

SECTION MA

MAINTENANCE

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PREPARATION

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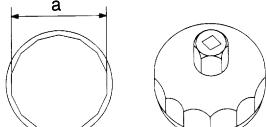
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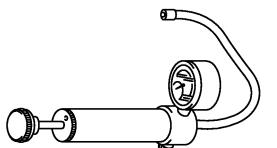
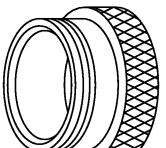
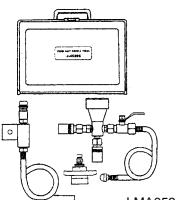
Special Service Tool

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MR20DD ENGINE MODELS AND QR25DE ENGINE MODELS

Tool number Tool name	Description
KV10115801 Oil filter wrench	Removing and installing oil filter a: 64.3 mm (2.531 in)  S-NT375

R9M ENGINE MODELS

NISSAN Tool number (RENAULT Tool number) Tool name	Description
— (M.S. 554-07) Tester	Leak checking Checking reservoir tank cap  MLIA0012E
— (M.S. 554-01) Reservoir tank cap tester adapter A	Adapting tester to reservoir tank  MLIA0013E
— (M.S. 554-06) Reservoir tank cap tester adapter B	Adapting tester to reservoir tank cap  MLIA0014E
NI. 205 (—) Coolant refill tool	Refilling engine cooling system  LMA053

PREPARATION

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Commercial Service Tool

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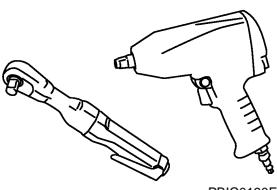
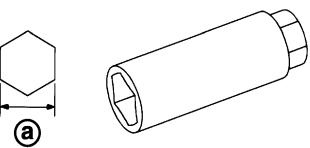
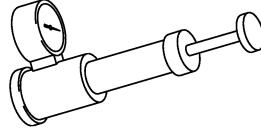
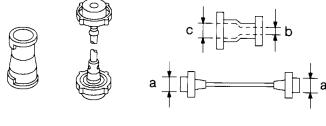
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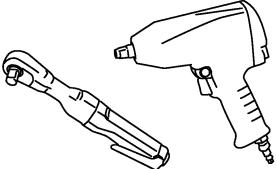
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MR20DD ENGINE MODELS AND QR25DE ENGINE MODELS

Tool name	Description
Power tool	Loosening nuts and bolts  PBIC0190E
Spark plug wrench	Removing and installing spark plug a: 14 mm (0.55 in)  JPBIA0399ZZ
Radiator cap tester	Checking radiator and radiator cap  PBIC1982E
Radiator cap tester adapter	Adapting radiator cap tester to radiator cap and radiator filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. a: 41.3 (1.626) dia. Unit: mm (in)  S-NT564

R9M ENGINE MODELS

Tool name	Description
Power tool	Loosening nuts and bolts  PBIC0190E

GENERAL MAINTENANCE

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PERIODIC MAINTENANCE

GENERAL MAINTENANCE

General Maintenance

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General maintenance includes those items which should be checked during the normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue operating properly. The owners can perform the checks and inspections themselves or they can 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
Doors and hood	Check that all doors and the hood operate smoothly as well as the back door, trunk lid and hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	MA-72
Lamps	Clean the headlamps on a regular basis. Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check the aim of the headlamps.	—
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-66
Tire rotation	In the case that Two-Wheel Drive (2WD) and front & rear tires are same size; Tires should be rotated every 10,000 km (6,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that Four-Wheel Drive (4WD) and front & rear tires are same size; Tires should be rotated every 5,000 km (3,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that front tires are different size from rear tires; Tires cannot be rotated. However, the timing for tire rotation may vary according to your driving habits and the road surface conditions.	MA-67
Tire Pressure Monitoring System (TPMS) transmitter components (if equipped)	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	WT-62
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.	FSU-8 RSU-7 MA-65 MA-66
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
Wiper blades	Check for cracks or wear if not functioning correctly.	—

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
Accelerator pedal	Check the pedal for smooth operation and make sure that the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—
Brake pedal	Check the pedal for smooth operation and make sure that it is the proper distance from the floor mat when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	BR-11 (LHD) BR-75 (RHD)

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

Item		Reference page
Parking brake	Check the parking brake operation regularly. Check that the lever (if equipped) or the pedal (if equipped) has the proper travel. Also make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	—
Seat belts	Check that all parts of the seat belt system (for example, buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	MA-72
Steering wheel	Check for changes in the steering condition, such as excessive play, hard steering or strange noises. Check that it has the specified play. Free play: Less than 35 mm (1.38 in)	—
Warning lamps and chimes	Make sure that all warning lamps and chimes are operating properly.	—
Windshield defogger	Check that the air comes out of the defogger outlets properly and in good quantity when operating the heater or air conditioner.	—
Windshield wiper and washer	Check that the wipers and washer operate properly and that the wipers do not streak.	—

UNDER THE HOOD AND VEHICLE

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

Item		Reference page
Battery	Except for maintenance free battery; Check the fluid level in each cell. It should be between the "UPPER" and "LOWER" lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	PG-121 PG-118
Brake (and clutch) fluid level(s)	For Manual Transmission (MT) model; Make sure that the brake and clutch fluid levels are between the "MAX" and "MIN" lines on the reservoir(s). Except for Manual Transmission (MT) model; Make sure that the brake fluid level is between the "MAX" and "MIN" lines on the reservoir.	MA-67 MA-59
Coolant level	Check the coolant level when the coolant is cold. Make sure that the coolant level is between the "MAX" and "MIN" lines on the reservoir.	MA-27 (MR20) MA-37 (QR25) MA-47 (R9M)
Engine drive belt(s)	Make sure that drive belt(s) is/are not frayed, worn, cracked or oily.	MA-26 (MR20) MA-36 (QR25) MA-46 (R9M)
Engine oil level	Check the level after parking the vehicle (on a level ground) and turning off the engine.	LU-9 (MR20) LU-25 (QR25) LU-38 (R9M)
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 if fuel fumes are evident, check for cause and have it corrected immediately.	—
Windshield washer fluid	Check that there is adequate fluid in the reservoir.	—

PERIODIC MAINTENANCE

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PERIODIC MAINTENANCE

Periodic Maintenance

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

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

ENGINE AND EMISSION CONTROL MAINTENANCE (MR20DD AND QR25DE PETROL ENGINE MODELS)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, [] = At the specified mileage only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL										Reference page
km x 1,000 (Miles x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)	120 (72)	120 (72)	120 (72)	
Engine compartment and under vehicle												
Perform at kilometers (miles) or months interval, whichever comes first.	Months	12	24	36	48	60	72	84	96			
Intake and exhaust valve clearance	See NOTE (1)											EM-16 (MR20) EM-159 (QR25)
Drive belt	See NOTE (2)	I	I	I	I	I	I	I	I			MA-26 (MR20) MA-36 (QR25)
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R			MA-32 (MR20) MA-42 (QR25)
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent.)★		R	R	R	R	R	R	R	R			MA-33 (MR20) MA-43 (QR25)
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)			I								MA-27 (MR20) MA-37 (QR25)
Cooling system		I	I	I	I	I	I	I	I			MA-27 (MR20) MA-29 (MR20) MA-30 (MR20) MA-37 (QR25) MA-40 (QR25) MA-40 (QR25)
Fuel lines			I		I		I		I			MA-30 (MR20) MA-41 (QR25)
EVAP vapor lines (With carbon canister)			I		I		I		I			MA-35 (MR20) MA-45 (QR25)

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									Reference page
km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96			
Perform at kilometers (miles) or months interval, whichever comes first.											
Air cleaner filter (Dry paper type for Kazakhstan)★											MA-30 (MR20) MA-41 (QR25)
Air cleaner filter (Dry paper type for Ukraine)★					R		R		R		
Fuel filter (In-tank type)	See NOTE (4)										—
Spark plugs (Iridium-tipped type)	See NOTE (5)	[R]	[R]	[R]	[R]	[R]	[R]	[R]	[R]		MA-34 (MR20) MA-44 (QR25)
Computer diagnosis	See NOTE (6)	I	I	I	I	I	I	I	I		—

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belt if found damaged or if the auto belt tensioner reading reaches the maximum limit.
- (3) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform “I” (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (4) Maintenance-free item. For service procedures, refer to FL section.
- (5) Replace spark plug when the spark plug gap exceeds 1.25 mm (0.049 in) even if within specified periodic replacement mileage.
- (6) Perform diagnosis for all systems with CONSULT and check for DTC.

CHASSIS AND BODY MAINTENANCE (MR20DD AND QR25DE PETROL ENGINE MODELS)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									Reference page
km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96			
Underhood and under vehicle											
Headlamp aiming		I		I	I	I	I	I	I	I	—
Brake & clutch systems and fluids (For level & leaks)		I	I	I	I	I	I	I	I	I	MA-67 MA-59
Brake fluid★			R		R		R		R		MA-68
Brake booster vacuum hoses, connections & check valve			I		I		I		I		BR-16
CVT fluid (For level & leaks)	See NOTE (1)	I	I	I	I	I	I	I	I	I	MA-56 (RE0F10D)
Manual transaxle gear oil (For leaks)		I	I	I	I	I	I	I	I	I	MA-56 (RS6F94R)
Transfer oil (For level & leaks)		I	I	I	I	I	I	I	I	I	MA-60 (MR20) MA-61 (QR25)
Differential gear oil (For level & leaks)★		I	I	I	I	I	I	I	I	I	MA-64

PERIODIC MAINTENANCE

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96	
Steering gear & linkage, axle & suspension parts, propeller shaft, & drive shafts★			|		|		|		|	MA-70 MA-70 MA-63 MA-71
Exhaust system★		|*1	|	|*1	|	|*1	|	|*1	|	MA-56
Brake pads, rotors & other brake components★		|	|	|	|	|	|	|	|	MA-68 BR-17 BR-19
Foot brake, parking brake & clutch (For free play, stroke & operation)		|	|	|	|	|	|	|	|	BR-11 CL-9
Air conditioner filter★	See NOTE (2)		R		R		R		R	VTL-16
Body corrosion	See NOTE (3)									—

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 or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 90,000 km (54,000 miles), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.
- (2) Even if it is before the replacement interval, if the amount of air conditioner or heater coming out of the vent is drastically low or if the windows fog up easily, please replace the air conditioner filter.
- (3) Inspect once per year.

*1: For 4WD models only.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer or caravan
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity areas or in mountainous areas
- G — Driving in areas using salt or other corrosive areas
- H — Driving on rough and/or muddy roads or in the desert
- I — Driving with frequent use of braking or in mountainous areas

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

Driving condition		Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	Air cleaner filter (Dry paper type for Kazakhstan)	Replace	Every 15,000 km (9,000 miles) or 12 months		MA-30 (MR20)
A	Air cleaner filter (Dry paper type for Ukraine)	Replace	Every 30,000 km (18,000 miles) or 24 months		MA-41 (QR25)

PERIODIC MAINTENANCE

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Driving condition										Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 7,500 km (4,500 miles) or 6 months	MA-32 (MR20) MA-33 (MR20) MA-42 (QR25) MA-43 (QR25)
.	.	.	.	F	.	.	.	.	.	Brake fluid	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-68
.	.	C	.	.	.	.	H	.	.	Differential gear oil	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-64
.	.	.	.	.	.	G	H	.	.	Steering gear & linkage, axle & suspension parts, propeller shaft, & drive shafts	Inspect	Every 15,000 km (9,000 miles) or 12 months	MA-70 MA-70 MA-63 MA-71
.	.	.	.	.	G	H	.	.	.	Exhaust system (2WD)	Inspect	Every 15,000 km (9,000 miles) or 12 months	MA-56
.	.	.	.	.	G	H	.	.	.	Exhaust system (4WD)	Inspect	Every 7,500 km (4,500 miles) or 6 months	
A	.	C	.	.	G	H	I	.	.	Brake pads, rotors & other brake components	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-68 BR-17 BR-19
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	Every 15,000 km (9,000 miles) or 12 months	VTL-16

ENGINE AND EMISSION CONTROL MAINTENANCE (R9M DIESEL ENGINE MODELS)

(French Guiana, Bulgaria, Israel, Turkey, Guadeloupe, Martinique, Reunion, Romania)

Abbreviations: R: Replace, I = Inspect and correct or replace as necessary, [] = At the specified mileage only.

MAINTENANCE OPERATION	MAINTENANCE INTERVAL					Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	

Engine compartment and under vehicle

Intake & exhaust valve clearance	See NOTE (1)					—
Drive belt & pulleys★	See NOTE (2)	I	I	I	I	MA-46
Timing chain	See NOTE (3)					EM-347
Engine oil (Use recommended oil.)★	See NOTE (4)	R	R	R	R	MA-53
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★	See NOTE (4)	R	R	R	R	MA-54
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (5)					MA-47
Cooling system		I	I	I	I	MA-47 MA-51 MA-51
Air cleaner filter ★			R		R	MA-52
Fuel lines		I	I	I	I	MA-51

A

B

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	
Fuel filter★ (For Bulgaria)	See NOTE (6)		[R]		[R]	FL-37
Fuel filter★ (Except for Bulgaria)	See NOTE (6)	[R]	[R]	[R]	[R]	
Computer diagnosis	See NOTE (7)	I	I	I	I	—

NOTE:

- ★ Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace every 240,000 km (144,000 miles)/120 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.
- (3) For 6MT models: Replace every 300,000 km (180,000 miles)/120 months.
For CVT models: Replace every 150,000 km (90,000 miles)/240 months.
- (4) If the oil replacement indicator is displayed, change the engine oil and filter as soon as possible. After replace the engine oil, reset the display.
- (5) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform “I” (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (6) Drain water when water level sensor lamp turns on in combination meter.
- (7) Perform diagnosis for all systems with CONSULT and check for DTC.

CHASSIS AND BODY MAINTENANCE (R9M DIESEL ENGINE MODELS)

(French Guiana, Bulgaria, Israel, Turkey, Guadeloupe, Martinique, Reunion, Romania)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, [] = At the specified mileage only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	
Underhood and under vehicle						
Headlamp aiming		I		I	I	—
Brake & clutch systems and fluids (For level & leaks)		I	I	I	I	MA-67 MA-59
Brake fluid★			R		R	MA-68
Brake booster vacuum hoses, connections & check valve		I	I	I	I	BR-16
CVT fluid (For level & leaks)	See NOTE (1)	I	I	I	I	MA-56 (RE0F10G)
Manual transaxle gear oil (For leaks)		I	I	I	I	MA-57 (2WD) MA-58 (4WD)
Transfer gear oil (For level & leaks)		I	I	I	I	MA-62 (TY30A)
Differential gear oil (For level & leaks)★		I	I	I	I	MA-64

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL					Reference page
Perform at kilometers (miles) or months interval, whichever comes first.		km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	
Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system★			I	I	I	I	MA-70 MA-70 MA-63 MA-71 MA-56
Brake pads, rotors & other brake components★			I	I	I	I	MA-68 BR-17 BR-19
Foot brake, parking brake & clutch (For free play, stroke & operation)			I	I	I	I	BR-11 CL-9
Air conditioner filter★	See NOTE (2)	[R]	R	[R]	R	VTL-16	
Body corrosion	See NOTE (3)						—

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 or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 90,000 km (54,000 miles), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.
- (2) Even if it is before the replacement interval, if the amount of air conditioner or heater coming out of the vent is drastically low or if the windows fog up easily, please replace the air conditioner filter.
- (3) Inspect once per year.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

(French Guiana, Bulgaria, Israel, Turkey, Guadeloupe, Martinique, Reunion, Romania)

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

Severe driving conditions

A — Driving under dusty conditions

B — Driving repeatedly short distances

C — Towing a trailer or caravan

D — Extensive idling

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

F — Driving in high humidity areas or in mountainous areas

G — Driving in areas using salt or other corrosive areas

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

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

J — Frequent off road use or driving in water

K — Sustained high speed driving

L — Low speed driving (average speed < 30 km/h)

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

Driving condition													Maintenance item	Mainten- ance oper- ation	Maintenance interval	Reference page
A L	Air cleaner filter													Replace	Every 30,000 km (18,000 miles) or 12 months	MA-52
A B C D	Engine oil													Replace	Every 15,000 km (9,000 miles) or 6 months	MA-53
A B C D	Engine oil filter													Replace	Every 15,000 km (9,000 miles) or 6 months	MA-54

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Driving condition											Maintenance item	Maintenance operation	Maintenance interval			Reference page
A E . G H . J . .	Drive belt & pulleys											Replace	Every 75,000 km (45,000 miles) or 36 months			EM-307
A . C D E	Fuel filter (For Bulgaria)											Replace	Every 30,000 km (18,000 miles)			FL-37
A . C D E	Fuel filter (Except for Bulgaria)											Replace	Every 15,000 km (9,000 miles)			
. F	Brake fluid											Replace	Every 30,000 km (18,000 miles) or 12 months			MA-68
. . C H	Differential gear oil											Replace	Every 30,000 km (18,000 miles) or 12 months			MA-64
. G H	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system											Inspect	Every 15,000 km (9,000 miles) or 6 months			MA-70 MA-70 MA-63 MA-71 MA-56
A . C G H I . . .	Brake pads, rotors & other brake components											Inspect	Every 15,000 km (9,000 miles) or 6 months			MA-68 BR-17 BR-19
A	Air conditioner filter											Replace	Every 15,000 km (9,000 miles) or 12 months			VTL-16

ENGINE AND EMISSION CONTROL MAINTENANCE (R9M DIESEL ENGINE MODELS)

(Slovakia, Estonia, Latvia, Lithuania, Greece, England, Germany, Austria, Switzerland, Spain, Portugal, Italy, France, Holland, Belgium, Czech Republic, Hungary, Poland, Denmark, Finland, Norway, Sweden, Iceland, Ireland, Croatia, Luxemburg, Slovenia)

Abbreviations: R: Replace, I = Inspect and correct or replace as necessary, D = Check filter and drain water, [] = At the specified mileage only.

MAINTENANCE OPERATION	MAINTENANCE INTERVAL					Reference page
km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48		
Engine compartment and under vehicle						
Intake & exhaust valve clearance	See NOTE (1)					—
Drive belt & pulleys★	See NOTE (2)	I	I	I	I	style="color: green; text-decoration: underline;">MA-46
Timing chain	See NOTE (3)					style="color: green; text-decoration: underline;">EM-347
Engine oil (Use recommended oil.)★	See NOTE (4)	R	R	R	R	style="color: green; text-decoration: underline;">MA-53
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★	See NOTE (4)	R	R	R	R	style="color: green; text-decoration: underline;">MA-54
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (5)					style="color: green; text-decoration: underline;">MA-47
Cooling system		I	I	I	I	style="color: green; text-decoration: underline;">MA-47 MA-51 MA-51
Air cleaner filter ★			R		R	style="color: green; text-decoration: underline;">MA-52
Fuel lines		I	I	I	I	style="color: green; text-decoration: underline;">MA-51

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	
Fuel filter★	See NOTE (6)	[R]* ¹	[R]	[R]* ¹	[R]	FL-37
Computer diagnosis	See NOTE (7)	I	I	I	I	—

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace every 240,000 km (144,000 miles)/120 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.
- (3) For 6MT models: Replace every 300,000 km (180,000 miles)/120 months. (For France and Holland).
Replace every 300,000 km (180,000 miles). (Except for France and Holland).
For CVT models: Replace every 390,000 km (234,000 miles)/240 months.
- (4) If the oil replacement indicator is displayed, change the engine oil and filter as soon as possible. After replace the engine oil, reset the display.
- (5) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform “I” (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (6) Drain water when water level sensor lamp turns on in combination meter.
- (7) Perform diagnosis for all systems with CONSULT and check for DTC.

*1: For Slovakia, Estonia, Latvia, Lithuania, Greece models.

CHASSIS AND BODY MAINTENANCE (R9M DIESEL ENGINE MODELS)

(Slovakia, Estonia, Latvia, Lithuania, Greece, England, Germany, Austria, Switzerland, Spain, Portugal, Italy, France, Holland, Belgium, Czech Republic, Hungary, Poland, Denmark, Finland, Norway, Sweden, Iceland, Ireland, Croatia, Luxemburg, Slovenia)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, [] = At the specified mileage only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48	
Underhood and under vehicle						
Headlamp aiming		I		I	I	—
Brake & clutch systems and fluids (For level & leaks)		I	I	I	I	MA-67 MA-59
Brake fluid★			R		R	MA-68
Brake booster vacuum hoses, connections & check valve		I	I	I	I	BR-16 (LHD) BR-80 (RHD)
CVT fluid (For level & leaks)	See NOTE (1)	I	I	I	I	MA-56 (REOF10G)
Manual transaxle gear oil (For leaks)		I	I	I	I	MA-57 (2WD) MA-58 (4WD)
Transfer gear oil (For level & leaks)		I	I	I	I	MA-62 (TY30A)
Differential gear oil (For level & leaks)★		I	I	I	I	MA-64

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL					Reference page
Perform at kilometers (miles) or months interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	30 (18) 12	60 (36) 24	90 (54) 36	120 (72) 48		
Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system★		—	—	—	—	—	MA-70 MA-70 MA-70 MA-63 MA-71 MA-56
Brake pads, rotors & other brake components★		—	—	—	—	—	MA-68 (LHD) BR-17 (LHD) BR-19 (LHD) MA-69 (RHD) BR-81 (RHD) BR-83 (RHD)
Foot brake, parking brake & clutch (For free play, stroke & operation)		—	—	—	—	—	BR-11 (LHD) BR-75 (RHD) CL-9
Air conditioner filter★	See NOTE (2)	[R]	R	[R]	R		VTL-16
Body corrosion	See NOTE (3)						—

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 or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 90,000 km (54,000 miles), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.
- (2) Even if it is before the replacement interval, if the amount of air conditioner or heater coming out of the vent is drastically low or if the windows fog up easily, please replace the air conditioner filter.
- (3) Inspect once per year.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

(Slovakia, Estonia, Latvia, Lithuania, Greece, England, Germany, Austria, Switzerland, Spain, Portugal, Italy, France, Holland, Belgium, Czech Republic, Hungary, Poland, Denmark, Finland, Norway, Sweden, Iceland, Ireland, Croatia, Luxemburg, Slovenia)

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

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer or caravan
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity areas or in mountainous areas
- G — Driving in areas using salt or other corrosive areas
- H — Driving on rough and/or muddy roads or in the desert
- I — Driving with frequent use of braking or in mountainous areas
- J — Frequent off road use or driving in water

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K — Sustained high speed driving

L — Low speed driving (average speed < 30 km/h)

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

Driving condition														Maintenance item	Maintenance operation	Maintenance interval	Reference page
A L	Air cleaner filter														Replace	Every 30,000 km (18,000 miles) or 12 months	MA-52
A B C D	Engine oil														Replace	Every 15,000 km (9,000 miles) or 6 months	MA-53
A B C D	Engine oil filter														Replace	Every 15,000 km (9,000 miles) or 6 months	MA-54
A E . G H . J . .	Drive belt & pulleys														Replace	Every 120,000 km (72,000 miles) or 60 months	EM-307
A . C D E	Fuel filter (For Slovakia, Estonia, Latvia, Lithuania, Greece)														Replace	Every 15,000 km (9,000 miles)	FL-37
A . C D E	Fuel filter (Except for Slovakia, Estonia, Latvia, Lithuania, Greece)														Replace	Every 30,000 km (18,000 miles)	
. F	Brake fluid														Replace	Every 30,000 km (18,000 miles) or 12 months	MA-68
. . C H	Differential gear oil														Replace	Every 30,000 km (18,000 miles) or 12 months	MA-64
. G H	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts & exhaust system														Inspect	Every 15,000 km (9,000 miles) or 6 months	MA-70 MA-70 MA-63 MA-71 MA-56
A . C G H I	Brake pads, rotors & other brake components														Inspect	Every 15,000 km (9,000 miles) or 6 months	MA-68 (LHD) BR-17 (LHD) BR-19 (LHD) MA-69 (RHD) BR-81 (RHD) BR-83 (RHD)
A	Air conditioner filter														Replace	Every 15,000 km (9,000 miles) or 12 months	VTL-16

ENGINE AND EMISSION CONTROL MAINTENANCE (R9M DIESEL ENGINE MODELS) (Ukraine)

Abbreviations: R = Replace, I = Inspect and correct or replace as necessary, [] = At the specified mileage only

MAINTENANCE OPERATION	MAINTENANCE INTERVAL							Reference page
Perform at a kilometer (mile) or month interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	

Engine compartment and under vehicle

Intake & exhaust valve clearance	See NOTE (1)							—
Drive belt & pulleys★	See NOTE (2)	I	I	I	I	I	I	MA-46
Timing chain	See NOTE (3)							EM-347
Engine oil (Use recommended oil.)★	See NOTE (4)	R	R	R	R	R	R	MA-53

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL							Reference page
Perform at a kilometer (mile) or month interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72		
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent.)★	See NOTE (4)	R	R	R	R	R	R	MA-54	
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (5)							MA-47	
Cooling system		I	I	I	I	I	I	MA-47 MA-51 MA-51	
Fuel lines		I	I	I	I	I	I	MA-51	
Air cleaner filter★			R		R		R	MA-52	
Fuel filter★	See NOTE (6)	Replace every 30,000 km (18,000 miles).						FL-37	
Computer diagnosis	See NOTE (7)	I	I	I	I	I	I	—	

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance under severe driving conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace every 240,000 km (144,000 miles)/120 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.
- (3) For 6MT models: Replace every 300,000 km (180,000 miles)/120 months.
For CVT models: Replace every 160,000 km (96,000 miles)/240 months.
- (4) If the oil replacement indicator is displayed, change the engine oil and filter as soon as possible. After replace the engine oil, reset the display.
- (5) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform “I” (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (6) Drain water when water level sensor lamp turns on in combination meter.
- (7) Perform diagnosis for all systems with CONSULT and check for DTC.

CHASSIS AND BODY MAINTENANCE (R9M DIESEL ENGINE MODELS) (Ukraine)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL							Reference page
Perform at a kilometer (mile) or month interval, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72		
Headlamp aiming		I		I	I	I	I	—	
Brake & clutch systems and fluids (For level and leaks)		I	I	I	I	I	I	MA-67 MA-59	
Brake fluid★			R		R		R	MA-68	
Brake booster vacuum hoses, connections & check valve		I	I	I	I	I	I	BR-16	
CVT fluid (For level & leaks)	See NOTE (1)	I	I	I	I	I	I	MA-56 (RE0F10G)	
Manual transaxle gear oil (For leaks)		I	I	I	I	I	I	MA-57 (2WD) MA-58 (4WD)	
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	MA-62 (TY30A)	

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MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page	
Perform at a kilometer (mile) or month interval, whichever comes first.		km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Differential gear oil (For level & leaks)★			|	|	|	|	|	|	MA-64
Steering gear & linkage, axle & suspension parts, propeller shaft & drive shafts★			|	|	|	|	|	|	MA-70 MA-70 MA-63 MA-71
Exhaust system★			|	|	|	|	|	|	MA-56
Brake pads, rotors & other brake components★			|	|	|	|	|	|	MA-68 BR-17 BR-19
Foot brake, parking brake & clutch (For free play, stroke & operation)			|	|	|	|	|	|	BR-11 CL-9
Air conditioner filter★	See NOTE (2)	[R]	R	[R]	R	[R]	R		VTL-16
Body corrosion	See NOTE (3)								—

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 or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 100,000 km (60,000 miles), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 100,000 km (60,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.
- (2) Even if it is before the replacement interval, if the amount of air conditioner or heater coming out of the vent is drastically low or if the windows fog up easily, please replace the air conditioner filter.
- (3) Inspect once per year.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

(Ukraine)

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

Severe driving conditions

A — Driving under dusty conditions

B — Driving repeatedly short distances

C — Towing a trailer or caravan

D — Extensive idling

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

F — Driving in high humidity areas or in mountainous areas

G — Driving in areas using salt or other corrosive areas

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

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

J — Frequent off road use or driving in water

K — Sustained high speed driving

L — Low speed driving (average speed < 30 km/h)

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

Driving condition													Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	L	Air cleaner filter	Replace	Every 20,000 km (12,000 miles) or 12 months		MA-52
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil	Replace	Every 10,000 km (6,000 miles) or 6 months		MA-53
A	B	C	D	Engine oil filter	Replace	Every 10,000 km (6,000 miles) or 6 months		MA-54

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Driving condition											Maintenance item	Maintenance operation	Maintenance interval		Reference page
A E . G H . J . .	Drive belt & pulleys											Replace	Every 80,000 km (48,000 miles) or 36 months		EM-307
A . C D E	Fuel filter											Replace	Every 15,000 km (9,000 miles)		FL-37
. F	Brake fluid											Replace	Every 20,000 km (12,000 miles) or 12 months		MA-68
. . C H	Differential gear oil											Replace	Every 20,000 km (12,000 miles) or 12 months		MA-64
. G H	Steering gear & linkage, axle & suspension parts, propeller shaft & drive shafts											Inspect	Every 10,000 km (6,000 miles) or 6 months		MA-70 MA-70 MA-63 MA-71
. G H	Exhaust system											Inspect	Every 10,000 km (6,000 miles) or 6 months		MA-56
A . C G H I . . .	Brake pads, rotors & other brake components											Inspect	Every 10,000 km (6,000 miles) or 6 months		MA-68 BR-17 BR-19
A	Air conditioner filter											Replace	Every 10,000 km (6,000 miles) or 12 months		VTL-16

ENGINE AND EMISSION CONTROL MAINTENANCE (R9M DIESEL ENGINE MODELS) (Cyprus, Malta)

Abbreviations: R = Replace, I = Inspect and correct or replace as necessary, [] = At the specified mileage only

MAINTENANCE OPERATION	km x 1,000 (Miles x 1,000) Months	MAINTENANCE INTERVAL							Reference page
		15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72		
Perform at a kilometer (mile) or month interval, whichever comes first.									

Engine compartment and under vehicle

Intake & exhaust valve clearance	See NOTE (1)								—
Drive belt & pulleys★	See NOTE (2)	I	I	I	I	I	I	I	MA-46
Timing chain	See NOTE (3)								EM-347
Engine oil (Use recommended oil.)★	See NOTE (4)	R	R	R	R	R	R	R	MA-53
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent.)★	See NOTE (4)	R	R	R	R	R	R	R	MA-54
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (5)								MA-47
Cooling system		I	I	I	I	I	I	I	MA-47 MA-51 MA-51
Fuel lines		I	I	I	I	I	I	I	MA-51
Fuel filter★	See NOTE (6)					[R]			FL-37
Air cleaner filter (Viscous paper type)★						R			MA-52
Computer diagnosis	See NOTE (7)	I	I	I	I	I	I	I	—

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance under severe driving conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace every 240,000 km (144,000 miles)/120 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.
- (3) For 6MT: Replace every 300,000 km (180,000 miles)/120 months.
For CVT models: Replace every 150,000 km (90,000 miles)/240 months.

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

- (4) If the oil replacement indicator is displayed, change the engine oil and filter as soon as possible. After replace the engine oil, reset the display.
- (5) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (6) Drain water when water level sensor lamp turns on in combination meter.
- (7) Perform diagnosis for all systems with CONSULT and check for DTC.

CHASSIS AND BODY MAINTENANCE (R9M DIESEL ENGINE MODELS) (Cyprus, Malta)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL							Reference page
		km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	
Perform at a kilometer (mile) or month interval, whichever comes first.									
Headlamp aiming			I		I	I	I	I	—
Brake & clutch systems and fluids (For level and leaks)			I	I	I	I	I	I	MA-67 MA-59
Brake fluid★				R		R		R	MA-68
Brake booster vacuum hoses, connections & check valve				I		I		I	BR-80
CVT fluid (For level & leaks)	See NOTE (1)		I	I	I	I	I	I	MA-56 (RE0F10G)
Manual transaxle gear oil (For leaks)			I	I	I	I	I	I	MA-57 (2WD) MA-58 (4WD)
Transfer gear oil (For level & leaks)			I	I	I	I	I	I	MA-62
Differential gear oil (For level & leaks)★			I	I	I	I	I	I	MA-64
Steering gear & linkage, axle & suspension parts, propeller shaft & drive shafts★				I		I		I	MA-70 MA-70 MA-63 MA-71
Exhaust system★			I	I	I	I	I	I	MA-56
Brake pads, rotors & other brake components★			I	I	I	I	I	I	MA-69 BR-81 BR-83
Foot brake, parking brake & clutch (For free play, stroke & operation)			I	I	I	I	I	I	BR-75 CL-9
Air conditioner filter★	See NOTE (2)			R		R		R	VTL-16
Body corrosion	See NOTE (3)								—

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 or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 90,000 km (54,000 miles), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.
- (2) Even if it is before the replacement interval, if the amount of air conditioner or heater coming out of the vent is drastically low or if the windows fog up easily, please replace the air conditioner filter.
- (3) Inspect once per year.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS (Cyprus, Malta)

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

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

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer or caravan
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity areas or in mountainous areas
- G — Driving in areas using salt or other corrosive areas
- H — Driving on rough and/or muddy roads or in the desert
- I — Driving with frequent use of braking or in mountainous areas
- J — Frequent off road use or driving in water
- K — Sustained high speed driving
- L — Low speed driving (average speed < 30 km/h)

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

Driving condition															Maintenance item	Maintenance operation	Maintenance interval	Reference page
A L															Air cleaner filter	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-52
A B C D															Engine oil	Replace	Every 7,500 km (4,500 miles) or 6 months	MA-53
A B C D															Engine oil filter	Replace	Every 7,500 km (4,500 miles) or 6 months	MA-54
A . . . E . G H . J . .															Drive belt & pulleys	Replace	Every 75,000 km (45,000 miles) or 36 months	MA-46
A . C D E															Fuel filter	Replace	Every 30,000 km (18,000 miles)	FL-37
. F															Brake fluid	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-68
. . C H															Differential gear oil	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-64
. G H															Steering gear & linkage, axle & suspension parts, propeller shaft & drive shafts	Inspect	Every 15,000 km (9,000 miles) or 12 months	MA-70 MA-70 MA-63 MA-71
. G H															Exhaust system	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-56
A . C . . . G H I															Brake pads, rotors & other brake components	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-69 BR-81 BR-83
A															Air conditioner filter	Replace	Every 15,000 km (9,000 miles) or 12 months	VTL-16

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

INFOID:0000000010735280

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

			Capacity (Approximate)		Recommended Fluids/Lubricants	
			Liter	Imp measure		
Engine oil Drain and refill	With oil filter change	MR20DD	3.8	3-3/8 qt	<ul style="list-style-type: none"> Gasoline engine Genuine NISSAN engine oil API grade SL, SM or SN ILSAC grade GF-3, GF-4 or GF-5 ACEA A1/B1, A3/B3, A3/B4, A5/B5, C2 or C3 (For additional information, see "SAE Viscosity Number".) 	
		QR25DE	4.6	4 qt		
		R9M	5.5	4-7/8 qt		
	Without oil filter change	MR20DD	3.6	3-1/8 qt		
		QR25DE	4.3	3-3/4 qt		
		R9M	5.1	4-1/2 qt		
Dry engine (engine overhaul)			MR20DD	4.4	3-7/8 qt	
			QR25DE	5.3	4-5/8 qt	
			R9M	6.6	5-7/8 qt	
Cooling system (with reservoir)			MR20DD (CVT models)	7.7	6-6/8 qt	
			MR20DD (M/T models)	7.2	6-3/8 qt	
			QR25DE	8.2	7-2/8 qt	
			R9M (CVT models)	8.1	7-1/4 qt	
			R9M (M/T models)	7.9	7 qt	
Reservoir tank			MR20DD	0.85	6/8 qt	
			QR25DE	0.85	6/8 qt	
			R9M	0.57	4/8 qt	
CVT fluid			MR20DD QR25DE	7.9	7 qt	
			R9M	8.2	7-1/4 qt	
Manual transaxle gear oil				2.0	3-1/2 pt	
					<ul style="list-style-type: none"> MR20DD engine models: Genuine NISSAN gear oil (Nissan MT-XZ Gear Oil TL/JR Type) 75W-80, or equivalent (If Genuine NISSAN gear oil (Nissan MT-XZ Gear Oil TL/JR Type) is not available, API GL-4+, Viscosity SAE 75W-80 may be used as a temporary replacement. However, use Genuine NISSAN gear oil (Nissan MT-XZ Gear Oil TL/JR Type) as soon as it is available.) R9M engine models: Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi 75W-85 or equivalent (If Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi 75W-85 is hard to obtain, API GL-4, Viscosity SAE 75W-85 may be used as a temporary replacement. However, use Genuine NISSAN gear oil as soon as it is available.) 	

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

		Capacity (Approximate)		Recommended Fluids/Lubricants
		Liter	Imp measure	
Transfer oil	TY21C	0.31	1/2 pt	Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90
	TY30A	0.36	5/8 pt	
Differential gear oil		0.55	1 pt	
Brake and clutch fluid		—	—	Genuine NISSAN Brake Fluid or equivalent DOT 3 or DOT 4 (US FMVSS No. 116) (Never mix different types of fluids (DOT3 and DOT4).)

SAE Viscosity Number

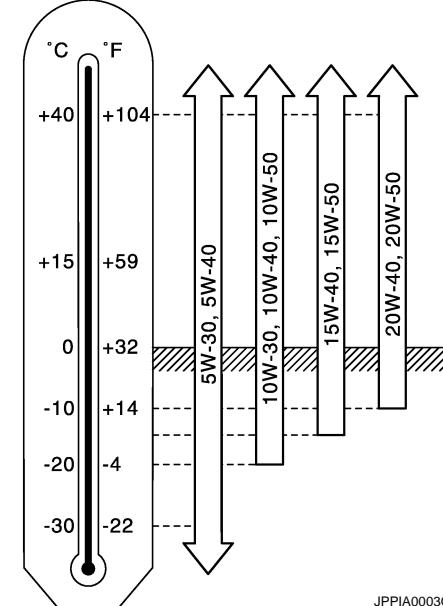
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GASOLINE ENGINE

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

Outside Temperature Range Anticipated Before Next Oil Change

GASOLINE ENGINE OIL



JPP1A0003GB

Engine Coolant Mixture Ratio

INFOID:000000010735282

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

CAUTION:

- When adding or replacing coolant, be sure to use only Genuine NISSAN Engine Coolant or equivalent in its quality with the proper mixture ratio.

The use of other types of engine coolant may damage the engine cooling system.

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

Mixed coolant specific gravity

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

SMA089D

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

Unit: specific gravity

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

WARNING:

Never remove the radiator cap when the engine is hot. Serious burns could be caused by high pressure fluid escaping from the radiator. Wait until the engine and radiator cool down.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

MA

ENGINE MAINTENANCE (MR20DD)

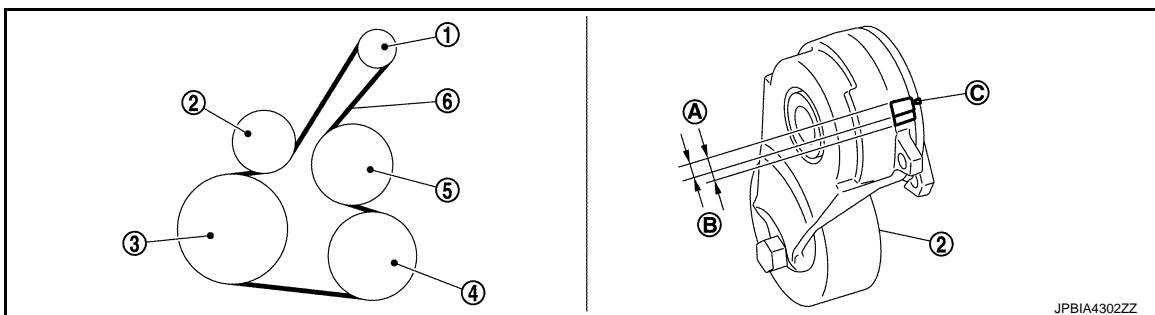
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (MR20DD)

DRIVE BELTS

DRIVE BELTS : Exploded View

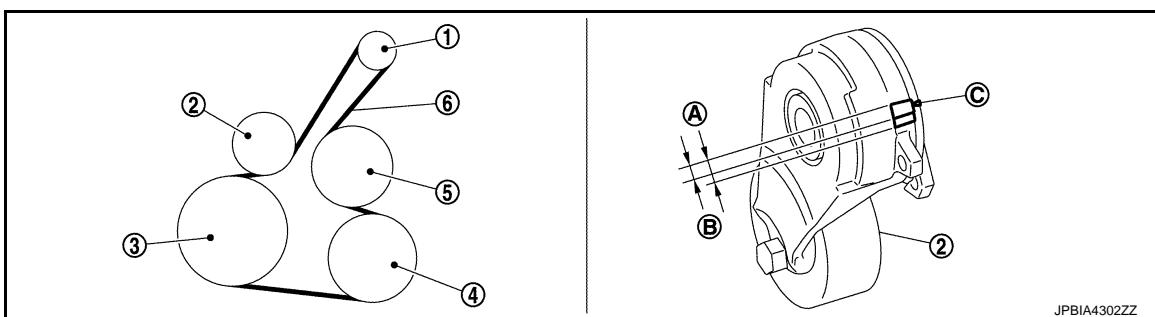
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① Alternator	② Drive belt auto-tensioner	③ Crankshaft pulley
④ A/C compressor	⑤ Water pump	⑥ Drive belt
Ⓐ Possible use range	Ⓑ Range when new drive belt is installed	Ⓒ Indicator

DRIVE BELTS : Inspection

INFOID:0000000011009145



① Alternator	② Drive belt auto-tensioner	③ Crankshaft pulley
④ A/C compressor	⑤ Water pump	⑥ Drive belt
Ⓐ Possible use range	Ⓑ Range when new drive belt is installed	Ⓒ Indicator

WARNING:

Perform this step when engine is stopped.

- Check that the indicator (notch on fixed side) of drive belt auto-tensioner is within the possible use range Ⓐ in the figure.

NOTE:

- Check the drive belt auto-tensioner indication when the engine is cold.
- When new drive belt is installed, the indicator (notch on fixed side) should be within the range Ⓑ in the figure.
- Visually check entire drive belts for wear, damage or cracks.
- If the indicator (notch on fixed side) is out of the possible use range or belts is damaged, replace belts.

DRIVE BELTS : Adjustment

INFOID:0000000011009146

Refer to : [EM-132, "Drive Belt".](#)

ENGINE COOLANT

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

ENGINE COOLANT : Inspection

INFOID:0000000011009150

LEVEL

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

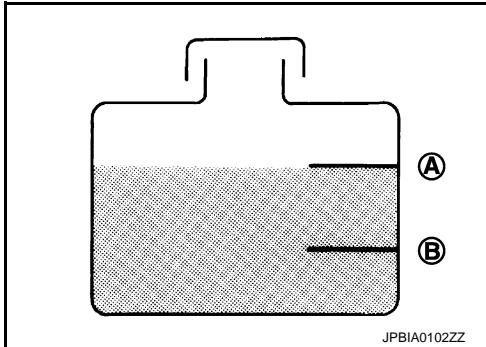
Ⓐ : MAX

Ⓑ : 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-23, "Fluids and Lubricants"](#).



LEAKAGE

- To check for leakage, apply pressure to the cooling system with the radiator cap tester (commercial service tool) (A) and the radiator cap tester adapter (commercial service tool) (B).

Testing pressure: Refer to [CO-31, "Radiator"](#).

WARNING:

Never remove radiator cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from engine cooling system.

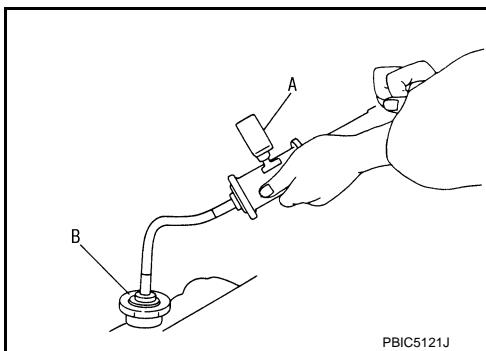
CAUTION:

Higher test pressure than specified may cause radiator damage.

NOTE:

In a case that engine coolant decreases, replenish radiator with engine coolant.

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



ENGINE COOLANT : Draining

INFOID:0000000011009151

WARNING:

- Never remove radiator cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from radiator.
- Wrap a thick cloth around the radiator cap. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.

1. Remove engine under cover. Refer to [EXT-39, "ENGINE UNDER COVER : Exploded View"](#).

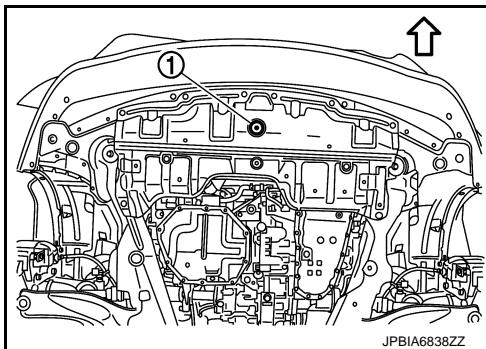
2. Open radiator drain plug ① at the bottom of radiator, and then remove radiator cap.

◀ : Vehicle front

CAUTION:

Perform this step when engine is cold.

- When draining all of engine coolant in the system, open water drain plugs on cylinder block. Refer to [EM-61, "Setting"](#).



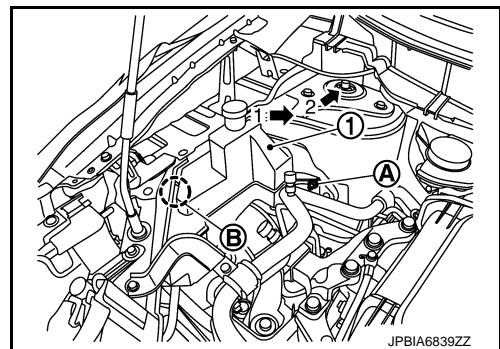
3. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

- Move reservoir tank ①, and then remove it numerical order as shown in the figure.

(A) : Nut
(B) : Pawl



- Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to [CO-15, "Flushing"](#).

ENGINE COOLANT : Refilling

INFOID:000000011009152

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-23, "Fluids and Lubricants"](#).

- Install reservoir tank if removed and radiator drain plug.

CAUTION:

Be sure to clean drain plug and install with new O-ring.

Radiator drain plug : Refer to [CO-17, "Exploded View"](#).

- If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-107, "Disassembly and Assembly"](#).
- Check that each hose clamp has been firmly tightened.
- Fill radiator to specified level.

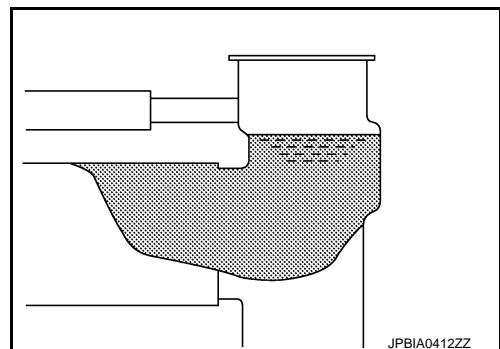
CAUTION:

Never adhere the engine coolant to electronic equipments (alternator etc.).

- Pour coolant slowly of less than 2 ℥ (1-3/4 Imp qt) a minute to allow air in system to escape.

Engine coolant capacity
(With reservoir tank at "MAX" level)

Refer to [CO-31, "Periodical Maintenance Specification"](#).

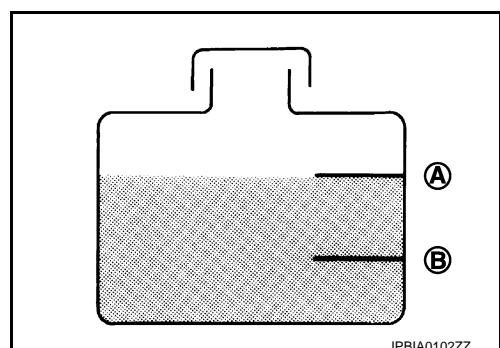


- Refill reservoir tank to "MAX" level line with engine coolant.

(A) : MAX
(B) : MIN

Reservoir tank engine coolant capacity
(At "MAX" level)

Refer to [CO-31, "Periodical Maintenance Specification"](#).



- Install radiator cap.
- Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 3,000 rpm.

- Check thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.

CAUTION:

Watch water temperature gauge so as not to overheat engine.

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

7. Stop the engine and cool down to less than approximately 50°C (122°F).
 - Cool down using fan to reduce the time.
 - If necessary, refill radiator up to filler neck with engine coolant.
- CAUTION:**
Never adhere the engine coolant to electronic equipments (alternator etc.).
8. Refill reservoir tank to "MAX" level line with engine coolant.
9. Repeat steps 5 through 8 two or more times with radiator cap installed until engine coolant level no longer drops.
10. Check cooling system for leakage with engine running.
11. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between "COOL" and "WARM".
 - Sound may be noticeable at heater unit.
12. Repeat step 11 three times.
13. If sound is heard, bleed air from cooling system by repeating step 5 through 8 until reservoir tank level no longer drops.

ENGINE COOLANT : Flushing

INFOID:0000000011009153

1. Install reservoir tank if removed and radiator drain plug.

CAUTION:

Be sure to clean drain plug and install with new O-ring.

Radiator drain plug : Refer to [CO-17, "Exploded View"](#).

- If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-107, "Disassembly and Assembly"](#).

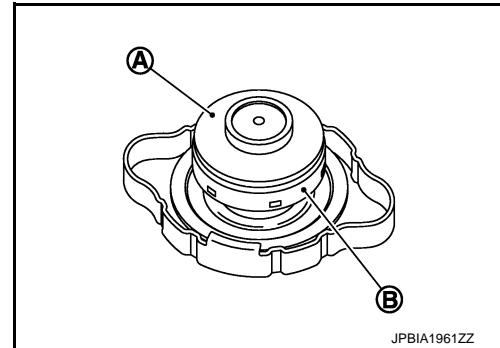
2. Fill radiator and reservoir tank with water and reinstall radiator cap.
3. Run the engine and warm it up to normal operating temperature.
4. Rev the engine two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain water from the system. Refer to [CO-13, "Draining"](#).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

RADIATOR CAP

RADIATOR CAP : Inspection

INFOID:0000000011009157

- Check valve seat **(A)** of radiator cap.
- Check that valve seat is swollen to the extent that the edge of the plunger **(B)** cannot be seen when watching it vertically from the top.
- Check that valve seat has no soil and damage.
- Check that there is no dirt or damage on the valve seat of radiator cap negative-pressure valve.
- Check that there are no unusualness in the opening and closing conditions of negative-pressure valve.



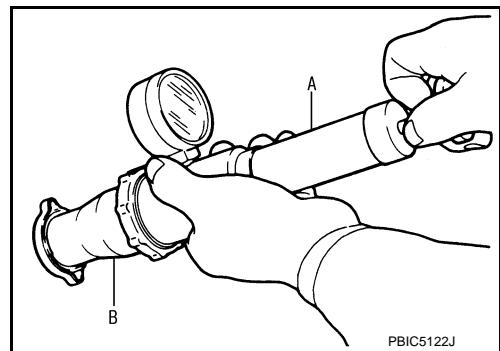
ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

- Check radiator cap relief pressure.

Standard and Limit : Refer to [CO-31, "Radiator"](#).

- When connecting radiator cap to the radiator cap tester (commercial service tool) (A) and the radiator cap tester adapter (commercial service tool) (B), apply engine coolant to the cap seal surface.



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- Replace radiator cap if there is an unusualness related to the above three.

CAUTION:

When installing radiator cap, thoroughly wipe out the radiator filler neck to remove any waxy residue or foreign material.

RADIATOR

RADIATOR : Inspection

INFOID:0000000011009158

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. Apply water by hose to the back side of the radiator core vertically downward.
2. Apply water again to all radiator core surfaces once per minute.
3. Stop washing if any stains no longer flow out from radiator.
4. Blow air into the back side of radiator core vertically downward.
 - Use compressed air lower than 490 kPa (4.9 bar, 5 kg/cm², 71 psi) and keep distance more than 30 cm (11.81 in).
5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

FUEL LINES

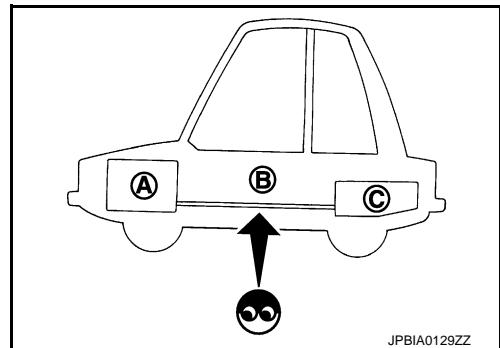
FUEL LINES : Inspection

INFOID:0000000011009160

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

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

If necessary, repair or replace damaged parts.



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AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000011009162

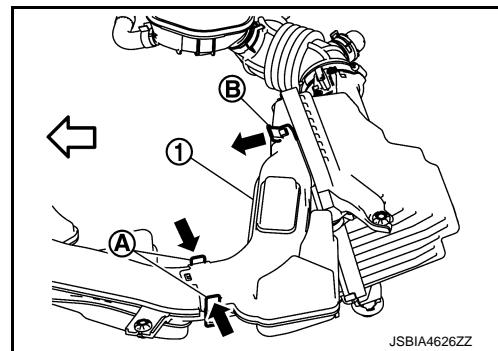
REMOVAL

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

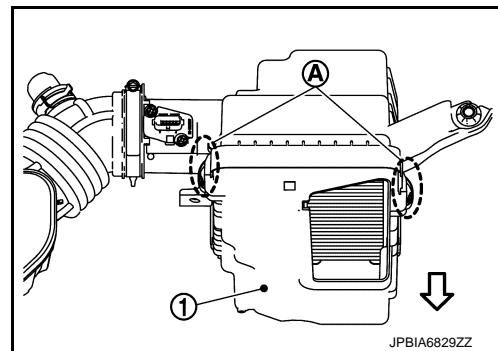
1. To remove air duct 2 ①, pinch pawl Ⓐ to unlock, move pawl Ⓑ forward, and remove air duct 2 upward.

↖ : Vehicle front



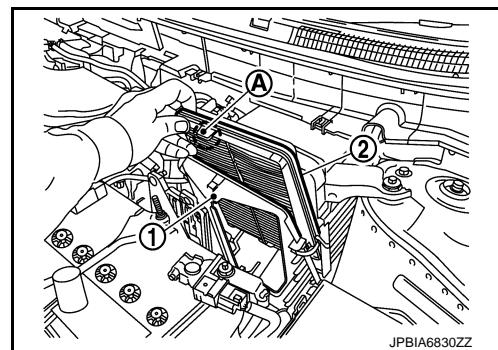
2. Remove the clips Ⓐ of air cleaner cover ①.

↖ : Vehicle front



3. Shift air cleaner cover ① to car front side and remove air cleaner element ②.

Ⓐ : Projection

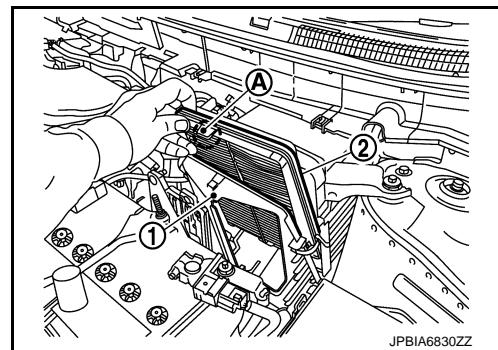


INSTALLATION

Install in the reverse order of removal.

- Insert the projection Ⓐ of air cleaner element ② in such a way so that it becomes the position (upper front side of car) of illustration.

Ⓐ : Projection



- Verify that there is no looseness in air cleaner cover and has been fixed accurately.

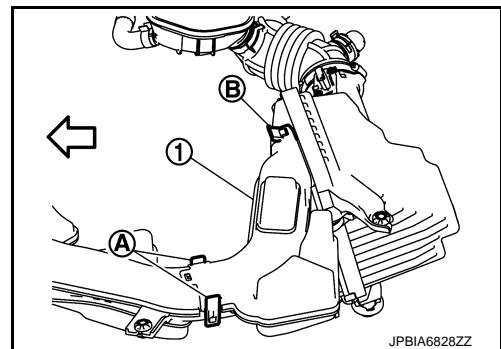
MA

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

- Check that pawls Ⓐ and Ⓑ (3 in total) of air duct 2 ① are engaged.

↖ : Vehicle front



JBIA6828ZZ

AIR CLEANER FILTER : Inspection (Dry Paper Type)

INFOID:000000011009163

INSPECTION AFTER REMOVAL

Examine with eyes that there is no stain, clogging, or damage on air cleaner element.

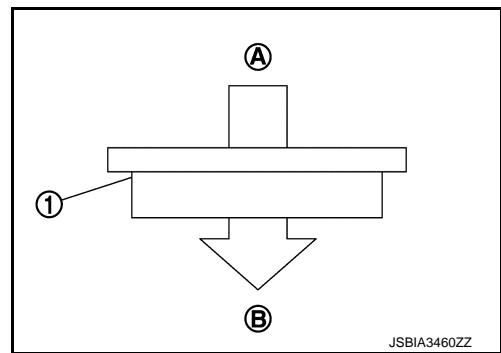
- Remove dusts (such as dead leafs) on air cleaner element surface and inside cleaner case.
- To clean air cleaner element ①, blow air on it from the air intake manifold side Ⓐ to remove trash or dust.

Ⓑ Ambient air side

↖ Air blow direction

CAUTION:

- When blowing air on the air cleaner element, attach the cover to the air cleaner case and stay away from the vehicle as much as possible to prevent the entry of dirt into the air cleaner case.
- Never blow air from the ambient air side to prevent clogging. When the ambient air side needs to be cleaned, attach the cover to the intake manifold side and lightly dust by hand.



JSBIA3460ZZ

- If clogging or damage is observed, replace the air cleaner element.

MAINTENANCE INTERVAL

Refer to [MA-8, "Periodic Maintenance"](#).

ENGINE OIL

ENGINE OIL : Draining

INFOID:000000011009165

WARNING:

- Be careful not to get burned, 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.

- Warm up the engine, and check for engine oil leakage from engine components. Refer to [LU-9, "Inspection"](#).
- Stop the engine and wait for 10 minutes.
- Loosen oil filler cap.
- Remove drain plug and then drain engine oil.

ENGINE OIL : Refilling

INFOID:000000011009166

- Install drain plug with new drain plug washer. Refer to [EM-40, "Exploded View"](#).

CAUTION:

- Do not reuse drain plug washer.
- Be sure to clean drain plug and install with new drain plug washer.

- Refill with new engine oil.

Engine oil specification and viscosity: Refer to [MA-23, "Fluids and Lubricants"](#).

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

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 the engine.

3. Warm up engine and check area around drain plug and oil filter for engine oil leakage.
4. Stop engine and wait for 10 minutes.
5. Check the engine oil level. Refer to [LU-9, "Inspection".](#)

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:0000000011009168

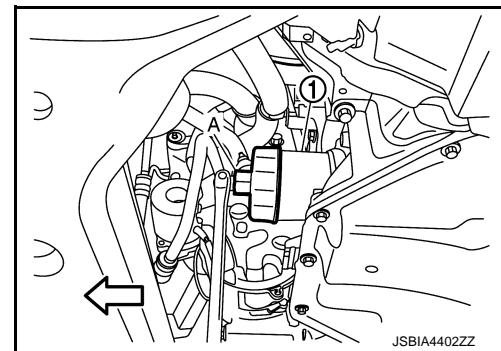
REMOVAL

- Using oil filter wrench [SST: KV10115801](A), remove oil filter ①.

⇨ : Engine front

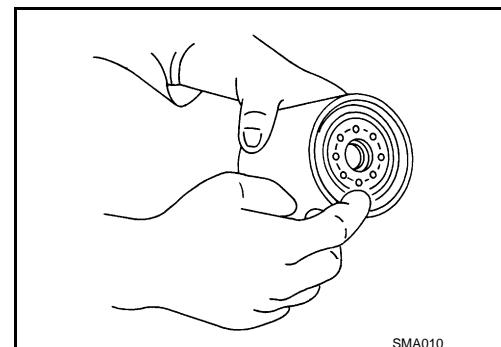
CAUTION:

- Oil filter is provided with relief valve. Use Genuine NISSAN Oil Filter or equivalent.
- Be careful not to get burned when engine and engine oil may be hot.
- When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
- Completely wipe off any engine oil that adheres to engine and vehicle.



INSTALLATION

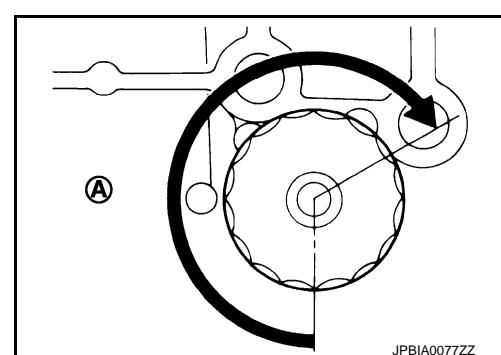
1. Remove foreign materials adhering to the oil filter installation surface.
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

 : 17.7 N·m (1.8 kg·m, 13 ft-lb)



OIL FILTER : Inspection

INFOID:0000000011009169

INSPECTION AFTER INSTALLATION

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

1. Check the engine oil level. Refer to [LU-9, "Inspection"](#).
2. Start the engine, and check there is no leakage of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to [LU-9, "Inspection"](#).

SPARK PLUG

SPARK PLUG : Removal and Installation

INFOID:0000000011009171

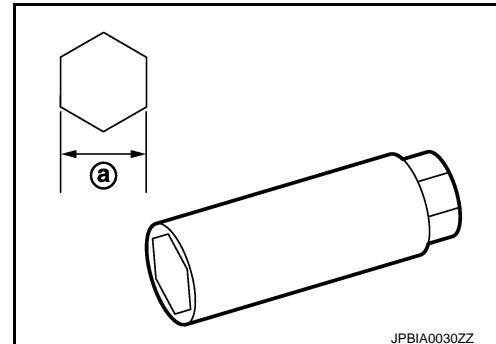
REMOVAL

1. Remove resonator of air duct assembly. Refer to [EM-30, "Exploded View"](#).
2. Remove ignition coil. Refer to [EM-54, "Exploded View"](#).
3. Remove spark plug with a spark plug wrench (commercial service tool).

(a) : 14 mm (0.55 in)

CAUTION:

Never drop or shock spark plug.



INSTALLATION

Install in the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000011009172

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

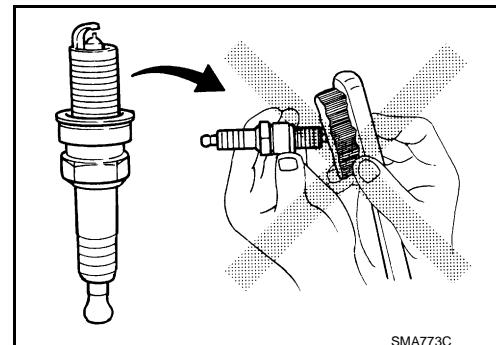
Spark plug (Standard type) : Refer to [EM-132, "Spark Plug"](#).

CAUTION:

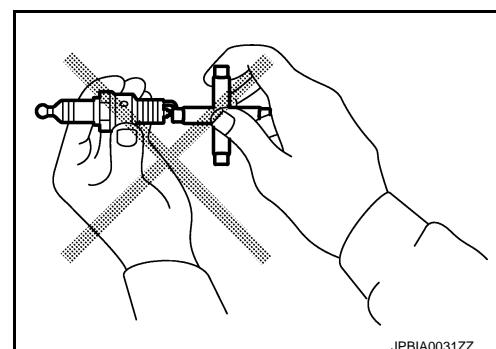
- Never drop or shock spark plug.
- Never use a wire brush for cleaning.
- If plug tip is covered with carbon, spark plug cleaner may be used.

Cleaner air pressure : Less than 588 kPa (5.88 bar, 6 kg/cm², 85 psi)

Cleaning time : Less than 20 seconds



- Checking and adjusting plug gap is not required between replacement intervals.
- Measure spark plug gap. when it exceeds the limit, replace spark plug even if it is within the specified replacement mileage. Refer to [EM-132, "Spark Plug"](#).



EVAP VAPOR LINES

ENGINE MAINTENANCE (MR20DD)

< PERIODIC MAINTENANCE >

EVAP VAPOR LINES : Inspection

INFOID:000000010735301

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration.
2. Inspect fuel tank filler cap vacuum relief valve for clogging, sticking, etc.
Refer to [EC-428, "Inspection"](#).

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ENGINE MAINTENANCE (QR25DE)

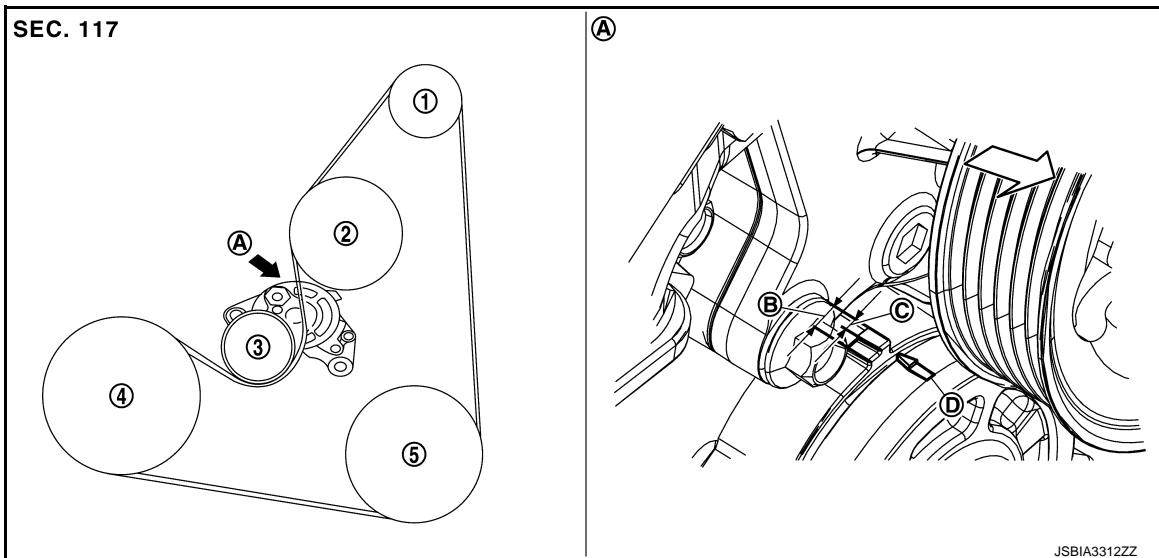
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (QR25DE)

DRIVE BELTS

DRIVE BELTS : Exploded View

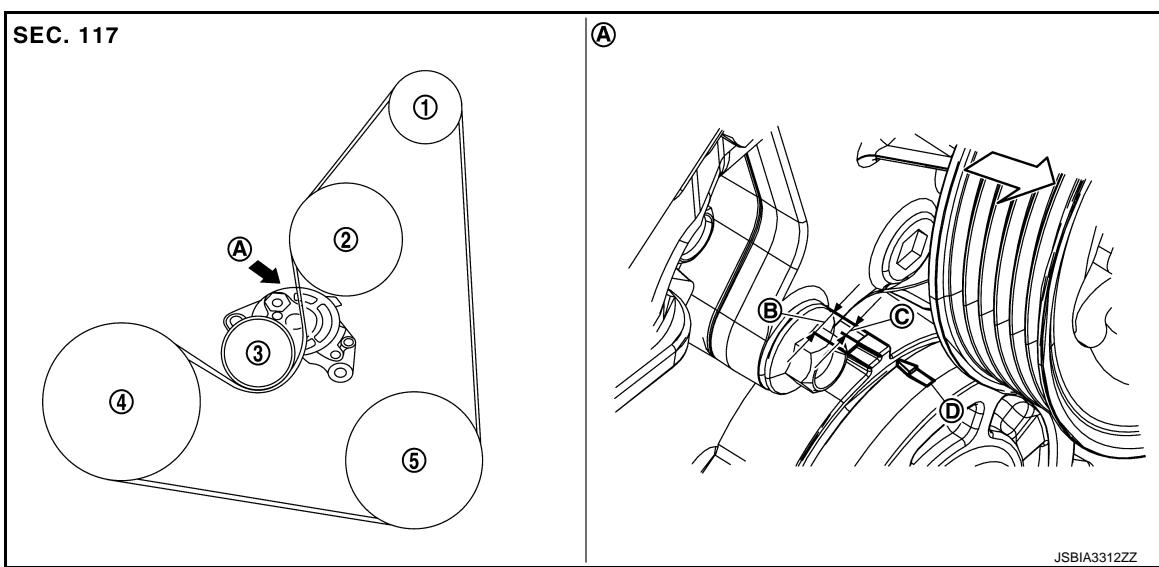
INFOID:0000000011009176



① Alternator	② Water pump	③ Drive belt auto tensioner
④ Crankshaft pulley	⑤ A/C compressor	
(A) View A	(B) Possible use range	(C) Range when new drive belt is installed
(D) Indicator (notch on the fixed side)		
← : Engine front		

DRIVE BELTS : Inspection

INFOID:0000000011009177



① Alternator	② Water pump	③ Drive belt auto tensioner
④ Crankshaft pulley	⑤ A/C compressor	
(A) View A	(B) Possible use range	(C) Range when new drive belt is installed

ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

Ⓐ Indicator (notch on the fixed side)

Ⓑ : Engine front

WARNING:

Perform this step when engine is stopped.

- Check that the indicator Ⓐ (notch on fixed side) of drive belt auto-tensioner is within the possible use range Ⓑ in the figure.

NOTE:

- Check the drive belt auto-tensioner indication when the engine is cold.
- When new drive belt is installed, the indicator (notch on fixed side) should be within the range Ⓒ in the figure.
- Visually check entire drive belt for wear, damage or cracks.
- If the indicator (notch on fixed side) is out of the possible use range or belt is damaged, replace drive belt.

DRIVE BELTS : Adjustment

INFOID:0000000011009178

Refer to : [EM-275, "Drive belt".](#)

ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000011009189

LEVEL

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

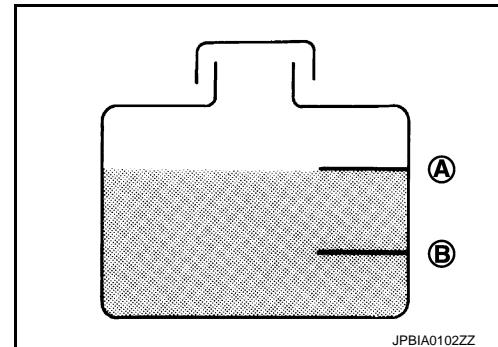
Ⓐ : MAX

Ⓑ : 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-23, "Fluids and Lubricants".](#)



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LEAKAGE

- To check for leaks, apply pressure to the cooling system with the radiator cap tester (commercial service tool) (A) and the radiator cap tester adapter (commercial service tool) (B).

Testing pressure: Refer to [CO-55, "Radiator".](#)

WARNING:

Never remove radiator cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from engine cooling system.

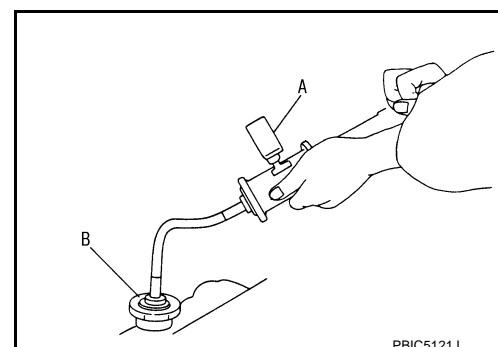
CAUTION:

Higher test pressure than specified may cause radiator damage.

NOTE:

In a case that engine coolant decreases, replenish radiator with engine coolant.

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



PBIC5121J

ENGINE COOLANT : Draining

INFOID:0000000011009190

WARNING:

- Never remove radiator cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from radiator.
- Wrap a thick cloth around the radiator cap. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.

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ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

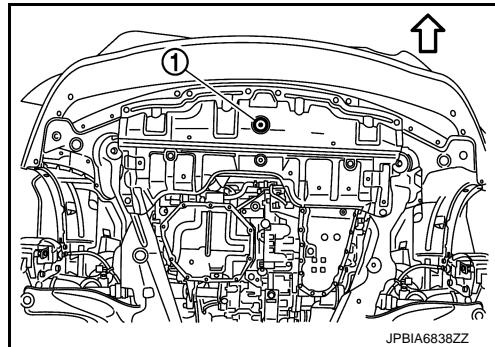
1. Remove engine under cover. Refer to [EXT-39, "ENGINE UNDER COVER : Exploded View"](#).
2. Open radiator drain plug ① at the bottom of radiator, and then remove radiator cap.

◀ : Vehicle front

CAUTION:

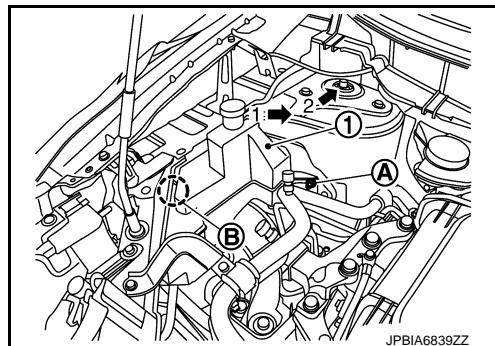
Perform this step when engine is cold.

- When draining all of engine coolant in the system, open water drain plugs on cylinder block. Refer to [EM-207, "Setting"](#).



3. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.
 - Move reservoir tank ①, and then remove it numerical order as shown in the figure.

(A) : Nut
(B) : Pawl



4. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to [CO-41, "Flushing"](#).

ENGINE COOLANT : Refilling

INFOID:000000011009191

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-23, "Fluids and Lubricants"](#).

1. Install reservoir tank if removed and radiator drain plug.

CAUTION:

Be sure to clean drain plug and install with new O-ring.

Radiator drain plug : Refer to [CO-43, "Exploded View"](#).

- If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-248, "Disassembly and Assembly"](#).
2. Check that each hose clamp has been firmly tightened.
3. Fill radiator to specified level.

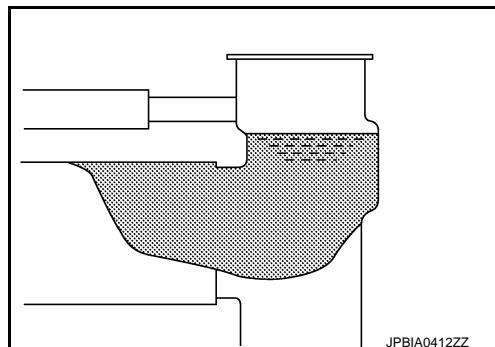
CAUTION:

Never adhere the engine coolant to electronic equipments (alternator etc.).

- Pour coolant slowly of less than 2 ℥ (1-3/4 Imp qt) a minute to allow air in system to escape.

Engine coolant capacity
(With reservoir tank at "MAX" level)

Refer to [CO-55, "Periodical Maintenance Specification"](#).



ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

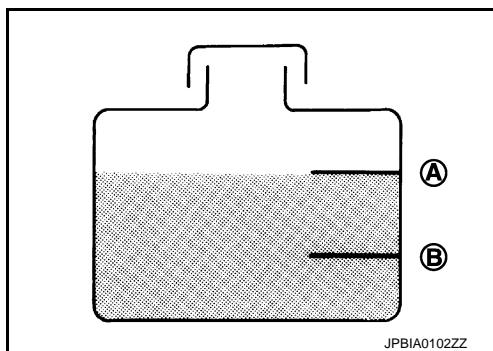
4. Refill reservoir tank to "MAX" level line with engine coolant.

(A) : MAX
(B) : MIN

Reservoir tank engine coolant capacity

(At "MAX" level)

Refer to [CO-55, "Periodical Maintenance Specification"](#).



5. Install radiator cap.
6. Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 3,000 rpm.
 - Check thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.
- CAUTION:**
Watch water temperature gauge so as not to overheat engine.
7. Stop the engine and cool down to less than approximately 50°C (122°F).
 - Cool down using fan to reduce the time.
 - If necessary, refill radiator up to filler neck with engine coolant.
- CAUTION:**
Never adhere the engine coolant to electronic equipments (alternator etc.).
8. Refill reservoir tank to "MAX" level line with engine coolant.
9. Repeat steps 5 through 8 two or more times with radiator cap installed until engine coolant level no longer drops.
10. Check cooling system for leakage with engine running.
11. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between "COOL" and "WARM".
 - Sound may be noticeable at heater unit.
12. Repeat step 11 three times.
13. If sound is heard, bleed air from cooling system by repeating step 5 through 8 until reservoir tank level no longer drops.

ENGINE COOLANT : Flushing

INFOID:000000011009192

1. Install reservoir tank if removed and radiator drain plug.

CAUTION:

Be sure to clean drain plug and install with new O-ring.

Radiator drain plug : Refer to [CO-43, "Exploded View"](#).

- If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-248, "Disassembly and Assembly"](#).

2. Fill radiator and reservoir tank with water and reinstall radiator cap.
3. Run the engine and warm it up to normal operating temperature.
4. Rev the engine two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain water from the system. Refer to [CO-39, "Draining"](#).
7. Repeat steps 1 through 6 until clear water begins to drain from radiator.

RADIATOR CAP

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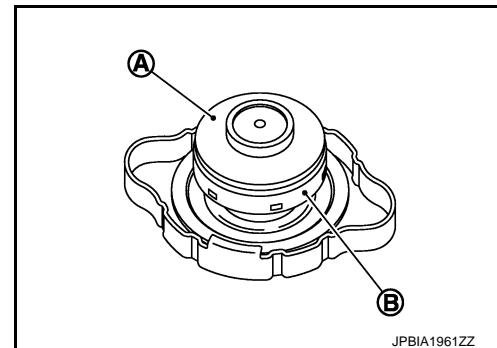
ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

RADIATOR CAP : Inspection

INFOID:000000011009193

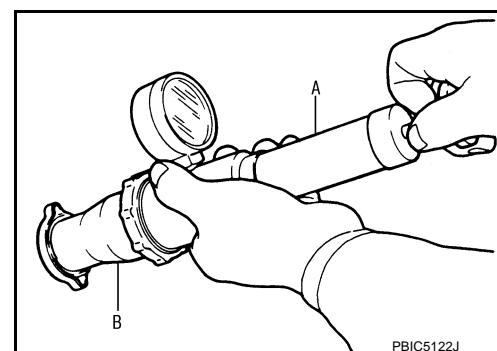
- Check valve seat **(A)** of radiator cap.
- Check that valve seat is swollen to the extent that the edge of the plunger **(B)** cannot be seen when watching it vertically from the top.
- Check that valve seat has no soil and damage.
- Check that there is no dirt or damage on the valve seat of radiator cap negative-pressure valve.
- Check that there are no unusualness in the opening and closing conditions of negative-pressure valve.



- Check radiator cap relief pressure.

Standard and Limit : Refer to [CO-55, "Radiator"](#).

- When connecting radiator cap to the radiator cap tester (commercial service tool) (A) and the radiator cap tester adapter (commercial service tool) (B), apply engine coolant to the cap seal surface.



- Replace radiator cap if there is an unusualness related to the above three.

CAUTION:

When installing radiator cap, thoroughly wipe out the radiator filler neck to remove any waxy residue or foreign material.

RADIATOR

RADIATOR : Inspection

INFOID:000000011009194

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. Apply water by hose to the back side of the radiator core vertically downward.
2. Apply water again to all radiator core surfaces once per minute.
3. Stop washing if any stains no longer flow out from radiator.
4. Blow air into the back side of radiator core vertically downward.
 - Use compressed air lower than 490 kPa (4.9 bar, 5 kg/cm², 71 psi) and keep distance more than 30 cm (11.8 in).
5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

FUEL LINES

ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

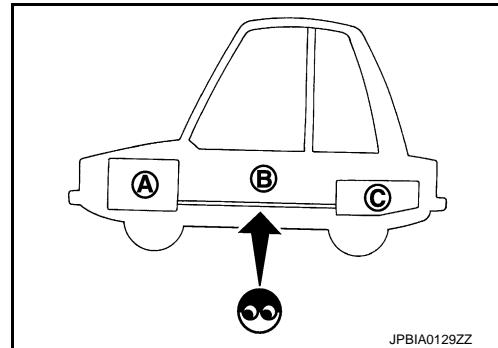
FUEL LINES : Inspection

INFOID:000000011009195

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

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

If necessary, repair or replace damaged parts.



AIR CLEANER FILTER

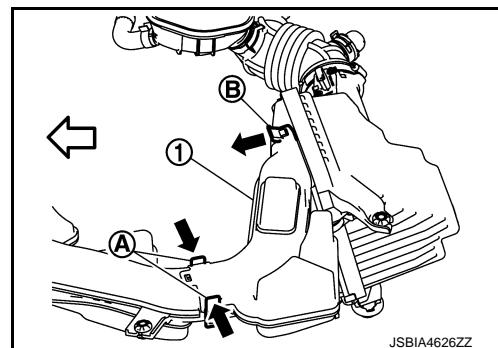
AIR CLEANER FILTER : Removal and Installation

INFOID:000000011009180

REMOVAL

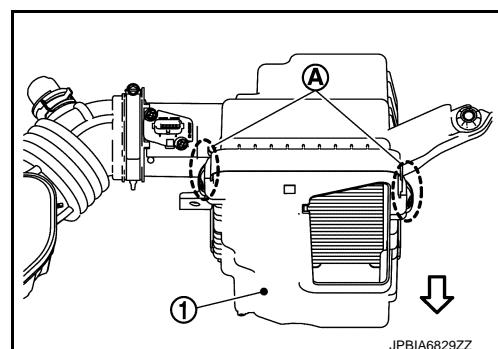
1. To remove air duct 2 ①, pinch pawl ④ to unlock, move pawl ③ forward, and remove air duct 2 upward.

↖ : Vehicle front



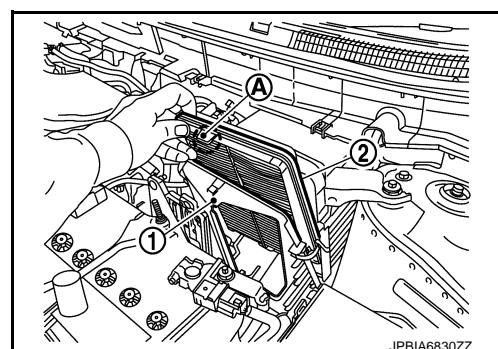
2. Remove the clips ④ of air cleaner cover ①.

↖ : Vehicle front



3. Shift air cleaner cover ① to car front side and remove air cleaner element ②.

(A) : Projection



INSTALLATION

Install in the reverse order of removal.

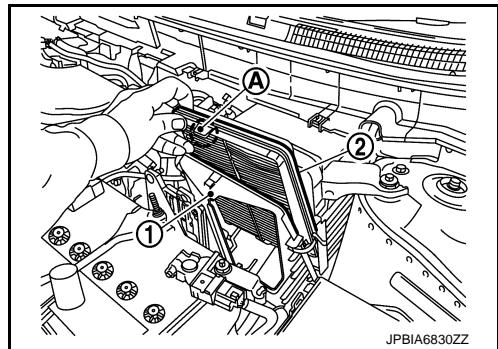
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ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

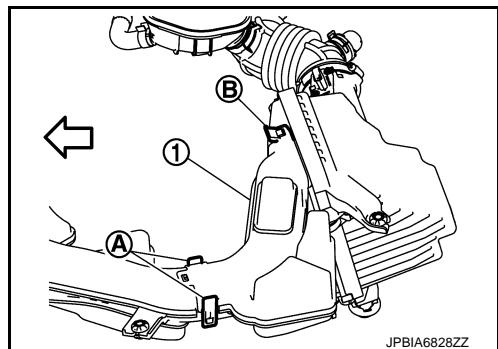
- Insert the projection Ⓐ of air cleaner element ② in such a way so that it becomes the position (upper front side of car) of illustration.

Ⓐ : Projection



- Verify that there is no looseness in air cleaner cover and has been fixed accurately.
- Check that pawls Ⓐ and Ⓑ (3 in total) of air duct 2 ① are engaged.

↖ : Vehicle front



AIR CLEANER FILTER : Inspection (Dry Paper Type)

INFOID:000000011009181

INSPECTION AFTER REMOVAL

Examine with eyes that there is no stain, clogging, or damage on air cleaner element.

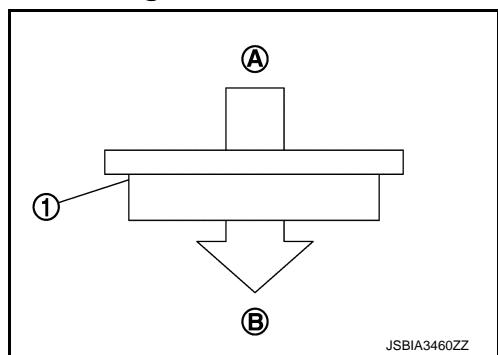
- Remove dusts (such as dead leafs) on air cleaner element surface and inside cleaner case.
- To clean air cleaner element ①, blow air on it from the air intake manifold side Ⓐ to remove trash or dust.

Ⓑ Ambient air side

↖ Air blow direction

CAUTION:

- When blowing air on the air cleaner element, attach the cover to the air cleaner case and stay away from the vehicle as much as possible to prevent the entry of dirt into the air cleaner case.
- Never blow air from the ambient air side to prevent clogging. When the ambient air side needs to be cleaned, attach the cover to the intake manifold side and lightly dust by hand.



- If clogging or damage is observed, replace the air cleaner element.

MAINTENANCE INTERVAL

Refer to [MA-42, "AIR CLEANER FILTER : Inspection \(Dry Paper Type\)".](#)

ENGINE OIL

ENGINE OIL : Draining

INFOID:000000011009185

WARNING:

- Be careful not to get burned, 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.

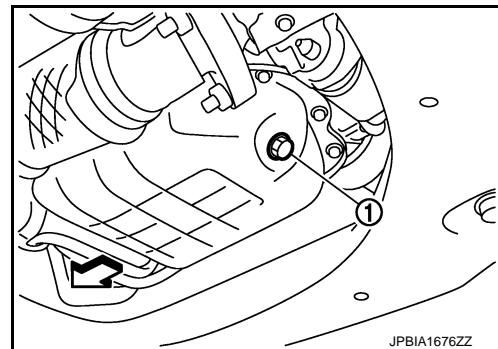
- Warm up the engine, and check for engine oil leakage from engine components. Refer to [LU-25, "Inspection".](#)

ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

2. Stop the engine and wait for 10 minutes.
3. Loosen oil filler cap.
4. Remove drain plug ① and then drain engine oil.

◀ : Vehicle front



ENGINE OIL : Refilling

1. Install drain plug with new drain plug washer. Refer to [EM-193, "Exploded View"](#).
CAUTION:
Be sure to clean drain plug and install with new drain plug washer.
2. Refill with new engine oil.
Engine oil specification and viscosity: Refer to [MA-23, "Fluids and Lubricants"](#).

Engine oil capacity : Refer to [LU-32, "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 the engine.

3. Warm up engine and check area around drain plug and oil filter for engine oil leakage.
4. Stop engine and wait for 10 minutes.
5. Check the engine oil level. Refer to [LU-25, "Inspection"](#).

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:0000000011009186

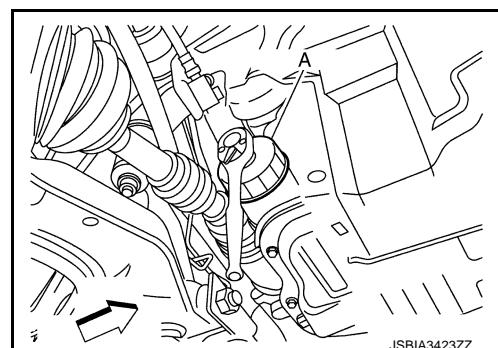
REMOVAL

1. Remove splash guard (RH). Refer to [EXT-35, "FENDER PROTECTOR : Exploded View"](#).
2. Using oil filter wrench [SST: KV10115801] (A), remove oil filter.

◀ : Vehicle front

CAUTION:

- Oil filter is provided with relief valve. Use genuine NISSAN oil filter or equivalent.
- Be careful not to get burned when engine and engine oil may be hot.
- When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
- Completely wipe off any engine oil that adheres to engine and vehicle.



INSTALLATION

1. Remove foreign materials adhering to the oil filter installation surface.

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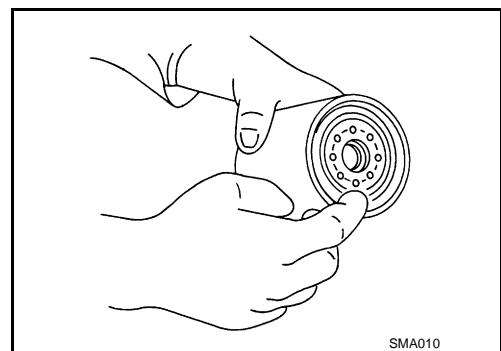
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ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

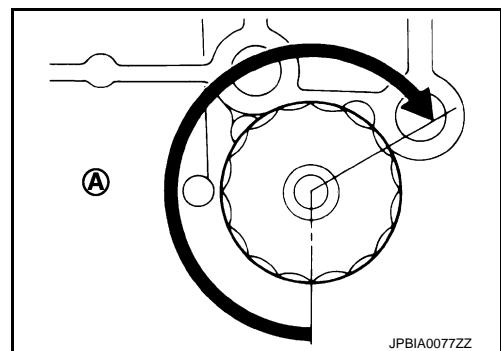
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

Ⓐ: 18.0 N·m (1.8 kg·m, 13 ft-lb)



OIL FILTER : Inspection

INFOID:0000000011009188

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [LU-25, "Inspection"](#).
2. Start the engine, and check that there is no leakage of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to [LU-25, "Inspection"](#).

SPARK PLUG

SPARK PLUG : Removal and Installation

INFOID:0000000011009183

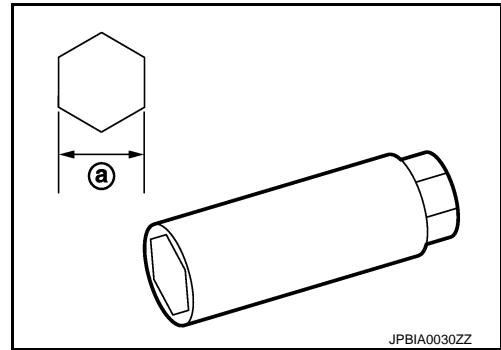
REMOVAL

1. Remove air duct assembly. Refer to [EM-174, "Exploded View"](#).
2. Remove ignition coil.
3. Remove spark plug with spark plug wrench (commercial service tool).

Ⓐ: 14 mm (0.55 in)

CAUTION:

- Never drop or shock spark plug.
- Never disassemble ignition coil.



INSTALLATION

Install in the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000011009184

INSPECTION AFTER REMOVAL

ENGINE MAINTENANCE (QR25DE)

< PERIODIC MAINTENANCE >

Use standard type spark plug for normal condition.

Spark plug (standard) : Refer to [EM-275, "Spark Plug".](#)

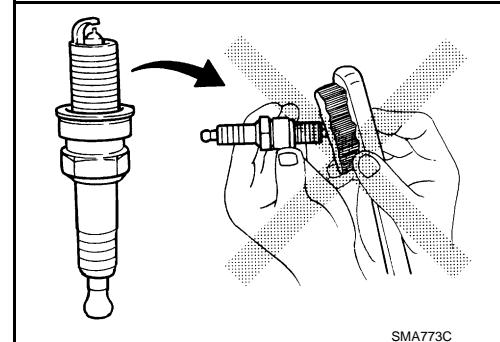
Visually check the electrode for dirt and wear and the insulator for burning.

CAUTION:

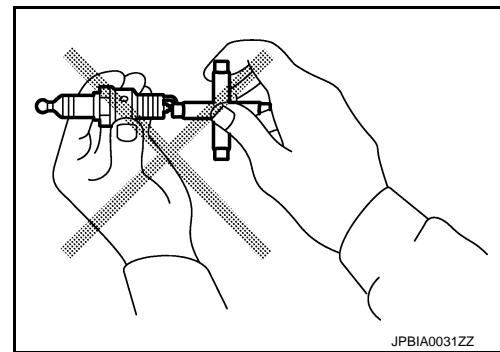
- Never drop or shock spark plug.
- Never use wire brush for cleaning.
- If plug tip is covered with carbon, spark plug cleaner may be used.

Cleaner air pressure: Less than 588 kPa (5.9 bar , 6 kg/cm², 85 psi)

Cleaning time: Less than 20 seconds



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



EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000010735320

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration.
2. Inspect fuel tank filler cap vacuum relief valve for clogging, sticking, etc.
Refer to [EC-804, "Inspection".](#)

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ENGINE MAINTENANCE (R9M)

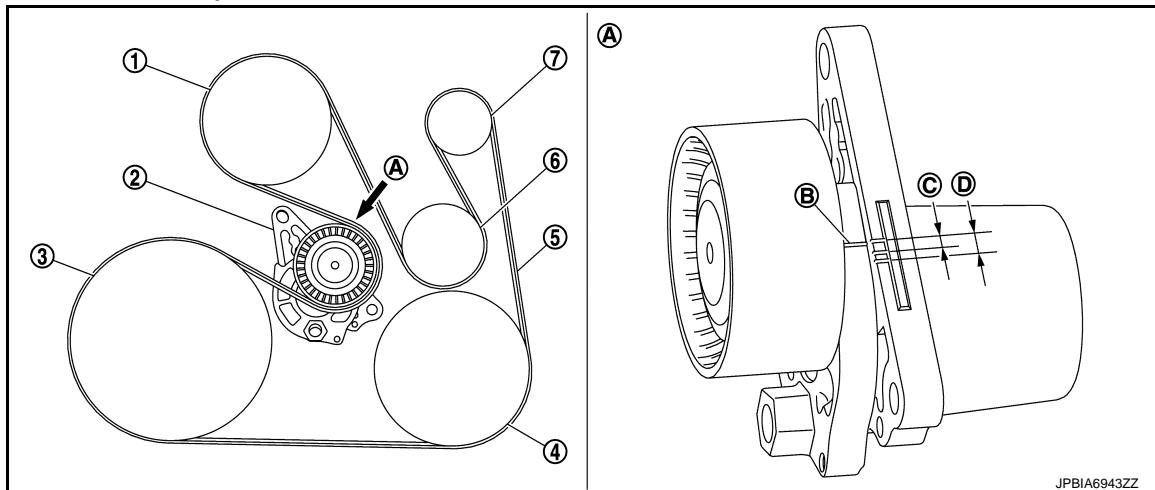
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (R9M)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000010828035

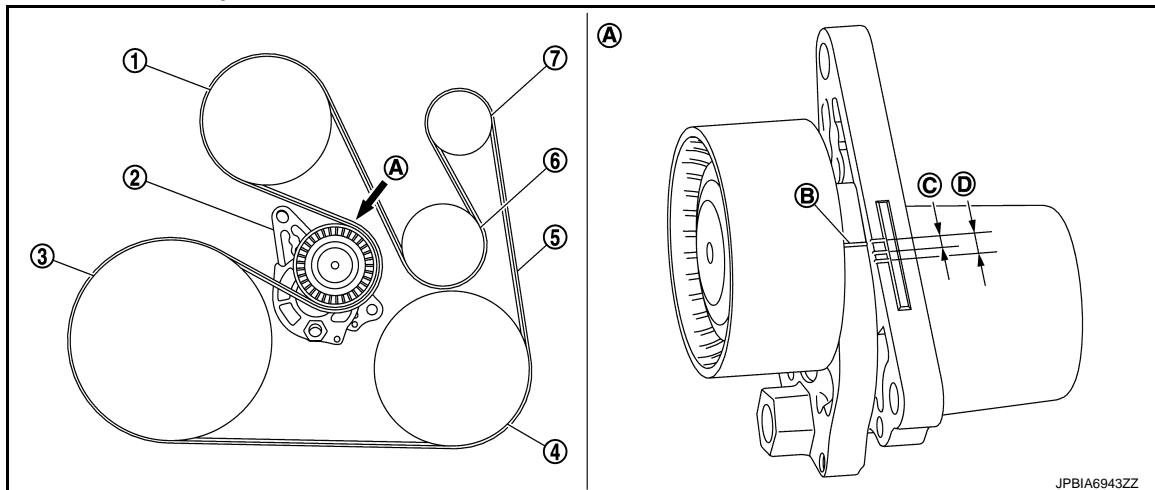


JPBIA6943ZZ

① Water pump pulley	② Drive belt auto-tensioner	③ Crankshaft pulley
④ A/C compressor	⑤ Drive belt	⑥ Idler pulley
⑦ Alternator		
Ⓐ View	Ⓑ Indicator	Ⓒ Range when new drive belt is in stalled
Ⓓ Possible use range		

DRIVE BELTS : Inspection

INFOID:0000000010828036



JPBIA6943ZZ

① Water pump pulley	② Drive belt auto-tensioner	③ Crankshaft pulley
④ A/C compressor	⑤ Drive belt	⑥ Idler pulley
⑦ Alternator		
Ⓐ View	Ⓑ Indicator	Ⓒ Range when new drive belt is in stalled
Ⓓ Possible use range		

WARNING:

Be sure to perform this step when the engine is stopped.

- Check that the indicator Ⓑ (notch on fixed side) of drive belt auto-tensioner is within the possible use range Ⓒ.

NOTE:

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

- Check the drive belt auto-tensioner indication when the engine is cold.
- When new drive belt is installed, the indicator (notch on fixed side) should be within the range © in the figure.
- Visually check entire drive belt for wear, damage or cracks.
- If the indicator (notch on fixed side) is out of the possible use range or belt is damaged, replace drive belt.

CAUTION:

Drive belt auto-tensioner and idler pulley must be replaced with new ones when the drive belt is replaced.

DRIVE BELTS : Adjustment

INFOID:0000000010828037

Refer to [EM-414, "Drive Belts".](#)

ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000011008872

LEVEL

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

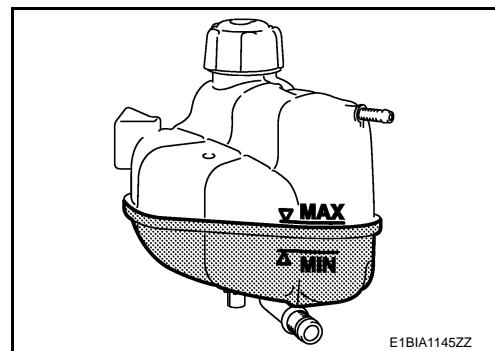
CAUTION:

Refill Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to [MA-23, "Fluids and Lubricants".](#)

- Check that the reservoir tank cap is tightened.

WARNING:

Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.



LEAKAGE

- To check for leakage, fit the adapter (B) to the reservoir tank, and then connect it to the reservoir tank cap tester [SST: — (M.S.554-07)] (A) as shown.

Testing pressure: Refer to [CO-85, "Radiator".](#)

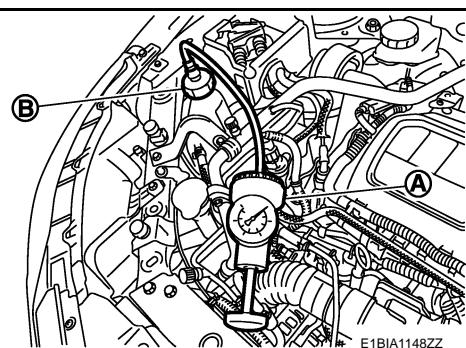
WARNING:

Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.

CAUTION:

Higher test pressure than specified may cause radiator damage.

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



ENGINE COOLANT : Draining

INFOID:0000000011008873

WARNING:

- **Never remove radiator cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from radiator.**
- **Wrap a thick cloth around the radiator cap. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.**

1. Remove engine under cover.
2. Remove reservoir tank cap.

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ENGINE MAINTENANCE (R9M)

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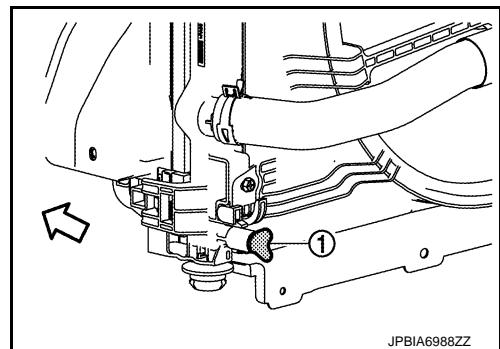
3. Open radiator drain plug ① of radiator.

↖ : Vehicle front

CAUTION:

Perform this step when engine is cold.

4. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing. Refer to [CO-70, "Exploded View"](#).
5. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to [CO-66, "Flushing"](#).



INFOID:000000011008874

ENGINE COOLANT : Refilling

CAUTION:

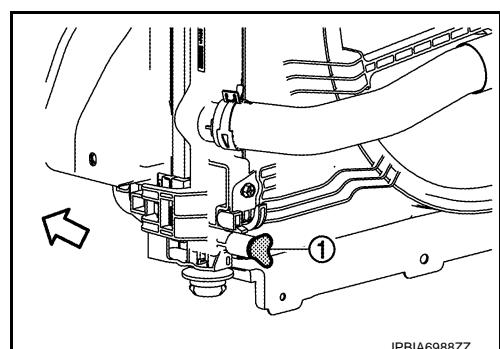
- Never put additive such as waterleak preventive, since it may cause cooling waterway clogging.
- When refilling use Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to [MA-23, "Fluids and Lubricants"](#).

1. Install reservoir tank if removed and radiator drain plug ①.

CAUTION:

Be sure to clean drain plug and install with new O-ring.

↖ : Vehicle front

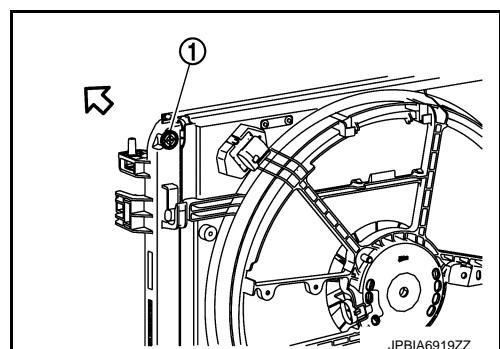


JPBI6988ZZ

2. Check that each hose clamp has been firmly tightened.

3. Open radiator air relief plug ①.

↖ : Vehicle front

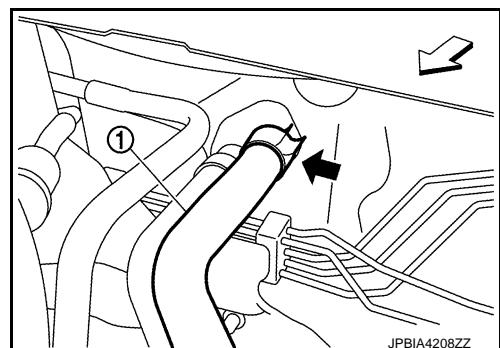


JPBI6919ZZ

4. Disconnect heater hose ① at position (↖) in the figure.

↖ : Vehicle front

- Enhance heater hose as high as possible.



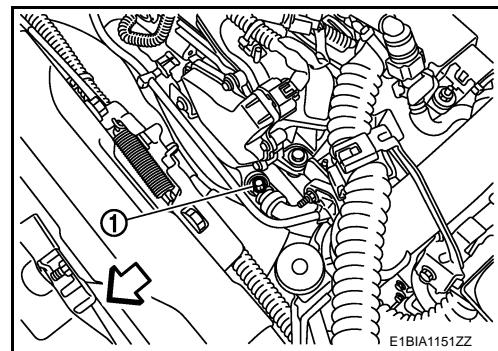
JPBI4208ZZ

5. Open air relief plug ①.

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

◀ : Vehicle front



- Fill reservoir tank with engine coolant.

CAUTION:

Never adhere the engine coolant to electronic equipments (alternator etc.).

- Pour coolant slowly of less than 3 ℥ (2-5/8 Imp qt) per minute to allow air in system to escape.

•

Engine coolant capacity (With reservoir tank at "MAX" level)

Refer to [CO-85, "Periodical Maintenance Specification"](#).

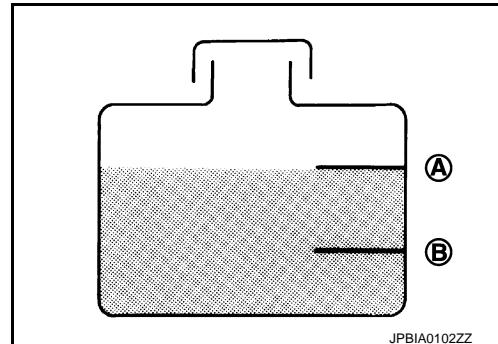
- When engine coolant spill from radiator air relief plug with continuous flow, close air relief plug and continue filling reservoir tank.
- When engine coolant spill from air relief plug with continuous flow, close air relief plug and continue filling reservoir tank.
- When engine coolant spill from heater hose with continuous flow, connect heater hose and continue filling reservoir tank until reach "MAX" level

(A) : MAX

(B) : MIN

Reservoir tank engine coolant capacity (At "MAX" level)

Refer to [CO-85, "Periodical Maintenance Specification"](#).



JPBIA0102ZZ

- Install radiator cap.
- Warm up engine at 3000 rpm until thermostat is opened.
 - Check thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.

CAUTION:

Watch water temperature gauge so as not to overheat engine.

- Stop the engine and cool down to less than approximately 50°C (122°F).
 - Cool down using fan to reduce the time.
 - If necessary, refill radiator up to filler neck with engine coolant.

CAUTION:

Never adhere the engine coolant to electronic equipments (alternator etc.).

- Refill reservoir tank to "MAX" level line with engine coolant.
- Repeat steps 11 through 14 two or more times with radiator cap installed until engine coolant level no longer drops.
- Check cooling system for leakage with engine running.
- Warm up the engine, and check for flowing noise while repeat at least three time slow acceleration from idle up to 3,000 rpm.
- If flowing noise is heard, bleed air from cooling system by repeating step 11 through 17 until flowing noise is no longer heard.

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

ENGINE COOLANT : Flushing

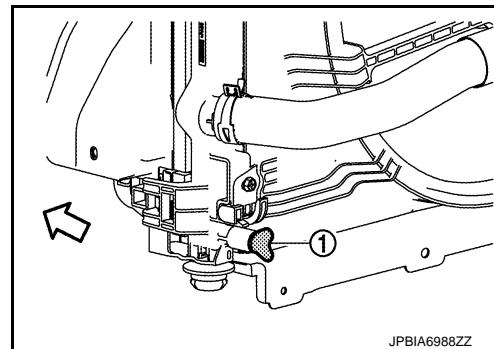
INFOID:000000011008875

1. Install reservoir tank if removed and radiator drain plug ①.

CAUTION:

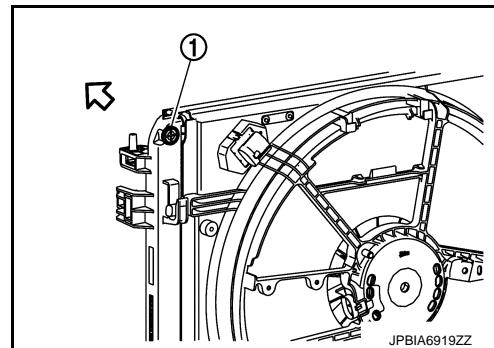
Be sure to clean drain plug and install with new O-ring.

◀ : Vehicle front



2. Open radiator air relief plug ①.

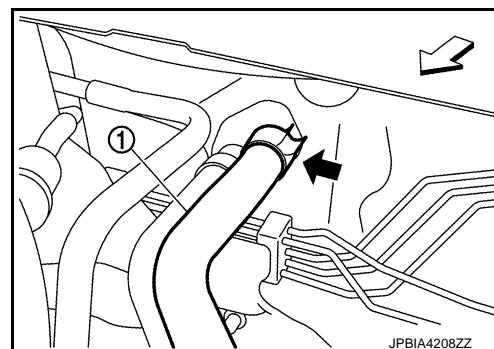
◀ : Vehicle front



3. Disconnect heater hose ① at position (◀) in the figure.

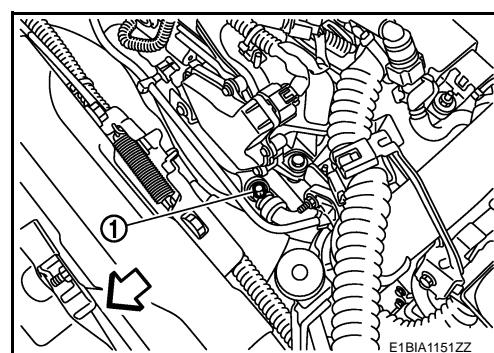
◀ : Vehicle front

- Enhance heater as high as possible.



4. Open air relief plug ①.

◀ : Vehicle front



5. Fill reservoir tank with water.

- When engine coolant over flows opened radiator air relief plug, close air relief plug, and continue filling the engine coolant.
- When engine coolant over flows opened water outlet air relief plug, close air relief plug, and continue filling the engine coolant.
- When engine coolant over flows disconnected heater hose, connect heater hose, and continue filling the engine coolant.

6. Install radiator cap.

7. Run the engine and warm it up to normal operating temperature.

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

8. Rev the engine two or three times under no-load.
9. Stop the engine and wait until it cools down.
10. Drain water from the system. Refer to [CO-64, "Draining"](#).
11. Repeat steps 1 through 10 until clear water begins to drain from radiator.

RESERVOIR TANK CAP

RESERVOIR TANK CAP : Inspection

INFOID:0000000011008876

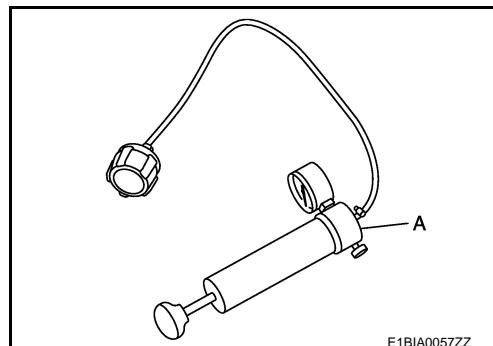
- Fit the adapter to the reservoir tank cap tester [SST: — (M.S. 554-07)] (A) as shown.
- When connecting the reservoir tank cap to the reservoir tank cap tester, apply water or LLC to the reservoir tank cap seal part.
- Check reservoir tank cap relief pressure.

Standard: Refer to [CO-85, "Radiator"](#).

- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.

CAUTION:

When installing reservoir tank cap, thoroughly wipe out the reservoir tank filler neck to remove any waxy residue or foreign material.



RADIATOR

RADIATOR : Inspection

INFOID:0000000011008877

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

CAUTION:

- **Never bend or damage the radiator fins.**
- **When radiator is cleaned without removal, remove all surrounding parts such as radiator fan, radiator shroud and horns. Then tape the harness and connectors to prevent water from entering.**

1. Apply water by hose to the back side of the radiator core vertically downwards.
2. Apply water again to all radiator core surface once per minute.
3. Stop washing if any stains no longer flow out from the radiator.
4. Blow air into the back side of radiator core vertically downwards.

- Use compressed air lower than 490 kPa (4.9 bar 5 kg/cm², 71psi) and keep distance more than 30 cm (11.8 in).

5. Blow air again into all the radiator core surface once per minute until no water sprays out.

FUEL LINES

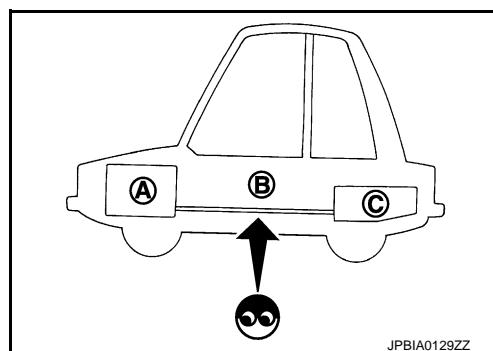
FUEL LINES : Inspection

INFOID:0000000010828051

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

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

- If necessary, repair or replace damaged parts.



FUEL FILTER

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

FUEL FILTER : Draining Water from Fuel Filter

INFOID:0000000010828053

1. Connect drain hose (suitable hose) to the end of drain plug ②.

Ⓐ : Fuel filter sensor

2. Prepare a tray at the drain plug open end.
3. Loosen drain plug, and operate priming pump to drain water from fuel filter.

CAUTION:

- Water in filter is drained with fuel. Prepare larger capacity pan than fuel filter volume.
- Drained water is mixed with fuel. Prevent fuel from adhering to rubber parts such as engine mounting insulator.

4. After draining, close drain plug by hand.

CAUTION:

If drain plug is tightened excessively, it may be damaged and fuel will leak. Never use tools to tighten drain plug.

5. Start engine and check there is no fuel leakage.

FUEL FILTER : Inspection

INFOID:0000000010828054

INSPECTION AFTER INSTALLATION

Use the following procedure to check for fuel leakage.

1. Check fuel leakage at the fuel system tube and hose connections.
2. Start engine and rev it up and check there are no fuel leakage at the fuel system tube and hose connections.

AIR CLEANER FILTER

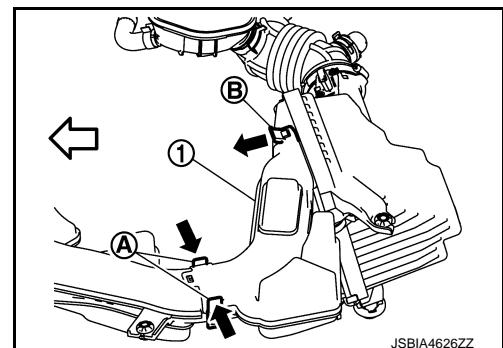
AIR CLEANER FILTER : Removal and Installation

INFOID:0000000010828038

REMOVAL

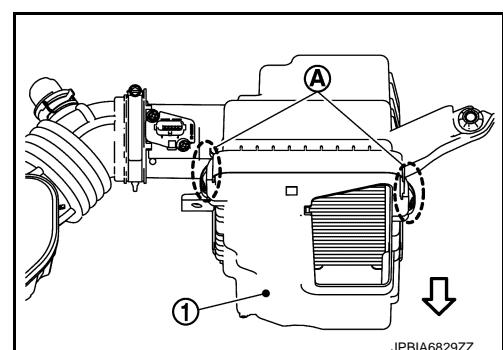
1. To remove air duct 2 ①, pinch pawl Ⓐ to unlock, move pawl Ⓑ frontward, and remove air duct 2 upward.

↖ : Vehicle front



2. Remove the clips Ⓐ of air cleaner cover ①.

↖ : Vehicle front

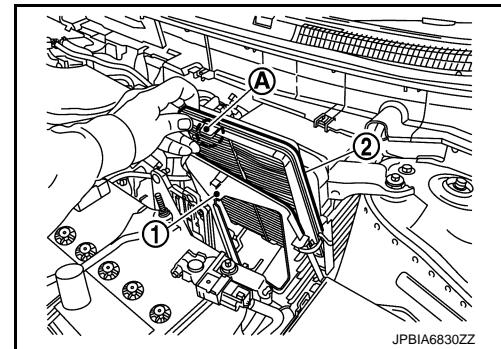


ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

3. Shift air cleaner cover ① to vehicle front side and remove air cleaner filter ②.

Ⓐ : Projection

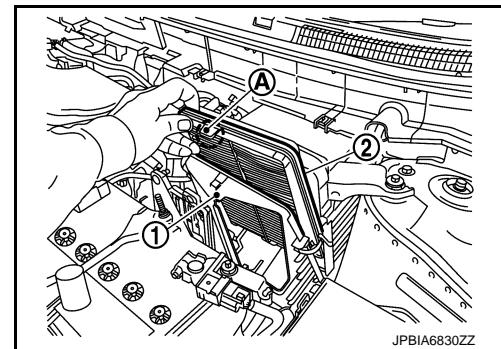


INSTALLATION

Install in the reverse order of removal.

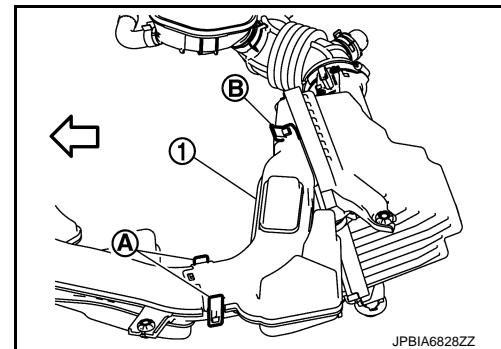
- Insert the projection Ⓐ of air cleaner filter ② in such a way so that it becomes the position (upper front side of car) of illustration.

① : Air cleaner cover



- Verify that there is no looseness in air cleaner cover and has been fixed accurately.
- Check that pawls Ⓐ and Ⓑ (3 in total) of air duct ① are engaged.

↖ : Vehicle front



ENGINE OIL

ENGINE OIL : Draining

INFOID:000000010828040

WARNING:

- Be careful not to get burned, 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 leakage from engine components. Refer to [LU-38, "Inspection"](#).
2. Stop the engine and wait for 10 minutes.
3. Remove engine under cover. Refer to [EXT-39, "ENGINE UNDER COVER : Exploded View"](#).
4. Loosen oil level gauge.

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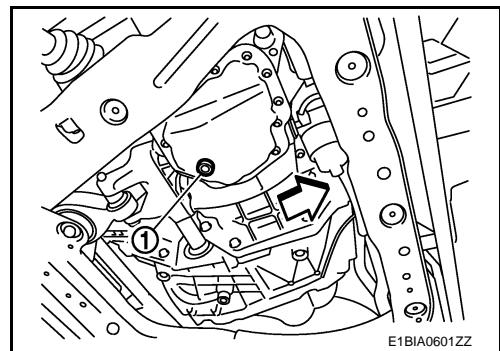
MA

ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

5. Remove oil pan drain plug ① using a square driver [8 mm (0.315 in)]. Drain engine oil.

◀ : Vehicle front



ENGINE OIL : Refilling

1. Install drain plug with new washer. Refer to [EM-330, "Exploded View"](#).

CAUTION:

Be sure to clean drain plug and install with new washer.

2. Refill with new engine oil.

Engine oil specification and viscosity: Refer to [MA-23, "Fluids and Lubricants"](#).

Engine oil capacity : Refer to [LU-46, "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 the engine.

3. Warm up engine and check area around drain plug and oil filter body for engine oil leakage.

4. Stop engine and wait for 10 minutes.

5. Check the engine oil level. Refer to [LU-38, "Inspection"](#).

6. Perform "Engine oil data reset". Refer to [EC-959, "Work Procedure"](#).

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:0000000010828043

REMOVAL

WARNING:

Be careful not to get burned when engine and engine oil may be hot.

CAUTION:

- When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
- Completely wipe off any engine oil that adheres to engine and vehicle.

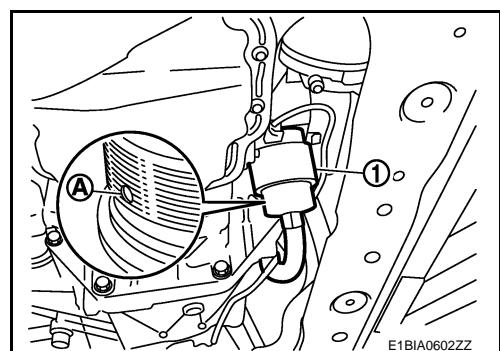
1. Remove engine under cover. Refer to [EXT-39, "ENGINE UNDER COVER : Exploded View"](#).

2. Loosen oil filter body ① using a socket [27 mm (1.06 in)].

- Loosen oil filter body until orifice ② of the oil filter body is exposed, and then drain engine oil.
- Catch the engine oil drip, using a tray or waste.

CAUTION:

Completely wipe clean any engine oil remaining on oil filter body or vehicle.



ENGINE MAINTENANCE (R9M)

< PERIODIC MAINTENANCE >

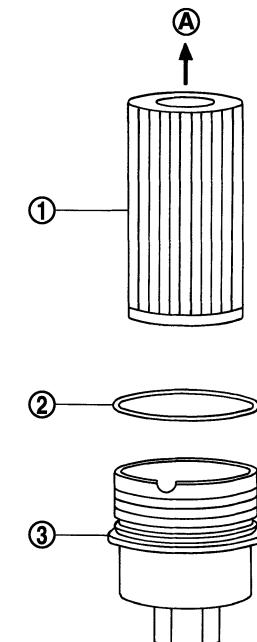
3. Remove oil filter body ③, and then remove oil filter ① and O-ring ②.

Ⓐ : Oil cooler side

- Push the O-ring in the one direction by hand, and then pick a pushed out-part with fingers to remove the O-ring.

CAUTION:

Never use wires or screwdrivers to prevent the oil filter body from damage.



INSTALLATION

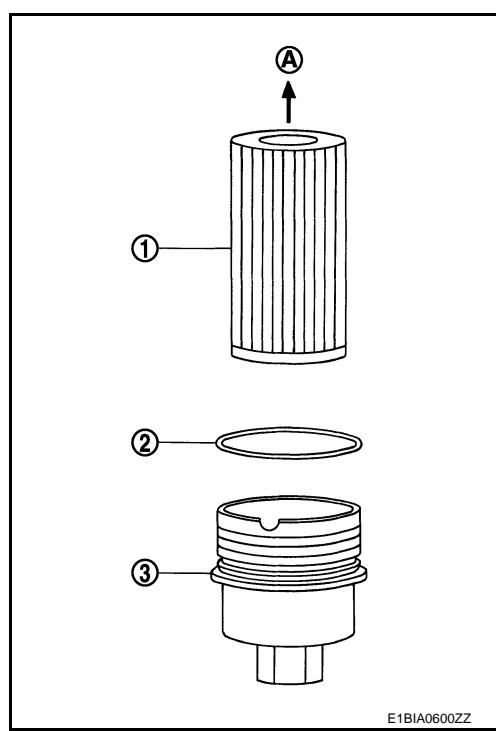
1. Completely remove all foreign objects adhering to the inside of oil filter body or O-ring mounting area.
2. Install oil filter ① and O-ring ② to oil filter body ③.

Ⓐ : Oil cooler side

CAUTION:

Be sure to use a new O-ring.

- Securely press the oil filter into the oil filter body.
- When installing an O-ring, apply engine oil all around the O-ring.



3. Install oil filter body assembly to oil cooler. Refer to [LU-42, "Exploded View"](#).

OIL FILTER : Inspection

INFOID:000000010828044

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INSPECTION AFTER INSTALLATION

1. Check that the engine oil level. Refer to [LU-38, "Inspection"](#).
2. Start the engine, and check that there is no leak of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check that the engine oil level, and adjust the level. Refer to [LU-38, "Inspection"](#).

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

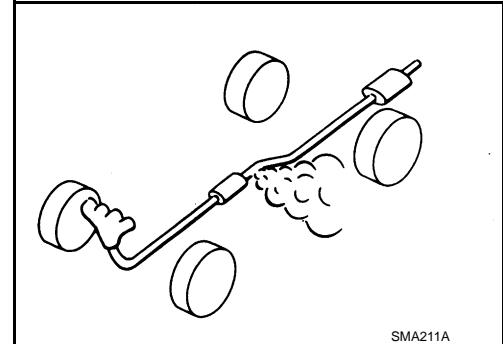
CHASSIS MAINTENANCE EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:000000011009196

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

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



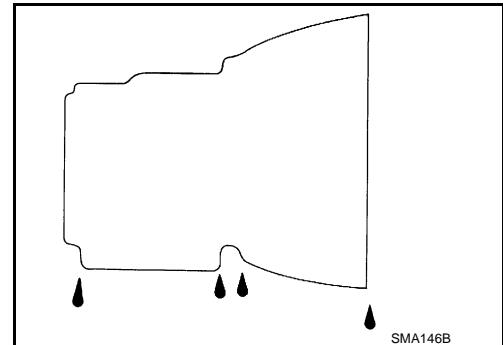
CVT FLUID (RE0F10D)

CVT FLUID (RE0F10D) : Inspection

INFOID:000000010828065

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 [TM-665, "Adjustment"](#).



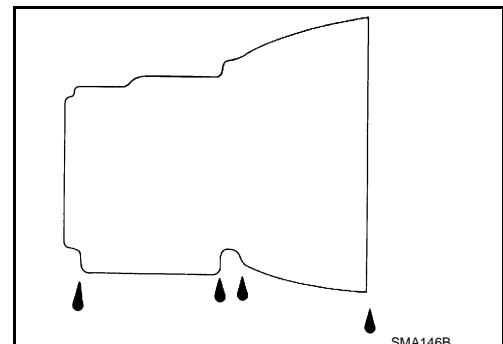
CVT FLUID (RE0F10G)

CVT FLUID (RE0F10G) : Inspection

INFOID:000000010828066

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 [TM-665, "Adjustment"](#).



M/T OIL (RS6F94R)

M/T OIL (RS6F94R) : Inspection

INFOID:000000011008837

OIL LEAKAGE

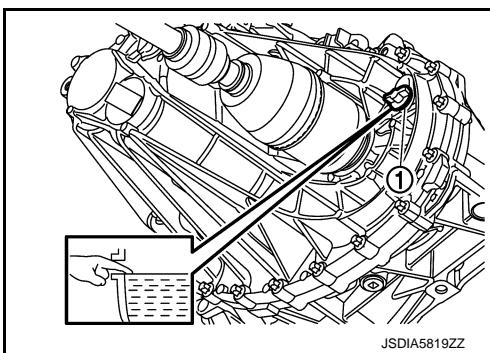
Make sure that gear oil is not leaking from transaxle or around it.

OIL LEVEL

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

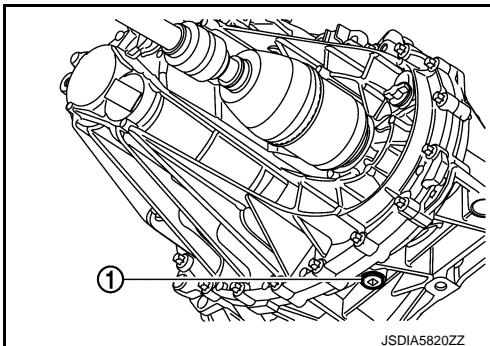
1. Check oil level from filler plug mounting hole as shown in the figure, after removing filler plug ① and gasket from transaxle assembly.
CAUTION:
Turn the ignition switch OFF while checking oil level.
2. Set a gasket on filler plug and install it on transaxle assembly.
CAUTION:
Never reuse gasket.
3. Tighten filler plug to the specified torque. Refer to [TM-43, "Exploded View"](#).



INFOID:0000000011008838

M/T OIL (RS6F94R) : Draining

1. Start engine and let it run to warm up transaxle.
2. Stop engine. Remove drain plug ① and gasket, then drain gear oil.
3. Set a gasket on drain plug and install it to transaxle assembly.
CAUTION:
Never reuse gasket.
4. Tighten drain plug to the specified torque. Refer to [TM-43, "Exploded View"](#).



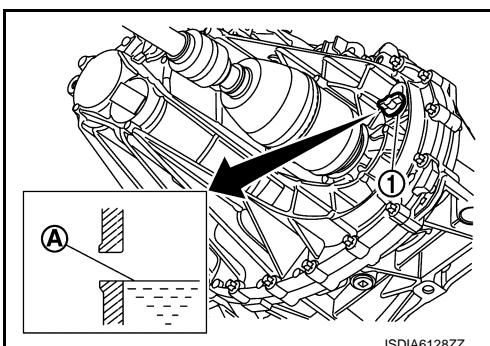
INFOID:0000000011008839

M/T OIL (RS6F94R) : Refilling

1. Fill with new gear oil until oil level reaches the specified level Ⓐ at filler plug mounting hole, after removing filler plug ① and gasket from transaxle assembly.

Recommended : Refer to [MA-23, "Fluids and Lubricants and capacity](#).

2. After refilling gear oil, check the oil level. Refer to [TM-27, "Inspection"](#).
3. Set a gasket on filler plug, and install it to transaxle assembly.
CAUTION:
Never reuse gasket.
4. Tighten filler plug to the specified torque. Refer to [TM-43, "Exploded View"](#).



INFOID:0000000011004115

M/T OIL [RS6F52A (2WD)]

M/T OIL [RS6F52A (2WD)] : Inspection

OIL LEAKAGE

Make sure that gear oil is not leaking from transaxle or around it.

OIL LEVEL

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CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

1. Remove plug ①.
2. Measure the oil level (L) using a suitable gauge (A) as shown in the figure and check if it is within the specifications.

Oil level : Refer to [TM-223, "General Specifications"](#).

CAUTION:

- Turn the ignition switch OFF while checking oil level.
- Attach the suitable gauge to the wall of the plug mounting hole for accurate measurement.

3. Set O-ring on plug and install it to transaxle assembly.

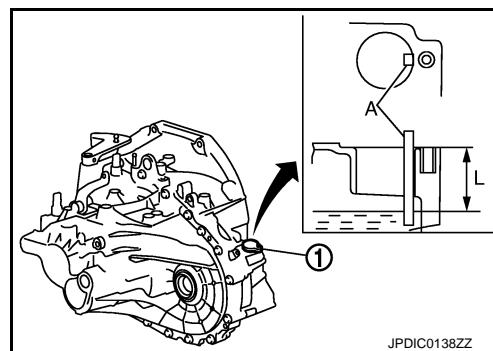
CAUTION:

Never reuse O-ring.

4. Tighten plug mounting bolt to the specified torque. Refer to [TM-124, "2WD : Exploded View"](#).

M/T OIL [RS6F52A (2WD)] : Draining

INFOID:0000000011004116



1. Start engine and let it run to warm up transaxle.

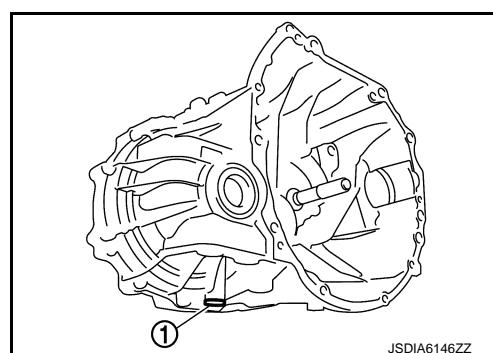
2. Stop engine. Remove drain plug ① and gasket, then drain gear oil.

3. Set a gasket on drain plug and install it to transaxle assembly.

CAUTION:

Never reuse gasket.

4. Tighten drain plug to the specified torque. Refer to [TM-124, "2WD : Exploded View"](#).



M/T OIL [RS6F52A (2WD)] : Refilling

INFOID:0000000011004117

1. Remove plug ①.

2. Fill with new gear oil.

Recommended oil and capacity (reference) : Refer to [MA-23, "Fluids and Lubricants"](#).

NOTE:

Oil capacity is reference. Because oil level is controlled by oil surface position.

3. After refilling gear oil, check the oil level. Refer to [TM-103, "2WD : Inspection"](#).

4. Set O-ring on plug and install it to transaxle assembly.

CAUTION:

Never reuse O-ring.

5. Tighten plug mounting bolt to the specified torque. Refer to [TM-124, "2WD : Exploded View"](#).

M/T OIL [RS6F52A (4WD)]

M/T OIL [RS6F52A (4WD)] : Inspection

INFOID:0000000011004118

OIL LEAKAGE

Make sure that gear oil is not leaking from transaxle or around it.

OIL LEVEL

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

1. Remove filler plug ①.

↖ : Vehicle front

2. Measure the oil level (L) using a suitable gauge (A) as shown in the figure and check if it is within the specifications.

Oil level : Refer to [TM-223, "General Specifications"](#).

CAUTION:

- Turn the ignition switch OFF while checking oil level.
- Attach the suitable gauge to the wall of the plug mounting hole for accurate measurement.

3. Set gasket on filler plug and install it to transaxle assembly.

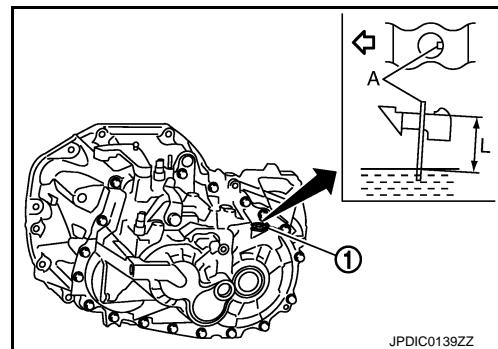
CAUTION:

Never reuse gasket.

4. Tighten filler plug to the specified torque. Refer to [TM-153, "4WD : Exploded View"](#).

M/T OIL [RS6F52A (4WD)] : Draining

INFOID:0000000011004119



1. Start engine and let it run to warm up transaxle.

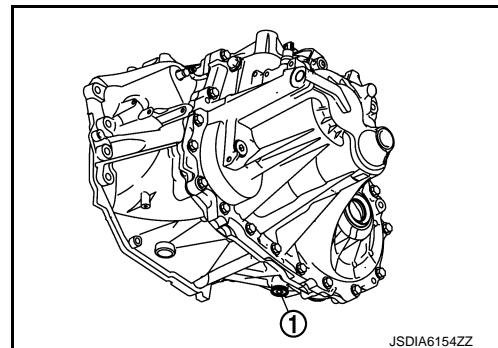
2. Stop engine. Remove drain plug ① and gasket, then drain gear oil.

3. Set a gasket on drain plug and install it to transaxle assembly.

CAUTION:

Never reuse gasket.

4. Tighten drain plug to the specified torque. Refer to [TM-153, "4WD : Exploded View"](#).



M/T OIL [RS6F52A (4WD)] : Refilling

INFOID:0000000011004120

1. Remove filler plug ①.

2. Fill with new gear oil.

Recommended oil and capacity (reference) : Refer to [MA-23, "Fluids and Lubricants"](#).

NOTE:

Oil capacity is reference. Because oil level is controlled by oil surface position.

3. After refilling gear oil, check the oil level. Refer to [TM-104, "4WD : Inspection"](#).

4. Set gasket on filler plug and install it to transaxle assembly.

CAUTION:

Never reuse gasket.

5. Tighten filler plug to the specified torque. Refer to [TM-153, "4WD : Exploded View"](#).

CLUTCH FLUID

CLUTCH FLUID : Inspection

INFOID:0000000010828062

FLUID LEAKAGE

- Check clutch line for cracks, deterioration or other damage. Replace any damaged parts.
- Check for fluid leakage by fully depressing clutch pedal while engine is running.

CAUTION:

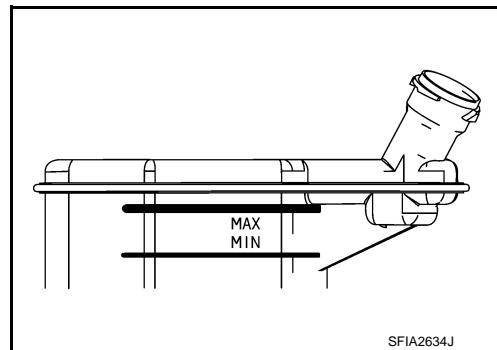
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

If leakage occurs around joints, reinstall the joints or, if necessary, replace damaged parts.

FLUID LEVEL

- Check that the fluid level in the reservoir tank is within the specified range (MAX – MIN lines).
- Visually check for any clutch fluid leakage around the reservoir tank.
- Check the clutch system for any leakage if the fluid level is extremely low (lower than MIN).



TRANSFER OIL [TY21C (MR20DD)]

TRANSFER OIL [TY21C (MR20DD)] : Inspection

INFOID:0000000011008824

OIL LEAKAGE

Check transfer surrounding area (oil seal, drain plug, and filler plug etc.) for oil leakage.

OIL LEVEL

- Remove filler plug ① and gasket. Then check that oil is filled up from mounting hole for filler plug.

CAUTION:

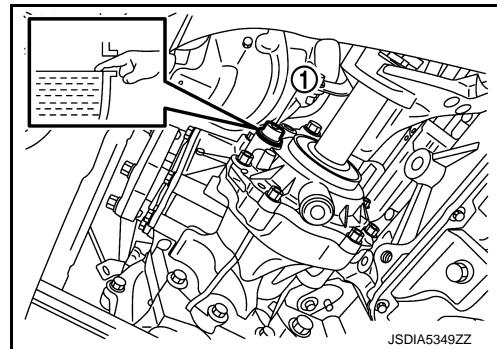
Turn the ignition switch OFF while checking oil level.

- Oil level should be level with bottom of filler plug mounting hole. Add transfer oil if necessary. Refer to [DLN-74, "MR20DD : Refilling"](#).

- Set a new gasket on filler plug and install it on transfer assembly. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.



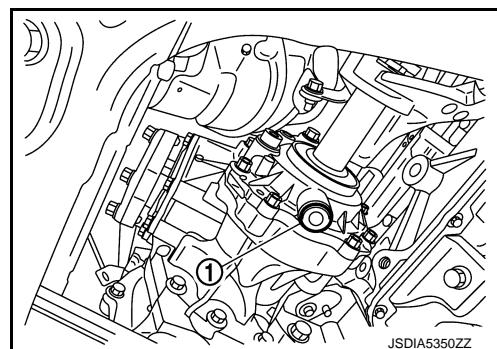
TRANSFER OIL [TY21C (MR20DD)] : Draining

INFOID:0000000011008825

- Run the vehicle to warm up the transfer unit sufficiently.
- Turn the ignition switch OFF.
- Remove drain plug ① and gasket.
- Drain transfer oil.
- Before installing drain plug, set a new gasket. Install drain plug to transfer assembly and tighten to the specified torque. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

TRANSFER OIL [TY21C (MR20DD)] : Refilling

INFOID:0000000011008826

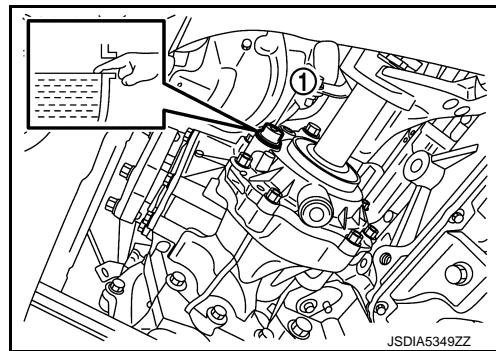
1. Remove filler plug ① and gasket. Then fill with new transfer oil until oil level reaches the specified level near filler plug mounting hole.

Recommended : Refer to [MA-23, "Fluids and Lubricants"](#).

2. Leave the vehicle for 3 minutes, and check the oil level again.
3. Before installing filler plug, set a new gasket. Install filler plug to transfer assembly and tighten to the specified torque. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.



TRANSFER OIL [TY21C (QR25DE)]

TRANSFER OIL [TY21C (QR25DE)] : Inspection

INFOID:0000000011008827

OIL LEAKAGE

Check transfer surrounding area (oil seal, drain plug, and filler plug etc.) for oil leakage.

OIL LEVEL

1. Remove filler plug ① and gasket. Then check that oil is filled up from mounting hole for filler plug.

Ⓐ : Oil level

← : Vehicle front

CAUTION:

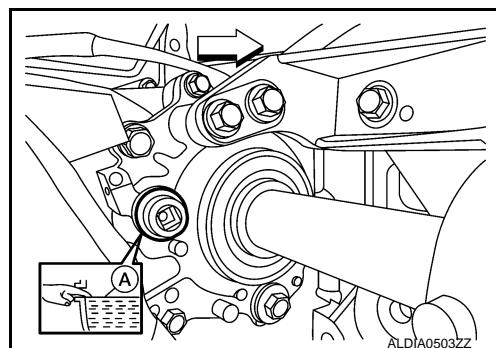
Turn the ignition switch OFF while checking oil level.

- Oil level should be level with bottom of filler plug mounting hole. Add transfer oil if necessary. Refer to [DLN-75, "QR25DE : Refilling"](#).

2. Set a new gasket on filler plug and install it on transfer assembly. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.



TRANSFER OIL [TY21C (QR25DE)] : Draining

INFOID:0000000011008828

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

2. Turn the ignition switch OFF.

3. Remove drain plug ① and gasket.

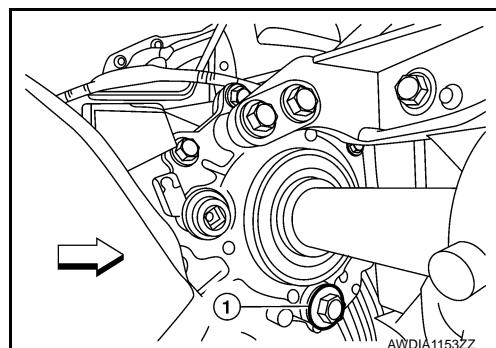
← : Vehicle front

4. Drain transfer oil.

5. Before installing drain plug, set a new gasket. Install drain plug to transfer assembly and tighten to the specified torque. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

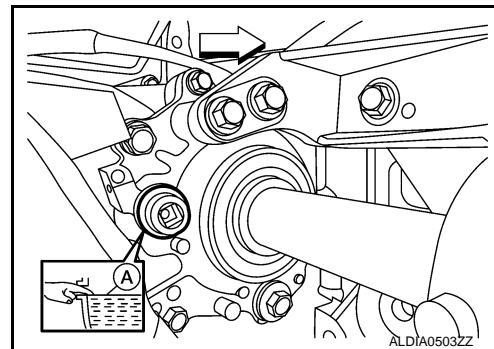
TRANSFER OIL [TY21C (QR25DE)] : Refilling

INFOID:0000000011008829

1. Remove filler plug ① and gasket. Then fill with new transfer oil until oil level reaches the specified level near filler plug mounting hole.

Ⓐ : Oil level
← : Vehicle front

Recommended : Refer to [MA-23, "Fluids and Lubricants"](#).



2. Leave the vehicle for 3 minutes, and check the oil level again.
3. Before installing filler plug, set a new gasket. Install filler plug to transfer assembly and tighten to the specified torque. Refer to [DLN-83, "Exploded View"](#).

CAUTION:

Never reuse gasket.

TRANSFER OIL (TY30A)

TRANSFER OIL (TY30A) : Inspection

INFOID:0000000011008830

OIL LEAKAGE

Check transfer surrounding area (oil seal, drain plug, and filler plug etc.) for oil leakage.

OIL LEVEL

1. Check oil level from filler plug mounting hole as shown in the figure, after removing filler plug ① and gasket from transfer assembly.

CAUTION:

Turn the ignition switch OFF while checking oil level.

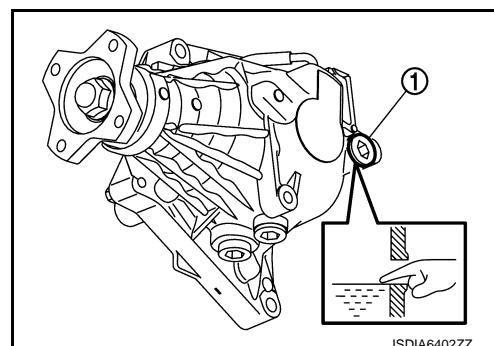
- Oil level should be level with bottom of filler plug mounting hole. Add transfer oil if necessary. Refer to [DLN-178, "Refilling"](#).

2. Set a gasket on filler plug and install it on transfer assembly.

CAUTION:

Never reuse gasket.

3. Tighten filler plug to the specified torque. Refer to [DLN-205, "Exploded View"](#).



TRANSFER OIL (TY30A) : Draining

INFOID:0000000011008831

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

2. Stop the vehicle and turn the ignition switch OFF.

3. Remove drain plug ① and gasket.

CAUTION:

Never remove plug ② for tooth contact test.

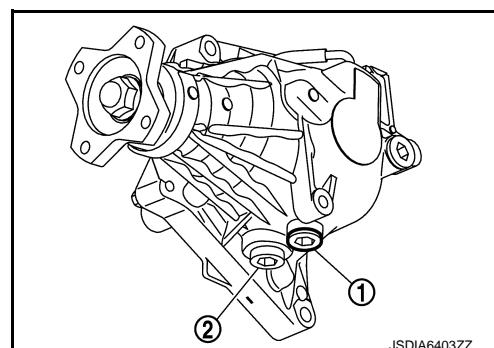
4. Drain transfer oil.

5. Set a gasket on drain plug and install it to transfer assembly.

CAUTION:

Never reuse gasket.

6. Tighten drain plug to the specified torque. Refer to [DLN-205, "Exploded View"](#).



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

TRANSFER OIL (TY30A) : Refilling

INFOID:0000000011008832

1. Fill with new transfer oil until oil level reaches the specified level
Ⓐ near filler plug mounting hole, after removing filler plug ① and gasket from transfer assembly.

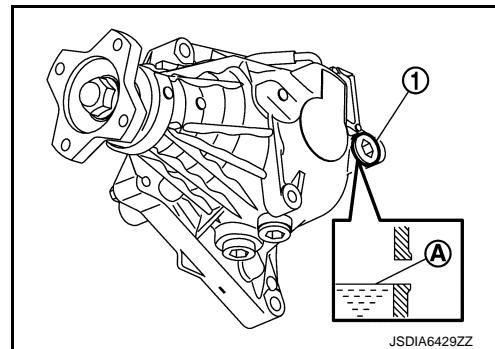
Recommended : Refer to [MA-23, "Fluids and Lubricants"](#).

2. Leave the vehicle for 3 minutes, and check the oil level again.
3. Set a gasket on filler plug, and install it to transfer assembly.

CAUTION:

Never reuse gasket.

4. Tighten filler plug to the specified torque. Refer to [DLN-205, "Exploded View"](#).



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REAR PROPELLER SHAFT

REAR PROPELLER SHAFT : Inspection

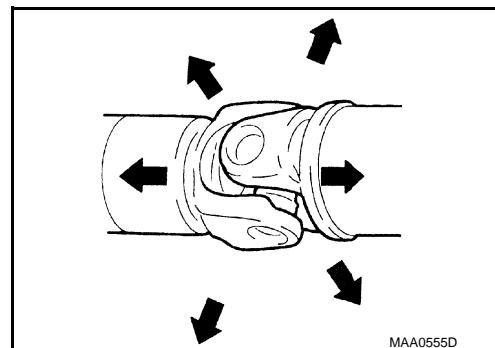
INFOID:0000000010828070

LOOSENESS OF CONNECTED PART

Check each fixing bolt and nut for looseness using torque wrench. For each tightening torque, refer to [DLN-214, "Exploded View"](#).

BACKLASH OF JOINT PART

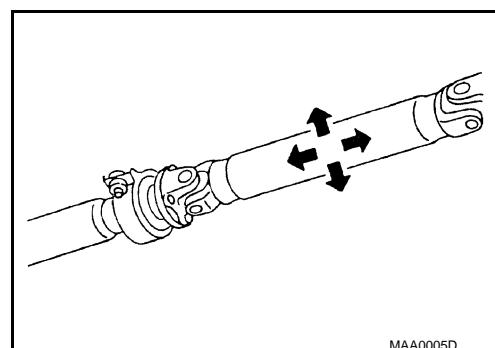
Move the joint of propeller shaft up and down and from side to side (axial direction of shaft and right angle to shaft) to check that the joint has no backlash. If the joint has a malfunction, remove propeller shaft and perform inspection.



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BACKLASH OF CENTER BEARING

Move the shaft near center bearing up and down and from side to side (axial direction of shaft and right angle to shaft) to check that the bearing has no backlash. If the bearing has a malfunction, remove propeller shaft and perform inspection.



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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.

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CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

2. Perform a cruise test drive to check the propeller shaft for runout. If vibration occurs, separate propeller shaft at final drive companion flange; 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-217, "Inspection"](#).

REAR DIFFERENTIAL GEAR OIL

REAR DIFFERENTIAL GEAR OIL : Inspection

INFOID:0000000011008833

OIL LEAKAGE

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

OIL LEVEL

1. Check oil level from filler plug mounting hole as shown in the figure after removing filler plug ① and gasket from final drive assembly.

CAUTION:

Turn the ignition switch OFF while checking oil level.

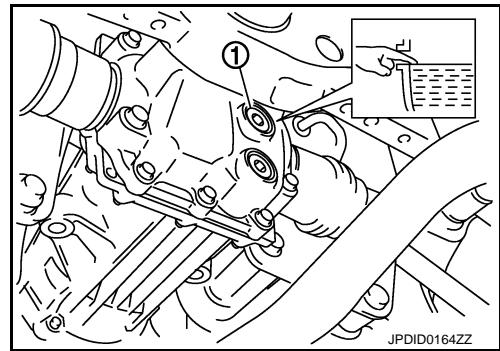
- Oil level should be level with bottom of filler plug mounting hole. Add gear oil if necessary. Refer to [DLN-227, "Refilling"](#).

2. Set a gasket on filler plug and install it on final drive assembly.

CAUTION:

Never reuse gasket.

3. Tighten filler plug to the specified torque. Refer to [DLN-246, "Exploded View"](#).



REAR DIFFERENTIAL GEAR OIL : Draining

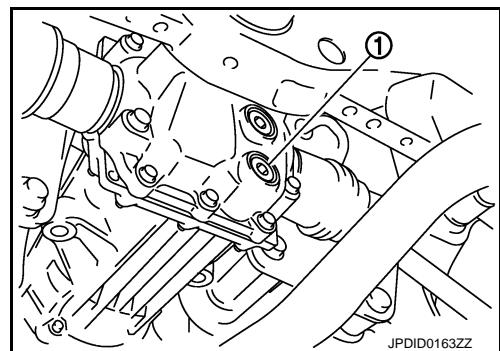
INFOID:0000000011008834

1. Turn the ignition switch OFF.
2. Remove drain plug ① and gasket.
3. Drain gear oil.
4. Set a gasket on drain plug and install it to final drive assembly.

CAUTION:

Never reuse gasket.

5. Tighten drain plug to the specified torque. Refer to [DLN-246, "Exploded View"](#).



REAR DIFFERENTIAL GEAR OIL : Refilling

INFOID:0000000011008835

1. Remove filler plug ① and gasket. Then fill with new gear oil until oil level reaches the specified level near filler plug mounting hole.

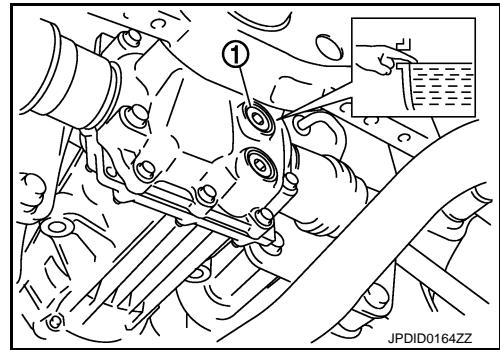
Recommended : Refer to [MA-23, "Fluids and Lubricants and capacity](#).

2. Set a gasket on filler plug, and install it to final drive assembly.

CAUTION:

Never reuse gasket.

3. Tighten filler plug to the specified torque. Refer to [DLN-246, "Exploded View"](#).



WHEELS

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

WHEELS : Wheel Balance Adjustment (Aluminum Wheel)

INFOID:000000010828074

PREPARATION BEFORE ADJUSTMENT

Using releasing agent, remove double-faced adhesive tape from the road wheel.

CAUTION:

- **Never scratch the road wheel during removal.**
- **After removing double-faced adhesive tape, wipe clean traces of releasing agent from the road wheel.**

ADJUSTMENT

- The details of the adjustment procedure are different for each model of wheel balancer. Therefore, refer to each instruction manual.
- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for aluminum wheels.

1. Set road wheel on tire balance machine using the center hole as a guide. Start the tire balance machine.
2. When inner and outer unbalance values are shown on the tire balance machine indicator, multiply outer unbalance value by 5/3 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value above and install to the designated outer position of, or at the designated angle in relation to the road wheel.

CAUTION:

- **Never install the inner balance weight before installing the outer balance weight.**
- **Before installing the balance weight, always to clean the mating surface of the road wheel.**

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

Calculation example:

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

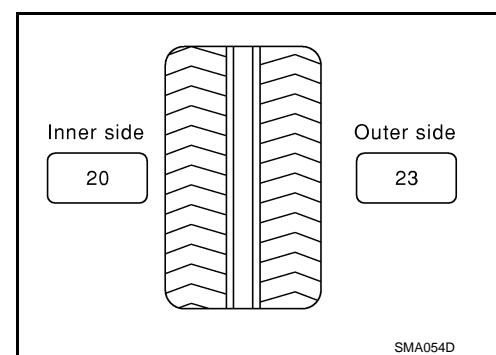
NOTE:

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

Example:

$37.4 \Rightarrow 35 \text{ g (1.23 oz)}$

$37.5 \Rightarrow 40 \text{ g (1.41 oz)}$

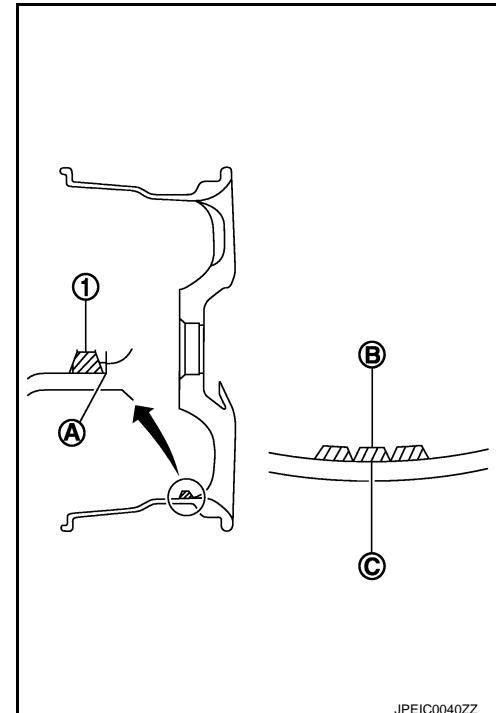


- b. Installed balance weight in the position.

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

CAUTION:

- **Always use genuine NISSAN balance weights.**
- **Balance weights are non-reusable; always replace with new ones.**
- **Never install three or more sheets of balance weight.**



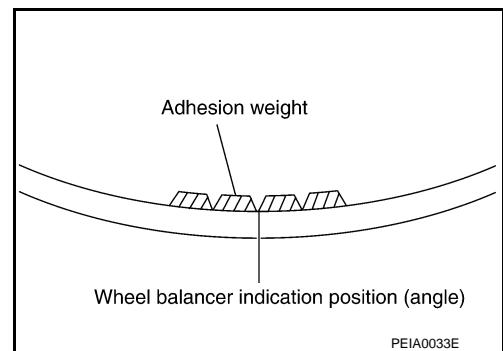
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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

CAUTION:

Never install one balance weight sheet on top of another.



3. Start the tire balance machine again.
4. Install drive-in balance weight on inner side of road wheel in the tire balance machine indication position (angle).

CAUTION:

Never install three or more balance weight.

5. Start the tire balance machine. Check that the inner and outer residual unbalance value is within the allowable unbalance value.

CAUTION:

If either residual unbalance value exceeds limit, repeat installation procedures.

Allowable unbalance value

Dynamic (At flange) : Refer to [WT-66, "Road Wheel"](#).

Static (At flange) : Refer to [WT-66, "Road Wheel"](#).

WHEELS : Wheel Balance Adjustment (Steel Wheel)

INFOID:000000010828075

PREPARATION BEFORE ADJUSTMENT

Remove balance weight from the road wheel.

CAUTION:

Never scratch the road wheel during removal.

ADJUSTMENT

- The details of the adjustment procedure are different for each model of wheel balancer. Therefore, refer to each instruction manual.
- If a tire balance machine has adhesion balance weight mode settings and drive-in weight mode setting, select and adjust a drive-in weight mode suitable for steel wheels.

1. Set road wheel to wheel balancer, and then start wheel balancer.
2. Install balance weight to road wheel according to the unbalance and position (angle) displayed on wheel balancer.

CAUTION:

- Always use genuine NISSAN balance weights.
- Balance weights are non-reusable; always replace with new ones.
- Always use a plastic hammer when attaching the weight.
- Never install three or more balance weights on one side.

3. Start the tire balance machine. Check that the inner and outer residual unbalance value is within the allowable unbalance value.

CAUTION:

If either residual unbalance value exceeds limit, repeat installation procedures.

Allowable unbalance value

Dynamic (At flange) : Refer to [WT-66, "Road Wheel"](#).

Static (At flange) : Refer to [WT-66, "Road Wheel"](#).

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

WHEELS : Tire Rotation

INFOID:000000010828076

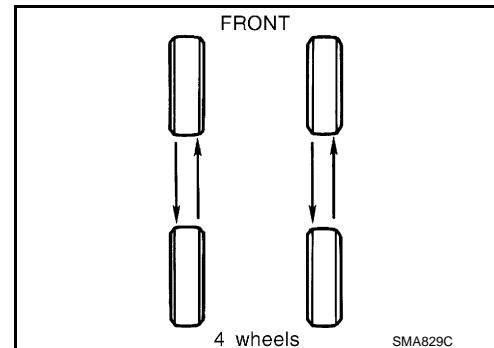
- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-6, "General Maintenance"](#).
- When installing the wheel, tighten wheel nuts to the specified torque. Refer to [WT-61, "Exploded View"](#).

CAUTION:

- Never include the T-type spare tire when rotating the tires.
- When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.
- Never tighten wheel nut at torque exceeding the criteria.
- Use NISSAN genuine wheel nut.

After tire rotation, perform following:

- Perform the ID registration. Refer to [WT-30, "Work Procedure"](#).
- Perform TPMS reset operation. Refer to [WT-14, "TPMS reset operation"](#).

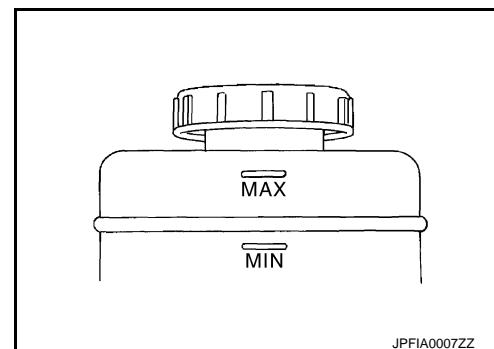


BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Inspection

INFOID:000000010735337

- If fluid level is extremely low, check brake system for leaks.

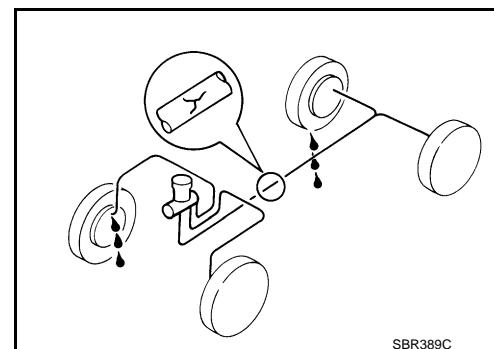


BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

INFOID:000000010735338

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



BRAKE FLUID

MA

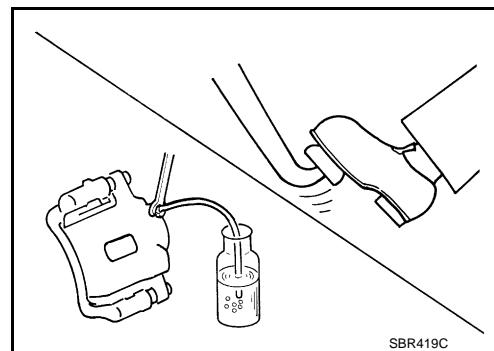
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

BRAKE FLUID : Changing

INFOID:0000000010735339

1. Drain brake fluid from each bleed valve.
2. Refill until new brake fluid comes out from each bleed valve.
Use same procedure as in bleeding hydraulic system to refill brake fluid.
Refer to [BR-14, "Bleeding Brake System"](#) (LHD), [BR-78, "Bleeding Brake System"](#) (RHD).
 - Refill with recommended brake fluid.
Refer to [MA-23, "Fluids and Lubricants"](#).
 - Never reuse drained brake fluid.
 - Be careful not to splash brake fluid on painted areas.



DISC BRAKE (LHD)

DISC BRAKE (LHD) : Inspection

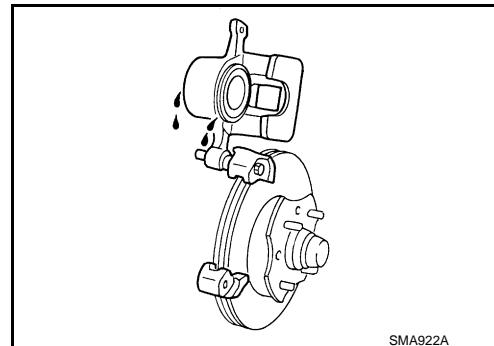
INFOID:0000000010735340

DISC ROTOR

Check condition, wear, and damage.

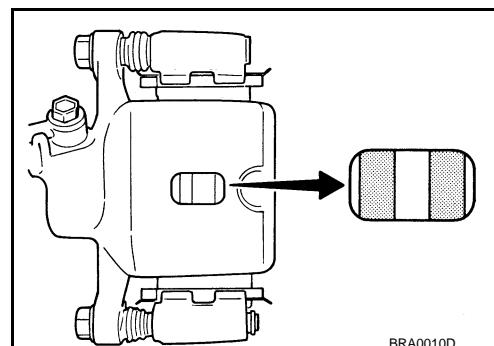
CALIPER

- Check for leakage.



BRAKE PAD

- Check for wear or damage.



DISC BRAKE (LHD) : Front Disc Brake

INFOID:0000000010953454

Unit: mm (in)

Item		Limit	
Brake caliper type		1 piston type	2 piston type
Brake pad	Wear thickness	2.0 (0.079)	2.0 (0.079)
Disc rotor	Wear thickness	24.0 (0.945)	26.0 (1.0236)
	Thickness variation (measured at 8 positions)	0.020 (0.0008)	0.020 (0.0008)
	Runout (with it attached to the vehicle)	0.035 (0.0014)	0.035 (0.0014)

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

DISC BRAKE (LHD) : Rear Disc Brake

INFOID:0000000010953455

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	14.0 (0.551)
Disc rotor	Thickness variation (measured at 8 positions)	0.020 (0.0008)
	Runout (with it attached to the vehicle)	0.070 (0.0028)

DISC BRAKE (RHD)

DISC BRAKE (RHD) : Inspection

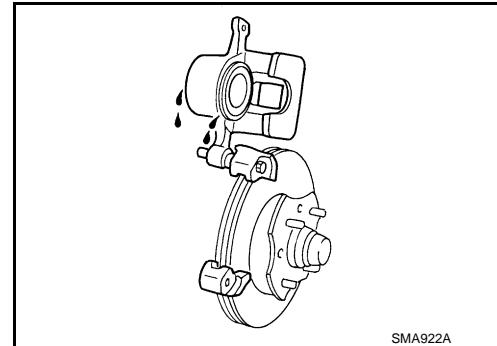
INFOID:0000000010735343

DISC ROTOR

Check condition, wear, and damage.

CALIPER

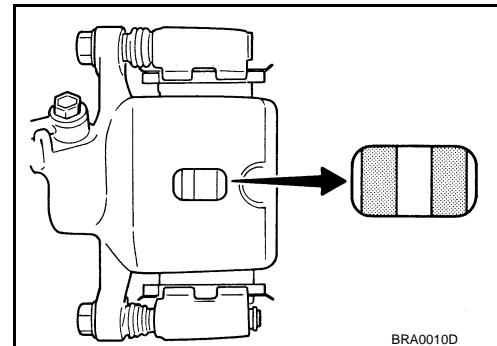
- Check for leakage.



SMA922A

BRAKE PAD

- Check for wear or damage.



BRA0010D

DISC BRAKE (RHD) : Front Disc Brake

INFOID:0000000010953494

Unit: mm (in)

Item		Limit	
Brake caliper type		1 piston type	2 piston type
Brake pad	Wear thickness	2.0 (0.079)	2.0 (0.079)
	Wear thickness	24.0 (0.945)	26.0 (1.0236)
Disc rotor	Thickness variation (measured at 8 positions)	0.020 (0.0008)	0.020 (0.0008)
	Runout (with it attached to the vehicle)	0.035 (0.0014)	0.035 (0.0014)

MA

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

DISC BRAKE (RHD) : Rear Disc Brake

INFOID:0000000010953495

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	14.0 (0.551)
Disc rotor	Thickness variation (measured at 8 positions)	0.020 (0.0008)
	Runout (with it attached to the vehicle)	0.070 (0.0028)

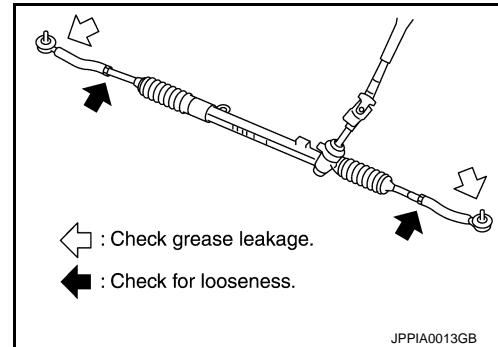
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000010735346

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.

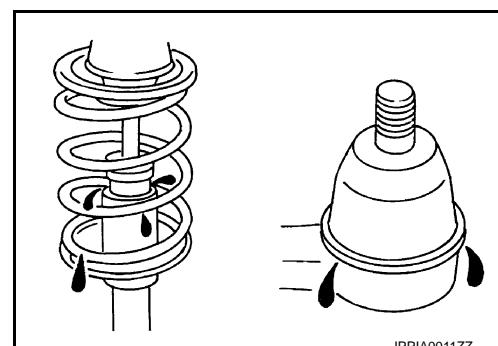
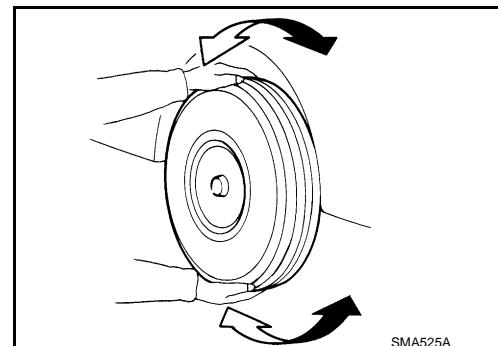
AXLE AND SUSPENSION PARTS

AXLE AND SUSPENSION PARTS : Inspection

INFOID:0000000010735347

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

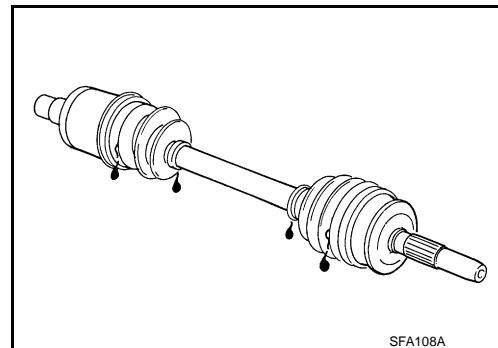
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

DRIVE SHAFT : Inspection

INFOID:000000010735348

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



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BODY MAINTENANCE

< PERIODIC MAINTENANCE >

BODY MAINTENANCE

LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

INFOID:0000000010735349

Check the vehicle type to use the service information in DLK section. Refer to [DLK-22, "Information"](#).

PART	TYPE 1	TYPE 2
Hood	Refer to DLK-262, "Exploded View" .	Refer to DLK-566, "Exploded View" .
Hood lock	Refer to DLK-297, "Exploded View" .	Refer to DLK-605, "Exploded View" .
Front door	Refer to DLK-274, "Exploded View" .	Refer to DLK-582, "Exploded View" .
Front door lock	Refer to DLK-302, "Exploded View" .	Refer to DLK-610, "Exploded View" .
Rear door	Refer to DLK-282, "Exploded View" .	Refer to DLK-590, "Exploded View" .
Rear door lock	Refer to DLK-308, "Exploded View" .	Refer to DLK-615, "Exploded View" .
Back door	Refer to DLK-290, "Exploded View" .	Refer to DLK-598, "Exploded View" .
Back door lock	Refer to DLK-312, "Exploded View" .	Refer to DLK-619, "Exploded View" .

PART	TYPE 3	TYPE 4
Hood	Refer to DLK-732, "Exploded View" .	Refer to DLK-870, "Exploded View" .
Hood lock	Refer to DLK-768, "Exploded View" .	Refer to DLK-910, "Exploded View" .
Front door	Refer to DLK-744, "Exploded View" .	Refer to DLK-886, "Exploded View" .
Front door lock	Refer to DLK-773, "Exploded View" .	Refer to DLK-915, "Exploded View" .
Rear door	Refer to DLK-752, "Exploded View" .	Refer to DLK-894, "Exploded View" .
Rear door lock	Refer to DLK-778, "Exploded View" .	Refer to DLK-920, "Exploded View" .
Back door	Refer to DLK-760, "Exploded View" .	Refer to DLK-902, "Exploded View" .
Back door lock	Refer to DLK-782, "Exploded View" .	Refer to DLK-924, "Exploded View" .

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

INFOID:0000000010735350

For front seat belt illustration. Refer to [SB-9, "Exploded View"](#).

For second seat belt illustration. Refer to [SB-16, "Exploded View"](#).

For third seat belt illustration. Refer to [SB-21, "Exploded View"](#).

CAUTION:

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

For details, refer to [SB-13, "SEAT BELT RETRACTOR : Inspection"](#), [SB-18, "SEAT BELT RETRACTOR : Inspection"](#), [SB-22, "SEAT BELT RETRACTOR : 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

SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

DRIVE BELTS (MR20DD)

DRIVE BELTS (MR20DD) : Drive Belt

INFOID:0000000011009240

DRIVE BELT

Tension of drive belt	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
-----------------------	--

DRIVE BELTS (QR25DE)

DRIVE BELTS (QR25DE) : Drive belt

INFOID:0000000011009244

DRIVE BELT

Tension of drive belt	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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DRIVE BELTS (R9M)

DRIVE BELTS (R9M) : Drive Belts

INFOID:0000000010828055

DRIVE BELT

Tension of drive belt	Belt tensioning is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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ENGINE COOLANT (MR20DD)

ENGINE COOLANT (MR20DD) : Periodical Maintenance Specification

INFOID:0000000011009255

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Engine coolant capacity (With reservoir tank at "MAX" level)	CVT models	7.7 (6-6/8)
	M/T models	7.2 (6-3/8)
Reservoir tank engine coolant capacity (At "MAX" level)		0.85 (6/8)

ENGINE COOLANT (QR25DE)

ENGINE COOLANT (QR25DE) : Periodical Maintenance Specification

INFOID:0000000011009257

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Engine coolant capacity (With reservoir tank at "MAX" level)	8.2 (7-2/8)
Reservoir tank	0.85 (6/8)

ENGINE COOLANT (R9M)

ENGINE COOLANT (R9M) : Periodical Maintenance Specification

INFOID:0000000010828057

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Engine coolant capacity (With reservoir tank at "MAX" level)	M/T models	7.9 (7)
	CVT models	8.1 (7-1/8)
Reservoir tank		0.57 (4/8)

ENGINE OIL (MR20DD)

SERVICE DATA AND SPECIFICATIONS (SDS)

<SERVICE DATA AND SPECIFICATIONS (SDS)

ENGINE OIL (MR20DD) : Periodical Maintenance Specification

INFOID:0000000011009249

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Drain and refill	With oil filter change	3.8 (3-3/8)
	Without oil filter change	3.6 (3-1/8)
Dry engine (Overhaul)		4.4 (3-7/8)

ENGINE OIL (QR25DE)

ENGINE OIL (QR25DE) : Periodical Maintenance Specification

INFOID:0000000011009253

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Drain and refill	With oil filter change	4.6 (4)
	Without oil filter change	4.3 (3-3/4)
Dry engine (Overhaul)		5.3 (4-5/8)

ENGINE OIL (R9M)

ENGINE OIL (R9M) : Periodical Maintenance Specification

INFOID:0000000010828056

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℥ (Imp qt)

Drain and refill	With oil filter change	5.5 (4-7/8)
	Without oil filter change	5.1 (4-1/2)
Dry engine (Overhaul)		6.6 (5-7/8)

SPARK PLUG (MR20DD)

SPARK PLUG (MR20DD) : Spark Plug

INFOID:0000000011009242

SPARK PLUG

Unit: mm (in)

Make	NGK	
Standard type	DILKAR7D11H	
Gap (Nominal)	Standard	1.1 (0.043)
	Limit	1.3 (0.051)

SPARK PLUG (QR25DE)

SPARK PLUG (QR25DE) : Spark Plug

INFOID:0000000011009247

SPARK PLUG

Unit: mm (in)

Make	DENSO	
Standard type	FXE20HE11	
Spark plug gap (Nominal)		1.1 (0.043)

ROAD WHEEL

ROAD WHEEL : Road Wheel

INFOID:0000000010828077

ALUMINUM WHEEL

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Item		Limit
Runout	Axial runout	Less than 0.3 mm (0.012 in)
	Radial runout	
Allowable unbalance	Dynamic (At flange)	Less than 5 g (0.17 oz) (one side)
	Static (At flange)	Less than 10 g (0.35 oz)

STEEL WHEEL (17×7J)

Item		Limit
Runout	Axial runout	Less than 0.8 mm (0.031 in)
	Radial runout	Less than 0.5 mm (0.020 in)
Allowable unbalance	Dynamic (At flange)	Less than 5 g (0.17 oz) (one side)
	Static (At flange)	Less than 10 g (0.35 oz)

STEEL WHEEL (17×4T)

Item		Limit
Runout	Axial runout (Average)	Less than 1.5 mm (0.059 in)
	Radial runout (Average)	Less than 1.5 mm (0.059 in)