# SECTION MA
# MAINTENANCE

## CONTENTS

# PREPARATION

## PRECAUTIONS

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

INFOID:0000000006054111

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 3 minutes before performing any service.**

### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000004900832

**NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.
   **NOTE:**
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

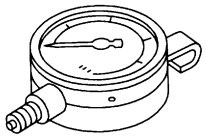
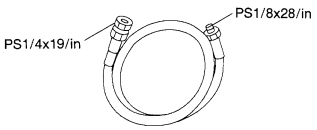
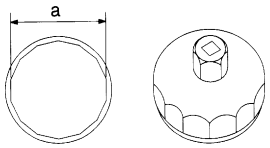
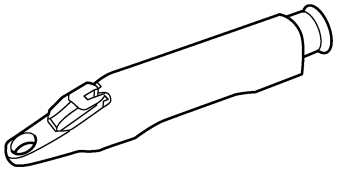
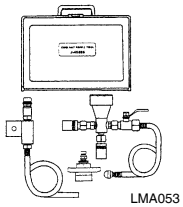
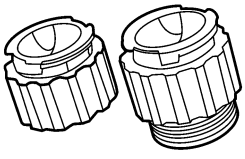
5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

# PREPARATION

## Special Service Tool

INFOID:0000000006054112

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

| Tool number<br>(Kent-Moore No.)<br>Tool name | Description |
|---|---|
| ST25051001<br>(J-25695-1)<br>Oil pressure gauge<br>  <br>S-NT050 | Measuring oil pressure<br>**Maximum measuring range:**<br>**2,452 kPa (25 kg/cm$^2$, 356 psi)** |
| ST25052000<br>(J-25695-2)<br>Hose<br>  <br><br>S-NT559 | Adapting oil pressure gauge to cylinder block |
| KV10115801<br>(J-38956)<br>Oil filter cap wrench<br>  <br><br>NT375 | Removing and installing oil filter<br>**a: 64.3 mm (2.531 in)** |
| KV991J0010<br>(J-23688)<br>Engine coolant refractometer<br>  <br>WBIA0539E | Checking concentration of ethylene glycol in engine coolant |
| KV991J0070<br>(J-45695)<br>Coolant refill tool<br>  <br>LMA053 | Filling cooling system |
| —<br>(J-24460-92)<br>Radiator pressure test adapter set<br>  <br>AWBIA0891ZZ | Adapting radiator pressure tester to reservoir filler neck. |

## Commercial Service Tool

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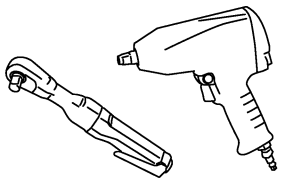
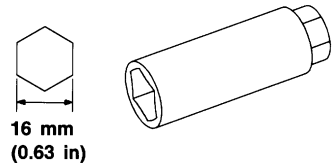
| (Kent-Moore No.)<br>Tool name | Description |
|---|---|
| Power tool<br>  <br>PBIC0190E | Loosening bolts and nuts |
| Spark plug wrench<br>  <br>16 mm<br>(0.63 in)<br>S-NT047 | Removing and installing spark plug |

# ON-VEHICLE MAINTENANCE

## GENERAL MAINTENANCE

### General Maintenance

INFOID:0000000001606163

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 owner can perform these checks and inspections or have their INFINITI dealers perform them.

OUTSIDE THE VEHICLE

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

| Item | | Reference page |
|---|---|---|
| **Tires** | Check the pressure with a gauge at least once a month and always prior to a long distance trip. Adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear. | — |
| **Wheel lug nuts** | When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary. | WT-48, "Rotation" |
| **Windshield** | Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary. | — |
| **Tire rotation** | Tires should be rotated every 12,000 km (7,500 miles). | WT-48, "Rotation" |
| **Transmitter components in tire pressure monitoring system (TPMS)** | Replace grommet seat, valve core and cap of the transmitter on TPMS every tire replacement by reaching wear limit of tire. | WT-49, "Transmitter (Pressure Sensor)" |
| **Wheel alignment and balance** | If the vehicle pulls to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed. | WT-46, "Adjustment", FSU-7, "Front Wheel Alignment" |
| **Windshield wiper blades** | Check for cracks or wear if they do not wipe properly. | — |
| **Doors and engine hood** | Check that all doors and the engine hood operate smoothly as well as the back hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released.<br>When driving in areas using road salt or other corrosive materials, check lubrication frequently. | MA-33, "Lubricating Locks, Hinges and Hood Latches" |
| **Lamps** | 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. | EXL-110, "HEADLAMP : Aiming Adjustment" |

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 |
|---|---|---|
| **Warning lamps and buzzers/chimes** | Make sure that all warning lamps and buzzers/chimes are operating properly. | WCS-4, "WARNING CHIME SYSTEM : System Description" |
| **Windshield wiper and washer** | Check that the wipers and washer operate properly and that the wipers do not streak. | — |
| **Windshield defroster** | Check that the air comes out of the defroster outlets properly and in sufficient quantity when operating the heater or air conditioner. | — |
| **Steering wheel** | Check that it has the specified play. Be sure to check for changes in the steering condition, such as excessive play, hard steering or strange noises. | ST-15, "On-Vehicle Inspection and Service" |
| **Seats** | 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. | — |

| Item | | Reference page |
|---|---|---|
| **Seat belts** | 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. | SB-11, "Seat Belt Inspection", MA-33, "Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters" |
| **Accelerator pedal** | Check the pedal for smooth operation. Keep the floor mats away from the pedal. | — |
| **Brakes** | Check that the brake does not pull the vehicle to one side when applied. | — |
| **Brake pedal and booster** | 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. | BR-15, "Inspection and Adjustment", BR-10, "Inspection" |
| **Parking brake** | Check that the parking brake control 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. | PB-5, "On-Vehicle Service" |
| **Automatic transmission “Park” mechanism** | On a fairly steep hill check that the vehicle is held securely with the shift selector in the P position without applying the 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 |
|---|---|---|
| **Windshield washer fluid** | Check that there is adequate fluid in the tank. | — |
| **Engine coolant level** | Check the coolant level when the engine is cold. | — |
| **Radiator and hoses** | 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. | — |
| **Brake fluid level** | Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoirs | MA-29 |
| **Battery** | 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. | — |
| **Engine drive belt** | Make sure that no belt is frayed, worn, cracked or oily. | MA-14 |
| **Engine oil level** | Check the level on the dipstick after parking the vehicle on a level spot and turning off the engine. | — |
| **Power steering fluid level and lines** | Check the level on the reservoir with the engine off. Check the lines for improper attachment, leaks, cracks, etc. | MA-31 |
| **Automatic transmission fluid level** | Check the level on the dipstick after putting the shift selector in “P” with the engine idling. | MA-23 |
| **Exhaust system** | 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. | MA-23 |
| **Underbody** | 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. | — |
| **Fluid leaks** | Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately. | — |

# PERIODIC MAINTENANCE

## Introduction of Periodic Maintenance

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

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

## Maintenance for Off-road Driving (4WD only)

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After driving the vehicle off-road through sand, mud, or water; more frequent maintenance may be required for the following items:

▲ Brake pads and rotors
▲ Brake lines and hoses
▲ Rear final drive oil, transmission fluid, and transfer fluid
▲ Steering linkage
▲ Drive shafts
▲ Engine air cleaner filter
▲ In-cabin microfilters

## Schedule 1

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### EMISSION CONTROL SYSTEM MAINTENANCE

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

| **MAINTENANCE OPERATION** | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 3.75 (6) 3 | 7.50 (12) 6 | 11.25 (18) 9 | 15 (24) 12 | 18.75 (30) 15 | 22.5 (36) 18 | 26.25 (42) 21 | 30 (48) 24 | |
| Drive belts | NOTE (1) | | | | | | | | | MA-14 |
| Air cleaner filter | NOTE (2) | | | | | | | | [R] | MA-17 |
| EVAP vapor lines | | | | | | | | | I* | MA-21 |
| Fuel lines | | | | | | | | | I* | MA-17 |
| Fuel filter | NOTE (3) | | | | | | | | | — |
| Engine coolant | NOTE (4) | | | | | | | | | MA-14 |
| Engine oil | | R | R | R | R | R | R | R | R | MA-18 |
| Engine oil filter | | R | R | R | R | R | R | R | R | MA-18 |
| Spark plugs (double PLATINUM-TIPPED type) | | Replace every 105,000 miles (169,000 km). | | | | | | | | MA-20 |
| Intake and exhaust valve clearance* | NOTE (5) | | | | | | | | | EM-108 |

| MAINTENANCE OPERATION | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 33.75 (54) 27 | 37.5 (60) 30 | 41.25 (66) 33 | 45 (72) 36 | 48.75 (78) 39 | 52.5 (84) 42 | 56.25 (90) 45 | 60 (96) 48 | |
| Drive belts | NOTE (1) | | | | | | | | I* | MA-14 |
| Air cleaner filter | NOTE (2) | | | | | | | | [R] | MA-17 |
| EVAP vapor lines | | | | | | | | | I* | MA-21 |
| Fuel lines | | | | | | | | | I* | MA-17 |
| Fuel filter | NOTE (3) | | | | | | | | | — |
| Engine coolant | NOTE (4) | | | | | | | | R* | MA-14 |
| Engine oil | | R | R | R | R | R | R | R | R | MA-18 |
| Engine oil filter | | R | R | R | R | R | R | R | R | MA-18 |
| Spark plugs (double PLATINUM-TIPPED type) | | Replace every 105,000 miles (169,000 km). | | | | | | | | MA-20 |
| Intake and exhaust valve clearance* | NOTE (5) | | | | | | | | | EM-108 |

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

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

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

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

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

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

## CHASSIS AND BODY MAINTENANCE

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

| MAINTENANCE OPERATION | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 3.75 (6) 3 | 7.5 (12) 6 | 11.25 (18) 9 | 15 (24) 12 | 18.75 (30) 15 | 22.5 (36) 18 | 26.25 (42) 21 | 30 (48) 24 | |
| Brake lines and cables | | | | | I | | | | I | MA-30 |
| Brake pads and rotors | | | I | | I | | I | | I | MA-30 |
| Automatic transmission fluid | NOTE (1) | | | | I | | | | I | MA-23 |
| Transfer fluid and front final drive oil | NOTE (1) | | | | I | | | | I | MA-26, MA-26 |
| Rear final drive oil | NOTE (1) | | | | I | | | | I | MA-26 |
| Steering gear and linkage, axle and suspension parts | | | I | | I | | I | | I | MA-30, MA-31 |
| Tire Rotation | NOTE (2) | | | | | | | | | MA-29 |
| Drive shaft boots and propeller shaft (4WD) | | | I | | I | | I | | I | MA-26 |
| Exhaust system | | | I | | I | | I | | I | MA-23 |
| In-cabin microfilter | | | | | R | | | | R | MA-22 |

| MAINTENANCE OPERATION | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 33.75 (54) 27 | 37.5 (60) 30 | 41.25 (66) 33 | 45 (72) 36 | 48.75 (78) 39 | 52.5 (84) 42 | 56.25 (90) 45 | 60 (96) 48 | |
| Brake lines and cables | | | | | I | | | | I | MA-30 |
| Brake pads and rotors | | | I | | I | | I | | I | MA-30 |
| Automatic transmission fluid | NOTE (1) | | | | I | | | | I | MA-23 |
| Transfer fluid and front final drive oil | NOTE (1) | | | | I | | | | I | MA-26, MA-26 |
| Rear final drive oil | NOTE (1) | | | | I | | | | I | MA-26 |
| Steering gear and linkage, axle and suspension parts | | | I | | I | | I | | I | MA-30, MA-31 |
| Tire Rotation | NOTE (2) | | | | | | | | | MA-29 |
| Drive shaft boots and propeller shaft (4WD) | | | I | | I | | I | | I | MA-26 |
| Exhaust system | | | I | | I | | I | | I | MA-23 |
| In-cabin microfilter | | | | | R | | | | R | MA-22 |

(1) If towing a trailer, or 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.

(2) Refer to “Tire rotation” under the “General maintenance” heading earlier in this section.

## Schedule 2

INFOID:0000000001606167

### EMISSION CONTROL SYSTEM MAINTENANCE

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

| MAINTENANCE OPERATION | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 7.5 (12) 6 | 15 (24) 12 | 22.5 (36) 18 | 30 (48) 24 | 37.5 (60) 30 | 45 (72) 36 | 52.5 (84) 42 | 60 (96) 48 | |
| Drive belts | NOTE (1) | | | | | | | | I* | MA-14 |
| Air cleaner filter | | | | | [R] | | | | [R] | MA-17 |
| EVAP vapor lines | | | | | I* | | | | I* | MA-21 |
| Fuel lines | | | | | I* | | | | I* | MA-17 |
| Fuel filter | NOTE (2) | | | | | | | | | — |
| Engine coolant | NOTE (3) | | | | | | | | R* | MA-14 |
| Engine oil | | R | R | R | R | R | R | R | R | MA-18 |
| Engine oil filter | | R | R | R | R | R | R | R | R | MA-18 |
| Spark plugs (PLATINUM-TIPPED type) | | Replace every 105,000 miles (169,000 km). | | | | | | | | MA-20 |
| Intake and exhaust valve clearance* | NOTE (4) | | | | | | | | | EM-108 |

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

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

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

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

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

### CHASSIS AND BODY MAINTENANCE

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

| MAINTENANCE OPERATION | | MAINTENANCE INTERVAL | | | | | | | | Reference Section - Page or - Content Title |
|---|---|---|---|---|---|---|---|---|---|---|
| Perform at number of miles, kilometers or months, whichever comes first. | Miles x 1,000 (km x 1,000) Months | 7.5 (12) 6 | 15 (24) 12 | 22.5 (36) 18 | 30 (48) 24 | 37.5 (60) 30 | 45 (72) 36 | 52.5 (84) 42 | 60 (96) 48 | |
| Brake lines and cables | | | I | | I | | I | | I | MA-30 |
| Brake pads and rotors | | | I | | I | | I | | I | MA-30 |
| Automatic transmission fluid | | | I | | I | | I | | I | MA-23 |
| Transfer fluid and front final drive oil | | | I | | I | | I | | I | MA-26, MA-26 |
| Rear final drive oil | | | I | | I | | I | | I | MA-26 |
| Steering gear and linkage, axle and suspension parts | | | | | I | | | | I | MA-30, MA-31 |
| Tire rotation | NOTE (1) | | | | | | | | | MA-29 |
| Drive shaft boots and propeller shaft (4WD) | | | I | | I | | I | | I | MA-26 |
| Exhaust system | | | | | I | | | | I | MA-23 |
| In-cabin microfilter | | | R | | R | | R | | R | MA-22 |

(1) Refer to “Tire rotation” under the “General maintenance” heading earlier in this section.

# RECOMMENDED FLUIDS AND LUBRICANTS

## Fluids and Lubricants

INFOID:0000000001606168

| Description | | Capacity (Approximate) | | | Recommended Fluids/Lubricants |
|---|---|---|---|---|---|
| | | Metric | US measure | Imp measure | |
| Fuel | | 105.8 ℓ | 28 gal | 23 1/4 gal | Unleaded gasoline with an octane rating of at least 87 AKI (RON 91) *8 |
| Engine oil Drain and refill | With oil filter change | 6.5 ℓ | 6 7/8 qt | 5 3/4 qt | • API Certification Mark*1<br>• Viscosity SAE 5W-30 |
| | Without oil filter change | 6.2 ℓ | 6 1/2 qt | 5 1/2 qt | |
| Dry engine (engine overhaul) | | 7.6 ℓ | 8 qt | 6 3/4 qt | |
| Cooling system | With reservoir at MAX level | 14.4 ℓ | 15 1/4 qt | 12 5/8 qt | Genuine NISSAN Long Life Anti-freeze coolant or equivalent |
| Automatic transmission fluid (ATF) | | 10.6 ℓ | 11 1/4 qt | 9 3/8 qt | Genuine NISSAN Matic J ATF *2 |
| Rear final drive oil | | 1.75 ℓ | 3 3/4 pt | 3 1/8 pt | API GL-5 Synthetic 75W-90 Gear Oil (Part No. 999MP-DF200P) or equivalent *9 |
| Transfer fluid | | 3.0 ℓ | 3 1/8 qt | 2 5/8 qt | Genuine NISSAN Matic D ATF *7 |
| Front final drive oil | | 1.6 ℓ | 3 3/8 pt | 2 7/8 pt | API GL-5 Viscosity SAE 80W-90 *6 |
| Power steering fluid (PSF) | | 1.0 ℓ | 1 1/8 qt | 7/8 qt | Genuine NISSAN PSF or equivalent *3 |
| Brake fluid | | — | — | — | Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent, DOT 3 (US FMVSS No. 116) *4 |
| Brake grease | | — | — | — | PBC (poly butyl cuprysil) grease or equivalent |
| Multi-purpose grease | | — | — | — | NLGI No. 2 (lithium soap base) |
| Windshield washer fluid | | 4.9 ℓ | 5 1/8 qt | 4 3/8 qt | Genuine NISSAN Windshield Washer Concentrate Cleaner & Anti-freeze or equivalent |
| Air conditioning system refrigerant | | 1.08 ± 0.05 kg | 2.38 ± 0.11 lb | 2.38 ± 0.11 lb | HFC-134a (R-134a) *5 |
| Air conditioning system oil | | 290 mℓ | 9.8 fl oz | 10.2 fl oz | NISSAN A/C System Oil Type S or equivalent *5 |

*1: For further details, refer to MA-12, "Engine Oil Recommendation" .

*2: **Using automatic transmission fluid other than Genuine NISSAN Matic J ATF may 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.**

*3: DEXRON™ VI type ATF may also be used.

*4: Available in mainland U.S.A. through your INFINITI dealer.

*5: For further details, see “Air conditioner specification label”.

*6: For hot climates, viscosity SAE 90 is suitable for ambient temperatures above 0° C (32° F).

*7: **Using fluid other than Genuine NISSAN Matic D ATF may cause deterioration in driveability and transfer durability, and may damage the transfer, which is not covered by the NISSAN new vehicle limited warranty.**

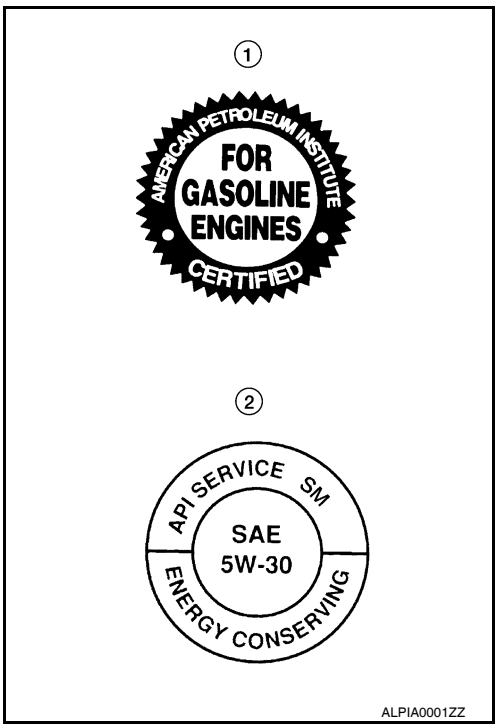
*8: For improved vehicle performance, INFINITI recommends the use of unleaded premium gasoline with an octane rating of at least 91 AKI (RON 96). For further details, refer to GI-27, "Precaution for Fuel (Unleaded Premium Gasoline Recommended)".

*9: See your INFINITI dealer for service for synthetic oil.

## Engine Oil Recommendation

INFOID:0000000006211816

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.




## Anti-Freeze Coolant Mixture Ratio

INFOID:0000000006211817

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

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

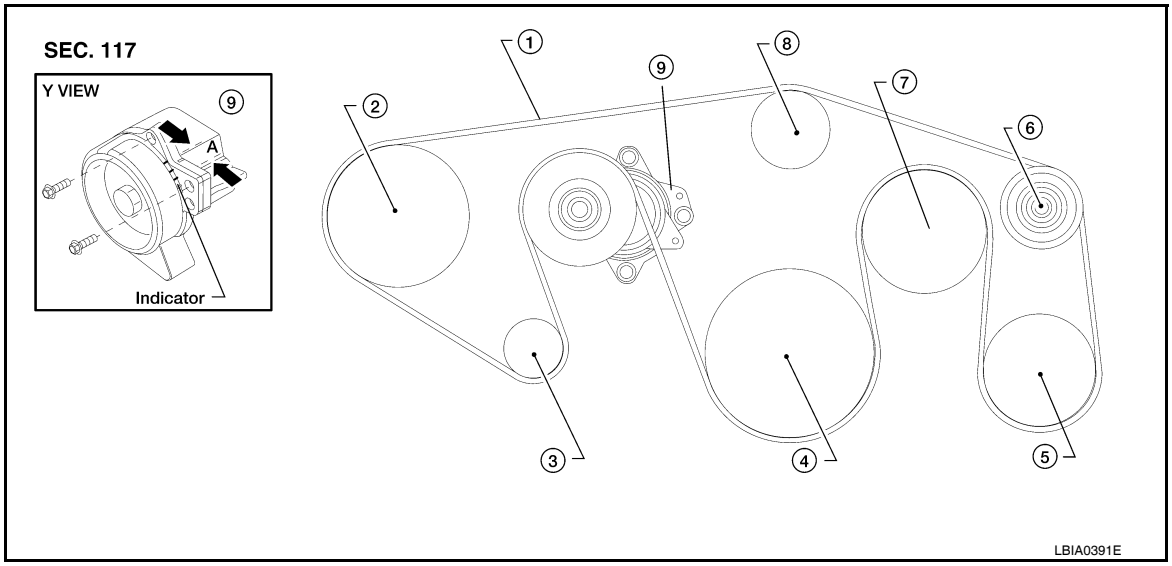
**CAUTION:**

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

# ENGINE MAINTENANCE

## Checking Drive Belts

INFOID:0000000001606170




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

**WARNING:**

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

1. Remove air duct and resonator assembly (inlet) when inspecting drive belt.
2. Make sure that indicator (single line notch) of each auto tensioner is within the allowable working range “A” (between three line notches) as shown.
   **NOTE:**
   - Check the auto tensioner indication when the engine is cold.
   - When the new drive belt is installed, the range should be “A” as shown.
   - The indicator notch is located on the moving side of the auto tensioner.
3. Visually check entire belt for wear, damage or cracks.
4. If the indicator is out of allowable working range or belt is damaged, replace the belt. Refer to EM-13, "Removal and Installation".

### DRIVE BELT TENSION

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

## Changing Engine Coolant

INFOID:0000000001606171

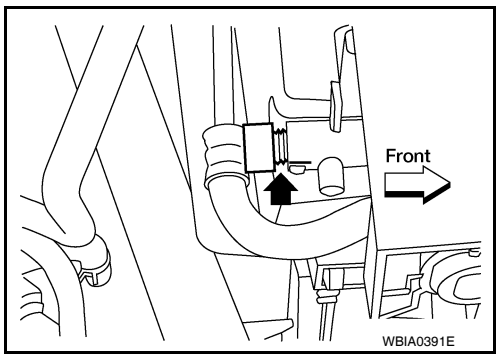
**WARNING:**

- **To avoid being scalded, never 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.**

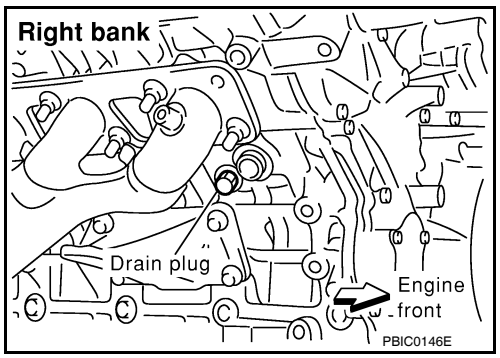
### DRAINING ENGINE COOLANT

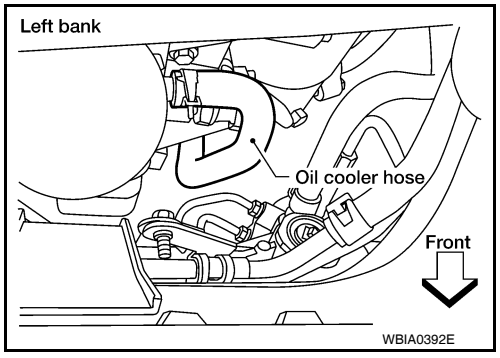
1. Turn ignition switch ON and set temperature control lever all the way to HOT position or the highest temperature position. Wait 10 seconds and turn ignition switch OFF.
2. Remove the engine front undercover using power tool.

3. Open the radiator drain plug at the bottom of the radiator, and remove the radiator filler cap. This is the only step required when partially draining the cooling system (radiator only).
**CAUTION:**
**Do not to allow the coolant to contact the drive belts.**




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 RH cylinder block drain plug to drain the right bank and the oil cooler hose to drain the left bank as shown.




5. Remove the reservoir tank to drain the engine coolant, then clean the reservoir tank before installing it.
6. Check the drained coolant for contaminants such as rust, corrosion or discoloration.
If the coolant is contaminated, flush the engine cooling system. Refer to CO-11, "Changing Engine Coolant" .

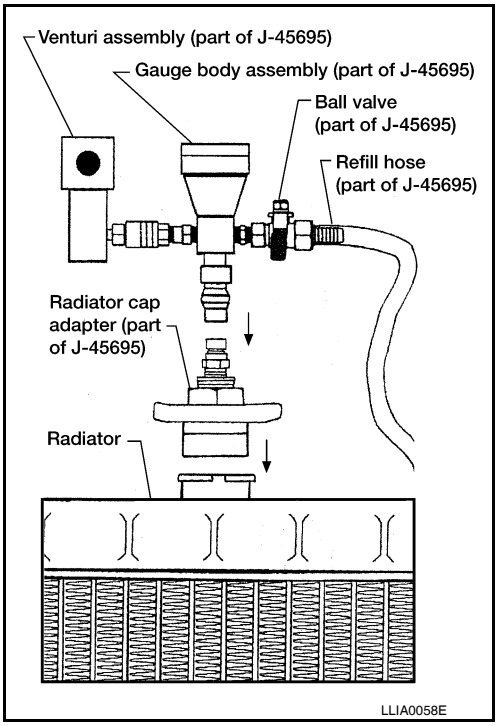
## REFILLING ENGINE COOLANT

1. Close the radiator drain plug. Install the reservoir tank, cylinder block drain plug, and the oil cooler hose, if removed for a total system drain or for engine removal or repair.
   - The radiator must be completely empty of coolant and water.
   - Apply sealant to the threads of the cylinder block drain plug. Use Genuine High Performance Thread Sealant or equivalent. Refer to GI-15, "Recommended Chemical Products and Sealants" .

| | |
|---|---|
| **Radiator drain plug** | **: Refer to CO-15 .** |
| **RH cylinder block drain plug** | **: Refer to EM-82 .** |

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 Genuine NISSAN Long Life Anti-freeze coolant or equivalent, mixed 50/50 with distilled water or demineralized water. Refer to MA-12, "Engine Oil Recommendation" .

**Cooling system capacity (with reservoir) : Refer to MA-12, "Fluids and Lubricants" .**

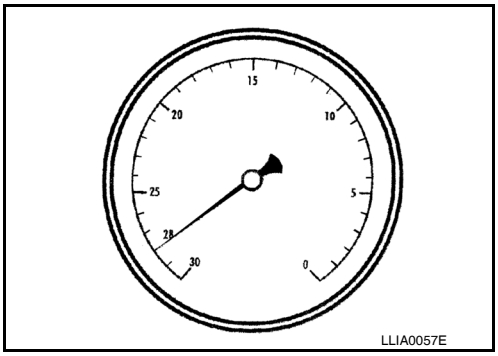
6. Install an air hose to the venturi assembly, the air pressure must be within specification.

**Compressed air supply pressure : 5.7 - 8.5 kPa (5.6 - 8.4 kg/cm$^2$ , 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, refer to the vacuum specifications based on the altitude above sea level.




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

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

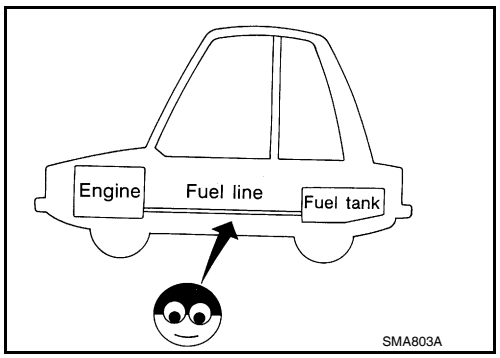
1. Drain the water from the engine cooling system. Refer to CO-11, "Changing Engine Coolant" .

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-11, "Changing Engine Coolant" .
7. Repeat steps 2 through 6 until clear water begins to drain from the radiator.

## Checking Fuel Line

INFOID:0000000001606172

Inspect the fuel lines and fuel tank for improper mounting, leaks, cracks, damage, loose connections, chafing, or deterioration.
As necessary, repair or replace any faulty parts.




## Changing Fuel Filter

INFOID:0000000001606173

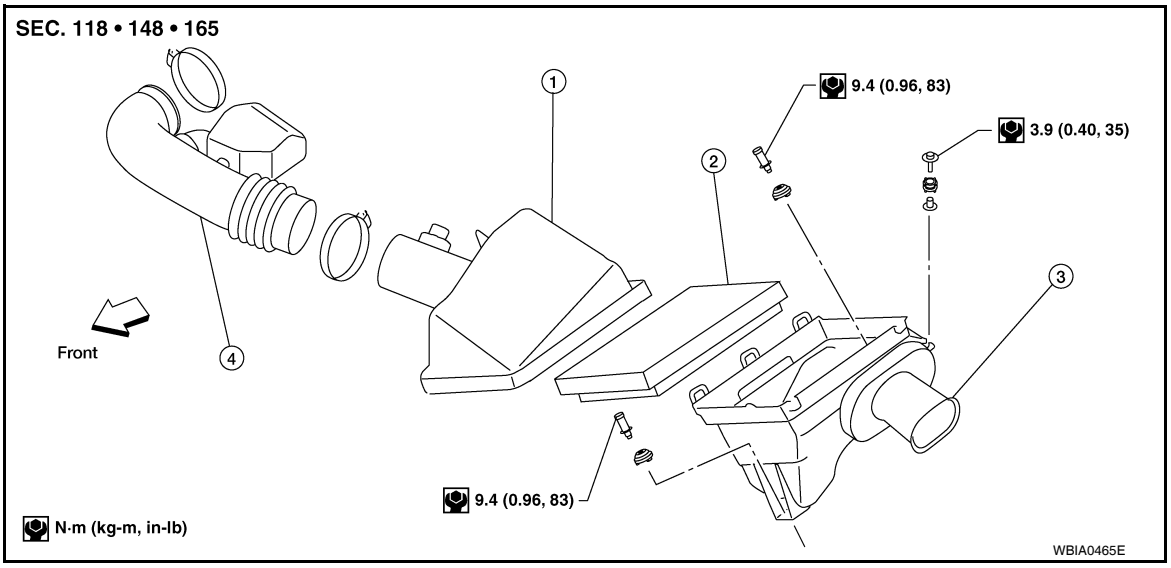
The fuel filter is part of the fuel level sensor unit, fuel filter and fuel pump assembly. Refer to FL-7, "Removal and Installation" .

**WARNING:**
**Before replacing the fuel filter, release the fuel pressure from the fuel system. Refer to EC-494, "Fuel Pressure Check".**

## Changing Engine Air Cleaner Filter

INFOID:0000000001606174

### VISCOUS PAPER TYPE




1. Air cleaner case (upper)
2. Air cleaner filter
3. Air cleaner case (lower)
4. Air duct and resonator assembly

**NOTE:**
- The viscous paper type filter does not need cleaning between replacement intervals.
- Replace the air filter as necessary for required maintenance.

1. Remove the air duct and resonator assembly.

2. Disconnect the harness connector, then remove the air cleaner case (upper).
3. Remove the air cleaner filter from the air cleaner case (lower).
4. Install the new air cleaner filter in the air cleaner case (lower).
5. Install the air cleaner case (upper) and connect the harness connector.
6. Install the air duct and resonator assembly.

## Changing Engine Oil

INFOID:0000000001606175

**WARNING:**

- **Be careful not to burn yourself, as the engine and engine oil are 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.

**Oil drain plug : Refer to EM-82 .**

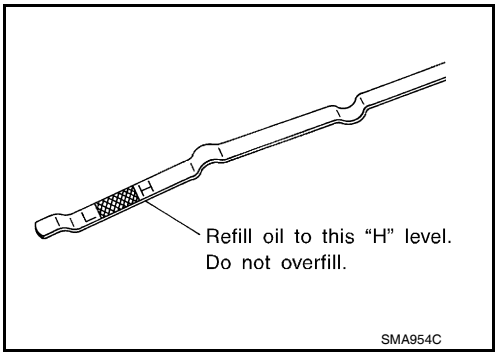
**CAUTION:**
**Clean the drain plug and install with a new washer.**

5. Refill the engine with new specified engine oil.

**Oil grade and viscosity : Refer to MA-12, "Fluids and Lubricants" .**
**Oil capacity : Refer to MA-12, "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.
   **CAUTION:**
   **Do not overfill the engine with oil.**

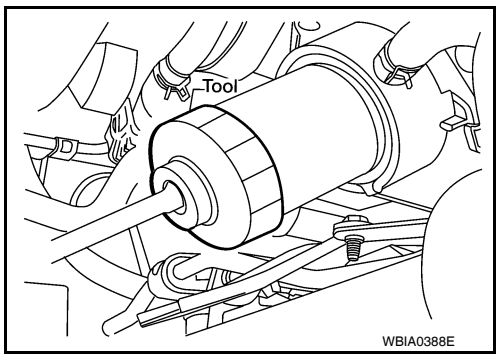



## Changing Oil Filter

INFOID:0000000001606176

REMOVAL

1. Remove the engine front undercover using power tool.
2. Remove the oil filter using Tool as shown.

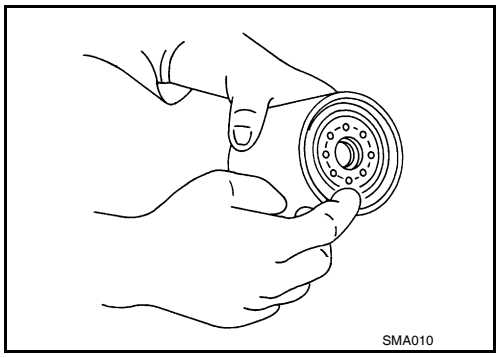



**Tool number : KV10115801 (J-38956)**

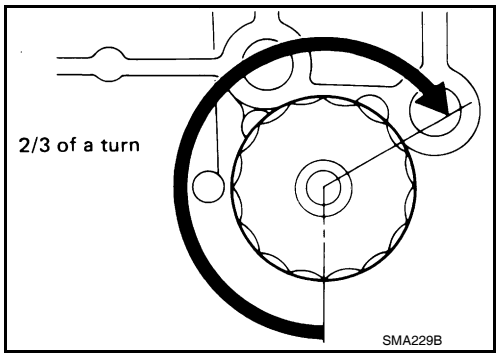
**CAUTION:**
- **The oil filter is equipped with a pressure relief valve.**
- **Use Genuine NISSAN oil filter or equivalent.**
- **Be careful not to get burned when the engine and engine oil are hot.**
- **When removing, prepare a shop cloth to absorb any engine oil leaks or spills.**
- **Do not allow engine oil to adhere to the 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.




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

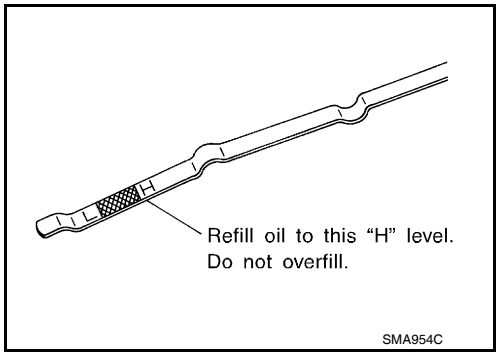



**Oil filter : 17.7 N·m (1.8 kg-m, 13 ft-lb)**

4. Inspect the engine for oil leaks. Refer to LU-11, "Removal and Installation" .
5. Install the engine front undercover using power tool.

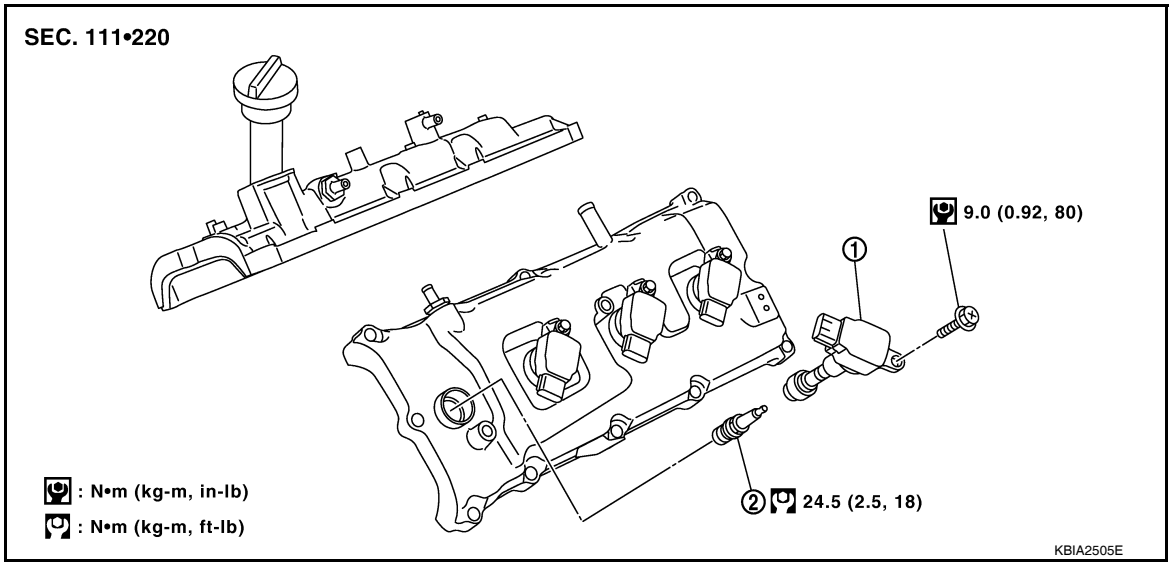
## INSPECTION AFTER INSTALLATION

1. Check the oil level using the dipstick as shown. Add oil as necessary.
   **CAUTION:**
   **Do not overfill the engine with oil.**
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.



# Changing Spark Plugs

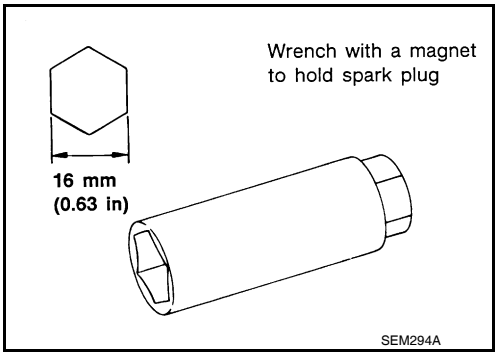
INFOID:0000000001606177




1. Ignition coil
2. Spark plug

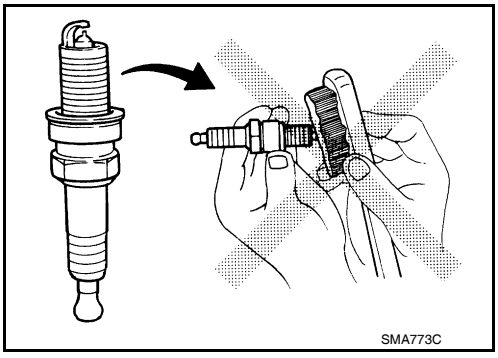
## REMOVAL

1. Remove the ignition coil. Refer to EM-37, "Removal and Installation" .
2. Remove the spark plug using suitable tool.




## INSPECTION AFTER REMOVAL

- Do not use a wire brush for cleaning.

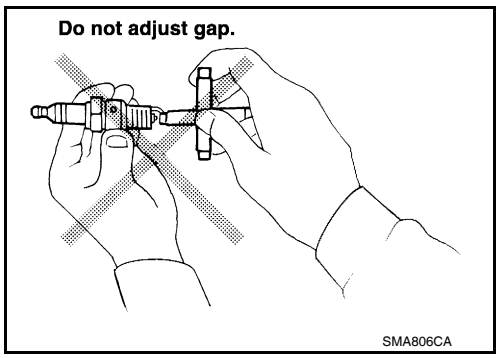



- If the spark plug tip is covered with carbon, a spark plug cleaner may be used.

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

**Cleaning time : Less than 20 seconds**

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




## INSTALLATION

Installation is in the reverse order of removal.

- Use standard type spark plug for normal condition.
- The hot type spark plug is suitable when fouling occurs with the standard type spark plug under conditions such as:

- Frequent engine starts
- Low ambient temperatures

- The cold type spark plug is suitable when spark knock occurs with the standard type spark plug under conditions such as:

- Extended highway driving
- Frequent high engine revolution

| | |
|---|---|
| Make | NGK |
| Model | Standard model |
| Standard type | DILFR5A-11 |
| Gap (Nominal) | 1.1 mm (0.043 in) |

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

## Checking EVAP Vapor Line

INFOID:0000000001606178

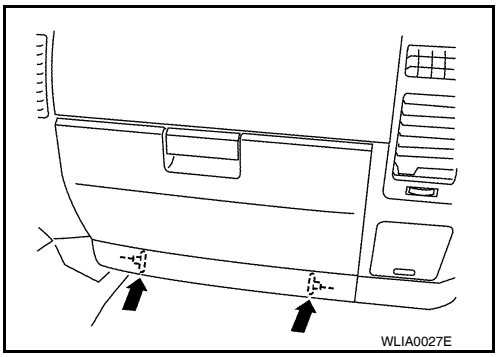
1. Visually inspect the EVAP vapor lines for improper attachment, cracks, damage, loose connections, chafing, or deterioration.
2. Inspect the vacuum relief valve of the fuel tank filler cap for clogging and sticking.
   Refer to EC-496, "How to Detect Fuel Vapor Leakage" .

# CHASSIS AND BODY MAINTENANCE

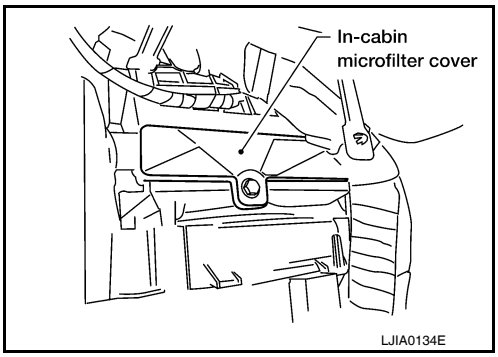
## Changing In-cabin Microfilter

INFOID:0000000001606179

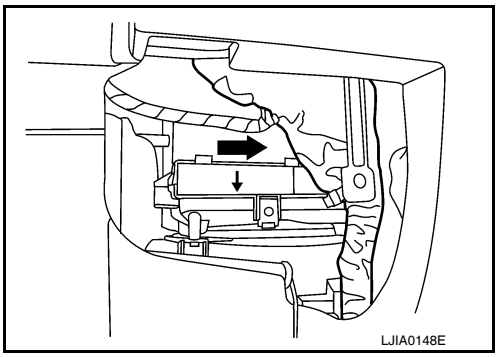
1. Remove the two lower glove box hinge pins to remove the glove box from the instrument panel and let it hang from the cord.



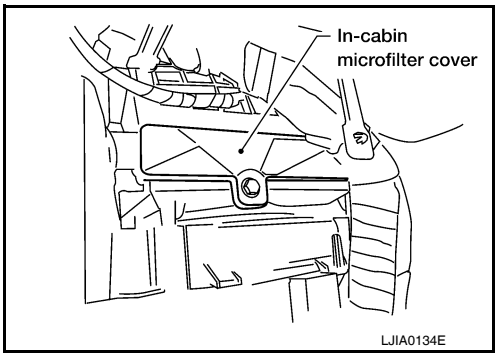

2. Remove the screw and remove the in-cabin microfilter cover.
3. Remove the in-cabin microfilters from the front heater and cooling unit assembly housing.



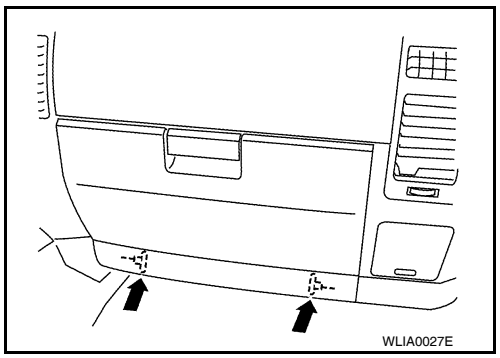

4. Insert the first new in-cabin microfilter into the front heater and cooling unit assembly housing and slide it over to the right. Insert the second new in-cabin microfilter into the front heater and cooling unit assembly housing.
   **NOTE:**
   The in-cabin microfilters are marked with air flow arrows. 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.



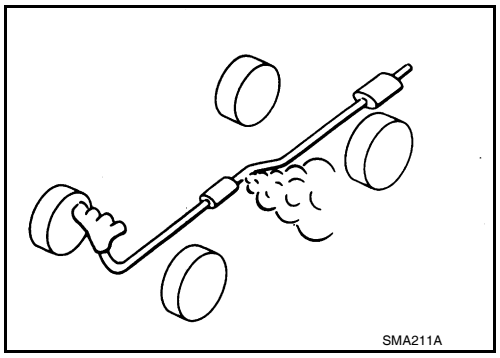
6. Install the lower glove box in the instrument panel and secure it with the two hinge pins.




## Checking Exhaust System

INFOID:0000000001606180

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




## Checking Automatic Transmission Fluid (ATF)

INFOID:0000000001606181

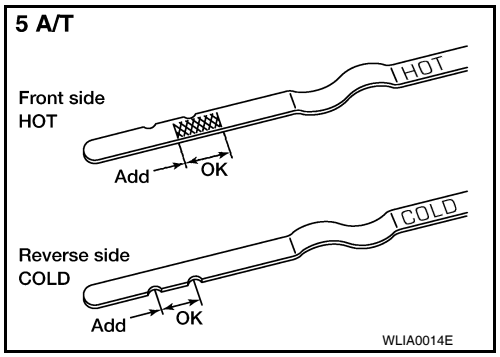
1. Remove the ATF level gauge bolt.
2. Before driving, the ATF level can be checked at ATF temperatures of 30° to 50°C (86° to 122°F) using the “COLD” range on the ATF level gauge as follows:

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 ATF level with the engine idling.

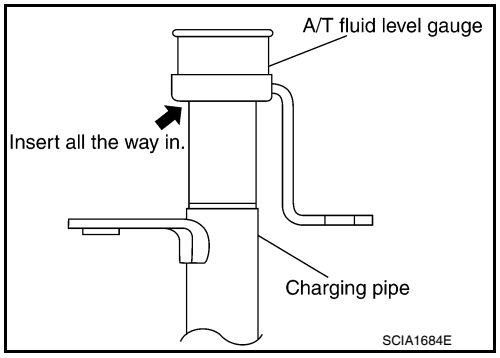
d. Remove the ATF level gauge and wipe it clean with a lint-free paper.
**CAUTION:**
**When wiping the ATF from the ATF level gauge, always use a lint-free paper, not a cloth.**




e. Re-insert the ATF level gauge into the charging pipe until the cap contacts the top of the charging pipe as shown.
**CAUTION:**
**To check ATF level, insert the ATF level gauge until the cap contacts the top of the charging pipe, with the gauge reversed from the normal inserted position.**

f. Remove the ATF level gauge and note the ATF level. If the ATF level is at low side of range, add ATF to the transmission through the charging pipe.
**CAUTION:**
**Do not overfill the transmission with ATF.**

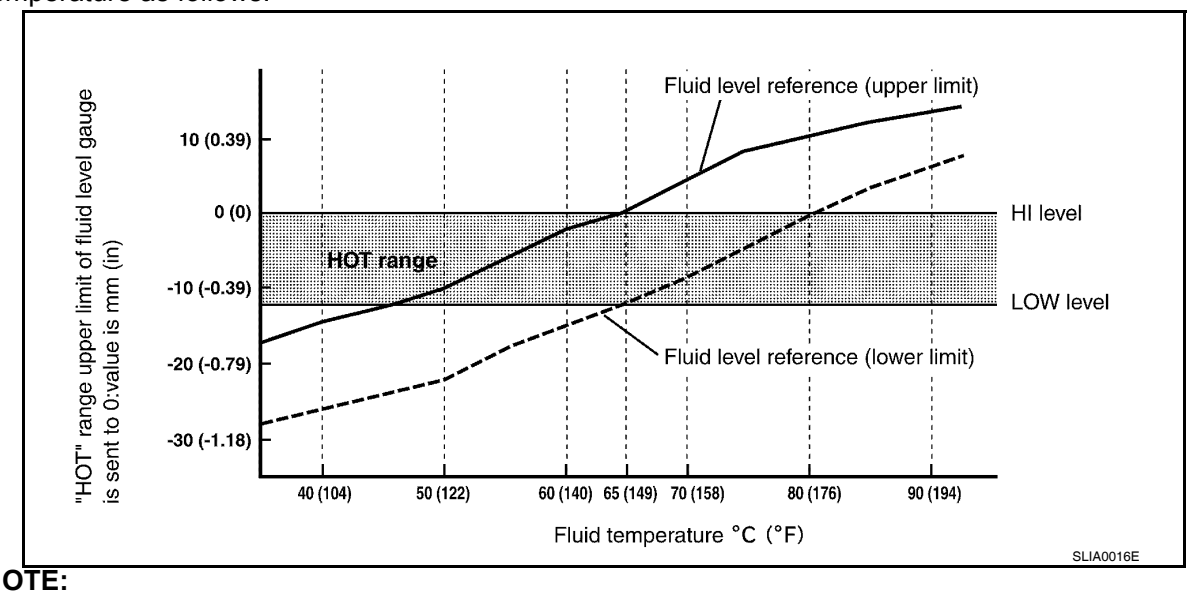
g. Install the ATF level gauge and the ATF level gauge bolt.




**ATF level gauge bolt : Refer to TM-220, "Component" .**

3. Warm up the engine.
4. Check for any ATF leaks.

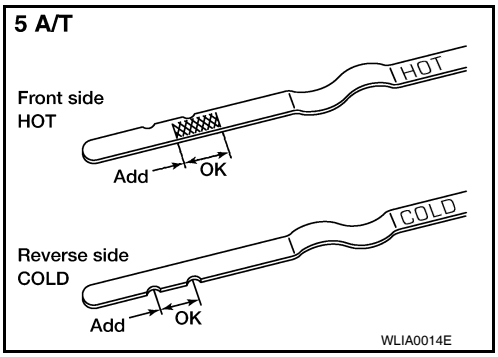
5. Drive the vehicle to increase the ATF temperature to 80° C (176° F).
6. Allow the ATF temperature to fall to approximately 65°C (149°F). Use the CONSULT-III to monitor the ATF temperature as follows:



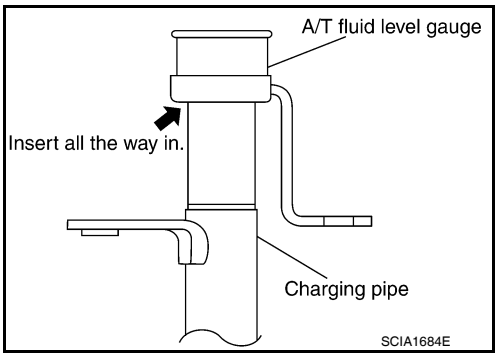

**NOTE:**
ATF level will be greatly affected by temperature as shown. Therefore monitor the ATF temperature data using the CONSULT-III.

a. Connect CONSULT-III to data link connector.
b. Select “MAIN SIGNALS” in “DATA MONITOR” mode for “A/T” with CONSULT-III.
c. Read out the value of “ATF TEMP 1”.

7. Re-check the ATF level at ATF temperatures of approximately 65°C (149°F) using the “HOT” range on the ATF level gauge as shown.
**CAUTION:**
- **When wiping the ATF from the ATF level gauge, always use lint-free paper, not a cloth.**




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




8. Check the ATF condition.
   - If the ATF is very dark or has some burned smell, there may be an internal problem with the transmission. Refer to TM-178, "Checking the A/T Fluid (ATF)". Flush the transmission cooling system after repairing the transmission.
   - If the ATF 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.
9. Install the ATF level gauge in the ATF charging pipe and install the level gauge bolt.

10. Tighten the level gauge bolt to specification.

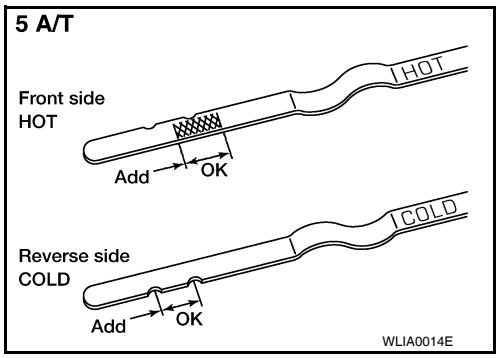
**Level gauge bolt: : Refer to TM-220, "Component" .**

## Changing Automatic Transmission Fluid (ATF)

INFOID:0000000001606182

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

**Drain plug : Refer to TM-220, "Component" .**




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

**ATF type and capacity : Refer to MA-12, "Fluids and Lubricants" .**

**CAUTION:**

- **Use only the specified ATF. Do not mix with other fluids.**
- **Using an ATF other than the specified ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the warranty.**
- **When filling the transmission with ATF, do not spill the ATF on any heat generating parts such as the exhaust manifold.**
- **Do not reuse the drain plug gasket.**

**Drain plug : Refer to TM-220, "Component" .**

5. Install the ATF level gauge in the ATF charging pipe and tighten the level gauge bolt to specification.

**Level gauge bolt : Refer to TM-220, "Component".**

6. Drive the vehicle to warm up the ATF to 80° C (176° F).
7. Check the ATF level and condition. Refer to TM-178, "Checking the A/T Fluid (ATF)". If the ATF is still dirty, repeat steps 2 through 5.

## Changing Transfer Fluid

INFOID:0000000001606183

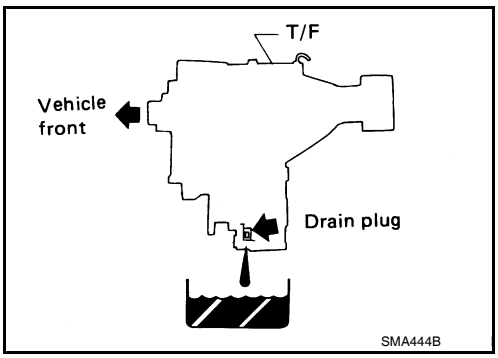
### DRAINING

1. Stop the engine.

2. Remove the drain plug and gasket to drain the transfer fluid as shown.
3. Install the new gasket on the drain plug and install the drain plug in the transfer. Tighten the drain plug to specification.

**Drain plug : Refer to TM-220, "Component".**

**CAUTION:**
**Do not reuse the gasket.**




FILLING

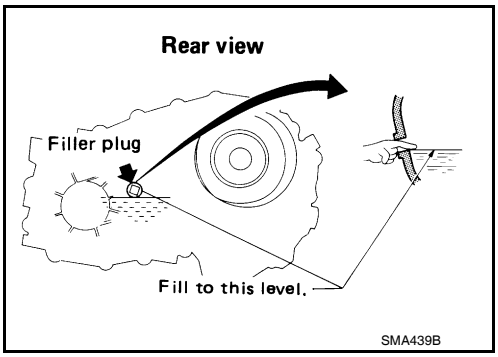
1. Remove the filler plug and gasket.
2. Fill with new specified fluid until the fluid level reaches the specified limit near the filler plug mounting hole as shown.

**Fluid capacity and grade : Refer to MA-12, "Fluids and Lubricants" .**

**CAUTION:**
**Carefully fill the transfer with fluid. Filling should take approximately three minutes.**
3. Leave the vehicle for three minutes and then check the fluid level again as shown.
4. Install the new gasket on the filler plug and install the filler plug in the transfer. Tighten the filler plug to specification.

**Filler plug : Refer to TM-220, "Component" .**

**CAUTION:**
**Do not reuse the gasket.**




## Checking Transfer Fluid

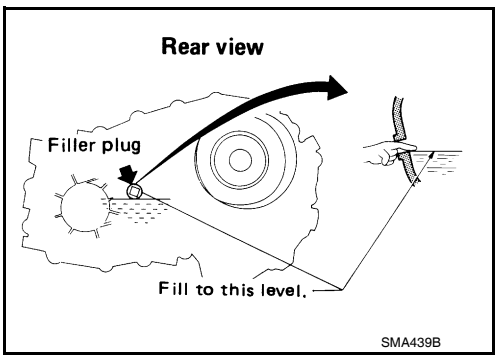
INFOID:0000000001606184

FLUID LEAKAGE AND FLUID LEVEL

1. Check for any fluid leaks from the transfer assembly or around it and correct as necessary.
2. Remove the filler plug to check the fluid level at the filler plug mounting hole as shown.
**CAUTION:**
**Do not start the engine while checking the fluid level.**
3. Install the new gasket on the filler plug and install the filler plug in the transfer. Tighten the filler plug to specification.

**Filler plug : Refer to TM-220, "Component" .**

**CAUTION:**
**Do not reuse the gasket.**




## Checking Propeller Shaft

INFOID:0000000001606185

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.

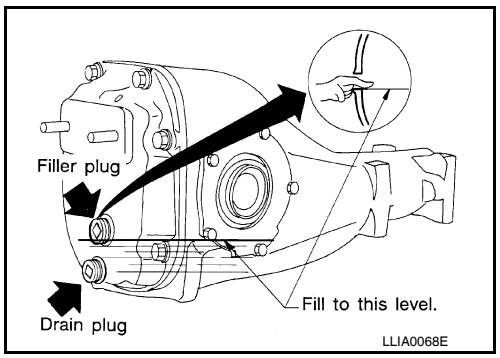
## Checking Final Drive Oil

INFOID:0000000001606186

1. Remove the filler plug.

2. Check the oil level as shown. Add the specified oil as necessary.
**NOTE:**
Rear final drive shown, front final drive similar

**Oil grade and viscosity** : Refer to MA-12, "Fluids and Lubricants" .




3. Install the filler plug and tighten to specification.

**Filler plug** : Refer to DLN-214, "Disassembly and Assembly" (FFD), DLN-251, "Disassembly and Assembly" (RFD).

## Changing Final Drive Oil

INFOID:0000000001606187

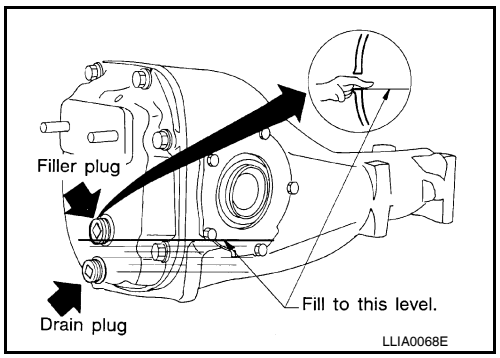
1. Remove the filler plug.
2. Remove the drain plug and drain the final drive oil.
3. Apply sealant to the drain plug threads.
   • Use High Performance Thread Sealant or equivalent. Refer to GI-15, "Recommended Chemical Products and Sealants" .
4. Install the drain plug and tighten to specification.

**Drain plug** : Refer to DLN-214, "Disassembly and Assembly" (FFD), DLN-251, "Disassembly and Assembly" (RFD).

5. Refill the rear final drive with new specified oil.

**Oil grade and capacity** : Refer to MA-12, "Fluids and Lubricants" .

6. Check the oil level.
**NOTE:**
Rear final drive shown, front final drive similar




7. Install the filler plug and tighten to specification.

**Filler plug** : Refer to DLN-214, "Disassembly and Assembly" (FFD), DLN-251, "Disassembly and Assembly" (RFD).

## Adjustment

INFOID:0000000006059786

### 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 scratch the road wheel during removal.**

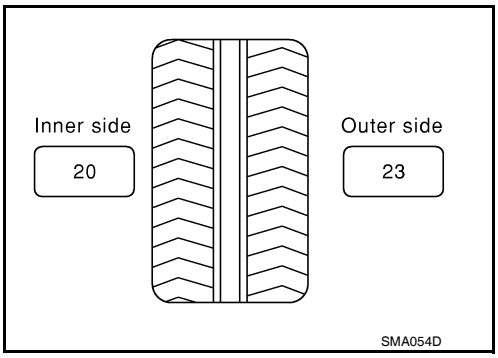
- **After removing double-faced adhesive tape, wipe clean traces of releasing agent from the road wheel.**

Wheel Balance Adjustment

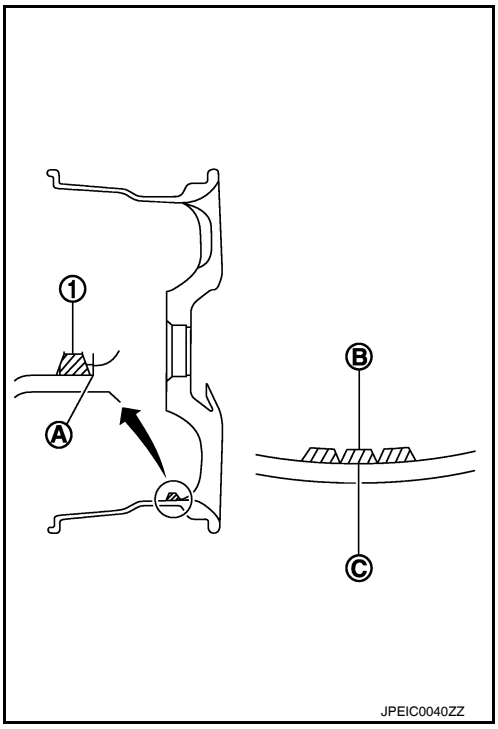
- If a balancer machine has an adhesive weight mode setting, select the adhesive weight mode setting and skip Step 2. below. If a balancer machine only has the clip-on (rim flange) weight mode setting, follow Step 2. to calculate the correct size adhesive weight.

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

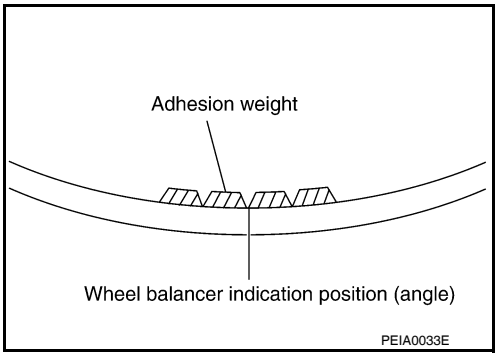
a. Indicated imbalance value × 5/3 (1.67) = balance weight to be installed.
**Calculation example:**
23 g (0.81 oz) × 5/3 (1.67) = 38.33 g (1.35 oz) ⇒ 40 g (1.41 oz) balance weight (closer to calculated balance weight value)
**NOTE:**
Note that balance weight value must be closer to the calculated balance weight value.
**Example:**
37.4 ⇒ 35 g (1.23 oz)
37.5 ⇒ 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.

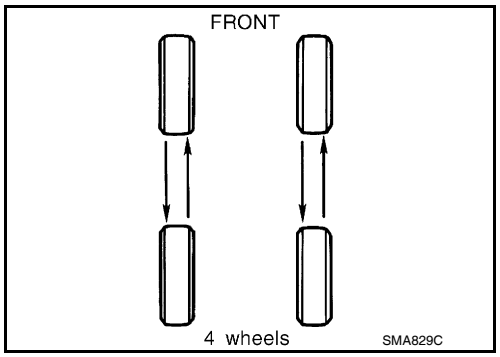
| Wheel balance | Dynamic (At flange) | Static (At flange) |
|---|---|---|
| Maximum allowable un-balance | Refer to WT-46, "Adjustment". | |

## TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to MA-6, "General Maintenance".
- When installing the wheel, tighten wheel nuts to the specified torque.

**CAUTION:**

- **When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**
- **Be careful not to tighten wheel nut at torque exceeding the criteria for preventing strain of disc rotor.**
- **Use NISSAN genuine wheel nuts for aluminum wheels.**



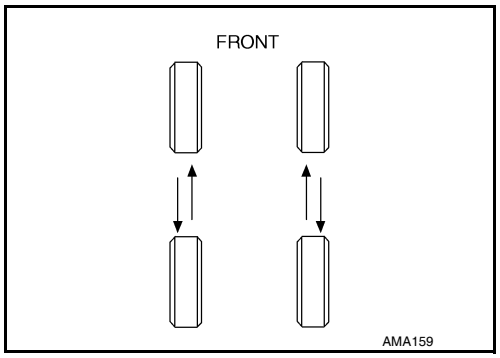

**Wheel nut tightening torque : 133 N·m (14 kg-m, 98 ft-lb)**

## Tire Rotation

INFOID:0000000001606189

1. Rotate the tires on each side from front to back as shown.

**Wheel nuts : Refer to WT-48 .**

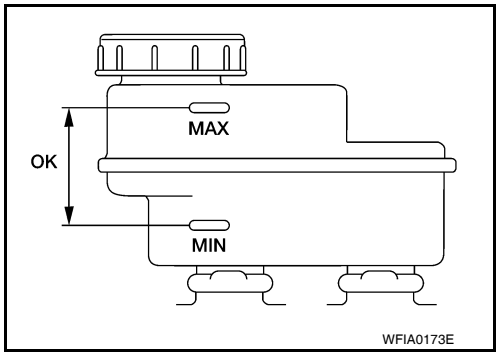



2. Adjust the tire pressure to specification. Refer to WT-51, "Tire" .
3. After the tire rotation, retighten the wheel nuts after the vehicle has been driven for 1,000 km (600 miles), and also after a wheel and tire have been installed such as after repairing a flat tire.

## Checking Brake Fluid Level and Leaks

INFOID:0000000001606190

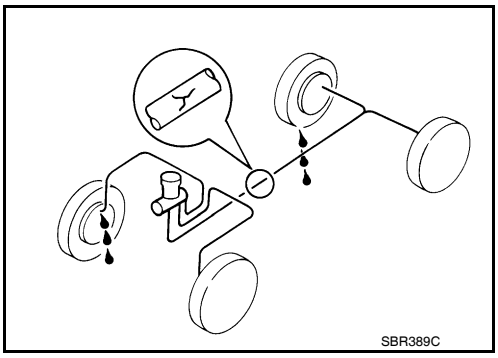
- Check the brake fluid level in the reservoir tank. It should be between the “MAX” and “MIN” lines on the reservoir tank.
- If the fluid level is extremely low, check the brake system.
- If the brake warning lamp comes on when the fluid is at the correct level, check the brake fluid level switch and the parking brake switch.



## CheckingBrake Line and Cables

INFOID:0000000001606191

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.

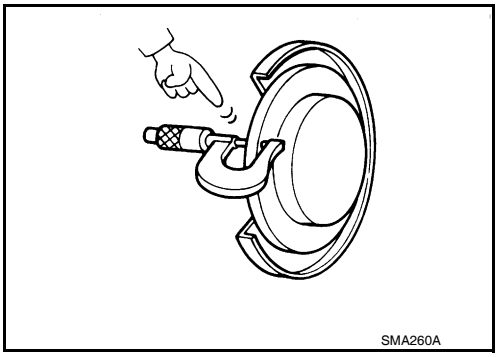

SBR389C

## Checking Disc Brake

INFOID:0000000001606192

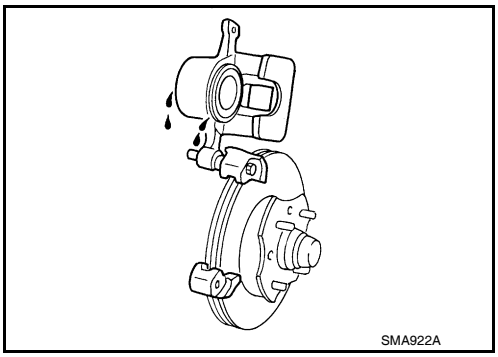
### ROTOR

Check the rotor condition for wear or damage. Refer to BR-7, "DISC ROTOR : Inspection" , BR-9, "DISC ROTOR : Inspection" .


SMA260A

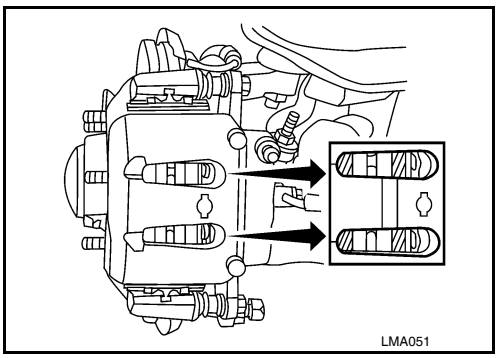
### CALIPER

Check the caliper for any leaks, repair as necessary.


SMA922A

### PAD

Check the pads for wear or damage. Refer to BR-7, "BRAKE PAD : Inspection" , BR-9, "BRAKE PAD : Inspection" .

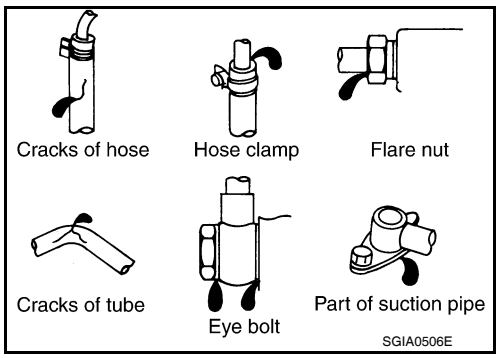

LMA051

## Checking Steering Gear and Linkage

INFOID:0000000001606193

### 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.

## Checking Power Steering Fluid and Line

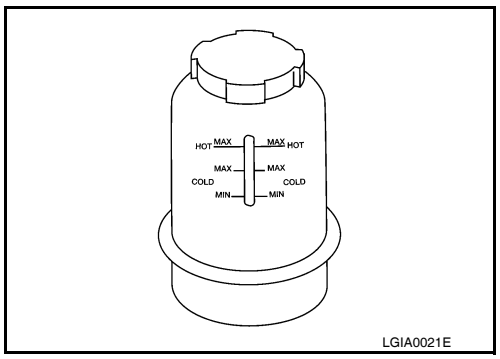
INFOID:0000000001606194

CHECKING FLUID LEVEL

- Check the power steering fluid level with the engine off.
- Check fluid level on reservoir. Use “HOT” range at fluid temperatures of 50° to 80°C (122° to 176°F). Use “COLD” range at fluid temperatures of 0° to 30°C (32° to 86°F).

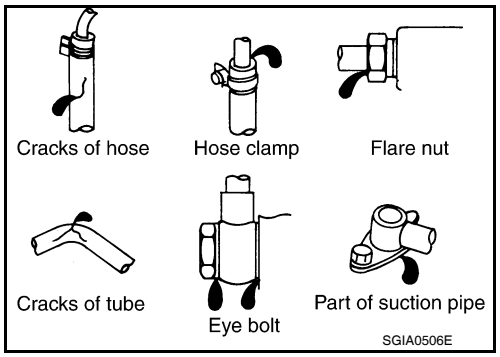
**CAUTION:**

- **Do not overfill.**
- **Refer to MA-12, "Fluids and Lubricants" .**




CHECKING LINES

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



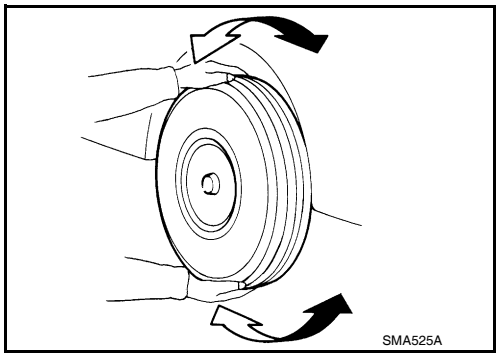

## Checking Axle and Suspension Parts

INFOID:0000000001606195

FRONT AND REAR AXLE AND SUSPENSION PARTS

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

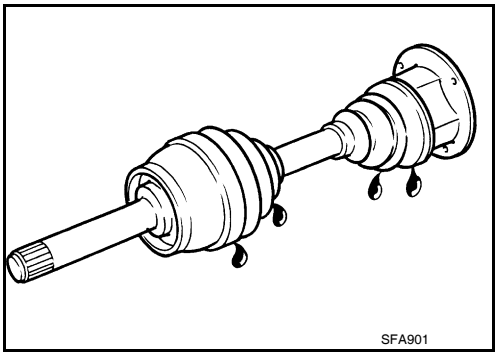
- Shake each wheel to check for excessive play.
- Rotate each wheel to check for abnormal noise.



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

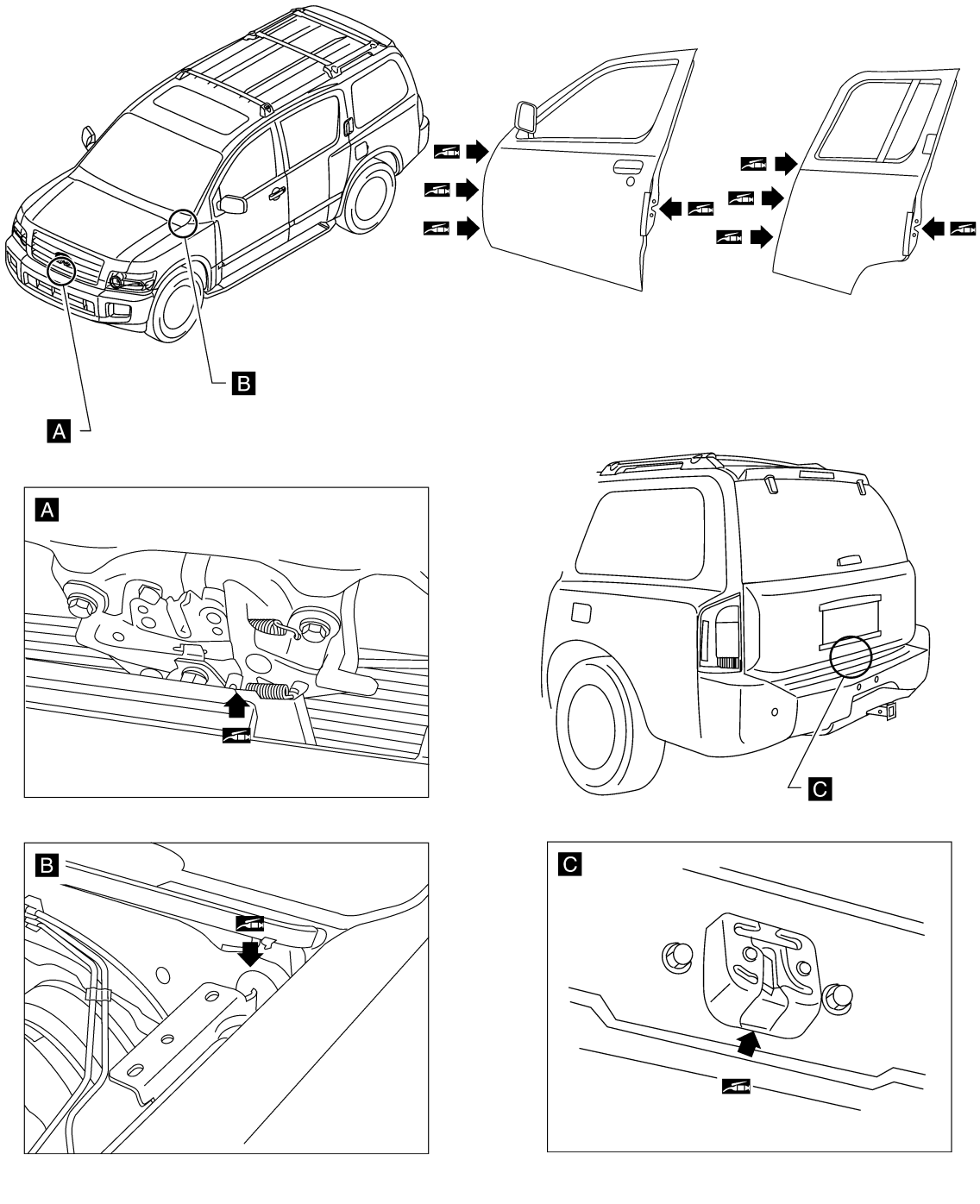
## DRIVE SHAFT

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



## Lubricating Locks, Hinges and Hood Latches

INFOID:0000000001606196




Lubricate the locks, hinges, and latches at the locations as shown. Refer to MA-12, "Fluids and Lubricants" .

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

INFOID:0000000001606197

Check the seat belt buckles, webbing, retractors, anchors and adjusters. Replace any seat belt assembly as necessary. Refer to SB-11, "Seat Belt Inspection".

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

**CAUTION:**

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