SECTION MA
MAINTENANCE

CONTENTS

PRECAUTION 3

PRECAUTIONS 3
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 3

PREPARATION 4

PREPARATION 4
Special Service Tool 4
Commercial Service Tool 4

PERIODIC MAINTENANCE 5

GENERAL MAINTENANCE 5
Explanation of General Maintenance 5

PERIODIC MAINTENANCE 7
Introduction of Periodic Maintenance 7

RECOMMENDED FLUIDS AND LUBRICANTS 11
Fluids and Lubricants 11
Engine Oil Recommendation 11
Anti-Freeze Coolant Mixture Ratio 12

ENGINE MAINTENANCE 13

DRIVE BELTS 13
DRIVE BELTS : Exploded View 13
DRIVE BELTS : Checking 13
DRIVE BELTS : Tension Adjustment 13
DRIVE BELTS : Removal and Installation 13
DRIVE BELTS : Removal and Installation of Drive Belt Auto-tensioner 14

AIR CLEANER FILTER 15
AIR CLEANER FILTER : Exploded View 15
AIR CLEANER FILTER : Removal and Installation 15

SPARK PLUG 16
SPARK PLUG : Exploded View 16
SPARK PLUG : Removal and Installation 16

ENGINE OIL 17
ENGINE OIL : Inspection 17
ENGINE OIL : Draining 19
ENGINE OIL : Refilling 19

OIL FILTER 19
OIL FILTER : Removal and Installation 19
OIL FILTER : Inspection 20

ENGINE COOLANT 21
ENGINE COOLANT : Inspection 21
ENGINE COOLANT : Draining 21
ENGINE COOLANT : Refilling 22
ENGINE COOLANT : Flushing 24

HEV INVERTER COOLANT 24
HEV INVERTER COOLANT : Inspection 24
HEV INVERTER COOLANT : Draining and Refilling 24

RADIATOR CAP 26
RADIATOR CAP : Inspection 26

RADIATOR 26
RADIATOR : Inspection 26

FUEL LINES 27
FUEL LINES : Inspection 27

EVAP VAPOR LINES 27
EVAP VAPOR LINES : Inspection 27

CHASSIS MAINTENANCE 29

EXHAUST SYSTEM 29
EXHAUST SYSTEM : Inspection 29

CVT FLUID 29
CVT FLUID : Inspection 29
CVT FLUID : Replacement 29
CVT FLUID : Adjustment 31

TRANSFER OIL 32
TRANSFER OIL : Inspection 32
TRANSFER OIL : Draining 32
TRANSFER OIL : Refilling 33

REAR PROPELLER SHAFT 33
REAR PROPELLER SHAFT : Inspection 33

REAR DIFFERENTIAL GEAR OIL 33
REAR DIFFERENTIAL GEAR OIL : Inspection 33
REAR DIFFERENTIAL GEAR OIL : Draining 34
REAR DIFFERENTIAL GEAR OIL : Refilling 34

WHEELS 34
WHEELS : Inspection 34
WHEELS : Adjustment 35

BRAKE LINES AND CABLES 37
BRAKE LINES AND CABLES : Inspection 37

BRAKE FLUID 37
BRAKE FLUID : Inspection 37
BRAKE FLUID : Drain and Refill 37

FRONT BRAKE 38
FRONT BRAKE : Inspection 38
FRONT BRAKE : Inspection 38

REAR BRAKE 39
REAR BRAKE : Inspection 39
REAR BRAKE : Inspection 39

STEERING GEAR AND LINKAGE 40
STEERING GEAR AND LINKAGE : Inspection 40

AXLE AND SUSPENSION PARTS 41
AXLE AND SUSPENSION PARTS : Inspection 41

DRIVE SHAFT 41
DRIVE SHAFT : Inspection 41

LOCKS, HINGES AND HOOD LATCH 41
LOCKS, HINGES AND HOOD LATCH : Lubricating 41

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS 42
SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS : Inspection 42

PRECAUTION

PRECAUTIONS

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

INFOID:0000000015191446

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. 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 Air Bag Diagnosis Sensor Unit or other Air Bag 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 or batteries, and wait at least three minutes before performing any service.**

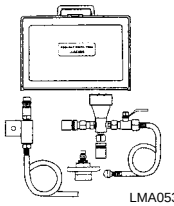
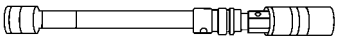
PREPARATION

PREPARATION

Special Service Tool

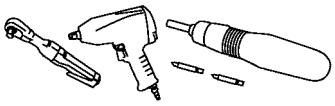
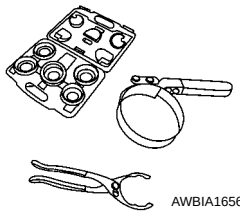
INFOID:0000000014621428

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

Tool number (TechMate No.) Tool name	Description
KV991J0070 (J-45695-A) Coolant refill tool  LMA053	Refilling engine cooling system
— (J-48891) 14 mm spark plug socket  AWBIA1785ZZ	Removing and installing spark plug

Commercial Service Tool

INFOID:0000000014621429

Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts
Oil filter wrench assortment  AWBIA1656ZZ	Removing oil filter

PERIODIC MAINTENANCE

GENERAL MAINTENANCE

Explanation of General Maintenance

INFOID:0000000014621430

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 the 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
Tires	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.	WT-74
Wheel nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	—
Tire rotation	Tires should be rotated every 5,000 miles (8,000 km).	WT-64
Tire Pressure Monitoring System (TPMS) transmitter components	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	WT-68
Wheel alignment and balance	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.	WT-63 WT-64
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
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 door. 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.	MA-41
Lamps	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	—

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 chimes	Make sure that all warning lamps and chimes are operating properly.	—
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. Check for changes in the steering condition, such as excessive play, hard steering or strange noises. **Free play: Less than 35 mm (1.38 in)**	—
Seats	Check seat position controls such as seat adjusters, seatback recliner, etc. to make sure they operate smoothly and that all latches lock securely in every position. Check that the head restrains move up and down smoothly and that the locks (if equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—

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.	MA-42
Accelerator pedal	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.	—
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. Be sure to keep the floor mats away from the pedal.	BR-49 BR-49
Parking brake	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.	PB-4
CVT P (Park) position mechanism	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
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	MA-21
Inverter coolant level	Check the coolant level when the inverter is cold.	HCO-9
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.	MA-26
Brake fluid level	Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoir.	MA-37
12-volt 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.	PG-119
Engine drive belts	Make sure that no belt is frayed, worn, cracked or oily.	MA-13
Engine oil level	Check the level on the oil level gauge after parking the vehicle on a level spot and turning off the engine.	MA-17
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-29
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

INFOID:0000000014621431

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

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform either 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 belts	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)									
HEV inverter coolant	NOTE (5)(6)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	R	R	R
Spark plugs (Iridium-tipped type)	NOTE (7)	Replace every 105,000 miles (168,000 km)								
Intake & exhaust valve clearance*	NOTE (8)									

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform either 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 belts	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)									
HEV inverter coolant	NOTE (5)(6)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	R	R	R
Spark plugs (Iridium-tipped type)	NOTE (7)	Replace every 105,000 miles (168,000 km)								
Intake & exhaust valve clearance*	NOTE (8)									

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform either 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 belts	NOTE (1)		I*		I*		I*	MA-13
Air cleaner filter	NOTE (2)						R	MA-15
EVAP vapor lines			I*				I*	MA-27

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform either 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	
Fuel lines			I*				I*	MA-27
Fuel filter	NOTE (3)							—
Engine coolant*	NOTE (4)(5)							MA-21
HEV inverter coolant*	NOTE (5)(6)							HCO-9
Engine oil		R	R	R	R	R	R	MA-17
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	MA-20
Spark plugs (Iridium-tipped type)	NOTE (7)	Replace every 105,000 miles (168,000 km)						MA-16
Intake & exhaust valve clearance*	NOTE (8)							

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) Periodic maintenance is not required. For service procedures, refer to 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% antifreeze 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) First replacement interval is 125,000 miles (200,000 km) or 180 months. After first replacement, replace every 75,000 miles (120,000 km) or 60 months.
- (7) Replace spark plug when the spark plug gap exceeds 0.053 in (1.35 mm), even if within specified periodic replacement mileage.
- (8) 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 either 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 line & cables			I		I		I		I	
Brake pads, rotors★			I		I		I		I	
Brake fluid ★					R				R	
CVT fluid	NOTE (1)						[R]			
CVT fluid (For leaks)			I		I		I		I	
Transfer oil & differential gear oil	NOTE (2)		I		I		I		I	
Steering gear and linkage, axle and suspension parts ★					I				I	
Tire rotation	NOTE (3)									
Propeller shaft (AWD) & drive shaft boots★			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 either 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 line & cables		I		I		I		I		I
Brake pads, rotors ★		I		I		I		I		I
Brake fluid ★				R				R		
CVT fluid	NOTE (1)			[R]						[R]
CVT fluid (For leaks)		I		I		I		I		I
Transfer oil & differential gear oil	NOTE (2)	I		I		I		I		I
Steering gear and linkage, axle and suspension parts ★				I				I		
Tire rotation	NOTE (3)									
Propeller shaft (AWD) & drive shaft boots★		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 either 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 line & cables			I		I		I	MA-37
Brake pads, rotors & other brake components ★			I		I		I	MA-38 MA-39
Brake fluid ★			R				R	MA-37
CVT fluid	NOTE (1)						[R]	MA-29
CVT fluid (For leaks)			I		I		I	MA-29
Transfer oil & differential gear oil	NOTE (2)		I		I		I	MA-32
Steering gear and linkage, axle and suspension parts ★			I				I	MA-40 MA-41
Tire rotation	NOTE (3)							MA-34
Propeller shaft (AWD) & drive shaft boots★			I		I		I	MA-41 MA-33
Exhaust system★			I				I	MA-29
In-cabin microfilter				R			R	VTL-5
I-key battery				R			R	DLK-339

NOTE:

- **Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- (1) Use only Genuine NISSAN CVT fluid. If towing a trailer, using a camper or a car-top carrier, of driving on rough or muddy roads, inspect CVT fluid deterioration at a NISSAN dealer every 60,000 miles (96,000 km), then change CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 60,000 miles (96,000 km).
- (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 "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: Check = Check 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	MA-37
Brake pads, rotors	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-38 MA-38 MA-39 MA-39
Steering gear & linkage, axle & suspension parts	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-40 MA-41
Propeller shaft (AWD) & drive shaft boots	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-33 MA-41
Exhaust system	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-29

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

INFOID:0000000014621432

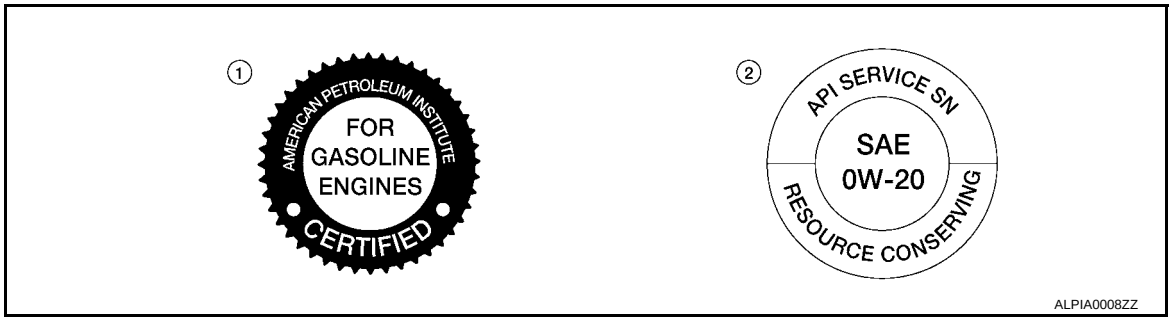
The following are approximate capacities. The actual capacities may be slightly different.When refilling, follow the procedures described elsewhere in this manual.

Fluid type		Capacity (approximate)			Recommended Fluids/Lubricants
		Metric Measure	US measure	Imperial measure	
Fuel		55 ℓ	14-1/2 gal	12-1/8 gal	• Unleaded gasoline with an octane rating of at least 87 AKI (RON 91)
Engine oil Drain and refill	With oil filter change	3.8 ℓ	4 qt	3-3/8 qt	• Genuine "NISSAN Motor Oil 0W-20 SN" is recommended • If the above motor oil is not available, use an equivalent motor oil that matches the above grade and viscosity. For additional information, see "Engine oil recommendation".
	Without oil filter change	3.6 ℓ	3-7/8 qt	3-1/8 qt	
Dry engine (Overhaul)		4.4 ℓ	4-5/8 qt	3-7/8 qt	
Engine coolant	With reservoir tank	7.4 ℓ	7-7/8 qt	6-1/2 qt	• Pre-diluted Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent
Inverter coolant	With reservoir tank	2.3 ℓ	2-3/8 qt	2 qt	
	Reservoir tank	0.45 ℓ	1/2 qt	3/8 qt	
CVT fluid		5.9 ℓ	6-1/4 qt	5-1/4 qt	• Genuine NISSAN CVT Fluid NS-3 • NISSAN recommends using Genuine CVT Fluid NS-3 (or equivalent) ONLY in NISSAN CVT's. Do not mix with other fluids. Using fluids that are not equivalent to Genuine NISSAN CVT Fluid NS-3 may damage the CVT. Damage caused by the use of fluids other than as recommended is not covered under NISSAN's New Vehicle Limited Warranty.
Differential gear oil		0.55 ℓ	1-1/8 pt	1 pt	• Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or equivalent conventional (non-synthetic) oil
Transfer oil		0.31 ℓ	5/8 pt	1/2 qt	
Brake fluid		—	—	—	• Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent DOT 3 (US FMVSS No. 116) • Available in mainland U.S.A. through a NISSAN dealer.
Multi-purpose grease		—	—	—	• NLGI No. 2 (Lithium soap base)
Windshield washer fluid		5 ℓ	5-1/4 qt	4-3/8 qt	• Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent
Air conditioning system refrigerant		0.50 kg	1.10 lb	1.10 lb	• HFC-134a (R-134a) • For further information, see "Air conditioning specification label" found under the hood.
Air conditioning system oil		140 m ℓ	4.7 fl oz	4.9 fl oz	• A/C System Oil Type ND-OIL11 • For further information, see "Air conditioning specification label" found under the hood.

Engine Oil Recommendation

INFOID:0000000014621433

NISSAN recommends the use of an resource 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. These oils have the API certification mark 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.



1. API certification mark
2. API service symbol

Anti-Freeze Coolant Mixture Ratio

INFOID:0000000014621434

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 cap when the engine is hot. Serious burns could occur from high pressure engine coolant escaping from the radiator. Wrap a thick cloth around the cap. Slowly turn it a quarter turn to allow built-up pressure to escape. Carefully remove the cap by turning it all the way.**
- **The radiator is equipped with a pressure type radiator cap. To prevent engine damage, use only a genuine NISSAN radiator cap.**

CAUTION:

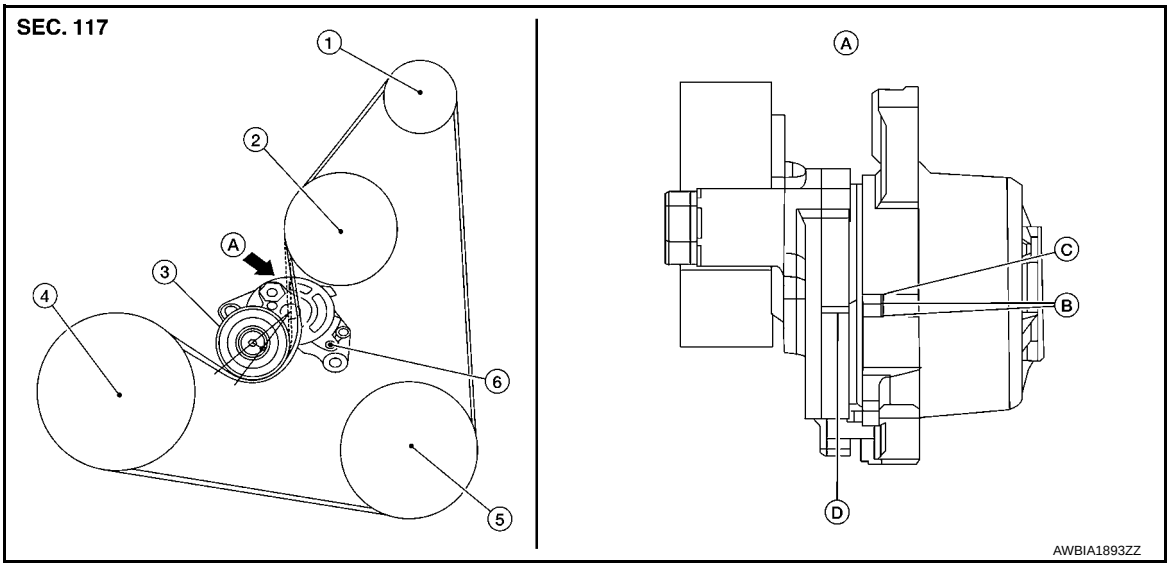
- **When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent. Genuine NISSAN Long Life Antifreeze/Coolant (blue) is pre-diluted to provide antifreeze protection to -34°F (-37°C). If additional freeze protection is needed due to weather where you operate your vehicle, 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 manufactur'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-fill coolant.**

ENGINE MAINTENANCE

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000014621435



1. Generator pulley
2. Water pump pulley
3. Drive belt auto-tensioner
4. Crankshaft pulley
5. A/C compressor pulley
6. Drive belt retainer boss
A. View A
B. New drive belt range
C. Possible use range
D. Indicator (notch)

DRIVE BELTS : Checking

INFOID:0000000014621436

WARNING:

Inspect the drive belt only when the engine is stopped.

1. Visually check entire drive belt for wear, damage or cracks.
2. Check that the drive belt auto-tensioner indicator is within the possible use range.
   NOTE:
   - When new drive belt is installed, the drive belt auto-tensioner indicator should be within the new drive belt range.
   - Check the drive belt auto-tensioner indicator when the engine is cold.
3. If the drive belt auto-tensioner indicator is out of the possible use range or belt is damaged, replace drive belt.

DRIVE BELTS : Tension Adjustment

INFOID:0000000014621437

Belt tension is not manually adjustable. It is automatically adjusted by the drive belt auto-tensioner.

DRIVE BELTS : Removal and Installation

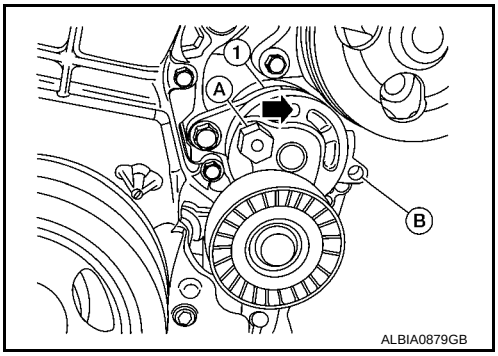
INFOID:0000000014621438

REMOVAL

1. Remove wheel and tire (RH) using a power tool.
2. Remove engine under cover. Refer to EXT-49, "ENGINE UNDER COVER : Removal and Installation"
3. Remove fender protector side cover. Refer to EXT-40, "FENDER PROTECTOR : Exploded View".

4. Securely hold the hexagonal part (A) of drive belt auto-tensioner (1) using suitable tool, and move in the direction of arrow (loosening direction of tensioner).
5. Insert a rod approximately 6 mm (0.24 in) in diameter through the rear of the drive belt auto-tensioner into retaining boss (B) to lock drive belt auto-tensioner pulley.

   WARNING:
   Avoid placing hand in a location where pinching may occur if the holding tool accidentally comes off.
   NOTE:
   Leave drive belt auto-tensioner pulley arm locked until drive belt is installed again.



6. Loosen drive belt from drive belt auto-tensioner and then remove it from the other pulleys.
7. Installation of remaining components is in the reverse order of removal.

INSTALLATION

Installation is in the reverse order of removal.

1. Install the drive belt onto all of the pulleys except for the drive belt auto-tensioner. Then install the drive belt onto drive belt auto-tensioner last.

   CAUTION:
   - **Confirm belts are completely set on the pulleys.**
   - **Check for engine oil and engine coolant. Be sure they are not adhered to the drive belt and each pulley groove.**

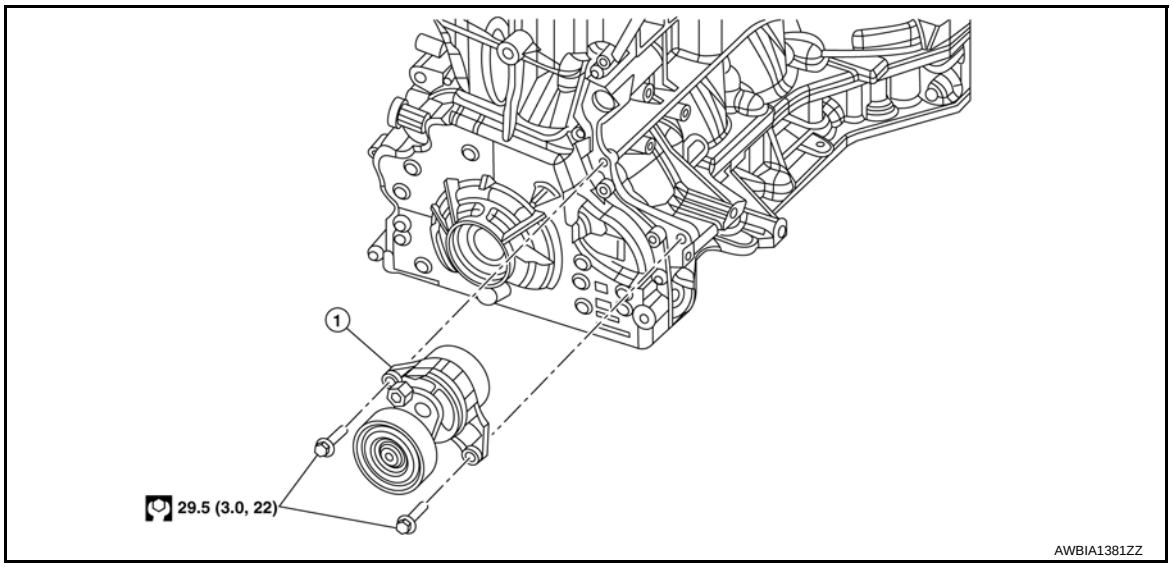
2. Release the drive belt auto-tensioner and apply tension to drive belt.

   WARNING:
   Avoid placing hand in a location where pinching may occur if the holding tool accidentally comes off.

3. Turn crankshaft pulley clockwise several times to equalize tension between each pulley.
4. Confirm the indicator is within the possible use range. Refer to MA-13, "DRIVE BELTS : Checking".
5. Install wheel and tire (RH). Refer to WT-64, "Adjustment".

DRIVE BELTS : Removal and Installation of Drive Belt Auto-tensioner

INFOID:0000000014621439



1. Drive belt auto-tensioner

REMOVAL

CAUTION:
The complete drive belt auto-tensioner must be replaced as a unit, including the pulley.

1. Remove the drive belt. Refer to MA-13, "DRIVE BELTS : Removal and Installation".
2. Remove the drive belt auto-tensioner.

INSTALLATION

Installation is in the reverse order of removal.

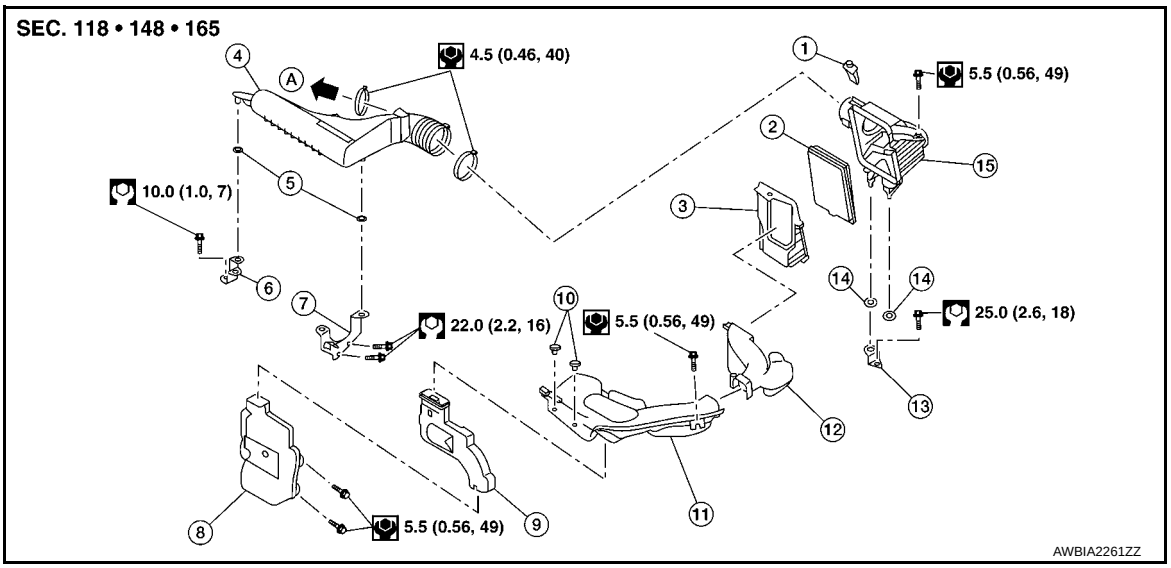
CAUTION:

- **Install the drive belt auto-tensioner carefully so not to damage the water pump pulley.**
- **If there is damage greater than peeled paint, replace the drive belt auto-tensioner.**

AIR CLEANER FILTER

AIR CLEANER FILTER : Exploded View

INFOID:0000000014621440



1. Mass air flow sensor	2. Air cleaner filter	3. Air cleaner case (lower)
4. Air duct assembly	5. Grommet	6. Resonator bracket (front)
7. Resonator bracket (rear)	8. Resonator	9. Air duct
10. Mounting clip	11. Air duct assembly	12. Air duct assembly
13. Air cleaner bracket	14. Grommet	15. Air cleaner case (upper)
A. To Electric throttle control actuator		

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000014621441

CHANGING THE AIR CLEANER FILTER

1. Remove air duct assembly from air cleaner case (upper).
2. Open the air cleaner case.
3. Remove the air cleaner filter.
4. Install a new air cleaner filter.
5. Close the air cleaner case.
6. Secure the air cleaner case clips.

INSPECTION AFTER REMOVAL

Examine the air cleaner filter for stains, clogging, or damage.

- Remove dirt and foreign objects (such as dead leaves) on air cleaner filter surface and inside cleaner case.
- If clogging or damage is observed, replace the air cleaner filter.

CAUTION:

Do not clean the viscous paper type air cleaner filter by blowing as there is a risk of deterioration of its performance.

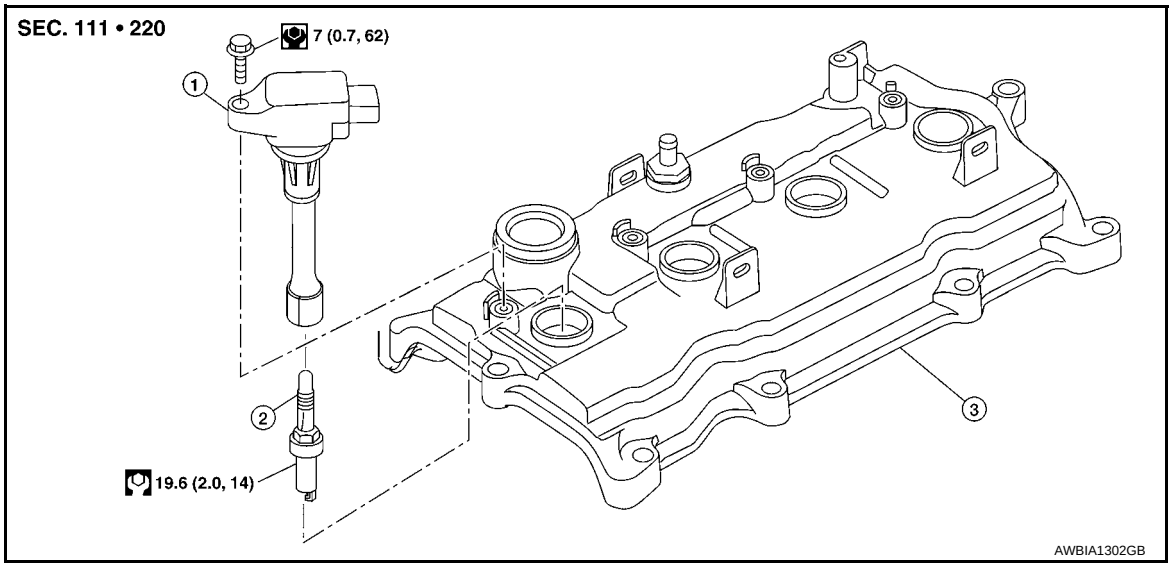
MAINTENANCE INTERVAL

Refer to MA-7, "Introduction of Periodic Maintenance".

SPARK PLUG

SPARK PLUG : Exploded View

INFOID:0000000014621442



1. Ignition coil
2. Spark plug
3. Rocker cover

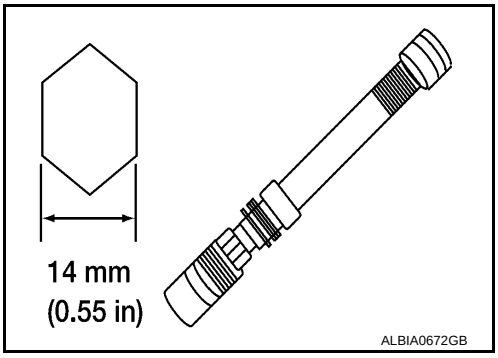
SPARK PLUG : Removal and Installation

INFOID:0000000014621443

REMOVAL

1. Remove air duct assembly.
2. Remove ignition coil. Refer to EM-61, "Removal and Installation".
3. Remove spark plug using Tool.

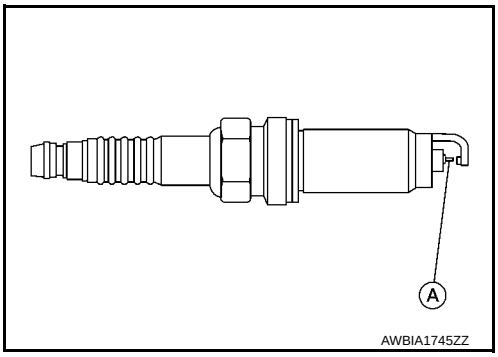
Tool number : — (J-48891)



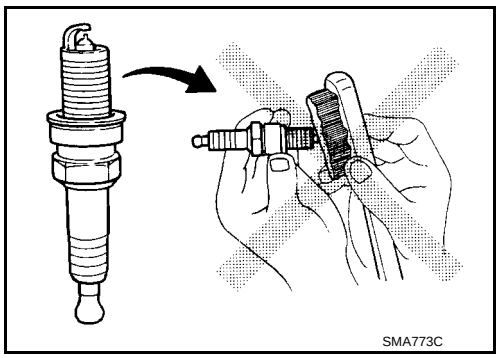
INSPECTION AFTER REMOVAL

Visually check the electrode for dirt and wear and the insulator for burning.

(A) : Iridium alloy



- Do not use a wire brush for cleaning the spark plugs. Replace as necessary.

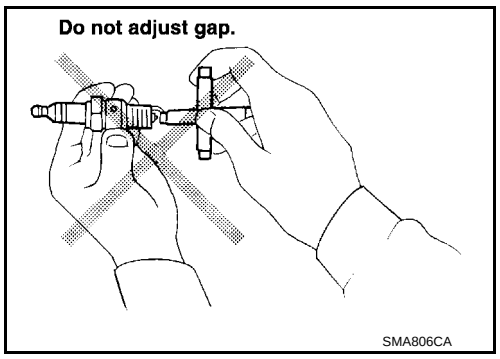

SMA773C

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

Cleaner air pressure : less than 588 kPa (6 kg/cm^2, 85 psi)
Cleaning time : less than 20 seconds

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

CAUTION:
Do not drop or shock plug.



SMA806CA

INSTALLATION
Installation is in the reverse order of removal.

Standard type*	DENSO
	FXE20HE11C
Gap (nominal)	1.1 mm (0.043 in)

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

ENGINE OIL

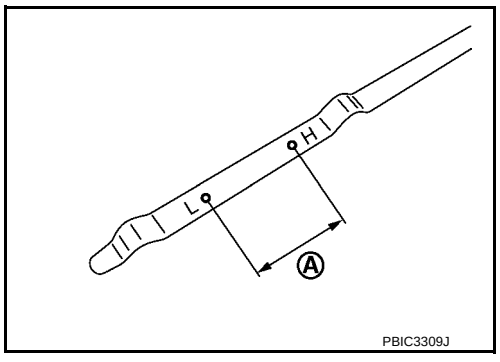
ENGINE OIL : Inspection

INFOID:0000000014621444

ENGINE OIL LEVEL

NOTE:
Before starting engine, put vehicle horizontally and check the engine oil level. If engine is already started, stop it and allow 5 minutes before checking.

1. Pull out oil level gauge and wipe it clean.
2. Insert oil level gauge and check the engine oil level is within the range (A) as shown.
3. If it is out of range, adjust it.



PBIC3309J

ENGINE OIL APPEARANCE

- Check engine oil for white milky appearance or excessive contamination.
- If engine oil becomes turbid and white, it is highly probable that it is contaminated with engine coolant. Repair or replace damaged parts.

ENGINE OIL LEAKS

Check for engine oil leaks around the following areas:

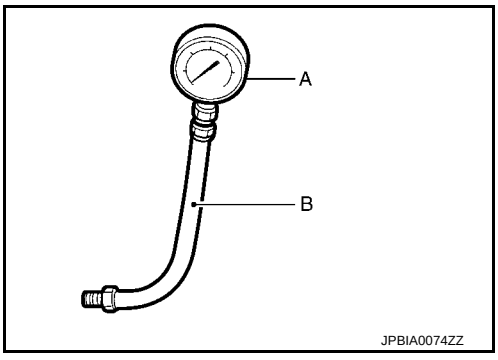
- Oil temperature sensor
- Oil level sensor
- Oil level gauge assembly O-ring.
- Crankshaft position sensor
- Camshaft position sensors
- Oil cooler
- Oil pan (upper and lower)
- Oil pan drain plug
- Oil pressure switch
- Oil filter
- Intake valve timing intermediate lock control solenoid valve
- Intake valve timing control solenoid valve
- Exhaust valve timing control solenoid valve
- Front cover
- Mating surface between cylinder head and camshaft bracket
- Mating surface between cylinder block and cylinder head
- Mating surface between cylinder head and rocker cover
- Crankshaft oil seals (front and rear)

OIL PRESSURE CHECK

WARNING:

- **Be careful not to get burn yourself, as engine oil may be hot.**
- **When checking engine oil pressure, shift selector should be in "P" position. Be sure to apply parking brake.**

1. Check the engine oil level.
2. Remove fender protector side cover (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".
3. Disconnect harness connector at oil pressure switch and remove oil pressure switch using suitable tool.
   CAUTION:
   Do not drop or shock oil pressure switch.
4. Install suitable tools (A/B).



5. Start the engine and warm it up to normal operating temperature.
6. Check the engine oil pressure with engine running under no-load.
   NOTE:
   - When engine oil temperature is low, engine oil pressure becomes high.
   - If difference is extreme, check oil passage and oil pump for engine oil leaks.

Engine oil pressure : Refer to LU-17, "Engine Oil Pressure".

7. After the inspections, install oil pressure switch as follows:

a. Remove old liquid gasket adhering to oil pressure switch and engine.

b. Apply liquid gasket and tighten oil pressure switch to the specification.

Use Genuine RTV Silicone Sealant or equivalent. Refer to GI-22, "Recommended Chemical Products and Sealants".

Tightening torque : Refer to EM-116, "Exploded View".

8. Check engine oil level.
9. After warming up engine, check that there are no engine oil leaks with the engine running.
10. Install fender protector side cover (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".

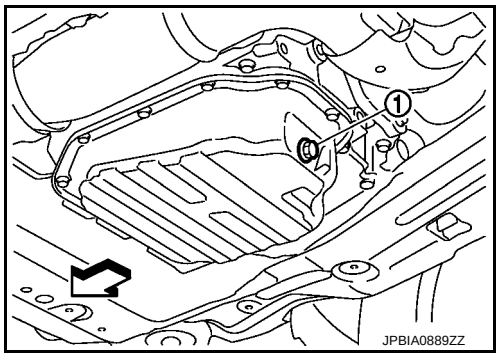
ENGINE OIL : Draining

INFOID:0000000014621445

WARNING:
- **Be careful not to get burn yourself, as 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 engine 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 engine oil leaks from engine components. Refer to MA-17, "ENGINE OIL : Inspection".
2. Stop the engine and wait for 10 minutes.
3. Loosen oil filler cap.
4. Remove drain plug (1) and then drain engine oil.

⇦ : Front



ENGINE OIL : Refilling

INFOID:0000000014621446

1. Install drain plug with new drain plug washer. Refer to EM-40, "Exploded View".
   CAUTION:
   Be sure to clean drain plug and install with new drain plug washer.

   Tightening torque : Refer to EM-40, "Exploded View".
2. Refill with new engine oil.
   Engine oil specification and viscosity: Refer to MA-11, "Engine Oil Recommendation".

   Engine oil capacity : Refer to LU-17, "Periodical Maintenance Specification".

   CAUTION:
   - **The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.**
   - **Always use oil level gauge to determine the proper amount of engine oil in engine.**
3. Warm up the engine and check area around drain plug and oil filter for engine oil leaks.
4. Stop the engine and wait for 5 minutes.
5. Check the engine oil level. Refer to MA-17, "ENGINE OIL : Inspection".

OIL FILTER

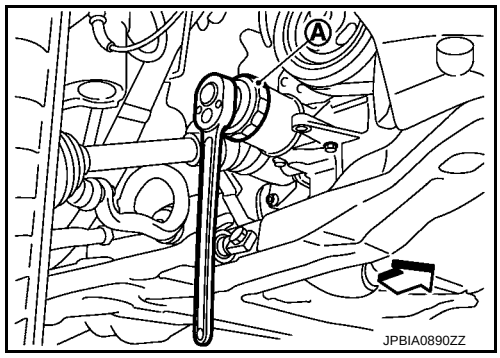
OIL FILTER : Removal and Installation

INFOID:0000000014621447

REMOVAL

1. Remove fender protector side cover (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".

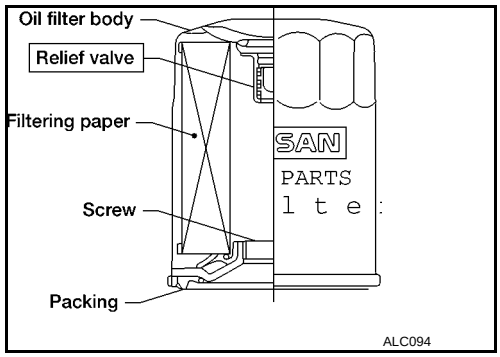
2. Drain engine oil. Refer to MA-19, "ENGINE OIL : Draining".
3. Remove oil filter using suitable tool (A).



⇦ : Front

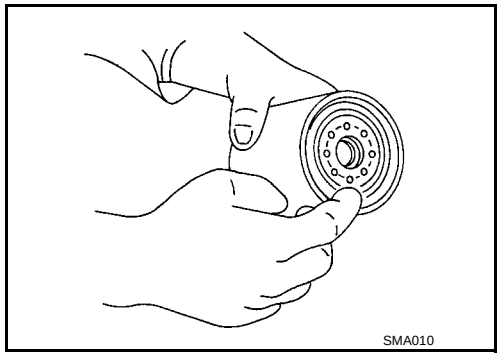
WARNING:
Be careful not to burn yourself, as engine oil may be hot.
CAUTION:
- **When removing, prepare a shop cloth to absorb any engine oil leaks or spills.**
- **Do allow engine oil to adhere to drive belt.**
- **Completely wipe off any engine oil that adheres to engine and vehicle.**

- **Oil filter is provided with relief valve. Use genuine NISSAN oil filter or equivalent.**



INSTALLATION

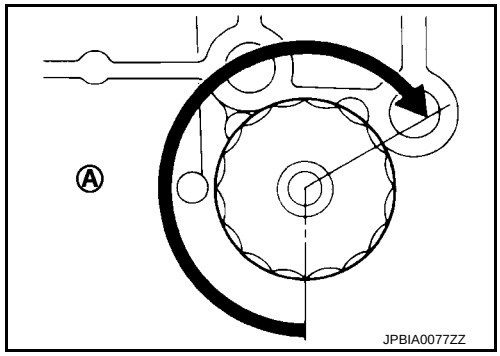
1. Remove foreign materials adhering to oil filter installation surface.
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



OIL FILTER : Inspection

INFOID:0000000014621448

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to MA-17, "ENGINE OIL : Inspection".
2. Start the engine, and check that there is are no leaks of engine oil.

3. Stop the engine and wait for at least 5 minutes.
4. Check the engine oil level, and adjust the level (if necessary). Refer to MA-17, "ENGINE OIL : Inspection".

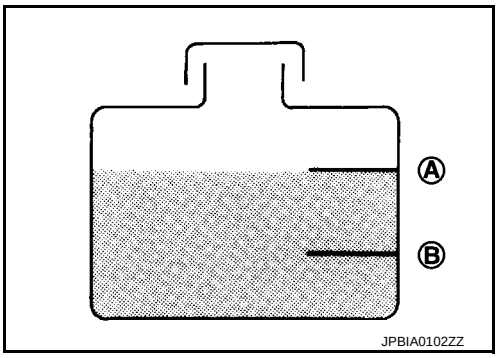
ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000014621449

LEVEL

- Check that the reservoir tank engine coolant level is within the "MIN" to "MAX" when the engine is cool.



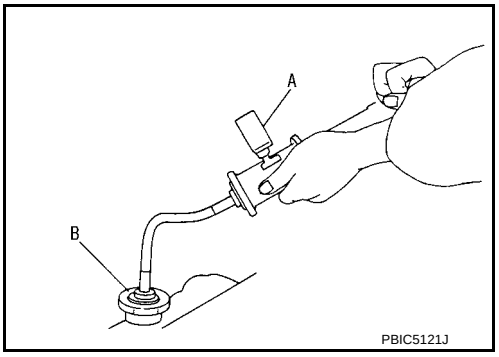
(A) : MAX
(B) : MIN

- Adjust the engine coolant level if necessary.

CAUTION:
Refill Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to MA-11, "Fluids and Lubricants".

CHECKING COOLING SYSTEM FOR LEAKS

- To check for leaks, apply pressure to the cooling system using suitable tools (A/B).



Testing pressure : Refer to CO-30, "Radiator".

WARNING:
Do not remove the radiator cap when the engine is hot. Serious burns could occur from high-pressure engine coolant escaping from the radiator. 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 it down and turning it all the way.

CAUTION:
- **Perform this step when the engine is cold.**
- **Do not spill engine coolant on drivebelt.**
- **Higher test pressure than specified may cause radiator damage.**

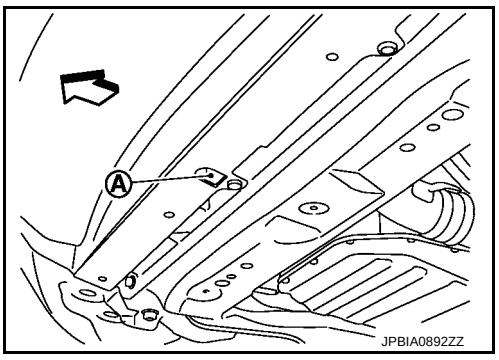
NOTE:
- If engine coolant decreases, replenish radiator with engine coolant. Refer to MA-11, "Fluids and Lubricants".
- If anything is found, repair or replace damaged parts.

ENGINE COOLANT : Draining

INFOID:0000000014621450

WARNING:
Do not remove radiator cap when engine is hot. Serious burns could occur from high pressure engine coolant escaping the radiator. 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 it down and turning it all the way.

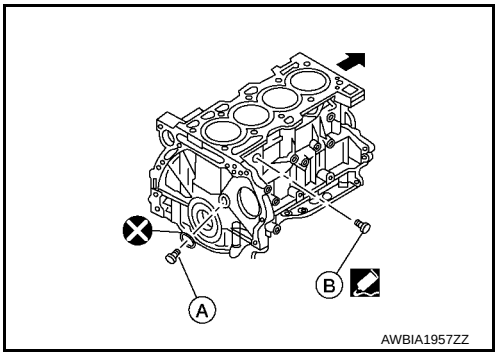
1. Open radiator drain plug at the bottom of radiator, and then remove radiator cap.



(A) : Radiator drain plug hole
⇦ : Vehicle front

CAUTION:
- **Do not allow engine coolant to contact the drive belt.**
- **Perform this step when the engine is cold.**

2. 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 (1.055 kg/cm^2, 15 psi) maximum air pressure] into the hose for 30 seconds to blow the excess engine coolant out of the heater core.
3. When draining all of the engine coolant in the system, remove the reservoir tank and drain the engine coolant, then clean the reservoir tank before installation.
   CAUTION:
   - **Do not allow the engine coolant to contact the drive belt.**
   - **Perform this step when engine is cold.**
4. When draining all of the engine coolant in the system for engine removal or repair, remove the engine coolant drain plugs (A/B) from the cylinder block.



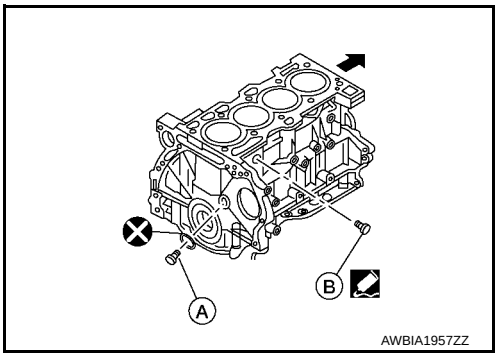
5. Check the drained engine coolant for contaminants such as rust, corrosion or discoloration.
   If the engine coolant is contaminated, flush the engine cooling system. Refer to MA-24, "ENGINE COOLANT : Flushing".

ENGINE COOLANT : Refilling

INFOID:0000000014621451

CAUTION:
- **Do not put additive such as waterleak preventive, since it may cause cooling waterway clogging.**
- **When refilling use Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to MA-11, "Fluids and Lubricants".**

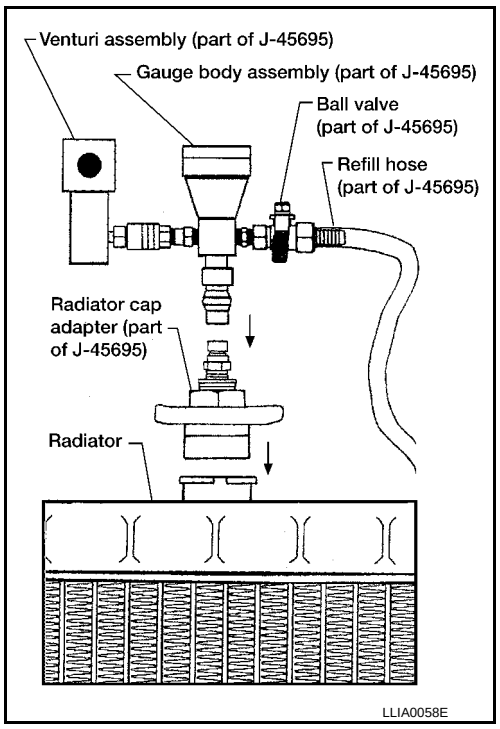
1. Install the radiator drain plug. Install the reservoir tank and cylinder block drain plug, if removed for a total system drain or for engine removal or repair.
   - **The radiator must be completely empty of coolant and water.**
   - **Apply sealant to the threads of the cylinder block drain plug.**
   - **Use recommended coolant or equivalent.**
     Refer to MA-11, "Fluids and Lubricants".



Radiator drain plug	**: Refer to CO-15, "Exploded View".**
Cylinder block drain plug (A)	**: 53.9 Nm (5.5 kg-m, 40 ft-lb)**
Cylinder block drain plug (B)	**: 9.8 N·m (1.0 kg-m, 87 in-lb)**

2. If disconnected, reattach the upper radiator hose at the engine side.
3. 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.

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-11, "Fluids and Lubricants".

Engine coolant capacity (with reservoir tank) : Refer to CO-30, "Periodical Maintenance Specification".

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.

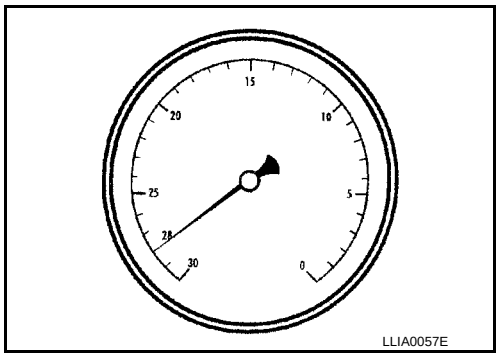
6. Install an air hose to the venturi assembly, the air pressure must be within specification.

Compressed air supply pressure : 549 - 824 kPa (5.6 - 8.4 kg/cm^2, 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.

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.
12. Fill the cooling system reservoir tank to the specified level and install the radiator cap. Run the engine to warm up the cooling system and top up the system as necessary.

ENGINE COOLANT : Flushing

INFOID:0000000014621452

1. Install reservoir tank, if removed, and radiator drain plug.
   CAUTION:
   - **Be sure to clean drain plug.**
   - **Do not reuse O-ring.**

   Radiator drain plug : Refer to CO-15, "Exploded View".

   - If water drain plugs on cylinder block are removed, close and tighten them. Refer to CO-15, "Exploded View".
2. Run the engine and warm it up to normal operating temperature.
3. Rev the engine two or three times under no-load.
4. Stop the engine and wait until it cools down.
5. Drain water from the system. Refer to CO-10, "Draining".
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.

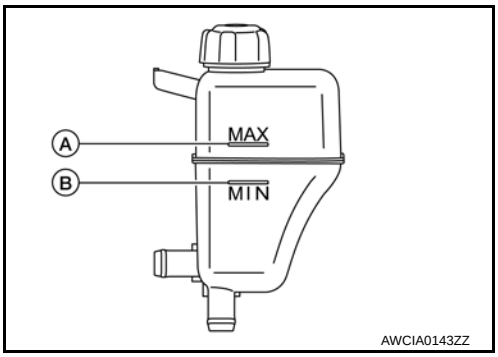
HEV INVERTER COOLANT

HEV INVERTER COOLANT : Inspection

INFOID:0000000015203384

INVERTER COOLANT AMOUNT INSPECTION

- When inverter coolant temperature is low [about 50°C (122°F) or less], confirm that the inverter coolant level of the reservoir tank is in the range from MIN (B) to MAX (A).
- Adjust level if it is outside the range.
  CAUTION:
  - **Refill genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized).**
  - **Make sure not to dilute it with tap water.**
- Confirm that the reservoir tank cap is tightened.

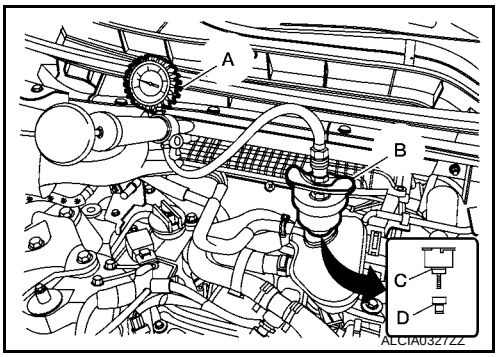


CHECKING COOLING SYSTEM FOR LEAKS

WARNING:
- **Do not remove the radiator cap or reservoir cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from he cooling system.**
- **When removing the radiator cap or reservoir tank cap, wrap a thick cloth around the cap and slowly turn it a quarter turn to allow built up pressure to escape. Then carefully remove the cap by turning it all the way.**

To check the cooling system for leaks, apply pressure to the high voltage cooling system using Tools (A), (B), (C), and (D).

Tool (A)	**: — (J-51771-5)**	
Tool (B)	**: — (J-51771-9)**	
Tool (C)	**: — (J-51771-1)**	
Tool (D)	**: — (J-51771-4)**	
Leakage test pressure	**: Refer to HCO-21, "Sub Radiator".**	



CAUTION:
Higher pressure testing than specified may cause radiator damage.

HEV INVERTER COOLANT : Draining and Refilling

INFOID:0000000015203385

CAUTION:
- **Do not put additive such as waterleak preventive, since it may cause cooling waterway clogging.**

- **When refilling use genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to MA-11, "Fluids and Lubricants".**
- **Make sure not to dilute it with tap water.**
- **Do not start engine when reservoir tank (for engine and sub-radiator) does not contain coolant.**
- **Electric water pump may be activated under the status of READY. To prevent damage, electric water pump must not be activated when coolant is insufficient.**

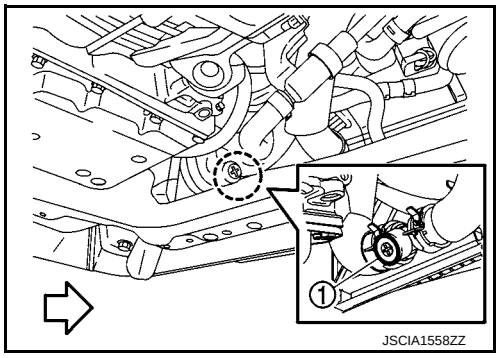
DRAIN

CAUTION:

- **Be sure to drain when inverter coolant temperature is cold.**
- **This should be performed so that inverter coolant does not come in contact with surrounding parts.**

1. Remove engine under cover. Refer to EXT-49, "ENGINE UNDER COVER : Removal and Installation".
2. Remove drain plug (1) and reservoir tank cap and drain inverter coolant.

⇦ : Vehicle front



3. Remove reservoir tank and drain the coolant. Refer to HCO-12, "Exploded View".

REFILLING

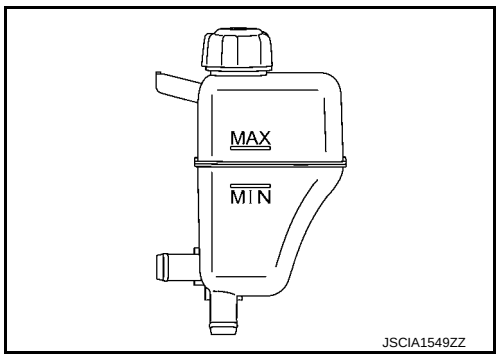
1. Install reservoir tank and hose clamps.
   NOTE:
   Check the tightening of hose clamps.
2. Install sub radiator drain plug.
   CAUTION:
   Be sure to clean sub radiator drain plug and install with new O-ring.

Tightening torque : Refer to HCO-12, "Exploded View".

3. Open reservoir tank cap.
4. Fill coolant to MAX line from the reservoir tank cap.
   NOTE:
   Pour coolant slowly of less than 3 ℓ (2-5/8 Imp qt) a minute to allow air in system to escape.

Reservoir coolant tank capacity : Refer to HCO-21, "Periodical Maintenance Specification".

LLC concentration : Refer to HCO-21, "Periodical Maintenance Specification".



5. Close the reservoir tank cap.
6. Set the vehicle to READY and operate the electric water pump.
7. When the reservoir tank fluid level drops, turn the ignition switch OFF and deactivate the electric water pump.
8. Repeat the above steps from 4 to 7 until the reservoir tank fluid level stops dropping.
9. When the fluid level stops dropping, tighten reservoir tank cap.
   NOTE:
   If electric water pump is stopped with the reservoir tank cap opened, coolant may spout out.

10. Set the vehicle in READY state and activate the electric water pump. If the reservoir tank fluid level is lower after circulating the cooling water (for approximately 10 minutes), repeat the above steps from 4 to 7.

CAUTION:

- **Insufficient inverter coolant may cause low power or stop of vehicle due to insufficient cooling of the traction motor inverter. Be sure to bleed air thoroughly.**
- **Do not start engine when reservoir tank (for engine and sub-radiator) does not contain coolant.**
- **Electric water pump may be activated under the status of READY. To prevent damage, electric water pump must not be activated when coolant is insufficient.**

RADIATOR CAP

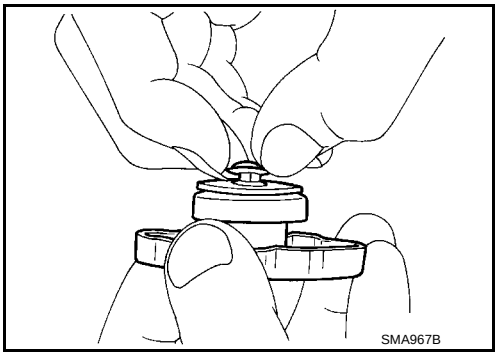
RADIATOR CAP : Inspection

INFOID:0000000014621453

CHECKING RADIATOR CAP

1. Inspect the radiator cap.
   - Replace the cap if the metal plunger cannot be seen around the edge of the black rubber gasket.
   - Replace the cap if deposits of waxy residue or other foreign material are on the black rubber gasket or the metal retainer.

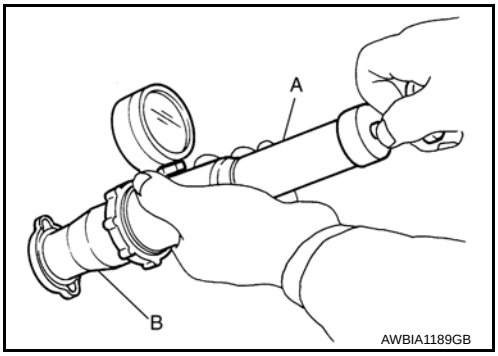
   NOTE:
   Thoroughly wipe out the radiator filler neck to remove any waxy residue or foreign material.
2. Pull the negative-pressure valve to open it and check that it closes completely when released.
   - Check that there is no dirt or damage on the valve seat of the radiator cap negative-pressure valve.
   - Check that there are no abnormalities in the opening and closing conditions of the negative-pressure valve.



3. Check radiator cap relief pressure using suitable tool (A/B).

   Standard : Refer to CO-30, "Radiator".

   - Apply water or engine coolant to the cap seal surface before connecting the radiator cap to the tester.
   - Replace the radiator cap if there is an abnormality in the negative-pressure valve, or if the open-valve pressure is outside of the standard values.



RADIATOR

RADIATOR : Inspection

INFOID:0000000014621454

Check radiator for mud or clogging. If necessary, clean radiator as follows.

CAUTION:

- **Be careful not to bend or damage radiator fins.**
- **When radiator is cleaned without removal, remove all surrounding parts such as radiator cooling fan assembly and horns. Then tape harness and harness connectors to prevent water from entering.**

1. Spray water to the back side of the radiator core using a side to side motion from the top down.
2. Stop spraying when debris no longer flows from radiator core.
3. Blow air into the back side of radiator core using a side to side motion from the top down.
   - Use compressed air lower than 490 kPa (5 kg/cm^2, 71 psi) and keep distance more than 30 cm (11.8 in).
4. Continue to blow air until no water sprays out.

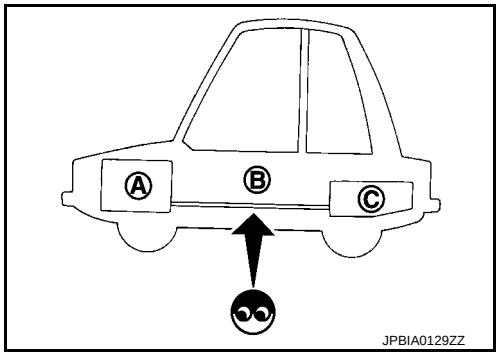
5. Check for engine coolant leaks. Repair as necessary.

FUEL LINES

FUEL LINES : Inspection

INFOID:0000000014621455

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.

EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000014621456

CAUTION:

- **Do not use compressed air or a high pressure pump.**
- **Do not exceed 4.12 kPa (0.042 kg/cm^2, 0.6 psi) of pressure in EVAP system.**

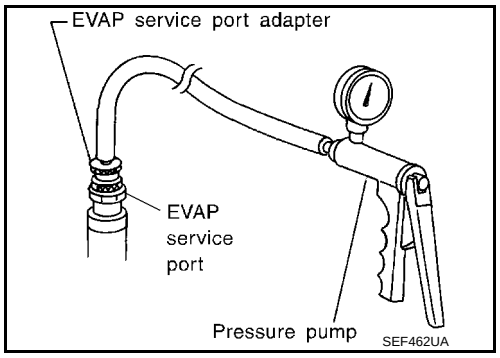
NOTE:

- Do not start engine.
- Improper installation of EVAP service port adapter [commercial service tool: (J-41413-OBD)] to the EVAP service port may cause a leak.

1. EVAP LEAK CHECK

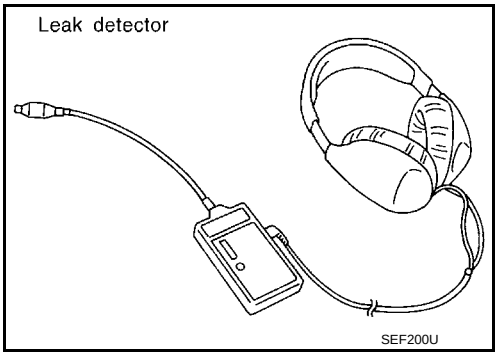
With CONSULT

1. Install EVAP service port adapter [commercial service tool: (J-41413-OBD)] and pressure pump to EVAP service port.



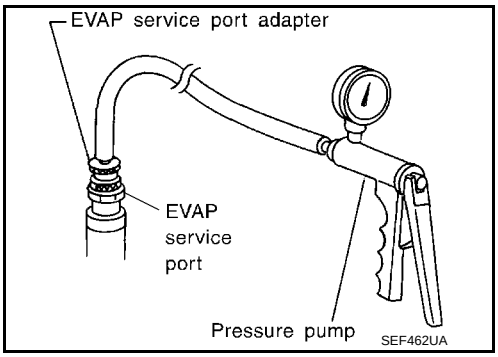
2. Turn ignition switch ON.
3. Select the “EVAP SYSTEM CLOSE” in “WORK SUPPORT” mode of “ENGINE” using CONSULT.
4. Touch “START”. A bar graph (Pressure indicating display) will appear on the screen.
5. Apply positive pressure to the EVAP system until the pressure indicator reaches the middle of the bar graph.
6. Remove EVAP service port adapter [commercial service tool: (J-41413-OBD)] and hose with pressure pump.

7. Locate the leak using a leak detector [commercial service tool: (J-41416)]. Refer to EC-63, "EVAPORATIVE EMISSION SYSTEM : System Description".

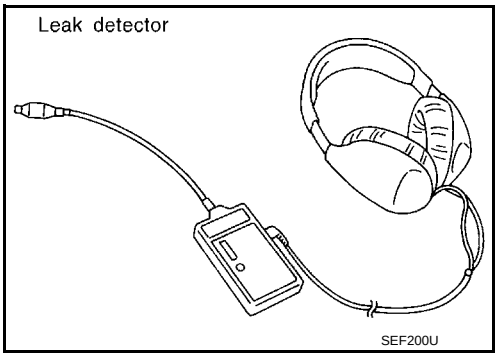


Without CONSULT

1. Install EVAP service port adapter [commercial service tool: (J-41413-OBD)] and pressure pump to EVAP service port.



2. Apply battery voltage between the terminals of EVAP canister vent control valve to make a closed EVAP system.
3. To locate the leak, deliver positive pressure to the EVAP system until pressure gauge points reach 1.38 to 2.76 kPa (0.014 to 0.028 kg/cm^2, 0.2 to 0.4 psi).
4. Remove EVAP service port adapter [commercial service tool: (J-41413-OBD)] and hose with pressure pump.
5. Locate the leak using a leak detector [commercial service tool: (J-41416)]. Refer to EC-63, "EVAPORATIVE EMISSION SYSTEM : System Description".



>> INSPECTION END

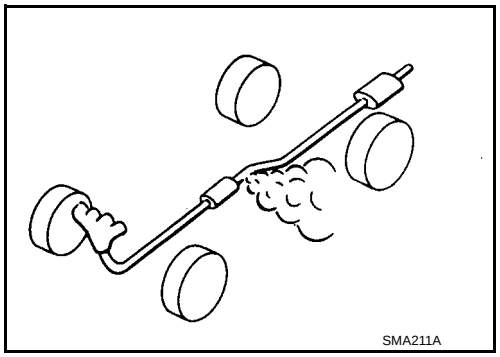
CHASSIS MAINTENANCE

EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:0000000014621457

Check exhaust pipes, muffler, and mounting for improper attachment, leakage, cracks, damage or deterioration.
- If anything is found, repair or replace damaged parts.

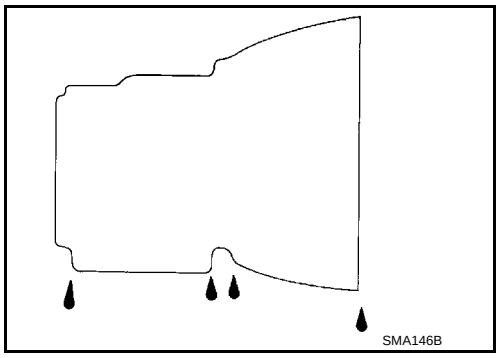

SMA211A

CVT FLUID

CVT FLUID : Inspection

INFOID:0000000014621458

FLUID LEAKAGE
- Check transaxle surrounding area (oil seal and plug etc.)for fluid leakage.
- If anything is found, repair or replace damaged parts and adjust CVT fluid level. Refer to MA-31, "CVT FLUID : Adjustment".


SMA146B

CVT FLUID : Replacement

INFOID:0000000014621459

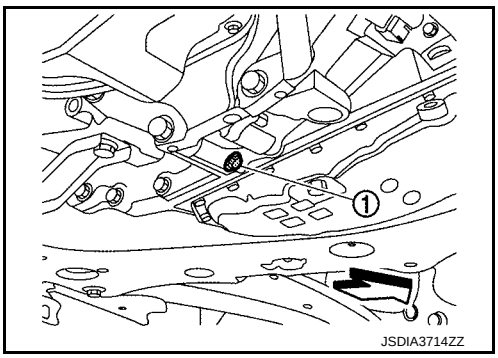
Recommended fluid and fluid capacity : Refer to TM-247, "General Specification".

CAUTION:
- **Always use shop paper. Never use shop cloth.**
- **Replace a drain plug gasket with new ones at the final stage of the operation when installing.**
- **Use caution when looking into the drain hole as there is a risk of dripping fluid entering the eye.**
- **After replacement, always perform CVT fluid leakage check.**

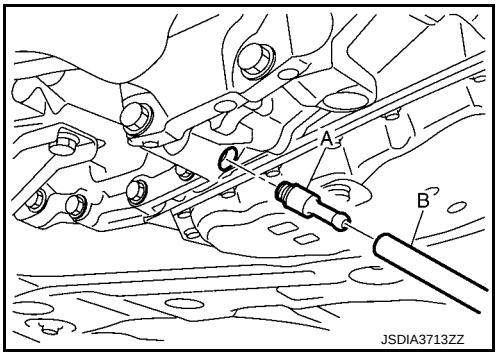
1. Select “Data Monitor” in “TRANSMISSION” using CONSULT.
2. Select “FLUID TEMP” and confirm that the CVT fluid temperature is 40°C (104°F) or less.
3. Check that the selector lever is in the “P” position, then completely engage the parking brake.
4. Lift up the vehicle.
5. Remove the drain plug and drain the CVT fluid from the oil pan. Refer to TM-221, "Exploded View".
6. Install the drain plug to oil pan.
   CAUTION:
   Drain plug gasket use the old one.

7. Remove the overflow plug ① from converter housing.

⇦ : Vehicle front



8. Install the charging pipe set (KV311039S0) (A) into the overflow plug hole.
CAUTION:
Tighten the charging pipe by hand.
9. Install the ATF changer hose (B) to the charging pipe.
CAUTION:
Press the ATF changer hose all the way onto the charging pipe until it stops.
10. Fill approximately 3 liter (3-1/8 US qt, 2-5/8 lmp qt) of the CVT fluid.
11. Remove the ATF changer hose and charging pipe, then install the overflow plug.
NOTE:
Perform this work quickly because CVT fluid leaks.



12. Lift down the vehicle.
13. Start the engine.
14. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “L”, and shift it to the “P” position.
NOTE:
Hold the lever at each position for 5 seconds.
15. Check that the CONSULT “Data Monitor” in “FLUID TEMP” is 35°C (95°F) to 45°C (113°F).
16. Stop the engine.
17. Lift up the vehicle.
18. Remove the drain plug, and then drain CVT fluid from oil pan.
19. Repeat steps 8 to 18 (one time).
20. Tighten the drain plug to the specified torque. Refer to TM-221, "Exploded View".
21. Remove the overflow plug.
22. Install the charging pipe set (KV311039S0) into the overflow plug hole.
CAUTION:
Tighten the charging pipe by hand.
23. Install the ATF changer hose to the charging pipe.
CAUTION:
Press the ATF changer hose all the way onto the charging pipe until it stops.
24. Fill approximately 3 liter (3-1/8 US qt, 2-5/8 lmp qt) of the CVT fluid.
25. Remove the ATF changer hose and charging pipe, then install the overflow plug.
NOTE:
Perform this work quickly because CVT fluid leaks.
26. Lift down the vehicle.
27. Start the engine.
28. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “L”, and shift it to the “P” position.
NOTE:
Hold the lever at each position for 5 seconds.
29. Check that the CONSULT “Data Monitor” in “FLUID TEMP” is 35°C (95°F) to 45°C (113°F).

30. Lift up the vehicle.
31. Remove the overflow plug and confirm that the CVT fluid is drained from the overflow plug hole.
    CAUTION:
    Perform this work with the vehicle idling.
    NOTE:
    If the CVT fluid is not drained, refer to “Adjustment” and refill with the CVT fluid.
32. When the flow of CVT fluid slows to a drip, tighten the overflow plug to the specified torque. Refer to TM-221, "Exploded View".
    CAUTION:
    Never reuse O-ring.
33. Lift down the vehicle.
34. Select “Data Monitor” in “TRANSMISSION” using CONSULT.
35. Select “CONFORM CVTF DETERIORTN”.
36. Select “Erase”.
37. Stop the engine.

CVT FLUID : Adjustment

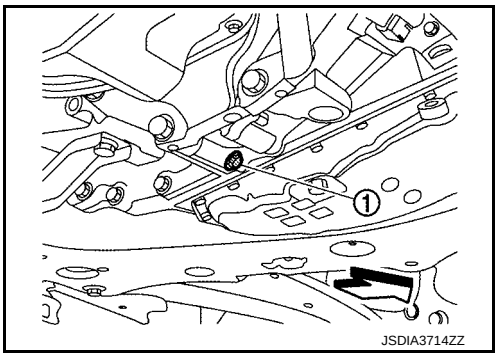
INFOID:0000000014621460

Recommended fluid and fluid capacity : Refer to TM-247, "General Specification".

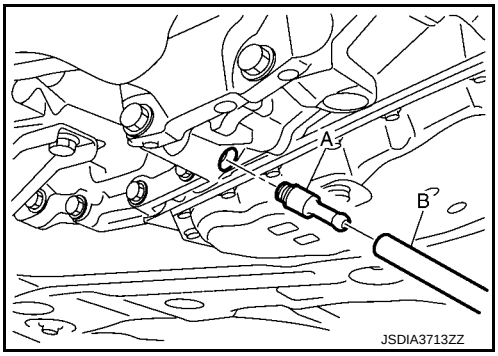
CAUTION:
- **During adjustment of the CVT fluid level, check CONSULT so that the oil temperature may be maintained from 35 to 45°C (95 to 113°F).**
- **During adjustment of the CVT fluid level, check that the engine speed is maintaining 500 rpm.**
- **Use caution when looking into the drain hole as there is a risk of dripping fluid entering the eye.**

1. Check that the selector lever is in the “P” position, then completely engage the parking brake.
2. Start the engine.
3. Adjust the CVT fluid temperature to be approximately 40°C (104°F).
   NOTE:
   The CVT fluid is largely affected by temperature. Therefore be sure to use CONSULT and check the “FLUID TEMP” under “TRANSMISSION” in “Data Monitor” while adjusting.
4. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “L”, and shift it to the “P” position.
   NOTE:
   Hold the lever at each position for 5 seconds.
5. Lift up the vehicle.
6. Check that there is no CVT fluid leakage.
7. Remove the overflow plug ① from converter housing.

⇦ : Vehicle front



8. Install the charging pipe set (KV311039S0) (A) into the overflow plug hole.
   CAUTION:
   Tighten the charging pipe by hand.
9. Install the ATF changer hose (B) to the charging pipe.
   CAUTION:
   Press the ATF changer hose all the way onto the charging pipe until it stops.
10. Fill approximately 0.5 liter (1/2 US qt, 1/2 lmp qt) of the CVT fluid.
11. Remove the ATF changer hose from the charging pipe, and check that the CVT fluid drains out from the charging pipe. If it does not drain out, perform charging again.
    CAUTION:
    Perform this work with the vehicle idling.



12. When the flow of CVT fluid slows to a drip, remove the charging pipe from the converter housing.
13. Tighten the overflow plug to the specified torque. Refer to TM-221, "Exploded View".
    CAUTION:
    Never reuse O-ring.
14. Lift down the vehicle.
15. Stop the engine.

TRANSFER OIL

TRANSFER OIL : Inspection

INFOID:0000000014621461

TRANSFER OIL LEAKS

Check that transfer oil is not leaking from transfer assembly or around it.

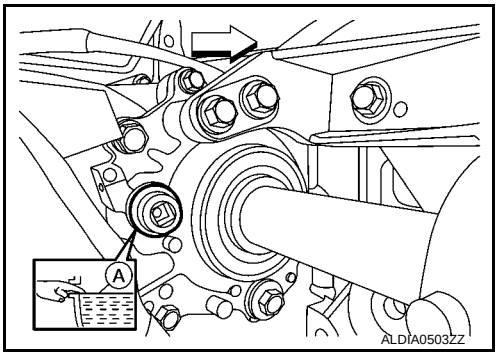
TRANSFER OIL LEVEL

CAUTION:
Do not start engine while checking transfer oil level.

1. Remove filler plug and gasket.

   ⇦ : Front

2. Transfer oil level (A) should be level with bottom of filler plug hole. Add transfer oil if necessary. Refer to MA-11, "Fluids and Lubricants".
3. Set a new gasket onto filler plug, and install it in the transfer and tighten to specified torque. Refer to DLN-77, "Exploded View".
   CAUTION:
   Do not reuse gasket.



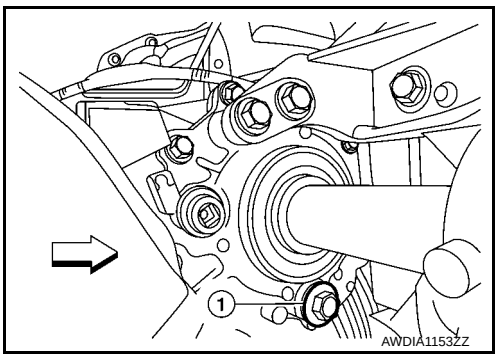
TRANSFER OIL : Draining

INFOID:0000000014621462

CAUTION:
Do not start engine while working.

1. Run the vehicle to warm up the transfer unit sufficiently.

2. Stop the engine and remove drain plug (1) and gasket and drain the transfer oil.



⇦ : Front

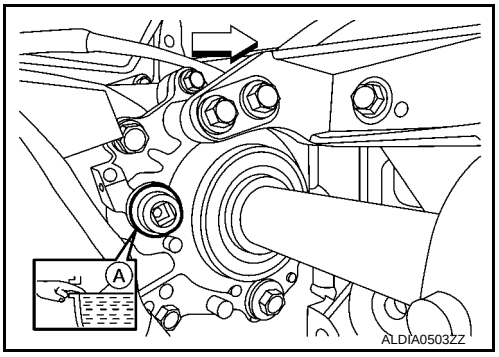
3. Set a new gasket onto drain plug, and install it in the transfer and tighten to specified torque. Refer to DLN-77, "Exploded View".
CAUTION:
Do not reuse gasket.

TRANSFER OIL : Refilling

INFOID:0000000014621463

CAUTION:
Do not start engine while checking transfer oil level.

1. Remove filler plug.
2. Fill with new transfer oil to the specified level (A) near the filler plug hole.



⇦ : Front

Transfer oil grade and viscosity	**: Refer to MA-11, "Fluids and Lubricants".**
Transfer oil capacity	**: Refer to DLN-97, "General Specifications".**

3. Set a new gasket onto filler plug, and install it in the transfer and tighten to specified torque. Refer to DLN-77, "Exploded View".
CAUTION:
Do not reuse gasket.

REAR PROPELLER SHAFT

REAR PROPELLER SHAFT : Inspection

INFOID:0000000014621464

APPEARANCE AND NOISE

- Check the propeller shaft tube surface for dents or cracks. If malfunction is detected, replace propeller shaft assembly.
- If center bearing is noisy or damaged, replace propeller shaft assembly.

VIBRATION

If vibration is present at high speed, adjust the propeller shaft phase first.

1. Check the propeller shaft for bend and damage. If damaged, replace propeller shaft assembly.
2. Perform a cruise test drive to check the propeller shaft for runout. If vibration occurs, separate propeller shaft at electric controlled coupling of final drive; then change the phase between electric controlled coupling stud bolt and propeller shaft by the one bolt hole at a time and install propeller shaft.
3. If vibration is still detected, measure propeller shaft runout after removing it. Refer to DLN-105, "Inspection".

REAR DIFFERENTIAL GEAR OIL

REAR DIFFERENTIAL GEAR OIL : Inspection

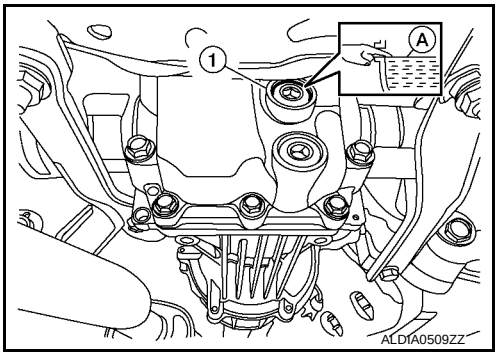
INFOID:0000000014621465

OIL LEAKS

Make sure that oil is not leaking from final drive assembly or around it.

OIL LEVEL

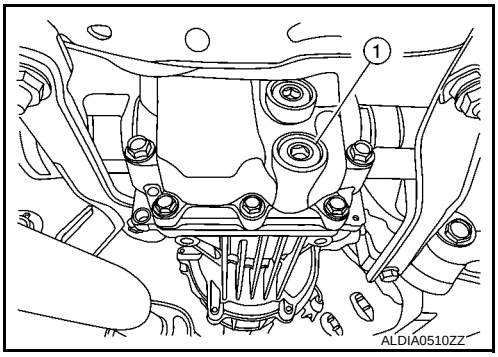
- Remove filler plug (1) and check oil level (A) from filler plug mounting hole as shown.
  CAUTION:
  Do not start engine while checking oil level.
- Set a new gasket on filler plug and install it on final drive assembly. Refer to DLN-134, "Exploded View".
  CAUTION:
  Do not reuse gasket.



REAR DIFFERENTIAL GEAR OIL : Draining

INFOID:0000000014621466

1. Stop engine.
2. Remove drain plug (1) and drain gear oil.
3. Set a new gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to DLN-134, "Exploded View".
   CAUTION:
   Do not reuse gasket.



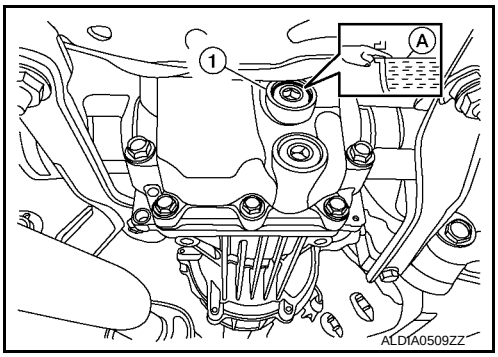
REAR DIFFERENTIAL GEAR OIL : Refilling

INFOID:0000000014621467

1. Remove filler plug (1). Fill with new gear oil until oil level (A) reaches the specified level near filler plug hole.

Oil grade and viscosity	**: Refer to MA-11, "Fluids and Lubricants".**
Oil capacity	**: Refer to DLN-151, "General Specifications".**

2. After refilling oil, check oil level. Set a new gasket to filler plug, then install it to final drive assembly. Refer to DLN-134, "Exploded View".
   CAUTION:
   Do not reuse gasket.



WHEELS

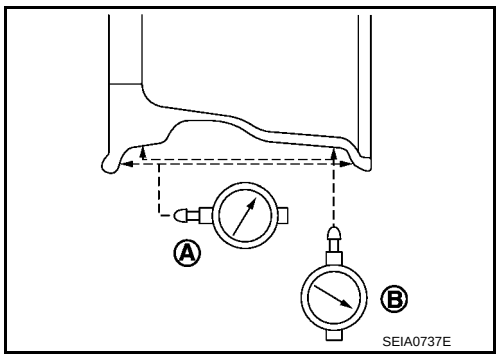
WHEELS : Inspection

INFOID:0000000014621468

WHEEL

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

3. Remove tire from wheel and mount wheel on a balancer machine.
CAUTION:
DO NOT use center hole cone-type clamping machines to hold the wheel during tire removal/installation or balancing or damage to the wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold the wheel during servicing.



a. Set dial indicator as shown.
b. Check runout, if runout value exceeds the limit, replace wheel.

Limit	
Axial Runout (A)	Refer to WT-74, "Wheel".
Radial Runout (B)	Refer to WT-74, "Wheel".

WHEELS : Adjustment

INFOID:0000000014621469

BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

Preparation Before Adjustment

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

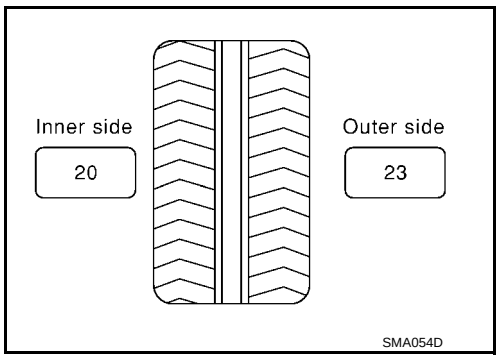
CAUTION:
- **Be careful not to scratch the wheel and tire during removal.**
- **After removing double-faced adhesive tape, wipe clean all traces of releasing agent from the wheel and tire.**

Wheel Balance Adjustment

CAUTION:
- **DO NOT use center hole cone-type clamping machines to hold the wheel during tire removal/installation or balancing or damage to the wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold the wheel during servicing.**
- 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.

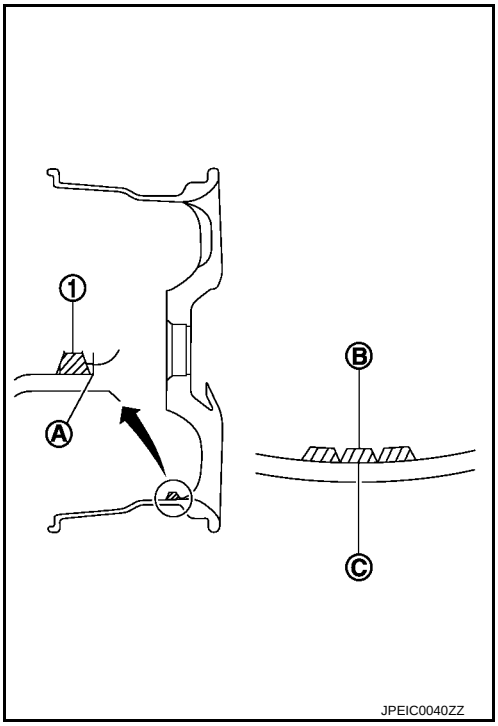
1. Set wheel and tire on balancer machine using the center hole as a guide. Start the balancer machine.
2. For balancer machines that only have a clip-on (rim flange) weight mode setting, follow this step to calculate the correct size adhesive weight to use. When inner and outer imbalance values are 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 wheel and tire.

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)

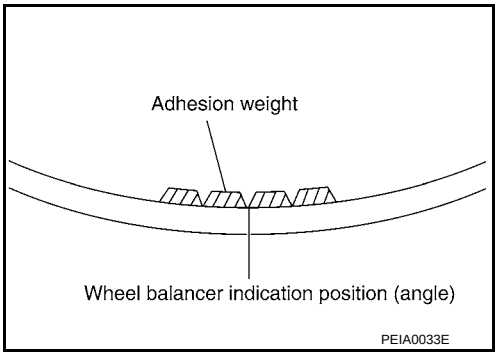


3. Install balance weight in the position shown.
   CAUTION:
   - **Do not install the inner balance weight before installing the outer balance weight.**
   - **Before installing the balance weight, be sure to clean the mating surface of the wheel and tire.**
   - When installing balance weight (1) to wheel and tire, set it into the grooved area (A) on the inner wall of the wheel and tire 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 weights.**



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 of another.
5. Start balancer machine again.
6. Install balance weight on inner side of wheel and tire 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.

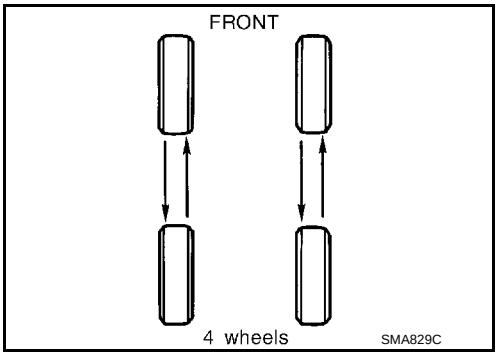
Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable imbalance	Refer to WT-74, "Wheel".	

TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to MA-7, "Introduction of Periodic Maintenance".
- Rotate the wheels and tires front to back in the pattern as shown.
- When installing the wheel, tighten wheel nuts to the specified torque.

  WARNING:
  - **Do not include the spare tire (if equipped) when rotating tires.**
  - **After rotating tires, check and adjust the tire pressure.**

  CAUTION:
  - **When installing wheel nuts, 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 the wheel nuts to a torque exceeding specification to prevent strain on the disc brake rotor.**
  - **Use Genuine NISSAN wheel nuts.**



Wheel nut tightening torque : WT-67, "Exploded View"

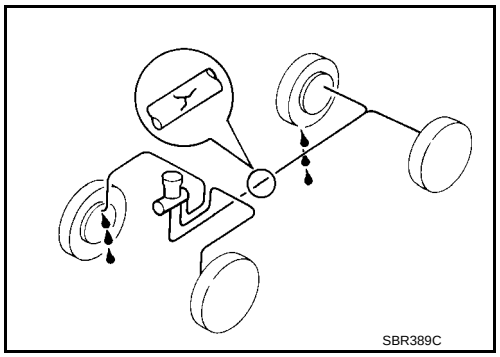
- Perform the ID registration after tire rotation. Refer to WT-24, "Description".

BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

INFOID:0000000014621470

- Check brake fluid lines and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, etc.


SBR389C

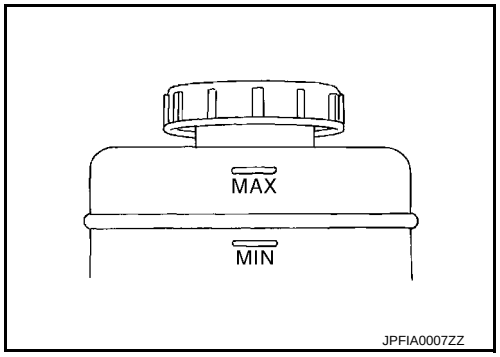
BRAKE FLUID

BRAKE FLUID : Inspection

INFOID:0000000014621471

BRAKE FLUID LEVEL

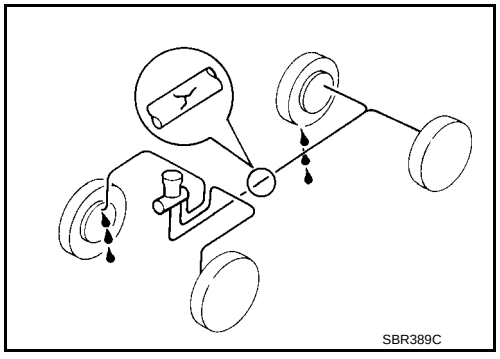
- Make sure that the brake fluid level in the reservoir tank is between the MAX and MIN lines.
- Visually check around the reservoir tank for brake fluid leakage.
- If the brake fluid level is excessively low, check the brake system for leakage.
- If brake warning lamp remains illuminated after parking brake pedal is released, check the brake system for brake fluid leakage.



JPFIA0007ZZ

BRAKE LINE

1. Check brake line (tubes and hoses) for cracks, deterioration or other damage. Replace any damaged parts.
2. Check for brake fluid leakage by fully depressing brake pedal while engine is running.
   CAUTION:
   If brake fluid leakage occurs around joints, retighten or replace damaged parts as necessary.


SBR389C

BRAKE FLUID : Drain and Refill

INFOID:0000000014621472

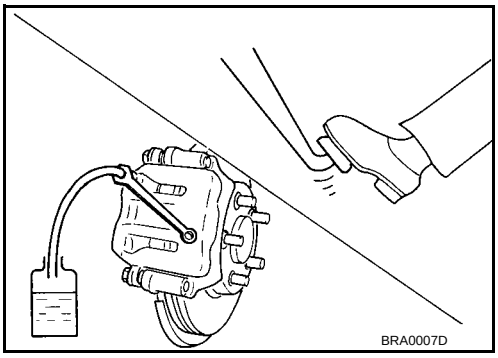
CAUTION:

- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may damage paint. If brake fluid is splashed on painted areas, wash it away with water immediately.**
- **Prior to repair, turn the ignition switch OFF, disconnect the ABS actuator and electric unit (control unit) connector or negative battery terminal. Refer to PG-129, "Removal and Installation (Battery)".**

- **Refill brake system with new brake fluid. Refer to MA-11, "Fluids and Lubricants".**
- **Do not reuse drained brake fluid.**

DRAINING

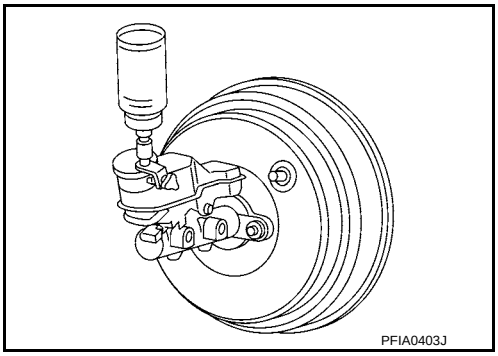
1. Turn ignition switch OFF and disconnect ABS actuator and electric unit (control unit) connector or negative battery terminal. Refer to PG-129, "Removal and Installation (Battery)".
2. Connect a vinyl tube to bleeder valve.
3. Depress brake pedal, loosen bleeder valve, and gradually remove brake fluid.
   CAUTION:
   Do not allow master cylinder reservoir tank to empty as this may cause damage to master cylinder internal components.



REFILLING

1. Make sure no foreign material is in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   Do not reuse drained brake fluid.
2. Refill the brake system as follows:
   - Depress the brake pedal.
   - Loosen bleeder valve.
   - Slowly depress brake pedal to 2/3 of the brake pedal full stroke.
   - Tighten bleeder valve.
   - Release brake pedal.

   Repeat this operation at intervals of two or three seconds until all old brake fluid is discharged. Add new brake fluid frequently.
   CAUTION:
   Do not allow master cylinder reservoir tank to empty as this may cause damage to master cylinder internal components.
3. Bleed the air out of the brake hydraulic system. Refer to BR-52, "Bleeding Brake System".



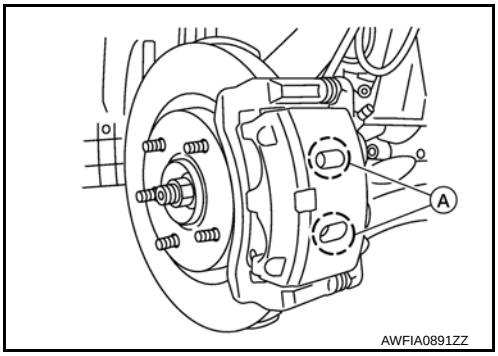
FRONT BRAKE

FRONT BRAKE : Inspection

INFOID:0000000014621473

Check brake pad wear thickness from an inspection hole (A) on cylinder body. Check using a scale if necessary.

Wear thickness : Refer to BR-88, "Front Disc Brake".



FRONT BRAKE : Inspection

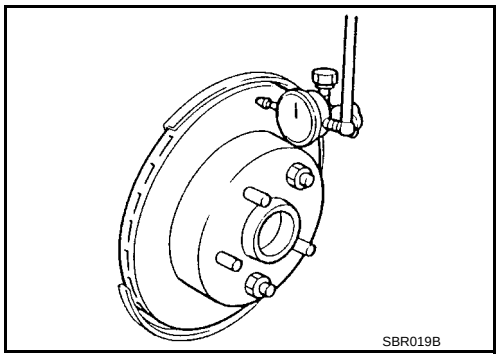
INFOID:0000000014621474

APPEARANCE

Check surface of disc brake rotor for uneven wear, cracks or damage. Replace if any abnormal conditions exist.

RUNOUT

1. Check the wheel bearing axial end play before the inspection. Refer to FAX-7, "Inspection"(FWD) or FAX-44, "Inspection"(AWD).
2. Secure the disc brake rotor to the wheel hub and bearing with wheel nuts at two wheel nut locations.
3. Inspect the runout with a dial gauge, measured at 10 mm (0.39 in) inside the disc brake rotor edge.


SBR019B

Runout : Refer to BR-88, "Front Disc Brake".

4. Find the installation position with a minimum runout by shifting the disc brake rotor-to-wheel hub and bearing installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc brake rotor if the runout is outside the limit even after performing the above operation. When refinishing, use Tool.

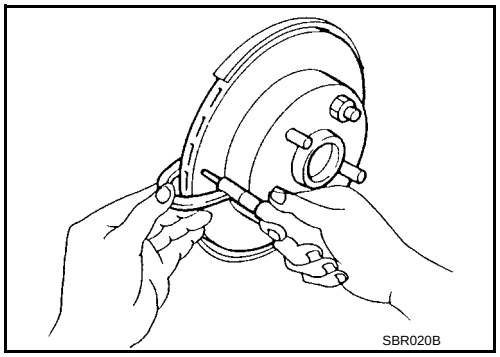
Tool number : 38-PFM92

CAUTION:
- **Check in advance that the thickness of the disc brake rotor is wear thickness + 0.3 mm (0.012 in) or more.**
- **If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc brake rotor.**

Wear thickness : Refer to BR-88, "Front Disc Brake".

THICKNESS

Check the thickness of the disc brake rotor using a micrometer. Replace the disc brake rotor if the thickness is below the wear limit.


SBR020B

Wear thickness : Refer to BR-88, "Front Disc Brake".

Thickness variation : Refer to BR-88, "Front Disc Brake".

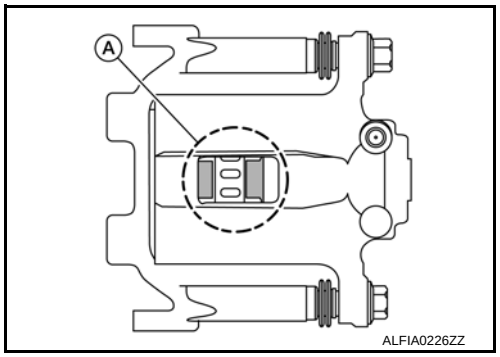
REAR BRAKE

REAR BRAKE : Inspection

INFOID:0000000014621475

INSPECTION

Check brake pad wear thickness from an inspection hole (A) on cylinder body. Check using a scale if necessary.



ALFIA0226ZZ

Wear thickness : Refer to BR-88, "Rear Disc Brake".

REAR BRAKE : Inspection

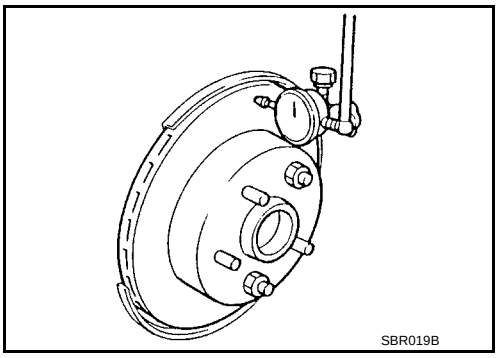
INFOID:0000000014621476

Appearance

Check surface of disc brake rotor for uneven wear, cracks or damage. Replace if any abnormal conditions exist.

Runout

1. Check the wheel bearing axial end play before the inspection. Refer to RAX-6, "Inspection"(FWD) or RAX-14, "Inspection"(AWD).
2. Secure the disc brake rotor to the wheel hub and bearing with wheel nuts at two wheel nut locations.
3. Measure the runout with a dial gauge 10 mm (0.39 in) from the disc brake rotor edge.



Runout **: Refer to BR-88, "Rear Disc Brake".**

4. Find the installation position with a minimum runout by shifting the disc brake rotor-to-wheel hub and bearing installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc brake rotor if the runout is outside the limit even after performing the above operation. When refinishing, use Tool.

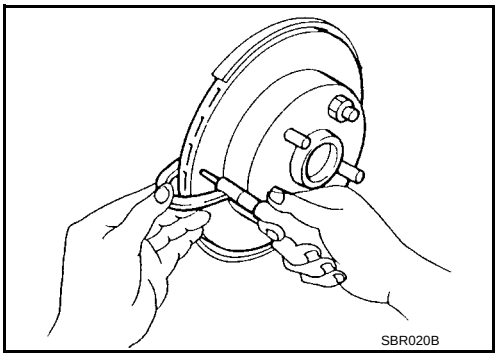
Tool number : 38-PFM92

CAUTION:
- **Check in advance that the thickness of the disc brake rotor is wear thickness + 0.3 mm (0.012 in) or more.**
- **If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc brake rotor.**

Wear thickness **: Refer to BR-88, "Rear Disc Brake".**

Thickness

Check the thickness of the disc brake rotor using a micrometer. Replace the disc brake rotor if the thickness is below the minimum thickness.



Minimum thickness **: Refer to BR-88, "Rear Disc Brake".**

Thickness variation **: Refer to BR-88, "Rear Disc Brake".**

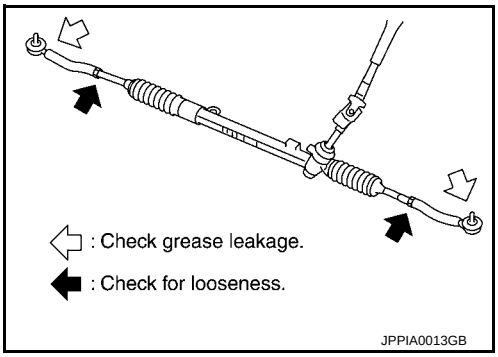
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000014621477

STEERING GEAR

- Check gear housing and boots for looseness, damage and grease leakage.
- Check connection with steering column for looseness.



STEERING LINKAGE

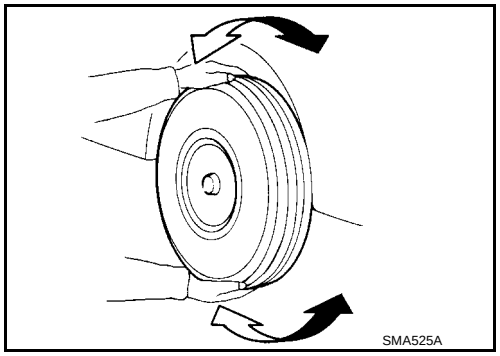
Check ball joint, dust cover and other component parts for looseness, wear, damage and grease leakage.

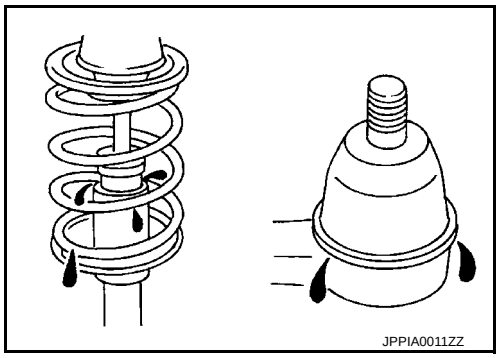
AXLE AND SUSPENSION PARTS

AXLE AND SUSPENSION PARTS : Inspection

INFOID:0000000014621478

Check front and rear axle and suspension parts for excessive play, cracks, wear or other damage.
- Shake each wheel to check for excessive play.
- Check wheel bearings for smooth operation.
- Check axle and suspension nuts and bolts for looseness.
- Check strut (shock absorber) for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.



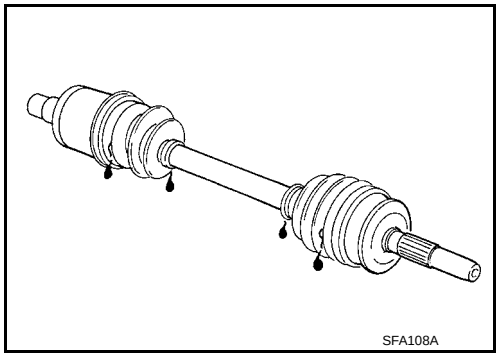


DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:0000000014621479

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



LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

INFOID:0000000014621480

WITH INTELLIGENT KEY SYSTEM

For hood and hood lock illustration.
- Hood: Refer to DLK-294, "Exploded View".
- Hood lock control: Refer to DLK-316, "Exploded View".

For front door and front door lock illustration.
- Front door: Refer to DLK-301, "Exploded View".
- Front door lock: Refer to DLK-319, "Exploded View".

For rear door and rear door lock illustration.
- Rear door: Refer to DLK-306, "Exploded View".
- Rear door lock: Refer to DLK-323, "Exploded View".

For back door and back door lock illustration.

- Back door: Refer to DLK-311, "Exploded View".
- Back door lock: Refer to DLK-326, "Exploded View".

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS : Inspection

INFOID:0000000014621481

For front seat belt illustration. Refer to SB-8, "Exploded View".
For rear seat belt illustration. Refer to SB-12, "Exploded View".

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached hardwares (I.e. anchor bolt, guide rail set). Nissan recommends to replace all seat belt assemblies in use during a collision, unless not damaged and properly operating after minor collision.**
  Also inspect seat belt assemblies not in use during a collision, and replace if damaged or improperly operating.
  Seat belt pre-tensioner should be replaced even if the seat belts are not in use during a frontal collision where the driver and passenger air bags are deployed.
- **If any component of seat belt assembly is questionable, do not repair.**
  Replace as seat belt assembly.
- **If webbing is cut, frayed, or damaged, replace belt assembly.**
- **Never oil tongue and buckle.**
- **Use a genuine NISSAN seat belt assembly.**

For details, refer to SB-5, "Inspection" in SB section.

- Check anchors for loose mounting
- Check belts for damage
- Check retractor for smooth operation
- Check function of buckles and tongues when buckled and released