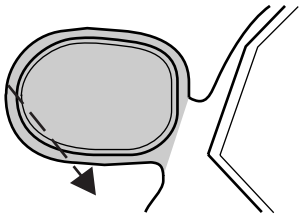
2. Move the control in the direction you wish to move the mirror.



3. Return to the center position to lock mirrors in place.

Fold-away mirrors

Pull the side mirrors in carefully when driving through a narrow space, like an automatic car wash.

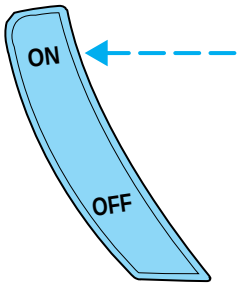


SPEED CONTROLS (IF EQUIPPED)

To turn speed control on

- Press ON.

NOTE: Vehicle speed cannot be controlled until the vehicle is traveling at or above 48 km/h (30 mph).



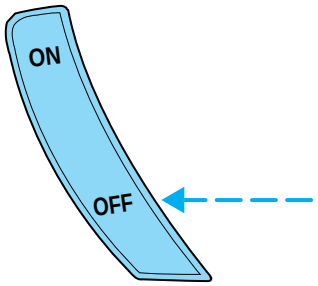
WARNING: Do not use the speed control in heavy traffic or on roads that are winding, slippery, or unpaved. You may lose control of the vehicle.

WARNING: Do not shift the gearshift lever into N (Neutral) with the speed control on. You may lose control of the vehicle or cause engine system damage.

To turn speed control off

- Press OFF.

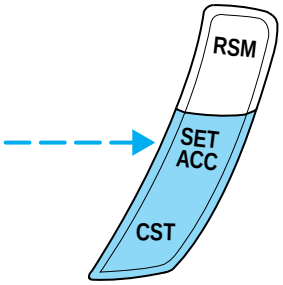
NOTE: Once speed control is turned off or the ignition is switched off, the previously programmed set speed will be erased.



To set a speed

- Press SET ACC.

NOTE: For speed control to operate, the speed control must be ON and the vehicle speed must be greater than 48 km/h (30 mph).



If you drive up or down a steep hill, your vehicle speed may vary momentarily slower or faster than the set speed. This is normal.

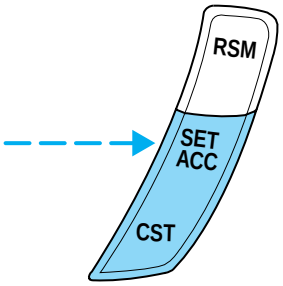
Speed control cannot reduce the vehicle speed if it increases above the set speed on a downhill. If your vehicle speed is faster than the set speed while driving on a downhill, you may want to shift to the next lower gear or apply the brakes to reduce your vehicle speed.

If your vehicle slows down more than 16 km/h (10 mph) below your set speed on an uphill, your speed control will disengage. This is normal. Pressing RSM will re-engage it.

WARNING: Do not use the speed control in heavy traffic or on roads that are winding, slippery, mountainous, hilly, or unpaved. This may cause an accident.

To set a higher set speed

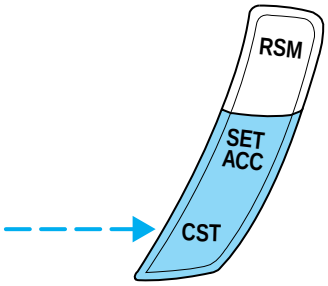
- Press and hold SET ACC. Release the control when the desired vehicle speed is reached or
- Press and release SET ACC to operate the Tap-Up function. Each press will increase the set speed by 1.6 km/h (1 mph) or
- Accelerate with your accelerator pedal. When the desired vehicle speed is reached, press and release SET ACC.



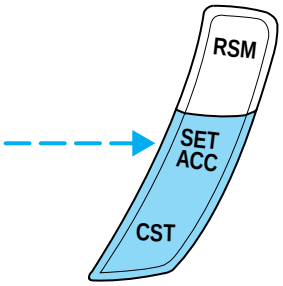
NOTE: You can accelerate with the accelerator pedal at any time during speed control usage. Releasing the accelerator pedal will return your vehicle to the previously programmed set speed.

To set a lower set speed

- Press and hold CST. Release the control when the desired speed is reached or
- Press and release CST to operate the Tap-Down function. Each press will decrease the set speed by 1.6 km/h (1 mph) or

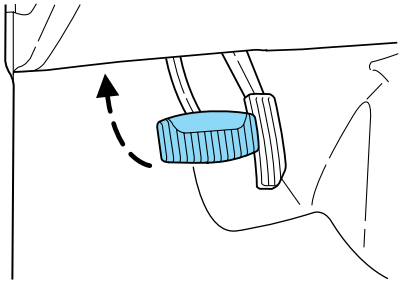


- Depress the brake pedal. When the desired vehicle speed is reached, press SET ACC.

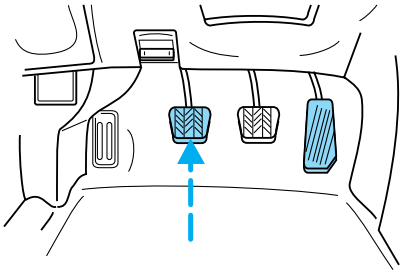


To disengage speed control

- Depress the brake pedal or



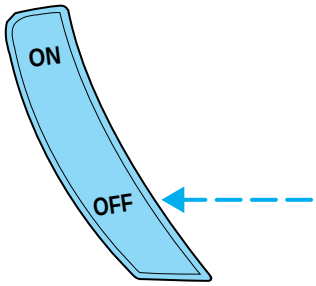
- Depress the clutch pedal (if equipped).



NOTE: Disengaging the speed control will not erase the previously programmed set speed.

NOTE: Fully depressing the clutch pedal may cause a flare in engine RPM as the throttle is returned to idle. This is normal.

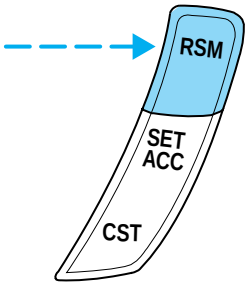
NOTE: Pressing OFF will erase the previously programmed set speed.



To return to a previously set speed

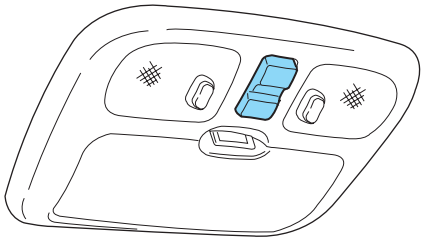
- Press RSM.

NOTE: For RSM to operate, the vehicle speed must be faster than 48 km/h (30 mph).



MOON ROOF (IF EQUIPPED)

To operate the moon roof:



- The moon roof is equipped with an automatic, one-touch, express opening feature. Press and release the rear portion of the control. To stop motion at any time during the one-touch opening, press the control a second time.
- To close, press and hold the front portion of the control.

To operate the moon roof vent position:

- To open, press and hold the front portion of the control. This will open the vent.
- To close, press and hold the rear portion of the control.

NOTE: If the battery is disconnected, discharged, or a new battery is installed, the moon roof needs to be opened to the vent position to reset the moon roof positions.

NOTE: If you open and close the moon roof repeatedly, the moon roof motor may overheat and shut down for 45 seconds while the motor cools.

WARNING: Do not let children play with the moon roof. They may seriously injure themselves.

CENTER CONSOLE

Your vehicle may be equipped with a variety of console features. These include:

- Utility compartment
- Cupholders
- Ashcup

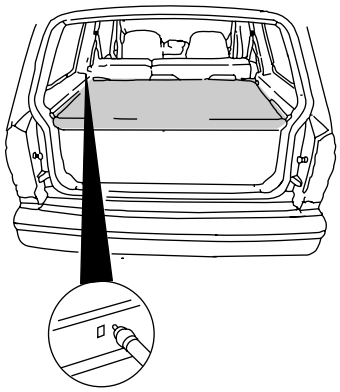
WARNING: Use only soft cups in the cupholder. Hard objects can injure you in a collision.

CARGO COVER (IF EQUIPPED)

Your vehicle may be equipped with a cargo area shade that covers the luggage compartment of your vehicle.

To install the shade:

1. Fasten the cover into the mounting brackets (make sure the cover is right side up).
2. Pull the end of the shade toward you and hook the sides into the notches (right side first) in the rear trim panels.

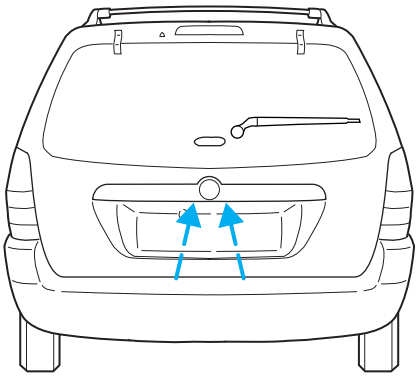


WARNING: To reduce the risk of injuries, the fasteners for cargo area cover must be properly attached to the mounting clips on the rear trim panels.

WARNING: Do not place any objects on the cargo area cover. They may obstruct your vision or strike occupants of the vehicle in the case of a sudden stop or collision.

WARNING: The cover may cause injury in a sudden stop or accident if it is not securely installed.

LIFTGATE



To open the rear window, pull the right side of the liftgate handle.

To open the liftgate, pull the left side of the liftgate handle.

- Do not open the liftgate or liftgate glass in a garage or other enclosed area with a low ceiling. If the liftgate glass is raised and the liftgate is also opened, both liftgate and glass could be damaged against a low ceiling.
- Do not leave the liftgate or liftgate glass open while driving. Doing so could cause serious damage to the liftgate and its components as well as allowing carbon monoxide to enter the vehicle.

WARNING: Make sure that the liftgate door and/or window are closed to prevent exhaust fumes from being drawn into the vehicle. This will also prevent passengers and cargo from falling out. If you must drive with the liftgate door or window open, keep the vents open so outside air comes into the vehicle.

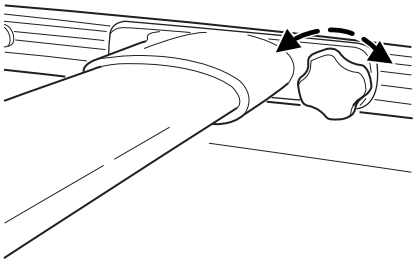
LUGGAGE RACK

The maximum load for the roof rack is 44 kg (100 lbs), evenly distributed on the crossbars. If it is not possible to evenly distribute the load, position it in the center or as far forward on the crossbars as possible. Always use the adjustable tie down loops to secure the load.

To adjust the cross-bar position:

1. Loosen the thumbwheel at both ends of the cross-bar (both cross-bars are adjustable).
2. Slide the cross-bar to the desired location.
3. Tighten the thumbwheel at both ends of the cross-bar.

To remove the cross-bar assembly from the roof rack side rails:



1. Loosen the thumbwheel at both ends of the cross-bar (both cross-bars are adjustable).
2. Slide the cross-bar to the end of the rail.
3. Use a long, flat object to depress the tongue in the endcaps on both sides of the cross-bar.
4. Slide the cross-bar assembly off the end of the rail.

To reinstall the cross-bar assembly to the roof rack side rails:

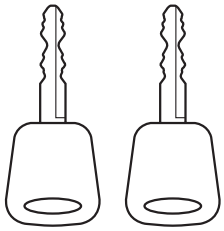
1. Slide the cross-bar assemblies over the end cap tongue and into the side rails.
2. Tighten thumbwheel at both ends of the cross-bar.

KEYS

The key operates all locks on your vehicle. In case of loss, replacement keys are available from your dealer.

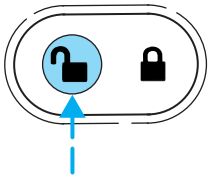
You should always carry a second key with you in a safe place in case you require it in an emergency.

Refer to *SecuriLock™ Passive Anti-Theft System* for more information.



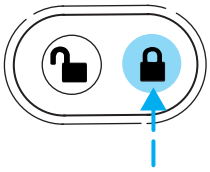
POWER DOOR LOCKS

Press control to unlock all doors.



Press control to lock all doors.

NOTE: The power door switches will not illuminated when the window lock switch is in the LOCKED position.



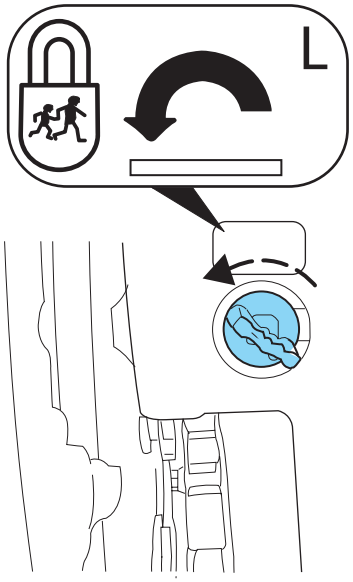
Childproof door locks

When these locks are set, the rear doors cannot be opened from the inside. The rear doors can be opened from the outside when the doors are unlocked.

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

NOTE: Setting the lock for one door will not automatically set the lock for both doors.

Rotate lock control in the direction of arrow to engage the lock. Rotate control in the opposite direction to disengage childproof locks.



REMOTE ENTRY SYSTEM (IF EQUIPPED)

This device complies with part 15 of the FCC rules and with RS-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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The remote entry system allows you to lock or unlock all vehicle doors without a key.

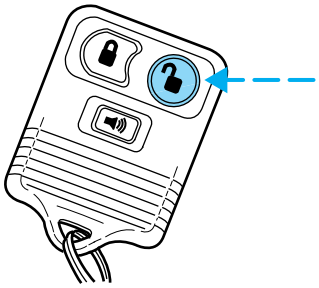
The remote entry features only operate with the ignition in the LOCK position.

If there is any potential remote keyless entry problem with your vehicle, ensure **ALL key fobs** (remote entry transmitters) are brought to the dealership, to aid in troubleshooting.

Unlocking the doors

Press this control to unlock the driver's door. The interior lamps will illuminate. The flashers will flash twice to confirm the vehicle is unlocked.

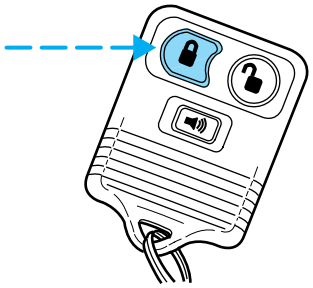
Press the control a second time within three seconds to unlock all doors.



Locking the doors

Press this control to lock all doors. If all doors are closed, the flashers will flash once and the perimeter alarm (if equipped) will be armed.

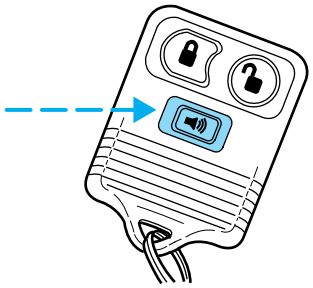
If the control is pressed a second time within three seconds the doors will lock again and the horn will chirp.



Sounding a panic alarm

Press this control to activate the alarm.

To deactivate the alarm, press the control again.



Replacing the battery

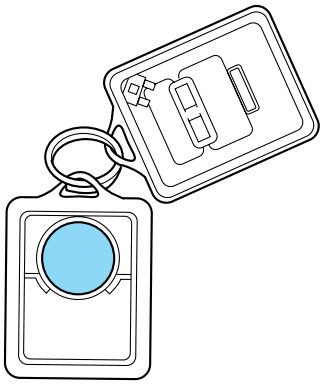
The transmitter is powered by one coin type three-volt lithium battery CR2032 or equivalent. Typical operating range will allow you to be up to 10 meters (33 feet) away from your vehicle. A decrease in operating range can be caused by:

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

To replace the battery:

1. Twist a thin coin between the two halves of the transmitter near the key ring.

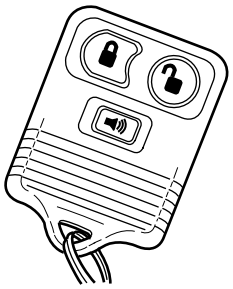
DO NOT TAKE THE FRONT PART OF THE TRANSMITTER APART. Damage to the transmitter may result in operation failure.



2. Place the positive (+) side of new battery in the same orientation. Refer to the diagram inside the transmitter unit.
3. Snap the two halves back together.

Replacing lost transmitters

If a remote transmitter has been lost and you would like to remove it from the vehicle's memory, or you would like to purchase additional remote transmitters and have them programmed to your vehicle:



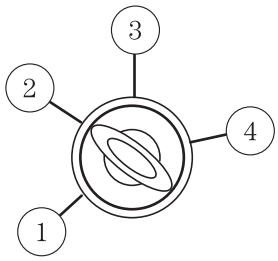
- Take **all** your vehicle's transmitters to your authorized Mazda dealer for programming, or
- Perform the programming procedure yourself

Programming remote transmitters

It is necessary to have **all** (maximum of four — original and/or new) of your remote transmitters available prior to beginning this procedure.

NOTE: This procedure must be completed within the specified times. If not completed within the specified time period, reprograming procedures must be restarted from the beginning.

To program the transmitters yourself:



- Insert a key in the ignition and turn from 1 (LOCK) to 3 (RUN) eight times in rapid succession (within 10 seconds) with the eighth turn ending in the 3 (RUN) position. The doors will lock/unlock to confirm that programming mode has been entered.
- Within 20 seconds, program a remote transmitter by pressing any button on a transmitter. The doors will lock/unlock to confirm that the remote transmitter has been programmed. (If more than 20 seconds pass before pressing a remote transmitter button, the programming mode will exit and the procedure will have to be repeated.)
- Repeat the previous step to program additional remote transmitters. The doors will lock/unlock to confirm that each remote transmitter has been programmed.
- When you have completed programming the remote transmitters, turn the ignition to 1 (LOCK) or wait 20 seconds. Again the doors will lock/unlock to confirm programming has been completed.

Illuminated entry

The interior lamps illuminate when the remote entry system is used to unlock the door(s).

The system automatically turns off after 30 seconds or when the ignition is turned to the RUN position.

NOTE: The dome lamp control must **not** be set to the OFF position for the illuminated entry system to operate.

The inside lights will not turn off if:

- they have been turned on in the dome lamp control or
- any door is open

NOTE: The battery saver will shut off the interior lamps 40 minutes after the ignition has been turned to the OFF position.

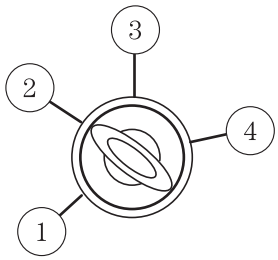
SECURILOCK™ PASSIVE ANTI-THEFT SYSTEM

SecuriLock™ passive anti-theft system is an engine immobilization system. This system prevents the engine from being started unless a **coded key** is used.

NOTE: The SecuriLock™ passive anti-theft system is not compatible with non-Mazda aftermarket remote start systems. Use of these systems may result in vehicle starting problems and a loss of security protection.

Automatic arming

NOTE: The vehicle is armed immediately after switching the ignition to the 2 (ACC) position.

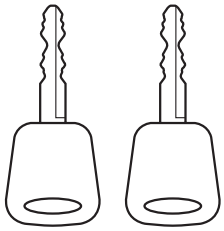


The light in the instrument cluster will flash every two seconds when the vehicle is armed.

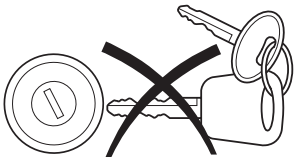
Automatic disarming

Switching the ignition to the 3 (ON) position with a **coded key** disarms the vehicle. The theft light will illuminate for three seconds and then go out. If the light stays on for an extended period of time or flashes rapidly, have the system serviced by your authorized Mazda dealership.

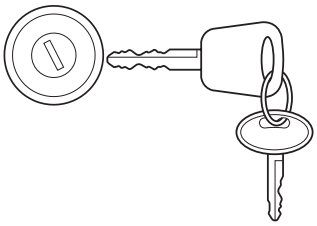
Key information



Your vehicle is supplied with **two coded keys.** Only a **coded key** will start your vehicle. Spare coded keys can be purchased from your authorized Mazda dealership. Your dealership can program your key or you can "do it yourself", refer to *Programming spare keys.*



The SecuriLock™ passive anti-theft system is not compatible with aftermarket remote start systems. Use of these systems may result in vehicle starting problems and a loss of security protection.

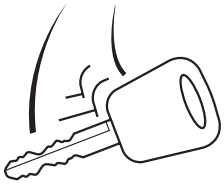


NOTE: Large metallic objects, electronic devices on the key chain that can be used to purchase gasoline or similar items, or a second key on the same key ring as the **coded key** may cause vehicle starting issues.

NOTE: If present, you need to keep these objects from touching the **coded key** while starting the engine.

NOTE: These objects and devices cannot damage the **coded key,** but can cause a momentary issue if they are too close to the key during engine start.

NOTE: If a problem occurs, turn ignition OFF and restart the engine with all other objects on the key ring held away from the ignition key. Check to make sure the encoded ignition key is an approved Mazda encoded ignition key.



If your keys are lost or stolen you will need to do the following:

- Use your spare key to start the vehicle. or
- Have your vehicle towed to an authorized Mazda dealership. . The key codes will need to be erased from your vehicle and new key codes will need to be re-coded.

Replacing **coded key** can be very costly and you may want to store an extra programmed key away from the vehicle in a safe place to prevent an unforeseen inconvenience.

WARNING: If an unprogrammed key is used in the ignition it will cause a "NO START" condition.

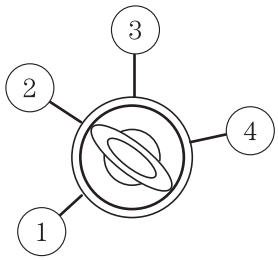
Programming spare keys

A maximum of eight keys can be coded to your vehicle. Only SecuriLock™ keys can be used. To program a **coded key** yourself, you will need two previously programmed **coded keys** (keys that already operate your vehicle's engine) and the new unprogrammed key(s) readily accessible for timely implementation of each step in the procedure.

If two previously programmed coded keys are not available, you must bring your vehicle to your authorized Mazda dealership to have the spare coded key(s) programmed.

NOTE: Please read and understand the entire procedure before you begin.

NOTE: This procedure must be completed within the specified times. If not completed within the specified time period, the reprogramming procedure must be restarted from the beginning.



1. Insert the first previously programmed **coded key** into the ignition and turn the ignition from 2 (ACC) to 3 (ON) (maintain ignition in 3 (ON) for at least one second).
2. Turn ignition to 1 (LOCK) and remove the first **coded key** from the ignition.
3. Within ten seconds of turning the ignition to 2 (ACC), insert the second previously programmed **coded key** into the ignition and turn the ignition from 2 (ACC) to 3 (ON) (maintain ignition in 3 (ON) for at least one second but no more than ten seconds).
4. Turn the ignition to 1 (LOCK) and remove the second **coded key** from the ignition.
5. Within 20 seconds of turning the ignition to 2 (ACC), insert the new unprogrammed key (new key/valet key) into the ignition and turn the ignition from 2 (ACC) to 3 (ON) (maintain ignition in 3 (ON) for at least one second). This step will program your new key to a coded key.
6. To program additional new unprogrammed key(s), repeat this procedure from step 1.

If successful, the new coded key(s) will start the vehicle's engine and the theft indicator will illuminate for three seconds and then go out.

If not successful, the new coded key(s) will not start the vehicle's engine and the theft indicator will flash on and off and you may repeat steps 1 through 6. If failure repeats, bring your vehicle to your authorized Mazda dealership to have the new spare key(s) programmed.

PERIMETER ALARM SYSTEM (IF EQUIPPED)

The perimeter anti-theft system will respond if unauthorized entry is attempted.

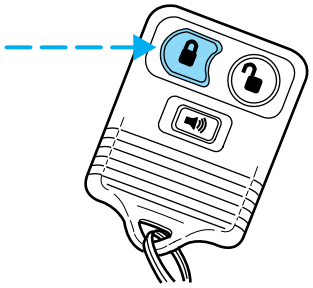
If there is any potential perimeter anti-theft problem with your vehicle, ensure **ALL key fobs** (remote entry transmitters) are brought to authorized Mazda dealership, to aid in troubleshooting.

Arming the system

When armed, this system will respond if unauthorized entry is attempted. When unauthorized entry occurs, the system will flash the headlamps, parking lamps and will sound the horn.

The system is ready to arm whenever key is removed from the ignition. Either of the following actions will prearm the alarm system:

- Press the remote entry lock control
- Lock the doors using the key



NOTE: If a door is open, the system is not armed.

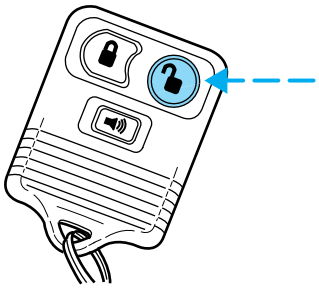
The system will become prearmed, when all doors are closed. When the system becomes prearmed the flashers will flash to confirm the prearming.

Once the system is prearmed, the system will arm in 20 seconds. If any door is opened during these 20 seconds, the arming will be canceled.

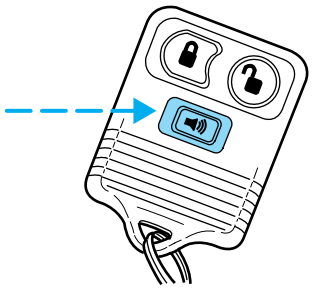
Disarming the system

You can disarm the system by any of the following actions:

- Unlock the doors by using your remote entry transmitter.
- Unlock the doors with a key.



- Press the panic control on the remote entry transmitter. This will disarm the system only if the alarm is sounding.

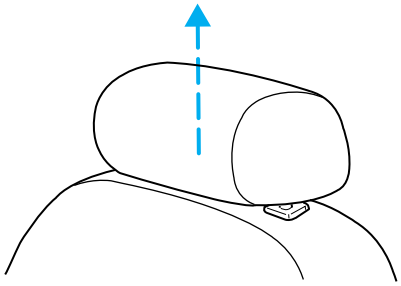


SEATING

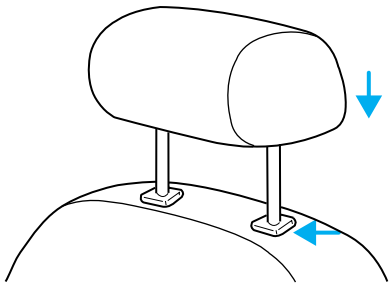
Adjustable head restraints (if equipped)

Your vehicle's seats are equipped with head restraints which are vertically adjustable. The purpose of these head restraints is to help limit head motion in the event of a rear collision. To properly adjust your head restraints, lift the head restraint so that it is located directly behind your head or as close to that position as possible. Refer to the following to raise and lower the head restraints.

The head restraints can be moved up and down.



Push side control and push down on head restraint to lower it.



Adjusting the front manual seat

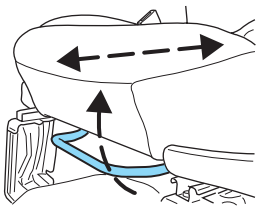
WARNING: Never adjust the driver's seat or seatback when the vehicle is moving. Sudden braking or a collision could cause serious injury. Adjust the seat only when the vehicle is stopped.

WARNING: Do not pile cargo higher than the seatbacks to reduce the risk of injuring people in a collision or sudden stop.

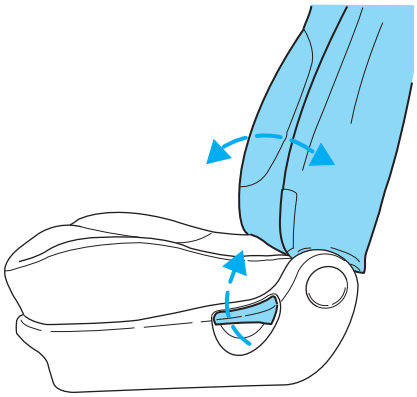
WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

WARNING: Sitting in a reclined position while the vehicle is moving is dangerous because you don't get the full protection from seat belts. During sudden braking or a collision, you can slide under the lap belt and suffer serious internal injuries. For maximum protection, sit well back and upright.

Lift handle to move seat forward or backward.

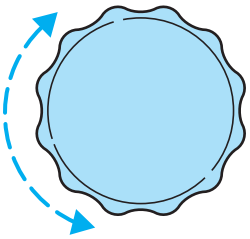


Pull lever up to adjust seatback.



Using the manual lumbar support (if equipped)

The lumbar support control is located on the inboard side of the driver's seat.



Turn the lumbar support control clockwise to increase firmness.

Turn the lumbar support control counterclockwise to increase softness.

Adjusting the front power seat (if equipped)

WARNING: Never adjust the driver's seat or seatback when the vehicle is moving. This can cause you to lose control of the vehicle and cause an accident.

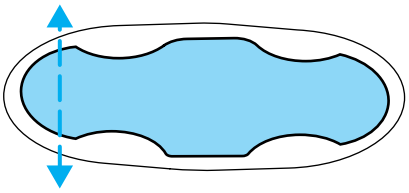
WARNING: Do not pile cargo higher than the seatbacks to avoid injuring people in a collision or sudden stop.

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

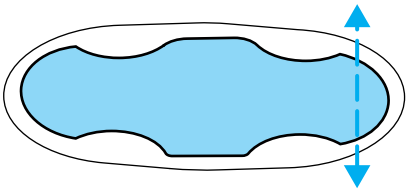
WARNING: Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

The control is located on the outboard side of the seat cushion.

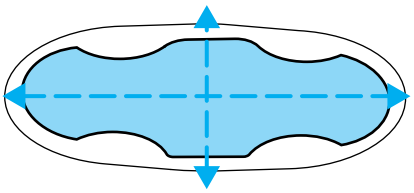
Move the front of the control up or down to raise or lower the front portion of the seat cushion.



Move the rear of the control up or down to raise or lower the rear portion of the seat cushion.



Move the control in the directions shown to move the seat forward, backward, up or down.

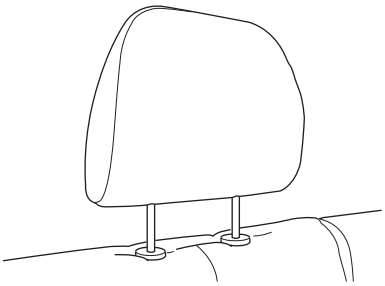


REAR SEATS

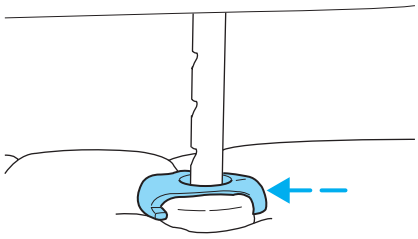
Head restraints (if equipped)

Your vehicle's seats may be equipped with head restraints which are vertically adjustable. The purpose of these head restraints is to help limit head motion in the event of a rear collision. To properly adjust your head restraints, lift the head restraint so that it is located directly behind your head or as close to that position as possible. Refer to the following to raise and lower the head restraints.

The head restraints can be moved up and down.

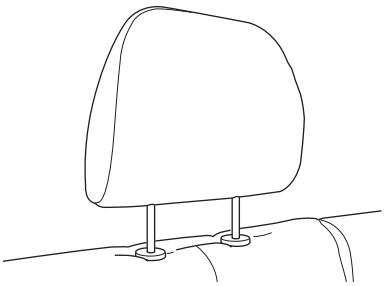


Push control to lower head restraint.

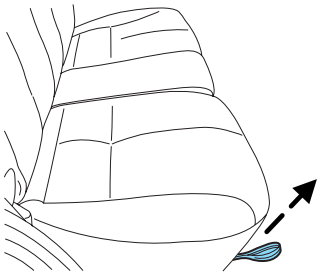


Folding down rear seats

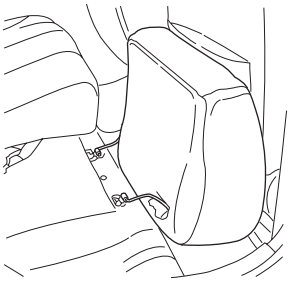
1. Raise the rear seat head restraint and remove.



2. Place the head restraints under the front passenger seat for storage.
3. Pull the seat release control.

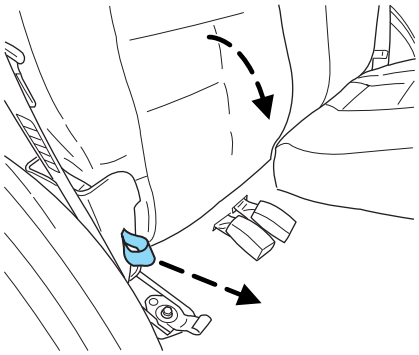


4. Flip seat forward.

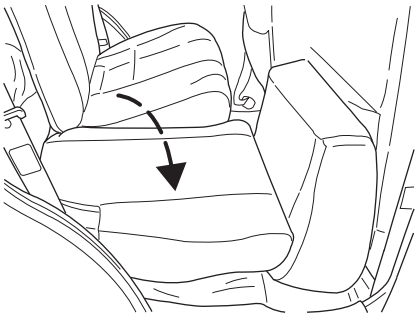


5. Pull the seatback release strap toward the front seat. Make sure the seat belt buckle heads are fully extended towards the front of the vehicle and are away from the seatback.

NOTE: When the seatback release strap is pulled use your other hand to guide the seatback.



6. Rotate seatback down into load floor position.

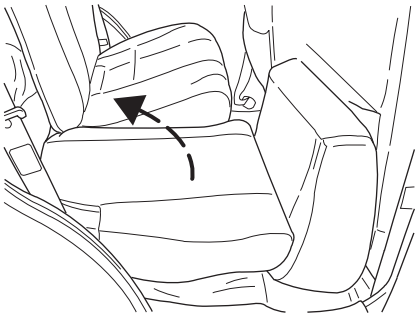


WARNING: Make sure seat belt buckle heads are not trapped underneath the seatback and that the seat belt buckle heads are fully extended towards the front of the vehicle. Seat belt buckle heads may break if they are trapped underneath the seatback as the seatback is rotated down.

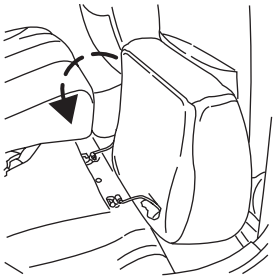
NOTE: Make sure the floor is clear of all objects before folding the seatback.

Returning the rear seats to upright position

1. Pull seatback up and into upright position making sure seatback locks into place. While holding the seatback, pull the release and push seatback backward into the desired position.



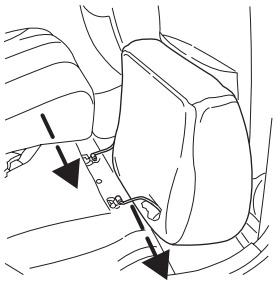
2. Rotate seat cushion down into the seating position making sure that the seat cushion is locked into place and that the seat belt buckles are exposed.



3. Remove the head restraints stored under the front passenger seat and return them to the original position on the seat backs.

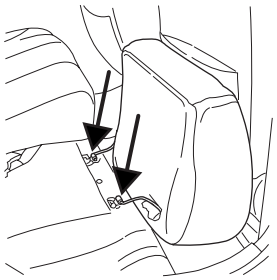
To remove the rear cushion

1. Pull the Yellow tab
2. Pull the cushion to the outboard side of the vehicle.



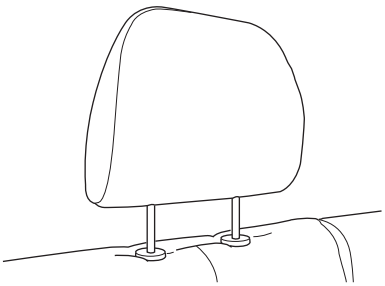
To install the rear cushion

1. Push the cushion to the inboard side of the vehicle.
2. Make sure that the hinges are locked into place.



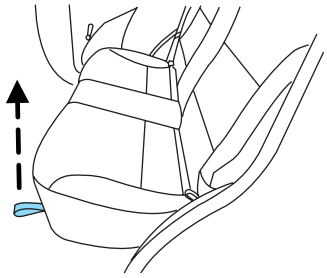
Folding down rear seats

1. Raise the rear seat head restraint and remove.

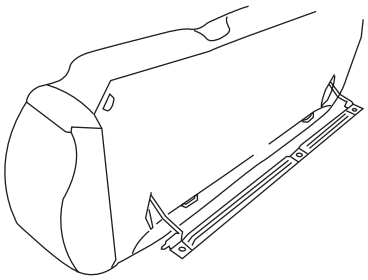


2. Place the head restraints under the front passenger seat for storage.

3. Pull the seat release control on each side of the seat to release the locks.

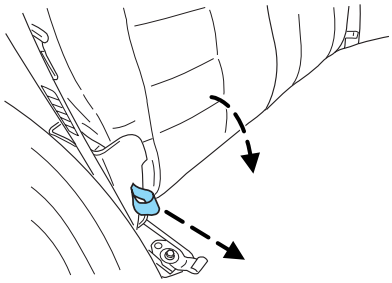


4. Flip seat forward.



5. Pull the seatback release strap toward the front seat. Make sure the seat belt buckle heads are fully extended towards the front of the vehicle and are away from the seatback.

NOTE: When the seatback release strap is pulled use your other hand to guide the seatback.



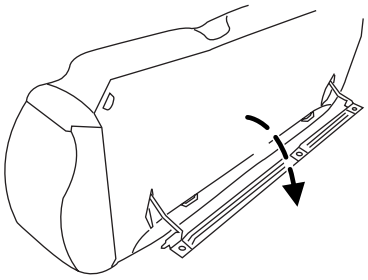
6. Rotate seatback down into load floor position.

WARNING: Make sure seat belt buckle heads are not trapped underneath the seatback and that the seat belt buckle heads are fully extended towards the front of the vehicle. Seat belt buckle heads may break if they are trapped underneath the seatback as the seatback is rotated down.

NOTE: Make sure the floor is clear of all objects before folding the seatback.

Returning the rear seats to upright position

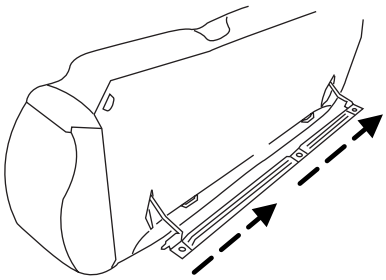
1. Pull seatback up and into upright position making sure seatback locks into place.
2. Rotate seat cushion down into the seating position making sure that the seat cushion is locked into place and that the seat belt buckles are exposed.



3. Remove the head restraints stored under the front passenger seat and return them to the original position on the seat backs.

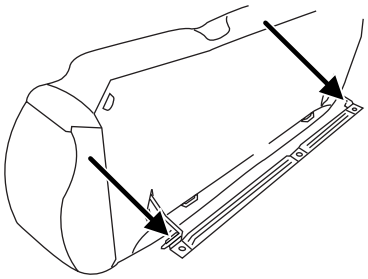
To remove the rear cushion

1. Pull the Yellow tab
2. Pull the cushion so that the rods remove from the locking tabs.



To install the rear cushion

1. Push the cushion so that the rods fit into the locking tabs.
2. Make sure that the hinges are locked into place.



SAFETY RESTRAINTS

Safety restraints precautions

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

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

WARNING: 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 collision.

WARNING: All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag (SRS) is provided.

WARNING: It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, 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.

WARNING: In a rollover crash, an unbelted person is significantly more likely to die or be seriously injured than a person wearing a seat belt.

WARNING: 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.

WARNING: Placing a child, 12 years or younger, in the front seat is dangerous. The child could be hit by a deploying air bag and be seriously injured or even killed. A sleeping child is more likely to lean against the door and be hit by the side air bag in a moderate collision. Whenever possible, always secure a child, 12 years or younger, in the rear seat, with an appropriate child restraint system for the child's age and size. Never use a rear-facing child restraint system in the front seat with an air bag that could deploy.

Energy Management Feature

- This vehicle has a safety belt system with an energy management feature at the front seating positions to help further reduce the risk of injury in the event of a head-on collision.
- This safety belt system has a retractor assembly that is designed to pay out webbing in a controlled manner. This feature is designed to help reduce the belt force acting on the occupant's chest.

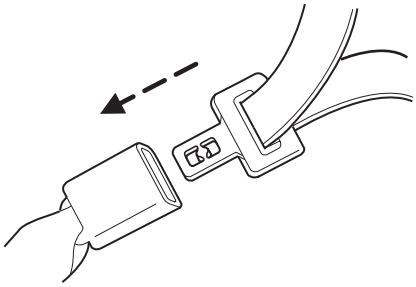
WARNING: After any vehicle collision, the safety belt system at all outboard seating positions (except driver, which has no "automatic locking retractor" feature) must be checked by a qualified technician to verify that the "automatic locking retractor" feature for child seats is still functioning properly. In addition, all safety belts should be checked for proper function. Additionally, if the front air bags have deployed, the front pretensioners have also deployed and the front seat restraint system must be replaced.

WARNING: BELT AND RETRACTOR ASSEMBLY MUST BE REPLACED if the safety belt assembly "automatic locking retractor" feature or any other safety belt function is not operating properly when checked according to the procedures in Workshop Manual.

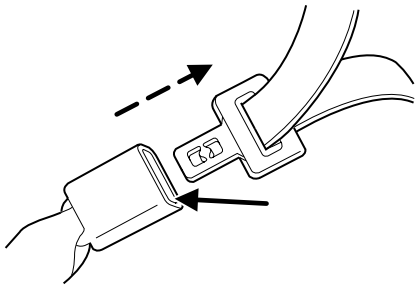
WARNING: Failure to replace the Belt and Retractor assembly could increase the risk of injury in collisions.

Combination lap and shoulder belts

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 the tongue is securely fastened in the buckle.



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



The front and rear outboard safety restraints in the vehicle are combination lap and shoulder belts. The front passenger and rear seat outboard safety belts have two types of locking modes described below:

Vehicle sensitive mode

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

Automatic locking mode

In this mode, the shoulder belt is automatically pre-locked. The belt will still retract to remove any slack in the shoulder belt.

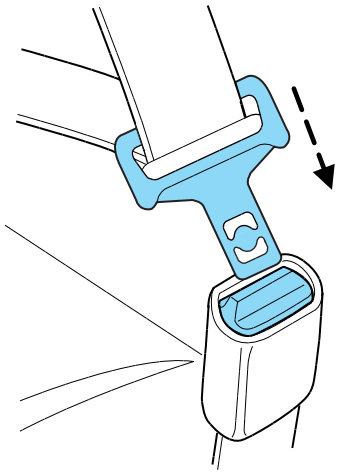
The automatic locking mode is not available on the driver safety belt.

When to use the automatic locking mode

- **Any time** a child safety seat is installed in a passenger front or outboard rear seating position (if equipped). Children 12 years old and under should be properly restrained in the rear seat whenever possible. Refer to *Safety Restraints for Children* or *Safety Seats for Children* later in this chapter.

How to use the automatic locking mode

- Buckle the combination lap and shoulder belt.



- Grasp the shoulder portion and pull downward until the entire belt is extracted.

- Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates the safety belt is now in the automatic locking mode.

How to disengage the automatic locking mode

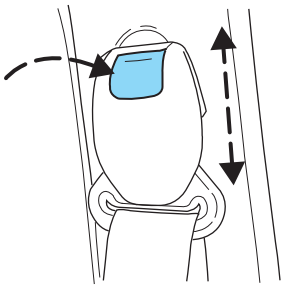
Disconnect the combination lap/shoulder belt and allow it to retract completely to disengage the automatic locking mode and activate the vehicle sensitive (emergency) locking mode.

WARNING: After any vehicle collision, the front passenger outboard seat belt system must be checked by an authorized Mazda dealership to verify that the "automatic locking retractor" feature for child seats is still functioning properly. In addition, all seat belts should be checked for proper function. Additionally, if the front air bags have deployed, the front pretensioners have also deployed and the front seat restraint system must be replaced.

WARNING: BELT AND RETRACTOR ASSEMBLY MUST BE REPLACED if the seat belt assembly "automatic locking retractor" feature or any other seat belt function is not operating properly when checked according to the procedures in Workshop Manual.

WARNING: Failure to replace the Belt and Retractor assembly could increase the risk of injury in collisions.

Front safety belt height adjustment



Your vehicle has safety belt height adjustments for the driver and front passenger. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

To lower the shoulder belt height, push the button and slide the height adjuster down. To raise the height of the shoulder belt, slide the height adjuster up. Pull down on the height adjuster to make sure it is locked in place.

WARNING: Position the shoulder belt height adjusters so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the seat belt and increase the risk of injury in a collision.

Safety belt pretensioner

Your vehicle is equipped with safety belt pretensioners at the driver and front passenger seating positions.

The safety belt pretensioners are designed to activate during certain frontal or near-frontal collisions with sufficient longitudinal deceleration. A safety belt pretensioner is a device which tightens the webbing of the lap and shoulder belts in such a way that they fit more snugly against the body.

The driver and front outboard passenger safety belt system (including retractors, buckles and height adjusters) must be replaced if the vehicle is involved in a collision that results in the activation of the safety belt pretensioners. Refer to the *Safety belt maintenance* section in this chapter.

WARNING: Failure to replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision. The seat belt pretensioners will only function once. After they are deployed, they will not work again and must be replaced immediately, even if there was no front seat occupant seated at the time.

WARNING: Modifying the components or wiring of the pretensioner system, including the use of electronic testing devices is dangerous. You could accidentally activate it or make it inoperable which would prevent it from activating in an accident. Front occupants could be seriously injured. Never modify the components or wiring, or use electronic testing devices on the pretensioner system.

WARNING: Improper disposal of the pretensioner system or a vehicle with non-deactivated pretensioners is dangerous. Unless all safety procedures are followed, injury could result. Ask an authorized Mazda Dealer how to safely dispose of the pretensioner system or how to scrap a front pretensioner-equipped vehicle.

Safety belt extension assembly

If the safety belt assembly is too short for you, even when fully extended, 20 cm (8 inches) can be added to the safety belt assembly by adding a safety belt extension assembly. Safety belt extension assemblies can be obtained from your authorized Mazda dealership.

Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended.

NOTE: Do not use extensions to change the fit of the shoulder belt across the torso.

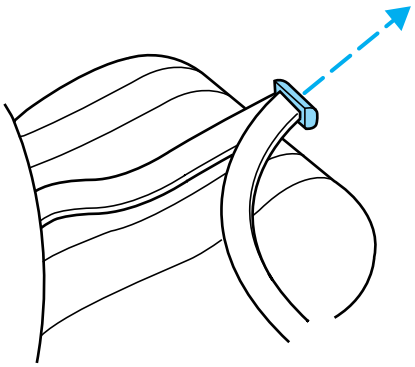
Rear seat lap belts

Adjusting the center lap belt

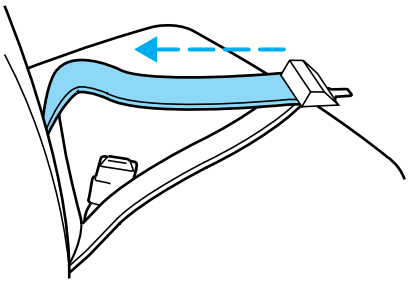
The lap belt does not adjust automatically.

WARNING: The lap belts should fit snugly and as low as possible around the hips, not around the waist. Failure to position the lap belt correctly may cause serious injury in an accident.

Insert the tongue into the correct buckle (the buckle closest to the direction the tongue is coming from). To lengthen the belt, turn the tongue at a right angle to the belt and pull across your lap until it reaches the buckle. To tighten the belt, pull the loose end of the belt through the tongue until it fits snugly across the hips.



Shorten and fasten the belt when not in use to keep the belt away from door openings and available after unfolding the seats.



Safety belt warning light and indicator chime

The seat belt warning light illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.

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.

The purpose of the Safety Belt Warning Chime/Light is to remind occupants of the vehicle to wear safety belts all of the time.

The following are reasons most often given for not wearing safety belts: (All statistics based on U.S. data)

Reasons given...	Consider...
"Crashes are rare events"	**36,700 crashes occur every day.** The more we drive, the more we are exposed to "rare" events, even for good drivers. *1 in 4 of us will be seriously injured in a crash during our lifetime.*
"I'm not going far"	**3 of 4** fatal crashes occur within **25** miles of home.
"Belts are uncomfortable"	Safety belts are designed to enhance comfort. If you are uncomfortable - try different positions for the safety belt upper anchorage and seatback which should be as upright as possible; this can improve comfort.

Reasons given...	Consider...
"I was in a hurry"	**Prime time for an accident.** Belt Minder reminds us to take a few seconds to buckle up.
"Seat belts don't work"	**Safety belts,** when used properly, **reduce risk of death** to front seat occupants by **45% in cars,** and by **60% in light trucks.**
"Traffic is light"	**Nearly 1 of 2 deaths occur in single-vehicle crashes,** many when no other vehicles are around.
"Belts wrinkle my clothes"	Possibly, but a serious crash can do much more than wrinkle your clothes, particularly if you are unbelted.
"The people I'm with don't wear belts"	Set the example, teen deaths occur 4 times more often in vehicles with TWO or MORE people. Children and younger brothers/sisters imitate behavior they see.
"I have an air bag"	Air bags offer greater protection when used with safety belts. Frontal airbags are not designed to inflate in rear and side crashes or rollovers.
"I'd rather be thrown clear"	Not a good idea. **People** who are **ejected are 40 times more likely to DIE.** Safety belts help prevent ejection, WE CAN'T "PICK OUR CRASH".

WARNING: Do not sit on top of a buckled safety belt to avoid the Safety Belt Warning Light. Sitting on the safety belt will increase the risk of injury in an accident.

Safety belt maintenance

Inspect the safety belt systems periodically to make sure they work properly and are not damaged.

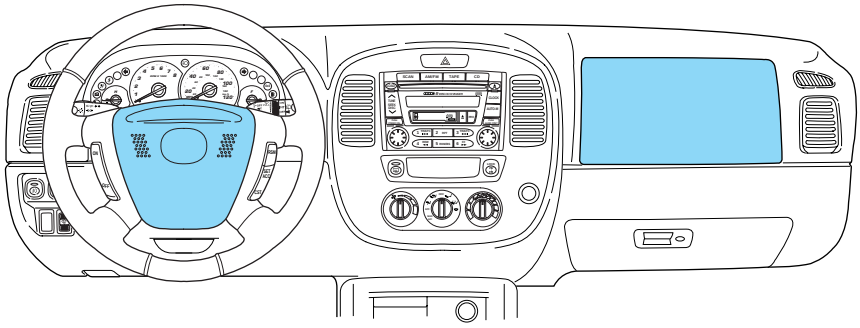
NOTE: If unsure about the proper procedures, bring your vehicle to an authorized Mazda dealership for inspection. Inspect the safety belts to make sure there are no nicks, tears or cuts, replacing if necessary. All safety belt assemblies, including retractors, buckles, front seat belt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seatback (if equipped), child safety seat tether bracket assemblies (if equipped), LATCH child seat tether anchors and lower anchors (if equipped), and attaching hardware, should be inspected after a collision. Mazda recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and an authorized Mazda technician 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 collision should also be inspected and replaced if either damage or improper operation is noted.

The energy absorbing functions may have been activated in a collision so the restraints should be examined; if the front air bags have deployed, the pretensioners have also deployed and must be replaced — regardless of whether there was an occupant in the passenger seat or not. The optional side air bags are not connected to the pretensioners.

WARNING: Failure to inspect and if necessary replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

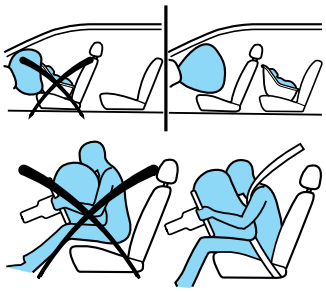
Refer to *Cleaning and maintaining the safety belts* in the *Cleaning* chapter.

AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)



Important supplemental restraint system (SRS) precautions

The supplemental restraint system is designed to work with the safety belt to help protect the driver and right front passenger from certain upper body injuries.



WARNING: Air bags DO NOT inflate slowly or gently and the risk of injury from a deploying air bag is greatest close to the trim covering the air bag module.

WARNING: All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag (SRS) is provided.

WARNING: Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints.

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

WARNING: Never place your arm over the air bag module as a deploying air bag can result in serious arm fractures or other injuries.

Steps you can take to properly position yourself away from the air bag:

- 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.

WARNING: Do not put anything on or over the air bag module including hands or feet. Placing objects on or over the air bag inflation area may cause those objects to be propelled by the air bag into your face and torso causing serious injury.

WARNING: Do not attempt to service, repair, or modify the Air Bag Supplemental Restraint Systems or its fuses. See your authorized Mazda dealership.

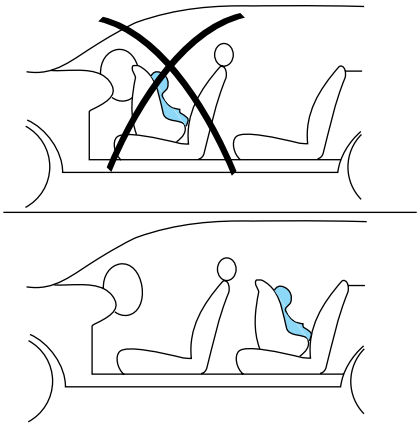
WARNING: Modifications to the front end of the vehicle, including frame, bumper, front end body structure, tow hooks, B-pillar surrounding parts, and snow plows may effect the performance of the air bag sensors increasing the risk of injury. Do not modify the front end of the vehicle.

WARNING: Additional equipment may effect the performance of the air bag sensors increasing the risk of injury. Consult your authorized Mazda dealership before installation of additional equipment.

Children and air bags

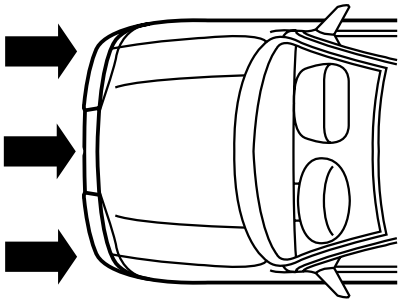
For additional important safety information, read all information on safety restraints in this guide.

WARNING: 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 collision.



WARNING: Air bags can kill or injure a child in a child seat NEVER place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back and secure it properly.

How does the air bag supplemental restraint system work?



The air bag SRS is designed to activate when the vehicle sustains longitudinal deceleration sufficient to cause the sensors to close an electrical circuit that initiates air bag inflation.

The fact that the air bags did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation. Air bags are designed to inflate in frontal and near-frontal collisions, not rollover, side-impact, or rear-impacts unless the collision causes sufficient longitudinal deceleration.

The air bags inflate and deflate rapidly upon activation. After air bag 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 (e.g., baking soda) that result from the combustion process that inflates the air bag. 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 air bag may also cause abrasions, swelling or temporary hearing loss. Because air bags 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 air bag deployment. Thus, it is extremely important that occupants be properly restrained as far away from the air bag module as possible while maintaining vehicle control.

WARNING: Several air bag system components get hot after inflation. Do not touch them after inflation or you may be burned.

WARNING: If the air bag has deployed, the air bag will not function again and must be replaced immediately. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.

The SRS consists of:

- driver and passenger air bag modules (which include the inflators and air bags),
- one or more impact and safing sensors,
- a readiness light and tone

- diagnostic module
- and the electrical wiring which connects the components.

The diagnostic module monitors its own internal circuits and the supplemental air bag electrical system warning (including the impact sensors), the system wiring, the air bag system readiness light, the air bag back up power and the air bag ignitors.

Determining if the system is operational

The SRS uses a readiness light in the instrument cluster or a tone to indicate the condition of the system. Refer to the *Air bag readiness* section in the *Instrumentation* chapter. Routine maintenance of the air bag is not required.

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

- The readiness light will either flash or stay lit.
- The readiness light will not illuminate immediately after ignition is turned on.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and/or light are repaired.

If any of these things happen, even intermittently, have the SRS serviced at your authorized Mazda dealership immediately.

WARNING: Unless serviced, the system may not function properly in the event of a collision.

Disposal of air bags and air bag equipped vehicles

For disposal of air bags or air bag equipped vehicles, see your authorized Mazda dealership. Air bags MUST BE disposed of by qualified personnel.

WARNING: Disposing of an air bag can be dangerous. Unless all safety procedures are followed, injury can result. Ask an Authorized Mazda Dealer how to safely dispose of an air bag or how to scrap an air bag equipped vehicle.

Side air bag system (if equipped)

WARNING: Do not place objects or mount equipment on or near the air bag cover on the side of the seatbacks of the front seats or in front seat areas that may come into contact with a deploying air bag. This is dangerous. In an accident, the object could interfere with the air bag inflation and injure the occupants.

WARNING: Side Air Bag Storage Areas:
Attaching things to the seat in such a way as to cover the outboard side of the seat in any way is dangerous. In an accident the object could interfere with the side air bag, which inflates from the outboard side of the front seats, impeding the added protection of the side air bag system or redirecting the air bag in a way that is dangerous. Further more, the bag could be cut open spewing exhaust. Do not hang net bags, map pouches or back pads with side straps on the front seats. Always keep the side air bag storage areas in your front seats free to deploy in the event of a side collision.

WARNING: Using Seat Covers:
Using a seat cover on the front seats could be dangerous. In a severe side collision, the seat covers could interfere with the side air bag inflation and serious injuries could result. Never use seat covers on the front seats.

To prevent damage to the side air bag wiring, don't place luggage or other objects under the front seats.

WARNING: Seating Position with Side Air Bags
Sitting too close to the side air bag storage compartments or placing hands on them is extremely dangerous. A side air bag inflates with great force and speed directly out of the outboard shoulder of the front seat and expands along the front door on the side the car is hit. Serious injury could occur if someone is sitting too close to the door or leaning against a window in the front seats or if rear seat occupants grab the sides of the front seatbacks. Furthermore, sleeping up against the door or hanging out the driver's-side window while driving could block the side air bag and eliminate the advantages of supplemental protection. Give the side air bags room to work by sitting in the center of the seat while the vehicle is moving with seat belts worn properly.

WARNING: Modification of the Supplemental Restraint System
Modifying the components or wiring of the supplemental restraint system is dangerous. You could accidentally activate it or make it inoperable. Don't make any modifications to the supplemental restraint system. This includes installing trim, badges, or anything else over the air bag storage areas. It also includes installing extra electric equipment on or near system components or wiring.
An Authorized Mazda Dealer can provide the special care needed in the removal and installation of front seats. It is important to protect the side air bag wiring and connections to assure that the bags do not accidently deploy and that the seats retain an undamaged air bag connection.

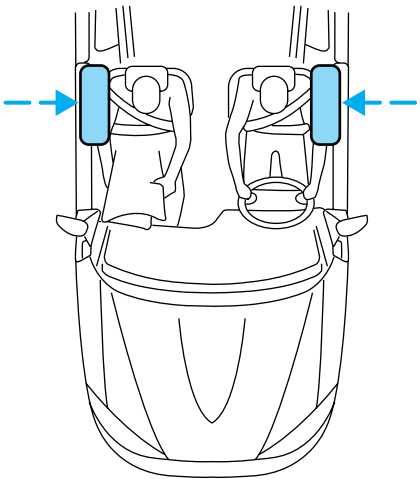
WARNING: Disposing of an air bag can be dangerous. Unless all safety procedures are followed, injury can result. Ask an Authorized Mazda Dealer how to safely dispose of an air bag or how to scrap an air bag equipped vehicle.

WARNING: Do not attempt to service, repair, or modify the air bag Supplemental Restraint System, its fuses or the seat cover on a seat containing an air bag. See your authorized Mazda dealer.

WARNING: All occupants of the vehicle including the driver should always wear their safety belts even when an air bag SRS is provided.

How does the side air bag system work?

The side air bag system consists of the following:



- An inflatable nylon bag (air bag) with a gas generator concealed behind the outboard bolster of the driver and front passenger seatbacks.
- A special seat cover designed to allow airbag deployment.
- The same warning light, electronic control and diagnostic unit as used for the front air bags.
- The two side sensors are located on the lower portion of the b-pillar.

NOTE: A side air bag, in combination with seat belts, can help reduce the risk of severe injuries in the event of a significant side impact collision.

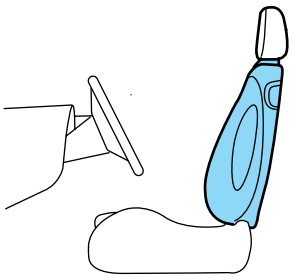
The side air bags are fitted on the outboard side of the seatbacks of the front seats. In certain lateral collisions, the air bag on the side affected by the collision will be inflated, even if the respective seat is not occupied. The air bag was designed to inflate between the door panel and occupant to further enhance the protection provided occupants in side impact collisions.

The air bag SRS is designed to activate when the vehicle sustains lateral deceleration sufficient to cause the sensors to close an electrical circuit that initiates air bag inflation.

The fact that the air bags did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation. Side air bags are designed to inflate in side-impact collisions, not roll-over, rear-impact, frontal,

near-frontal or opposite side collisions, unless the collision causes sufficient lateral deceleration.

WARNING: Several air bag system components get hot after inflation. Do not touch them after inflation.



WARNING: If the side air bag has deployed, the air bag will not function again. The side air bag system (including the seat) must be inspected and serviced by a qualified technician in accordance with the vehicle service manual. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.

Determining if the system is operational

The SRS uses a readiness light in the instrument cluster or a tone to indicate the condition of the system. Refer to the *Air bag readiness* section in the *Instrumentation* chapter. Routine maintenance of the air bag is not required.

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

- The readiness light (same light as for front air bag system) will either flash or stay lit.
- The readiness light will not illuminate immediately after ignition is turned on.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and light are repaired.

If any of these things happen, even intermittently, have the SRS serviced at your authorized Mazda dealership immediately. Unless serviced, the system may not function properly in the event of a collision.

Disposal of air bags and air bag equipped vehicles

For disposal of air bags or air bag equipped vehicles, see your authorized Mazda dealership. Air bags MUST BE disposed of by qualified personnel.

WARNING: Disposing of an air bag can be dangerous. Unless all safety procedures are followed, injury can result. Ask an Authorized Mazda Dealer how to safely dispose of an air bag or how to scrap an air bag equipped vehicle.

SAFETY RESTRAINTS FOR CHILDREN

See the following sections for directions on how to properly use safety restraints for children. Also see *Air bag supplemental restraint system (SRS)* in this chapter for special instructions about using air bags.

Important child restraint precautions

NOTE: You are required by law to use safety restraints for children in the U.S. and Canada. If small children ride in your vehicle (generally children who are four years old or younger and who weigh 18 kg [40 lbs] or less), you must put them in safety seats made especially for children. Check your local and state or provincial laws for specific requirements regarding the safety of children in your vehicle.

WARNING: 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 collision.

NOTE: Always follow the instructions and warnings that come with any infant or child restraint you might use.

WARNING: When possible, always place children under age 12 in the rear seat of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position.

Children and safety belts

If the child is the proper size, restrain the child in a safety seat.

Children who are too large for child safety seats (as specified by your child safety seat manufacturer) should always wear safety belts.

Follow all the important safety restraint and air bag precautions that apply to adult passengers in your vehicle.

If the shoulder belt portion of a combination lap and shoulder belt can be positioned so it does not cross or rest in front of the child's face or neck, the child should wear the lap and shoulder belt. Moving the child closer to the center of the vehicle may help provide a good shoulder belt fit.

WARNING: Do not leave children, unreliable adults, or pets unattended in your vehicle.

To improve the fit of lap and shoulder belts on children who have outgrown child safety seats, Mazda recommends use of a belt-positioning booster seat that is labelled as conforming to all applicable Federal motor vehicle safety standards. Belt-positioning booster seats raise the child and provide a shorter, firmer seating cushion that encourages safer seating posture and better fit of lap and shoulder belts on the child.

A belt-positioning booster should be used if the shoulder belt rests in front of the child's face or neck, or if the lap belt does not fit snugly on both thighs, or if the thighs are too short to let the child sit all the way back on the seat cushion when the lower legs hang over the edge of the seat cushion. You may wish to discuss the special needs of your child with your pediatrician.

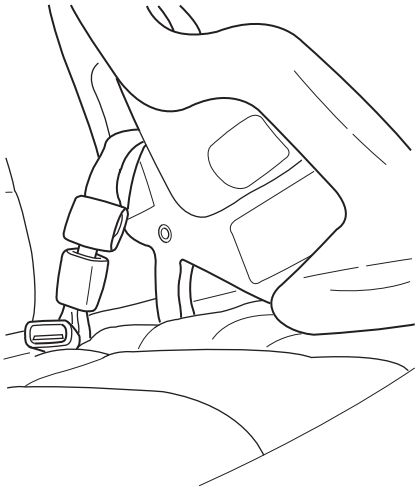
WARNING: Placing a child, 12 years or younger, in the front seat is dangerous. The child could be hit by a deploying air bag and be seriously injured or even killed. A sleeping child is more likely to lean against the door and be hit by the side air bag in a moderate collision. Whenever possible, always secure a child, 12 years or younger, in the rear seat, with an appropriate child restraint system for the child's age and size. Never use a rear-facing child restraint system in the front seat with an air bag that could deploy.

SAFETY SEATS FOR CHILDREN

Child and infant or child safety seats

Use a safety seat that is recommended for the size and weight of the child. Carefully follow all of the manufacturer's instructions with the safety seat you put in your vehicle. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

When installing a child safety seat:



- Review and follow the information presented in the *Air Bag Supplemental Restraint System* section in this chapter.
- Use the correct safety belt buckle for that seating position (the buckle closest to the direction the tongue is coming from).
- 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 seat and the release button, to prevent accidental unbuckling.
- Place seat back in upright position.

- Put the safety belt in the automatic locking mode. Refer to *Automatic locking mode* (passenger side front seat).

Mazda recommends the use of a child safety seat having a top tether strap. Install the child safety seat in a seating position which is capable of providing a tether anchorage. For more information on top tether straps, refer to *Attaching child safety seats with tether straps*.

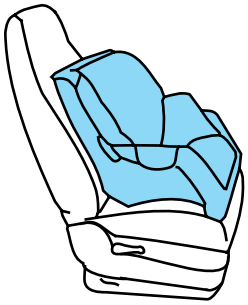
WARNING: Carefully follow all of the manufacturer's instructions included with the safety seat you put in your vehicle. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

Installing child safety seats in combination lap and shoulder belt seating positions

The rear seat head restraints must be removed when using a child seat.

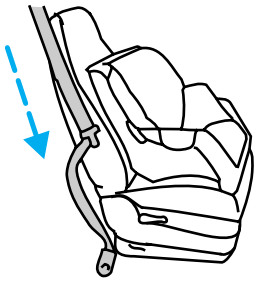
WARNING: Air bags can kill or injure a child in a child seat. NEVER place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.

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

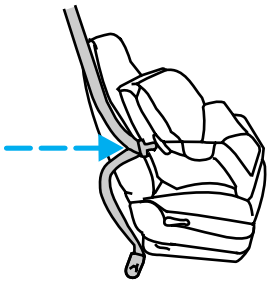


WARNING: Children 12 and under should be properly restrained in the rear seat whenever possible, the back seat environment is generally safer.

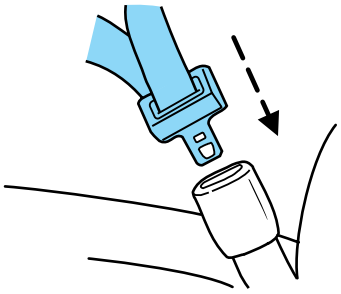
2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.



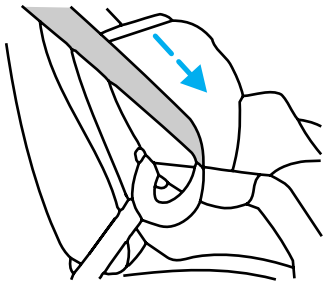
3. While holding the shoulder and lap belt portions together, route the tongue through the child seat according to the child seat manufacturer's instructions. Be sure the belt webbing is not twisted.



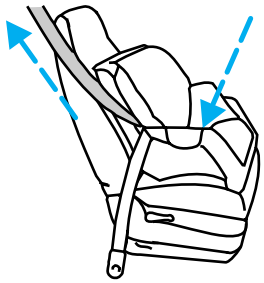
4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it.



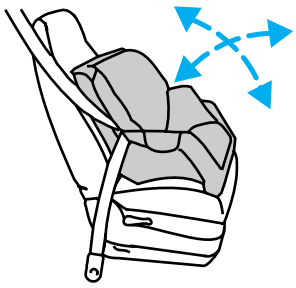
5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until all of the belt is extracted and a click is heard.



6. Allow the belt to retract. The belt will click as it retracts to indicate it is in the automatic locking mode.
7. Pull the lap belt portion across the child seat toward the buckle and pull up on the shoulder belt while pushing down with your knee on the child seat.



8. Allow the safety belt to retract to remove any slack in the belt.
9. Before placing the child in the seat, forcibly tilt 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 one inch of movement for proper installation.



10. 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 two through nine.

Check to make sure the child seat is properly secured before each use.

Attaching child safety seats with tether straps

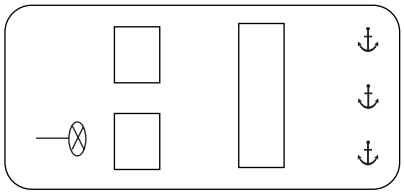
Most new forward-facing child safety seats include a tether strap which goes over the back of the seat and hooks to an anchoring point. Tether straps are available as an accessory for many older safety seats. Contact the manufacturer of your child seat for information about ordering a tether strap.

The rear seating positions of your vehicle are equipped with built-in tether strap anchors located behind the seats as described below.

The tether anchors in your vehicle are located on the roof panel in the cargo area.

The tether strap anchors in your vehicle are in the following positions:

WARNING: 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.



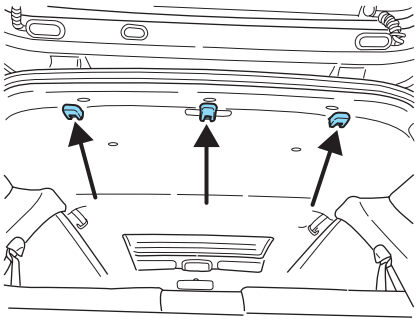
1. Position the child safety seat on the passenger seat cushion.
2. Route the child safety seat tether strap over the back of the seat.

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 seatback.

NOTE: For vehicles with adjustable head restraints, route the tether strap over the top of the seatback.

3. Locate the correct anchor for the selected seating position.

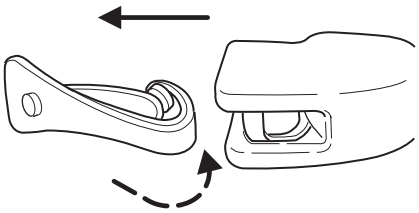
NOTE: There are three tether anchors located on the headliner at the rear of the vehicle.



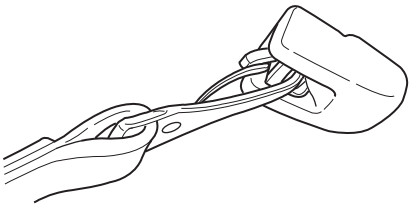
WARNING: If the tether strap is clipped incorrectly, the child safety seat may not be retained properly in the event of a collision. If the safety seat is not anchored properly, the risk of a child being injured in a collision greatly increases.

4. Clip the tether strap to the anchor as shown.

The arrow in the above graphic points toward the front of the vehicle.



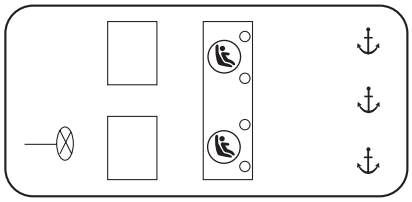
5. Refer to the *Installing child safety seats in combination lap and shoulder belt seating positions* section of this chapter for further instructions to secure the child safety seat.
6. Tighten the child safety seat tether strap according to the manufacturer's instructions.



Attaching safety seats with LATCH (Lower Anchors and Tethers for Children) attachments for child seat anchors

Some child safety seats have two rigid or webbing mounted attachments that connect to two anchors at certain seating positions in your vehicle. When properly installed, this type of seat eliminates the need to use seat belts to attach the child seat. For forward-facing child seats, the tether strap must also be attached to the proper tether anchor. See *Attaching safety seats with tether straps* in this chapter.

Your vehicle has LATCH anchors for child seat installation as shown in the illustration. There are none in the front passenger seat.



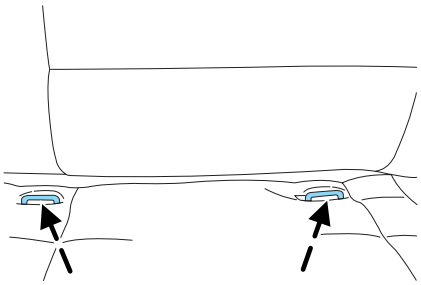
The anchors closest to the center rear seat are provided primarily for child seats at the outboard seating positions. These anchors are farther apart than the pairs of lower anchors for child seat installation at the outboard seats.

While the anchors closest to the center seat may also be usable, special precautions must be followed. First, if those anchors are already in use by a LATCH equipped child seat on either outboard seat, **you must not attach two LATCH seats to the same anchor point** — it will overload the anchor point. Either spread the two LATCH equipped seats to the outboard positions or use the regular lap belt on the center one (If the seat has a tether, be sure to also attach it to the center tether anchor).

Secondly, those LATCH equipped child seats **with rigid LATCH attachments** will not latch in the center rear position because those two middle anchors are too far apart. You can only attach the rigid LATCH equipped child seats to the outboard seat LATCH anchors that have the proper spacing for that type of child seat. If your child seat has flexible LATCH attachments, be sure that the manufacturer's instructions say that it can reach to anchors spaced at least 500 mm (19 in) apart.

WARNING: Never attach two LATCH child safety seats to the same anchor. In a crash, one anchor may not be strong enough to hold two child safety seat attachments and may break, causing serious injury or death.

The lower anchors for child seat installation are located at the rear section of the rear seat between the cushion and seat back.



Follow the child seat manufacturer's instructions to properly install a child seat with LATCH attachments.

WARNING: Attach LATCH lower attachments of the child seat only to the anchors shown.

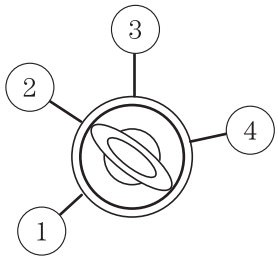
If you install a child seat with rigid LATCH attachments, do not tighten the tether strap enough to lift the child seat off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child seat. Keeping the child seat just touching the vehicle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

Each time you use the safety seat, check that the seat is properly attached to the lower anchors and tether anchor. Try to tilt the child seat from side to side. Also try to tug the seat forward. Check to see if the anchors hold the seat in place.

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

STARTING

Positions of the ignition



1. LOCK, locks the gearshift lever and allows key removal.
2. ACCESSORY, allows the electrical accessories such as the radio to operate while the engine is not running.
3. ON, all electrical circuits operational. Warning lights illuminated. Key position when driving.
4. START, cranks the engine. Release the key as soon as the engine starts.

Preparing to start your vehicle

Engine starting is controlled by the powertrain control system.

Note: This system meets all Canadian Interference-Causing Equipment standard requirements regulating the impulse electrical field strength of radio noise.

When starting a fuel-injected engine, avoid pressing the accelerator before or during starting. Only use the accelerator when you have difficulty starting the engine. For more information on starting the vehicle, refer to *Starting the engine* in this chapter.

WARNING: Extended idling at high engine speeds can produce very high temperatures in the engine and exhaust system, creating the risk of fire or other damage.

WARNING: Do not park, idle, or drive your vehicle in dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, which can start a fire.

WARNING: Do not start your vehicle in a closed garage or in other enclosed areas. Exhaust fumes can be toxic. Always open the garage door before you start the engine. See *Guarding against exhaust fumes* in this chapter for more instructions.

WARNING: If you smell exhaust fumes inside your vehicle, have your authorized Mazda dealer inspect your vehicle immediately. Do not drive if you smell exhaust fumes.

Important safety precautions

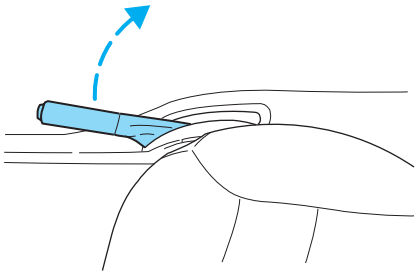
A computer system controls the engine's idle revolutions per minute (RPM). When the engine starts, the idle RPM runs faster to warm the engine. If the engine idle speed does not slow down automatically, have the vehicle checked by your authorized Mazda dealership.

Before starting the vehicle:

1. Make sure all vehicle occupants have buckled their safety belts. For more information on safety belts and their proper usage, refer to the *Seating and safety restraints* chapter.
2. Make sure the headlamps and vehicle accessories are off.

If starting a vehicle with an automatic transmission:

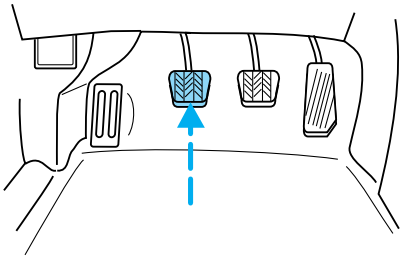
- Make sure the parking brake is set.



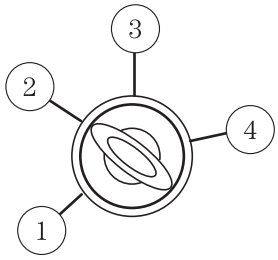
- Make sure the gearshift is in P (Park).

If starting a vehicle with a manual transmission:

- Make sure the parking brake is set.
- Push the clutch pedal to the floor.

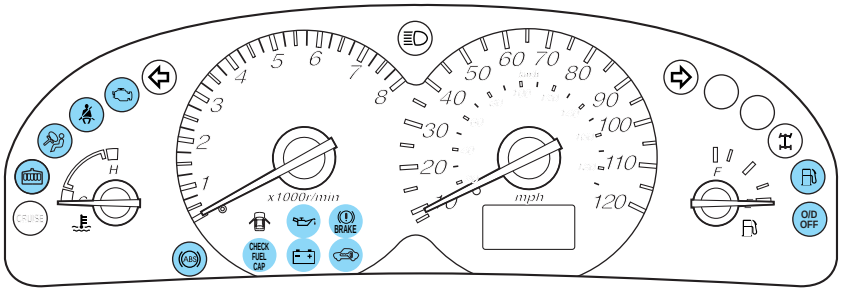


3. Turn the key to 3 (ON) without turning the key to 4 (START).



Note: If there is difficulty in turning the key, firmly rotate the steering wheel left and right until the key turns freely. This condition may occur when:

- front wheels are turned
- front wheel is against the curb
- steering wheel is turned when getting in or out of the vehicle

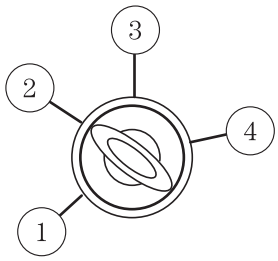


Make sure the corresponding lights illuminate or illuminate briefly. If a light fails to illuminate, have the vehicle serviced.

Note: If the driver's safety belt is fastened, the light may not illuminate.

Starting the engine

Note: Whenever you start your vehicle, release the key as soon as the engine starts. Excessive cranking could damage the starter.



1. Turn the key to 4 (START) without pressing the accelerator pedal and release as soon as the engine starts. The key will return to 3 (ON).
2. If the temperature is above –12°C (10°F) and the engine does not start within five seconds on the first try, turn the key to OFF, wait 10 seconds and try again.
3. If the temperature is below -12° C (10° F) and the engine does not start in 15 seconds on the first try, turn the key OFF and wait 10 seconds and try again. If the engine does not start in two attempts, press the accelerator pedal all the way to floor and hold. Turn the key to START position.
4. When the engine starts, release the key, then release the accelerator pedal gradually as the engine speeds up.
5. After idling for a few seconds, apply the brake and release the parking brake.

Using the engine block heater (if equipped)

An engine block heater warms the engine coolant, which improves starting, warms up the engine faster and allows the heater-defroster system to respond quickly. Use of an engine block heater is strongly recommended if you live in a region where temperatures reach -23° C (-10° F) or below.

For best results, plug the heater in at least three hours before starting the vehicle. Using the heater for longer than three hours will not harm the engine, so the heater can be plugged in the night before starting the vehicle.

WARNING: To prevent electrical shock, do not use your heater with ungrounded electrical systems or two-pronged (cheater) adapters.

Guarding against exhaust fumes

Although odorless and colorless, carbon monoxide is present in exhaust fumes. Take precautions to avoid its dangerous effects.

WARNING: If you ever smell exhaust fumes of any kind inside your vehicle, have your authorized Mazda dealer inspect and fix your vehicle immediately. Do not drive if you smell exhaust fumes. These fumes are harmful and result in accident or death.

Have the exhaust and body ventilation systems checked whenever:

- the vehicle is raised for service.
- the sound of the exhaust system changes.
- the vehicle has been damaged in a collision.

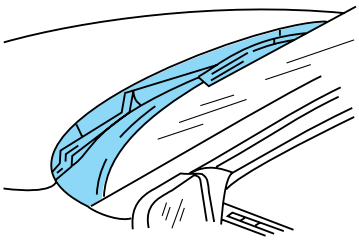
WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. In addition, certain fluids contained in vehicles and certain products of component wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Important ventilating information

If the engine is idling while the vehicle is stopped in an open area for long periods of time, open the windows at least 2.5 cm (one inch).

Adjust the heating or air conditioning (if equipped) to bring in fresh air.

Note: Improve vehicle ventilation by keeping all air inlet vents clear of snow, leaves and other debris.



BRAKES

Your service brakes are self-adjusting. Refer to the service maintenance section for scheduled maintenance.

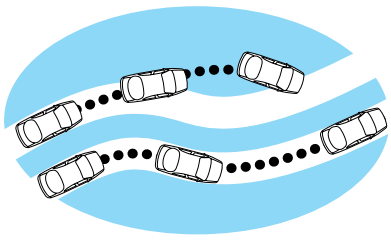
Occasional brake noise is normal and often does not indicate a performance concern with the vehicle's brake system. In normal operation, automotive brake systems may emit occasional or intermittent squeal or groan noises when the brakes are applied. Such noises are usually heard during the first few brake applications in the morning; however, they may be heard at any time while braking and can be aggravated by environmental conditions such as cold, heat, moisture, road dust, salt or mud. If a "metal-to-metal," "continuous grinding" or "continuous squeal" sound is present while braking, the brake linings may be worn-out and should be inspected by an authorized Mazda dealership.

Four-wheel anti-lock brake system (ABS) (if equipped)

If the vehicle is equipped with an anti-lock braking system (ABS), a noise from the hydraulic pump motor and pulsation in the pedal may be observed during ABS braking events. Pedal pulsation coupled with noise while braking under panic conditions or on loose gravel, bumps, wet or snowy roads is normal and indicates proper functioning of the vehicle's anti-lock brake system.

NOTE: The ABS performs a self-check after you start the engine and begin to drive away.

A brief mechanical noise may be heard during this test. This is normal. If a malfunction is found, the ABS warning light will come on. If the vehicle has continuous vibration or shudder in the steering wheel while braking, the vehicle should be inspected by an authorized Mazda dealership.



The ABS operates by detecting the onset of wheel lockup during brake applications and compensates for this tendency. The wheels are prevented from locking even when the brakes are firmly applied. The accompanying illustration depicts the advantage of an ABS equipped vehicle (on bottom) to a non-ABS equipped vehicle (on top) during hard braking with loss of front braking traction.

WARNING: The Anti-Lock system does not decrease the time necessary to apply the brakes or always reduce stopping distance. Always leave enough room between your vehicle and the vehicle in front of you to stop.

ABS warning lamp (ABS) (if equipped)

The (ABS) warning lamp in the instrument cluster momentarily illuminates when the ignition is turned to the ON position. If the light does not illuminate momentarily at start up, remains on or continues to flash, the ABS needs to be serviced.

With the ABS light on, the anti-lock brake system is disabled and normal braking is still effective unless the brake warning light also remains illuminated with parking brake released. (If your brake warning lamp illuminates, have your vehicle serviced immediately by an authorized Mazda dealership.)

(!)
BRAKE

Using four wheel ABS (if equipped)

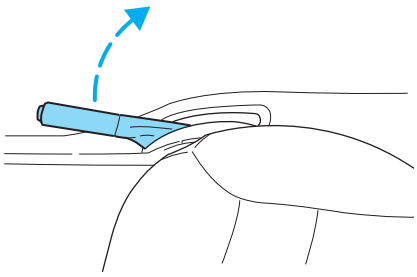
- In an emergency or when maximum efficiency from the ABS is required, apply continuous force on the brake. The ABS will be activated immediately, thus allowing you to retain full steering control of your vehicle and, providing there is sufficient space, will enable you to avoid obstacles and bring the vehicle to a controlled stop.

WARNING: The Anti-Lock system does not decrease the time necessary to apply the brakes or always reduce stopping distance. Always leave enough room between your vehicle and the vehicle in front of you to stop.

NOTE: We recommend that you familiarize yourself with this braking technique. However, avoid taking any unnecessary risks.

Parking brake

Apply the parking brake whenever the vehicle is parked. To set the parking brake, apply the brake pedal and pull the parking brake handle up as far as possible.



The BRAKE warning lamp in the instrument cluster illuminates and remains illuminated (when the ignition is turned ON) until the parking brake is released.

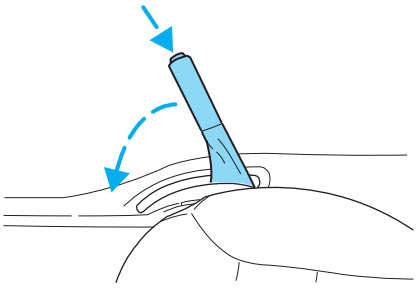
BRAKE

WARNING: Always set the parking brake fully and make sure that the gearshift is securely latched in P (Park) (automatic transmission) or in 1 (First Gear) (manual transmission).

NOTE: The parking brake is not recommended to stop a moving vehicle. However, if the normal brakes fail, the parking brake can be used to stop your vehicle in an emergency. Since the parking brake applies only the rear brakes, the vehicle's stopping distance will increase greatly and the handling of your vehicle will be adversely affected.

To release the parking brake, the brake handle may need to be pulled up slightly to release pressure before pushing in the button.

Push the button on the end of the parking brake handle and push the handle down as far as possible. Driving with the parking brake applied will cause the brakes to wear out quickly and reduce fuel economy.



STEERING

Your vehicle is equipped with power steering. Power steering uses energy from the engine to help steer the vehicle.

To prevent damage to the power steering pump:

- Never hold the steering wheel to the extreme right or the extreme left for more than a few seconds when the engine is running.
- Do not operate the vehicle with a low power steering pump fluid level (below the MIN mark on the reservoir).

If the power steering system breaks down (or if the engine is turned off), you can steer the vehicle manually, but it takes more effort.

If the steering wanders or pulls, the condition could be caused by any of the following:

- underinflated tire(s) on any wheel(s)
- uneven vehicle loading
- high crown in center of road
- high crosswinds
- wheels out of alignment
- loose or worn suspension components

PREPARING TO DRIVE YOUR VEHICLE

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

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

Your vehicle has special design and equipment features to make it capable of performing in a wide variety of circumstances. These special design features, such as larger tires and increased ground clearance, give the vehicle a higher center of gravity than a passenger car.

WARNING: Vehicles with a higher center of gravity such as utility and four-wheel drive vehicles handle differently than vehicles with a lower center of gravity. Utility and four-wheel drive vehicles are not designed for cornering at speeds as high as passenger cars. Avoid sharp turns, excessive speed and abrupt maneuvers in these vehicles. Failure to drive cautiously could result in an increased risk of vehicle rollover, personal injury and death.

WARNING: Loaded vehicles, with a higher center of gravity, may handle differently than unloaded vehicles. Extra precautions, such as slower speeds and increased stopping distance, should be taken when driving a heavily loaded vehicle.

Your vehicle has the capability to haul more cargo and people than most passenger cars. Depending upon the type and placement of the load, hauling people and cargo may raise the center of gravity of the vehicle.

Use extra caution while becoming familiar with your vehicle. Know the capabilities and limitations of both you as a driver and your vehicle.

AUTOMATIC TRANSAXLE OPERATION (IF EQUIPPED)

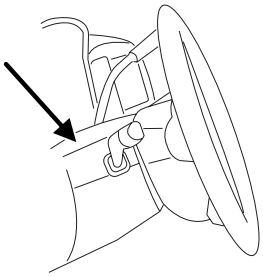
Brake-shift interlock

This vehicle is equipped with a brake-shift interlock feature that prevents the gearshift lever from being moved from P (Park) when the ignition is in the ON position unless brake pedal is depressed.

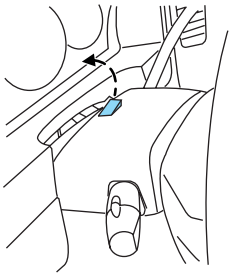
If you cannot move the gearshift lever out of P (Park) with ignition in the ON position and the brake pedal depressed:

1. Apply the parking brake, turn ignition key to LOCK, then remove the key.

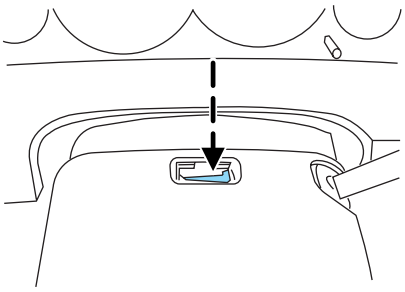
2. Locate the access cover plate to the brake-shift interlock override. It is located on the top of the steering column.



3. Insert a tool (or a screwdriver) into the right-hand side of the brake-shift interlock access cover and remove the cover.



4. Insert a tool (or screw driver) into the access hole to override the brake-shift interlock. Apply the brake and shift into Neutral while holding down the override tab.



If it is necessary to use the above procedure to move the gearshift lever, it is possible that a fuse has blown or the vehicle's brakelamps are not operating properly. Refer to *Fuses and relays* in the *Roadside emergencies* chapter.

WARNING: Do not drive your vehicle until you verify that the brakelamps are working. Failure to check the brakelights and subsequent use of the brakes may result in a rear-end collision.

If your vehicle gets stuck in mud or snow it may be rocked out by shifting between forward and reverse gears, stopping between shifts, in a steady pattern. Press lightly on the accelerator in each gear.

Do not rock the vehicle if the engine is not at normal operating temperature or damage to the transmission may occur.

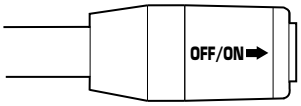
Do not rock the vehicle for more than a few minutes or damage to the transmission and tires may occur or the engine may overheat.

WARNING: Always set the parking brake fully and make sure the gearshift is latched in P (Park). Turn the ignition to the LOCK position and remove the key whenever you leave your vehicle.

WARNING: If the parking brake is fully released, but the brake warning lamp remains illuminated, the brakes may not be working properly. See your authorized Mazda dealership.

Driving with an automatic overdrive transaxle

Your automatic transaxle electronically controls the shift feel by using an adaptive learning strategy. This feature is designed to optimize shift smoothness. **NOTE:** It is normal for your transaxle to shift firmly during the first few hundred kilometers (miles) of operation until the adaptive strategy has been learned. The adaptive learning strategy is maintained by power from the battery. When the battery is disconnected or a new battery is installed, the transaxle must relearn its adaptive strategy. Optimal shifting will resume within a few hundred kilometers (miles) of operation.



Your automatic overdrive transaxle provides fully automatic operation in either D (Overdrive) or with the O/D OFF switch depressed. Driving with the gearshift lever in D (Overdrive) gives the best fuel economy for normal driving conditions.

For manual control, start in 1 (First) and then shift manually.

To put your vehicle in gear, start the engine, depress the brake pedal, then move gearshift lever out of P (Park).

Understanding gearshift positions

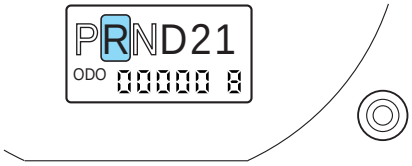
P (Park)

Always come to a complete stop before shifting into P (Park). Make sure the gearshift lever is securely latched in P (Park). This locks the transaxle and prevents the front wheels from rotating.

WARNING: Always set the parking brake fully and make sure the gearshift is latched in P (Park). Turn the ignition to the LOCK position and remove the key whenever you leave your vehicle.

R (Reverse)

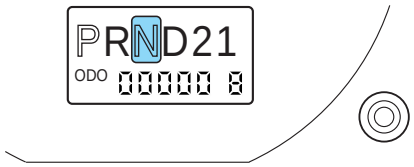
With the gearshift lever in R (Reverse), the vehicle will move backward. You should always come to a complete stop before shifting into and out of R (Reverse).



WARNING: Make sure the rearward path of the vehicle is unobstructed before moving the vehicle in reverse.

N (Neutral)

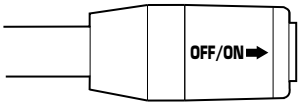
With the gearshift lever in the N (Neutral) position, the vehicle can be started and is free to roll. Hold the brake pedal down while in this position.



Overdrive — column mounted gearshift with O/D off switch

The Overdrive position with the O/D OFF switch **not** depressed is the normal driving position for this automatic overdrive transaxle. When your vehicle cruises at a constant speed for any length of time, this fourth gear will increase your fuel economy.

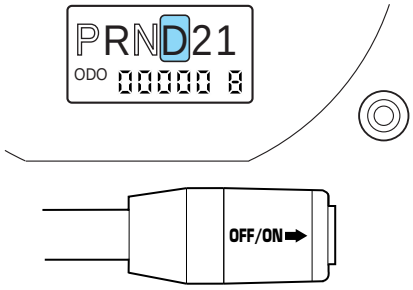
Overdrive may not be appropriate for certain terrains. If the transaxle shifts back and forth between third and fourth gears while you are driving hilly roads or if your vehicle requires additional power for climbing hills, press the O/D OFF switch.



Each time the vehicle is started, the transaxle will automatically return to normal overdrive mode.

If the O/D OFF indicator light is flashing on and off repeatedly when the vehicle is started or does not come on when the O/D OFF control is pressed, there may be a transaxle electronic system malfunction. You should contact your authorized Mazda dealer as soon as possible or damage to the transaxle could occur.

When to use D (Drive) or press the O/D OFF switch



You will notice that there is only one drive position on your gearshift indicator (instead of Drive and Overdrive). However, you will find a control labeled OVERDRIVE located on the gearshift lever. Push in the switch and the O/D OFF light in the instrument cluster will illuminate. With the O/D OFF light illuminated, the transaxle will operate in first, second and third gears and will not shift into fourth gear. Operating in D (O/D OFF) provides more engine braking than Overdrive for descending hills or city driving.

To return the transaxle to the normal Overdrive operation, press the O/D OFF control again. Use this control to select between Overdrive or D (O/D OFF) whenever you drive your vehicle.

If the O/D OFF indicator light is flashing on and off repeatedly when the vehicle is started or does not come on when the O/D OFF control is pressed, there may be a transaxle electronic system malfunction. You should contact your authorized Mazda dealer as soon as possible or damage to the transaxle could occur.

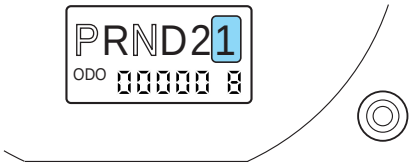
2 (Second)

Use 2 (Second) for start-up on slippery roads or to give you more engine braking to slow your vehicle on downgrades.

To avoid damage to the engine and/or transaxle do not go faster than 108 km/h (68 mph) when in this gear. You can upshift from 2 (Second) to overdrive at any time.

1 (First)

Use 1 (First) for when added engine braking is desired when descending steep hills.



The automatic transaxle will shift to the proper gear to ascend any grade without any need to shift to 1 (First).

To avoid damage to the engine and/or transaxle do not go faster than 56 km/h (35 mph) when in this gear. You can upshift from 1 (First) to overdrive at any time.

WARNING: When parking, do not use the gearshift in place of the parking brake. Always set the parking brake fully and make sure that the gearshift is securely latched in Park (P). Turn off the ignition whenever you leave your vehicle. Never leave your vehicle unattended while it is running. Never leave children in an unattended vehicle. If you do not take these precautions, your vehicle may move unexpectedly and injure someone.

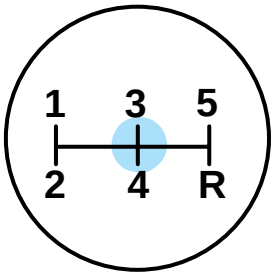
Manual transaxle operation (if equipped)

Using the clutch

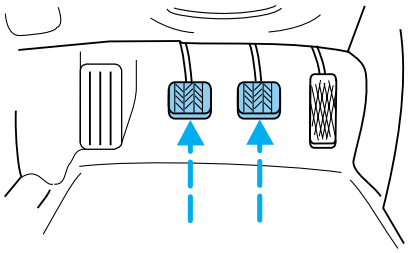
Vehicles equipped with a manual transaxle have a starter interrupt interlock that prevents cranking of the engine unless the clutch pedal is depressed.

When starting a vehicle with a manual transaxle, you must:

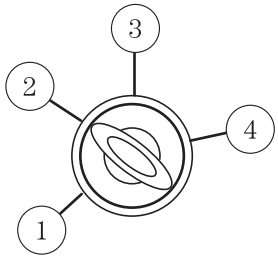
1. Put the gearshift lever in the neutral position.



2. Hold down the brake pedal.
3. Depress the clutch pedal.



4. Without depressing the accelerator pedal, turn the ignition to position 4 (START), release the ignition as soon as the engine starts.
5. Let the engine idle for a few seconds.
6. Release the brake pedal, then slowly release the clutch pedal while pressing down slowly on the accelerator pedal.



Do not drive with your foot resting on the clutch pedal and do not use the clutch pedal to hold your vehicle at a standstill while waiting on a hill. These actions will seriously reduce clutch life.

Recommended shift speeds

Upshift according to the following charts for best fuel economy:

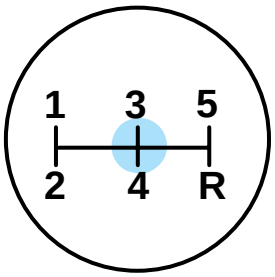
Upshifts when accelerating (recommended for best fuel economy)	
1-2	22 km/h (14 mph)
2-3	40 km/h (25 mph)
3-4	55 km/h (34 mph)
4-5	70 km/h (44 mph)

Upshifts when cruising (recommended for best fuel economy)	
1-2	19 km/h (12 mph)
2-3	31 km/h (19 mph)
3-4	46 km/h (29 mph)
4-5	61 km/h (38 mph)

Reverse

Make sure that your vehicle is at a complete stop before you shift into R (Reverse). Failure to do so may damage the transaxle.

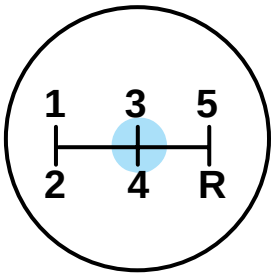
Put the gearshift lever into the neutral position and wait at least three seconds before shifting into R (Reverse).



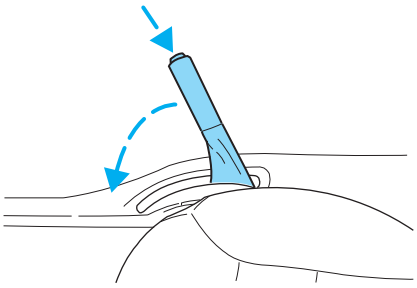
NOTE: You can shift into R (Reverse) only by moving the gearshift lever from left of 3 (Third) and 4 (Fourth) gears before you shift into R (Reverse). This is a special lockout feature which prevents you from shifting into R (Reverse) when you downshift from 5 (Fifth).

Parking your vehicle

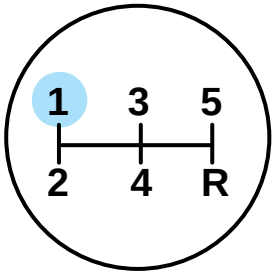
1. Apply the brake and shift into the neutral position.



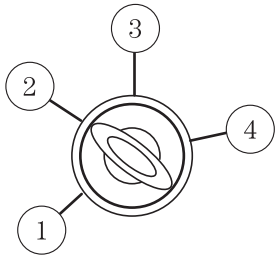
2. Set the parking brake.



3. Shift into 1 (First).



4. Turn the ignition to position 1 (LOCK) to shut the engine off and remove the ignition key.



WARNING: Do not park your vehicle in Neutral, it may move unexpectedly and injure someone. Use 1 (First) gear and set the parking brake fully.

FOUR WHEEL DRIVE (4X4) SYSTEM (IF EQUIPPED)

4x4 system general information

WARNING: For important information regarding safe operation of this type of vehicle, see Preparing to drive your vehicle in this chapter.

Your vehicle is equipped with a 4x4 system. This 4x4 system can use all four wheels to power the vehicle. This helps increase traction, enabling you to drive your vehicle over terrain and road conditions not normally traveled by two-wheel drive vehicles.

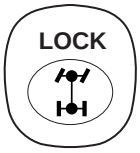
Power is always supplied to the front wheels and to the rear wheels through the transaxle and Rotary Blade Coupling (RBC) unit that allows you to select a four-wheel drive mode best suited for your current driving conditions.

For the lubricant specification and refill capacity of the Power Take-Off Unit and rear axle refer to the *Maintenance and specifications* chapter.

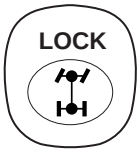
Operating modes of the 4x4 system

The 4x4 system functions in two modes:

- The 4x4 AUTO mode provides four-wheel drive with full power delivered to the front axle at all times, and to the rear axle as required for increased traction. This is appropriate for normal on-road operating conditions, such as dry road surfaces, wet pavement, snow and gravel.



- The 4x4 ON mode provides four-wheel drive with full power to both axles at all times. It is only intended for severe or off-road driving conditions, such as deep snow and ice (where no dry or wet pavement remains uncovered) and shallow sand or mud.



- **The vehicle should not be operated in the 4x4 ON mode on dry or merely wet pavement. Doing so will produce excessive noise,**

increase tire wear and may damage driveline components. The 4x4 ON mode is intended for use only on consistently slippery or loose surfaces.

- **If your vehicle is equipped with this 4x4 system, a spare tire of a different diameter than the road tires should never be used. Such a tire could result in damage to driveline components and make the vehicle difficult to control.**

WARNING: Utility and four-wheel drive vehicles 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. Avoid sharp turns or abrupt maneuvers in these vehicles.

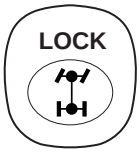
4x4 system indicator lights

The 4x4 mode indicator light illuminates only under the following conditions. If the indicator light illuminates when driving in the 4x4 AUTO mode, contact your Mazda dealer as soon as possible.

The indicator light illuminates when the 4x4 ON mode is engaged.

Shifting between 4x4 Auto and ON modes

Press the four-wheel drive control to apply power to both axles. When you activate the control, the indicator light will illuminate in the instrument cluster.



When you press the control again, 4x4 AUTO is activated and, the indicator light will turn off.

Either shift can be done at a stop or while driving at any speed.

Driving off-road with truck and utility vehicles

4x4 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.

How your vehicle differs from other vehicles

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.

Basic operating principles

- Drive slower in strong crosswinds which can affect the normal steering characteristics of your vehicle.
- Be extremely careful when driving on pavement made slippery by loose sand, water, gravel, snow or ice.

If your vehicle goes off the edge of the pavement

- If your vehicle goes off the edge of the pavement, slow down, but avoid severe brake application, ease the vehicle back onto the pavement only after reducing your speed. Do not turn the steering wheel too sharply while returning to the road surface.
- It may be safer to stay on the apron or shoulder of the road and slow down gradually before returning to the pavement. You may loose control if you do not slow down or if you turn the steering wheel too sharply or abruptly.
- It often may be less risky to strike small inanimate objects, such as highway reflectors, with minor damage to your vehicle rather than attempt a sudden return to the pavement which could cause the vehicle to slide sideways out of control or roll over. Remember, your safety and the safety of others should be your primary concern.

If your vehicle gets stuck

If the vehicle is stuck it may be rocked out by shifting from forward and reverse gears, stopping between shifts, in a steady pattern. Press lightly on the accelerator in each gear.

Do not rock the vehicle for more than a few minutes or damage to the transmission and tires may occur or the engine may overheat.

Do not rock the vehicle if the engine is not at normal operating temperature or damage to the transaxle may occur.

WARNING: Do not spin the wheels at over 56 km/h (35 mph). The tires may fail and injure a passenger or bystander.

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 will result in less vehicle control, not more. Additionally, smooth variations of the accelerator and/or brake pedal pressure should be utilized if changes in vehicle speed are called for. Avoid abrupt steering, acceleration or braking. Use all available road surface to return the 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 the vehicle goes from one type of surface to another (i.e., from concrete to gravel) there will be a change in the way the vehicle responds to a maneuver (steering, acceleration or barking). Again, avoid these abrupt inputs.

Sand

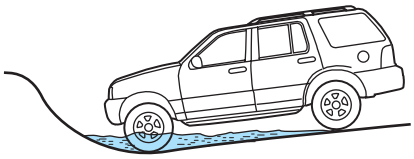
When driving over sand, try to keep all four wheels on the most solid area of the trail. Avoid reducing the tire pressures but shift to a lower gear and drive steadily through the terrain. Apply the accelerator slowly and avoid spinning the wheels.

If you must reduce the tire pressure for whatever reason in sand, make sure you re-inflate the tires as soon as possible.

Avoid excessive speed because vehicle momentum can work against you and cause the vehicle to 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

NOTE:



- If you must drive through high water, drive slowly. Traction or brake capability may be limited.
- When driving through water, determine the depth; avoid water higher than the bottom of the hubs (if possible) and proceed slowly. If the ignition system gets wet, the vehicle may stall.
- Once through water, always try the brakes. Wet brakes do not stop the vehicle as effectively as dry brakes. Drying can be improved by moving your vehicle slowly while applying light pressure on the brake pedal.

Be cautious of sudden changes in vehicle speed or direction when you are driving in mud. Even 4x4 vehicles can lose traction in slick mud. As when you are driving over sand, apply the accelerator slowly and avoid spinning your wheels. If the vehicle does slide, steer in the direction of the slide until you regain control of the vehicle.

After driving through mud, clean off residue stuck to rotating driveshafts, halfshafts and tires. Excess mud on tires and rotating driveshafts causes an imbalance that could damage drive components.

NOTE:

If the transaxle Power Take Off unit or rear axle are submerged in water, their fluids should be checked and changed, if necessary.

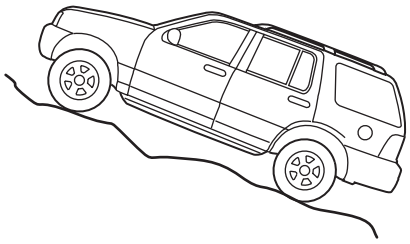
Water intrusion into the transmission may damage the transmission.

If the rear axle is submerged in water, the axle lubricant should be checked and changed, if necessary. The rear axle is filled with a lubricant that does not normally require a lubricant change for the life of the vehicle. Rear axle lubricant quantities should not need to be checked unless a leak is suspected.

“Tread Lightly” is an educational program designed to increase public awareness of land-use regulations and responsibilities in our nations wilderness areas. Mazda joins the U.S. Forest Service and the Bureau of Land Management in encouraging you to help preserve our national forest and other public and private lands by “treading lightly.”

Driving on hilly or sloping terrain

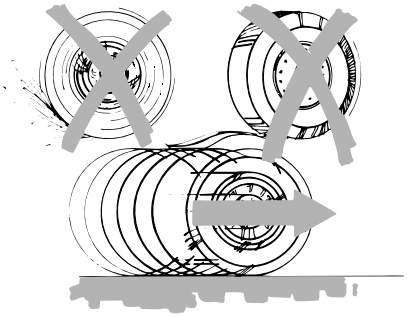
Although natural obstacles may make it necessary to travel diagonally up or down a hill or steep incline, you should always try to drive straight up or straight down. **Avoid driving crosswise or turning on steep slopes or hills**. A danger lies in losing traction, slipping sideways and possibly rolling 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 you do stall out, Do not try to turnaround because you might roll over. It is better to back down 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.



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 manually shift to a lower gear. When descending a steep hill, avoid sudden hard braking as you could lose control. When you brake hard, the front wheels can't turn and if they aren't turning, you won't be able to steer. The front wheels have to be turning in order to steer the vehicle. Rapid pumping of the brake pedal will help you slow the vehicle and still maintain steering control.

If your vehicle has anti-lock brakes, apply the brakes steadily. Do not "pump" the brakes.

Driving on snow and ice

- 4x4 vehicles have advantages over 2WD 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 as well. Although a 4x4 vehicle may accelerate better than a two-wheel drive vehicle in snow and ice, it won't stop any faster, because as in other vehicles, 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 as well as drive slower than usual and consider using one of the lower gears. In emergency stopping situations, avoid locking of the wheels. Use a "squeeze" technique, push on the brake pedal with a steadily increasing force which allows the wheels to brake yet continue to roll so that you may steer in the direction you want to travel. If you lock the wheels, release the brake pedal and repeat the squeeze technique. If your vehicle is equipped with a Four Wheel Anti-Lock Brake System (ABS), apply the brake steadily. Do not

"pump" the brakes. Refer to the *Brakes* section of this chapter for additional information on the operation of the anti-lock brake system.

- Never drive with chains on the front tires of 4x4 vehicles without also putting them on the rear tires. This could cause the rear to slide and swing around during braking.

Tires, Replacement Requirements

4x4 vehicles are equipped with tires designed to provide for safe ride and handling capability.

Do not use a size and type of tire and wheel other than that originally provided by Mazda because it can affect the safety and performance of your vehicle, which could lead to loss of vehicle control or roll over and serious injury. Make sure all tires and wheels on the vehicle are of the same size, type, tread design, brand and load-carrying capacity. If you have questions regarding tire replacement, see an authorized Mazda/Mazda dealer.

If you nevertheless decide to equip your 4x4 for off-road use with tires larger than what Mazda recommends, you should not use these tires for highway driving.

If you use any tire/wheel combination not recommended by Mazda, it may adversely affect vehicle handling and could cause steering, suspension, axle or transfer case failure.

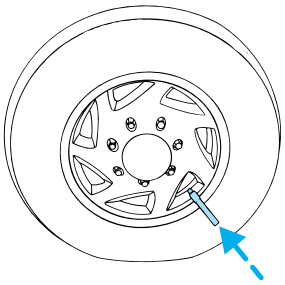
Do not use"aftermarket lift kits" or other suspension modifications, whether or not they are used with larger tires and wheels.

These "aftermarket lift kits" could adversely affect the vehicle's handling characteristics, which could lead to loss of vehicle control or roll over and serious injury.

Tires can be damaged during off-road use. For your safety, tires that are damaged should not be used for highway driving because they are more likely to blow out or fail.

You should carefully observe the recommended tire inflation pressure found on the safety compliance certification label attached to the left front door lock facing or door latch post pillar. Failure to follow tire pressure recommendations can adversely affect the way your vehicle handles. Do not exceed the Mazda recommended pressure even if it is less than the maximum pressure allowed for the tire.

Each 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. Check tire pressure with a tire gauge every few weeks (including spare). Safe operation requires tires that are neither underinflated nor overloaded.



Periodically inspect the tire treads and remove stones, nails, glass or other objects that may be wedged in the tread grooves. Check for holes or cuts that may permit air leakage from the tire and make necessary repairs.

Inspect the tire side walls for cuts, bruises and other damage. If internal damage to the tire is suspected, have the tire demounted and inspected in case it needs to be repaired or replaced.

Maintenance and Modifications

The suspension and steering systems on your vehicle have been designed and tested to provide both reasonably safe, predictable performance whether loaded or empty and durable load carrying capability. For this reason, Mazda strongly recommends that you do not make modifications such as adding or removing parts (such as lift kits or stabilizer bars) or by using replacement parts not equivalent to the original factory equipment.

Any modifications to a vehicle that raise the center of gravity can make it more likely the vehicle will roll over as a result of a loss of control. Mazda recommends that caution be used with any vehicle equipped with a high load or device (such as ladder racks or pickup box cover).

Failure to maintain your vehicle properly may void the warranty, increase your repair cost, reduce vehicle performance and operational capabilities and adversely affect driver and passenger safety. Frequent inspection of vehicle chassis components is recommended if the vehicle is subjected to heavy off-road usage.

DRIVING THROUGH WATER

Do not drive quickly through standing water, especially if the depth is unknown. Traction or brake capability may be limited

and if the ignition system gets wet, your engine may stall. Water may also enter your engine's air intake and severely damage your engine.

If driving through deep or standing water is unavoidable, proceed very slowly. Never drive through water that is higher than the bottom of the hubs (for trucks) or the bottom of the wheel rims (for cars).

Once through the water, always try the brakes. Wet brakes do not stop the vehicle as effectively as dry brakes. Drying can be improved by moving your vehicle slowly while applying light pressure on the brake pedal.

Driving through deep water where the transmission vent tube is submerged may allow water into the transmission and cause internal transmission damage.

VEHICLE LOADING

Before loading a vehicle, familiarize yourself with the following terms:

- **Base Curb Weight:** Weight of the vehicle including any standard equipment, fluids, lubricants, etc. It does not include occupants or aftermarket equipment.
- **Payload:** Combined maximum allowable weight of cargo, occupants and optional equipment. The payload equals the gross vehicle weight rating minus base curb weight.
- **GVW (Gross Vehicle Weight):** Base curb weight plus payload weight. The GVW is not a limit or a specification.
- **GVWR (Gross Vehicle Weight Rating):** Maximum permissable total weight of the base vehicle, occupants, optional equipment and cargo. The GVWR is specific to each vehicle and is listed on the Safety Certification Label on the driver's door pillar.
- **GAWR (Gross Axle Weight Rating):** Carrying capacity for each axle system. The GAWR is specific to each vehicle and is listed on the Safety Certification Label on the driver's door pillar.
- **GCW (Gross Combined Weight):** The combined weight of the towing vehicle (including occupants and cargo) and the loaded trailer.
- **GCWR (Gross Combined Weight Rating):** Maximum permissable combined weight of towing vehicle (including occupants and cargo) and the loaded trailer.

- **Maximum Trailer Weight Rating:** Maximum weight of a trailer the vehicle is permitted to tow. The maximum trailer weight rating is determined by subtracting the vehicle curb weight for each engine/transmission combination, any required option weight for trailer towing and the weight of the driver from the GCWR for the towing vehicle.
- **Maximum Trailer Weight:** Maximum weight of a trailer the loaded vehicle (including occupants and cargo) is permitted to tow. It is determined by subtracting the weight of the loaded trailer towing vehicle from the GCWR for the towing vehicle.
- **Trailer Weight Range:** Specified weight range that the trailer must fall within that ranges from zero to the maximum trailer weight rating.

NOTE: Remember to figure in the tongue load of your loaded trailer when figuring the total weight.

WARNING: Do not exceed the GVWR or the GAWR specified on the certification label, this could affect vehicle handling and cause an accident.

Do not use replacement tires with lower load carrying capacities than the originals because they may lower the vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the originals do not increase the GVWR and GAWR limitations.

The Safety Certification Label, found on the driver's door pillar, lists several important vehicle weight rating limitations. Before adding any additional equipment, refer to these limitations. If you are adding weight to the front of your vehicle, (potentially including weight added to the cab), the weight added should not exceed the front axle reserve capacity (FARC). Additional frontal weight may be added to the front axle reserve capacity provided you limit your payload in other ways (i.e. restrict the number of occupants or amount of cargo carried).

You may add equipment throughout your vehicle if the total weight added is equal to or less than the total axle reserve capacity (TARC) weight. You should NEVER exceed the total axle reserve capacity.

Always ensure that the weight of occupants, cargo and equipment being carried is within the weight limitations that have been established for your vehicle including both gross vehicle weight and front and rear gross axle weight rating limits.

WARNING: Under no circumstance should these limitations be exceeded. Exceeding any vehicle weight rating limitation could result in serious damage to the vehicle and/or personal injury.

Special loading instructions for owners of pickup trucks and utility-type vehicles

WARNING: For important information regarding safe operation of this type of vehicle, see the Preparing to drive your vehicle section in this chapter.

WARNING: Loaded vehicles, with a higher center of gravity, may handle differently than unloaded vehicles. Extra precautions, such as slower speeds and increased stopping distance, should be taken when driving a heavily loaded vehicle.

Your vehicle has the capability to haul more cargo and people than most passenger cars. Depending upon the type and placement of the load, hauling cargo and people may raise the center of gravity of the vehicle.

Calculating the load your vehicle can carry/tow

1. Use the appropriate maximum gross combined weight rating (GCWR) chart to find the maximum GCWR for your type engine and rear axle ratio.
2. Weigh your vehicle as you customarily operate the vehicle without cargo. To obtain correct weights, try taking your vehicle to a shipping company or an inspection station for trucks.
3. Subtract your loaded vehicle weight from the maximum GCWR on the following charts. This is the maximum trailer weight your vehicle can tow and must fall below the maximum shown under maximum trailer weight on the chart.

TRAILER TOWING

Trailer towing with your vehicle may require the use of a trailer tow option package.

Trailer towing puts additional loads on your vehicle's engine, transaxle, axle, brakes, tires, and suspension. For your safety and to maximize vehicle performance, be sure to use the proper equipment while towing.

Follow these guidelines to ensure safe towing procedure:

- Stay within your vehicle's load limits.
- Thoroughly prepare your vehicle for towing. Refer to *Preparing to tow* in this chapter.
- Use extra caution when driving while trailer towing. Refer to *Driving while you tow* in this chapter.
- Service your vehicle more frequently if you tow a trailer. Refer to the "Scheduled Maintenance" section of this manual.
- Do not tow a trailer until your vehicle has been driven at least 800 km (500 miles).
- Refer to the instructions included with towing accessories for the proper installation and adjustment specifications.

Do not exceed the maximum loads listed on the Certification label. For load specification terms found on the label, refer to *Vehicle loading* in this chapter. Remember to figure in the tongue load of your loaded vehicle when figuring the total weight.

4x2			
GCWR (Gross Combined Weight Rating)/Trailer Weights			
Engine	Maximum GCWR - kg (lbs.)	Trailer Weight Range - kg (lbs.)	Maximum frontal area of trailer - m^2 $(ft)^2$
2.0L w/manual transmission	1,878 (4,140)	453 (1,000)	2.2 (24)
3.0L w/automatic transmission	2,404 (5,300)	907 (2,000)	2.2 (24)
3.0L w/automatic transmission and towing package	3,103 (6,840)	1,587 (3,500)	2.8 (30)

4x4			
GCWR (Gross Combined Weight Rating)/Trailer Weights			
Engine	Maximum GCWR - kg (lbs.)	Trailer Weight Range - kg (lbs.)	Maximum frontal area of trailer - m^2 $(ft)^2$
2.0L w/manual transmission	1,932 (4,260)	453 (1,000)	2.2 (24)
3.0L w/automatic transmission	2,477 (5,460)	907 (2,000)	2.2 (24)
3.0L w/automatic transmission and towing package	3,175 (7,000)	1, 587 (3,500)	2.8 (30)
Notes: For high altitude operation, reduce GCW by 2% per 300 meters (100 ft.) elevation. For definitions of terms and instructions on calculating your vehicle's load, refer to *Vehicle Loading* in this chapter. Maximum trailer weights shown. The combined weight of the completed towing vehicle and the loaded trailer must not exceed the GCWR.			

WARNING: 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 the vehicle and could result in:

- engine damage
- transmission damage
- structural damage
- loss of control
- personal injury

Preparing to tow

Use the proper equipment for towing a trailer, and make sure it is properly attached to your vehicle. See your authorized Mazda dealer.

Hitches

Do not use hitches that clamp onto the vehicle bumper. Use a load carrying hitch. You must distribute the load in your trailer so that 10% of the total weight of the trailer is on the tongue.

Safety chains

Always connect the trailer's safety chains to the frame or hook retainers of the vehicle hitch. To connect the trailer's safety chains, cross the chains under the trailer tongue and allow slack for turning corners.

If you use a rental trailer, follow the instructions that the rental agency gives to you.

Do not attach safety chains to the bumper.

Trailer brakes

Electric brakes and manual, automatic or surge-type trailer brakes are safe if installed properly and adjusted to the manufacturer's specifications. The trailer brakes must meet local and Federal regulations.

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.

The braking system of the tow vehicle is rated for operation at the GVWR not GCWR.

Trailer lamps

Trailer lamps are required on most towed vehicles. Make sure your trailer lamps conform to local and Federal regulations. See your authorized Mazda dealer for proper instructions and equipment for hooking up trailer lamps.

Driving while you tow

When towing a trailer:

- Ensure that you turn off your speed control. The speed control may shut off automatically when you are towing on long, steep grades.
- Consult your local motor vehicle speed regulations for towing a trailer.

- Use a lower gear when towing up or down steep hills. This will eliminate excessive downshifting and upshifting for optimum fuel economy and transmission cooling.
- Anticipate stops and brake gradually.

Exceeding the GCWR rating may cause internal transmission damage and void your warranty coverage.

Servicing after towing

If you tow a trailer for long distances, your vehicle will require more frequent service intervals. Refer to the “Scheduled Maintenance” section for more information.

Trailer towing tips

- Practice turning, stopping and backing up before starting on a trip to get the feel of the vehicle trailer combination. When turning, make wider turns so the trailer wheels will clear curbs and other obstacles.
- Allow more distance for stopping with a trailer attached.
- The trailer tongue weight should be no more than 10–15% of the loaded trailer weight.
- After you have traveled 80 km (50 miles), thoroughly check your hitch, electrical connections and trailer wheel lug nuts.
- When stopped in traffic for long periods of time in hot weather, place the gearshift in P (Park) (automatic transmissions) or N (Neutral) (manual transmissions). This aids engine cooling and air conditioner efficiency.
- Vehicles with trailers should not be parked on a grade. If you must park on a grade, place wheel chocks under the trailer’s wheels.

Launching or retrieving a boat

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 15 cm (6 inches) above the bottom edge of the rear bumper.

Exceeding these limits may allow water to enter critical vehicle components, adversely affecting driveability, emissions, reliability and causing internal transmission damage.

Replace the rear axle lubricant any time the axle has been submerged in water. Rear axle lubricant quantities are not to be checked or changed unless a leak is suspected or repair required.

Disconnect the wiring to the trailer before backing the trailer into the water. Reconnect the wiring to the trailer after the trailer is removed from the water. Water entering these areas, while connected, could short-circuit the system.

RECREATIONAL TOWING

An example of “recreational towing” is towing your vehicle behind a motorhome.

If your vehicle is automatic transmission equipped, with a 4x2 (front-wheel drive only) configured powertrain, “recreational towing” is permitted by trailering the vehicle with its front wheels on a dolly. This protects the transmission’s internal mechanical components from potential lack of lubrication damage.

If your vehicle is manual transaxle equipped and 2WD or 4WD, shifting the transaxle into neutral permits “flat-towing” (all wheels on the ground) for pulling behind a motorhome. Your vehicle may be towed up to a speed of 120 km/h (75 mph) but you should always obey local speed limits.

If your vehicle is automatic transaxle equipped and 4WD (all-wheel drive), “recreational towing” is permitted only if the vehicle is trailered with all four (4) wheels off the ground. Otherwise, no “recreational towing” is permitted.

For other towing requirements, refer to *Wrecker Towing* in the *Roadside emergencies* chapter.

CUSTOMER ASSISTANCE (EXCEPT PUERTO RICO)

Your complete and permanent satisfaction is our business. We are here to serve you. All Authorized Mazda Dealers have the knowledge and the tools to keep your Mazda vehicle in top condition.

If you have any questions or recommendations for improvement regarding the service of your Mazda vehicle or servicing by Mazda Dealer personnel, we recommend that you take the following steps:

STEP 1: Contact Your Mazda Dealer

Discuss the matter with an Authorized Mazda Dealer. This is the quickest and best way to address the issue. If your concern has not been resolved by the CUSTOMER RELATIONS, SALES, SERVICE, or PARTS MANAGER, then please contact the GENERAL MANAGER of the dealership or the OWNER.

STEP 2: Call the Mazda National Customer Assistance Center

If for any reason you feel the need for further assistance after contacting your dealership management, call Mazda North American Operations' Customer Assistance Center toll-free at: **1 (800) 222–5500**

In order to serve you efficiently and effectively, please help us by providing the following information:

1. Your name, address, and telephone number
2. Year and model of vehicle
3. Vehicle Identification Number (17 digits, noted on your registration or title or located on the upper driver's side corner of the dash)
4. Purchase date and current mileage
5. Your dealer's name and location
6. Your question(s)

If you would like to write a letter, please address it to the following, Attn: Customer Assistance.

Mazda North American Operations
7755 Irvine Center Drive
Irvine, CA 92618–2922
P.O. Box 19734
Irvine, CA 92623–9734

This way, we can be sure to respond to you as efficiently as possible. That is our goal.

If you live outside the U.S.A., please contact your nearest Mazda Distributor.

CUSTOMER ASSISTANCE (PUERTO RICO)

Your complete and permanent satisfaction is our business. That is why all Authorized Mazda Dealers have the knowledge and the tools to keep your Mazda vehicle in top condition.

If you have any questions or recommendations for improvement regarding the service of your Mazda vehicle or servicing by Mazda Dealer personnel, we recommend that you take the following steps:

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STEP 2

If, after following STEP 1, you feel the need for further assistance, please contact your area's Mazda representative (Indicated on the next page).

Please help us by providing the following information:

1. Your name, address, and telephone number
2. Year and model of vehicle
3. Vehicle Identification Number (17 digits, noted on your registration or title or located on the upper driver's side corner of the dash)
4. Purchase date and current mileage
5. Your dealer's name and location
6. Your question(s)

If you would like to write a letter, please address it to the following, Attn: Customer Assistance

Plaza Motors Corp.

Mazda de Puerto Rico
P.O. Box 362722
San Juan, Puerto Rico
00936–2722
Tel: (787) 788–9300

This way, we can be sure to respond to you as efficiently as possible. That is our goal.

If you live outside the U.S.A., please contact your nearest Mazda Distributor.

HAZARD FLASHER CONTROL

Use only in an emergency to warn traffic of vehicle breakdown, approaching danger, etc. The hazard flashers can be operated when the ignition is off.

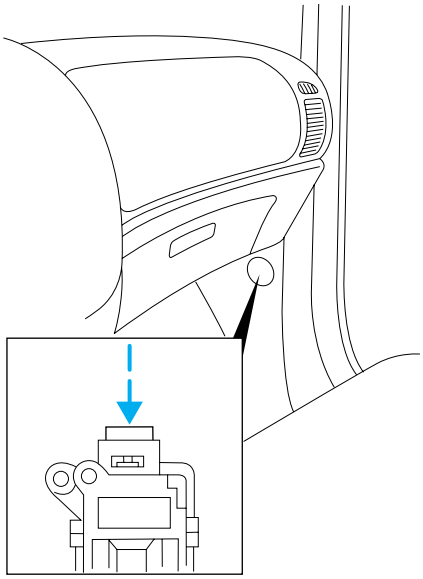
- The hazard lights control is located on the instrument panel by the radio.
- Depress hazard lights control to activate all hazard flashers simultaneously.
- Depress control again to turn the flashers off.

FUEL PUMP SHUT-OFF SWITCH FUEL RESET

The fuel pump shut-off switch is a device intended to stop the electric fuel pump when your vehicle has been involved in a substantial jolt.

After a collision, if the engine cranks but does not start, the fuel pump shut-off switch may have been activated.

The fuel pump shut-off switch is located in the front passenger's foot well, behind the kick panel. The reset button for the fuel pump shut-off switch is accessible through an opening in the kick panel when the access cover is removed.



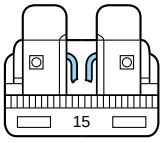
Use the following procedure to reset the fuel pump shut-off switch.

1. Turn the ignition to the LOCK/OFF position.
2. Check the fuel system for leaks.
3. If no fuel leak is apparent, reset the fuel pump shut-off switch by pushing in on the reset button.
4. Turn the ignition to the ON position. Pause for a few seconds and return the key to the LOCK/OFF position.
5. Make a further check for leaks in the fuel system.

FUSES AND RELAYS

Fuses

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.



Note: 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.

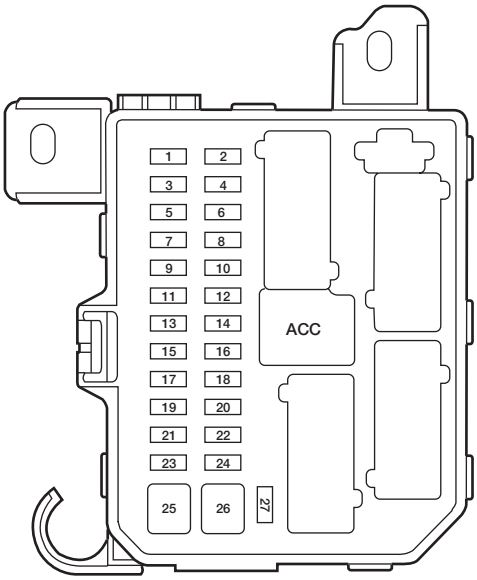
Standard fuse amperage rating and color

COLOR					
Fuse rating	**Mini fuses**	**Standard fuses**	**Maxi fuses**	**Cartridge maxi fuses**	**Fuse link cartridge**
2A	Grey	Grey	—	—	—
3A	Violet	Violet	—	—	—
4A	Pink	Pink	—	—	—
5A	Tan	Tan	—	—	—
7.5A	Brown	Brown	—	—	—
10A	Red	Red	—	—	—
15A	Blue	Blue	—	—	—
20A	Yellow	Yellow	Yellow	Blue	Blue
25A	Natural	Natural	—	—	—
30A	Green	Green	Green	Pink	Pink
40A	—	—	Orange	Green	Green
50A	—	—	Red	Red	Red
60A	—	—	Blue	—	Yellow
70A	—	—	Tan	—	Brown
80A	—	—	Natural	—	Black

Passenger compartment fuse panel

The fuse panel is located below and to the left of the steering wheel by the brake pedal. Remove the panel cover to access the fuses.

To remove a fuse use the fuse puller tool provided on the fuse panel cover.



The fuses are coded as follows:

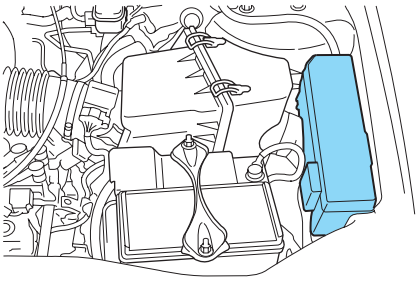
Fuse/Relay Location	Fuse Amp Rating	Passenger Compartment Fuse Panel Description
1	5A	Canister Vent Control Solenoid
2	5A	Blower Relay (coil), Rear Defrost Relay (coil), Pressure Switch to PCM
3	10A	Rear Wiper Motor, Rear Washer Motor, Rear Wiper Relay (coil)
4	10A	Four Wheel Drive Control Module, Cluster (Restraints Control Warning)
5	5A	ABS Unit (EVAC & FILL), ASC Unit, Restraints Control Module, ASC Main SW to ASC Unit
6	10A	Flasher Unit, Left reversing Lamp, Right Reversing Lamp

Fuse/Relay Location	Fuse Amp Rating	Passenger Compartment Fuse Panel Description
7	10A	Passive Anti-theft Transceiver (PATS), Restraints Control Module
8	10A	Cluster, Shift Lock Relay (coil), O/D signal to PCM
9	3A	PCM Relay (coil), Fan Relay 1, 2, 3 (coil), A/C Relay (coil)
10	20A	Front Wiper Motor, Front Washer Motor, INT Relay
11	10A	IGN Relay (coil), ACC Relay (coil), Starter Relay (coil), Key Interlock Solenoid, GEM
12	5A	Radio, Clock
13	—	Not Used
14	20A	Cigar Lighter
15	15A	Left Front Position Lamp, Right Front Position Lamp, Left License Lamp, Right License Lamp, Left Tail Lamp, Right Tail Lamp, Park Lamp Relay (coil), Trailer Fuse, Illumination Fuse
16	10A	Cluster, Power Mirror, GEM
17	15A	Sun Roof Motor
18	5A	Illumination for: Cluster, Heater Unit, Radio, Hazard Switch, Rear Defrost Switch, 4WD Switch, Front Fog Switch
19	10A	Subwoofer Amp
20	15A	Left/Right Turn Indicators, Left/Right Front Side Turn Lamps, Left/Right Front turn Lamps, Left/Right Rear Turn Lamps, Left/Right Trailer Turn, Flasher Unit
21	10A	Left /Right Trailer Position Lamps
22	15A	Not Used
23	20A	Left/Right Horn

Fuse/Relay Location	Fuse Amp Rating	Passenger Compartment Fuse Panel Description
24	15A	Left/Right Stoplamps, High Mounted Stoplamp, Left/Right Trailer Stoplamp, ABS Unit, ASC Unit (Brake Pedal Position Switch), PCM, Shift Solenoid
25	30A	Power Window Motor - Right Front, Left Front, Right Rear, Left Rear
26	30A	Power Door Lock Motor - Right Front, Left Front, Right Rear, Left Rear, GEM (Door Lock Relay Coil), Power Seat
27	10A	Audio, Cluster, Interior Lamp, Map Lamp Cargo Lamp
ACC	—	Accessory Relay

Power distribution box

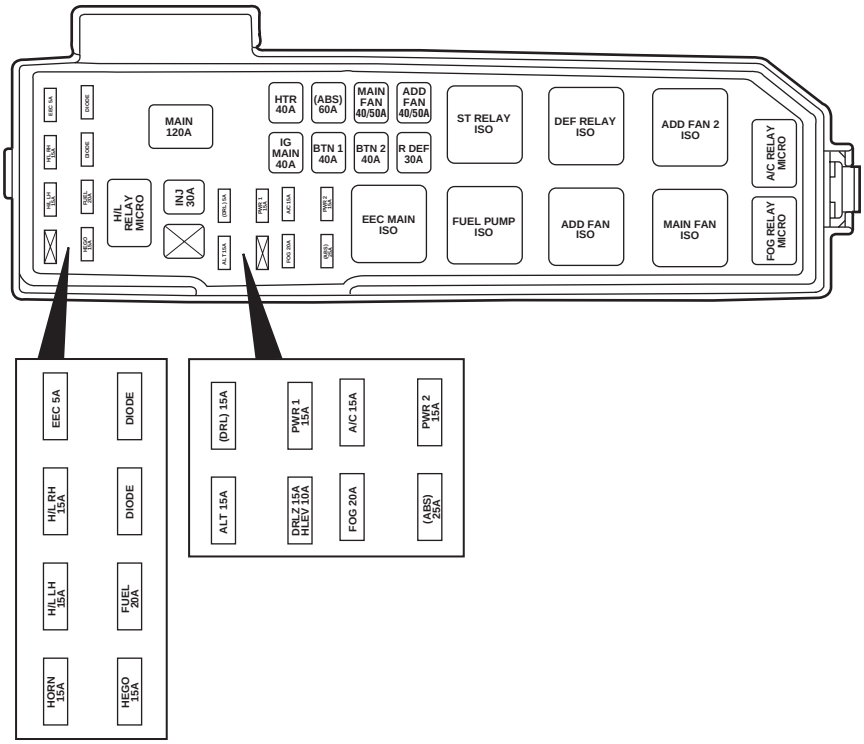
The power distribution box is located in the engine compartment. The power distribution box contains high-current fuses that protect your vehicle's main electrical systems from overloads.



WARNING: Always disconnect the battery before servicing high current fuses.

WARNING: To reduce risk of electrical shock, always replace the cover to the Power Distribution Box before reconnecting the battery or refilling fluid reservoirs.

If the battery has been disconnected and reconnected, refer to the *Battery* section of the *Maintenance and specifications* chapter.



The high-current fuses are coded as follows.

Fuse/Relay Location	Fuse Amp Rating	Power Distribution Box Description
Horn	15A	Horn
H/L LH	15A*	Headlamp (High/Low Left, High Beams)
H/L RH	15A*	Headlamp (High/Low Right,, High Beams)
EEC	5A*	EEC (KPWR)
HEGO	15A*	HEGO 1,2, CMS 1,2, VMV
FUEL	20A*	Fuel Pump, EEC (FPM)
DIODE	—	—

Fuse/Relay Location	Fuse Amp Rating	Power Distribution Box Description
DIODE	—	—
H/L RELAY MICRO	—	Headlamp (High/Low, Right/Left Relay)
—	—	—
INJ	30A**	EEC (VPWR), EVR, MAF, IAC, Bulkhead
MAIN	120A	Main
ALT	15A*	Alternator/ Regulator
(DRL)	15A*	DRL Unit (feed), DRL Relay
(DRLZ) (HELV)	15A*(DRLZ) 10A(HLEV)	Daytime Running Lamps (DRL) Module, HLEV
PWR 1	15A*	Auxiliary Power Point
FOG	20A*	Foglamps RH/LH, Foglamp Indicator
A/C	15A*	A/C Clutch
(ABS)	25A*	Anti-Lock Brake System SOL
PWR 2	15A*	Auxiliary Power Point
IG MAIN	40A**	Starter
HTR	40A**	Blower Motor, Blower Motor Relay
BTN 1	40A**	JB — Acc. Relay, Radio, Cigar Lighter, Cluster, Power Mirror, GEM, Electronic Flasher Control
(ABS)	60A**	Anti-Lock Brake System Motor
BTN 2	40A**	JB — Radio, Cluster, Dome Lamps, Map Lamps, Cargo Lamps, Cruise Control, Power Seat, Horn
MAIN FAN	40A** (2.0L) 50A(3.0L)	Main Fan
R DEF	30A**	Rear Defroster
ADD FAN	40A**(2.0L) 50A(3.0L)	Add Fan
EEC MAIN ISO	—	EEC Relay

Fuse/Relay Location	Fuse Amp Rating	Power Distribution Box Description
FUEL PUMP ISO	—	Fuel Pump Relay
MAIN FAN ISO	—	Low Speed Fan Control Relay (2.0L Engine) High Speed Fan Control Relay 1 (3.0L Engine)
ADD FAN ISO	—	High Speed Fan Control Relay 1 (2.0L Engine) Low Speed Fan Control Relay (3.0L Engine)
DEF RELAY ISO	—	Rear Defroster Relay
ST RELAY ISO	—	Starter Relay
ADD FAN 2 ISO	—	High Speed Fan Control Relay 2 (3.0L Engine) Medium Speed Fan Control Relay (2.0L Engine)
FOG RELAY MICRO	—	Foglamp Relay
A/C RELAY MICRO	—	A/C Clutch Relay

TEMPORARY SPARE TIRE INFORMATION

The temporary spare tire for your vehicle is labeled as such. It is smaller than a regular tire and is designed for emergency use only.

WARNING: If you use the temporary spare tire continuously or do not follow these precautions, the tire could fail, causing you to lose control of the vehicle, possibly injuring yourself or others.

When driving with the temporary spare tire **do not:**

- exceed 80 km/h (50 mph) under any circumstances
- load the vehicle beyond maximum vehicle load rating listed on the Safety Compliance Label
- tow a trailer
- use tire chains
- try to repair the temporary spare tire or remove it from its wheel
- use the wheel for any other type of vehicle

Temporary spare tire information

Your vehicle may have a temporary or conventional spare tire. The temporary spare tire for your vehicle is labeled as such. It is smaller than a regular tire and is designed for emergency use only. Replace this tire with a full-size tire as soon as possible.

It is not recommended that the vehicle be operated in 4WD modes with a temporary spare. If 4WD operation is necessary, do not operate above speeds of 16 km/h (10 mph) or for distances above 80 km (50 miles).

WARNING: If you use the temporary spare tire continuously or do not follow these precautions, the tire could fail, causing you to lose control of the vehicle, possibly injuring yourself or others.

When driving with the temporary spare tire **do not:**

- exceed 80 km/h (50 mph) under any circumstances
- load the vehicle beyond maximum vehicle load rating listed on the Safety Compliance Label
- tow a trailer
- use tire chains
- drive through an automatic car wash, because of the vehicle's reduced ground clearance
- try to repair the temporary spare tire or remove it from its wheel rim
- use the wheel for any other type of vehicle

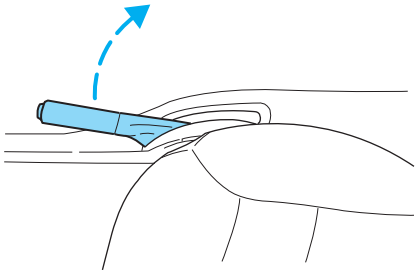
Tire change procedure

WARNING: 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 vehicle is in P (Park) (automatic transaxle) or R (Reverse) (manual transaxle).

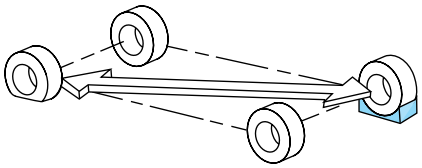
WARNING: To prevent the vehicle from moving when you change a tire, be sure the parking brake is set, then block (in both directions) the wheel that is diagonally opposite (other side and end of the vehicle) to the tire being changed.

WARNING: If the vehicle slips off the jack, you or someone else could be seriously injured.

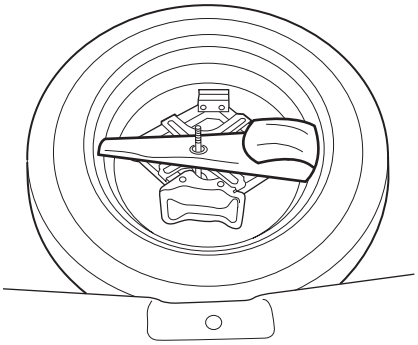
1. Park on a level surface, activate hazard flashers and place gearshift lever in P (Park) (automatic transmission) or R (Reverse) (manual transmission).
2. Set the parking brake and turn engine OFF.



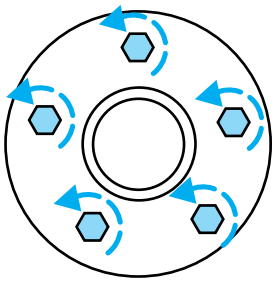
3. Block the diagonally opposite wheel.



4. Lift the cargo cover and remove the tool bag with jack handle, lug nut wrench and long spare tire rod and spare tire from the wheel well.

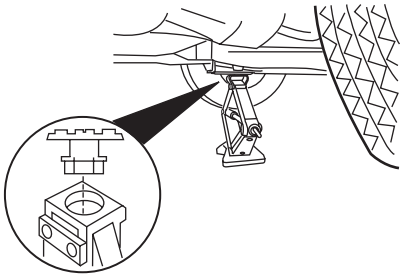


5. Loosen each wheel lug nut one-half turn counterclockwise but do not remove them until the wheel is raised off the ground.

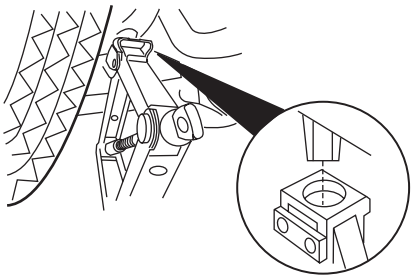


STOP Before placing the jack under the vehicle, NOTE the jack locations:

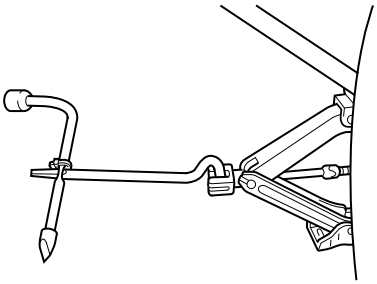
- **Front** jacking notches are located **under the front suspension arm.**



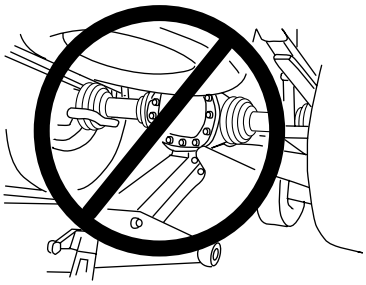
- **Rear** jacking notches are located **under the rear trailing arm.**



6. Position the jack according to the following guides and turn the jack handle clockwise until the tire is a maximum of 25 mm (1 inch) off the ground.



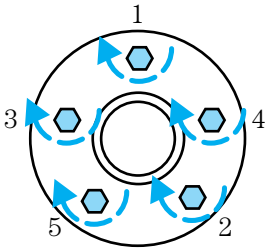
Never use the differentials as a jacking point. It is too easy for the vehicle to tilt or fall and you can be injured.



WARNING: To lessen the risk of personal injury, do not put any part of your body under the vehicle while changing a tire. Do not start the engine when your vehicle is on the jack. The jack is only meant for changing the tire.

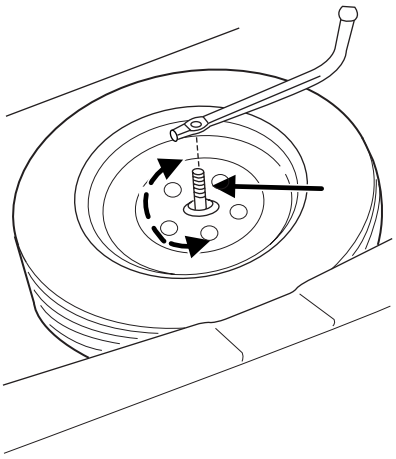
7. Remove the lug nuts with the lug nut wrench.

8. Replace the flat tire with the spare tire, making sure the valve stem is facing outward. Reinstall lug nuts until the wheel is snug against the hub. Do not fully tighten the lug nuts until the wheel has been lowered.
9. Lower the wheel by turning the jack handle counterclockwise.
10. Remove the jack and fully tighten the lug nuts in the order shown.



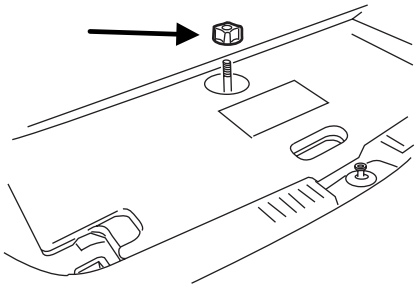
NOTE: To stow the full size flat tire in the cargo floor, the long spare tire rod in the tool bag needs to be installed.

11. Using the lug wrench, remove the spare tire rod from the cargo floor and install the longer spare tire rod.
12. Put flat tire and tool bag with jack handle, lug nut wrench and spare tire rod away. Make sure jack is fastened so it does not rattle when you drive.



NOTE: The cargo cover can not be reattached to the back seat clips when a full size tire is stowed.

13. Install cargo cover over the flat tire and secure with the plastic nut.
14. Unblock the wheels.



JUMP STARTING YOUR VEHICLE

WARNING: The gases around the battery can explode if exposed to flames, sparks, or lit cigarettes. An explosion could result in injury or vehicle damage.

Do not push start your vehicle. You could damage the catalytic converter.

WARNING: Batteries contain sulfuric acid which can burn skin, eyes, and clothing, if contacted.

Do not attempt to push start your vehicle. Automatic transmissions do not have push-start capability.

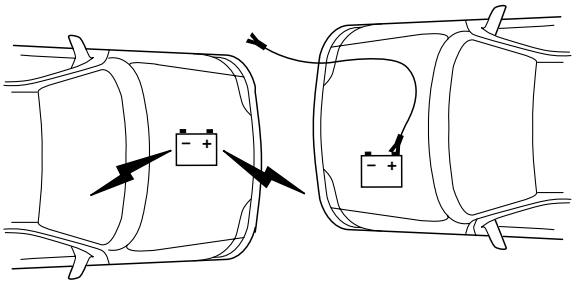
Preparing your vehicle

When the battery is disconnected or a new battery is installed, the transmission must relearn its adaptive strategy. As a result of this, the transmission may shift firmly. This operation is considered normal and will not effect function or durability of the transmission. Over time, the adaptive learning process will fully update transmission operation to its optimum shift feel.

- **Use only a 12–volt supply to start your vehicle.**
- Do not disconnect the battery of the disabled vehicle as this could damage the vehicle's electrical system.
- Park the booster vehicle close to the hood of the disabled vehicle making sure the two vehicles **do not** touch. Set the parking brake on both vehicles and stay clear of the engine cooling fan and other moving parts.

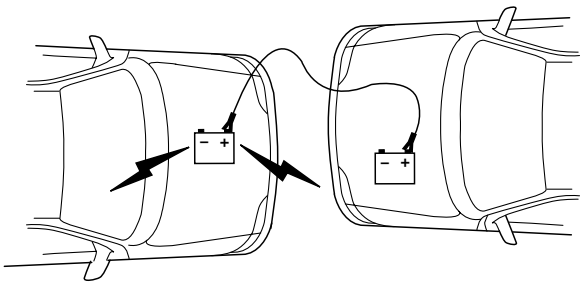
- Check all battery terminals and remove any excessive corrosion before you attach the battery cables. Ensure the vent caps are tight and level.
- Turn the heater fan on in both vehicles to protect any electrical surges. Turn all other accessories off.

Connecting the jumper cables

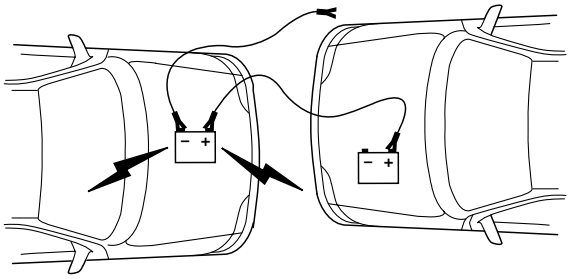


1. Connect the positive (+) booster cable to the positive (+) terminal of the discharged battery.

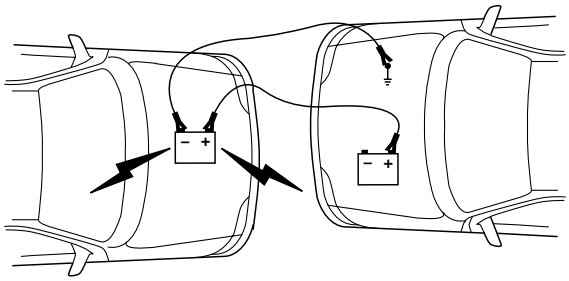
Note: In the illustrations, *lightning bolts* are used to designate the assisting (boosting) battery.



2. Connect the other end of the positive (+) cable to the positive (+) terminal of the assisting battery.



3. Connect the negative (-) cable to the negative (-) terminal of the assisting battery.



4. Make the final connection of the negative (-) cable to an exposed metal part of the disabled vehicle's engine, away from the battery and the fuel injection system. **NOTE: Do not** use fuel lines, engine rocker covers or the intake manifold as *grounding* points.

WARNING: 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.

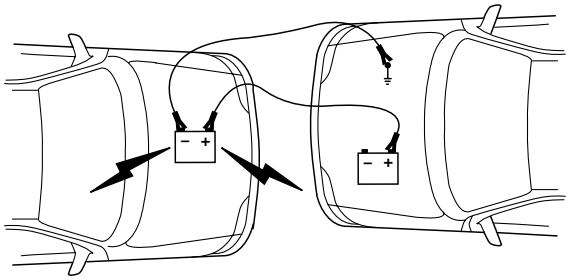
5. Ensure that the cables are clear of fan blades, belts, moving parts of both engines, or any fuel delivery system parts.

Jump starting

1. Start the engine of the booster vehicle and run the engine at moderately increased speed.

2. Start the engine of the disabled vehicle.
3. Once the disabled vehicle has been started, run both engines for an additional three minutes before disconnecting the jumper cables.

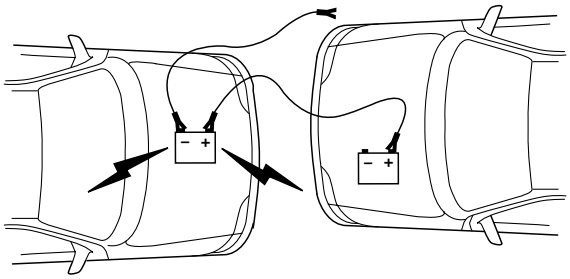
Removing the jumper cables



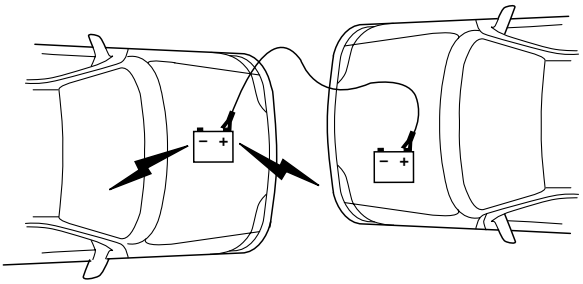
Remove the jumper cables in the reverse order that they were connected.

1. Remove the jumper cable from the *ground* metal surface.

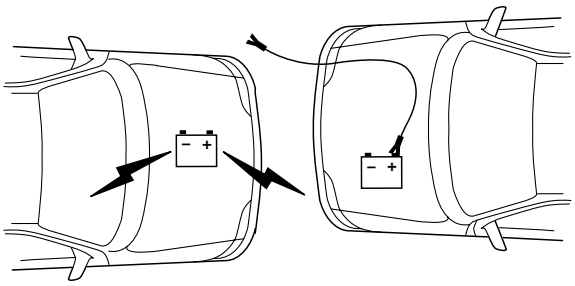
Note: In the illustrations, *lightning bolts* are used to designate the assisting (boosting) battery.



2. Remove the jumper cable on the negative (-) connection of the booster vehicle's battery.



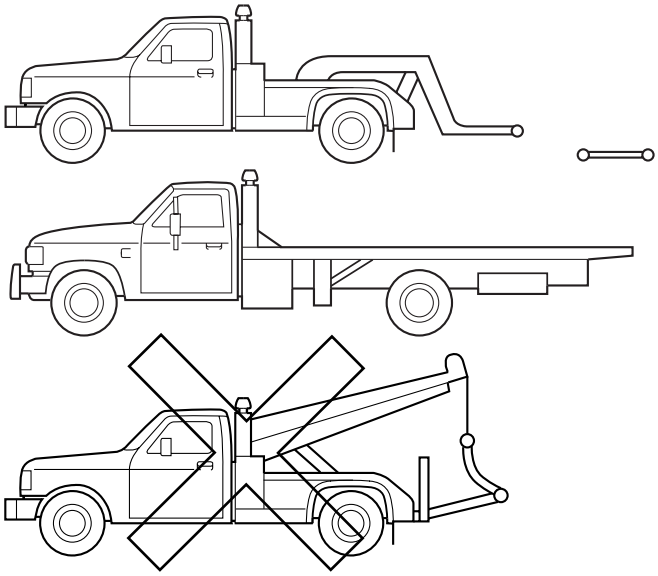
3. Remove the jumper cable from the positive (+) terminal of the booster vehicle's battery.



4. Remove the jumper cable from the positive (+) terminal of the disabled vehicle's battery.

After the disabled vehicle has been started and the jumper cables removed, allow it to idle for several minutes so the engine computer can *relearn* its idle conditions.

WRECKER TOWING



If you need to have your vehicle towed, contact a professional towing service or, if you are a member, your roadside assistance center.

It is recommended that your vehicle be towed with a wheel lift and dollies or flatbed equipment. Do not tow with a slingbelt. Mazda Motor Corporation has not approved a slingbelt towing procedure.

If your vehicle is to be towed from the rear using wheel lift equipment, it is recommended that the front wheels (drive wheels) be placed on a dolly to prevent damage to the transaxle.

On 4x4 vehicles, it is **required** that your vehicle be towed with a wheel lift and dollies or flatbed equipment with all the wheels off the ground to prevent damage to the 4x4 system or vehicle.

If the vehicle is towed by other means or incorrectly, vehicle damage may occur.

Roadside Emergencies

In case of a roadside emergency with a disabled vehicle (without access to wheel dollies, car hauling trailer, or flatbed transport vehicle) your vehicle (regardless of transmission powertrain configuration) can be flat towed (all wheels in the ground) under the following conditions:

- Place the transmission in N (Neutral).
- Maximum speed is not to exceed 56 km/h (35 mph).
- Maximum distance is 80 km (50 miles).

Mazda Motor Corporation provides 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.

CUSTOMER ASSISTANCE (U.S.A.)

Your complete and permanent satisfaction is our business. We are here to serve you. All Authorized Mazda Dealers have the knowledge and the tools to keep your Mazda vehicle in top condition.

If you have any questions or recommendations for improvement regarding the service of your Mazda vehicle or servicing by Mazda Dealer personnel, we recommend that you take the following steps:

STEP 1: Contact Your Mazda Dealer

Discuss the matter with an Authorized Mazda Dealer. This is the quickest and best way to address the issue. If your concern has not been resolved by the CUSTOMER RELATIONS, SALES, SERVICE, or PARTS MANAGER, then please contact the GENERAL MANAGER of the dealership or the OWNER.

STEP 2: Call the Mazda National Customer Assistance Center

If for any reason you feel the need for further assistance after contacting your dealership management, call Mazda North American Operations' Customer Assistance Center toll-free at: **1 (800) 222–5500**

In order to serve you efficiently and effectively, please help us by providing the following information:

1. Your name, address, and telephone number
2. Year and model of vehicle
3. Vehicle Identification Number (17 digits, noted on your registration or title or located on the upper driver's side corner of the dash)
4. Purchase date and current mileage
5. Your dealer's name and location
6. Your question(s)

If you would like to write a letter, please address it to the following, Attn: Customer Assistance.

Mazda North American Operations
7755 Irvine Center Drive
Irvine, CA 92618–2922
P.O. Box 19734
Irvine, CA 92623–9734

This way, we can be sure to respond to you as efficiently as possible. That is our goal.

If you live outside the U.S.A., please contact your nearest Mazda Distributor.

CUSTOMER ASSISTANCE (CANADA)

Your complete and permanent satisfaction is our business. We are here to serve you. All Authorized Mazda Dealers have the knowledge and the tools to keep your Mazda vehicle in top condition.

In our experience, any questions, problems or complaints regarding the operation of your Mazda or any other general service transactions are most effectively resolved by your dealer. If the cause of your dissatifaction cannot adequately be addressed by normal dealership procedures, we recommend that you take the following steps:

STEP 1: Contact Your Mazda Dealer

Discuss the matter with a member of dealership management. If the Service Manager has already reviewed your concerns, contact the owner of the dealership or its General Manager

STEP 2: Call the Mazda Regional Office

If you feel that you still require assistance, ask the dealer Service Manager to arrange for you to meet the local Mazda Service Representative. If more expedient, contact Mazda Canada Inc. Regional Office nearest you for such arrangements.

STEP 2: Contact the Mazda Customer Relations Department

If still not substantially satisfied, contact the Customer Relations Department, Mazda Canada Inc., 305 Milner Avenue, Suite 400 Scarborough, Ontario M1B 3V4 Canada TEL: 1 (800) 263–4680.

Provide the Department with the following information:

1. Your name, address, and telephone number
2. Year and model of vehicle
3. Vehicle Identification Number (VIN). Refer to the “Vehicle Identification Labels” page of section 10 of this manual for the location of the VIN.
4. Purchase date.
5. Present odometer reading.
6. Your dealer’s name and location
7. The nature of your problem and/or cause of dissatisfaction.

The Department, in cooperation with the local Mazda Service Representative, will review the case to determine if everything possible has been done to ensure your satisfaction.

Please recognize that the resolution of service problems in most cases requires the use of your Mazda dealer's service facilities. personnel and equipment. We urge you to follow the above three steps in sequence therefore for most effective results.

MEDIATION/ARBITRATION PROGRAM

Occasionally a customer concern cannot be resolved through Mazda's Customer Satisfaction Program. If after exhausting procedures in this manual, your concern is still not resolved, you have another option.

Mazda Canada Inc. participates in an arbitration program administered by the Canadian Motor Vehicle Arbitration Plan (CAMVAP). CAMVAP will advise you about how your concern may be reviewed and resolved by an independent third party through binding arbitration.

Your complete satisfaction is the goal of Mazda Canada Inc. and our dealers. Mazda's participation in CAMVAP makes a valuable contribution to our achieving that goal. There is no charge for using CAMVAP. CAMVAP results are fast, fair and final as the award is binding on both you and Mazda Canada Inc.

CANADIAN MOTOR VEHICLE ARBITRATION PLAN (CAMVAP)

If a specific item of concern arises, where a solution cannot be reached between an owner, Mazda, and/or one of it's dealers (that all parties cannot agree upon), the owner may wish to use the services offered by the Canadian Motor Vehicle Arbitration Plan (CAMVAP).

CAMVAP uses the services of Provincial Administrators to assist consumers in scheduling and preparing for their arbitration hearings. However, before you can proceed with CAMVAP you must follow your Mazda dispute resolution process as outlined previously.

CAMVAP is fully implemented in all provinces and territories. Consumers wishing to obtain further information about the Program can obtain an information booklet from their dealer, the Provincial Administrator of the Canadian Motor Vehicle Arbitration Plan Office at the following address or telephone number.

Canadian Motor Vehicle Arbitration Office
235 Yorkland Boulevard, Suite 300
North York, Ontario
M2J 4Y8
1 (800) 207–0685

Provincial Administrators may be reached locally as listed below:	
Province/Territory	CAMVAP Number
British Columbia & Yukon Territories	(604) 681–0312
Alberta & Northwest Territories	(403) 426–0650
Saskatchewan	(306) 352–9259
Manitoba	(204) 942–7166
Ontario	(416) 596–8824
Atlantic Canada	(902) 422–5413
Quebec	(418) 649–1330

REGIONAL OFFICES

Regional Offices	Areas Covered
Mazda Canada Inc. Western Region 8171 Ackroyd Road Suite 2000 Richmond, B.C. V6X 3K1 (604) 303–5670	Alberta, British Columbia, Manitoba, Saskatchewan, Yukon
Mazda Canada Inc. Central/Atlantic Region 305 Milner Avenue Suite 400 Scarborough, Ontario. M1B 3V4 1 (800) 263–4680	Ontario, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland
Mazda Canada Inc. Quebec Region 6111 Route Trans Canadienne Pointe Claire, Quebec H9R 5A5 (514) 694–6390	Quebec

CUSTOMER ASSISTANCE (PUERTO RICO)

Your complete and permanent satisfaction is our business. That is why all Authorized Mazda Dealers have the knowledge and the tools to keep your Mazda vehicle in top condition.

If you have any questions or recommendations for improvement regarding the service of your Mazda vehicle or servicing by Mazda Dealer personnel, we recommend that you take the following steps:

STEP 1

Discuss the matter with an Authorized Mazda Dealer. This is the quickest and best way to address the issue. If your concern has not been resolved by the CUSTOMER RELATIONS, SALES, SERVICE, or PARTS MANAGER, then please contact the GENERAL MANAGER of the dealership or the OWNER.

STEP 2

If, after following STEP 1, you feel the need for further assistance, please contact your area's Mazda representative (Indicated on the next page).

Please help us by providing the following information:

1. Your name, address, and telephone number
2. Year and model of vehicle
3. Vehicle Identification Number (17 digits, noted on your registration or title or located on the upper driver's side corner of the dash)
4. Purchase date and current mileage
5. Your dealer's name and location
6. Your question(s)

If you would like to write a letter, please address it to the following, Attn: Customer Assistance

Plaza Motors Corp.

Mazda de Puerto Rico
P.O. Box 362722
San Juan, Puerto Rico
00936–2722
Tel: (787) 788–9300

This way, we can be sure to respond to you as efficiently as possible. That is our goal.

If you live outside the U.S.A., please contact your nearest Mazda Distributor.

MAZDA IMPORTERS/DISTRIBUTORS

U.S.A (Importer/Distributor)

Mazda North American Operations
7755 Irvine Center Drive
Irvine, CA 92618–2922
P.O. Box 19734
Irvine, CA 92623–9734
TEL: 1 (800) 222–5500 (in U.S.A.)
(949) 727–1990 (outside U.S.A.)

(Distributor in each area)

CANADA

Mazda Canada Inc.
305 Milner Avenue, Suite 400
Scarborough, Ontario M1B 3V4 Canada
TEL: 1 (800) 263–4680 (in Canada)
(416) 609–9909 (outside Canada)

PUERTO RICO

Plaza Motors Corp. (Mazda de Puerto Rico)
P.O Box 362722, San Juan, Puerto Rico 00936–2722
TEL: (787) 788–9300

GUAM

Triple J. Motors
P.O. Box 6066 Tamuning, Guam
TEL: (671) 649–6555

SAIPAN

Pacific International Marianas, Inc.
(d.b.a. Midway Motors)
P.O. Box 887 Saipan, MP 96950
TEL: (670) 234-7524

Triple J Saipan, Inc. dba Triple J Motors
P.O. Box 500487 Saipan, MP 96950–0487
TEL: (670) 234–7133/3051

AMERICAN SAMOA

Polynesia Motors, Inc.
P.O. Box 1120, Pago Pago, American Samoa 96799
TEL: (684) 699–9347

ADD-ON NON-GENUINE PARTS AND ACCESSORIES

Non-genuine parts and accessories for Mazda vehicles can be found in stores. These may fit your vehicle, but they are not approved by the manufacturer for use with Mazda vehicles. When you install non-genuine parts or accessories, they could affect your vehicle's performance or safety system; the manufacturer's warranty doesn't cover this. Before you install any non-genuine parts or accessories, consult an Authorized Mazda Dealer.

WARNING: Installation of Non-Genuine Parts or Accessories: Installation of non-genuine parts or accessories could be dangerous. Improperly designed parts or accessories could seriously affect your vehicle's performance or safety system. This could cause you to have an accident or increase your chances of injuries in an accident. Always consult an Authorized Mazda Dealer before you install non-genuine parts or accessories.

WARNING: Add-On Electrical and Electronic Equipment: Incorrectly choosing or installing improper add-on equipment or choosing an improper installer could be dangerous. Essential systems could be damaged, causing engine stalling, air-bag (SRS) activation, ABS inactivation, or a fire in the vehicle. Be very careful in choosing and installing add-on electrical equipments, such as mobile telephones, two-way radios, stereo systems, and car alarm systems.

Mazda assumes no responsibility for death, injury, or expenses that may result from the installation of add-on non-genuine parts or accessories.

WARRANTIES FOR YOUR MAZDA

- New Vehicle Limited Warranty
- Safety Restraint System Limited Warranty
- Anti-perforation Limited Warranty
- Federal Emission Control Warranty
  – Emission Defect Warranty
  – Emission Performance Warranty
- California Emission Control Warranty (if applicable)

- Replacement Parts and Accessories Limited Warranty
- Tire Warranty

NOTE: Detailed warranty information is provided with your Mazda.

OUTSIDE THE UNITED STATES AND CANADA

Government regulations in the United States require that automobiles meet specific emission regulations and safety standards. Therefore, vehicles built for use in the United States, its territories, and Canada may differ from those sold in other countries.

The differences may make it difficult or even impossible for your vehicle to receive satisfactory servicing in other countries. We strongly recommend that you NOT take your Mazda outside these areas.

You may have these problems if you do:

- Recommended fuel may be unavailable. Any kind of leaded fuel or low-octane fuel will affect vehicle performance and damage the emission controls and engine.
- Proper repair facilities, tools, testing equipment, and replacement parts may not be available.

The manufacturer's warranty applies only to Mazda vehicles registered and normally operated in the United States, its territories, and Canada.

REPORTING SAFETY DEFECTS

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 Mazda Motor Corporation (Your Mazda Importer/Distributor).

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 Mazda Motor Corporation (Your Mazda Importer/Distributor).

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1 (800) 424–9393 (or 366–0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation. Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

If you live in the U.S.A., all correspondence to Mazda Motor Corporation should be forwarded to:

Mazda North American Operations
7755, Irvine Center Drive
Irvine, California 92618–2922
P.O. Box 19734
Irvine, CA 92623–9734
Customer Assistance Center
or toll free at 1 (800) 222–5500

If you live outside of the U.S.A., please contact the nearest Mazda Distributor. (See the *Mazda Importers/Distributors*section of this manual).

SERVICE PUBLICATIONS

Factory-authorized Mazda service publication are available for owners who wish to do some of their own maintenance and repair.

When requesting any of our publications through an Authorized Mazda Dealer, refer to the chart below.

If they don't have what you need in stock, they can order it for you.

PUBLICATION ORDER NUMBER	PUBLICATION DESCRIPTION
9999 95 022B 02	2002 WORKSHOP MANUAL
9999 95 020G 02	2002 WIRING DIAGRAM
9999 95 023C 02	2002 OWNER'S MANUAL

WORKSHOP MANUAL:

Covers recommended maintenance and repair procedures of the drive train, body and chassis.

WIRING DIAGRAM:

Provides electrical schematics as well as component location for the entire electrical system.

OWNER'S MANUAL:

This booklet contains information regarding the proper care and operation of your vehicle. This is not a technician's manual.

Please note that your Authorized Mazda Dealership has trained personnel and special service tools to correctly and safely maintain Mazda vehicles.

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 29 000 km (18 000 miles), whichever occurs first:

1. Two or more repair attempts are made on the same nonconformity 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:

16800 Executive Plaza Drive
Mail Drop 3NE-B
Dearborn, MI 48126

REPORTING SAFETY DEFECTS (U.S. ONLY)

If you believe that your vehicle has a defect that 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 Mazda Corporation.

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 Mazda Motor Corporation.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1–800–424–9393 (202–366–0123 in the Washington D.C. area) or write to:

NHTSA
U.S. Department of Transportation
400 Seventh Street
Washington D.C. 20590

You can also obtain other information about motor vehicle safety from the Hotline.

WASHING YOUR VEHICLE

Wash your vehicle regularly with cold or lukewarm water. Never use strong detergents or soap. If your vehicle is particularly dirty, use a quality car wash detergent. Always use a clean sponge, washing glove or similar device and plenty of water for best results. To avoid spots, avoid washing when the hood is still warm, immediately after or during exposure to strong sunlight.

During winter months, it is especially important to wash the vehicle on a regular basis. Large quantities of dirt and road salt are difficult to remove and also cause damage to the vehicle.

Any gasoline spilled on the vehicle or deposits such as bird droppings should be washed and sponged off as soon as possible. Deposits not removed promptly can cause damage to the vehicle's paintwork.

Remove any exterior accessories, such as antennas, before entering a car wash. If you have wax applied to the vehicle at a commercial car wash, it is recommended that you clean the wiper blades and windshield as described in *Cleaning the wiper blades, windshield and rear window.*

After washing, apply the brakes several times to dry them.

WAXING YOUR VEHICLE

Waxing your vehicle on a regular basis will reduce minor scratches and paint damage.

Wax when water stops beading on the surface. This could be every three or four months, depending on operating conditions.

Use only carnauba or synthetic-based waxes. Use a cleaning fluid with a clean cloth to remove any bugs before waxing your vehicle. Use tar remover to remove any tar spots.

Avoid getting wax on the windshield, or on any surfaces which appear coarse or bumpy. If you have wax applied at a commercial car wash, it is recommended that you clean the wiper blades and windshield as described in *Cleaning the wiper blades, windshield and rear window.*

REPAIRING PAINT CHIPS

Minor scratches or paint damage from road debris may be repaired with Genuine Mazda Touch-Up Paint. Observe the application instructions on the products.

Remove particles such as bird droppings, tree sap, insect remains, tar spots, road salt and industrial fallout immediately.

CLEANING THE WHEELS

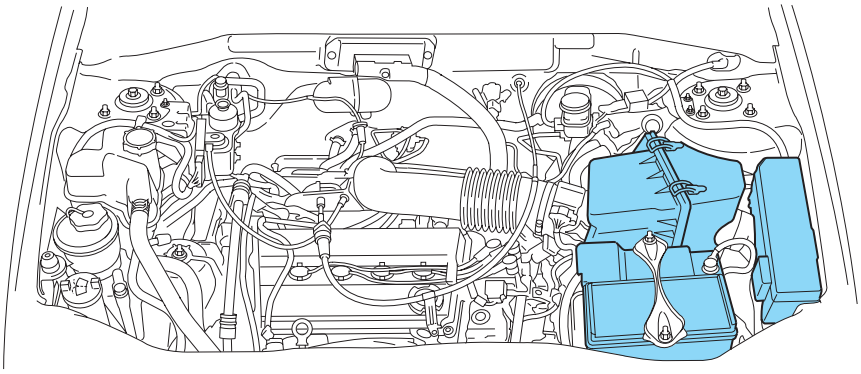
Wash with the same detergent as the body of your vehicle. Do not use acid-based or alcohol-based wheel cleaners, steel wool, fuel or strong detergents. Never use abrasives that will damage the finish of special wheel surfaces. Use a tar remover to remove grease and tar.

The brushes used in some automatic car washes may damage the finish on your wheels. Before going to a car wash, find out if the brushes are abrasive.

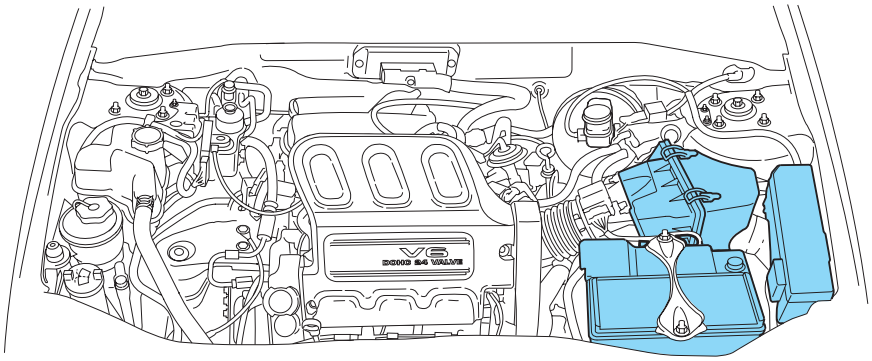
CLEANING THE ENGINE

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 with cold water when the engine is hot to avoid cracking the engine block or other engine components.**
- **Never apply anything to the drive belt (including belt dressing).**



- **2.0L DOHC I4 — Zetec Engine**



- **3.0L DOHC V6 — Duratec Engine**
- **Cover the highlighted areas to prevent water damage when cleaning the engine.**
- **Never wash or rinse the engine while it is running; water in the running engine may cause internal damage.**

CLEANING NON-PAINTED PLASTIC EXTERIOR PARTS

Use vinyl cleaner for routine cleaning. Clean with a tar remover if necessary. Do not clean plastic parts with thinners, solvents or petroleum-based cleaners.

CLEANING MIRRORS

Do not clean your mirrors with a dry cloth or abrasive materials. Use a soft cloth and mild detergent and water. Be careful when removing ice from outside mirrors because you may damage the reflective surface.

CLEANING THE EXTERIOR LAMPS

Wash with the same detergent as the exterior of your vehicle. If necessary, use a tar remover.

To avoid scratching the lamps, do not use a dry paper towel, chemical solvents or abrasive cleaners.

CLEANING THE WIPER BLADES, WINDSHIELD AND REAR WINDOW

If the wiper blades do not wipe properly, clean the wiper blade rubber element with undiluted windshield washer solution or a mild detergent. To avoid damaging the blades, do not use fuel, kerosene, paint thinner or other solvents.

If the wiper still does not wipe properly, this could be caused by substances on the windshield or rear window such as tree sap and some hot wax treatments used by commercial car washes. Clean the outside of the windshield or rear window with a non-abrasive cleaner. **Do not** use abrasive cleansers on glass as they may cause scratches. The windshield or rear window is clean if beads do not form when you rinse it with water. The windshield, rear window and wiper blades should be cleaned on a regular basis, and blades or rubber elements replaced when worn.

CLEANING THE INSTRUMENT PANEL

Clean with a damp cloth, then dry with a dry cloth.

Avoid cleaner or polish that increases the gloss of the upper portion of the instrument panel. The dull finish in this area helps protect the driver from undesirable windshield reflection.

WARNING: Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the air bag system. The air bag may not function correctly and not provide the injury reduction benefits.

WOODTONE TRIM

Wipe stains with a soft cloth and a multi-purpose cleaning solution.

INSIDE WINDOWS

Use glass cleaner for the inside windows if they become fogged.

CLEANING THE INTERIOR FABRIC

Remove dust and loose dirt with a whisk broom or a vacuum cleaner. Remove fresh spots immediately. Do not use household or glass cleaners. These agents can stain and discolor the fabric. Use a mild soap and water solution if necessary.

Cleaning

CLEANING THE OVERHEAD CONSOLE

Clean with a damp cloth, then wipe dry with a dry cloth.

Avoid cleaner or polish that increases the gloss of the console. The dull finish in this area helps protect the driver from undesirable windshield reflection.

CLEANING SEATS EQUIPPED WITH SIDE AIR BAGS

Remove dust and loose dirt with a whisk broom or a vacuum cleaner. Remove fresh spots immediately. Follow the directions that come with the cleaner. Do not saturate the seat cover with upholstery cleaner.

WARNING: Do not use chemical solvents or strong detergents when cleaning the seat where the side air bag is mounted. Such products could contaminate the side air bag system and affect performance of the side air bag in a collision. The air bag may not function correctly and not provide injury reduction benefits.

CLEANING AND MAINTAINING THE SAFETY BELTS

Clean the safety belts with a mild soap solution recommended for cleaning upholstery or carpets.

WARNING: Do not bleach or dye the belts, because these actions may weaken the belt webbing.

Check the safety belt system periodically to make sure there are no nicks, wear or cuts. If your vehicle has been involved in an accident, refer to the *Safety belt maintenance* section in the *Seating and safety restraints* chapter.

UNDERBODY

Flush the complete underside of vehicle frequently. Keep body drain holes unplugged. Inspect for road damage.

Maintenance and Specifications

INTRODUCTION

Be extremely careful to prevent injury to yourself and others and damage to your vehicle when using this manual for inspection and maintenance.

If you're unsure about any procedure it describes, we strongly urge you to have a reliable and qualified service shop perform the work, preferably an Authorized Mazda Dealer.

Factory-trained Mazda technicians and genuine Mazda parts are best for your vehicle. Without this expertise and the parts that have been designed and made especially for your Mazda, inadequate, incomplete, and insufficient servicing may result in problems. This could lead to vehicle damage or an accident and injuries.

For expert advice and quality service, consult an Authorized Mazda Dealer.

The owner should retain evidence that proper maintenance has been performed as prescribed.

A claim against a warranty will not qualify if it results from lack of maintenance and not from defective material or authorized Mazda workmanship.

Any auto repair shop using parts equivalent to your Mazda's original equipment may perform maintenance. **But we recommend that it always be done by an Authorized Mazda Dealer using genuine Mazda parts.**

SCHEDULED MAINTENANCE

Follow Schedule 1 if the vehicle is operated mainly where none of the following conditions apply. If any do apply, follow Schedule 2.

- Repeated short trips of less than 16 kilometers (10 miles)
- Driving in dusty, sandy or wet conditions
- Driving with an extended use of brakes
- Driving in areas where salt or other corrosive materials are being used
- Driving on rough or muddy roads
- Extended periods of idling or low-speed operation
- Driving for long periods in cold temperatures or extremely humid climates
- Towing a trailer or using a car-top carrier

NOTE: After the described period, continue to follow the described maintenance at the recommended intervals.

SCHEDULE 1

I: Inspect and repair, clean, adjust, or replace if necessary
(Oil-permeated air filter cannot be cleaned using the air-blow method)
R: Replace
L: Lubricate

Maintenance Item	Maintenance Interval (Number of months or km (miles), whichever comes first)												
	Months	6	12	18	24	30	36	42	48	54	60	66	72
	x 1000 Km	12	24	36	48	60	72	84	96	108	120	132	144
	(x 1000 Miles)	(7.5)	(15)	(22.5)	(30)	(37.5)	(45)	(52.5)	(60)	(67.5)	(75)	(82.5)	(95)
ENGINE													
Engine valve clearance (for 2.0L engine)									I				
Engine timing belt (for 2.0L engine)	Replace every 144,000 km (90,000 miles)												
Engine oil		R	R	R	R	R	R	R	R	R	R	R	R
Oil filter		R	R	R	R	R	R	R	R	R	R	R	R
Drive belts					I				I				I
PCV valve (for 2.0L engine) *1	Replace every 96,000 km (60,000 miles												
PCV valve (for 3.0L engine) *1	Replace every 160,000 km (100,000 miles)												
Hoses and tubes for emission *1									I				
IGNITION SYSTEM													
Spark plugs (PLATINUM-TIPPED type)	Replace every 160,000 km (100,000 miles)												
FUEL SYSTEM													
Air cleaner filter					R				R				R
Fuel filter *1					R				R				R
Fuel lines and hoses *1					I				I				I
COOLING SYSTEM													
Cooling system					I				I				I

Maintenance Item	Maintenance Interval (Number of months or km (miles), whichever comes first)												
	Months	6	12	18	24	30	36	42	48	54	60	66	72
	x 1000 Km	12	24	36	48	60	72	84	96	108	120	132	144
	(x 1000 Miles)	(7.5)	(15)	(22.5)	(30)	(37.5)	(45)	(52.5)	(60)	(67.5)	(75)	(82.5)	(95)
Engine coolant	Replace at first 72,000 km (45,000 miles) or 36 months; after that, every 48,000 km (30,000 miles) or 24 months												
CHASSIS and BODY													
Brake lines, hoses and connections					I				I				I
Disc brakes					I				I				I
Drum brakes					I				I				I
Steering operation and linkages					I				I				I
Rear differential oil (for 4WD) *2	Replace every 160,000 km (100,000 miles)												
Front and rear suspension ball joints					I				I				I
Driveshaft dust boots					I				I				I
Bolts and nuts on chassis and body					I				I				I
Exhaust system heat shields					I				I				I
All locks and hinges		L	L	L	L	L	L	L	L	L	L	L	L
AIR CONDITIONER SYSTEM (if equipped)													
Refrigerant amount			I		I		I		I		I		I
Compressor operation			I		I		I		I		I		I

*1 According to state and federal regulations, failure to perform maintenance on these items will not void your emissions warranties. However, Mazda recommends that all maintenance services be performed at the recommended time or mileage (kilometrage) period to ensure long-term reliability.
*2 If this component has been submerged in water, the oil should be changed.

SCHEDULE 2

I: Inspect and repair, clean, adjust, or replace if necessary
(Oil-permeated air filter cannot be cleaned using the air-blow method)
R: Replace
L: Lubricate

Maintenance Item	Maintenance Interval (Number of months or km (miles), whichever comes first)												
	Months	4	8	12	16	20	24	28	32	36	40	44	48
	x 1000 Km	8	16	24	32	40	48	56	64	72	80	88	96
	(x 1000 Miles)	(5)	(10)	(15)	(20)	(25)	(30)	(35)	(40)	(45)	(50)	(55)	(60)
ENGINE													
Engine valve clearance (for 2.0L engine)													I
Engine timing belt (for 2.0L engine)		Replace every 144,000 km (90,000 miles)											
Engine oil		R	R	R	R	R	R	R	R	R	R	R	R
Engine oil (for Puerto Rico)		Replace every 4,800 km (3,000 miles) (or 3 months)											
Oil filter		R	R	R	R	R	R	R	R	R	R	R	R
Drive belts							I						I
PCV valve (for 2.0L engine)	*1	Replace every 96,000 km (60,000 miles)											
PCV valve (for 3.0L engine)	*1	Replace every 160,000 km (100,000 miles)											
Hoses and tubes for emission	*1												I
IGNITION SYSTEM													
Spark plugs (PLATINUM TIPPED type)		Replace every 160,000 km (100,000 miles)											
FUEL SYSTEM													
Air cleaner filter				I			R			I			R
Fuel filter	*1						R						R
Fuel lines & hoses	*1						I						I
COOLING SYSTEM													
Cooling system							I						I

Maintenance Item	Maintenance Interval (Number of months or km (miles), whichever comes first)												
	Months	4	8	12	16	20	24	28	32	36	40	44	48
	x 1000 Km	8	16	24	32	40	48	56	64	72	80	88	96
	(x 1000 Miles)	(5)	(10)	(15)	(20)	(25)	(30)	(35)	(40)	(45)	(50)	(55)	(60)
Engine coolant		Replace at first 72,000 km (45,000 miles) or 36 months; after that, every 48,000 km (30,000 miles) or 24 months											
Engine coolant level		I	I	I	I	I	I	I	I	I	I	I	I
ELECTRICAL SYSTEM													
Function of all lights		I	I	I	I	I	I	I	I	I	I	I	I
CHASSIS and BODY													
Brake lines, hoses and connections							I						I
Brake fluid level		I	I	I	I	I	I	I	I	I	I	I	I
Disc brakes				I			I			I			I
Drum brakes							I						I
Tire inflation pressure and tire wear		I	I	I	I	I	I	I	I	I	I	I	I
Steering operation and linkages							I						I
Power steering fluid level		I	I	I	I	I	I	I	I	I	I	I	I
Manual transaxle oil		Replace every 48,000 km (30,000 miles)											
Automatic transaxle fluid		Replace every 48,000 km (30,000 miles)											
Rear differential oil (for 4WD)	*2	Replace every 160,000 km (100,000 miles)											
Transfer oil (for 4WD)	*2	Replace every 48,000 km (30,000 miles)											
Front and rear suspension ball joints							I						I
Driveshaft dust boots							I						I
Bolts and nuts on chassis and body				I			I			I			I
Exhaust system heat shields							I						I
All locks and hinges		L	L	L	L	L	L	L	L	L	L	L	L
Washer fluid level		I	I	I	I	I	I	I	I	I	I	I	I
AIR CONDITIONER SYSTEM (if equipped)													
Refrigerant amount				I			I			I			I
Compressor operation				I			I			I			I

*1 According to state and federal regulations, failure to perform maintenance on these items will not void your emissions warranties. However, Mazda recommends that all maintenance services be performed at the recommended time or mileage (kilometrage) period to ensure long-term reliability.
*2 If this component has been submerged in water, the oil should be changed.

SERVICE RECOMMENDATIONS

To help you service your vehicle:

- We highlight do-it-yourself items in the engine compartment for easy location.
- We provide a Scheduled Maintenance section which makes tracking routine service easy.

If your vehicle requires professional service, your dealership can provide 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. Genuine Mazda parts are designed and built to provide the best performance in your vehicle.

PRECAUTIONS WHEN SERVICING YOUR VEHICLE

Be especially careful when inspecting or servicing your vehicle. To avoid damage and/or personal injury:

- Do not work on a hot engine.
- When the engine is running, make sure that loose clothing, jewelry or long hair does not get caught up 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 lit cigarettes, open flames and other lit material away from the battery and all fuel related parts.

If you disconnect the battery, the engine must “relearn” its idle conditions before your vehicle will drive properly, as explained in *Battery* in this chapter.

Working with the engine off

- Automatic transmission:
  1. Set the parking brake and ensure the gearshift is securely latched in P (Park).
  2. Turn off the engine and remove the key.
  3. Block the wheels to prevent the vehicle from moving unexpectedly.
- Manual transmission:
  1. Set the parking brake.
  2. Depress the clutch and place the gearshift in 1 (First).
  3. Turn off the engine and remove the key.
  4. Block the wheels to prevent the vehicle from moving unexpectedly.

Working with the engine on

- Automatic transmission:
  1. Set the parking brake and ensure the gearshift is securely latched in P (Park).
  2. Block the wheels to prevent the vehicle from moving unexpectedly.

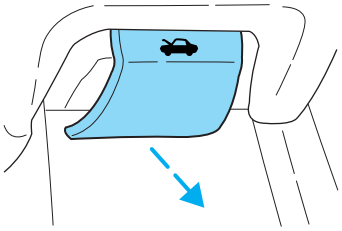
Note: Do not start your engine with the air cleaner removed and do not remove it while the engine is running.

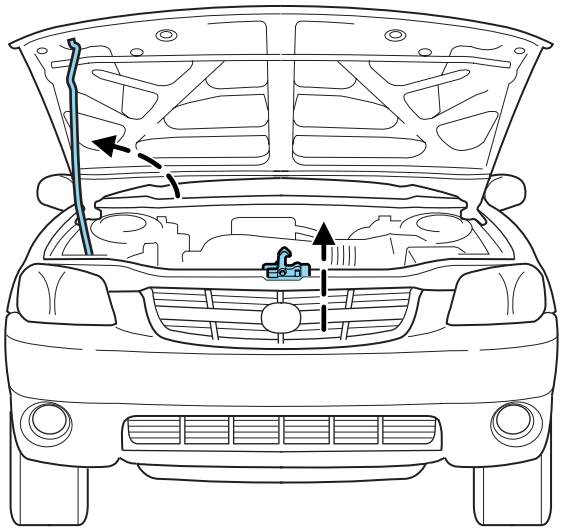
- Manual transmission:
  1. Set the parking brake, depress the clutch and place the gearshift in N (Neutral).
  2. Block the wheels to prevent the vehicle from moving unexpectedly.

Note: Do not start your engine with the air cleaner removed and do not remove it while the engine is running.

OPENING THE HOOD

1. Inside the vehicle, pull the hood release handle located under the bottom of the instrument panel.

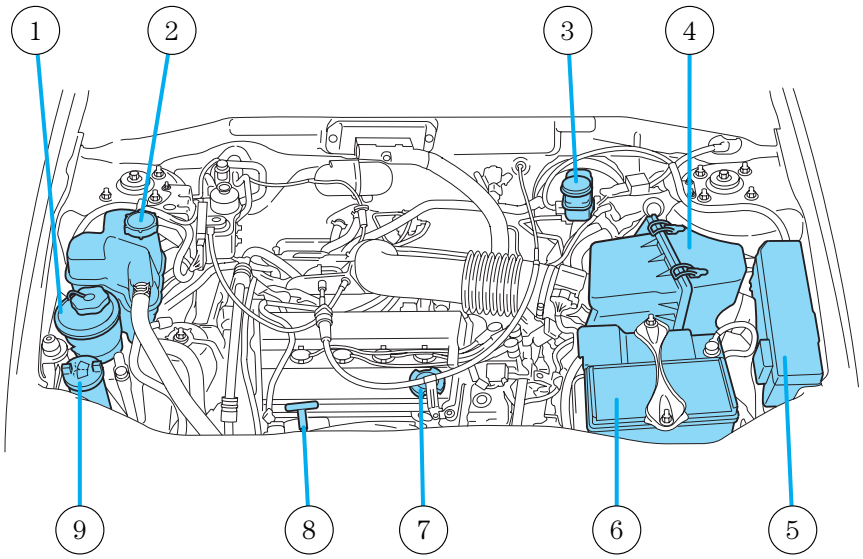




2. At the front of the vehicle, lift up on the auxiliary latch handle located in the center between the hood and the grille.
3. Lift the hood open and secure it with the prop rod.

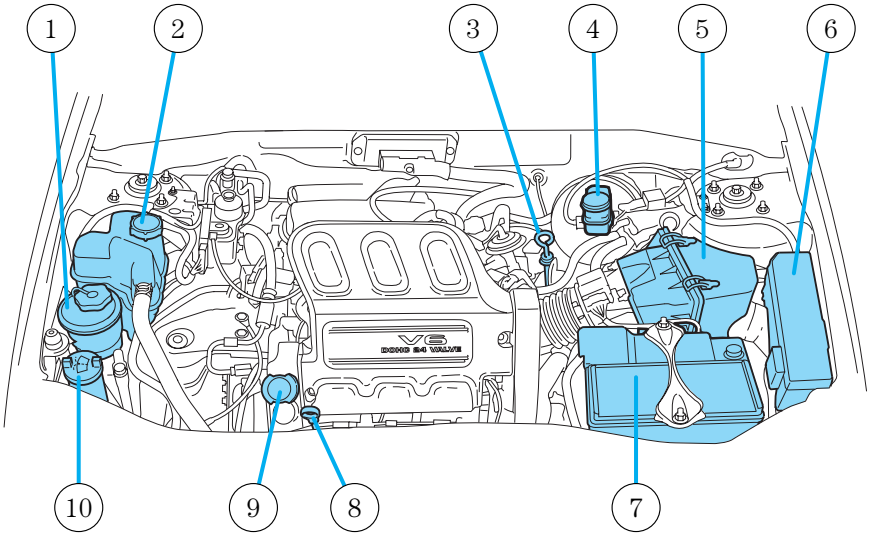
IDENTIFYING COMPONENTS IN THE ENGINE COMPARTMENT

2.0L DOHC I4 Zetec engine



1. Power steering fluid reservoir
2. Engine coolant reservoir
3. Brake fluid reservoir
4. Air filter assembly
5. Power distribution box
6. Battery
7. Engine oil filler cap
8. Engine oil dipstick
9. Windshield washer fluid reservoir

3.0L DOHC V6 Duratec engine



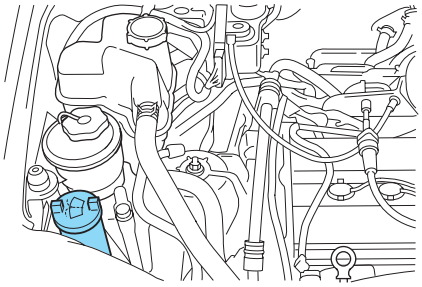
1. Power steering fluid reservoir
2. Engine coolant reservoir
3. Automatic transmission fluid dipstick
4. Brake fluid reservoir
5. Air filter assembly
6. Power distribution box
7. Battery
8. Engine oil dipstick
9. Engine oil filler cap
10. Windshield washer fluid reservoir

WINDSHIELD WASHER FLUID

Checking and adding washer fluid

Check the washer fluid whenever you stop for fuel. The reservoir is highlighted with a symbol.

If the level is low, add enough fluid to fill the reservoir. In very cold weather, do not fill the reservoir all the way.



Only use a washer fluid that meets Mazda specifications. Refer to *Refill capacities* in this chapter.

NOTE: 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.

Note: Do not put washer fluid in the engine coolant reservoir. Washer fluid placed in the cooling system may harm engine and cooling system components.

Checking and adding washer fluid for the liftgate

Washer fluid for the liftgate is supplied by the same reservoir as the windshield.

ENGINE OIL

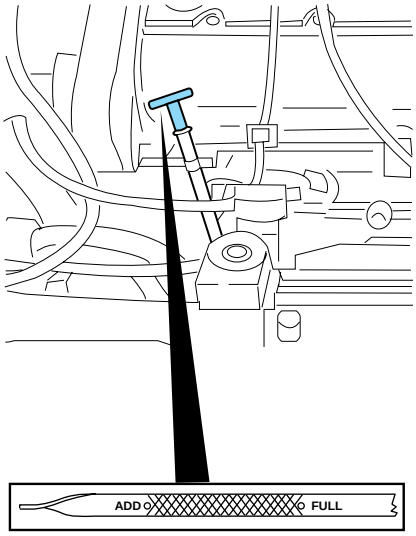
Checking the engine oil

Refer to the service maintenance section for the appropriate intervals for checking the engine oil.

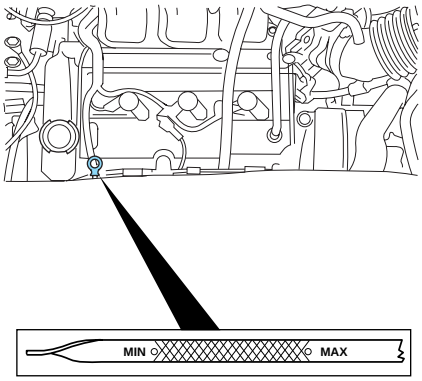
1. Make sure the vehicle is on level ground.
2. Turn the engine off and wait a few minutes for the oil to drain into the oil pan.

3. Set the parking brake and ensure the gearshift is securely latched in P (Park) (automatic transmissions) or 1 (First) (manual transmissions).
4. Open the hood. Protect yourself from engine heat.
5. Locate and carefully remove the engine oil level indicator (dipstick).

- 2.0L DOHC I4 Zetec engine

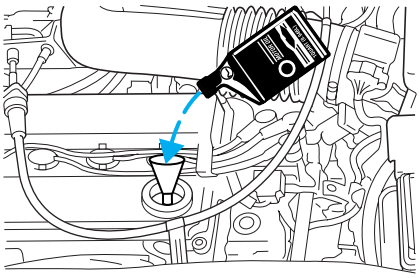


- 3.0L DOHC V6 Duratec engine

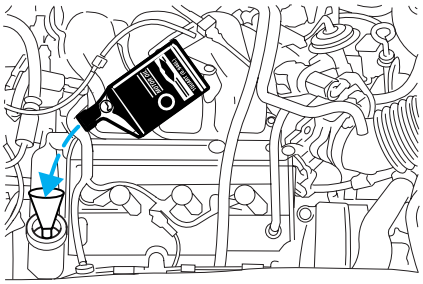


6. Wipe the indicator clean. Insert the indicator fully, then remove it again.

- If the oil level is **between the MIN-MAX or ADD-FULL marks,** the oil level is acceptable. **DO NOT ADD OIL.**
- If the oil level is below the MIN or ADD mark, add enough oil to raise the level within the MIN–MAX or ADD-FULL range.
- 2.0L DOHC I4 Zetec engine



- 3.0L DOHC V6 Duratec engine



- Oil levels above the MAX or FULL mark may cause engine damage. Some oil must be removed from the engine by a service technician.

7. Put the indicator back in and ensure it is fully seated.

Adding engine oil

1. Check the engine oil. For instructions, refer to *Checking the engine oil* in this chapter.
2. If the engine oil level is not within the normal range, add only certified engine oil of the recommended viscosity. Remove the engine oil filler cap and use a funnel to pour the engine oil into the opening.
3. Recheck the engine oil level. Make sure the oil level is not above the MAX or FULL mark on the engine oil level indicator (dipstick).

4. Install the indicator and ensure it is fully seated.
5. Fully install the engine oil filler cap by turning the filler cap clockwise 1/4 of a turn until it is seated.

To avoid possible oil loss, DO NOT operate the vehicle with the engine oil level indicator and/or the engine oil filler cap removed.

Engine oil and filter recommendations

SAE 5W-20 engine oil is recommended

Look for this certification trademark.

Use SAE 5W-20 motor oil certified for gasoline engines by the American Petroleum Institute (API).

Motor oil displaying the API certification trademark will meet all requirements for your vehicle's engine.

Do not use supplemental engine oil additives, oil treatments or engine treatments. They are unnecessary and could, under certain conditions, lead to engine damage which is not covered by your warranty.

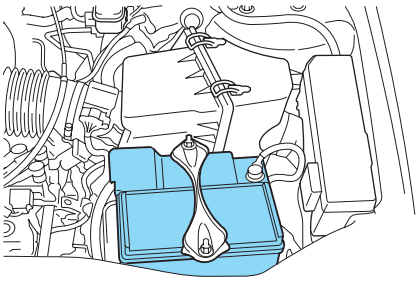
Change your engine oil and filter according to the appropriate schedule listed in the service maintenance section.

Mazda production and replacement oil filters are designed for added engine protection and long life. If a replacement oil filter is used that does not meet Mazda material and design specifications, start-up engine noises or knock may be experienced.

It is recommended you use the appropriate Genuine Mazda oil filter (or another brand meeting Mazda specifications) for your engine application.

BATTERY

Your vehicle is equipped with a Mazda maintenance-free battery which normally does not require additional water during its life of service.



However, for severe usage or in high temperature climates, check the battery electrolyte level. Refer to the service maintenance section for the service interval schedules.

Keep the electrolyte level in each cell up to the "level indicator". Do not overfill the battery cells.

If the electrolyte level in the battery is low, you can add plain tap water to the battery, as long as you do not use hard water (water with a high mineral or alkali content). If possible, however, try to only fill the battery cells with distilled water. If the battery needs water often, have the charging system checked.

If your battery has a cover/shield, make sure it is reinstalled after the battery has been cleaned or replaced.

For longer, trouble-free operation, keep the top of the battery clean and dry. Also, make certain the battery cables are always tightly fastened to the battery terminals.

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.

WARNING: Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide proper ventilation.

WARNING: When lifting a plastic-cased battery, excessive pressure on the end walls could cause acid to flow through the vent caps, resulting in personal injury and/or damage to the vehicle or battery. Lift the battery with a battery carrier or with your hands on opposite corners.

WARNING: Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

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. To begin this process:

1. With the vehicle at a complete stop, set the parking brake.
2. Put the gearshift in P (Park) (automatic transmission) or the neutral position (manual transmission), turn off all accessories and start the engine.
3. Run the engine until it reaches normal operating temperature.
4. Allow the engine to idle for at least one minute.
5. Turn the A/C on and allow the engine to idle for at least one minute.
6. Drive the vehicle to complete the relearning process.

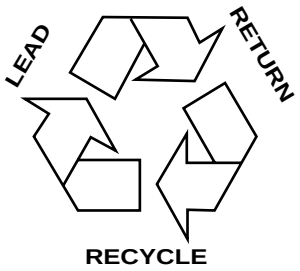
NOTE:

- The vehicle may need to be driven to relearn the idle and fuel trim strategy.
- **If you do not allow the engine to relearn its idle trim, the idle quality of your vehicle may be adversely affected until the idle trim is eventually relearned.**

When the battery is disconnected or a new battery installed, the transmission must relearn its adaptive strategy. As a result of this, the transmission may shift firmly. 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 to its optimum shift feel.

If the battery has been disconnected or a new battery has been installed, the clock and the preset radio stations must be reset once the battery is reconnected.

- Always dispose of automotive batteries in a responsible manner. Follow your local authorized standards for disposal. Call your local authorized recycling center to find out more about recycling automotive batteries.



ENGINE COOLANT

Checking engine coolant

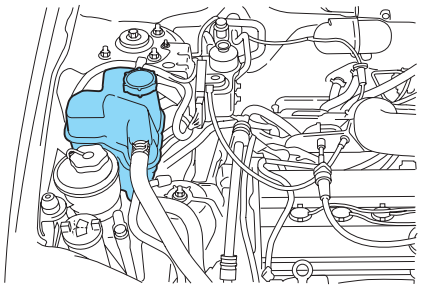
The concentration and level of engine coolant should be checked at the mileage intervals listed in the service maintenance section. The coolant concentration should be maintained at 50/50 coolant and water, which equates to a freeze point of -36° C (-34° F). Coolant concentration testing is possible with a hydrometer or antifreeze tester (such as the Rotunda Battery and Antifreeze Tester, 014–R1060). The level of coolant should be maintained at the “cold full” of “cold fill range” level in the coolant reservoir. If the level falls below, add coolant per the instructions in the *Adding Engine Coolant*section.

Your vehicle was factory-filled with a 50/50 engine coolant and water concentration. If the concentration of coolant falls below 40% or above 60%, the engine parts could become damaged or not work properly. **A 50–50 mixture of coolant and water provides the following:**

- **freeze protection down to -36° C (-34° F).**
- **boiling protection up to 129° C (265° F).**
- **protection against rust and other forms of corrosion.**

- **an accurate temperature readout from the engine coolant gauge.**

When the engine is cold, check the level of the engine coolant in the reservoir.



- The engine coolant should be at the “cold fill level” or within the “cold fill range” as listed on the engine coolant reservoir (depending upon application).
- Refer to the Scheduled Maintenance section for service interval schedules.
- Be sure to read and understand *Precautions when servicing your vehicle* in this chapter.

If the engine coolant has not been checked at the recommended interval, the engine coolant reservoir may become low or empty. If the reservoir is low or empty, add engine coolant to the reservoir. Refer to *Adding engine coolant* in this chapter.

WARNING: Automotive fluids are not interchangeable; do not use engine coolant, antifreeze or windshield washer fluid outside of its specified function and vehicle location.

Adding engine coolant

When adding coolant, make sure it is a 50/50 mixture of engine coolant and distilled water. Add the mixture to the coolant reservoir, **when the engine is cool**, until the appropriate fill level is obtained.

WARNING: Do not add engine coolant when the engine is hot. Steam and scalding liquids released from a hot cooling system can burn you badly. Also, you can be burned if you spill coolant on hot engine parts.

WARNING: Do not put engine coolant in the windshield washer fluid container. If sprayed on the windshield, engine coolant could make it difficult to see through the windshield.

The cooling system in your vehicle is filled with either green-colored or yellow-colored Mazda Premium Engine Coolant meeting Mazda Specifications. To determine your vehicle's coolant type (color), check your coolant reservoir.

To maintain the integrity of the coolant and the cooling system and maintain the warranty on the cooling system:

- **Add Mazda Premium Engine Coolant or the type of coolant originally equipped in your vehicle.** If you are unsure which type of coolant your vehicle requires, check your coolant reservoir or contact your local dealer.
- **Do not add/mix an orange-colored, extended life coolant such as Mazda Speciality Orange Engine Coolant, meeting Mazda specifications with the factory-filled coolant.** Mixing Mazda Speciality Orange Engine Coolant or any orange-colored extended life product with your factory filled coolant can result in degraded corrosion protection.
- A large amount of water without engine coolant may be added, in case of emergency, to reach a vehicle service location. In this instance, the cooling system must be drained and refilled with a 50/50 mixture of engine coolant and distilled water as soon as possible. Water alone (without engine coolant) can cause engine damage from corrosion, overheating or freezing.
- **Do not use alcohol, methanol or brine or any engine coolants mixed with alcohol or methanol antifreeze (coolant).** 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 engine coolant.
- **Do not mix with recycled coolant unless from a Mazda-approved recycling process (see** *Use of Recycled Engine Coolant* **section.**

For vehicles with overflow coolant systems with a non-pressurized cap on the coolant recovery system, add coolant to the coolant recovery

reservoir when the engine is cool. Add the proper mixture of coolant and water to the “cold full” level. For all other vehicles, which have a coolant degas system with a pressurized cap, or if it is necessary to remove the coolant pressure relief cap on the radiator of a vehicle with an overflow system, follow these steps to add engine coolant.

WARNING: To avoid 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 the cap is loosened slightly.

1. Before you begin, turn the engine off and let it cool.
2. When the engine is cool, wrap a thick cloth around the coolant pressure relief cap on the coolant reservoir (an opaque plastic bottle). Slowly turn cap counterclockwise (left) until pressure begins to release.
3. Step back while the pressure releases.
4. When you are sure that all the pressure has been released, use the cloth to turn it counterclockwise and remove the cap.
5. Fill the coolant reservoir slowly with the proper coolant mixture (see above), to within the “cold fill range” or the “cold full” level on the reservoir. If you removed the radiator cap in an overflow system, fill the radiator until the coolant is visible and radiator is almost full.
6. Replace the cap. Turn until tightly installed. (Cap must be tightly installed to prevent coolant loss.)

After any coolant has been added, run the engine for a few minutes to mix the coolant. Check the coolant concentration. Make sure the engine is off and cool before removing the coolant pressure relief cap (see preceding steps on cap removal). Check the concentration per the *Checking Engine Coolant* section. If the concentration is not 50/50 (protection to –34°F/–36°C), drain some coolant and adjust the concentraction. It may take several drains and additions to obtain a 50/50 coolant concentration.

Whenever coolant has been added, the coolant level in the coolant reservoir should be checked the next few times you drive the vehicle. If necessary, add enough 50/50 concentration of engine coolant and distilled water to bring the liquid level to the proper level.

If you have to add more than 1.0 liter (1.0 quart) of engine coolant per month, have your dealer check the engine cooling system. Your cooling system may have a leak. Operating an engine with a low level of coolant can result in engine overheating and possible engine damage).

Recycled engine coolant

Not all coolant recycling processes produce coolant which meets Mazda recommend coolants. Use of a recycled engine coolant which does not meet the Mazda recommended coolant, may harm engine and cooling system components.

Always dispose of used automotive fluids in a responsible manner. Follow your community's regulations and standards for recycling and disposing of automotive fluids.

Coolant refill capacity

To find out how much fluid your vehicle's cooling system can hold, refer to *Refill capacities* in this chapter.

Fill your engine coolant reservoir as outlined in *Adding engine coolant* in this chapter.

Severe climates

If you drive in extremely cold climates (less than –36° C [–34° F]):

- **It may be necessary to increase the coolant concentration above 50%.**
- **NEVER increase the coolant concentration above 60%.**
- **Increased engine coolant concentrations above 60% will decrease the overheat protection characteristics of the engine coolant and may cause engine damage.**
- **Refer to the chart on the coolant container to ensure the coolant concentration in your vehicle will provide adequate freeze protection at the temperatures in which you drive in the winter months.**

If you drive in extremely hot climates:

- **It is still necessary to maintain the coolant concentration above 40%.**
- **NEVER decrease the coolant concentration below 40%.**

- **Decreased engine coolant concentrations below 40% will decrease the corrosion protection characteristics of the engine coolant and may cause engine damage.**
- **Decreased engine coolant concentrations below 40% will decrease the freeze protection characteristics of the engine coolant and may cause engine damage.**
- **Refer to the chart on the coolant container to ensure the coolant concentration in your vehicle will provide adequate protection at the temperatures in which you drive.**

Vehicles driven year-round in non-extreme climates should use a 50/50 mixture of engine coolant and distilled water for optimum cooling system and engine protection.

WHAT YOU SHOULD KNOW ABOUT AUTOMOTIVE FUELS

Important safety precautions

WARNING: Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

WARNING: The fuel system may be under pressure. If the fuel filler cap is venting vapor or if you hear a hissing sound, wait until it stops before completely removing the fuel filler cap. Otherwise, fuel may spray out and injure you or others.

WARNING: If you do not use the proper fuel filler cap, excessive pressure or vacuum in the fuel tank may damage the fuel system or cause the fuel cap to disengage in a collision, which may result in possible personal injury.

WARNING: Automotive fuels can cause serious injury or death if misused or mishandled.

WARNING: Gasoline may contain benzene, which is a cancer-causing agent.

Observe the following guidelines when handling automotive fuel:

WARNING: 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.

- Extinguish all smoking materials and any open flames before fueling your vehicle.
- Always turn off the vehicle before fueling.
- 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 and/or clothing, 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, or skin contact could cause an adverse reaction. In sensitive individuals, serious personal injury or sickness may result. If fuel is splashed on the skin, promptly wash skin thoroughly with soap and water. Consult a physician immediately if you experience an adverse reaction.

WARNING: When refueling always shut the engine off and never allow sparks or open flames near the filler neck. Never smoke while refueling. Fuel vapor is extremely hazardous under certain conditions. Care should be taken to avoid inhaling excess fumes.

WARNING: The flow of fuel through a fuel pump nozzle can produce static electricity, which can cause a fire if fuel is pumped into an ungrounded fuel container. Be very careful to put the container on the ground before adding fuel to it.

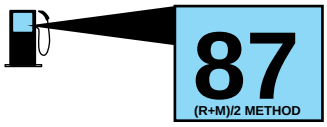
Use the following guidelines to avoid static build-up when filling an ungrounded fuel container:

- Place approved fuel container on the ground.
- DO NOT fill a fuel container while it is in the vehicle (including the cargo area).
- Keep the fuel pump nozzle in contact with the fuel container while filling.
- DO NOT use a device that would hold the fuel pump handle in the fill position.

Choosing the right fuel

- **Use only UNLEADED FUEL. The use of leaded fuel is prohibited by law and could damage your vehicle.**
- **Do not use fuel containing methanol. It can damage critical fuel system components.**
- **Your vehicle was not designed to use fuel or fuel additives with metallic compounds, including manganese-based compounds containing MMT.**
- **Repairs to correct the effects of using a fuel for which your vehicle was not designed may not be covered by your warranty.**

Octane recommendations



Your vehicle is designed to use "Regular" unleaded gasoline with pump (R+M)/2 octane rating of 87. We do not recommend the use of gasolines labeled as "Regular" that are sold with octane ratings of 86 or lower in high altitude areas.

NOTE: Do not be concerned if your engine sometimes knocks lightly. However, if it knocks heavily under most driving conditions while you are using fuel with the recommended octane rating, see your authorized Mazda dealer to prevent any engine damage.

Fuel quality

NOTE: If you are experiencing starting, rough idle or hesitation driveability problems during a cold start, try a different brand of "Regular" unleaded gasoline. "Premium" unleaded gasoline is not recommended (particularly in the United States) because it may cause these problems to become more pronounced. If the problems persist, see your authorized Mazda dealer.

It should not be necessary to add any aftermarket products to your fuel tank if you continue to use high quality fuel of the recommended octane rating.

Aftermarket products could cause damage to the fuel system. Repairs to correct the effects of using an aftermarket product in your fuel may not be covered by your warranty.

Many of the world's automakers issued the World-wide Fuel Charter that recommends gasoline specifications to provide improved performance and emission control system protection for your vehicle. Gasolines that meet the World-wide Fuel Charter should be used when available. Ask your fuel supplier about gasolines that meet the World-wide Fuel Charter. In Canada, look for fuels that display the **Auto Makers' Choice**™ logo.

Cleaner air

Mazda endorses the use of reformulated “cleaner-burning” gasolines to improve air quality.

Running out of fuel

Avoid running out of fuel because this situation may have an adverse affect on powertrain components.

If you have run out of fuel:

- You may need to cycle 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.
- The indicator may come on. For more information on the “Check Engine” indicator, refer to the *Instrument Cluster* chapter.

Fuel Filler Cap

Your fuel tank filler cap has an indexed design with a 1/8 turn on/off feature.

When fueling your vehicle:

1. Turn the engine off.
2. Carefully turn the filler cap counterclockwise 1/8 of a turn until it stops.
3. Pull to remove the cap from the fuel filler pipe.
4. To install the cap, align the tabs on the cap with the notches on the filler pipe.
5. Turn the filler cap clockwise 1/8 of a turn until it stops.

After refueling, if the “CHECK FUEL CAP” indicator comes on and stays on when you start the engine, the fuel filler cap may not be properly installed. Turn off the engine, remove the fuel filler cap, align the cap properly and reinstall it securely. The indicator should turn off after three driving cycles with the fuel filler cap properly installed. A driving cycle consists of a cold engine start-up followed by mixed city/highway driving.

If you must replace the fuel filler cap, replace it with a fuel filler cap that is designed for your vehicle. The customer warranty may be void for any damage to the fuel tank or fuel system if the correct genuine Mazda fuel filler cap is not used.

WARNING: The fuel system may be under pressure. If the fuel filler cap is venting vapor or if you hear a hissing sound, wait until it stops before completely removing the fuel filler cap. Otherwise, fuel may spray out and injure you or others.

WARNING: If you do not use the proper fuel filler cap, excessive pressure or vacuum in the fuel tank may damage the fuel system or cause the fuel cap to disengage in a collision, which may result in possible personal injury.

Fuel Filter

For fuel filter replacement, see your authorized Mazda dealership. Refer to the service maintenance section for the appropriate intervals for changing the fuel filter.

Replace the fuel filter with an authorized Mazda part. The customer warranty may be void for any damage to the fuel system if an authorized Mazda fuel filter is not used.

ESSENTIALS OF GOOD FUEL ECONOMY

Measuring techniques

Your best source of information about actual fuel economy is you, the driver. You must gather information as accurately and consistently as possible. Fuel expense, frequency of fillups or fuel gauge readings are NOT accurate as a measure of fuel economy. We do not recommend taking fuel economy measurements during the first 1, 600 km (1, 000 miles) of driving (engine break-in period). You will get a more accurate measurement after 3, 000 km–5, 000 km (2, 000 miles-3, 000 miles).

Filling the tank

The advertised fuel capacity of the fuel tank on your vehicle is equal to the rated refill capacity of the fuel tank as listed in the *Refill capacities* section of this chapter.

The advertised capacity is the amount of the indicated capacity and the empty reserve combined. Indicated capacity is the difference in the amount of fuel in a full tank and a tank when the fuel gauge indicates empty. Empty reserve is the small amount of fuel remaining in the fuel tank after the fuel gauge indicates empty.

The amount of usable fuel in the empty reserve varies and should not be relied upon to increase driving range. When refueling your vehicle after the fuel gauge indicates empty, you might not be able to refuel the full amount of the advertised capacity of the fuel tank due to the empty reserve still present in the tank.

For consistent results when filling the fuel tank:

- Turn the engine/ignition switch to the off position prior to refueling, an error in the reading will result if the engine is left running.
- Use the same filling rate setting (low — medium — high) each time the tank is filled.
- Allow no more than 2 automatic click-offs when filling.
- Always use fuel with the recommended octane rating.
- Use a known quality gasoline, preferably a national brand.
- Use the same side of the same pump and have the vehicle facing the same direction each time you fill up.
- Have the vehicle loading and distribution the same every time.

Your results will be most accurate if your filling method is consistent.

Calculating fuel economy

1. Fill the fuel tank completely and record the initial odometer reading (in kilometers or miles).
2. Each time you fill the tank, record the amount of fuel added (in liters or gallons).
3. After at least three to five tank fill-ups, fill the fuel tank and record the current odometer reading.
4. Subtract your initial odometer reading from the current odometer reading.
5. Follow one of the simple calculations in order to determine fuel economy:

   Multiply liters used by 100, then divide by total kilometers traveled.

   Divide total miles traveled by total gallons used.

Keep a record for at least one month and record the type of driving (city or highway). This will provide an accurate estimate of the vehicle's fuel economy under current driving conditions. Additionally, keeping records

during summer and winter will show how temperature impacts fuel economy. In general, lower temperatures give lower fuel economy.

Driving style — good driving and fuel economy habits

Give consideration to the lists that follow and you may be able to change a number of variables and improve your fuel economy.

Habits

- Smooth, moderate operation can yield up to 10% savings in fuel.
- Steady speeds without stopping will usually give the best fuel economy.
- Idling for long periods of time (greater than one minute) may waste fuel.
- Anticipate stopping; slowing down may eliminate the need to stop.
- Sudden or hard accelerations may reduce fuel economy.
- Slow down gradually.
- Driving at reasonable speeds (traveling at 88 km/h [55 mph] uses 15% less fuel than traveling at 105 km/h [65 mph]).
- Revving the engine before turning it off may reduce fuel economy.
- Using the air conditioner or defroster may reduce fuel economy.
- You may want to turn off the speed control in hilly terrain if unnecessary shifting between third and fourth gear occurs. Unnecessary shifting of this type could result in reduced fuel economy.
- Warming up a vehicle on cold mornings is not required and may reduce fuel economy.
- Resting your foot on the brake pedal while driving may reduce fuel economy.
- Combine errands and minimize stop-and-go driving.

Maintenance

- Keep tires properly inflated and use only recommended size.
- Operating a vehicle with the wheels out of alignment will reduce fuel economy.
- Use recommended engine oil. Refer to *Lubricant specifications* in this chapter.

- Perform all regularly scheduled maintenance items. Follow the recommended maintenance schedule and owner maintenance checks found in your vehicle service maintenance section.

Conditions

- Heavily loading a vehicle or towing a trailer may reduce fuel economy at any speed.
- Carrying unnecessary weight may reduce fuel economy (approximately 0.4 km/L [1 mpg] is lost for every 180 kg [400 lb] of weight carried).
- Adding certain accessories to your vehicle (for example bug deflectors, rollbars/light bars, running boards, ski/luggage racks) may reduce fuel economy.
- Using fuel blended with alcohol may lower fuel economy.
- Fuel economy may decrease with lower temperatures during the first 12–16 km (8–10 miles) of driving.
- Driving on flat terrain offers improved fuel economy as compared to driving on hilly terrain.
- Transmissions give their best fuel economy when operated in the top cruise gear and with steady pressure on the gas pedal.
- Close windows for high speed driving.

EPA window sticker

Every new vehicle should have the EPA window sticker. Contact your dealer if the window sticker is not supplied with your vehicle. The EPA window sticker should be your guide for the fuel economy comparisons with other vehicles.

It is important to note the box in the lower left corner of the window sticker. These numbers represent the Range of L/100 km (MPG) expected on the vehicle under optimum conditions. Your fuel economy may vary depending upon the method of operation and conditions.

EMISSION CONTROL SYSTEM

Your vehicle is equipped with various emission control components and a catalytic converter which will enable your vehicle 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 your service maintenance section performed according to the specified schedule.

The scheduled maintenance items listed in the scheduled maintenance section are essential to the life and performance of your vehicle and to its emissions system.

If other than Mazda authorized parts are used for maintenance replacements or for service of components affecting emission control, such non-Mazda parts should be equivalent to genuine Mazda parts in performance and durability.

WARNING: Do not park, idle, or drive your vehicle in dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, which can start a fire.

Illumination of the 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.

WARNING: Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment.

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 identifies engine displacement and gives some tune up specifications.

Please consult your "Warranty Information" for complete emission warranty information.

Readiness for Inspection/Maintenance (I/M) testing

In some localities, it may be a legal requirement to pass an I/M test of the on-board diagnostics system. If your indicator is on, refer to the

description in the *Warning lights and chimes* section of the *Instrument Cluster* chapter. Your vehicle may not pass the I/M test with the indicator on.

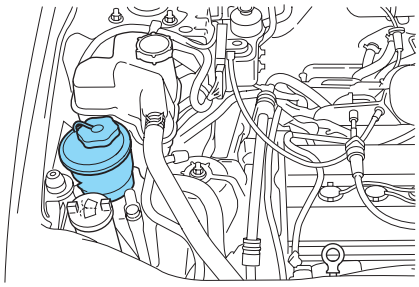
If the vehicle's powertrain system or its battery has just been serviced, the on-board diagnostics system is reset to a "not ready for I/M test" condition. To ready the on-board diagnostics system for I/M testing, a minimum of 30 minutes of city and highway driving is necessary as described below:

- First, at least 10 minutes of driving on an expressway or highway.
- Next, at least 20 minutes driving in stop-and-go, city-type traffic with at least four idle periods.

Allow the vehicle to sit for at least eight hours without starting the engine. Then, start the engine and complete the above driving cycle. The engine must warm up to its normal operating temperature. Once started, do not turn off the engine until the above driving cycle is complete.

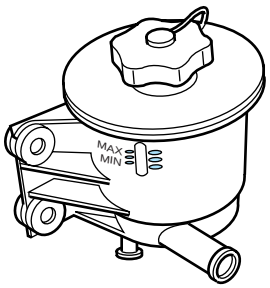
CHECKING AND ADDING POWER STEERING FLUID

Check the power steering fluid. Refer to the service maintenance section for the service interval schedules. If adding fluid is necessary, use only MERCON® ATF.



1. Start the engine and let it run until it reaches normal operating temperature (the engine coolant temperature gauge indicator will be near the center of the normal area between H and C).
2. While the engine idles, turn the steering wheel left and right several times.
3. Turn the engine off.

4. Check the fluid level in the reservoir. It should be between the MIN and MAX lines. Do not add fluid if the level is in this range.



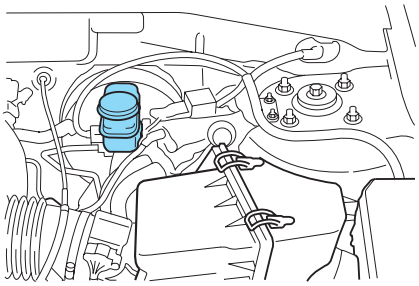
5. If the fluid is low, add fluid in small amounts, continuously checking the level until it reaches the range between the MIN and MAX lines. Be sure to put the cap back on the reservoir.

BRAKE FLUID

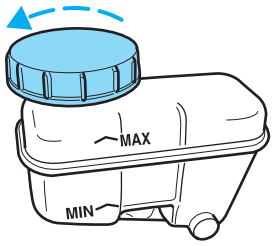
Checking and adding brake fluid

Brake fluid should be checked and refilled as needed. Refer to the scheduled maintenance section for the service interval schedules.

1. Clean the reservoir cap before removal to prevent dirt or water from entering the reservoir.



2. Visually inspect the fluid level.
3. If necessary, add brake fluid from a clean un-opened container until the level reaches MAX. Do not fill above this line.
4. Use only brake fluids certified to meet Mazda specifications. Refer to *Lubricant specifications* in this chapter.



DOT 3 fluid is recommended. However, if DOT 3 is not available, DOT 4 fluid can be used.

WARNING: Brake fluid is toxic. If brake fluid contacts the eyes, flush eyes with running water for 15 minutes. Seek medical attention if irritation persists. If taken internally, drink water and induce vomiting. Seek medical attention immediately.

WARNING: If you use DOT 5 or any other brake fluid that is not DOT 3 or DOT 4, you will cause permanent damage to your brakes.

WARNING: Do not let the fluid level in the reservoir for the master cylinder fall below the MIN mark. If master cylinder runs dry, this may cause the brakes to fail.

TRANSMISSION FLUID

Checking automatic transmission fluid

Refer to your scheduled maintenance section for scheduled intervals for fluid checks and changes. Your transaxle does not consume fluid. However, the fluid level should be checked if the transaxle is not working properly, i.e., if the transaxle slips or shifts slowly or if you notice some sign of fluid leakage.

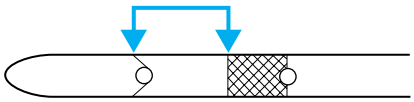
Automatic transmission fluid expands when warmed. To obtain an accurate fluid check, drive the vehicle until it is warmed up (approximately 30 km [20 miles]). If your vehicle has been operated for an extended period at high speeds, in city traffic during hot weather or pulling a trailer, the vehicle should be turned off for about 30 minutes to allow fluid to cool before checking.

1. Drive the vehicle 30 km (20 miles) or until it reaches normal operating temperature.
2. Park the vehicle on a level surface and engage the parking brake.
3. With the parking brake engaged and your foot on the brake pedal, start the engine and move the gearshift lever through all of the gear ranges. Allow sufficient time for each gear to engage.
4. Latch the gearshift lever in P (Park) and leave the engine running.

5. Remove the dipstick, wiping it clean with a clean, dry lint free rag. If necessary, refer to *Identifying components in the engine compartment* in this chapter for the location of the dipstick.
6. Install the dipstick making sure it is fully seated in the filler tube.
7. Remove the dipstick and inspect the fluid level. The fluid should be in the crosshatch zone for normal operating temperature.

Low fluid level

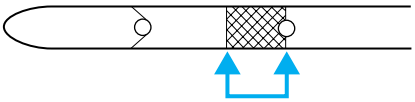
Do not drive the vehicle if the fluid level is at the bottom of the dipstick and the outside temperatures are above 10°C (50°F).



Correct fluid level

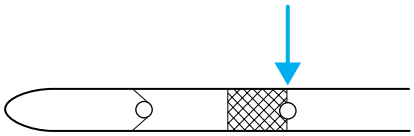
The transmission fluid should be checked at normal operating temperatures 66°C-77°C (150°F-170°F) on a level surface. The normal operating temperature can be reached after approximately 30 km (20 miles) of driving.

The transmission fluid should be in the crosshatch zone if at normal operating temperature (66°C-77°C [150°F-170°F]).



High fluid level

Fluid levels above the crosshatch zone may result in transaxle failure. An overfill condition of transmission fluid may cause shift and/or engagement concerns and/or possible damage.



High fluid levels can be caused by an overheating condition.

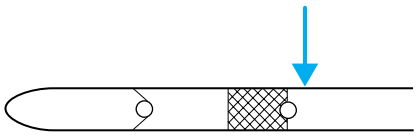
Adjusting automatic transmission fluid levels

Before adding any fluid, make sure the correct type is used. The type of fluid used is normally indicated on the dipstick and also in the *Lubricant specifications* section in this chapter.

Use of a non-approved automatic transmission fluid may cause internal transaxle component damage.

If necessary, add fluid in 250 mL (1/2 pint) increments through the filler tube until the level is correct.

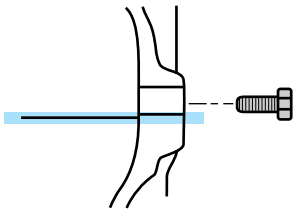
If an overfill occurs, excess fluid should be removed by a qualified technician.



An overfill condition of transmission fluid may cause shift and/or engagement concerns and/or possible damage.

Checking and adding manual transmission fluid

1. Clean the filler plug.
2. Remove the filler plug and inspect the fluid level.
3. Fluid level should be at bottom of the opening.

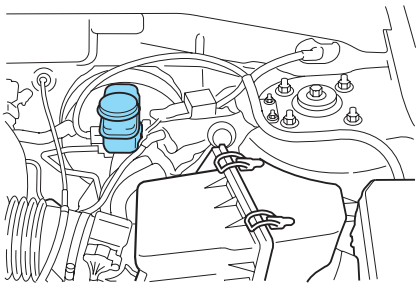


4. Add enough fluid through the filler opening so that the fluid level is at the bottom of the opening.
5. Install and tighten the fill plug securely.

Use only fluid that meets Mazda specifications. Refer to the *Refill capacities* in this chapter.

CLUTCH FLUID (MANUAL TRANSAXLE)

The clutch master cylinder and brake master cylinder are part of the same system; both are refillable through the brake master cylinder with brake fluid. For more information on brake fluid maintenance, refer to *Brake fluid* in this chapter.



WARNING: Brake fluid is toxic. If brake fluid contacts the eyes, flush eyes with running water for 15 minutes. Seek medical if irritation persists. If taken internally, drink water and induce vomiting. Seek medical attention immediately.

AIR FILTER MAINTENANCE

Refer to the service maintenance section for the appropriate intervals for changing the air filter element.

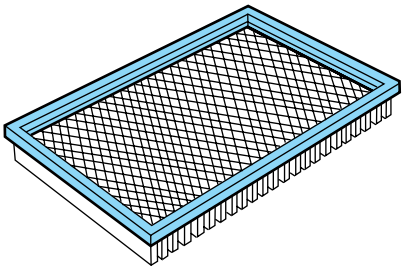
When changing the air filter element, only use a Genuine Mazda air filter element.

WARNING: Do not start your engine with the air cleaner removed and do not remove it while the engine is running.

Changing the air filter element

1. Loosen the clamp that secures the air inlet tube to the engine air filter cover and disconnect the tube from the cover.
2. Release the clamps that secure the air filter housing cover.
3. Carefully separate the two halves of the air filter housing.
4. Remove the air filter element from the air filter housing.
5. Wipe the air filter housing and cover clean to remove any dirt or debris and to ensure good sealing.
6. Install a new air filter element.

Be careful not to crimp the filter element edges between the air filter housing and cover. This could cause filter damage and allow unfiltered air to enter the engine if not properly seated.

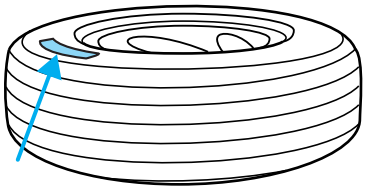


7. Replace the air filter housing cover and secure the clamps.
8. Replace the air inlet tube and secure the clamp.

Note: Failure to use the correct air filter element may result in severe engine damage. The customer warranty may be voided for any damage to the engine if the correct air filter element is not used.

INFORMATION ABOUT UNIFORM TIRE QUALITY GRADING

New vehicles are fitted with tires that have a rating on them called Tire Quality Grades. 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 tires for use on passenger cars. They do not apply to deep tread, winter-type snow tires, space-saver or temporary use spare 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 Mazda 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 1/2) 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

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.

NOTE: 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.

Temperature A B C

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. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

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.

SERVICING YOUR TIRES

Checking the tire pressure

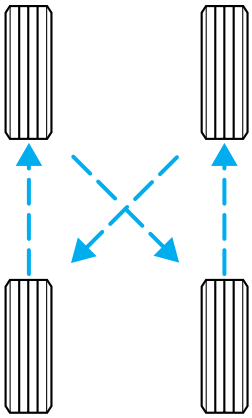
- Use an accurate tire pressure gauge.
- Check the tire pressure when tires are cold, after the vehicle has been parked for at least one hour or has been driven less than 5 km (3 miles).
- Adjust tire pressure to recommended specifications found on the Certification Label or the Tire Label.

WARNING: Improperly inflated tires can affect vehicle handling and can fail suddenly, possibly resulting in loss of vehicle control.

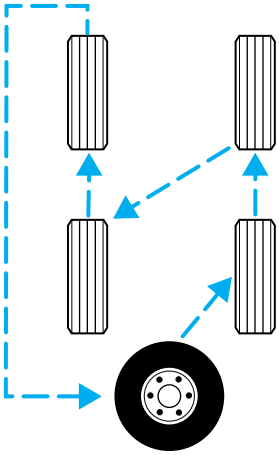
Tire rotation

Because your vehicle's tires perform different jobs, they often wear differently. To make sure your tires wear evenly and last longer, rotate them as indicated in the service maintenance section. If you notice that the tires wear unevenly, have them checked.

- Four tire rotation

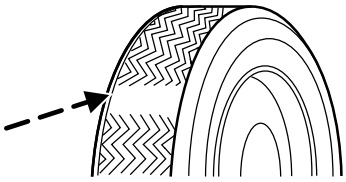


- Five tire rotation



Replacing the tires

Replace the tires when the wear band is visible through the tire treads.



WARNING: When replacing full size tires, never mix radial bias-belted, or bias-type tires. Use only the tire sizes that are listed on the Certification Label. Make sure that all tires are the same size, speed rating, and load-carrying capacity. Use only the tire combinations recommended on the label. If you do not follow these precautions, your vehicle may not drive properly and safely and an accident can occur.

WARNING: Make sure that all replacement tires are of the same size, type, load=carrying capacity and tread (e.g., "All Terrain", etc.), as originally offered by Mazda. Failure to do so can result in tire failure and a serious accident.

WARNING: Do not replace your tires with "high performance" tires or larger size tires.

WARNING: Failure to follow these precautions may adversely affect the handling of the vehicle, damage parts of the tire and make it easier for the driver to lose control and roll over.

Tires that are larger or smaller than your vehicle's original tires may also affect the accuracy of your speedometer.

USING SNOW TIRES AND TRACTION DEVICES

NOTE: Snow tires must be the same size and grade as the tires you currently have on your vehicle.

The tires on your vehicle have all-weather treads to provide traction in rain and snow. However, in some climates, using snow tires and traction devices may be necessary. If you need to use snow tires and chains, it is recommended that steel wheels are used of the same size and specification as those originally installed.

Follow these guidelines when using snow tires and traction devices:

- Do not use tire chains on aluminum wheels. Chains may chip the wheels.
- Use only SAE Class S chains
- Install chains securely, verifying that the chains do not touch any wiring, brake lines or fuel lines.

Drive cautiously. If you hear the chains rub or bang against the vehicle, stop and retighten them. If this does not work, remove the cables to prevent vehicle damage.

- Avoid overloading your vehicle.
- Remove the tire chains when they are no longer needed.
- Do not use chains on dry roads.
- The suspension insulation and bumpers will help prevent vehicle damage. Do not remove these components from the vehicle when using snow tires and traction devices.
- Do not exceed 48 km/h (30 mph) with tire chains on your vehicle.

REFILL CAPACITIES

Fluid	Classification	Application	Capacity
Brake fluid	High Performance DOT 3 Motor Vehicle Brake Fluid	All	Fill to line on reservoir
Engine oil (including filter change)	API service SJ, SAE 5W-20, 5W-30 Super Premium Motor Oil	2.0L I4 Zetec engine	4.25L (4.5 quarts)
	API service SH or SJ, SAE 5W-20, 5W-30, 10W-30, ACEA A1/B1 Super Premium Motor Oil	3.0L V6 Duratec engine	5.2L (5.5 quarts)
Fuel tank	N/A	2.0L I4 Zetec engine	57L (15 gallons)
		3.0L V6 Duratec engine	61L (16 gallons)
Power steering fluid	MERCON®	All	Fill to line on reservoir
Transmission fluid [1]	API service GL-4 or GL-5, SAE 75W-90	Manual transaxle (2WD)	2.7L (2.85 quarts) [2]
		Manual transaxle (4X4)	2.2L (2.32 quarts) [2]
	MERCON® ATF	3.0L engine with Automatic transaxle and oil cooler	12.7L (13.4 quarts) [3]
Transfer Case	SAE 75W-140 Synthetic Lubricant	4X4 (Automatic)	0.35L (12 ounces)
	API service GL-5, SAE 80W-90	4X4 (Manual)	0.35L (12 ounces)

Fluid	Classification	Application	Capacity
Engine coolant [4]	Mazda green-colored or yellow-colored Premium Engine Coolant	2.0L I4 Zetec engine with manual transaxle	5.0L (5.3 quarts)
		3.0L V6 Duratec engine with automatic transaxle	10.0L (10.6 quarts)
Rear axle lubricant	SAE 80W-90 Premium Rear Axle Lubricant	4X4	1.4L (2.96 pints) [5]
Windshield washer fluid	n/a	All	2.6L (2.7 quarts)

[1]Ensure the correct automatic transmission fluid is used. Transmission fluid requirements are indicated on the dipstick or on the dipstick handle. MERCON® and MERCON® V are not interchangeable. DO NOT mix MERCON® and MERCON® V. Refer to your scheduled maintenance section to determine the correct service interval.

[2]Service refill capacity is determined by filling the transmission to the bottom of the filler hole with the vehicle on a level surface.

[3]Indicates only approximate dry-fill capacity. Some applications may vary based on cooler size and if equipped with an in-tank cooler. The amount of transmission fluid and fluid level should be set by the indication on the dipstick's normal operating range.

[4]Add the coolant type originally equipped in your vehicle. DO NOT USE Extended Life Engine Coolant (orange in color). Refer to *Adding engine coolant* in this chapter.

[5]Fill to 6 mm to 14 mm (1/4 inch to 9/16 inch) below bottom of fill hole.

For further information on your lubrication specifications, see your authorized Mazda dealer.

WHEEL AND TIRE SIZES

Vehicle Grade	Wheel	Tire	Spare Wheel	Spare Tire
DX/DX-V6	6.5JJx16	215/70R16	17x4T	135/90R17
LX-V6/ES-V6	7.0JJx16	235/70R16	17x4T	145/90R17

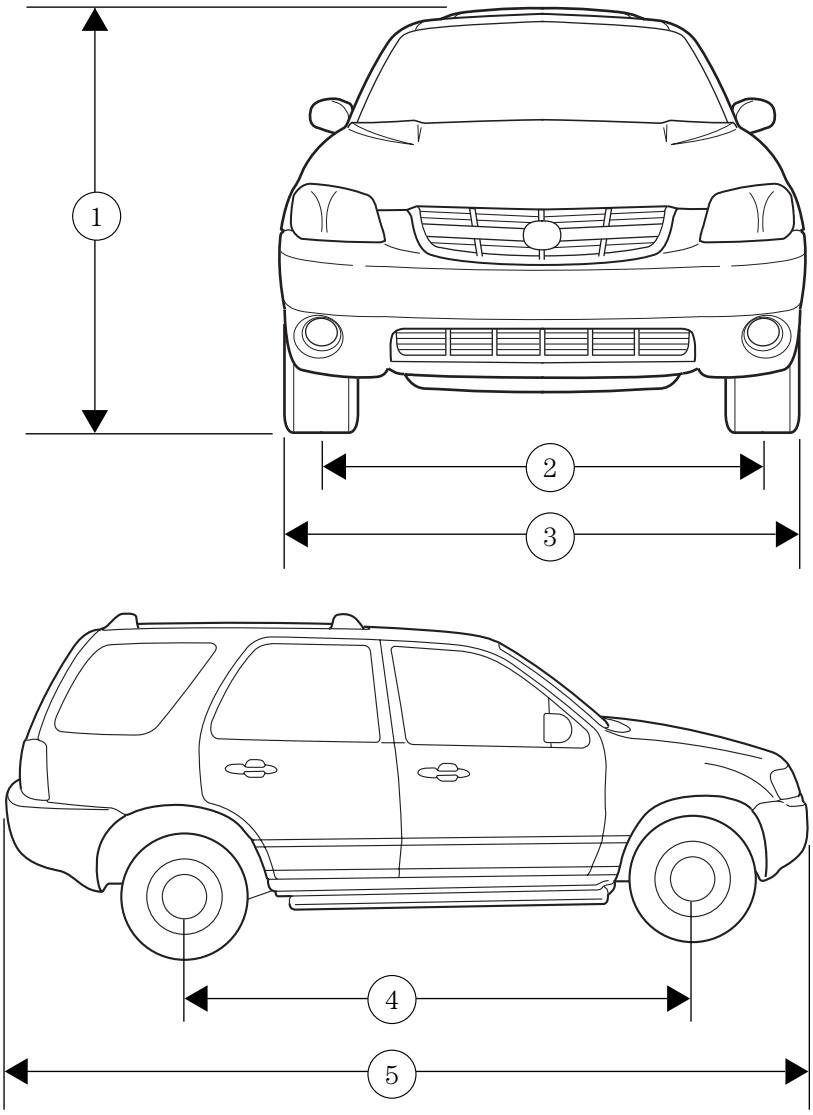
ENGINE SPECIFICATIONS

Engine	2.0L DOHC I4 Zetec engine	3.0L DOHC V6 Duratec engine
Cubic inches	121	181
Required fuel	87 octane	87 octane
Firing order	1-3-4-2	1-4-2-5-3-6
Spark plug gap	1.22-1.32 mm (0.048-0.052 inch)	1.32-1.42 mm (0.052-00.056 inch)
Ignition system	DIS	Coil on plug
Compression ratio	9.6:1	10.0:1

VEHICLE DIMENSIONS

Dimensions	4 Door mm (in.)
(1) Vehicle height/ Maximum height*	1,681 (66.2)/1,744 (68.7)*
(2) Front track / rear	1,550 (61.0)/1,530 (60.2)
(3)Overall width (body)	1,783 (70.2)
(4) Wheelbase	2,620 (103.1)
(5)Overall length	4,394 (173.0)

* Denotes a 4x4 vehicle with optional 16” tires.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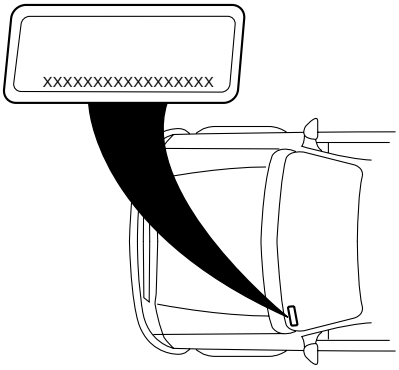
IDENTIFYING YOUR VEHICLE

Certification label

The National Highway Traffic Safety Administration Regulations require that a Certification Label be affixed to a vehicle and prescribe where the Certification Label may be located. The Certification Label is located on the front door latch pillar on the driver's side.

Vehicle identification number

The vehicle identification number is attached to a metal tag and is located on the driver side instrument panel. (Please note that in the graphic XXXX is representative of your vehicle identification number.)



Engine number

The engine number (the last eight numbers of the vehicle identification number) is stamped on the engine block, transmission, frame and transfer case (if equipped).

CELL PHONES

Use of cell phones and other devices by driver:

WARNING: Although not Mazda products, use of any electrical devices such as cell phones, computers, portable radios, vehicle navigation or other devices by the driver while the vehicle is moving is dangerous. Dialing a number on a cell phone while driving also ties-up the driver's hands. Use of these devices will cause the driver to be distracted and could lead to a serious accident. If a passenger is unable to use the device, pull off the right-of-way to a safe area before use. If use of a cell phone is necessary despite this warning, use a hands-free system to at least allow the hands free to drive the vehicle. Never use a cell phone or other electrical device while the vehicle is moving and, instead, concentrate on the full-time job of driving.

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