

SECTION 7- 2

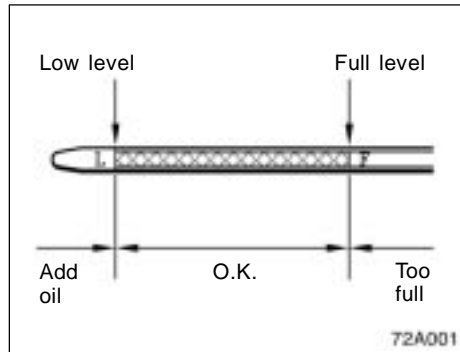
DO- IT- YOURSELF MAINTENANCE

Engine and Chassis

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Checking the engine oil level



With the engine at operating temperature and turned off, check the oil level on the dipstick.

1. To get a correct reading, the vehicle should be on level ground. After turning off the engine, wait a few minutes for the oil to drain back into the bottom of the engine.
2. Pull the dipstick out, hold a rag under the end and wipe it clean.
3. Reinsert the dipstick—Push it in as far as it will go, or the reading will not be correct.
4. Pull the dipstick out and look at the oil level while holding a rag under the end.

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CAUTION

Be careful not to touch the hot exhaust manifold.

NOTICE

Be careful not to drop engine oil on the vehicle components.

NOTICE

- ◆ **Be careful not to spill engine oil on the vehicle components.**
- ◆ **Avoid overfilling, or the engine could be damaged.**
- ◆ **Check the oil level on the dipstick once again after adding the oil.**

If the oil level is below or only slightly above the low level, add engine oil of the same type as already in the engine.

Remove the oil filler cap and add engine oil in small quantities at a time, checking the dipstick. We recommend that you use a funnel when adding oil.

The approximate quantity of oil needed to raise the level between low and full on the dipstick is indicated as follows:

1.5 L (1.6 qt., 1.3 Imp.qt.)

When the level reaches within the correct range, install the filler cap hand-tight.

For the engine oil capacity, see “Service specifications” on page 219.

ENGINE OIL SELECTION

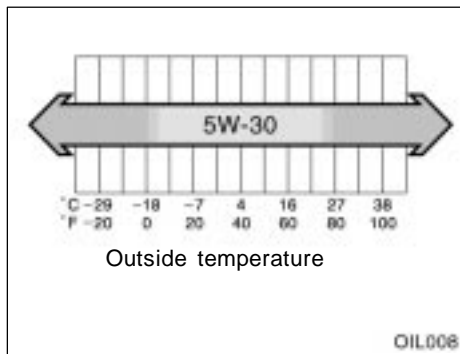
“Genuine Motor Oil” is used in your Scion vehicle. Use Scion approved “Genuine Motor Oil” or equivalent to satisfy the following grade and viscosity.

Oil grade:

ILSAC multigrade engine oil.

Recommended viscosity:

SAE 5W-30



SAE 5W-30 is the best choice for good fuel economy, and good starting in cold weather.

If SAE 5W-30 oil is not available, SAE 10W-30 oil may be used. However, it should be replaced with SAE 5W-30 at the next oil change.



Oil identification mark

The ILSAC (International Lubricant Standardization and Approval Committee) Certification Mark is added to some oil containers to help you select the oil you should use..

To ensure excellent lubrication performance for your engine, “Genuine Motor Oil” is available, which has been specifically tested and approved for all Scion engines.

Please contact your Scion dealer for further details about “Genuine Motor Oil”.

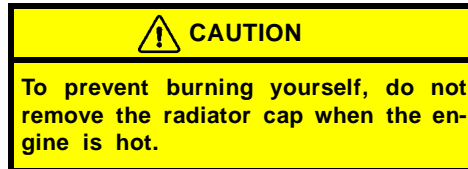
Checking the engine coolant level

Look at the see-through coolant reservoir when the engine is cold. The coolant level is satisfactory if it is between the "FULL" and "LOW" lines on the reservoir. If the level is low, add the coolant. (For the coolant type, see "Coolant type selection" described below.)

The coolant level in the reservoir will vary with engine temperature. However, if the level is on or below the "LOW" line, add coolant. Bring the level up to the "FULL" line.

If the coolant level drops within a short time after replenishing, there may be a leak in the system. Visually check the radiator, hoses, engine coolant filler cap, radiator cap and drain cock and water pump.

If you can find no leak, have your Scion dealer test the cap pressure and check for leaks in the cooling system.

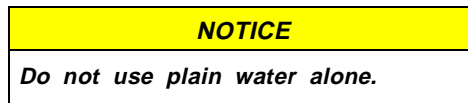


Coolant type selection

Use of improper coolants may damage your engine cooling system.

Only use "Toyota Super Long Life Coolant" or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology. (Coolant with long-life hybrid organic acid technology is a combination of low phosphates and organic acids.)

"Toyota Super Long Life Coolant" is a mixture of 50% coolant and 50% deionized water. This coolant provides protection down to about -35°C (-31°F).



Scion recommends "Toyota Super Long Life Coolant", which has been tested to ensure that it will not cause corrosion nor result in malfunction of your engine coolant system with proper usage. "Toyota Super Long Life Coolant" is formulated with long-life hybrid organic acid technology and has been specifically designed to avoid engine cooling system malfunction on Scion vehicles.

Please contact your Scion dealer for further details.

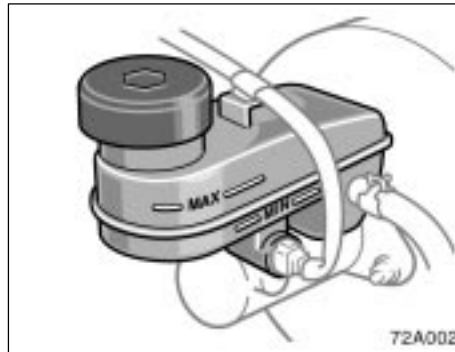
Checking the radiator and condenser

If either of the above parts are extremely dirty or you are not sure of their condition, take your vehicle to a Scion dealer.

CAUTION
 To prevent burning yourself, be careful not to touch the radiator or condenser when the engine is hot.

NOTICE
 To prevent damage to the radiator and condenser, do not perform the work by yourself.

Checking brake fluid



To check the fluid level, simply look at the see-through reservoir. The level should be between the “MAX” and “MIN” lines on the reservoir.

It is normal for the brake fluid level to go down slightly as the brake pads wear. So be sure to keep the reservoir filled.

If the reservoir needs frequent refilling, it may indicate a serious mechanical problem.

If the level is low, add SAE J1703 or FMVSS No.116 DOT 3 brake fluid to the brake reservoir.

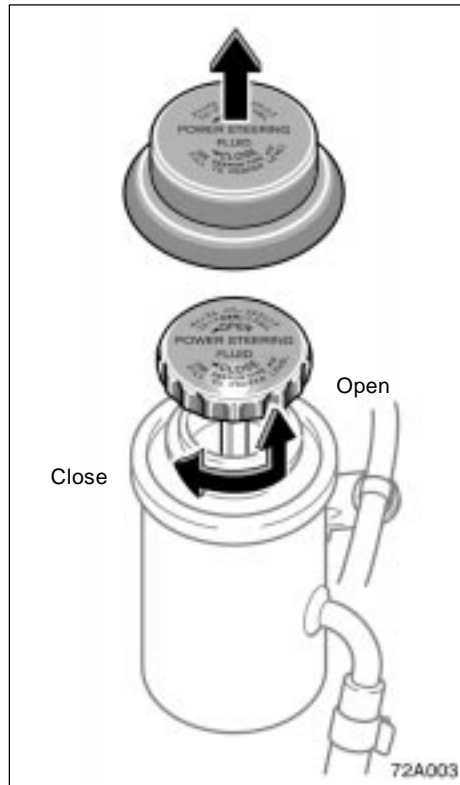
Remove and replace the reservoir cap by hand. Fill the brake fluid up to the “MAX” line. This brings the fluid to the correct level when you put the cap back on.

Use only newly opened brake fluid. Once opened, brake fluid absorbs moisture from the air, and excess moisture can cause a dangerous loss of braking.

CAUTION
 Take care when filling the reservoir because brake fluid can harm your hands or eyes. If fluid gets on your hands or in your eyes, flush the affected area with clean water immediately. If you still feel uncomfortable with your hands or eyes, go to the doctor.

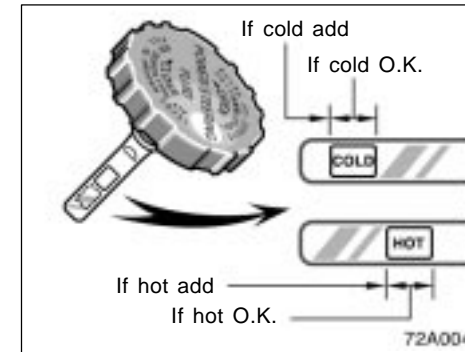
NOTICE
 If you spill some of the fluid, be sure to wipe it off to prevent it from damaging the parts or paintwork.

Checking power steering fluid



Check the fluid level through the reservoir. If necessary, add automatic transmission fluid DEXRON®II or III.

If the vehicle has been driven around 80 km/h (50 mph) for 20 minutes (a little more in frigid temperatures), the fluid is hot (60°C–80°C or 140°F–175°F). You may also check the level when the fluid is cold (about room temperature, 10°C–30°C or 50°F–85°F) if the engine has not been run for about five hours.



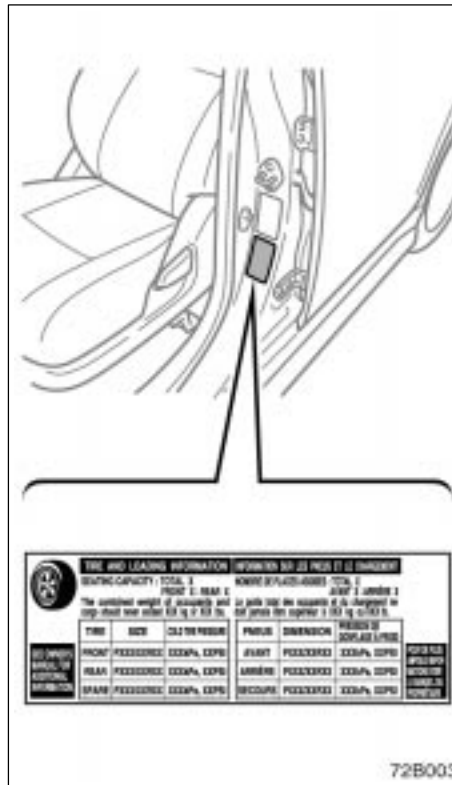
1. Clean all dirt from outside of the reservoir tank.
2. Remove the rubber cap.
3. Remove the reservoir cap by turning it counterclockwise and wipe the dipstick clean.
4. Reinstall the reservoir cap.
5. Remove the reservoir cap again and look at the fluid level. If the fluid is cold, the level should be in the "COLD" range on the dipstick. Similarly, if it is hot, the fluid level should be in the "HOT" range. If the level is at the low side of either range, add automatic transmission fluid DEXRON®II or III to bring the level within the range.

- After replacing the reservoir cap and rubber cap, visually check the steering box case, vane pump and hose connections for leaks or damage.

CAUTION
 The reservoir tank may be hot so be careful not to burn yourself.

NOTICE
 Avoid overfilling, or the power steering could be damaged.

Checking tire inflation pressure



Keep your tire inflation pressures at the proper level.

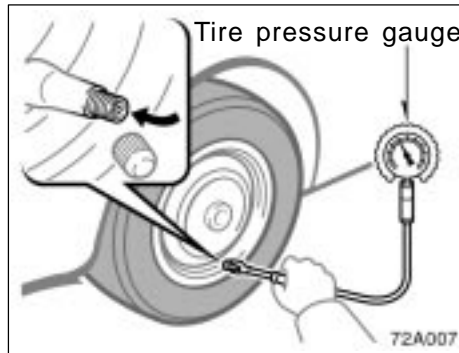
The recommended cold tire inflation pressures, tire sizes and the combined weight of occupants and cargo (vehicle capacity weight) are described on page 218 and 221. They are also described on the tire and loading information label as shown.

You should check the tire inflation pressures every two weeks, or at least once a month. And do not forget the spare!

The following instructions for checking tire inflation pressure should be observed:

- The pressure should be checked only when the tires are cold. If your vehicle has been parked for at least 3 hours and has not been driven for more than 1.5 km or 1 mile since, you will get an accurate cold tire inflation pressure reading.

- **Always use a tire pressure gauge.** The appearance of a tire can be misleading. Besides, tire inflation pressures that are even just a few pounds off can degrade ride and handling.
- **Take special care when adding air to the compact spare tire.** The smaller tire size can gain pressure very quickly. Add compressed air in small quantities and check the pressure often until it reaches the specified pressure.
- **Do not bleed or reduce tire inflation pressure after driving.** It is normal for the tire inflation pressure to be higher after driving.
- **Never exceed the vehicle capacity weight.** Passenger and luggage weight should be located so that the vehicle is balanced.



INSPECTION AND ADJUSTMENT PROCEDURE

1. Remove the tire valve cap.
2. Press the tip of the tire pressure gauge to the tire valve.
3. Read the pressure using the graduations of the gauge.
4. In case the tire inflation pressure is not within the prescribed range, insert the compressed air from the valve. In case of applying too much air, press the center of the valve and release the air to adjust.

5. After completing the tire inflation pressure measurement and adjustment, apply soapy water to the valve and check for leakage.
6. Install the tire valve cap.

If a gauge and air pump are not available, have your vehicle checked by your Scion dealer.

CAUTION

Be sure to reinstall the tire valve caps. Without the valve caps, dirt or moisture could get into the valve core and cause air leakage. If the caps have been lost, have new ones put on as soon as possible.

Incorrect tire inflation pressure may waste fuel, reduce the comfort of driving, reduce tire life and make your vehicle less safe to drive.

If a tire frequently needs refilling, have it checked by your Scion dealer.

⚠ CAUTION

Keep your tires properly inflated. Otherwise, the following conditions may occur and cause an accident resulting in death or serious injuries.

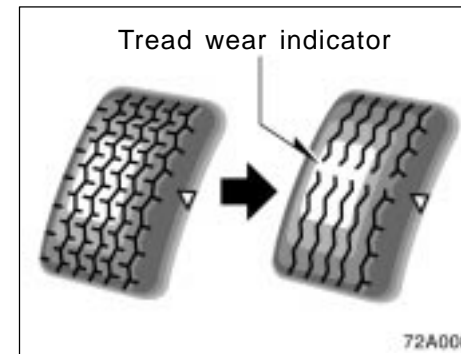
Low tire pressure (underinflation)—

- Excessive wear
- Uneven wear
- Poor handling
- Possibility of blowouts from an overheated tire
- Poor sealing of the tire bead
- Wheel deformation and/or tire separation
- A greater possibility of tire damage from road hazards

High tire pressure (overinflation)—

- Poor handling
- Excessive wear
- Uneven wear
- A greater possibility of tire damage from road hazards

Checking and replacing tires



CHECKING YOUR TIRES

Check the tire's tread for tread wear indicators. If the indicators show, replace the tires. The location of tread wear indicators is shown by the "TWI" or "Δ" marks, etc., molded on the sidewall of each tire.

The tires on your Scion have built-in tread wear indicators to help you know when the tires need replacement. When the tread depth wears to 1.6 mm (0.06 in.) or less, the indicators will appear. If you can see the indicators in two or more adjacent grooves, the tire should be replaced. The lower the tread, the higher the risk of skidding.

The effectiveness of snow tires is lost if the tread wears down below 4 mm (0.16 in.).

If you have tire damage such as cuts, splits, cracks deep enough to expose the fabric, or bulges indicating internal damage, the tire should be replaced.

If a tire often goes flat or cannot be properly repaired due to the size or location of a cut or other damage, it should be replaced. If you are not sure, consult with your Scion dealer.

If air loss occurs while driving, do not continue driving. Driving even a short distance can damage a tire beyond repair.

Any tires which are over 6 years old must be checked by a qualified technician even if damage is not obvious.

Tires deteriorate with age even if they have never or seldom been used.

This applies also to the spare tire and tires stored for future use.

REPLACING YOUR TIRES

When replacing a tire, use a tire of the same size and construction, and the same or greater maximum load as the originally installed tires.

Using any other size or type of tire may seriously affect handling, ride, speedometer/odometer calibration, ground clearance, and clearance between the body and tires or snow chains.

Check that the maximum load of the replaced tire is greater than 1/2 of the Gross Axle Weight Ratings (GAWR) of either the front axle or the rear axle, whichever is greater. As for the maximum load of the tire, see the load limit at maximum cold tire inflation pressure mentioned on the sidewall of the tire, and as for the Gross Axle Weight Ratings (GAWR), see the Certification Label. For details about the sidewall of the tire and the Certification Label, see pages 125 and 123.

⚠ CAUTION

Observe the following instructions. Otherwise, an accident may occur resulting in death or serious injuries.

- **Do not mix radial, bias belted, or bias-ply tires on your vehicle, as this may cause dangerous handling characteristics resulting in loss of control.**
- **Do not use tires other than the manufacturer's recommended size, as this may cause dangerous handling characteristics resulting in loss of control.**

Scion recommends all four tires, or at least both of the front or rear tires be replaced at a time as a set.

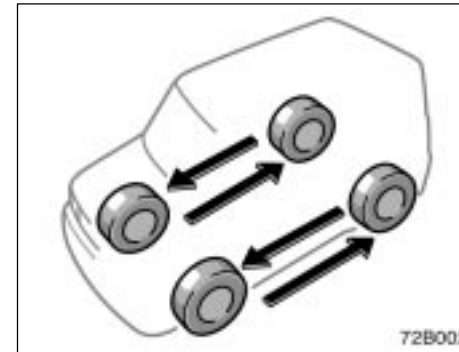
See "If you have a flat tire" on page 154 for tire change procedure.

When a tire is replaced, the wheel should always be balanced.

An unbalanced wheel may affect vehicle handling and tire life. Wheels can get out of balance with regular use and should therefore be balanced occasionally.

When replacing a tubeless tire, the air valve should also be replaced with a new one.


Rotating tires



To equalize the wear and help extend tire life, Scion recommends that you rotate your tires according to the maintenance schedule. (For scheduled maintenance information, please refer to the "Scheduled Maintenance Guide" or "Owner's Manual Supplement".) However, the most appropriate timing for tire rotation may vary according to your driving habits and road surface conditions.

See "If you have a flat tire" on page 154 for tire change procedure.

When rotating tires, check for uneven wear and damage. Abnormal wear is usually caused by incorrect tire inflation pressure, improper wheel alignment, out-of-balance wheels, or severe braking.

 CAUTION
Do not include a compact spare tire when rotating the tires. It is designed for temporary use only.

Installing snow tires and chains

WHEN TO USE SNOW TIRES OR CHAINS


Snow tires or chains are recommended when driving on snow or ice.

On wet or dry roads, conventional tires provide better traction than snow tires.

SNOW TIRE SELECTION

If you need snow tires, select tires of the same size, construction and load capacity as the originally installed tires.

Do not use tires other than those mentioned above. Do not install studded tires without first checking local regulations for possible restrictions.

 CAUTION
Observe the following instructions. Otherwise, an accident may occur resulting in death or serious injuries.
Do not use snow tires other than the manufacturer's recommended size, as this may cause dangerous handling characteristics resulting in loss of control.


SNOW TIRE INSTALLATION

Snow tires should be installed on all wheels.

Installing snow tires on the front wheels only can lead to an excessive difference in road grip capability between the front and rear tires which could cause loss of vehicle control.

When storing removed tires you should store them in a cool dry place.

Mark the direction of rotation and be sure to install them in the same direction when replacing.

 CAUTION
<ul style="list-style-type: none">● Do not drive with the snow tires incorrectly inflated.● Never drive over 120 km/h (75 mph) with any type of snow tires.

TIRE CHAIN SELECTION

Use the tire chains of correct size and type.

Use SAE Class "S" type radial tire chains except radial cable chains or V-bar type chains.


Regulations regarding the use of tire chains vary according to location or type of road, so always check local regulations before installing chains.

CHAIN INSTALLATION

Install the chains on the front tires as tightly as possible. Do not use tire chains on the rear tires. Retighten chains after driving 0.5 – 1.0 km (1/4 – 1/2 mile).

When installing chains on your tires, carefully follow the instructions of the chain manufacturer.

If wheel covers are used, they will be scratched by the chain band, so remove the covers before putting on the chains.

 CAUTION
<ul style="list-style-type: none">● Do not exceed 50 km/h (30 mph) or the chain manufacturer's recommended speed limit, whichever is lower.● Drive carefully avoiding bumps, holes, and sharp turns, which may cause the vehicle to bounce.● Avoid sharp turns or locked-wheel braking, as use of chains may adversely affect vehicle handling.● When driving with chains installed, be sure to drive carefully. Slow down before entering curves to avoid losing control of the vehicle. Otherwise an accident may occur.

NOTICE
<p><i>Do not attempt to use a tire chain on the compact spare tire, as it may result in damage to the vehicle as well as the tire.</i></p>

Replacing wheels

WHEN TO REPLACE YOUR WHEELS

If you have wheel damage such as bending, cracks or heavy corrosion, the wheel should be replaced.

If you fail to replace damaged wheels, the tire may slip off the wheel or cause loss of handling control.

WHEEL SELECTION

When replacing wheels, care should be taken to ensure that the wheels are replaced by ones with the same load capacity, diameter, rim width, and offset.

This must be observed on compact spare tires, too.

Correct replacement wheels are available at your Scion dealer.

A wheel of a different size or type may adversely affect handling, wheel and bearing life, brake cooling, speedometer/odometer calibration, stopping ability, headlight aim, bumper height, vehicle ground clearance, and tire or snow chain clearance to the body and chassis.

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Replacement with used wheels is not recommended as they may have been subjected to rough treatment or high mileage and could fail without warning. Also, bent wheels which have been straightened may have structural damage and therefore should not be used. Never use an inner tube in a leaking wheel which is designed for a tubeless tire.

