

# SECTION MA

## MAINTENANCE

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SEAT BELT, BUCKLES, RETRACTORS, AN-  
CHORS AND ADJUSTERS : Checking Seat  
Belts, Buckles, Retractors, Anchors and Adjusters  
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## PRECAUTIONS

< PRECAUTION >

### PRECAUTION

#### PRECAUTIONS

##### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000012562873

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 SR 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 SR 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.

##### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

##### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least three minutes before performing any service.

# PREPARATION

< PREPARATION >

## PREPARATION

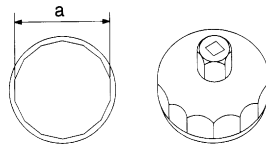
### PREPARATION

#### Special Service Tool

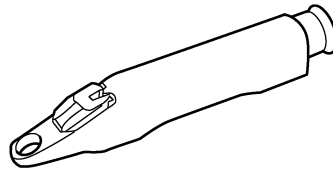
INFOID:0000000012562874

The actual shape of the tools may differ from those illustrated here.

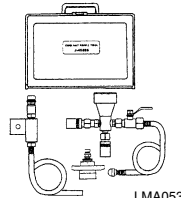
Tool number (TechMate No.) Tool name	Description
KV10115801 (J-38956) Oil filter cap wrench	Removing and installing oil filter <b>a: 64.3 mm (2.531 in)</b>
KV991J0010 (J-23688) Engine coolant refractometer	Checking concentration of ethylene glycol in engine coolant
KV991J0070 (J-45695) Coolant refill tool	Filling cooling system



NT375



WBIA0539E



LMA053

#### Commercial Service Tool

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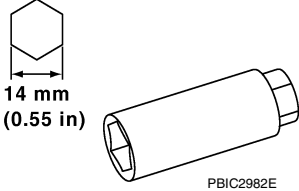
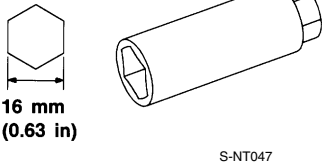
Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

# PREPARATION

## < PREPARATION >

Tool name	Description
<p>Spark plug wrench</p>  <p>14 mm (0.55 in)</p> <p>PBIC2982E</p>	<p>Removing and installing spark plug for QR25DE engine</p>
<p>Spark plug wrench</p>  <p>16 mm (0.63 in)</p> <p>S-NT047</p>	<p>Removing and installing spark plug for VQ40DE engine</p>

# GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

## PERIODIC MAINTENANCE

### GENERAL MAINTENANCE FOR USA AND CANADA

#### FOR USA AND CANADA : Explanation of General Maintenance

INFOID:0000000012562876

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 these 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 with a gauge often and always prior to long distance trips. Adjust the pressure in all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	<a href="#">WT-54</a>
<b>Wheel lug nuts</b>	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	<a href="#">MA-55</a>
<b>Tire rotation</b>	Tires should be rotated every 5,000 miles (8,000 km).	<a href="#">MA-55</a>
<b>Tire Pressure Monitoring System (TPMS) transmitter components</b>	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	<a href="#">WT-50</a>
<b>Wheel alignment and balance</b>	If the vehicle should pull 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. For additional information regarding tires, refer to "Important Tire Safety Information" (US) or "Tire Safety Information" (Canada) in the NISSAN Warranty Information Booklet.	<a href="#">MA-53</a> , <a href="#">FSU-6</a>
<b>Windshield</b>	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
<b>Windshield wiper blades</b>	Check for cracks or wear if they do not wipe properly.	—
<b>Doors and engine hood</b>	Check that all doors and the engine hood operate smoothly as well as the back tail gate. 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 for lubrication frequently.	<a href="#">MA-61</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 head lamps on a regular basis.	<a href="#">EXL-136</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.	<a href="#">WCS-4</a>
<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. Check for changes in the steering condition, such as excessive play, hard steering or strange noises. <b>Free play: Less than 35mm (1.38in)</b>	<a href="#">ST-32</a>

## GENERAL MAINTENANCE

### < PERIODIC MAINTENANCE >

Item		Reference page
<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="#">SB-3</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.	—
<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. Keep the floor mats away from the pedal.	<a href="#">BR-9</a> , <a href="#">BR-16</a>
<b>Clutch Pedal</b>	Make sure the pedal operates smoothly and check that it has proper free play.	<a href="#">CL-26</a>
<b>Parking brake</b>	Check that the lever or the pedal 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-4</a>
<b>Automatic transmission “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 (Park) 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-24</a> (QR), <a href="#">MA-33</a> (VQ)
<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 and clutch fluid levels</b>	Make sure that the brake and clutch fluid levels are between the “MAX” and “MIN” lines on the reservoirs	<a href="#">MA-55</a> <a href="#">CL-8</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.	—
<b>Engine drive belt</b>	Make sure that no belt is frayed, worn, cracked or oily.	<a href="#">MA-24</a> (QR), <a href="#">MA-33</a> (VQ)
<b>Engine oil level</b>	Check the level on the oil level gauge after parking the vehicle on a level spot and turning off the engine.	<a href="#">MA-28</a> (QR), <a href="#">MA-38</a> (VQ)
<b>Power steering fluid level and lines</b>	Check the level when the fluid is cold, with the engine off. Check the lines for proper attachment, leaks, cracks, etc.	<a href="#">MA-59</a>
<b>Automatic transmission fluid level</b>	Check the level on the dipstick after putting the shift selector in P (Park) with the engine idling.	<a href="#">MA-44</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-44</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.	—



# GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

## FOR MEXICO

### FOR MEXICO : General Maintenance

INFOID:000000012562877

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 these 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>Doors and hood</b>	Check that all doors and the hood operate smoothly as well as the rear door, trunk lid and 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-61</a>
<b>Lamps</b>	Clean the headlamps on a regular basis. Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check the aim of the headlamps.	—
<b>Tires</b>	Check the pressure with a gauge often and always prior to long distance trips. Adjust the pressure in all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	<a href="#">WT-54</a>
<b>Tire rotation</b>	In the case that Two-Wheel Drive (2WD) and front and rear tires are same size; tires should be rotated every 10,000 km (6,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that Four-Wheel Drive and All Wheel Drive (4WD/4WD) and front and rear tires are same size; tires should be rotated every 5,000 km (3,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that front tires are different size from rear tires; tires cannot be rotated. The timing for tire rotation may vary according to your driving habits and the road surface conditions.	<a href="#">MA-55</a>
<b>Tire Pressure Monitoring System (TPMS) transmitter components (if so equipped)</b>	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	<a href="#">WT-50</a>
<b>Wheel alignment and balance</b>	If the vehicle should pull 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="#">MA-53</a> , <a href="#">FSU-6</a>
<b>Windshield</b>	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
<b>Wiper blades</b>	Check for cracks or wear if not functioning correctly. Replace as necessary.	—

### 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>Accelerator pedal</b>	Check the pedal for smooth operation and make sure that the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—
<b>Brake pedal</b>	Check the pedal for smooth operation and make sure that it is the proper distance from the floor mat when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	<a href="#">BR-16</a>
<b>Parking brake</b>	Check the parking brake operation regularly. Check that the lever (if so equipped) or the pedal (if so equipped) has the proper travel. Also make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	<a href="#">PB-4</a>

## GENERAL MAINTENANCE

### < PERIODIC MAINTENANCE >

Item		Reference page
<b>Seat belts</b>	Check that all parts of the seat belt system (for example, 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="#">SB-3</a>
<b>Steering wheel</b>	Check for changes in the steering condition, such as excessive play, hard steering or strange noises. Check that it has the specified play. <b>Free play: Less than 35 mm (1.38 in)</b>	—
<b>Warning lamps and chimes</b>	Make sure that all warning lamps and chimes are operating properly.	—
<b>Windshield defogger</b>	Check that the air comes out of the defogger outlets properly and in good quantity when operating the heater or air conditioner.	—
<b>Windshield wiper and washer</b>	Check that the wipers and washer operate properly and that the wipers do not streak.	—

### UNDER THE HOOD AND VEHICLE

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

Item		Reference page
<b>Battery</b> (except for maintenance free batteries)	Check the fluid level in each cell. It should be between the UPPER and LOWER lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	—
<b>Brake (and clutch) fluid level(s)</b>	For Manual Transmission (MT) model; make sure that the brake and clutch fluid levels are between the MAX and MIN lines on the reservoir(s). Except for Manual Transmission (MT) model; make sure that the brake fluid level is between the MAX and MIN lines on the reservoir.	<a href="#">MA-55</a>
<b>Engine coolant level</b>	Check the coolant level when the engine is cold. Make sure that the coolant level is between the MAX and MIN lines on the reservoir.	<a href="#">MA-33</a> (VQ)
<b>Engine drive belt(s)</b>	Make sure that drive belt(s) is not frayed, worn, cracked or oily.	<a href="#">MA-33</a> (VQ)
<b>Engine oil level</b>	Check the level after parking the vehicle (on a level ground) and turning off the engine.	<a href="#">MA-38</a> (VQ)
<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 if fuel fumes are evident, check for cause and have it corrected immediately.	—
<b>Power steering fluid level and lines</b>	Check the level when the fluid is cold with the engine off. Check the lines for proper attachment, leaks, cracks, etc.	<a href="#">MA-59</a>
<b>Windshield washer fluid</b>	Check that there is adequate fluid in the reservoir.	—

# PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

## PERIODIC MAINTENANCE FOR USA AND CANADA

### FOR USA AND CANADA : Periodic Maintenance

INFOID:0000000012562878

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

**Periodic maintenance beyond the last period shown on the tables requires similar maintenance.**

#### Emission Control System Maintenance

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	5 (8) 6	10 (16) 12	15 (24) 18	20 (32) 24	25 (40) 30	30 (48) 36	35 (56) 42	40 (64) 48	45 (72) 54
Drive belt	NOTE (1)								I*	
Air cleaner filter	NOTE (2)						R			
EVAP vapor lines					I*				I*	
Fuel lines					I*				I*	
Fuel filter	NOTE (3)									
Engine coolant*	NOTE (4)(5)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter		R	R	R	R	R	R	R	R	R
Spark plugs (Platinum-tipped type for QR engine and iridium-tipped type for VQ engine)		Replace every 105,000 miles (168,000 km)								
Intake and exhaust valve clearance*	NOTE (6)									

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	50 (80) 60	55 (88) 66	60 (96) 72	65 (104) 78	70 (112) 84	75 (120) 90	80 (128) 96	85 (136) 102	90 (144) 108
Drive belt	NOTE (1)	I*		I*		I*		I*		I*
Air cleaner filter	NOTE (2)			R						R
EVAP vapor lines				I*				I*		
Fuel lines				I*				I*		
Fuel filter	NOTE (3)									
Engine coolant*	NOTE (4)(5)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter		R	R	R	R	R	R	R	R	R
Spark plugs (Platinum-tipped type for QR engine and iridium-tipped type for VQ engine)		Replace every 105,000 miles (168,000 km)								
Intake and exhaust valve clearance*	NOTE (6)									

# PERIODIC MAINTENANCE

## < PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Drive belt	NOTE (1)		I*		I*		I*	<a href="#">MA-24</a> (QR) <a href="#">MA-33</a> (VQ)
Air cleaner filter	NOTE (2)						R	<a href="#">MA-27</a> (QR) <a href="#">MA-38</a> (VQ)
EVAP vapor lines			I*				I*	<a href="#">MA-32</a> (QR) <a href="#">MA-42</a> (VQ)
Fuel lines			I*				I*	<a href="#">MA-27</a> (QR) <a href="#">MA-37</a> (VQ)
Fuel filter	NOTE (3)							—
Engine coolant*	NOTE (4)(5)							<a href="#">MA-24</a> (QR) <a href="#">MA-33</a> (VQ)
Engine oil		R	R	R	R	R	R	<a href="#">MA-28</a> (QR) <a href="#">MA-38</a> (VQ)
Engine oil filter		R	R	R	R	R	R	<a href="#">MA-29</a> (QR) <a href="#">MA-39</a> (VQ)
Spark plugs (Platinum-tipped type for QR engine and iridium-tipped type for VQ engine)		Replace every 105,000 miles (168,000 km)						<a href="#">MA-30</a> (QR) <a href="#">MA-41</a> (VQ)
Intake and exhaust valve clearance*	NOTE (6)							<a href="#">EM-20</a> (QR) <a href="#">EM-135</a> (VQ)

### NOTE:

- (1) After 40,000 miles (64,000 km) or 48 months, inspect every 10,000 miles (16,000 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, refer to the FL section.
- (4) First replacement interval is 105,000 miles (168,000 km) or 84 months. After first replacement, replace every 75,000 miles (120,000 km) or 60 months.
- (5) Use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent with proper mixture ratio of 50% anti-freeze and 50% demineralized or distilled water. Mixing any other type of coolant or the use of non-distilled water will reduce the life expectancy of the factory fill coolant.
- (6) Periodic maintenance is not required. However, 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								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	5 (8) 6	10 (16) 12	15 (24) 18	20 (32) 24	25 (40) 30	30 (48) 36	35 (56) 42	40 (64) 48	45 (72) 54
Brake lines & cables			I		I		I		I	
Brake pads & rotors★			I		I		I		I	
Brake fluid★					R				R	
Automatic transmission fluid	NOTE (1)		I		I		I		I	
Manual transmission gear oil, transfer fluid & differential gear oil	NOTE (2)		I		I		I		I	
Steering gear & linkage, axle & suspension parts★					I				I	

# PERIODIC MAINTENANCE

## < PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	5 (8) 6	10 (16) 12	15 (24) 18	20 (32) 24	25 (40) 30	30 (48) 36	35 (56) 42	40 (64) 48	45 (72) 54
Tire rotation	NOTE (3)									
Propeller shaft & drive shaft boots (AWD models)★			I		I		I		I	
Exhaust system★					I				I	
In-cabin microfilter				R			R			R
I-key battery				R			R			R

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	50 (80) 60	55 (88) 66	60 (96) 72	65 (104) 78	70 (112) 84	75 (120) 90	80 (128) 96	85 (136) 102	90 (144) 108
Brake lines & cables		I		I		I		I		I
Brake pads & rotors★		I		I		I		I		I
Brake fluid★				R				R		
Automatic transmission fluid	NOTE (1)	I		I		I		I		I
Manual transmission gear oil, transfer fluid & differential gear oil	NOTE (2)	I		I		I		I		I
Steering gear & linkage, axle & suspension parts★				I				I		
Tire rotation	NOTE (3)									
Propeller shaft & drive shaft boots (AWD models)★		I		I		I		I		I
Exhaust system★				I				I		
In-cabin microfilter				R			R			R
I-key battery				R			R			R

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Brake lines & cables			I		I		I	<a href="#">MA-56</a>
Brake pads & rotors★			I		I		I	<a href="#">MA-56</a> <a href="#">MA-56</a> <a href="#">MA-57</a> <a href="#">MA-58</a>
Brake fluid★			R				R	<a href="#">MA-55</a>
Automatic transmission fluid	NOTE (1)		I		I		I	<a href="#">MA-44</a>
Manual transmission gear oil, transfer fluid & differential gear oil	NOTE (2)		I		I		I	<a href="#">MA-47</a> <a href="#">MA-47</a> <a href="#">MA-49</a>
Steering gear & linkage, axle & suspension parts★			I				I	<a href="#">MA-59</a> <a href="#">MA-61</a>
Tire rotation	NOTE (3)							<a href="#">MA-55</a>
Propeller shaft & drive shaft boots (AWD models)★			I		I		I	<a href="#">MA-49</a>
Exhaust system★			I				I	<a href="#">MA-44</a>

## PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
In-cabin microfilter				R			R	<a href="#">MA-43</a>
I-key battery				R			R	<a href="#">MA-43</a>

### NOTE:

- **Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.**
- (1) If towing a trailer, using 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. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J 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) If towing a trailer, using a camper or car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 20,000 miles (32,000 km) or 24 months.
- (3) Refer to “Tire rotation” under the “GENERAL MAINTENANCE” heading earlier in this section.

### MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

#### Severe driving conditions

- Repeated short trips of less than 5 miles (8 km).
- Repeated short trips of less than 10 miles (16 km) with outside temperatures remaining below freezing.
- Operating in hot weather in stop-and-go “rush hour” traffic.
- Extensive idling and/or low speed driving for long distances, such as police, taxi or door-to-door delivery use.
- Driving in dusty conditions.
- Driving on rough, muddy, or salt spread roads.
- Towing a trailer, using a camper or a car-top carrier.

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Maintenance item	Maintenance operation	Maintenance interval	Reference page
Brake fluid	Replace	Every 10,000 miles (16,000 km) or 12 months	<a href="#">MA-55</a>
Brake pads & rotors	Inspect	Every 5,000 miles (8,000 km) or 6 months	<a href="#">MA-56</a> <a href="#">MA-56</a> <a href="#">MA-57</a> <a href="#">MA-58</a>
Steering gear & linkage, axle & suspension parts	Inspect	Every 5,000 miles (8,000 km) or 6 months	<a href="#">MA-59</a> <a href="#">MA-61</a>
Propeller shaft & drive shaft boots (AWD models)	Inspect	Every 5,000 miles (8,000 km) or 6 months	<a href="#">MA-49</a>
Exhaust system	Inspect	Every 5,000 miles (8,000 km) or 6 months	<a href="#">MA-44</a>

## FOR MEXICO

### FOR MEXICO : Periodic Maintenance

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The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

**Periodic maintenance beyond the last period shown on the tables requires similar maintenance.**

#### ENGINE AND EMISSION CONTROL MAINTENANCE

# PERIODIC MAINTENANCE

## < PERIODIC MAINTENANCE >

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, E = Check and correct the engine coolant mixture ratio

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Engine compartment and under vehicle										
Intake & exhaust valve clearance	NOTE (1)									<a href="#">EM-135</a>
Drive belts	NOTE (2)				I				I	<a href="#">MA-33</a>
Engine oil (Use recommended oil)★		R	R	R	R	R	R	R	R	<a href="#">MA-39</a>
Engine oil filter (Use Genuine NISSAN engine oil filter or equivalent) ★		R	R	R	R	R	R	R	R	<a href="#">MA-39</a>
Engine coolant	NOTE (3)				E				E	<a href="#">MA-34</a>
Cooling system					I				I	<a href="#">MA-33</a>
Fuel lines and EVAP vapor lines					I				I	<a href="#">MA-37</a>
Air cleaner filter (Viscous paper type)★					R				R	<a href="#">MA-38</a>
Fuel filter	NOTE (4)									—
Spark plugs (Iridium-tipped type)		Replace every 100,000 km (60,000 miles)								<a href="#">MA-41</a>

### NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belts if found damaged or if the auto belt tensioner reading reaches the maximum limit.
- (3) Use Genuine NISSAN Engine Coolant (blue) or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. Check and correct the engine coolant mixture ratio every 40,000 km (24,000 miles) or 24 months. First replacement interval is 160,000 km (96,000 miles) or 96 months. After first replacement, replace every 80,000 km (48,000 miles) or 48 months.
- (4) Fuel filter is maintenance-free. For service procedures, refer to FL section.

## CHASSIS AND BODY MAINTENANCE

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)	
	Months	6	12	18	24	30	36	42	48	
Underhood and under vehicle										
Brake line & cable			I		I		I		I	<a href="#">MA-56</a>
Brake fluid (For level & leaks)			I		I		I		I	<a href="#">MA-55</a>
Brake fluid ★					R				R	<a href="#">MA-55</a>
Automatic transmission fluid (For level & leaks)			I		I		I		I	<a href="#">MA-44</a>
Power steering fluid & lines (For level & leaks)			I		I		I		I	<a href="#">MA-59</a>
Exhaust system					I				I	<a href="#">MA-44</a>
Transfer gear fluid (For level &leaks)			I		I		I		I	<a href="#">MA-48</a>
Differential gear oil (For level & leaks) ★			I		I		I		I	<a href="#">MA-51,</a> <a href="#">MA-52</a>
Steering gear & linkage, axle & suspen- sion parts ★					I				I	<a href="#">MA-59</a> <a href="#">MA-49</a>
Propeller shaft and drive shafts ★			I		I		I		I	—

### Outside and inside

# PERIODIC MAINTENANCE

## < PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	<a href="#">MA-55</a> <a href="#">MA-53,</a>
Brake pads, rotors, drums & linings ★			I		I		I		I	<a href="#">MA-56</a> <a href="#">MA-56</a> <a href="#">MA-57</a> <a href="#">MA-58</a>
Foot brake & parking brake (For free play, stroke & operation)			I		I		I		I	<a href="#">PB-4,</a>
Air conditioner filter ★			R		R		R		R	<a href="#">MA-43</a>

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

## MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

### Severe driving conditions

A — Driving under dusty conditions

B — Driving repeatedly short distances

C — Towing a trailer or caravan

D — Extensive idling

E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high

F — Driving in high humidity or mountainous areas

G — Driving in areas using salt or other corrosive materials

H — Driving on rough and/or muddy roads or in the desert

I — Driving with frequent use of braking or in mountainous areas

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Driving condition								Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	Air cleaner filter	Viscous paper filter	Replace	More frequently	<a href="#">MA-38</a> <a href="#">MA-43</a>
A	B	C	D	.	.	.	.	Engine oil and engine oil filter		Replace	Every 5,000 km (3,000 miles) or 3 months	<a href="#">MA-39</a> <a href="#">MA-39</a>
.	.	.	.	.	F	.	.	Brake fluid		Replace	Every 20,000 km (12,000 miles) or 12 months	<a href="#">MA-55</a>
.	.	C	.	.	.	.	H	Automatic transmission fluid		Replace	Every 40,000 km (24,000 miles) or 24 months	<a href="#">MA-46</a>
.	.	C	.	.	.	.	H	Differential gear oil		Replace	Every 40,000 km (24,000 miles) or 24 months	<a href="#">MA-51</a> <a href="#">MA-52</a>
.	.	.	.	.	.	G	H	Steering gear & linkage, axle & suspension parts		Inspect	Every 20,000 km (12,000 miles) or 12 months	<a href="#">MA-59,</a> <a href="#">MA-60</a>
.	.	.	.	.	.	G	H	Propeller shaft & drive shafts		Inspect	Every 10,000 km (6,000 miles) or 6 months	<a href="#">MA-60</a>
A	.	C	.	.	.	G	H	Brake pads, rotors, drums & linings		Inspect	Every 10,000 km (6,000 miles) or 6 months	<a href="#">MA-56</a> <a href="#">MA-56</a> <a href="#">MA-57</a> <a href="#">MA-58</a>
A	.	.	.	.	.	.	.	Air conditioner filter		Replace	More frequently	<a href="#">MA-43</a>

## MAINTENANCE FOR OFF-ROAD DRIVING (4WD ONLY)



PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

Whenever you drive off-road through sand, mud or water, more frequent maintenance may be required of the following items.

- Brake pads and rotors
- Brake lines and hoses
- Differential gear oil, transfer fluid and automatic transmission fluid
- Steering linkage
- Propeller shafts and front drive shafts
- Air cleaner filter

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

MA

# RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

## RECOMMENDED FLUIDS AND LUBRICANTS FOR USA AND CANADA

FOR USA AND CANADA : Fluids and Lubricants

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### QR25DE

The following are approximate capacities. The actual capacities may be slightly different.  
When refilling, follow the procedures described elsewhere in this manual.

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		80 ℓ	21-1/8 gal	17-5/8 gal	<ul style="list-style-type: none"> <li>Unleaded gasoline with an octane rating of at least 87 AKI (RON 91)</li> <li>For further details. Refer to <a href="#">GI-31, "Fuel (Regular Unleaded Gasoline Recommended) QR25DE and VQ40DE"</a>.</li> </ul>
Engine oil Drain and refill	With oil filter change	4.6 ℓ	4-7/8 qt	4 qt	<ul style="list-style-type: none"> <li>Genuine NISSAN engine oil or equivalent</li> <li>Engine oil with API Certification Mark *1, Viscosity SAE 5W-30 *2</li> </ul> <p>*1: For further details. Refer to <a href="#">MA-20, "FOR USA AND CANADA : SAE Viscosity Number"</a>.</p> <p>*2: As an alternative to this recommended oil, SAE 5W-30 or SAE 10W-30 conventional petroleum based oils may be used and meet all specifications and requirements necessary to maintain the New Vehicle Limited Warranty.</p>
	Without oil filter change	4.3 ℓ	4-1/2 qt	3-3/4 qt	
Dry engine (engine overhaul)		5.0 ℓ	5-1/4 qt	4-3/8 qt	
Engine coolant	With reservoir at MAX level	9.4 ℓ	10 qt	8-1/4 qt	<ul style="list-style-type: none"> <li>Pre-diluted Genuine NISSAN Long Life Antifreeze/ Coolant (blue) or equivalent</li> </ul>
Automatic transmission fluid (ATF)		10.3 ℓ	10-7/8 qt	9-1/8 qt	<ul style="list-style-type: none"> <li>Genuine NISSAN Matic S ATF</li> <li>If Genuine NISSAN Matic S ATF is not available, Genuine NISSAN Matic J ATF may also be used. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J 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.</li> </ul>
Manual transmission fluid (MTF) (5 M/T)		2.9 ℓ	6-1/8 pt	5-1/8 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi 75W-85 or equivalent</li> <li>If Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi is not available, API GL-4, Viscosity SEA 75W-85 may be used as a temporary replacement. However, use Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi as soon as it is available.</li> </ul>
Rear final drive oil	C200	1.6 ℓ	3-3/8 pt	2-7/8 pt	<ul style="list-style-type: none"> <li>API GL-5 synthetic gear oil, Viscosity SAE 75W-90</li> </ul>
Power steering fluid (PSF)		1.0 ℓ	2-1/8 pt	1-3/4 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN PSF or equivalent</li> <li>DEXRON™ VI type ATF may also be used.</li> </ul>

# RECOMMENDED FLUIDS AND LUBRICANTS

## < PERIODIC MAINTENANCE >

Description	Capacity (Approximate)			Recommended Fluids/Lubricants
	Metric	US measure	Imp measure	
Brake and clutch fluids	—	—	—	<ul style="list-style-type: none"> <li>Genuine NISSAN Super Heavy Duty Brake Fluid *3 or equivalent, DOT 3 (US FMVSS No. 116)</li> <li>*3 :Available in mainland U.S.A. through a NISSAN dealer.</li> </ul>
Multi-purpose grease	—	—	—	<ul style="list-style-type: none"> <li>NLGI No. 2 (Lithium soap base)</li> </ul>
Windshield washer fluid	4.5 ℓ	1-1/4 gal	1 gal	<ul style="list-style-type: none"> <li>Genuine NISSAN Windshield Washer Concentrate Cleaner &amp; Anti-freeze or equivalent</li> </ul>
Air conditioning system refrigerant	0.70 ± 0.05 kg	1.54 ± 0.11 lb	1.54 ± 0.11 lb	<ul style="list-style-type: none"> <li>HFC-134a (R-134a)</li> <li>- For further details, see "Air conditioner specification label".</li> </ul>
Air conditioning system oil	180 ± 10 m ℓ	6.1 ± 0.3 fl oz	6.3 ± 0.4 fl oz	<ul style="list-style-type: none"> <li>A/C System Oil Type R (DH-PR)</li> <li>- For further details, see "Air conditioner specification label".</li> </ul>

### VQ40DE

The following are approximate capacities. The actual capacities may be slightly different. When refilling, follow the procedures described elsewhere in this manual.

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		80 ℓ	21-1/8 gal	17-5/8 gal	<ul style="list-style-type: none"> <li>Unleaded gasoline with an octane rating of at least 87 AKI (RON 91)</li> <li>- For further details. Refer to <a href="#">GI-31, "Fuel (Regular Unleaded Gasoline Recommended) QR25DE and VQ40DE"</a>.</li> </ul>
Engine oil Drain and refill	With oil filter change	5.1 ℓ	5-3/8 qt	4-1/2 qt	<ul style="list-style-type: none"> <li>Genuine NISSAN engine oil or equivalent *1</li> <li>Engine oil with API Certification Mark *2, Viscosity SAE 5W-30</li> <li>*1: NISSAN recommends Genuine NISSAN Ester Oil available at a NISSAN dealer.</li> <li>*2: For further details. Refer to <a href="#">MA-20, "FOR USA AND CANADA : SAE Viscosity Number"</a>.</li> </ul>
	Without oil filter change	4.8 ℓ	5-1/8 qt	4-1/4 qt	
Dry engine (engine overhaul)		6.3 ℓ	6 5/8 qt	5-1/2 qt	
Engine coolant	With reservoir at MAX level	10.2 ℓ	10-3/4 qt	9 qt	<ul style="list-style-type: none"> <li>Pre-diluted Genuine NISSAN Long Life Antifreeze/ Coolant (blue) or equivalent</li> </ul>
Automatic transmission fluid (ATF)		10.3 ℓ	10-7/8 qt	9-1/8 qt	<ul style="list-style-type: none"> <li>Genuine NISSAN Matic S ATF</li> <li>- If Genuine NISSAN Matic S ATF is not available, Genuine NISSAN Matic J ATF may also be used. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J 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.</li> </ul>

# RECOMMENDED FLUIDS AND LUBRICANTS

## < PERIODIC MAINTENANCE >

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Manual transmission fluid (MTF) (6 M/T)	2WD	4.0 ℓ	8-3/8 pt	7 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi 75W-85 or equivalent</li> <li>If Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi is not available, API GL-4, Viscosity SEA 75W-85 may be used as a temporary replacement. However, use Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi as soon as it is available.</li> </ul>
	4WD	4.2 ℓ	8-7/8 pt	7-3/8 pt	
Front final drive oil		0.85 ℓ	1-3/4 pt	1-1/2 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or equivalent conventional (non-synthetic) oil</li> </ul>
Rear final drive oil	C200	1.6 ℓ	3-3/8 pt	2-7/8 pt	<ul style="list-style-type: none"> <li>API GL-5 synthetic gear oil, Viscosity SAE 75W-90</li> </ul>
	M226	2.01 ℓ	4-1/4 pt	3-1/2 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN differential oil synthetic 75W-140 or API GL-5 synthetic gear oil, Viscosity SAE 75W-140</li> </ul>
Transfer fluid	TX15B	2.0 ℓ	2-1/8 qt	1-3/4 qt	<ul style="list-style-type: none"> <li>Genuine NISSAN Matic D ATF recommended.</li> <li>Using fluid other than Genuine NISSAN Matic D ATF will cause deterioration in driveability and transfer durability, and may damage the transfer, which is not covered by the NISSAN new vehicle limited warranty.</li> </ul>
Power steering fluid (PSF)		1.0 ℓ	2-1/8 pt	1-3/4 pt	<ul style="list-style-type: none"> <li>Genuine NISSAN PSF or equivalent</li> <li>DEXRON™ VI type ATF may also be used.</li> </ul>
Brake and clutch fluid		—	—	—	<ul style="list-style-type: none"> <li>Genuine NISSAN Super Heavy Duty Brake Fluid *3 or equivalent, DOT 3 (US FMVSS No. 116)</li> </ul> <p>*3: Available in mainland U.S.A. through a NISSAN dealer.</p>
Multi-purpose grease		—	—	—	<ul style="list-style-type: none"> <li>NLGI No. 2 (Lithium soap base)</li> </ul>
Windshield washer fluid		4.5 ℓ	1-1/4 gal	1 gal	<ul style="list-style-type: none"> <li>Genuine NISSAN Windshield Washer Concentrate Cleaner &amp; Anti-freeze or equivalent</li> </ul>
A/C system refrigerant		0.70 ± 0.05 kg	1.54 ± 0.11 lb	1.54 ± 0.11 lb	<ul style="list-style-type: none"> <li>HFC-134a (R134a)</li> <li>For further details, see "Air conditioner Specification Label".</li> </ul>
A/C system oil		180 ± 10 m ℓ	6.1 ± 0.3 fl oz	6.3 ± 0.4 fl oz	<ul style="list-style-type: none"> <li>A/C System Oil Type R (DH-PR)</li> <li>For further details, see "Air conditioner Specification Label".</li> </ul>

## FOR USA AND CANADA : SAE Viscosity Number

INFOID:0000000012562881

NISSAN recommends the use of an energy conserving oil in order to improve fuel economy. Select only engine oils that meet the American Petroleum Institute (API) certification and International Lubricant Standardization and Approval Committee (ILSAC) certification and SAE viscosity standard (2). These oils have the API certification mark (1) on the front of the container. Oils which do not have the specified quality label should not be used as they could cause engine damage.

# RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >



1. API certification mark

2. API service symbol

## FOR USA AND CANADA : Anti-Freeze Coolant Mixture Ratio

INFOID:0000000012562882

The engine cooling system is filled at the factory with a pre-diluted mixture of 50% Genuine NISSAN Long Life Antifreeze/Coolant (blue) and 50% water to provide year-round anti-freeze and coolant protection. The anti-freeze solution contains rust and corrosion inhibitors. Additional engine cooling system additives are not necessary.

### **WARNING:**

- Do not remove the radiator or coolant reservoir cap when the engine is hot. Wait until the engine and radiator cool down. Serious burns could be caused by high pressure fluid escaping from the radiator.
- The radiator is equipped with a pressure type radiator cap. To prevent engine damage, use only a genuine NISSAN radiator cap.

### **CAUTION:**

- When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent. Genuine NISSAN Long Life Antifreeze/Coolant (blue) is pre-diluted to provide antifreeze protection to -34°F (-37°C). If additional freeze protection is needed due to weather where the vehicle is operated, add Genuine NISSAN long life Antifreeze/Coolant (blue) concentrate following the directions on the container. If an equivalent coolant other than Genuine NISSAN Long Life Antifreeze/Coolant (blue) is used, follow the coolant manufacturer's instructions to maintain minimum antifreeze protection to -34°F (-37°C). The use of other types of coolant solutions other than Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent may damage the engine cooling system.
- Mixing any other type of coolant other than Genuine NISSAN Long Life Antifreeze/Coolant (blue), including Genuine NISSAN Long Life Antifreeze/Coolant (green), or the use of non-distilled water will reduce the life expectancy of the factory filled coolant.

## FOR MEXICO

## FOR MEXICO : Fluids and Lubricants

INFOID:0000000012562883

### VQ40DE

The following are approximate capacities. The actual capacities may be slightly different. When refilling, follow the procedures described elsewhere in this manual.

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		80 ℓ	21-1/8 gal	17-5/8 gal	<ul style="list-style-type: none"> <li>• Unleaded gasoline with an octane rating of at least 87 AKI (RON 91)</li> </ul>
Engine oil Drain and refill	With oil filter change	5.1 ℓ	5-3/8 qt	4-1/2 qt	<ul style="list-style-type: none"> <li>• Genuine NISSAN engine oil</li> <li>• API grade SL, SM or SN</li> <li>• ILSAC grade GF-3, GF-4 or GF-5</li> <li>- For further details. See <a href="#">MA-22</a>, <a href="#">"FOR MEXICO : SAE Viscosity Number"</a>.</li> </ul>
	Without oil filter change	4.8 ℓ	5-1/8 qt	4-1/4 qt	
Dry engine (engine overhaul)		6.3 ℓ	6-5/8 qt	5-1/2 qt	

# RECOMMENDED FLUIDS AND LUBRICANTS

## < PERIODIC MAINTENANCE >

Description	Capacity (Approximate)			Recommended Fluids/Lubricants
	Metric	US measure	Imp measure	
Engine coolant (with reservoir at "MAX" level)	10.2 ℓ	10-3/4 qt	9 qt	<ul style="list-style-type: none"> <li>• Genuine NISSAN Engine Coolant (blue) or equivalent</li> <li>- Use Genuine NISSAN Engine Coolant or equivalent in quality, in order to avoid possible aluminium corrosion within the engine cooling system caused by the use of non-genuine engine coolant.</li> </ul>
Automatic transmission fluid (ATF)	10.3 ℓ	10-7/8 qt	9-1/8 qt	<ul style="list-style-type: none"> <li>• Genuine NISSAN Matic S ATF</li> <li>- If Genuine NISSAN Matic S ATF is not available, Genuine NISSAN Matic J ATF may also be used. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the warranty.</li> </ul>
Transfer fluid	2.0 ℓ	2-1/8 qt	1-3/4 qt	<ul style="list-style-type: none"> <li>• Genuine NISSAN Matic D ATF recommended</li> <li>- Using fluid other than Genuine NISSAN Matic D ATF will cause deterioration in driveability and transfer durability, and may damage the transfer, which is not covered by the warranty.</li> </ul>
Rear final drive oil	2.01 ℓ	4-1/4 pt	3-1/2 pt	<ul style="list-style-type: none"> <li>• Genuine NISSAN Differential Oil Hypoid Super-S GL-5 synthetic 75W-90 or equivalent</li> </ul>
Front final drive oil	0.85 ℓ	1-3/4 pt	1-1/2 pt	<ul style="list-style-type: none"> <li>• Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or equivalent conventional (non-synthetic) oil</li> </ul>
Power steering fluid (PSF)	1.0 ℓ	2-1/8 pt	1-3/4 pt	<ul style="list-style-type: none"> <li>• Genuine NISSAN PSF or equivalent</li> <li>- DEXRON™ VI type ATF may also be used.</li> </ul>
Brake fluid	—	—	—	<ul style="list-style-type: none"> <li>• Genuine NISSAN Brake Fluid or equivalent DOT 3 or DOT 4 (US FM-VSS No. 116)</li> <li>- Never mix different types of fluids (DOT 3 and DOT 4)</li> </ul>
Multi-purpose grease	—	—	—	<ul style="list-style-type: none"> <li>• NLGI No. 2 (Lithium soap base)</li> </ul>
Windshield washer fluid	4.5 ℓ	1 1/4 gal	1 gal	<ul style="list-style-type: none"> <li>• Windshield Washer Concentrate Cleaner &amp; Anti-freeze or equivalent</li> </ul>
A/C system refrigerant	0.70 ± 0.05 kg	1.54 ± 0.11 lb	1.54 ± 0.11 lb	<ul style="list-style-type: none"> <li>• HFC-134a (R134a)</li> <li>- For further details, see "Air conditioner specification label".</li> </ul>
A/C system oil	180 ± 10 m ℓ	6.1 ± 0.3 fl oz	6.3 ± 0.4 fl oz	<ul style="list-style-type: none"> <li>• A/C System Oil Type R (DH-PR)</li> <li>- For further details, see "Air conditioner specification label".</li> </ul>

## FOR MEXICO : SAE Viscosity Number

INFOID:0000000012562884

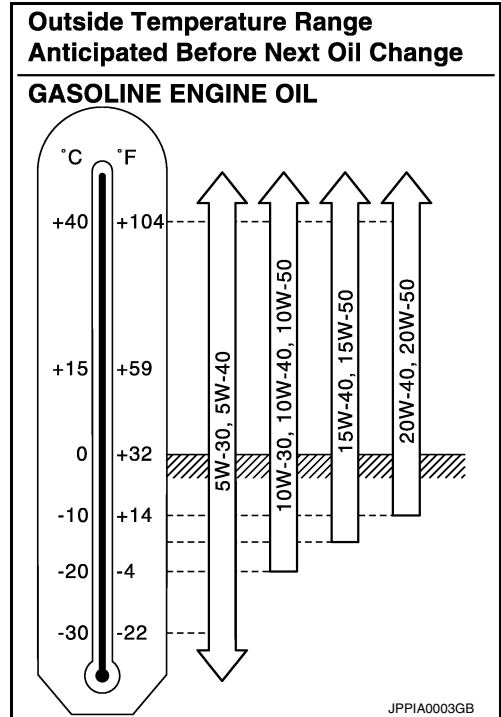
### GASOLINE ENGINE

- 10W-30 is preferable.
- 5W-30 is also preferable and will improve fuel economy.

## RECOMMENDED FLUIDS AND LUBRICANTS

### < PERIODIC MAINTENANCE >

If 10W-30 or 5W-30 is not available, select the viscosity, from the chart, that is suitable for the outside temperature range.



### FOR MEXICO : Engine Coolant Mixture Ratio

INFOID:000000012562885

The engine cooling system is filled at the factory with a high-quality, year-round and extended life engine coolant. The high quality engine coolant contains the specific solutions effective for the anti-corrosion and the anti-freeze function. Therefore, additional cooling system additives are not necessary.

#### **WARNING:**

**Do not remove the radiator cap when the engine is hot. Serious burns could be caused by high pressure fluid escaping from the radiator. Wait until the engine and radiator cool down.**

#### Coolant Mixture Ratio

Outside temperature down to		Composition	
°C	°F	Engine coolant (concentrated)	Demineralized water or distilled water
-15	5	30%	70%
-35	-30	50%	50%

#### **CAUTION:**

- When adding or replacing coolant, be sure to use only Genuine NISSAN Engine Coolant, or equivalent in quality with the proper mixture ratio.
- The use of other types of engine coolant may damage the engine cooling system.

When checking the engine coolant mixture ratio by the coolant hydrometer, use the chart below to correct your hydrometer reading (specific gravity) according to coolant temperature.

Mixed coolant specific gravity

Unit: specific gravity

Engine coolant mixture ratio	Coolant temperature °C (°F)			
	15 (59)	25 (77)	35 (95)	45 (113)
30%	1.046 - 1.050	1.042 - 1.046	1.038 - 1.042	1.033 - 1.038
50%	1.076 - 1.080	1.070 - 1.076	1.065 - 1.071	1.059 - 1.065

## ENGINE MAINTENANCE (QR25DE ENGINE)

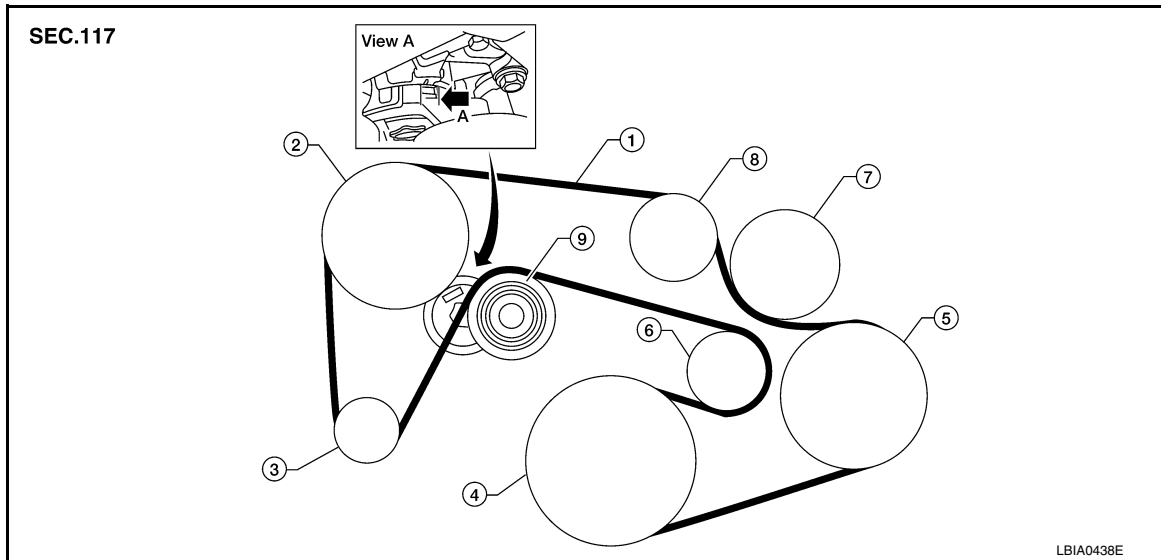
< PERIODIC MAINTENANCE >

### ENGINE MAINTENANCE (QR25DE ENGINE)

#### DRIVE BELTS

##### DRIVE BELTS : Exploded View

INFOID:0000000012562886



##### DRIVE BELTS : Checking Drive Belts

INFOID:0000000012562887

#### **WARNING:**

**Be sure to perform when the engine is stopped.**

1. Remove air duct and resonator assembly when inspecting drive belt. Refer to [EM-25. "Removal and Installation"](#).
2. Make sure that the auto-tensioner indicator is within the allowable working range.
3. Visually check entire belt for wear, damage or cracks.
4. If the indicator is out of allowable working range or drive belt is damaged, replace the drive belt. Refer to [EM-14. "Removal and Installation"](#).

##### DRIVE BELTS : Tension Adjustment

INFOID:0000000012562888

There is no manual drive belt tension adjustment. The drive belt tension is automatically adjusted by the drive belt auto-tensioner.

#### ENGINE COOLANT

##### ENGINE COOLANT : System Inspection

INFOID:0000000012562889

#### **WARNING:**

- Do not remove the radiator cap or reservoir tank cap when the engine is hot. Serious burns could occur from high pressure fluid escaping from the radiator or reservoir.
- Wrap a thick cloth around the cap. Slowly push down and turn it a quarter turn to allow built-up pressure to escape. Carefully remove the cap by pushing down and turning it all the way.

##### CHECKING COOLING SYSTEM HOSES

Check hoses for the following:

- Improper attachment
- Leaks



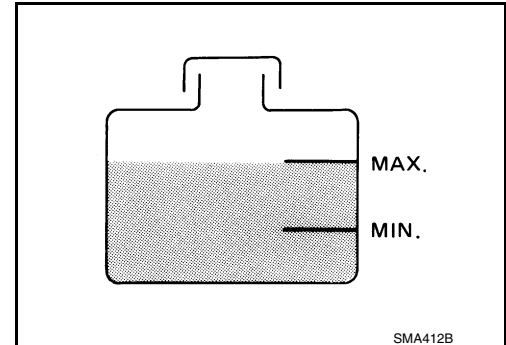
# ENGINE MAINTENANCE (QR25DE ENGINE)

## < PERIODIC MAINTENANCE >

- Cracks
- Damage
- Loose connections
- Chafing
- Deterioration

### CHECKING RESERVOIR LEVEL

- Check if the engine coolant reservoir tank level is within MIN to MAX when the engine is cool.
- Adjust engine coolant level as necessary.



### ENGINE COOLANT : Changing Engine Coolant

INFOID:0000000012562890

#### **WARNING:**

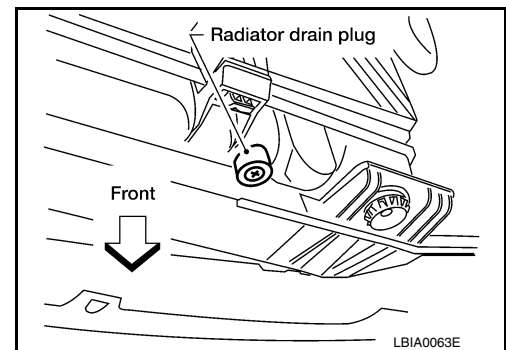
- To avoid being scalded, do not change the coolant when the engine is hot.
- Wrap a thick cloth around the cap to carefully remove the cap. First, turn the cap a quarter of a turn to release any built-up pressure, then push down and turn the cap all the way to remove it.
- Avoid direct skin contact with used coolant. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.
- Keep coolant out of the reach of children and pets.

### DRAINING ENGINE COOLANT

1. Turn ignition switch ON and set temperature control lever all the way to HOT position or the highest temperature position. Wait 10 seconds and turn ignition switch OFF.
2. Open the radiator drain plug at the bottom of the radiator, and remove the reservoir cap. This is the only step required when partially draining the cooling system (radiator only).

#### **CAUTION:**

- Do not allow the coolant to contact the drive belts.
- Perform this step when engine is cold.



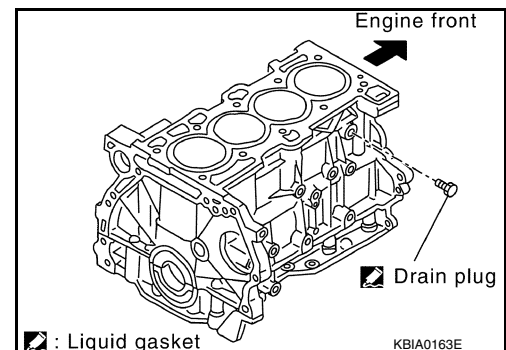
3. Follow this step for heater core removal/replacement only. Disconnect the upper heater hose at the engine side and apply moderate air pressure [103.46 kPa (15 psi, 1.055 kg/cm<sup>2</sup>) maximum air pressure] into the hose for 30 seconds to blow the excess coolant out of the heater core.
4. When draining all of the coolant in the system for engine removal or repair, it is necessary to drain the cylinder block. Remove the cylinder block drain plug to drain the cylinder block as shown.

#### **CAUTION:**

**Do not reuse copper sealing washers.**

#### **NOTE:**

For Canada, the cylinder block drain plug as shown, is not a cylinder block drain plug but a block heater.



5. Remove the reservoir tank to drain the engine coolant, then clean the reservoir tank before installing it.

## ENGINE MAINTENANCE (QR25DE ENGINE)

### < PERIODIC MAINTENANCE >

6. Check the drained coolant for contaminants such as rust, corrosion or discoloration.  
If the coolant is contaminated, flush the engine cooling system. Follow the "Flushing Cooling System" procedure.

### REFILLING ENGINE COOLANT

1. Close the radiator drain plug. Install the reservoir tank and cylinder block drain plug and block heater (if equipped).

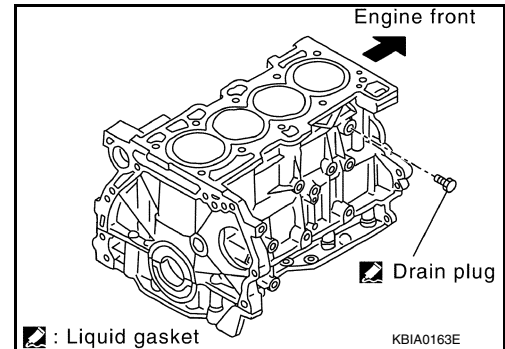
#### **CAUTION:**

**Do not reuse copper sealing washers.**

#### **NOTE:**

For Canada, the cylinder block drain plug as shown, is not a cylinder block drain plug but a 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-21, "Recommended Chemical Products and Sealants"](#).**
- Tighten each plug to the specified torque.



**Radiator drain plug** : Refer to [CO-16, "Exploded View"](#).

**Cylinder block drain plug** : Refer to [EM-81, "Exploded View"](#).

2. 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.
3. Remove the vented reservoir cap and replace it with a non-vented reservoir cap before filling the cooling system.
4. 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 \(J-45695\)](#)

5. 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 recommended coolant or equivalent. Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada).

**Engine coolant capacity (with reservoir)** : Refer to [CO-30, "Standard and Limit"](#).

#### **CAUTION:**

**Do not use any cooling system additives such as radiator sealer. Additives may clog the cooling system and cause damage to the engine, transmission and/or cooling system.**

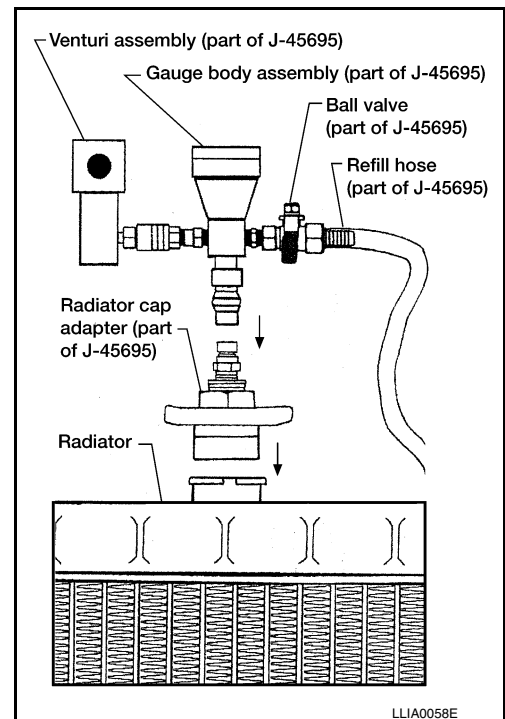
6. Install an air hose to the venturi assembly, the air pressure must be within specification.

**Compressed air supply pressure** : [549 - 824 kPa \(5.6 - 8.4 kg/cm<sup>2</sup>, 80 - 119 psi\)](#)

#### **CAUTION:**

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

7. 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.

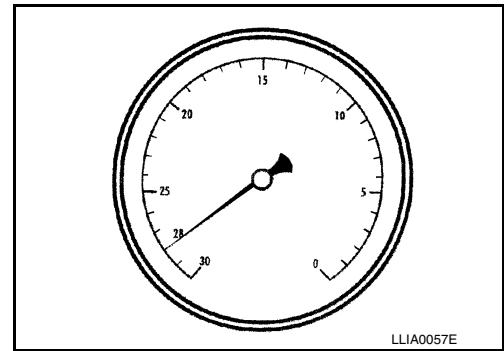


## ENGINE MAINTENANCE (QR25DE ENGINE)

### < PERIODIC MAINTENANCE >

8. Continue to draw the vacuum until the gauge reaches 28 inches of vacuum. The gauge may not reach 28 inches in high altitude locations, use the vacuum specifications below 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



9. 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.
10. 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.**

11. Remove the Tool from the radiator neck opening and install the radiator cap.
12. Remove the non-vented reservoir cap.
13. Fill the cooling system reservoir tank to the specified level. Run the engine to warm up the cooling system and top up the system as necessary before installing the vented reservoir cap.

### FLUSHING COOLING SYSTEM

1. Drain the engine coolant from the engine cooling system. Refer to [CO-12, "Changing Engine Coolant"](#).
2. Fill the radiator and the reservoir tank (to the "MAX" line) with water. Reinstall the radiator cap and leave the vented reservoir cap off.
3. Run the engine until it reaches normal operating temperature.
4. Press the engine accelerator two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain the water from the engine cooling system. Refer to [CO-12, "Changing Engine Coolant"](#).
7. Repeat steps 2 through 6 until clear water begins to drain from the radiator.

### FUEL LINES

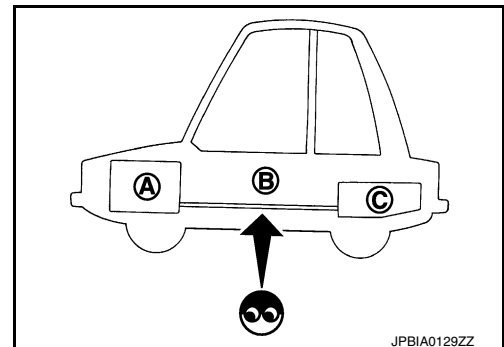
#### FUEL LINES : Checking Fuel Line

INFOID:0000000012562891

Inspect fuel lines, fuel filler cap, and fuel tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.

- (A) : Engine  
(B) : Fuel line  
(C) : Fuel tank

If necessary, repair or replace damaged parts.



### AIR CLEANER FILTER

#### AIR CLEANER FILTER : Removal and Installation

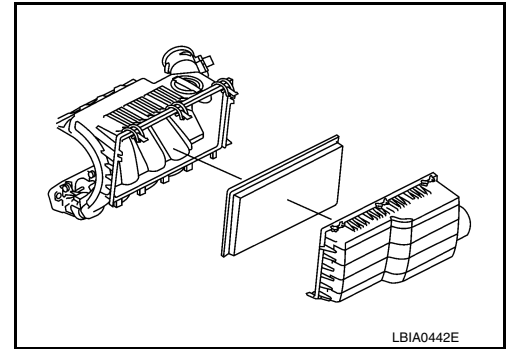
INFOID:0000000012562892

#### REMOVAL

# ENGINE MAINTENANCE (QR25DE ENGINE)

## < PERIODIC MAINTENANCE >

1. Unfasten clips and lift up air cleaner case (upper).
2. Remove air cleaner filter.



## INSTALLATION

Installation is in the reverse order of removal.

## ENGINE OIL

### ENGINE OIL : Inspection

INFOID:0000000012562893

#### OIL LEVEL

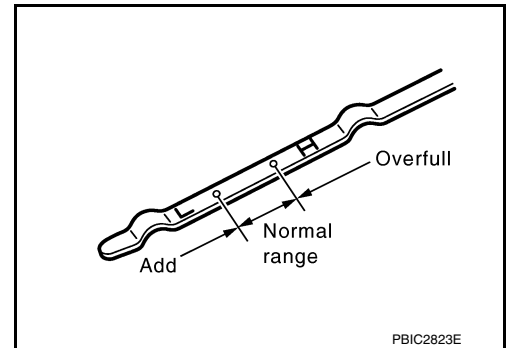
- Before starting the engine make sure the vehicle is parked on a flat and level surface, then check the oil level. If the engine is already running, turn it off and allow 10 minutes before checking.
- Pull out oil level gauge and wipe clean.
- Insert oil level gauge.
- Check that the oil level is within the low (L) and high (H) range as indicated on the dipstick.
- If the engine oil level is out of range, add oil as necessary. Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#).

#### CAUTION:

**Do not overfill the engine with oil.**

#### NOTE:

It is normal to add some oil between oil maintenance intervals or during the break-in period, depending on the severity of the operating conditions.



### ENGINE OIL : Changing Engine Oil

INFOID:0000000012562894

#### WARNING:

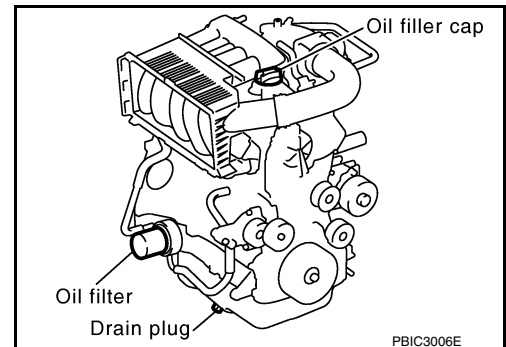
- **Be careful not to burn yourself, as the engine and engine oil may be hot.**
- **Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**

1. Warm up the engine and check for any oil leaks
2. Stop the engine and wait for at least 10 minutes.
3. Remove the oil drain plug and oil filler cap to drain the old oil.
4. Install a new washer on the oil drain plug, then install the oil drain plug in the oil pan.

#### CAUTION:

- **Clean the drain plug and install with new washer.**
- **Do not reuse copper sealing washers.**

**Oil pan drain plug:** : Refer to [EM-34, "Exploded View"](#).



5. Refill the engine with new specified engine oil.

# ENGINE MAINTENANCE (QR25DE ENGINE)

## < PERIODIC MAINTENANCE >

- Oil grade and viscosity** : Refer to [MA-20, "FOR USA AND CANADA : SAE Viscosity Number" \(United States and Canada\).](#)
- Oil capacity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants".](#)

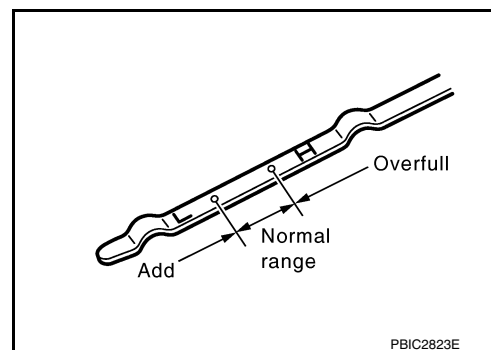
### CAUTION:

The refill capacity depends on the oil temperature and drain time. Use the "Refill oil capacity" values as a reference and check the oil level using the dipstick when filling the engine with oil.

6. Warm up the engine and check the area around the drain plug and oil filter for any oil leaks.
7. Stop the engine and wait for more than 10 minutes.
8. Check the oil level using the dipstick as shown. Add oil as necessary and install the oil filler cap. Refer to [LU-9, "Inspection".](#)

### CAUTION:

Do not overfill the engine with oil.



## OIL FILTER

### OIL FILTER : Removal and Installation

INFOID:000000012562895

#### REMOVAL

1. Drain the engine oil. Refer to [LU-10, "Changing Engine Oil".](#)
2. Remove the oil filter using Tool as shown.

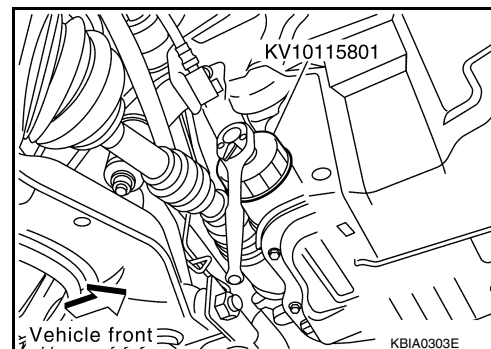
**Tool number** : KV10115801 (J-38956)

### WARNING:

Be careful not to burn yourself, as the engine and engine oil may be hot.

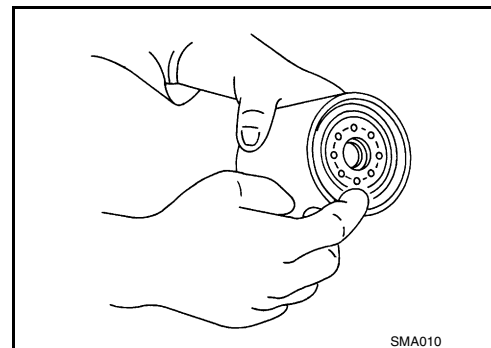
### CAUTION:

- Oil filter is equipped with a pressure relief valve.
- Use Genuine NISSAN Oil Filter or equivalent.
- When removing, position a shop cloth to absorb any engine oil leaks or spills.
- Do not allow engine oil to adhere to drive belts.
- Completely wipe off any engine oil that adheres to the engine and the vehicle.



#### INSTALLATION

1. Remove foreign materials adhering to the oil filter seal mating surface.
2. Apply clean engine oil to the oil filter seal circumference of the new oil filter as shown.

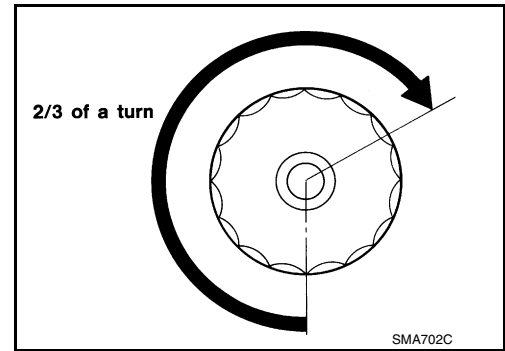


## ENGINE MAINTENANCE (QR25DE ENGINE)

### < PERIODIC MAINTENANCE >

3. Screw on the oil filter manually until it touches the installation surface, then tighten it by 2/3 turn as shown. Or tighten to specification.

**Oil filter : 17.7 N·m (1.8 kg-m, 13 ft-lb)**



4. Refill the engine with new engine oil. Refer to [LU-10, "Changing Engine Oil"](#).
5. Inspect the engine for oil leaks. Refer to [LU-9, "Inspection"](#).

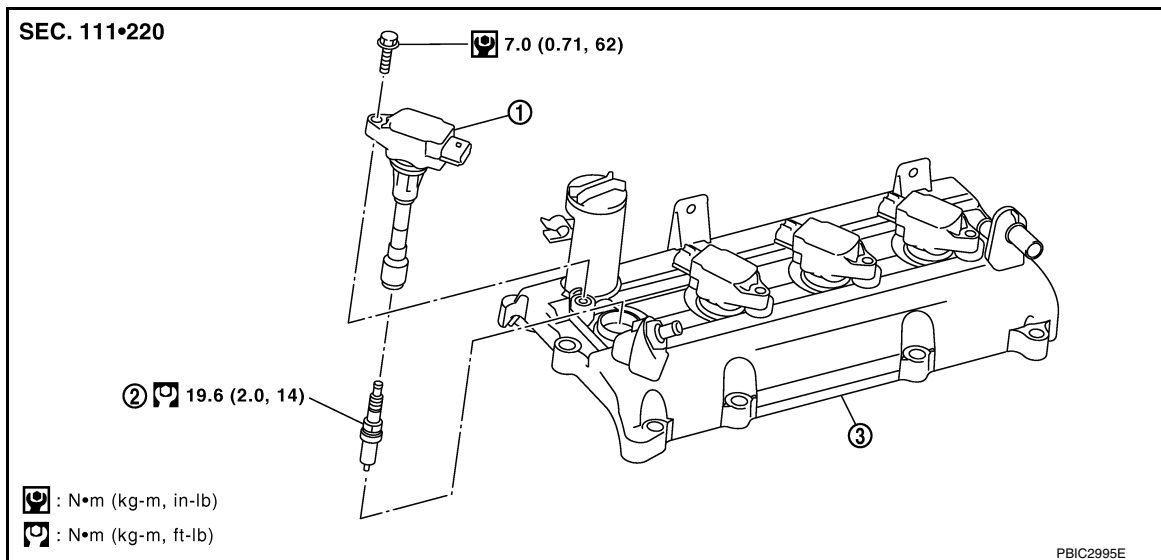
### INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [LU-9, "Inspection"](#).
2. Start the engine and check for engine oil leaks.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level and add engine oil as required.

## SPARK PLUG

### SPARK PLUG : Exploded View

INFOID:0000000012562896



1. Ignition coil

2. Spark plug

3. Rocker cover

### SPARK PLUG : Removal and Installation

INFOID:0000000012562897

#### **WARNING:**

Be sure the engine and ignition switch are off and that the parking brake is engaged securely.

#### **CAUTION:**

Be sure to use the correct socket to remove the spark plugs. An incorrect socket can damage the spark plugs.

#### REMOVAL

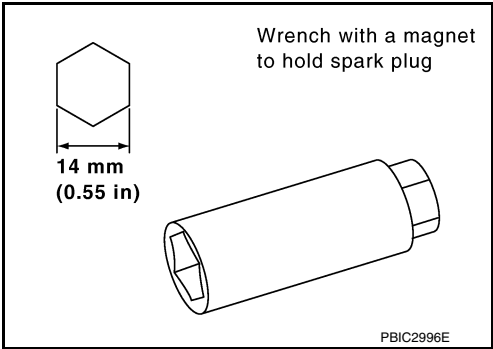
1. Remove the ignition coil. Refer to [EM-37, "Removal and Installation"](#).

# ENGINE MAINTENANCE (QR25DE ENGINE)

## < PERIODIC MAINTENANCE >

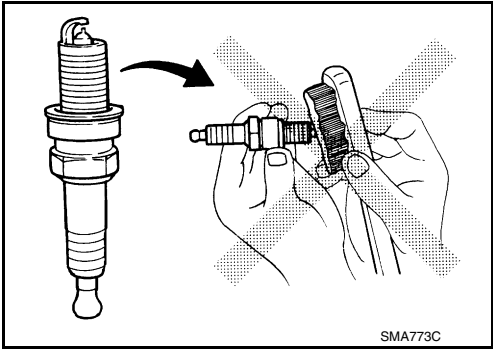
2. Remove the spark plug using a suitable tool.

**CAUTION:**  
Do not drop or shock it.



## INSPECTION AFTER REMOVAL

- Do not use a wire brush for cleaning.

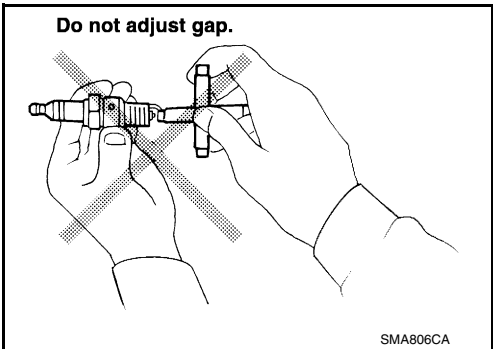


- If the spark plug tip is covered with carbon, spark plug cleaner may be used.

**Cleaner air pressure** : Less than 588 kPa (5.9 bar, 6 kg/cm<sup>2</sup>, 85 psi)

**Cleaning time** : Less than 20 seconds

- Checking and adjusting spark plug gap is not required between change intervals.



## INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:**  
Do not drop or shock the spark plug.

Make	NGK
Standard type *	PLZKAR6A-11
Gap (nominal)	1.1 mm (0.043 in)

\*: Always check with the Parts Department for the latest parts information.

## EVAP VAPOR LINES

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

MA

## ENGINE MAINTENANCE (QR25DE ENGINE)

< PERIODIC MAINTENANCE >

---

### EVAP VAPOR LINES : Checking EVAP Vapor Line

INFOID:0000000012562898

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.



## ENGINE MAINTENANCE (VQ40DE)

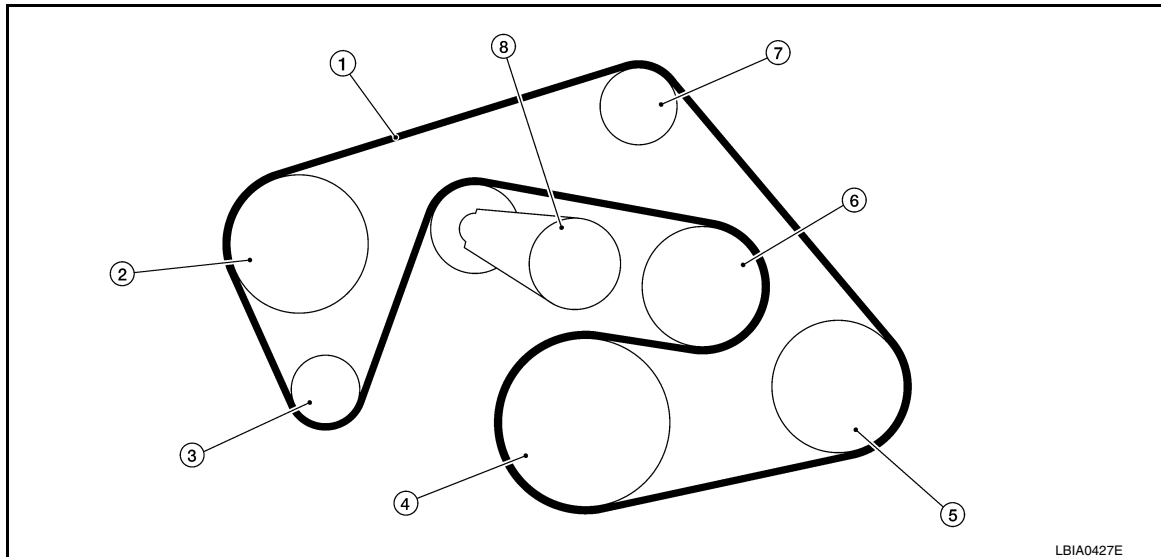
< PERIODIC MAINTENANCE >

### ENGINE MAINTENANCE (VQ40DE)

#### DRIVE BELT

##### DRIVE BELT : Exploded View

INFOID:0000000012562899



- |                      |                                   |                       |
|----------------------|-----------------------------------|-----------------------|
| 1. Drive belt        | 2. Power steering oil pump pulley | 3. Generator pulley   |
| 4. Crankshaft pulley | 5. A/C compressor                 | 6. Cooling fan pulley |
| 7. Idler pulley      | 8. Drive belt tensioner           |                       |

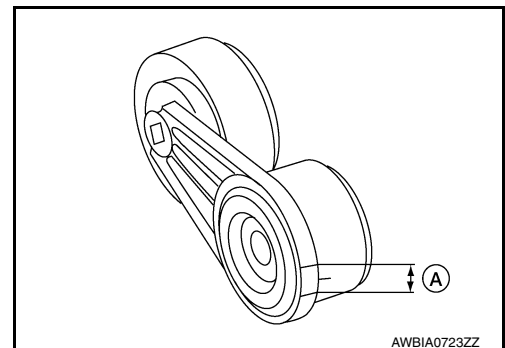
##### DRIVE BELT : Checking Drive Belts

INFOID:0000000012562900

#### **WARNING:**

**Be sure to perform when the engine is stopped.**

1. Remove air duct and resonator assembly when inspecting drive belt. Refer to [EM-142, "Removal and Installation"](#).
2. Make sure that the drive belt tensioner indicator is within the allowable working range (A) as shown.
3. Visually check entire belt for wear, damage or cracks.
4. If the indicator is out of allowable working range or drive belt is damaged, replace the drive belt. Refer to [EM-130, "Removal and Installation"](#).



##### DRIVE BELT : Adjustment

INFOID:0000000012562901

There is no manual drive belt tension adjustment. The drive belt tension is automatically adjusted by the drive belt auto-tensioner.

#### ENGINE COOLANT

##### ENGINE COOLANT : System Inspection

INFOID:0000000012562902

#### **WARNING:**

- Do not remove the radiator/reservoir cap when the engine is hot. Serious burns could occur from high pressure fluid escaping from the radiator or reservoir.
- Wrap a thick cloth around the cap. Slowly push down and turn it a quarter turn to allow built-up pressure to escape. Carefully remove the cap by pushing down and turning it all the way.

## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

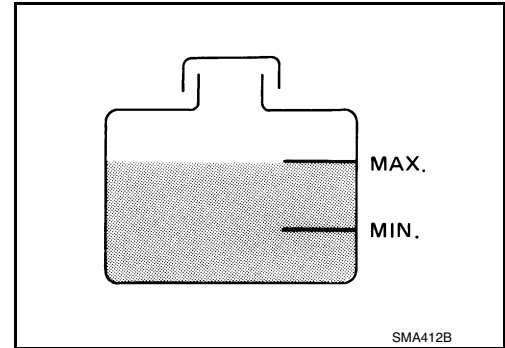
#### CHECKING COOLING SYSTEM HOSES

Check hoses for the following:

- Improper attachment
- Leaks
- Cracks
- Damage
- Loose connections
- Chafing
- Deterioration

#### CHECKING RESERVOIR LEVEL

- Check if the engine coolant reservoir tank level is within MIN to MAX when the engine is cool.
- Adjust engine coolant level as necessary.



#### ENGINE COOLANT : Changing Engine Coolant

INFOID:0000000012562903

#### **WARNING:**

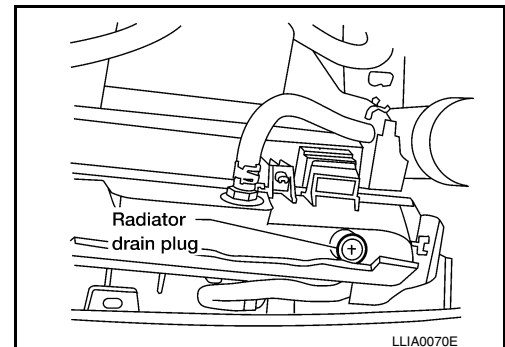
- To avoid being scalded, do not change the coolant when the engine is hot.
- Wrap a thick cloth around the cap to carefully remove the cap. First, turn the cap a quarter of a turn to release any built-up pressure, then push down and turn the cap all the way to remove it.
- Avoid direct skin contact with used coolant. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible. When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.
- Keep coolant out of the reach of children and pets.

#### DRAINING ENGINE COOLANT

1. Turn ignition switch ON and set temperature control lever all the way to HOT position or the highest temperature position. Wait 10 seconds and turn ignition switch OFF.
2. Remove the engine under cover (if equipped). Refer to [EXT-15, "Removal and Installation"](#).
3. Open the radiator drain plug at the bottom of the radiator, and remove the reservoir cap. This is the only step required when partially draining the cooling system (radiator only).

#### **CAUTION:**

- Do not allow the coolant to contact the drive belts.
- Perform this step when engine is cold.



## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

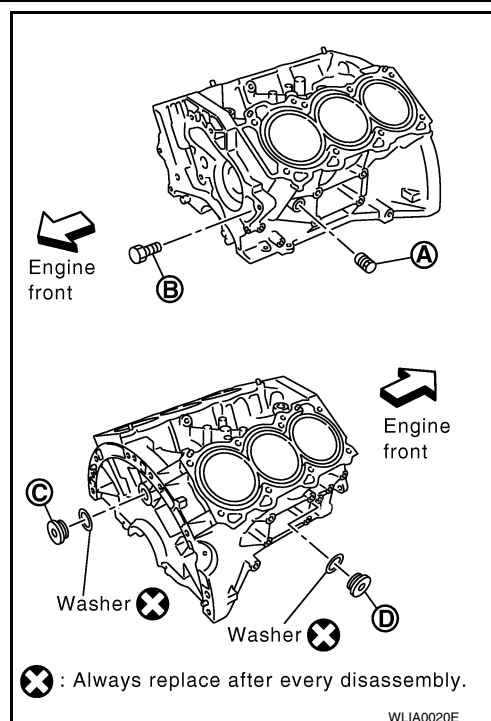
- When draining all of the coolant in the system for engine removal or repair, it is necessary to drain the cylinder block. Remove the cylinder block drain plugs (A), (B), (C), (D) and block heater (if equipped), to drain the cylinder block as shown.

**CAUTION:**

**Do not reuse copper sealing washers.**

**NOTE:**

For Canada, the (D) cylinder block drain plug as shown, is not a cylinder block drain plug but a block heater.



- Remove the reservoir tank to drain the engine coolant, then clean the reservoir tank before installing it.
- Check the drained coolant for contaminants such as rust, corrosion or discoloration. If the coolant is contaminated, flush the engine cooling system. Follow the "Flushing Cooling System" procedure.

### REFILLING ENGINE COOLANT

- Close the radiator drain plug. Install the reservoir tank, cylinder block drain plugs (A), (B), (C), (D) and block heater (if equipped), if removed for a total system drain or for engine removal or repair.

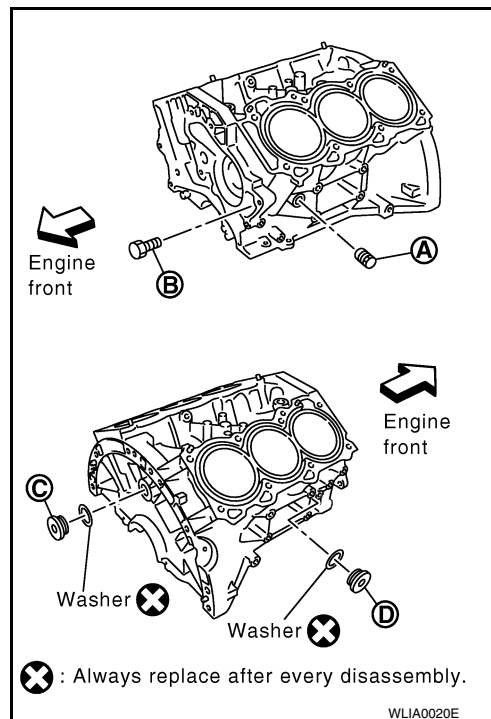
**CAUTION:**

**Do not reuse copper sealing washers.**

**NOTE:**

For Canada, the (D) cylinder block drain plug as shown, is not a cylinder block drain plug but a block heater.

- The radiator must be completely empty of coolant and water.
- Apply sealant to the threads of the cylinder block drain plugs (A), (B), (C), (D). Use Genuine High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).
- Tighten each plug to the specified torque. Refer to [EM-222, "Exploded View"](#).



- 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.
- Remove the vented reservoir cap and replace it with a non-vented reservoir cap before filling the cooling system.

## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

4. 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)

5. 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 recommended coolant or equivalent. Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada) or [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

**Cooling system capacity (with reservoir)** : Refer to [MA-18 \(United States and Canada\)](#), [MA-21 \(Mexico\)](#).

#### CAUTION:

**Do not use any cooling system additives such as radiator sealer. Additives may clog the cooling system and cause damage to the engine, transmission and/or cooling system.**

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

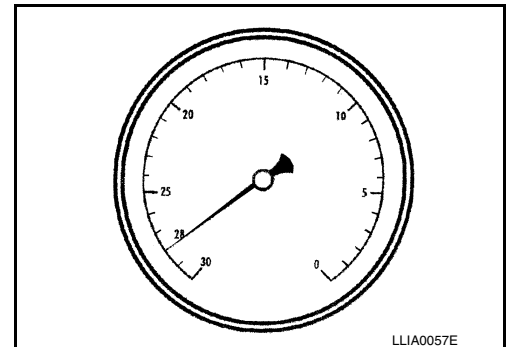
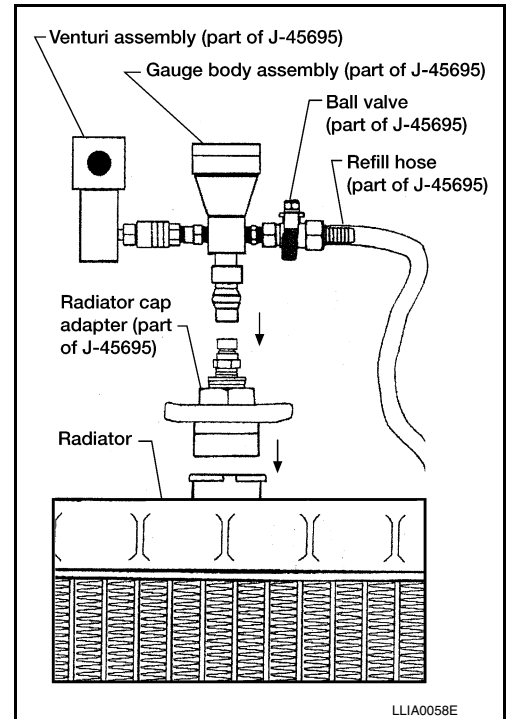
**Compressed air supply pressure** : 549 - 824 kPa (5.6 - 8.4 kg/cm<sup>2</sup>, 80 - 120 psi)

#### CAUTION:

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

7. 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.
8. Continue to draw the vacuum until the gauge reaches 28 inches of vacuum. The gauge may not reach 28 inches in high altitude locations, use 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



9. 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.
10. 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.**

11. Remove the Tool from the radiator neck opening and install the radiator cap.
12. Remove the non-vented reservoir cap.
13. Fill the cooling system reservoir tank to the specified level. Run the engine to warm up the cooling system and top up the system as necessary before installing the vented reservoir cap.

## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

14. Install the engine under cover (if equipped). Refer to [EXT-15, "Removal and Installation"](#).

### FLUSHING COOLING SYSTEM

1. Drain the water from the engine cooling system. Refer to [MA-34, "ENGINE COOLANT : Changing Engine Coolant"](#).
2. Fill the radiator and the reservoir tank (to the "MAX" line), with water. Reinstall the radiator cap and leave the vented reservoir cap off.
3. Run the engine until it reaches normal operating temperature.
4. Press the engine accelerator two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain the water from the engine cooling system. Refer to [MA-34, "ENGINE COOLANT : Changing Engine Coolant"](#).
7. Repeat steps 2 through 6 until clear water begins to drain from the radiator.

### FUEL LINES

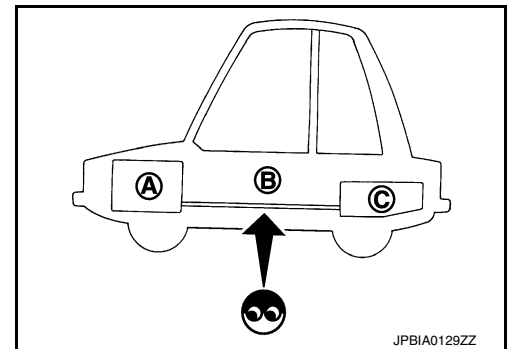
#### FUEL LINES : Checking Fuel Line

INFOID:000000012562904

Inspect fuel lines, fuel filler cap, and fuel tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.

- (A) : Engine
- (B) : Fuel line
- (C) : Fuel tank

If necessary, repair or replace damaged parts.



JPBIA0129ZZ

### FUEL FILTER

#### FUEL FILTER : Changing Fuel Filter

INFOID:000000012562905

The fuel filter is part of the fuel level sensor unit, fuel filter and fuel pump assembly. Refer to [FL-11, "Removal and Installation"](#).

#### **WARNING:**

**Before replacing the fuel filter, release the fuel pressure from the fuel system. Refer to [EC-981, "Fuel Pressure Check"](#).**

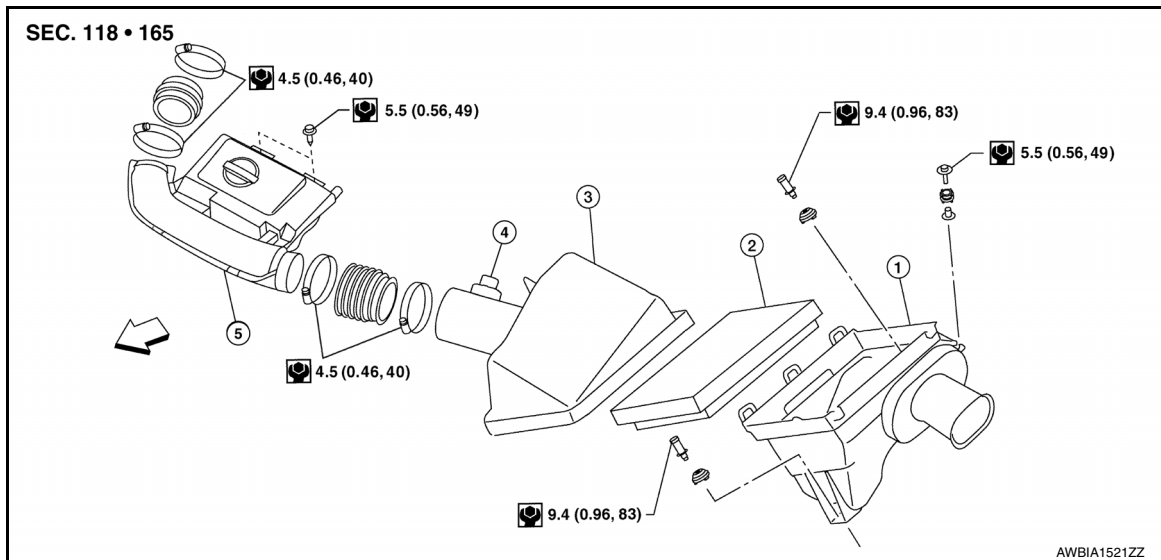
### AIR CLEANER FILTER

## ENGINE MAINTENANCE (VQ40DE)

< PERIODIC MAINTENANCE >

### AIR CLEANER FILTER : Exploded View

INFOID:0000000012562906



- |                             |                                    |                             |
|-----------------------------|------------------------------------|-----------------------------|
| 1. Air cleaner case (lower) | 2. Air cleaner filter              | 3. Air cleaner case (upper) |
| 4. Mass air flow sensor     | 5. Air duct and resonator assembly | ⇐ Front                     |

### AIR CLEANER FILTER : Removal and Installation

INFOID:0000000012562907

#### REMOVAL

1. Disconnect air duct and resonator assembly from the air cleaner case (upper).
2. Disconnect the harness connector from mass air flow sensor.
3. Unhook clips, and lift air cleaner case (upper).
4. Remove air cleaner filter.

#### INSTALLATION

Installation is in the reverse order of removal.

### ENGINE OIL

### ENGINE OIL : Inspection

INFOID:0000000012562908

#### OIL LEVEL

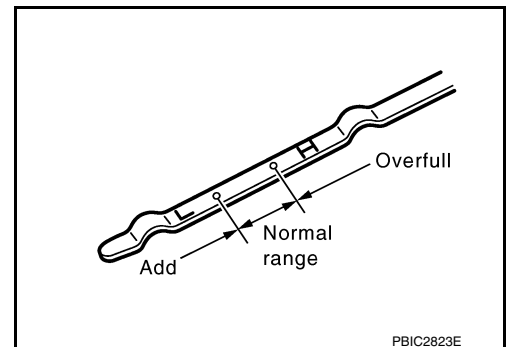
- Before starting the engine make sure the vehicle is parked on a flat and level surface, then check the oil level. If the engine is already running, turn it off and allow 10 minutes before checking.
- Pull out oil level gauge and wipe clean.
- Insert oil level gauge.
- Check that the oil level is within the low (L) and high (H) range as indicated on the dipstick.
- If the engine oil level is out of range, add oil as necessary. Refer to [MA-18. "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada) or [MA-21. "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

#### CAUTION:

**Do not overfill the engine with oil.**

#### NOTE:

It is normal to add some oil between oil maintenance intervals or during the break-in period, depending on the severity of the operating conditions.



PBIC2823E

# ENGINE MAINTENANCE (VQ40DE)

< PERIODIC MAINTENANCE >

## ENGINE OIL : Changing Engine Oil

INFOID:000000012562909

### WARNING:

- Be careful not to burn yourself, as the engine and engine oil may be 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. Warm up the engine, and check for any oil leaks.
2. Stop the engine and wait for at least 10 minutes.
3. Remove the oil drain plug and oil filler cap to drain the old oil.
4. Install a new washer on the oil drain plug, then install the oil drain plug in the oil pan.

### CAUTION:

- Clean the drain plug and install with a new washer.
- Do not reuse copper sealing washers.

**Oil drain plug** : Refer to [EM-153, "Exploded View"](#).

5. Refill the engine with new specified engine oil.

**Oil grade and viscosity** : Refer to [MA-18 \(United States and Canada\)](#), [MA-21 \(Mexico\)](#).

**Oil capacity** : Refer to [MA-18 \(United States and Canada\)](#), [MA-21 \(Mexico\)](#).

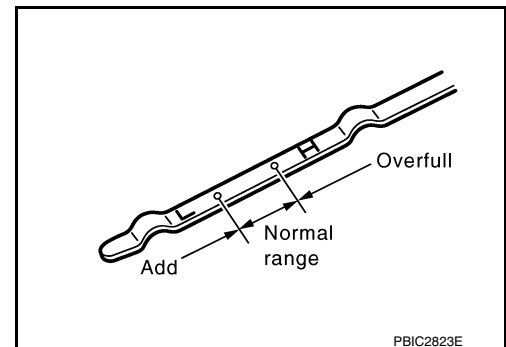
### CAUTION:

The refill capacity depends on the oil temperature and drain time. Use the "Refill oil capacity" values as a reference and check the oil level using the dipstick when filling the engine with oil.

6. Warm up the engine and check the area around the drain plug and oil filter for any oil leaks.
7. Stop the engine and wait for more than 10 minutes.
8. Check the oil level using the dipstick as shown. Add oil as necessary and install the oil filler cap. Refer to [MA-38, "ENGINE OIL : Inspection"](#).

### CAUTION:

Do not overfill the engine with oil.



## OIL FILTER

### OIL FILTER : Removal and Installation

INFOID:000000012562910

#### REMOVAL

1. Remove the engine under cover (if equipped). Refer to [EXT-15, "Removal and Installation"](#).
2. Drain engine oil. Refer to [MA-39, "ENGINE OIL : Changing Engine Oil"](#).
3. Remove the oil filter using Tool as shown.

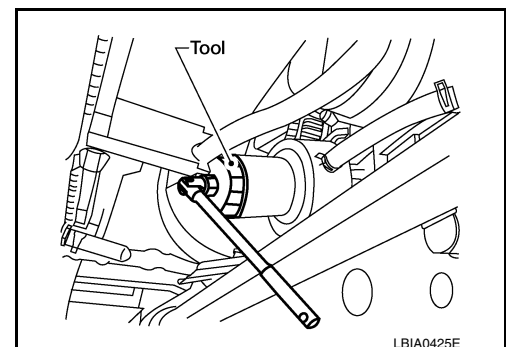
**Tool number** : KV10115801 (J-38956)

### WARNING:

Be careful not to burn yourself, as the engine and engine oil may be hot.

### CAUTION:

- Oil filter is equipped with a pressure relief valve.
- Use Genuine NISSAN Oil Filter or equivalent.
- When removing, prepare a shop cloth to absorb any engine oil leaks or spills.





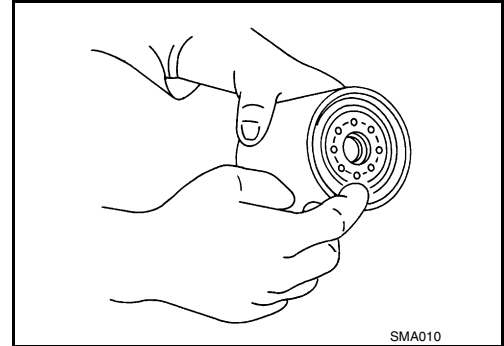
## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

- Do not allow engine oil to adhere to drive belts.
- Completely wipe off any engine oil that adheres to the engine and the vehicle.

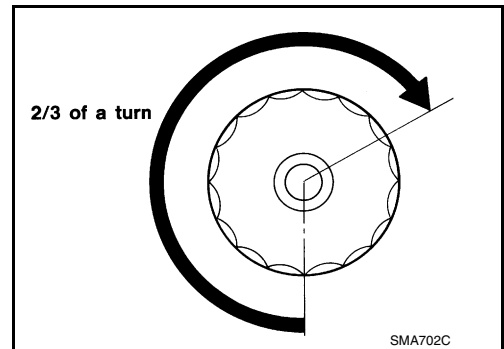
### INSTALLATION

1. Remove foreign materials adhering to the oil filter seal mating surface.
2. Apply clean engine oil to the oil filter seal circumference of the new oil filter as shown.



3. Screw on the oil filter manually until it touches the installation surface, then tighten it by 2/3 turn as shown. Or tighten to specification.

**Oil filter : 17.7 N·m (1.8 kg-m, 13 ft-lb)**



4. Refill engine with new engine oil. Refer to [MA-39, "ENGINE OIL : Changing Engine Oil"](#).
5. Inspect the engine for oil leaks. Refer to [MA-39, "OIL FILTER : Removal and Installation"](#).
6. Install the engine under cover (if equipped). Refer to [EXT-15, "Removal and Installation"](#).

### INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [MA-38, "ENGINE OIL : Inspection"](#).
2. Start the engine and check for engine oil leaks.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level and add engine oil as required.

### SPARK PLUG

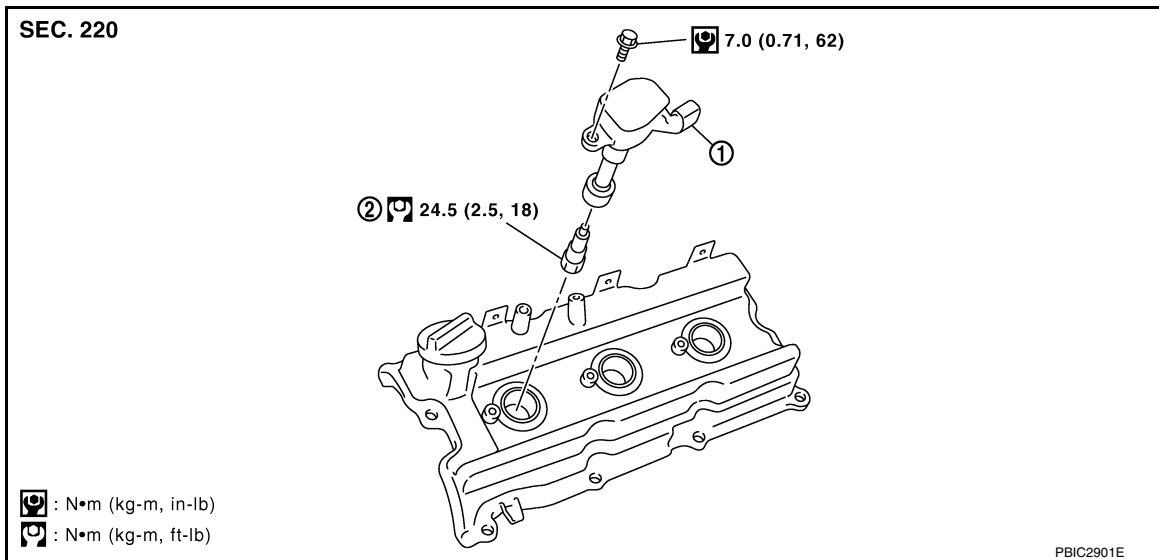


# ENGINE MAINTENANCE (VQ40DE)

< PERIODIC MAINTENANCE >

## SPARK PLUG : Exploded View

INFOID:0000000012562911



1. Ignition coil

2. Spark plug

## SPARK PLUG : Removal and Installation

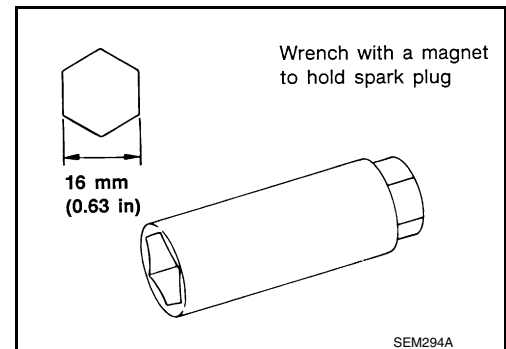
INFOID:0000000012562912

### REMOVAL

1. Remove the ignition coil. Refer to [EM-159. "Removal and Installation"](#).
2. Remove the spark plug using a suitable tool.

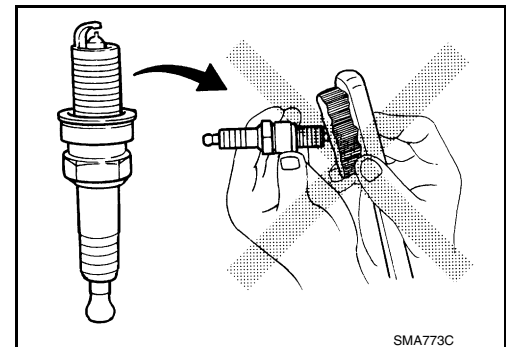
#### **CAUTION:**

**Do not drop or shock it.**



### INSPECTION AFTER REMOVAL

- Do not use a wire brush for cleaning.



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

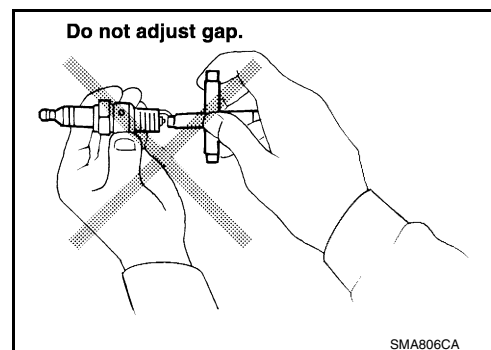
**Cleaner air pressure** : Less than 588 kPa (5.9 bar, 6 kg/cm<sup>2</sup>, 85 psi)

**Cleaning time** : Less than 20 seconds

## ENGINE MAINTENANCE (VQ40DE)

### < PERIODIC MAINTENANCE >

- Checking and adjusting spark plug gap is not required between change intervals.



### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

**Do not drop or shock the spark plug.**

Make	NGK
Standard type *	DILFR5A-11
Gap (nominal)	1.1 mm (0.043 in)

\*: Always check with the Parts Department for the latest parts information.

### EVAP VAPOR LINES

#### EVAP VAPOR LINES : Checking EVAP Vapor Line

INFOID:0000000012562913

1. Visually inspect EVAP vapor lines for improper attachment, cracks, damage, loose connections, chafing or deterioration.
2. Inspect vacuum relief valve of fuel tank filler cap for clogging and sticking.  
Refer to [EC-983, "How to Detect Fuel Vapor Leakage"](#).

# CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

## CHASSIS AND BODY MAINTENANCE

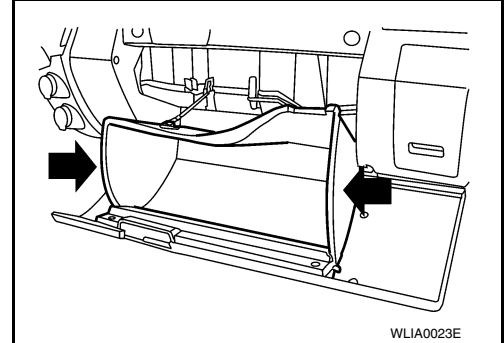
### IN-CABIN MICROFILTER

#### IN-CABIN MICROFILTER : Removal and Installation

INFOID:000000012562914

#### REPLACEMENT PROCEDURE

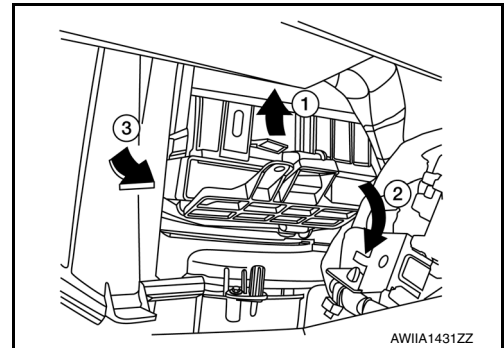
1. Open the lower glove box and press in on the sides so that it will open completely allowing it to hang by the cord.



2. Gently lift up on the tab (1) then pull the in-cabin microfilter cover down (2) to remove the cover (3).

**CAUTION:**

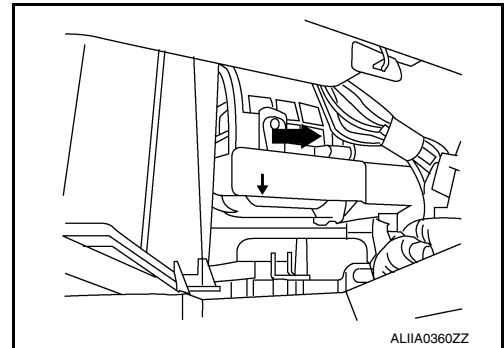
Use care when lifting up on the tab to avoid damaging it.



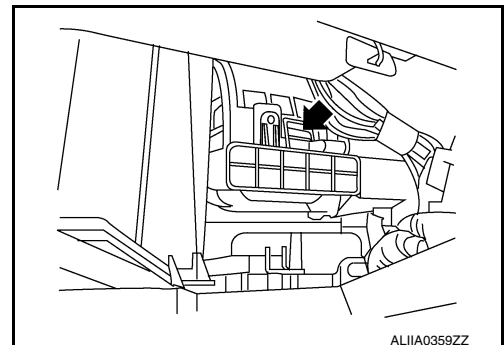
3. Remove the in-cabin microfilters from the heater and cooling unit housing.
4. Insert the first new in-cabin microfilter into the heater and cooling unit housing and slide it over to the right. Insert the second new in-cabin microfilter into the heater and cooling unit housing as shown.

**NOTE:**

The in-cabin microfilters are marked with air flow arrows. The end of the microfilter with the arrow should face the rear of the vehicle. The arrows should point downward.



5. Install the in-cabin microfilter cover, make sure the tab is locked in place as shown.



6. Close the lower glove box completely.

### EXHAUST SYSTEM

# CHASSIS AND BODY MAINTENANCE

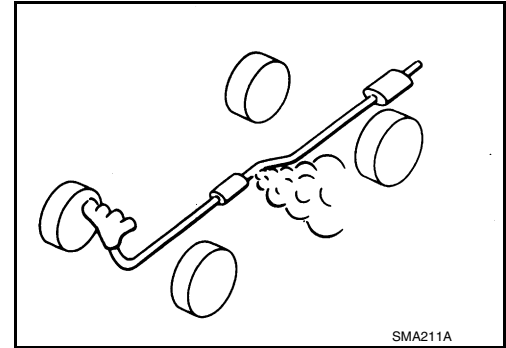
## < PERIODIC MAINTENANCE >

### EXHAUST SYSTEM : Checking Exhaust System

INFOID:0000000012562915

Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage or deterioration.

- If anything is found, repair or replace damaged parts.



## TRANSMISSION OIL

### TRANSMISSION OIL : Checking the A/T Fluid (ATF)

INFOID:0000000012562916

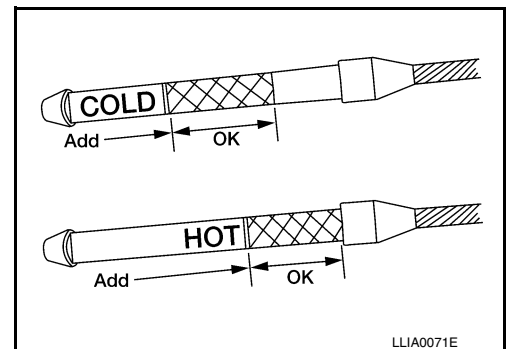
#### CAUTION:

If using the vehicle for towing, the A/T fluid must be replaced as specified. Refer to [MA-11, "FOR USA AND CANADA : Periodic Maintenance"](#) (United States and Canada), [MA-14, "FOR MEXICO : Periodic Maintenance"](#) (Mexico).

1. Before driving, the A/T fluid level can be checked at A/T fluid temperatures of 30° to 50° C (86° to 122° F) using the "COLD" range on the A/T fluid level gauge as follows:
  - a. Park the vehicle on a level surface and set the parking brake.
  - b. Start the engine and move the shift selector through each gear position. Move the shift selector into the "P" position.
  - c. Check the A/T fluid level with the engine idling.
  - d. Remove the A/T fluid level gauge and wipe it clean with a lint-free paper.

#### CAUTION:

When wiping the A/T fluid from the A/T fluid level gauge, always use a lint-free paper, not a cloth.



- e. Re-insert the A/T fluid level gauge into the A/T fluid charging pipe until the cap contacts the top of the A/T fluid charging pipe as shown.

#### CAUTION:

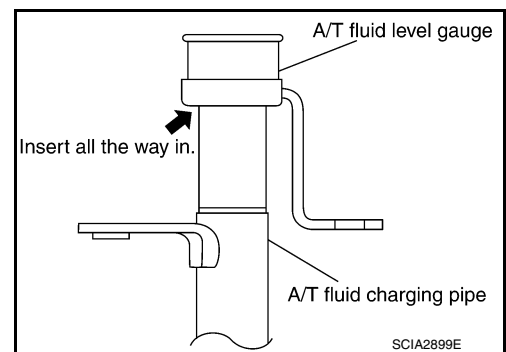
To check A/T fluid level, insert the A/T fluid level gauge until the cap contacts the top of the A/T fluid charging pipe, with the gauge reversed from the normal inserted position.

- f. Remove the A/T fluid level gauge and note the A/T fluid level. If the A/T fluid level is at low side of range, add A/T fluid to the transmission through the A/T fluid charging pipe.

#### CAUTION:

Do not overfill the transmission with A/T fluid.

- g. Install the A/T fluid level gauge and the A/T fluid level gauge bolt.



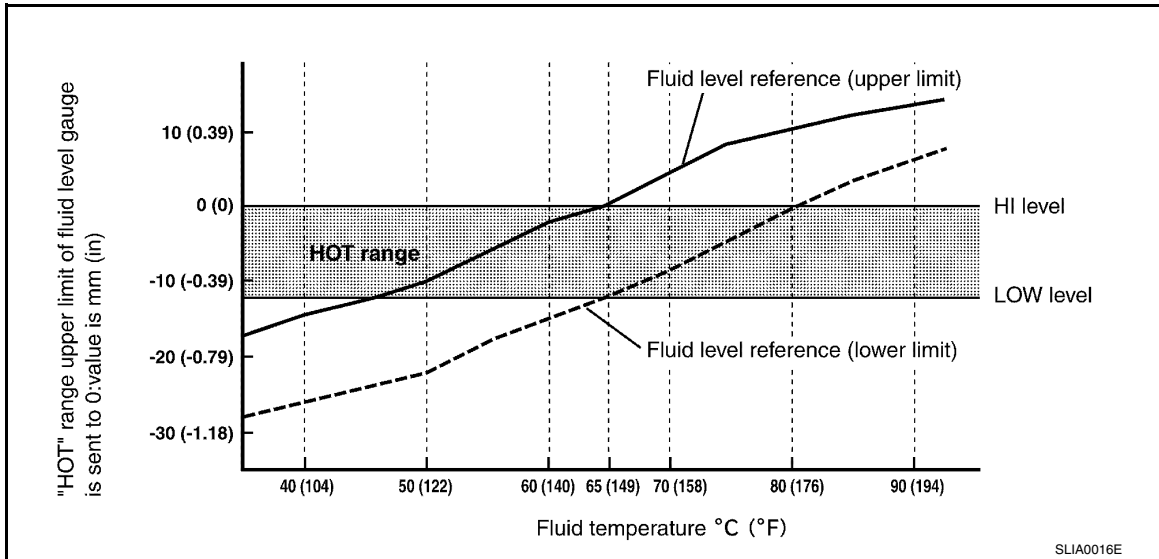
**A/T fluid level gauge bolt** : Refer to [TM-305, "Component"](#).

2. Warm up the engine and transmission.
3. Check for any A/T fluid leaks.
4. Drive the vehicle to increase the A/T fluid temperature to 80° C (176° F).

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

5. Allow the A/T fluid temperature to fall to approximately 65°C (149°F). Use the CONSULT to monitor the A/T fluid temperature as follows:



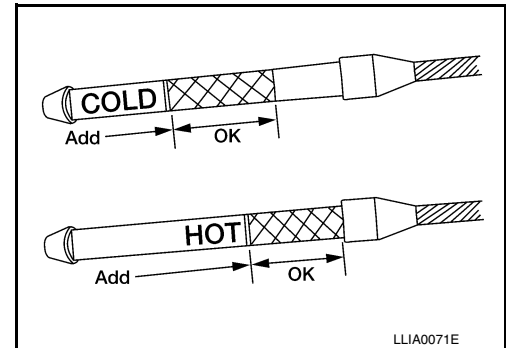
### NOTE:

The A/T fluid level will be significantly affected by the A/T fluid temperature as shown. Therefore monitor the A/T fluid temperature data using the CONSULT.

- a. Connect CONSULT to data link connector.
  - b. Select "MAIN SIGNALS" in "DATA MONITOR" mode for "A/T" with CONSULT.
  - c. Read out the value of "ATF TEMP 1".
6. Re-check the A/T fluid level at A/T fluid temperatures of approximately 65°C (149°F) using the "HOT" range on the A/T fluid level gauge as shown. The HOT range is between 50° - 80° C (122° - 176° F).

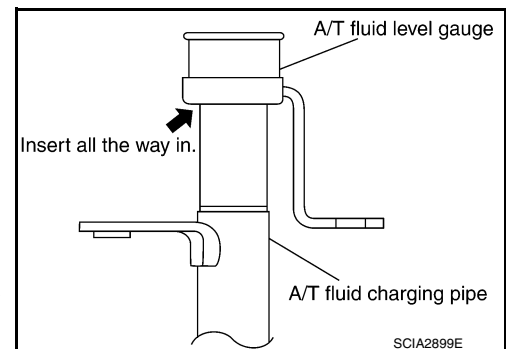
### CAUTION:

- When wiping the A/T fluid from the A/T fluid level gauge, always use lint-free paper, not a cloth.



- To check the A/T fluid level, insert the A/T fluid level gauge until the cap contacts the top of the A/T fluid charging pipe, with the gauge reversed from the normal inserted position as shown.

7. Check the A/T fluid condition.
  - If the A/T fluid is very dark or has some burned smell, there may be an internal problem with the transmission. Flush the transmission cooling system after repairing the transmission.
  - If the A/T fluid contains frictional material (clutches, bands, etc.), replace the radiator and flush the transmission cooler lines using cleaning solvent and compressed air after repairing the transmission.
8. Install the A/T fluid level gauge in the A/T fluid charging pipe.
9. Tighten the A/T fluid level gauge bolt to specification.



A/T fluid level gauge bolt : Refer to [TM-305, "Component"](#).

## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

#### TRANSMISSION OIL : Changing the A/T Fluid (ATF)

INFOID:000000012562917

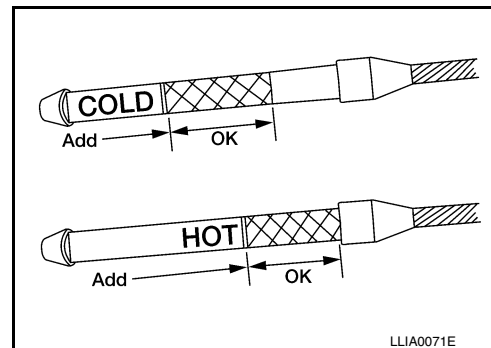
#### CAUTION:

If using the vehicle for towing, the A/T fluid must be replaced as specified.

Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

1. Drive the vehicle to warm up the A/T fluid to approximately 80° C (176° F).
2. Stop the engine.
3. Remove the A/T fluid level gauge.
4. Drain the A/T fluid from the drain plug hole, then install the drain plug with a new gasket. Refill the transmission with new A/T fluid. Always refill with the same volume as the drained A/T fluid. Use the A/T fluid level gauge to check the A/T fluid level as shown. Add A/T fluid as necessary.

**Drain plug** : Refer to [TM-305, "Component"](#).



- To flush out the old A/T fluid from the transmission oil coolers, pour new A/T fluid into the A/T fluid charging pipe with the engine idling and at the same time drain the old A/T fluid from the auxiliary transmission oil cooler hose return line.
- When the color of the A/T fluid coming out of the auxiliary transmission oil cooler hose return line is about the same as the color of the new A/T fluid, flushing out the old A/T fluid is complete. The amount of new A/T fluid used for flushing should be 30% to 50% increase of the specified capacity.

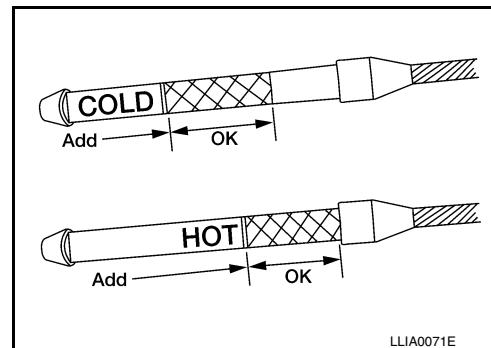
**A/T fluid grade and capacity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

#### CAUTION:

- If genuine NISSAN Matic S ATF is not available, Genuine NISSAN Matic J ATF may also be used. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J 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
  - When filling the transmission with A/T fluid, do not spill the A/T fluid on any heat generating parts such as the exhaust manifold.
  - Do not reuse the drain plug gasket.
5. Install the A/T fluid level gauge and tighten the A/T fluid level gauge bolt to specification.

**A/T fluid level gauge bolt** : Refer to [TM-305, "Component"](#).

6. Drive the vehicle to warm up the A/T fluid to approximately 80° C (176° F).
7. Check the fluid level and condition. If the A/T fluid is still dirty, repeat steps 2 through 6.



8. Install the A/T fluid level gauge in the A/T fluid charging pipe and install the A/T fluid level gauge bolt.

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

9. Tighten the A/T fluid level gauge bolt to specification.

**A/T fluid level gauge bolt** : Refer to [TM-305, "Component"](#).

### M/T OIL

#### M/T OIL : FS6R31A

INFOID:0000000012562918

#### M/T OIL : Changing

INFOID:0000000012562919

### DRAINING

1. Start the engine and let it run to warm up the transmission.
2. Stop the engine. Remove the transmission drain plug and drain the oil.
3. Set a gasket on the drain plug and install it to the transmission. Tighten the drain plug to the specified torque. Refer to [TM-77, "Overhaul"](#).

**CAUTION:**

**Do not reuse gasket.**

### FILLING

1. Remove the filler plug. Fill with new oil until oil level reaches the specified limit near the filler plug hole as shown.

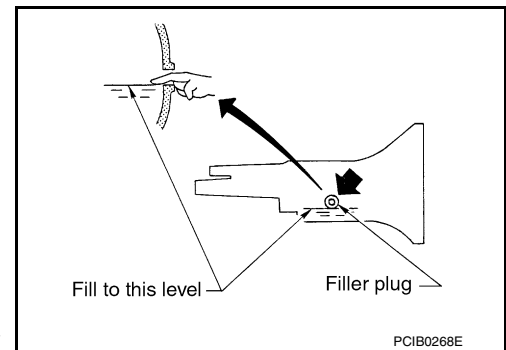
**Oil grade and viscosity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#).

**Oil capacity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#).

2. After refilling the oil, check oil level. Set a gasket to the filler plug, then install it to the transmission. Tighten the filler plug to the specified torque. Refer to [TM-77, "Overhaul"](#).

**CAUTION:**

**Do not reuse gasket.**



#### M/T OIL : Checking

INFOID:0000000012562920

### OIL LEAKAGE AND OIL LEVEL

1. Make sure that oil is not leaking from the transmission or around it.
2. Check oil level from the filler plug hole as shown.

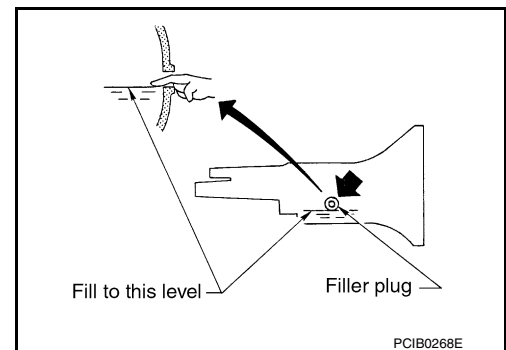
**CAUTION:**

**Do not start engine while checking oil level.**

3. Set a gasket on the filler plug and install it to the transmission. Tighten the filler plug to the specified torque. Refer to [TM-77, "Overhaul"](#).

**CAUTION:**

**Do not reuse gasket.**



#### M/T OIL : FS5R30A

INFOID:0000000012562921

#### M/T OIL : Changing

INFOID:0000000012562922

### DRAINING

1. Start the engine and let it run to warm up the transmission.

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

2. Stop the engine. Remove the transmission drain plug and drain the oil.
3. Set a gasket on the drain plug and install it to the transmission. Tighten the drain plug to the specified torque. Refer to [TM-23, "Overhaul"](#).

### **CAUTION:**

**Do no reuse gasket.**

## FILLING

1. Remove the filler plug. Fill with new oil until oil level reaches the specified limit near the filler plug hole.

**Oil grade and Viscosity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#).

**Oil capacity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#).

2. After refilling the oil, check oil level. Set a gasket to the filler plug, then install it to the transmission. Tighten the filler plug to the specified torque. Refer to [TM-23, "Overhaul"](#).

### **CAUTION:**

**Do not reuse gasket.**

## M/T OIL : Checking

INFOID:0000000012562923

## OIL LEAKAGE AND OIL LEVEL

1. Make sure that oil is not leaking from the transmission or around it.
2. Check oil level from the filler plug hole as shown.

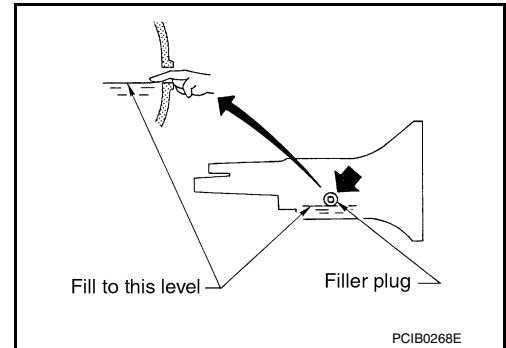
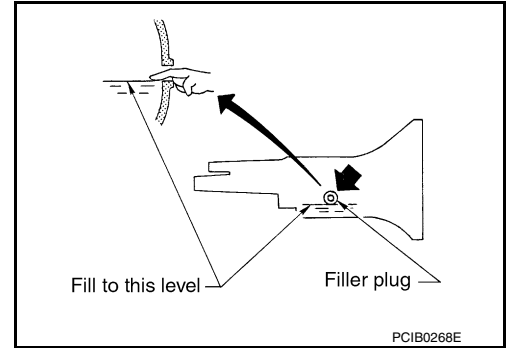
### **CAUTION:**

**Do not start engine while checking oil level.**

3. Set a gasket on the filler plug and install it to the transmission. Tighten the filler plug to the specified torque. Refer to [TM-23, "Overhaul"](#).

### **CAUTION:**

**Do not reuse gasket.**



## TRANSFER FLUID

## TRANSFER FLUID : Replacement

INFOID:0000000012562924

### **CAUTION:**

**If using the vehicle for towing, the transfer fluid must be replaced as specified.**

Refer to [MA-11, "FOR USA AND CANADA : Periodic Maintenance"](#) (United States and Canada), [MA-14, "FOR MEXICO : Periodic Maintenance"](#) (Mexico).

## DRAINING

1. Stop engine.



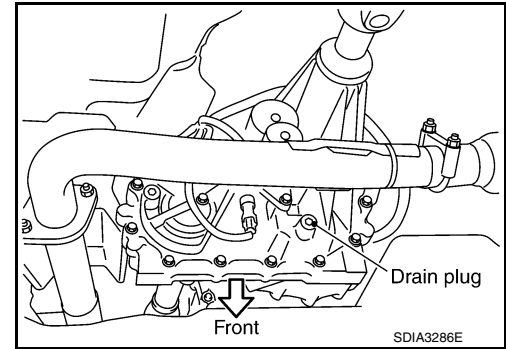
# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

2. Remove the drain plug and gasket and drain the fluid.
3. Install the drain plug with a new gasket to the transfer. Tighten to the specified torque. Refer to [DLN-103, "Exploded View"](#).

### CAUTION:

Do not reuse gasket.



## FILLING

1. Remove the filler plug and gasket.
2. Fill the transfer with new fluid until the fluid level reaches the specified limit near the filler plug hole.

**Fluid grade and capacity** : Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

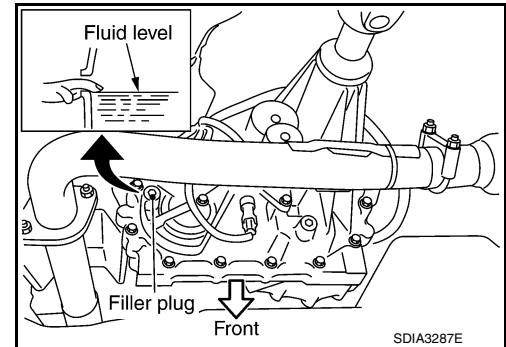
### CAUTION:

Carefully fill fluid. (Fill up for approx. 3 minutes.)

3. Leave the vehicle for 3 minutes, and check fluid level again.
4. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to [DLN-103, "Exploded View"](#).

### CAUTION:

Do not reuse gasket.



## TRANSFER FLUID : Inspection

INFOID:0000000012562925

### CAUTION:

If using the vehicle for towing, the transfer fluid must be replaced as specified.

Refer to [MA-11, "FOR USA AND CANADA : Periodic Maintenance"](#) (United States and Canada), [MA-14, "FOR MEXICO : Periodic Maintenance"](#) (Mexico).

## FLUID LEAKAGE AND FLUID LEVEL

1. Make sure that fluid is not leaking from the transfer assembly or around it.
2. Check fluid level from the filler plug hole as shown.

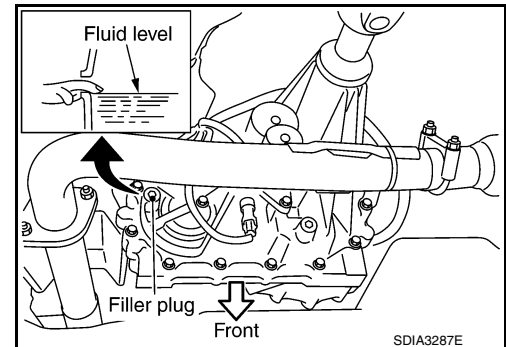
### CAUTION:

Do not start engine while checking fluid level.

3. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to [DLN-103, "Exploded View"](#).

### CAUTION:

Do not reuse gasket.



## PROPELLER SHAFT

### PROPELLER SHAFT : Checking Propeller Shaft

INFOID:0000000012562926

Check the front and rear propeller shafts for damage, dents, and cracks. Check the joints for looseness and any damage. Repair or replace as necessary. Refer to [FAX-4, "NVH Troubleshooting Chart"](#).

## DIFFERENTIAL GEAR OIL

## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

#### DIFFERENTIAL GEAR OIL : Front Final Drive - R180A

INFOID:0000000012562927

#### DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

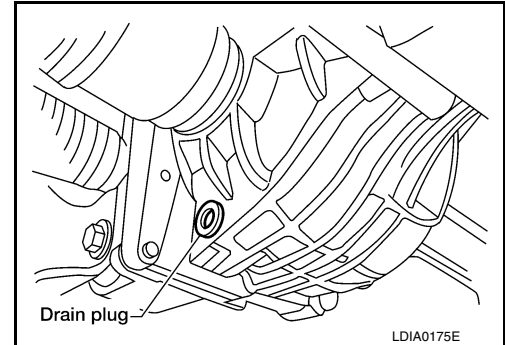
INFOID:0000000012562928

##### DRAINING

1. Stop the engine.
2. Remove the drain plug and gasket from the front final drive assembly to drain the differential gear oil.
3. Install the drain plug with a new gasket to the front final drive assembly. Tighten to the specified torque. Refer to [DLN-193, "Disassembly and Assembly"](#).

##### **CAUTION:**

**Do not reuse gasket.**

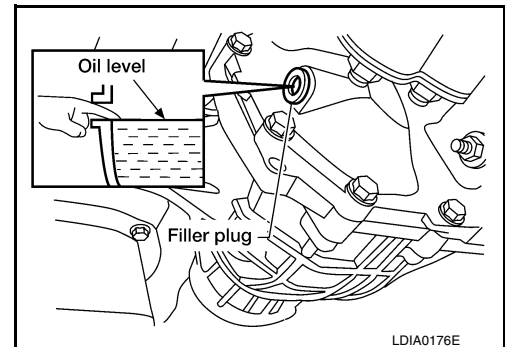


##### FILLING

1. Remove the filler plug and gasket from the front final drive assembly.
2. Fill the front final drive assembly with new differential gear oil until the level reaches the specified level near the filler plug hole.

**Differential gear oil  
grade and capacity**

**: Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).**



3. Install the filler plug with a new gasket on it to the front final drive assembly. Tighten to the specified torque. Refer to [DLN-193, "Disassembly and Assembly"](#).

##### **CAUTION:**

**Do not reuse gasket.**

#### DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000012562929

##### DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the front final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.

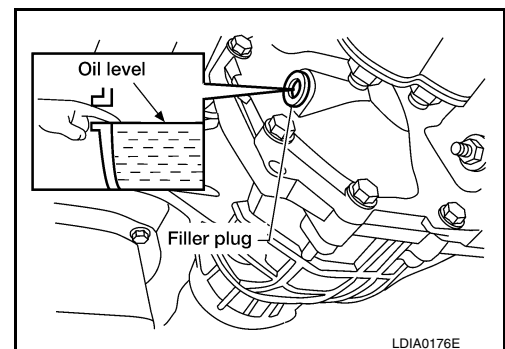
##### **CAUTION:**

**Do not start engine while checking differential gear oil level.**

3. Install the filler plug with a new gasket on it to the front final drive assembly. Tighten to the specified torque. Refer to [DLN-193, "Disassembly and Assembly"](#).

##### **CAUTION:**

**Do not reuse gasket.**



#### DIFFERENTIAL GEAR OIL : Rear Final Drive - C200

INFOID:0000000012562930

#### DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000012562931

##### DRAINING

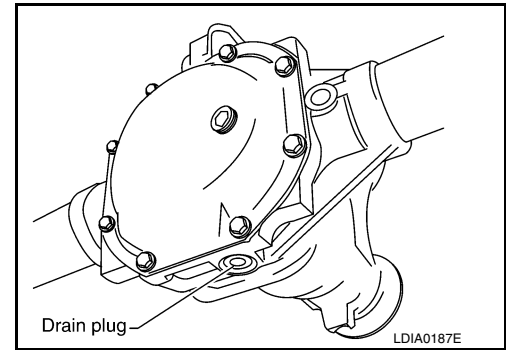
# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

1. Stop engine.
2. Remove the drain plug from the rear final drive assembly to drain the differential gear oil.
3. Install the drain plug with a new gasket to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-225, "Disassembly and Assembly"](#).

### **CAUTION:**

**Do not reuse gasket.**



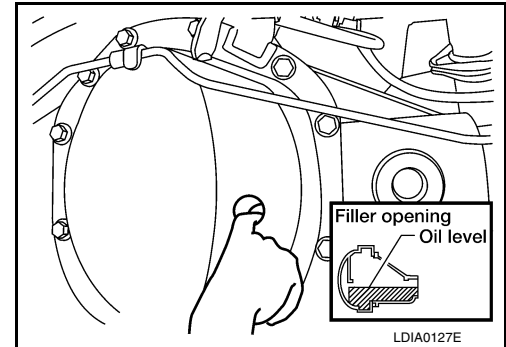
## FILLING

1. Remove the filler plug from the rear final drive assembly.
2. Fill the rear final drive assembly with new differential gear oil until the level reaches the specified level near the filler plug hole.

**Differential gear oil  
grade and capacity**

**: Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-225, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000012562932

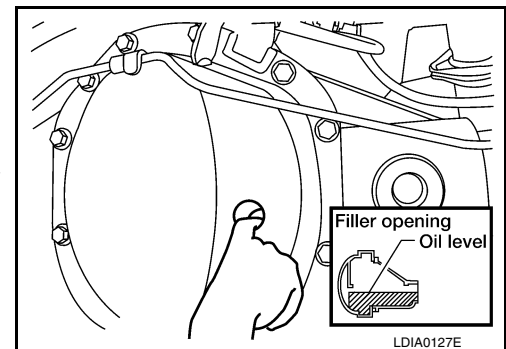
## DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the rear final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.

### **CAUTION:**

**Do not start engine while checking differential gear oil level.**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-225, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## DIFFERENTIAL GEAR OIL : Rear Final Drive - M226

INFOID:0000000012562933

## DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000012562934

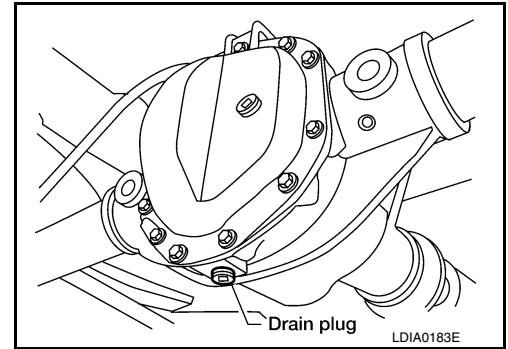
## DRAINING

1. Stop engine.

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

2. Remove the drain plug from the rear final drive assembly to drain the differential gear oil.
3. Install the drain plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-256, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



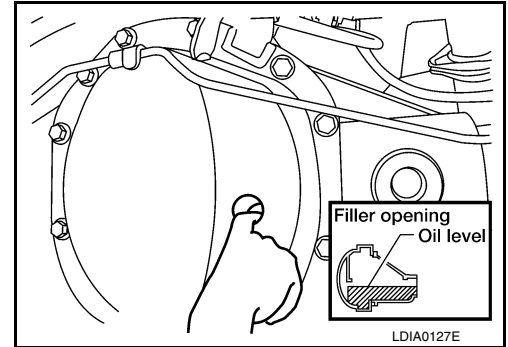
## FILLING

1. Remove the filler plug from the rear final drive assembly.
2. Fill the rear final drive assembly with new differential gear oil until the level reaches the specified level near the filler plug hole.

**Differential gear oil grade and capacity**

**: Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants" \(United States and Canada\), MA-21, "FOR MEXICO : Fluids and Lubricants" \(Mexico\).](#)**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-256, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000012562935

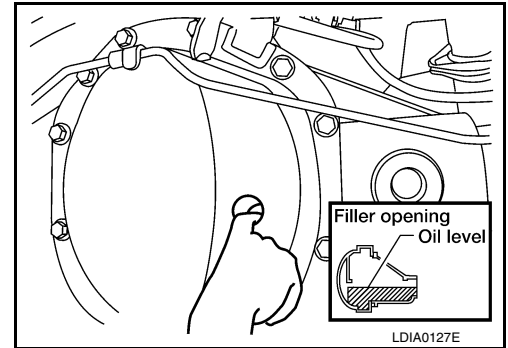
## DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the rear final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.

### **CAUTION:**

**Do not start engine while checking differential gear oil level.**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-256, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## DIFFERENTIAL GEAR OIL : Rear Final Drive - M226 (ELD)

INFOID:0000000012562936

## DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000012562937

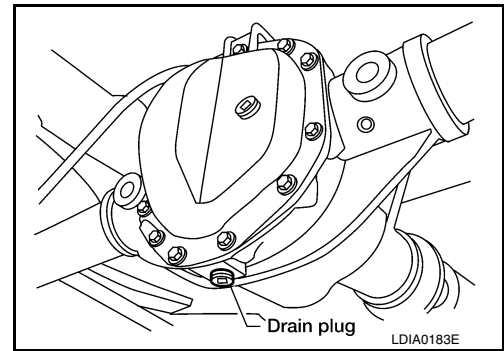
## DRAINING

1. Stop engine.

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

2. Remove the drain plug from the rear final drive assembly to drain the differential gear oil.
3. Install the drain plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-321, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#)



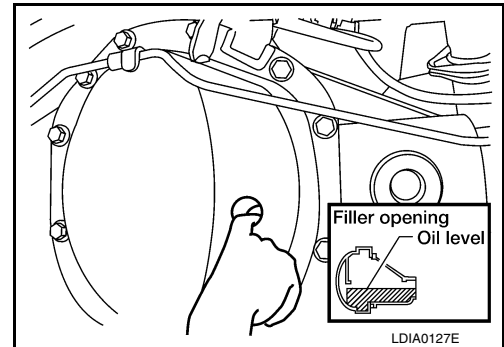
## FILLING

1. Remove the filler plug from the rear final drive assembly.
2. Fill the rear final drive assembly with new differential gear oil until the level reaches the specified level near the filler plug hole.

**Differential gear oil  
grade and capacity**

**: Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-321, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000012562938

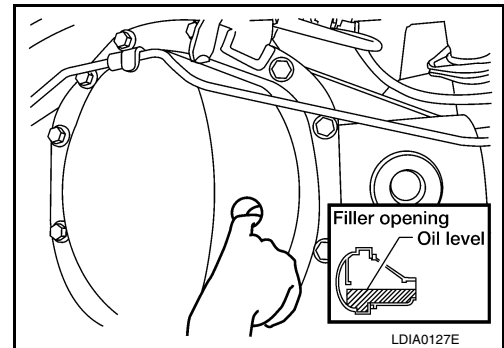
### DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the rear final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.

#### **CAUTION:**

**Do not start engine while checking differential gear oil level.**

3. Install the filler plug with sealant applied on the threads to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-321, "Disassembly and Assembly"](#).
  - Use High Performance Thread Sealant or equivalent. Refer to [GI-21, "Recommended Chemical Products and Sealants"](#).



## WHEELS

### WHEELS : Balancing Wheels

INFOID:0000000012562939

#### BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

##### Preparation Before Adjustment

Remove inner and outer balance weights from the road wheel. Using releasing agent, remove double-faced adhesive tape from the road wheel.

#### **CAUTION:**

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

## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

#### Wheel Balance Adjustment

- If a balancer machine has an adhesive weight mode setting, select the adhesive weight mode setting and skip Step 2. below. If a balancer machine only has the clip-on (rim flange) weight mode setting, follow Step 2. to calculate the correct size adhesive weight.

1. Set road wheel on balancer machine using the center hole as a guide. Start the balancer machine.
2. For balancer machines that only have a clip-on (rim flange) weight mode setting, follow this step to calculate the correct size adhesive weight to use. When inner and outer imbalance values are shown on the balancer machine indicator, multiply outer imbalance value by 5/3 (1.67) to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install in to the designated outer position of, or at the designated angle in relation to the road wheel.

- a. Indicated imbalance value  $\times 5/3$  = balance weight to be installed

**Calculation example:**

23 g (0.81 oz)  $\times 5/3$  (1.67) = 38.33 g (1.35 oz)  $\Rightarrow$  40 g (1.41 oz)  
balance weight (closer to calculated balance weight value)

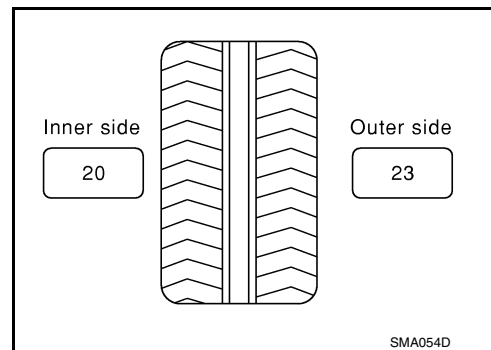
**NOTE:**

Note that balance weight value must be closer to the calculated balance weight value.

**Example:**

37.4  $\Rightarrow$  35 g (1.23 oz)

37.5  $\Rightarrow$  40 g (1.41 oz)



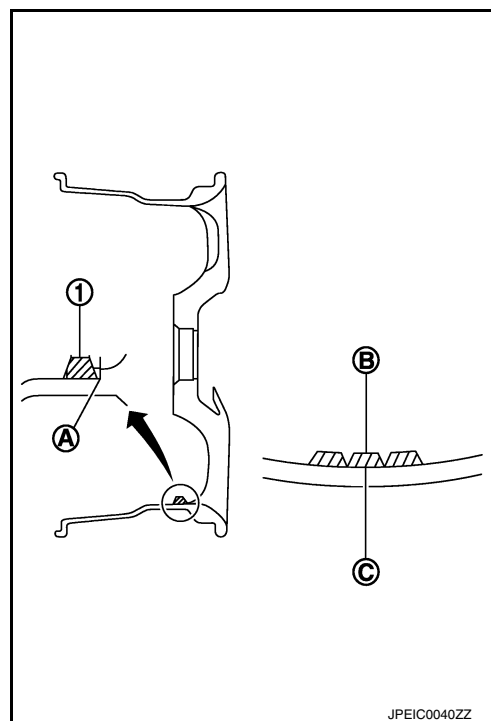
3. Install balance weight in the position shown.

**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.
- When installing balance weight (1) to road wheel, set it into the grooved area (A) on the inner wall of the road wheel as shown so that the balance weight center (B) is aligned with the balancer machine indication position (angle) (C).

**CAUTION:**

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



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

**CAUTION:**

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

5. Start balancer machine again.

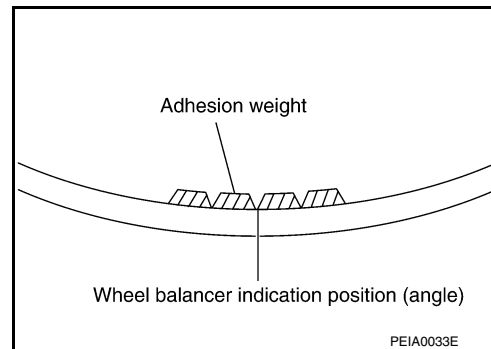
6. Install balance weight on inner side of road wheel in the balancer machine indication position (angle).

**CAUTION:**

**Do not install more than two balance weights.**

7. Start balancer machine. Make sure that inner and outer residual imbalance values are 5 g (0.17 oz) each or below.

8. If either residual imbalance value exceeds 5 g (0.17 oz), repeat installation procedures.





# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable im- balance	Refer to <a href="#">WT-54, "Road Wheel"</a> .	

## WHEELS : Rotation

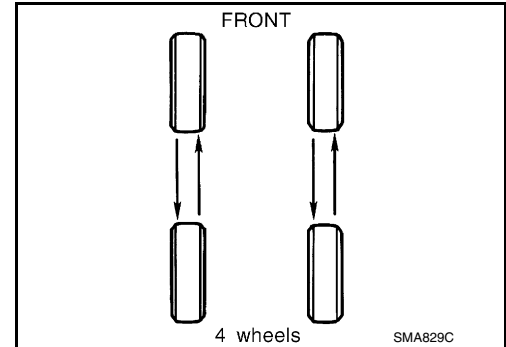
INFOID:0000000012562940

### TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-7, "FOR USA AND CANADA : Explanation of General Maintenance"](#) (United States and Canada), or [MA-9, "FOR MEX-ICO : General Maintenance"](#) (Mexico).
- When installing the wheel, tighten wheel nuts to the specified torque.

#### CAUTION:

- Do not include the spare tire when rotating the tires.
- When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.
- Be careful not to tighten wheel nut at torque exceeding the criteria for preventing strain of disc rotor.
- Use NISSAN Genuine wheel nuts.



**Wheel nut tightening torque : 133 N·m (14 kg-m, 98 ft-lb)**

- Perform the ID registration, after tire rotation. Refer to [WT-6, "Description"](#).

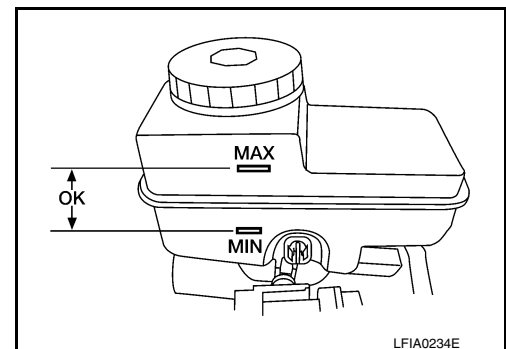
## BRAKE FLUID LEVEL AND LEAKS

### BRAKE FLUID LEVEL AND LEAKS : On Board Inspection

INFOID:0000000012562941

#### LEVEL CHECK

- Check that the brake fluid level in the reservoir tank is within specification, between the MAX and MIN lines as shown.
- Visually check around reservoir tank for fluid leaks.
- If fluid level is excessively low, check brake system for leaks.
- If brake warning lamp remains illuminated after the parking brake pedal is released, check the brake system for any brake fluid leaks.



## BRAKE LINES AND CABLES

# CHASSIS AND BODY MAINTENANCE

## < PERIODIC MAINTENANCE >

### BRAKE LINES AND CABLES : Checking Brake Line and Cables

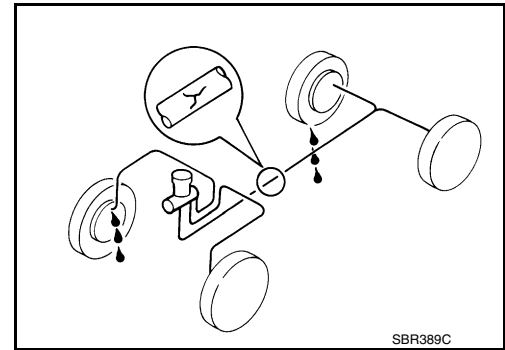
INFOID:000000012562942

1. Check the brake lines and hoses for cracks, deterioration, and other damage. Replace any damaged parts.

#### **CAUTION:**

**If brake fluid leaks are visible around the brake line joints, retighten the joint, or replace damaged parts as necessary.**

2. Check for brake fluid leaks by fully depressing brake pedal while engine is running.



### FRONT DISC BRAKE

#### FRONT DISC BRAKE : Inspection and Adjustment: Brake Pad

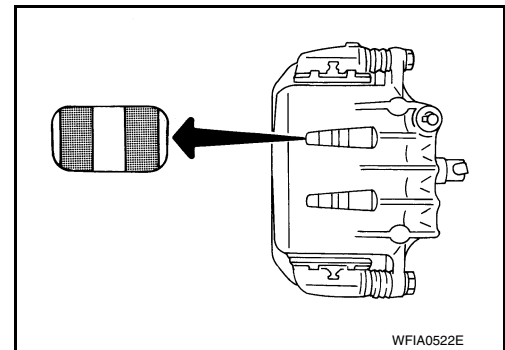
INFOID:000000012938945

#### INSPECTION

Check pad thickness from the inspection holes on cylinder body. Check using a scale if necessary.

**Standard thickness (new)** : Refer to [BR-56, "Front Disc Brake"](#).

**Repair limit thickness** : Refer to [BR-56, "Front Disc Brake"](#).



#### ADJUSTMENT

Burnish contact surfaces between disc brake rotor and brake pads according to the following procedure after refinishing disc brake rotors, replacing disc brake rotors, replacing brake pads, or if a soft pedal occurs at very low mileage:

#### **CAUTION:**

- **Be careful of vehicle speed because the brake pedal does not operate firmly/securely until pads and disc brake rotor are securely seated.**
- **Only perform this procedure under safe road and traffic conditions. Use extreme caution.**

1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake pedal for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc brake rotor are securely seated.

#### FRONT DISC BRAKE : Inspection and Adjustment: Disc Rotor

INFOID:000000012943738

#### INSPECTION

##### Appearance

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace as necessary.

##### Runout



## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

1. Attach disc rotor to wheel hub using wheel nuts at two or more positions.
2. Inspect runout using a dial gauge placed at 10 mm (0.39 in) inside the disc edge.

**Runout limit** : Refer to [BR-56, "Front Disc Brake"](#).

(with it attached to the vehicle)

#### NOTE:

Before measuring, make sure that wheel bearing axial end play is within the specification. Refer to [FAX-5, "On-Vehicle Inspection and Service"](#).

3. When runout exceeds limit value, displace mounting positions of disc rotor by one hole. And then find a position of the minimum value for runout.
4. If runout is outside the specified value after performing the above operation, refinish disc rotor using Tool.

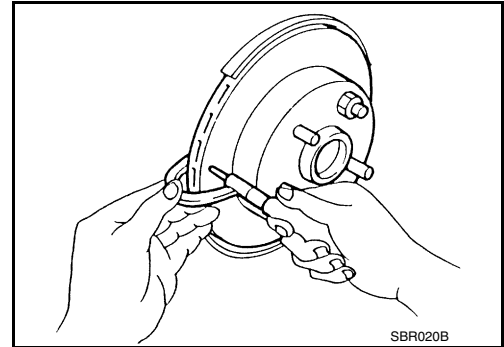
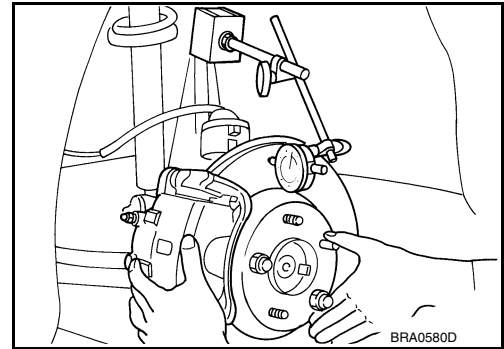
**Tool number** : 38-PFM92 ( — )

#### Thickness

Check thickness of the disc rotor using a micrometer. Replace disc rotor if thickness is less than the repair limit thickness.

**Standard thickness (new)** : Refer to [BR-56, "Front Disc Brake"](#).

**Repair limit thickness** : Refer to [BR-56, "Front Disc Brake"](#).



### ADJUSTMENT

Burnish contact surfaces between disc brake rotor and brake pads according to the following procedure after refinishing disc brake rotors, replacing disc brake rotors, replacing brake pads, or if a soft pedal occurs at very low mileage:

#### CAUTION:

- Be careful of vehicle speed because the brake pedal does not operate firmly/securely until pads and disc brake rotor are securely seated.
- Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake pedal for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc brake rotor are securely seated.

### REAR DISC BRAKE

#### REAR DISC BRAKE : Inspection and Adjustment: Brake Pad

INFOID:0000000012938947

#### INSPECTION

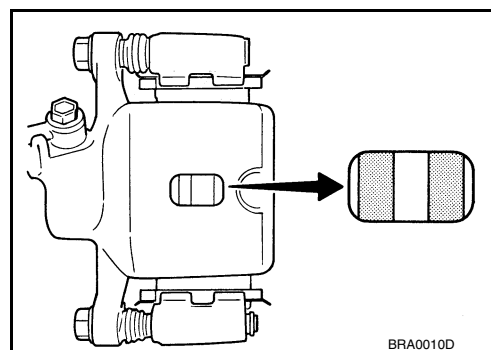
## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

Check pad thickness from an inspection hole on cylinder body.  
Check using a scale if necessary.

**Standard thickness (new)** : Refer to [BR-56, "Rear Disc Brake"](#).

**Repair limit thickness** : Refer to [BR-56, "Rear Disc Brake"](#).



### ADJUSTMENT

Burnish contact surfaces between disc brake rotor and brake pads according to the following procedure after refinishing disc brake rotors, replacing disc brake rotors, replacing brake pads, or if a soft pedal occurs at very low mileage:

#### CAUTION:

- Be careful of vehicle speed because the brake pedal does not operate firmly/securely until pads and disc brake rotor are securely seated.
- Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake pedal for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc brake rotor are securely seated.

### REAR DISC BRAKE : Inspection and Adjustment: Disc Rotor

INFOID:0000000012943739

### INSPECTION

#### Appearance

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace as necessary.

#### Runout

1. Attach disc rotor to wheel hub using wheel nuts at two or more positions.
2. Inspect runout using dial gauge placed at 10 mm (0.39 in) inside disc edge as shown.

**Runout limit** : Refer to [BR-56, "Rear Disc Brake"](#).  
(with it attached to the vehicle)

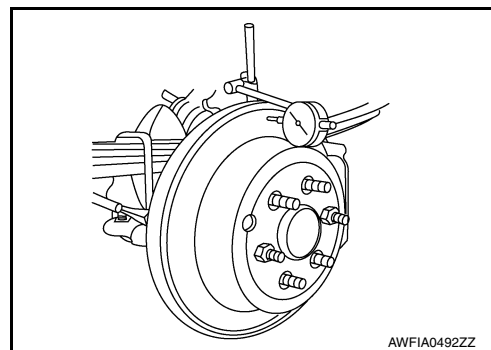
#### NOTE:

Before measuring, make sure that wheel bearing axial end play is within the specification. Refer to [RAX-6, "Rear Axle Parts"](#) (C200), [RAX-18, "Rear Axle Parts"](#) (M226).

3. If runout is outside the specified value after performing the above operation, refinish disc rotor using Tool.
4. When runout exceeds limit value, displace mounting positions of disc rotor by one hole. And then find a position of the minimum value for runout.

**Tool number** : 38-PFM92 ( — )

#### Thickness



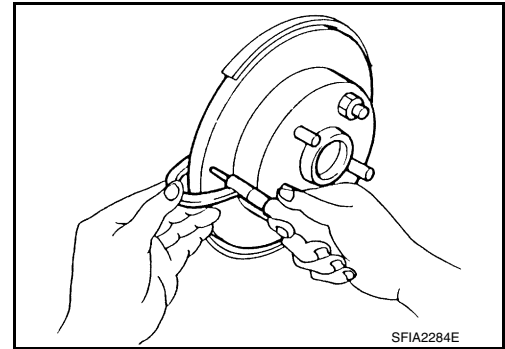
## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

Check the thickness of the disc rotor using a micrometer. Replace disc rotor if the thickness is less than the repair limit thickness.

**Standard thickness (new)** : Refer to [BR-56, "Rear Disc Brake"](#).

**Repair limit thickness** : Refer to [BR-56, "Rear Disc Brake"](#).



### ADJUSTMENT

Burnish contact surfaces between disc brake rotor and brake pads according to the following procedure after refinishing disc brake rotors, replacing disc brake rotors, replacing brake pads, or if a soft pedal occurs at very low mileage:

#### CAUTION:

- Be careful of vehicle speed because the brake pedal does not operate firmly/securely until pads and disc brake rotor are securely seated.
  - Only perform this procedure under safe road and traffic conditions. Use extreme caution.
1. Drive vehicle on straight, flat road.
  2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
  3. Drive without depressing brake pedal for a few minutes to cool the brakes.
  4. Repeat steps 1 to 3 until pad and disc brake rotor are securely seated.

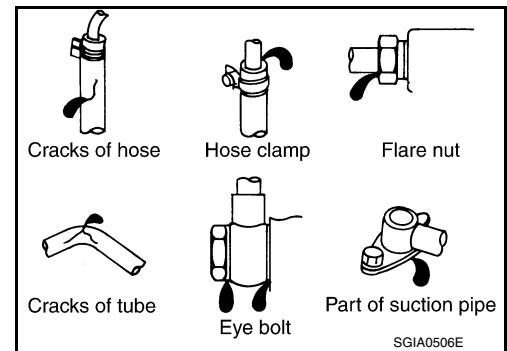
### STEERING GEAR AND LINKAGE

#### STEERING GEAR AND LINKAGE : Checking Steering Gear and Linkage

INFOID:000000012562944

#### STEERING GEAR

- Check the steering gear housing for looseness, damage and oil leakage as shown.
- Check the steering column connections for looseness.



#### STEERING LINKAGE

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

### POWER STEERING FLUID AND LINES

#### POWER STEERING FLUID AND LINES : Checking Power Steering Fluid and Line

INFOID:000000012562945

#### CHECKING FLUID LEVEL

MA

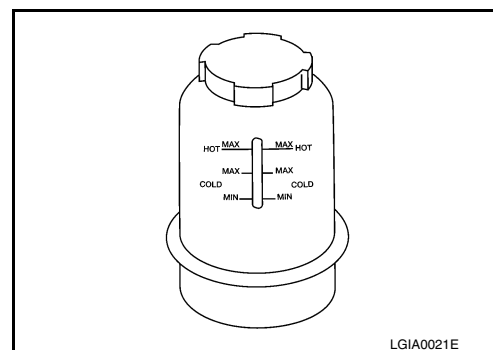
## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

Check fluid level, referring to the scale on the reservoir tank.  
Use HOT range for fluid temperatures of 50° – 80°C (122° – 176°F).  
Use COLD range for fluid temperatures of 0° – 30°C (32° – 86°F).

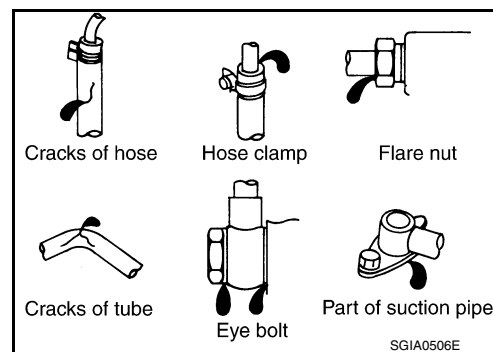
#### CAUTION:

- Do not overfill.
- Do not reuse any power steering fluid.
- Recommended fluid is Genuine NISSAN PSF or equivalent. Refer to [MA-18, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).



### CHECKING LINES

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



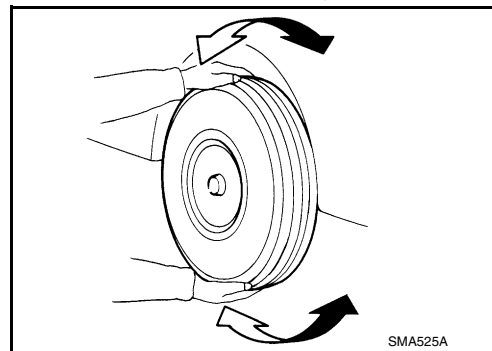
## AXLE AND SUSPENSION PARTS

### AXLE AND SUSPENSION PARTS : Checking Axle and Suspension Parts INFOID:0000000012562946

#### FRONT AND REAR AXLE AND SUSPENSION PARTS

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

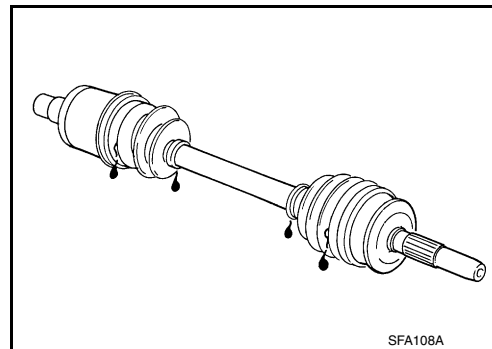
- Shake each wheel to check for excessive play.
- Rotate each wheel to check for abnormal noise.
- Check axle and suspension nuts and bolts for looseness.



- Check the strut and shock absorber for oil leakage or other damage.
- Check suspension ball joints for grease leakage and ball joint dust cover for cracks or other damage.

#### FRONT DRIVE SHAFT

Check the boots and drive shaft for cracks, wear, damage, and grease leakage.



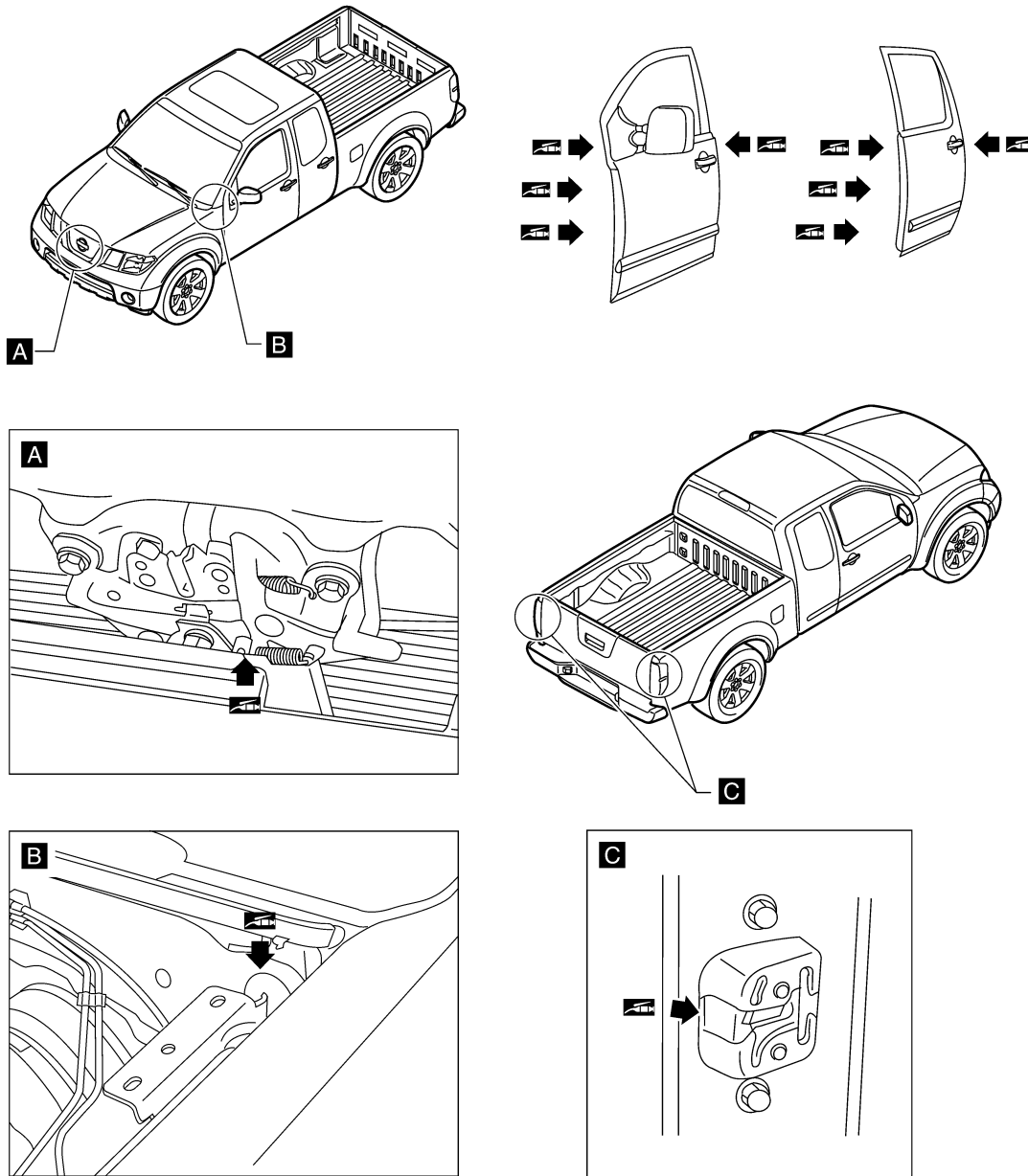
## LOCKS, HINGES AND HOOD LATCH

## CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

### LOCKS, HINGES AND HOOD LATCH : Lubricating Locks, Hinges and Hood Latches

INFOID:000000012562947



: Multi-purpose grease

WLIA0025E

- Lubricate the locations shown.

Refer to [MA-18. "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada), [MA-21. "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).

### SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

#### SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS : Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

INFOID:000000012562948

Check the seat belt buckles, webbing, retractors, anchors and adjusters. Replace any seat belt assembly as necessary. Refer to [SB-3. "Inspection"](#).

- Check the seat belt anchors for loose mounting bolts, damage, or excessive wear.

## CHASSIS AND BODY MAINTENANCE

### < PERIODIC MAINTENANCE >

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- 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.
- Do not lubricate the seat belt buckle or tongue.
- When replacing any seat belt assembly always use a Genuine NISSAN seat belt assembly.