

Starting and operating

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Fuel

 **CAUTION**

Use of a fuel which is low in quality or use of an inappropriate fuel additive may cause engine damage.

■ Fuel requirements

▼ 2.5-liter non-turbo models

The 2.5-liter non-turbo engine is designed to operate using unleaded gasoline with an octane rating of 87 AKI or higher.

▼ 2.0-liter turbo models

The 2.0-liter turbo engine is designed to operate using premium unleaded gasoline with an octane rating of 91 AKI or higher. If premium unleaded gasoline is not available, regular unleaded gasoline with an octane rating of 87 AKI or higher may be temporarily used. For optimum engine performance and driveability, it is required that you use premium grade unleaded gasoline.

▼ 2.5-liter turbo model

The 2.5-liter turbo engine is designed to operate using super-premium unleaded gasoline with an octane rating of 93 AKI or higher. If super-premium unleaded gasoline with an octane rating of 93 AKI or higher is not available, premium unleaded gasoline with an octane rating of 91 AKI or higher can be used. For optimum engine performance and driveability, it is recommended that you use super-premium grade unleaded gasoline with an octane rating of 93 AKI or higher.

▼ Fuel octane rating

This octane rating is the average of the Research Octane and Motor Octane numbers and is commonly referred to as the Anti Knock Index (AKI).

Using a gasoline with a lower octane rating can cause persistent and heavy knocking, which can damage the engine. Do not be concerned if your vehicle sometimes knocks lightly when you drive up a hill or when you accelerate. See your dealer or a qualified service technician if you use a fuel with the specified octane rating and your vehicle knocks heavily or persistently.

▼ Unleaded gasoline

The neck of the fuel filler pipe is designed to accept only an unleaded gasoline filler nozzle. Under no circumstances should leaded gasoline be used because it will damage the emission control system and may

impair driveability and fuel economy.

▼ **Gasoline for California-certified LEV**

Your vehicle was certified to California's low emission vehicle (LEV) standards as indicated on the underhood tune-up label. It is designed to optimize engine and emission performance with gasoline that meets the clean burning low-sulfur California gasoline specifications. If you live in any other state than California, your vehicle will operate on gasoline meeting Federal specifications. Gasoline sold outside California is permitted to have higher sulfur levels, which may affect the performance of your vehicle's catalytic converter and may produce a sulfur exhaust odor or smell. SUBARU recommends that you try a different brand of unleaded gasoline having lower sulfur to determine if the problem is fuel related before returning your vehicle to an authorized dealer for service.

▼ **MMT**

Some gasoline contains an octane-enhancing additive called MMT (Methylcyclopentadienyl Manganese Tricarbonyl). If you use such fuels, your emission control system performance may deteriorate and the CHECK ENGINE warning light/Malfunction indicator lamp may turn on. If this happens, return to your authorized SUBARU Dealer for service. If it is determined that the condition is caused by the type of fuel used, repairs

may not be covered by your warranty.

▼ **Gasoline for cleaner air**

Your use of gasoline with detergent additives will help prevent deposits from forming in your engine and fuel system. This helps keep your engine in tune and your emission control system working properly, and is a way of doing your part for cleaner air. If you continuously use a high quality fuel with the proper detergent and other additives, you should never need to add any fuel system cleaning agents to your fuel tank.

Many gasolines are now blended with materials called oxygenates. Use of these fuels can also help keep the air cleaner. Oxygenated blend fuels, such as MTBE (Methyl Tertiary Butyl ether) or ethanol (ethyl or grain alcohol) may be used in your vehicle, but should contain no more than 15% MTBE or 10% ethanol for the proper operation of your SUBARU.

In addition, some gasoline suppliers are now producing reformulated gasolines, which are designed to reduce vehicle emissions. SUBARU approves the use of reformulated gasoline.

If you are not sure what the fuel contains, you should ask your service station operators if their gasolines contain detergents and oxygenates and if they have been reformulated to reduce vehicle emissions.

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As additional guidance, only use fuels suited for your vehicle as explained below.

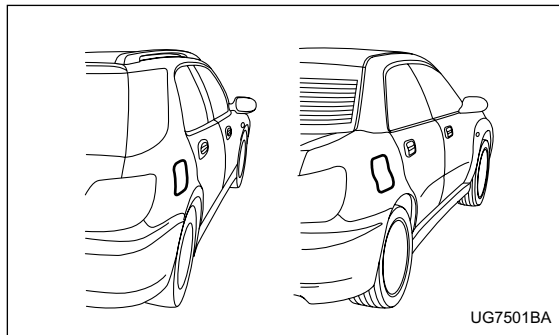
- Fuel should be unleaded and have an octane rating no lower than that specified in this manual.
- Methanol (methyl or wood alcohol) is sometimes mixed with unleaded gasoline. Methanol can be used in your vehicle **ONLY** if it does not exceed 5% of the fuel mixture **AND** if it is accompanied by sufficient quantities of the proper cosolvents and corrosion inhibitors required to prevent damage to the fuel system. Do not use fuel containing methanol **EXCEPT** under these conditions.
- If undesirable driveability problems are experienced and you suspect they may be fuel related, try a different brand of gasoline before seeking service at your SUBARU dealer.
- Fuel system damage or driveability problems which result from the use of improper fuel are not covered under the SUBARU Limited Warranty.

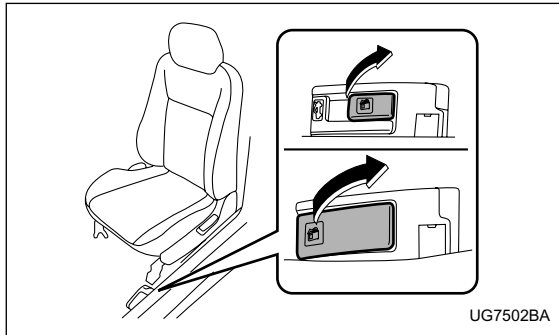
CAUTION

Do not let fuel spill on the exterior surfaces of the vehicle. Fuels containing alcohol may cause paint damage, which is not covered under the SUBARU Limited Warranty.

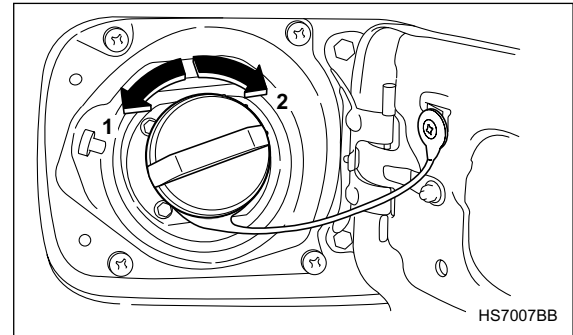
■ Fuel filler lid and cap

▼ Refueling





1. To open the fuel filler lid, pull the lid release lever up.



- 1) Open
- 2) Close

2. Remove the fuel filler cap by turning it slowly counterclockwise.

⚠ WARNING

- Gasoline vapor is highly flammable. Before refueling, always first stop the engine and make sure that there are no lighted cigarettes, open flames or electrical sparks in the adjacent area.
- When opening the cap, do not remove the cap quickly. Fuel may be under pressure and spray out of the fuel filler neck especially in hot

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weather, which may cause injury.

3. Stop filling the tank after the fuel filler pump automatically stops. Do not add any more fuel.

4. Put the cap back on, turn it clockwise until you hear a clicking noise. Be certain not to catch the tether under the cap while tightening.

5. Close the fuel filler lid completely.

If you spill any fuel on the painted surface, rinse it off immediately. Otherwise, the painted surface could be damaged.

NOTE

If the fuel filler cap is not tightened until it clicks or if the tether is caught under the cap, the CHECK ENGINE warning light may come on. Refer to the “Warning and indicator lights” section located in chapter 3.

CAUTION

- Never add any cleaning agents to the fuel tank. The addition of a cleaning agent may cause damage to the fuel system.
- Make sure that the cap is tightened until it clicks to prevent fuel spillage in the event of an accident.

- Do not let fuel spill on the exterior surfaces of the vehicle.

Fuels may cause paint damage, which is not covered under the SUBARU Limited Warranty.

- Always use a genuine SUBARU fuel filler cap. If you use the wrong cap, it may not fit or have proper venting, and your fuel tank and emission control system might be damaged.

State emission testing (U.S. only)

At state inspection time, remember to tell your inspection or service station in advance not to place your Subaru AWD vehicle on a two-wheel dynamometer. Otherwise, serious transmission damage will result.

Some states have started using dynamometers in their state inspection programs in order to meet their obligation under federal law to implement stricter vehicle emission standards to reduce air pollution from vehicles. A dynamometer is a treadmill or roller-like testing device that allows your vehicle's wheels to turn while the vehicle remains in one place. Depending on the severity of a state's air pollution problems, the states must adopt either a "basic" or "enhanced" vehicle emission inspection test. Normally, a portion of the basic emission test consists of an emission inspector inserting an analyzer probe into the exhaust pipe of an idling vehicle for a short period of time. States with more severe air pollution problems are required to adopt an enhanced vehicle emission test. This test simulates actual driving conditions on a dynamometer and permits more accurate measurement of tailpipe emitted pollution than the basic emission test.

The U.S. Environmental Protection Agency (EPA) and

states using two-wheel dynamometers in their emission testing programs have **EXEMPTED** Subaru AWD vehicles from the portion of the testing program that involves a two-wheel dynamometer.

There are some states that use four-wheel dynamometers in their testing programs. When properly used, that equipment will not damage an AWD Subaru vehicle.

Under no circumstances should the rear wheels be jacked off the ground, nor should the driveshaft be disconnected for state emission testing.

WARNING

Testing of an All-Wheel Drive vehicle must NEVER be performed on a single two-wheel dynamometer. Attempting to do so will result in uncontrolled vehicle movement and may cause an accident or injuries to persons nearby.

CAUTION

Resultant vehicle damage due to improper testing is not covered under the SUBARU Limited Warranty and is the responsibility of the state

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inspection program or its contractors or licensees.

The EPA has issued regulations for inspecting the On-Board Diagnostic (OBD) system as part of the state emissions inspection. The OBD system is designed to detect engine and transmission problems that might cause vehicle emissions to exceed allowable limits. These inspections apply to all 1996 model year and newer passenger cars and light trucks. Several states plus the District of Columbia have opted to start the OBD system inspection prior to the required EPA regulation effective date of January 1, 2002. Other states will add OBD system inspection in 2002.

- The inspection of the OBD system consists of a visual operational check of the **“CHECK ENGINE”** warning light/malfunction indicator lamp (MIL) and an examination of the OBD system with an electronic scan tool while the engine is running.
- A vehicle passes the OBD system inspection if proper the **“CHECK ENGINE”** warning light/MIL illumination is observed, there is **no** stored diagnostic trouble codes, and the OBD system readiness monitors are complete.
- A vehicle fails the OBD inspection if the **“CHECK ENGINE”** warning light/MIL is not properly operating

or there is one or more diagnostic trouble codes stored in vehicle’s computer with the **“CHECK ENGINE”** warning light/MIL illuminated.

- A state emission inspection may reject (not pass or fail) a vehicle if the number of OBD system readiness monitors **“Not Ready”** is greater than three. Under this condition, the vehicle operator should be instructed to drive his/her vehicle for a few days to set the monitors and return for an emission re-inspection.
- Owners of rejected or failing vehicles should contact their Subaru Dealer for service.

Preparing to drive

You should perform the following checks and adjustments every day before you start driving.

1. Check that all windows, mirrors, and lights are clean and unobstructed.
2. Check the appearance and condition of the tires. Also check tires for proper inflation.
3. Look under the vehicle for any sign of leaks.
4. Check that the hood, trunk and rear gate are fully closed.
5. Check the adjustment of the seat.
6. Check the adjustment of the inside and outside mirrors.
7. Fasten your seatbelt. Check that your passengers have fastened their seatbelts.
8. Check the operation of the warning and indicator lights when the ignition switch is turned to the "ON" position.
9. Check the gauges, indicator and warning lights after starting the engine.

NOTE

Engine oil, engine coolant, brake fluid, washer fluid and other fluid levels should be checked daily, weekly or at fuel stops.

Starting the engine

CAUTION

Do not operate the starter motor continuously for more than ten seconds. If the engine fails to start after operating the starter for five to ten seconds, wait for ten seconds or more before trying again.

■ Manual transmission vehicle

1. Apply the parking brake.
2. Turn off unnecessary lights and accessories.
3. Press the clutch pedal to the floor and shift the shift lever into neutral. Hold the clutch pedal to the floor while starting the engine.
The starter motor will only operate when the clutch pedal is pressed fully to the floor.
4. Turn the ignition switch to the "ON" position and check the operation of the warning and indicator lights. Refer to the "Warning and indicator lights" section (chapter 3).
5. Turn the ignition switch to the "START" position **without** depressing the accelerator pedal. Release the key immediately after the engine has started.

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If the engine does not start, try the following:

- 1) Turn the ignition switch to the “OFF” position and wait for at least 10 seconds. After checking that the parking brake is firmly set, turn the ignition switch to the “ON” position while depressing the accelerator pedal slightly (about a quarter of the full stroke). Release the accelerator pedal as soon as the engine starts.
 - 2) If this fails to start the engine, turn the ignition switch back to the “OFF” position and wait for at least 10 seconds. Then fully depress the accelerator pedal and turn the ignition switch to the “START” position. If the engine starts, quickly release the accelerator pedal.
 - 3) If this fails to start the engine, turn the ignition switch again to the “OFF” position. After waiting for 10 seconds or longer, turn the ignition switch to the “START” position without depressing the accelerator pedal.
 - 4) If the engine still refuses to start, contact your nearest SUBARU dealer for assistance.
6. Confirm that all warning and indicator lights have gone off after the engine has started. The fuel injection system automatically lowers the idle speed as the engine warms up.

■ Automatic transmission vehicle

1. Apply the parking brake.
2. Turn off unnecessary lights and accessories.
3. Shift the selector lever to the “P” or “N” position (preferably “P” position).
The starter motor will only operate when the select lever is at the “P” or “N” position.
4. Turn the ignition switch to the “ON” position and check the operation of the warning and indicator lights. Refer to the “Warning and indicator lights” section (chapter 3).
5. Turn the ignition switch to the “START” position **without** depressing the accelerator pedal. Release the key immediately after the engine has started.

If the engine does not start, try the following:

- 1) Turn the ignition switch to the “OFF” position and wait for at least 10 seconds. After checking that the parking brake is firmly set, turn the ignition switch to the “ON” position while depressing the accelerator pedal slightly (about a quarter of the full stroke). Release the accelerator pedal as soon as the engine starts.
- 2) If this fails to start the engine, turn the ignition switch back to the “OFF” position and wait for at least 10 seconds. Then fully depress the accelerator pedal and turn the ignition switch to the “START” position. If the engine starts, quickly release the ac-

celerator pedal.

3) If this fails to start the engine, turn the ignition switch again to the "OFF" position. After waiting for 10 seconds or longer, turn the ignition switch to the "START" position without depressing the accelerator pedal.

4) If the engine still refuses to start, contact your nearest SUBARU dealer for assistance.

6. Confirm that all warning and indicator lights have gone out after the engine has started. The fuel injection system automatically lowers the idle speed as the engine warms up.

While the engine is warming up, make sure that the selector lever is at the "P" or "N" position and that the parking brake is applied.

CAUTION

If you restart the engine while the vehicle is moving, shift the selector lever into the "N" position. Do not attempt to place the selector lever of a moving vehicle into the "P" position.

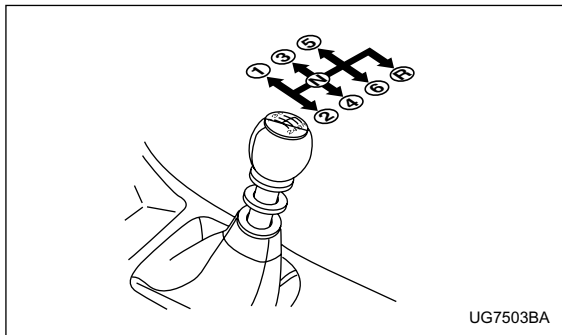
Stopping the engine

The ignition switch should be turned off only when the engine is idling.

WARNING

Do not stop the engine when the vehicle is moving. This will cause loss of power to the power steering and the brake booster, making steering and braking more difficult. It could also result in accidental activation of the "LOCK" position on the ignition switch, causing the steering wheel to lock.

Manual transmission – 6 speeds (WRX-STi)



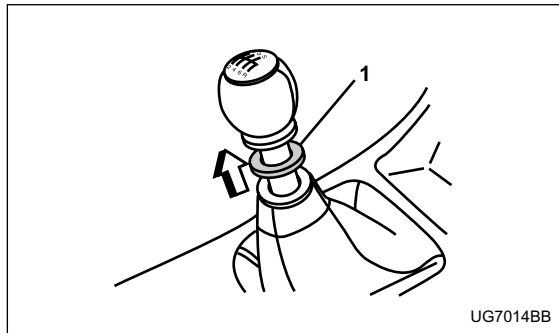
The manual transmission is a fully synchromeshed, 6-forward-speed and 1-reverse-speed transmission. The shift pattern is shown on the shift lever knob.

⚠ WARNING

Do not drive the vehicle with the clutch disengaged (i.e., when the clutch pedal is depressed) or with the shift lever in the neutral position. Engine braking has no effect in either of these conditions and the risk of an accident is conse-

quently increased.

■ Selecting reverse gear



1) Slider

You must raise the slider and hold it in that position before you can move the shift lever to the “R” position.

To change gears, fully depress the clutch pedal, move the shift lever, and gradually let up on the clutch. If it is difficult to shift into gear, put the transmission in neutral, release the clutch pedal momentarily, and then try again.

⚠ CAUTION

Shift into reverse **ONLY** when the vehicle has completely stopped. It may cause damage to the transmission to try shifting into reverse when the vehicle is moving.

■ Shifting speeds**▼ Recommended shifting speeds**

The best compromise between fuel economy and vehicle performance during normal driving is ensured by shifting up at the speeds listed in the following table.

Shift up	mph (km/h)
1st to 2nd	15 (24)
2nd to 3rd	25 (40)
3rd to 4th	40 (64)
4th to 5th	45 (72)
5th to 6th	50 (80)

▼ Maximum allowable speeds

The following tables show the maximum speeds that are possible with each different gear. The tachometer's needle will enter the red area if these speeds are exceeded.

With the exception of cases where sudden acceleration is required, the vehicle should not be driven with the tachometer's needle inside the red area. Failure to observe this precaution can lead to excessive engine wear and poor fuel economy.

Gear	mph (km/h)
1st	35 (57)
2nd	55 (88)
3rd	73 (118)
4th	96 (154)

⚠ WARNING

When shifting down a gear, ensure that the vehicle is not travelling at a speed exceeding the **Maximum Allowable Speed** for the gear which is about to be selected. Failure to observe this precaution can lead to engine over-revving and

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this in turn can result in engine damage. In addition, sudden application of engine brakes when the vehicle is travelling on a slippery surface can lead to wheel locking; as a consequence, control of the vehicle may be lost and the risk of an accident increased.

NOTE

Never exceed posted speed limits.

■ Driving tips

Do not drive with your foot resting on the clutch pedal and do not use the clutch to hold your vehicle at a standstill on an upgrade. Either of those actions may cause clutch damage.

Do not drive with your hand resting on the shift lever. This may cause wear on the transmission components.

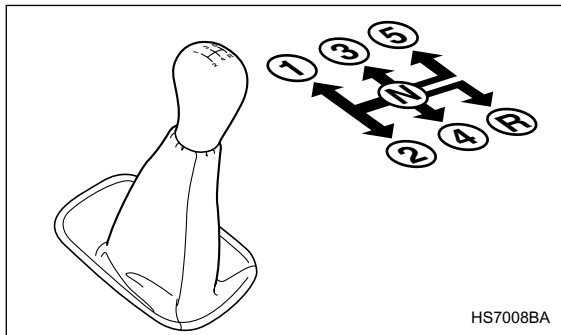
When it is necessary to reduce vehicle speed due to slow traffic, turning corners, or driving up steep hills, downshift to a lower gear before the engine starts to labor.

On steep downgrades, downshift the transmission to 5th, 4th, 3rd or 2nd gear as necessary; this helps to maintain a safe speed and to extend brake pad life.

In this way, the engine provides a braking effect. Remember, if you “ride” (over use) the brakes while descending a hill, they may overheat and not work properly.

The engine may, on rare occasions, knock when the vehicle rapidly accelerates or rapidly pulls away from a standstill. This phenomenon is not an indication of a problem in your vehicle.

Manual transmission – 5 speeds (except WRX-STi)



The manual transmission is a fully synchromeshed, 5-forward-speed and 1-reverse-speed transmission. The shift pattern is shown on the shift lever knob. When shifting from 5th gear to reverse gear, first return the shift lever to the neutral position then shift into reverse gear.

To change gears, fully depress the clutch pedal, move the shift lever, and gradually let up on the clutch pedal. If it is difficult to shift into gear, put the transmission in neutral, release the clutch pedal momentarily, and

then try again.

⚠ WARNING

Do not drive the vehicle with the clutch disengaged (i.e., when the clutch pedal is depressed) or with the shift lever in the neutral position. Engine braking has no effect in either of these conditions and the risk of an accident is consequently increased.

⚠ CAUTION

Shift into reverse **ONLY** when the vehicle has completely stopped. It may cause damage to the transmission to try shifting into reverse when the vehicle is moving.

■ Shifting speeds

▼ Recommended shifting speeds

The best compromise between fuel economy and vehicle performance during normal driving is ensured by shifting up at the speeds listed in the following table.

– CONTINUED –

Shift up	mph (km/h)
1st to 2nd	15 (24)
2nd to 3rd	25 (40)
3rd to 4th	40 (65)
4th to 5th	45 (73)

▼ Maximum allowable speeds

The following table shows the maximum speeds that are possible with each different gear.

Never exceed the speed limit below for each gear position except for brief acceleration in an emergency. The tachometer's needle (if so equipped) will enter the red area if these speeds are exceeded. Failure to observe this precaution can lead to excessive engine wear and poor fuel economy.

2.5-liter non-turbo models

	mph (km/h)	
	RS sport package	RS, OUTBACK
1st	29 (46)	28 (45)
2nd	48 (77)	47 (75)
3rd	68 (110)	66 (106)

2.0-liter turbo models

	mph (km/h)	
	WRX	
1st	35 (56)	
2nd	61 (98)	
3rd	87 (140)	

 WARNING

When shifting down a gear, ensure that the vehicle is not travelling at a speed exceeding the Maximum Allowable Speed for the gear which is about to be selected. Failure to observe this precaution can lead to engine over-revving and this in turn can result in engine damage.

In addition, sudden application of engine brakes when the vehicle is travelling on a slippery surface can lead to wheel locking; as a consequence, control of the vehicle may be lost and the risk of an accident increased.

■ Driving tips

Do not drive with your foot resting on the clutch pedal and do not use the clutch to hold your vehicle at a standstill on an upgrade. Either of those actions may cause clutch damage.

Do not drive with your hand resting on the shift lever. This may cause wear on the transmission components.

When it is necessary to reduce vehicle speed due to slow traffic, turning corners, or driving up steep hills, downshift to a lower gear before the engine starts to labor.

On steep downgrades, downshift the transmission to 4th, 3rd or 2nd gear as necessary; this helps to maintain a safe speed and to extend brake pad life.

In this way, the engine provides a braking effect. Remember, if you “ride” (over use) the brakes while descending a hill, they may overheat and not work prop-

erly.

The engine may, on rare occasions, knock when the vehicle rapidly accelerates or rapidly pulls away from a standstill. This phenomenon is not an indication of a problem in your vehicle.

Driver's Control Center Differential (DCCD) (WRX-STi)

⚠ WARNING

Always use the utmost care when driving. Being overconfident because you are driving a vehicle with a driver's control center differential could easily lead to a serious accident.

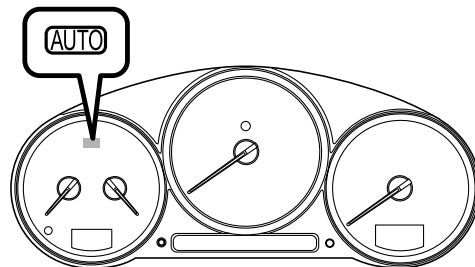


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⚠ CAUTION

In the event of failure of the driver's control center differential, the "O" indicator light will flash and the auto mode and manual mode will both stop functioning. Have the vehicle inspected by your Subaru dealer.

■ Auto mode



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This system automatically adjusts the differential-action limiting factor (torque-distribution ratio between the front and rear wheels) of the center differential to

suit driving and road-surface conditions. When the ignition switch is turned ON, the “AUTO” indicator light in the combination meter comes on. The system can be switched to a manual mode.

■ Manual mode

The manual mode allows the driver to set the differential-action limiting factor of the center differential as desired to suit driving and road-surface conditions. When this mode is selected, the “AUTO” indicator light in the combination meter goes off.

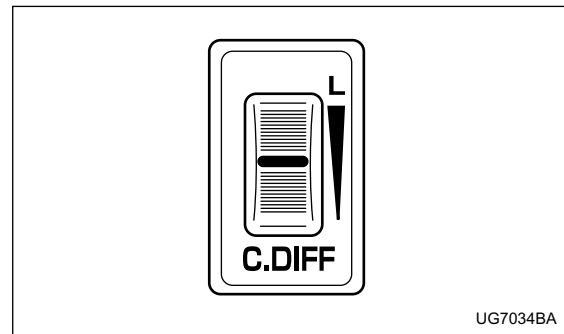
▼ Manual switch



Press the “DCCD-MANU” switch on the center con-

sole to switch from auto mode to manual mode. The “AUTO” indicator light in the combination meter will go off. Press the switch again to go back to auto mode. The “AUTO” indicator light in the combination meter will come on.

▼ Center differential control dial and indicator light

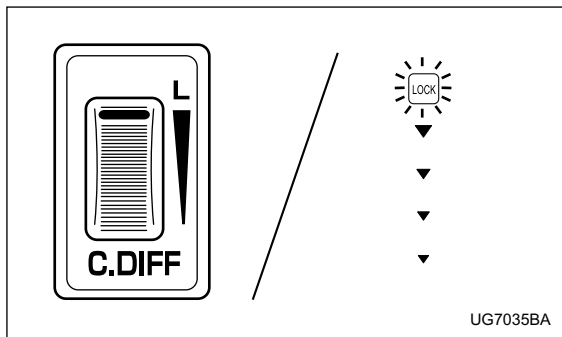


The control dial is located beside the parking-brake lever. By turning the control dial forward and rearward, it is possible to change the differential-action limiting factor of the center differential.

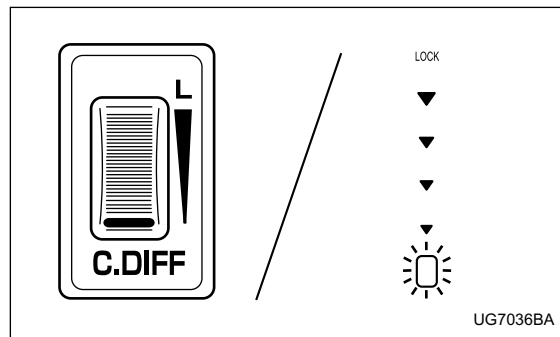
The center-differential indicator lights in the combination meter give six levels of indication. The indicator


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lights and control dial are linked; when the dial is turned to change the differential-action limiting factor (front/rear torque-distribution ratio), the illumination position of the indicator lights change accordingly.



Turn the dial forward to increase the differential-action limiting factor. If the white line on the dial reaches the frontmost position, the center differential will be almost completely locked and the “LOCK” indicator light will come on.



Turn the dial rearward to reduce the differential-action limiting factor. If the white line on the dial reaches the rearmost position, the factor will be minimal and the “” indicator light will come on.

CAUTION

- Do not turn the control dial when a wheel slip-page occurs. Wait until the wheelspin has been brought under control or select the auto mode.
- When the vehicle has been fitted with a temporary spare tire or is to be towed, turn the control dial fully rearward (to minimize the differential-action limiting factor) or select the auto

mode.

NOTE

- If the differential-limiting factor is large during cornering maneuvers, a small speed difference between the front and rear wheels may cause tight corner braking (a phenomenon accompanied by vibration and noise). This phenomenon does not indicate a problem. It will disappear if the differential-action limiting factor is reduced.
- Use the center-differential indicator light only as a rough indication of the differential-action limiting factor.
- If you rapidly depress and release the accelerator pedal while driving at low speed, you may hear a knocking sound from the vicinity of the center differential and rear differential. This sound occurs because of the structure of the center differential. It does not indicate a problem.

■ Temporary release

When the driver stop the vehicle and pulls the parking-brake lever after manually setting the differential-action limiting factor, the factor is temporarily minimized. The indicator in the combination meter continues to show the driver's selected differential-action limiting

factor. When the driver releases the parking-brake lever, the factor set by the driver is restored.

Automatic transmission

The automatic transmission is electronically controlled with 4-forward speeds and 1-reverse speed.

NOTE

Immediately after a disconnected battery is reconnected (Turbo model only) or ATF (automatic transmission fluid) is replaced, you may feel that the automatic transmission operation is somewhat unusual.

This results from erasure or invalidation of data the on-board computer has collected and stored in memory to allow the transmission to shift at the most appropriate times for the current condition of your vehicle. Optimized shifting will be restored as the vehicle continues to be driven for a while.

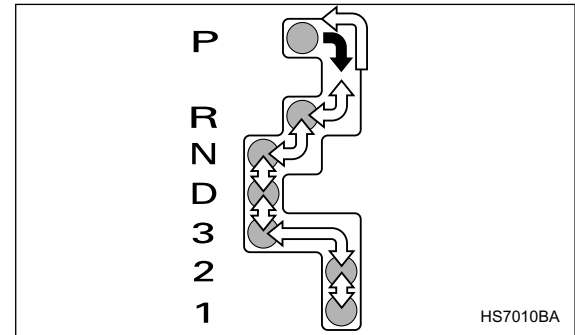
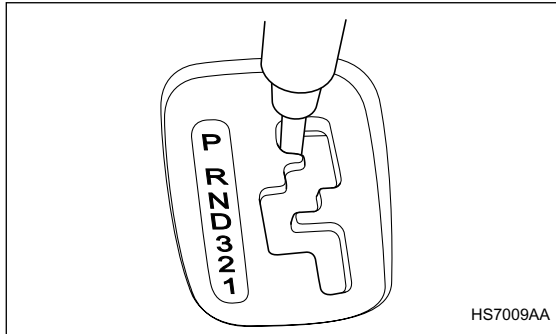
WARNING

Do not shift from the “P” or “N” position into the “D”, “3”, “2”, “1” or “R” position while depressing the accelerator pedal. This may cause the vehicle to jump forward or backward.

CAUTION

- Shift into the “P” or “R” position only after the vehicle is completely stopped. Shifting while the vehicle is moving may cause damage to the transmission.
 - Do not race the engine for more than five seconds in any position except the “N” or “P” position when the brake is set or the tires are on blocks. This may cause the automatic transmission fluid to overheat.
 - Avoid shifting from one of the forward driving positions into the “R” position or vice versa until the vehicle has completely stopped. Such shifting may cause damage to the transmission.
-

■ Selector lever for automatic transmission



- ➔ : With the brake pedal depressed, move the lever along the gate.
- ⇒ : Move the lever along the gate.

The selector lever has seven positions.

▼ P (Park)

This position is for parking the vehicle and starting the engine.

In this position, the transmission is mechanically locked to prevent the vehicle from rolling freely.

When you park the vehicle, first set the parking brake fully, then shift into the “P” position. Do not hold the vehicle with only the transmission.

– CONTINUED –

A shift interlock function is employed in the automatic transmission system to ensure safe starting of the vehicle.

To shift the selector lever from the “P” to the any other position, you have to depress the brake pedal fully when the ignition switch is in the “ON” position. This prevents the vehicle from lurching when it is started.

If the shift lever does not move from the “P” position with the brake pedal depressed, refer to the “Shift lock release” section in this chapter.

▼ R (Reverse)

This position is for backing the vehicle.

To shift from the “N” to “R” position, first stop the vehicle completely then move the lever to the “R” position.

▼ N (Neutral)

This position is for restarting a stalled engine.

In this position the wheels and transmission are not locked. In this position, the transmission is neutral; the vehicle will roll freely, even on the slightest incline unless the parking brake or foot brake is on.

NOTE (Except Turbo models)

If you stop the engine with the selector lever in the “N” position, move the selector lever to the “P” position immediately. Otherwise, you may find

that the selector lever soon cannot be moved to the “P” position. If you find that the selector lever cannot be moved from the “N” position to the “P” position, turn the ignition switch to the “ON” position and try again.

WARNING

Do not drive the vehicle with the selector lever in the “N” (neutral) position. Engine braking has no effect in this condition and the risk of an accident is consequently increased.

▼ D (Drive)

This position is for normal driving.

The transmission automatically shifts into a suitable gear from 1st to 4th according to the vehicle speed and the acceleration you require.

When more acceleration is required in this position, press the accelerator pedal fully to the floor and hold that position. The transmission will automatically downshift to 3rd, 2nd or 1st gear. When you release the pedal, the transmission will return to the original gear position.

▽ **While climbing a grade**

When driving up hill, undesired upshift to 4th gear is prevented from taking place when the accelerator pedal is released. This minimizes the chances of subsequent downshifting to a lower gear when accelerating again. This prevents repeated upshifting and downshifting resulting in a smoother operation of the vehicle.

NOTE

The transmission may downshift to 2nd or 1st gear, depending on the way the accelerator pedal is pressed to accelerate the vehicle again.

▽ **While going down a hill**

When descending a steep hill, depressing the brake pedal will cause the transmission to downshift to 3rd gear, thus applying engine braking. Reacceleration for a short time will cause the transmission to upshift normally.

NOTE

In some cases, depressing the brake pedal on a downhill grade does not result in an automatic downshift to 3rd gear. This can happen when the automatic transmission fluid temperature is very low, for example, during driving shortly after the vehicle has been parked for an extended period of

time. When the ATF temperature has risen to a certain level, automatic downshift normally takes place. In the meantime, downshift manually for engine braking as required.

Also, downshifting when braking downhill will not occur at speeds above approximately 48 mph (78 km/h).

▼ **3 (Third)**

This position is for using engine braking when going down a hill or for climbing a grade.

The transmission automatically shifts into a suitable gear from 1st to 3rd according to the vehicle speed and the acceleration you require.

When more acceleration is required in this position, press the accelerator pedal fully to the floor and hold that position. The transmission will automatically downshift to 2nd or 1st gear. When you release the pedal, the transmission will return to the original gear position.

▼ **2 (Second)**

This position is for using engine braking when going down a hill or for climbing a steep grade.

In this position, the transmission holds in the 2nd gear. Use this position when starting off from a standstill on slippery road surfaces such as mud or snow. It will en-

– CONTINUED –

sure greater traction.

▼ 1 (First)

This position is for driving up or down very steep grades, or driving through mud or sand, or on slippery surfaces. In this position, the transmission holds in the 1st gear.

▼ Maximum speeds

The following tables show the maximum speeds that are possible with each different gear.

When shifting down a gear, it is important to confirm that the current vehicle speed is not in excess of the Maximum Allowable Speed of the gear which is about to be selected.

mph (km/h)

	2.5-liter non-turbo models	2.0-liter turbo models
1	28 (45)	28 (45)
2	62 (99)	58 (93)
3	95 (153)	99 (158)

NOTE

In order to prevent over-revving during deceleration of the vehicle, the transmission will remain in the current gear if the speed of the vehicle is in excess of the Maximum Allowable Speed for the gear to which the selector lever has been moved.

WARNING

When shifting down a gear, ensure that the vehicle is not travelling at a speed exceeding the Maximum Allowable Speed for the gear which is about to be selected. Failure to observe this precaution can lead to engine over-revving and this in turn can result in engine damage.

In addition, sudden application of engine brakes when the vehicle is travelling on a slippery surface can lead to wheel locking; as a

consequence, control of the vehicle may be lost and the risk of an accident increased.

▼ Driving tips

- Always apply the foot or parking brake when the vehicle is stopped in the “D”, “3”, “2”, “1” or “R” position.
- Always set the parking brake when parking your vehicle. Do not hold the vehicle with only the transmission.
- Do not keep the vehicle in a stationary position on an uphill grade by using the “D”, “3”, “2”, or “1” position. Use the brake instead.

The engine may, on rare occasions, knock when the vehicle rapidly accelerates or rapidly pulls away from a standstill. This phenomenon is not an indication of a problem in your vehicle.

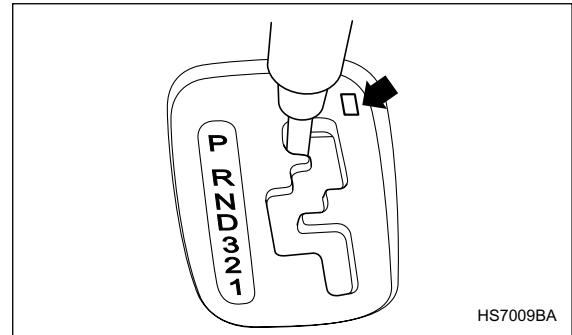
■ Shift lock release

If the selector lever does not move from the “P” position with the brake pedal depressed and the ignition switch in the “ON” position, perform the following steps:

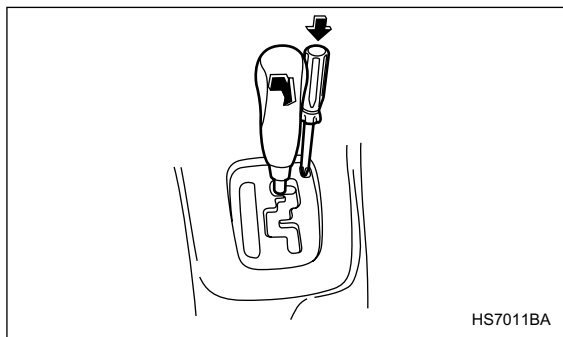
To override the shift lock:

1. Set the parking brake and stop the engine.
2. Take out the screwdriver from the tool bag.

3. Remove the cover by prying on the edge with the screwdriver.



– CONTINUED –



4. Insert the screwdriver into the hole.
5. Push down on the screwdriver and move the selector lever from the "P" to the "N" position.
6. Remove the screwdriver from the hole. Depress the brake pedal and start the engine.

Take your vehicle to the nearest SUBARU dealer immediately to have the system repaired.

Limited slip differential (LSD) (if equipped)

The LSD provides optimum distribution of power according to the difference in revolutions between the right and left wheels that may be caused by certain driving conditions, thereby improving driving stability on snow-covered, muddy or other slippery roads or when high speed driving.

NOTE (WRX-STi)

The rear differential may emit a knocking sound when the vehicle is driven slowly with the steering wheel turned fully to either side. This sound occurs because of the design of the mechanical LSD. It does not indicate a problem.

CAUTION

- Never start the engine while a tire on one side is jacked up, as the vehicle may move.
- If one tire is spinning in mud, avoid continued spinning at high speed as this could adversely affect the LSD.
- If you use a temporary spare tire to replace a flat tire, be sure to use the original temporary spare tire stored in the vehicle. Using other siz-

es will adversely affect the LSD.

Power steering

The power steering system operates only when the engine is running.

If you lose power steering assist because the engine stops or the system fails to function, you can steer but it will take much more effort.

NOTE

Right after the engine has been started and before it has warmed up, you may hear a noise coming from areas adjacent to the power steering pump which is located at the right-front area of the engine compartment. This noise is normal. It does not indicate power steering system trouble.

CAUTION

Do not hold the steering wheel at the fully locked position left or right for more than five seconds. This may damage the power steering pump.

Braking

■ Braking tips

WARNING

Never rest your foot on the brake pedal while driving. This can cause dangerous overheating of the brakes and needless wear on the brake pads and linings.

▼ When the brakes get wet

When driving in rain or after washing the vehicle, the brakes may get wet. As a result, brake stopping distance will be longer. To dry the brakes, drive the vehicle at a safe speed while lightly depressing the brake pedal to heat up the brakes.

▼ Use of engine braking

Remember to make use of engine braking in addition to foot braking. When descending a grade, if only the foot brake is used, the brakes may start working improperly because of brake fluid overheating, caused by overheated brake pads. To help prevent this, shift into a lower gear to get stronger engine braking.

▼ Braking when a tire is punctured

Do not depress the brake pedal suddenly when a tire is punctured. This could cause a loss of control of the vehicle. Keep driving straight ahead while gradually reducing speed. Then slowly pull off the road to a safe place.

■ Brake system

▼ Two separate circuits

Your vehicle has two separate circuit brake systems. Each circuit works diagonally across the vehicle. If one circuit of the brake system should fail, the other half of the system still works. If one circuit fails, the brake pedal will go down much closer to the floor than usual and you will need to press it down much harder. And a much longer distance will be needed to stop the vehicle.

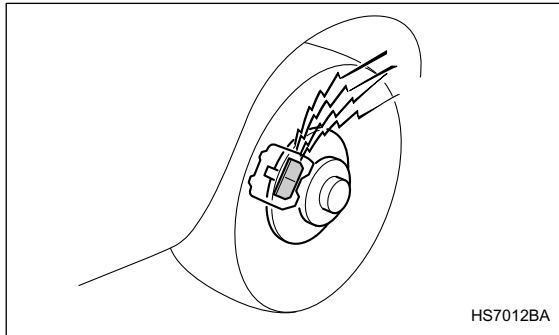
▼ Brake booster

The brake booster uses engine manifold vacuum to assist braking force. Do not turn off the engine while driving because that will turn off the brake booster, resulting in poor braking power.

The brakes will continue to work even when the brake booster completely stops functioning. If this happens, however, you will have to push the pedal much harder

than normal and the braking distance will increase.

■ Disc brake pad wear warning indicators



The disc brake pad wear warning indicators on the disc brakes give a warning noise when the brake pads are worn.

If a squeaking or scraping noise is heard from the disc brakes while braking, immediately have your vehicle checked by your SUBARU dealer.

ABS (Anti-lock Brake System)

The ABS system prevents the lock-up of wheels which may occur during sudden braking or braking on slippery road surfaces. This helps prevent the loss of steering control and directional stability caused by wheel lock-up.

When the ABS system is operating, you may hear a chattering noise or feel a slight vibration in the brake pedal. This is normal when the ABS operates.

The ABS system will not operate when the vehicle speed is below approximately 6 mph (10 km/h).

▲ WARNING

Always use the utmost care in driving – overconfidence because you are driving with an ABS equipped vehicle could easily lead to a serious accident.

▲ CAUTION

- **The ABS system does not always decrease stopping distance. You should always maintain a safe following distance from other vehicles.**

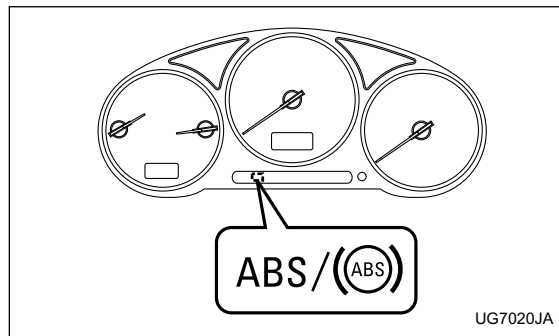
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- When driving on badly surfaced roads, gravel roads, icy roads, or over deep newly fallen snow, stopping distances may be longer for a vehicle with the ABS system than one without. When driving under these conditions, therefore, reduce your speed and leave ample distance from other vehicles.
- When you feel the ABS system operating, you should maintain constant brake pedal pressure. Do not pump the brake pedal since doing so may defeat the operation of the ABS system.

■ ABS system self-check

You may feel a slight shock in the brake pedal and hear the operating sound of ABS from the engine compartment just after the vehicle is started. This is caused by an automatic functional test of the ABS system being carried out and does not indicate any abnormal condition.

■ ABS warning light



The ABS warning light comes on when the ignition switch is turned to the “ON” position and goes out after about two seconds.

This is an indication that the ABS system is working properly.

When driving with an insufficient battery voltage such as when the engine is jump started, the ABS warning light may come on. This is due to the low battery voltage and does not indicate a malfunction. When the battery becomes fully charged, the light will go out.

▲ CAUTION

If the warning light behaves as follows, the ABS system may not be working properly.

When the warning light is on, the ABS function shuts down; however, the conventional brake system continues to operate normally.

- The warning light does not come on when the ignition switch is turned to the “ON” position.
- The warning light comes on when the ignition switch is turned to the “ON” position, but it does not go out even when the vehicle speed exceeds approximately 8 mph (12 km/h).
- The warning light comes on during driving.

If these occur, have the ABS system repaired at the first available opportunity by your SUBARU dealer.

NOTE

If the warning light behavior is as described below, the ABS system may be considered normal.

- The warning light comes on right after the engine is started but goes out immediately, remaining off.
- The warning light remains on after the engine has been started, but it goes out when the vehicle

speed reaches about 8 mph (12 km/h).

- The warning light comes on during driving, but it goes out immediately and remains off.

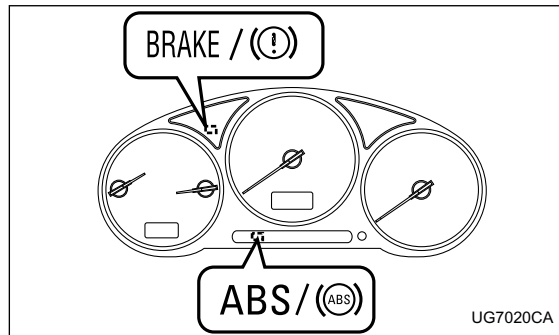
Electronic Brake Force Distribution (EBD) system

The EBD system maximizes the effectiveness of the brakes by allowing the rear brakes to supply a greater proportion of the braking force. It functions by adjusting the distribution of braking force to the rear wheels in accordance with the vehicle's loading condition and speed.

The EBD system is an integral part of the ABS system and uses some of the ABS system's components to perform its function of optimizing the distribution of braking force. If any of the ABS components used by the EBD function fails, the EBD system also stops working.

When the EBD system is operating, you may hear a chattering noise or feel a slight vibration in the brake pedal. This is normal and does not indicate a malfunction.

■ Steps to take if EBD system fails



If a malfunction occurs in the EBD system, the system stops working and the brake system warning light and ABS warning light come on simultaneously.

The EBD system may be faulty if the brake system warning light and ABS warning light illuminate simultaneously during driving.

Even if the EBD system fails, the conventional braking system will still function. However, the rear wheels will be more prone to locking when the brakes are applied harder than usual and the vehicle's motion may therefore become somewhat harder to control.

If the brake system warning light and ABS warning

light illuminate simultaneously, take the following steps:

1. Stop the vehicle in the nearest safe, flat place.
2. Shut down the engine, then restart it.
3. Release the parking brake. If both warning lights go out, the EBD system may be faulty. Drive carefully to the nearest SUBARU dealer and have the system inspected.
4. If both warning lights come on again and stay illuminated after the engine has been restarted, shut down the engine again, apply the parking brake, and check the brake fluid level.
5. If the brake fluid level is not below the "MIN" mark, the EBD system may be faulty. Drive carefully to the nearest SUBARU dealer and have the system inspected.
6. If the brake fluid level is below the "MIN" mark, DO NOT drive the vehicle. Instead, have the vehicle towed to the nearest SUBARU dealer for repair.

 **WARNING**

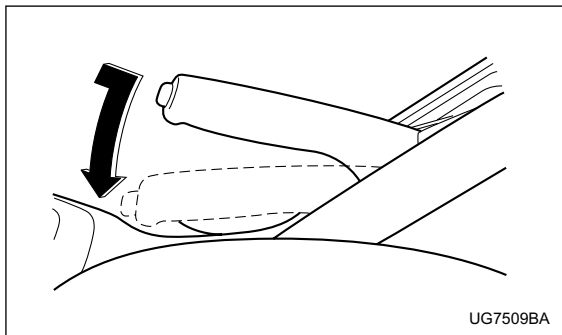
- **Driving with the brake system warning light on is dangerous. This indicates your brake system may not be working properly. If the light remains on, have the brakes inspected by a SUBARU dealer immediately.**
- **If at all in doubt about whether the brakes are**

operating properly, do not drive the vehicle. Have your vehicle towed to the nearest SUBARU dealer for repair.

Parking your vehicle

■ Parking brake

To set the parking brake, press the brake pedal firmly and hold it down while fully pulling up the parking brake lever.



To release the parking brake, pull the lever up slightly, press the release button, then lower the lever while keeping the button pressed.

When the parking brake is set while the engine is running, the parking brake warning light comes on. After starting the vehicle, be sure that the warning light has gone out before the vehicle is driven. Refer to the

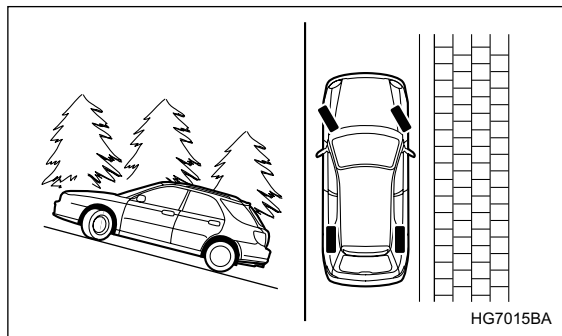
“Warning and indicator lights” section (chapter 3).

CAUTION

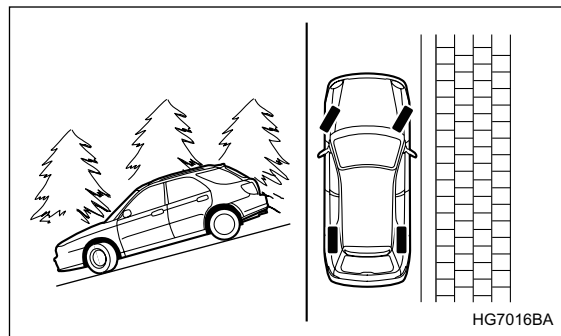
Never drive while the parking brake is set because this will cause unnecessary wear on the brake linings. Before starting to drive, always make sure that the parking brake has been fully released.

■ Parking tips

When parking your vehicle, always set the parking brake firmly and put the shift lever in the “1” (1st) for an upgrade or “R” (Reverse) for a downgrade for manual transmission vehicles, or in the “P” (Park) position for automatic transmission vehicles. Always set the parking brake firmly when parking your vehicle. Never rely on the transmission alone to hold the vehicle.



When parking on a hill, always turn the steering wheel. When the vehicle is headed up the hill, the front wheels should be turned away from the curb.



When facing downhill, the front wheels should be turned into the curb.

⚠ WARNING

- Never leave unattended children or pets in the vehicle. They could accidentally injure themselves or others through inadvertent operation of the vehicle. Also, on hot or sunny days, the temperature in a closed vehicle could quickly become high enough to cause severe or possibly fatal injuries to people.
- Do not park the vehicle over flammable materials such as dry grass, waste paper or rags, as

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they may burn easily if they come near hot engine or exhaust system parts.

- **Be sure to stop the engine if you take a nap in the vehicle. If engine exhaust gas enters the passenger compartment, occupants in the vehicle could die from carbon monoxide (CO) contained in the exhaust gas.**

 CAUTION

If your vehicle has a front underspoiler and rear underspoiler (both optional), pay attention to blocks and other obstructions on the ground when parking. The underspoilers could be damaged by contact with them.

Cruise control

Cruise control enables you to maintain a constant vehicle speed without holding your foot on the accelerator pedal and it is operative when the vehicle speed is 25 mph (40 km/h) or more. Make sure the main switch is turned “OFF” when the cruise control is not in use to avoid unintentionally setting the cruise control.

NOTE

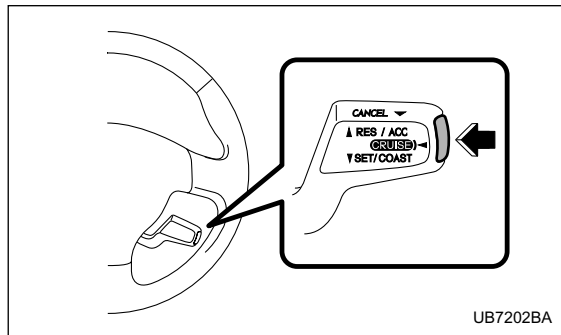
If you move the cruise control lever while turning the ignition switch “ON”, the cruise control function is deactivated and the “CRUISE” indicator light flashes. To reactivate the cruise control function, turn the ignition switch back to the “ACC” or “LOCK” position, and then turn it again to the “ON” position.

 WARNING

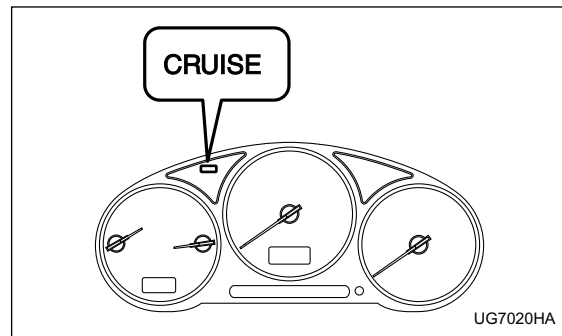
Do not use the cruise control under any of the following conditions. This may cause loss of vehicle control:

- driving up or down a steep grade
 - driving on slippery or winding roads
 - driving in heavy traffic
-

■ To set cruise control

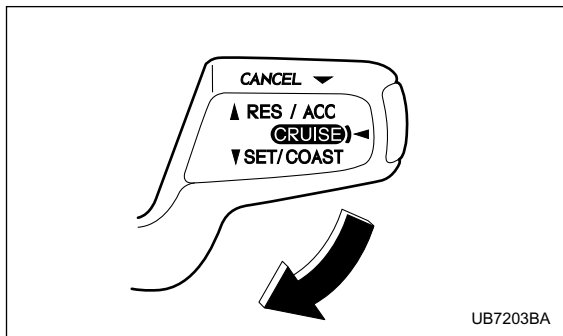


1. Push the main switch button.

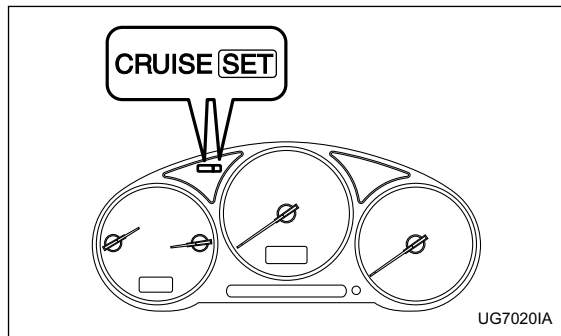


- The “ CRUISE ” indicator light on the combination meter will come on.
2. Depress the accelerator pedal until the vehicle reaches the desired speed.

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3. Push the control lever downward in the “SET/COAST” direction and release it. Then release the accelerator pedal.

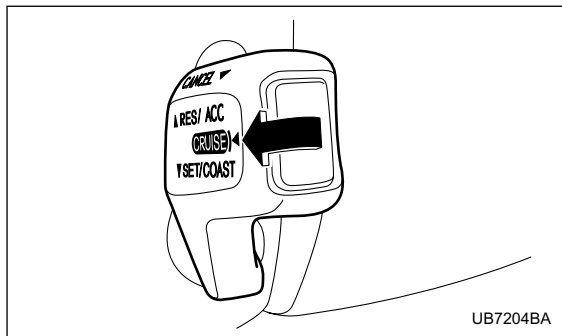


At this time, the “ **SET** ” indicator light is illuminated in the combination meter. The vehicle will maintain the desired speed.

Vehicle speed can be temporarily increased while driving with the cruise control activated. Simply depress the accelerator pedal to accelerate the vehicle. When the accelerator pedal is released, the vehicle will return to and maintain the previous cruising speed.

■ To temporarily cancel the cruise control

There are four ways to cancel the cruise control temporarily:



- Pull the control lever in the “CANCEL” direction (if so equipped).
- Depress the brake pedal.
- Depress the clutch pedal (manual transmission vehicles only).
- Shift the selector lever into the “N” position (automatic transmission vehicles only).
- Shift the shift lever into neutral (manual transmission vehicles only).

The “**SET**” indicator light in the combination meter goes off when the cruise control is cancelled.

To resume the cruise control after it has been temporarily canceled and with vehicle speed of about 20

mph (32 km/h) or more, push the control lever upward in the “RES/ACC” direction to return to the original cruising speed automatically.

The “**SET**” indicator light in the combination meter will automatically come on at this time.

■ To turn off the cruise control

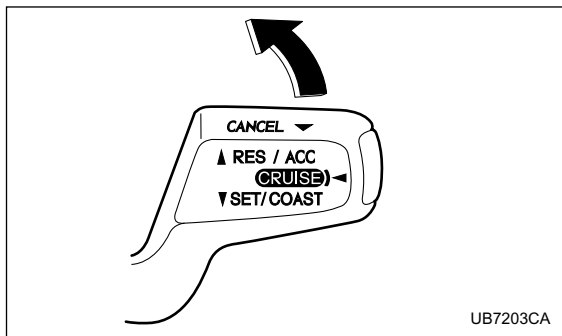
There are two ways to turn off the cruise control:

- Push the main switch again.
- Turn the ignition switch to the “ACC” or “LOCK” position (but only when the vehicle is completely stopped).

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■ To change the cruising speed

▼ To increase the speed (by control lever)



Push the control lever upward in the “RES/ACC” direction and hold it until the vehicle reaches the desired speed. Then, release the control lever. The vehicle speed at that moment will be memorized and treated as the new set speed.

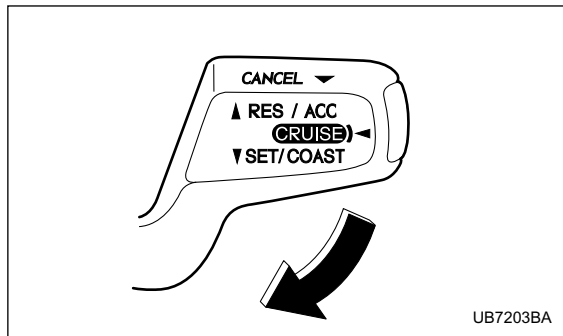
When the difference between the actual vehicle speed and the set speed is less than 4 mph (6.8 km/h), the set speed can be increased 1 mph (1.6 km/h) each time by pressing the control lever upward in the “RES/ACC” direction quickly within 0.25 second.

▼ To increase the speed (by accelerator pedal)

1. Depress the accelerator pedal to accelerate the vehicle to the desired speed.
2. Push the control lever downward in the “SET/COAST” direction once. Now the desired speed is set and the vehicle will keep running at that speed without depressing the accelerator pedal.

NOTE

If the difference between the actual vehicle speed when the control lever is pushed downward and the speed last time you set it is less than 4 mph (6.8 km/h), the vehicle speed will be lowered by 1 mph (1.6 km/h). This occurs because the cruise control system unit regards this lever operation as that intended to decrease the vehicle speed.

▼ To decrease the speed (by control lever)

Push the control lever downward in the “SET/COAST” direction and hold it until the vehicle reaches the desired speed. Then, release the control lever. The vehicle speed at that moment will be memorized and treated as the new set speed.

When the difference between the actual vehicle speed and the set speed is less than 4 mph (6.8 km/h), the set speed can be lowered 1 mph (1.6 km/h) each time by pressing the control lever downward in the “SET/COAST” direction quickly within 0.25 second.

▼ To decrease the speed (by brake pedal)

1. Depress the brake pedal to release cruise control temporarily.
2. When the speed decreases to the desired speed, press the control lever downward in the “SET/COAST” direction once. Now the desired speed is set and the vehicle will keep running at that speed without depressing the accelerator pedal.