

SECTION MA

MAINTENANCE

CONTENTS

PREPARATION	4	DRIVE BELT	21
PREPARATION	4	DRIVE BELT : Exploded View	21
Special Service Tool	4	DRIVE BELT : Checking	21
Commercial Service Tool	4	DRIVE BELT : Tension Adjustment	21
PERIODIC MAINTENANCE	6	ENGINE COOLANT	21
GENERAL MAINTENANCE	6	ENGINE COOLANT : Draining	21
FOR NORTH AMERICA	6	ENGINE COOLANT : Refilling	22
FOR NORTH AMERICA : Explanation of General Maintenance	6	ENGINE COOLANT : Flushing	24
FOR MEXICO	7	FUEL LINES	25
FOR MEXICO : General Maintenance	8	FUEL LINES : Inspection	25
PERIODIC MAINTENANCE	10	AIR CLEANER FILTER	25
FOR NORTH AMERICA	10	AIR CLEANER FILTER : Removal and Installation	25
FOR NORTH AMERICA : Introduction of Periodic Maintenance	10	AIR CLEANER FILTER : Inspection (Viscous Paper Type)	26
FOR MEXICO	13	ENGINE OIL	26
FOR MEXICO : Introduction of Periodic Maintenance	13	ENGINE OIL : Draining	26
RECOMMENDED FLUIDS AND LUBRICANTS	17	ENGINE OIL : Refilling	26
FOR NORTH AMERICA	17	OIL FILTER	26
FOR NORTH AMERICA : Fluids and Lubricants	17	OIL FILTER : Removal and Installation	27
FOR NORTH AMERICA : Engine Oil Recommendation	17	OIL FILTER : Inspection	28
FOR NORTH AMERICA : Anti-Freeze Coolant Mixture Ratio	18	SPARK PLUG	28
FOR MEXICO	18	SPARK PLUG : Removal and Installation	28
FOR MEXICO : Fluids and Lubricants	18	SPARK PLUG : Inspection	28
FOR MEXICO : SAE Viscosity Number	19	EVAP VAPOR LINES	29
FOR MEXICO : Engine Coolant Mixture Ratio	20	EVAP VAPOR LINES : Inspection	29
ENGINE MAINTENANCE (VQ37VHR)	21	ENGINE MAINTENANCE (VK50VE)	30
		DRIVE BELTS	30
		DRIVE BELTS : Exploded View	30
		DRIVE BELTS : Checking	30
		DRIVE BELTS : Tension Adjustment	31
		ENGINE COOLANT	31
		ENGINE COOLANT : Draining	31
		ENGINE COOLANT : Refilling	31

ENGINE COOLANT : Flushing	33	FRONT DIFFERENTIAL GEAR OIL: F160A : In- spection	48
FUEL LINES	34	FRONT DIFFERENTIAL GEAR OIL: F160A : Draining	48
FUEL LINES : Inspection	34	FRONT DIFFERENTIAL GEAR OIL: F160A : Re- filling	49
AIR CLEANER FILTER	34	REAR DIFFERENTIAL GEAR OIL: R200	49
AIR CLEANER FILTER : Removal and Installation	34	REAR DIFFERENTIAL GEAR OIL: R200 : Inspec- tion	49
AIR CLEANER FILTER : Inspection (Viscous Pa- per Type)	35	REAR DIFFERENTIAL GEAR OIL: R200 : Drain- ing	49
ENGINE OIL	35	REAR DIFFERENTIAL GEAR OIL: R200 : Refill- ing	50
ENGINE OIL : Draining	35	REAR DIFFERENTIAL GEAR OIL: R230	50
ENGINE OIL : Refilling	35	REAR DIFFERENTIAL GEAR OIL: R230 : Inspec- tion	50
OIL FILTER	36	REAR DIFFERENTIAL GEAR OIL: R230 : Drain- ing	50
OIL FILTER : Removal and Installation	36	REAR DIFFERENTIAL GEAR OIL: R230 : Refill- ing	51
OIL FILTER : Inspection	37	WHEELS (BONDING WEIGHT TYPE)	51
SPARK PLUG	37	WHEELS (BONDING WEIGHT TYPE) : Adjust- ment	51
SPARK PLUG : Removal and Installation	37	BRAKE FLUID LEVEL AND LEAKS	53
SPARK PLUG : Inspection	37	BRAKE FLUID LEVEL AND LEAKS : Inspection ...	53
EVAP VAPOR LINES	38	BRAKE LINES AND CABLES	53
EVAP VAPOR LINES : Inspection	38	BRAKE LINES AND CABLES : Inspection	53
CHASSIS MAINTENANCE	39	BRAKE FLUID	53
EXHAUST SYSTEM	39	BRAKE FLUID : Changing	53
EXHAUST SYSTEM : Inspection	39	DISC BRAKE	53
A/T FLUID: RE7R01A	39	DISC BRAKE : Inspection	53
A/T FLUID: RE7R01A : Inspection	39	DISC BRAKE : Front Disc Brake	54
A/T FLUID: RE7R01A : Changing	39	DISC BRAKE : Rear Disc Brake	55
A/T FLUID: RE7R01A : Adjustment	41	STEERING GEAR AND LINKAGE	55
A/T FLUID: RE7R01B	41	STEERING GEAR AND LINKAGE : Inspection	55
A/T FLUID: RE7R01B : Inspection	41	POWER STEERING FLUID AND LINES	55
A/T FLUID: RE7R01B : Changing	42	POWER STEERING FLUID AND LINES : Inspec- tion	55
A/T FLUID: RE7R01B : Adjustment	43	AXLE AND SUSPENSION PARTS	56
TRANSFER FLUID	44	AXLE AND SUSPENSION PARTS : Inspection	56
TRANSFER FLUID : Inspection	44	DRIVE SHAFT	56
TRANSFER FLUID : Draining	44	DRIVE SHAFT : Inspection	56
TRANSFER FLUID : Refilling	45	BODY MAINTENANCE	57
FRONT PROPELLER SHAFT: 2S56A	45	LOCKS, HINGES AND HOOD LATCH	57
FRONT PROPELLER SHAFT: 2S56A : Inspec- tion	45	LOCKS, HINGES AND HOOD LATCH : Lubricat- ing	57
REAR PROPELLER SHAFT: 3S80A-R	46	SEAT BELT, BUCKLES, RETRACTORS, AN- CHORS AND ADJUSTERS	57
REAR PROPELLER SHAFT: 3S80A-R : Inspec- tion	46		
REAR PROPELLER SHAFT: 3F80A-1VL107	46		
REAR PROPELLER SHAFT: 3F80A-1VL107 : In- spection	46		
REAR PROPELLER SHAFT: 3F-R-2VL107	47		
REAR PROPELLER SHAFT: 3F-R-2VL107 : In- spection	47		
FRONT DIFFERENTIAL GEAR OIL: F160A	48		

SEAT BELT, BUCKLES, RETRACTORS, AN- CHORS AND ADJUSTERS : Inspection	57	
SERVICE DATA AND SPECIFICATIONS (SDS)	58	
SERVICE DATA AND SPECIFICATIONS (SDS)	58	
DRIVE BELT (VQ37VHR)	58	
DRIVE BELT (VQ37VHR) : Drive Belt	58	
DRIVE BELTS (VK50VE)	58	
DRIVE BELTS (VK50VE) : Drive Belts	58	
ENGINE COOLANT (VQ37VHR)	58	
ENGINE COOLANT (VQ37VHR) : Periodical Maintenance Specification	58	
ENGINE COOLANT (VK50VE)	58	
ENGINE COOLANT (VK50VE) : Periodical Maintenance Specification	58	A
ENGINE OIL (VQ37VHR)	58	
ENGINE OIL (VQ37VHR) : Periodical Maintenance Specification	58	B
ENGINE OIL (VK50VE)	58	
ENGINE OIL (VK50VE) : Periodical Maintenance Specification	58	C
SPARK PLUG (VQ37VHR)	59	
SPARK PLUG (VQ37VHR) : Spark Plug	59	D
SPARK PLUG (VK50VE)	59	
SPARK PLUG (VK50VE) : Spark Plug	59	E
ROAD WHEEL	59	
ROAD WHEEL : Road Wheel	59	F
		G
		H
		I
		J
		K
		L
		M
		N
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PREPARATION

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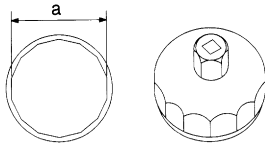
PREPARATION

PREPARATION

Special Service Tool

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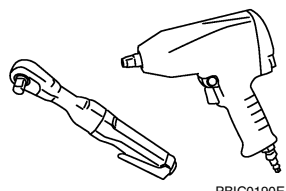
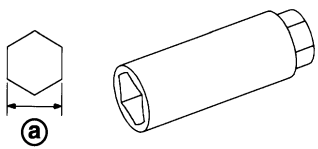
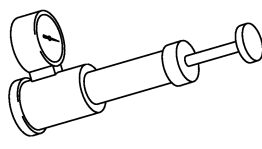
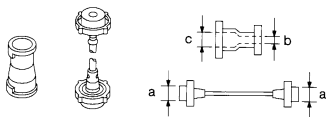
The actual shapes of TechMate tools may differ from those of special service tools illustrated here.

Tool number (TechMate No.) Tool name	Description
KV10115801 (J38956) Oil filter wrench	Removing and installing oil filter a: 64.3 mm (2.531 in)
 <p style="text-align: center;">S-NT375</p>	

Commercial Service Tool

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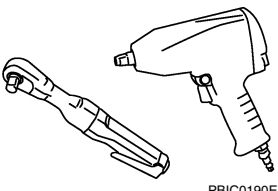
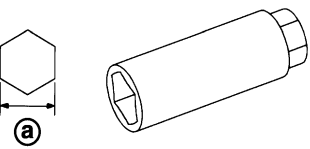
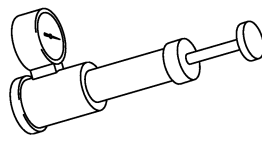
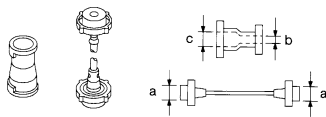
VQ37VHR ENGINE MODELS

Tool name (TechMate No.)	Description
Power tool (—)	Loosening nuts and bolts
 <p style="text-align: center;">PBIC0190E</p>	
Spark plug wrench (—)	Removing and installing spark plug a : 14 mm (0.55 in)
 <p style="text-align: center;">JPBA0399ZZ</p>	
Radiator cap tester (—)	Checking radiator and radiator cap
 <p style="text-align: center;">PBIC1982E</p>	
Radiator cap tester adapter (—)	Adapting radiator cap tester to radiator cap and water outlet (front) filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. c: 41.3 (1.626) dia. Unit: mm (in)
 <p style="text-align: center;">S-NT564</p>	

VK50VE ENGINE MODELS

PREPARATION

< PREPARATION >

Tool name (TechMate No.)	Description
Power tool (—)  PBIC0190E	Loosening nuts and bolts
Spark plug wrench (—)  JPBIA0399ZZ	Removing and installing spark plug a : 14 mm (0.55 in)
Radiator cap tester (—)  PBIC1982E	Checking radiator and radiator cap
Radiator cap tester adapter (—)  S-NT564	Adapting radiator cap tester to radiator cap and water inlet filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. c: 41.3 (1.626) dia. Unit: mm (in)

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MA

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

GENERAL MAINTENANCE FOR NORTH AMERICA

FOR NORTH AMERICA : Explanation of General Maintenance

INFOID:0000000010577133

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

OUTSIDE THE VEHICLE

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

Item		Reference page
Tires	Check the pressure with a gauge often and always prior to long distance trips. Adjust the pressure in all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	WT-71
Wheel nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	—
Tire rotation	Tires should be rotated every 5,000 miles (8,000 km).	MA-51
Tire Pressure Monitoring System (TPMS) transmitter components	Replace the TPMS transmitter grommet seal, valve core and cap when the tires are replaced due to wear or age.	WT-68
Wheel alignment and balance	If the vehicle should pull to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed. For additional information regarding tires, refer to "Important Tire Safety Information" (US) or "Tire Safety Information" (Canada) in the INFINITI Warranty Information Booklet.	FSU-8 (2WD) FSU-28 (AWD) RSU-6 MA-51
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
Windshield wiper blades	Check for cracks or wear if they do not wipe properly.	—
Doors and engine hood	Check that all doors and the engine hood operate smoothly as well as the back door, trunk lid and glass hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	MA-57
Lamps	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	—

INSIDE THE VEHICLE

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

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

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

Item		Reference page	
Seats	Check seat position controls such as seat adjusters, seatback recliner, etc. to make sure they operate smoothly and that all latches lock securely in every position. Check that the head restraints move up and down smoothly and that the locks (if equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—	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.	MA-57	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-9 BR-15	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-4	F
Automatic transmission "Park" mechanism	Check that the lock release button on the selector lever operates properly and smoothly. On a fairly steep hill check that the vehicle is held securely with the selector lever in the P (Park) position without applying any brakes.	—	G

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.	—	H
Engine coolant level	Check the coolant level when the engine is cold.	CO-10	I
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.	CO-14	J
Brake fluid level	Make sure that the brake fluid level is between the "MAX" and "MIN" lines on the reservoir.	MA-53	K
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-3	L
Engine drive belts	Make sure that no belt is frayed, worn, cracked or oily.	MA-21	M
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	N
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.	MA-55	O
Exhaust system	Make sure there are no loose supports, cracks or holes. If the sound of the exhaust seems unusual or there is a smell of exhaust fumes, immediately locate the trouble and correct it.	MA-39	
Underbody	The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—	
Fluid leaks	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—	MA

FOR MEXICO

GENERAL MAINTENANCE

< PERIODIC MAINTENANCE >

FOR MEXICO : General Maintenance

INFOID:000000010577134

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

OUTSIDE THE VEHICLE

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

Item		Reference page
Doors and hood	Check that all doors and the hood operate smoothly as well as the back door, trunk lid and hatch. Also make sure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	MA-57
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-71
Tire rotation	In the case that Two-Wheel Drive (2WD) and front & rear tires are same size; Tires should be rotated every 10,000 km (6,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that Four-Wheel Drive (4WD) and front & rear tires are same size; Tires should be rotated every 5,000 km (3,000 miles). Tires marked with directional indicators can only be rotated between front and rear. Make sure that the directional indicators point in the direction of wheel rotation after the tire rotation is completed. In the case that front tires are different size from rear tires; Tires cannot be rotated. However, the timing for tire rotation may vary according to your driving habits and the road surface conditions.	MA-51
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-68
Wheel alignment and balance	If the vehicle should pull to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed.	FSU-28 RSU-6 MA-51
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	—
Wiper blades	Check for cracks or wear if not functioning correctly. Replace as necessary.	—

INSIDE THE VEHICLE

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

Item		Reference page
Accelerator pedal	Check the pedal for smooth operation and make sure that the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—
Brake pedal	Check the pedal for smooth operation and make sure that it is the proper distance from the floor mat when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	BR-9
Parking brake	Check the parking brake operation regularly. Check that the lever (if equipped) or the pedal (if equipped) has the proper travel. Also make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	PB-4
Seat belts	Check that all parts of the seat belt system (for example, buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	MA-57

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-3
Brake (and clutch) fluid level(s)	For Manual Transmission (MT) model; Make sure that the brake and clutch fluid levels are between the "MAX" and "MIN" lines on the reservoir(s). Except for Manual Transmission (MT) model; Make sure that the brake fluid level is between the "MAX" and "MIN" lines on the reservoir.	MA-53
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 (VQ37) CO-37 (VK50)
Engine drive belt(s)	Make sure that drive belt(s) is/are not frayed, worn, cracked or oily.	MA-21 (VQ37) MA-30 (VK50)
Engine oil level	Check the level after parking the vehicle (on a level ground) and turning off the engine.	LU-8 (VQ37) LU-26 (VK50)
Fluid leaks	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or if fuel fumes are evident, check for cause and have it corrected immediately.	—
Power steering fluid level and lines	Check the level when the fluid is cold, with the engine off. Check the lines for proper attachment, leaks, cracks, etc.	MA-55
Windshield washer fluid	Check that there is adequate fluid in the reservoir.	—

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE FOR NORTH AMERICA

FOR NORTH AMERICA : Introduction of Periodic Maintenance

INFOID:0000000010577135

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)
		6	12	18	24	30	36	42	48	54
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)
		60	66	72	78	84	90	96	102	108
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)	
		114	120	126	132	138	144	
Drive belt	NOTE (1)		I*		I*		I*	MA-21
Air cleaner filter	NOTE (2)						R	MA-25
EVAP vapor lines			I*				I*	MA-29

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Fuel lines			I*				I*	MA-25
Fuel filter	NOTE (3)							—
Engine coolant*	NOTE (4)(5)							MA-21
Engine oil		R	R	R	R	R	R	MA-26
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)		R	R	R	R	R	R	MA-27
Spark plugs (Iridium-tipped type)	NOTE (6)	Replace every 105,000 miles (168,000 km)						MA-28
Intake and exhaust valve clearance*	NOTE (7)							EM-20

NOTE:

- (1) After 40,000 miles (64,000 km) or 48 months, inspect every 10,000 miles (16,000 km) or 12 months. Replace the drive belts if found damaged.
- (2) If operating mainly in dusty conditions, more frequent maintenance may be required.
- (3) Maintenance-free item. For service procedures, refer to the FL section.
- (4) First replacement interval is 105,000 miles (168,000 km) or 84 months. After first replacement, replace every 75,000 miles (120,000 km) or 60 months.
- (5) Use only Genuine NISSAN long life Antifreeze/Coolant (blue) or equivalent with proper mixture ratio of 50% anti-freeze and 50% demineralized or distilled water. Mixing any other type of coolant or the use of non-distilled water will reduce the life expectancy of the factory fill coolant.
- (6) Replace spark plug when the plug gap exceeds 1.4 mm (0.055 in) even if within specified periodic replacement mileage.
- (7) Periodic maintenance is not required. However, if valve noise increases, inspect valve clearance.

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

Chassis and Body Maintenance

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

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

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference Page
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	95 (152) 114	100 (160) 120	105 (168) 126	110 (176) 132	115 (184) 138	120 (192) 144	
Brake lines & cables			I		I		I	MA-53
Brake pads & rotors★			I		I		I	MA-53
Brake fluid★			R				R	MA-53
Automatic transmission fluid	NOTE (1)							MA-39 (RE7R01A)
Transfer fluid & differential gear oil	NOTE (2)		I		I		I	MA-44 MA-48 MA-49
Steering gear & linkage, axle & suspension parts★			I				I	MA-55 MA-56
Tire rotation	NOTE (3)							MA-6 MA-51
Drive shaft boots (AWD models) & Propeller shaft★			I		I		I	MA-45 MA-46 MA-46 MA-56
Exhaust system★			I				I	MA-39
In-cabin microfilter				R			R	VTL-9

NOTE:

- Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Automatic transmission fluid maintenance-free.
- (2) If towing a trailer, using a camper or car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 20,000 miles (32,000 km) or 24 months.
- (3) Refer to “Tire rotation” under the “GENERAL MAINTENANCE” heading earlier in this section.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

Severe driving conditions

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

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

Maintenance item	Maintenance operation	Maintenance interval	Reference page
Brake fluid	Replace	Every 10,000 miles (16,000 km) or 12 months	MA-53
Brake pads & rotors	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-53
Steering gear & linkage, axle & suspension parts	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-55 MA-56
Drive shaft boots (AWD models) & Propeller shaft	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-45 MA-46 MA-46 MA-56
Exhaust system	Inspect	Every 5,000 miles (8,000 km) or 6 months	MA-39

FOR MEXICO

FOR MEXICO : Introduction of Periodic Maintenance

INFOID:000000010577136

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

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

ENGINE AND EMISSION CONTROL MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer- ence page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000)	12 (7.5)	24 (15)	36 (22.5)	48 (30)	60 (37.5)	72 (45)	84 (52.5)	96 (60)	
	Months	6	12	18	24	30	36	42	48	
Engine compartment and under vehicle										
Intake & exhaust valve clearance	See NOTE (1)									EM-20 (VQ37) EM-179 (VK50)
Drive belts	See NOTE (2)				I				I	MA-21 (VQ37) MA-30 (VK50)
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-26 (VQ37) MA-35 (VK50)
Engine oil filter (Use Genuine NISSAN engine oil filter or equivalent.)★		R	R	R	R	R	R	R	R	MA-27 (VQ37) MA-36 (VK50)

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Engine coolant	See NOTE (3)				E				E	MA-21 (VQ37) MA-31 (VK50)
Cooling system					I				I	CO-10 (VQ37) CO-14 (VQ37) CO-14 (VQ37) CO-37 (VK50) CO-41 (VK50) CO-41 (VK50)
Fuel lines					I				I	MA-25 (VQ37) MA-34 (VK50)
Air cleaner filter (Viscous paper type)★		Replace every 36,000 km (22,500 miles) or 24 months								MA-25 (VQ37) MA-34 (VK50)
Fuel filter (In-tank type)	See NOTE (4)									—
Spark plugs (Iridium-tipped type)	See NOTE (5)	Replace every 96,000 km (60,000 miles)								MA-28 (VQ37) MA-37 (VK50)
EVAP vapor lines (With carbon canister)					I				I	MA-29 (VQ37) MA-38 (VK50)

NOTE:

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

- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belts if found damaged or if the auto belt tensioner reading reaches the maximum limit.
- (3) Use Genuine NISSAN Engine Coolant (blue) or equivalent in its quality, in order to avoid possible aluminium corrosion within the engine cooling system caused by the use of non-genuine engine coolant. Check and correct the engine coolant mixture ratio every 48,000 km (30,000 miles) or 24 months. First replacement interval is 168,000 km (105,000 miles) or 96 months. After first replacement, replace every 84,000 km (52,500 miles) or 48 months.
- (4) Fuel filter is maintenance-free. For service procedures, refer to FL section.
- (5) Replace spark plug when the plug gap exceeds 1.4 mm (0.055 in) even 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
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Underhood and under vehicle										
Brake line & cables			I		I		I		I	MA-53

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
	km x 1,000 (Miles x 1,000) Months	12 (7.5) 6	24 (15) 12	36 (22.5) 18	48 (30) 24	60 (37.5) 30	72 (45) 36	84 (52.5) 42	96 (60) 48	
Perform either at number of kilometers (miles) or months, whichever comes first.										
Brake fluid (For level & leaks)			I		I		I		I	MA-53
Brake fluid★					R				R	MA-53
Automatic transmission fluid	NOTE (1)									MA-39 (RE7R01A) MA-41 (RE7R01B)
Power steering fluid & lines (For level & leaks)			I		I		I		I	MA-55
Exhaust system					I				I	MA-39
Transfer fluid (For level & leaks)			I		I		I		I	MA-44
Differential gear oil (For level & leaks)★			I		I		I		I	MA-48 MA-49 MA-50
Steering gear & linkage, axle & suspension parts★					I				I	MA-55 MA-56
Propeller shaft & drive shafts★			I		I		I		I	MA-45 MA-46 MA-46 MA-47 MA-56
Outside and inside										
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	FSU-28 RSU-6 MA-51
Brake pads, rotors, drums & linings★			I		I		I		I	MA-53 BR-16 BR-18
Foot brake & parking brake (For free play, stroke & operation)			I		I		I		I	BR-9 PB-4
Air conditioner filter★			R		R		R		R	VTL-9

NOTE:

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

(1) Automatic transmission fluid is maintenance-free.

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

Severe driving conditions

A — Driving under dusty conditions

B — Driving repeatedly short distances

C — Towing a trailer or caravan

D — Extensive idling

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

F — Driving in high humidity or mountainous areas

G — Driving in areas using salt or other corrosive areas

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

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

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

PERIODIC MAINTENANCE

< PERIODIC MAINTENANCE >

Driving condition									Maintenance item	Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	Air cleaner filter (Viscous paper type)	Replace	More frequently	MA-25 (VQ37) MA-34 (VK50)
A	B	C	D	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 6,000 km (3,750 miles) or 3 months	MA-26 (VQ37) MA-35 (VK50) MA-27 (VQ37) MA-36 (VK50)
.	.	.	.	.	F	.	.	.	Brake fluid	Replace	Every 24,000 km (15,000 miles) or 12 months	MA-53
.	.	C	.	.	.	.	H	.	Differential gear oil	Replace	Every 36,000 km (22,500 miles) or 24 months	MA-48 MA-49 MA-50
.	.	.	.	.	.	G	H	.	Steering gear & linkage, axle & suspension parts	Inspect	Every 24,000 km (15,000 miles) or 12 months	MA-55 MA-56
.	.	.	.	.	.	G	H	.	Propeller shaft & drive shafts	Inspect	Every 12,000 km (7,500 miles) or 6 months	MA-45 MA-46 MA-46 MA-47 MA-56
A	.	C	.	.	.	G	H	I	Brake pads, rotors, drums & linings	Inspect	Every 12,000 km (7,500 miles) or 6 months	MA-53 BR-16 BR-18
A	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	More frequently	VTL-9

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

RECOMMENDED FLUIDS AND LUBRICANTS FOR NORTH AMERICA

FOR NORTH AMERICA : Fluids and Lubricants

INFOID:0000000010577137

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

		Capacity (Approximate)			Recommended Fluids/Lubricants
		US measure	Imp measure	Liter	
Engine oil Drain and refill	With oil filter change	5-1/8 qt	4-1/4 qt	4.9	Genuine NISSAN engine oil or equivalent (INFINITI recommends Genuine NISSAN Ester Oil available at an INFINITI retailer.) • Engine oil with API Certification Mark (For additional information, see "Engine Oil Recommendation".) • Viscosity SAE 5W-30
	Without oil filter change	4-7/8 qt	4 qt	4.6	
Dry engine (Overhaul)		6 qt	5 qt	5.7	
Cooling system	With reservoir tank	9-6/8 qt	8-1/8 qt	9.2	Pre-diluted Genuine NISSAN Long Life Antifreeze/ Coolant (blue) or equivalent
	Reservoir tank	7/8 qt	3/4 qt	0.8	
Automatic transmission fluid		9-3/4 qt	8-1/8 qt	9.2	Genuine NISSAN Matic S ATF (Using automatic transmission fluid other than Genuine NISSAN Matic S ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the INFINITI new vehicle limited warranty.)
Differential gear oil	Front	1-3/8 pt	1-1/8 pt	0.65	Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90 [For hot climates, viscosity SAE 90 is suitable for ambient temperatures above 32°F (0°C).]
	Rear	3 pt	2-1/2 pt	1.40	VQ37VHR without towing package: Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90 [For hot climates, viscosity SAE 90 is suitable for ambient temperatures above 32°F (0°C).] VQ37VHR with towing package: API GL-5 Synthetic gear oil, Viscosity SAE 75W-90 (See an INFINITI retailer for service for synthetic oil.)
Transfer fluid		2-1/8 pt	1-3/4 pt	1.0	Genuine NISSAN Matic J ATF (Using transfer fluid other than Genuine NISSAN Matic J ATF will cause deterioration in driveability and transfer durability, and may damage the transfer, which is not covered by the INFINITI new vehicle limited warranty.)
Power steering fluid (PSF)		1-1/8 qt	7/8 qt	1.0	• Genuine NISSAN PSF or equivalent • DEXRON™ VI type ATF may also be used.
Brake fluid		—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid (Available in mainland U.S.A. through an INFINITI retailer) or equivalent DOT 3 (US FMVSS No. 116)
Multi-purpose grease		—	—	—	NLGI No. 2 (Lithium soap base)
Windshield washer fluid		—	—	—	Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent
Fuel recommendation		—	—	—	Refer to GL-36, "Fuel" .

FOR NORTH AMERICA : Engine Oil Recommendation

INFOID:0000000010577138

NISSAN recommends the use of an energy conserving oil in order to improve fuel economy.

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

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 NORTH AMERICA : Anti-Freeze Coolant Mixture Ratio

INFOID:0000000010577139

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

WARNING:

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

CAUTION:

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

FOR MEXICO

FOR MEXICO : Fluids and Lubricants

INFOID:0000000010577140

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

			Capacity (Approximate)		Recommended Fluids/Lubricants
			Imp measure	Liter	
Engine oil Drain and refill	With oil filter change	VQ37VHR	4-1/4 qt	4.9	Nippon oil (Genuine NISSAN engine oil) API grade SM Viscosity SAE 5W-30
		VK50VE	5-7/8 qt	6.7	
	Without oil filter change	VQ37VHR	4 qt	4.6	
		VK50VE	5-1/8 qt	5.8	
Dry engine (engine overhaul)		VQ37VHR	5 qt	5.7	
		VK50VE	6-3/8 qt	7.2	

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

			Capacity (Approximate)		Recommended Fluids/Lubricants
			Imp measure	Liter	
Cooling system	With reservoir tank	VQ37VHR	8-1/8 qt	9.2	Genuine NISSAN Engine Coolant (blue) or equivalent (Use Genuine NISSAN Engine Coolant (blue) or equivalent in its quality, in order to avoid possible aluminium corrosion within the engine cooling system caused by the use of non-genuine engine coolant.) Note that any repairs for the incidents within the engine cooling system while using non-genuine engine coolant may not be covered by the warranty even if such incidents occurred during the warranty period.
		VK50VE	9-5/8 qt	11	
	Reservoir tank	VQ37VHR	3/4 qt	0.8	
		VK50VE	3/4 qt	0.8	
Automatic transmission fluid		VQ37VHR	8-1/8 qt	9.2	Genuine NISSAN Matic S ATF (Using automatic transmission fluid other than Genuine NISSAN Matic S ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the warranty.)
		VK50VE	10 qt	11.3	
Power steering fluid			7/8 qt	1.0	<ul style="list-style-type: none">• Genuine NISSAN PSF or equivalent• DEXRON™ VI type ATF may also be used.
Brake fluid			—	—	Genuine NISSAN Brake Fluid or equivalent DOT 3 (US FMVSS No. 116)
Transfer fluid			1-3/4 pt	1.0	Genuine NISSAN Matic J ATF (Using transfer fluid other than Genuine NISSAN Matic J ATF will cause deterioration in driveability and transfer durability, and may damage the transfer, which is not covered by the warranty.)
Differential gear oil	Front		1-1/8 pt	0.65	Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5 (For additional information, see “SAE Viscosity Number”.)
	Rear	VQ37VHR	2-1/2 pt	1.4	For VQ37 engine model: Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 or API GL-5 (For additional information, see “SAE Viscosity Number”.) For VK50 engine model: Genuine NISSAN Differential Oil Hypoid Super-S GL-5 synthetic 75W-90 or equivalent (See an INFINITI dealer for service for synthetic oil.)
		VK50VE	3-1/8 pt	1.75	
Multi-purpose grease			—	—	NLGI No. 2 (Lithium soap base)

FOR MEXICO : SAE Viscosity Number

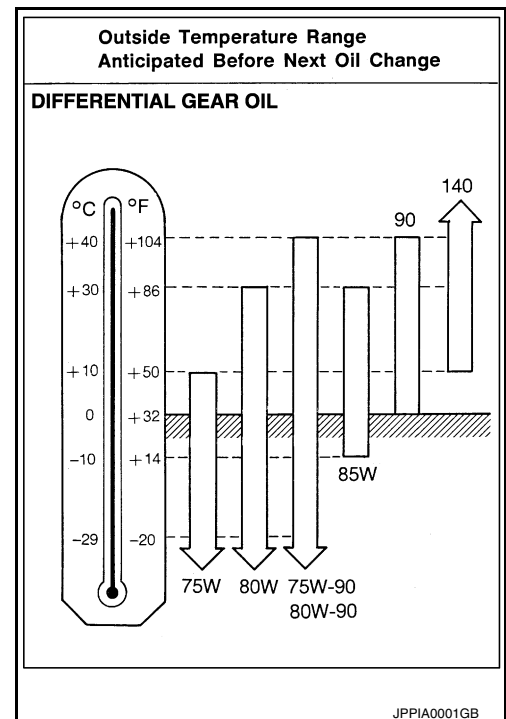
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DIFFERENTIAL GEAR OIL

RECOMMENDED FLUIDS AND LUBRICANTS

< PERIODIC MAINTENANCE >

- 80W-90 for the front differential gear is preferable.



FOR MEXICO : Engine Coolant Mixture Ratio

INFOID:000000010577142

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

CAUTION:

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

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

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

Mixed coolant specific gravity

Unit: specific gravity

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

WARNING:

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

ENGINE MAINTENANCE (VQ37VHR)

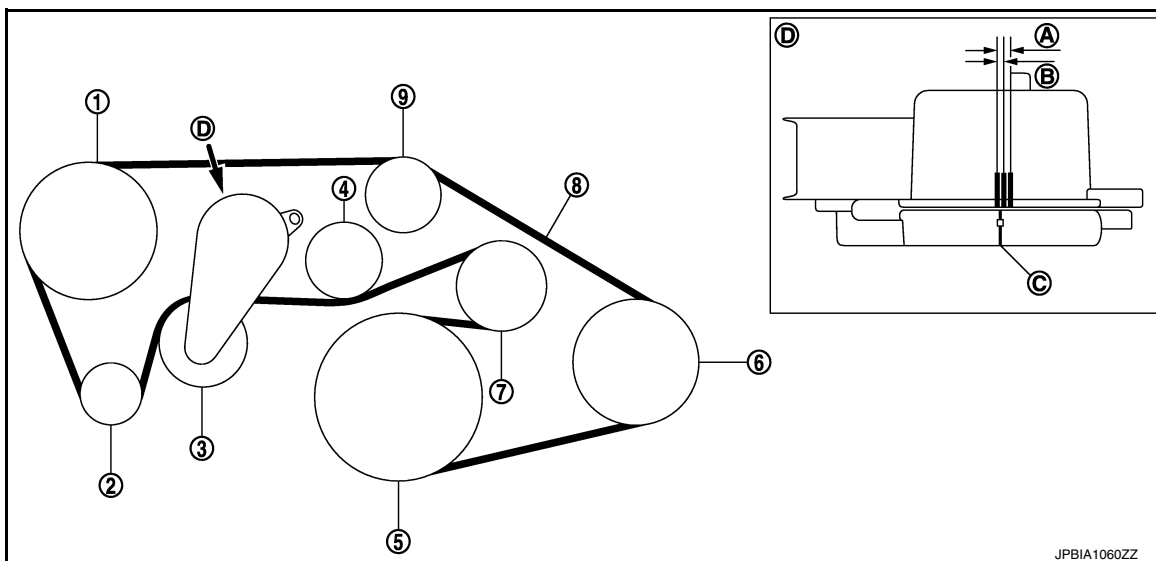
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (VQ37VHR)

DRIVE BELT

DRIVE BELT : Exploded View

INFOID:0000000010577143



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

DRIVE BELT : Checking

INFOID:0000000010577144

WARNING:

Be sure to perform this step when engine is stopped.

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

NOTE:

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

DRIVE BELT : Tension Adjustment

INFOID:0000000010577145

Refer to [EM-151. "Drive Belt"](#).

ENGINE COOLANT

ENGINE COOLANT : Draining

INFOID:0000000010577146

WARNING:

- **Never change engine coolant when the engine is hot to avoid being scalded.**
- **Wrap a thick cloth around radiator cap and carefully remove radiator cap. First, turn radiator cap a quarter of a turn to release built-up pressure. Then turn radiator cap all the way.**

1. Connect drain hose.

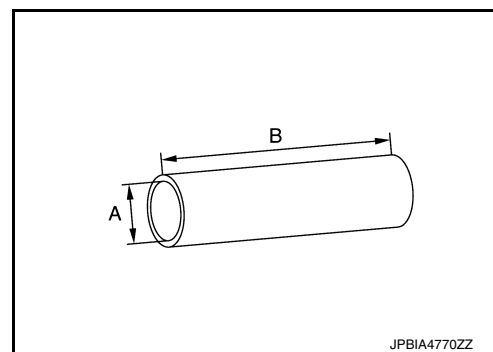
NOTE:

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

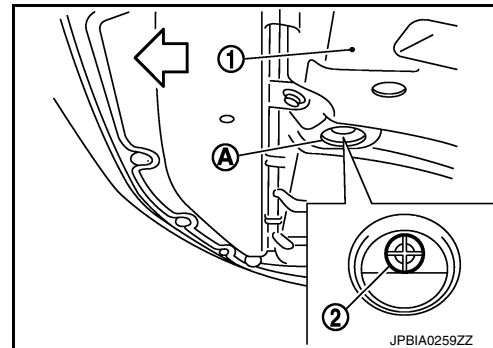
Use a general-purpose hose with the dimensions shown in the figure.

- A : ϕ 15 - 16 mm (0.59 - 0.63 in)
B : 145 mm (5.17 in)



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

- 1 : Engine under cover
A : Radiator drain plug hole
⇐ : Vehicle front



When draining all of engine coolant in the system, open water drain plugs on cylinder block. Refer to [EM-163, "NVH Troubleshooting - Engine Noise"](#).

3. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.
4. Check drained engine coolant for contaminants such as rust, corrosion or discoloration.
If contaminated, flush the engine cooling system. Refer to [CO-13, "Flushing"](#).
5. Disconnect drain hose.

ENGINE COOLANT : Refilling

INFOID:0000000010577147

CAUTION:

- Do not reuse O-rings.
- Do not put additive such as waterleak preventive, since it may cause cooling waterway clogging.
- When refilling use Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#)(For North America) or [MA-18, "FOR MEXICO : Fluids and Lubricants"](#)(For Mexico).

1. Remove engine cover. Refer to [CO-16, "Exploded View"](#)
2. Install reservoir tank if removed, and radiator drain plug.

CAUTION:

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

Tightening torque : Refer to [CO-16, "Exploded View"](#).

If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-163, "NVH Troubleshooting - Engine Noise"](#).

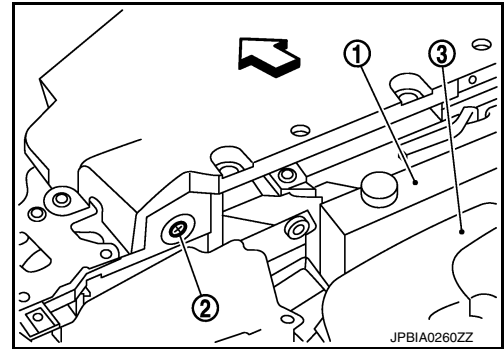
3. Check that each hose clamp has been firmly tightened.

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

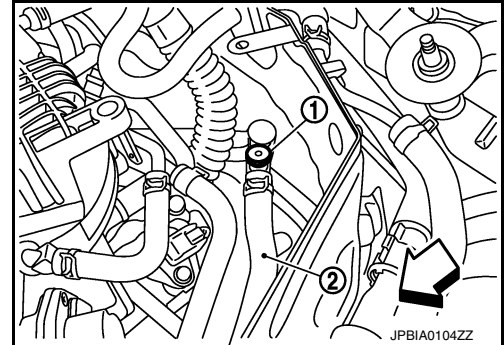
4. Remove air relief plug (2) on radiator left side.

- 1 : Reservoir tank
3 : Engine cover
⇐ : Vehicle front



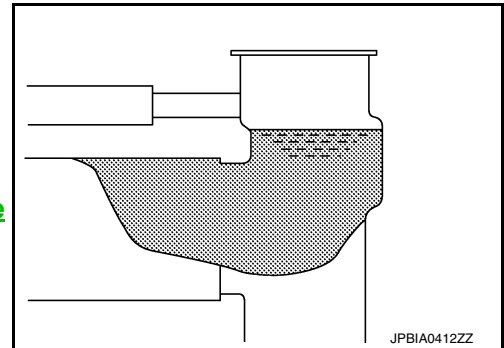
5. Remove air relief plug (1) on heater hose. (Models with air relief plug on heater hose)

- 2 : Heater hose
⇐ : Vehicle front

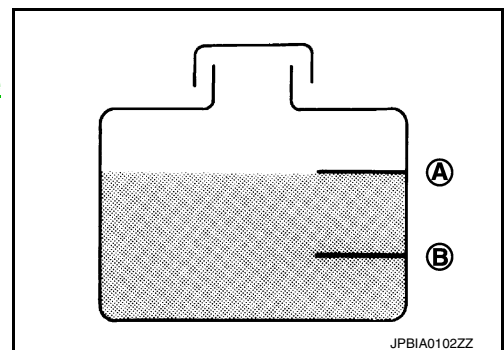


6. Fill radiator, and reservoir tank if removed, to specified level.
• **Pour engine coolant through engine coolant filler neck slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.**

Engine coolant capacity : Refer to [CO-30, "Periodical Maintenance Specification"](#).
(With reservoir tank at "MAX" level)



Reservoir tank engine coolant capacity : Refer to [CO-30, "Periodical Maintenance Specification"](#).
(At "MAX" level)



7. When engine coolant overflows air relief hole on radiator, install air relief plug with new O-ring.

CAUTION:
Do not reuse O-ring.

Tightening torque : Refer to [CO-16, "Exploded View"](#).

8. Repeat step 6.
9. When engine coolant overflows air relief hole on heater hose, install air relief plug with new O-ring. Then refill radiator with engine coolant. (Models with air relief plug on heater hose)

CAUTION:
Do not reuse O-ring.

: 1.2 N·m (0.12 kg-m, 11 in-lb)

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

10. Install radiator cap.
11. Warm up engine until opening thermostat . Standard for warming-up time is approximately 10 minutes at 3,000 rpm.
 - Check thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.**CAUTION:**
Watch water temperature gauge so as not to overheat engine.
12. Stop the engine and cool down to less than approximately 50°C (122°F).
 - Cool down using fan to reduce the time.
 - If necessary, refill radiator up to filler neck with engine coolant.
13. Refill reservoir tank to "MAX" level line with engine coolant.
14. Repeat steps 10 through 13 two or more times with radiator cap installed until engine coolant level no longer drops.
15. Check cooling system for leakage with engine running.
16. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between "COOL" and "WARM".
 - Sound may be heard from the heater unit.
17. Repeat step 16 three times.
18. If sound is heard, bleed air from cooling system by repeating step 6, and steps from 10 to 17 until engine coolant level no longer drops.
19. Check that the reservoir tank cap is tightened.

ENGINE COOLANT : Flushing

INFOID:000000010577148

1. Install reservoir tank if removed, and radiator drain plug.
CAUTION:
Be sure to clean drain plug and install with new O-ring.

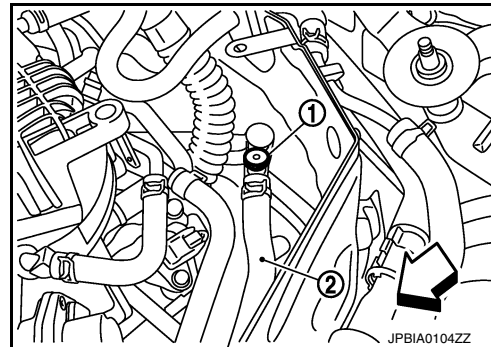
Tightening torque : Refer to [CO-16, "Exploded View"](#).

If water drain plugs on cylinder block are removed, close and tighten them. Refer to [EM-83, "Setting"](#).

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

2 : Heater hose

⇐ : Vehicle front

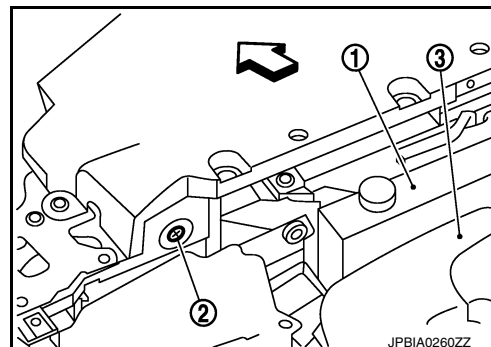


3. Remove air relief plug (2) on radiator.

1 : Reservoir tank

3 : Engine cover

⇐ : Vehicle front



4. Fill radiator until water spills from the air relief holes, then close air relief plugs. Fill radiator and reservoir tank with water and reinstall radiator cap.

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

Tightening torque : Refer to [CO-16, "Exploded View"](#).

5. Run the engine and warm it up to normal operating temperature.
6. Rev the engine two or three times under no-load.
7. Stop the engine and wait until it cools down.
8. Drain water from the system. Refer to [CO-10, "Draining"](#).
9. Repeat steps 1 through 8 until clear water begins to drain from radiator.
10. Check that the reservoir tank cap is tightened.

FUEL LINES

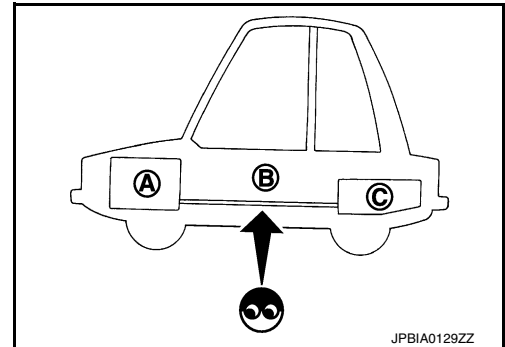
FUEL LINES : Inspection

INFOID:0000000010577149

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

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

- If necessary, repair or replace damaged parts.



AIR CLEANER FILTER

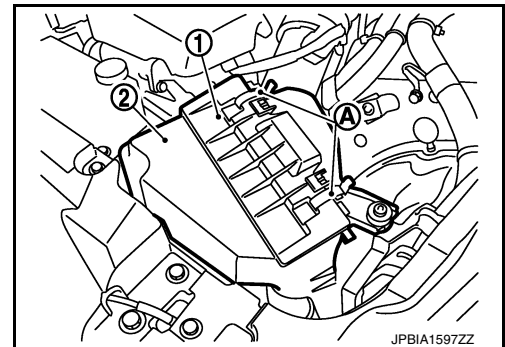
AIR CLEANER FILTER : Removal and Installation

INFOID:0000000010577150

REMOVAL

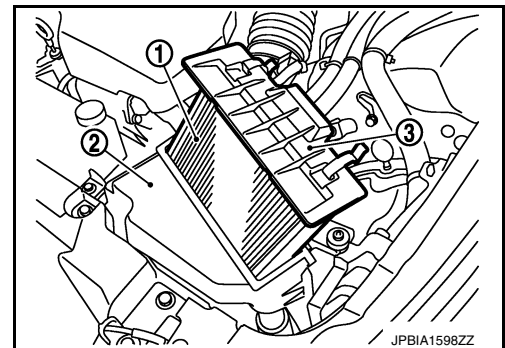
1. Unhook clips (A).

- 1 : Holder
2 : Air cleaner case



2. Remove air cleaner filter (1) from air cleaner case (2).

- 3 : Holder



INSTALLATION

Note the following, and install in the reverse order of removal.

- Install the air cleaner filter by aligning the seal with the notch of air cleaner case.

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

AIR CLEANER FILTER : Inspection (Viscous Paper Type)

INFOID:0000000010577151

INSPECTION AFTER REMOVAL

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

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

CAUTION:

Never clean the viscous paper type air cleaner element by blowing as there is a risk of deterioration of its performance

MAINTENANCE INTERVAL

Refer to [MA-10, "FOR NORTH AMERICA : Introduction of Periodic Maintenance"](#) (For NORTH AMERICA) or [MA-13, "FOR MEXICO : Introduction of Periodic Maintenance"](#) (For MEXICO).

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000010577152

WARNING:

- Be careful not to get burn yourself, as engine oil may be hot.
 - Prolonged and repeated contact with used engine oil may cause skin cancer. Try to avoid direct skin contact with used engine oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.
1. Warm up the engine, and check for engine oil leakage from engine components. Refer to [LU-8, "Inspection"](#).
 2. Stop the engine and wait for 10 minutes.
 3. Loosen oil filler cap.
 4. Remove undercover with power tool.
 5. Remove drain plug and then drain engine oil.

ENGINE OIL : Refilling

INFOID:0000000010577153

1. Install drain plug with new washer. Refer to [EM-47, "Exploded View"](#).

CAUTION:

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

Tightening torque

2WD models : Refer to [EM-47, "Exploded View"](#).

AWD models : Refer to [EM-47, "Exploded View"](#).

2. Refill with new engine oil.

Engine oil specification and viscosity: Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America) or [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

Engine oil capacity : Refer to [LU-20, "Periodical Maintenance Specification"](#).

CAUTION:

- When filling engine oil, never pull out oil level gauge.
 - The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.
 - Always use oil level gauge to determine the proper amount of engine oil in engine.
3. Warm up the engine and check area around drain plug and oil filter for engine oil leakage.
 4. Stop the engine and wait for 10 minutes.
 5. Check the engine oil level. Refer to [LU-8, "Inspection"](#).

OIL FILTER

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

OIL FILTER : Removal and Installation

INFOID:000000010577154

REMOVAL

CAUTION:

- Oil filter is provided with relief valve. Use genuine NISSAN oil filter or equivalent.
- Be careful not to get burned when engine and engine oil may be hot.
- When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
- Never allow engine oil to adhere to drive belt.
- Completely wipe off any engine oil that adheres to engine and vehicle.

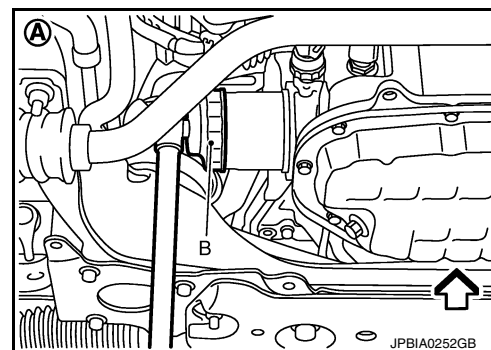
1. Remove engine undercover with power tool.
2. Using oil filter wrench [SST: KV10115801] (B), remove oil filter.

- 2WD models

A : Vehicle under view

B : Oil filter wrench

⇐ : Engine front

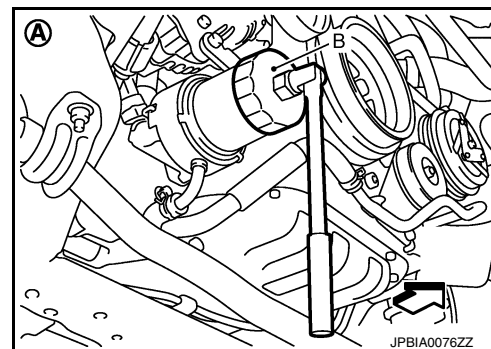


- AWD models

A : Vehicle under view

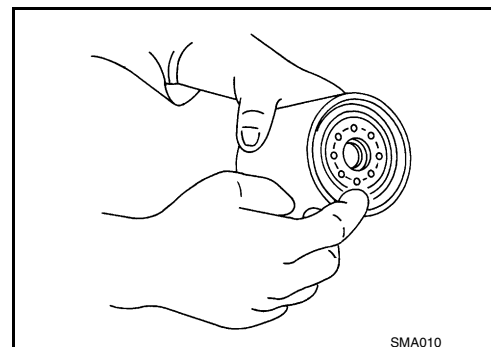
B : Oil filter wrench

⇐ : Engine front



INSTALLATION

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



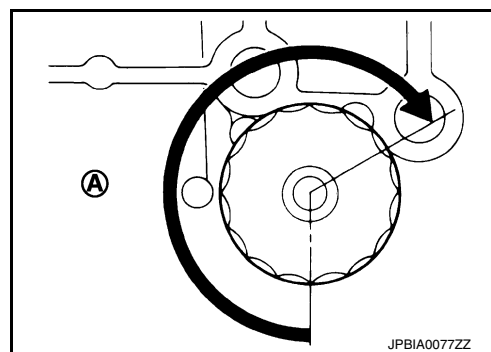
ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

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

Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



INFOID:0000000010577155

OIL FILTER : Inspection

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [LU-8, "Inspection"](#).
2. Start the engine, and check there is no leakage of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to [LU-8, "Inspection"](#).

SPARK PLUG

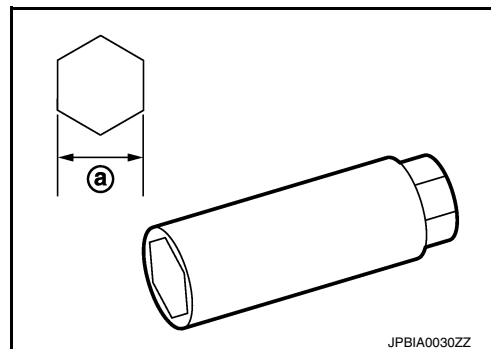
SPARK PLUG : Removal and Installation

INFOID:0000000010577156

REMOVAL

1. Remove engine cover with power tool. Refer to [EM-27, "Exploded View"](#).
2. Remove air cleaner case and air duct. Refer to [EM-29, "Exploded View"](#).
3. Remove electric throttle control actuator. Refer to [EM-31, "Exploded View"](#).
4. Remove ignition coil.
5. Remove spark plug with a spark plug wrench (commercial service tool).

a : 14 mm (0.55 in)



INSTALLATION

Installation is the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000010577157

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

Spark plug (Standard type) : Refer to [EM-151, "Spark Plug"](#).

CAUTION:

ENGINE MAINTENANCE (VQ37VHR)

< PERIODIC MAINTENANCE >

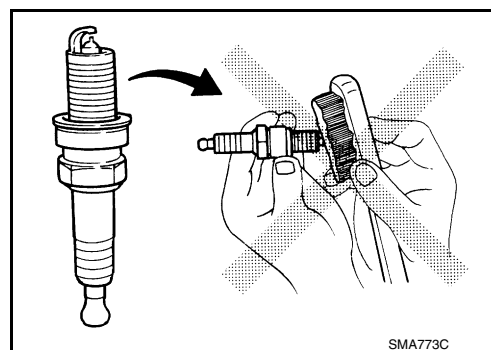
- Never drop or shock spark plug.
- Never use a wire brush for cleaning.
- If plug tip is covered with carbon, use spark plug cleaner to clean.

Cleaner air pressure

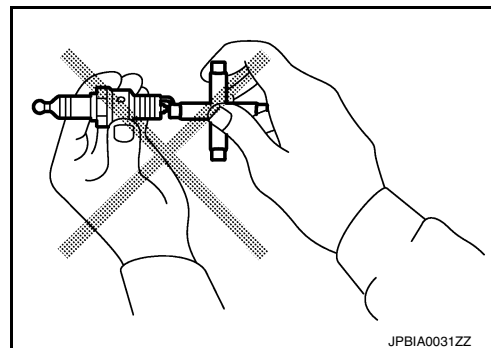
: Less than 588 kPa (5.88 bar, 6 kg/cm², 85 psi)

Cleaning time

: Less than 20 seconds



- Spark plug gap adjustment is not required between replacement intervals.
- Measure spark plug gap. When it exceeds the limit, replace spark plug even if it is within the specified replacement mileage. Refer to [EM-151, "Spark Plug"](#).



EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000010577158

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration. Refer to [EC-628, "Inspection"](#) (For USA and Canada), [EC-1124, "Inspection"](#) (For Mexico).
2. Inspect fuel tank filler cap vacuum relief valve for clogging, sticking, etc.
Refer to [EC-355, "Component Inspection"](#) (For USA and Canada).

ENGINE MAINTENANCE (VK50VE)

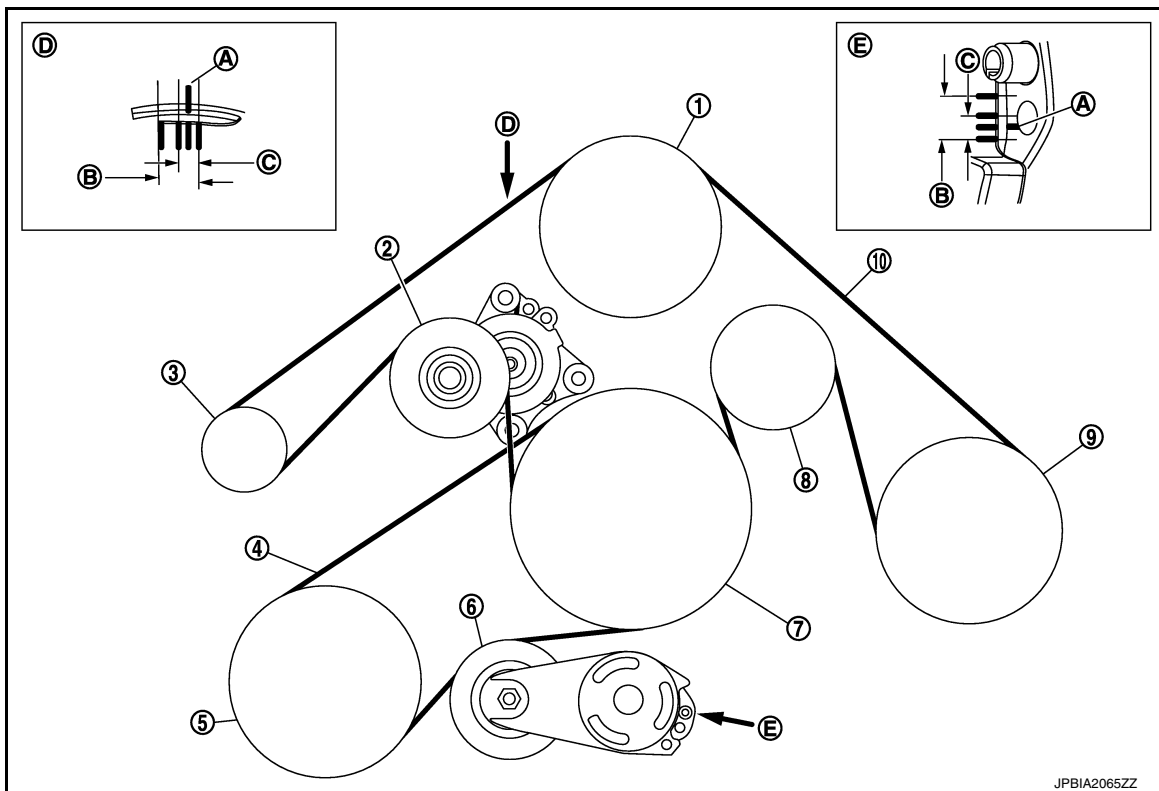
< PERIODIC MAINTENANCE >

ENGINE MAINTENANCE (VK50VE)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000010577159



- | | | |
|--|--|--|
| 1. Water pump | 2. Auto-tensioner (for alternator, water pump and A/C compressor belt) | 3. Alternator |
| 4. Power steering oil pump belt | 5. Power steering oil pump | 6. Auto-tensioner (for power steering oil pump belt) |
| 7. Crankshaft pulley | 8. Idler pulley | 9. A/C compressor |
| 10. Alternator, water pump and A/C compressor belt | | |
| A. Indicator | B. Possible use range | C. Range when new drive belt is installed |
| D. View D | E. View E | |

DRIVE BELTS : Checking

INFOID:0000000010577160

WARNING:

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

- Remove air duct (inlet) when inspecting alternator, water pump and A/C compressor belt.
- Remove engine undercover with power tool when inspecting power steering oil pump belt.
- Check that the indicator (A) (notch on fixed side) of each auto-tensioner is within the possible use range (B).

NOTE:

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

ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

DRIVE BELTS : Tension Adjustment

INFOID:0000000010577161

Refer to [EM-293, "Drive Belts"](#).

ENGINE COOLANT

ENGINE COOLANT : Draining

INFOID:0000000010577162

WARNING:

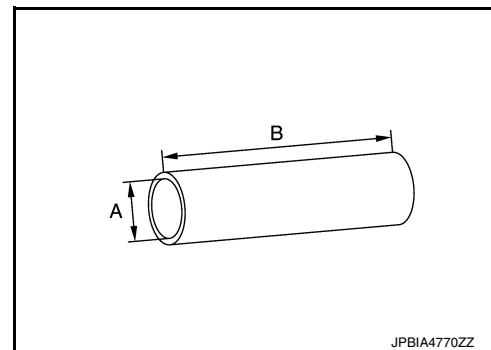
- Never change engine coolant when the engine is hot to avoid being scalded.
- Wrap a thick cloth around radiator cap and carefully remove radiator cap. First, turn radiator cap a quarter of a turn to release built-up pressure. Then turn radiator cap all the way.

1. Connect drain hose.

NOTE:

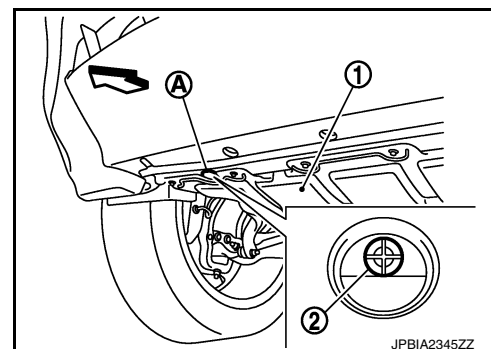
Use general-purpose hose with the dimensions shown in the figure.

- A : ϕ 15 - 16 mm (0.59 - 0.63 in)
B : 145 mm (5.71 in)



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

- 1 : Engine under cover
A : Radiator drain plug hole
↶ : Vehicle front



When draining all of engine coolant in the system, open water drain plug on cylinder block. Refer to [EM-213, "Setting"](#).

3. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.
4. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to [CO-40, "Flushing"](#).
5. Disconnect drain hose.

ENGINE COOLANT : Refilling

INFOID:0000000010577163

CAUTION:

- Do not reuse O-rings.
- Do not put additive such as waterleak preventive, since it may cause cooling waterway clogging.
- Refill Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent in its quality mixed with water (distilled or demineralized). Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#).

1. Remove engine cover and engine room cover (LH). Refer to [EM-184, "Exploded View"](#).
2. Install reservoir tank if removed, and radiator drain plug.

CAUTION:

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

 : 1.2 N·m (0.12 kg-m, 11 in-lb)

ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

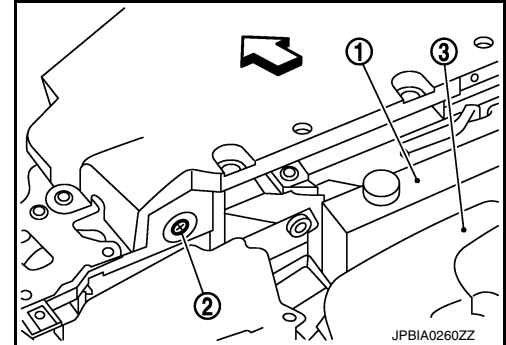
If water drain plug on cylinder block is removed, close and tighten it. Refer to [EM-267, "Disassembly and Assembly"](#).

3. Check that each hose clamp is firmly tightened.
4. Remove air relief plug (2) on radiator left side.

1 : Reservoir tank

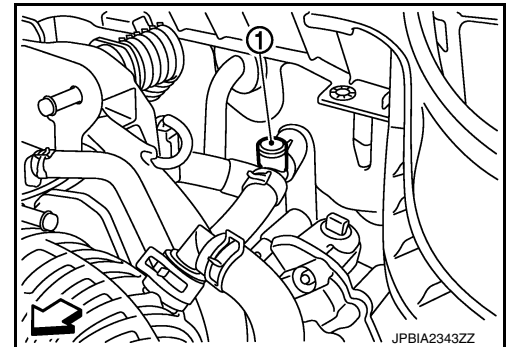
3 : Water inlet

⇐ : Vehicle front



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

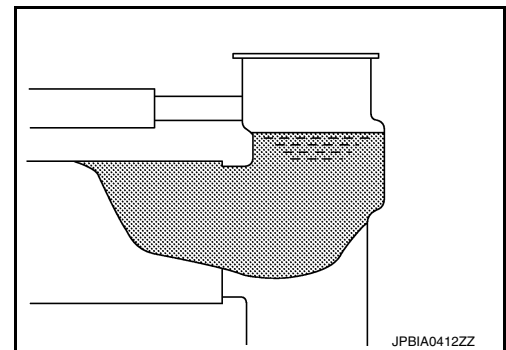
⇐ : Vehicle front



6. Fill water inlet, and reservoir tank if removed, to specified level.
 - Pour engine coolant through engine coolant filler neck slowly of less than 2 ℓ (2-1/8 US qt, 1-3/4 Imp qt) a minute to allow air in system to escape.

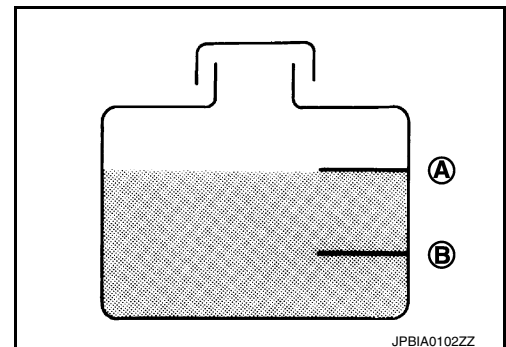
Engine coolant capacity
(With reservoir tank at
"MAX" level)

: Refer to [CO-54, "Periodical Maintenance Specification"](#).



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

: Refer to [CO-54, "Periodical Maintenance Specification"](#).



A : MAX

B : MIN

7. When engine coolant overflows air relief hole on radiator, install air relief plug with new O-ring.
CAUTION:
Do not reuse O-rings.

 : 1.2 N·m (0.12 kg-m, 11 in-lb)

8. Repeat step 6.

ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

9. When engine coolant overflows air relief hole on heater hose, install air relief plug with new O-ring. Then refill radiator with engine coolant.

CAUTION:

Do not reuse O-rings.

 : 1.2 N·m (0.12 kg-m, 11 in-lb)

10. Install radiator cap.
11. Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 3,000 rpm.
- Check thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.
- CAUTION:**
Watch water temperature gauge so as not to overheat engine.
12. Stop the engine and cool down to less than approximately 50°C (122°F).
- Cool down using fan to reduce the time.
 - If necessary, refill radiator up to filler neck with engine coolant.
13. Refill reservoir tank to "MAX" level line with engine coolant.
14. Repeat steps 10 through 13 two or more times with radiator cap installed until engine coolant level no longer drops.
15. Check cooling system for leakage with engine running.
16. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between "COOL" and "WARM".
- Sound may be heard from the heater unit.
17. Repeat step 16 three times.
18. If sound is heard, bleed air from cooling system by repeating step 6, and steps from 10 to 17 until engine coolant level no longer drops.
19. Check that the reservoir tank cap is tightened.

ENGINE COOLANT : Flushing

INFOID:0000000010577164

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

CAUTION:

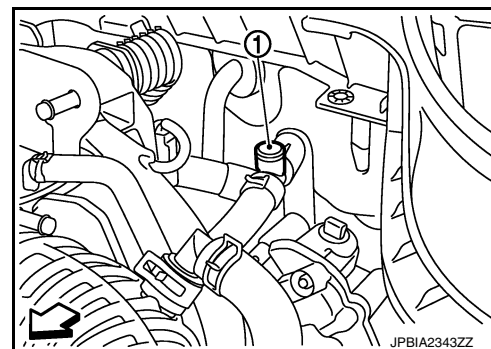
Be sure to clean drain plug and install with new O-ring.

 : 1.2 N·m (0.12 kg-m, 11 in-lb)

If water drain plug on cylinder block is removed, close and tighten it. Refer to [EM-266, "Exploded View"](#).

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

 : Vehicle front

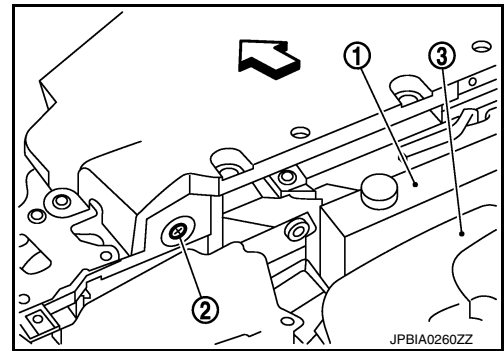


ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

3. Remove air relief plug (2) on radiator.

- 1 : Reservoir tank
3 : Water inlet
⇐ : Vehicle front



4. Fill water inlet with water until water spills from the air relief holes, then close air relief plugs. Fill water inlet and reservoir tank with water and reinstall radiator cap.

: 1.2 N·m (0.12 kg-m, 11 in-lb)

5. Run the engine and warm it up to normal operating temperature.
6. Rev the engine two or three times under no-load.
7. Stop the engine and wait until it cools down.
8. Drain water from the system. Refer to [CO-37. "Draining"](#).
9. Repeat steps 1 through 8 until clear water begins to drain from radiator.
10. Check that the reservoir tank cap is tightened.

FUEL LINES

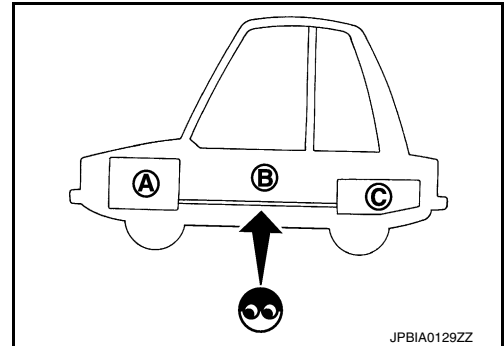
FUEL LINES : Inspection

INFOID:0000000010577165

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

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

- If necessary, repair or replace damaged parts.



AIR CLEANER FILTER

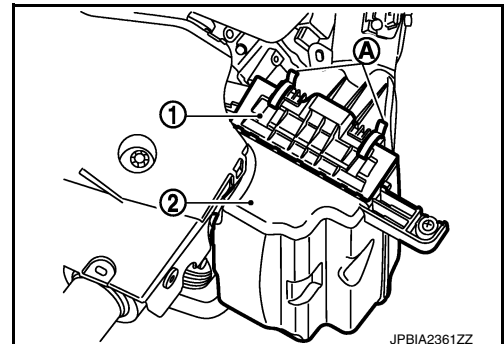
AIR CLEANER FILTER : Removal and Installation

INFOID:0000000010577166

REMOVAL

1. Unhook clips (A).

- 1 : Holder
2 : Air cleaner case

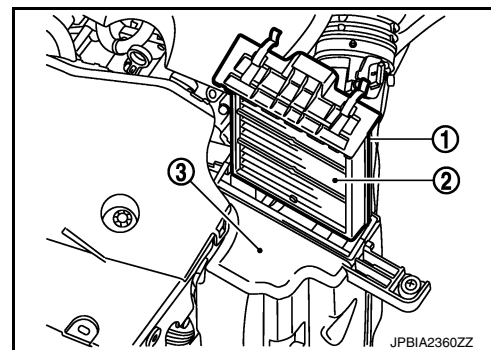


ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

2. Remove air cleaner filter (2) from air cleaner case (3).

1 : Holder



INSTALLATION

Note the following item, and install in the reverse order of removal.

- Install the air cleaner filter by aligning the seal with the notch of air cleaner case.

AIR CLEANER FILTER : Inspection (Viscous Paper Type)

INFOID:0000000010577167

INSPECTION AFTER REMOVAL

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

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

CAUTION:

Never clean the viscous paper type air cleaner element by blowing as there is a risk of deterioration of its performance

MAINTENANCE INTERVAL

Refer to [MA-10, "FOR NORTH AMERICA : Introduction of Periodic Maintenance"](#) (For NORTH AMERICA) or [MA-13, "FOR MEXICO : Introduction of Periodic Maintenance"](#) (For MEXICO).

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000010577168

WARNING:

- Be careful not to get burned, as engine oil may be hot.
- Prolonged and repeated contact with used engine oil may cause skin cancer. Try to avoid direct skin contact with used engine oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.

1. Warm up the engine, and check for engine oil leakage from engine components. Refer to [LU-26, "Inspection"](#).
2. Stop the engine and wait for 15 minutes.
3. Loosen oil filler cap.
4. Remove drain plug and then drain engine oil.

ENGINE OIL : Refilling

INFOID:0000000010577169

1. Install drain plug with new washer.

CAUTION:

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

Tightening torque : Refer to [EM-198, "Exploded View"](#).

2. Refill with new engine oil.

Engine oil specification and viscosity:

Refer to [LU-34, "Periodical Maintenance Specification"](#).

Engine oil capacity : Refer to [LU-34, "Periodical Maintenance Specification"](#).

CAUTION:

ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

- The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.
 - Always use oil level gauge to determine the proper amount of engine oil in engine.
3. Warm up the engine and check area around drain plug and oil filter for engine oil leakage.
 4. Stop the engine and wait for 15 minutes.
 5. Check the engine oil level. Refer to [LU-26, "Inspection"](#).

OIL FILTER

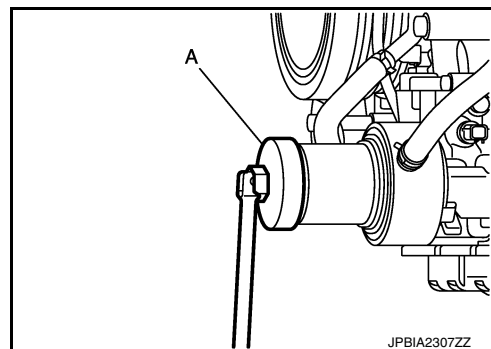
OIL FILTER : Removal and Installation

INFOID:0000000010577170

REMOVAL

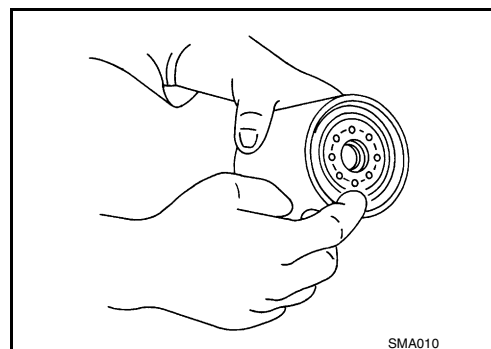
CAUTION:

- Oil filter is provided with relief valve. Use genuine NISSAN oil filter or an equivalent.
 - Be careful not to get burned when engine and engine oil may be hot.
 - When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
 - Never allow engine oil to adhere to drive belts.
 - Completely wipe off any engine oil that adheres to engine and vehicle.
1. Remove engine undercover with power tool.
 2. Using oil filter wrench [SST: KV10115801 (J38956)] (A), remove oil filter.



INSTALLATION

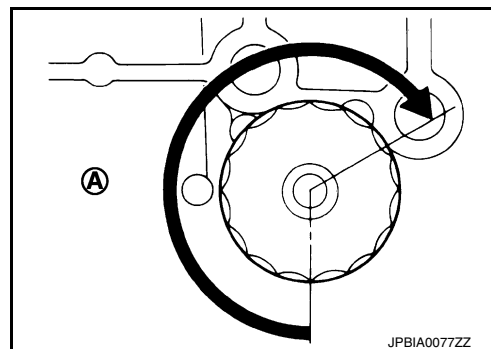
1. Remove foreign matter adhering to oil filter installation surface.
2. Apply engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

OIL FILTER : Inspection

INFOID:0000000010577171

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [LU-26. "Inspection"](#).
2. Start the engine, and check there is no leakage of engine oil.
3. Stop the engine and wait for 15 minutes.
4. Check the engine oil level, and adjust the level. Refer to [LU-26. "Inspection"](#).

SPARK PLUG

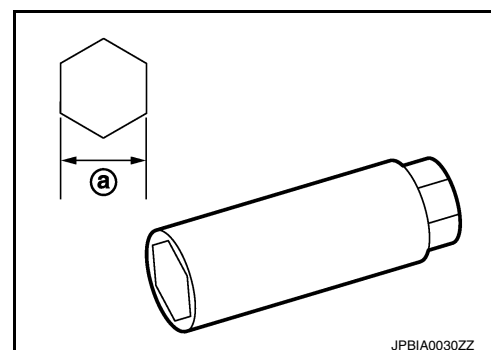
SPARK PLUG : Removal and Installation

INFOID:0000000010577172

REMOVAL

1. Remove engine cover. Refer to [EM-189. "Exploded View"](#).
2. Remove ignition coil. Refer to [EM-201. "Exploded View"](#).
3. Remove spark plug with a spark plug wrench (commercial service tool).

a : 14 mm (0.55 in)



INSTALLATION

Installation is the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000010577173

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

Spark plug (Standard type) : Refer to [EM-293. "Spark Plug"](#).

CAUTION:

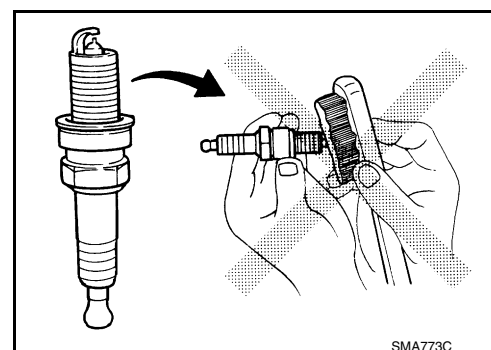
- Never drop or impact spark plug.
- Never use a wire brush for cleaning.
- If plug tip is covered with carbon, use spark plug cleaner to clean.

Cleaner air pressure

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

Cleaning time

: Less than 20 seconds

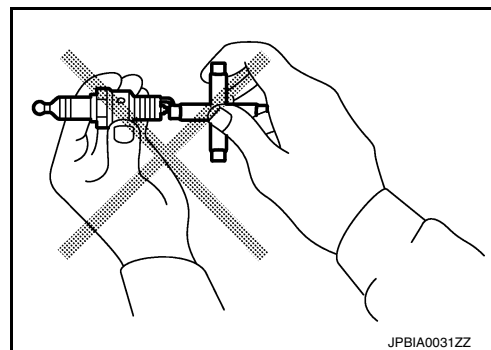


- Measure spark plug gap. When it exceeds the limit, replace spark plug even if it is within the specified replacement mileage. Refer to [EM-293. "Spark Plug"](#).

ENGINE MAINTENANCE (VK50VE)

< PERIODIC MAINTENANCE >

- Spark plug gap adjustment is not required between replacement intervals.



EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000010577174

1. Visually inspect EVAP vapor lines for improper attachment and for cracks, damage, loose connections, chafing and deterioration.
2. Inspect fuel tank filler cap vacuum relief valve for clogging, sticking, etc.

Refer to [EC-1665, "Inspection"](#).

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

CHASSIS MAINTENANCE

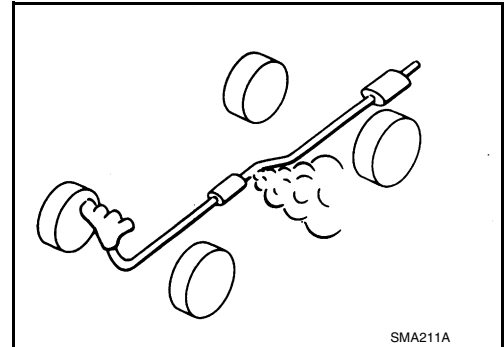
EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:0000000010577175

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

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



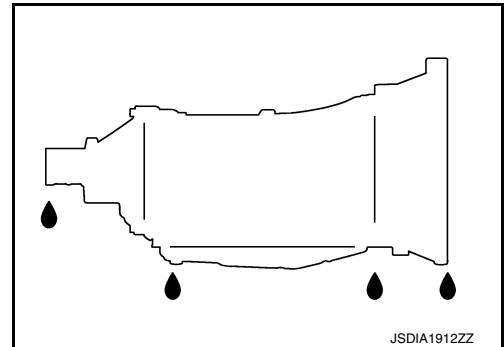
A/T FLUID: RE7R01A

A/T FLUID: RE7R01A : Inspection

INFOID:0000000010577176

FLUID LEAKAGE

- Check transmission surrounding area (oil seal and plug etc.) for fluid leakage.
- If anything is found, repair or replace damaged parts and adjust A/T fluid level. Refer to [TM-176, "Adjustment"](#).



A/T FLUID: RE7R01A : Changing

INFOID:0000000010577177

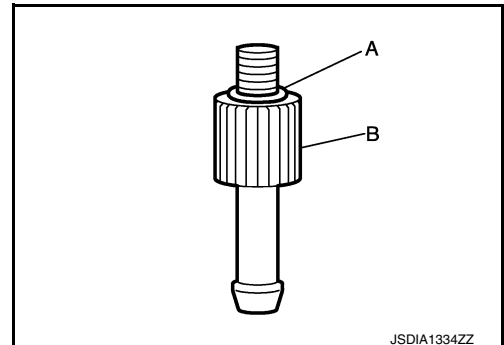
Recommended ATF and fluid capacity : Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

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

1. Step 1

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



2. Step 2

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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

NOTE:

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

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

CAUTION:

Tighten the charging pipe by hand.

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

CAUTION:

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

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

CAUTION:

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

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

3. Step 3

- a. Repeat "Step 2".

4. Final Step

- a. Use CONSULT to check that the ATF temperature is 40°C (104°F) or less.
- b. Lift up the vehicle.
- c. Remove the drain plug from the oil pan, and then drain the ATF.
- d. When the ATF starts to drip, tighten the drain plug to the oil pan to the specified torque. Refer to [TM-186](#).

"Exploded View".

CAUTION:

Never reuse drain plug and drain plug gasket.

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

CAUTION:

Tighten the charging pipe by hand.

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

CAUTION:

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

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

CAUTION:

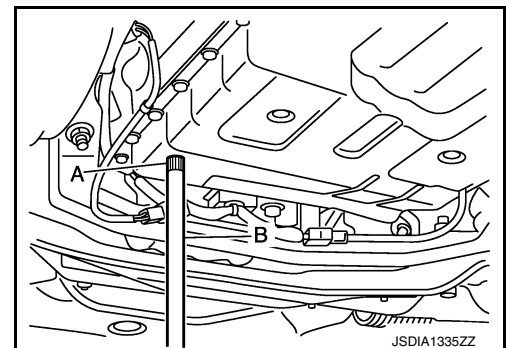
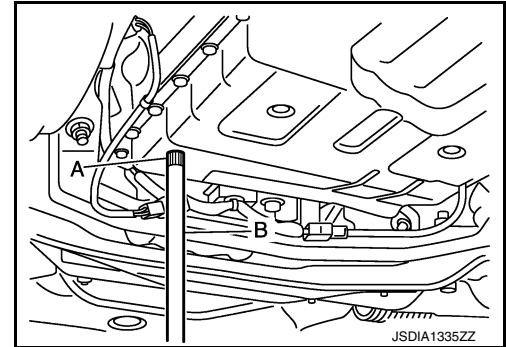
Quickly perform the procedure to avoid ATF leakage from the oil pan.

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

NOTE:

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

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



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- n. Shift the selector lever through each gear position. Leave selector lever in "P" position.
- o. Lift up the vehicle when the ATF temperature reaches 40°C (104°F), and then remove the overflow plug from the oil pan.
- p. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-186, "Exploded View"](#).

CAUTION:

Never reuse overflow plug.

A/T FLUID: RE7R01A : Adjustment

INFOID:0000000010577178

Recommended ATF and fluid capacity : Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

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

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

2. Start the engine.

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

NOTE:

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

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

CAUTION:

Tighten the charging pipe by hand.

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

CAUTION:

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

11. Fill approximately 0.5 liters (1/2 US qt, 1/2 Imp qt) of the ATF.
12. Check that the ATF leaks when removing the charging pipe and the bucket pump hose. If the ATF does not leak, refill the ATF.
13. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-186, "Exploded View"](#).

CAUTION:

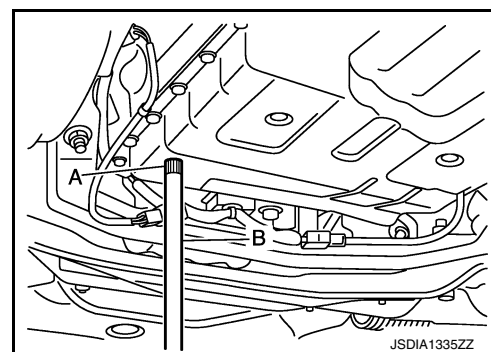
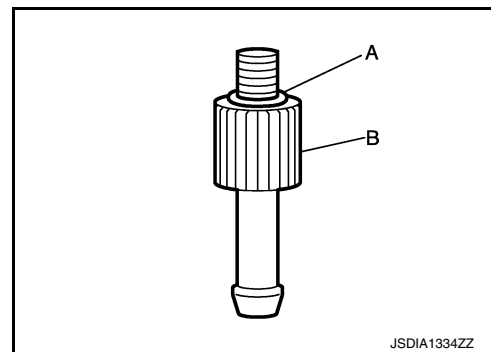
Never reuse overflow plug.

A/T FLUID: RE7R01B

A/T FLUID: RE7R01B : Inspection

INFOID:0000000010577179

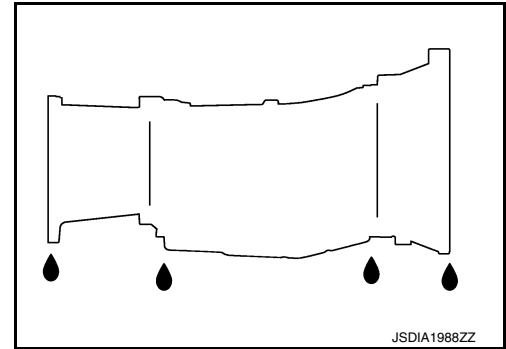
FLUID LEAKAGE



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- Check transmission surrounding area (oil seal and plug etc.) for fluid leakage.
- If anything is found, repair or replace damaged parts and adjust A/T fluid level. Refer to [TM-474, "Adjustment"](#).



A/T FLUID: RE7R01B : Changing

INFOID:000000010577180

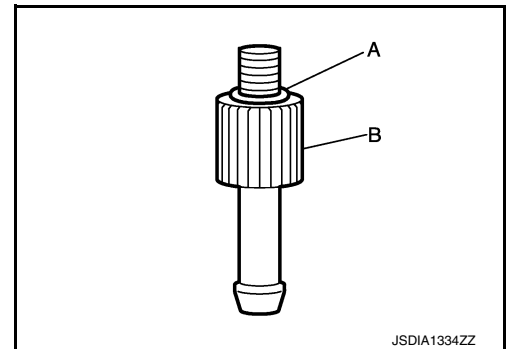
Recommended fluid and fluid capacity : Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

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

1. Step 1

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



2. Step 2

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

NOTE:

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

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

CAUTION:

Tighten the charging pipe by hand.

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

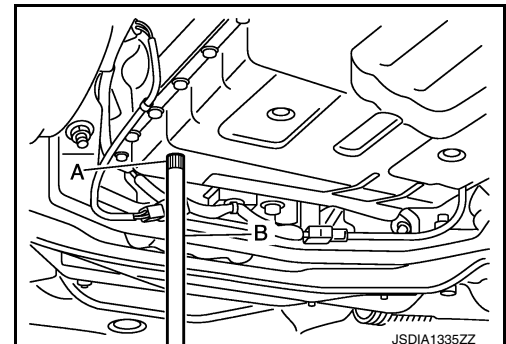
CAUTION:

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

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

CAUTION:

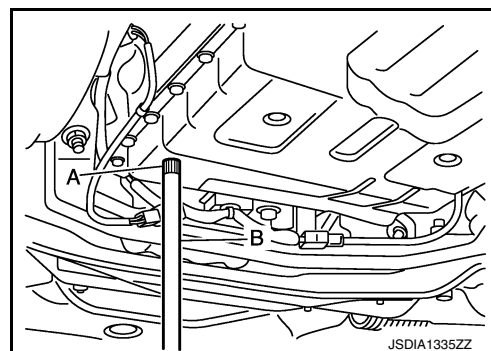
Quickly perform the procedure to avoid ATF leakage from the oil pan.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- j. Lift down the vehicle.
- k. Start the engine and wait for approximately 3 minutes.
- l. Stop the engine.
3. Step 3
- a. Repeat "Step 2".
4. Final Step
- a. Use CONSULT to check that the ATF temperature is 40°C (104°F) or less.
- b. Lift up the vehicle.
- c. Remove the drain plug from the oil pan, and then drain the ATF.
- d. When the ATF starts to drip, tighten the drain plug to the oil pan to the specified torque. Refer to [TM-485, "Exploded View"](#).
- CAUTION:**
Never reuse drain plug and drain plug gasket.
- e. Remove overflow plug from oil pan.
- f. Install the charging pipe (A) to the overflow plug hole.
- CAUTION:**
Tighten the charging pipe by hand.
- g. Install the bucket pump hose (B) to the charging pipe.
- CAUTION:**
Insert the bucket pump hose all the way to the end of the charging pipe.
- h. Fill approximately 3 liters (3-1/8 US qt, 2-5/8 Imp qt) of the ATF.
- i. Remove the bucket pump hose to remove the charging pipe, and then temporarily tighten the overflow plug to the oil pan.
- CAUTION:**
Quickly perform the procedure to avoid ATF leakage from the oil pan.
- j. Lift down the vehicle.
- k. Start the engine.
- l. Make the ATF temperature approximately 40°C (104°F).
- NOTE:**
The ATF level is greatly affected by the temperature. Always check the ATF temperature on "ATF TEMP 1" of "Data Monitor" using CONSULT.
- m. Park vehicle on level surface and set parking brake.
- n. Shift the selector lever through each gear position. Leave selector lever in "P" position.
- o. Lift up the vehicle when the ATF temperature reaches 40°C (104°F), and then remove the overflow plug from the oil pan.
- p. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-485, "Exploded View"](#).
- CAUTION:**
Never reuse overflow plug.



A/T FLUID: RE7R01B : Adjustment

INFOID:000000010577181

Recommended fluid and fluid capacity : Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

CAUTION:

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

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

1. Install the O-ring (315268E000) (A) to the charging pipe (310811EA5A) (B).
2. Start the engine.
3. Make the ATF temperature approximately 40°C (104°F).

NOTE:

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

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

CAUTION:

Tighten the charging pipe by hand.

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

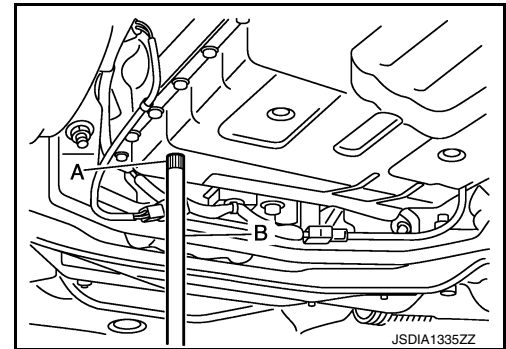
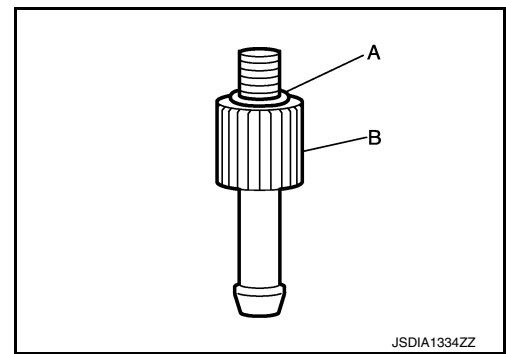
CAUTION:

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

11. Fill approximately 0.5 liters (1/2 US qt, 1/2 Imp qt) of the ATF.
12. Check that the ATF leaks when removing the charging pipe and the bucket pump hose. If the ATF does not leak, refill the ATF.
13. When the ATF starts to drip, tighten the overflow plug to the oil pan to the specified torque. Refer to [TM-485, "Exploded View"](#).

CAUTION:

Never reuse overflow plug.



TRANSFER FLUID

TRANSFER FLUID : Inspection

INFOID:0000000010577182

FLUID LEAKAGE

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

FLUID LEVEL

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

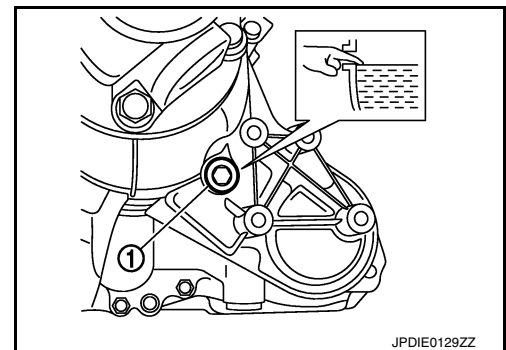
CAUTION:

Never start engine while checking fluid level.

2. Set a new gasket onto filler plug, and install it on transfer and tighten to the specified torque. Refer to [DLN-68, "VQ37VHR : Exploded View"](#).

CAUTION:

Never reuse gasket.



TRANSFER FLUID : Draining

INFOID:0000000010577183

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

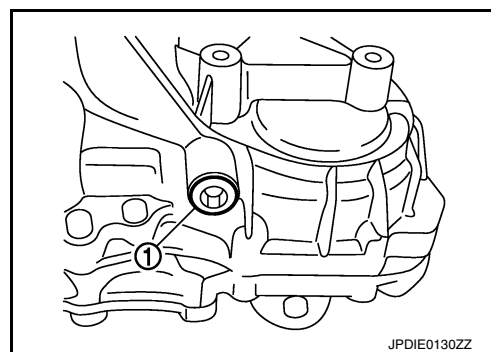
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

2. Stop the engine, and remove the drain plug (1) to drain the transfer fluid.
3. Set a new gasket onto the drain plug, and install it on the transfer and tighten to the specified torque. Refer to [DLN-68, "VQ37VHR : Exploded View"](#).

CAUTION:

Never reuse gasket.



INFOID:0000000010577184

TRANSFER FLUID : Refilling

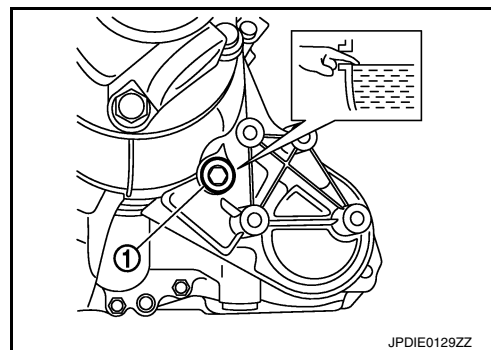
1. Remove filler plug (1) and gasket. Then fill fluid up to mounting hole for the filler plug.

Fluid and viscosity

: Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

Fluid capacity

: Refer to [DLN-105, "General Specifications"](#).



CAUTION:

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

2. Leave the vehicle for 3 minutes, and check the fluid level again.
3. Set a new gasket onto filler plug, and install it on transfer and tighten to the specified torque. Refer to [DLN-68, "VQ37VHR : Exploded View"](#).

CAUTION:

Never reuse gasket.

FRONT PROPELLER SHAFT: 2S56A

FRONT PROPELLER SHAFT: 2S56A : Inspection

INFOID:0000000010577185

NOISE

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

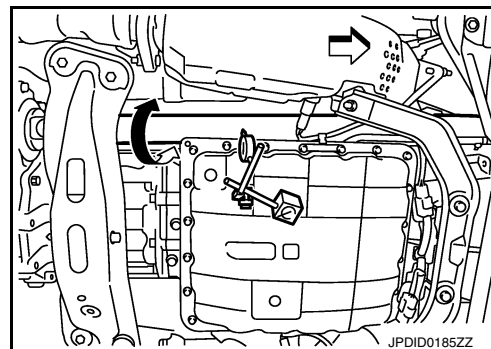
VIBRATION

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

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

← : Vehicle front

Propeller shaft runout : Refer to [DLN-115, "Propeller Shaft Runout"](#).



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

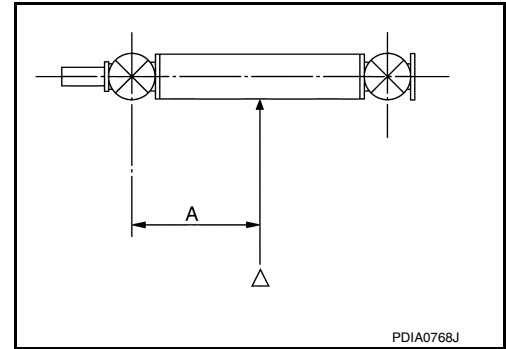
- Propeller shaft runout measuring point (Point “△”)

Dimension A

VQ37VHR : 381.5 mm (15.02 in)

VK50VE : 386.5 mm (15.22 in)

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



REAR PROPELLER SHAFT: 3S80A-R

REAR PROPELLER SHAFT: 3S80A-R : Inspection

INFOID:0000000010577186

NOISE

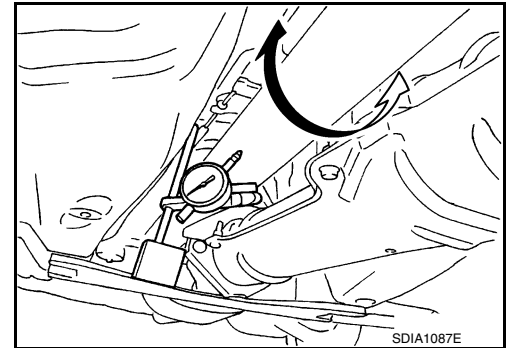
- Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.
- If center bearing is noisy or damaged, replace propeller shaft assembly.

VIBRATION

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

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

Propeller shaft runout : Refer to [DLN-125, "Propeller Shaft Runout"](#).



- Propeller shaft runout measuring point (Point “△”)

⇐: Vehicle front

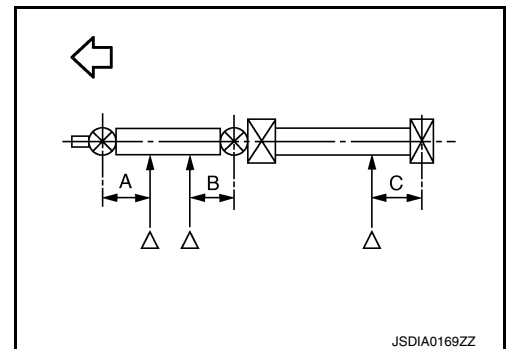
Dimension

A : 192 mm (7.56 in)

B : 172 mm (6.77 in)

C : 172 mm (6.77 in)

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



REAR PROPELLER SHAFT: 3F80A-1VL107

REAR PROPELLER SHAFT: 3F80A-1VL107 : Inspection

INFOID:0000000010577187

NOISE

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

VIBRATION

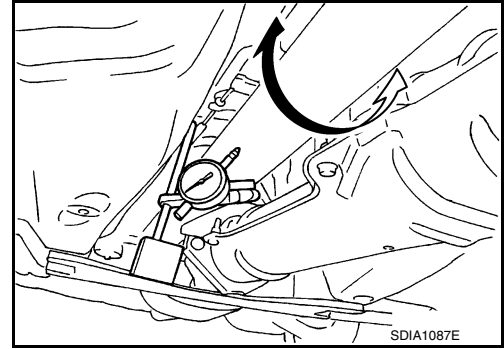
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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

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

Propeller shaft runout : Refer to [DLN-135, "Propeller Shaft Runout"](#).

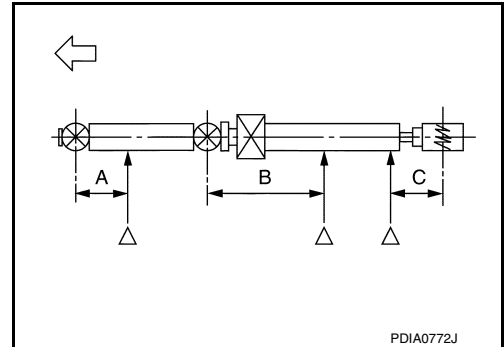


- Propeller shaft runout measuring point (Point "Δ")

←: Vehicle front

Dimension

A : 162 mm (6.38 in)
B : 245 mm (9.65 in)
C : 185 mm (7.28 in)



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

REAR PROPELLER SHAFT: 3F-R-2VL107

REAR PROPELLER SHAFT: 3F-R-2VL107 : Inspection

INFOID:000000010577188

NOISE

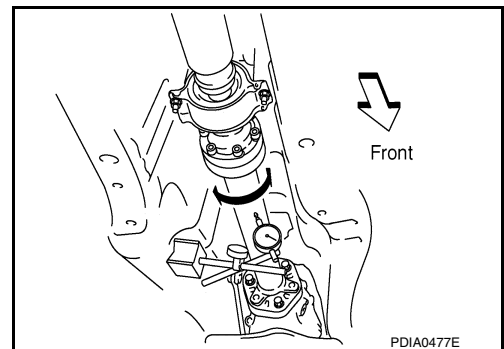
- Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.
- If center bearing is noisy or damaged, replace propeller shaft assembly.

VIBRATION

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

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

Propeller shaft runout : Refer to [DLN-145, "Propeller Shaft Runout"](#).



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

- Propeller shaft runout measuring point (Point “△”)

⇐: Vehicle front

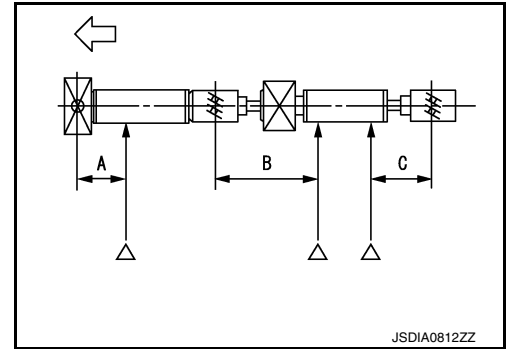
Dimension

A : 162 mm (6.38 in)

B : 270 mm (10.63 in)

C : 185 mm (7.28 in)

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



FRONT DIFFERENTIAL GEAR OIL: F160A

FRONT DIFFERENTIAL GEAR OIL: F160A : Inspection

INFOID:0000000010577189

OIL LEAKAGE

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

OIL LEVEL

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

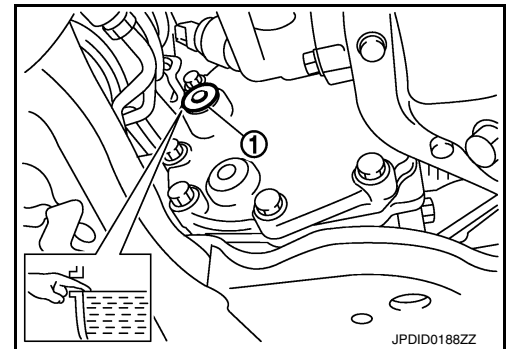
CAUTION:

Never start engine while checking oil level.

- Set a gasket on filler plug and install it on final drive assembly. Refer to [DLN-164, "Exploded View"](#).

CAUTION:

Never reuse gasket.



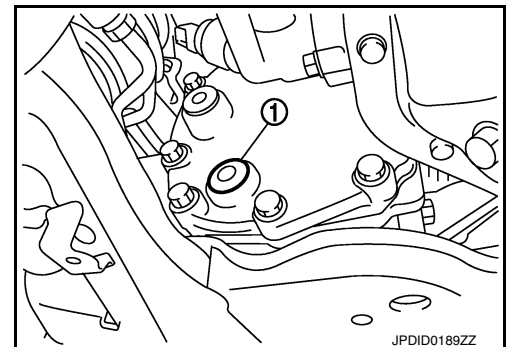
FRONT DIFFERENTIAL GEAR OIL: F160A : Draining

INFOID:0000000010577190

1. Stop engine.
2. Remove drain plug (1) and drain gear oil.
3. Set a gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to [DLN-164, "Exploded View"](#).

CAUTION:

Never reuse gasket.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

FRONT DIFFERENTIAL GEAR OIL: F160A : Refilling

INFOID:000000010577191

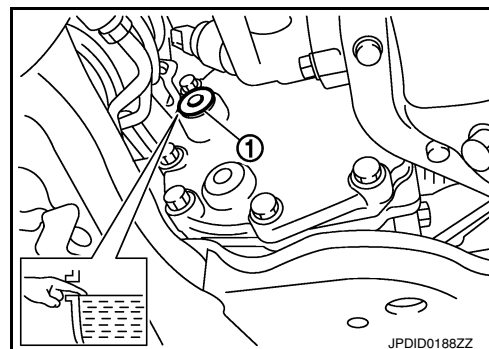
1. Remove filler plug (1). Fill with new gear oil until oil level reaches the specified level near filler plug mounting hole.

Oil grade and Viscosity

: Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

Oil capacity

: Refer to [DLN-190, "General Specifications"](#).



2. After refilling oil, check oil level. Set a gasket to filler plug, then install it to final drive assembly. Refer to [DLN-164, "Exploded View"](#).

CAUTION:

Never reuse gasket.

REAR DIFFERENTIAL GEAR OIL: R200

REAR DIFFERENTIAL GEAR OIL: R200 : Inspection

INFOID:000000010577192

OIL LEAKAGE

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

OIL LEVEL

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

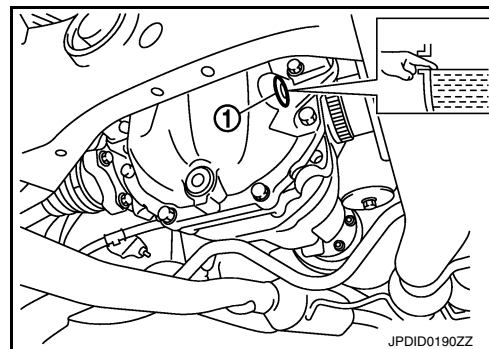
CAUTION:

Never start engine while checking oil level.

- Set a gasket on filler plug and install it on final drive assembly. Refer to [DLN-219, "2WD : Exploded View"](#) (2WD), [DLN-232, "AWD : Exploded View"](#) (AWD).

CAUTION:

Never reuse gasket.



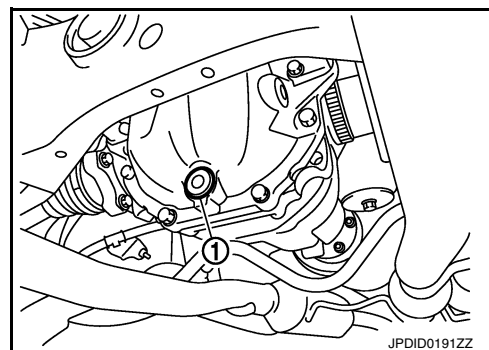
REAR DIFFERENTIAL GEAR OIL: R200 : Draining

INFOID:000000010577193

1. Stop engine.
2. Remove drain plug (1) and drain gear oil.
3. Set a gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to [DLN-219, "2WD : Exploded View"](#) (2WD), [DLN-232, "AWD : Exploded View"](#) (AWD).

CAUTION:

Never reuse gasket.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

REAR DIFFERENTIAL GEAR OIL: R200 : Refilling

INFOID:000000010577194

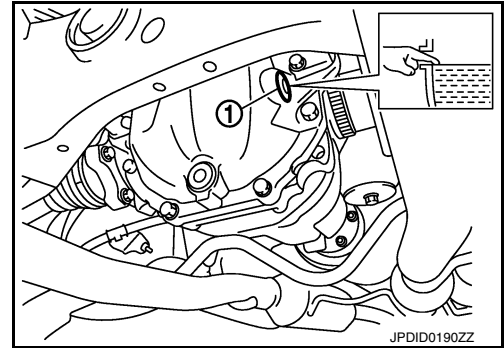
1. Remove filler plug (1). Fill with new gear oil until oil level reaches the specified level near filler plug mounting hole.

Oil grade and viscosity

: Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

Oil capacity

: Refer to [DLN-261, "General Specification"](#).



2. After refilling oil, check oil level. Set a gasket to filler plug, then install it to final drive assembly. Refer to [DLN-219, "2WD : Exploded View"](#) (2WD), [DLN-232, "AWD : Exploded View"](#) (AWD).

CAUTION:

Never reuse gasket.

REAR DIFFERENTIAL GEAR OIL: R230

REAR DIFFERENTIAL GEAR OIL: R230 : Inspection

INFOID:000000010577195

OIL LEAKAGE

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

OIL LEVEL

1. Check the differential gear oil level from the filler plug hole as shown.

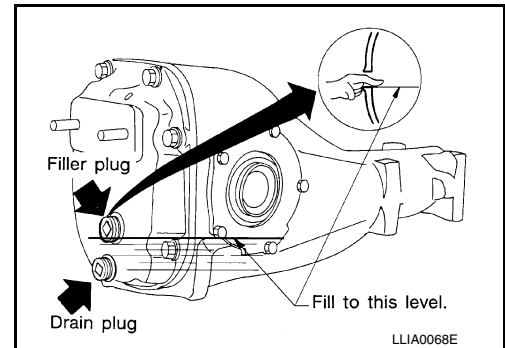
CAUTION:

Never start engine while checking differential gear oil level.

2. Install the filler plug with a new gasket on it to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-280, "Exploded View"](#).

CAUTION:

Never reuse gasket.



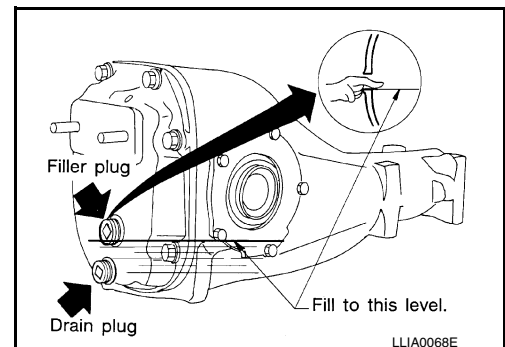
REAR DIFFERENTIAL GEAR OIL: R230 : Draining

INFOID:000000010577196

1. Stop the engine.
2. Remove the drain plug and gasket from the rear final drive assembly to drain the differential gear oil.
3. Install the drain plug with a new gasket to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-280, "Exploded View"](#).

CAUTION:

Never reuse gasket.



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

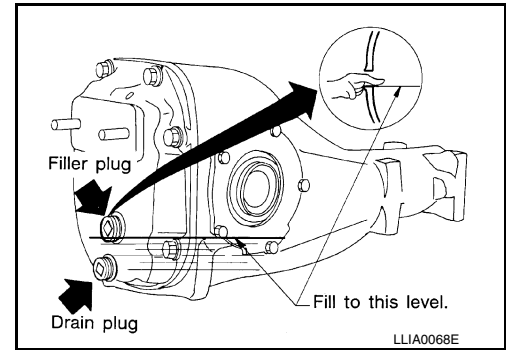
REAR DIFFERENTIAL GEAR OIL: R230 : Refilling

INFOID:000000010577197

1. Remove the filler plug and gasket from the rear final drive assembly.
2. Fill the rear final drive assembly with new differential gear oil until the level reaches the specified level near the filler plug hole.

Oil grade and viscosity : Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America), [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).

Oil capacity : Refer to [DLN-299, "General Specification"](#).



3. Install the filler plug with a new gasket on it to the rear final drive assembly. Tighten to the specified torque. Refer to [DLN-280, "Exploded View"](#).

CAUTION:

Never reuse gasket.

WHEELS (BONDING WEIGHT TYPE)

WHEELS (BONDING WEIGHT TYPE) : Adjustment

INFOID:000000010577198

BALANCING WHEELS (BONDING WEIGHT TYPE)

Preparation Before Adjustment

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

CAUTION:

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

Wheel Balance Adjustment

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

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

CAUTION:

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

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

Calculation example:

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

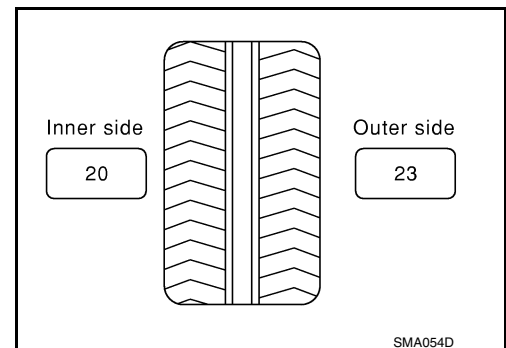
NOTE:

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

Example:

36.2 \Rightarrow 35 g (1.23 oz)

36.3 \Rightarrow 37.5 g (1.32 oz)



- b. Installed balance weight in the position.

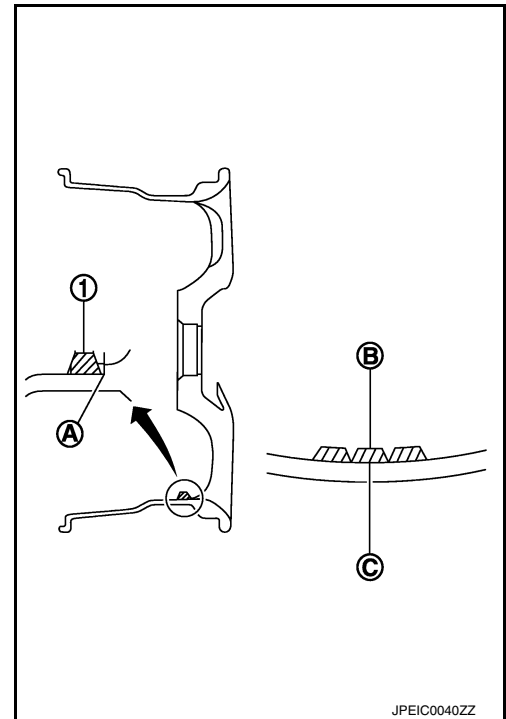
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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

CAUTION:

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



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

CAUTION:

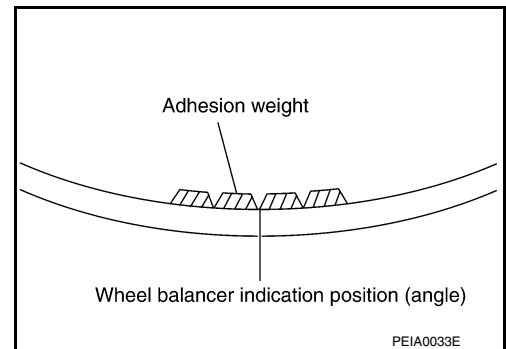
Never install one balance weight sheet on top of another.

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

CAUTION:

Never install three or more balance weight.

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



CAUTION:

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

Allowable unbalance value

Dynamic (At flange): Refer to [WT-71, "Road Wheel"](#).

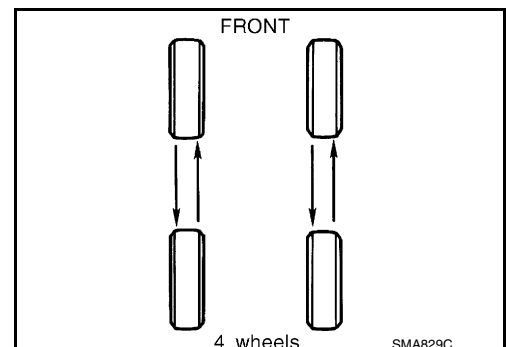
Static (At flange): Refer to [WT-71, "Road Wheel"](#).

TIRE ROTATION

- Follow the maintenance schedule for tire rotation service intervals. Refer to [MA-6, "FOR NORTH AMERICA : Explanation of General Maintenance"](#) (For North America), [MA-8, "FOR MEXICO : General Maintenance"](#) (For Mexico).
- When installing the wheel, tighten wheel nuts to the specified torque. Refer to [WT-65, "Exploded View"](#).

CAUTION:

- Never include the T-type spare tire when rotating the tires.
- When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.
- Be careful not to tighten wheel nut at torque exceeding the criteria for preventing strain of disc rotor.
- Use NISSAN genuine wheel nuts for aluminum wheels.
- Perform the ID registration, after tire rotation. Refer to [WT-6, "Work Procedure"](#).



CHASSIS MAINTENANCE

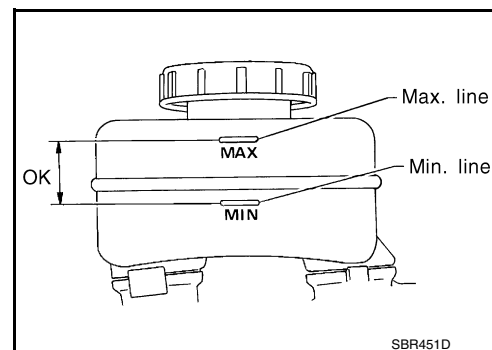
< PERIODIC MAINTENANCE >

BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Inspection

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

INFOID:0000000010577199

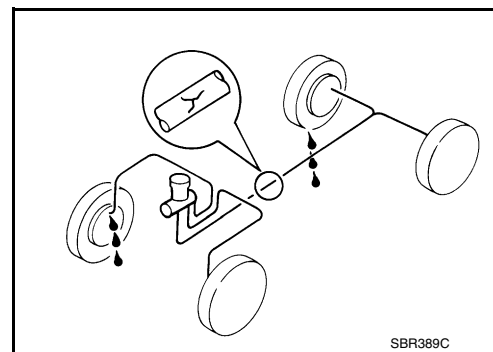


BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

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

INFOID:0000000010577200

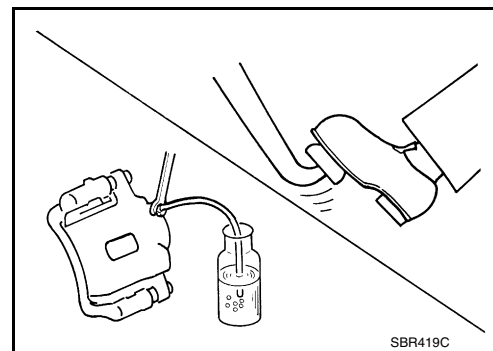


BRAKE FLUID

BRAKE FLUID : Changing

1. Drain brake fluid from each bleed valve.
2. Refill until new brake fluid comes out from each bleed valve. Use same procedure as in bleeding hydraulic system to refill brake fluid.
Refer to [BR-13, "Bleeding Brake System"](#).
 - Refill with recommended Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent DOT 3 (US FMVSS No. 116). Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America) or [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).
 - Never reuse drained brake fluid.
 - Be careful not to splash brake fluid on painted areas.

INFOID:0000000010577201



DISC BRAKE

DISC BRAKE : Inspection

DISC ROTOR

Check condition, wear, and damage.

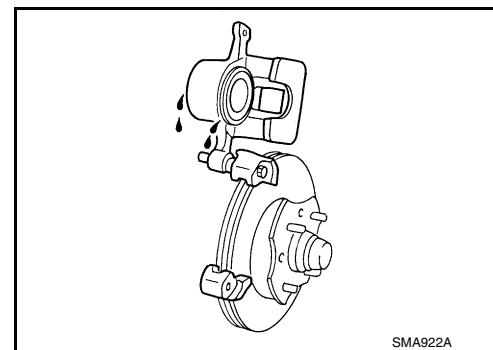
CALIPER

- Check for leakage.

INFOID:0000000010577202

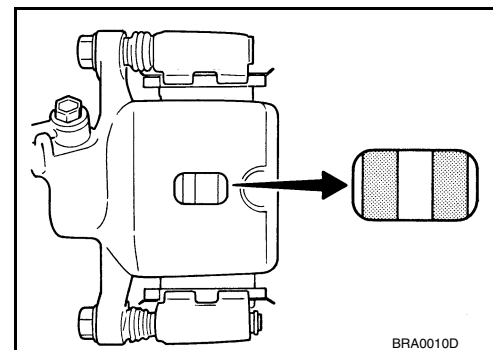
CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >



BRAKE PAD

- Check for wear or damage.



DISC BRAKE : Front Disc Brake

INFOID:000000011006453

2 PISTON TYPE

FOR MEXICO

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	32.0 (1.260)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

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

EXPECT FOR MEXICO

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	26.0 (1.024)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

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

4 PISTON TYPE

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	30.0 (1.181)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

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

CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

DISC BRAKE : Rear Disc Brake

INFOID:0000000011006454

1 PISTON TYPE

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	14.0 (0.551)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.055 (0.0022)

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

2 PISTON TYPE

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
	Wear thickness	18.0 (0.709)
Disc rotor	Thickness variation (measured at 8 positions)*	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.055 (0.0022)

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

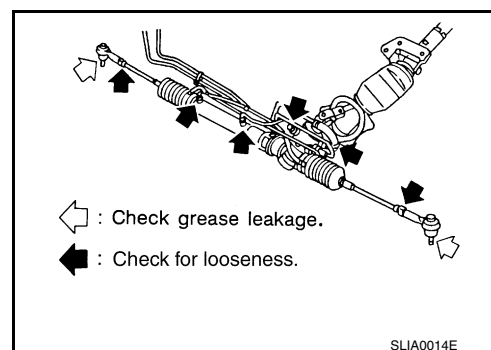
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000010577205

STEERING GEAR

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



STEERING LINKAGE

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

POWER STEERING FLUID AND LINES

POWER STEERING FLUID AND LINES : Inspection

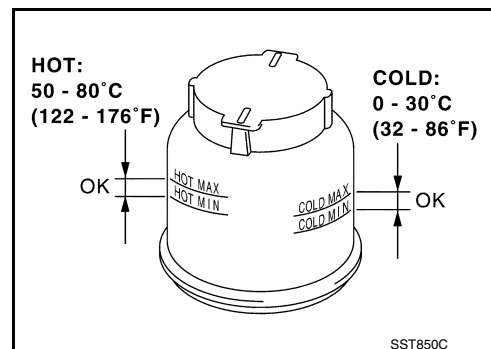
INFOID:0000000010577206

Check fluid level in reservoir tank with engine off.

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

CAUTION:

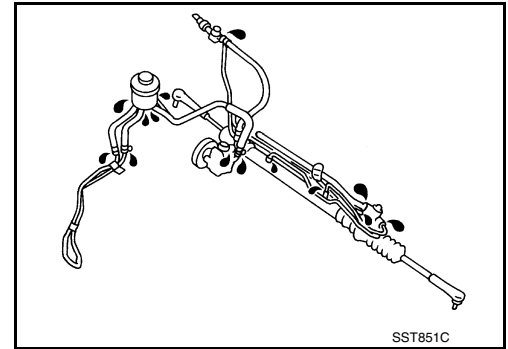
- Do not overfill.
- Recommended fluid is Genuine NISSAN PSF or equivalent. Refer to [MA-17, "FOR NORTH AMERICA : Fluids and Lubricants"](#) (For North America) or [MA-18, "FOR MEXICO : Fluids and Lubricants"](#) (For Mexico).



CHASSIS MAINTENANCE

< PERIODIC MAINTENANCE >

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



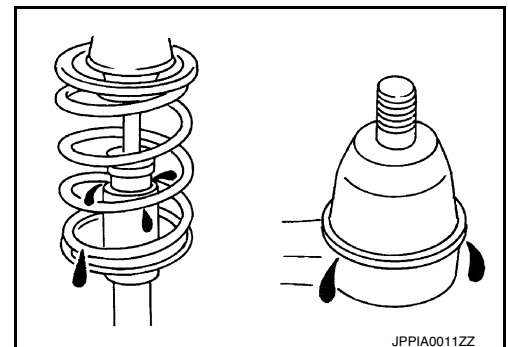
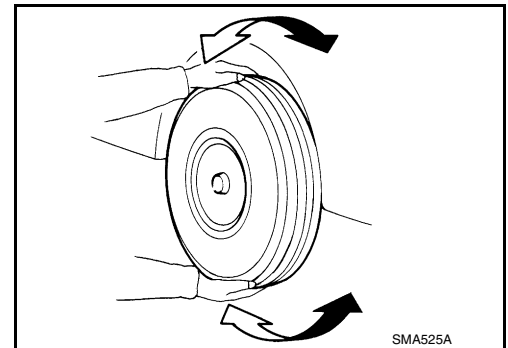
AXLE AND SUSPENSION PARTS

AXLE AND SUSPENSION PARTS : Inspection

INFOID:0000000010577207

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

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

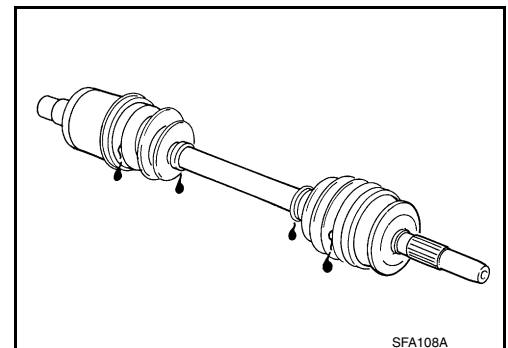


DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:0000000010577208

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



BODY MAINTENANCE

< PERIODIC MAINTENANCE >

BODY MAINTENANCE

LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

INFOID:0000000010577209

For hood and hood lock illustration.

- Hood: Refer to [DLK-304, "HOOD ASSEMBLY : Exploded View"](#).
- Hood lock: Refer to [DLK-337, "Exploded View"](#).

For door and door lock illustration.

- Front door: Refer to [DLK-316, "DOOR ASSEMBLY : Exploded View"](#).
- Front door lock: Refer to [DLK-340, "DOOR LOCK : Exploded View"](#).
- Rear door: Refer to [DLK-322, "DOOR ASSEMBLY : Exploded View"](#).
- Rear door lock: Refer to [DLK-345, "DOOR LOCK : Exploded View"](#).

For back door and back door lock illustration.

- Back door: Refer to [DLK-328, "BACK DOOR ASSEMBLY : Exploded View"](#).
- Back door lock: Refer to [DLK-349, "BACK DOOR LOCK : Exploded View"](#).

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

INFOID:0000000010577210

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

For rear seat belt illustration. Refer to [SB-11, "SEAT BELT RETRACTOR : Exploded View"](#).

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached hardwares (i.e. anchor bolt, guide rail set). Nissan recommends to replace all seat belt assemblies in use during a collision, unless not damaged and properly operating after minor collision.**

Also inspect seat belt assemblies not in use during a collision, and replace if damaged or improperly operating.

Seat belt pre-tensioner should be replaced even if the seat belts are not in use during a frontal collision where the driver and passenger air bags are deployed.

- **If any component of seat belt assembly is questionable, do not repair.**

Replace as seat belt assembly.

- **If webbing is cut, frayed, or damaged, replace belt assembly.**
- **Never oil tongue and buckle.**
- **Use a genuine NISSAN seat belt assembly.**

For details, refer to [SB-4, "SEAT BELT RETRACTOR : Inspection"](#), [SB-9, "SEAT BELT RETRACTOR : Inspection"](#) in SB section.

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

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

DRIVE BELT (VQ37VHR)

DRIVE BELT (VQ37VHR) : Drive Belt

INFOID:0000000010577211

DRIVE BELT

Tension of drive belt	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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DRIVE BELTS (VK50VE)

DRIVE BELTS (VK50VE) : Drive Belts

INFOID:0000000010577212

DRIVE BELT

Tension of drive belts	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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ENGINE COOLANT (VQ37VHR)

ENGINE COOLANT (VQ37VHR) : Periodical Maintenance Specification

INFOID:0000000011061785

ENGINE COOLANT CAPACITY (APPROXIMATELY)

Unit: ℓ (US qt, Imp qt)

Engine coolant capacity [With reservoir tank ("MAX" level)]	9.2 (9-6/8, 8-1/8)
Reservoir tank engine coolant capacity (At "MAX" level)	0.8 (7/8, 3/4)

ENGINE COOLANT (VK50VE)

ENGINE COOLANT (VK50VE) : Periodical Maintenance Specification

INFOID:0000000010577214

ENGINE COOLANT CAPACITY (APPROXIMATELY)

Unit: ℓ (US qt, Imp qt)

Engine coolant capacity [With reservoir tank ("MAX" level)]	11 (11-5/8, 9-5/8)
Reservoir tank engine coolant capacity (At "MAX" level)	0.8 (7/8, 3/4)

ENGINE OIL (VQ37VHR)

ENGINE OIL (VQ37VHR) : Periodical Maintenance Specification

INFOID:0000000010577215

ENGINE OIL CAPACITY (APPROXIMATELY)

Unit: ℓ (US qt, Imp qt)

Drain and refill	With oil filter change	4.9 (5-1/8, 4-1/4)
	Without oil filter change	4.6 (4-7/8, 4)
Dry engine (Overhaul)		5.7 (6, 5)

ENGINE OIL (VK50VE)

ENGINE OIL (VK50VE) : Periodical Maintenance Specification

INFOID:0000000010577216

ENGINE OIL CAPACITY (APPROXIMATELY)

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Unit: ℓ (US qt, Imp qt)

Drain and refill	With oil filter change	6.1 (6-4/8, 5-3/8)
	Without oil filter change	5.8 (6-1/8, 5-1/8)
Dry engine (Overhaul)		7.2 (7-5/8, 6-3/8)

SPARK PLUG (VQ37VHR)

SPARK PLUG (VQ37VHR) : Spark Plug

INFOID:0000000010577217

SPARK PLUG

Unit: mm (in)

Make	DENSO
Standard type	FXE24HR11
Gap (Nominal)	1.1 (0.043)

SPARK PLUG (VK50VE)

SPARK PLUG (VK50VE) : Spark Plug

INFOID:0000000010577218

SPARK PLUG

Unit: mm (in)

Make		DENSO
Standard type		FXE22HR11
Gap	Standard	1.1 (0.043)
	Limit	1.4 (0.055)

ROAD WHEEL

ROAD WHEEL : Road Wheel

INFOID:0000000010577219

ALUMINUM WHEEL (CONVENTIONAL)

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

STEEL WHEEL (FOR EMERGENCY USE)

Item		Limit
Radial runout	Lateral deflection	Less than 1.5 mm (0.059 in)
	Vertical deflection	