

**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”

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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

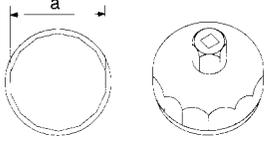
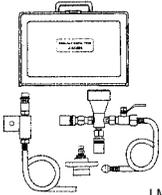
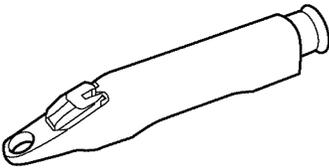
## PREPARATION

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### Special Service Tool

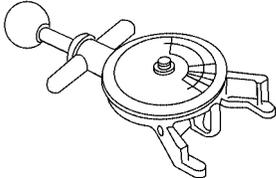
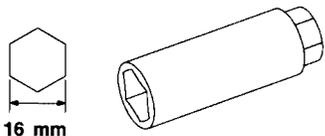
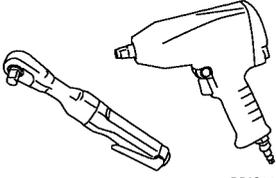
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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>
KV991J0070 (J-45695) Coolant refill tool <div style="text-align: center;">  <p>LMA053</p> </div>	For refilling engine cooling system
KV991J0010 (J-23688) Engine coolant refractometer <div style="text-align: center;">  <p>WBIA0539E</p> </div>	Checking concentration of ethylene glycol in engine coolant

### Commercial Service Tool

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(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></p> <p>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

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### Explanation of General Maintenance

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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-35, "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-5, "ROAD WHEEL TIRE ASSEMBLY"</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-11</a>
<b>Tire rotation</b>	Tires should be rotated every 12,000 km (7,500 miles). <a href="#">MA-26</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-7, "Front Wheel Alignment"</a> and <a href="#">MA-24, "Balancing Wheels (Bonding Weight Type)"</a>
<b>Windshield wiper blades</b>	Check for cracks or wear if they do not wipe properly. Replace as necessary. —
<b>Doors and engine hood</b>	Check that all doors and the engine hood operate smoothly as well as the 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-30</a>
<b>Lamps</b>	Make sure that the head lamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check head lamp aim. Clean the eclampsia on a regular basis. <a href="#">LT-27, "Aiming Adjustment" (US)</a> , <a href="#">LT-39, "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-7</a>
<b>Seats</b>	Check seat position controls such as seat adjusters, seat back 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 seat backs. —
<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-31</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. —
<b>Brakes</b>	Check that the brake does not pull the vehicle to one side when applied. <a href="#">BR-26</a>

# GENERAL MAINTENANCE

Item		Reference page
<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> and <a href="#">BR-21, "BRAKE BOOSTER"</a>
<b>Parking brake</b>	Check that the pedal has the proper travel and make sure that the vehicle is held securely on a fairly steep hill with only the parking brake applied.	<a href="#">PB-2, "ADJUSTMENT"</a>
<b>Automatic transaxle "Park" mechanism</b>	Check that the lock release button on the selector lever operates properly and smoothly. 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-15</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-26</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</a>
<b>Engine drive belts</b>	Make sure that no belt is frayed, worn, cracked or oily.	<a href="#">MA-12</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-18</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-28</a>
<b>Automatic transaxle fluid level</b>	Check the level on the dipstick after putting the selector lever in "P" with the engine idling.	<a href="#">MA-21</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-21</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

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### Introduction of Periodic Maintenance

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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 camper or 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

ELS000UM

#### EMISSION CONTROL SYSTEM MAINTENANCE

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)									[R]	<a href="#">MA-12</a>
Air cleaner filter	NOTE (2)									[R]	<a href="#">MA-17</a>
EVAP vapor lines										I*	<a href="#">MA-20</a>
Fuel lines										I*	<a href="#">MA-17</a>
Fuel filter	NOTE (3)										—
Engine coolant	NOTE (4)										<a href="#">MA-14</a>
Engine oil		R	R	R	R	R	R	R	R		<a href="#">MA-18</a>
Engine oil filter (use part No. 15208 65F01 or equivalent.)		R	R	R	R	R	R	R	R		<a href="#">MA-18</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).									<a href="#">MA-19</a>
Intake & exhaust valve clearance*	NOTE (5)										<a href="#">EM-109</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-12</a>
Air cleaner filter	NOTE (2)									[R]	<a href="#">MA-17</a>
EVAP vapor lines										I*	<a href="#">MA-20</a>
Fuel lines										I*	<a href="#">MA-17</a>
Fuel filter	NOTE (3)										-
Engine coolant	NOTE (4)									R*	<a href="#">MA-14</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-18</a>
Engine oil filter (use part no. 15208 65F01 or equivalent).		R	R	R	R	R	R	R	R	<a href="#">MA-18</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								<a href="#">MA-19</a>
Intake & exhaust valve clearance*	NOTE (5)									<a href="#">EM-109</a>

**NOTE:**

- (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-26</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-26</a>
Automatic transaxle fluid	NOTE (1)				I				I	<a href="#">MA-23</a>
Steering gear & linkage, axle & suspension parts			I		I		I		I	<a href="#">MA-27, MA-28</a>
Tire rotation	NOTE (2)									<a href="#">MA-26</a>
Exhaust system			I		I		I		I	<a href="#">MA-21</a>
Front drive shaft boot			I		I		I		I	<a href="#">MA-29</a>
In-cabin microfilter					R				R	<a href="#">MA-21</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-26</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-26</a>
Automatic transaxle fluid	NOTE (1)				I				I	<a href="#">MA-23</a>
Steering gear & linkage, axle & suspension parts			I		I		I		I	<a href="#">MA-27, MA-28</a>
Tire rotation	NOTE (2)									<a href="#">MA-26</a>
Exhaust system			I		I		I		I	<a href="#">MA-21</a>
Front drive shaft boots			I		I		I		I	<a href="#">MA-29</a>
In-cabin microfilter					R				R	<a href="#">MA-21</a>

# PERIODIC MAINTENANCE

**NOTE:**

- (1) If towing a trailer, using a camper or a car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 30,000 miles (48,000 km) or 24 months. For 5 A/T models, using automatic transmission fluid other than Genuine NISSAN Matic Fluid K ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the NISSAN new vehicle limited warranty.
- (2) Refer to [MA-4, "GENERAL MAINTENANCE"](#).

## Schedule 2 EMISSION CONTROL SYSTEM MAINTENANCE

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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-12</a>
Air cleaner filter					[R]				[R]	<a href="#">MA-17</a>
EVAP vapor lines					I*				I*	<a href="#">MA-20</a>
Fuel lines					I*				I*	<a href="#">MA-17</a>
Fuel filter	NOTE (2)									-
Engine coolant	NOTE (3)								R*	<a href="#">MA-14</a>
Engine oil		R	R	R	R	R	R	R	R	<a href="#">MA-18</a>
Engine oil filter (Use part No. 15208 65F01 or equivalent.		R	R	R	R	R	R	R	R	<a href="#">MA-18</a>
Spark plugs (PLATINUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								<a href="#">MA-19</a>
Intake & exhaust valve clearance*	NOTE (4)									<a href="#">EM-109</a>

**NOTE:**

- (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-26</a>
Brake pads & rotors			I		I		I		I	<a href="#">MA-26</a>
Automatic transaxle fluid	NOTE (1)		I		I		I		I	<a href="#">MA-21</a>
Steering gear & linkage, axle & suspension parts					I				I	<a href="#">MA-27, MA-28</a>
Tire rotation	NOTE (2)									<a href="#">MA-26</a>
Exhaust system					I				I	<a href="#">MA-21</a>
Front drive shaft boots			I		I		I		I	<a href="#">MA-29</a>
In-cabin microfilter			R		R		R		R	<a href="#">MA-21</a>

# PERIODIC MAINTENANCE

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**NOTE:**

(1) For 5 A/T models, using automatic transmission fluid other than Genuine NISSAN Matic Fluid K ATF will cause deterioration in drive-ability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the NISSAN new vehicle limited warranty.

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

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# RECOMMENDED FLUIDS AND LUBRICANTS

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## RECOMMENDED FLUIDS AND LUBRICANTS

### Fluids and Lubricants

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		75.6 ℓ	20 gal	16 5/8 gal	Unleaded gasoline with an octane rating of at least 87 AKI (RON 91)
Engine oil Drain and refill	With oil filter change	4.0 ℓ	4 1/4 qt	3 1/2 qt	<ul style="list-style-type: none"> <li>● API Certification Mark *1</li> <li>● API grade SL, Energy Conserving *1</li> <li>● ILSAC grade GF-III *1</li> </ul>
	Without oil filter change	3.7 ℓ	3 7/8 qt	3 1/4 qt	
Dry engine (engine overhaul)		5.0 ℓ	5 1/4 qt	4 3/8 qt	
Cooling system	With reservoir at "MAX" level	10.5 ℓ	2 3/4 gal	2 3/8 gal	Genuine NISSAN Long Life Anti-freeze coolant or equivalent
Automatic transaxle fluid (ATF)	4 A/T	8.9 ℓ	9 3/8 qt	7 7/8 qt	Genuine NISSAN Matic D ATF (Continental US and Alaska) or Canada NISSAN Automatic Transmission Fluid *2
	5 A/T	7.4 ℓ	7 7/8 qt	6 1/2 qt	Genuine NISSAN Matic K ATF *3
Power steering fluid (PSF)		1.0 ℓ	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)
Multi-purpose grease		—	—	—	NLGI No. 2 (lithium soap base)
Brake grease		—	—	—	PBC (Poly Butyl Cuprysil) grease or silicone-based grease or equivalent
Windshield washer fluid		4.5 ℓ	1 1/4 gal	1 gal	Genuine NISSAN Windshield Washer Concentrate Cleaner & Anti-freeze or equivalent
Air conditioning system refrigerant		900 ± 50 g	1.98 ± 0.11 lb	1.98 ± 0.11 lb	HFC-134a (R-134a) *6
Air conditioning system lubricants		220 mℓ	7.44 fl oz	7.7 fl oz	NISSAN A/C System Lubricant Types (DH-PS) or equivalent *6

\*1: For further details, see "SAE Viscosity Number".

\*2: DEXRON™ III / MERCON™ or equivalent may also be used. Outside the continental United States and Alaska contact a NISSAN dealership for more information regarding suitable fluids, including recommended brand(s) of DEXRON™ III / MERCON™ Automatic Transmission Fluid.

\*3: Using automatic transmission fluid other than Genuine NISSAN Matic K ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, 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.

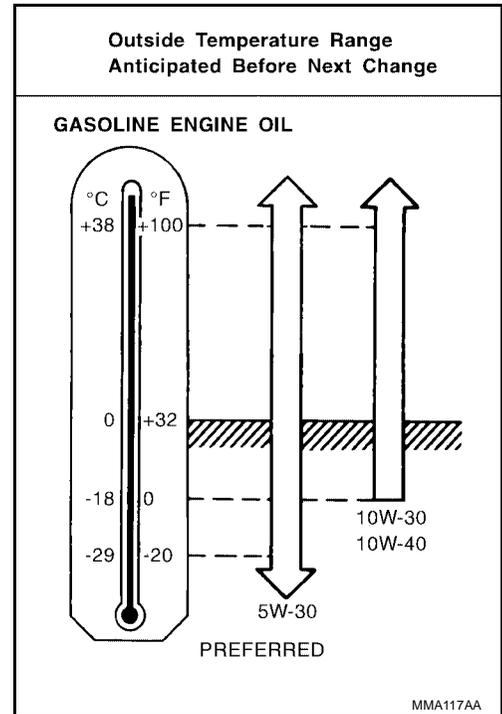
\*6: For further details, see "Air conditioner specification label".

# RECOMMENDED FLUIDS AND LUBRICANTS

ELS000UP

## 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.

For outside temperatures down to:		Anti-freeze coolant mixture ratio	
° C	° F	Genuine NISSAN Long Life Antifreeze coolant	Demineralized water or distilled water
- 35°	- 30°	50 %	50 %

### CAUTION:

- When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life 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

ELS000UQ

**WARNING:**

Be sure to perform when the engine is not running.

1. Inspect the belts for cracks, fraying, wear, or oil contamination. If necessary, replace the belts with new ones.
2. Inspect the belt deflection by applying 98 N (10 kg-f, 22 lb-f) on the belt midway between pulleys as shown.
3. Measure the belt tension using commercial service tool at the belt locations as shown.

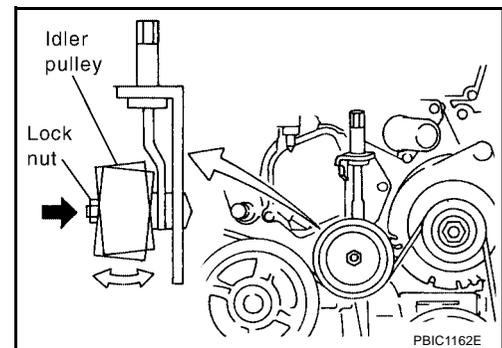
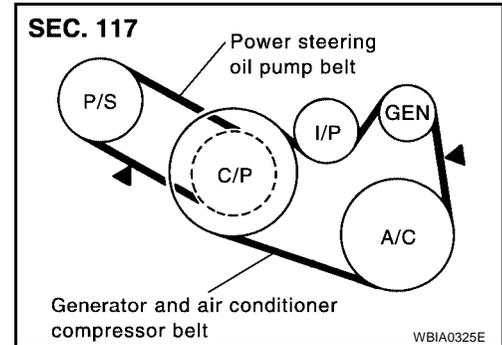
Tool number : BT-3373-F

**NOTE:**

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

**CAUTION:**

- **When checking the belt deflection or tension immediately after installation, first adjust it to the specified value. Then, after turning the crankshaft two or more turns, readjust to the specified value to avoid variation in deflection between the pulleys.**
- **Tighten the idler pulley lock nut by hand and measure deflection or tension without looseness.**



### Belt Deflection and Tension

	Deflection adjustment		Unit: mm (in)	Tension adjustment*		Unit: N (kg-f, lb-f)
	Used belt		New belt	Used belt		New belt
	Limit	After adjustment		Limit	After adjustment	
Generator and air conditioner 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 - 0.30)	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-f, 22 lb-f)			—		

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

# ENGINE MAINTENANCE

## TENSION ADJUSTMENT

### Belt Adjustment Method

Belt description	Belt tightening method for adjustment
Power steering oil pump belt	Adjusting bolt on idler pulley
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.
- 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.

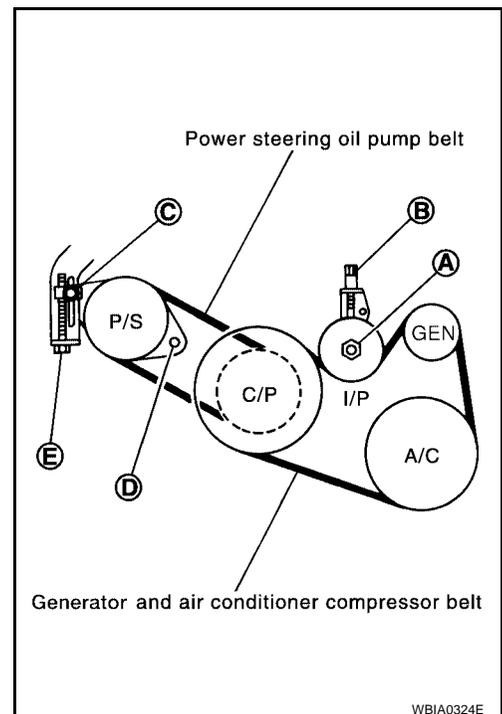
### Generator and Air Conditioner Compressor Belt

1. Remove engine undercover.
2. Loosen idler pulley lock nut “A” and adjust the belt by turning adjusting bolt “B”.
  - For specified belt deflection and tension, refer to [MA-12, "Drive Belts"](#).
3. Tighten lock nut “A”.

**Lock nut “A” : 34.8 N·m (3.5 kg-m, 26 ft-lb)**

4. Tighten adjusting bolt “B”.

**Adjusting bolt “B” : 5.4 N·m (0.55 kg-m, 48 in-lb)**



# ENGINE MAINTENANCE

## Power Steering Oil Pump Belt

1. Remove engine undercover.
2. Loosen adjusting bolt "C".
3. Loosen power steering oil pump bolt "D".

### NOTE:

Bolt head "D" is at the engine rear side.

4. Adjust the belt by turning the adjusting bolt "E".
  - For specified belt deflection and tension, refer to [MA-12, "Drive Belts"](#).

### NOTE:

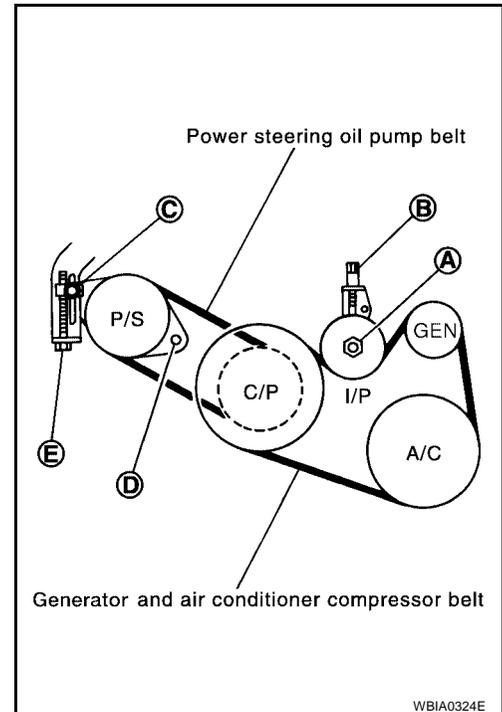
Adjusting bolt "E" is loosened with counterclockwise rotation.

5. Tighten adjusting bolt "C".

**Adjusting bolt "E" : 28.0 N·m (2.9 kg·m, 21 ft·lb)**

6. Tighten power steering oil pump bolt "D".

**Power steering pump bolt "D" : 43.2 N·m (4.4 kg·m, 32 ft·lb)**



## Changing Engine Coolant

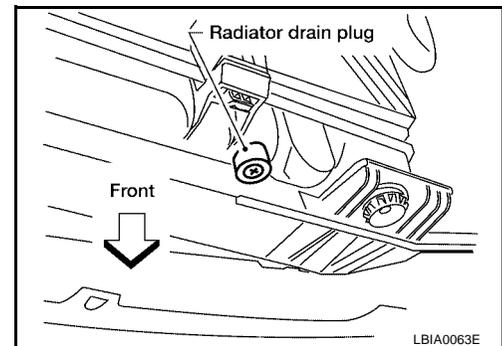
### WARNING:

- 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.

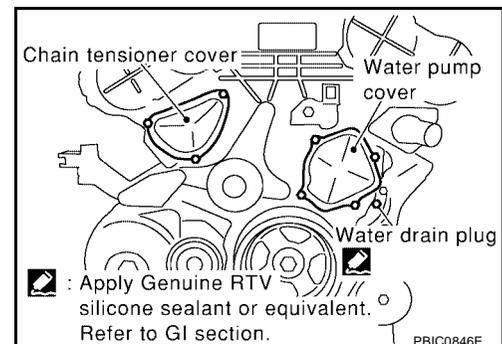
### DRAINING ENGINE COOLANT

1. Remove engine undercover.
2. 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.
3. 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.



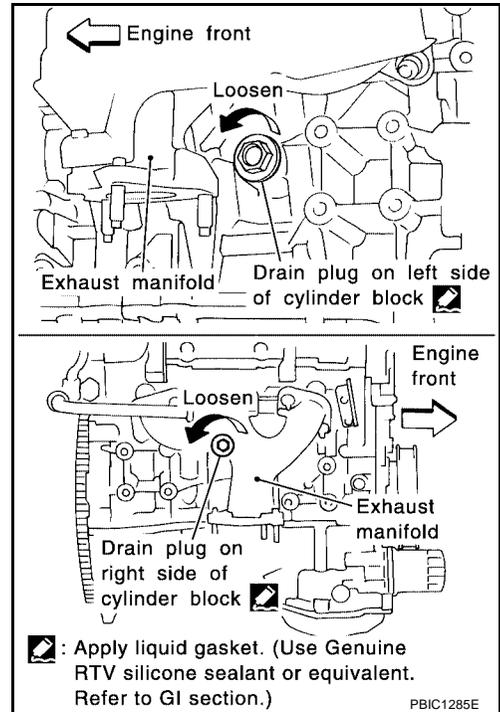
4. When performing a complete cooling system drain (to remove the engine or for engine repair), remove the cylinder block front drain plug and the cylinder block RH and LH drain plugs.



# ENGINE MAINTENANCE

## CAUTION:

If the vehicle is equipped with an engine block heater in place of the cylinder block LH drain plug, do not remove the engine block heater.



5. Check the drained coolant for contaminants such as rust, corrosion or discoloration.
  - If contaminated, flush the engine cooling system. Refer to [MA-17, "FLUSHING COOLING SYSTEM"](#).

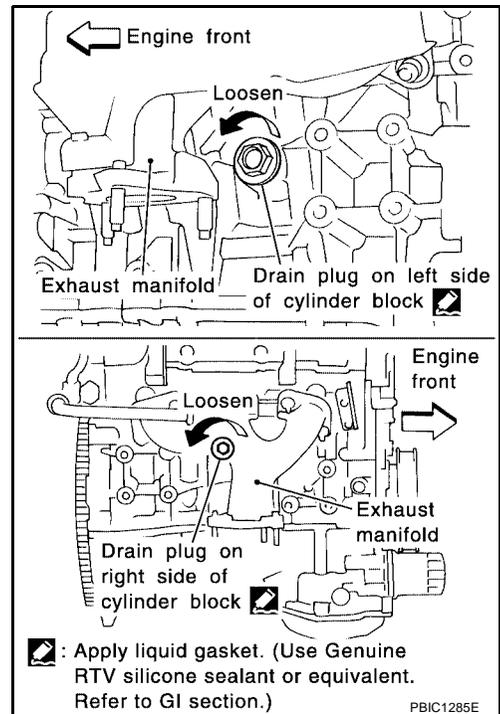
## REFILLING ENGINE COOLANT

1. Install the radiator drain plug. If the cooling system was drained completely, install the reservoir tank and the cylinder block drain plugs and tighten to specification.

## CAUTION:

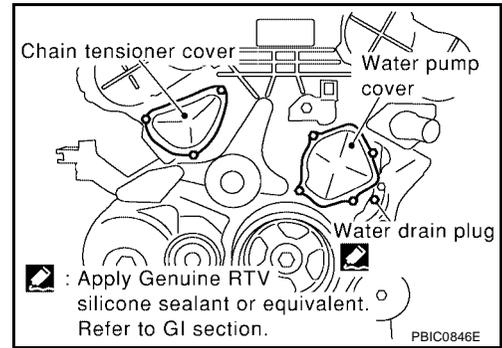
If the vehicle is equipped with an engine block heater in place of the cylinder block LH drain plug, do not remove the engine block heater.

- The radiator must be completely empty of coolant and water.
- Apply sealant to the threads of the cylinder block drain plugs. Use Genuine High Performance Thread Sealant or equivalent. Refer to [GI-43, "RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS"](#).



# ENGINE MAINTENANCE

<b>Radiator drain plug</b>	<b>: 9.8 N-m (1.0 kg-m , 87 in-lb)</b>
<b>Cylinder block front drain plug</b>	<b>: 10 N-m (1.0 kg-m, 89 in-lb)</b>
<b>Cylinder block RH drain plug</b>	<b>: 27 N-m (2.8 kg-m, 20 ft-lb)</b>
<b>Cylinder block LH drain plug</b>	<b>: 63 N-m (6.4 kg-m, 46 ft-lb)</b>



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

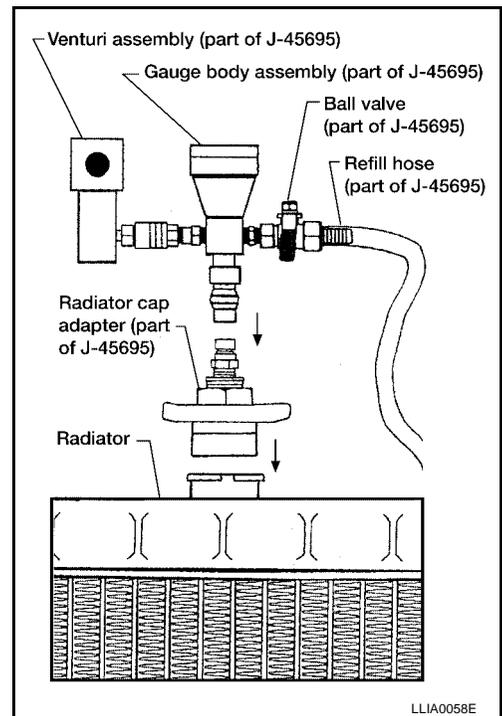
- Insert the refill hose into the coolant mixture container that is placed at floor level. Make sure the ball valve is in the closed position.

- Use Genuine NISSAN Long Life Anti-Freeze Coolant or equivalent, mixed 50/50 with distilled water or demineralized water. Refer to [MA-11, "ANTI-FREEZE COOLANT MIXTURE RATIO"](#).

**Engine coolant capacity (with reservoir) : Refer to MA-10, "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)**



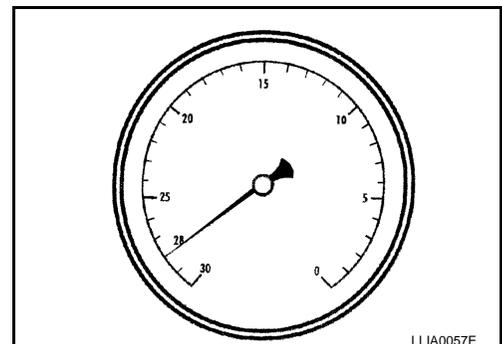
**CAUTION:**

**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.

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



- 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.

# ENGINE MAINTENANCE

- 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.**

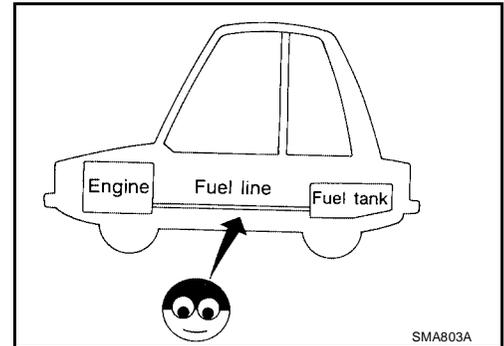
- Remove the Tool from the radiator neck opening.
- Fill the cooling system reservoir tank to the specified level, and install the radiator cap. Run the engine to warm up the cooling system and top up the system as necessary.

## 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.
- Run the engine and warm it up to normal operating temperature.
- Rev the engine two or three times under no-load.
- Stop the engine and wait until it cools down.
- Drain the water from the system. Refer to [MA-14, "DRAINING ENGINE COOLANT"](#).
- Repeat steps 1 through 5 until clear water begins to drain from the radiator.

## Checking Fuel Lines

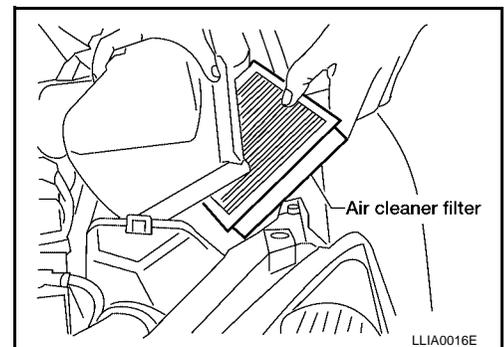
Inspect the fuel lines and fuel tank for improper hose attachment, leaks, cracks, damage, loose connections, chafing, or deterioration. If necessary, repair or replace faulty parts.



## Changing Air Cleaner Filter VISCIOUS PAPER TYPE

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

- Loosen the clamp between the mass air flow sensor and the air cleaner to electric throttle control actuator tube.
- Release the air cleaner case (upper) clamps.
- Remove the air cleaner case (upper).
- Remove the air cleaner filter.
- Install a new air cleaner filter.
- Installation of remaining components is in the reverse order of removal.



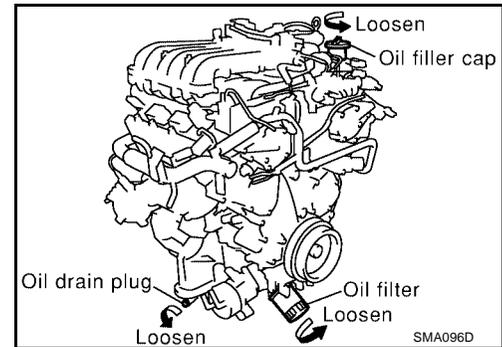
# ENGINE MAINTENANCE

ELS000UU

## 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.



**Oil pan drain plug : 34.3 N-m (3.5 kg-m, 25 ft-lb)**

### CAUTION:

- Be sure to clean the drain plug and install using a new washer.
  - The refill oil capacity depends on the oil temperature and drain time. Use these specifications for reference only.
  - Always use the dipstick to determine when the proper amount of oil is in the engine.
7. Refill the engine with new engine oil. Refer to [MA-10, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

### CAUTION:

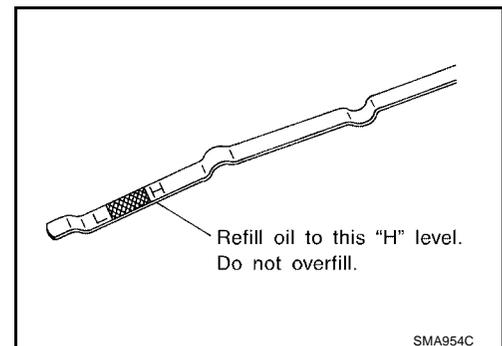
- The refill oil capacity depends on the oil temperature and drain time. Use these specifications for reference only.
- Always use the dipstick to determine when the proper amount of oil is in the engine.

### Oil Capacity (Approximate):

Unit: ℓ (US qt, Imp qt)

Drain and refill	With oil filter change	4.0 (4 1/4, 3 1/2)
	Without oil filter change	3.7 (3 7/8, 3 1/4)
Dry engine (engine overhaul)		5.0 (5 1/4, 4 3/8)

8. Warm up the engine and check the oil drain plug and oil filter for oil leaks.
9. Stop engine and wait at least 10 minutes.
10. Check engine oil level. Refer to [LU-7, "ENGINE OIL LEVEL"](#).



## Changing Oil Filter

ELS000UV

1. Remove the RH splash shield.

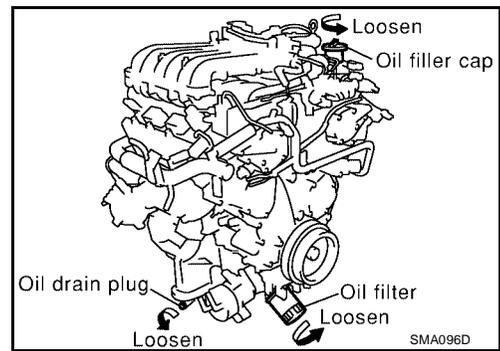
# ENGINE MAINTENANCE

2. Remove the oil filter using Tool.

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

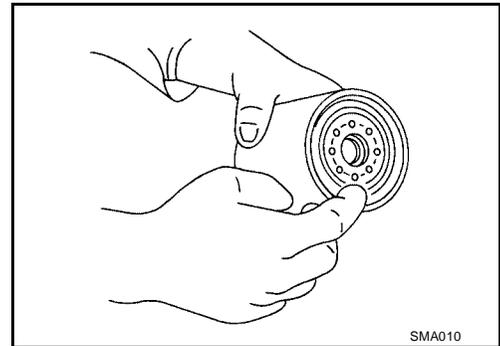
**CAUTION:**

- The oil filter is provided with a relief valve. Use Genuine NISSAN oil filter.
- Be careful not to get burned when the engine and engine oil are 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.



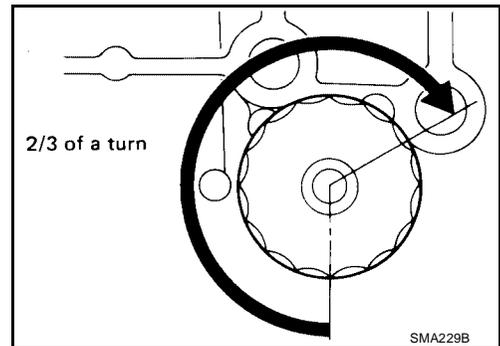
3. Clean oil filter mounting surface on cylinder block.

- Coat rubber seal of new oil filter with engine oil.

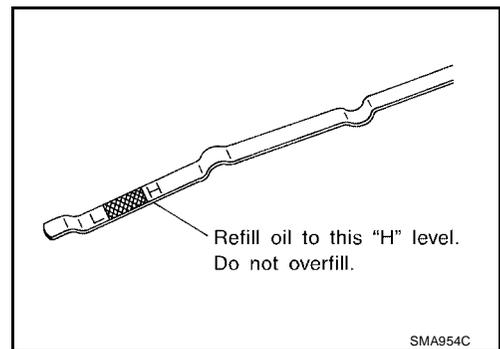


4. Screw the oil filter manually until it touches the engine block installation surface, then tighten it by turning another 2/3 turn, or tighten to specification.

**Oil filter** : 17.6 N·m (1.8 kg·m, 13 ft-lb)



5. Check engine oil level. Refer to [LU-7, "ENGINE OIL LEVEL"](#) .  
6. After warming up the engine, check for engine oil leaks, correct as necessary.



## Changing Spark Plugs (Platinum - Tipped Type)

ELS000UW

1. Remove the engine cover using power tool.
2. Remove the intake manifold collector. Refer to [EM-25, "REMOVAL"](#) .
3. Remove the ignition coils. Refer to [EM-37, "Removal and Installation"](#) .
4. Remove the spark plugs.
5. Install the new spark plugs. Check the gap before installing the new spark, the gap is not adjustable, replace the spark plug as necessary.

# ENGINE MAINTENANCE

**Spark plug : 24.5 N-m (2.5 kg-m, 18 ft-lb)**

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

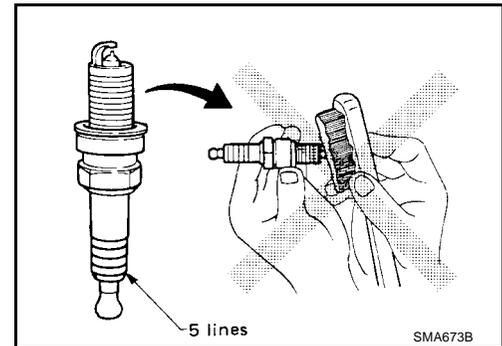
## Spark plug types

Spark plug make	NGK
Standard type	PLFR5A-11
Hot type	PLFR4A-11
Cold type	PLFR6A-11

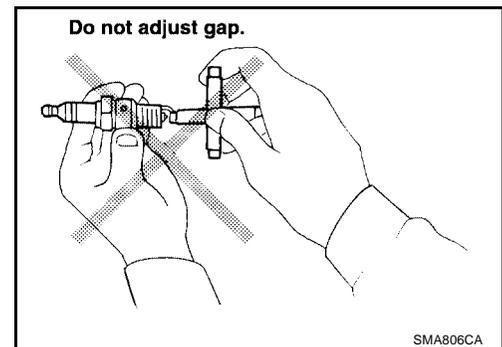
- Use the standard type spark plugs for normal driving conditions.
- The hot type spark plug is suitable when fouling occurs with the standard type spark plug under conditions such as:
  - frequent engine starts
  - low ambient temperatures
- The cold type spark plug is suitable when spark knock occurs with the standard type spark plug under conditions such as:
  - extended highway driving
  - frequent high engine revolution
- 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, replace the spark plug as necessary.



6. Install the ignition coils. Refer to [EM-37, "Removal and Installation"](#).

**Ignition coil bolt : 7 N-m (0.7 kg-m, 62 in-lb)**

## Checking EVAP Vapor Lines

ELS000UX

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration.
2. Inspect fuel tank filler cap vacuum relief valve for clogging, and sticking.

## CHASSIS AND BODY MAINTENANCE

PFP:00100

### Changing In-cabin Microfilter

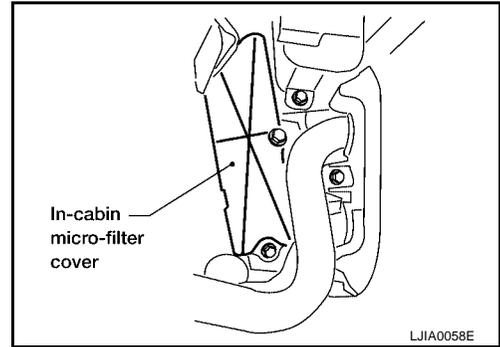
ELS001GU

1. Remove the glove box assembly. Refer to [IP-13, "Instrument Lower Panel RH and Glove Box"](#).
2. Remove the three screws and remove the in-cabin microfilter cover.
3. Remove the in-cabin microfilters from the front heater and cooling unit assembly.
4. Install the in-cabin microfilters, replacing the two in-cabin microfilters with new filters, into the front heater and cooling unit assembly.

**CAUTION:**

**When installing the two new in-cabin microfilters make sure that the filters are facing in the direction indicated by the direction arrow for the air flow. The direction arrow is printed on the side of the in-cabin microfilters.**

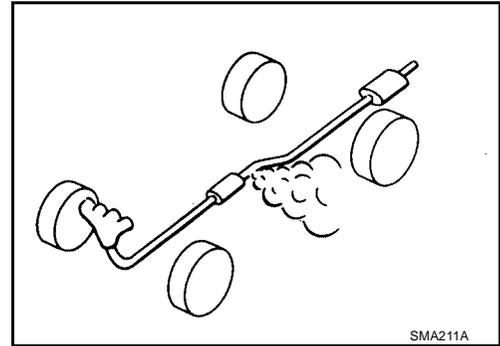
5. Install the in-cabin microfilter cover.
6. Install the glove box assembly. Refer to [IP-13, "Instrument Lower Panel RH and Glove Box"](#).



### Checking Exhaust System

ELS000UY

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



### Checking A/T Fluid

ELS000V2

1. Warm up the engine.
2. Check for any transaxle fluid leaks.
3. Before driving, the fluid level can be checked at fluid temperature using the "COLD" range on the A/T fluid level gauge.

**4 A/T temperature range**

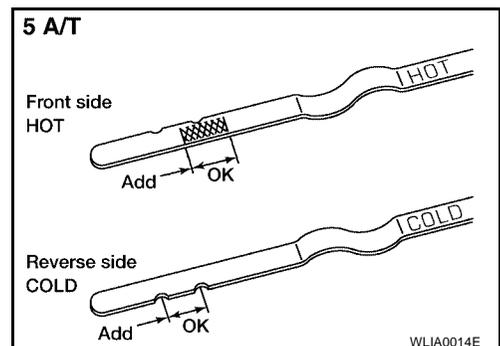
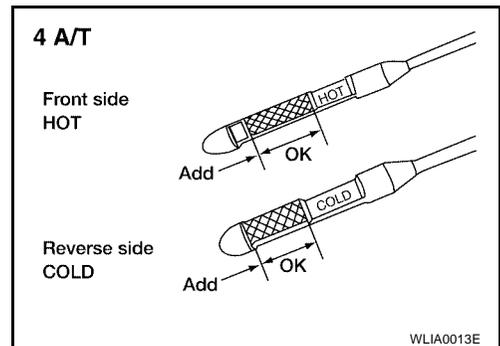
**COLD : 30° – 50° C (86° – 122° F)**

**HOT : 50° – 80° C (122° – 176° F)**

**5 A/T temperature range**

**COLD : 30° – 40° C (86° – 104° F)**

**HOT : 70° – 80° C (158° – 176° F)**



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

MA

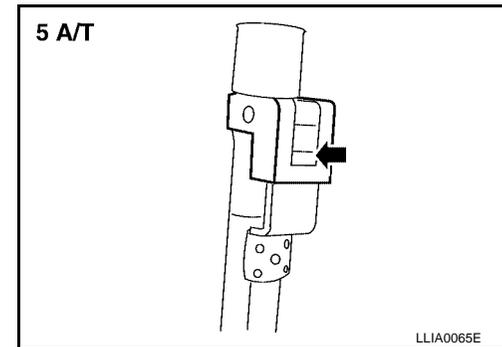
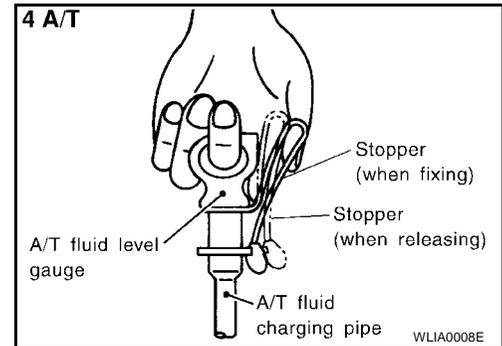
M

## CHASSIS AND BODY MAINTENANCE

- Park the vehicle on a level surface and set parking brake.
- Start the engine and move the transaxle selector lever through each gear position. Leave the selector lever in the "P" park position.
- Check the fluid level with the engine idling.

**CAUTION:**

**Firmly fix the A/T fluid level gauge into the A/T fluid charging pipe using the attached stopper, this will provide an accurate reading on the gauge.**



- Remove the A/T fluid level gauge and wipe it clean with a lint-free paper.
- Re-insert the A/T fluid level gauge into the charging pipe as far as it will go.
- Remove the A/T fluid level gauge and note the reading. If the reading is at or below the low side of the range, add the necessary specified A/T fluid through the A/T fluid charging pipe and then re-insert the A/T fluid level gauge.

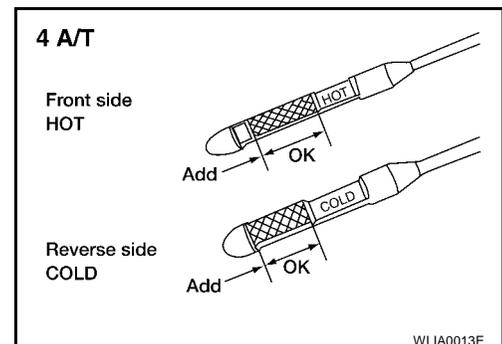
**CAUTION:**

- Do not overfill the transaxle.
- Firmly fix the A/T fluid level gauge into the A/T fluid charging pipe using the attached stopper, this will provide an accurate reading on the gauge, and will keep the gauge in position while driving.

- Drive the vehicle for approximately 5 minutes at moderate speeds.
- Re-check the fluid level at fluid temperatures using the "HOT" range on the A/T fluid level gauge.

**CAUTION:**

**Firmly fix the A/T fluid level gauge into the A/T fluid charging pipe using the attached stopper, this will provide an accurate reading on the gauge, and will keep the gauge in position while driving.**



# CHASSIS AND BODY MAINTENANCE

## 4 A/T temperature range

**COLD** : 30° – 50° C (86° – 122° F)

**HOT** : 50° – 80° C (122° – 176° F)

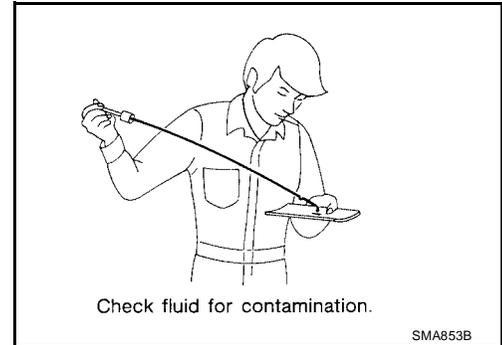
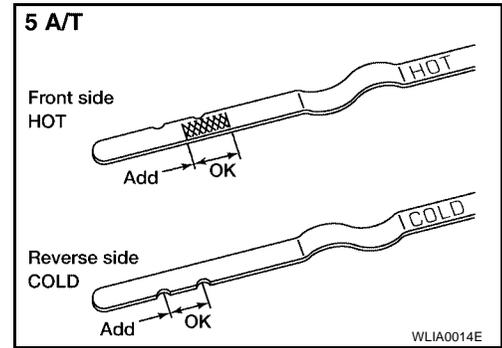
## 5 A/T temperature range

**COLD** : 30° – 40° C (86° – 104° F)

**HOT** : 70° – 80° C (158° – 176° F)

6. Check the fluid for the following conditions:

- If the fluid is very dark or smells burned, refer to the AT section for checking the operation of the transaxle. Flush the AT fluid cooling system after repairing the transaxle.
- If the fluid contains frictional material (from the clutches or bands), remove the radiator and flush the cooler lines using a cleaning solvent and compressed air after completing repairs to the transaxle. Refer to [CO-10, "RADIATOR"](#).



ELS000V3

## Changing A/T Fluid

1. Run the engine to warm up the transaxle until the fluid is at full operating temperature "HOT".

## 4 A/T temperature range

**COLD** : 30° – 50° C (86° – 122° F)

**HOT** : 50° – 80° C (122° – 176° F)

## 5 A/T temperature range

**COLD** : 30° – 40° C (86° – 104° F)

**HOT** : 70° – 80° C (158° – 176° F)

2. Stop the engine.

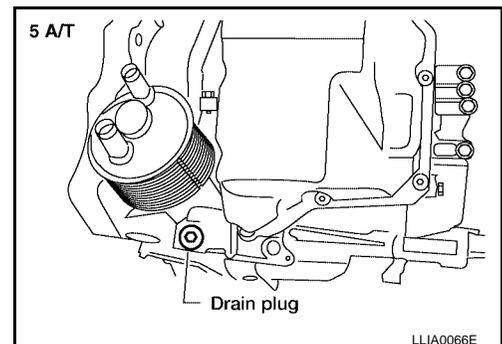
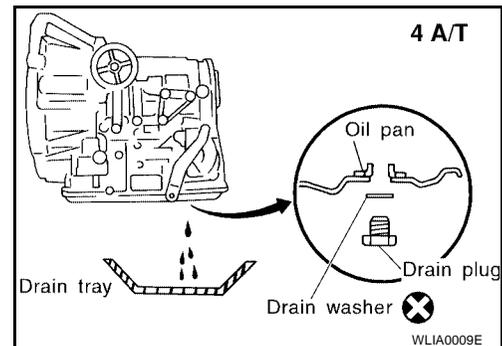
3. Remove the engine undercover.

4. Drain the A/T fluid by removing the drain plug. Reinstall the drain plug to the specified tightness using a new drain washer.

## Drain plug

**4 A/T** : 34 N·m (3.5 kg·m, 25 ft·lb)

**5 A/T** : 39 N·m (4.0 kg·m, 29 ft·lb)



# CHASSIS AND BODY MAINTENANCE

5. Refill the transaxle with new specified A/T fluid through the A/T fluid charging pipe. Always refill the transaxle with the same volume amount that was drained out.

**CAUTION:**

**Do not overfill the transaxle.**

**Fluid grade**

**4 A/T** : Genuine NISSAN Matic D ATF (Continental U.S. and Alaska) or Canada NISSAN Automatic Transmission Fluid. Refer to [MA-10](#), "[RECOMMENDED FLUIDS AND LUBRICANTS](#)".

**5 A/T** : Genuine NISSAN Matic K ATF. Refer to [MA-10](#), "[RECOMMENDED FLUIDS AND LUBRICANTS](#)".

**Fluid capacity (with torque converter)**

**4 A/T** : 8.9 ℓ (9 3/8 US qt, 7 7/8 Imp qt)

**5 A/T** : 7.4 ℓ (7 7/8 US qt, 6 1/2 Imp qt)

6. Run the engine at idle speed for five minutes.
7. Check fluid level and condition. Refer to [MA-21](#), "[Checking A/T Fluid](#)". If the fluid is still contaminated, repeat step 2 through 5.

## Balancing Wheels (Bonding Weight Type)

ELS000V4

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

**CAUTION:**

**Be careful not to scratch the road wheel during removal.**

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

**CAUTION:**

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

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

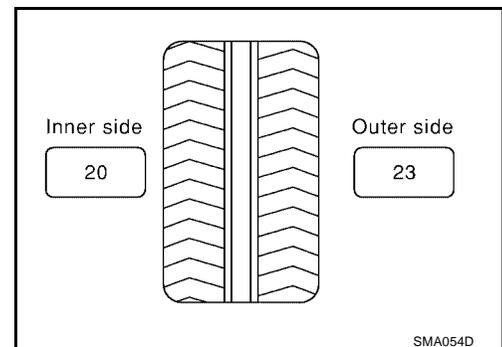
**NOTE:**

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 road wheels.

4. 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 road 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 road wheel.**



**Calculation:**

Indicated unbalance value  $\times$  1.6 = balance weight to be installed

**Calculation example:**

23 g (0.81 oz)  $\times$  1.6 = 38.33 g (1.35 oz) = 40 g (1.41 oz) 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)

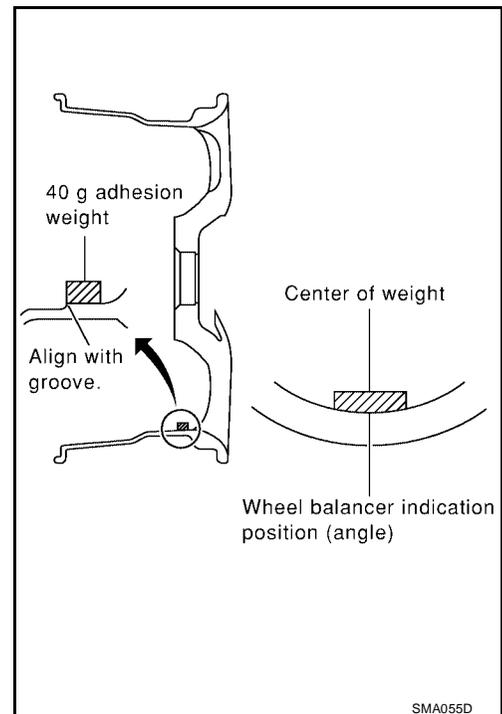
37.5 = 40 g (1.41 oz)

## CHASSIS AND BODY MAINTENANCE

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

**CAUTION:**

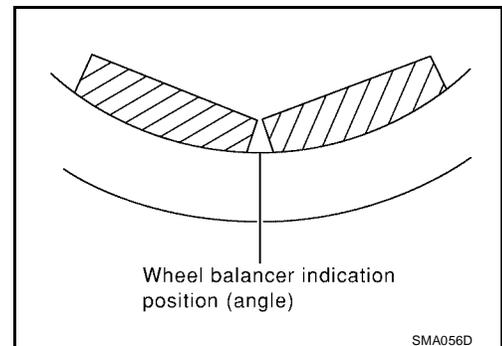
- Always use Genuine NISSAN adhesion balance weights.
- Balance weights are not reusable; always replace with new ones.
- Do not install more than three sheets of balance weight.



- c. 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.**



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

**CAUTION:**

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

7. 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.

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# CHASSIS AND BODY MAINTENANCE

## Wheel Balance (Maximum Allowable Unbalance)

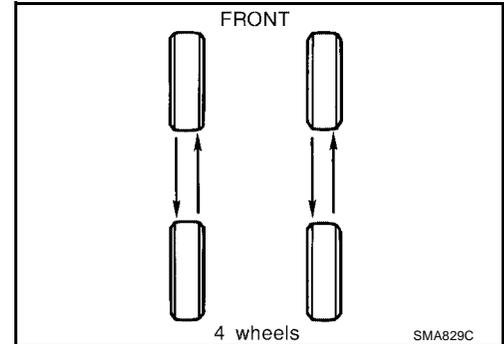
Maximum allowable unbalance	Dynamic (at rim flange)	Less than 5 g (0.18 oz) (per side)
	Static (at rim flange)	Less than 10 g (0.35 oz)

## Tire Rotation

ELS000V5

- After rotating the tires as shown, adjust the tire pressure to specification.
- Retighten the wheel nuts after the vehicle has been driven the first 1,000 km (600 miles). Also retighten the wheel nuts after a flat tire repair, or any type of service where the wheels have been removed and installed.

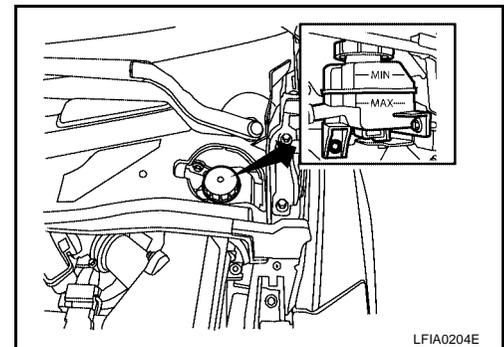
**Wheel nuts : 112 N-m (11 kg-m, 83 ft-lb)**



## Checking Brake Fluid Level and Leaks

ELS000V6

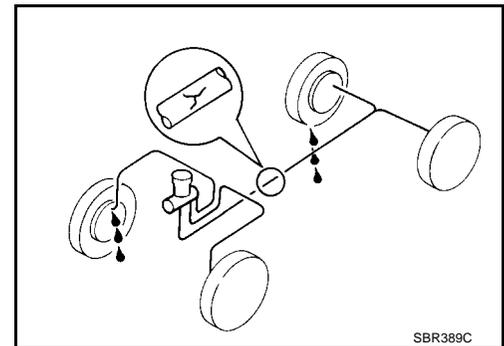
- Check the brake fluid level in the sub tank. It should be between the "MAX" and "MIN" lines on the sub tank.
- Visually check around the reservoir tank and sub tank for leaks.
- If the brake fluid level is extremely low or below the "MIN" level, check the brake system for leaks.
- Release the parking brake lever and check that the brake warning lamp goes off. If not, check the brake system for leaks.



## Checking Brake Lines and Cables

ELS000V7

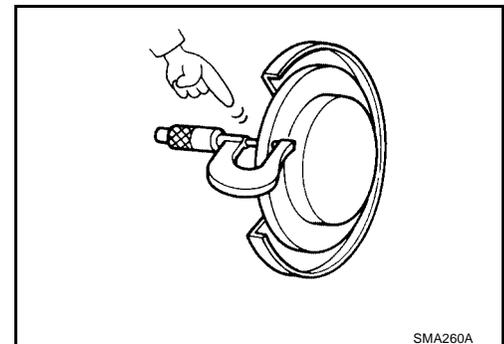
Check the brake fluid lines and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, and damage. Repair or replace parts as necessary.



## Checking Disc Brake ROTOR

ELS000V8

Check the rotor condition and thickness. Resurface or replace the rotor as necessary.



# CHASSIS AND BODY MAINTENANCE

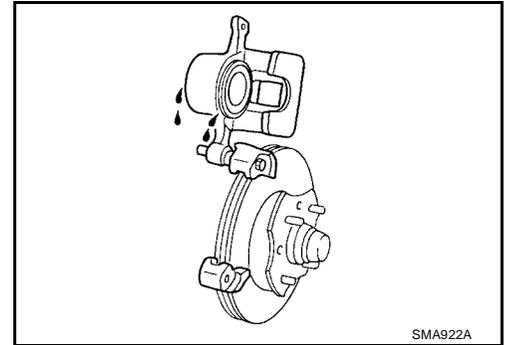
## Brake Rotor Specifications

Unit: mm (in)

Description	Front brake rotor	Rear brake rotor
Brake model	AD35VB	AD14VE
Standard thickness	28 (1.10)	16 (0.630)
Maximum runout	0.04 (0.0016)	0.05 (0.0020)
Minimum thickness (wear limit)	26.0 (1.02)	14.0 (0.55)
Maximum thickness variation (measured at 8 points)	0.015 (0.0006) or less	0.015 (0.0006) or less

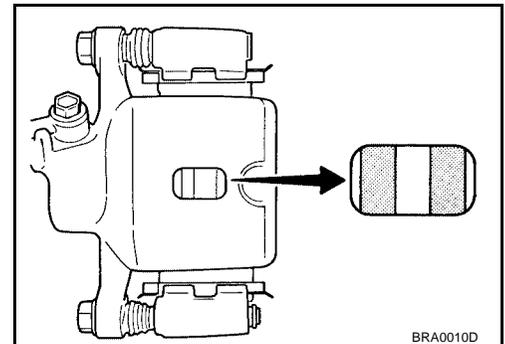
## CALIPER

Check the caliper for leakage.



## PAD

Check the brake pads for wear or damage.



## Brake Pad Specifications

Unit: mm (in)

Description	Front brake pad	Rear brake pad
Brake model	AD35VB	AD14VE
Standard thickness	10 (0.39)	8.5 (0.33)
Minimum thickness (wear limit)	2.0 (0.079)	2.0 (0.079)

## Checking Steering Gear and Linkage

ELS000V9

- 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.

# CHASSIS AND BODY MAINTENANCE

ELS000VA

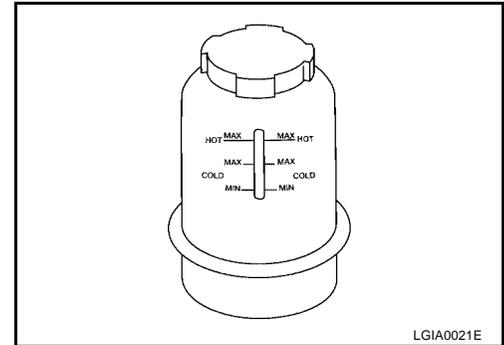
## Checking Power Steering Fluid and Lines CHECKING FLUID LEVEL

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

Use the "HOT" range or the "COLD" range fluid temperatures.

"HOT" range PSF temperature : 50° – 80° C  
(122° – 176° F)

"COLD" range PSF temperature : 0° – 30° C  
(32° – 86° F)



### CAUTION:

- Do not overfill the power steering reservoir tank.
- Do not reuse any used power steering fluid.
- Use the recommended power steering fluid, Genuine NISSAN PSF or equivalent. Refer to [MA-10. "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

## CHECKING FLUID LEAKAGE

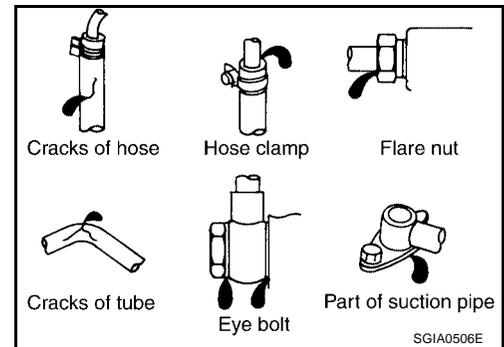
Check the lines for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.

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

### CAUTION:

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

4. If fluid leakage at connectors is noticed, loosen flare nut and then retighten. Do not overtighten connector as this can damage O-ring, washer and connector.
5. If fluid leakage from power steering oil pump is noticed, check the power steering oil pump. Refer to [PS-23. "INSPECTION AFTER DISASSEMBLY"](#).
6. Check steering gear boots for accumulation of power steering fluid, indicating a steering gear leak.

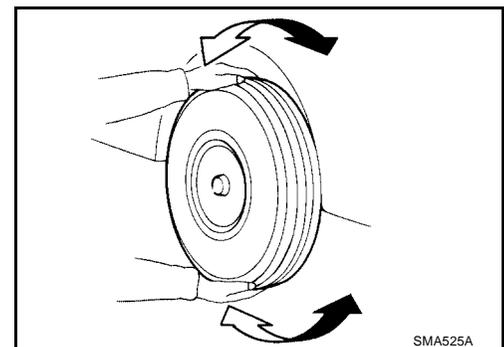


## Axle and Suspension Parts

ELS000VB

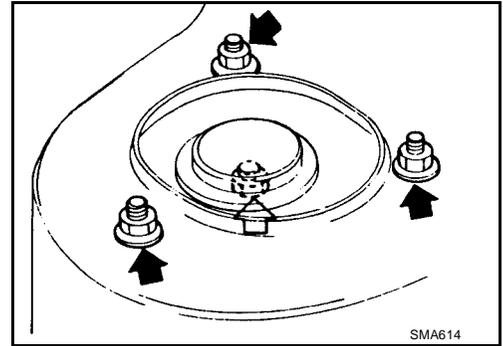
Check the front and rear axle and suspension parts for excessive play, cracks, wear, or other damage.

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

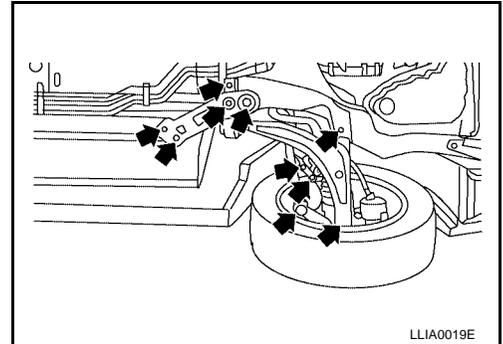


# CHASSIS AND BODY MAINTENANCE

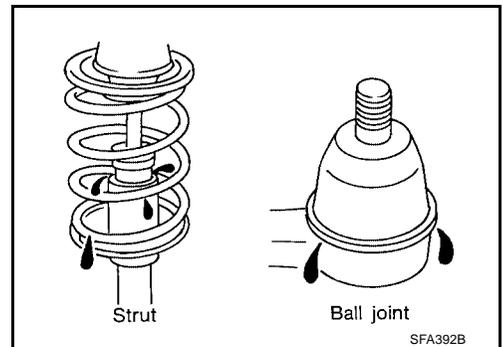
- Check the strut mount nuts for looseness.



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

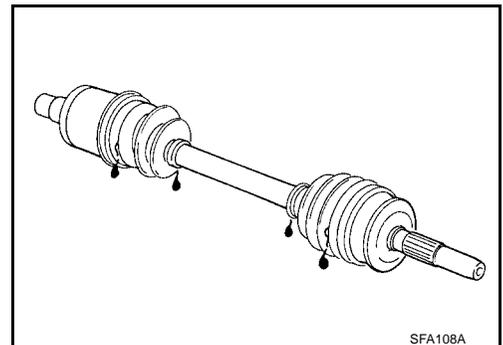


- Check the struts for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.



## Drive Shaft

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

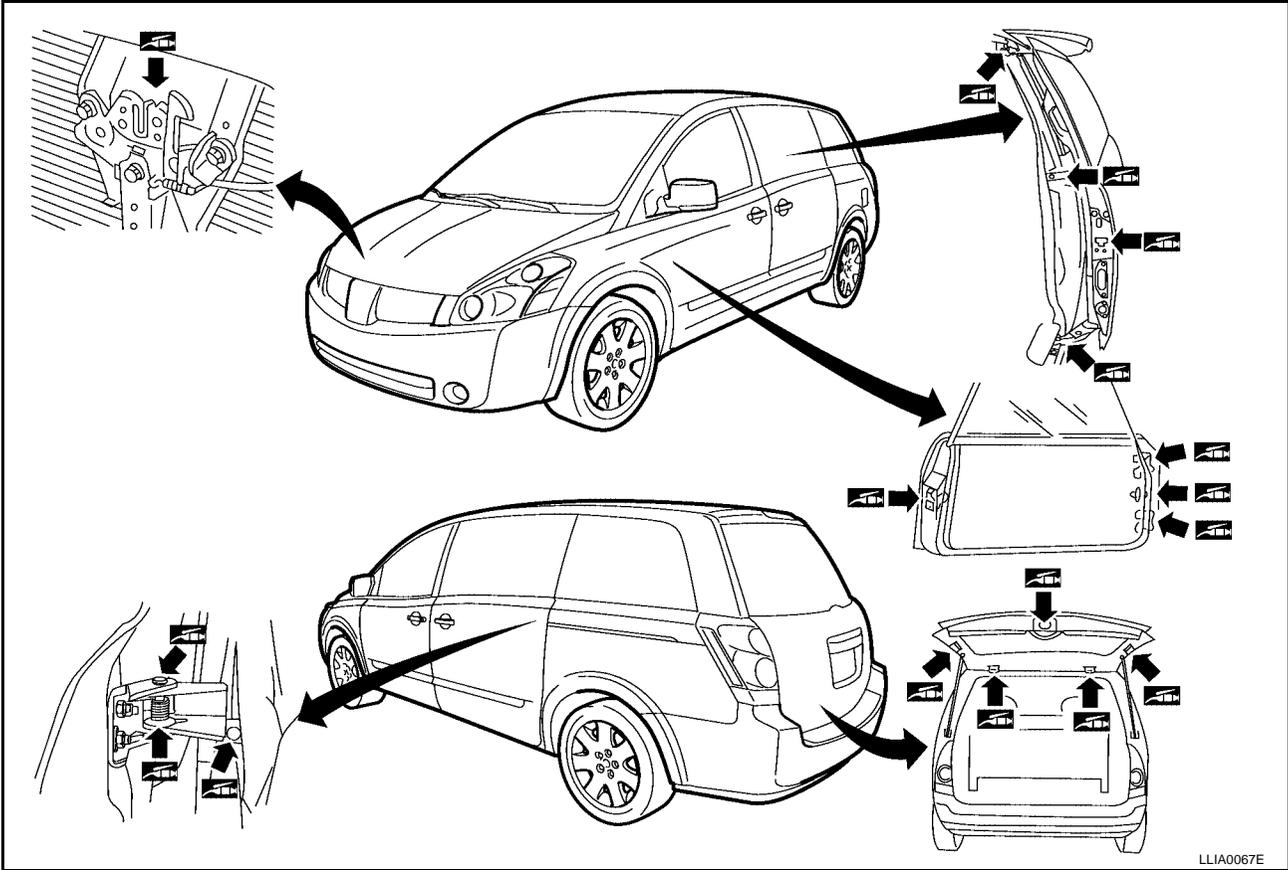


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# CHASSIS AND BODY MAINTENANCE

## Lubricating Locks, Hinges and Hood Latch

ELS000VD



# CHASSIS AND BODY MAINTENANCE

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

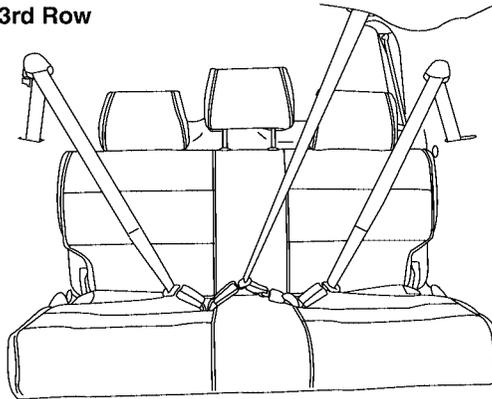
ELS000VE

### CAUTION:

- After any collision, inspect all seat belt assemblies, including retractors and other attached hardware (i.e. anchor bolt, guide rail set). Nissan recommends to replace all seat belt assemblies in use during a collision, unless not damaged and properly operating after minor collision. Also inspect seat belt assemblies not in use during a collision, and replace if damaged or improperly operating. 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 are deployed.
- If any component of seat belt assembly is questionable, do not repair. Replace as seat belt assembly.
- If webbing is cut, frayed, or damaged, replace belt assembly.
- Never oil tongue and buckle.
- Use a Genuine NISSAN seat belt assembly.

For details, refer to "Seat Belt Inspection" in SB section.

3rd Row

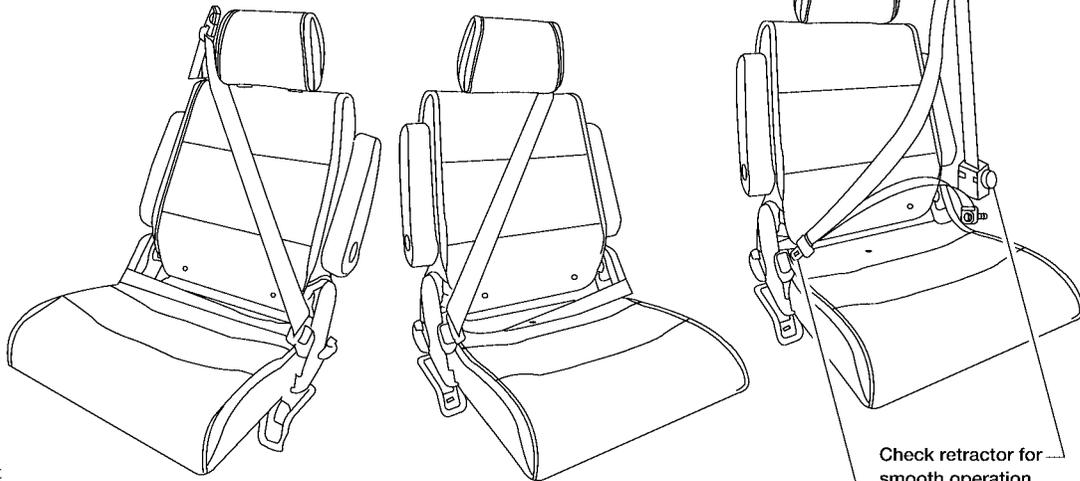


Check anchors for loose mounting

49 (5.0, 36)

Check belts for damage

2nd Row



Check retractor for smooth operation

Check function of buckles and tongues when buckled and released

Anchor bolt

49 (5.0, 36)

N·m (kg·m, ft·lb)

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# CHASSIS AND BODY MAINTENANCE

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