

SECTION **MA**
 MAINTENANCE

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

CONTENTS

PRECAUTION	3	FOR MEXICO	17
PRECAUTIONS	3	FOR MEXICO : Fluids and Lubricants	17
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	FOR MEXICO : SAE Viscosity Number	18
PREPARATION	4	FOR MEXICO : Engine Coolant Mixture Ratio	19
PREPARATION	4	ENGINE MAINTENANCE (VQ35DE)	20
Special Service Tool	4	DRIVE BELTS	20
Commercial Service Tool	4	DRIVE BELTS : Exploded View	20
PERIODIC MAINTENANCE	6	DRIVE BELTS : Checking Drive Belt	20
GENERAL MAINTENANCE	6	DRIVE BELTS : Tension Adjustment	20
FOR USA AND CANADA	6	DRIVE BELTS : Removal and Installation	20
FOR USA AND CANADA : Explanation of General Maintenance	6	DRIVE BELTS : Removal and Installation of Drive Belt Auto-tensioner	22
FOR MEXICO	7	AIR CLEANER FILTER	22
FOR MEXICO : Explanation of General Maintenance	8	AIR CLEANER FILTER : Removal and Installation	23
PERIODIC MAINTENANCE	10	SPARK PLUG	23
FOR USA AND CANADA	10	SPARK PLUG : Exploded View	24
FOR USA AND CANADA : Introduction of Periodic Maintenance	10	SPARK PLUG : Removal and Installation	24
FOR MEXICO	13	ENGINE COOLANT	25
FOR MEXICO : Periodic Maintenance	13	ENGINE COOLANT : System Inspection	25
RECOMMENDED FLUIDS AND LUBRICANTS	16	ENGINE COOLANT : Changing Engine Coolant	27
FOR USA AND CANADA	16	FUEL LINES	29
FOR USA AND CANADA : Fluids and Lubricants... ..	16	FUEL LINES : Inspection	29
FOR USA AND CANADA : Engine Oil Recommendation	17	ENGINE OIL	29
FOR USA AND CANADA : Anti-Freeze Coolant Mixture Ratio	17	ENGINE OIL : Inspection	29
		ENGINE OIL : Changing Engine Oil	30
		OIL FILTER	31
		OIL FILTER : Removal and Installation	31
		CHASSIS AND BODY MAINTENANCE	33
		IN-CABIN MICROFILTER	33
		IN-CABIN MICROFILTER : Removal and Installation	33
		EXHAUST SYSTEM	33

MA

EXHAUST SYSTEM : Checking Exhaust System..	33	REAR BRAKE	42
CVT FLUID	33	REAR BRAKE : Inspection	42
CVT FLUID : Replacement	33	REAR BRAKE : Inspection	42
CVT FLUID : Adjustment	35	STEERING GEAR AND LINKAGE	43
WHEELS	36	STEERING GEAR AND LINKAGE : Inspection	43
WHEELS : Inspection	36	POWER STEERING FLUID AND LINES	44
WHEELS : Adjustment	37	POWER STEERING FLUID AND LINES : Inspection	44
BRAKE LINES AND CABLES	39	AXLE AND SUSPENSION PARTS	44
BRAKE LINES AND CABLES : Inspection	39	AXLE AND SUSPENSION PARTS : Inspection	44
BRAKE FLUID	39	AXLE AND SUSPENSION PARTS : Inspection	45
BRAKE FLUID : Inspection	39	DRIVE SHAFT	45
BRAKE FLUID : Drain and Refill	39	DRIVE SHAFT : Inspection	45
BRAKE FLUID : Bleeding Brake System	40	SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS	45
FRONT BRAKE	41	SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS : Inspection	45
FRONT BRAKE : Inspection	41		
FRONT BRAKE : Inspection	41		

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000011935261

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

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

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

MA

PREPARATION

< PREPARATION >

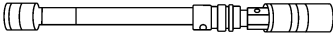
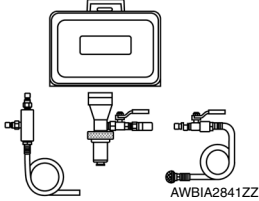
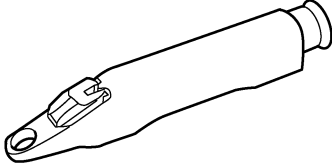
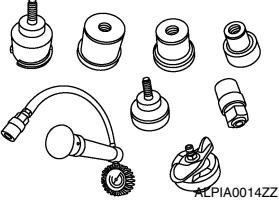
PREPARATION

PREPARATION

Special Service Tool

INFOID:000000011935262

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


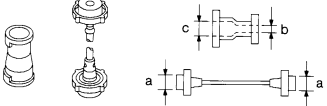
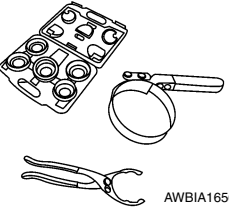
Tool number (TechMate No.) Tool name	Description
— (J-48891) Spark plug socket  AWBIA1785ZZ	Removing and installing spark plug
KV991J0070 (J-45695-A) Coolant refill tool  AWBIA2841ZZ	Refilling engine cooling system
— (J-23688) Engine coolant refractometer  WBIA0539E	Checking concentration of ethylene glycol in engine coolant
— (J-51771) Cooling system pressure test kit  AEPIA0014ZZ	Checking cooling system and radiator cap

Commercial Service Tool

INFOID:000000011935263

PREPARATION

< PREPARATION >

Tool name	Description	
<p>Power tool</p>  <p>PIIB1407E</p>	<p>Loosening nuts, screws and bolts</p>	<p>A B C</p>
<p>— (J-33984-A) Radiator pressure adapter</p>  <p>S-NT564</p>	<p>Adapting cooling system pressure tester to radiator cap and reservoir tank cap a: 28 (1.10) diameter b: 31.4 (1.236) diameter c: 41.3 (1.626) diameter Unit: mm (in)</p>	<p>D E</p>
<p>Oil filter wrench assortment</p>  <p>AWBIA1656ZZ</p>	<p>Removing oil filter</p>	<p>F G H</p>

MA

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

GENERAL MAINTENANCE FOR USA AND CANADA

FOR USA AND CANADA : Explanation of General Maintenance

INFOID:000000011935264

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 NISSAN dealers do them.

OUTSIDE THE VEHICLE

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

Item		Reference page
Tires	Check the pressure with a gauge often and always prior to long distance trips. Adjust the pressure in all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	WT-73
Wheel nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	WT-63
Tire rotation	Tires should be rotated every 5,000 miles (8,000 km).	WT-63
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-7
Wheel alignment and balance	If the vehicle should pull to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed. For additional information regarding tires, refer to "Important Tire Safety Information" (US) or "Tire Safety Information" (Canada) in the NISSAN Warranty Information Booklet.	FSU-23 , WT-63
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 properly. 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.	—
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.	EXL-222 (LED), EXL-222 (Halogen)

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)	ST-15

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.	—	A
Seat belts	Check that all parts of the seat belt system (e.g., buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	SB-5	B
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.	—	C
Brakes	Check that the brake does not pull the vehicle to one side when applied.	—	D
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-12 , BR-8	E
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-5	F
CVT P (Park) position mechanism	On a fairly steep hill check that the vehicle is held securely with the shift selector in the P (Park) position without applying any brakes.	—	F

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.	—	G
Engine coolant level	Check the coolant level when the engine is cold.	CO-12	H
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.	—	I
Brake fluid level	Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoir.	BR-14	J
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-92	K
Engine drive belts	Make sure that no belt is frayed, worn, cracked or oily.	EM-16	L
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	L
Power steering fluid level and lines	Check the level on the dipstick with the engine off. Check the lines for improper attachment, leaks, cracks, etc.	ST-14	M
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.	EX-4	N
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.	—	O
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.	—	MA

FOR MEXICO

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

FOR MEXICO : Explanation of General Maintenance

INFOID:000000011935265

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

OUTSIDE THE VEHICLE

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

	Item	Reference page
Doors and hood	Check that all doors and the hood operate smoothly as well as the back door, trunk lid and hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	—
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-63
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-63
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-7
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-23 RSU-5 WT-63
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-12 BR-8
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-5
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.	SB-5

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-92 PG-101
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.	BR-14 TM-184
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.	CO-10
Engine drive belt(s)	Make sure that drive belt(s) is/are not frayed, worn, cracked or oily.	EM-16
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.	ST-14
Windshield washer fluid	Check that there is adequate fluid in the reservoir.	—

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

MA

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE FOR USA AND CANADA

FOR USA AND CANADA : Introduction of Periodic Maintenance

INFOID:000000011935266

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*	EM-16
Air cleaner filter	NOTE (2)						R	EM-19
EVAP vapor lines			I*				I*	EC-583

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page	
		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
Perform at number of miles, kilometers or months, whichever comes first.									
Fuel lines			I*					I*	MA-29
Fuel filter	NOTE (3)								—
Engine coolant*	NOTE (4)(5)								MA-27
Engine oil		R	R	R	R	R	R	R	MA-29
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	R	MA-31
Spark plugs (Iridium - tipped type)	NOTE (6)	Replace every 105,000 miles (168,000 km)							MA-24
Intake and exhaust valve clearance*	NOTE (7)								EM-140

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 spark plug gap exceeds 1.35 mm (0.053 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 NISSAN for reliable vehicle operation. The owner need not perform such maintenance in order to maintain the emission warranty or manufacturer recall liability. Other maintenance items and intervals are required.

Chassis and Body Maintenance

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									
		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
Perform at number of miles, kilometers or months, whichever comes first.											
Brake lines & cables			I			I		I		I	
Brake pads & rotors★			I			I		I		I	
Brake fluid★						R				R	
CVT fluid	NOTE (1)		I			I		I		I	
Steering gear & linkage, axle & suspension parts★						I				I	
Tire rotation	NOTE (2)										
Front drive shaft boots★			I			I		I		I	
Exhaust system★						I				I	
In-cabin microfilter					R			R			R
I-key battery					R			R			R

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
		Miles x 1,000 (km x 1,000)	95 (152)	100 (160)	105 (168)	110 (176)	115 (184)		120 (192)
Perform at number of miles, kilometers or months, whichever comes first.	Months	114	120	126	132	138	144	
Brake lines & cables			I		I		I	MA-39
Brake pads & rotors★			I		I		I	MA-41 MA-41
Brake fluid★			R				R	MA-39
CVT fluid	NOTE (1)		I		I		I	MA-33
Steering gear & linkage, axle & suspension parts★			I				I	MA-43 MA-44
Tire rotation	NOTE (2)							MA-36
Front drive shaft boots★			I		I		I	MA-45
Exhaust system★			I				I	MA-33
In-cabin microfilter					R		R	MA-33
I-key battery					R		R	DLK-203

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) If towing a trailer, using a camper or a car-top carrier, or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 60,000 miles (96,000 km), then change the CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 60,000 miles (96,000 km). For Recommended Fluids and Lubricants, see "Recommended Fluids and Lubricants" [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#).
- (2) 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.

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

- 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-39
Brake pads & rotors	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-41 MA-42
Steering gear & linkage, axle & suspension parts	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-43 MA-44
Front drive shaft boots	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-45
Exhaust system	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-33

FOR MEXICO

FOR MEXICO : Periodic Maintenance

INFOID:000000011935267

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								Reference page
	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Under hood and under vehicle										
Intake & exhaust valve clearance	NOTE (1)									EM-142
Drive belt	NOTE (2)				I				I	MA-20
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-30
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★		R	R	R	R	R	R	R	R	MA-31
Engine coolant	NOTE (3)				E				E	MA-25
Cooling system					I				I	MA-25
Fuel lines					I				I	MA-29
Air cleaner filter (Viscous paper type)★					R				R	MA-23
Fuel filter (In-tank type)	NOTE (4)									—
Spark plugs (Iridium-tipped type)	NOTE (5)	Replace every 100,000 km (60,000 miles)								MA-24
EVAP vapor lines (With carbon canister)					I				I	EC-583

NOTE:

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

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

- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belt if found damaged or if the drive belt auto-tensioner reading reaches the maximum limit.
- (3) Use Genuine NISSAN Engine Coolant (blue) or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. Check and correct the engine coolant mixture ratio every 40,000 km (24,000 miles) or 24 months. First replacement interval is 160,000 km (96,000 miles) or 96 months. After first replacement, replace every 80,000 km (48,000 miles) or 48 months.
- (4) Maintenance-free item. For service procedures, refer to FL section.
- (5) Replace spark plug when the spark plug gap exceeds 1.25 mm (0.049 in) even if within specified periodic replacement mileage.

CHASSIS AND BODY MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Under hood and under vehicle										
Brake fluid (For level & leaks)			I		I		I		I	MA-39
Brake fluid ★					R				R	MA-39
Power steering fluid & lines (For level & leaks)			I		I		I		I	MA-39
Brake line & cables			I		I		I		I	MA-39, MA-39
Exhaust system					I				I	MA-39, MA-33
CVT fluid (For level & leaks)	See NOTE (1)		I		I		I		I	MA-33
Steering gear & linkage, axle & suspension parts ★					I				I	MA-43, MA-44, MA-45
Drive shafts ★			I		I		I		I	MA-45
Outside and inside										
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	MA-36
Brake pads, rotors, drums & linings ★			I		I		I		I	MA-41, MA-41
Foot brake & parking brake (For free play, stroke & operation)			I		I		I		I	BR-12, PB-5
Air conditioner filter★			R		R		R		R	VTL-7

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Use only Genuine NISSAN CVT fluid. If towing a trailer, using a camper or a car-top carrier, or driving on rough or muddy roads, inspect CVT fluid deterioration at NISSAN dealer every 100,000 km (60,000 miles), then change CVT fluid if necessary. And if the inspection is not performed, change (not just inspect) CVT fluid every 100,000 km (60,000 miles). **Using transmission fluid other than Genuine NISSAN CVT Fluid will damage the CVT, which is not covered by the warranty.**

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

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

B — Driving repeatedly short distances

C — Towing a trailer or caravan

D — Extensive idling

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

F — Driving in high humidity or mountainous areas

G — Driving in areas using salt or other corrosive materials

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

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

J — Frequent driving in water

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

Driving condition										Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	Air cleaner filter	Viscous paper type	Replace	More frequently	MA-23
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter		Replace	Every 5,000 km (3,000 miles) or 3 months	MA-30 , MA-31
.	.	.	.	.	F	.	.	.	.	Brake fluid		Replace	Every 20,000 km (12,000 miles) or 12 months	MA-39
.	.	.	.	.	.	G	H	.	.	Steering gear & linkage, axle & suspension parts		Inspect	Every 20,000 km (12,000 miles) or 12 months	MA-43 , MA-44 , MA-45
.	.	.	.	.	.	G	H	.	.	Drive shafts		Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-45
A	.	C	.	.	.	G	H	I	.	Brake pads, rotors, drums & linings		Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-41 , MA-41
A	.	.	.	.	.	.	.	.	.	Air conditioner filter		Replace	More frequently	VTL-7

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

MA

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

RECOMMENDED FLUIDS AND LUBRICANTS FOR USA AND CANADA

FOR USA AND CANADA : Fluids and Lubricants

INFOID:0000000011935268

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

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		68 ℓ	18 gal	15 gal	<ul style="list-style-type: none"> Unleaded gasoline with an octane rating of at least 91 AKI (RON 96)
Engine oil Drain and refill	With oil filter change	4.8 ℓ	5-1/8 qt	4-1/4 qt	<ul style="list-style-type: none"> Genuine NISSAN engine oil or equivalent Engine oil with API Certification Mark*, SAE Viscosity 0W-20 As an alternate to this recommended oil, SAE 5W-30 conventional petroleum oils may be used and meet all specifications and requirements necessary to maintain the New Vehicle Limited Warranty. *: For additional information, see "Engine Oil Recommendation"
	Without oil filter change	4.5 ℓ	4-3/4 qt	4 qt	
	Dry engine (Overhaul)	5.2 ℓ	5-1/2 qt	4-5/8 qt	
Cooling system (with reservoir at MAX level)		9.2 ℓ	9-3/4 qt	8-1/8 qt	<ul style="list-style-type: none"> Pre-diluted Genuine NISSAN Long Life Antifreeze/ Coolant (blue) or equivalent
CVT fluid		8.2 ℓ	8-5/8 qt	7-1/4 qt	<ul style="list-style-type: none"> Genuine NISSAN CVT Fluid NS-3 NISSAN recommends using Genuine NISSAN CVT fluid NS-3 ONLY in NISSAN CVTs. Do not mix with other fluids. Using fluids that are not equivalent to Genuine NISSAN CVT Fluid NS-3 may damage the CVT. Damage caused by the use of fluids other than as recommended is not covered under NISSAN's New Vehicle Warranty.
Power steering fluid (PSF)		1.1 ℓ	1-1/8 qt	1 qt	<ul style="list-style-type: none"> Genuine NISSAN E-PSF or equivalent Use of a power steering fluid other than Genuine NISSAN E-PSF will prevent the power steering system from operating properly.
Brake fluid		—	—	—	<ul style="list-style-type: none"> Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent DOT 3 (US FMVSS No. 116) Available in mainland U.S.A. through a NISSAN dealer.
Multi-purpose grease		—	—	—	<ul style="list-style-type: none"> NLGI No. 2 (Lithium soap base)
Windshield washer fluid		4.2 ℓ	4-1/2 qt	3-3/4 qt	<ul style="list-style-type: none"> Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent
Air conditioning system refrigerant		0.55 ± 0.025 kg	1.21 ± 0.055 lb	1.21 ± 0.055 lb	<ul style="list-style-type: none"> HFC-134a (R-134a) For further information, see "Air conditioning specification label".
Air conditioning system oil		100 m ℓ	3.4 fl oz	3.5 fl oz	<ul style="list-style-type: none"> A/C System Oil Type ND-OIL8 (DENSO) For further information, see "Air conditioning specification label".

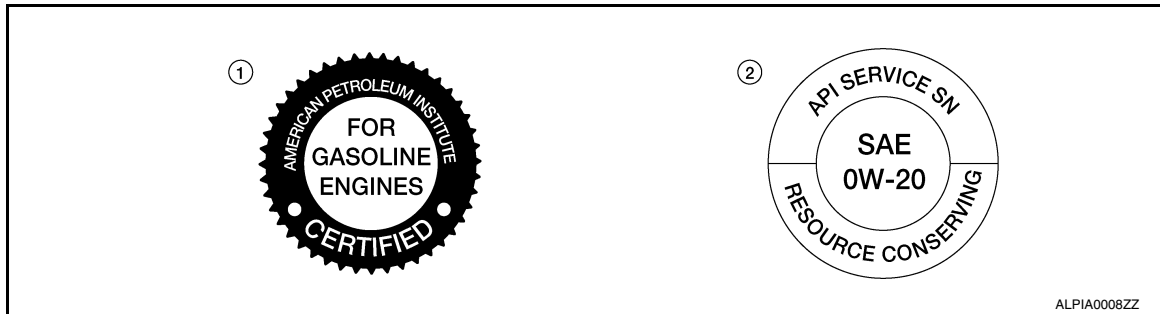
RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

FOR USA AND CANADA : Engine Oil Recommendation

INFOID:000000011935269

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.



1. API certification mark

2. API service symbol

FOR USA AND CANADA : Anti-Freeze Coolant Mixture Ratio

INFOID:000000011935270

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

WARNING:

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

CAUTION:

- When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent. Genuine NISSAN Long Life Antifreeze/Coolant (blue) is pre-diluted to provide antifreeze protection to -34°F (-37°C). If additional freeze protection is needed due to weather where 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:000000011935271

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

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		Metric	US measure	Imp measure	
Fuel		68 ℓ	18 gal	15 gal	<ul style="list-style-type: none"> Unleaded gasoline with an octane rating of at least 91 AKI (RON 96)
Engine oil Drain and re- fill	With oil filter change	4.8 ℓ	5-1/8 qt	4-1/4 qt	<ul style="list-style-type: none"> Genuine NISSAN engine oil API grade SL, SM or SN ILSAC grade GF-3, GF-4 or GF-5 For SAE Viscosity Number, see "SAE Viscosity Number".
	Without oil filter change	4.5 ℓ	4-3/4 qt	4 qt	
	Dry engine (engine overhaul)	5.2 ℓ	5-1/2 qt	4-5/8 qt	
Cooling system (with reservoir at MAX level)		9.2 ℓ	9-3/4 qt	8-1/8 qt	<ul style="list-style-type: none"> Genuine NISSAN Engine Coolant (blue) or equivalent Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. 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.
CVT fluid		8.2 ℓ	8-5/8 qt	7-1/4 qt	<ul style="list-style-type: none"> Genuine NISSAN CVT fluid NS-3 Use only Genuine NISSAN CVT Fluid NS-3. Using transmission fluid other than Genuine NISSAN CVT fluid NS-3 will damage the CVT, which is not covered by the warranty.
Power steering fluid		1.1 ℓ	1-1/8 qt	1.0 qt	<ul style="list-style-type: none"> Genuine NISSAN E-PSF or equivalent Use of a power steering fluid other than Genuine NISSAN E-PSF will prevent the power steering system from operating properly.
Brake fluid		—	—	—	<ul style="list-style-type: none"> Genuine NISSAN Brake Fluid, or equivalent DOT 3 (US FMVSS No. 116)
Multi-purpose grease		—	—	—	<ul style="list-style-type: none"> NLGI No. 2 (Lithium soap base)
Air conditioning system refrigerant		0.55 ± 0.025 kg	1.21 ± 0.055 lb	1.21 ± 0.055 lb	<ul style="list-style-type: none"> HFC-134a (R-134a) (For further information, see "Air conditioning specification label".)
Air conditioning system oil		100 m ℓ	3.4 fl oz	3.5 fl oz	<ul style="list-style-type: none"> A/C System Oil Type ND-OIL8 (DENSO) (For further information, see "Air conditioning specification label".)
Windshield washer fluid		4.2 ℓ	4-1/2 qt	3-3/4 qt	<ul style="list-style-type: none"> Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent

FOR MEXICO : SAE Viscosity Number

INFOID:0000000012400893

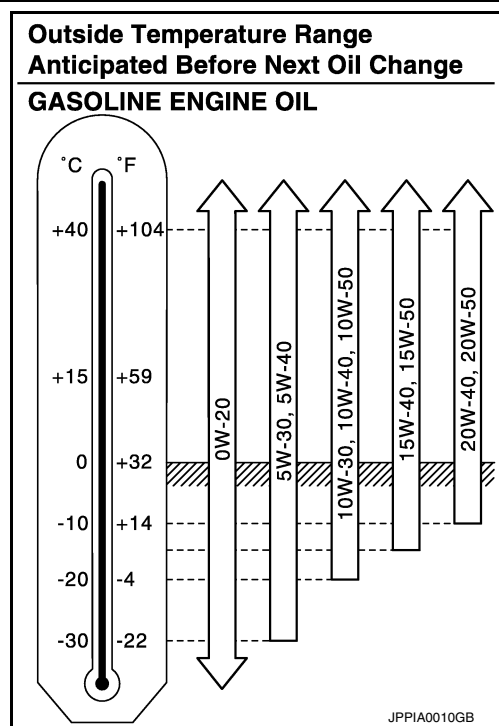
GASOLINE ENGINE

- 0W-20 is preferable.

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

If 0W-20 is not available, select the viscosity, from the chart, that is suitable for the outside temperature range.



FOR MEXICO : Engine Coolant Mixture Ratio

INFOID:000000011935272

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.

Coolant Mixture Ratios

For outside temperatures down to:		Anti-freeze coolant mixture ratio	
° C	° F	Genuine NISSAN Engine Coolant or equivalent	Demineralized water or distilled water
- 15°	5°	30 %	70 %
- 35°	- 30°	50 %	50 %

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

Mixed Coolant Specific Gravity

Unit: specific gravity

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

WARNING:

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

CAUTION:

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

ENGINE MAINTENANCE (VQ35DE)

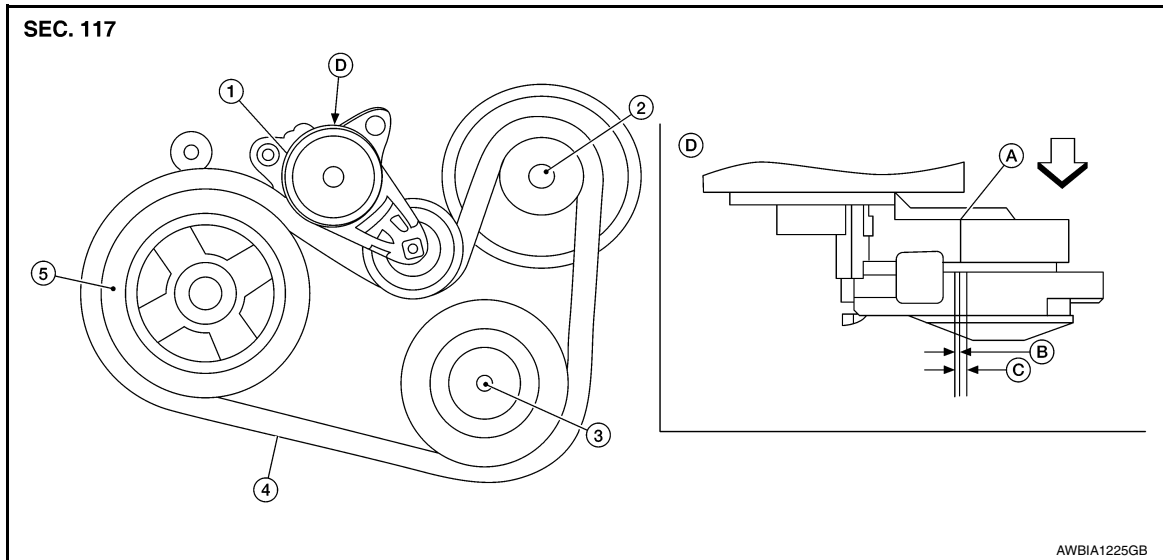
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (VQ35DE)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:000000012421095



- | | | |
|---|-----------------------|-------------------|
| 1. Drive belt auto-tensioner | 2. Generator | 3. A/C compressor |
| 4. Drive belt | 5. Crankshaft pulley | A. Indicator |
| B. Range when new drive belt is installed | C. Possible use range | D. View D |
- ↶ Engine front

DRIVE BELTS : Checking Drive Belt

INFOID:000000012421096

WARNING:

Inspect and check the drive belt with the engine off.

1. Visually check entire drive belt for wear, damage or cracks.
2. Check that the drive belt auto-tensioner indicator is within the possible use range.

NOTE:

- When new drive belt is installed, the drive belt auto-tensioner indicator should be within the new drive belt range.
 - Check the drive belt auto-tensioner indicator when the engine is cold.
3. If the drive belt auto-tensioner indicator is out of the possible use range or drive belt is damaged, replace drive belt.

DRIVE BELTS : Tension Adjustment

INFOID:000000012421097

- Drive belt tension is not manually adjustable, it is automatically adjusted by the drive belt auto-tensioner.

DRIVE BELTS : Removal and Installation

INFOID:000000012421098

REMOVAL

1. Remove the front wheel and tire (RH) using power tool. Refer to [WT-67, "Removal and Installation"](#).
2. Remove the fender protector side cover (RH). Refer to [EXT-16, "Exploded View"](#).

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

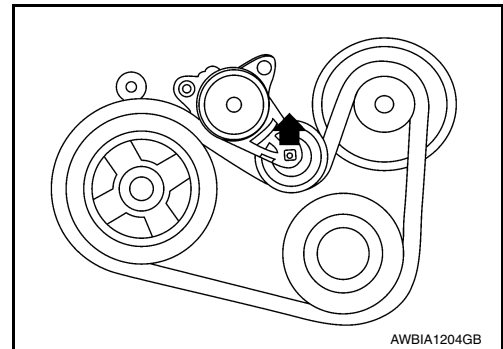
3. While securely holding the hexagonal part in pulley center of drive belt auto-tensioner, move in the direction of arrow (loosening direction of drive belt auto-tensioner) using suitable tool.

WARNING:

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

CAUTION:

Do not loosen the drive belt auto-tensioner pulley bolt. (Do not turn it counterclockwise. If turned counterclockwise, the complete drive belt auto-tensioner must be replaced as a unit, including pulley.)



4. Insert a rod approximately 6 mm (0.24 in) in diameter through the rear of drive belt auto-tensioner into retaining boss to lock drive belt auto-tensioner pulley.

NOTE:

Leave drive belt auto-tensioner pulley arm locked until drive belt is installed.

5. Remove drive belt from crankshaft pulley and then remove it from the other pulleys.

INSTALLATION

1. Install the drive belt onto all of the pulleys.

CAUTION:

Confirm belt is completely set on the pulleys.

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

WARNING:

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

CAUTION:

Do not loosen the drive belt auto-tensioner pulley bolt. (Don't turn it counterclockwise. If turned counterclockwise, the complete drive belt auto-tensioner must be replaced as a unit, including pulley.)

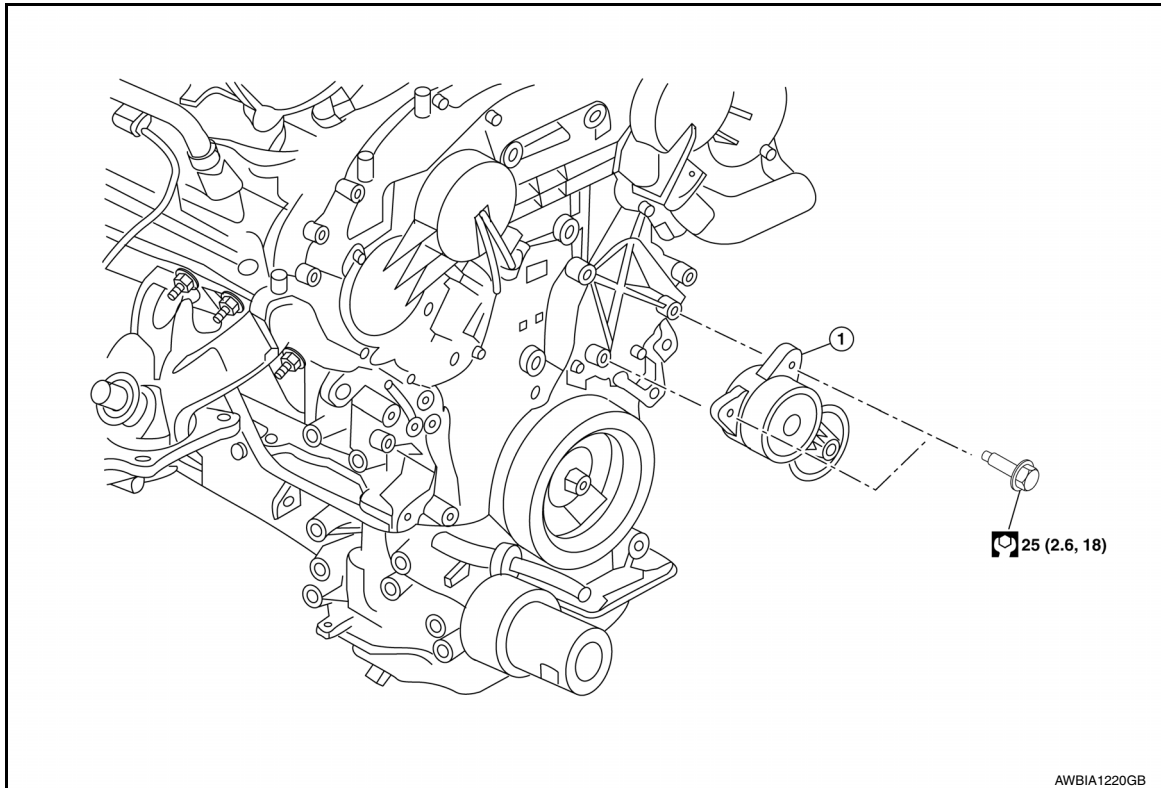
3. Turn crankshaft pulley clockwise several times to equalize tension between each pulley.
4. Confirm drive belt auto-tensioner indicator is within the possible use range. Refer to [MA-20, "DRIVE BELTS : Checking Drive Belt"](#).
5. Install the fender protector side cover (RH). Refer to [EXT-16, "Exploded View"](#).
6. Install the front wheel and tire (RH). Refer to [WT-67, "Removal and Installation"](#).

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

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

INFOID:000000012421099



1. Drive belt auto-tensioner

REMOVAL

CAUTION:

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

1. Remove the drive belt. Refer to [MA-20, "DRIVE BELTS : Removal and Installation"](#).
2. Remove the drive belt auto-tensioner.

CAUTION:

Do not loosen the drive belt auto-tensioner pulley bolt. (Do not turn it counterclockwise. If turned counterclockwise, the complete drive belt auto-tensioner must be replaced as a unit, including pulley).

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- If there is damage greater than peeled paint, replace drive belt auto-tensioner unit.
- Do not swap the pulley between the new and old drive belt auto-tensioner units.
- The complete drive belt auto-tensioner must be replaced as a unit, including the pulley.

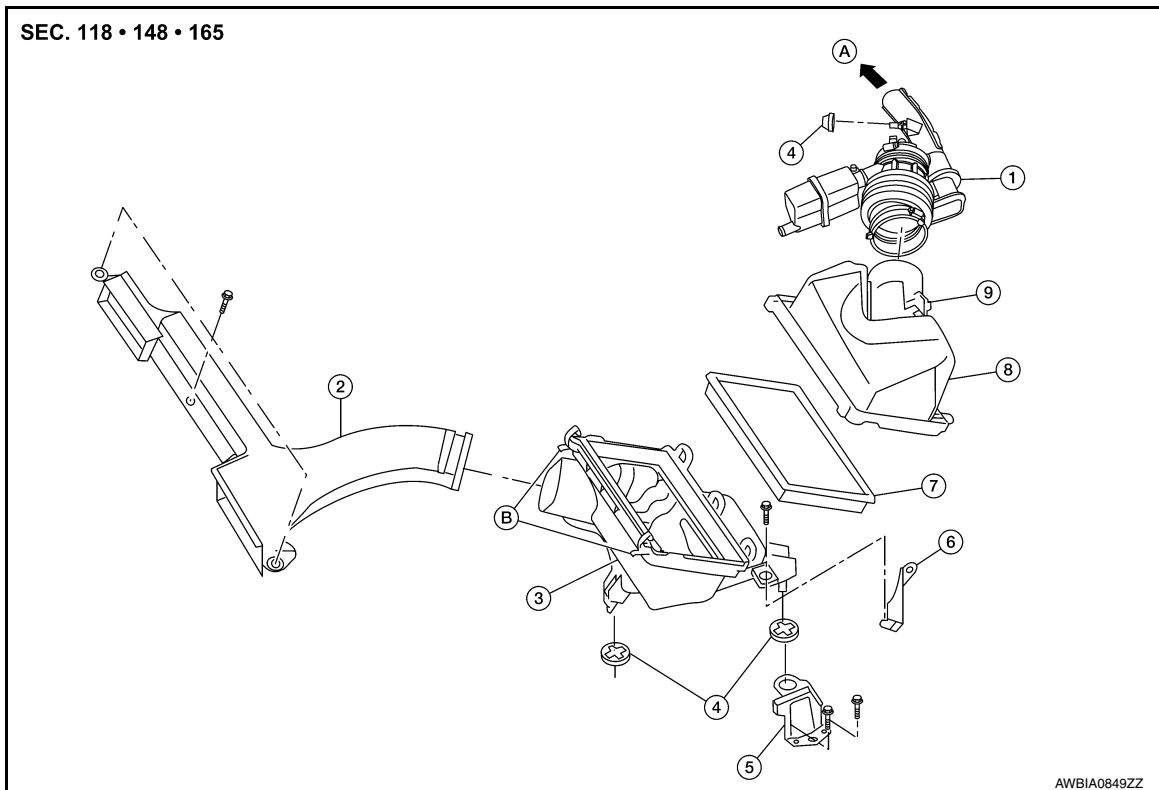
AIR CLEANER FILTER

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

AIR CLEANER FILTER : Removal and Installation

INFOID:000000012421102



- | | | |
|--|--------------------------------------|-----------------------------|
| 1. Air duct hose and resonator assembly | 2. Front air duct | 3. Air cleaner case (lower) |
| 4. Grommets | 5. Air cleaner case mounting bracket | 6. Bracket |
| 7. Air cleaner filter | 8. Air cleaner case (upper) | 9. Mass air flow sensor |
| A. To electric throttle control actuator | B. Air cleaner case side clips | |

CHANGING THE AIR CLEANER FILTER

NOTE:

It is not necessary to remove the front air duct to replace the air cleaner filter.

1. Unhook the air cleaner case side clips.
2. Remove the air cleaner filter.
3. Install a new air cleaner filter.
4. Lock the air cleaner case side clips.

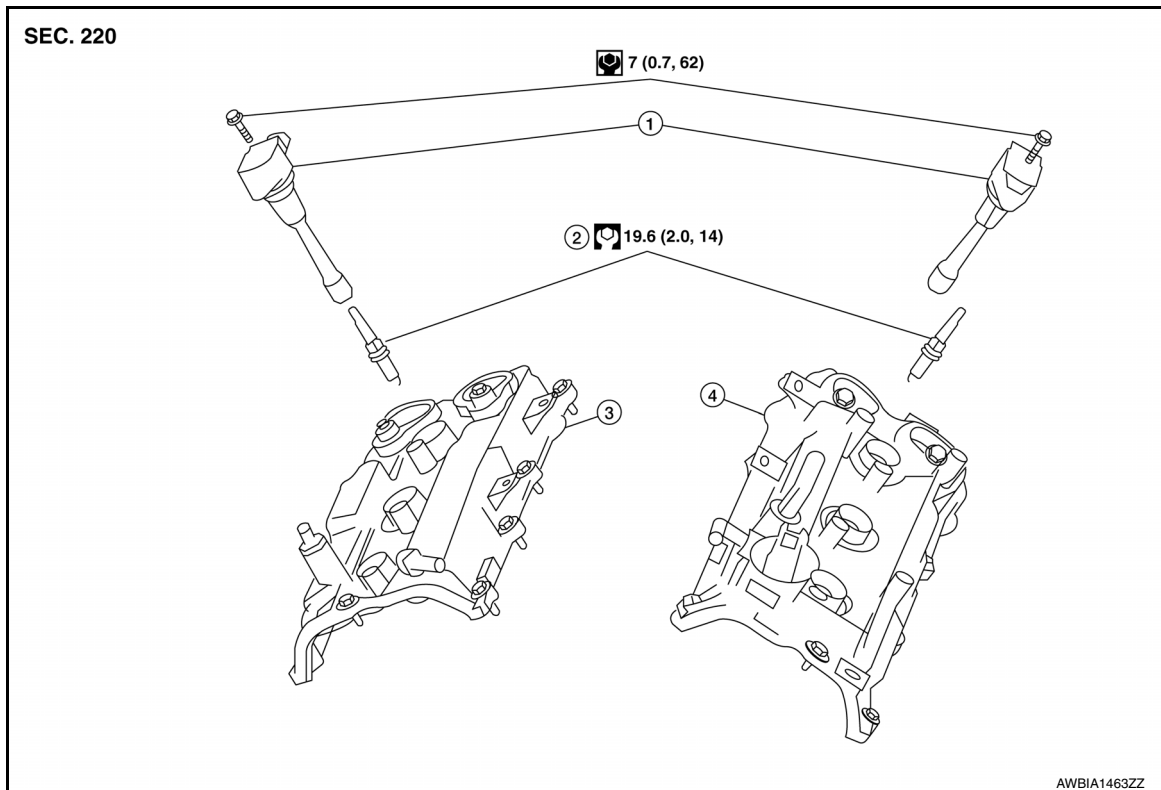
SPARK PLUG

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

SPARK PLUG : Exploded View

INFOID:000000012421103



1. Ignition coil

2. Spark plug

3. Rocker cover (RH)

4. Rocker cover (LH)

SPARK PLUG : Removal and Installation

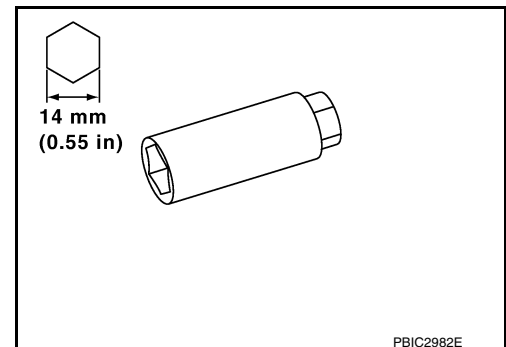
INFOID:000000012421104

REMOVAL

1. Remove the ignition coil. Refer to [EM-45. "Removal and Installation \(LH\)"](#) and [EM-45. "Removal and Installation \(RH\)"](#).
2. Remove the spark plug with the Tool.

Tool number : (J-48891)

(a) : 14 mm (0.55 in)

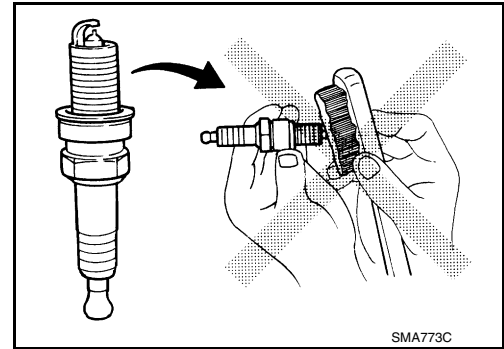


INSPECTION AFTER REMOVAL

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

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

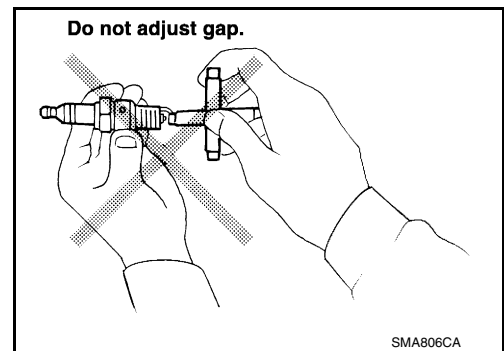


- If plug is covered with carbon, a spark plug cleaner may be used.

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

Cleaning time : less than 20 seconds

- Checking and adjusting spark plug gap is not required between change intervals. Do not adjust the gap; replace the spark plug as necessary if out of specification.



INSTALLATION

Installation is in the reverse order of removal.

Make	DENSO
Standard type*	FXE22HR11
Gap (nominal)	1.1 mm (0.043 in)

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

ENGINE COOLANT

ENGINE COOLANT : System Inspection

INFOID:000000012421100

WARNING:

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

CHECKING COOLING SYSTEM HOSES

Check hoses for the following:

- Improper attachment
- Leaks
- Cracks
- Dents
- Bulges
- Internal obstruction
- Damage
- Loose connections
- Chafing
- Deterioration

ENGINE MAINTENANCE (VQ35DE)

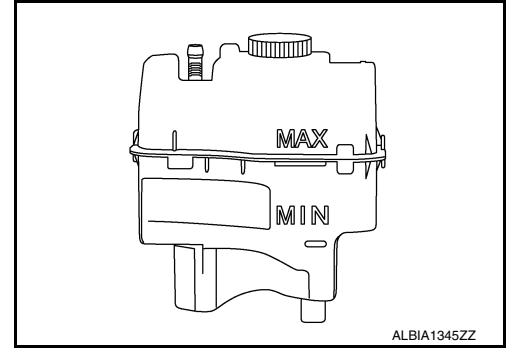
< PERIODIC MAINTENANCE >

CHECKING RESERVOIR LEVEL

- Check the coolant reservoir tank level when the engine is cool.
- Adjust engine coolant level, if necessary, to ensure that the engine coolant level is within the MIN to MAX range.

CAUTION:

Refill Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#) (United States and Canada) or [MA-17, "FOR MEXICO : Fluids and Lubricants"](#) (Mexico).



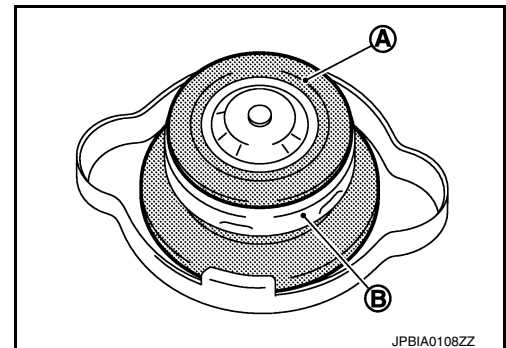
CHECKING RADIATOR CAP

WARNING:

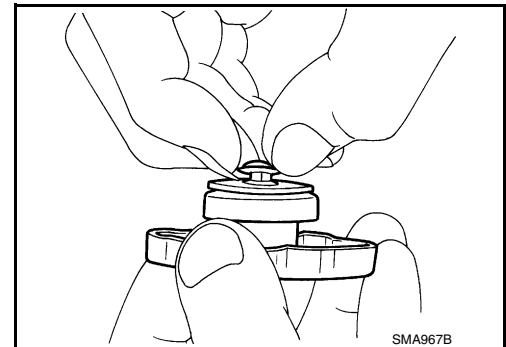
- Do not remove the radiator cap or reservoir tank cap when the engine is hot. Serious burns could occur from high-pressure engine coolant escaping from the cooling system.
- When removing the radiator cap or reservoir tank cap, wrap a thick cloth around the cap and slowly turn it a quarter turn to allow built-up pressure to escape. Then carefully remove the cap by turning it all the way.
- Check the pressure valve of the radiator cap.
 - Replace the radiator cap if the metal plunger (B) on the pressure valve cannot be seen around the edge of the rubber gasket (A).
 - Replace the radiator cap if there is damage or deposits of foreign material on the rubber gasket or pressure valve.

CAUTION:

Thoroughly wipe out the radiator filler neck to remove any waxy residue or foreign material.



- Check the negative-pressure valve of the radiator cap.
 - Replace the radiator cap if the negative-pressure valve does not close completely when pulled open and released.
 - Replace the radiator cap if there is damage or deposits of foreign material on the valve seat of the negative-pressure valve.
 - Replace the radiator cap if there is an abnormality in the operation of the negative-pressure valve.



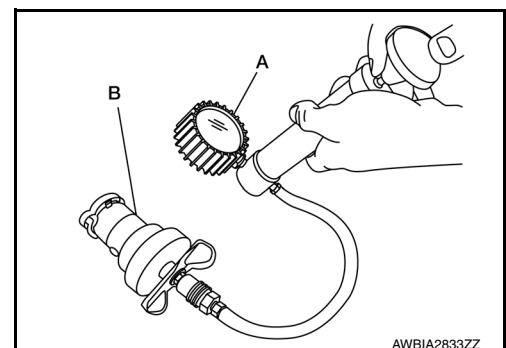
- Check radiator cap relief pressure.
 - Check the radiator cap relief pressure using Tool (A) and tool (B).

Tool number (A) : — (J-51771)

Tool number (B) : — (J-33984-A or equivalent)
(commercially available)

Radiator cap relief pressure : Refer to [CO-28, "Radiator"](#).

- When connecting the radiator cap to tool (B), apply water or coolant to the radiator cap seal surface.
- Replace the radiator cap if the radiator cap relief pressure is outside of specification.



ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

CHECKING RADIATOR

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

CAUTION:

- Be careful not to bend or damage the radiator fins.
- When radiator is cleaned on-vehicle, remove surrounding parts in order to access the radiator core. Tape the harness and electrical connectors to prevent water from entering.

1. Spray water to the back side of the radiator core using a side-to-side motion from the top down.
2. Stop spraying when debris no longer flows from radiator core.
3. Blow air into the back side of radiator core using a side-to-side motion from the top down.
 - Use compressed air lower than 490 kPa (5 kg/cm², 71 psi) and keep a distance of more than 30 cm (11.8 in).
4. Continue to blow air until no water sprays out.
5. Check for coolant leaks. Repair as necessary.

ENGINE COOLANT : Changing Engine Coolant

INFOID:0000000012421101

WARNING:

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

DRAINING ENGINE COOLANT

1. Remove the front under cover. Refer to [EXT-26. "Removal and Installation"](#).
2. Open the radiator drain plug at the bottom of the radiator and remove the radiator filler cap. This is the only step required when partially draining the cooling system (radiator only).

CAUTION:

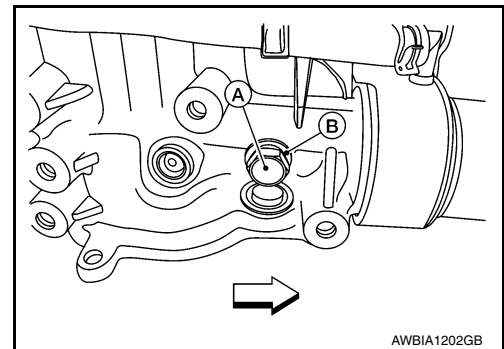
- Do not allow the coolant to contact the drive belts.
- Perform this step when engine is cold.

3. Remove water drain plug (A) and copper sealing washer (B).

CAUTION:

Do not reuse copper sealing washers.

⇐ : Engine front



4. Follow this step for heater core removal/replacement only. Disconnect the upper heater hose at the engine side and apply moderate air pressure [103.46 kPa (1.055 kg/cm², 15 psi) maximum air pressure] into the hose for 30 seconds to blow the excess coolant out of the heater core.
5. When draining all of the coolant in the system, remove the reservoir tank and drain the coolant then clean the reservoir tank before installation.

CAUTION:

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

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

- When performing a complete cooling system drain, remove the water drain plug (A), connector bolt (D), water drain plug (C) and water drain plug O-ring (B) on the cylinder block.

CAUTION:

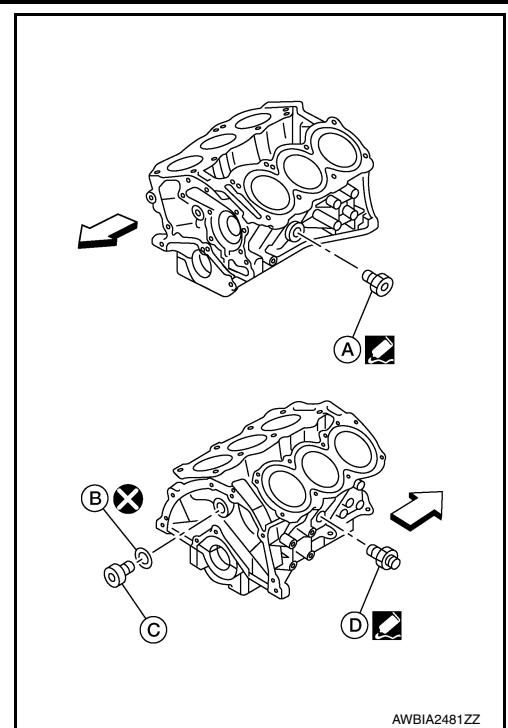
Do not reuse water drain plug O-ring (B).

NOTE:

For Canada, connector bolt (D) is a block heater, not a water drain plug.

- Check the drained coolant for contaminants, such as rust, corrosion or discoloration.
If the coolant is contaminated, flush the engine cooling system.

← : Engine front



REFILLING ENGINE COOLANT

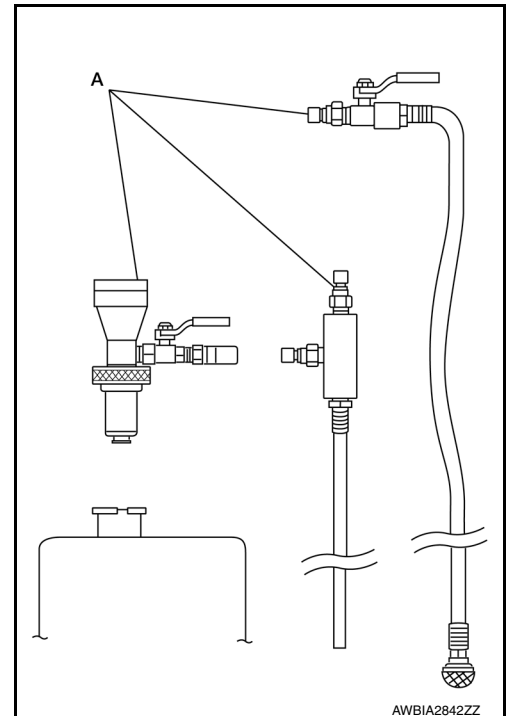
- Install the following, if removed:
 - Cylinder block drain plugs, refer to [EM-115, "Exploded View"](#).
 - Reservoir tank, refer to [CO-14, "Exploded View"](#).
 - Cooling system hoses, refer to [CO-14, "Exploded View"](#).
 - Radiator drain plug, refer to [CO-14, "Exploded View"](#).
- Set the vehicle heater controls to the full HOT and heater ON positions. Turn the vehicle ignition ON with the engine OFF as necessary to activate the heater mode.
- Fill the cooling system with engine coolant using Tool (A), following the manufacturer's instructions included with the tool.

Tool number (A) : KV991J0070 (J-45695-A)

Engine Coolant : Refer to [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#) (FOR USA AND CANADA) or [MA-17, "FOR MEXICO : Fluids and Lubricants"](#) (FOR MEXICO).

CAUTION:

- Use recommended coolant or equivalent.
 - Do not use any cooling system additives such as radiator sealer. Additives may clog the cooling system and cause damage to the engine, transmission or cooling system.
 - The compressed air supply must be equipped with an air dryer.
- Remove the Tool (A) and top off the cooling system with engine coolant as necessary.



- Install the radiator cap and reservoir tank cap.
- Run the engine until it reaches normal operating temperature.

CAUTION:

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

Do not allow the engine to exceed normal operating temperature or engine damage may occur.

7. Stop the engine and allow it to cool.
8. Check the engine coolant level and adjust if necessary.

FLUSHING COOLING SYSTEM

1. Fill the radiator from the filler neck above the radiator upper hose and reservoir tank with clean water and reinstall radiator filler cap.
2. Run the engine until it reaches normal operating temperature.
3. Rev the engine two or three times under no-load.
4. Stop the engine and wait until it cools down.
5. Drain the water from the system. Refer to [CO-12, "Changing Engine Coolant"](#).
6. Repeat steps 1-5 until clear water begins to drain from the radiator.

FUEL LINES

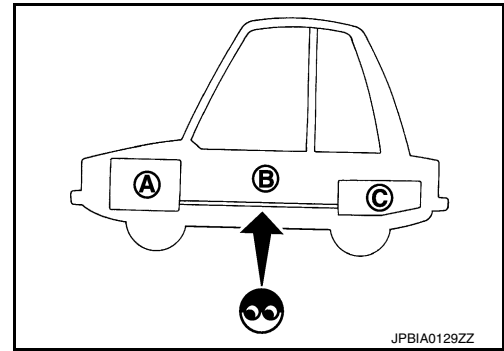
FUEL LINES : Inspection

INFOID:0000000012421105

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

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

If necessary, repair or replace damaged parts.



ENGINE OIL

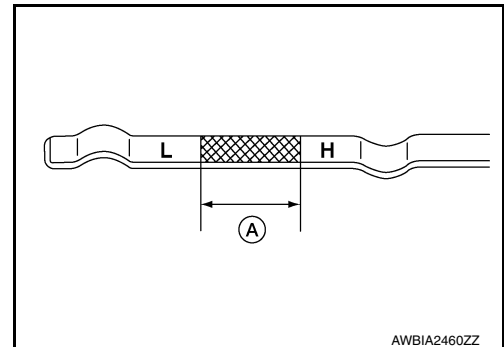
ENGINE OIL : Inspection

INFOID:0000000012421106

ENGINE OIL LEVEL

NOTE:

- Before starting the engine, check the engine oil level. If the engine is already started, stop it and allow 10 minutes before checking.
- The engine oil level should be within the range as indicated on the dipstick.
- If it is out of range (A), add engine oil as necessary until the dipstick indicates the correct level.



ENGINE OIL APPEARANCE

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

ENGINE OIL LEAKS

Check for engine oil leaks around the following areas:

- Oil pan
- Oil pan drain plug
- Oil pressure sensor
- Oil filter
- Oil cooler
- Intake valve timing cover

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

- Front cover
- Mating surface between cylinder block and cylinder head
- Mating surface between cylinder head and rocker cover
- Crank oil seal (front and rear)

OIL PRESSURE CHECK

WARNING:

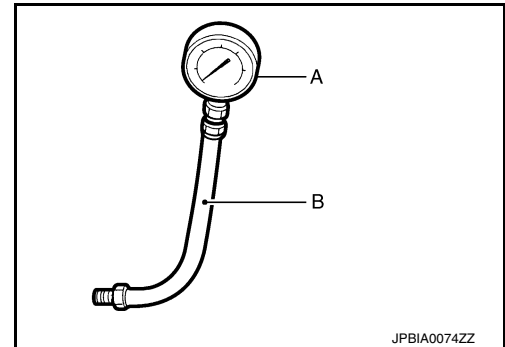
- **Be careful not to burn yourself, as engine oil may be hot.**
- **Put the shift selector in the Park "P" position and apply the parking brake securely.**

1. Check the engine oil level. Refer to ENGINE OIL LEVEL.
2. Remove front fender protector side cover. Refer to [EXT-26, "Removal and Installation"](#).
3. Disconnect oil pressure sensor harness connector at the oil pressure sensor. Remove oil pressure sensor using suitable tool and install suitable tools (A/B).

CAUTION:

Do not drop or shock oil pressure sensor.

Oil pressure sensor : [EM-39, "Exploded View"](#)



4. Start the engine and warm it up to normal operating temperature.
5. Check oil pressure with engine running under no-load, using suitable tool.

NOTE:

- **When engine oil temperature is low, engine oil pressure becomes high.**
- **If difference is extreme, check oil passage and oil pump for oil leaks.**

Engine oil pressure : [LU-17, "Oil Pressure"](#)

6. After the inspections, install the oil pressure sensor using suitable tool as follows:
 - a. Remove the old sealant adhering to oil pressure sensor and engine.
 - b. Apply thread sealant and tighten the oil pressure sensor to specification.

Use Genuine High Performance Thread Sealant, or equivalent. Refer to [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#).

Oil pressure sensor : [EM-39, "Exploded View"](#)

- c. After warming up engine, make sure there are no engine oil leaks.
7. Install front fender protector side cover. Refer to [EXT-26, "Removal and Installation"](#).

ENGINE OIL : Changing Engine Oil

INFOID:0000000012421107

WARNING:

- **Be careful not to burn yourself, as the 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. Position the vehicle so it is level on the hoist.
2. Warm up the engine and check for oil leaks.
3. Remove the oil filler cap.
4. Remove the oil pan drain plug.
5. Drain the engine oil.
6. Clean the area around the oil pan drain plug and the oil pan drain plug.
7. Install a new washer on the oil pan drain plug, then install the oil drain plug.

ENGINE MAINTENANCE (VQ35DE)

< PERIODIC MAINTENANCE >

Oil specification and viscosity : Refer to [MA-17, "FOR USA AND CANADA : Engine Oil Recommendation"](#) or [MA-17, "FOR MEXICO : Fluids and Lubricants"](#).

Oil pan drain plug : 34.3 N·m (3.5 kg-m, 25 ft-lb)

CAUTION:

- The refill capacity depends on the oil temperature and drain time. Use the specifications for reference only. Always use the dipstick to determine when the proper amount of oil is in the engine.

8. Refill the engine with new engine oil.
9. Warm up the engine, then check for leaks around the oil pan drain plug and oil filter.
10. Stop engine and wait for 10 minutes.
11. Using the dipstick, check the engine oil level .

CAUTION:

Do not overfill the engine with engine oil.

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:000000012421108

REMOVAL

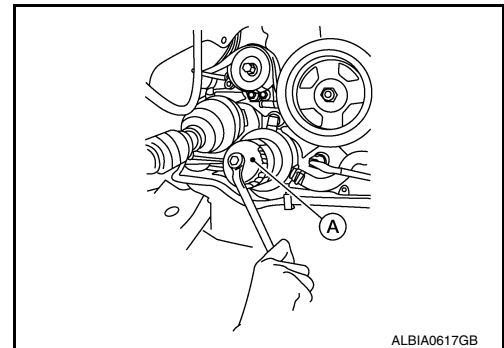
1. Drain engine oil. Refer to [LU-9, "Changing Engine Oil"](#).
2. Remove front fender protector side cover (RH). Refer to [EXT-28, "Exploded View"](#).
3. Remove the oil filter using suitable tool (A) as shown.

WARNING:

Be careful not to get burned; the engine oil may be hot.

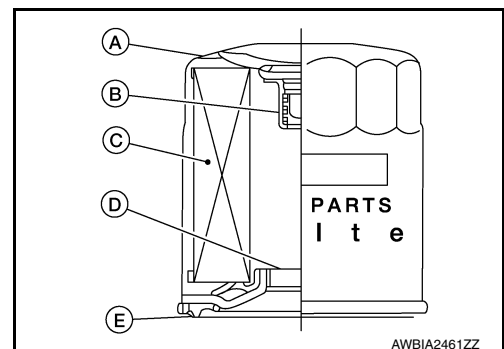
CAUTION:

- Position a shop cloth to absorb any oil leaks or spills.
- Do not allow engine oil to contact the drive belts.
- Completely wipe off any oil that contacts to the engine or the vehicle.



- The oil filter is provided with a relief valve. Use a genuine NISSAN oil filter or equivalent

- (A) Oil filter body
- (B) Relief valve
- (C) Filtering paper
- (D) Screw
- (E) Packing



INSTALLATION

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

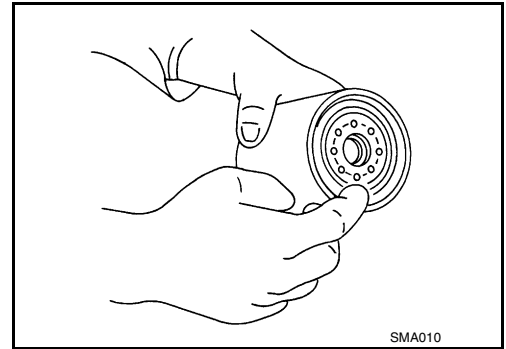
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

MA

ENGINE MAINTENANCE (VQ35DE)

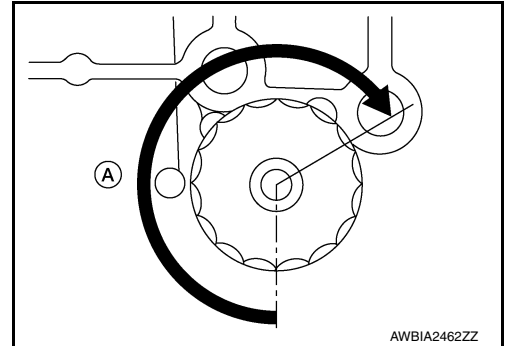
< PERIODIC MAINTENANCE >

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



3. Screw the oil filter manually until it touches the installation surface, then tighten it by turning another 2/3 turn (A), or tighten to specification using a suitable tool.

Oil filter : 17.65 N·m (1.8 kg-m, 13 ft-lb)



4. Refill the engine with new engine oil. Refer to [LU-9, "Changing Engine Oil"](#).
5. Check the oil level and add engine oil as necessary. Refer to [LU-8, "Inspection"](#).
6. After warming up the engine, check for engine oil leaks.
7. Install front fender protector side cover (RH). Refer to [EXT-16, "Exploded View"](#).

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

CHASSIS AND BODY MAINTENANCE

IN-CABIN MICROFILTER

IN-CABIN MICROFILTER : Removal and Installation

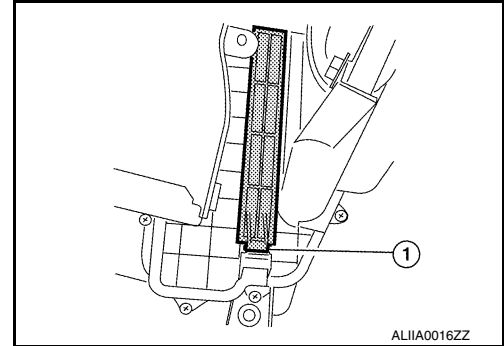
INFOID:000000012421109

REMOVAL

1. Remove glove box assembly. Refer to [IP-24, "Removal and Installation"](#).
2. Release in-cabin microfilter cover tab (1) and remove the cover from under the RH side of the instrument panel.

CAUTION:

Use care when lifting up on the in-cabin microfilter tab to avoid damaging it.



3. Remove in-cabin microfilter.

CAUTION:

If the in-cabin microfilter is deformed/damaged when removing, replace it with a new one. A deformed or damaged in-cabin microfilter may affect the dust collecting performance.

INSTALLATION

Installation is in reverse order of removal.

CAUTION:

When installing, handle the in-cabin microfilter with care to avoid deformation or damage.

NOTE:

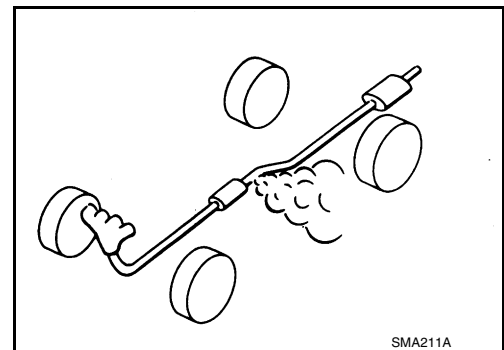
The in-cabin microfilter is marked with an air flow arrow. The end of the in-cabin microfilter with the arrow should face the passenger side of the vehicle. The arrow should point toward the rear of the vehicle.

EXHAUST SYSTEM

EXHAUST SYSTEM : Checking Exhaust System

INFOID:000000012421110

Check the exhaust pipes, muffler, and mounting components for incorrect attachment, leaks, cracks, damage, or deterioration.



CVT FLUID

CVT FLUID : Replacement

INFOID:000000012421111

CVT fluid

: Refer to [TM-218, "General Specification"](#).

Fluid capacity

: Refer to [TM-218, "General Specification"](#).

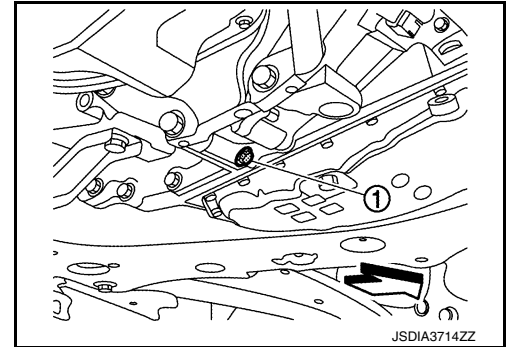
CAUTION:

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

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

1. Select "Data Monitor" in "TRANSMISSION" using CONSULT.
2. Select "FLUID TEMP" and confirm that the CVT fluid temperature is 40°C (104°F) or less.
3. Check that the selector lever is in the "P" position, then completely engage the parking brake.
4. Lift up the vehicle.
5. Remove the drain plug and drain the CVT fluid from the oil pan. Refer to [TM-195. "Exploded View"](#).
6. Install the drain plug to oil pan.
CAUTION:
Drain plug gasket use the old one.
7. Remove the overflow plug ① from converter housing.



8. Install the charging pipe set (KV311039S0) (A) into the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

9. Install the ATF changer hose (B) to the charging pipe.

CAUTION:

Press the ATF changer hose all the way onto the charging pipe until it stops.

10. Fill approximately 3 liter (2-5/8 Imp qt) of the CVT fluid.
11. Remove the ATF changer hose and charging pipe, then install the overflow plug.

NOTE:

Perform this work quickly because CVT fluid leaks.

12. Lift down the vehicle.
13. Start the engine.
14. While depressing the brake pedal, shift the selector lever to the entire position from "P" to "DS", and shift it to the "P" position.

NOTE:

Hold the lever at each position for 5 seconds.

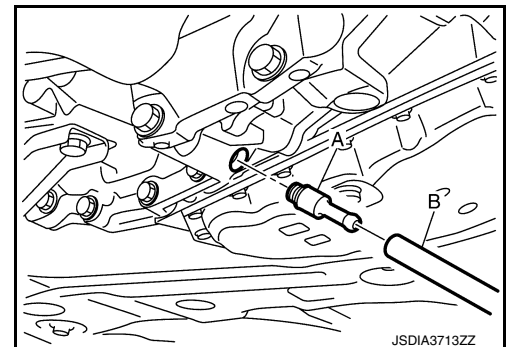
15. Check that the CONSULT "Data Monitor" in "FLUID TEMP" is 35°C (95°F) to 45°C (113°F).
16. Stop the engine.
17. Lift up the vehicle.
18. Remove the drain plug, and then drain CVT fluid from oil pan.
19. Repeat steps 8 to 18 (one time).
20. Tighten the drain plug to the specified torque. Refer to [TM-195. "Exploded View"](#).
21. Remove the overflow plug.
22. Install the charging pipe set (KV311039S0) into the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

23. Install the ATF changer hose to the charging pipe.

CAUTION:



CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

Press the ATF changer hose all the way onto the charging pipe until it stops.

24. Fill approximately 3 liter (2-5/8 Imp qt) of the CVT fluid. A
25. Remove the ATF changer hose and charging pipe, then install the overflow plug. B
NOTE:
Perform this work quickly because CVT fluid leaks.
26. Lift down the vehicle.
27. Start the engine.
28. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “DS”, and shift it to the “P” position. C
NOTE:
Hold the lever at each position for 5 seconds. D
29. Check that the CONSULT “Data Monitor” in “FLUID TEMP” is 35°C (95°F) to 45°C (113°F).
30. Lift up the vehicle.
31. Remove the overflow plug and confirm that the CVT fluid is drained from the overflow plug hole. E
CAUTION:
Perform this work with the vehicle idling.
NOTE:
If the CVT fluid is not drained, refer to “Adjustment” and refill with the CVT fluid. F
32. When the flow of CVT fluid slows to a drip, tighten the overflow plug to the specified torque. Refer to [TM-195, "Exploded View"](#). G
CAUTION:
Never reuse O-ring.
33. Lift down the vehicle. H
34. Select “Data Monitor” in “TRANSMISSION” using CONSULT.
35. Select “CONFORM CVTF DETERIORTN”.
36. Select “Erase”.
37. Stop the engine. I

CVT FLUID : Adjustment

INFOID:000000012421112

CVT fluid : Refer to [TM-218, "General Specification"](#).

Fluid capacity : Refer to [TM-218, "General Specification"](#). J

CAUTION:

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

1. Check that the selector lever is in the “P” position, then completely engage the parking brake.
2. Start the engine.
3. Adjust the CVT fluid temperature to be approximately 40°C (104°F). N

NOTE:

The CVT fluid is largely affected by temperature. Therefore be sure to use CONSULT and check the “FLUID TEMP” under “TRANSMISSION” in “Data Monitor” while adjusting.

4. While depressing the brake pedal, shift the selector lever to the entire position from “P” to “DS”, and shift it to the “P” position. O

NOTE:

Hold the lever at each position for 5 seconds.

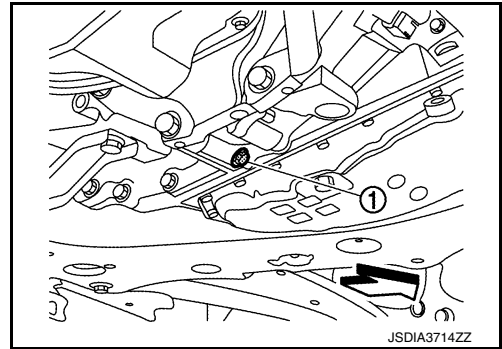
5. Lift up the vehicle.
6. Check that there is no CVT fluid leakage.

MA

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

7. Remove the overflow plug ① from converter housing.



8. Install the charging pipe set (KV311039S0) (A) into the overflow plug hole.

CAUTION:

Tighten the charging pipe by hand.

9. Install the ATF changer hose (B) to the charging pipe.

CAUTION:

Press the ATF changer hose all the way onto the charging pipe until it stops.

10. Fill approximately 0.5 liter (1/2 Imp qt) of the CVT fluid.

11. Remove the ATF changer hose from the charging pipe, and check that the CVT fluid drains out from the charging pipe. If it does not drain out, perform charging again.

CAUTION:

Perform this work with the vehicle idling.

12. When the flow of CVT fluid slows to a drip, remove the charging pipe from the converter housing.

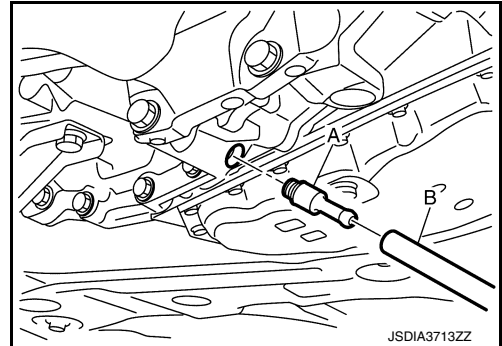
13. Tighten the overflow plug to the specified torque. Refer to [TM-195, "Exploded View"](#).

CAUTION:

Never reuse O-ring.

14. Lift down the vehicle.

15. Stop the engine.



WHEELS

WHEELS : Inspection

INFOID:000000012421113

ALUMINUM WHEEL

1. Check tires for wear and improper inflation.

2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

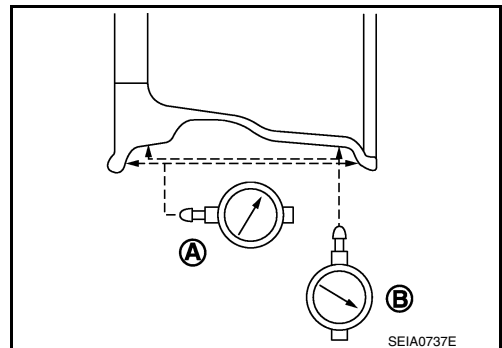
3. Remove tire from wheel and mount wheel on a balancer machine.

CAUTION:

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

a. Set dial indicator as shown.

b. Check runout. If runout value exceeds limit, replace wheel.



Axial Runout (A)

Refer to [WT-73, "Wheel"](#).

Radial Runout (B)

Refer to [WT-73, "Wheel"](#).

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

WHEELS : Adjustment

INFOID:000000012421114

BALANCING WHEELS (ADHESIVE WEIGHT TYPE)

Preparation Before Adjustment

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

CAUTION:

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

Wheel Balance Adjustment

CAUTION:

- **DO NOT use center hole cone-type clamping machines to hold wheel during tire removal/installation or balancing; damage to wheel paint, cladding or chrome may result. Use only rim-type or universal lug-type clamping machines to hold wheel during servicing.**
- If a balancer machine has an adhesive weight mode setting, select the adhesive weight mode setting and skip Step 2 below. If a balancer machine only has the clip-on (rim flange) weight mode setting, follow Step 2 to calculate correct size adhesive weight.

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

Calculation example:

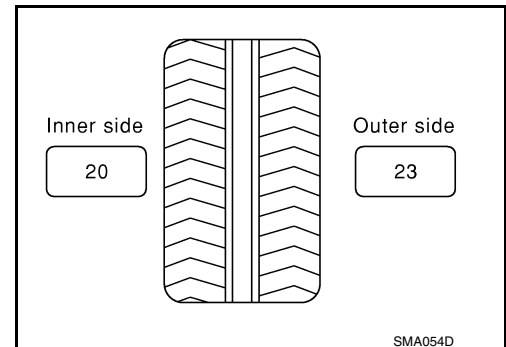
23 g (0.81 oz) $\times 5/3$ (1.67) = 38.33 g (1.35 oz) \Rightarrow 40 g (1.41 oz)
balance weight (closer to calculated balance weight value)

NOTE:

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

Example:

37.4 \Rightarrow 35 g (1.23 oz)
37.5 \Rightarrow 40 g (1.41 oz)



CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

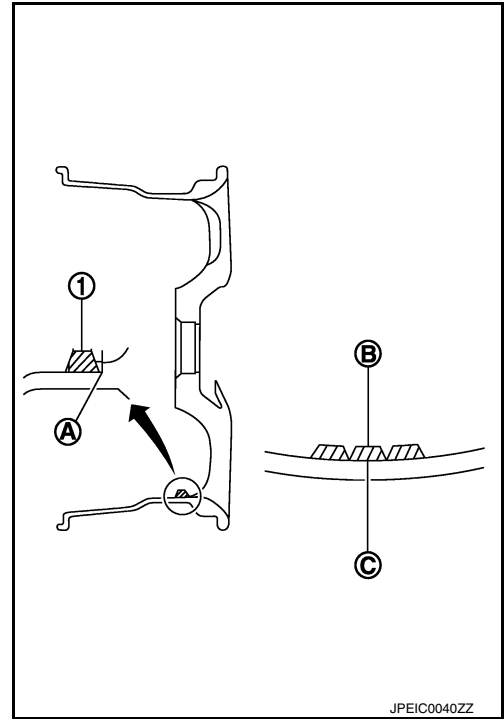
3. Install balance weight in position shown.

CAUTION:

- Do not install inner balance weight before installing outer balance weight.
- Before installing balance weight, be sure to clean mating surface of wheel and tire.
- When installing balance weight (1) to wheel and tire, set it into grooved area (A) on inner wall of wheel and tire as shown so that balance weight center (B) is aligned with balancer machine indication position (angle) (C).

CAUTION:

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



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

CAUTION:

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

5. Start balancer machine again.

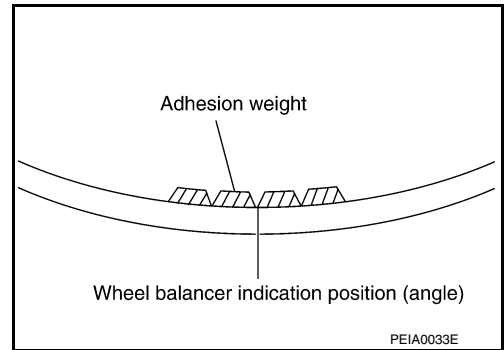
6. Install balance weight on inner side of wheel and tire in the balancer machine indication position (angle).

CAUTION:

Do not install more than two balance weights.

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

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



Wheel balance	Dynamic (At flange)	Static (At flange)
Maximum allowable imbalance	Refer to WT-73, "Wheel" .	

TIRE ROTATION

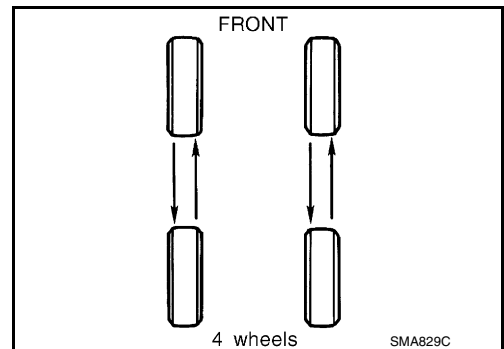
- Follow maintenance schedule for tire rotation service intervals. Refer to [MA-6, "FOR USA AND CANADA : Explanation of General Maintenance"](#) (for USA and Canada) or [MA-8, "FOR MEXICO : Explanation of General Maintenance"](#) (for Mexico).
- Rotate wheels and tires front to back in pattern as shown.
- When installing wheel, tighten wheel nuts to specified torque. Refer to [WT-67, "Exploded View"](#).

WARNING:

- Do not include spare tire when rotating tires.
- After rotating tires, check and adjust tire pressure.

CAUTION:

- When installing wheel nuts, tighten them diagonally by dividing the work two to three times in order to prevent wheels from developing any distortion.
- Be careful not to tighten wheel nuts to a torque exceeding specification to prevent strain on disc brake rotor.
- Use Genuine NISSAN wheel nuts.



CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

Wheel nut tightening torque : Refer to [WT-67, "Exploded View"](#).

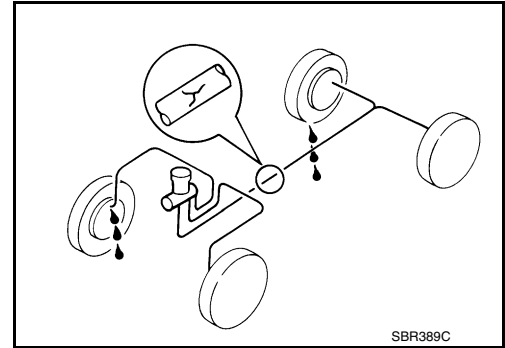
- Perform ID registration after tire rotation. Refer to [WT-25, "Description"](#).

BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

INFOID:000000011935292

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



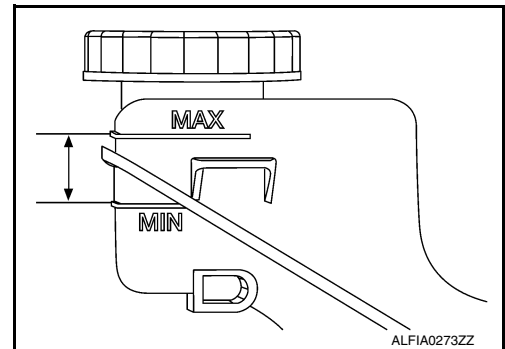
BRAKE FLUID

BRAKE FLUID : Inspection

INFOID:000000012421116

BRAKE FLUID LEVEL

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

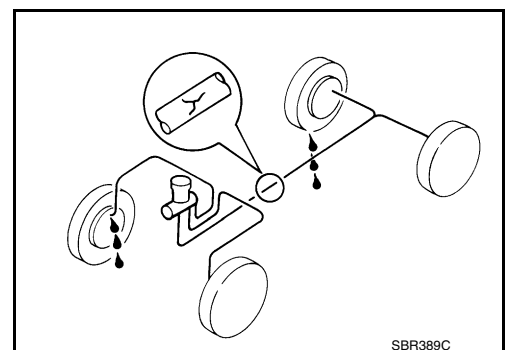


BRAKE LINE

1. Check brake line (tubes and hoses) for cracks, deterioration or other damage. Replace any damaged parts.
2. Check for brake fluid leaks by fully depressing brake pedal while engine is running.

CAUTION:

If brake fluid leak occurs around joints, retighten or replace damaged parts as necessary.



BRAKE FLUID : Drain and Refill

INFOID:000000012421117

CAUTION:

- Do not spill or splash brake fluid on painted surfaces. Brake fluid may damage paint. If brake fluid is splashed on painted areas, wash it away with water immediately.

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

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

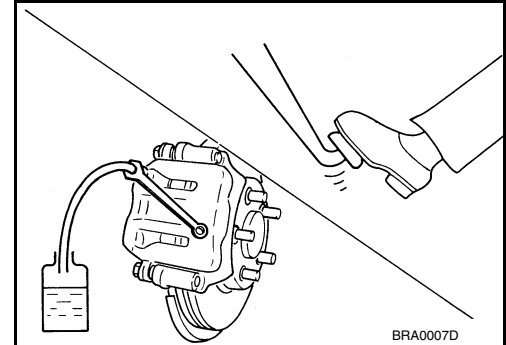
- Refill brake system with new brake fluid. Refer to [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#) (for United States and Canada) or [MA-17, "FOR MEXICO : Fluids and Lubricants"](#) (for Mexico).
- Do not reuse drained brake fluid.

DRAINING

1. Turn ignition switch OFF and disconnect the harness connector from the ABS actuator and electric unit (control unit) or negative battery terminal. Refer to [PG-101, "Exploded View"](#).
2. Connect a vinyl tube to bleeder valve.
3. Depress brake pedal, loosen bleeder valve, and gradually remove brake fluid.

CAUTION:

Do not allow reservoir tank to empty as this may cause damage to master cylinder internal components.



REFILLING

1. Make sure no foreign material is in the reservoir tank and refill with new brake fluid.

CAUTION:

Do not reuse drained brake fluid.

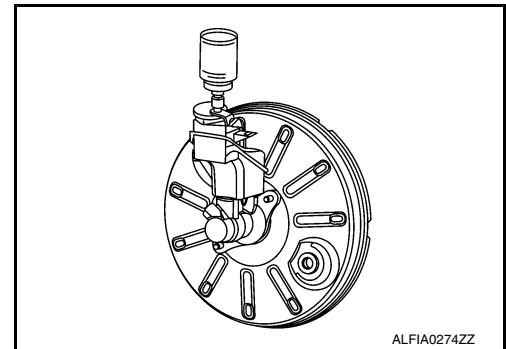
2. Refill the brake system as follows:
 - Depress the brake pedal.
 - Loosen bleeder valve.
 - Slowly depress brake pedal to 2/3 of the brake pedal full stroke.
 - Tighten bleeder valve.
 - Release brake pedal.

Repeat this operation in intervals of two or three seconds until all old brake fluid is discharged. Add new brake fluid to reservoir tank frequently.

CAUTION:

Do not allow reservoir tank to empty as this may cause damage to master cylinder internal components.

3. Bleed the air out of the brake hydraulic system. Refer to [MA-40, "BRAKE FLUID : Bleeding Brake System"](#).



BRAKE FLUID : Bleeding Brake System

INFOID:000000012421118

CAUTION:

- Do not spill or splash brake fluid on painted surface. Brake fluid may damage paint. If brake fluid is splashed on painted surface, wash away with water immediately.
- While bleeding, pay attention to brake fluid level.
- Do not allow reservoir tank to empty as this may cause damage to master cylinder internal components.
- Before working, disconnect the harness connector from the ABS actuator and electric unit (control unit) or negative battery terminal. Refer to [PG-101, "Exploded View"](#).

1. Turn ignition switch OFF and disconnect the harness connector from the ABS actuator and electric unit (control unit) or negative battery terminal. Refer to [PG-101, "Exploded View"](#).
2. Connect a vinyl tube to front (RH) brake caliper bleeder valve.
3. Fully depress brake pedal 4 or 5 times.
4. With brake pedal depressed, loosen bleeder valve to bleed air in brake line, and then tighten it immediately.
5. Repeat steps 3 and 4 until all of the air is out of the brake line.

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

6. Tighten the bleeder valve to the specified torque. Refer to [BR-39, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (FRONT DISC BRAKE) or [BR-44, "BRAKE CALIPER ASSEMBLY : Exploded View"](#) (REAR DISC BRAKE).
7. Repeat steps 2 through 6 with reservoir tank filled at least halfway. Bleed the air in the following order from the front (RH), front (LH), rear (RH), rear (LH).

FRONT BRAKE

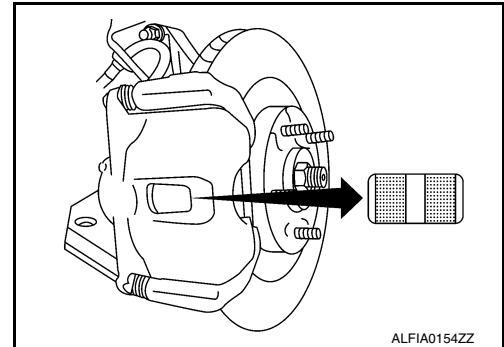
FRONT BRAKE : Inspection

INFOID:000000012421119

INSPECTION

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

Wear thickness : Refer to [BR-55, "Front Disc Brake"](#).



FRONT BRAKE : Inspection

INFOID:000000012421120

INSPECTION

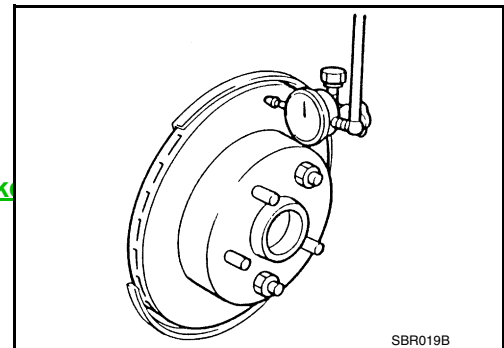
Appearance

Check surface of disc brake rotor for uneven wear, cracks, or damage. Replace it if necessary. Refer to [BR-41, "DISC BRAKE ROTOR : Removal and Installation"](#).

RUNOUT

1. Check wheel bearing axial end play before inspection. Refer to [FAX-37, "Wheel Bearing"](#).
2. Secure disc brake rotor to wheel hub and bearing with wheel nuts at two wheel nut locations.
3. Measure runout using a dial gauge 10 mm (0.39 in) from disc brake rotor edge.

Runout (with it attached to the vehicle) : Refer to [BR-55, "Front Disc Brake"](#)



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

Tool number : 38-PFM92 (—)

CAUTION:

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

Wear thickness : Refer to [BR-55, "Front Disc Brake"](#).

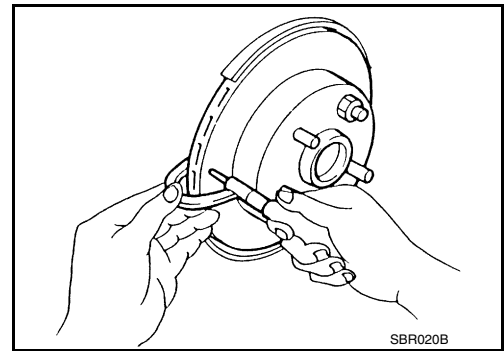
THICKNESS

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

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

Wear thickness : Refer to [BR-55, "Front Disc Brake"](#).



REAR BRAKE

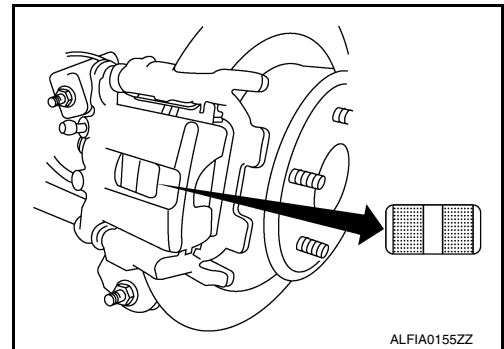
REAR BRAKE : Inspection

INFOID:000000012421121

INSPECTION

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

Wear thickness : Refer to [BR-55, "Rear Disc Brake"](#).



REAR BRAKE : Inspection

INFOID:000000012421122

INSPECTION

Appearance

Check surface of disc brake rotor for uneven wear, cracks, or damage. Replace it if necessary. Refer to [BR-41, "DISC BRAKE ROTOR : Removal and Installation"](#).

RUNOUT

1. Check wheel bearing axial end play before inspection. Refer to [FAX-37, "Wheel Bearing"](#).
2. Secure disc brake rotor to wheel hub and bearing with wheel nuts at two wheel nut locations.
3. Measure runout using a dial gauge 10 mm (0.39 in) from disc brake rotor edge.

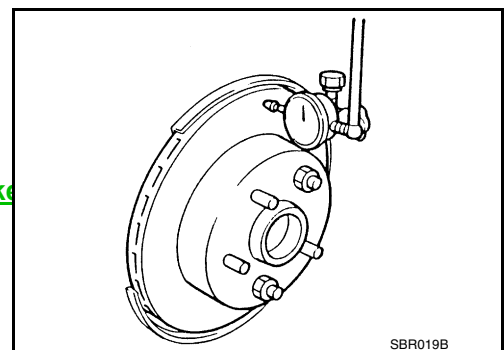
Runout (with it attached to the vehicle) : Refer to [BR-55, "Front Disc Brake"](#).

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

Tool number : 38-PFM92 (—)

CAUTION:

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



CHASSIS AND BODY MAINTENANCE

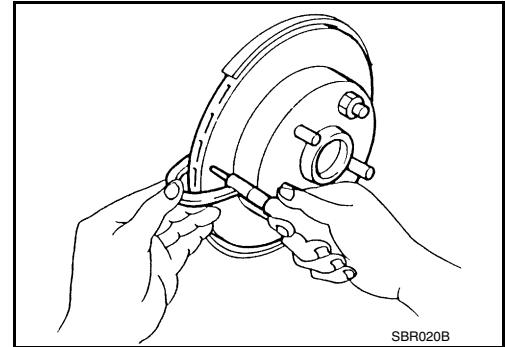
< PERIODIC MAINTENANCE >

Wear thickness : Refer to [BR-55, "Front Disc Brake"](#).

THICKNESS

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

Wear thickness : Refer to [BR-55, "Front Disc Brake"](#).



STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000012421123

BOOT

Check boot for cracks. Replace if any damage is found.

OUTER SOCKET AND INNER SOCKET

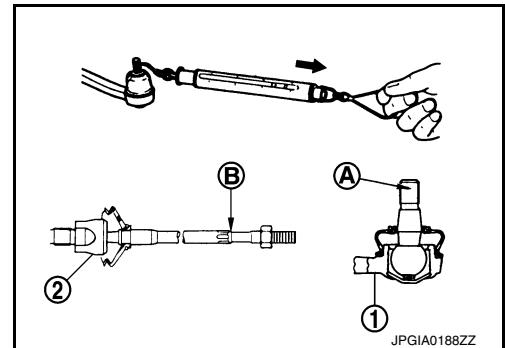
- Ball joint swinging torque
- Hook Tool at measuring point and pull Tool. Make sure that Tool reads specified value when ball stud and inner socket start to move. Replace outer socket or inner socket if measured values are outside specifications.

Measuring point of outer socket (1) : Ball stud upper side (A)

Measuring point of inner socket (2) : Point (B) as shown

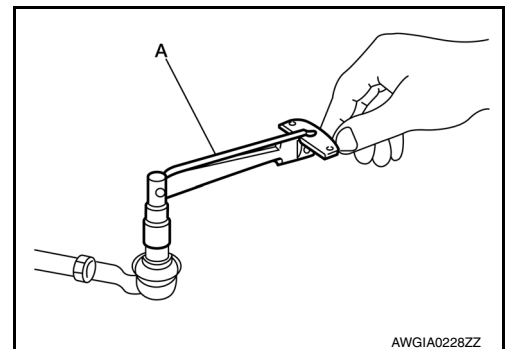
Tool number : — (J-44372)

Swinging torque : Refer to [ST-57, "Steering Gear"](#).



- Ball joint rotating torque
- Make sure that reading is within the following specified range using suitable tool (A). Replace outer socket if reading is outside specifications.

Rotating torque : Refer to [ST-57, "Steering Gear"](#).



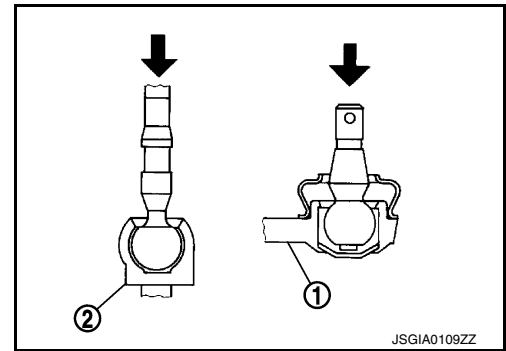
- Ball joint axial end play

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

- Apply an axial load of 490 N (50 kg, 111 lb) to ball stud. Measure the amount of stud movement using suitable tool and make sure that value is within specification. Replace outer socket (1) or inner socket (2) if measured value is outside specification.

Axial end play : Refer to [ST-57, "Steering Gear"](#).



POWER STEERING FLUID AND LINES

POWER STEERING FLUID AND LINES : Inspection

INFOID:000000012421124

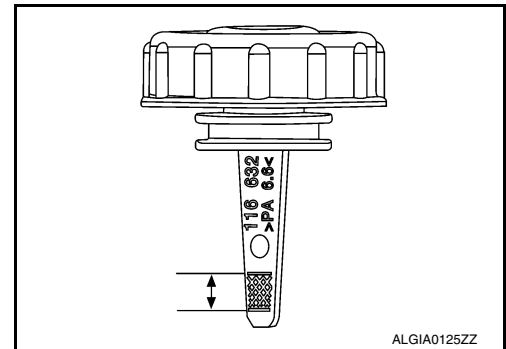
FLUID LEVEL

Verify proper power steering fluid level.

- Check power steering fluid level with engine stopped and the fluid temp between 0 – 30° C (32 – 86° F).
- Power steering fluid level should be within the range shown on the power steering reservoir cap indicator.

CAUTION:

- Do not overfill.
- Do not reuse used power steering fluid.
- Recommended power steering fluid is Genuine NISSAN E-PSF or equivalent. Refer to [MA-16, "FOR USA AND CANADA : Fluids and Lubricants"](#) (for USA and Canada) or [MA-17, "FOR MEXICO : Fluids and Lubricants"](#) (for Mexico).



FLUID LEAKS

Check the power steering hydraulic system for leaks, cracks, damage, loose connections, chafing or deterioration. Repair or replace as necessary.

1. Start engine and allow engine to idle.
2. Turn steering wheel right-to-left several times.
3. Hold steering wheel at each "lock" position for five seconds to check for fluid leaks.

CAUTION:

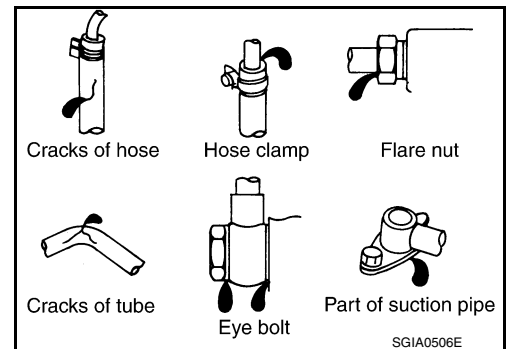
Do not hold steering wheel in a locked position for more than five seconds. Damage to power steering oil pump may occur.

4. If power steering fluid leaks at connections are noticed, loosen connections and retighten.

CAUTION:

Do not over tighten connections as damage to O-ring and connection can occur.

5. If power steering fluid leaks from the power steering oil pump are noticed, repair connection(s) or replace power steering oil pump. Refer to [ST-43, "Removal and Installation"](#).
6. Check steering gear boots for accumulation of power steering fluid. Power steering fluid indicates a leak from the steering gear. Replace as necessary. Refer to [ST-48, "Removal and Installation"](#).



AXLE AND SUSPENSION PARTS

AXLE AND SUSPENSION PARTS : Inspection

INFOID:000000012421125

- Check drive shaft mounting point and joint for looseness and other damage.
- Check boot for cracks and other damage.

CAUTION:

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

Replace entire drive shaft when noise or vibration occurs from drive shaft.

AXLE AND SUSPENSION PARTS : Inspection

INFOID:000000012421126

ON-VEHICLE SERVICE

- Check the suspension parts for excessive play, cracks, wear or damage. Shake each rear wheel to check for excessive play.
- Retighten all nuts and bolts to the specified torque.
- Check the wheelarch height. Refer to [RSU-21, "Wheelarch Height \(Unladen*1\)"](#).

SHOCK ABSORBER

- Check for smooth operation through a full stroke for both compression and extension.
- Check for oil leaks on the welded or gland packing portions.
- Check the shock absorber piston rod for cracks, deformation or other damage and replace if necessary.

SUSPENSION ARM

- Check the suspension arm for damage, cracks, deformation and replace if necessary.
- Check the rubber bushings for damage, cracks and deformation. Replace suspension arm if necessary.
- Make sure that each cotter pin is installed (if equipped).

FRONT LOWER LINK

Check the front lower link for any deformation, cracks, or damage and replace if necessary.

UPPER AND LOWER RUBBER SEATS

Check the upper and lower rubber seats for deterioration or cracks and replace if necessary.

REAR LOWER LINK AND COIL SPRING

Check the rear lower link and coil spring for any deformation, cracks, or other damage and replace if necessary.

REAR STABILIZER

- Check the rear stabilizer and clamps for any deformation, cracks or damage and replace if necessary.
- Check the rubber bushings for deterioration or cracks and replace if necessary.

DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:000000012421127

- Check drive shaft mounting point and joint for looseness and other damage.
- Check boot for cracks and other damage.

CAUTION:

Replace entire drive shaft when noise or vibration occurs from drive shaft.

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

INFOID:000000011935303

For details, refer to [SB-5, "Inspection"](#).

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

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached hardware (i.e., anchor bolt, guide rail set). Nissan recommends replacing 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 the entire seat belt assembly.**
- **If webbing is cut, frayed, or damaged, replace seat belt assembly.**
- **Do not oil tongue and buckle.**

CHASSIS AND BODY MAINTENANCE

< PERIODIC MAINTENANCE >

- Use a genuine NISSAN seat belt assembly.