

SECTION

MA

MAINTENANCE

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PREPARATION

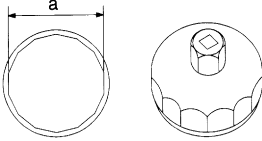
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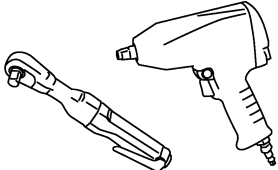
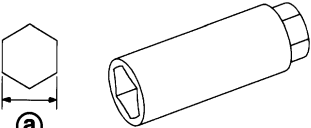
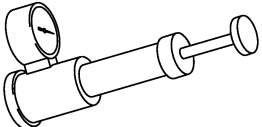
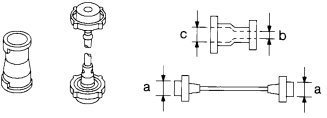
Special Service Tool

INFOID:0000000010257482

Tool number (TechMate No.) Tool name	Description
KV10115801 (J-38956) Oil filter wrench	Removing and installing oil filter a: 64.3 mm (2.531 in)
 S-NT375	

Commercial Service Tool

INFOID:0000000010257483

Tool name	Description
Power tool	Loosening nuts and bolts
 PBIC0190E	
Spark plug wrench	Removing and installing spark plug a : 14 mm (0.55 in)
 JPBA0399ZZ	
Radiator cap tester	Checking radiator and radiator cap (reservoir tank cap)
 PBIC1982E	
Radiator cap tester adapter	Adapting radiator cap tester to radiator cap (reservoir tank cap) and water inlet filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. c: 41.3 (1.626) dia. Unit: mm (in)
 S-NT564	

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

GENERAL MAINTENANCE FOR NORTH AMERICA

FOR NORTH AMERICA : Explanation of General Maintenance

INFOID:0000000010257484

General maintenance includes those items which should be checked during the normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue operating properly. The owners can perform checks and inspections themselves or have their **INFINITI** retailers do them.

OUTSIDE THE VEHICLE

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

Item		Reference page
Tires	Check the pressure with a gauge often and always prior to long distance trips. Adjust the pressure in all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	WT-67
Wheel nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	—
Tire rotation	Tires should be rotated every 5,000 miles (8,000 km).	WT-61
Tire Pressure Monitoring System (TPMS) transmitter components	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	WT-64
Wheel alignment and balance	If the vehicle should pull to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed. For additional information regarding tires, refer to "Important Tire Safety Information" (US) or "Tire Safety Information" (Canada) in the INFINITI Warranty Information Booklet.	FSU-7 RSU-6 MA-35
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
Windshield wiper blades	Check for cracks or wear if they do not wipe properly.	—
Doors and engine hood	Check that all doors and the engine hood operate smoothly as well as the back door. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check for lubrication frequently.	MA-43
Lamps	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	—

INSIDE THE VEHICLE

The maintenance items listed here should be checked on a regular basis, such as when performing periodic maintenance, cleaning the vehicle, etc.

Item		Reference page
Warning lamps and chimes	Make sure that all warning lamps and chimes are operating properly.	—
Windshield wiper and washer	Check that the wipers and washer operate properly and that the wipers do not streak.	—
Windshield defroster	Check that the air comes out of the defroster outlets properly and in sufficient quantity when operating the heater or air conditioner.	—
Steering wheel	Check that it has the specified play. Check for changes in the steering condition, such as excessive play, hard steering or strange noises. Free play: Less than 35 mm (1.38 in)	—

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

Item		Reference page
Seats	Check seat position controls such as seat adjusters, seatback recliner, etc. to make sure they operate smoothly and that all latches lock securely in every position. Check that the head restraints move up and down smoothly and that the locks (if equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—
Seat belts	Check that all parts of the seat belt system (e.g. buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	MA-43
Accelerator pedal	Check the pedal for smooth operation and make sure the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—
Brakes	Check that the brake does not pull the vehicle to one side when applied.	—
Brake pedal and booster	Check the pedal for smooth operation and make sure it has the proper distance under it when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	BR-9 BR-17
Parking brake	Check that the lever or pedal has the proper travel and make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	PB-4
Automatic transmission “Park” mechanism	Check that the lock release button on the selector lever operates properly and smoothly. On a fairly steep hill check that the vehicle is held securely with the selector lever in the P (Park) position without applying any brakes.	—

UNDER THE HOOD AND VEHICLE

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

Item		Reference page
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	MA-19
Radiator and hoses	Check the front of the radiator and clean off any dirt, insects, leaves, etc., that may have accumulated. Make sure the hoses have no cracks, deformation, deterioration or loose connections.	MA-24
Brake fluid level	Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoir.	MA-37
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	PG-133
Engine drive belts	Make sure that no belt is frayed, worn, cracked or oily.	MA-19
Engine oil level	Check the level on the oil level gauge after parking the vehicle on a level spot and turning off the engine.	LU-8
Power steering fluid level and lines	Check the level when the fluid is cold, with the engine off. Check the lines for proper attachment, leaks, cracks, etc.	MA-41
Exhaust system	Make sure there are no loose supports, cracks or holes. If the sound of the exhaust seems unusual or there is a smell of exhaust fumes, immediately locate the trouble and correct it.	MA-28
Underbody	The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—
Fluid leaks	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—

FOR MEXICO

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

FOR MEXICO : General Maintenance

INFOID:000000010257485

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 **INFINITI** 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-43
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-67
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.	WT-61
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-64
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-7 RSU-6 MA-35
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. Replace as necessary.	—

INSIDE THE VEHICLE

The maintenance items listed here should be checked on a regular basis, such as when performing periodic maintenance, cleaning the vehicle, etc.

Item		Reference page
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-9
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.	PB-4
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-43

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

Item		Reference page
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-133
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-37
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-19
Engine drive belt(s)	Make sure that drive belt(s) is/are not frayed, worn, cracked or oily.	MA-19
Engine oil level	Check the level after parking the vehicle (on a level ground) and turning off the engine.	LU-8
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.	—
Power steering fluid level and lines	Check the level when the fluid is cold with the engine off. Check the lines for proper attachment, leaks, cracks, etc.	MA-41
Windshield washer fluid	Check that there is adequate fluid in the reservoir.	—

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE FOR NORTH AMERICA

FOR NORTH AMERICA : Introduction of Periodic Maintenance

INFOID:000000010257486

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

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

Emission Control System Maintenance

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000)	5	10	15	20	25	30	35	40	45
	Months	(8)	(16)	(24)	(32)	(40)	(48)	(56)	(64)	(72)
Drive belt	NOTE (1)								I*	
Air cleaner filter	NOTE (2)						R			
EVAP vapor lines					I*				I*	
Fuel lines					I*				I*	
Fuel filter	NOTE (3)									
Engine coolant*	NOTE (4)(5)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	R	R	R
Spark plugs (Iridium-tipped type)	NOTE (6)	Replace every 105,000 miles (168,000 km)								
Intake and exhaust valve clearance*	NOTE (7)									

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000)	50	55	60	65	70	75	80	85	90
	Months	(80)	(88)	(96)	(104)	(112)	(120)	(128)	(136)	(144)
Drive belt	NOTE (1)	I*		I*		I*		I*		I*
Air cleaner filter	NOTE (2)			R						R
EVAP vapor lines				I*				I*		
Fuel lines				I*				I*		
Fuel filter	NOTE (3)									
Engine coolant*	NOTE (4)(5)									
Engine oil		R	R	R	R	R	R	R	R	R
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	R	R	R
Spark plugs (Iridium-tipped type)	NOTE (6)	Replace every 105,000 miles (168,000 km)								
Intake and exhaust valve clearance*	NOTE (7)									

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000)	95	100	105	110	115	120	
	Months	(152)	(160)	(168)	(176)	(184)	(192)	
Drive belt	NOTE (1)		I*		I*		I*	MA-19
Air cleaner filter	NOTE (2)						R	MA-24
EVAP vapor lines			I*				I*	MA-27

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Fuel lines			I*				I*	MA-24
Fuel filter	NOTE (3)							—
Engine coolant*	NOTE (4)(5)							MA-20
Engine oil		R	R	R	R	R	R	MA-24
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	MA-25
Spark plugs (Iridium-tipped type)	NOTE (6)	Replace every 105,000 miles (168,000 km)						MA-26
Intake and exhaust valve clearance*	NOTE (7)							EM-12

NOTE:

- (1) After 40,000 miles (64,000 km) or 48 months, inspect every 10,000 miles (16,000 km) or 12 months. Replace the drive belts if found damaged.
- (2) If operating mainly in dusty conditions, more frequent maintenance may be required.
- (3) Maintenance-free item. For service procedures, refer to the FL section.
- (4) First replacement interval is 105,000 miles (168,000 km) or 84 months. After first replacement, replace every 75,000 miles (120,000 km) or 60 months.
- (5) Use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent with proper mixture ratio of 50% anti-freeze and 50% demineralized or distilled water. Mixing any other type of coolant or the use of non-distilled water will reduce the life expectancy of the factory fill coolant.
- (6) Replace spark plug when the plug gap exceeds 1.25 mm (0.049 in) even if within specified periodic replacement mileage.
- (7) Periodic maintenance is not required. However, if valve noise increases, inspect valve clearance.

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

Chassis and Body Maintenance

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	5 (8) 6	10 (16) 12	15 (24) 18	20 (32) 24	25 (40) 30	30 (48) 36	35 (56) 42	40 (64) 48	45 (72) 54
Brake lines & cables			I		I		I		I	
Brake pads & rotors★			I		I		I		I	
Brake fluid★					R				R	
Automatic transmission fluid	NOTE (1)									
Transfer fluid & differential gear oil	NOTE (2)		I		I		I		I	
Steering gear & linkage, axle & suspension parts★					I				I	
Tire rotation	NOTE (3)									
Propeller shaft & drive shaft boots (AWD models)★			I		I		I		I	
Propeller shaft grease (AWD models)			L		L		L		L	
Exhaust system★					I				I	
In-cabin microfilter				R			R			R

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PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Brake lines & cables			I		I		I	MA-37
Brake pads & rotors★			I		I		I	MA-40 BR-18 BR-20 BR-18 BR-20
Brake fluid★			R				R	MA-38
Automatic transmission fluid	NOTE (1)							MA-28
Transfer fluid & differential gear oil	NOTE (2)		I		I		I	MA-31 MA-33 MA-34
Steering gear & linkage, axle & suspension parts★			I				I	MA-41 MA-42
Tire rotation	NOTE (3)							MA-4 WT-61
Propeller shaft & drive shaft boots (AWD models)★			I		I		I	MA-32 MA-32 MA-33 MA-42
Propeller shaft grease (AWD models)			L		L		L	DLN-136 DLN-145 DLN-154
Exhaust system★			I				I	MA-28
In-cabin microfilter				R			R	VTL-17

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Automatic transmission fluid maintenance-free.

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

- (2) If towing a trailer, using a camper or car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 20,000 miles (32,000 km) or 24 months.
- (3) Refer to "Tire rotation" under the "GENERAL MAINTENANCE" heading earlier in this section.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

Severe driving conditions

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

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

Maintenance item	Maintenance operation	Maintenance interval	Reference page
Brake fluid	Replace	Every 10,000 miles (16,000 km) or 12 months	MA-38
Brake pads & rotors	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-40 BR-18 BR-20 BR-18 BR-20
Steering gear & linkage, axle & suspension parts	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-41 MA-42
Propeller shaft & drive shaft boots (AWD models)	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-32 MA-32 MA-33 MA-42
Exhaust system	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-28

FOR MEXICO

FOR MEXICO : Introduction of Periodic Maintenance

INFOID:0000000010257487

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

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

ENGINE AND EMISSION CONTROL MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer- ence page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Engine compartment and under vehicle										
Intake & exhaust valve clearance	See NOTE (1)									EM-12
Drive belts	See NOTE (2)				I				I	MA-19
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-24
Engine oil filter (Use Genuine NISSAN engine oil filter or equivalent.)★		R	R	R	R	R	R	R	R	MA-25
Engine coolant	See NOTE (3)				E				E	MA-20

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer- ence page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Cooling system					I				I	MA-19 MA-23 MA-24
Fuel lines					I				I	MA-24
Air cleaner filter (Viscous paper type)★		Replace every 36,000 km (22,500 miles) or 24 months								MA-24
Fuel filter (In-tank type)	See NOTE (4)									—
Spark plugs (Iridium-tipped type)	See NOTE (5)	Replace every 96,000 km (60,000 miles)								MA-26
EVAP vapor lines (With carbon canister)					I				I	MA-27

NOTE:

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

(1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.

(2) Replace the drive belts if found damaged or if the auto belt tensioner reading reaches the maximum limit.

(3) Use Genuine NISSAN Engine Coolant (blue) or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. Check and correct the engine coolant mixture ratio every 48,000 km (30,000 miles) or 24 months. First replacement interval is 168,000 km (105,000 miles) or 96 months. After first replacement, replace every 84,000 km (52,500 miles) or 48 months.

(4) Fuel filter is maintenance-free. For service procedures, refer to FL section.

(5) Replace spark plug when the plug gap exceeds 1.25 mm (0.049 in) even within specified periodic replacement mileage.

CHASSIS AND BODY MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer- ence page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Underhood and under vehicle										
Brake line & cables			I		I		I		I	MA-37
Brake fluid (For level & leaks)			I		I		I		I	MA-37
Brake fluid★					R				R	MA-38
Automatic transmission fluid (7AT)	NOTE (1)									MA-28
Power steering fluid & lines (For level & leaks)			I		I		I		I	MA-41
Exhaust system					I				I	MA-28
Transfer fluid (For level & leaks)	NOTE (2)		I		I		I		I	MA-31
Differential gear oil (For level & leaks)★			I		I		I		I	MA-33 MA-34
Steering gear & linkage, axle & suspension parts★					I				I	MA-41 MA-42
Propeller shaft & drive shafts★			I		I		I		I	MA-32 MA-32 MA-33 MA-42
Propeller shaft grease★	NOTE (3)		L		L		L		L	DLN-136 DLN-145 DLN-154

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer- ence page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Outside and inside										
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	FSU-7 RSU-6 MA-35
Brake pads, rotors, drums & linings★			I		I		I		I	MA-40 BR-18 BR-20
Foot brake & parking brake (For free play, stroke & operation)			I		I		I		I	BR-9 PB-4
Air conditioner filter★			R		R		R		R	VTL-17

NOTE:

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

- (1) Automatic transmission fluid is maintenance-free.
- (2) When changing the transfer fluid, the controller need to be reset.
- (3) The propeller shaft should be re-greased after being immersed in water.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

Severe driving conditions

- A — Driving under dusty conditions
- B — Driving repeatedly short distances
- C — Towing a trailer or caravan
- D — Extensive idling
- E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F — Driving in high humidity or mountainous areas
- G — Driving in areas using salt or other corrosive 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 driving in water

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

Driving condition										Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	Air cleaner filter	Replace	More frequently	MA-24
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 6,000 km (3,750 miles) or 3 months	MA-24 MA-25
.	.	.	.	.	F	.	.	.	.	Brake fluid	Replace	Every 24,000 km (15,000 miles) or 12 months	MA-38
.	.	C	.	.	.	.	.	H	.	Differential gear oil	Replace	Every 36,000 km (22,500 miles) or 24 months	MA-34 MA-35
.	.	.	.	.	.	G	H	.	.	Steering gear & linkage, axle & suspension parts	Inspect	Every 24,000 km (15,000 miles) or 12 months	MA-41 MA-42
.	.	.	.	.	.	G	H	.	.	Propeller shaft & drive shafts	Inspect	Every 12,000 km (7,500 miles) or 6 months	MA-32 MA-32 MA-33 MA-42

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

.	.	.	.	.	.	G	H	.	J	Propeller shaft grease	Lubricate	Every 12,000 km (7,500 miles) or 6 months	DLN-136 DLN-145 DLN-154
A	.	C	.	.	.	G	H	I	.	Brake pads, rotors, drums & linings	Inspect	Every 12,000 km (7,500 miles) or 6 months	MA-40 BR-18 BR-20
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	More frequently	VTL-17

Maintenance for off-road driving (4WD only)

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

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

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

RECOMMENDED FLUIDS AND LUBRICANTS FOR NORTH AMERICA

FOR NORTH AMERICA : Fluids and Lubricants

INFOID:0000000010257488

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
		US measure	Imp measure	Liter	
Engine oil Drain and refill	With oil filter change	6-7/8 qt	5-3/4 qt	6.5	- Genuine NISSAN engine oil or equivalent (INFINITI recommends Genuine NISSAN Ester Oil available at an INFINITI retailer.) - Engine oil with API Certification Mark, Viscosity SAE 5W-30 (For additional information, see "Engine Oil Recommendation".)
	Without oil filter change	6-4/8 qt	5-1/2 qt	6.2	
Dry engine (engine overhaul)		8 qt	6-3/4 qt	7.6	
Cooling system	With reservoir tank	15-6/8 qt	13-1/8 qt	14.9	Pre-diluted Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent
	Reservoir tank	1 qt	7/8 qt	1.0	
Automatic transmission fluid		10-5/8 qt*1	8-3/4 qt*1	10.0*1	Genuine NISSAN Matic S ATF (Using automatic transmission fluid other than Genuine NISSAN Matic S ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the INFINITI new vehicle limited warranty.)
Power steering fluid		1-1/8 qt	7/8 qt	1.0	- Genuine NISSAN PSF or equivalent - DEXRON™ VI type ATF may also be used.
Brake fluid		—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid (Available in mainland U.S.A. through an INFINITI retailer.) or equivalent DOT 3 (US FMVSS No. 116)
Transfer fluid		3-1/8 pt	2-5/8 pt	1.5	Genuine NISSAN Transfer Fluid for ATX90A transfer (Using transfer fluid other than Genuine NISSAN Transfer Fluid will damage the transfer, which is not covered by the INFINITI new vehicle limited warranty.)
Differential gear oil	Front	1-5/8 pt	1-3/8 pt	0.75	Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or equivalent (See an INFINITI retailer for service for synthetic oil.)
	Rear	3-3/4 pt	3-1/8 pt	1.75	API GL-5 synthetic gear oil, Viscosity SAE 75W-90 (See an INFINITI retailer for service for synthetic oil.)
Suspension fluid		3-3/8 qt*1	2-7/8 qt*1	3.2*1	Genuine NISSAN Hydraulic Suspension Fluid (Using Hydraulic Suspension fluid other than Genuine NISSAN Hydraulic Suspension fluid will damage the Hydraulic Suspension, which is not covered by the INFINITI new vehicle limited warranty. See an INFINITI retailer for recommended hydraulic suspension fluid.)
Multi-purpose grease		—	—	—	NLGI No. 2 (Lithium soap base)

*1: The fluid capacity is the reference value.

FOR NORTH AMERICA : Engine Oil Recommendation

INFOID:0000000010257489

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

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >



1. API certification mark

2. API service symbol

FOR NORTH AMERICA : Anti-Freeze Coolant Mixture Ratio

INFOID:0000000010257490

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

WARNING:

- Never remove the radiator or coolant reservoir cap when the engine is hot. Wait until the engine and radiator cool down. Serious burns could be caused by high pressure fluid escaping from the radiator.
- The radiator is equipped with a pressure type radiator cap. To prevent engine damage, use only a genuine NISSAN radiator cap.

CAUTION:

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

FOR MEXICO

FOR MEXICO : Fluids and Lubricants

INFOID:0000000010257491

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
		Imp measure	Liter	
Engine oil Drain and refill	With oil filter change	5-3/4 qt	6.5	Nippon oil (Genuine NISSAN engine oil, API grade SM, Viscosity SAE 5W-30)
	Without oil filter change	5-1/2 qt	6.2	
Dry engine (engine overhaul)		6-3/4 qt	7.6	

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

		Capacity (Approximate)		Recommended Fluids/Lubricants
		Imp measure	Liter	
Cooling system	With reservoir tank	13-1/8 qt	14.9	Genuine NISSAN Engine Coolant (blue) or equivalent (Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminium corrosion within the engine cooling system caused by the use of non-genuine engine coolant. Note that any repairs for the incidents within the engine cooling system while using non-genuine engine coolant may not be covered by the warranty even if such incidents occurred during the warranty period.)
	Reservoir tank	7/8 qt	1.0	
Automatic transmission fluid		8-3/4 qt*1	10.0*1	Genuine NISSAN Matic S ATF (Using automatic transmission fluid other than Genuine NISSAN Matic S ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the warranty.)
Power steering fluid		7/8 qt	1.0	- Genuine NISSAN PSF or equivalent - DEXRON™ VI type ATF may also be used.
Brake fluid		—	—	Genuine NISSAN Brake Fluid or equivalent DOT 3 (US FMVSS No. 116)
Transfer fluid		2-5/8 pt	1.5	Genuine NISSAN Transfer Fluid for ATX90A transfer (Using transfer fluid other than Genuine NISSAN Transfer Fluid will damage the transfer, which is not covered by the warranty.)
Differential gear oil	Front	1-3/8 pt	0.75	Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90 (See an INFINITI dealer for service for synthetic oil.)
	Rear	3-1/8 pt	1.75	Genuine NISSAN Differential Oil Hypoid Super-S GL-5 synthetic 75W-90 or equivalent (See an INFINITI dealer for service for synthetic oil.)
Suspension fluid		2-7/8 qt*1	3.2*1	Genuine NISSAN Hydraulic Suspension Fluid (Using Hydraulic Suspension fluid other than Genuine NISSAN Hydraulic Suspension fluid will damage the hydraulic suspension, which is not covered by the warranty. See an INFINITI dealer for recommended hydraulic suspension fluid.)
Multi-purpose grease		—	—	NLGI No. 2 (Lithium soap base)

*1: The fluid capacity is the reference value.

FOR MEXICO : Engine Coolant Mixture Ratio

INFOID:0000000010257493

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 a Genuine NISSAN Engine Coolant or equivalent in its quality with the proper mixture ratio. See the examples shown in the figure.

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		Composition	
°C	°F	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.

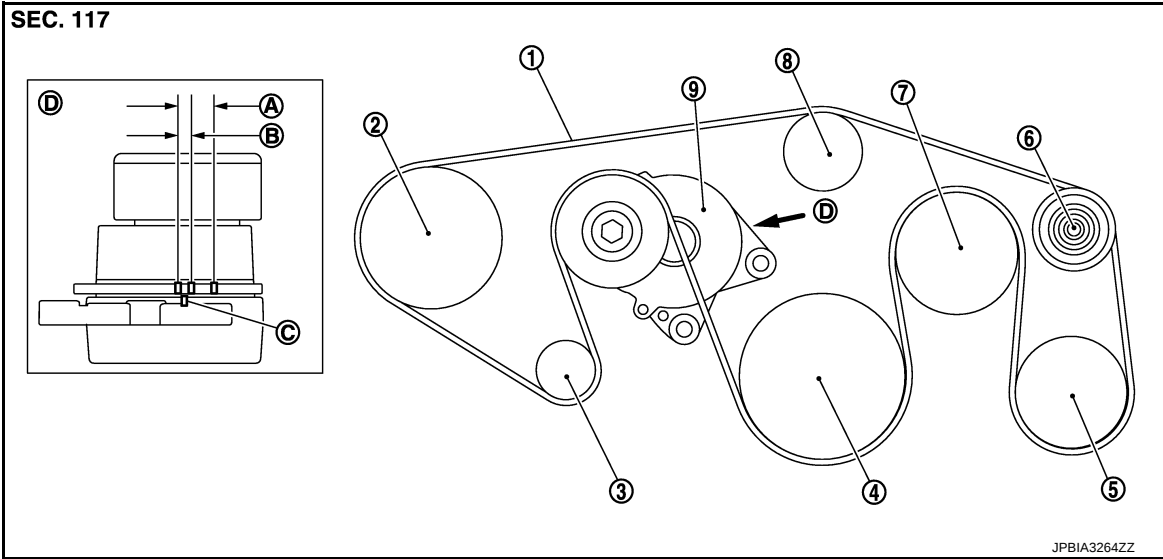
ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000010257494



- | | | |
|-----------------------|---|------------------------------|
| 1. Drive belt | 2. Power steering oil pump pulley | 3. Alternator pulley |
| 4. Crankshaft pulley | 5. A/C compressor | 6. Idler pulley |
| 7. Cooling fan pulley | 8. Water pump pulley | 9. Drive belt auto-tensioner |
| A. Possible use range | B. Range when new drive belt is installed | C. Indicator |

D. View D

DRIVE BELTS : Checking

INFOID:0000000010257495

WARNING:

Be sure to perform the these steps when engine is stopped.

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

NOTE:

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

DRIVE BELTS : Tension Adjustment

INFOID:0000000010257496

Refer to [EM-140. "Drive Belts"](#).

ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000010257497

LEVEL

MA

ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

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

A : MAX
B : MIN

- Adjust the engine coolant level if necessary.

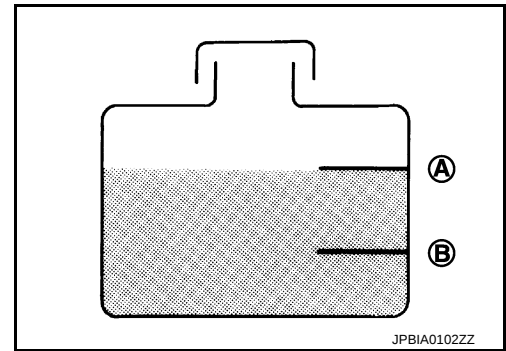
WARNING:

Never remove reservoir tank cap when engine is hot.

CAUTION:

Refill Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to the following table:

For NORTH AMERICA	MA-15. "FOR NORTH AMERICA : Fluids and Lubricants"
For MEXICO	MA-16. "FOR MEXICO : Fluids and Lubricants"



LEAKAGE

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

Testing pressure : Refer to [CO-25. "Radiator"](#).

WARNING:

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

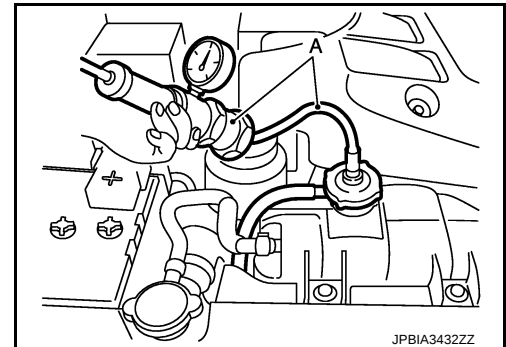
CAUTION:

Higher test pressure than specified may cause radiator damage.

NOTE:

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

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



ENGINE COOLANT : Draining

INFOID:0000000010257498

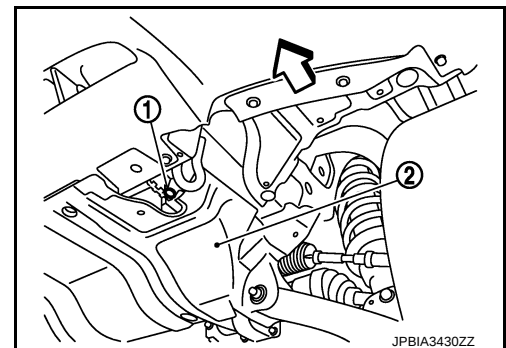
WARNING:

- Never remove radiator cap and reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from radiator.
- Wrap a thick cloth around the caps. Slowly turn them a quarter of a turn to release built-up pressure. Carefully remove the caps by turning it all the way.

- Open radiator drain plug (1) at the bottom of radiator, and then remove radiator cap and reservoir tank cap.

2 : Front under cover

↔ : Vehicle front



When draining all of engine coolant in the system, open water drain plug on cylinder block. Refer to [EM-109, "Setting"](#).

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

ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

3. Check drained engine coolant for contaminants such as rust, corrosion or discoloration.
If contaminated, flush the engine cooling system. Refer to [CO-10, "Flushing"](#).

ENGINE COOLANT : Refilling

INFOID:0000000010257499

CAUTION:

- Do not reuse O-rings.
- 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 the following table:

For NORTH AMERICA	MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"
For MEXICO	MA-16, "FOR MEXICO : 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. Refer to [CO-14, "Exploded View"](#).

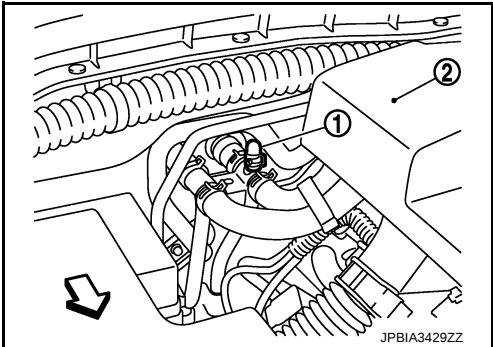
 : 1.96 N·m (0.2 kg-m, 17 in-lb)

If water drain plug on cylinder block is removed, close and tighten it. Refer to [EM-116, "Disassembly and Assembly"](#).

2. Check that each hose clamp is firmly tightened.
3. Remove air relief plug (1) on heater hose.

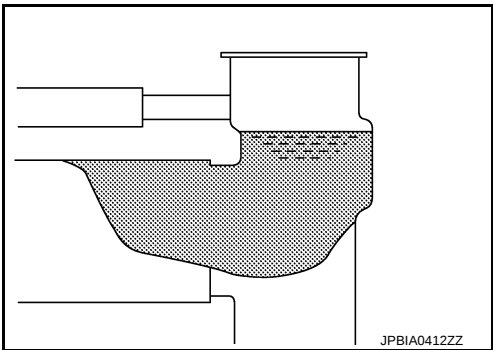
2. Engine cover

 : Vehicle front



4. Fill radiator, and reservoir tank, to specified level.
- Pour engine coolant through engine coolant filler neck slowly of less than 3 ℓ (2-5/8 Imp qt) a minute to allow air in system to escape.

Engine coolant capacity
(With reservoir tank at
"MAX" level) : Refer to [CO-25, "Periodical Maintenance Specification"](#).



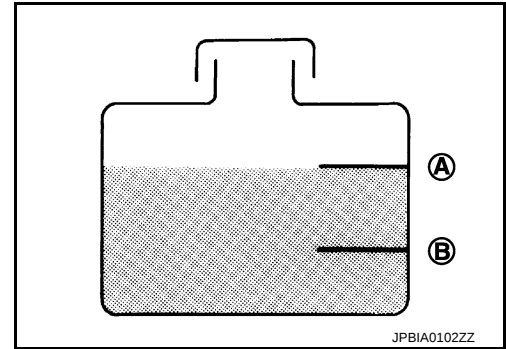
ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

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

:Refer to [CO-25](#),
"Periodical Maintenance Sp
ecification".

A : MAX
B : MIN



5. When engine coolant overflows air relief hole on heater hose, install air relief plug with clamp. Then refill radiator with engine coolant.
 6. Install radiator cap.
 7. Install reservoir tank cap.
 8. Warm up engine until opening thermostat less than 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.
9. 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.
 10. Refill reservoir tank to "MAX" level line with engine coolant if necessary.
 11. Repeat steps 6 through 10 two or more times with reservoir tank cap installed until engine coolant level no longer drops.
 12. Check cooling system for leakage with engine running.
 13. 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.
 14. Repeat step 13 three times.
 15. If sound is heard, bleed air from cooling system by repeating step 4, and steps from 6 to 14 until engine coolant level no longer drops.

ENGINE COOLANT : Flushing

INFOID:0000000010257500

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

CAUTION:

Be sure to clean drain plug and install with new O-ring. Refer to [CO-14](#), "Exploded View".

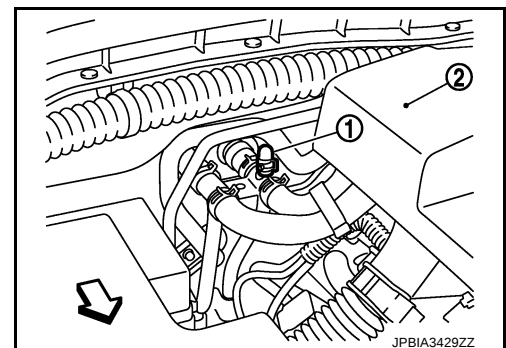
 : 1.96 N·m (0.2 kg-m, 17 in-lb)

If water drain plug on cylinder block is removed, close and tighten it. Refer to [EM-116](#), "Disassembly and Assembly".

2. Remove air relief plug (1) on heater hose.

2. Engine cover

⇐ : Vehicle front



ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

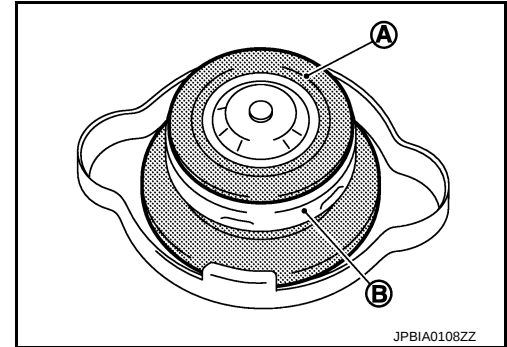
3. Fill radiator and reservoir tank with water until water spills from the air relief holes, then close air relief plugs with clamp. Fill radiator and reservoir tank with water and reinstall caps.
4. Run the engine and warm it up to normal operating temperature.
5. Rev the engine two or three times under no-load.
6. Stop the engine and wait until it cools down.
7. Drain water from the system. Refer to [CO-8, "Draining"](#).
8. Repeat steps 1 through 7 until clear water begins to drain from radiator.

RESERVOIR TANK CAP

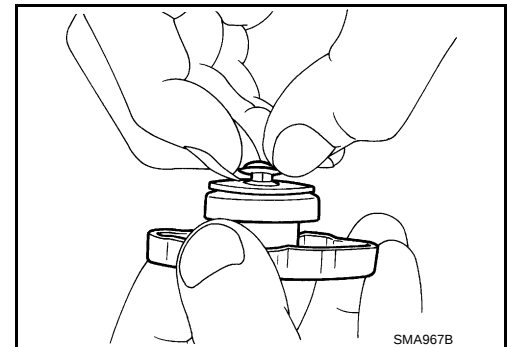
RESERVOIR TANK CAP : Inspection

INFOID:000000010257501

- Check valve seat of reservoir tank cap.
- Check if valve seat (A) is swollen to the extent that the edge of the metal plunger (B) cannot be seen when watching it vertically from the top.
- Check if valve seat has no soil and damage.

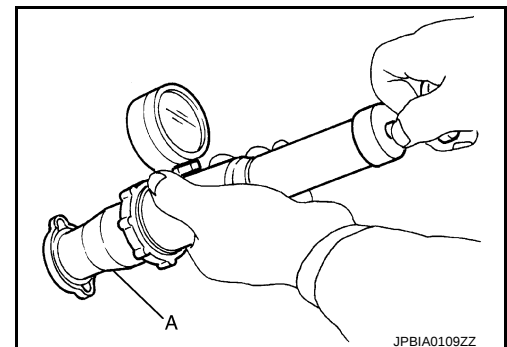


- Pull negative-pressure valve to open it, and check that it close completely when released.
- Check that there is no dirt or damage on the valve seat of reservoir tank cap negative-pressure valve.
- Check that there are no unusualness in the opening and closing conditions of negative-pressure valve.



- Check reservoir tank cap relief pressure.
- When connecting reservoir tank cap to the radiator cap tester (commercial service tool) and the radiator cap tester adapter (commercial service tool) (A), apply engine coolant to the cap seal surface.

Standard and limit : Refer to [CO-25, "Radiator"](#).



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

CAUTION:

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

RADIATOR

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

MA

ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

RADIATOR : Inspection

INFOID:0000000010257502

Check radiator for mud or clogging. If necessary, clean radiator as per the following:

- Be careful not to bend or damage radiator fins.
 - When radiator is cleaned without removal, remove all surrounding parts such as radiator cooling fan shroud. Then tape harness and 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 (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

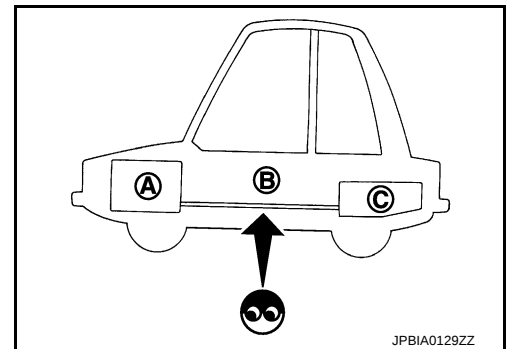
FUEL LINES : Inspection

INFOID:0000000010257503

- 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:0000000011545484

REMOVAL

NOTE:

- The viscous paper type filter does not need cleaning between replacement intervals.
- Replace the air filter as necessary for periodic maintenance. Refer to the following table:

For NORTH AMERICA	MA-8, "FOR NORTH AMERICA : Introduction of Periodic Maintenance"
For MEXICO	MA-11, "FOR MEXICO : Introduction of Periodic Maintenance"

1. Unhook clips, and lift air cleaner case (upper).
2. Remove air cleaner filter from air cleaner case.

INSTALLATION

Install is the reverse order of removal.

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000010257505

WARNING:

- Be careful not to burn yourself, as the engine and engine oil may be hot.
 - Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.
1. Warm up the engine, and check for any oil leaks.
 2. Stop the engine and wait for at least 10 minutes.

ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

3. Remove drain plug and oil filler cap to drain the old oil.

ENGINE OIL : Refilling

INFOID:000000010257506

1. Install drain plug with new washer.

CAUTION:

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

Tightening torque : Refer to [EM-56, "Exploded View"](#).

2. Refill with new engine oil.

Engine oil specification and viscosity, refer to the following table:

For NORTH AMERICA	MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"
For MEXICO	MA-16, "FOR MEXICO : Fluids and Lubricants"

Engine oil capacity : Refer to [LU-19, "Periodical Maintenance Specification"](#).

CAUTION:

- The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.
 - Always use oil level gauge to determine the proper amount of engine oil in engine.
3. Warm up the engine and check area around drain plug and oil filter for engine oil leakage.
 4. Stop the engine and wait for 10 minutes.
 5. Check the engine oil level. Refer to [LU-8, "Inspection"](#).

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:000000010257507

REMOVAL

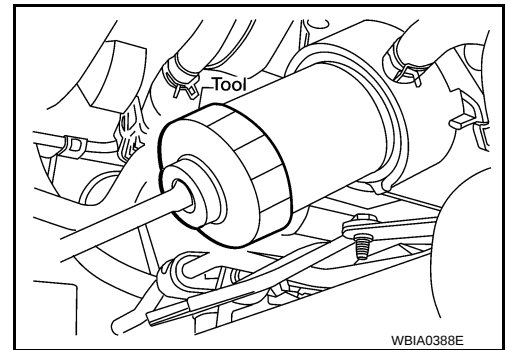
1. Remove front under cover.
2. Drain engine oil. Refer to [LU-9, "Draining"](#).
3. Remove oil filter using oil filter wrench [SST: KV10115801 (J-38956)].

WARNING:

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

CAUTION:

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



INSTALLATION

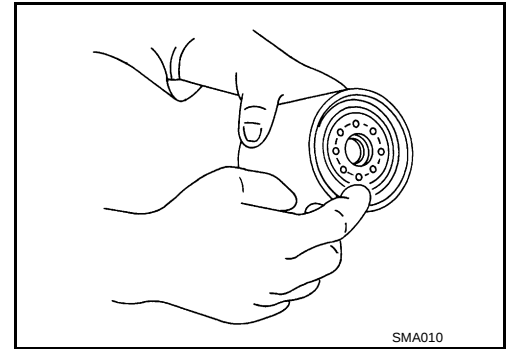
1. Remove foreign materials adhering to the oil filter seal mating surface.

MA

ENGINE MAINTENANCE

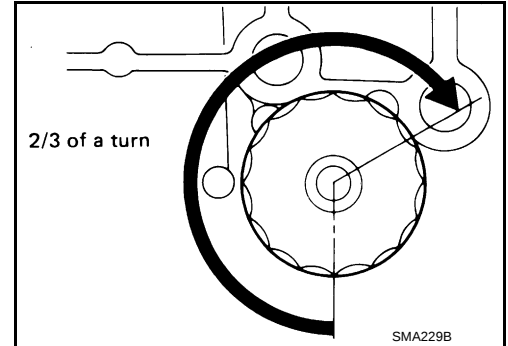
< PERIODIC MAINTENANCE >

2. Apply clean engine oil to the oil filter seal circumference of the new oil filter as shown.



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

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



4. Refill engine with new engine oil. Refer to [LU-9, "Refilling"](#).
5. Inspect engine for oil leaks. Refer to [LU-8, "Inspection"](#).
6. Install front under cover.

SPARK PLUG

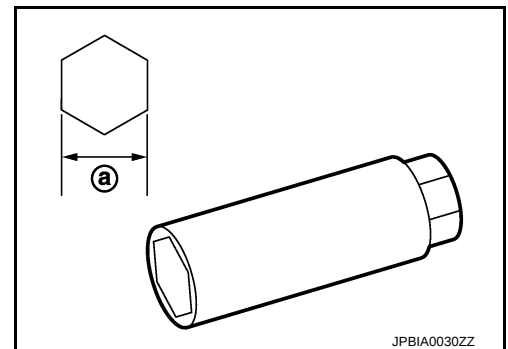
SPARK PLUG : Removal and Installation

INFOID:0000000010257508

REMOVAL

1. Remove engine cover. Refer to [EM-26, "Exploded View"](#).
2. Remove ignition coil. Refer to [EM-30, "Exploded View"](#).
3. Remove spark plug with a spark plug wrench (commercial service tool).

a : 14 mm (0.55 in)



INSTALLATION

Note the following item, installa is the reverse order of removal.

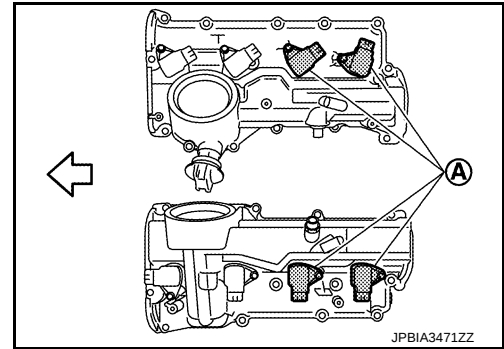
CAUTION:

ENGINE MAINTENANCE

< PERIODIC MAINTENANCE >

Install ignition coil marked with an identification mark (A) on cylinder No. 5, 6, 7 and 8.

↶ : Engine front



INFOID:0000000010257509

SPARK PLUG : Inspection

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

Spark plug (Standard type) : Refer to [EM-140, "Spark Plug"](#).

CAUTION:

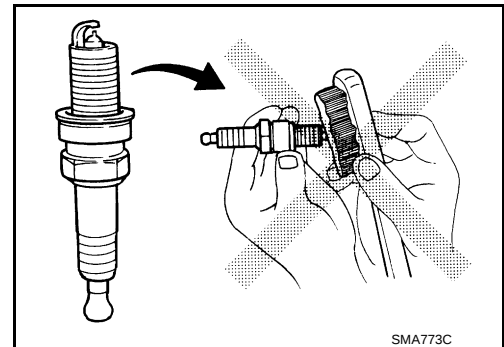
- Never drop or impact spark plug.
- Never use a wire brush for cleaning.
- If plug tip is covered with carbon, use spark plug cleaner to clean.

Cleaner air pressure

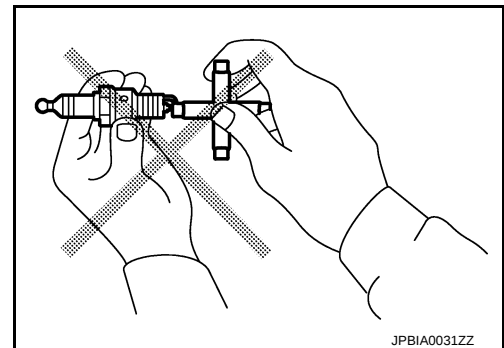
: Less than 588 kPa (6 kg/cm², 85 psi)

Cleaning time

: Less than 20 seconds



- Measure spark plug gap. When it exceeds the limit, replace spark plug even if it is within the specified replacement mileage. Refer to [EM-140, "Spark Plug"](#).
- Spark plug gap adjustment is not required between replacement intervals.



EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000010257510

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration. Refer to [EC-578, "Inspection"](#) (For USA and Canada).
2. Inspect fuel tank filler cap vacuum relief valve for clogging, sticking, etc.
Refer to [EC-380, "Component Inspection \(Fuel Filler Cap\)"](#) (For USA and Canada), [EC-1040, "Inspection"](#) (For Mexico).

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

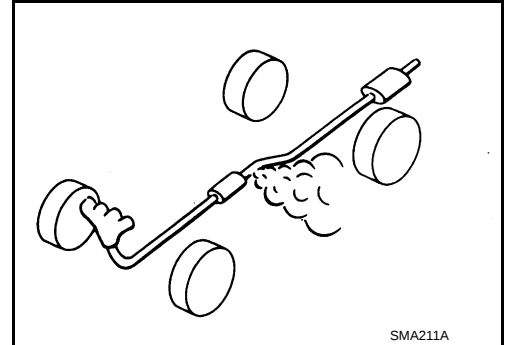
CHASSIS MAINTENANCE EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:0000000010257511

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

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



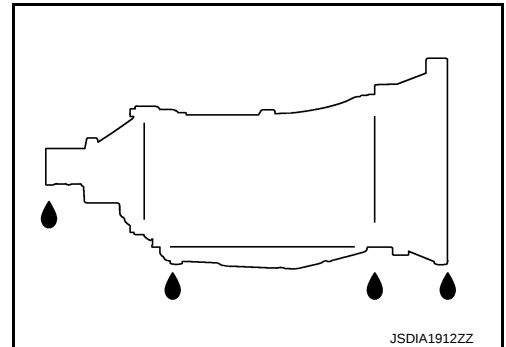
A/T FLUID

A/T FLUID : Inspection

INFOID:0000000010257512

FLUID LEAKAGE

- Check transmission surrounding area (oil seal and plug etc.) for fluid leakage.
- If anything is found, repair or replace damaged parts and adjust A/T fluid level. Refer to [TM-183, "Adjustment"](#).



A/T FLUID : Changing

INFOID:0000000010257513

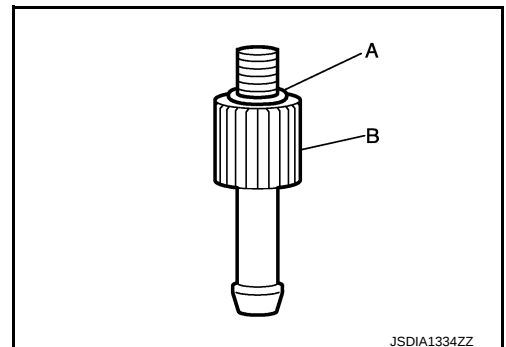
Recommended fluid and fluid capacity : Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

- Use only recommended ATF. Never mix with other ATF.
- Using ATF other than recommended ATF will cause deterioration in driveability and A/T durability, and may damage the A/T, which is not covered by the INFINITI new vehicle limited warranty.
- When filling ATF, be careful not to scatter heat generating parts such as exhaust.

1. Step 1

- a. Install the O-ring (315268E000) (A) to the charging pipe (310811EA5A) (B).



2. Step 2

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- a. Use CONSULT to check that the ATF temperature is 40°C (104°F) or less.
- b. Lift up the vehicle.
- c. Remove the drain plug from the oil pan, and then drain the ATF.
- d. When the ATF starts to drip, temporarily tighten the drain plug to the oil pan.

NOTE:

Never replace drain plug and drain plug gasket with new ones yet.

- e. Remove overflow plug from oil pan.
- f. Install the charging pipe (A) to the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

- g. Install the bucket pump hose (B) to the charging pipe.

CAUTION:

Insert the bucket pump hose all the way to the end of the charging pipe.

- h. Fill approximately 3 liters (3-1/8 US qt, 2-5/8 Imp qt) of the ATF.
- i. Remove the bucket pump hose to remove the charging pipe, and then temporarily tighten the overflow plug to the oil pan.

CAUTION:

Quickly perform the procedure to avoid ATF leakage from the oil pan.

- j. Lift down the vehicle.
- k. Start the engine and wait for approximately 3 minutes.
- l. Stop the engine.

3. Step 3

- a. Repeat "Step 2".

4. Final Step

- a. Use CONSULT to check that the ATF temperature is 40°C (104°F) or less.
- b. Lift up the vehicle.
- c. Remove the drain plug from the oil pan, and then drain the ATF.
- d. When the ATF starts to drip, tighten the drain plug to the oil pan to the specified torque. Refer to [TM-190, "Exploded View"](#).

CAUTION:

Never reuse drain plug and drain plug gasket.

- e. Remove overflow plug from oil pan.
- f. Install the charging pipe (A) to the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

- g. Install the bucket pump hose (B) to the charging pipe.

CAUTION:

Insert the bucket pump hose all the way to the end of the charging pipe.

- h. Fill approximately 3 liters (3-1/8 US qt, 2-5/8 Imp qt) of the ATF.
- i. Remove the bucket pump hose to remove the charging pipe, and then temporarily tighten the overflow plug to the oil pan.

CAUTION:

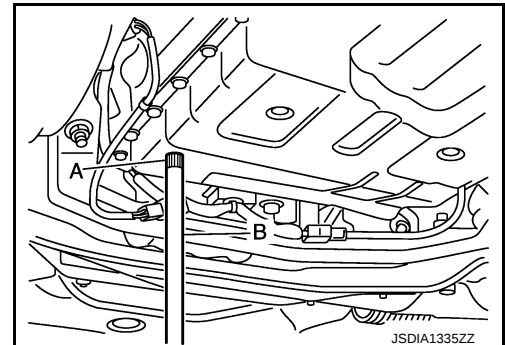
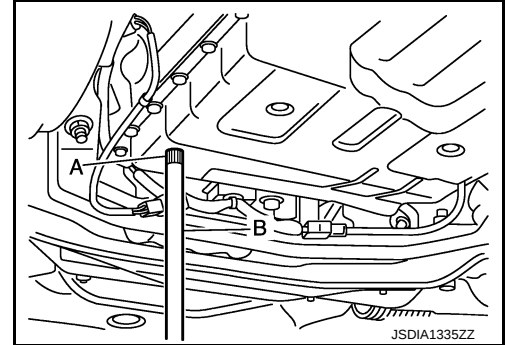
Quickly perform the procedure to avoid ATF leakage from the oil pan.

- j. Lift down the vehicle.
- k. Start the engine.
- l. Make the ATF temperature approximately 40°C (104°F).

NOTE:

The ATF level is greatly affected by the temperature. Always check the ATF temperature on "ATF TEMP 1" of "Data Monitor" using CONSULT.

- m. Park vehicle on level surface and set parking brake.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- n. Shift the selector lever through each gear position. Leave selector lever in "P" position.
- o. Lift up the vehicle when the ATF temperature reaches 40°C (104°F), and remove the overflow plug from the oil pan.

CAUTION:

Perform "Step 4-o" with the engine at idle.

- p. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-190, "Exploded View"](#).

CAUTION:

Never reuse overflow plug.

A/T FLUID : Adjustment

INFOID:0000000010257514

Recommended fluid and fluid capacity : Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

- Use only recommended ATF. Never mix with other ATF.
- Using ATF other than recommended ATF will cause deterioration in driveability and A/T durability, and may damage the A/T, which is not covered by the INFINITI new vehicle limited warranty.
- When filling ATF, be careful not to scatter heat generating parts such as exhaust.
- Always maintain the ATF temperature within between 35°C (95°F) and 45°C (113°F) while checking with CONSULT when the ATF level adjustment is performed.

- 1. Install the O-ring (315268E000) (A) to the charging pipe (310811EA5A) (B).

- 2. Start the engine.

- 3. Make the ATF temperature approximately 40°C (104°F).

NOTE:

The ATF level is greatly affected by the temperature. Always check the ATF temperature on "ATF TEMP 1" of "Data Monitor" using CONSULT.

- 4. Park vehicle on level surface and set parking brake.
- 5. Shift the selector lever through each gear position. Leave selector lever in "P" position.
- 6. Lift up the vehicle.
- 7. Check the ATF leakage from transmission.
- 8. Remove overflow plug from oil pan.
- 9. Install the charging pipe (A) to the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

- 10. Install the bucket pump hose (B) to the charging pipe.

CAUTION:

Insert the bucket pump hose all the way to the end of the charging pipe.

- 11. Fill approximately 0.5 liters (1/2 US qt, 1/2 Imp qt) of the ATF.
- 12. Check that the ATF leaks when removing the charging pipe and the bucket pump hose. If the ATF does not leak, refill the ATF.

CAUTION:

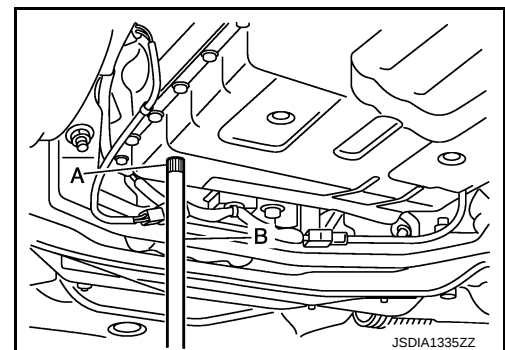
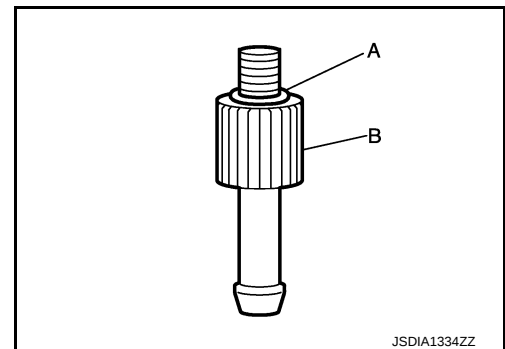
Perform "Step 12" with the engine at idle.

- 13. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-190, "Exploded View"](#).

CAUTION:

Never reuse overflow plug.

TRANSFER FLUID



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

TRANSFER FLUID : Inspection

INFOID:000000010257515

FLUID LEAKAGE

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

FLUID LEVEL

1. Remove filler plug (1) and gasket. Then check that fluid is filled up from mounting hole for the filler plug.

CAUTION:

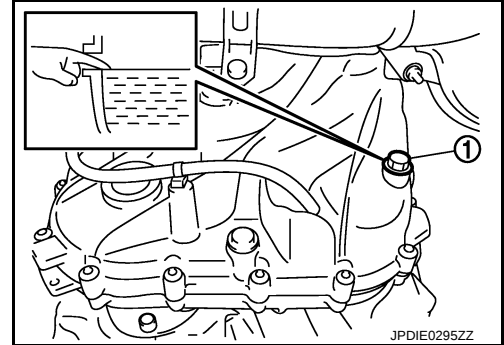
Never start engine while checking fluid level.

2. Set a new gasket onto filler plug, and install it on transfer and then tighten to the specified torque.

Specified torque : 48 N·m (4.9 kg-m, 35 ft-lb)

CAUTION:

Never reuse gasket.



INFOID:000000010257516

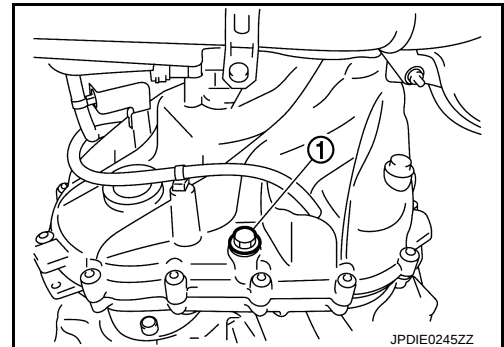
TRANSFER FLUID : Draining

1. Run the vehicle to warm up the transfer unit sufficiently.
2. Stop the engine.
3. Remove the drain plug (1) and drain transfer fluid.
4. Set a new gasket onto drain plug, and install it to transfer and tighten to the specified torque.

Specified torque : 48 N·m (4.9 kg-m, 35 ft-lb)

CAUTION:

Never reuse gasket.



INFOID:000000010257517

TRANSFER FLUID : Refilling

1. Remove filler plug (1). Fill up with new transfer fluid up to mounting hole for the filler plug.

Fluid grade and Viscosity : Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (for NORTH AMERICA), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (for MEXICO).

Fluid capacity : Refer to [DLN-131, "General Specifications"](#).

CAUTION:

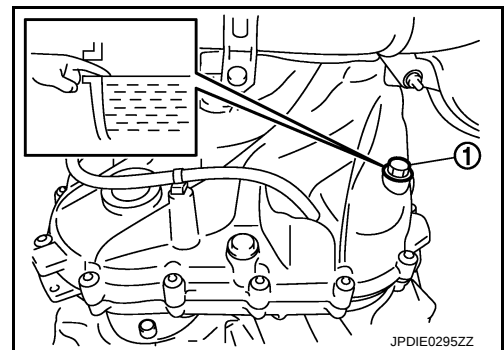
Carefully fill the fluid. (Fill up for approximately 3 minutes.)

2. Leave the vehicle for 3 minutes, and check the fluid level again.
3. Set a new gasket onto filler plug, and install it on transfer and tighten to the specified torque.

Specified torque : 48 N·m (4.9 kg-m, 35 ft-lb)

CAUTION:

Never reuse gasket.



MA

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

4. Perform learning of transfer fluid viscosity. Refer to [DLN-48, "Work Procedure"](#).

FRONT PROPELLER SHAFT: 2F P15

FRONT PROPELLER SHAFT: 2F P15 : Inspection

INFOID:0000000010257518

APPEARANCE AND NOISE

Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.

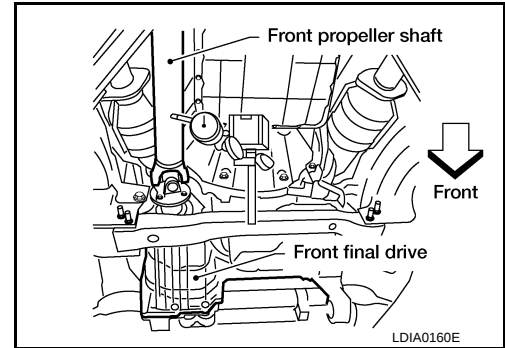
VIBRATION

If vibration is present at high speed, inspect propeller shaft runout first.

1. With a dial indicator, measure propeller shaft runout at runout measuring points by rotating final drive companion flange with hands.

⇐: Vehicle front

Propeller shaft runout : Refer to [DLN-141, "Propeller Shaft Runout"](#).

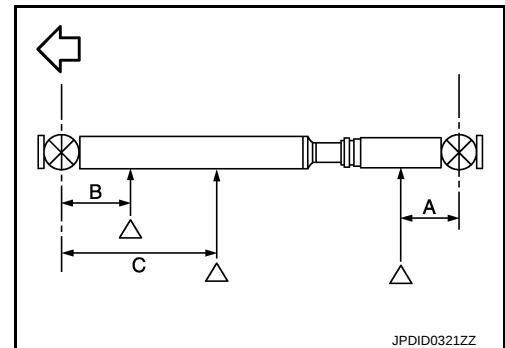


- Propeller shaft runout measuring point (Point "Δ").

⇐: Vehicle front

Dimension

- A** : 80 – 100 mm (3.15 – 3.94 in)
B : 100 – 120 mm (3.94 – 4.72 in)
C : 254.5 mm (10.02 in)



2. If runout still exceeds specifications, separate propeller shaft at final drive companion flange or transfer companion flange; then change the phase between companion flange and propeller shaft by the one bolt hole at a time and install propeller shaft.
3. If runout is more than the limit value, remove and check propeller shaft.
4. Check the vibration by driving vehicle.

REAR PROPELLER SHAFT: 2F P26

REAR PROPELLER SHAFT: 2F P26 : Inspection

INFOID:0000000010257519

APPEARANCE AND NOISE

Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.

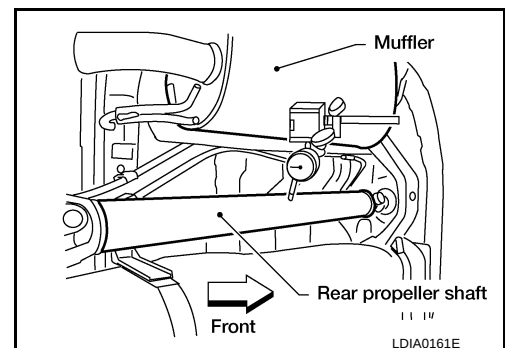
VIBRATION

If vibration is present at high speed, inspect propeller shaft runout first.

1. With a dial indicator, measure propeller shaft runout at runout measuring points by rotating final drive companion flange with hands.

⇐: Vehicle front

Propeller shaft runout : Refer to [DLN-150, "Propeller Shaft Runout"](#).



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- Propeller shaft runout measuring point (Point "Δ").

↖: Vehicle front

Dimension

A	: 120 – 150 mm (4.72 – 5.91 in)
B	: 150 – 180 mm (5.91 – 7.09 in)
C	: 703.5 mm (27.70 in)

2. If runout still exceeds specifications, separate propeller shaft at final drive companion flange or transfer companion flange; then change the phase between companion flange and propeller shaft by the one bolt hole at a time and install propeller shaft.
3. If runout is more than the limit value, remove and check propeller shaft.
4. Check the vibration by driving vehicle.

REAR PROPELLER SHAFT: 2S1410

REAR PROPELLER SHAFT: 2S1410 : Inspection

INFOID:0000000010257520

APPEARANCE AND NOISE

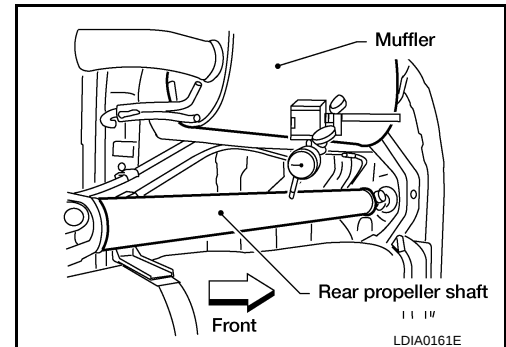
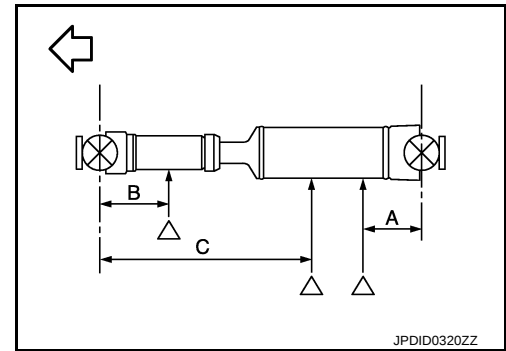
Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.

VIBRATION

If vibration is present at high speed, inspect propeller shaft runout first.

1. With a dial indicator, measure propeller shaft runout at runout measuring points by rotating final drive companion flange with hands.

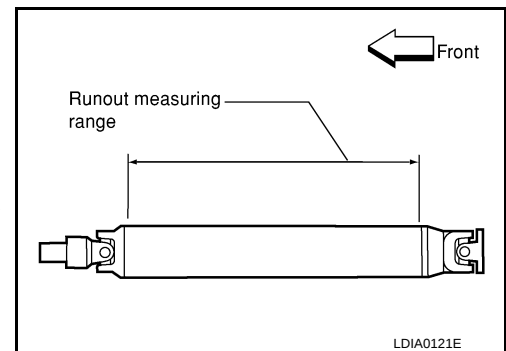
Propeller shaft runout : Refer to [DLN-159, "Propeller Shaft Runout"](#).



- Propeller shaft runout measuring range.

↖: Vehicle front

2. If runout still exceeds specifications, separate propeller shaft at final drive companion flange; then change the phase between companion flange and propeller shaft by the one bolt hole at a time and install propeller shaft.
3. If runout is more than the limit value, remove and check propeller shaft.
4. Check the vibration by driving vehicle.



FRONT DIFFERENTIAL GEAR OIL: R180A

FRONT DIFFERENTIAL GEAR OIL: R180A : Inspection

INFOID:0000000010257521

OIL LEAKAGE

Check that oil is not leaking from the front final drive assembly or around it.

OIL LEVEL

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- Remove filler plug (1) and check oil level from filler plug mounting hole as shown in the figure.

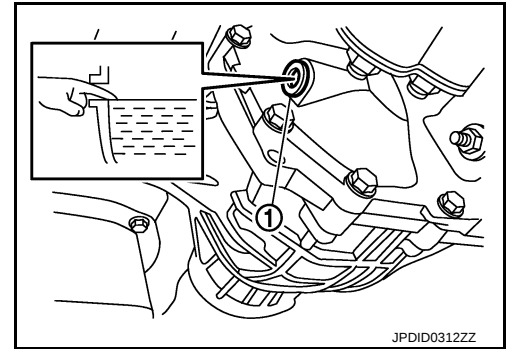
CAUTION:

Never start engine while checking oil level.

- Set a gasket on filler plug and install it on final drive assembly. Refer to [DLN-176, "Exploded View"](#).

CAUTION:

Never reuse gasket.



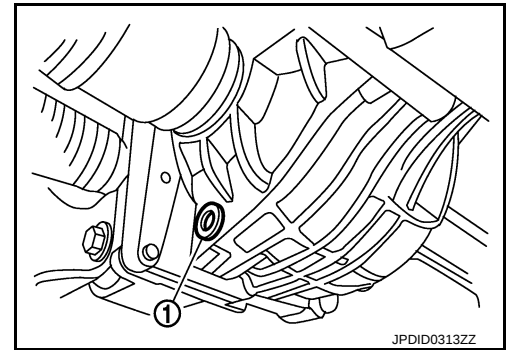
FRONT DIFFERENTIAL GEAR OIL: R180A : Draining

INFOID:000000010257522

- Stop engine.
- Remove drain plug (1) and drain gear oil.
- Set a gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to [DLN-176, "Exploded View"](#).

CAUTION:

Never reuse gasket.



FRONT DIFFERENTIAL GEAR OIL: R180A : Refilling

INFOID:000000010257523

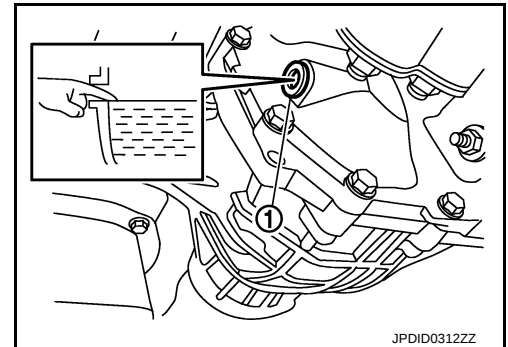
- Remove filler plug (1). Fill with new gear oil until oil level reaches the specified level near filler plug mounting hole.

Oil grade and Viscosity

: Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (for NORTH AMERICA), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (for MEXICO).

Oil capacity

: Refer to [DLN-198, "General Specifications"](#).



- After refilling oil, check oil level. Set a gasket to filler plug, then install it to final drive assembly. Refer to [DLN-179, "Exploded View"](#).

CAUTION:

Never reuse gasket.

REAR DIFFERENTIAL GEAR OIL: R230

REAR DIFFERENTIAL GEAR OIL: R230 : Inspection

INFOID:000000010257524

OIL LEAKAGE

Check that differential gear oil is not leaking from the rear final drive assembly or around it.

OIL LEVEL

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- Remove filler plug (1) and check oil level from filler plug mounting hole as shown in the figure.

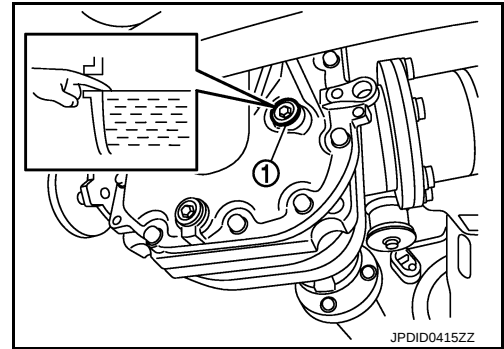
CAUTION:

Never start engine while checking oil level.

- Set a gasket on filler plug and install it on final drive assembly. Refer to [DLN-216, "Exploded View"](#).

CAUTION:

Never reuse gasket.



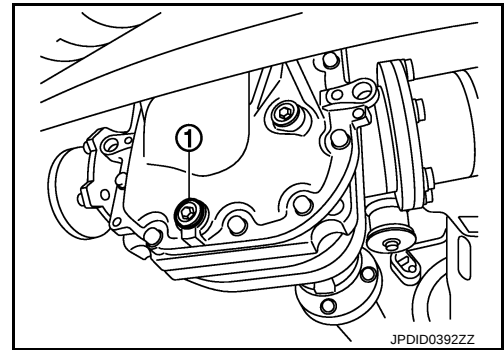
INFOID:0000000110257525

REAR DIFFERENTIAL GEAR OIL: R230 : Draining

- Stop the engine.
- Remove drain plug (1) and drain gear oil.
- Set a gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to [DLN-216, "Exploded View"](#).

CAUTION:

Never reuse gasket.



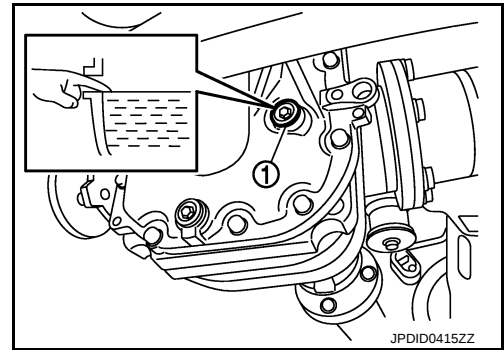
INFOID:0000000110257526

REAR DIFFERENTIAL GEAR OIL: R230 : Refilling

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

Oil grade and viscosity : Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (for NORTH AMERICA), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (for MEXICO).

Oil capacity : Refer to [DLN-235, "General Specification"](#).



- After refilling oil, check oil level. Set a gasket to filler plug, then install it to final drive assembly. Refer to [DLN-216, "Exploded View"](#).

CAUTION:

Never reuse gasket.

WHEELS (BONDING WEIGHT TYPE)

WHEELS (BONDING WEIGHT TYPE) : Adjustment

INFOID:0000000111545489

BALANCING WHEELS (BONDING WEIGHT TYPE)

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.**

Wheel Balance Adjustment

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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 road 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 g (0.81 oz) $\times 5/3$ = 38.33 g (1.35 oz) $\Rightarrow$ 37.5 g (1.32 oz) balance weight (closer to calculated balance weight value)

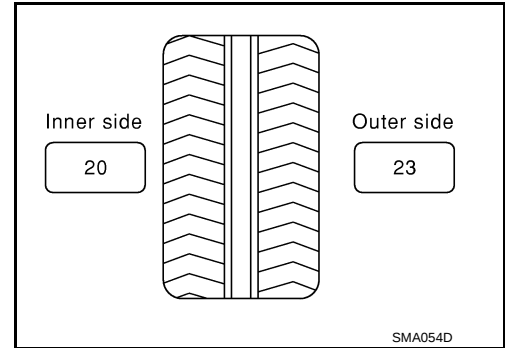
NOTE:

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

Example:

36.2 $\Rightarrow$ 35 g (1.23 oz)

36.3 $\Rightarrow$ 37.5 g (1.32 oz)

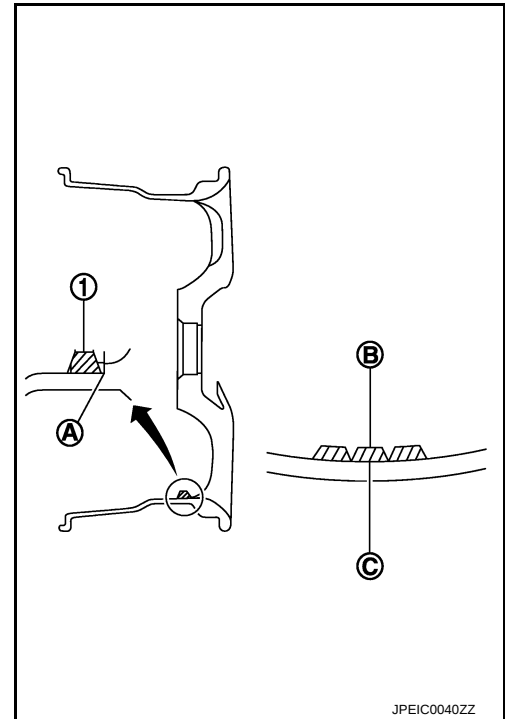


- b. Installed balance weight in the position.

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

CAUTION:

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



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

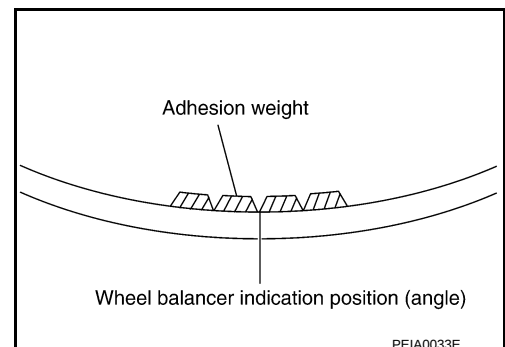
CAUTION:

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 more than two balance weight.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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-67, "Road Wheel"](#).

Static (At flange) : Refer to [WT-67, "Road Wheel"](#).

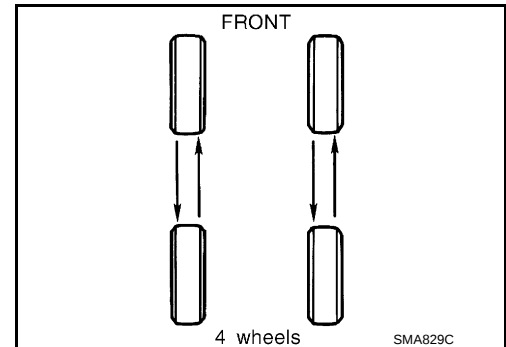
WHEELS (BONDING WEIGHT TYPE) : Tire Rotation

INFOID:0000000011545490

- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-4, "FOR NORTH AMERICA : Explanation of General Maintenance"](#) (For North America) or [MA-6, "FOR MEXICO : General Maintenance"](#) (For Mexico).
- When installing the wheel, tighten wheel nuts to the specified torque. Refer to [WT-62, "Exploded View"](#).

CAUTION:

- When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.
 - Never tighten wheel nut at torque exceeding the criteria.
 - Use NISSAN genuine wheel nuts for aluminum wheels.
- Perform the ID registration, after tire rotation. Refer to [WT-29, "Work Procedure"](#).



BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Inspection

INFOID:0000000010257528

- Check that the fluid level in the sub tank is within the specified range (MAX – MIN lines).

CAUTION:

Turn OFF the ignition switch and depress the brake pedal 20 times or more to check brake fluid level.

NOTE:

Since brake fluid is in the accumulator in pressurized condition, the reservoir tank brake fluid level should be lower than the MAX line.

- Visually check for any brake fluid leakage around the reservoir tank.
- Check the brake system for any leakage if the fluid level is extremely low (lower than MIN).
- Check the brake system for fluid leakage if the warning lamp remains illuminated even after the parking brake is released.
- Check the sub tank for the mixing of foreign matter (e.g. dust) and oils other than brake fluid.

BRAKE LINES AND CABLES

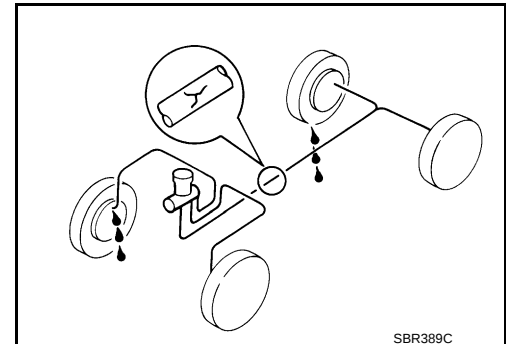
BRAKE LINES AND CABLES : Inspection

INFOID:0000000010257529

1. Check brake line (tubes and hoses) for cracks, deterioration or other damage. Replace any damaged parts.
2. Depress the brake pedal with a force of 490 N (50 kg, 110lb) and hold down the pedal for approx. 5 seconds with the engine running. Check for any fluid leakage.

CAUTION:

Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present).



BRAKE FLUID

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

BRAKE FLUID : Bleeding Brake System

INFOID:000000010257530

CAUTION:

- Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.
- The VDC warning lamp, ABS warning lamp and brake warning lamp turn ON and DTC "C118E" may be detected in self-diagnosis result for "ABS" with CONSULT when the brake pedal is excessively operated, such as air bleeding. This is not a system malfunction because this occurs due to the temporary decrease in accumulator fluid pressure. The system returns to normal condition when the accumulator fluid pressure reaches the specified pressure with the ignition switch ON and the VDC warning lamp, ABS warning lamp, and brake warning lamp turn OFF. After these steps, erase self-diagnosis results for "ABS" with CONSULT.
- DTC other than "C118E" is detected: Refer to [BRC-50, "DTC Index"](#).

NOTE:

When the ignition switch is ON, the brake warning lamp may turn ON even when the parking brake pedal is released with the brake fluid within the specified level. This indicates the decrease in accumulator fluid pressure.

MOTOR/ACCUMULATOR ASSEMBLY

CAUTION:

- If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.
- Never operate the brake pedal with the reservoir cap removed. Failure to do this may cause the scattering of brake fluid.
- Never operate the brake pedal excessively during the work procedure.
- Monitor the fluid level in the reservoir tank while performing the air bleeding.
- Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.

CAUTION:

- Never reuse drained brake fluid.
- Never allow oils other than brake fluid to enter the reservoir tank.

4. Turn the ignition switch ON.

NOTE:

The motor is activated and automatically stops.

5. Turn the ignition switch OFF.
6. Depress the brake pedal 20 times or more.

NOTE:

The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.

7. Repeat steps 4 to 6 for 5 times.
8. Turn the ignition switch ON to check that the time between motor activation and automatic stop is less than 18 seconds. If the time is 18 seconds or more, repeat from Step 4 to 8.

FRONT BRAKE

CAUTION:

- If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.
- Never operate the brake pedal with the reservoir cap removed. Failure to do this may cause the scattering of brake fluid.
- Never operate the brake pedal excessively during the work procedure.
- Monitor the fluid level in the reservoir tank while performing the air bleeding.
- Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.

1. Turn the ignition switch OFF.

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

2. Depress the brake pedal 20 times or more.
NOTE:
The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
CAUTION:
 - **Never reuse drained brake fluid.**
 - **Never allow oils other than brake fluid to enter the reservoir tank.**
4. Turn the ignition switch ON.
5. Connect a vinyl tube to the bleed valve.
6. Depress the brake pedal and loosen the bleeder valve.
7. Repeat steps 1 to 6 until all of the air is out of the brake line and tighten the air bleeder to the specified torque with the brake pedal depressed. Refer to [BR-38, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
8. Check that no drag feel is present for the front disc brake. Refer to [BR-41, "BRAKE CALIPER ASSEMBLY : Inspection"](#).
9. Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to [BR-9, "Inspection and Adjustment"](#).

REAR BRAKE

- CAUTION:**
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
 - **Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
 - **Never operate the brake pedal with the reservoir cap removed. Failure to do this may cause the scattering of brake fluid.**
 - **Never operate the brake pedal excessively during the work procedure.**
 - **Monitor the fluid level in the reservoir tank while performing the air bleeding.**
 - **Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.**

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
NOTE:
The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.

- CAUTION:**
- **Never reuse drained brake fluid.**
 - **Never allow oils other than brake fluid to enter the reservoir tank.**
4. Turn the ignition switch ON.
 5. Connect a vinyl tube to the bleed valve.
 6. Depress the brake pedal and loosen the bleeder valve.
 7. Depress and hold the brake pedal depression to discharge 100 cc of brake fluid before tightening the air bleeder to the specified torque. Refer to [BR-44, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).

- NOTE:**
Since brake fluid is conveyed by the motor, the brake pedal is not necessarily depressed.
8. Release the brake pedal.
 9. Repeat steps 1 to 8 until all of the air is out of the brake line and tighten the air bleeder to the specified torque with the brake pedal depressed. Refer to [BR-44, "BRAKE CALIPER ASSEMBLY : Exploded View"](#).
 10. Check that no drag feel is present for the rear disc brake. Refer to [BR-47, "BRAKE CALIPER ASSEMBLY : Inspection"](#).
 11. Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to [BR-9, "Inspection and Adjustment"](#).

BRAKE FLUID LEVEL ADJUSTMENT AFTER AIR BLEEDING

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
NOTE:

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.

- Adjust brake fluid level to the reservoir tank MAX line.

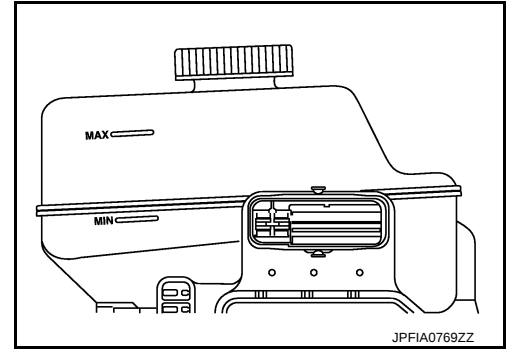
CAUTION:

Never adjust with the ignition switch ON.

- Turn the ignition switch ON.
- Check that the reservoir tank brake fluid level is 4 – 12 mm (0.16 – 0.47 in) lower than the MAX line.

NOTE:

Since brake fluid is in the accumulator in pressurized condition, the reservoir tank brake fluid level should be lower than the MAX line.



DISC BRAKE

DISC BRAKE : Inspection

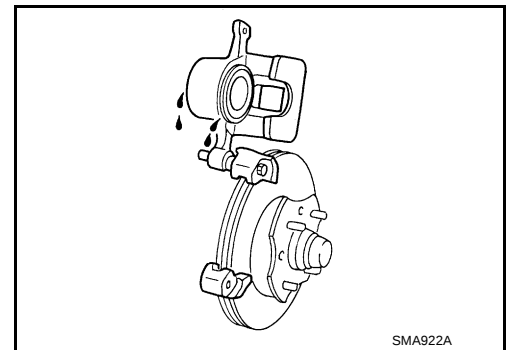
INFOID:0000000010257531

DISC ROTOR

Check condition, wear, and damage.

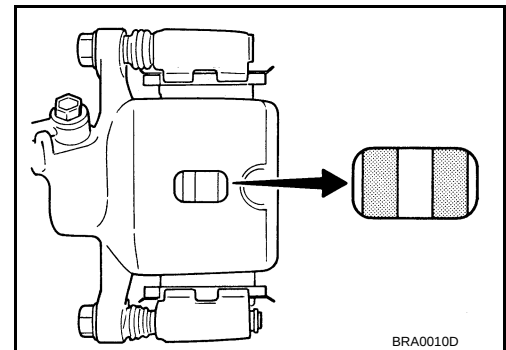
CALIPER

- Check for leakage.



BRAKE PAD

- Check for wear or damage.



DISC BRAKE : Front Disc Brake

INFOID:0000000011545491

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	1.5 (0.059)
	Wear thickness	28.5 (1.122)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.053 (0.0021)

* To check if rotor imbalance, rotor runout or rotor deformation is occurred.

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

DISC BRAKE : Rear Disc Brake

INFOID:0000000011545492

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	18.0 (0.709)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.05 (0.0020)

* To check if rotor imbalance, rotor runout or rotor deformation is occurred.

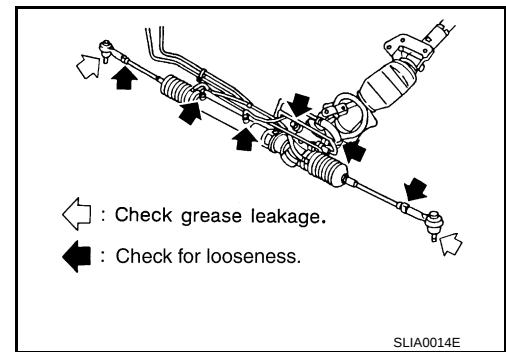
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000010257534

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.

POWER STEERING FLUID AND LINES

POWER STEERING FLUID AND LINES : Inspection

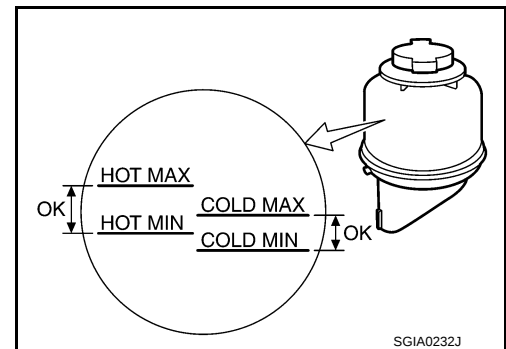
INFOID:0000000010257535

Check fluid level in reservoir tank with engine off.

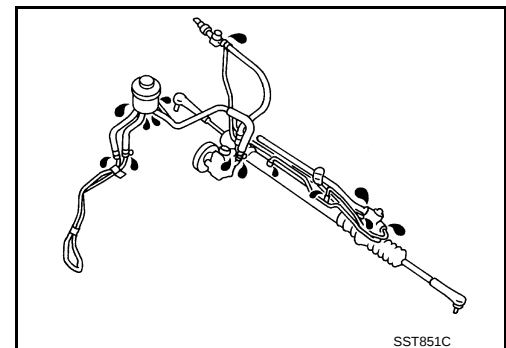
Use "HOT" range at fluid temperatures of 50 to 80°C (122 to 176°F) or "COLD" range at fluid temperatures of 0 to 30°C (32 to 86°F).

CAUTION:

- Do not overfill.
- Recommended fluid is Genuine NISSAN PSF or equivalent. Refer to [MA-15, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For USA and Canada), [MA-16, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).



- Check lines for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.
- Check rack boots for accumulation of power steering fluid.



AXLE AND SUSPENSION PARTS

CHASSIS MAINTENANCE

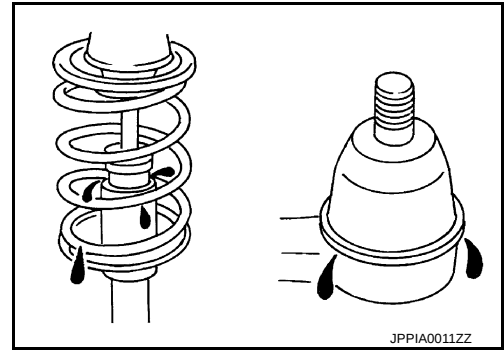
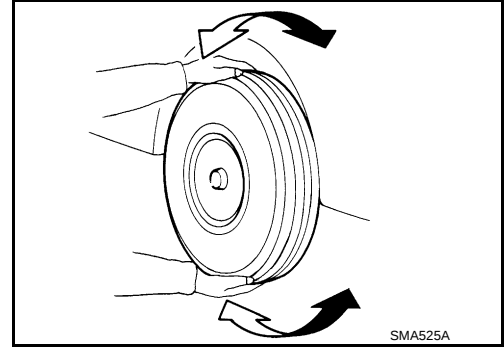
< PERIODIC MAINTENANCE >

AXLE AND SUSPENSION PARTS : Inspection

INFOID:000000010257536

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

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

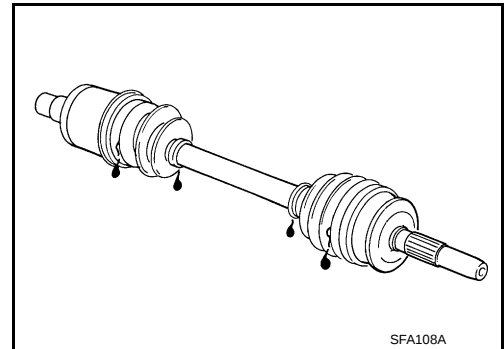


DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:000000010257537

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



BODY MAINTENANCE

< PERIODIC MAINTENANCE >

BODY MAINTENANCE

LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

INFOID:0000000010257538

For hood and hood lock illustration.

- Hood: Refer to [DLK-220, "Exploded View"](#).
- Hood lock: Refer to [DLK-243, "Exploded View"](#).

For front door and front door lock illustration.

- Front door: Refer to [DLK-229, "Exploded View"](#).
- Front door lock: Refer to [DLK-245, "Exploded View"](#).

For rear door and rear door lock illustration.

- Rear door: Refer to [DLK-233, "Exploded View"](#).
- Rear door lock: Refer to [DLK-248, "Exploded View"](#).

For back door and back door lock illustration.

- Back door: Refer to [DLK-237, "Exploded View"](#).
- Back door lock: Refer to [DLK-251, "Exploded View"](#).

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

INFOID:0000000010257539

For front seat belt illustration. Refer to [SB-6, "SEAT BELT RETRACTOR : Exploded View"](#).

For second seat belt illustration. Refer to [SB-10, "SEAT BELT RETRACTOR : Exploded View"](#).

For third seat belt illustration. Refer to [SB-18, "SEAT BELT RETRACTOR : 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-4, "SEAT BELT RETRACTOR : Inspection"](#), [SB-9, "SEAT BELT RETRACTOR : Inspection"](#), [SB-16, "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

A
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MA

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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DRIVE BELTS

DRIVE BELTS : Drive Belts

INFOID:0000000010257540

DRIVE BELT

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

ENGINE COOLANT : Periodical Maintenance Specification

INFOID:0000000011545493

ENGINE COOLANT CAPACITY (APPROXIMATELY)

Unit: ℓ (US qt, Imp qt)

Engine coolant capacity [With reservoir tank ("MAX" level)]	14.9 (15-6/8, 13-1/8)
Reservoir tank engine coolant capacity (At "MAX" level)	1.0 (1, 7/8)

ENGINE OIL

ENGINE OIL : Periodical Maintenance Specification

INFOID:0000000010257542

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℓ (US qt, Imp qt)

Drain and refill	With oil filter change	6.5 (6-7/8, 5-3/4)
	Without oil filter change	6.2 (6-4/8, 5-1/2)
Dry engine (engine overhaul)		7.6 (8, 6-3/4)

SPARK PLUG

SPARK PLUG : Spark Plug

INFOID:0000000010257543

SPARK PLUG

Unit: mm (in)

Make	NGK	
Standard type	DILKAR7B11	
Gap	Standard	1.1 (0.043)
	Limit	1.25 (0.049)

ROAD WHEEL

ROAD WHEEL : Road Wheel

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ALUMINUM WHEEL

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)