SECTION MA
MAINTENANCE

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000003938589

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

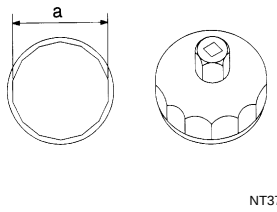
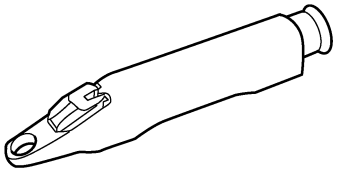
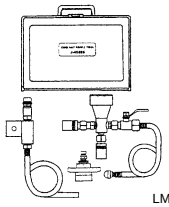
PREPARATION

PREPARATION

Special Service Tool

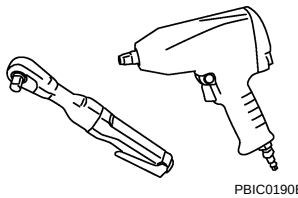
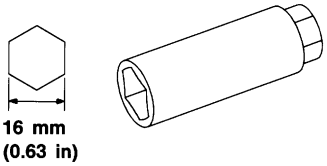
INFOID:0000000003938590

The actual shapes of the Kent-Moore tools may differ from those of the special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
KV10115801 (J-38956) Oil filter cap wrench  NT375	Removing and installing oil filter **a: 64.3 mm (2.531 in)**
KV991J0010 (J-23688) Engine coolant refractometer  WBIA0539E	Checking concentration of ethylene glycol in engine coolant
KV991J0070 (J-45695) Coolant refill tool  LMA053	Filling cooling system

Commercial Service Tool

INFOID:0000000003938591

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts
Spark plug wrench  S-NT047	Removing and installing spark plug

ON-VEHICLE MAINTENANCE

GENERAL MAINTENANCE

General Maintenance

INFOID:0000000003938592

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 owner can perform these checks and inspections or have their NISSAN dealers perform 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 a long distance trips. Adjust the pressurein all tires, including the spare, to the pressure specified. Check carefully for damage, cuts or excessive wear.	—
Wheel lug nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	WT-48, "Rotation"
Windshield	Clean the windshield on a regular basis. Check the windshield at least every six months for cracks or other damage. Repair as necessary.	
Tire rotation	Tires should be rotated every 12,000 km (7,500 miles).	WT-48, "Rotation"
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-8, "System Diagram"
Wheel alignment and balance	If the vehicle pulls 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.	WT-47, "Balancing Wheels", FSU-6, "Front Wheel Alignment"
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 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-46, "LOCKS, HINGES AND HOOD LATCH : Lubricating Locks, Hinges and Hood Latches"
Lamps	Make sure that the head lamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check head lamp aim. Clean the head lamps on a regular basis.	EXL-140, "HEADLAMP : Aiming Adjustment"

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 buzzers/chimes	Make sure that all warning lamps and buzzers/chimes are operating properly.	WCS-19, "Component Function Check"
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. Be sure to check for changes in the steering condition, such as excessive play, hard steering or strange noises.	ST-12, "On-Vehicle Inspection and Service"
Seats	Check seat position controls such as seat adjusters, seat back 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 seat backs.	—

Item		Reference page
Seat belts	Check that all parts of the seat belt system (e.g. buckles, anchors, adjusters and retractors) operate properly and smoothly and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	SB-9, "Seat Belt Inspection", MA-46, "SPARK PLUG : Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters"
Accelerator pedal	Check the pedal for smooth operation. Keep the floor mats away from the pedal.	—
Brakes	Check that the brake does not pull the vehicle to one side when applied.	—
Brake pedal and booster	Check the pedal for smooth operation and make sure it has the proper distance under it when depressed fully. Check the brake booster function. Keep the floor mats away from the pedal.	BR-17, "Inspection and Adjustment - Standard Pedal", BR-18, "Inspection and Adjustment - Adjustable Pedal", BR-10, "Inspection"
Parking brake	Check that the parking brake control 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-3, "On-Vehicle Service"
Automatic transmission “Park” mechanism	On a fairly steep hill check that the vehicle is held securely with the selector lever in the P position without applying the brakes.	—

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

Item		Reference page
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	CO-11 (VQ40DE) CO-40 (VK56DE)
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.	—
Brake fluid level	Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoirs	MA-42
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.	—
Engine drive belt	Make sure that no belt is frayed, worn, cracked or oily.	MA-14 (VQ40DE) EM-155 (VK56DE)
Engine oil level	Check the level on the dipstick after parking the vehicle on a level spot and turning off the engine.	LU-8 (VQ40DE) LU-24 (VK56DE)
Automatic transmission fluid level	Check the level on the dipstick after putting the selector lever in "P" with the engine idling.	MA-32
Power steering fluid level and lines	Check the level on the reservoir with the engine off. Check the lines for improper attachment, leaks, cracks, etc.	MA-44
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-32
Underbody	The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—
Fluid leaks	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—

PERIODIC MAINTENANCE

Introduction of Periodic Maintenance

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Two different maintenance schedules are provided, and should be used, depending upon the conditions in which the vehicle is mainly operated. **After 60,000 miles (96,000 km) or 48 months, continue the periodic maintenance at the same mileage or time intervals, whichever comes first.**

Schedule 1	Follow Periodic Maintenance Schedule 1 if your driving habits frequently includes one or more of the following 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 or using a car-top carrier.	Emission Control System Maintenance	MA-7
		Chassis and Body Maintenance	MA-7
Schedule 2	Follow Periodic Maintenance Schedule 2 if none of the driving conditions shown in Schedule 1 apply to the driving habits.	Emission Control System Maintenance	MA-7
		Chassis and Body Maintenance	MA-7

Maintenance for off-road driving (4X4 only)

After driving the vehicle off-road through sand, mud, or water; more frequent maintenance may be required for the following items:

- ▲ Brake pads and rotors
- ▲ Brake lines and hoses
- ▲ Rear final drive oil, transmission fluid, and transfer fluid
- ▲ Steering linkage
- ▲ Drive shafts
- ▲ Engine air cleaner filter
- ▲ In-cabin microfilters

Schedule 1

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EMISSION CONTROL SYSTEM MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. [ ]: At the mileage intervals only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	3.75 (6) 3	7.50 (12) 6	11.25 (18) 9	15 (24) 12	18.75 (30) 15	22.5 (36) 18	26.25 (42) 21	30 (48) 24	
Drive belts	NOTE (1)									MA-14 (VQ40DE) MA-23 (VK56DE)
Air cleaner filter	NOTE (2)								[R]	MA-18 (VQ40DE) MA-26 (VK56DE)
EVAP vapor lines									I*	MA-30 (VQ40DE) MA-30 (VK56DE)
Fuel lines									I*	MA-17 (VQ40DE) MA-26 (VK56DE)
Fuel filter	NOTE (3)									—
Engine coolant	NOTE (4)									MA-14 (VQ40DE) MA-23 (VK56DE)
Engine oil		R	R	R	R	R	R	R	R	MA-18 (VQ40DE) MA-27 (VK56DE)

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	3.75 (6) 3	7.50 (12) 6	11.25 (18) 9	15 (24) 12	18.75 (30) 15	22.5 (36) 18	26.25 (42) 21	30 (48) 24	
Engine oil filter		R	R	R	R	R	R	R	R	MA-19 (VQ40DE) MA-27 (VK56DE)
Spark plugs (IRIDIUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								MA-20 (VQ40DE) MA-29 (VK56DE)
Intake and exhaust valve clearance*	NOTE (5)									EM-134 (VQ40DE) EM-250 (VK56DE)

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	33.75 (54) 27	37.5 (60) 30	41.25 (66) 33	45 (72) 36	48.75 (78) 39	52.5 (84) 42	56.25 (90) 45	60 (96) 48	
Drive belts	NOTE (1)								I*	MA-14 (VQ40DE) MA-23 (VK56DE)
Air cleaner filter	NOTE (2)								[R]	MA-18 (VQ40DE) MA-26 (VK56DE)
EVAP vapor lines									I*	MA-30 (VQ40DE) MA-30 (VK56DE)
Fuel lines									I*	MA-17 (VQ40DE) MA-26 (VK56DE)
Fuel filter	NOTE (3)									—
Engine coolant	NOTE (4)								R*	MA-14 (VQ40DE) MA-23 (VK56DE)
Engine oil		R	R	R	R	R	R	R	R	MA-18 (VQ40DE) MA-27 (VK56DE)
Engine oil filter		R	R	R	R	R	R	R	R	MA-19 (VQ40DE) MA-27 (VK56DE)
Spark plugs (IRIDIUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								MA-20 (VQ40DE) MA-29 (VK56DE)
Intake and exhaust valve clearance*	NOTE (5)									EM-134 (VQ40DE) EM-250 (VK56DE)

NOTE:

(1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months. Replace the drive belts if found damaged, or if the auto tensioner reading reaches the maximum limit.

(2) If operating mainly in dusty conditions, more frequent maintenance may be required.

(3) Maintenance-free item. For service procedures, go to the FL section.

(4) After 60,000 miles (96,000 km) or 48 months, replace every 30,000 miles (48,000 km) or 24 months.

(5) Periodic maintenance is not required. However, if valve noise increases, inspect valve clearance.

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

CHASSIS AND BODY MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. L = Lubricate. [ ]: At the mileage intervals only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	3.75 (6) 3	7.5 (12) 6	11.25 (18) 9	15 (24) 12	18.75 (30) 15	22.5 (36) 18	26.25 (42) 21	30 (48) 24	
Brake lines and cables					I				I	MA-42
Brake pads and rotors			I		I		I		I	MA-43
Automatic transmission fluid	NOTE (1)				I				I	MA-32
Transfer fluid and front final drive oil	NOTE (1)				I				I	MA-37, MA-36, MA-37, MA-38
Rear final drive oil	NOTE (1)				I				I	MA-39, MA-39
Steering gear, linkage, axle, and suspension parts			I		I		I		I	MA-43, MA-44
Tire rotation	NOTE (2)									MA-42
Drive shaft boots and propeller shaft (4X4)			I		I		I		I	MA-37
Exhaust system			I		I		I		I	MA-32
In-cabin microfilter					R				R	MA-31

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	33.75 (54) 27	37.5 (60) 30	41.25 (66) 33	45 (72) 36	48.75 (78) 39	52.5 (84) 42	56.25 (90) 45	60 (96) 48	
Brake lines and cables					I				I	MA-42
Brake pads and rotors			I		I		I		I	MA-43
Automatic transmission fluid	NOTE (1)				I				I	MA-32
Transfer fluid and front final drive oil	NOTE (1)				I				I	MA-35, MA-36, MA-37, MA-38
Rear final drive oil	NOTE (1)				I				I	MA-39, MA-39
Steering gear, linkage, axle, and suspension parts			I		I		I		I	MA-43, MA-44
Tire Rotation	NOTE (2)									MA-42
Drive shaft boots and propeller shaft (4X4)			I		I		I		I	MA-37
Exhaust system			I		I		I		I	MA-32
In-cabin microfilter					R				R	MA-31

NOTE:

(1) If towing a trailer, or using a car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 30,000 miles (48,000 km) or 24 months.

(2) Refer to “Tire rotation” under the “General maintenance” heading earlier in this section.

Schedule 2

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EMISSION CONTROL SYSTEM MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. [ ]: At the mileage intervals only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	7.5 (12) 6	15 (24) 12	22.5 (36) 18	30 (48) 24	37.5 (60) 30	45 (72) 36	52.5 (84) 42	60 (96) 48	
Drive belts	NOTE (1)								I*	MA-14 (VQ40DE) MA-23 (VK56DE)
Air cleaner filter					[R]				[R]	MA-18 (VQ40DE) MA-26 (VK56DE)
EVAP vapor lines					I*				I*	MA-30 (VQ40DE) MA-30 (VK56DE)
Fuel lines					I*				I*	MA-17 (VQ40DE) MA-26 (VK56DE)
Fuel filter	NOTE (2)									—
Engine coolant	NOTE (3)								R*	MA-14 (VQ40DE) MA-23 (VK56DE)
Engine oil		R	R	R	R	R	R	R	R	MA-18 (VQ40DE) MA-27 (VK56DE)
Engine oil filter		R	R	R	R	R	R	R	R	MA-19 (VQ40DE) MA-27 (VK56DE)
Spark plugs (IRIDIUM-TIPPED type)		Replace every 105,000 miles (169,000 km).								MA-20 (VQ40DE) MA-29 (VK56DE)
Intake and exhaust valve clearance*	NOTE (4)									EM-134 (VQ40DE) EM-250 (VK56DE)

NOTE:

(1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months. Replace the drive belts if found damaged, or if the auto tensioner reading reaches the maximum limit.

(2) Maintenance-free item. For service procedures, go to FL section.

(3) After 60,000 miles (96,000 km) or 48 months, replace every 30,000 miles (48,000 km) or 24 months.

(4) Periodic maintenance is not required. However, if valve noise increases, inspect valve clearance.

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

CHASSIS AND BODY MAINTENANCE

Abbreviations: R = Replace. I = Inspect. Correct or replace if necessary. L = Lubricate. [ ]: At the mileage interval only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	7.5 (12) 6	15 (24) 12	22.5 (36) 18	30 (48) 24	37.5 (60) 30	45 (72) 36	52.5 (84) 42	60 (96) 48	
Brake lines and cables			I		I		I		I	MA-42
Brake pads and rotors			I		I		I		I	MA-43
Automatic transmission fluid			I		I		I		I	MA-32
Transfer fluid and front final drive oil			I		I		I		I	MA-35, MA-36, MA-37, MA-38
Rear final drive oil			I		I		I		I	MA-39, MA-39
Steering gear, linkage, axle, and suspension parts.					I				I	MA-43, MA-44
Tire rotation	NOTE (1)									MA-42

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference Section - Page or - Content Title
Perform at number of miles, kilometers or months, whichever comes first.	Miles x 1,000 (km x 1,000) Months	7.5 (12) 6	15 (24) 12	22.5 (36) 18	30 (48) 24	37.5 (60) 30	45 (72) 36	52.5 (84) 42	60 (96) 48	
Drive shaft boots and propeller shaft (4X4)			I		I		I		I	MA-37
Exhaust system					I				I	MA-32
In-cabin microfilter			R		R		R		R	MA-31

NOTE:

(1) Refer to “Tire rotation” under the “General maintenance” heading earlier in this section.

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

INFOID:0000000003938596

Description			Capacity (Approximate)			Recommended Fluids/Lubricants
			Metric	US measure	Imp measure	
Fuel			80 ℓ	21 1/8 gal	17 5/8 gal	Unleaded gasoline with an octane rating of at least 87 AKI (RON 91) *7
Engine oil Drain and refill	With oil filter change	VQ40DE	5.1 ℓ	5 3/8 qt	4 1/2 qt	• Engine oil with API Certification Mark *1 • Viscosity SAE 5W-30
		VK56DE	6.5 ℓ	6 3/4 qt	5 3/4 qt	
	Without oil filter change	VQ40DE	4.8 ℓ	5 1/8 qt	4 1/4 qt	
		VK56DE	6.2 ℓ	6 1/2 qt	5 1/2 qt	
Dry engine (engine overhaul)		VQ40DE	6.3 ℓ	6 5/8 qt	5 1/2 qt	
		VK56DE	7.6 ℓ	8 qt	6 3/4 qt	
Cooling system (with reservoir at “MAX” level)	Without rear A/C		10.2 ℓ	2 3/4 gal	2 1/4 gal	Genuine NISSAN Long Life Anti-freeze coolant or equivalent
	With rear A/C		13.4 ℓ	3 1/2 gal	3 gal	
Automatic transmission fluid (ATF)		VQ40DE	10.3 ℓ	10 7/8 qt	9 1/8 qt	Genuine NISSAN Matic S ATF *2
		VK56DE	10.6 ℓ	11 1/4 qt	9 3/8 qt	
Rear final drive oil		VQ40DE	1.4 ℓ	3 pt	2 1/2 pt	Genuine NISSAN differential oil synthetic 75W-90 or API GL-5 synthetic gear oil, Viscosity SAE 75W-90 *8
		VK56DE	1.75 ℓ	3 3/4 pt	3 1/8 pt	
Transfer fluid	ATX14B		3.0 ℓ	3 1/8 qt	2 5/8 qt	Genuine NISSAN Matic D ATF (Continental U.S and Alaska) or Canada NISSAN Automatic Transmission Fluid or equivalent (if available)
	TX15B		2.0 ℓ	2 1/8 qt	1 3/4 qt	
Front final drive oil		VQ40DE	0.85 ℓ	1 3/4 pt	1 1/2 pt	• Genuine NISSAN Differential Oil Hypoid Super GL-5 80W-90 • API GL-5 Viscosity SAE 80W-90 *6
		VK56DE	1.6 ℓ	3 3/8 pt	2 7/8 pt	
Power steering fluid (PSF)			1.0 ℓ	2 1/8 pt	1 3/4 pt	Genuine NISSAN PSF or equivalent *3
Brake fluid			—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid *4 or equivalent, DOT 3 (US FMVSS No. 116)
Multi-purpose grease			—	—	—	NLGI No. 2 (lithium soap base)
Windshield washer fluid			4.5 ℓ	1 1/4 gal	1 gal	Genuine NISSAN Windshield Washer Concentrate Cleaner & Anti-freeze or equivalent
A/C system refrigerant			0.85 ± 0.05 kg	1.87 ± 0.11 lb	1.87 ± 0.11 lb	HFC-134a (R134a) *5
A/C system oil			210 m ℓ	7.4 fl oz	7.1 fl oz	NISSAN A/C System Oil Type S or equivalent *5

*1: For further details, refer to MA-13, "Engine Oil Recommendation".

*2: If Genuine NISSAN Matic S ATF is not available, Genuine NISSAN Matic J ATF may also be used. Using automatic transmission fluid other than Genuine NISSAN Matic S ATF or Matic J ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the NISSAN new vehicle limited warranty.

*3: DEXRON™ VI type ATF or Canada NISSAN Automatic Transmission Fluid may also be used.

*4: Available in mainland U.S.A. through your NISSAN dealer.

*5: For further details, see “Air conditioner Specification Label”.

*6: For hot climates, viscosity SAE 90 is suitable for ambient temperatures above 0° C (32° F).

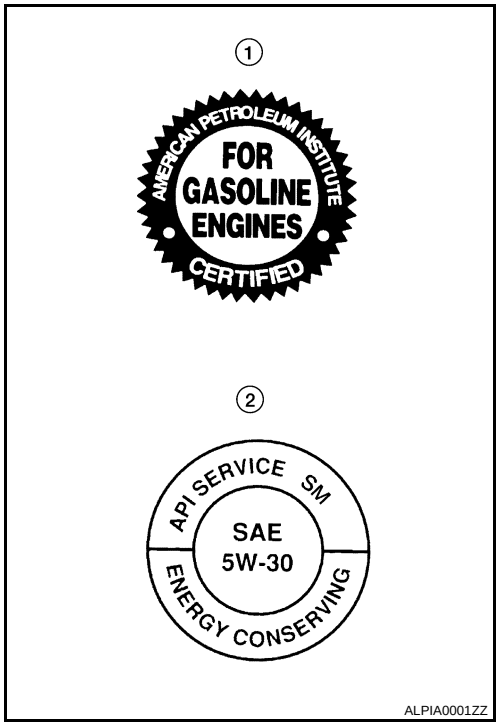
*7: For further details, refer to GI-38, "Precaution for Fuel (Unleaded Premium Gasoline Recommended)". For improved performance, NISSAN recommends the use of unleaded premium gasoline with an octane rating of at least 91 AKI (RON 96).

*8: See a NISSAN dealer for service for synthetic oil.

Engine Oil Recommendation

INFOID:0000000003938597

NISSAN recommends the use of an energy conserving oil in order to improve fuel economy. Select only engine oils that meet the American Petroleum Institute (API) certification and International Lubricant Standardization and Approval Commottee (ILSAC) certification and SAE viscosity standard (2). These oils have the API certification mark (1) 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.



ANTI-FREEZE COOLANT MIXTURE RATIO

The engine cooling system is filled at the factory with a high-quality, long life, year-round, anti-freeze coolant solution. The anti-freeze solution contains rust and corrosion inhibitors. Therefore, additional cooling system additives are not necessary.

For outside temperatures down to:		Anti-freeze coolant mixture ratio	
° C	° F	Genuine NISSAN Long Life Antifreeze coolant	Demineralized water or distilled water
– 35°	– 30°	50 %	50 %

CAUTION:

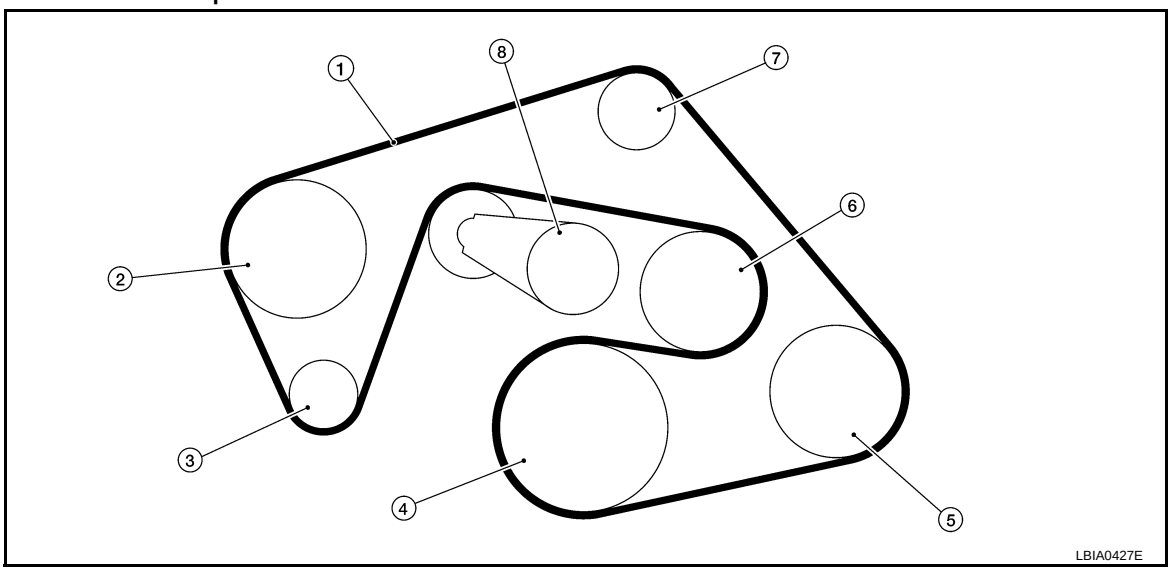
- **When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Anti-freeze coolant or equivalent with the proper mixture ratio of 50% anti-freeze and 50% demineralized water or distilled water.**
- **Other types of coolant solutions may damage your cooling system.**

ENGINE MAINTENANCE (VQ40DE)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000004353574



1. Drive belt
2. Power steering oil pump pulley
3. Generator pulley
4. Crankshaft pulley
5. A/C compressor
6. Cooling fan pulley
7. Idler pulley
8. Drive belt tensioner

DRIVE BELTS : Checking Drive Belts

INFOID:0000000004353575

WARNING:

Be sure to perform when the engine is stopped.

1. Remove air duct and resonator assembly when inspecting drive belt. Refer to EM-25, "Removal and Installation".
2. Visually check entire belt for wear, damage or cracks.

ENGINE COOLANT

ENGINE COOLANT : Changing Engine Coolant

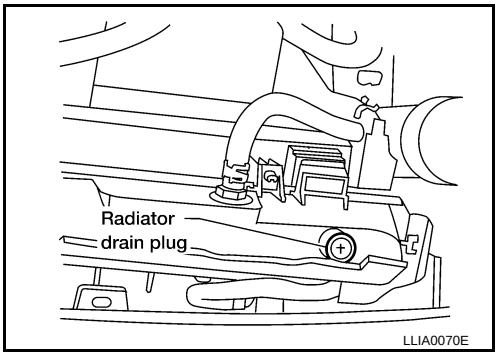
INFOID:0000000003938599

WARNING:

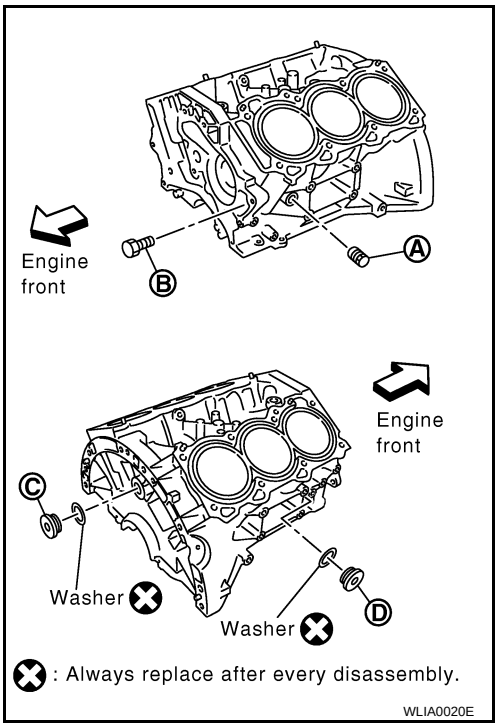
- **To avoid being scalded, never change the coolant when the engine is hot.**
- **Wrap a thick cloth around the cap to carefully remove the cap. First, turn the cap a quarter of a turn to release any built-up pressure, then push down and turn the cap all the way to remove it.**

DRAINING ENGINE COOLANT

1. Turn ignition switch ON and set temperature control lever all the way to HOT position or the highest temperature position. Wait 10 seconds and turn ignition switch OFF.
2. Remove the engine front undercover using power tool.
3. Open the radiator drain plug at the bottom of the radiator, and remove the reservoir cap. This is the only step required when partially draining the cooling system (radiator only).
   CAUTION:
   Do not to allow the coolant to contaminate the drive belts.



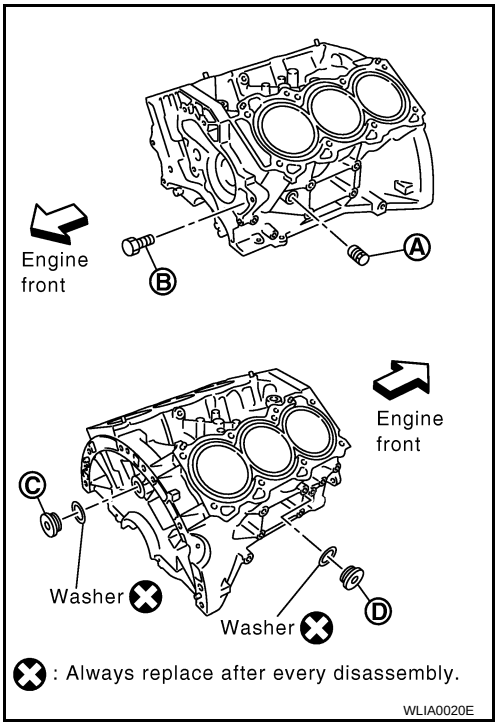
4. When draining all of the coolant in the system for engine removal or repair, it is necessary to drain the cylinder block. Remove the cylinder block drain plugs, and block heater if equipped, to drain the cylinder block as shown.
NOTE:
For Canada, the “D” cylinder block drain plug as shown, is not a cylinder block drain plug but a block heater.



5. Remove the reservoir tank to drain the engine coolant, then clean the reservoir tank before installing it.
6. Check the drained coolant for contaminants such as rust, corrosion or discoloration.
If the coolant is contaminated, flush the engine cooling system. Refer to "DRAINING ENGINE COOLANT" .

REFILLING ENGINE COOLANT

1. Close the radiator drain plug. Install the reservoir tank, cylinder block drain plugs, and block heater if equipped, if removed for a total system drain or for engine removal or repair.
   - The radiator must be completely empty of coolant and water.
   - Apply sealant to the threads of the cylinder block drain plug. Use Genuine High Performance Thread Sealant or equivalent. Refer to GI-26, "Recommended Chemical Products and Sealants" .

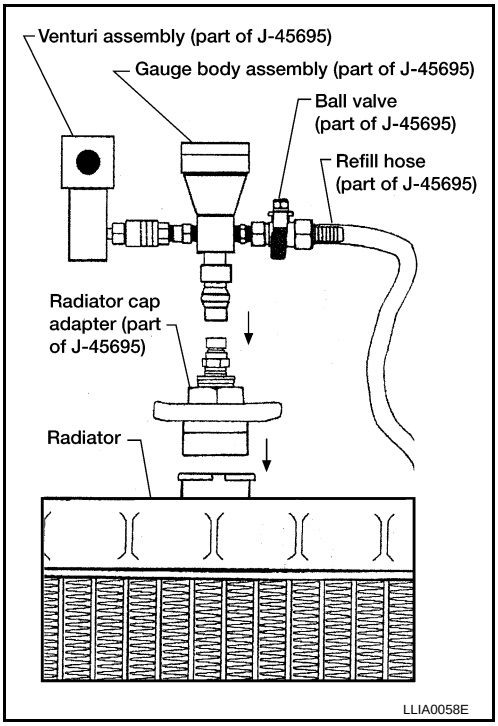


Block Plug and Block Heater Installation

Part		Washer	Tightening Torque
A		No	19.6 N·m (2.0 kg-m, 14 ft-lb)
B	Reuse	No	9.8 N·m (1.0 kg-m, 87 in-lb)
	New		6.0 N·m (0.61 kg-m, 53 in-lb)

Part		Washer	Tightening Torque
C		Yes	62 N·m (6.3 kg-m, 46 ft-lb)
D	Plug	Yes	62 N·m (6.3 kg-m, 46 ft-lb)
	Block heater		73.5 N·m (7.5 kg-m, 54 ft-lb)

2. Set the vehicle heater controls to the full HOT and heater ON position. Turn the vehicle ignition ON with the engine OFF as necessary to activate the heater mode.
3. Remove the vented reservoir cap and replace it with a non-vented reservoir cap before filling the cooling system.
4. Install the Tool by installing the radiator cap adapter onto the radiator neck opening. Then attach the gauge body assembly with the refill tube and the venturi assembly to the radiator cap adapter.



Tool number : KV991J0070 (J-45695)

5. Insert the refill hose into the coolant mixture container that is placed at floor level. Make sure the ball valve is in the closed position.
   - Use Genuine NISSAN Long Life Anti-freeze coolant or equivalent, mixed 50/50 with distilled water or demineralized water. Refer to MA-13, "Engine Oil Recommendation" .

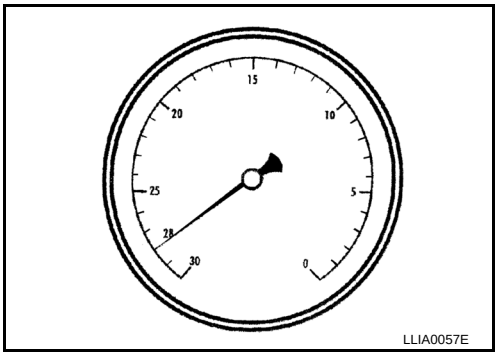
Cooling system capacity (with reservoir) : Refer to MA-12, "Fluids and Lubricants" .

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

Compressed air supply pressure : 5.7 - 8.5 kPa (5.6 - 8.4 kg/cm^2 , 80 - 120 psi)

CAUTION:
The compressed air supply must be equipped with an air dryer.

7. The vacuum gauge will begin to rise and there will be an audible hissing noise. During this process open the ball valve on the refill hose slightly. Coolant will be visible rising in the refill hose. Once the refill hose is full of coolant, close the ball valve. This will purge any air trapped in the refill hose.
8. Continue to draw the vacuum until the gauge reaches 28 inches of vacuum. The gauge may not reach 28 inches in high altitude locations, refer to the vacuum specifications based on the altitude above sea level.



Altitude above sea level	Vacuum gauge reading
0 - 100 m (328 ft)	: 28 inches of vacuum
300 m (984 ft)	: 27 inches of vacuum
500 m (1,641 ft)	: 26 inches of vacuum
1,000 m (3,281 ft)	: 24 - 25 inches of vacuum

9. When the vacuum gauge has reached the specified amount, disconnect the air hose and wait 20 seconds to see if the system loses any vacuum. If the vacuum level drops, perform any necessary repairs to the system and repeat steps 6 - 8 to bring the vacuum to the specified amount. Recheck for any leaks.
10. Place the coolant container (with the refill hose inserted) at the same level as the top of the radiator. Then open the ball valve on the refill hose so the coolant will be drawn up to fill the cooling system. The cooling system is full when the vacuum gauge reads zero.
    CAUTION:

Do not allow the coolant container to get too low when filling, to avoid air from being drawn into the cooling system.

11. Remove the Tool from the radiator neck opening and install the radiator cap.
12. Remove the reservoir cap.
13. Fill the cooling system reservoir tank to the specified level. Run the engine to warm up the cooling system and top up the system as necessary before installing the reservoir cap.

FLUSHING COOLING SYSTEM

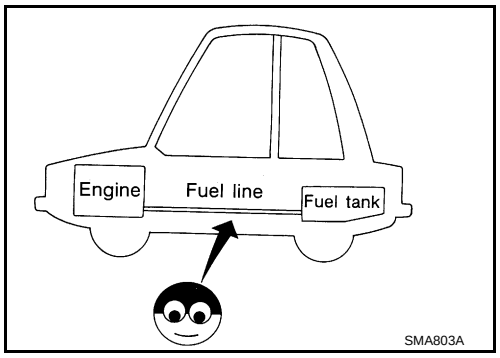
1. Drain the water from the engine cooling system. Refer to "DRAINING ENGINE COOLANT" .
2. Fill the radiator and the reservoir tank (to the “MAX” line), with water. Reinstall the radiator cap and leave the vented reservoir cap off.
3. Run the engine until it reaches normal operating temperature.
4. Press the engine accelerator two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain the water from the engine cooling system. Refer to "DRAINING ENGINE COOLANT" .
7. Repeat steps 2 through 6 until clear water begins to drain from the radiator.

FUEL LINES

FUEL LINES : Checking Fuel Line

INFOID:0000000004353582

Inspect fuel lines, fuel filler cap and fuel tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.
If necessary, repair or replace damaged parts.



FUEL FILTER

FUEL FILTER : Changing Fuel Filter

INFOID:0000000003938601

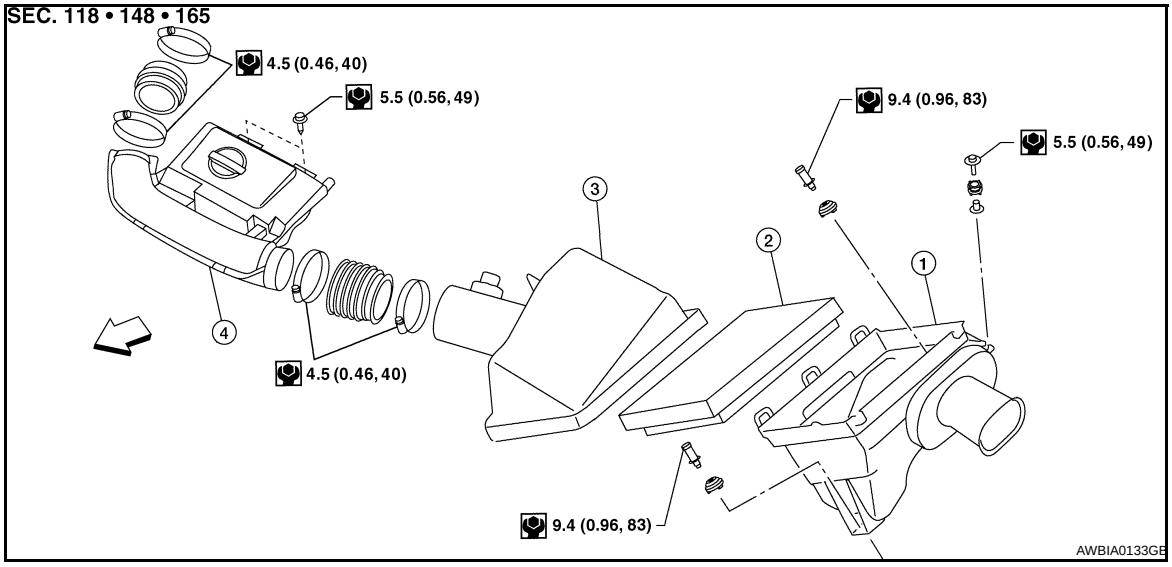
The fuel filter is part of the fuel level sensor unit, fuel filter and fuel pump assembly. Refer to FL-11, "Removal and Installation".

WARNING:
Before replacing the fuel filter, release the fuel pressure from the fuel system. Refer to EC-484, "Fuel Pressure Check".

AIR CLEANER FILTER

AIR CLEANER FILTER : Exploded View

INFOID:0000000004353576



1. Air cleaner case (lower)
2. Air cleaner filter
3. Air cleaner case (upper)
4. Air duct and resonator
⇐ Front

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000004353577

REMOVAL

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

INSTALLATION

Installation is in the reverse order of removal.

ENGINE OIL

ENGINE OIL : Changing Engine Oil

INFOID:0000000004353580

WARNING:

- **Be careful not to burn yourself, as the engine and engine oil may be hot.**
- **Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**

1. Warm up the engine, and check for any oil leaks.
2. Stop the engine and wait for at least 10 minutes.
3. Remove the oil drain plug and oil filler cap to drain the old oil.
4. Install a new washer on the oil drain plug, then install the oil drain plug in the oil pan.

Oil drain plug : Refer to EM-35, "Removal and Installation".

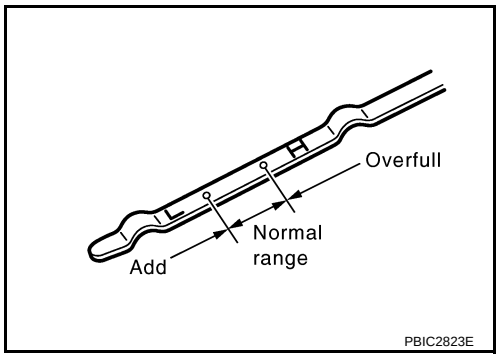
CAUTION:
Clean the drain plug and install with a new washer.

5. Refill the engine with new specified engine oil.

Oil grade and viscosity : Refer to MA-12, "Fluids and Lubricants".
Oil capacity : Refer to MA-12, "Fluids and Lubricants".

CAUTION:
The refill capacity depends on the oil temperature and drain time. Use the “Refill oil capacity” values as a reference and check the oil level using the dipstick when filling the engine with oil.

6. Warm up the engine and check the area around the drain plug and oil filter for any oil leaks.
7. Stop the engine and wait for more than 10 minutes.
8. Check the oil level using the dipstick as shown. Add oil as necessary and install the oil filler cap. Refer to LU-8, "Inspection".
   CAUTION:
   Do not overfill the engine with oil.



OIL FILTER

OIL FILTER : Removal and Installation

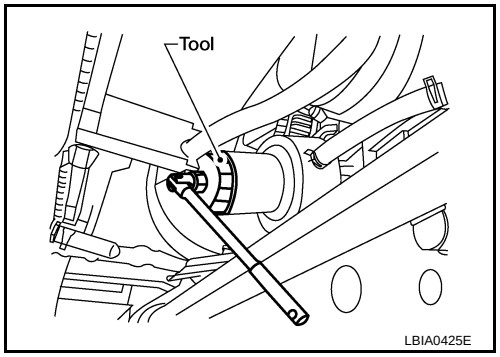
INFOID:0000000004353581

REMOVAL

1. Remove the engine front undercover using power tool.
2. Remove the oil filter using Tool as shown.

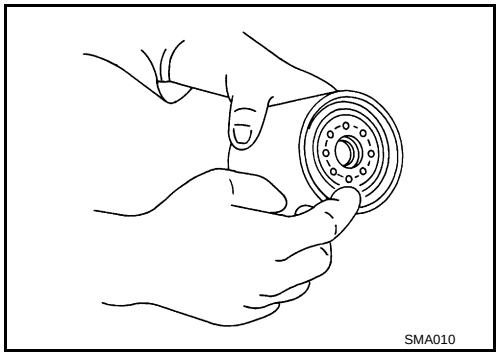
   Tool number : KV10115801 (J-38956)

   WARNING:
   Be careful not to burn yourself, as the engine and engine oil may be hot.
   CAUTION:
   - **Oil filter is equipped with a pressure relief valve.**
   - **Use Genuine NISSAN Oil Filter or equivalent.**
   - **When removing, prepare a shop cloth to absorb any engine oil leaks or spills.**
   - **Do not allow engine oil to adhere to drive belts.**
   - **Completely wipe off any engine oil that adheres to the engine and the vehicle.**



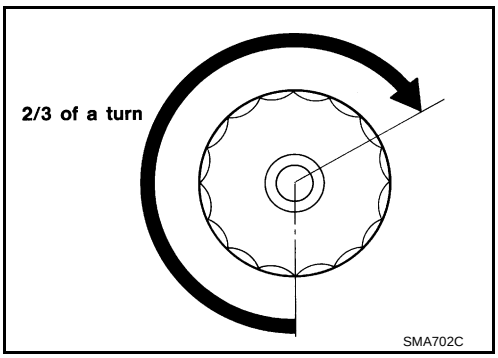
INSTALLATION

1. Remove foreign materials adhering to the oil filter seal mating surface.
2. Apply clean engine oil to the oil filter seal circumference of the new oil filter as shown.



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

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



4. Inspect the engine for oil leaks. Refer to MA-19, "OIL FILTER : Removal and Installation".
5. Install the engine front undercover using power tool.

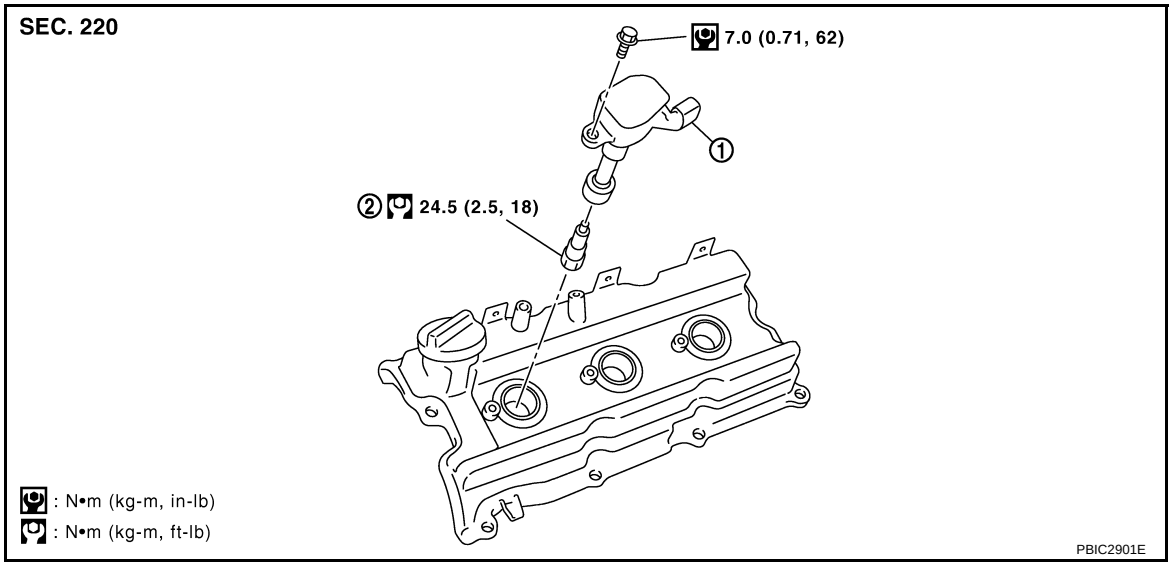
INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to LU-8, "Inspection".
2. Start the engine and check for engine oil leaks.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level and add engine oil as required.

SPARK PLUG

SPARK PLUG : Exploded View

INFOID:0000000004353578



1. Ignition coil
2. Spark plug

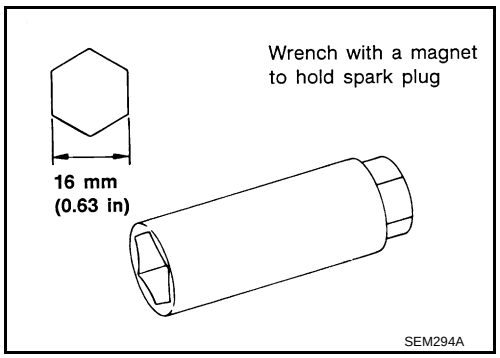
SPARK PLUG : Removal and Installation

INFOID:0000000004353579

REMOVAL

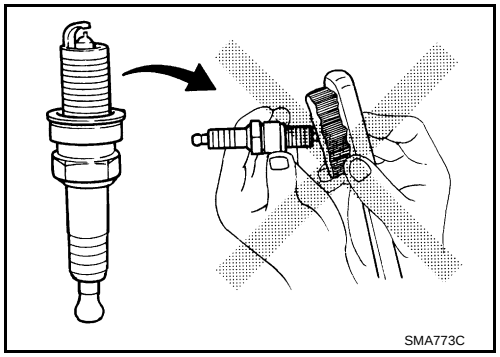
1. Remove the ignition coil. Refer to EM-40, "Removal and Installation".

2. Remove the spark plug using a suitable tool.
CAUTION:
Do not drop or shock it.



INSPECTION AFTER REMOVAL

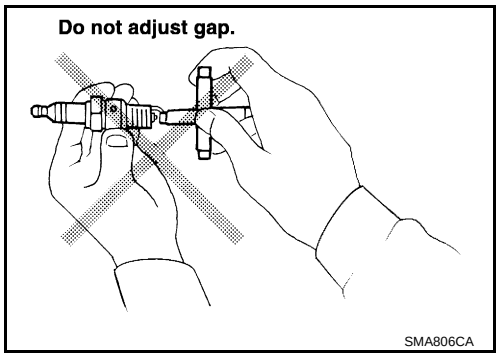
- Do not use a wire brush to clean the spark plug.



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

Cleaner air pressure : Less than 588 kPa (5.9 bar, 6 kg/cm^2, 85 psi)
Cleaning time : Less than 20 seconds

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



INSTALLATION

Installation is in the reverse order of removal.
CAUTION:
Do not drop or shock the spark plug.

Make	NGK
Standard type	DILFR5A-11
Gap (nominal)	1.1 mm (0.043 in)

EVAP VAPOR LINES

EVAP VAPOR LINES : Checking EVAP Vapor Line

INFOID:0000000003938606

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

Refer to EC-486, "How to Detect Fuel Vapor Leakage".

ENGINE MAINTENANCE (VK56DE)

DRIVE BELTS

DRIVE BELTS : Checking Drive Belts

INFOID:0000000004353584

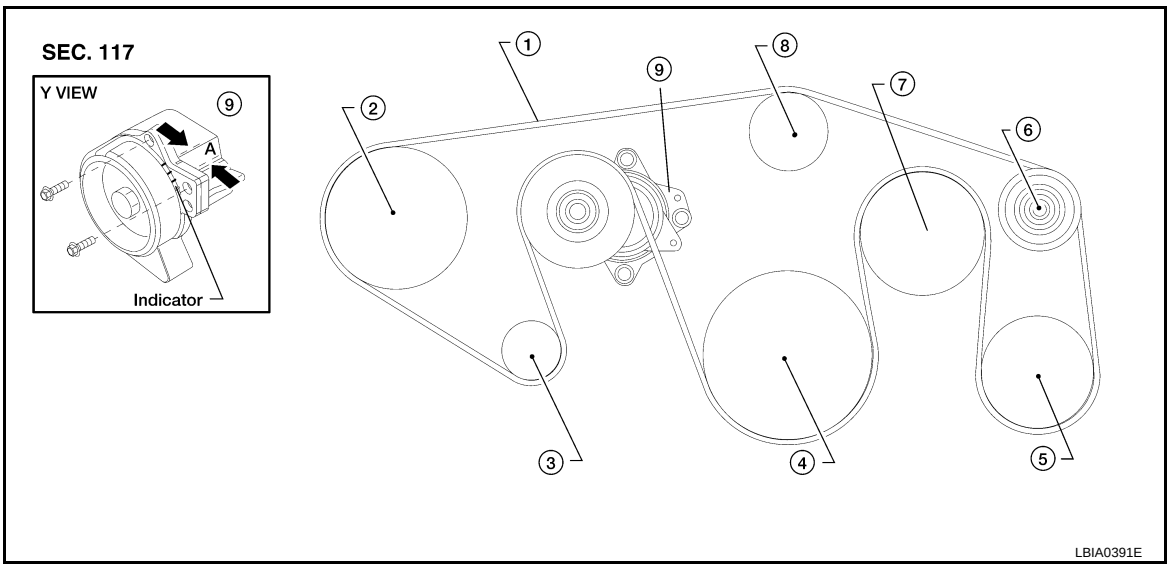
WARNING:

Be sure to perform when the engine is stopped.

1. Remove air duct and resonator assembly when inspecting drive belt.
2. Make sure that indicator (single line notch) of each auto tensioner is within the allowable working range “A” (between three line notches) as shown.
   NOTE:
   - Check the drive belt auto tensioner indication when the engine is cold.
   - The indicator notch is located on the moving side of the drive belt auto tensioner.
3. Visually check entire belt for wear, damage or cracks.
4. If the indicator is out of allowable working range or belt is damaged, replace the belt. Refer to EM-155, "Removal and Installation".

DRIVE BELTS : Exploded View

INFOID:0000000004353583



1. Drive belt
2. Power steering pump pulley
3. Generator pulley
4. Crankshaft pulley
5. A/C compressor
6. Idler pulley
7. Cooling fan pulley
8. Water pump pulley
9. Drive belt auto tensioner

A. Allowable working range

ENGINE COOLANT

ENGINE COOLANT : Changing Engine Coolant

INFOID:0000000003938608

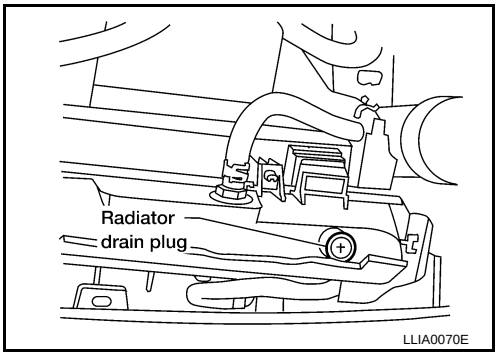
WARNING:

- **To avoid being scalded, never change the coolant when the engine is hot.**
- **Wrap a thick cloth around the cap to carefully remove the cap. First, turn the cap a quarter of a turn to release any built-up pressure, then push down and turn the cap all the way to remove it.**

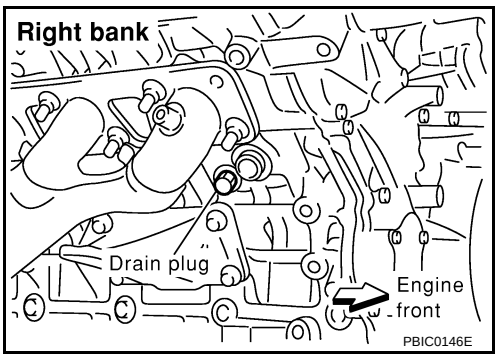
DRAINING ENGINE COOLANT

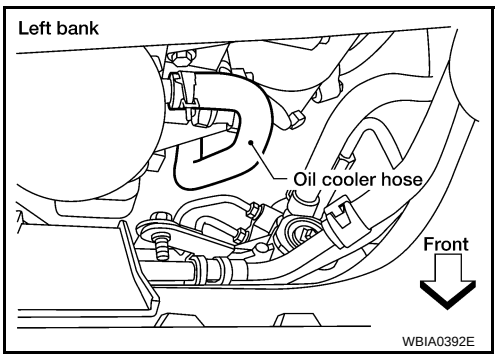
1. Turn ignition switch ON and set temperature control lever all the way to HOT position or the highest temperature position. Wait 10 seconds and turn ignition switch OFF.
2. Remove the engine front undercover using power tool.

3. Open the radiator drain plug at the bottom of the radiator, and remove the radiator filler cap. This is the only step required when partially draining the cooling system (radiator only).
CAUTION:
Do not to allow the coolant to contact the drive belts.



4. When draining all of the coolant in the system for engine removal or repair, it is necessary to drain the cylinder block. Remove the RH cylinder block drain plug to drain the right bank, the oil cooler hose to drain the left bank as shown and the block heater if equipped.





5. Remove the reservoir tank to drain the engine coolant, then clean the reservoir tank before installing it.
6. Check the drained coolant for contaminants such as rust, corrosion or discoloration.
If the coolant is contaminated, flush the engine cooling system. Refer to CO-41, "Changing Engine Coolant".

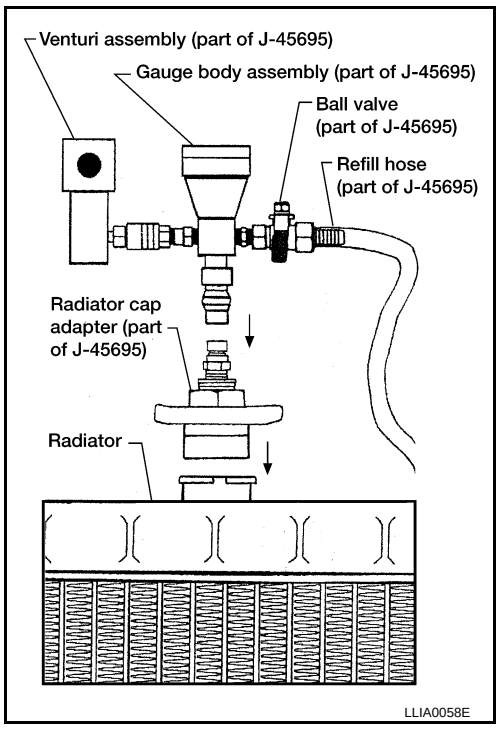
REFILLING ENGINE COOLANT

1. Close the radiator drain plug. Install the reservoir tank, cylinder block drain plug, the oil cooler hose and block heater if equipped, if removed for a total system drain or for engine removal or repair.
   - The radiator must be completely empty of coolant and water.
   - Apply sealant to the threads of the cylinder block drain plug. Use Genuine High Performance Thread Sealant or equivalent. Refer to GI-26, "Recommended Chemical Products and Sealants".

Radiator drain plug	**: Refer to CO-45, "Removal and Installation".**
RH cylinder block drain plug	**: Refer to EM-225, "Disassembly and Assembly".**

2. Set the vehicle heater controls to the full HOT and heater ON position. Turn the vehicle ignition ON with the engine OFF as necessary to activate the heater mode.
3. Remove the vented reservoir cap and replace it with a non-vented reservoir cap before filling the cooling system.

4. Install the Tool by installing the radiator cap adapter onto the radiator neck opening. Then attach the gauge body assembly with the refill tube and the venturi assembly to the radiator cap adapter.



Tool number : KV991J0070 (J-45695)

5. Insert the refill hose into the coolant mixture container that is placed at floor level. Make sure the ball valve is in the closed position.
   - Use recommended coolant or equivalent.
     Refer to MA-13, "Engine Oil Recommendation".

Cooling system capacity (with reservoir) : Refer to MA-12, "Fluids and Lubricants".

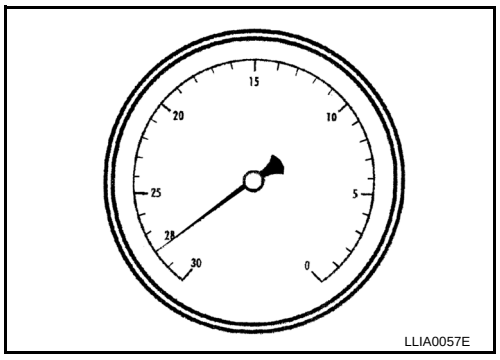
6. Install an air hose to the venturi assembly, the air pressure must be within specification.

Compressed air supply pressure : 5.7 - 8.5 kPa (5.6 - 8.4 kg/cm^2, 80 - 120 psi)

CAUTION:
The compressed air supply must be equipped with an air dryer.

7. The vacuum gauge will begin to rise and there will be an audible hissing noise. During this process open the ball valve on the refill hose slightly. Coolant will be visible rising in the refill hose. Once the refill hose is full of coolant, close the ball valve. This will purge any air trapped in the refill hose.

8. Continue to draw the vacuum until the gauge reaches 28 inches of vacuum. The gauge may not reach 28 inches in high altitude locations, use the vacuum specifications based on the altitude above sea level.



Altitude above sea level	Vacuum gauge reading
0 - 100 m (328 ft)	: 28 inches of vacuum
300 m (984 ft)	: 27 inches of vacuum
500 m (1,641 ft)	: 26 inches of vacuum
1,000 m (3,281 ft)	: 24 - 25 inches of vacuum

9. When the vacuum gauge has reached the specified amount, disconnect the air hose and wait 20 seconds to see if the system loses any vacuum. If the vacuum level drops, perform any necessary repairs to the system and repeat steps 6 - 8 to bring the vacuum to the specified amount. Recheck for any leaks.
10. Place the coolant container (with the refill hose inserted) at the same level as the top of the radiator. Then open the ball valve on the refill hose so the coolant will be drawn up to fill the cooling system. The cooling system is full when the vacuum gauge reads zero.
    CAUTION:
    Do not allow the coolant container to get too low when filling, to avoid air from being drawn into the cooling system.
11. Remove the Tool from the radiator neck opening and install the radiator cap.
12. Remove the non-vented reservoir cap.
13. Fill the cooling system reservoir tank to the specified level. Run the engine to warm up the cooling system and top up the system as necessary before installing the vented reservoir cap.

FLUSHING COOLING SYSTEM

1. Drain the water from the engine cooling system. Refer to CO-12, "Changing Engine Coolant".
2. Fill the radiator and the reservoir tank (to the “MAX” line), with water. Reinstall the radiator cap and leave the vented reservoir cap off.

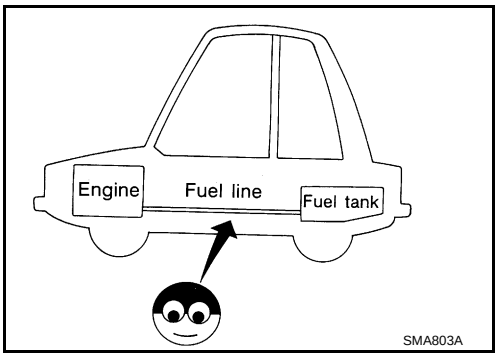
3. Run the engine until it reaches normal operating temperature.
4. Press the engine accelerator two or three times under no-load.
5. Stop the engine and wait until it cools down.
6. Drain the water from the engine cooling system. Refer to CO-12, "Changing Engine Coolant".
7. Repeat steps 2 through 6 until clear water begins to drain from the radiator.

FUEL LINES

FUEL LINES : Checking Fuel Line

INFOID:0000000004353591

Inspect fuel lines, fuel filler cap and fuel tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.
If necessary, repair or replace damaged parts.



FUEL FILTER

FUEL FILTER : Changing Fuel Filter

INFOID:0000000003938610

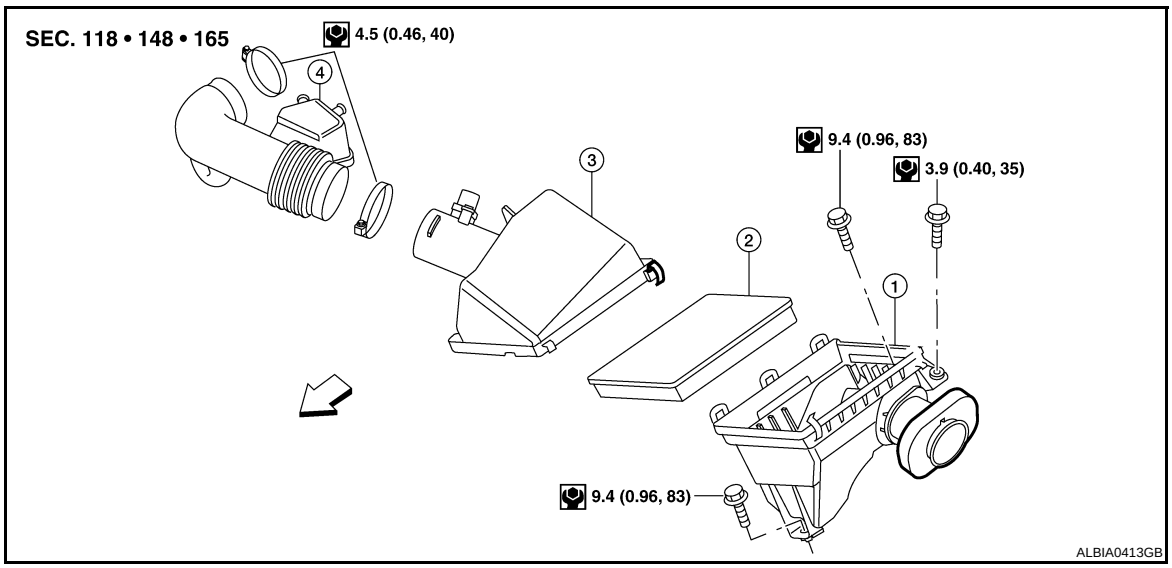
The fuel filter is part of the fuel level sensor unit, fuel filter and fuel pump assembly. Refer to FL-16.

WARNING:
Before replacing the fuel filter, release the fuel pressure from the fuel system. Refer to EC-951, "Fuel Pressure Check".

AIR CLEANER FILTER

AIR CLEANER FILTER : Exploded View

INFOID:0000000004353585



1. Air cleaner case (lower)
2. Air cleaner filter
3. Air cleaner case (upper)
4. Air duct and resonator assembly
⇐ Front

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000004353586

REMOVAL

NOTE:
- The viscous paper type filter does not need cleaning between replacement intervals.
- Replace the air filter as necessary for periodic maintenance. Refer to MA-7, "Introduction of Periodic Maintenance".

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

INSTALLATION

1. Installation is in the reverse order of removal.

ENGINE OIL

ENGINE OIL : Changing Engine Oil

INFOID:0000000004353589

WARNING:
- **Be careful not to burn yourself, as the engine and engine oil may be hot.**
- **Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**

1. Warm up the engine, and check for any oil leaks.
2. Stop the engine and wait for at least 10 minutes.
3. Remove the oil drain plug and oil filler cap to drain the old oil.
4. Install a new washer on the oil drain plug, then install the oil drain plug in the oil pan.

Oil drain plug : Refer to EM-175, "Removal and Installation".

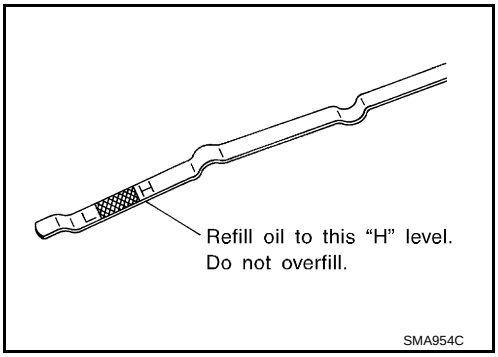
CAUTION:
Clean the drain plug and install with a new washer.

5. Refill the engine with new specified engine oil.

Oil grade and viscosity : Refer to MA-12, "Fluids and Lubricants".
Oil capacity : Refer to MA-12, "Fluids and Lubricants".

CAUTION:
The refill capacity depends on the oil temperature and drain time. Use the “Refill oil capacity” values as a reference and check the oil level using the dipstick when filling the engine with oil.

6. Warm up the engine and check the area around the drain plug and oil filter for any oil leaks.
7. Stop the engine and wait for more than 10 minutes.
8. Check the oil level using the dipstick as shown. Add oil as necessary and install the oil filler cap. Refer to LU-24, "Inspection".
   CAUTION:
   Do not overfill the engine with oil.



OIL FILTER

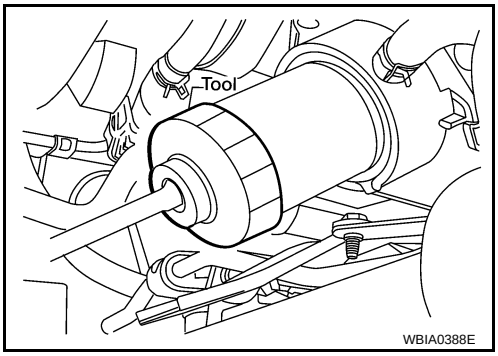
OIL FILTER : Removal and Installation

INFOID:0000000004353590

REMOVAL

1. Remove the engine front undercover access plate using power tool.

2. Remove the oil filter using Tool as shown.

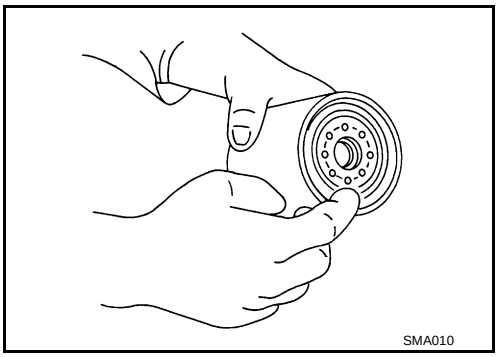


Tool number : KV10115801 (J-38956)

WARNING:
Be careful not to burn yourself, as the engine and engine oil may be hot.
CAUTION:
- **The oil filter is equipped with a pressure relief valve.**
- **Use Genuine NISSAN oil filter or equivalent.**
- **When removing, prepare a shop cloth to absorb any engine oil leaks or spills.**
- **Do not allow engine oil to adhere to the drive belts.**
- **Completely wipe off any engine oil that adheres to the engine and the vehicle.**

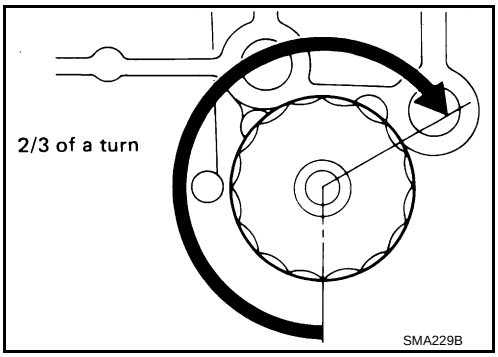
INSTALLATION

1. Remove foreign materials adhering to the oil filter seal mating surface.
2. Apply clean engine oil to the oil filter seal circumference of the new oil filter as shown.



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

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



4. Inspect the engine for oil leaks. Refer to MA-27, "OIL FILTER : Removal and Installation".
5. Install the engine front undercover access plate using power tool.

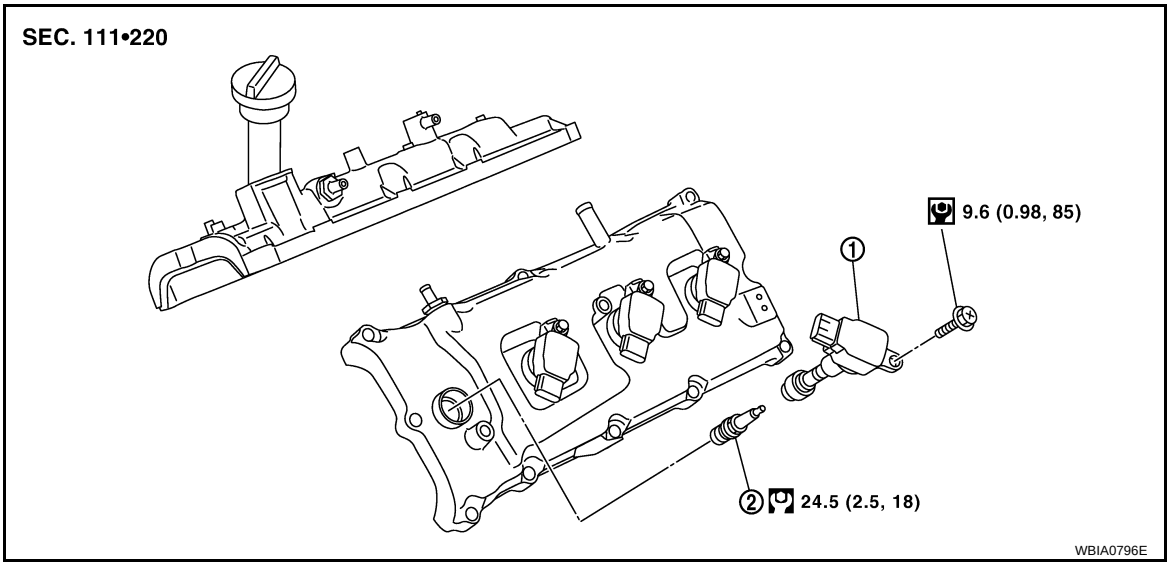
INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to LU-24, "Inspection".
2. Start the engine and check for engine oil leaks.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level and add engine oil as required.

SPARK PLUG

SPARK PLUG : Exploded View

INFOID:0000000004353587



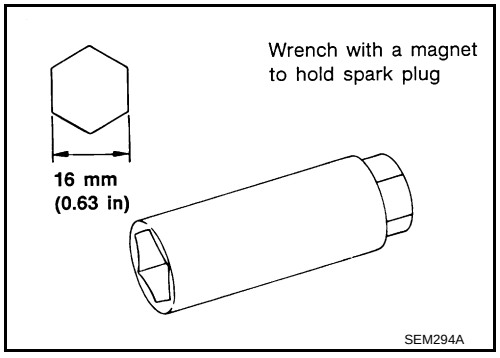
1. Ignition coil
2. Spark plug

SPARK PLUG : Removal and Installation

INFOID:0000000004353588

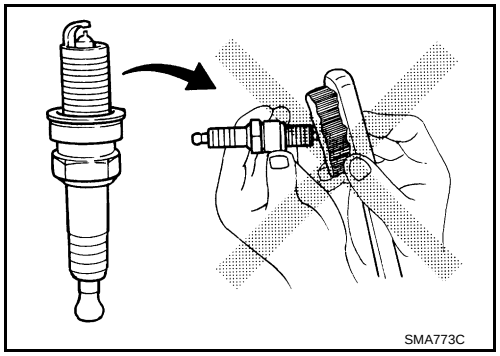
REMOVAL

1. Remove the ignition coil. Refer to EM-179, "Removal and Installation".
2. Remove the spark plug using suitable tool.
   CAUTION:
   Do not drop or shock it.



INSPECTION AFTER REMOVAL

- Do not use a wire brush for cleaning.

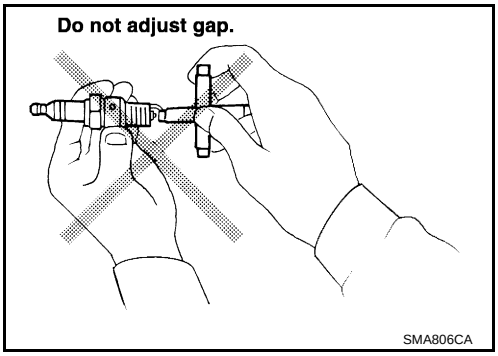


- If the spark plug tip is covered with carbon, a spark plug cleaner may be used.

Cleaner air pressure : **Less than 588 kPa (5.9 bar, 6 kg/cm^2, 85 psi)**

Cleaning time : **Less than 20 seconds**

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



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Do not drop or shock spark plug.

Make	NGK
Standard type	DILFR5A-11
Gap (Nominal)	1.1 mm (0.043 in)

EVAP VAPOR LINES

EVAP VAPOR LINES : Checking EVAP Vapor Line

INFOID:0000000003938615

1. Visually inspect EVAP vapor lines for improper attachment, cracks, damage, loose connections, chafing or deterioration.
2. Inspect vacuum relief valve of fuel tank filler cap for clogging and sticking.
   Refer to EC-953, "How to Detect EVAP Leakage".

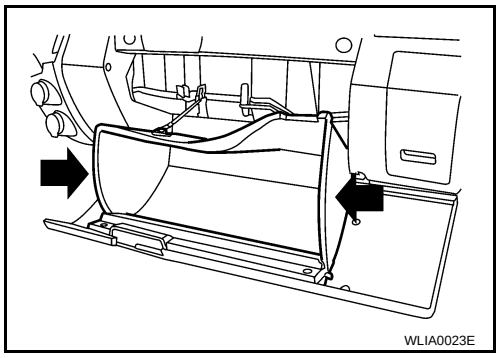
CHASSIS AND BODY MAINTENANCE
IN-CABIN MICROFILTER

IN-CABIN MICROFILTER : Removal and Installation

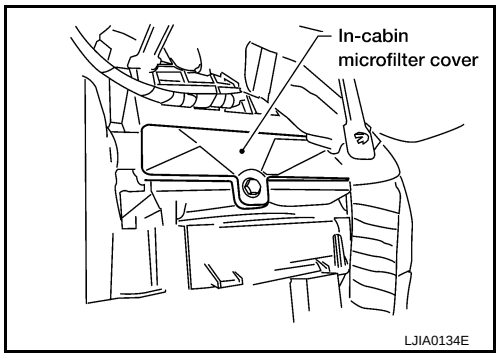
INFOID:0000000004353592

REPLACEMENT PROCEDURE

1. Open the lower glove box and press in on the sides so that it will open completely allowing it to hang by the cord.

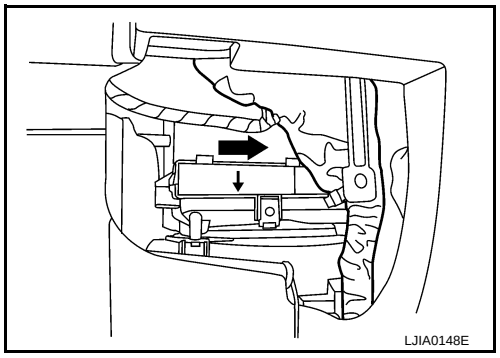

WLIA0023E

2. Remove the screw and remove the in-cabin microfilter cover.
3. Remove the in-cabin microfilters from the front heater and cooling unit housing.

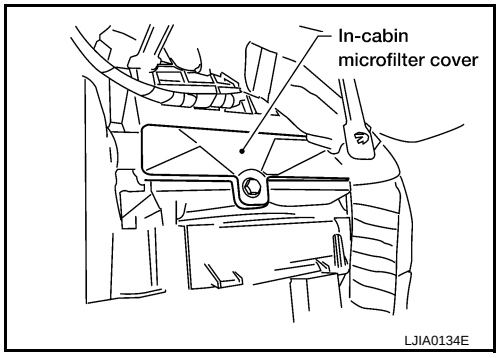


LJIA0134E

4. Insert the first new in-cabin microfilter into the front heater and cooling unit housing and slide it over to the right. Insert the second new in-cabin microfilter into the front heater and cooling unit housing.
   NOTE:
   The in-cabin microfilters are marked with air flow arrows. The end of the microfilter with the arrow should face the rear of the vehicle. The arrows should point downward.


LJIA0148E

5. Install the in-cabin microfilter cover.



LJIA0134E

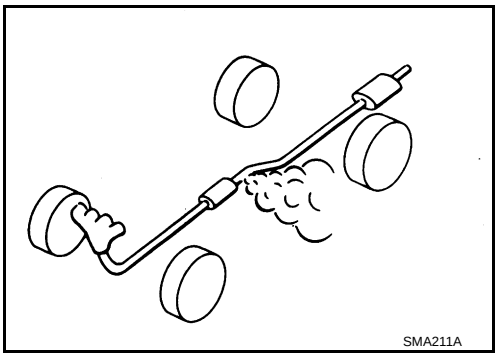
6. Close the lower glove box completely.

EXHAUST SYSTEM

EXHAUST SYSTEM : Checking the Exhaust System

INFOID:0000000003938617

Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.



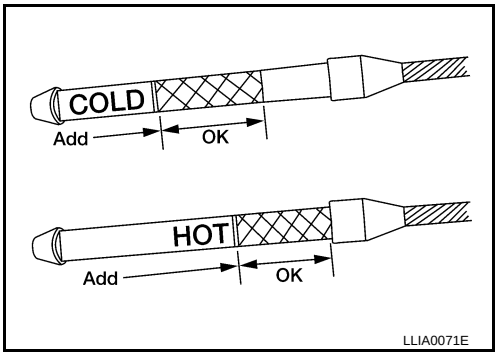
A/T FLUID

A/T FLUID : Checking the A/T Fluid (ATF)

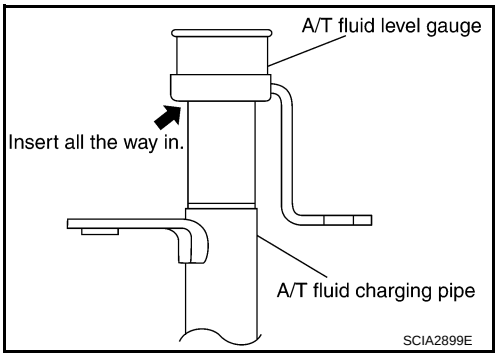
INFOID:0000000004353593

CAUTION:
If using the vehicle for towing, the A/T fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

1. Before driving, the A/T fluid level can be checked at A/T fluid temperatures of 30° to 50° C (86° to 122° F) using the “COLD” range on the A/T fluid level gauge as follows:



a. Park the vehicle on a level surface and set the parking brake.
b. Start the engine and move the selector lever through each gear position. Shift the selector lever into the “P” position.
c. Check the A/T fluid level with the engine idling.
d. Remove the A/T fluid level gauge and wipe it clean with a lint-free paper.
   CAUTION:
   When wiping the A/T fluid from the A/T fluid level gauge, always use a lint-free paper, not a cloth.

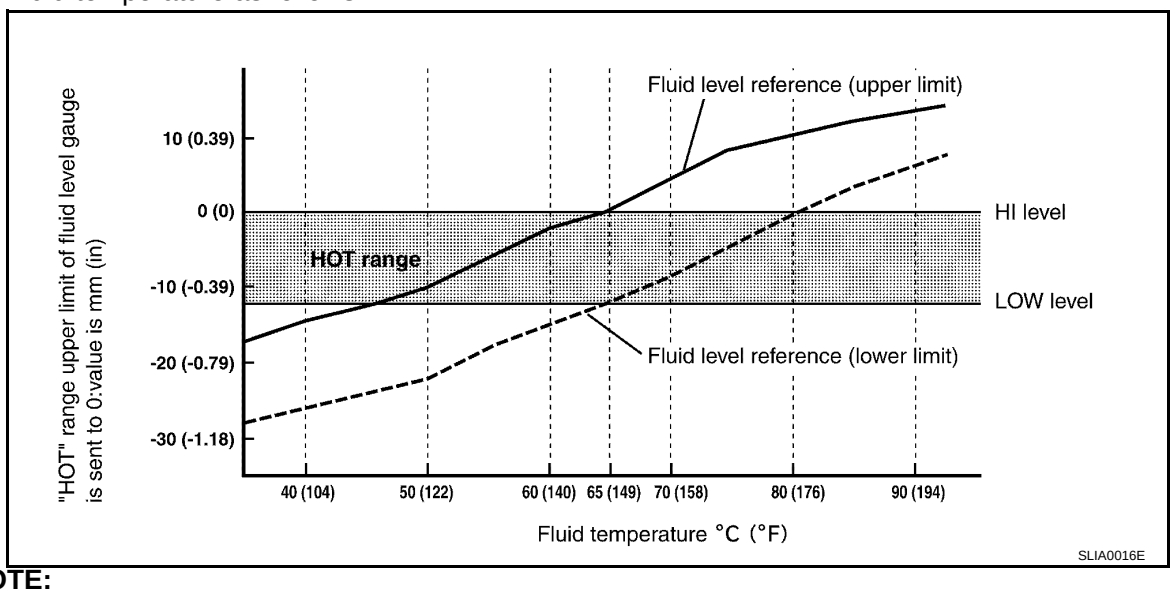


e. Re-insert the A/T fluid level gauge into the A/T fluid charging pipe until the cap contacts the top of the A/T fluid charging pipe as shown.
   CAUTION:
   To check A/T fluid level, insert the A/T fluid level gauge until the cap contacts the top of the A/T fluid charging pipe, with the gauge reversed from the normal inserted position.
f. Remove the A/T fluid level gauge and note the A/T fluid level. If the A/T fluid level is at low side of range, add A/T fluid to the transmission through the A/T fluid charging pipe.
   CAUTION:
   Do not overfill the transmission with A/T fluid.
g. Install the A/T fluid level gauge and the A/T fluid level gauge bolt.

A/T fluid level gauge bolt : Refer to TM-214, "2WD : Exploded View" (2WD) or TM-217, "4WD : Exploded View" (4WD).

2. Warm up the engine and transmission.
3. Check for any A/T fluid leaks.
4. Drive the vehicle to increase the A/T fluid temperature to 80° C (176° F).

5. Allow the A/T fluid temperature to fall to approximately 65°C (149°F). Use the CONSULT-II to monitor the A/T fluid temperature as follows:

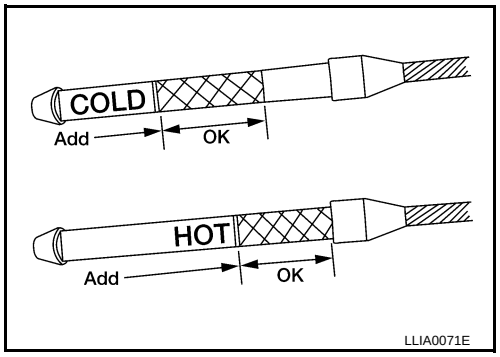


NOTE:
The A/T fluid level will be significantly affected by the A/T fluid temperature as shown. Therefore monitor the A/T fluid temperature data using the CONSULT-II.

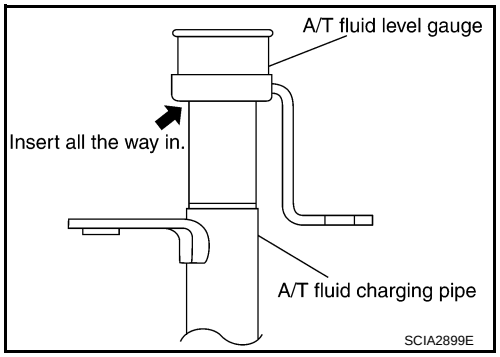
a. Connect CONSULT-II to data link connector.
b. Select “MAIN SIGNALS” in “DATA MONITOR” mode for “A/T” with CONSULT-II.
c. Read out the value of “ATF TEMP 1”.

6. Re-check the A/T fluid level at A/T fluid temperatures of approximately 65°C (149°F) using the “HOT” range on the A/T fluid level gauge as shown. The HOT range is between 50° - 80° C (122° - 176° F).

CAUTION:
- **When wiping the A/T fluid from the A/T fluid level gauge, always use lint-free paper, not a cloth.**



- **To check the A/T fluid level, insert the A/T fluid level gauge until the cap contacts the top of the A/T fluid charging pipe, with the gauge reversed from the normal inserted position as shown.**



7. Check the A/T fluid condition.
   - If the A/T fluid is very dark or has some burned smell, there may be an internal problem with the transmission. Refer to TM-114. Flush the transmission cooling system after repairing the transmission.
   - If the A/T fluid contains frictional material (clutches, bands, etc.), replace the radiator and flush the transmission cooler lines using cleaning solvent and compressed air after repairing the transmission.
8. Install the A/T fluid level gauge in the A/T fluid charging pipe.
9. Tighten the A/T fluid level gauge bolt to specification.

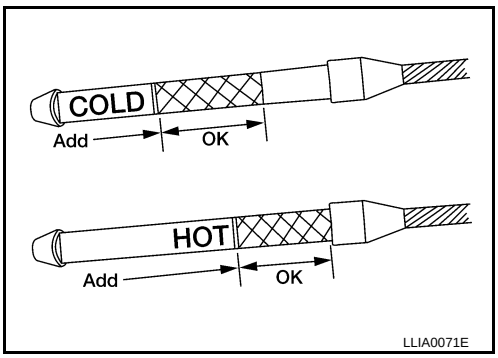
A/T fluid level gauge bolt : Refer to TM-214, "2WD : Exploded View" (2WD) or TM-217, "4WD : Exploded View" (4WD).

A/T FLUID : Changing the A/T Fluid (ATF)

INFOID:0000000004353594

CAUTION:
If using the vehicle for towing, the A/T fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

1. Drive the vehicle to warm up the A/T fluid to approximately 80° C (176° F).
2. Stop the engine.
3. Remove the A/T fluid level gauge.
4. Drain the A/T fluid from the drain plug hole, then install the drain plug with a new gasket. Refill the transmission with new A/T fluid. Always refill with the same volume as the drained A/T fluid. Use the A/T fluid level gauge to check the A/T fluid level as shown. Add A/T fluid as necessary.



Drain plug : Refer to TM-197, "Removal and Installation".

- To flush out the old A/T fluid from the transmission oil coolers, pour new A/T fluid into the A/T fluid charging pipe with the engine idling and at the same time drain the old A/T fluid from the auxiliary transmission oil cooler hose return line.
- When the color of the A/T fluid coming out of the auxiliary transmission oil cooler hose return line is about the same as the color of the new A/T fluid, flushing out the old A/T fluid is complete. The amount of new A/T fluid used for flushing should be 30% to 50% of the specified capacity.

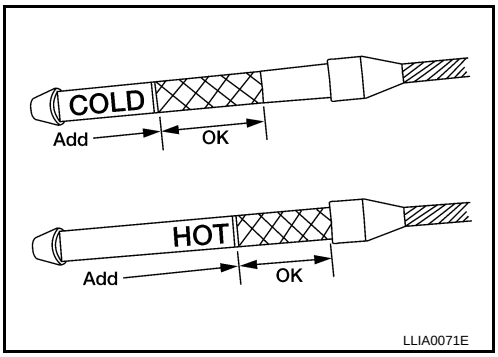
A/T fluid grade and capacity : Refer to MA-12, "Fluids and Lubricants".

CAUTION:
- **Use only Genuine NISSAN Matic J ATF and do not mix with other fluids.**
- **Using A/T fluid other than Genuine NISSAN Matic J ATF will cause deterioration in driveability and automatic transmission durability, and may damage the automatic transmission, which is not covered by the warranty.**
- **When filling the transmission with A/T fluid, do not spill the A/T fluid on any heat generating parts such as the exhaust manifold.**
- **Do not reuse the drain plug gasket.**

5. Install the A/T fluid level gauge and tighten the A/T fluid level gauge bolt to specification.

A/T fluid level gauge bolt : Refer to TM-214, "2WD : Exploded View" (2WD) or TM-217, "4WD : Exploded View" (4WD).

6. Drive the vehicle to warm up the A/T fluid to approximately 80° C (176° F).
7. Check the fluid level and condition. If the A/T fluid is still dirty, repeat steps 2 through 6.



8. Install the A/T fluid level gauge in the A/T fluid charging pipe and install the A/T fluid level gauge bolt.
9. Tighten the A/T fluid level gauge bolt to specification.

A/T fluid level gauge bolt : **Refer to TM-214, "2WD : Exploded View" (2WD) or TM-217, "4WD : Exploded View" (4WD).**

TRANSFER FLUID

TRANSFER FLUID : ATX14B

INFOID:0000000004353595

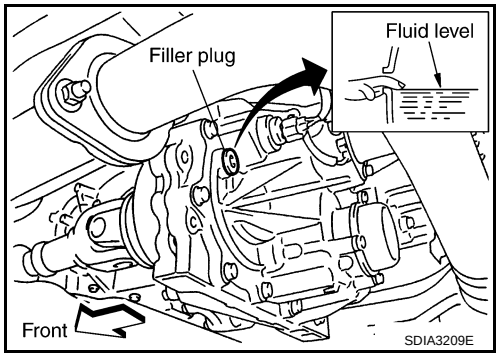
TRANSFER FLUID : Inspection

INFOID:0000000004353597

CAUTION:
If using the vehicle for towing, the transfer fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

FLUID LEAKAGE AND FLUID LEVEL

1. Make sure that fluid is not leaking from the transfer assembly or around it.
2. Check fluid level from the filler plug hole as shown.
   CAUTION:
   Do not start engine while checking fluid level.
3. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-150, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.



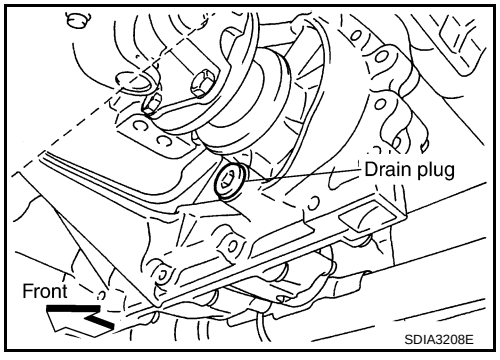
TRANSFER FLUID : Replacement

INFOID:0000000004353596

CAUTION:
If using the vehicle for towing, the transfer fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

DRAINING

1. Stop engine.
2. Remove the drain plug and gasket and drain the fluid.
3. Install the drain plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-150, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.



FILLING

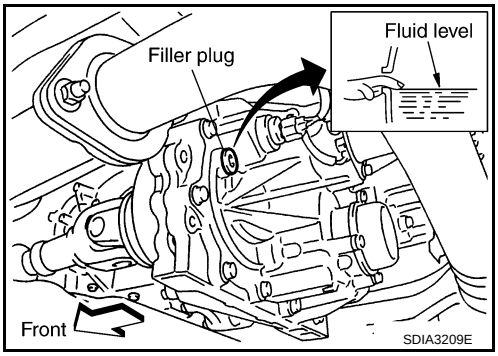
1. Remove the filler plug and gasket.
2. Fill the transfer with new fluid until the fluid level reaches the specified limit near the filler plug hole.

Fluid grade and capacity : Refer to MA-12, "Fluids and Lubricants".

CAUTION:
Carefully fill fluid. (Fill up for approx. 3 minutes.)

3. Leave the vehicle for 3 minutes, and check fluid level again.
4. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-150, "Disassembly and Assembly".

CAUTION:
Do not reuse gasket.



TRANSFER FLUID : TX15B

INFOID:0000000004353598

TRANSFER FLUID : Inspection

INFOID:0000000004353600

CAUTION:
If using the vehicle for towing, the transfer fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

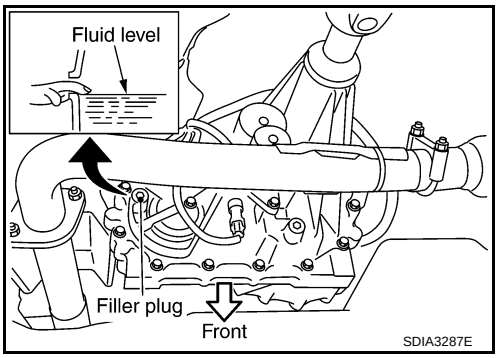
FLUID LEAKAGE AND FLUID LEVEL

1. Make sure that fluid is not leaking from the transfer assembly or around it.
2. Check fluid level from the filler plug hole as shown.

CAUTION:
Do not start engine while checking fluid level.

3. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-281, "Disassembly and Assembly".

CAUTION:
Do not reuse gasket.



TRANSFER FLUID : Replacement

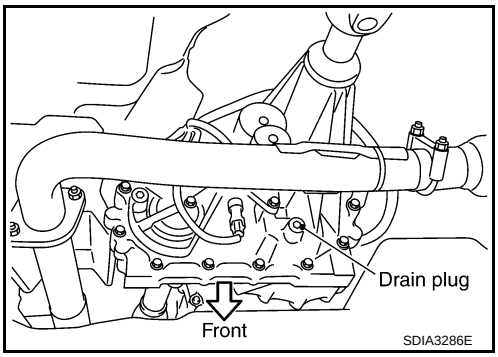
INFOID:0000000004353599

CAUTION:
If using the vehicle for towing, the transfer fluid must be replaced as specified. Refer to MA-7, "Introduction of Periodic Maintenance".

DRAINING

1. Stop engine.
2. Remove the drain plug and gasket and drain the fluid.
3. Install the drain plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-281, "Disassembly and Assembly".

CAUTION:
Do not reuse gasket.

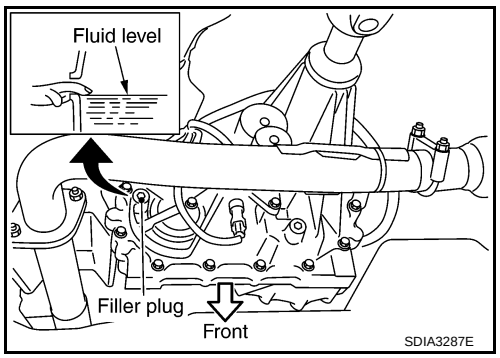


FILLING

1. Remove the filler plug and gasket.

2. Fill the transfer with new fluid until the fluid level reaches the specified limit near the filler plug hole.

Fluid grade and capacity : Refer to MA-12, "Fluids and Lubricants".



CAUTION:
Carefully fill fluid. (Fill up for approx. 3 minutes.)

3. Leave the vehicle for 3 minutes, and check fluid level again.
4. Install the filler plug with a new gasket to the transfer. Tighten to the specified torque. Refer to DLN-281, "Disassembly and Assembly".

CAUTION:
Do not reuse gasket.

PROPELLER SHAFT

PROPELLER SHAFT : Checking Propeller Shaft

INFOID:0000000003938622

Check the front and rear propeller shafts for damage, dents, and cracks. Check the joints for looseness and any damage. Repair or replace as necessary. Refer to DLN-201, "NVH Troubleshooting Chart".

DIFFERENTIAL GEAR OIL

DIFFERENTIAL GEAR OIL : Front Final Drive R180T

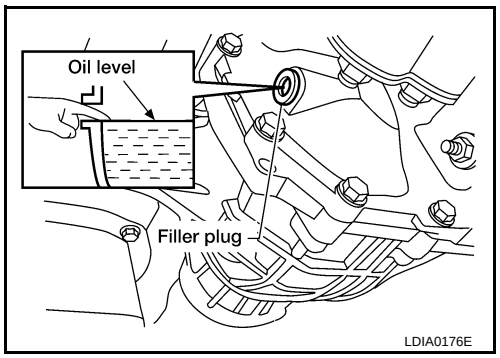
INFOID:0000000004353602

DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000004353604

DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the front final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.



CAUTION:
Do not start engine while checking differential gear oil level.

3. Install the filler plug with a new gasket on it to the front final drive assembly. Tighten to the specified torque. Refer to DLN-345, "Disassembly and Assembly".

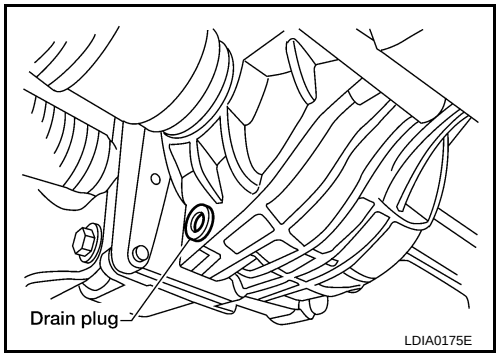
CAUTION:
Do not reuse gasket.

DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000004353603

DRAINING

1. Stop the engine.
2. Remove the drain plug and gasket from the front final drive assembly to drain the differential gear oil.
3. Install the drain plug with a new gasket to the front final drive assembly. Tighten to the specified torque. Refer to DLN-345, "Disassembly and Assembly".



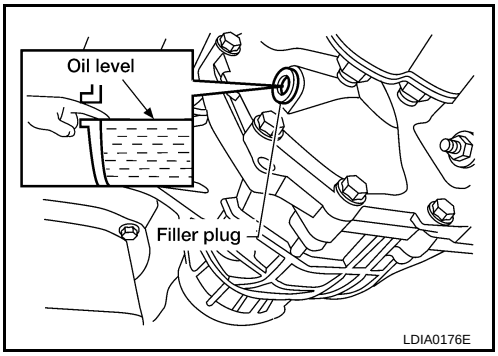
CAUTION:
Do not reuse gasket.

FILLING

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

Differential gear oil grade and capacity	**: Refer to MA-12, "Fluids and Lubricants".**

3. Install the filler plug with a new gasket on it to the front final drive assembly. Tighten to the specified torque. Refer to DLN-345, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.



DIFFERENTIAL GEAR OIL : Front Final Drive M205

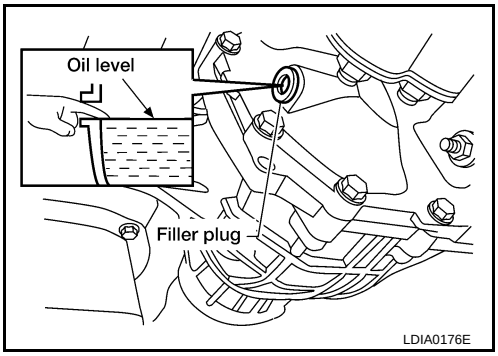
INFOID:0000000004353605

DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000004353607

DIFFERENTIAL GEAR OIL LEAKAGE AND LEVEL

1. Make sure that differential gear oil is not leaking from the front final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.
   CAUTION:
   Do not start engine while checking differential gear oil level.
3. Install the filler plug with sealant applied on the threads to the front final drive assembly. Tighten to the specified torque. Refer to DLN-378, "Disassembly and Assembly".
   - Use High Performance Thread Sealant or equivalent. Refer to GI-26, "Recommended Chemical Products and Sealants".



DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000004353606

DRAINING

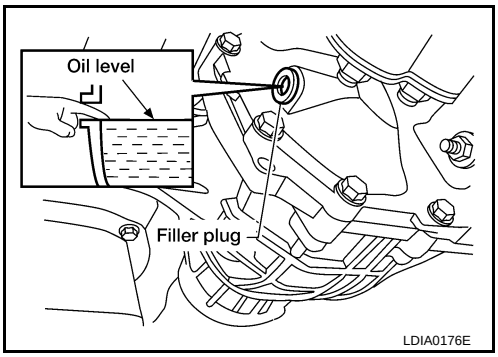
1. Stop the engine.
2. Remove the drain plug from the front final drive assembly to drain the differential gear oil.
3. Install the drain plug with sealant applied on the threads to the front final drive assembly. Tighten to the specified torque. Refer to DLN-378, "Disassembly and Assembly".
   - Use High Performance Thread Sealant or equivalent. Refer to GI-26, "Recommended Chemical Products and Sealants".

FILLING

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

Differential gear oil grade and capacity	**: Refer to MA-12, "Fluids and Lubricants".**

3. Install the filler plug with sealant applied on the threads to the front final drive assembly. Tighten to the specified torque. Refer to DLN-378, "Disassembly and Assembly".
   - Use High Performance Thread Sealant or equivalent. Refer to GI-26, "Recommended Chemical Products and Sealants".



DIFFERENTIAL GEAR OIL : Rear Final Drive R200

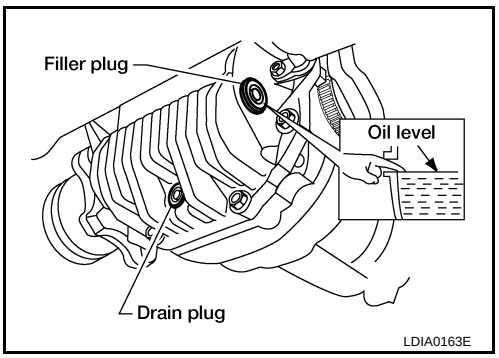
INFOID:0000000004353608

DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000004353610

OIL LEAKAGE AND OIL LEVEL

1. Make sure that differential gear oil is not leaking from the rear final drive assembly or around it.
2. Check the differential gear oil level from the filler plug hole as shown.
   CAUTION:
   Do not start engine while checking differential gear oil level.
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-413, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.

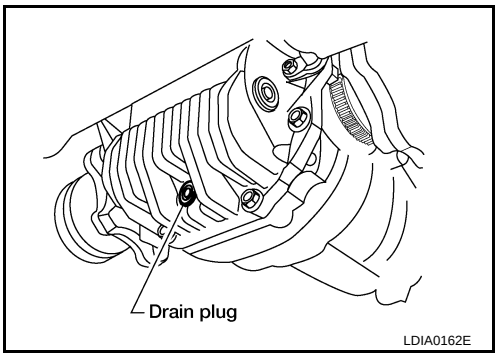


DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000004353609

DRAINING

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-413, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.

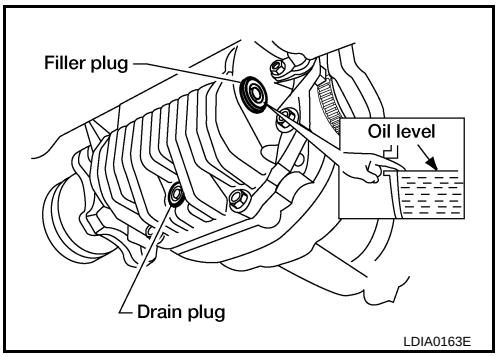


FILLING

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.

Differential gear oil grade and capacity	**: Refer to MA-12, "Fluids and Lubricants".**

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-413, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.



DIFFERENTIAL GEAR OIL : Rear Final Drive R230

INFOID:0000000004353611

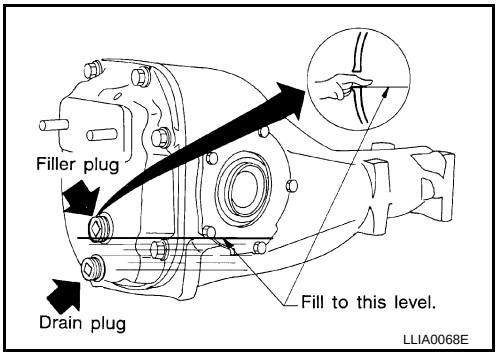
DIFFERENTIAL GEAR OIL : Checking Differential Gear Oil

INFOID:0000000004353613

OIL LEAKAGE AND OIL LEVEL

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

2. Check the differential gear oil level from the filler plug hole as shown.
   CAUTION:
   Do not start engine while checking differential gear oil level.
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-450, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.

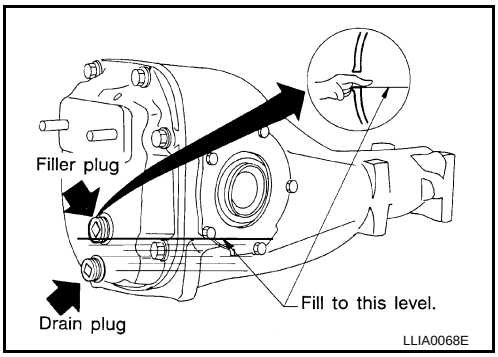


DIFFERENTIAL GEAR OIL : Changing Differential Gear Oil

INFOID:0000000004353612

DRAINING

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-450, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.

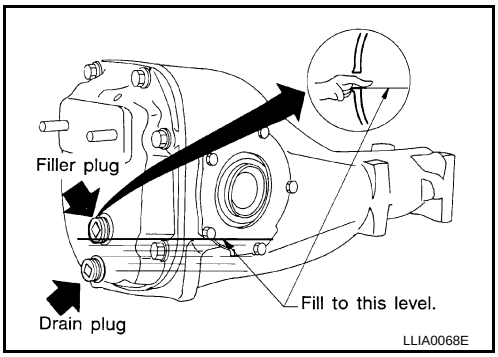


FILLING

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.

Differential gear oil grade and capacity	**: Refer to MA-12, "Fluids and Lubricants".**

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-450, "Disassembly and Assembly".
   CAUTION:
   Do not reuse gasket.



WHEELS

WHEELS : Balancing Wheels

INFOID:0000000004353614

WHEEL BALANCE REMOVAL

1. Remove wheel and tire using power tool.
2. Using releasing agent, remove double-faced adhesive tape from the wheel.
   CAUTION:
   - **Be careful not to scratch the wheel during removal.**
   - **After removing double-faced adhesive tape, wipe clean traces of releasing agent from the wheel.**

WHEEL BALANCE INSTALLATION AND ADJUSTMENT

- 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 wheels.

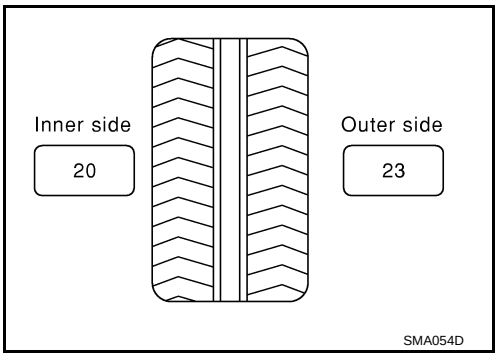
1. Set wheel on wheel balancer using the center hole as a guide. Start the tire balance machine.

2. When inner and outer imbalance values are shown on the wheel balancer indicator, multiply outer imbalance value by 1.6 to determine balance weight that should be used. Select the outer balance weight with a value closest to the calculated value and install it to the designated outer position of, or at the designated angle in relation to the road wheel.

CAUTION:

- **Do not install the inner balance weight before installing the outer balance weight.**
- **Before installing the balance weight, be sure to clean the mating surface of the wheel.**

Indicated imbalance value × 5/3 = balance weight to be installed
Calculation example:
23 g (0.81 oz) × 5/3 = 38.33 g (1.35 oz) = 40 g (1.41 oz) balance weight (closer to calculated balance weight value)
Note that balance weight value must be closer to the calculated balance weight value.
Example:
37.4 g = 35 g (1.23 oz)
37.5 g = 40 g (1.41 oz)

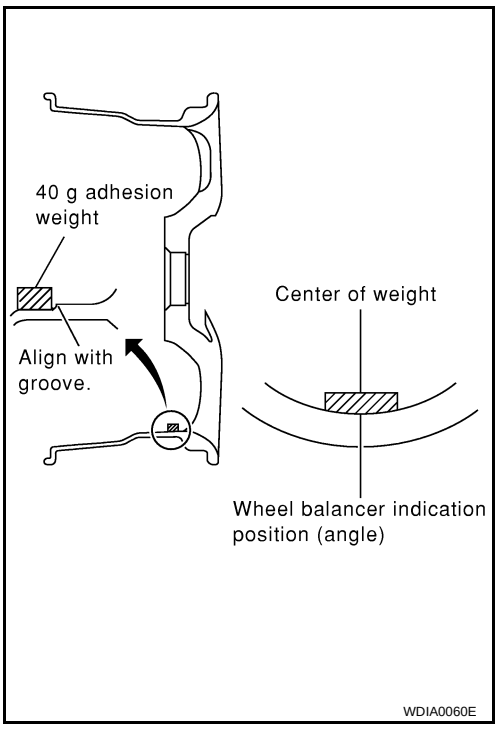


a. Install balance weight in the position shown.

b. When installing balance weight to wheels, set it into the grooved area on the inner wall of the wheel as shown so that the balance weight center is aligned with the wheel balancer indication position (angle).

CAUTION:

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



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

CAUTION:

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

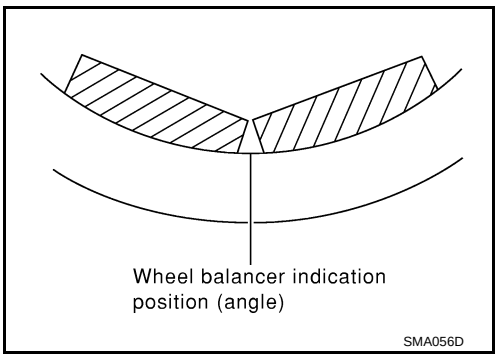
3. Start wheel balancer again.

4. Install drive-in balance weight on inner side of road wheel in the wheel balancer indication position (angle).

CAUTION:

Do not install more than two balance weights.

5. Start wheel balancer. Make sure that inner and outer residual imbalance values are 5 g (0.18 oz) each or below.
   - If either residual imbalance value exceeds 5 g (0.18 oz), repeat installation procedures.



Wheel Balance (Maximum Allowable Imbalance)

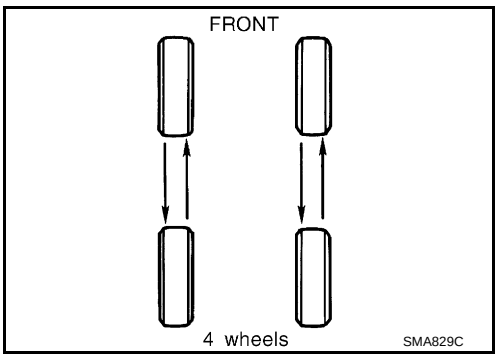
Maximum allowable imbalance	Dynamic (at rim flange)	5 g (0.18 oz) (one side)
	Static	10 g (0.35 oz)

WHEELS : Rotation

INFOID:0000000004353615

NOTE:
Follow the maintenance schedule for tire rotation service intervals. Refer to MA-5, "General Maintenance".

1. Remove wheels and tires.
2. Rotate wheels and tires on each side from front to back as shown. Do not include the spare wheel and tire when rotating the wheels and tires.



Wheel nut : 133 N·m (14 kg-m, 98 ft-lb)

CAUTION:
When installing wheels and tires, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.

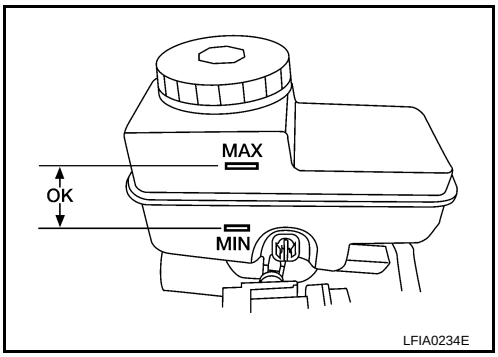
3. Adjust the tire pressure to specification. Refer to WT-52, "Tire".
4. After the wheel and tire rotation, retighten the wheel nuts after the vehicle has been driven for 1,000 km (600 miles), and also after any wheel and tire has been installed, such as after repairing a flat tire.

BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Checking Brake Fluid Level and Leaks

INFOID:0000000003938629

- Check the brake fluid level in the reservoir tank. It should be between the “MAX” and “MIN” lines on the reservoir tank.
- Visually check around reservoir tank for fluid leaks.
- If the fluid level is extremely low, check the brake system.
- If the brake warning lamp comes on when the fluid is at the correct level, check the brake fluid level switch and the parking brake switch.

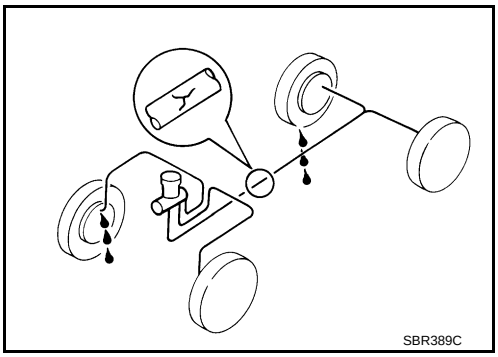


BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Checking Brake Line and Cables

INFOID:0000000003938630

1. Check the brake lines and hoses for cracks, deterioration, and other damage. Replace any damaged parts.
   CAUTION:
   If brake fluid leaks are visible around the brake line joints, retighten the joint, or replace damaged parts as necessary.
2. Check for brake fluid leaks by fully depressing brake pedal while engine is running.



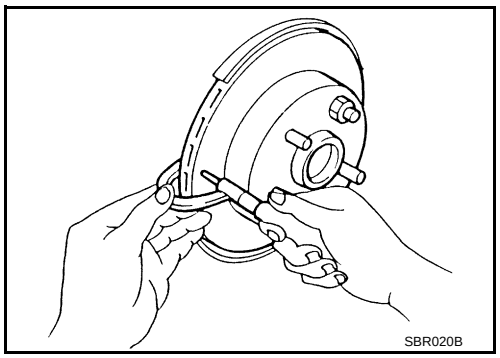
DISC BRAKE

DISC BRAKE : Checking Disc Brake

INFOID:0000000003938631

ROTOR

Check the condition of the rotor, and for any wear or damage. Repair or replace as necessary.

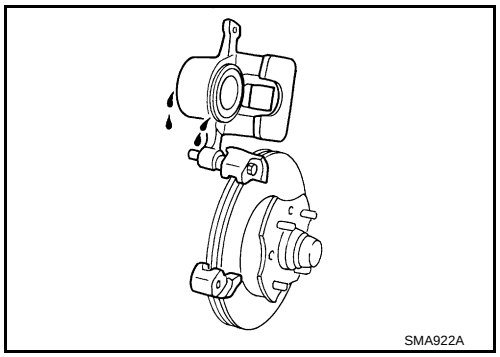

SBR020B

Standard thickness : Refer to BR-57, "Front Disc Brake", BR-57, "Rear Disc Brake".

Repair limit thickness : Refer to BR-57, "Front Disc Brake", BR-57, "Rear Disc Brake".

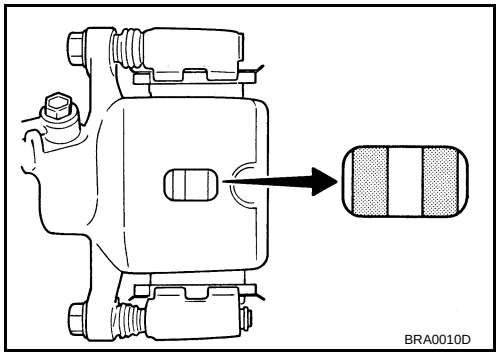
CALIPER

Check for any fluid leakage. Repair as necessary.


SMA922A

PAD

Inspect the thickness of pad through cylinder body inspection hole. Use a scale for inspection if necessary.


BRA0010D

Standard thickness : Refer to BR-57, "Front Disc Brake", BR-57, "Rear Disc Brake".

Repair limit thickness : Refer to BR-57, "Front Disc Brake", BR-57, "Rear Disc Brake".

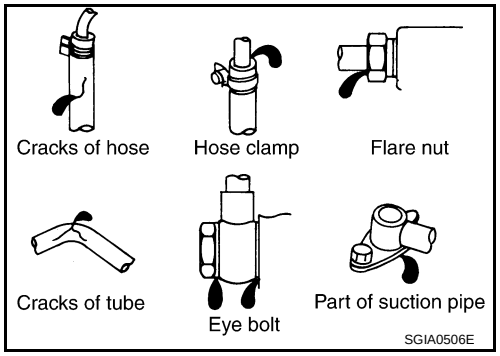
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Checking Steering Gear and Linkage

INFOID:0000000003938632

STEERING GEAR

- Check the steering gear housing for looseness, damage and oil leakage as shown.
- Check the steering column connections for looseness.



STEERING LINKAGE

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

POWER STEERING FLUID AND LINES

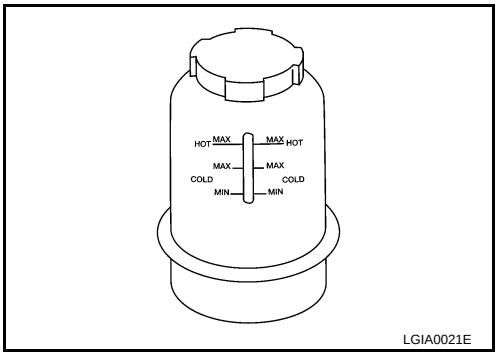
POWER STEERING FLUID AND LINES : Checking Fluid Level

INFOID:0000000004353616

Check fluid level, referring to the scale on the reservoir tank.
Use HOT range for fluid temperatures of 50° – 80°C (122° – 176°F).
Use COLD range for fluid temperatures of 0° – 30°C (32° – 86°F).

CAUTION:

- **Do not overfill.**
- **Do not reuse any power steering fluid.**
- **Recommended fluid is Genuine NISSAN PSF or equivalent. Refer to MA-12, "Fluids and Lubricants".**

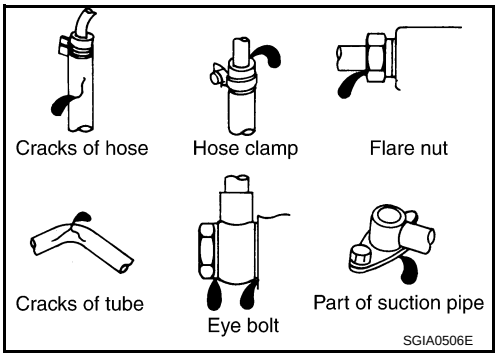


POWER STEERING FLUID AND LINES : Checking Fluid Leakage

INFOID:0000000004353617

Check the hydraulic piping lines for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.

1. Run the engine until the fluid temperature reaches 50° – 80°C (122° – 176°F) in the reservoir tank. Keep engine speed idle.
   CAUTION:
   Do not allow steering fluid reservoir tank to go below the MIN level line. Check tank frequently and add fluid as needed.
2. Turn the steering wheel to the right and left several times.
3. Hold the steering wheel at each “locked” position for five seconds to check for fluid leakage.
   CAUTION:
   Do not hold steering wheel in the locked position for more than 10 seconds. (There is the possibility that the oil pump may be damaged.)
4. If fluid leakage at a connection is noticed, loosen the connection and then retighten. Do not over-tighten connector as this can damage O-ring, washer and connector. Refer to ST-14 and ST-23.
5. If fluid leakage from the oil pump is noticed, check the oil pump. Refer to ST-14.
6. Check steering gear boots for accumulation of fluid, indicating a leak from the steering gear.



CAUTION:
Do not reuse copper washers.

AXLE AND SUSPENSION PARTS

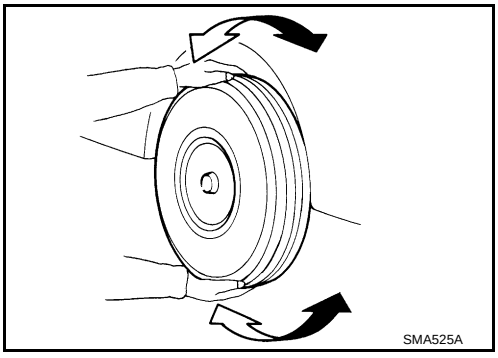
AXLE AND SUSPENSION PARTS : Checking Axle and Suspension Parts

INFOID:0000000003938634

FRONT AND REAR AXLE AND SUSPENSION PARTS

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

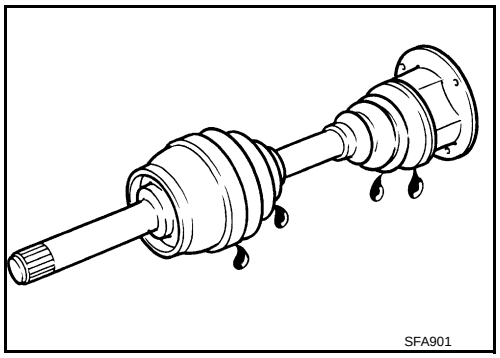
- Shake each wheel to check for excessive play.
- Rotate each wheel to check for abnormal noise.
- Check axle and suspension nuts and bolts for looseness.



- Check the strut and shock absorber for oil leakage or other damage.
- Check suspension ball joints for grease leakage and ball joint dust cover for cracks or other damage.

FRONT AND REAR DRIVE SHAFT

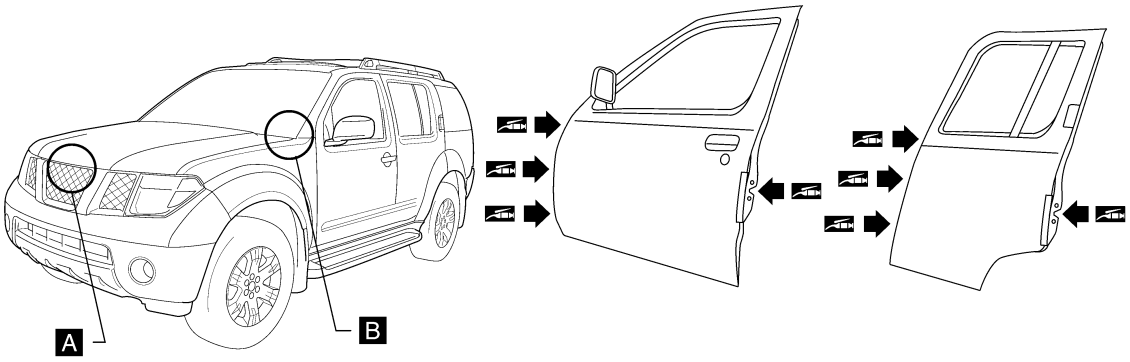
Check the boots and drive shaft for cracks, wear, damage, and grease leakage.

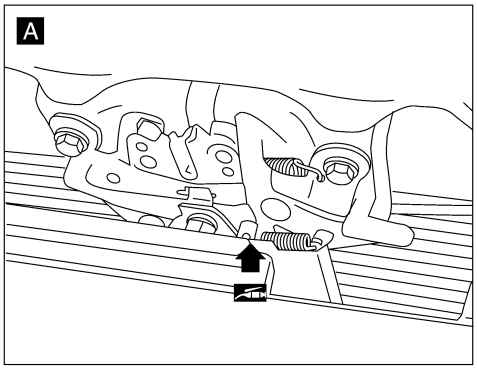


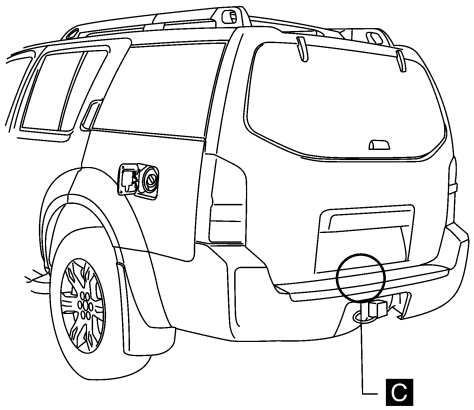
LOCKS, HINGES AND HOOD LATCH

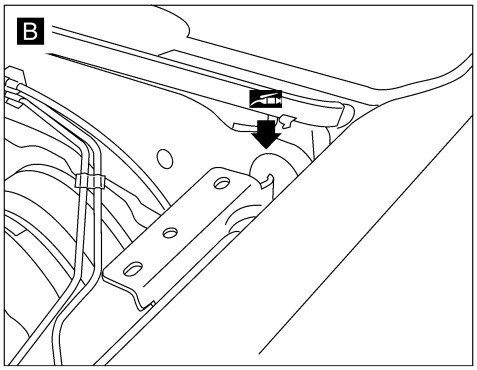
LOCKS, HINGES AND HOOD LATCH : Lubricating Locks, Hinges and Hood Latches

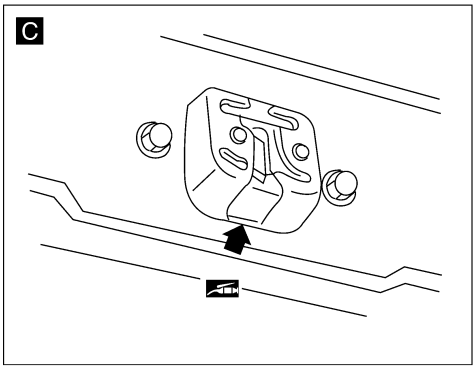
INFOID:0000000003938635











WLIA0021E

- Lubricate the locations shown. Refer to MA-12, "Fluids and Lubricants".

SPARK PLUG

SPARK PLUG : Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

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Check the seat belt buckles, webbing, retractors, anchors and adjusters. Replace any seat belt assembly as necessary. Refer to SB-9, "Seat Belt Inspection".

- Check the seat belt anchors for loose mounting bolts, damage, or excessive wear.
- Check the seat belt webbing for any damage, cuts, fraying, or excessive wear.
- Check the retractor for smooth operation.

- Check the function of the buckles by inserting the seat belt tongue and checking for proper engagement of the buckle and press the button on the buckle to check for proper release of the seat belt tongue.

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached components, such as the guide rail set. NISSAN recommends replacing all seat belt assemblies in use during a collision, unless they are not damaged and are inspected to confirm they are operating properly after a minor collision.**
  Also inspect all seat belt assemblies that are not in use during a collision, and replace any components if damaged or not operating properly. The 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 have been deployed.
- **If any component of the seat belt assembly is suspected of being damaged or not operating properly, do not repair the component. Replace the components as an assembly.**
- **If the seat belt webbing is cut, frayed, or damaged then replace the seat belt assembly.**
- **Never lubricate the seat belt buckle or tongue.**
- **When replacing any seat belt assembly always use a Genuine NISSAN seat belt assembly.**