

**SECTION MA**  
**MAINTENANCE**

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# PRECAUTIONS

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## PRECAUTIONS

PFP:00001

### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

ELS0016X

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

# PREPARATION

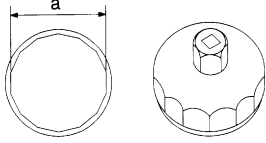
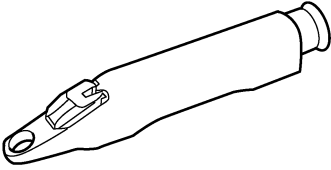
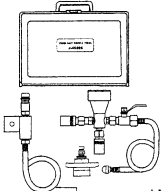
## PREPARATION

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### Special Service Tool

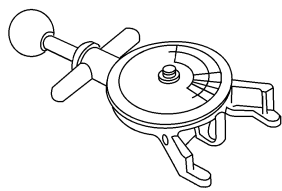
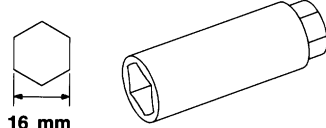
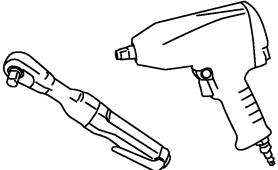
ELS0016Y

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
KV10115801 (J-38956) Oil filter cap wrench <div style="text-align: center;">  <p>NT375</p> </div>	Removing oil filter <b>a: 64.3 mm (2.531 in)</b>
KV991J0010 (J-23688) Engine coolant refractometer <div style="text-align: center;">  <p>WBIA0539E</p> </div>	Checking concentration of ethylene glycol in engine coolant
KV991J0070 (J-45695) Coolant Refill Tool <div style="text-align: center;">  <p>LMA053</p> </div>	For refilling engine cooling system

## Commercial Service Tool

ELS0016Z

(Kent-Moore No.) Tool name	Description
(BT-3373-F) Belt tension gauge <div style="text-align: center;">  <p>AMA126</p> </div>	Checking drive belt tension
Spark plug wrench <div style="text-align: center;">  <p><b>16 mm (0.63 in)</b> S-NT047</p> </div>	Removing and installing spark plugs
Power Tool <div style="text-align: center;">  <p>PBIC0190E</p> </div>	Loosening bolts and nuts

# GENERAL MAINTENANCE

## GENERAL MAINTENANCE

PFP:00000

### Explanation of General Maintenance

ELS00170

General maintenance includes those items which should be checked during the normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue operating properly. The owners can perform checks and inspections themselves or have their NISSAN dealers do them.

### OUTSIDE THE VEHICLE

The maintenance items listed here should be performed from time to time, unless otherwise specified.

Item		Reference page
<b>Tires</b>	Check the pressure including the spare, at least once a month and always prior to a long distance trip with a gauge. Adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear.	<a href="#">WT-36, "Tire"</a>
<b>Wheel nuts</b>	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	<a href="#">WT-7, "Tire Rotation"</a>
<b>Windshield</b>	Clean the windshield on a regular basis. Check windshield at least every six months for cracks or other damage. Repair as necessary.	<a href="#">GW-12, "Removal and Installation"</a>
<b>Tire rotation</b>	Tires should be rotated every 12,000 km (7,500 miles).	<a href="#">MA-23, "Tire Rotation"</a>
<b>Wheel alignment and balance</b>	If the vehicle pulls to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed.	<a href="#">FSU-6, "Front Wheel Alignment"</a> , <a href="#">MA-22, "Balancing Wheels (Bonding Weight Type)"</a>
<b>Windshield wiper blades</b>	Check for cracks or wear if they do not wipe properly. Repair as necessary.	—
<b>Doors and engine hood</b>	Check that all doors and the engine hood operate smoothly as well as the trunk lid and back hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	<a href="#">MA-28, "Lubricating Locks, Hinges and Hood Latch"</a>
<b>Lamps</b>	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	<a href="#">LT-33, "Aiming Adjustment" (US)</a> , <a href="#">LT-49, "Aiming Adjustment" (Canada)</a>

### INSIDE THE VEHICLE

The maintenance items listed here should be checked on a regular basis, such as when performing periodic maintenance, cleaning the vehicle, etc.

Item		Reference page
<b>Warning lamps and chimes</b>	Make sure that all warning lamps and chimes are operating properly.	—
<b>Windshield wiper and washer</b>	Check that the wipers and washer operate properly and that the wipers do not streak.	—
<b>Windshield defroster</b>	Check that the air comes out of the defroster outlets properly and in sufficient quantity when operating the heater or air conditioner.	—
<b>Steering wheel</b>	Check that it has the specified play. Be sure to check for changes in the steering condition, such as excessive play, hard steering or strange noises.	<a href="#">PS-8, "STEERING WHEEL"</a>
<b>Seats</b>	Check seat position controls such as seat adjusters, seatback recliner, etc. to make sure they operate smoothly and that all latches lock securely in every position. Check that the head restraints move up and down smoothly and that the locks (if equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—
<b>Seat belts</b>	Check that all parts of the seat belt system (e.g. buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	<a href="#">MA-28, "Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters"</a>
<b>Accelerator pedal</b>	Check the pedal for smooth operation and make sure the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—

# GENERAL MAINTENANCE

Item		Reference page
<b>Brakes</b>	Check that the brake does not pull the vehicle to one side when applied.	<a href="#">BR-23, "FRONT DISC BRAKE"</a>
<b>Brake pedal and booster</b>	Check the pedal for smooth operation and make sure it has the proper distance under it when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	<a href="#">BR-6, "BRAKE PEDAL",</a> <a href="#">BR-18, "BRAKE BOOSTER"</a>
<b>Parking brake</b>	Check that the lever has the proper travel and make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	<a href="#">PB-5, "Inspection"</a>
<b>CVT P (Park) position mechanism</b>	On a fairly steep hill check that the vehicle is held securely with the selector lever in the "P" position without applying any brakes.	—

## UNDER THE HOOD AND VEHICLE

The maintenance items listed here should be checked periodically (e.g. each time you check the engine oil or refuel).

Item		Reference page
<b>Windshield washer fluid</b>	Check that there is adequate fluid in the tank.	—
<b>Engine coolant level</b>	Check the coolant level when the engine is cold.	<a href="#">MA-13, "REFILLING ENGINE COOLANT"</a>
<b>Radiator and hoses</b>	Check the front of the radiator and clean off any dirt, insects, leaves, etc., that may have accumulated. Make sure the hoses have no cracks, deformation, deterioration or loose connections.	—
<b>Brake fluid level</b>	Make sure that the brake fluid level is between the "MAX" and "MIN" lines on the reservoir.	<a href="#">MA-24, "Checking Brake Fluid Level and Leaks"</a>
<b>Battery</b>	Check the fluid level in each cell. It should be between the "MAX" and "MIN" lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	<a href="#">SC-4, "CHECKING ELECTROLYTE LEVEL"</a>
<b>Engine drive belts</b>	Make sure that no belt is frayed, worn, cracked or oily.	<a href="#">MA-11, "CHECKING DRIVE BELTS"</a>
<b>Engine oil level</b>	Check the level on the dipstick after parking the vehicle on a level spot and turning off the engine.	<a href="#">MA-15, "Changing Engine Oil"</a>
<b>Power steering fluid level and lines</b>	Check the level on the dipstick with the engine off. Check the lines for improper attachment, leaks, cracks, etc.	<a href="#">MA-26, "Checking Power Steering Fluid and Lines"</a>
<b>Exhaust system</b>	Make sure there are no loose supports, cracks or holes. If the sound of the exhaust seems unusual or there is a smell of exhaust fumes, immediately locate the trouble and correct it.	<a href="#">MA-20, "Checking Exhaust System"</a>
<b>Underbody</b>	The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—
<b>Fluid leaks</b>	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—

# PERIODIC MAINTENANCE

## PERIODIC MAINTENANCE

PFP:00026

### Introduction of Periodic Maintenance

ELS00171

Two different maintenance schedules are provided, and should be used, depending upon the conditions in which the vehicle is mainly operated. After 60,000 miles (96,000 km) or 48 months, continue the periodic maintenance at the same mileage/time intervals.

Schedule 1	Follow Periodic Maintenance Schedule 1 if the driving habits frequently include one or more of the following driving conditions: <ul style="list-style-type: none"> <li>● Repeated short trips of less than 5 miles (8 km).</li> <li>● Repeated short trips of less than 10 miles (16 km) with outside temperatures remaining below freezing.</li> <li>● Operating in hot weather in stop-and-go "rush hour" traffic.</li> <li>● Extensive idling and/or low speed driving for long distances, such as police, taxi or door-to-door delivery use.</li> <li>● Driving in dusty conditions.</li> <li>● Driving on rough, muddy, or salt spread roads.</li> <li>● Towing a trailer, using a car-top carrier.</li> </ul>	Emission Control System Maintenance	<a href="#">MA-6</a>
		Chassis and Body Maintenance	<a href="#">MA-7</a>
Schedule 2	Follow Periodic Maintenance Schedule 2 if none of driving conditions shown in Schedule 1 apply to the driving habits.	Emission Control System Maintenance	<a href="#">MA-8</a>
		Chassis and Body Maintenance	<a href="#">MA-8</a>

### Schedule 1 EMISSION CONTROL SYSTEM MAINTENANCE

ELS00172

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. [ ]: At the mileage intervals only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	3.75 (6)	7.50 (12)	11.25 (18)	15 (24)	18.75 (30)	22.5 (36)	26.25 (42)	30 (48)	
Drive belts	NOTE (1)									<a href="#">MA-11</a>
Air cleaner filter	NOTE (2)								[R]	<a href="#">MA-15</a>
EVAP vapor lines									I*	<a href="#">MA-19</a>
Fuel lines									I*	<a href="#">MA-15</a>
Fuel filter	NOTE (3)									—
Engine coolant	NOTE (4)									<a href="#">MA-13</a>
Engine oil		R	R	R	R	R	R	R	R	<a href="#">MA-15</a>
Engine oil filter (Use part No. 15208 65F01 or equivalent.)		R	R	R	R	R	R	R	R	<a href="#">MA-16</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								<a href="#">MA-17</a>
Intake & exhaust valve clearance*	NOTE (5)									<a href="#">EM-136</a>

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	33.75 (54)	37.5 (60)	41.25 (66)	45 (72)	48.75 (78)	52.5 (84)	56.25 (90)	60 (96)	
Drive belts	NOTE (1)								I*	<a href="#">MA-11</a>
Air cleaner filter	NOTE (2)								[R]	<a href="#">MA-15</a>
EVAP vapor lines									I*	<a href="#">MA-19</a>
Fuel lines									I*	<a href="#">MA-15</a>
Fuel filter	NOTE (3)									-
Engine coolant	NOTE (4)								R*	<a href="#">MA-13</a>

# PERIODIC MAINTENANCE

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	33.75 (54) 27	37.5 (60) 30	41.25 (66) 33	45 (72) 36	48.75 (78) 39	52.5 (84) 42	56.25 (90) 45	60 (96) 48	
Engine oil		R	R	R	R	R	R	R	R	<a href="#">MA-15</a>
Engine oil filter 15208 65F01 or equivalent.		R	R	R	R	R	R	R	R	<a href="#">MA-16</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								<a href="#">MA-17</a>
Intake & exhaust valve clearance*	NOTE (5)									<a href="#">EM-136</a>

(1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months. Replace the drive belts if found damaged.

(2) If operating mainly in dusty conditions, more frequent maintenance may be required.

(3) Maintenance-free item. For service procedures, go to the FL section.

(4) After 60,000 miles (96,000 km) or 48 months, replace every 30,000 miles (48,000 km) or 24 months.

(5) If valve noise increases, inspect valve clearance.

\* Maintenance items and intervals with "\*" are recommended by NISSAN for reliable vehicle operation. The owner need not perform such maintenance in order to maintain the emission warranty or manufacturer recall liability. Other maintenance items and intervals are required.

## CHASSIS AND BODY MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	3.75 (6) 3	7.50 (12) 6	11.25 (18) 9	15 (24) 12	18.75 (30) 15	22.5 (36) 18	26.25 (42) 21	30 (48) 24	
Brake lines & cables					I				I	<a href="#">MA-24</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-25</a>
CVT fluid	NOTE (1)				I				I	<a href="#">CVT-16</a>
Steering gear & linkage, axle & suspension parts			I		I		I		I	<a href="#">MA-25, MA-27</a>
Tire rotation	NOTE (2)									<a href="#">MA-23</a>
Exhaust system			I		I		I		I	<a href="#">MA-20</a>
Front drive shaft boot			I		I		I		I	<a href="#">MA-28</a>
In-cabin microfilter					R				R	<a href="#">ATC-121</a>

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	33.75 (54) 27	37.5 (60) 30	41.25 (66) 33	45 (72) 36	48.75 (78) 39	52.5 (84) 42	56.25 (90) 45	60 (96) 48	
Brake lines & cables					I				I	<a href="#">MA-24</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-25</a>
CVT fluid	NOTE (1)				I				I	<a href="#">CVT-16</a>
Steering gear & linkage, axle & suspension parts			I		I		I		I	<a href="#">MA-25, MA-27</a>
Tire rotation	NOTE (2)									<a href="#">MA-23</a>
Exhaust system			I		I		I		I	<a href="#">MA-20</a>
Front drive shaft boots			I		I		I		I	<a href="#">MA-28</a>
In-cabin microfilter					R				R	<a href="#">ATC-121</a>

(1) If towing a trailer, using a car-top carrier, or driving on rough or muddy roads, inspect CVT fluid deterioration with CONSULT-II every 60,000 miles (96,000 km), then change CVT Fluid NS-2 if necessary. (Refer to [CVT-16, "FLUID CONDITION CHECK"](#).) If CONSULT-II

# PERIODIC MAINTENANCE

is not available, change (not just inspect) the CVT Fluid NS-2 every 60,000 miles (96,000 km). Using automatic transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.

(2) Refer to [MA-4, "GENERAL MAINTENANCE"](#).

## Schedule 2 EMISSION CONTROL SYSTEM MAINTENANCE

ELS00173

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. [ ]: At the mileage intervals only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	7.5 (12) 6	15 (24) 12	22.5 (36) 18	30 (48) 24	37.5 (60) 30	45 (72) 36	52.5 (84) 42	60 (96) 48	
Drive belts	NOTE (1)								I*	<a href="#">MA-11</a>
Air cleaner filter					[R]				[R]	<a href="#">MA-15</a>
EVAP vapor lines					I*				I*	<a href="#">MA-19</a>
Fuel lines					I*				I*	<a href="#">MA-15</a>
Fuel filter	NOTE (2)									-
Engine coolant	NOTE (3)								R*	<a href="#">MA-13</a>
Engine oil		R	R	R	R	R	R	R	R	<a href="#">MA-15</a>
Engine oil filter (Use part No. 15208 65F01 or equivalent.		R	R	R	R	R	R	R	R	<a href="#">MA-16</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								<a href="#">MA-17</a>
Intake & exhaust valve clearance*	NOTE (4)									<a href="#">EM-136</a>

(1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months. Replace the drive belts if found damaged.

(2) Maintenance-free item. For service procedures, go to FL section.

(3) After 60,000 miles (96,000 km) or 48 months, replace every 30,000 miles (48,000 km) or 24 months.

(4) If valve noise increases, inspect valve clearance.

\* Maintenance items and intervals with "\*" are recommended by NISSAN for reliable vehicle operation. The owner need not perform such maintenance in order to maintain the emission warranty or manufacturer recall liability. Other maintenance items and intervals are required.

## CHASSIS AND BODY MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	7.5 (12) 6	15 (24) 12	22.5 (36) 18	30 (48) 24	37.5 (60) 30	45 (72) 36	52.5 (84) 42	60 (96) 48	
Brake lines & cables			I		I		I		I	<a href="#">MA-24</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-25</a>
CVT fluid	NOTE (1)		I		I		I		I	<a href="#">CVT-16</a>
Steering gear & linkage, axle & suspension parts					I				I	<a href="#">MA-25, MA-27</a>
Tire rotation	NOTE (2)									<a href="#">MA-23</a>
Exhaust system					I				I	<a href="#">MA-20</a>
Front drive shaft boots			I		I		I		I	<a href="#">MA-28</a>
In-cabin microfilter			R		R		R		R	<a href="#">ATC-121</a>

(1) Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.

(2) Refer to [MA-4, "GENERAL MAINTENANCE"](#).



# RECOMMENDED FLUIDS AND LUBRICANTS

PFP:00000

ELS00174

## RECOMMENDED FLUIDS AND LUBRICANTS

### Fluids and Lubricants

Description		Capacity (approximate)			Recommended Fluids and Lubricants
		Liter	US measure	Imp measure	
Fuel		75.6	20 gal	16 5/8 gal	Unleaded gasoline with an octane rating of at least 87 AKI (RON 91) *1
Engine oil Drain and refill	With oil filter change	4.2	4 1/2 qt	3 3/4 qt	<ul style="list-style-type: none"> <li>● API Certification Mark *2</li> <li>● API grade SL or SM, Energy Conserving *2</li> <li>● ILSAC grade GF-3 and GF-4 *2</li> </ul>
	Without oil filter change	4.0	4 1/4 qt	3 1/2 qt	
Dry engine (engine overhaul)		4.6	4 7/8 qt	4 qt	
Cooling system	With reservoir at MAX level	8.5	2 1/4 gal	1 7/8 gal	Genuine NISSAN Long Life Anti-freeze Coolant or equivalent
CVT Fluid		10	10 5/8 qt	8 3/4 qt	Genuine NISSAN CVT Fluid NS-2 *3
Power steering fluid (PSF)		1.0	2 1/8 pt	1 3/4 pt	Genuine NISSAN PSF or equivalent *4
Brake fluid		—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid *5 or equivalent DOT 3 (US FMVSS No. 116)
Brake grease		—	—	—	PBC (poly butyl cuprysil)
Brake pad plate grease		—	—	—	Molykote AS880N grease or equivalent
Multi-purpose grease		—	—	—	NLGI No. 2 (Lithium soap base)
Windshield washer fluid		—	—	—	Genuine NISSAN Windshield Washer Concentrate Cleaner & Anti-freeze or equivalent
Air conditioning system refrigerant		0.55 ± 0.025 kg	1.21 ± 0.055 lb	1.21 ± 0.055 lb	HFC-134a (R-134a) *6
Air conditioning system oil		150 m ℓ	5.03 fl oz	5.3 fl oz	Genuine NISSAN A/C System Oil Type S or equivalent *6

\*1: For improved performance, use unleaded premium gasoline with an octane rating of at least 91 AKI (RON 96).

\*2: For further details, see "SAE Viscosity Number".

\*3: Use only Genuine NISSAN CVT Fluid NS-2. Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.

\*4: For Canada, NISSAN Automatic Transmission Fluid (ATF), DEXRON™ III / MERCON™ or equivalent ATF may also be used.

\*5: Available in mainland U.S.A. through your NISSAN dealer.

\*6: For further details, see "Air conditioner specification label".

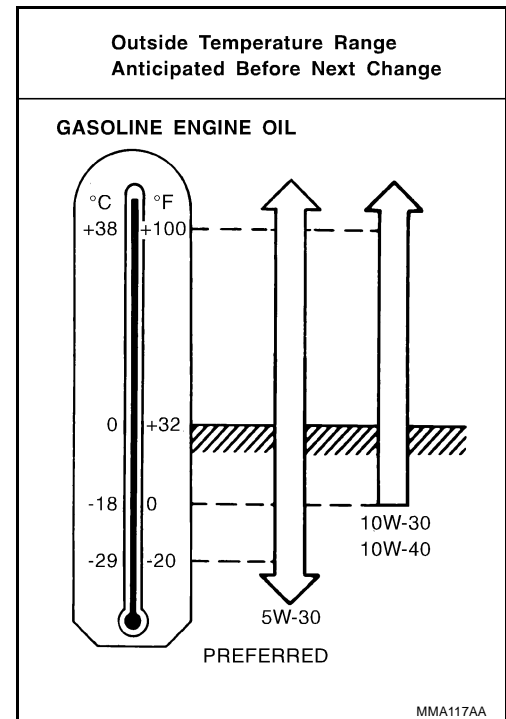
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# RECOMMENDED FLUIDS AND LUBRICANTS

ELS00175

## SAE Viscosity Number GASOLINE ENGINE OIL

- SAE 5W-30 viscosity oil is preferred for all temperatures. SAE 10W-30 and 10W-40 viscosity oil may be used if the ambient temperature is above -18°C (0°F).
- Use of 5W-30 viscosity oil will increase fuel economy.



## ANTI-FREEZE COOLANT MIXTURE RATIO

The engine cooling system is filled at the factory with a high-quality, long life, year-round, anti-freeze coolant solution. The anti-freeze solution contains rust and corrosion inhibitors. Therefore, additional cooling system additives are not necessary.

Protection for outside temperatures down to		Genuine NISSAN Long life Anti-freeze Coolant	Demineralized water or dis- tilled water
°C	°F		
- 35	- 30	50%	50%

### CAUTION:

- When adding or replacing coolant, be sure to use only Genuine NISSAN anti-freeze coolant or equivalent with the proper mixture ratio of 50% anti-freeze and 50% demineralized water or distilled water.
- Other types of coolant solutions may damage your cooling system.

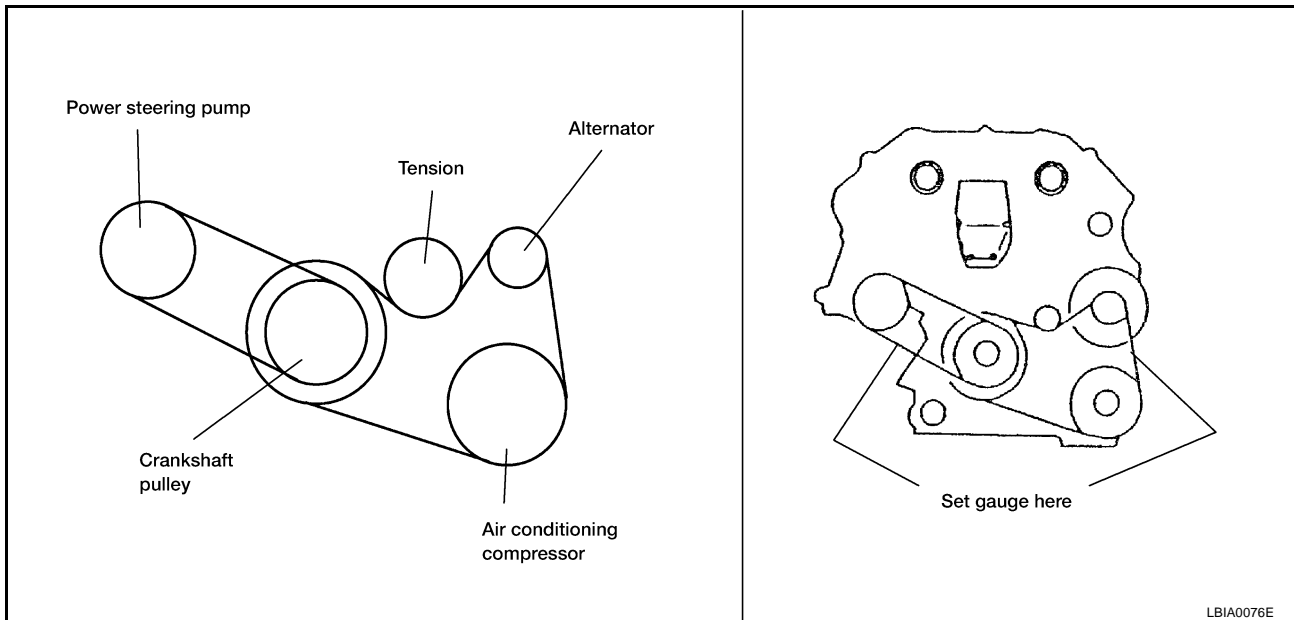
# ENGINE MAINTENANCE

## ENGINE MAINTENANCE

PFP:00000

### Drive Belts CHECKING DRIVE BELTS

ELS00176



LBIA0076E

#### **WARNING:**

**Inspect and check the drive belts with the engine off.**

1. Inspect belt for cracks, fraying, wear or oil adhesion. If necessary, replace with a new one.
2. Inspect drive belt deflections by pushing on the belt midway between pulleys as shown.
3. Rotate the crankshaft pulley two times then check the belt tension using Tool.

**Tool number** : — (BT-3373-F)

#### **NOTE:**

- Inspect drive belt deflection or tension when engine is cold.
- Adjust if belt deflections exceed the limit or if belt tension is not within specifications.

#### **Belt Deflection and Tension**

	Deflection adjustment		Unit: mm (in)	Tension adjustment*		Unit: N (kg, lb)
	Used belt		New belt	Used belt		New belt
	Limit	After adjustment		Limit	After adjustment	
Alternator and air conditioning compressor	7 (0.28)	4.2 - 4.6 (0.17 - 0.18)	3.7 - 4.1 (0.15 - 0.16)	294 (30, 66)	730 - 818 (74.5 - 83.5, 164 - 184)	838 - 926 (85.5 - 94.5, 188 - 208)
Power steering pump	11 (0.43)	7.3 - 8.0 (0.29 - 0.31)	6.5 - 7.2 (0.26 - 0.28)	196 (20, 44)	495 - 583 (50.5 - 59.5, 111 - 131)	603 - 691 (61.5 - 70.5, 135.6 - 155.4)
Applied pushing force	98 N (10 kg, 22 lb)			—		

\*: If belt tension gauge cannot be installed at check points shown, check drive belt tension at different location on the belt.

#### **TENSION ADJUSTMENT**

Portion	Belt tightening method for adjustment
Power steering oil pump belt	Adjusting bolt on power steering oil pump
Generator and air conditioner compressor belt	Adjusting bolt on idler pulley

#### **CAUTION:**

- When belt is replaced with a new one, adjust it to value for "New belt" to accommodate for insufficient adaptability with pulley grooves.

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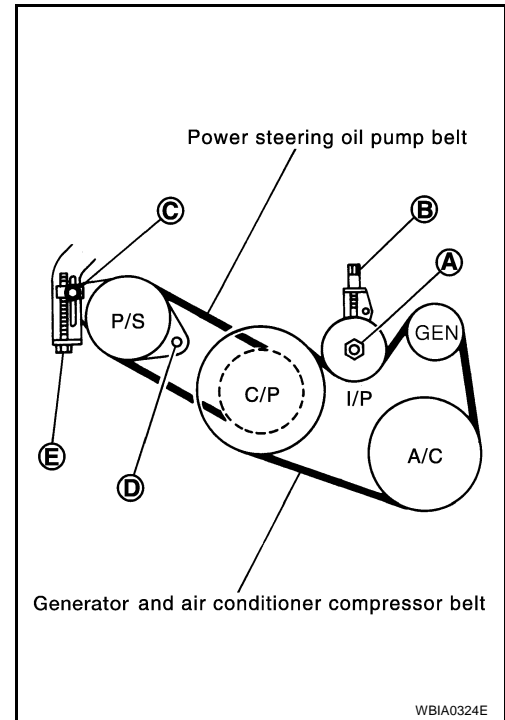
M

# ENGINE MAINTENANCE

- When deflection or tension of belt being used exceeds “Used belt limit” adjust it to value for “Used belt”.
- When checking belt deflection or tension immediately after installation, first adjust it to the specification value. Then, after turning the crankshaft two turns or more, readjust to the specified value to avoid variation in deflection between pulleys.
- When installing belt, make sure that it is correctly engaged with pulley groove.
- Keep oil and water away from belt.
- Do not twist or bend belt excessively.

## Generator and Air Conditioner Compressor Belt

1. Remove engine undercover.
2. Loosen idler pulley lock nut (A) and adjust by turning adjusting bolt (B).
  - For specified belt tension, refer to [MA-11, "Drive Belts"](#) .
3. Tighten lock nut (A) to specification.
4. Tighten adjusting bolt (B) to specification.

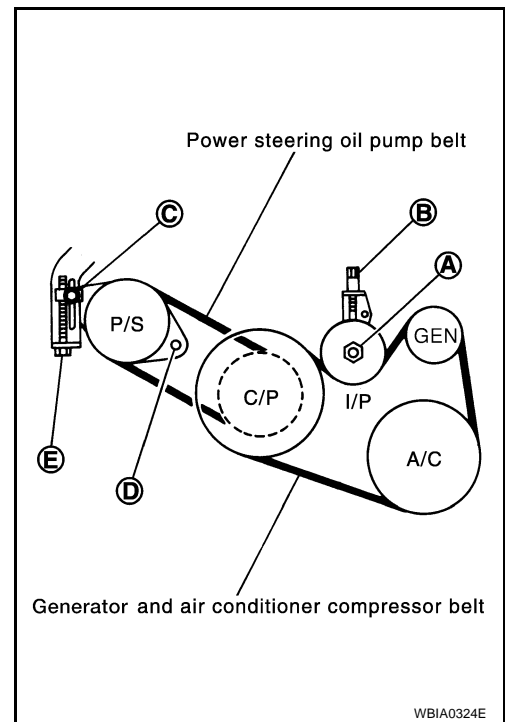


## Power Steering Oil Pump Belt

1. Remove engine undercover.

# ENGINE MAINTENANCE

- Loosen adjusting bolt (C).
  - Loosen power steering oil pump bolt (D).
- NOTE:**  
Bolt head (D) is at the engine rear side.
- Adjust by turning the adjusting bolt (E).
- For specified belt tension, refer to [MA-11, "Drive Belts"](#).
- NOTE:**  
Adjusting bolt (E) is loosened with counterclockwise rotation.
- Tighten adjusting bolt (C) to specification.
  - Tighten power steering oil pump bolt (D) to specification.



## Changing Engine Coolant

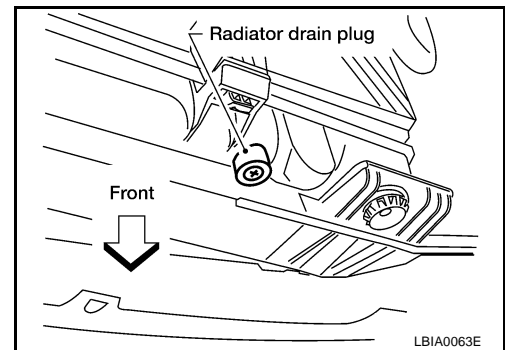
ELS00177

### **WARNING:**

- To avoid being scalded, never change the coolant when the engine is hot.
- Wrap a thick cloth around cap and carefully remove the cap. First, turn the cap a quarter of a turn to release built-up pressure. Then turn the cap all the way.

### **DRAINING ENGINE COOLANT**

- Remove engine undercover.
- Open radiator drain plug at the bottom of radiator and remove the radiator filler cap. This is the only step required for a partial cooling system drain.
- For a complete cooling system drain, remove the reservoir tank and drain the coolant, and then clean the reservoir tank before installation.
  - Do not allow coolant to spill on the drive belts.
- When performing a complete cooling system drain (to remove the engine or for engine repair), remove the water drain plug (water pump side) and the water drain plug.
- Check the drained coolant for contaminants such as rust, corrosion or discoloration.
  - If contaminated, flush the engine cooling system. Refer to [MA-14, "FLUSHING COOLING SYSTEM"](#).



### **REFILLING ENGINE COOLANT**

- Install the radiator drain plug. If the cooling system was drained completely, install the reservoir tank and the water drain plugs.
  - The radiator must be completely empty of coolant and water.
  - Apply sealant to the threads of the water drain plugs. Use Genuine High Performance Thread Sealant or equivalent. Refer to [GI-46, "RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS"](#).

**Radiator drain plug** : Refer to [CO-13, "RADIATOR"](#).

**Water drain plug (water pump side)** : Refer to [EM-113, "CYLINDER BLOCK"](#).

**Water drain plug** : Refer to [EM-113, "CYLINDER BLOCK"](#).

- If disconnected, reattach the upper radiator hose at the engine side.

# ENGINE MAINTENANCE

- Set the vehicle heater controls to the full HOT and heater ON position. Turn the vehicle ignition ON with the engine OFF as necessary to activate the heater mode.
- Install the Tool by installing the radiator cap adapter onto the radiator neck opening. Then attach the gauge body assembly with the refill tube and the venturi assembly to the radiator cap adapter.

**Tool number : KV991J0070 (J-45695)**

- Insert the refill hose into the coolant mixture container that is placed at floor level. Make sure the ball valve is in the closed position.

- Use Genuine NISSAN Long Life Anti-Freeze Coolant or equivalent, mixed 50/50 with distilled water or demineralized water.

Refer to [MA-10, "ANTI-FREEZE COOLANT MIXTURE RATIO"](#).

**Engine coolant capacity (with reservoir at MAX level) : Refer to [MA-9, "Fluids and Lubricants"](#).**

- Install an air hose to the venturi assembly, the air pressure must be within specification.

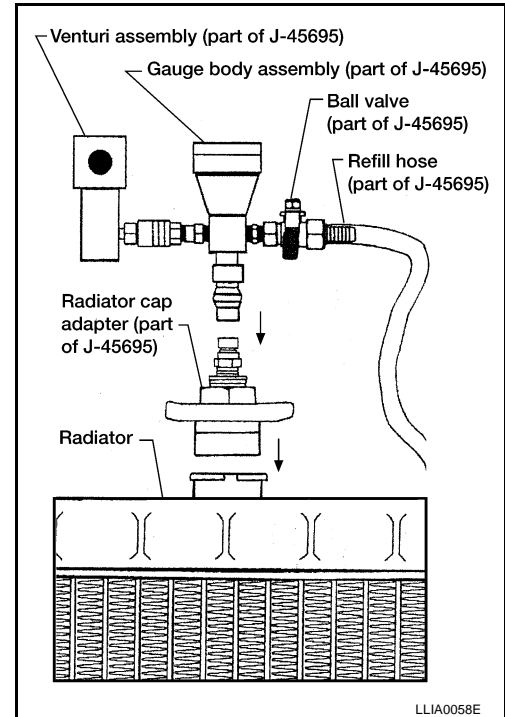
**Compressed air supply pressure : 5.7 - 8.5 kPa (5.6 - 8.4 kg/cm<sup>2</sup>, 80 - 120 psi)**

## CAUTION:

**The compressed air supply must be equipped with an air dryer.**

- The vacuum gauge will begin to rise and there will be an audible hissing noise. During this process open the ball valve on the refill hose slightly. Coolant will be visible rising in the refill hose. Once the refill hose is full of coolant, close the ball valve. This will purge any air trapped in the refill hose.
- Continue to draw the vacuum until the gauge reaches 28 inches of vacuum. The gauge may not reach 28 inches in high altitude locations, refer to the vacuum specifications based on the altitude above sea level.

Altitude above sea level	Vacuum gauge reading
0 - 100 m (328 ft)	: 28 inches of vacuum
300 m (984 ft)	: 27 inches of vacuum
500 m (1,641 ft)	: 26 inches of vacuum
1,000 m (3,281 ft)	: 24 - 25 inches of vacuum



LLIA0058E

- When the vacuum gauge has reached the specified amount, disconnect the air hose and wait 20 seconds to see if the system loses any vacuum. If the vacuum level drops, perform any necessary repairs to the system and repeat steps 6 - 8 to bring the vacuum to the specified amount. Recheck for any leaks.
- Place the coolant container (with the refill hose inserted) at the same level as the top of the radiator. Then open the ball valve on the refill hose so the coolant will be drawn up to fill the cooling system. The cooling system is full when the vacuum gauge reads zero.

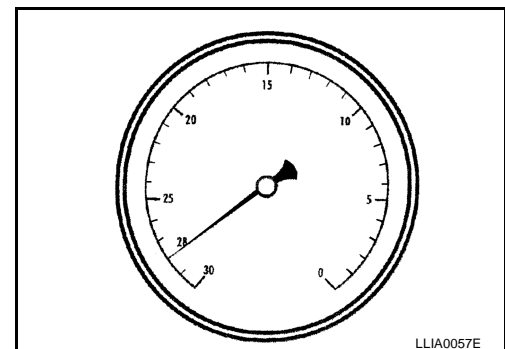
## CAUTION:

**Do not allow the coolant container to get too low when filling, to avoid air from being drawn into the cooling system.**

- Remove the Tool from the radiator neck opening.
- Fill the cooling system to the specified level and install the radiator cap. Run the engine to warm up the cooling system and top up the system as necessary.

## FLUSHING COOLING SYSTEM

- Fill the radiator from the filler neck above the radiator upper hose and reservoir tank with clean water and reinstall radiator filler cap.



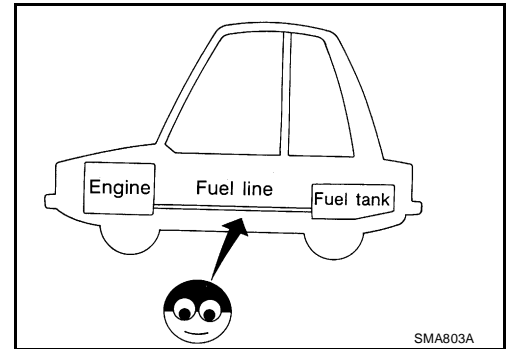
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# ENGINE MAINTENANCE

2. Run the engine and warm it up to normal operating temperature.
3. Rev the engine two or three times under no-load.
4. Stop the engine and wait until it cools down.
5. Drain the water from the system. Refer to [MA-13, "DRAINING ENGINE COOLANT"](#).
6. Repeat steps 1 through 5 until clear water begins to drain from the radiator.

## Checking Fuel Lines

Inspect the fuel lines and fuel tank for improper hose attachment, leaks, cracks, damage, loose connections, chafing, or deterioration. If necessary, repair or replace faulty parts.

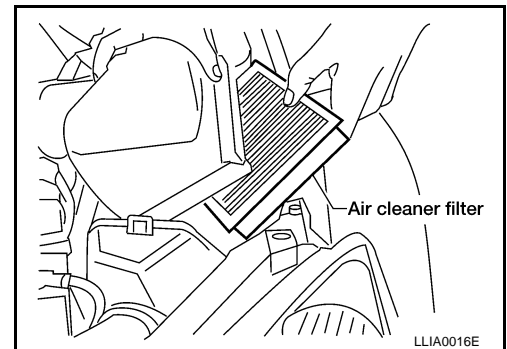


## Changing Air Cleaner Filter VISCIOUS PAPER TYPE

### NOTE:

The viscous paper type filter does not need cleaning between replacement intervals. Refer to [MA-6, "PERIODIC MAINTENANCE"](#).

1. Unhook the air cleaner case side clips and remove the air cleaner case (upper).
2. Remove the air cleaner filter.
3. Install a new air cleaner filter.
4. Installation of the remaining components is in the reverse order of removal.



## Changing Engine Oil

### WARNING:

- Be careful not to burn yourself, as the engine oil is hot.
- Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.

1. Position the vehicle so it is level on the hoist.
2. Warm up the engine, and check for oil leaks from the engine.
3. Stop the engine and wait at least 10 minutes.
4. Remove the oil drain plug and oil filler cap.
5. Drain the engine oil.
6. Install the oil drain plug using a new washer.

### CAUTION:

- Clean the oil drain plug and use a new washer for installation.

**Oil pan drain plug** : Refer to [EM-31, "OIL PAN AND OIL STRAINER"](#).

7. Refill the engine with the specified new engine oil. Refer to [MA-9, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

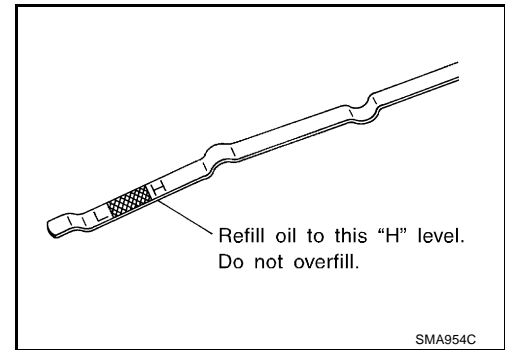
# ENGINE MAINTENANCE

## CAUTION:

- The refill oil capacity depends on the oil temperature and drain time. Use the capacity specifications for reference only.
  - Always use the dipstick to determine when the proper amount of oil is in the engine.
8. Start the engine and run it at idle to warm up, then check the area around the oil drain plug and oil filter for any oil leaks.
  9. Stop the engine and wait for 10 minutes.
  10. Check the engine oil level using the dipstick as shown.

## CAUTION:

Do not overfill the engine oil.



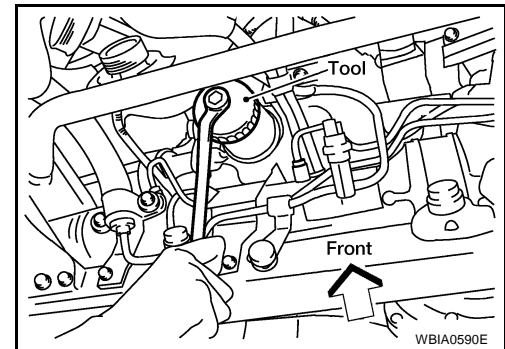
## Changing Oil Filter

1. Remove the oil filter using Tool as shown.

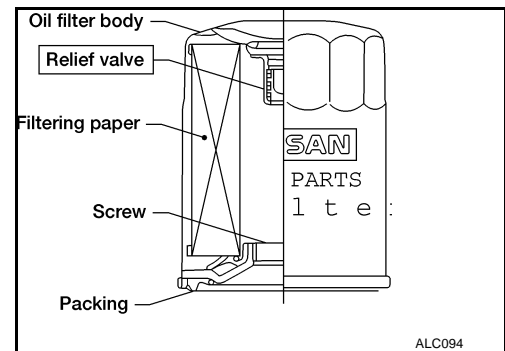
Tool number : KV10115801 (J-38956)

## CAUTION:

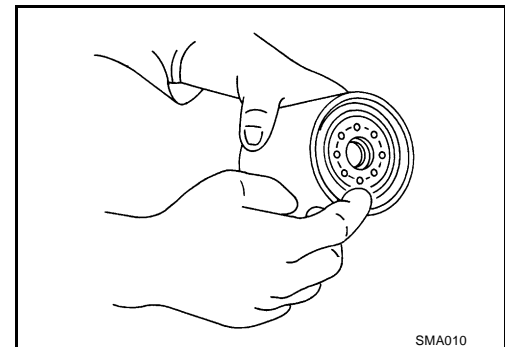
- Be careful not to get burned, the engine oil may be hot.
- When removing, prepare a shop cloth to absorb any oil leakage or spillage.
- Do not allow engine oil to adhere to the drive belts.
- Completely wipe off any oil that adheres to the engine and the vehicle.



- The oil filter is provided with a relief valve. Use a genuine NISSAN oil filter or equivalent



2. Remove any foreign material adhering to the oil filter installation surface on the oil cooler.
3. Apply engine oil to the oil seal contact surface of the new oil filter as shown.



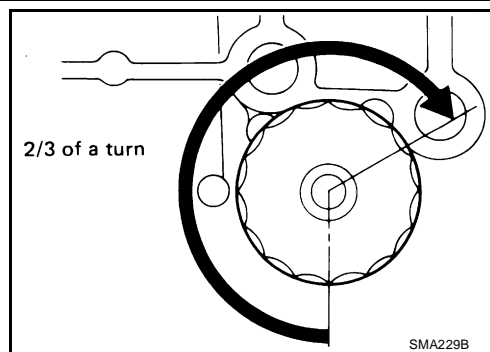


# ENGINE MAINTENANCE

- Screw the oil filter manually until it touches the installation surface, then tighten the oil filter by turning it another 2/3 turn. Or tighten to specification using Tool.

**Oil filter** : 14.7 - 20.5 N·m (1.5 - 2.0 kg·m, 11 - 15 ft·lb)

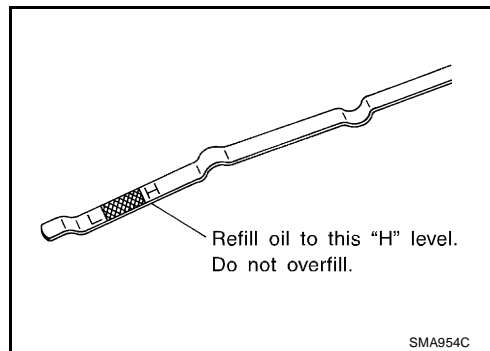
**Tool number** : KV10115801 (J-38956)



- After warming up the engine, check for engine oil leaks.
- Check the engine oil level using the dipstick as shown, and add engine oil as necessary.

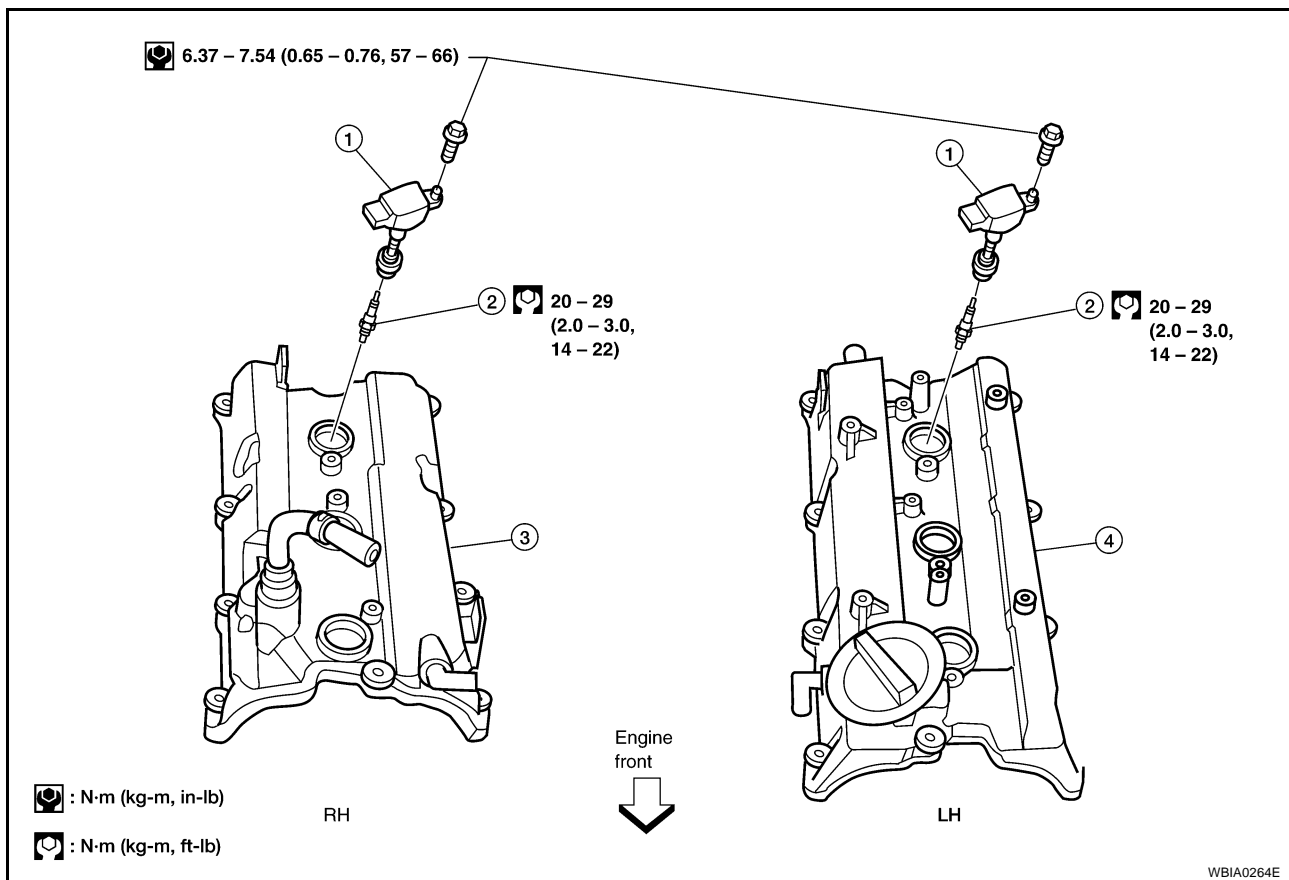
**CAUTION:**

**Do not overfill the engine oil.**



## Changing Spark Plugs (Platinum - Tipped Type)

ELS0017C



- Ignition coil
- Spark plug
- Rocker cover (right bank)
- Rocker cover (left bank)

# ENGINE MAINTENANCE

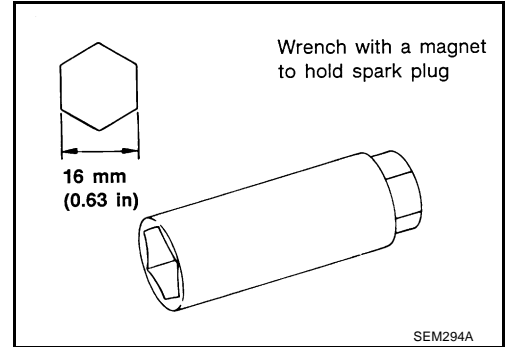
## REMOVAL

1. Remove the intake manifold collector, gasket, and electric throttle control actuator. Refer to [EM-18, "INTAKE MANIFOLD COLLECTOR"](#).
2. Remove the six ignition coils.

**CAUTION:**

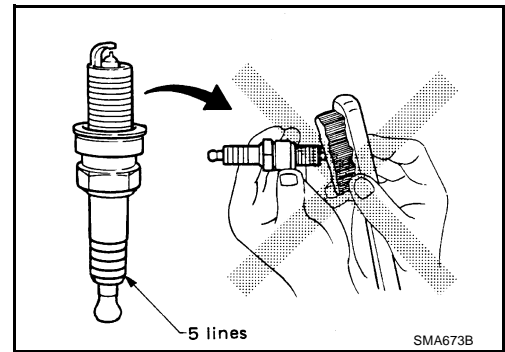
**Do not shock it.**

3. Remove the six spark plugs using a suitable tool.
  - If replacing the spark plugs use the correct spark plug for maximum performance.



## INSPECTION AFTER REMOVAL

- Do not use a wire brush for cleaning the spark plug tip.



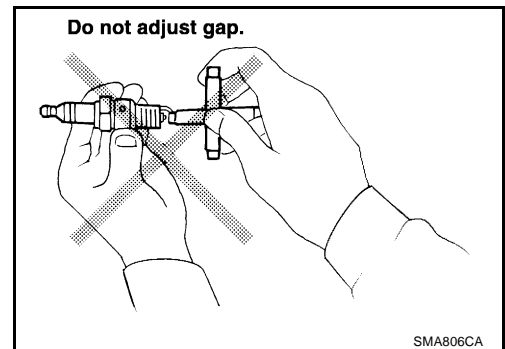
- If the spark plug tip is covered with carbon, a spark plug cleaner may be used.

**Cleaner air pressure** : Less than 588 kPa (6 kg/cm<sup>2</sup>, 85 psi)

**Cleaning time** : Less than 20 seconds

- Checking and adjusting the spark plug gap is not required between change intervals. If the gap is out of specification, replace the spark plug.

**Gap (nominal)** : 1.1 mm (0.043 in)



## INSTALLATION

Installation is in the reverse order of removal.

### Spark Plug Type

Make	NGK
Part number	DILFR5A11
Gap (nominal)	1.1 mm (0.043 in)

# ENGINE MAINTENANCE

## Checking EVAP Vapor Lines

ELS0017D

1. Visually inspect the EVAP vapor lines for cracks, damage, loose connections, chafing, and deterioration. Replace the lines as necessary.
2. Inspect the fuel tank filler cap vacuum relief valve for clogging and sticking. Fix or replace as necessary.

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## CHASSIS AND BODY MAINTENANCE

PFP:00100

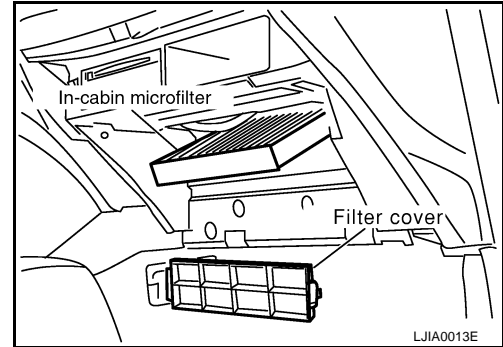
### Changing In-cabin Microfilter

ELS00105

1. Remove the glove box pins. Refer to [JP-15, "Glove Box Assembly and Housing"](#).
2. Press in the sides of the glove box door to release the glove box door from the glove box housing.
3. Disconnect the glove box damper cord to remove the glove box door.
4. Disengage the two filter cover tabs to remove the filter cover.
5. Remove the in-cabin microfilter from the blower unit.
6. Install the new in-cabin microfilter into the blower unit.

#### CAUTION:

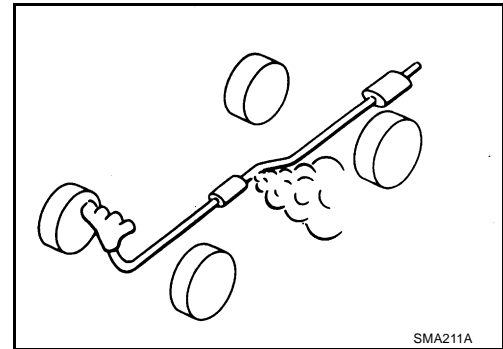
- Insert the new filter with the "UP" arrow in the correct orientation.
  - Insert the new filter with the "UP" arrow side of the filter facing the rear of the vehicle.
7. Install the filter cover on the blower unit.
  8. Connect the glove box damper cord to the glove box door.
  9. Press in the sides of the glove box door to install the glove box door into the glove box housing.
  10. Install the glove box pins.



### Checking Exhaust System

ELS0017E

Check the exhaust pipes, muffler, and exhaust mounts for improper attachment, leaks, cracks, damage, chafing, or deterioration.

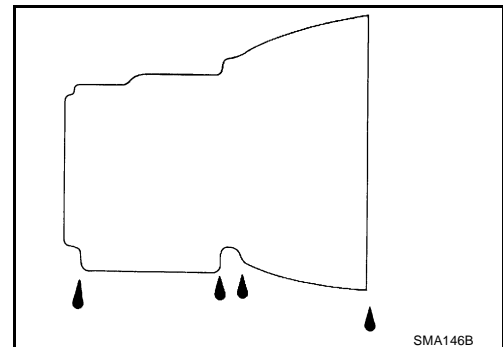


### Checking CVT Fluid FLUID LEVEL CHECK

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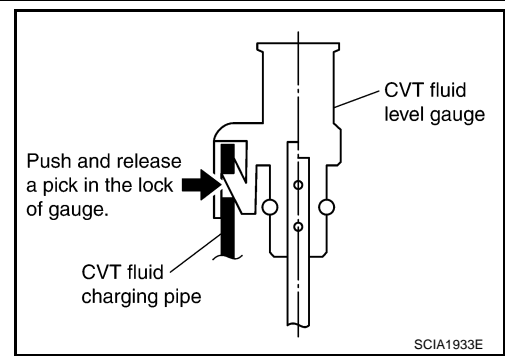
Fluid level should be checked with the fluid warmed up to 50° – 80°C (122° – 176°F).

1. Check for fluid leakage.
2. With the engine warmed up, drive the vehicle to warm up the CVT fluid. When ambient temperature is 20°C (68°F), it takes about 10 minutes for the CVT fluid to warm up to 50° – 80°C (122° – 176°F).
3. Park the vehicle on a level surface and set the parking brake.
4. With engine at idle, while depressing brake pedal, move the selector lever throughout the entire shift range and return it to the "P" position.



# CHASSIS AND BODY MAINTENANCE

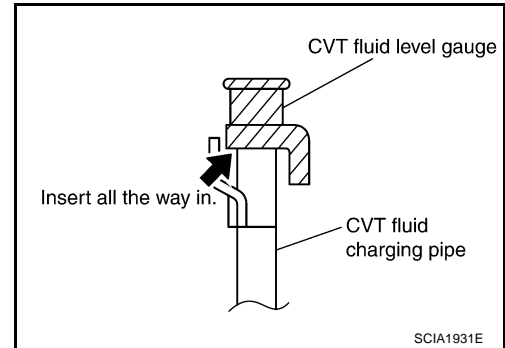
5. Press the tab on the CVT fluid level gauge to release the lock and pull out the CVT fluid level gauge from the CVT fluid charging pipe.



6. Wipe fluid off the CVT fluid level gauge. Then rotate the CVT fluid level gauge 180° and re-insert it into the CVT charging pipe as far as it will go.

**CAUTION:**

**Always use lint free paper towels to wipe fluid off the CVT fluid level gauge.**

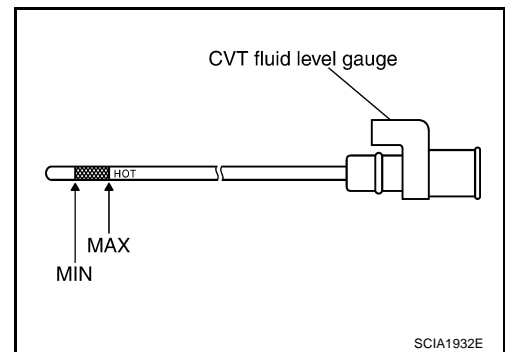


7. Remove the CVT fluid level gauge and check that the fluid level is within the specified range as shown. If the fluid level is at or below the low side of the range, add the necessary specified NISSAN CVT fluid through the CVT charging pipe.

**Fluid grade:** Refer to [MA-9, "Fluids and Lubricants"](#) .

**CAUTION:**

- Only use specified NISSAN CVT fluid.
- Do not overfill the CVT.



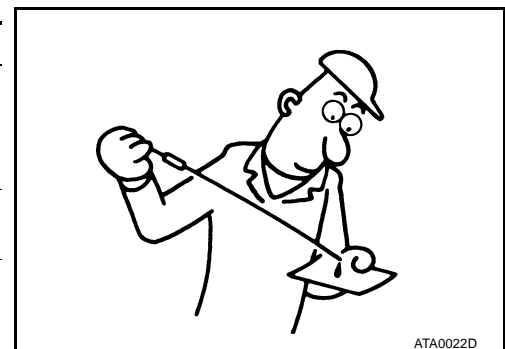
8. Install the CVT fluid level gauge to the CVT fluid charging pipe until it locks.

**CAUTION:**

**When CVT fluid level gauge is installed into the CVT fluid charging pipe, make sure that the CVT fluid level gauge is securely locked in place.**

## FLUID CONDITION CHECK

Fluid status	Conceivable cause	Required operation
Varnished (viscous varnish state)	Clutch, brake scorched	Replace the CVT fluid and check the CVT main unit and the vehicle for malfunctions (wire harness, cooler pipes, etc.)
Milky white or cloudy	Water in the fluid	Replace the CVT fluid and check for places where water is getting in.
Large amount of metal powder mixed in fluid	Unusual wear of sliding parts within CVT	Replace the CVT fluid and check for improper operation of the CVT.



## Changing CVT Fluid

ELS001ZF

1. Warm up CVT fluid by driving the vehicle for 10 minutes.
2. Drain CVT fluid from CVT fluid cooler hose (return side) and refill with new specified NISSAN CVT fluid in the CVT fluid charging pipe with the engine running at idle speed.

**Fluid capacity and grade** : Refer to [MA-9, "Fluids and Lubricants"](#) .

# CHASSIS AND BODY MAINTENANCE

## CAUTION:

Only use the specified NISSAN CVT fluid.

3. Refill until new CVT fluid comes out from CVT fluid cooler hose (return side).

## NOTE:

About 30 - 50% extra fluid will be required for this procedure.

4. Check fluid level and condition. Refer to [CVT-15, "Checking CVT Fluid"](#) .

## CAUTION:

Delete CVT fluid deterioration date with CONSULT-II after changing CVT fluid. Refer to [CVT-56, "Check CVT Fluid Deterioration Date"](#) .

## Balancing Wheels (Bonding Weight Type)

ELS0017K

### REMOVAL

1. Remove the inner and outer balance weights from the wheel.

## CAUTION:

Be careful not to scratch the wheel during removal.

2. Use a releasing agent to remove the double-faced adhesive tape from the wheel.

## CAUTION:

- Be careful not to scratch the wheel during removal.
- After removing the double-faced adhesive tape, wipe off any traces of the releasing agent from the wheel.

### WHEEL BALANCE ADJUSTMENT

#### NOTE:

If a tire balance machine has an adhesion balance weight mode setting and drive-in weight mode setting, select and adjust in the drive-in weight mode suitable for the wheels.

1. Set the wheel on the wheel balancer using the center hole as a guide. Start the tire balance machine.

2. When the inner and outer unbalance values are shown on the wheel balancer indicator, multiply outer unbalance value by 1.6 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value, then install it at the designated outer position of, or at the designated angle position on the wheel.

## CAUTION:

- Do not install the inner balance weight before installing the outer balance weight.
- Before installing the balance weight, be sure to clean the mating surface of the wheel.

#### Balance weight calculation:

Indicated unbalance value  $\times 5/3 =$  outer balance weight

#### Calculation example:

23 g (0.81 oz)  $\times 5/3 = 38.33$  g (1.35 oz) = 40 g (1.41 oz) outer balance weight (closer to calculated balance weight value)

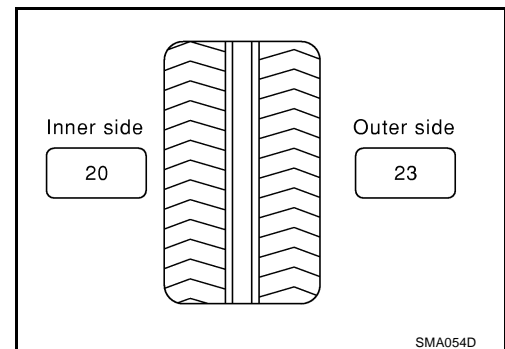
## NOTE:

The selected balance weight value must be the closest balance weight available to the calculated balance weight value.

#### Example:

37.4 = 35 g (1.23 oz)

37.5 = 40 g (1.41 oz)

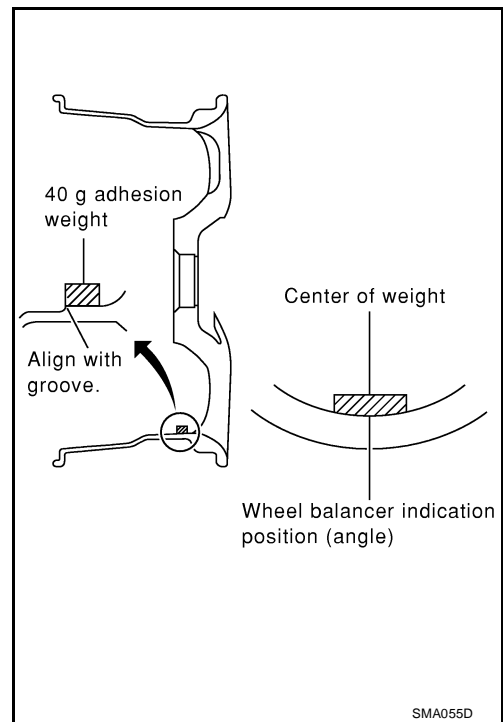


# CHASSIS AND BODY MAINTENANCE

- Install the balance weight in the position as shown.
- When installing the balance weight to the wheels, set it into the grooved area on the inner wall of the wheel as shown, so that the balance weight center is aligned with the wheel balancer indication position (angle).

**CAUTION:**

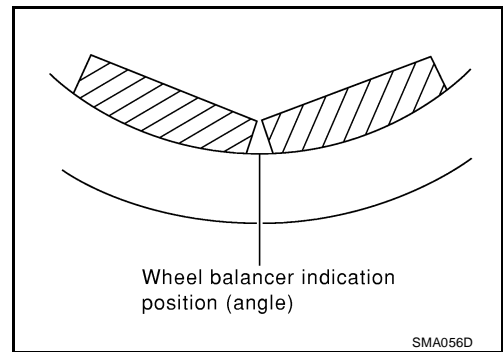
- Always use genuine NISSAN adhesion balance weights.
- Balance weights are not reusable; always replace with new ones.
- Do not install more than three sheets of balance weight.



- If calculated balance weight value exceeds 50 g (1.76 oz), install two balance weight sheets in line with each other.

**CAUTION:**

**Do not install one balance weight sheet on top of another.**



- Start the wheel balancer.
- Install the drive-in balance weight on the inner side of the wheel in the wheel balancer indication position (angle).

**CAUTION:**

**Do not install more than two balance weights in one position (angle).**

- Start the wheel balancer. Make sure that the inner and outer residual unbalance values are 5 g (0.18 oz) each or less.
  - If either residual unbalance value exceeds 5 g (0.18 oz), repeat the installation procedures.

**Wheel Balance (Maximum Allowable Unbalance)**

Maximum allowable unbalance	Dynamic (at rim flange)	5 g (0.18 oz) (one side)
	Static	10 g (0.35 oz)

## Tire Rotation

ELS0017L

- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-6, "PERIODIC MAINTENANCE"](#).

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# CHASSIS AND BODY MAINTENANCE

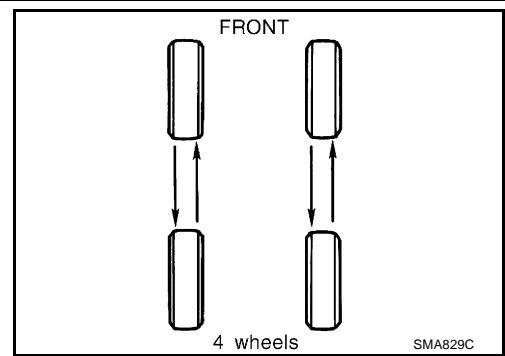
- Do not include the T-type spare tire when rotating the tires as shown.
- Tighten wheel nuts to specification.

**CAUTION:**

**When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**

**Wheel nut** : Refer to [WT-6, "WHEEL AND TIRE ASSEMBLY"](#) .

- After rotating the tires as shown, adjust the tire pressure.



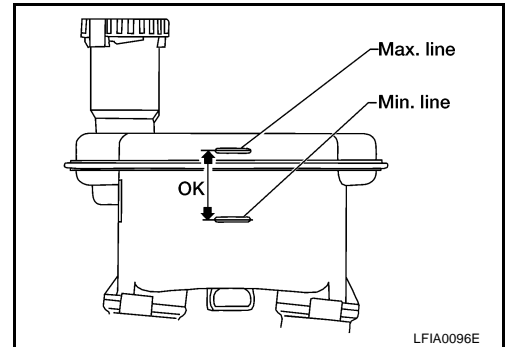
## Checking Brake Fluid Level and Leaks

ELS0017M

- Check the brake fluid level in the reservoir tank. It should be between the "Max" and "Min" lines on the reservoir tank.
- Visually check around the reservoir tank for leaks.
- If the brake fluid level is extremely low or below the "Min" level, check the brake system for leaks.

**NOTE:**

If brake warning lamp is on, release parking brake lever and see if brake warning lamp goes off. If not, check brake system for leaks.



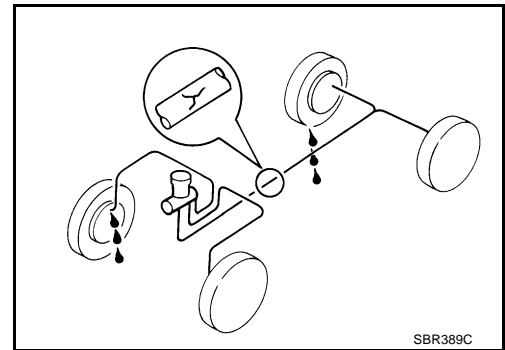
## Checking Brake Lines and Cables

ELS0017N

**CAUTION:**

**If leakage occurs around hose and tube connections, retighten or, if necessary, replace damaged parts.**

1. Check the brake lines (tubes and hoses) and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, and damage. Repair or replace parts as necessary.
2. Apply a stepping force of 784 N (80 kg-f, 176 lb-f) to the brake pedal with the engine running and keep it for about 5 seconds, then check each part for leaks.





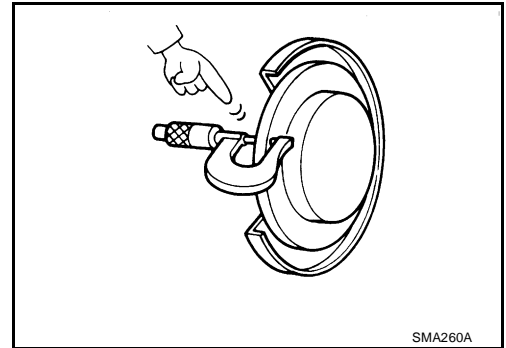
# CHASSIS AND BODY MAINTENANCE

## Checking Disc Brake

ELS0017O

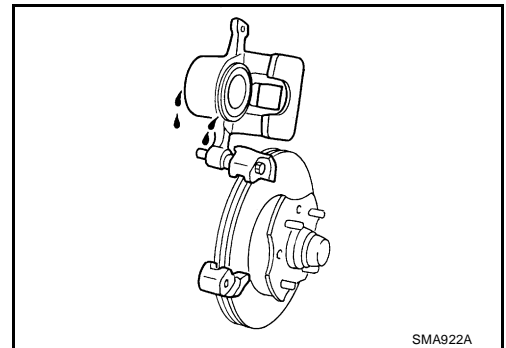
### ROTOR

Check the rotor condition and thickness. Resurface or replace the rotor as necessary. Refer to [BR-37, "Disc Brake"](#) .



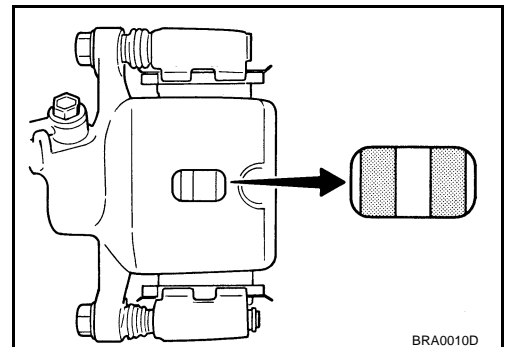
### CALIPER

Check the caliper for leaks.



### PAD

Check the brake pads for wear or damage. Refer to [BR-37, "Disc Brake"](#) .



## Checking Steering Gear and Linkage

ELS0017P

### STEERING GEAR

- Check the gear housing and boots for looseness, damage and power steering fluid leaks.
- Check the power steering hose connections for leaks.
- Check the steering column for looseness.

### STEERING LINKAGE

Check the ball joint, dust cover and other component parts for looseness, wear, damage and grease leakage.

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# CHASSIS AND BODY MAINTENANCE

ELS0017Q

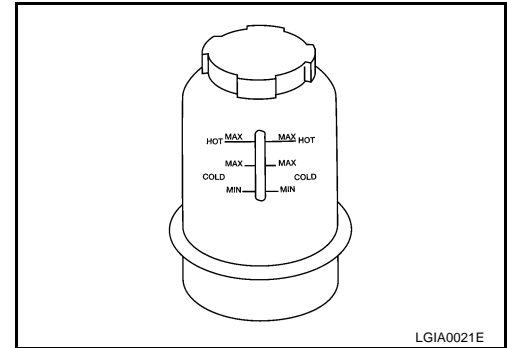
## Checking Power Steering Fluid and Lines CHECKING FLUID LEVEL

Check the power steering fluid level in the reservoir tank with the engine off.

Use the "HOT" range at fluid temperatures of 50° - 80°C (122° - 176°F) or the "COLD" range at fluid temperatures of 0° - 30°C (32° - 86°F).

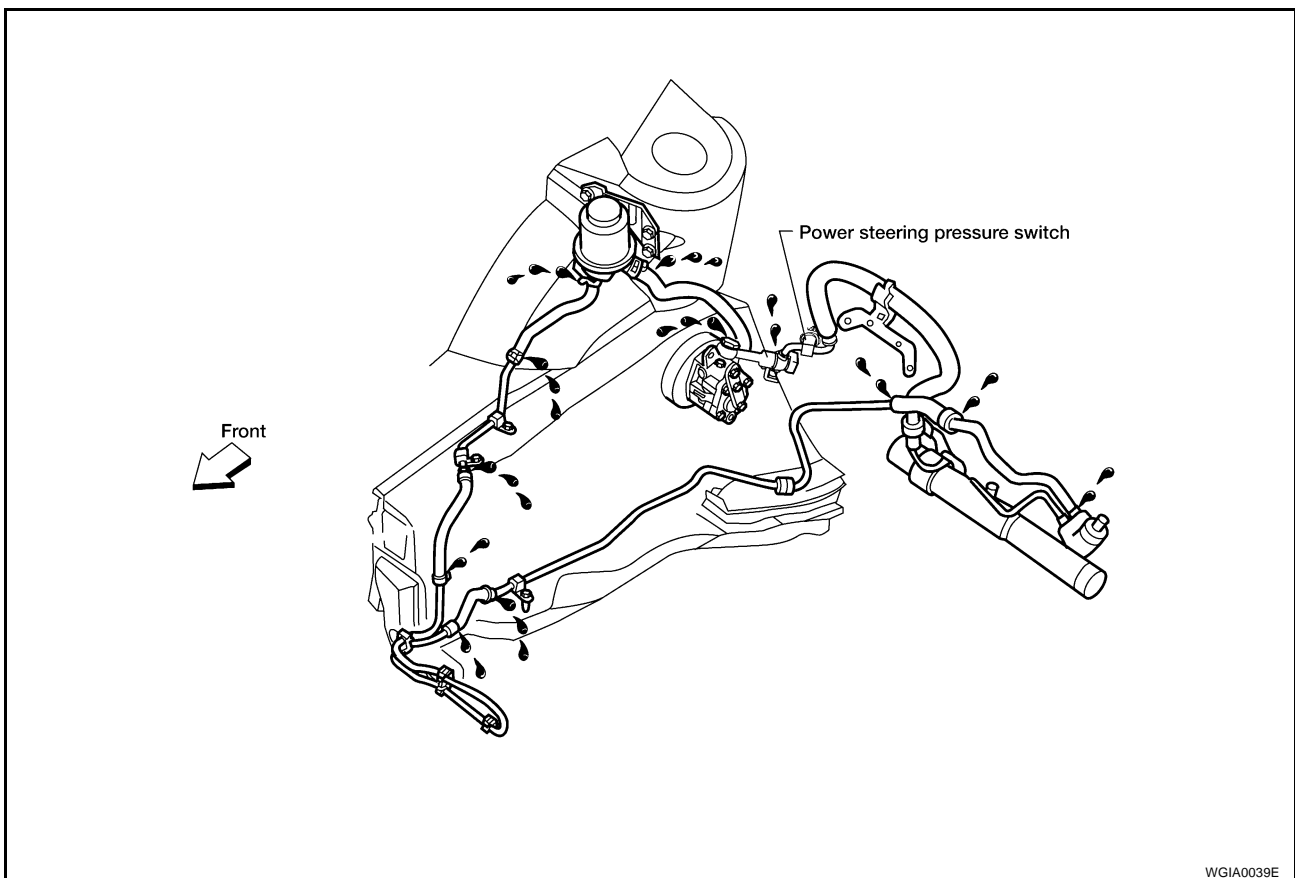
### CAUTION:

- Do not overfill the power steering reservoir tank.
- Use the recommended power steering fluid. Refer to [MA-9, "Fluids and Lubricants"](#).



## CHECKING FLUID LEAKAGE

Check the power steering hoses for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.



1. Run the engine between idle speed and 1,000 rpm. Make sure the temperature of the power steering fluid in the reservoir tank rises to 60° to 80°C (140° to 176°F).
2. Turn the steering wheel right-to-left several times.
3. Hold the steering wheel at each lock position for five seconds and carefully check for fluid leaks.

### CAUTION:

**Do not hold the steering wheel in a locked position for more than 15 seconds.**

4. If fluid leaks at the connectors is noted, loosen the flare nut and then retighten it.

### CAUTION:

**Do not overtighten the connector as this can damage the O-ring, washer, and connector.**

5. If fluid leaks from the power steering pump are noted, check the power steering oil pump. Refer to [PS-29, "Inspection After Disassembly"](#).
6. Check the steering gear boots for accumulation of power steering fluid indicating a steering gear leak.

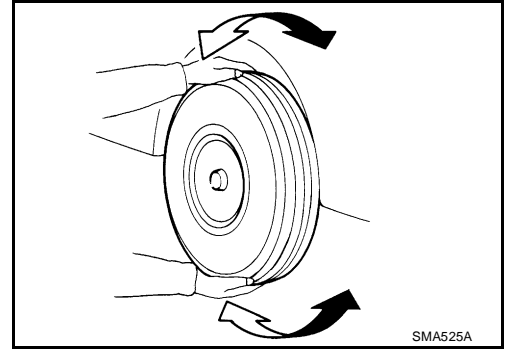
# CHASSIS AND BODY MAINTENANCE

ELS0017R

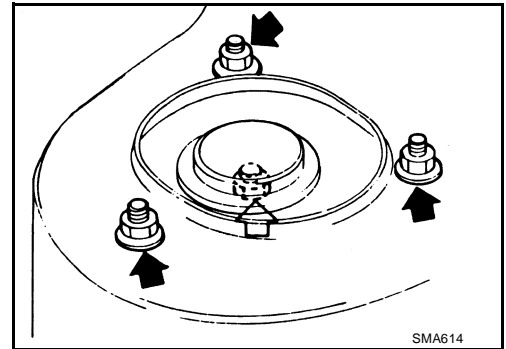
## Axle and Suspension Parts

Check the front and rear axle and suspension parts for excessive play, cracks, wear, or other damage.

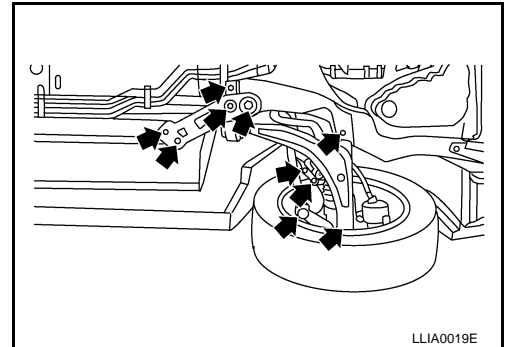
- Shake each wheel as shown to check for excessive play.
- Rotate each wheel to check for abnormal noise.



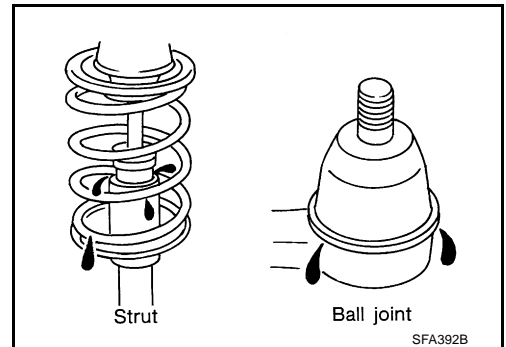
- Check the strut mount nuts for looseness.



- Check the axle and suspension nuts and bolts for looseness.



- Check the struts for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.



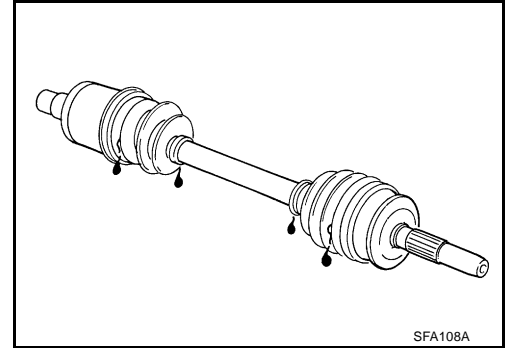
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# CHASSIS AND BODY MAINTENANCE

## Drive Shaft

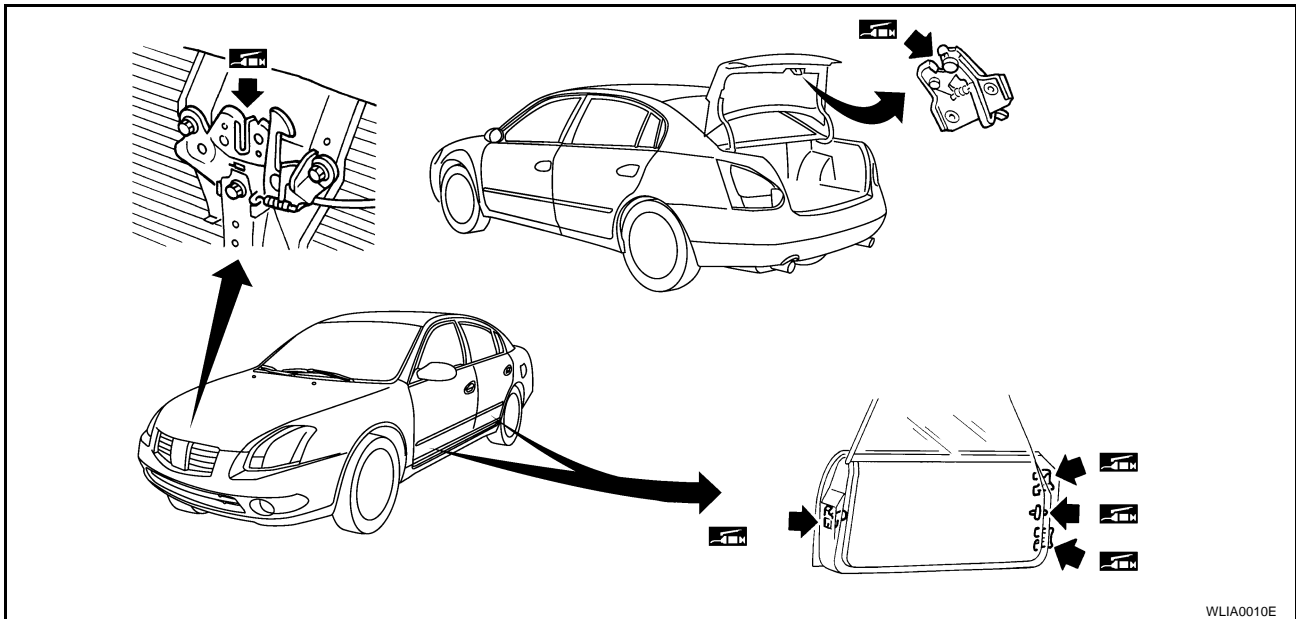
ELS0017S

- Check the boot and drive shaft for cracks, wear, damage and grease leakage as shown.



## Lubricating Locks, Hinges and Hood Latch

ELS0017T



## Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

ELS0017U

Check the seat belt buckles, webbing, retractors, anchors and adjusters. Replace any seat belt assembly as necessary. Refer to [SB-6, "Seat Belt Inspection"](#).

- Check the seat belt anchors for loose bolts, damage, or excessive wear.
- Check the seat belt webbing for any damage, cuts, fraying, or excessive wear.
- Check the retractor for smooth operation.
- Check the function of the buckles by inserting the seat belt tongue and checking for proper engagement of the buckle and press the button on the buckle to check for proper release of the seat belt tongue.

### CAUTION:

- After any collision, inspect all seat belt assemblies, including retractors and other attached components, such as the guide rail set. NISSAN recommends replacing all seat belt assemblies in use during a collision, unless they are not damaged and are inspected to confirm they are operating properly after a minor collision. Also inspect all seat belt assemblies that are not in use during a collision, and replace any components if damaged or not operating properly. The seat belt pre-tensioner should be replaced even if the seat belts are not in use during a frontal collision where the driver and passenger air bags have been deployed.
- If any component of the seat belt assembly is suspected of being damaged or not operating properly, do not repair the component. Replace the components as an assembly.
- If the seat belt webbing is cut, frayed, or damaged then replace the seat belt assembly.
- Never lubricate the seat belt buckle or tongue.
- When replacing any seat belt assembly always use a Genuine NISSAN seat belt assembly.