NISSAN
S13 SERIES
OWNER'S MANUAL

SECTION 1
INTRODUCTION

Your vehicle has been modified to comply with the Australian Design Rules (ADRs) applicable at the date of original manufacture. As the owner, you are responsible for ensuring the vehicle is maintained so as to always comply with the ADRs.

This manual contains information that will assist you in maintaining the vehicle correctly.

SECTION 2
EQUIPMENT, INSTRUMENTS AND CONTROLS

SEAT BELTS

Information on the Use of Seat Belts

It is a mandatory requirement in all states that seat belts be used (and be correctly adjusted) if they are fitted to the vehicle. Please ensure that you and all passengers wear the seat belts properly fastened and adjusted whenever the vehicle is travelling.

We recommend that the driver and passengers in the vehicle be properly restrained at all times with the seat belts provided. Failure to do so can increase the chance of injury and/or the severity of the injury in accidents.

Your vehicle is equipped with inertia reel lap/sash belts in all outer seating positions. Please read and note the following instructions on the correct use and care of the seat belts.

Children We recommend that they sit in the rear seat and be restrained with the seat belts. If sitting in front, do not allow the child to stand up or kneel on the seat. Your child must be restrained by the seat belt at all times while the vehicle is moving.

Baby or small child Child restraint systems are available. We recommend the use of a type that fits your vehicle. Before instillation, always read the manufacturer's instructions.

Pregnant women We recommend the use of a seat belt. Ask your doctor for specific recommendations. The lap belt should be worn securely and as low as possible over the hips and not on the waist.

Injured person We recommend the use of a seat belt. Depending on the injury, however, first check with your doctor.

WARNING: *Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.*

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid the contamination of the webbing with polishes, oils and chemicals and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated, or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap. [ADR 4/01]

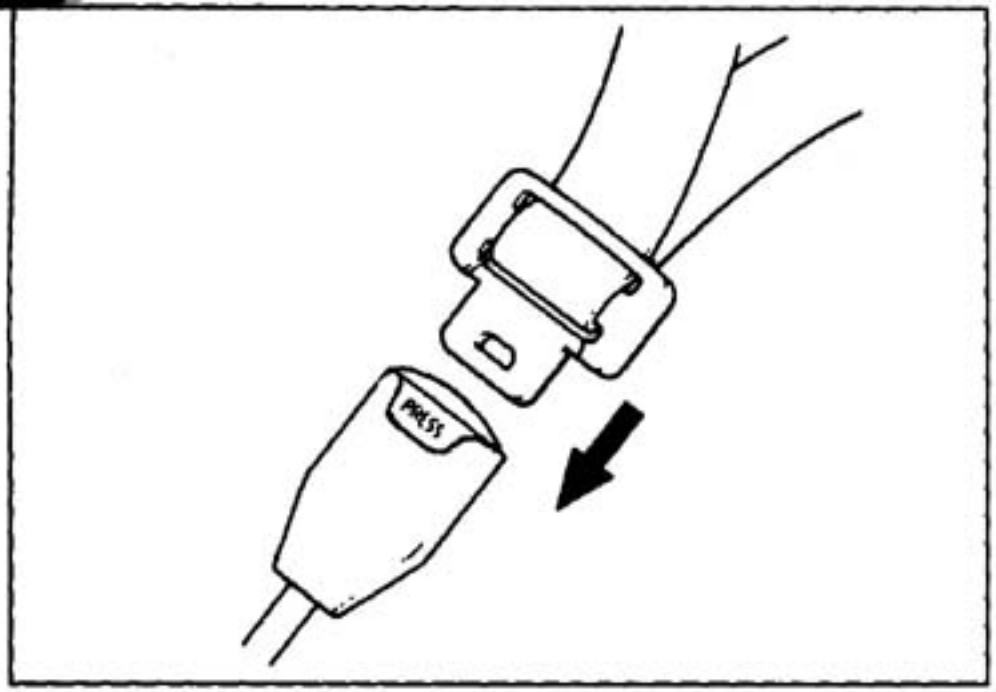
WARNING: *No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack or prevent the seat belt assembly from being adjusted to remove slack. [ADR 4/01]*

Caution: When using the seat belts, observe the following:

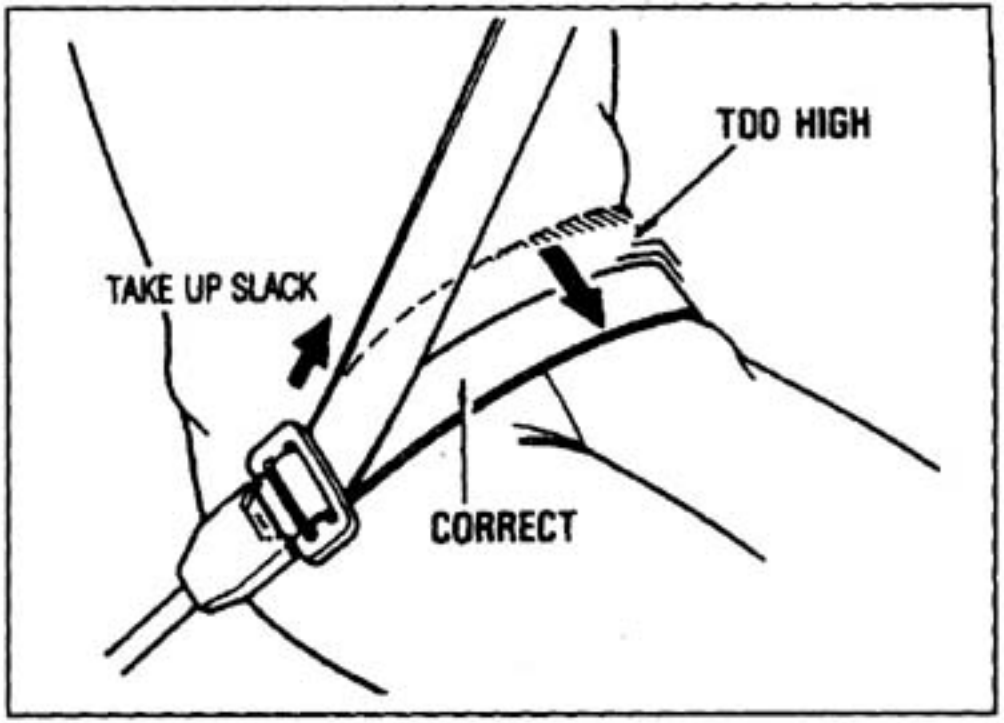
- Avoid reclining the seat backs too much. The seat belts provide maximum protection when the seat backs are in the upright position.
- Be careful not to damage the belt webbing or hardware, and take care that they do not get caught or pinched in the seat or doors.
- Inspect the belt system periodically. Check for cuts, frays, and loose parts. Damaged parts should be replaced. Do not disassemble or modify the system.

Instructions for using Lap/Sash Seat Belts

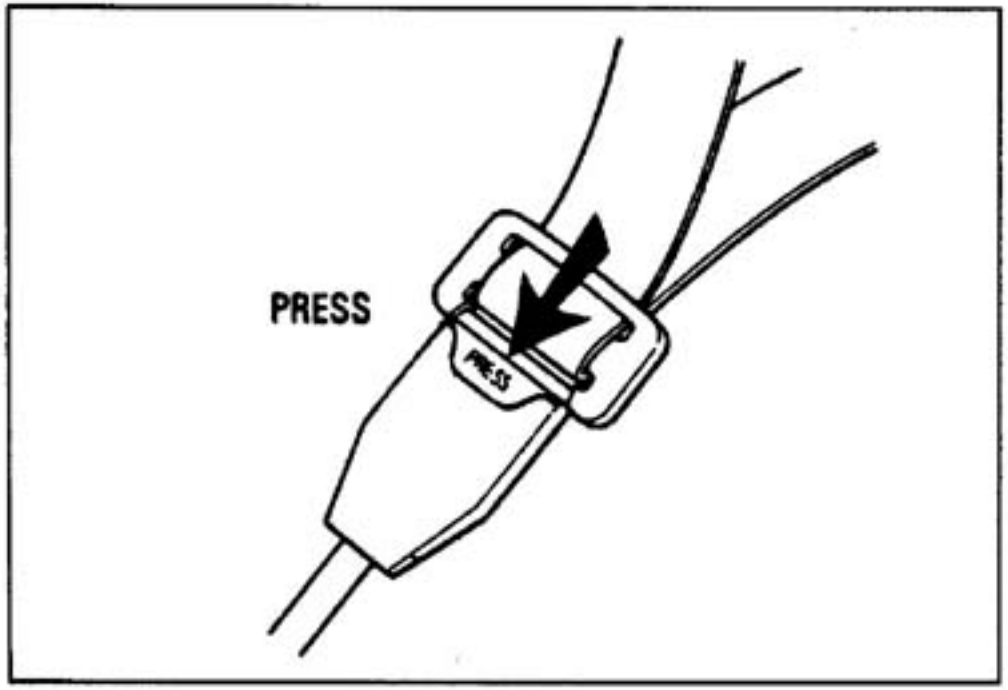
To wear the seat belt; grasp the tongue and pull it across your body until it can be engaged with the buckle. Push the tongue into the buckle until a positive "click" is heard.



Adjust the belt position and allow the retractor to take up the extra length of the lap belt.



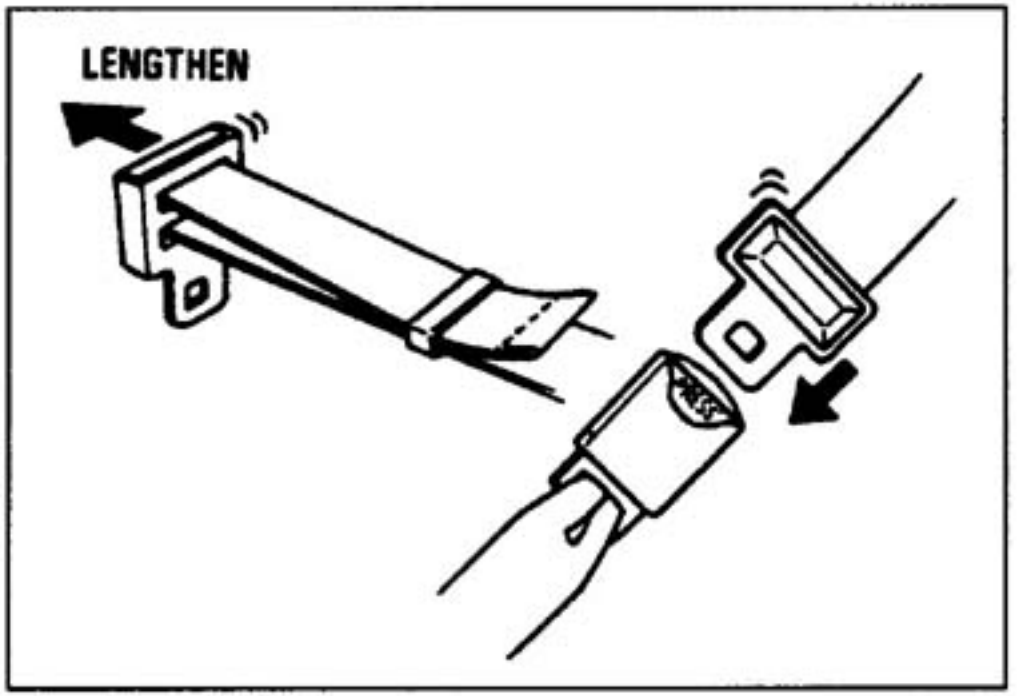
The lap belt should fit snugly and as low as possible on your hips, not on your waist. Adjust it to a snug fit by pulling the shoulder portion upward through the latch plate. Failure to do so could increase the chance of injury due to sliding under the lap belt during an accident. For your safety, do not place the shoulder belt under your arm.



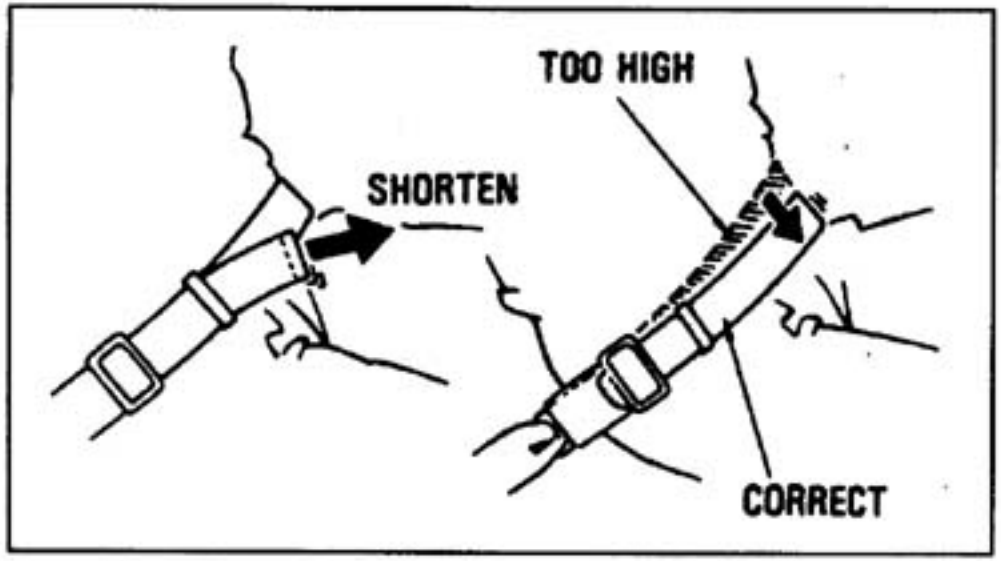
To release the belt; press the release button (marked "PRESS") located on he front face of the buckle and the tongue will be released.

Instructions for using Lap Seat Belts (if fitted)

To fit the belt, insert tongue into buckle. You will hear a "click" when the tongue locks into the buckle. Make sure the connection is secure and the belt is not twisted.



If the belt length has to be increased, hold the tongue at a right angle to the belt and pull on it.



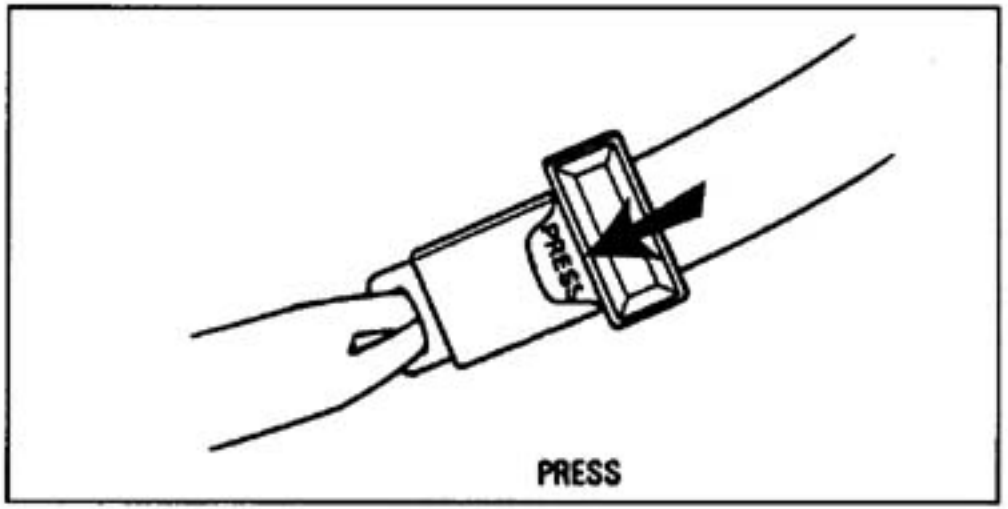
Remove excess length of belt and push the belt down over your hips.

To shorten, pull on the free end of the belt. The lap belt should fit snugly and as low as possible on your hips, not on your waist. Adjust the belt to a snug fit, failure to do so could increase the chance of injury due to sliding under the lap belt during an accident.

To release the belt, press the release button.

CHILD RESTRAINT ANCHORAGES

One child restraint anchorage is located behind each applicable rear seating position. The anchorages consist of a threaded plate into which a child restraint anchorage bolt can be inserted.

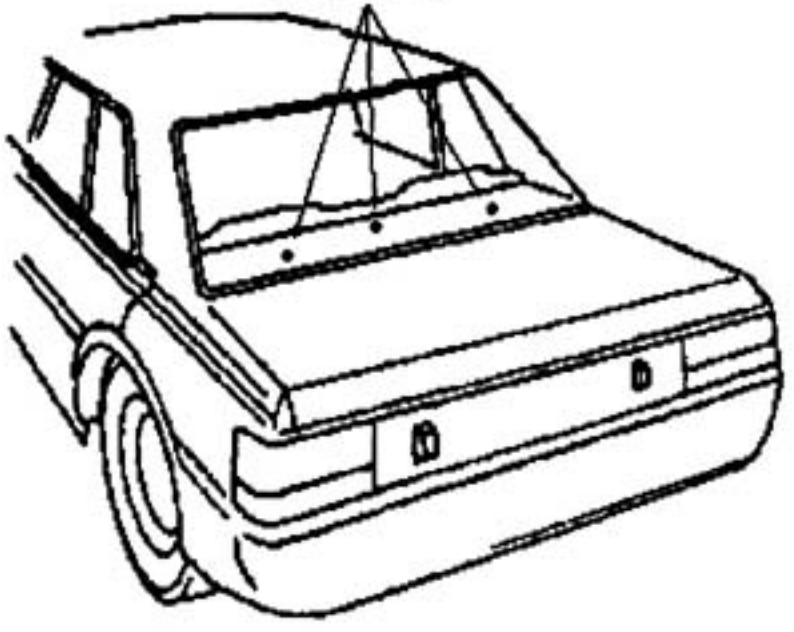


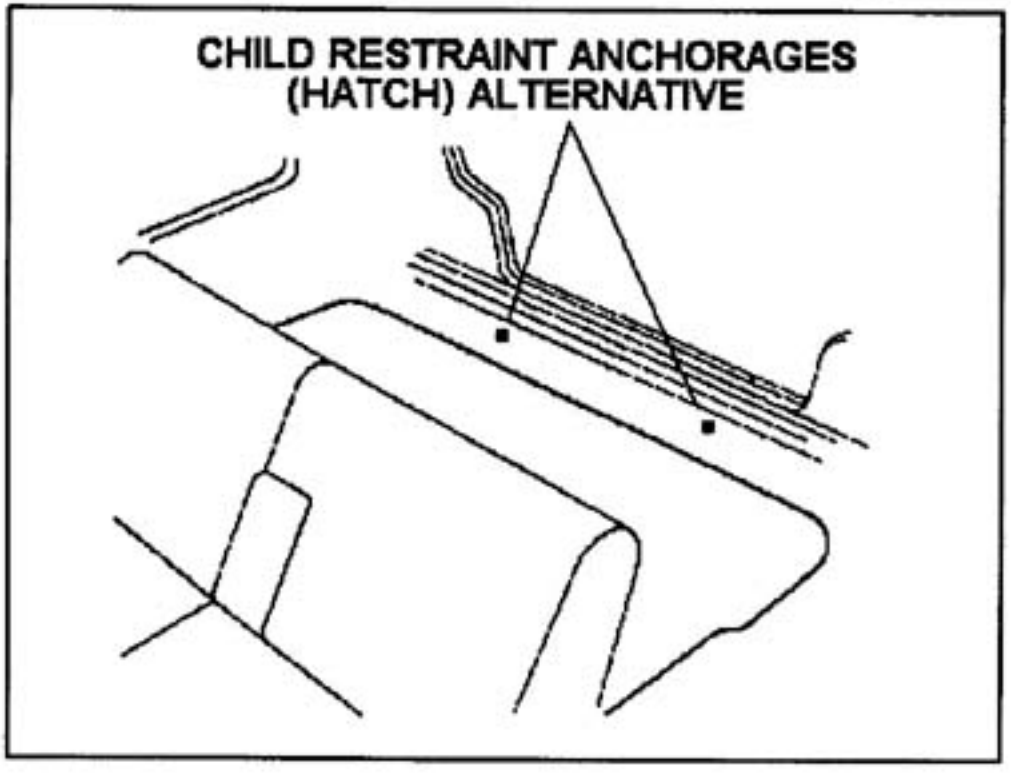
An approved child restraint is fitted to an anchorage using the bolt supplied (5/16-18 UNC-2B) with the device. Extension strap(s) may also be required and these are available from your restraint supplier. Only child restraints marked with the Australian Standards Association mark AS1754 should be used.

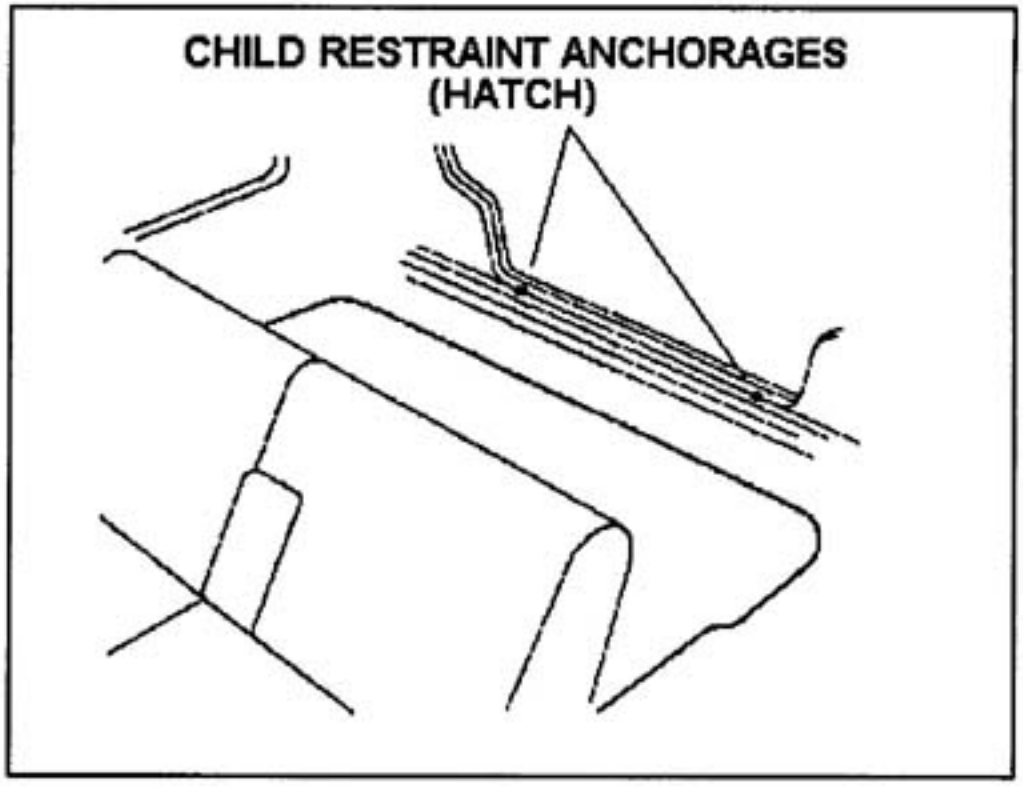
On some vehicles the child restraint anchor fitting will be fitted behind the seats and install the quick release attaching clips as per drawing.

- Number 2 child restraint anchorage is not applicable on four seating position vehicles.

CHILD RESTRAINT ANCHORAGES (SEDAN)




CHILD RESTRAINT ANCHORAGES
(HATCH) ALTERNATIVE


CHILD RESTRAINT ANCHORAGES
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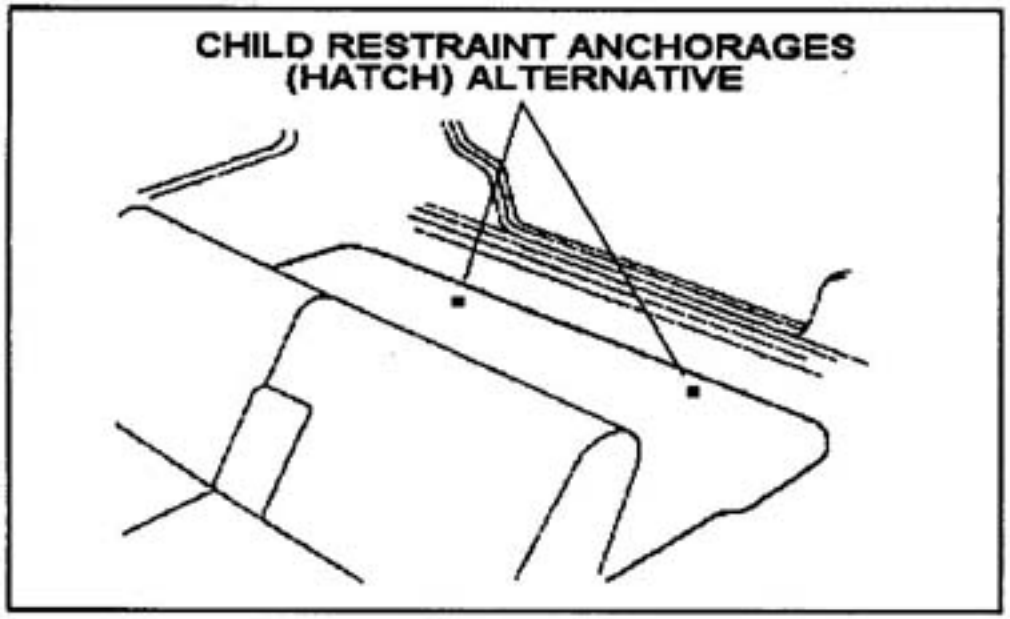
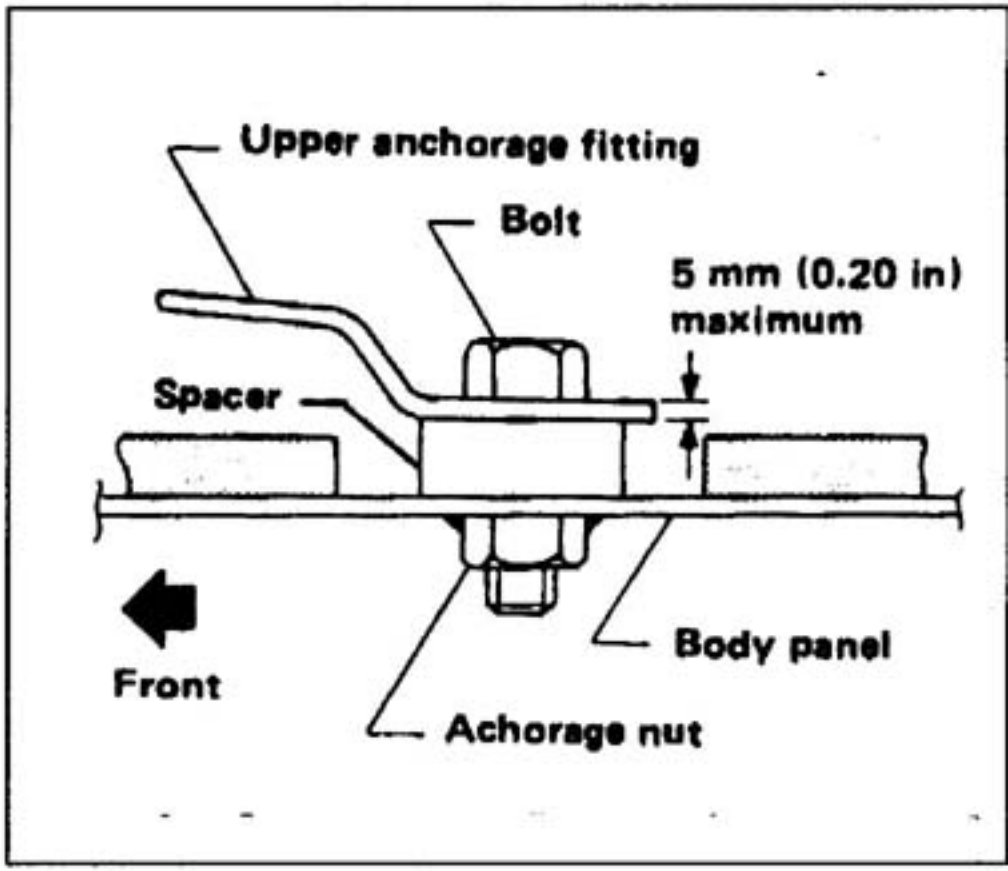




For all additional fitting instructions, refer to the instructions supplied with the restraint, the restraint manufacturer or your local automobile club (RACWA, NRMA etc).

WARNING: *Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle [ADR 34/01]*

IGNITION SWITCH AND STEERING LOCK

The ignition switch has the following positions:

"START"	Starter motor on. The key will return to the "ON" position when released.
"ON"	Engine and all accessories on. This is the normal driving position.
"ACC"	Accessories such as the radio are on, but the engine is off.
"LOCK"	The engine is off and the steering wheel is locked. The key can be removed only at this position.

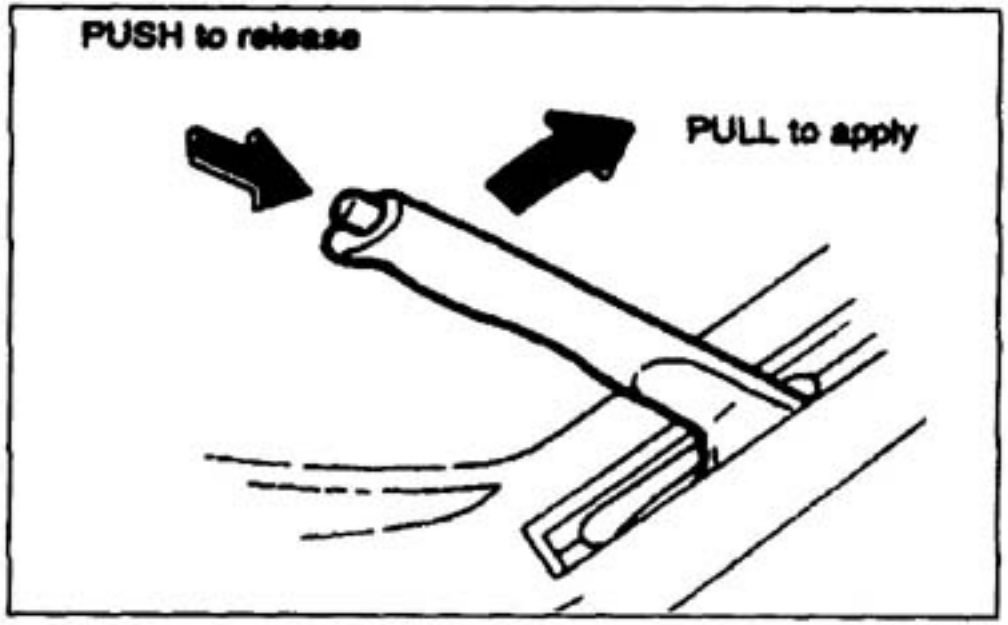
To lock the steering and remove the key; push the key inwards (or, if fitted, press the button adjacent to the key) and turn the key from "ON" or "ACC" to the "LOCK" position; then remove the key from the ignition.

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 in motion, turn the key only to "ACC".
Caution: Never remove the key when the vehicle is in motion as this will lock the steering wheel and result in loss of control of the vehicle.

Caution: Do not leave the key in the "ON" position if the engine is not running. The battery will discharge and the ignition could be damaged.

PARKING BRAKE



1 To set the parking brake; pull the lever up.

2 To release the parking brake; pull up slightly, press the thumb button and lower.

Before leaving the vehicle, firmly apply the parking brake.

Caution: Before driving, ensure the parking brake is fully released and the reminder light is off.

SECTION 3
STARTING AND OPERATION

BEFORE STARTING THE ENGINE

1 Check the area around the vehicle before entering it.

2 Adjust seat position, seat back angle and head rest height.

3 Adjust interior and exterior rear vision mirrors.

4 Fasten seat belts.

STARTING THE ENGINE

1 Apply the parking brake firmly.

2 Turn off unnecessary lights and accessories.

3 Manual Transmission: Press the clutch pedal to the floor and shift the transmission into neutral. Hold the clutch pedal to the floor until the engine is started.

4 Automatic Transmission: 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.

5 Automatic Transmission only: Depress and hold the brake pedal until ready to drive off.

Note: The fuel system in your engine automatically controls the proper air fuel mixture for starting. So you can start the cold or hot engine as follows:

6 With your foot off of the accelerator pedal, turn the key to "START", release it when the engine starts.

7 Allow the engine to warm up for about 10 seconds before driving.

IF THE ENGINE STALLS

Simply restart it, using the procedure given above.

Note:

1 Do not crank for more than 15 seconds at a time.

2 Do not race a cold engine.

3 If the engine becomes difficult to start or stalls frequently, have the engine checked immediately.

4 Never turn the engine off immediately after a heavy load. This may cause severe engine damage.

Caution: Never turn off the engine to coast down hills. Your power steering and brake booster will not function without the engine running. Also, the emission control system operates properly only when the engine is running.

SECTION 4
IN CASE OF AN EMERGENCY

IF YOUR VEHICLE WILL NOT START

Simple Checks

Before making these checks, make sure that you have followed the correct starting procedure (as described earlier) and that you have sufficient fuel.

If the engine is not turning over or is turning over too slowly:

1 Check that the battery terminals are tight and clean.

2 If the battery terminals are OK, switch on the interior light.

3 If the light is out, dim or goes out when the starter is cranked, the battery is discharged. You may try jump starting. A vehicle with an automatic transmission and/or catalytic converter cannot be push started. See "Jump starting" for further instructions.

If the light is OK, but the engine will still not start, it needs adjustment or repair. Call a dealer or qualified repair shop for assistance.

Note: Do not pull start the vehicle. It may damage the vehicle or cause a collision when the engine starts. On a vehicle with a catalytic converter, do not try push-starting. The catalytic converter may overheat and become a fire hazard.

If the engine turns over at its normal speed but will not start, check that all the push on connectors are tight at the ignition coil, distributor, and spark plug..

If the connectors are OK, the engine may be flooded because of repeated cranking.

Starting a Flooded Engine

If this happens, turn the key to "START" with the accelerator pedal held down. Keep the key and accelerator pedal down for 15 seconds and release them. Then try starting the engine with your foot off the accelerator pedal.

If the engine does not start after 15 seconds of cranking, release the key, wait a few minutes and try again.

On vehicles without a catalytic converter, if the engine does not start with the procedure described above, try the following procedure:

1 Remove the spark plugs and dry the plug electrodes.

2 Turn the key to "START" with the accelerator pedal held down for 15 seconds.

3 Reinstall the spark plugs.

4 Try starting the engine with your foot off the accelerator pedal.

If the engine still will not start, it needs adjustment or repair. Call a dealer or qualified repair shop for assistance.

Note: Do not crank for more than 15 seconds at a time.

Jump Starting

To avoid serious personal injury and damage to your vehicle which might result from battery explosion, acid burns, electrical burns, or damaged electronic components, these instructions must be followed precisely.

If you are unsure about how to follow this procedure, we strongly recommend that you seek the help of a competent mechanic or towing service.

Caution: Batteries contain sulphuric acid which is poisonous and corrosive. Wear protective safety glasses when jump starting, and avoid spilling acid on your skin, clothing, or vehicle. If you should accidentally get acid on yourself or in your eyes, remove any contaminated clothing and flush the effected area with water for al least 15 minutes. Then get immediate medical attention. If possible. Continue to apply water with a sponge or cloth while en-route to the medical office.

The gas normally produced by a battery will explode if a flame or spark is brought near. Therefore, do not smoke or light a match while jump starting.

Note: The battery used for boosting must be 12 volt. Do not jump start unless you are sure that the booster battery is correct.

Jump Starting Procedure:

1 If the booster battery is installed in another vehicle, make sure that the vehicles are not touching. Turn off all unnecessary lights and accessories.

2 Remove all the vent caps from the booster battery. Lay a cloth over the open vents on the booster battery. (This helps reduce the explosion hazard). If the booster battery is an extended maintenance interval battery, it is not necessary to remove the filler caps.

3 If the engine in the vehicle with the booster battery is not running, start it and let it run for a few minutes. During jumping run the engine at about 2000 rpm with the accelerator pedal lightly depressed.

4 Connect the jumper cables in this order: positive-to-positive(+), and negative-to-engine or body ground(-). Note that you first connect the positive cable to the discharged battery and then to the booster battery. Next, connect the negative cable to the booster battery and then to a solid, stationary, metallic point (eg. engine hanging hook) away from the battery. Do not connect it to or near any part that moves when the engine is cranked.

Note: When making the connections, do not lean over the battery or accidentally let the jumper cables or clamps touch anything except the correct battery terminals or the ground.

5 Start your engine in the normal way. After starting run it about 2000 rpm for several minutes with the accelerator pedal lightly depressed.

6 Carefully disconnect the cables in the exact reverse order: the negative cable and then the positive cable.

7 Carefully dispose of the battery cover cloths - they may now contain sulfuric acid.

8 Replace all the battery vent caps. If the cause of your battery discharging is not apparent (for example, lights left on), you should have it checked.

TOWING THE VEHICLE

If towing is necessary, we recommend you have it done by a commercial tow truck service.

Proper equipment will help ensure that your vehicle is not damaged while being towed. Commercial operators are generally aware of the state and local laws pertaining to towing.

Your vehicle can be damaged if it is towed incorrectly. Although most operators know the correct procedure, it is possible to make a mistake. Rather than risk damage to your vehicle, make sure that the following precautions are observed. If necessary, show this page to the tow truck driver.

Towing Precautions:

- Use a safety chain system for all towing, and abide by the state and local laws.
- The wheels and axle on the ground must be in good condition. If they are damaged, use a towing dolly (car ambulance).
- The vehicle may be towed from either the front or the rear. We recommend that a towing dolly should be used when towing with the drive wheels on the ground.
- Be careful not to damage the bumper.

Note: Use the tie-down tabs only when your vehicle must be towed on hard-surfaced roads.

Manual Transmission

Towing with the rear wheels on the ground

Release the parking brake and put the transmission in neutral.

Towing with front wheels on the ground

Vehicles with a manual transmission can be towed with the front wheels on the ground. However, special precautions must be taken. The ignition key must be in the "ACC" position and the steering locked in the straight ahead position. This can be performed with a special steering wheel clamping tool normally provided by tow truck services. If the front wheels are damaged, use a car ambulance or a flat topped trailer.

Automatic Transmission

Towing with rear wheels on the ground

If the vehicle is front-wheel-drive: release the parking brake.

If the vehicle is rear-wheel-drive: ***Never tow from the front with the rear wheels on the ground.*** This may cause serious damage to the automatic transmission. If the vehicle cannot be towed from the rear, it must be placed on a car ambulance or loaded on a flat topped trailer.

Towing with front wheels on the ground

If the vehicle is front-wheel-drive: ***Never tow from the rear with the front wheels on the ground.*** This may cause serious damage to the automatic transmission. If the vehicle cannot be towed from the front, it must be placed on a car ambulance or loaded on a flat topped trailer.

If the vehicle is rear-wheel-drive, the vehicle may be towed with the front wheels on the road. However, special precautions must be taken. The ignition key must be in the "ACC" position and the steering locked in the straight ahead position. This can be performed with a special steering wheel clamping tool normally provided by tow truck services. If the front wheels are damaged, use a car ambulance or a flat topped trailer.

Towing with all wheels on ground

The vehicle can be towed from the front only. Release the parking brake and put the transmission in "N". The ignition key must be in the "ACC" position, as the steering lock mechanism is not strong enough to hold the front wheels straight while towing. Do not tow faster than 45 km/h and farther than 80 km.

Before towing, check the transmission fluid. If the level is lower than the "HOT" line on the dipstick, add fluid or use a car ambulance or a flat topped trailer.

A driver must be in the vehicle to steer it and operate the brakes.

Caution: If the engine is not running, the power assist for the brakes and steering will not work so steering and braking will be much harder than usual.

IF THE VEHICLE OVERHEATS

If your temperature gauge indicates over-heating, if you experience a loss of power, or if you hear a loud knocking or pinging noise, the engine has probably over-heated. You should follow this procedure:

1 Pull safely off the road, stop the vehicle, put the transmission in "P" (automatic) or neutral (manual) and apply the parking brake. Turn off the air conditioner if it is being used.

2 If coolant or steam is boiling out of the radiator or reservoir, stop the engine. Wait until the steam subsides before opening the hood. If there is no coolant boiling over or steam leave the engine running.

3 Visually check to see if the engine drive belt (fan belt) is broken or loose. Look for obvious coolant leaks from the radiator, hoses, and under the vehicle. However, note that water draining from the air conditioner is normal if it has been used.

Caution: When the engine is running, keep hands and clothing away from the moving fan and engine drive belts.

4 If the engine drive belt is broken or the coolant is leaking, stop the engine immediately. Call for assistance.

5 If the engine drive belt is OK and there are no obvious leaks, you may help the engine cool down more quickly by running it at 1500 rpm for a few minutes with the accelerator pedal lightly depressed.

Caution: Do not attempt to remove the radiator cap when the engine and radiator are hot. Serious injury could result from scalding hot fluid and steam blown out under pressure.

6 Check the coolant reservoir. If it is dry, add water to the reservoir while the engine is running. Fill it about half full.

7 After the engine temperature has cooled to normal, again check the coolant level in the reservoir. If necessary, bring it up to half full again. Serious coolant loss indicates a leak in the system. You should have it checked as soon as possible at your local dealer or qualified repair shop.

SECTION 5
MAINTENANCE AND SERVICING

RECONDITIONED ENGINE

For new or reconditioned engine/exhaust systems, follow these rules for the first 1,000 km.

- Do not drive at more than 100 km/h
- Do not exceed 4000 rpm
- Avoid full throttle starts
- Do not drive slowly in high gear so the engine labours
- Avoid hard stops for the first 300 km
- Do not drive constantly at the same speed
- Do not tow a trailer for the first 800 km

CATALYTIC CONVERTER

The catalytic converter is an emission control device installed in the exhaust system. It looks somewhat like a muffler but its purpose is to reduce pollutants in the exhaust gas.

As the catalytic converter is designed to operate at high temperatures, do not drive, idle or park your vehicle where readily combustible materials such as grass, leaves, paper etc. are close to the exhaust system. Similarly, do not work on or in the vicinity of the exhaust system while the engine is running or before the system has cooled.

WARINIG: *Incorrect fuel and large amounts of unburnt fuel flowing into the converter may cause it to overheat and/or reduce its life and efficiency. Similarly, certain engine malfunctions, particularly misfiring, create an excessive heat load on the converter.*

To prevent these effects, please observe the following precautions:

- Use only unleaded petrol.
- Do not turn off the ignition while the vehicle is moving.
- Avoid racing the engine.
- Do not idle the engine for more than 20 minutes.
- Do not push or pull start the vehicle.
- Do not drive with an extremely low fuel level as running out of fuel can cause the engine to misfire.
- Keep your engine in good running order.

If the engine becomes difficult to start, stalls frequently or pings/knocks during acceleration, take your vehicle for a service as soon as possible.

Caution: Avoid inhaling exhaust gases. They contain Carbon Monoxide gas which is colourless and odourless and can cause unconsciousness or death.

- Ensure 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 exhaust sound, have the system checked as soon as possible.
- Avoid running the vehicle in a garage or enclosed area except for the time needed to drive in or out. If exhaust gases cannot escape, this is a particularly dangerous situation.
- Avoid remaining in a parked vehicle with the engine running. If unavoidable, do so only in an unconfined area and adjust the ventilation system to force outside air into the vehicle.
- Keep the boot lid closed while driving. An open or unsealed boot can allow exhaust fumes to be drawn up into the vehicle. If you must drive with the boot lid open to accommodate a large object, close the windows, open all dashboard vents and have the ventilation system deliver fresh air into the vehicle by turning the fan onto high speed with the air intake control set to the "Outside Air" mode.
- To allow proper operation of the ventilation system, keep the inlet grilles in front of the windscreen clear of leaves and other obstructions.
- If you smell exhaust fumes while driving, open all windows. Have the cause located and corrected as soon as possible.

FUEL RECOMMENDATION

This vehicle must run on unleaded fuel only.

The recommended fuel is "Low Octane Unleaded" of Research Octane Number (RON) 91 or higher ("standard" unleaded fuel).

If indicated on the engine data label beneath the bonnet or fitted with a turbo-charged engine; the recommended fuel is "High Octane Unleaded" of Research Octane Number (RON) 95 or higher ("premium" unleaded fuel).

Use of leaded petrol will cause the catalytic converter to loose its effectiveness and the emission control equipment to function improperly and may also lead to significantly greater maintenance cost..

To prevent leaded fuel from being poured into the fuel tank, a smaller fuel filler opening and flap is fitted. Before allowing fuel to flow when refuelling, push the nozzle far enough into the filler tube to hold open the flap.

EMISSION CONTROL AND YOUR RESPONSIBILITIES

In accordance with emissions ADRs, your vehicle is fitted with systems designed to minimise pollution from 3 main sources:

1 Crankcase emission (blow-by)

This is unburnt gas (containing hydrocarbons (HC)) from the cylinder that leaks into the crankcase.

2 Exhaust emissions

This is the gas formed by the combustion process inside the cylinders and is discharged into the atmosphere through the exhaust pipe. It contains Carbon monoxide (CO), hydrocarbons (HC) and nitrous oxides (No).

3 Evaporative emissions

This is the gas formed by the vaporisation of fuel in the tank and fuel system.

Systems necessary to provide required emission control include:

- Fuel control system
- Engine designed for ULP
- Catalytic converter
- Positive crankcase ventilation (PCV)
- Evaporative Emissions Control System (EECS)
- Early Fuel Evaporation System (EFE)
- Electronic Spark Timing (EST)
- Exhaust Gas Recirculation (EGR)
- Air Injection Reaction (AIR)
- Oxygen Sensor
- Transmission Converter Clutch (TCC)
- Thermostatic Air Cleaner (THERMAC)

All these systems are linked, directly or indirectly to the Engine Control System.

As the vehicle owner, you are responsible for the proper operation, maintenance and care of your vehicle.

Do not remove or modify the emission systems in any vehicle intended for use on public roads.

You are responsible for keeping maintenance records as in some instances it may be necessary for you to substantiate that the required maintenance was performed.

MAINTENANCE OF EMISSION CONTROL SYSTEMS

The following maintenance schedule is recommended:

Every 10,000 km

- Check carburettor, throttle body or injection body for loose connections and free operation of choke (if fitted).
- Check all engine, fuel, water, gas and exhaust connections for leaks and rectify as necessary.

- Check and adjust engine idle settings as per engine placard.
- Check and adjust air pump drive belt.
- Change oil filter.

Every 20,000 km

- Check and clean PCV filter and air cleaner.
- Check and replace as necessary spark plug leads and distributor.

Every 40,000 km

- Check function of thermostatically controlled air cleaner.
- Replace spark plugs.
- Clean and service distributor.
- Replace PCV valve.
- Service air cleaner and PCV filter.
- Check (and replace if necessary) oxygen sensors.
- Inspect fuel tank, filler neck and fuel lines for leaks and security and repair/replace as necessary.
- Change air cleaner element.
- Change fuel filter.

TYRES

Tyre Pressures

The recommended cold tyre pressures and tyre sizes are shown on the tyre placard located in the driver's door opening. You should check the tyre pressures at least once a month. (Do not forget the spare tyre!) If the vehicle has a temporary or compact spare tyre see the section below for details. Incorrect tyre pressure can reduce tyre life and make your car less safe to drive.

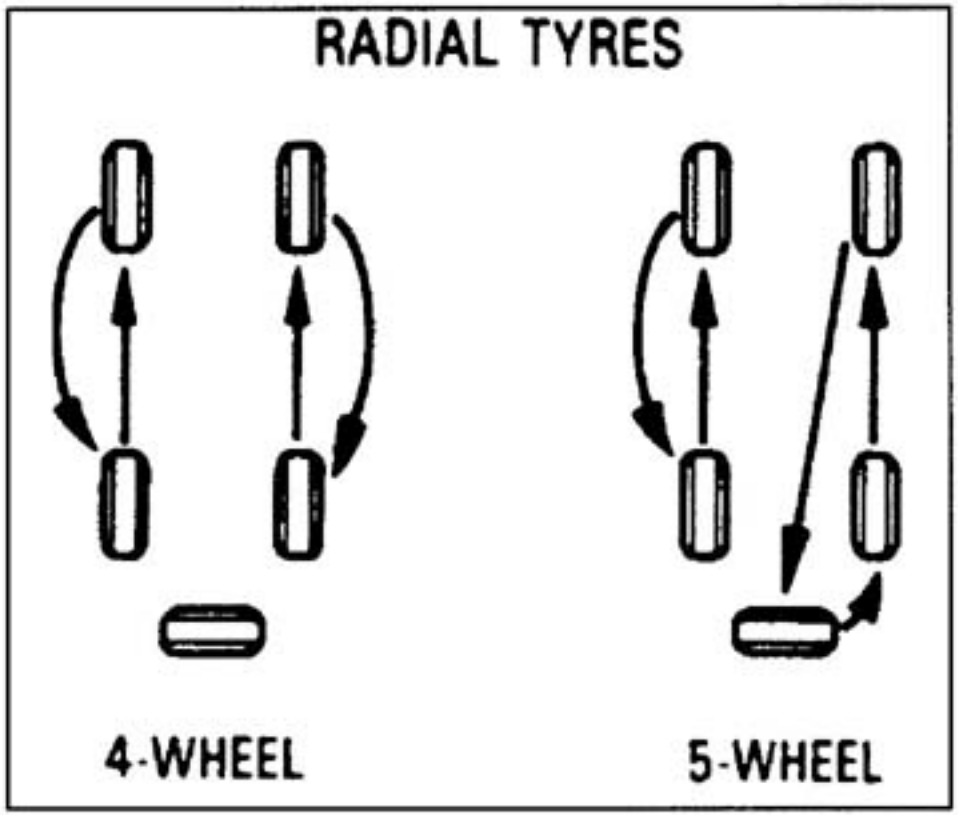
Low tyre pressure results in excessive wear, poor handling, reduced fuel economy, and the possibility of blow-outs from over heated tyres. Also, low tyre pressure can cause poor sealing of the tyre bead. If the tyre pressure is excessively low, there is the possibility of wheel deformation and/or tyre separation. So keep your tyre pressures at the proper level. If a tyre frequently needs refilling, have it checked.

High tyre pressure produces a harsh ride, handling problems, excessive wear at the centre of the tyre tread, and a greater possibility of tyre damage from road hazards.

- These instructions for checking tyre pressure should be observed:
- The pressure should be checked only when the tyres are "cold". Pressures should be checked in early morning, preferably before the vehicle has covered 1 kilometre.

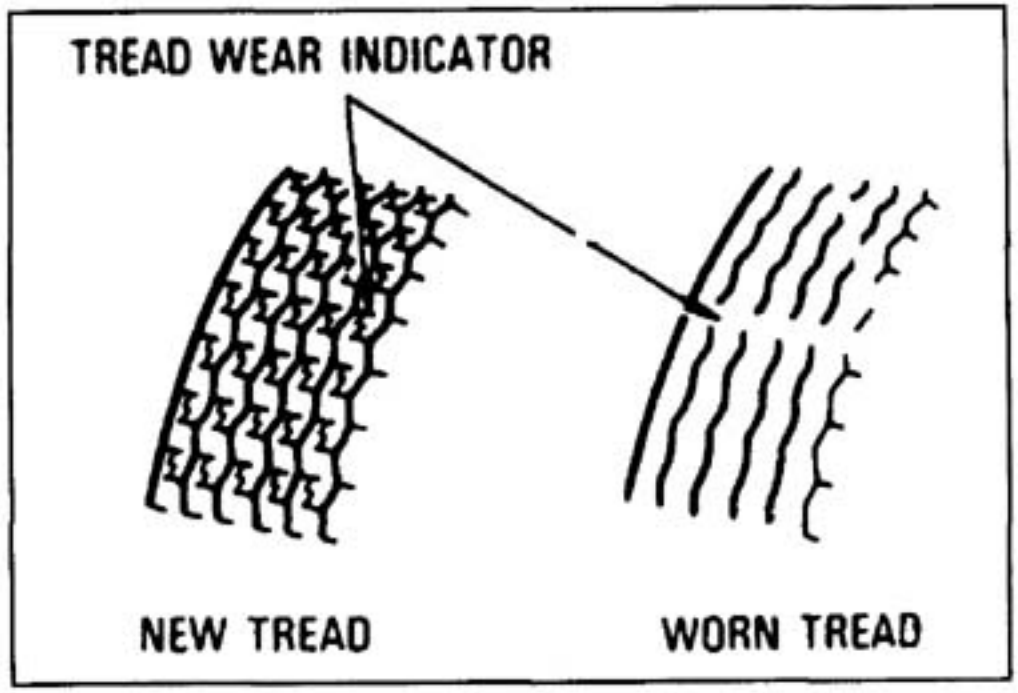
- Always use a tyre pressure gauge. The appearance of tyres can be misleading. Besides, tyre pressures that are even just a few kilopascals (kPa) off can degrade handling and ride.
- Do not bleed or reduce tyre pressure after driving. It is normal for the tyre pressure to be higher after driving.
- Be sure to reinstall the tyre inflation 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.

Tyre Rotation and Replacement



To increase the life of your tyres, we recommend rotating them every 10,000 km. Including the spare in your rotation will cause your tyres to last longer. However, rotating without the spare means that when replacement time comes, you will only have to buy three new tyres to match the spare which will be unused. The choice is yours. Temporary spare tyres should not be rotated. When rotating tyres, check for uneven wear and damage. Abnormal wear is usually caused by incorrect tyre pressure, improper wheel alignment, out-of-balance wheels or severe braking. After rotation, be sure to bring the front and rear tyre pressures to specification and check wheel nut tightness.

Replace the tyres when the tread wear indicators show. The tyres on your vehicle have built-in tread wear indicators to help you know when the tyres need replacement. If you can see the indicators in two or more adjacent grooves, the tyre should be replaced. When the tread depth wears to 1.6 mm or less, the indicators will appear.



Before storing radial tyres, mark the direction of rotation and be sure to install them in the same direction when replacing. Tyres should be stored in a cool dry place.

When replacing a tyre, use only the same size and construction as originally installed and with the same or greater load capacity (refer tyre placard).

Using any other size or type of tyre may seriously affect ride, handling, speedometer and odometer calibration, ground clearance, and clearance between the body and tyres or snow chains. When replacing a tubeless tyre, the air valve should also be replaced with a new one.

Do not mix radial, belted or cross-ply tyres on your car. It can cause dangerous handling characteristics.

If you need to replace only one tyre, mount the new tyre to the axle with the tyre showing the least amount of wear.

Should you be aware of oil or petrol on the road surface, take great care if you have to drive over it as it could cause your vehicle to skid out of control, especially when cornering. It is much safer to avoid the area if you can.

If you have tyre damage such as cuts, splits, cracks deep enough to expose the fabric, and bulges indicating internal damage, the tyre should be replaced. Tyres with questionable damage should be examined by an expert. If any air loss occurs while driving, do not continue driving with a deflated tyre. Driving even a short distance can damage a tyre beyond repair.

When replacing wheels for some reason, care should be taken to ensure that the wheels are equivalent to those removed in load capacity, diameter, rim width, and offset.

If you have used an aerosol-tyre sealant for a temporary repair, a permanent vulcanised repair should be made as soon as possible. Do not drive more than 160 km and over 80 km/h with a temporary repair.

Correct replacement wheels are available through the manufacturer. If you need to replace the tyres due to wear or damage, the following precautions should be observed when installing the tyre on wheel:

- Lubricate wheel and beads with soapy water or tyre mounting lubricant.
- To properly seat tyre on rim, inflate tyre to a maximum of 340-390 kPa.

Alloy Wheel Precautions

- After driving your vehicle the first 1600 km, check that the wheel nuts are tight.
- If you have rotated, repaired, or changed your tyres, check that the wheel nuts are still tight after driving 1600 km.
- Use only genuine wheel nuts designed for your alloy wheels.
- As with any wheel, periodically check your alloy wheels for damage. If damaged, replace immediately.
- When using snow chains, be careful not to damage the aluminium wheels.

If you have wheel damage such as bends, cracks or heavy corrosion, the wheel should be replaced. If you fail to replace damage wheels, the tyre may slip off the wheel or they may cause loss of handling control. Replacement with used wheels is not recommended as they may have been subjected to rough treatment or covered long distances 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 tyre.

When a tyre is replaced, the wheel should always be balanced. An unbalanced wheel may affect vehicle handling and tyre life. Wheels can get out of balance with regular use and should therefore be balanced occasionally. When replacing wheels for some reason, care should be taken to ensure that the wheels are equivalent to those removed in load capacity, diameter, rim width, and offset. Correct replacement wheels are available through the manufacturer.

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 tyre or snow chain clearance to the body and chassis. A placard showing the approved tyre designations is fixed to the rear end of the driver's door or near the driver's door latch striker. It is your responsibility to ensure that any replacement tyres meet the dimensional, load carrying and speed classification shown on this placard.

Temporary or Compact Spare Tyre

If your vehicle is fitted with a compact spare tyre, check its pressure at least monthly. There is a placard adjacent to the tyre giving the tyre pressure.

The compact spare is designed to save space and its lighter weight makes it easier to install if a flat tyre occurs.

If you use this tyre, keep the following points in mind:

- Check the tyre inflation pressure as soon as possible after installation.
- You can expect a total tread life of 4500 km depending on road condition. To conserve tread life, use the spare only when necessary.
- The compact spare should not be used on any other vehicle.
- The compact spare tyre and rim are designed for each other. Neither should be used with any other type of tyre or rim.
- Do not use tyre chains or wheel trims (or other decorative covers) with the compact spare.
- Use of the compact spare lowers ground clearance. Do not take the car through an automatic car wash with this wheel fitted.
- Replace the compact spare with a normal tyre as soon as possible.
- Do not exceed 80 km/h while using the compact spare.
- Always use wheel chocks when jacking the vehicle for whatever reason.

WARNING:
Temporary-use spare tyres fitted to this vehicle must have a maximum load rating not less than 580kg or a load index of 89 and a speed category symbol not less than "L" (120km/h).

Under no circumstances should a vehicle be fitted with two Temporary-use spare tyres at the same time.

Nonconformity with the above requirements for the use of the Temporary-use spare tyres is a serious matter and it may jeopardise the safety of the vehicle and its occupants.

WARNING: Fitting of a standard size rear registration plates requires bending the edges of the plates at right angles in order to allow the plates to fit within the recess provided in the rear bumper.