

SECTION 3 – 1

STARTING AND DRIVING

Starting and driving

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THREE-WAY CATALYTIC CONVERTER



Three-way catalytic converters are emission control devices installed in the exhaust system.

The three-way catalytic converter located at the confluence of exhaust pipes looks somewhat like a muffler, but its purpose is to reduce pollutants in the exhaust gas.



CAUTION

- Keep people and combustible materials away from the exhaust pipe while the engine is running. The exhaust gas is very hot.
- Do not drive, idle or park your vehicle over anything that might burn easily such as grass, leaves, paper or rags.

NOTICE

A large amount of unburned gases flowing into the three-way catalytic converter may cause it to overheat and create a fire hazard. To prevent this and other damage, observe the following precautions:

- Use only unleaded gasoline.
- Do not drive with an extremely low fuel level; running out of fuel could cause the engine to misfire, creating an excessive load on the three-way catalytic converter.
- Do not allow the engine to run at idle speed for more than 20 minutes.
- Avoid racing the engine.
- Do not push-start or pull-start your vehicle.
- Do not turn off the ignition while the vehicle is moving.
- Keep your engine in good running order. Malfunctions in the engine electrical system, electronic ignition system/distributor ignition system or fuel system could cause an extremely high three-way catalytic converter temperature.
- If the engine becomes difficult to start or stalls frequently, take your vehicle in for a check-up as soon as possible. Remember, your Lexus dealer knows your vehicle and its three-way catalytic converter system best.

- *To ensure that the three-way catalytic converter and the entire emission control system operate properly, your vehicle must receive the periodic inspections required by the Lexus Maintenance Schedule. For scheduled maintenance information, refer to the separate "Owner's Manual Supplement/Maintenance Schedule."*

ENGINE EXHAUST CAUTION



CAUTION

- Avoid inhaling the engine exhaust. It contains carbon monoxide, which is a colorless and odorless gas. It can cause unconsciousness or even death.
- Make sure the exhaust system has no holes or loose connections. The system should be checked from time to time. If you hit something, or notice a change in the sound of the exhaust, have the system checked immediately.
- Do not run the engine in a garage or enclosed area except for the time needed to drive the vehicle in or out. The exhaust gases cannot escape, making this a particularly dangerous situation.
- Do not remain for a long time in a parked vehicle with the engine running. If it is unavoidable, however, do so only in an unconfined area and adjust the heating or cooling system to force outside air into the vehicle.

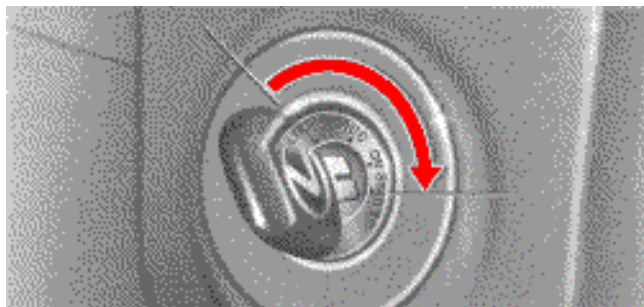
- Keep the trunk lid closed while driving. An open or unsealed trunk lid may cause exhaust gases to be drawn into the vehicle. If you must drive with the trunk lid open to accommodate a large object, close the windows, open all the dashboard vents and have the heating or cooling system deliver fresh air into the vehicle by turning the fan to high speed with the air intake control button in the OUTSIDE AIR mode.
- To allow proper operation of your vehicle's ventilation system, keep the inlet grilles in front of the windshield clear of snow, leaves, or other obstructions.
- If you smell exhaust fumes in the vehicle, drive with the windows open and the trunk lid closed. Have the cause immediately located and corrected.

BEFORE STARTING THE ENGINE

1. Check the area around the vehicle before entering it.
2. Adjust seat position, seatback angle, head restraint height and steering wheel angle.
3. Adjust inside and outside rear view mirrors.
4. Lock all doors.
5. Fasten seat belts.

Remember to check that the service reminder indicators function when turning the key to "ON", and check the fuel gauge to see that you have sufficient fuel.

IGNITION SWITCH WITH STEERING LOCK



"START" – Starter motor on. The key will return to the **"ON"** position when released.

For starting tips, see page 130.

"ON" – Engine on and all accessories on.

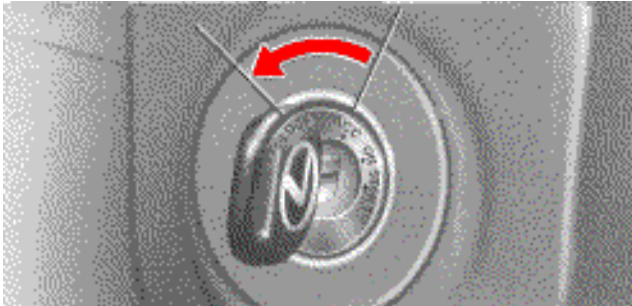
This is the normal driving position.

NOTICE

Do not leave the key in the "ON" position if the engine is not running. The battery will discharge and the electronic ignition system/distributor ignition system could be damaged.

"ACC" – Accessories such as the radio operate, but the engine is off.

If you leave the key in the “ACC” or “LOCK” position and open the driver’s door, a buzzer will remind you to remove the key.



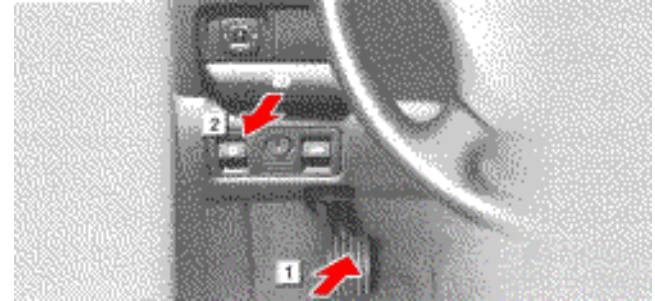
“LOCK” – Engine is off and the steering wheel is locked. The ignition key can be removed only at this position.

To turn the key from “ACC” to the “LOCK” position, you must put the transmission selector lever in the “P” position.

When starting the engine, the key may seem stuck at the “LOCK” position. To free it, first be sure the key is pushed all the way in, and then rock the steering wheel slightly while turning the key gently.

If, in an emergency, you must turn the engine off while the vehicle is moving, turn the key only to “ACC”.

PARKING BRAKE



- ① To set: Fully depress the parking brake pedal.
- ② To release: Pull the parking brake release lever.

Before leaving your vehicle, firmly apply the parking brake.



CAUTION

Before driving, make sure the parking brake is fully released and that the parking brake reminder light is off.

HOW TO START THE ENGINE

Before cranking

1. Apply the parking brake firmly.
2. Turn off unnecessary lights and accessories.
3. Put the selector lever in “P”. If you need to restart the engine while the vehicle is moving, put the selector lever in “N”. A starter safety device will prevent the starter from operating if the selector lever is in any drive position.
4. Depress the brake pedal and hold it to the floor until you are ready to drive off.

Starting the engine

Before starting the engine, be sure to follow the instructions in “Before cranking”.

Normal starting procedure

The multiport fuel injection system/sequential multiport fuel injection system in your engine automatically controls the proper air–fuel mixture for starting. You can start a cold or hot engine as follows:

1. With your foot off the accelerator pedal, crank the engine by turning the key to “START”. Release it when the engine starts.
2. After the engine runs for about 10 seconds, you are ready to drive.

If the weather is below freezing, let the engine warm up for a few minutes before driving. Do not leave the vehicle while the engine is warming up.

If the engine stalls...

Simply restart it, using the correct procedure given in normal starting.

If the engine will not start

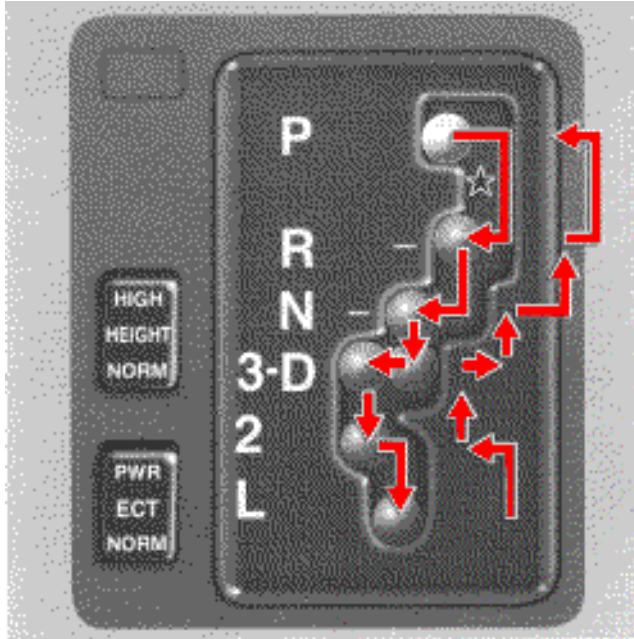
See “If your vehicle will not start” on page 160.

NOTICE

- ***Do not crank for more than 15 seconds at a time. This may overheat the starter and wiring systems.***
- ***Do not race a cold engine.***
- ***If the engine becomes difficult to start or stalls frequently, have the engine checked immediately.***

AUTOMATIC TRANSMISSION

Your automatic transmission has a shift lock system to minimize the possibility of incorrect operation. This means you can only shift out of “P” position when the brake pedal is depressed with the ignition switch in “ON” position. (★)



► *The shift position is displayed on the instrument cluster.*

P: Parking, engine starting and key removal position

R: Reverse position

N: Neutral position

D: Normal driving position (Shifting into overdrive possible)

3: Position for engine braking (Shifting into overdrive not possible)

When the cruise control is being used, even if you downshift from “D” to “3”, engine braking will not be applied because the cruise control is not cancelled. For the operation to decrease the vehicle speed, see page 138.

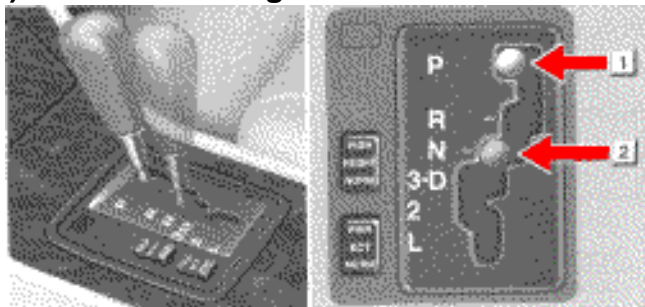
2: Position for more powerful engine braking

L: Position for maximum engine braking

Correct use of the automatic transmission is explained in the following parts.

- (a) Normal driving
- (b) Using engine braking
- (c) Using the “2” and “L” positions
- (d) Backing up
- (e) Parking
- (f) Good driving practice
- (g) If you cannot shift the selector lever

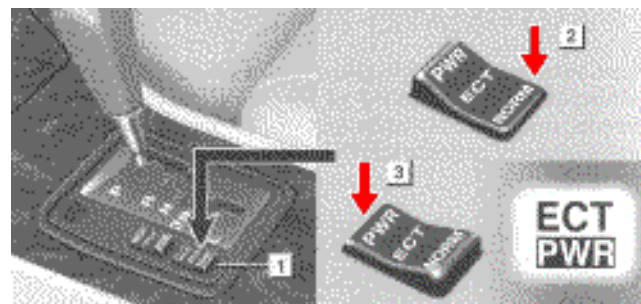
(a) Normal driving



- 1 "P" (Park) position 2 "N" (Neutral) position

1. Start the engine as instructed in "How to start the engine" on page 130.

The transmission must be in "P" or "N". The engine will not start in any drive position even if the ignition key is turned to "START".



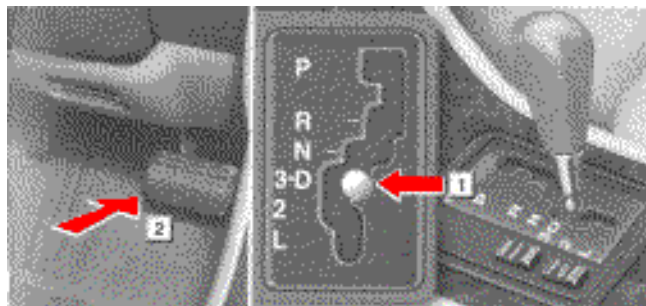
- 1 *Driving pattern selector switch*
 2 *Normal position* 3 *Power position*

2. Set the driving pattern selector switch to the **NORMAL** position.

Your transmission has a driving pattern selector switch which allows you to select either "NORM" or "PWR" to suit your driving condition. For ordinary driving, Lexus recommends that you use the NORMAL position to improve fuel economy.

3. For more powerful acceleration and sporty driving, use the POWER position.

In the POWER position, the "ECT PWR" light in the instrument cluster is on and the transmission is shifted up at higher vehicle speeds and shifted down more responsively than in the NORMAL position.



► ① ***“D” (Drive) position*** ② ***Brake pedal***

4. With your foot holding down the brake pedal, shift the selector lever to “D”.

Always use the “D” position to improve fuel economy and quiet driving. Only in this position, shifting into the overdrive gear is possible. However, while the engine coolant temperature is low, the transmission will not shift into the overdrive gear even in the “D” position. (See “(b) Using engine braking” and “(f) Good driving practice” for exceptions.)



CAUTION

Never put your foot on the accelerator pedal while shifting.

5. Release the parking brake and brake pedal. Depress the accelerator pedal slowly for smooth starting.

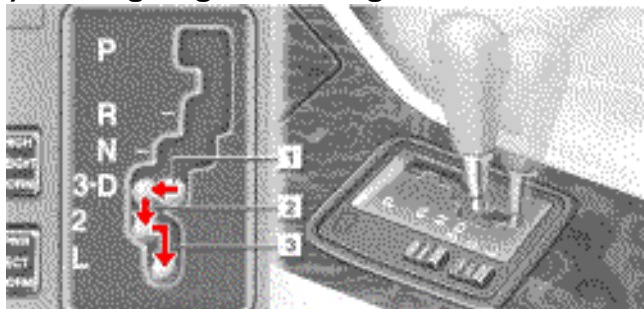
In normal cruising, the vehicle will start in the first gear and automatically shift to the most suitable gear for the running conditions.

In “3” position, the automatic transmission system will select the most suitable gear for the running conditions such as hill climbing, hard towing, etc.

If you need to accelerate rapidly while driving, depress the accelerator pedal to the full throttle position. This provides more acceleration by automatically downshifting the transmission to the next lower gear or beyond, depending on the vehicle speed.

If engine braking is needed, such as in descending a long hill, see “(b) Using engine braking”.

(b) Using engine braking



To use the braking power of the engine, downshift the transmission in the way described below:

- 1 Shift into the “3” position. The transmission will downshift to the third gear and engine braking will be obtained.

When the cruise control is being used, even if you downshift from “D” to “3”, engine braking will not be applied because the cruise control is not cancelled. If you need to decrease the vehicle speed, see page 138.

- 2 Shift into the “2” position. The transmission will downshift to the second gear when the vehicle speed is or becomes lower than 119 km/h (74 mph) and more powerful engine braking will be obtained.
- 3 Shift into the “L” position. The transmission will downshift to the first gear when the vehicle speed is or becomes lower than 58 km/h (36 mph) and maximum engine braking will be applied.



CAUTION

Be careful when downshifting on a slippery surface. The abrupt change in engine speed could cause the vehicle to spin or skid.

(c) Using the “2” and “L” positions

The “2” and “L” positions are used for strong engine braking as described previously.

With the selector lever in “2” or “L”, you can start the vehicle in motion as with the lever in “D”.

With the selector lever in “2”, the vehicle will start in the first gear and automatically shift to the second gear.

With the selector lever in “L”, the transmission is engaged in the first gear.

NOTICE

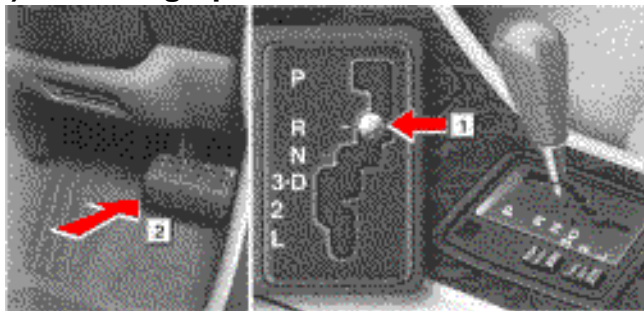
- ***Be careful not to overrev the engine. Watch the tachometer to keep engine rpm from going into the red zone. The approximate maximum allowable speed for each position is given below for your reference:***

“2” . . . 134 km/h (83 mph)

“L” 73 km/h (45 mph)

- *Do not continue hill climbing or hard towing for a long time in the "2" or "L" position. This may cause severe automatic transmission damage from overheating. To prevent such damage, "3" position should be used in hill climbing or hard towing.*

(d) Backing up

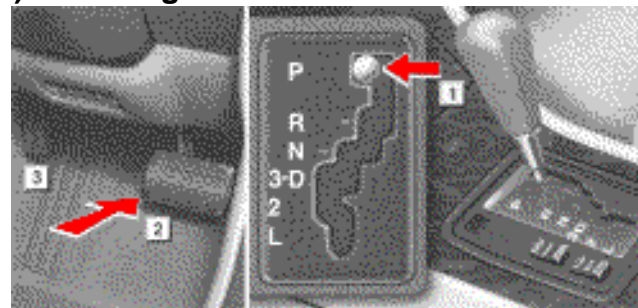


- 1 "R" (Reverse) position 2 Brake pedal
1. Bring the vehicle to a complete stop.
 2. With the brake pedal held down with your foot, shift the selector lever to the "R" position.

NOTICE

Never shift into reverse while the vehicle is moving.

(e) Parking



- 1 "P" (Park) position 2 Brake pedal
3 Parking brake pedal

1. Bring the vehicle to a complete stop.
2. Depress the parking brake pedal fully.
3. With the brake pedal held down with your foot, shift the selector lever to the "P" position.



CAUTION

While the vehicle is moving, never attempt to move the selector lever into "P" under any circumstances. Serious mechanical damage and loss of vehicle control may result.

(f) Good driving practice

- If the transmission repeatedly upshifts and downshifts between the third and overdrive gears when climbing a gentle slope, shift the selector lever to the “3” position. Be sure to shift the selector lever to the “D” position after climbing the slope.
- When towing a trailer, in order to maintain efficient engine braking and electrical charging performance, do not use overdrive. The selector lever must be in the “3” position.



CAUTION

Always keep your foot on the brake pedal while stopped with the engine running. This prevents the vehicle from creeping.

NOTICE

Do not hold the vehicle on an upgrade with the accelerator pedal. This can cause the transmission to overheat. Always use the brake pedal or parking brake.

(g) If you cannot shift the selector lever

If you cannot shift the selector lever even though the brake pedal is depressed, use the shift lock override button. For instructions, see “If you cannot shift automatic transmission selector lever” on page 175.

CRUISE CONTROL

The cruise control allows you to cruise the vehicle at a desired speed over 40 km/h (25 mph) with your foot off the accelerator pedal.

Your cruising speed can be maintained although a slight speed change may occur when driving up or down a gradient, within the limits of engine performance. On steeper hills, a great speed change will occur so it is better to drive without the cruise control.

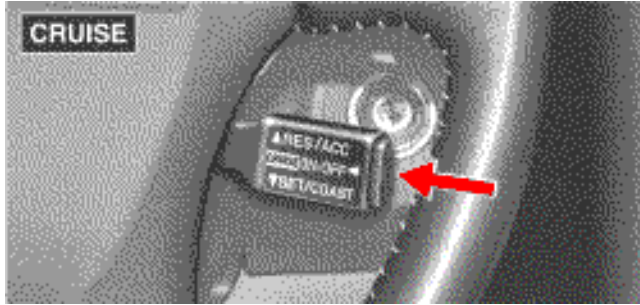
When the cruise control is on, the driving pattern of the automatic transmission is fixed in the normal position, regardless of the position of the selector switch.



CAUTION

- **To help maintain maximum control of your vehicle, do not use the cruise control when driving in heavy or varying traffic, or on slippery (rainy, icy or snow-covered) or winding roads.**
- **Avoid vehicle speed increases when driving downhill. If the vehicle speed is too fast in relation to the cruise control set speed, cancel the cruise control then downshift the transmission to use engine braking to slow down.**

Turning on the system



To operate the cruise control, push the main switch. This turns the system on. The indicator light in the instrument cluster shows that you can now set your desired cruising speed. Another push on the switch will turn the system completely off.

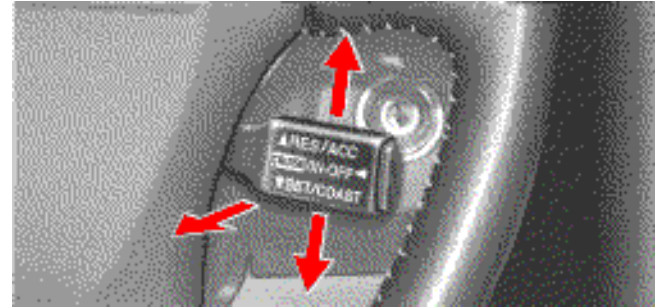
When the ignition key is turned off, the main switch is also automatically turned off. To use the cruise control again, push the main switch again to turn it on.



CAUTION

To avoid accidental cruise control engagement, keep the main switch off when not using the cruise control.

Setting at a desired speed



The transmission must be in “D” or “3” before you set the cruise control speed.

Bring the vehicle to the desired speed, press the control lever downward in the “SET/COAST” direction and release it. This sets the vehicle at that speed. Now you may take your foot off the accelerator pedal. If you need acceleration – for example, when passing – depress the accelerator pedal enough for the vehicle to exceed the set speed. When you release the accelerator pedal, the vehicle will return to the speed set prior to the acceleration.

Cancelling the preset speed

You can cancel the preset speed by either of the following:

- Pulling the control lever in the “CANCEL” direction.
- Depressing the brake pedal.

If the vehicle speed falls below about 40 km/h (25 mph), the preset speed will be automatically cancelled.

If the vehicle speed drops 16 km/h (10 mph) below the preset speed, the preset speed will also automatically be cancelled.

If the preset speed automatically cancels out for other than these reasons, have your vehicle checked by your Lexus dealer at the earliest opportunity.

Resetting to a faster speed

Press the control lever upward in the “RES/ACC” direction and hold it. Release the lever when the desired speed is attained. While the lever is held upward, the vehicle will gradually gain speed.

When the difference between the actual vehicle speed and the set speed is less than 5 km/h (3 mph), the set speed can be increased 1.6 km/h (1 mph) each time by pressing the control lever upward in the “RES/ACC” direction quickly within 0.6 seconds.

However, a quicker way to reset is to accelerate the vehicle and then press the control lever downward in the “SET/COAST” direction.

Resetting to a slower speed

Press the control lever downward in the “SET/COAST” direction and hold it. Release the lever when the desired speed is attained. While the lever is held downward, the vehicle speed will gradually decrease.

When the difference between the actual vehicle speed and the set speed is less than 5 km/h (3 mph), the set speed can be lowered 1.6 km/h (1 mph) each time by pressing the control lever downward in the “SET/COAST” direction quickly within 0.6 seconds.

However, a quicker way to reset is to depress the brake pedal and then press the control lever downward in the “SET/COAST” direction.

Even if you downshift the transmission from the “D” position to “3” with the cruise control on, engine braking will not be applied because the cruise control is not cancelled. To decrease the vehicle speed, reset to a slower speed with the cruise control lever or depress the brake pedal. If you use the brake pedal, cruise control is cancelled.

Resuming the preset speed

If the preset speed is cancelled by pulling the control lever or by depressing the brake pedal, pushing the lever up in the “RES/ACC” direction will restore the speed set prior to cancellation. However, once the vehicle speed falls below about 40 km/h (25 mph), the preset speed will not be resumed.

Cruise control failure warning

If the "CRUISE" indicator light in the instrument cluster flashes when using the cruise control, push the main switch to turn the system off and then push it again to turn it on.

If any of the following conditions then occurs, there is some trouble in the cruise control system.

- The indicator light does not come on.
- The indicator light flashes again.
- The indicator light goes out after it comes on.

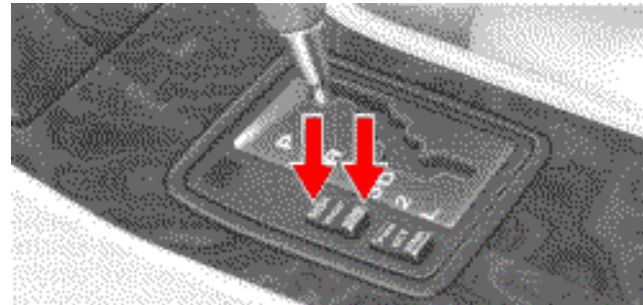
If this is the case, contact your Lexus dealer and have your Lexus inspected.

ELECTRONICALLY MODULATED AIR SUSPENSION

(U.S.A. ONLY)

This electronically modulated air suspension adjusts the damping effect on the shock absorbers and the vehicle height. This adjustment is automatically made in response to the driving conditions to provide good riding comfort and stability in all driving conditions.

(a) Vehicle height adjustment



This system maintains a stable vehicle height, regardless of occupants and luggage weight. You can select one of the following modes using a selector switch.

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“NORMAL” mode – For driving on roads with a normal surface.

“HIGH” mode – For driving on rough roads which are unsurfaced or continually bumpy.

The damping effect is set slightly firmer in “HIGH” mode. So you may feel the vibration of the vehicle compared to in “NORMAL” mode. However, this does not mean a malfunction in the system. We recommend you use a “NORMAL” mode in normal driving.

To change the mode, push the selector switch.

“NORMAL” mode

The vehicle height remains at normal height at all driving speeds.

“HIGH” mode

The vehicle height switches between the following two vehicle heights according to the driving conditions:

Vehicle height	Driving condition
Normal	Medium and high speed driving
High	Low speed driving



The indicator light shows “HIGH” mode is selected.

When you turn the ignition key to the “ON” position, the indicator light will come on for 2 seconds in any mode.

NOTICE

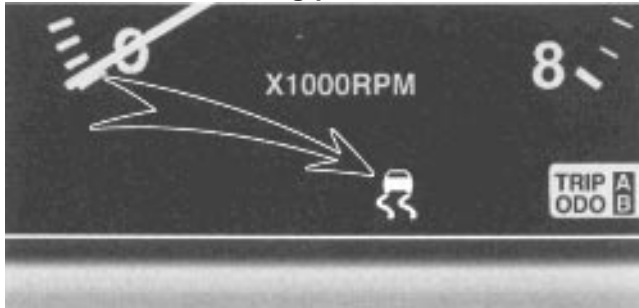
For vehicles equipped with the height control switch, be sure to turn the ignition switch off before jacking. If this is not done, the vehicle height adjustment function will operate, which may cause body damage.

(b) Malfunction warning

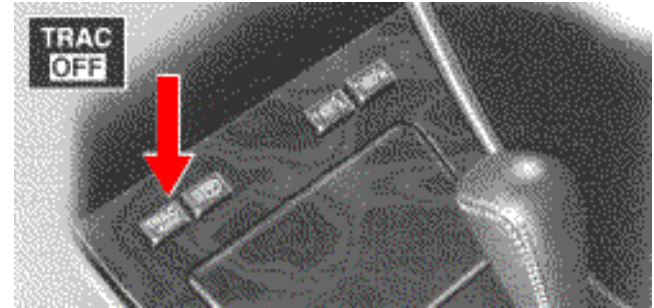
If the “HI” indicator light blinks, there is a malfunction in this system. Have the system checked by your Lexus dealer at the first opportunity.

TRACTION CONTROL SYSTEM

The traction control system automatically helps control the spinning of the rear wheels which may occur when accelerating on slippery road surfaces, thus assisting driver control and driving power of the rear wheels.



When you turn the ignition switch on, this system always turns on. Leave the system on during ordinary driving so that it can operate when needed. When traction control is applied, the slip indicator light blinks.



You can turn off the traction control system by pushing the “TRAC–OFF–” switch. The “TRAC OFF” indicator/warning light will then come on. Pushing the “TRAC–OFF–” switch a second time turns the system back on and extinguishes the “TRAC OFF” indicator/warning light.

You may hear a slight clicking noise in the engine compartment when the engine is started. This means that the traction control system is in the self-check mode, and does not indicate malfunction. When the traction control system is operating, you may feel vibration of your vehicle, caused by operation of the brakes. This indicates the system is functioning properly.

When getting the vehicle out of mud or new snow, etc. the traction control system will operate to prevent the wheels from spinning. Even though the accelerator pedal is fully depressed, the engine speed will be restrained to a certain level.

Traction control failure warning

If the “TRAC OFF” indicator/warning light flashes, contact your Lexus dealer as soon as possible. There may be trouble in the traction control system.



CAUTION

Under certain slippery road conditions, full stability of the vehicle and power to the rear wheels cannot be maintained, even though the traction control system is in operation. In situations where the road surface is covered with ice or snow, your vehicle should be fitted with snow tires or tire chains and driven at a more cautious pace.

BRAKE SYSTEM

The tandem master cylinder brake system is a hydraulic system with two separate sub-systems. If either sub-system should fail, the other will still work. However, the pedal will be harder to press, and your stopping distance will be longer. Also, the brake system warning light may come on.



CAUTION

Do not drive your vehicle with only a single brake system. Have your brakes fixed immediately.

Brake booster

The brake booster uses engine vacuum to power-assist the brakes. If the engine should quit while you are driving, you can bring the vehicle to a stop with normal pedal pressure. There is enough reserve vacuum for one or two stops but no more!



CAUTION

- Do not pump the brake pedal if the engine stalls. Each push on the pedal uses up your vacuum reserve.
- Even if the power assist is completely lost, the brakes will still work. But you will have to push the pedal hard – much harder than normal. And your braking distance will be longer.

Anti-lock brake system

The anti-lock brake system is designed to prevent lock-up of the wheels during sudden braking or braking on slippery road surfaces. This assists the driver in controlling the vehicle under these circumstances.

The anti-lock brake system becomes operative after the vehicle has accelerated to a speed in excess of approximately 10 km/h (6 mph). It stops operating when the vehicle decelerates to a speed below approximately 5 km/h (3 mph).

You may hear a sound in the engine compartment for a few seconds when the engine is started or just after the vehicle is started. This means that the anti-lock brake system is in the self check mode, and does not indicate a malfunction.

When the anti-lock brake system function is in action, you may feel the brake pedal pulsating and hear a noise. In this situation, to let the anti-lock brake system work for you, just hold the brake pedal down more firmly. Do not pump the brake.

The brake pedal pulsation caused by the anti-lock brake system may indicate hazardous road surface conditions. Although the anti-lock brake system assists in providing vehicle control, it is still important to drive with all due care, because the anti-lock brake system cannot overcome the laws of physics that act on your vehicle:

- Braking capability is dependent on tire friction with the road surface.

- Even though the anti-lock brake system is operating, a driver cannot maintain full control on certain slippery road surfaces, when cornering at high speeds, or in violent maneuvers.

- Avoid high speeds on wet roads. The anti-lock brake system cannot eliminate the risk of hydroplaning and loss of tire friction.

Always maintain a safe distance from the vehicle in front of you. Compared with vehicles not fitted with an anti-lock brake system, your vehicle may require a longer stopping distance in the following cases:

- Driving on rough, gravel or snow-covered roads.
- Driving with tire chains installed.
- Driving on roads where the road surface is pitted or has other differences in surface height.

“ABS” warning light



This light comes on when the ignition key is turned to the “ON” position. After about 3 seconds, the light will go off.

If either of the following conditions occurs, this indicates a malfunction somewhere in the parts monitored by the warning light system. Contact your Lexus dealer as soon as possible to service the vehicle.

- The light does not come on as described above, or remains on.
- The light comes on while driving.

Even if the anti-lock brake system should fail, the brake system will still operate conventionally. Have your vehicle checked by your Lexus dealer as soon as possible.

Drum-in-disc type parking brake system

Your vehicle has a drum-in-disc type parking brake system. This type of brake system needs bedding-down of the brake shoes periodically or whenever the parking brake shoes and/or drums are replaced.

Have your Lexus dealer perform the bedding-down.

Brake pad wear limit warning light



When your brake pads are worn enough to require replacement, the brake pad wear limit warning light in the instrument cluster comes on.

If the warning light comes on while driving, have the brake pads checked and replaced by your Lexus dealer as soon as possible. Expensive rotor damage can result if the pads are not replaced when needed.

TYPES OF TIRES

Determine what kind of tires your vehicle is originally equipped with.

1. Summer tires

Summer tires are high-speed capability tires best suited to highway driving under dry conditions.

Since summer tires do not have the same traction performance as snow tires, summer tires are inadequate for driving on snow-covered or icy roads. For driving on snow-covered or icy roads, we recommend using snow tires. If installing snow tires, be sure to replace all four tires.

2. All season tires

All season tires are designed to provide better traction in snow and to be adequate for driving in most winter conditions, as well as for use all year round.

All season tires, however, do not have adequate traction performance compared with snow tires in heavy or loose snow. Also, all season tires fall short in acceleration and handling performance compared with summer tires in highway driving.



CAUTION

- Do not mix summer and all season tires on your vehicle as this can cause dangerous handling characteristics, resulting in loss of control.
- Do not use tires other than the manufacturer's designated tires, and never mix tires or wheels of the sizes different from the originals.

