SECTION MA
MAINTENANCE

CONTENTS

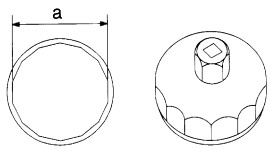
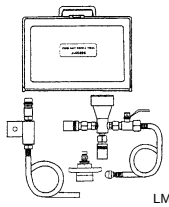
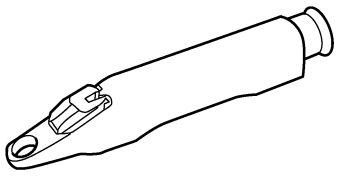
PREPARATION

PREPARATION
FOR NORTH AMERICA

FOR NORTH AMERICA : Special Service Tool

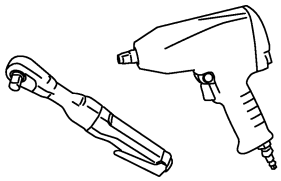
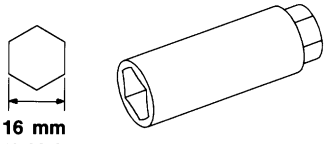
INFOID:0000000003899968

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

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

FOR NORTH AMERICA : Commercial Service Tool

INFOID:0000000003899969

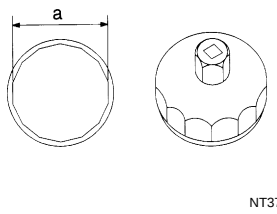
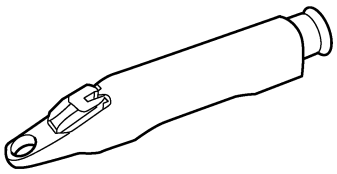
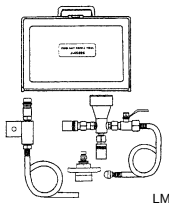
Tool name (Kent-Moore No.)	Description
Power tool (—)  PBIC0190E	Loosening nuts and bolts
Spark plug wrench (—)  S-NT047	Removing and installing spark plug

FOR MEXICO

FOR MEXICO : Special Service Tool

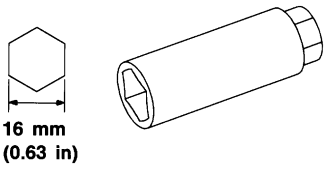
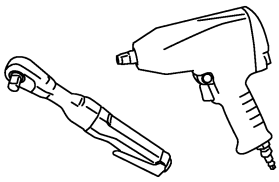
INFOID:0000000004056391

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

Tool number (Kent-Moore No.) Tool name	Description
KV10115801 (J-38956) Oil filter cap wrench  NT375	Removing 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	For refilling engine cooling system

FOR MEXICO : Commercial Service Tool

INFOID:0000000004056392

(Kent-Moore No.) Tool name	Description
Spark plug wrench  S-NT047	Removing and installing spark plugs
Power Tool  PBIC0190E	Loosening bolts and nuts

FOR MEXICO : Pre-Delivery Inspection Item

INFOID:0000000004056681

Shown below are Pre-delivery Inspection Items required for the new vehicle. It is recommended that necessary items other than those listed here be added, paying due regard to the conditions in each country.

Perform applicable items on each model. Consult text of this section for specifications.

UNDER HOOD — engine off

- ☐ Radiator coolant level and coolant hose connections for leaks
- ☐ Battery fluid level, specific gravity and conditions of battery terminals
- ☐ Drive belts tension
- ☐ Fuel filter for water or dusts (Diesel only), and fuel lines and connections for leaks
- ☐ Engine oil level and oil leaks
- ☐ Clutch and brake reservoir fluid level and fluid lines for leaks
- ☐ Windshield and rear window washer and headlamp cleaner reservoir fluid level
- ☐ Power steering reservoir fluid level and hose connections for leaks

ON INSIDE AND OUTSIDE

- ☐ Remove front spring/strut spacer (If applicable)
- ☐ Operation of all instruments, gauges, lights and accessories
- ☐ Operation of horn(s), wiper and washer
- ☐ Steering lock for operation
- ☐ Check air conditioner for gas leaks
- ☐ Front and rear seats, and seat belts for operation
- ☐ All moldings, trims and fittings for fit and alignment
- ☐ All windows for operation and alignment
- ☐ Hood, trunk lid, door panels for fit and alignment
- ☐ Latches, keys and locks for operation
- ☐ Weatherstrips for adhesion and fit
- ☐ Headlamp aiming
- ☐ Tighten wheel nuts (Inc. inner nuts if applicable)
- ☐ Tire pressure (Inc. spare tire)
- ☐ Check front wheels for toe-in
- ☐ Install clock/voltmeter/room lamp fuse (If applicable)
- ☒ Install deodorizing filter to air conditioner (If applicable)
- ☒ Remove wiper blade protectors (If applicable)

UNDER BODY

- ☒ Manual transmission/transaxle, transfer and differential gear oil level
- ☐ Brake and fuel lines and oil/fluid reservoirs for leaks
- ☐ Tighten bolts and nuts of steering linkage and gear box, suspension, propeller shafts and drive shafts
- ☒ Tighten rear body bolts and nuts (Models with wooden bed only)

ROAD TEST

- ☒ Clutch operation
- ☐ Parking brake operation
- ☒ Service brake operation
- ☒ Automatic transmission/transaxle shift timing and kickdown
- ☐ Steering control and returnables
- ☐ Engine performance
- ☐ Squeaks and rattles

ENGINE OPERATING AND HOT

- ☒ Adjust idle speed
- ☐ Automatic transmission/transaxle fluid level
- ☒ Engine idling and stop knob operation (Diesel only)

FINAL INSPECTION

- ☐ Install necessary parts (outside mirror, wheel covers, seat belts, mat, carpet or mud flaps)
- ☐ Inspect for interior and exterior metal and paint damage
- ☐ Check for spare tire, jack, tools (wheel chock), and literature
- ☐ Wash, clean interior and exterior

☒ : Not applicable to this model

ON-VEHICLE MAINTENANCE

GENERAL MAINTENANCE
FOR NORTH AMERICA

FOR NORTH AMERICA : Explanation of General Maintenance

INFOID:0000000003899970

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

OUTSIDE THE VEHICLE

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

Item		Reference page
Tires	Check the pressure with a gauge, including the spare, at least once a month and always prior to long distance trips. Adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear.	WT-66
Wheel nuts	When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	WT-62
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-62
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-10
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.	FSU-17 and WT-60
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 trunk lid. 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-36, "LOCKS, HINGES AND HOOD LATCH : Lubricating"
Lamps	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	EXL-161, "Aiming Adjustment Procedure" (Xenon), EXL-334, "Aiming Adjustment Procedure" (Halogen)

INSIDE THE VEHICLE

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

Item		Reference page
Warning lamps and chimes	Make sure that all warning lamps and chimes are operating properly.	—
Windshield wiper and washer	Check that the wipers and washer operate properly and that the wipers do not streak.	—
Windshield defroster	Check that the air comes out of the defroster outlets properly and in sufficient quantity when operating the heater or air conditioner.	—
Steering wheel	Check that it has the specified play. Be sure to check for changes in the steering condition, such as excessive play, hard steering or strange noises. **Free play: Less than 35 mm (1.38 in)**	ST-15, "Inspection"

Item		Reference page
Seats	Check seat position controls such as seat adjusters, seatback recliner, etc. to make sure they operate smoothly and that all latches lock securely in every position. Check that the head restraints move up and down smoothly and that the locks (if equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—
Seat belts	Check that all parts of the seat belt system (e.g., buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	SB-4
Accelerator pedal	Check the pedal for smooth operation and make sure the pedal does not catch or require uneven effort. Keep the floor mats away from the pedal.	—
Brakes	Check that the brake does not pull the vehicle to one side when applied.	—
Brake pedal and booster	Check the pedal for smooth operation and make sure it has the proper distance under it when depressed fully. Check the brake booster function. Be sure to keep the floor mats away from the pedal.	BR-8, BR-25
Parking brake	Check that the lever or pedal has the proper travel and make sure that the vehicle is held securely on a fairly steep hill when only the parking brake is applied.	PB-3
CVT P (Park) position mechanism	On a fairly steep hill check that the vehicle is held securely with the selector lever in the P (Park) position without applying any brakes.	—

UNDER THE HOOD AND VEHICLE

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

Item		Reference page
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	CO-9
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 reservoir.	BR-15
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	PG-68
Engine drive belts	Make sure that no belt is frayed, worn, cracked or oily.	MA-20
Engine oil level	Check the level on the oil level gauge after parking the vehicle on a level spot and turning off the engine.	MA-23
Power steering fluid level and lines	Check the level on the dipstick with the engine off. Check the lines for improper attachment, leaks, cracks, etc.	MA-34
Exhaust system	Make sure there are no loose supports, cracks or holes. If the sound of the exhaust seems unusual or there is a smell of exhaust fumes, immediately locate the trouble and correct it.	MA-28
Underbody	The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—
Fluid leaks	Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—

FOR MEXICO

FOR MEXICO : Explanation of General Maintenance

INFOID:0000000004056070

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

OUTSIDE THE VEHICLE

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

Item		Reference page
Tires	Check the pressure with a gauge often and always prior to long distance trips . Adjust to the pressure in all tires, including the spare, to the pressure specified.	MA-30
Tire rotation	Tires should be rotated every 10,000 km (6,000 miles).	WT-62
Windshield wiper blades	Check for cracks or wear if they do not wipe properly. Repair as necessary.	—
Doors and engine hood	Check that all doors and the engine hood operate smoothly as well as the trunk lid and 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-36, "LOCKS, HINGES AND HOOD LATCH : Lubricating"

INSIDE THE VEHICLE

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

Item		Reference page
Warning lamps and chimes	Make sure that all warning lamps and chimes are operating properly.	—
Lamps	Make sure that the headlamps, stop lamps, tail lamps, turn signal lamps, and other lamps are all operating properly and installed securely. Also check headlamp aim. Clean the headlamps on a regular basis.	EXL-161, "Aiming Adjustment Procedure" (Xenon), EXL-334, "Aiming Adjustment Procedure" (Halogen)
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. Free play: Less than 35 mm (1.38 in)	ST-15, "Inspection"
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-4

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-9
Brake fluid level	Make sure that the brake fluid level is between the “MAX” and “MIN” lines on the reservoir.	BR-15
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines. Vehicles operated in high temperatures or under severe conditions require frequent checks of the battery fluid level.	PG-68
Engine oil level	Check the level on the dipstick after parking the vehicle on a level spot and turning off the engine.	MA-23

PERIODIC MAINTENANCE
FOR NORTH AMERICA

FOR NORTH AMERICA : Introduction of Periodic Maintenance

INFOID:0000000003899971

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/time intervals.**

Schedule 1	Follow Periodic Maintenance Schedule 1 if the driving habits frequently include 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, using a camper or a car-top carrier.	Emission Control System Maintenance	MA-10
		Chassis and Body Maintenance	MA-10
Schedule 2	Follow Periodic Maintenance Schedule 2 if none of driving conditions shown in Schedule 1 apply to the driving habits.	Emission Control System Maintenance	MA-12
		Chassis and Body Maintenance	MA-12

FOR NORTH AMERICA : Schedule 1

INFOID:0000000003899972

EMISSION CONTROL SYSTEM

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-20
Air cleaner filter	NOTE (2)								[R]	MA-23
EVAP vapor lines									I★	MA-27
Fuel lines									I★	MA-22
Fuel filter	NOTE (3)									—
Engine coolant	NOTE (4)									MA-20
Engine oil		R	R	R	R	R	R	R	R	MA-23
Engine oil filter [Use genuine NISSAN engine oil filter or equivalent.]		R	R	R	R	R	R	R	R	MA-24
Spark plugs (Iridium-tipped type)		Replace every 105,000 miles (169,000 km).								MA-25
Intake & exhaust valve clearance*	NOTE (5)									EM-124, "Cylinder Head"

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-20
Air cleaner filter	NOTE (2)								[R]	MA-23

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	
EVAP vapor lines									I★	MA-27
Fuel lines									I★	MA-22
Fuel filter	NOTE (3)									—
Engine coolant	NOTE (4)								R★	MA-20
Engine oil		R	R	R	R	R	R	R	R	MA-23
Engine oil filter [Use genuine NISSAN engine oil filter or equivalent.]		R	R	R	R	R	R	R	R	MA-24
Spark plugs (Iridium-tipped type)		Replace every 105,000 miles (169,000 km).								MA-25
Intake & exhaust valve clearance*	NOTE (5)									EM-124, "Cylinder Head"

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.

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

(3) Maintenance-free item. For service procedures, refer to 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) 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

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

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	
Brake lines & cables					I				I	MA-31
Brake pads & rotors			I		I		I		I	MA-32, MA-32 MA-33, MA-33
CVT fluid	NOTE (1)				I				I	MA-28
Steering gear and linkage, axle & suspension parts					I					MA-34
Tire rotation	NOTE (2)									MA-30
Exhaust system			I		I		I		I	MA-28
Front drive shaft boot			I		I		I		I	MA-35
In-cabin microfilter					R				R	MA-28
Climate controlled seat filter									R	SE-61, "Exploded View"

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 & cables					I				I	MA-31
Brake pads & rotors			I		I		I		I	MA-32, MA-32 MA-33, MA-33
CVT fluid	NOTE (1)				I				I	MA-28
Steering gear and linkage, axle & suspension parts					I					MA-34
Tire rotation	NOTE (2)									MA-30
Exhaust system			I		I		I		I	MA-28
Front drive shaft boot			I		I		I		I	MA-35
In-cabin microfilter					R				R	MA-28
Climate controlled seat filter									R	SE-61, "Exploded View"

NOTE:

(1) If towing a trailer, or using a car-top carrier, or driving on rough or muddy roads, inspect CVT fluid deterioration with Consult-III every 60,000 miles (96,000 km), then change the CVT fluid NS-2 if necessary. (Refer to TM-153, "Changing".) **Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.**

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

FOR NORTH AMERICA : Schedule 2

INFOID:0000000003899973

EMISSION CONTROL SYSTEM

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-20
Air cleaner filter					[R]				[R]	MA-23
EVAP vapor lines					I★				I★	MA-27
Fuel lines					I★				I★	MA-22
Fuel filter	NOTE (2)									—
Engine coolant	NOTE (3)								R★	MA-20
Engine oil		R	R	R	R	R	R	R	R	MA-23
Engine oil filter [Use genuine NISSAN engine oil filter or equivalent.]		R	R	R	R	R	R	R	R	MA-24
Spark plugs (Iridium-tipped type)		Replace every 105,000 miles (169,000 km).								MA-25
Intake & exhaust valve clearance*	NOTE (4)									EM-124, "Cylinder Head"

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.

(2) Maintenance-free item. For service procedures, refer 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) 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

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

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-31
Brake pads & rotors			I		I		I		I	MA-32, MA-32 MA-33, MA-33
CVT fluid	NOTE (1)		I		I		I		I	MA-28
Steering gear and linkage, axle & suspension parts			I		I		I		I	MA-34
Tire rotation	NOTE (2)									MA-30
Exhaust system					I				I	MA-28
Front drive shaft boot			I		I		I		I	MA-35
In-cabin microfilter			R		R		R		R	MA-28
Climate controlled seat filter									R	SE-61, "Exploded View"

NOTE:

(1) Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.

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

FOR MEXICO

FOR MEXICO : Periodic Maintenance

INFOID:0000000004063507

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

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

ENGINE AND EMISSION CONTROL MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Underhood and under vehicle										
Intake & exhaust valve clearance	See NOTE (1)									EM-124, "Cylinder Head"
Drive belts	See NOTE (2)				I				I	MA-20
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-23

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★		R	R	R	R	R	R	R	R	MA-24
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)				E				R	MA-20
Cooling system			I		I		I		I	CO-9, "System Inspection"
Fuel lines					I				I	MA-22
Air cleaner filter (Viscous paper type)★					R				R	MA-23
Fuel filter (In-tank type)	See NOTE (4)									—
Spark plugs (Iridium-tipped type)		Replace every 100,000 km (60,000 miles)								MA-25
EVAP vapor lines (With carbon canister)					I				I	MA-27

NOTE:

- **Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belts if found damaged.
- (3) Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant. After first replacement, replace every 40,000 km (24,000 miles) or 24 months.
- (4) Maintenance-free item. For service procedures, refer to FL section.

CHASSIS AND BODY MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Underhood and under vehicle										
Brake fluid (For level & leaks)		I	I	I	I	I	I	I	I	MA-31
Brake fluid★					R				R	MA-31
Brake booster vacuum hoses, connections & check valve					I				I	MA-31
Brake & exhaust system		I	I	I	I	I	I	I	I	MA-31, MA-28
CVT fluid (For level & leaks)	See NOTE (1)		I		I		I		I	MA-28
Steering gear & linkage, axle & suspension parts & front drive shafts★			I		I		I		I	MA-35, MA-36, MA-34
Outside and inside										

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	10 (6) 6	20 (12) 12	30 (18) 18	40 (24) 24	50 (30) 30	60 (36) 36	70 (42) 42	80 (48) 48	
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	MA-30
Brake pads, rotors & other brake components★		I	I	I	I	I	I	I	I	MA-32, MA-32, MA-33, MA-33
Locks, hinges & hood latch★		L	L	L	L	L	L	L	L	MA-36
Seat belts, buckles, retractors, anchors & adjusters			I		I		I		I	MA-36
Foot brake & parking brake (For free play, stroke & operation)		I	I	I	I	I	I	I	I	BR-13, PB-3
Air conditioner filter★			R		R		R		R	MA-28

NOTE:

- **Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- (1) If towing a trailer, using a camper or a car-top carrier, or driving on rough or muddy roads, inspect CVT fluid deterioration with CONSULT-III every 100,000 km (60,000 miles), then change CVT fluid NS-2 if necessary. (Refer to TM-35, "CONSULT-III Function (TRANSMISSION)".) And if CONSULT-III is not available, change (not just inspect) CVT fluid NS-2 every 100,000 km (60,000 miles). **Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the warranty.**

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

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

Severe driving conditions

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

Driving condition										Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	Air cleaner filter	Viscous paper type	Replace	More frequently	MA-28
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter		Replace	Every 5,000 km (3,000 miles) or 3 months	MA-23, MA-24
.	.	.	.	.	F	.	.	.	.	Brake fluid		Replace	Every 20,000 km (12,000 miles) or 12 months	MA-31
.	.	.	.	.	.	G	H	.	.	Steering gear & linkage, axle & suspension parts & front drive shafts		Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-34, MA-35, MA-36

A	.	C	.	.	.	G	H	I	.	Brake pads, rotors & other brake components	Inspect	Every 5,000 km (3,000 miles) or 3 months	MA-32, MA-32, MA-33, MA-33
.	.	.	.	.	.	G	.	.	.	Locks, hinges & hood latch	Lubricate	Every 5,000 km (3,000 miles) or 3 months	MA-36
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	More frequently	MA-28

RECOMMENDED FLUIDS AND LUBRICANTS FOR NORTH AMERICA

FOR NORTH AMERICA : Fluids and Lubricants

INFOID:0000000003899974

Description		Capacity (Approximate)			Recommended Fluids/Lubricants
		US measure	Imp measure	Liter	
Fuel		20 gal	16-5/8 gal	75.6	Unleaded gasoline with an octane rating of at least 91 AKI (RON 96)
Engine oil Drain and refill	With oil filter change	4-7/8 qt	4 qt	4.6	• Engine oil with API Certification Mark *1*2 • Viscosity SAE 5W-30 *2
	Without oil filter change	4-1/2 qt	3-3/4 qt	4.3	
Dry engine (Overhaul)		5-1/4 qt	4-3/8 qt	5.0	
Cooling system with reservoir tank		2-1/8 gal	1-3/4 gal	8.2	Genuine NISSAN Long Life Antifreeze/ Coolant or equivalent
CVT fluid		10-3/4 qt	9 qt	10.2	Genuine NISSAN CVT Fluid NS-2 *3
Power steering fluid (PSF)		1-1/8 qt	7/8 qt	1.0	Genuine NISSAN PSF or equivalent*4
Brake fluid		—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid*4 or equivalent DOT 3 (US FMVSS No. 116)
Brake grease		—	—	—	PBC (poly butyl cuprysil)
Brake pad plate grease		—	—	—	Molykote AS880N grease or equivalent
Multi-purpose grease		—	—	—	NLGI No. 2 (Lithium soap base)
Air conditioning system refrigerant		1.21 ± 0.055 lb	—	0.55 ± 0.025 kg	HFC-134a (R-134a) *5
Air conditioning system oil		5.03 fl oz	5.3 fl oz	150 m ℓ	NISSAN A/C System Oil Type S or equivalent *5
Windshield washer fluid		—	—	—	Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent

*1: For further details, see “Engine Oil Recommendation”.

*2: NISSAN recommends Genuine NISSAN Ester Engine Oil available at your NISSAN dealer.

***3: Using automatic transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.**

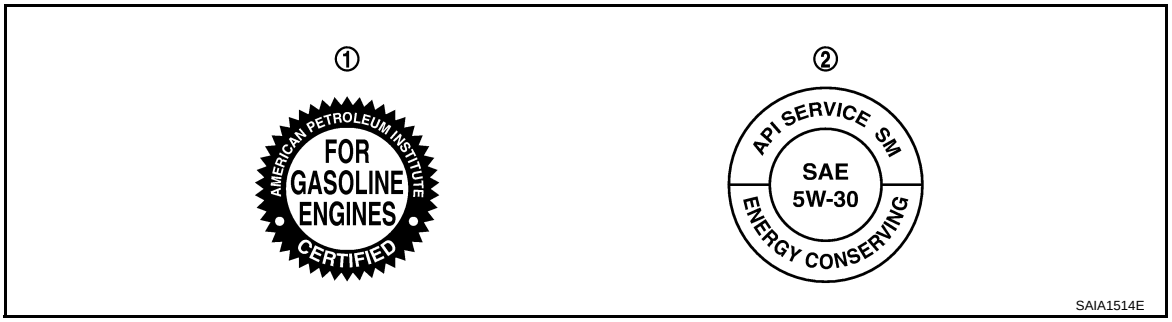
*4: DEXRON™ VI type ATF or Canada NISSAN Automatic Transmission Fluid may also be used.

*5: For further details, see "Air conditioning specification label".

FOR NORTH AMERICA : Engine Oil Recommendation

INFOID:0000000003899975

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



1. API certification mark
2. API service symbol

FOR NORTH AMERICA: 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.**

FOR MEXICO

FOR MEXICO : Fluids and Lubricants

INFOID:0000000004063508

		Capacity (Approximate)		Recommended Fluids/Lubricants
		Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	4.6	4 qt	Genuine NISSAN engine oil*1 API grade SL or SM*1 ILSAC grade GF-2, GF-3 or GF-4*1 Viscosity SAE 10W-30
	Without oil filter change	4.3	3-3/4 qt	
Dry engine (engine overhaul)		5.4	4-3/4 qt	
Cooling system (with reservoir)		8.2	1-3/4 gal	Genuine NISSAN Engine Coolant or equivalent in its quality*2
CVT fluid		10.2	9 qt	Genuine NISSAN CVT fluid NS-2*3
Brake fluid		—	—	DOT 3 (US FMVSS No. 116)
Power steering fluid		1.0	7/8 qt	Genuine NISSAN PSF or equivalent *4
Multi-purpose grease		—	—	NLGI No. 2 (Lithium soap base)

*1: For further details, see “SAE Viscosity Number”.

*2: Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant.

Note that any repairs for the incidents within the engine cooling system while using non-genuine engine coolant may not be covered by the warranty even if such incidents occurred during the warranty period.

***3:Using transmission fluid other than Genuine NISSAN CVT fluid NS-2 will damage the CVT, which is not covered by the warranty.**

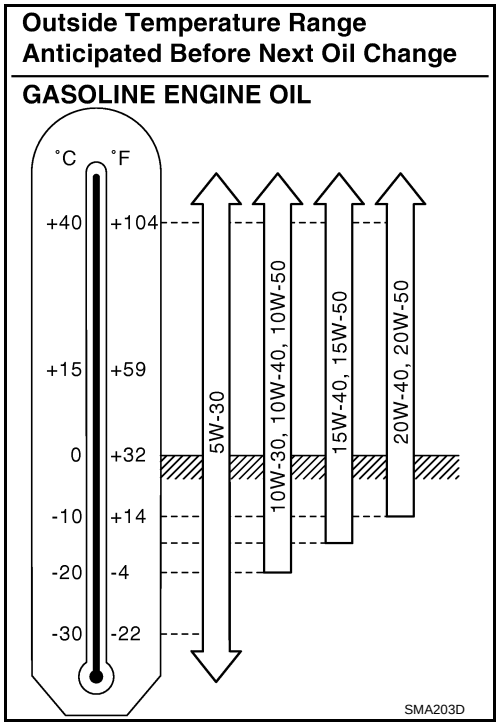
*4: DEXTRON™ VI type ATF may also be used.

FOR MEXICO : SAE Viscosity Number

INFOID:0000000004063509

GASOLINE ENGINE

- 10W-30 is preferable.
  5W-30 is also preferable and will improve fuel economy.
  If 10W-30 or 5W-30 is not available, select the viscosity, from the chart, that is suitable for the outside temperature range.



FOR MEXICO : Engine Coolant Mixture Ratio

INFOID:0000000004063510

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

CAUTION:

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

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

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

SMA089D

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

Mixed coolant specific gravity

Unit: specific gravity

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

WARNING:

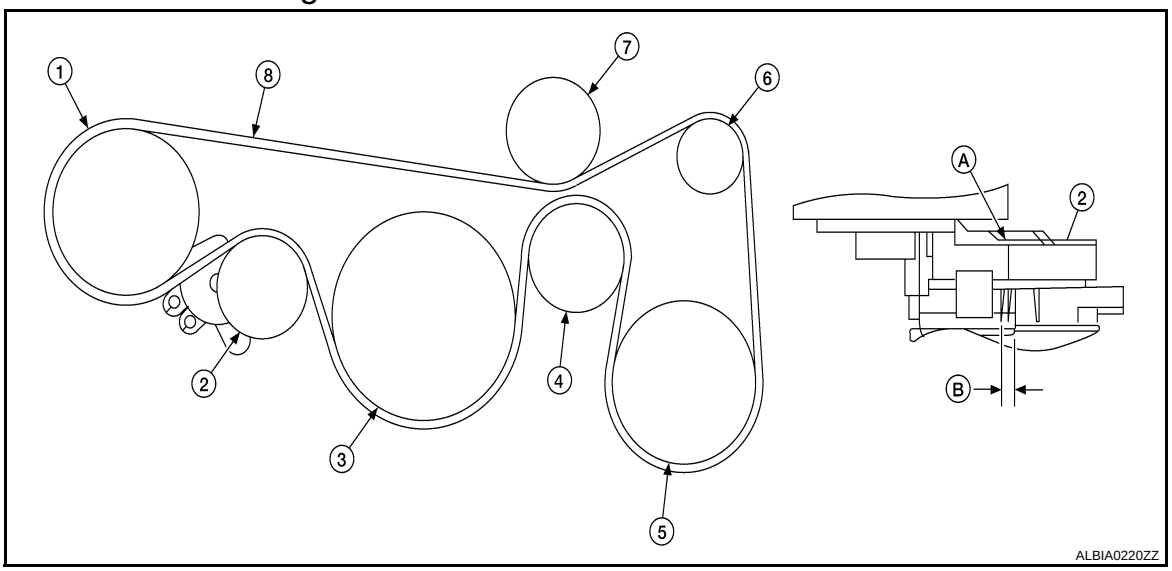
Never remove the radiator cap when the engine is hot. Serious burns could be caused by high pressure fluid escaping from the radiator. Wait until the engine and radiator cool down.

ENGINE MAINTENANCE (VQ35DE)

DRIVE BELTS

DRIVE BELTS : Checking Drive Belts

INFOID:0000000004304932



1.	Power steering pump	2.	Drive belt auto-tensioner	3.	Crankshaft
4.	Idler pulley	5.	A/C compressor pulley	6.	Generator pulley
7.	Idler pulley	8.	Drive belt	A.	Indicator
B.	Possible use range (for new belt)	C.	Belt replacement		

WARNING:

Inspect and check the drive belts with the engine off.

1. Inspect belt for cracks, fraying, wear or oil adhesion. If necessary, replace with a new one.
2. Rotate the crankshaft pulley two times then check the belt tension using Tool.

Tool Number : — (BT-3373-F)

NOTE:

- Inspect drive belt tension when engine is cold.

DRIVE BELTS : Tension Adjustment

INFOID:0000000004304933

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

ENGINE COOLANT

ENGINE COOLANT : Changing Engine Coolant

INFOID:0000000004391466

WARNING:

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

DRAINING ENGINE COOLANT

1. Open radiator drain plug at the bottom of radiator and remove the radiator filler cap. This is the only step required for a partial cooling system drain.
2. If removing the heater core, remove the upper heater hose from the engine coolant outlet and apply moderate air pressure of 15 psi (103.46 kPa, 1.055 kg-cm^2) maximum for 30 seconds into the hose to blow out excess coolant from the core.
3. For a complete cooling system drain, remove the reservoir tank and drain the coolant, and then clean the reservoir tank before installation.
   - Do not allow coolant to spill on the drive belts.

4. When performing a complete cooling system drain (to remove the engine or for engine repair), remove the cylinder block front drain plug and the cylinder block RH drain plug.
5. Check the drained coolant for contaminants such as rust, corrosion or discoloration.
   - If contaminated, flush the engine cooling system.

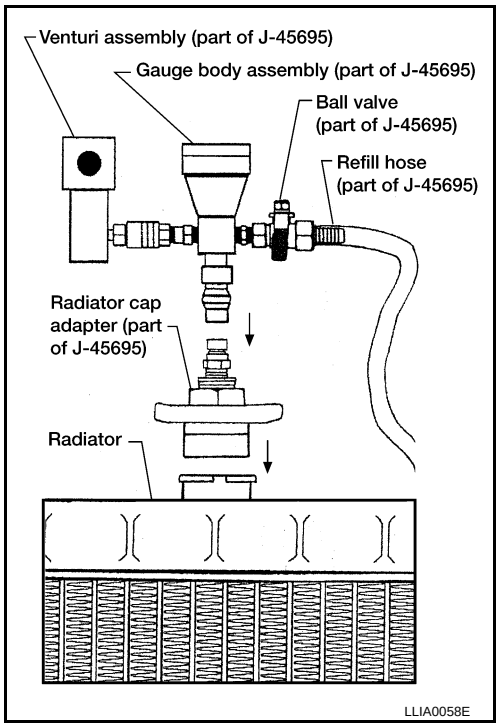
REFILLING ENGINE COOLANT

1. Install the radiator drain plug. If the cooling system was drained completely, install the reservoir tank and the cylinder block drain plugs.
   - The radiator must be completely empty of coolant and water.
   - Apply sealant to the threads of the cylinder block drain plugs. Use Genuine High Performance Thread Sealant or equivalent. Refer to GI-15, "Recommended Chemical Products and Sealants".

Radiator drain plug	**: Refer to CO-13, "Removal and Installation".**
Cylinder block front drain plug	**: Refer to EM-100, "Disassembly and Assembly".**
Cylinder block RH drain plug	**: Refer to EM-100, "Disassembly and Assembly".**

2. If disconnected, reattach the upper radiator hose at the engine side.
3. 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.
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 Engine Coolant or equivalent, mixed 50/50 with distilled water or demineralized water.
   Refer to MA-17, "FOR NORTH AMERICA : Engine Oil Recommendation" or MA-19, "FOR MEXICO : SAE Viscosity Number".

Engine coolant capacity (with reservoir tank)	**: Refer to MA-17, "FOR NORTH AMERICA : Fluids and Lubricants" or MA-18, "FOR MEXICO : Fluids and Lubricants"**

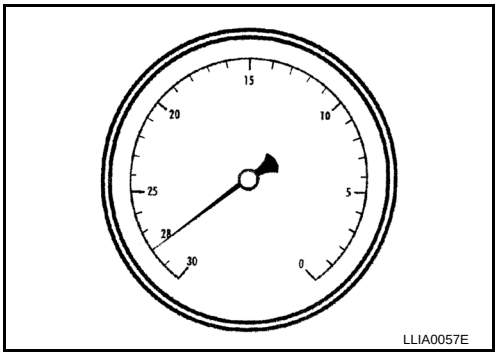
6. Install an air hose to the venturi assembly, the air pressure must be within specification.

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.
12. Fill the cooling system reservoir tank to the specified level and install the radiator cap. Run the engine to warm up the cooling system and top up the system as necessary.

FLUSHING COOLING SYSTEM

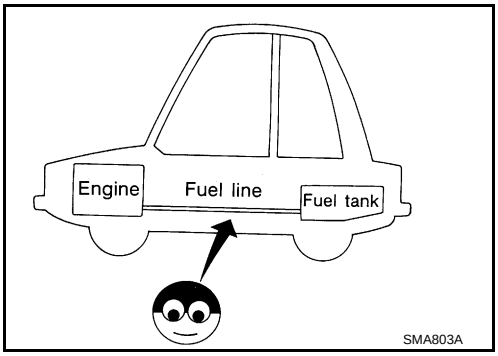
1. Fill the radiator from the filler neck above the radiator upper hose and reservoir tank with clean water and reinstall radiator filler cap.
2. Run the engine and warm it up to normal operating temperature.
3. Rev the engine two or three times under no-load.
4. Stop the engine and wait until it cools down.
5. Drain the water from the system. Refer to MA-20, "ENGINE COOLANT : Changing Engine Coolant".
6. Repeat steps 1 through 5 until clear water begins to drain from the radiator.

FUEL LINES

FUEL LINES : Inspection

INFOID:0000000003899988

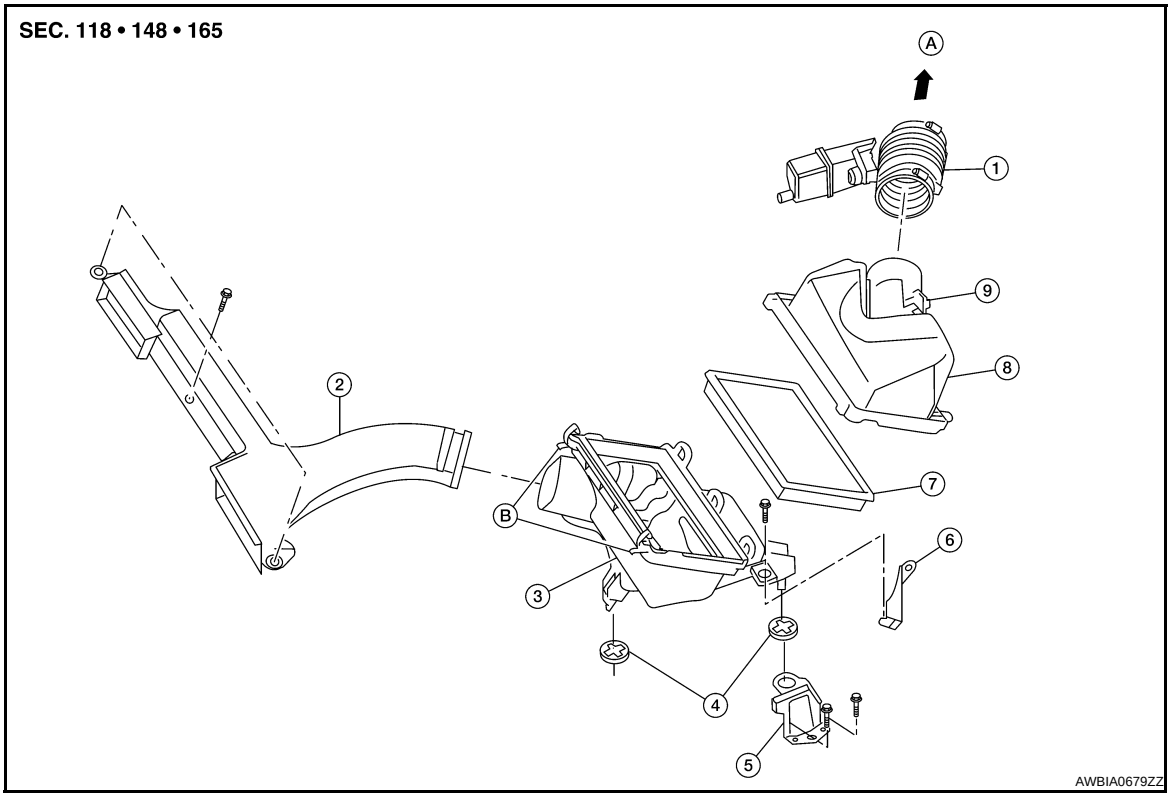
Inspect fuel lines, filler cap and tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration.
If necessary, repair or replace damaged parts.



AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000004304935



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

CHANGING THE AIR CLEANER FILTER

CAUTION:

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

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

ENGINE OIL

ENGINE OIL : Changing Engine Oil

INFOID:0000000004304936

WARNING:

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

1. Position the vehicle so it is level on the hoist.
2. Warm up the engine and check for oil leaks from the engine.
3. Stop engine and wait for 10 minutes.
4. Remove the oil pan drain plug and oil filler cap.
5. Drain the engine oil.
6. Install the oil pan drain plug with a new washer and refill the engine with new engine oil.

Oil specification and viscosity : **Refer to MA-19, "FOR MEXICO : SAE Viscosity Number" or MA-19, "FOR MEXICO : SAE Viscosity Number".**

Oil pan drain plug : **Refer to EM-33, "Removal and Installation".**

CAUTION:
- **Be sure to clean the oil pan drain plug and install with a new washer.**
- **The refill capacity depends on the oil temperature and drain time. Use these specifications for reference only. Always use the dipstick to determine when the proper amount of oil is in the engine.**

7. Warm up the engine and check around the oil pan drain plug and oil filter for oil leaks.
8. Stop engine and wait for 10 minutes.
9. Check the engine oil level using the dipstick.

CAUTION:
Do not overfill the engine oil.

OIL FILTER

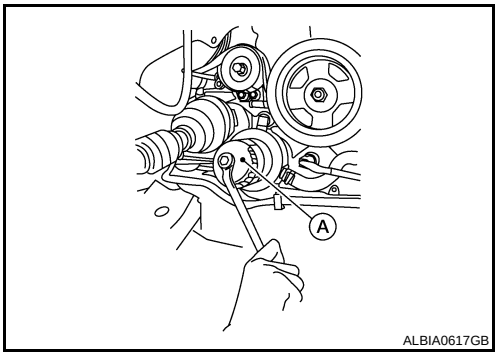
OIL FILTER : Removal and Installation

INFOID:0000000004304937

REMOVAL

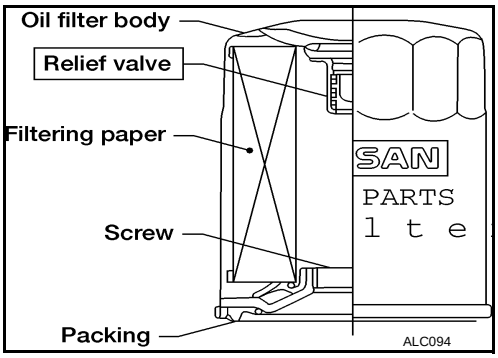
1. Remove engine undercover.
2. Remove the oil filter using Tool A as shown.

Tool number : KV10115801 (J-38956)



CAUTION:
- **Be careful not to get burned; the engine oil may be hot.**
- **When removing, prepare a shop cloth to absorb any oil leakage or spillage.**
- **Do not allow engine oil to adhere to the drive belts.**
- **Completely wipe off any oil that adheres to the engine and the vehicle.**

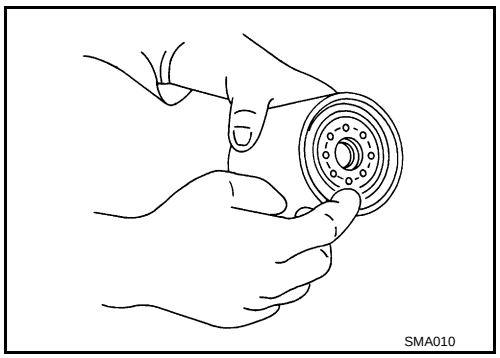
- **The oil filter is provided with a relief valve. Use a genuine NISSAN oil filter or equivalent**



INSTALLATION

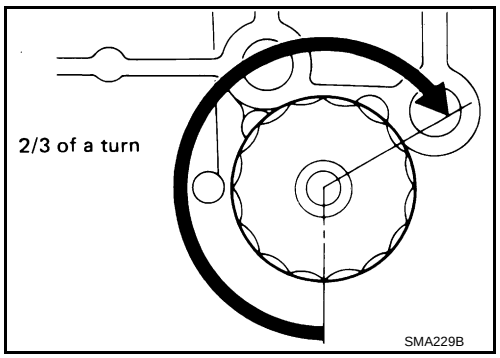
1. Remove foreign materials adhering to the oil filter installation surface.

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



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

Oil filter : 18.0 N·m (1.8 kg-m, 13 ft-lb)

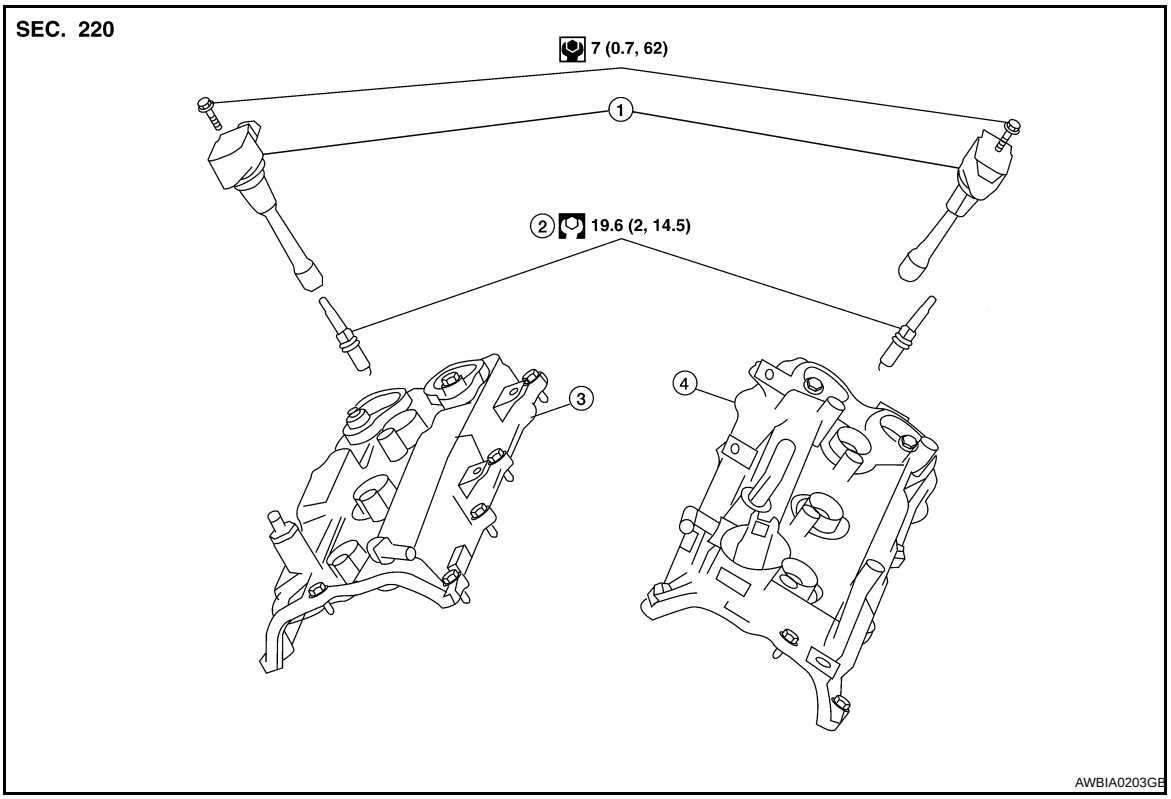


4. Check the oil level and add engine oil as necessary. Refer to LU-7, "Inspection".
5. After warming up the engine, check for any engine oil leaks.

SPARK PLUG

SPARK PLUG : Exploded View

INFOID:0000000004391567



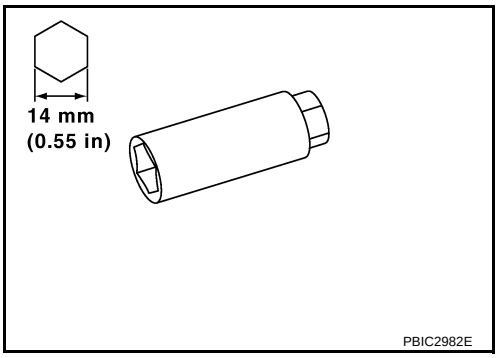
1. Ignition coil
2. Spark plug
3. Rocker cover RH
4. Rocker cover LH

SPARK PLUG : Removal and Installation LH

INFOID:0000000004391568

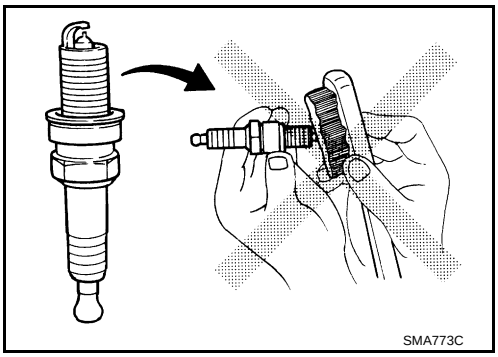
REMOVAL

1. Remove the ignition coil. Refer to EM-39, "Removal and Installation LH".
2. Remove the spark plug with a suitable spark plug wrench.



INSPECTION AFTER REMOVAL

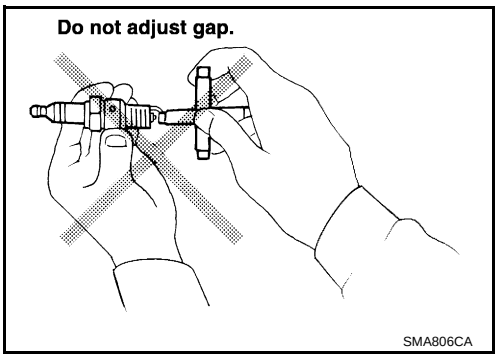
- Do not use a wire brush for cleaning the spark plugs. Replace as necessary.



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

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

- Checking and adjusting plug gap is not required between change intervals. If the gap is out of specification, replace the spark plug.



INSTALLATION

Installation is in the reverse order of removal.

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

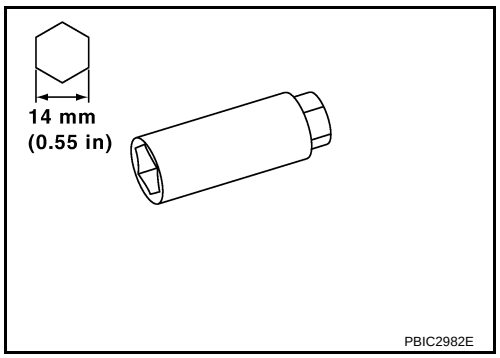
SPARK PLUG : Removal and Installation RH

INFOID:0000000004391569

REMOVAL

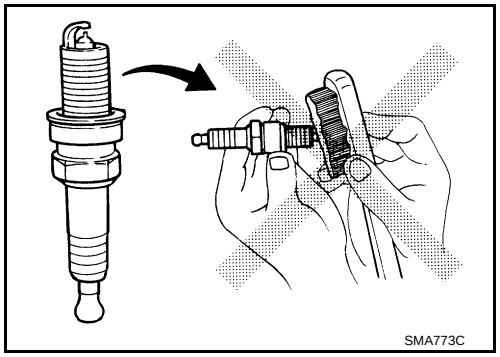
1. Remove the ignition coil. Refer to EM-39, "Removal and Installation LH".

2. Remove the spark plug with a suitable spark plug wrench.



INSPECTION AFTER REMOVAL

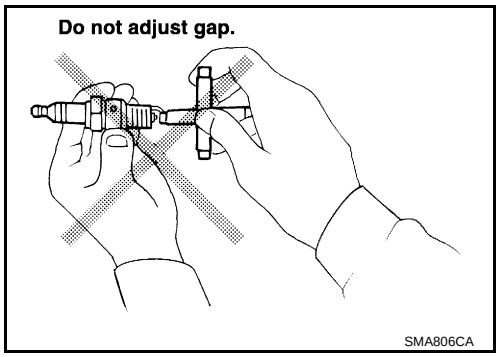
- Do not use a wire brush for cleaning the spark plugs. Replace as necessary.



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

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

- Checking and adjusting plug gap is not required between change intervals. If the gap is out of specification, replace the spark plug.



INSTALLATION

Installation is in the reverse order of removal.

Make	DENSO
Standard type	DILFR5A11
Gap (nominal)	1.1 mm (0.043 in)

EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000003899993

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

CHASSIS AND BODY MAINTENANCE

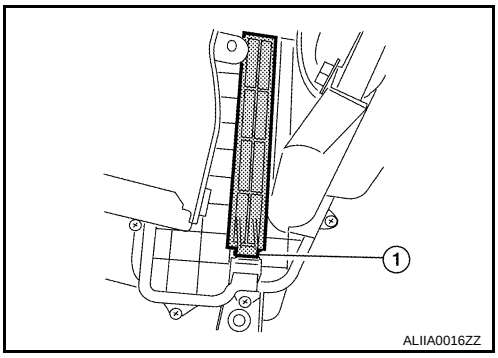
IN-CABIN MICROFILTER

IN-CABIN MICROFILTER : Removal and Installation

INFOID:0000000004304938

REMOVAL

1. Disengage the filter cover tab (1) by pushing up and pull out to remove the filter cover.
2. Remove the in-cabin microfilter from the blower unit by using the pull tab on the bottom of the filter.



INSTALLATION

Installation is in the reverse order of removal.

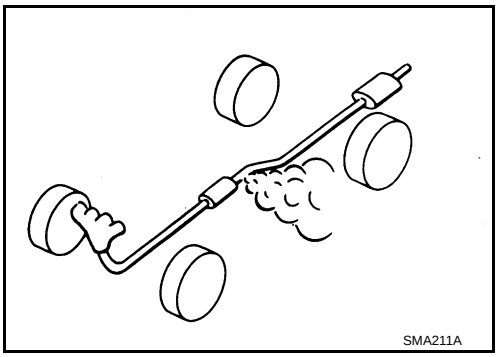
EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:0000000003899995

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

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



CVT FLUID

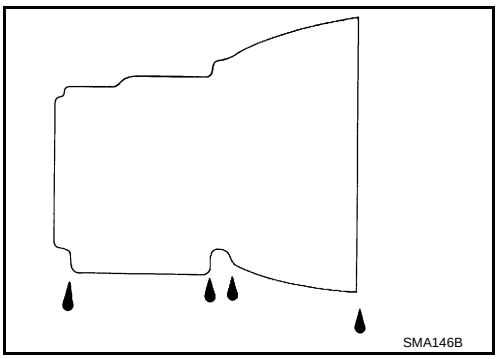
CVT FLUID : Inspection

INFOID:0000000004304939

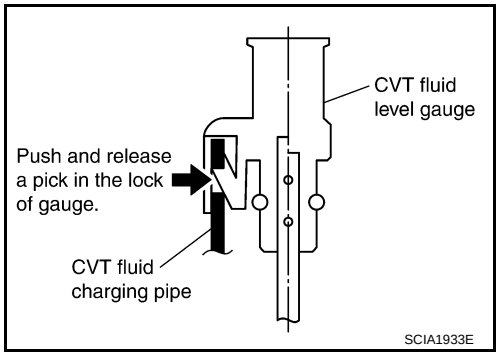
CHECKING CVT FLUID

The fluid level should be checked with the fluid warmed up to 50 to 80°C (122 to 176°F). The fluid level check procedure is as follows:

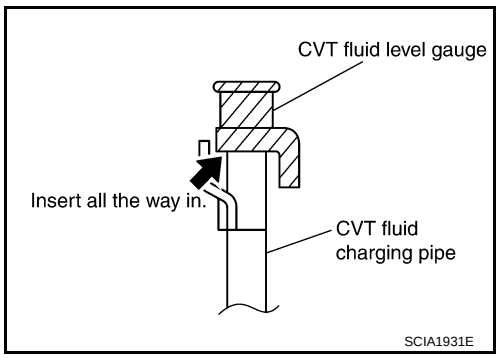
1. Check for fluid leakage.
2. With the engine warmed up, drive the vehicle in an urban area. When ambient temperature is 20°C (68°F), it takes about 10 minutes for the CVT fluid to warm up to 50 to 80°C (122 to 176°F).
3. Park the vehicle on a level surface.
4. Apply parking brake firmly.
5. With engine at idle, while depressing brake pedal, move shift selector throughout the entire shift range.



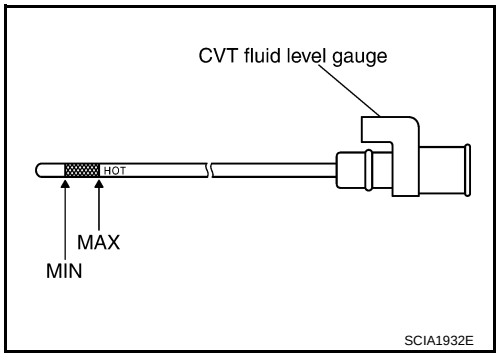
6. Pull out the CVT fluid level gauge from the CVT fluid charging pipe after pressing the tab on the CVT fluid level gauge to release the lock.



7. Wipe fluid off the CVT fluid level gauge. Insert the CVT fluid level gauge rotating 180° from the originally installed position, then securely push the CVT fluid level gauge until it meets the top end of the CVT fluid charging pipe.
CAUTION:
When wiping away the CVT fluid level gauge, always use lint-free paper, not a cloth rag.



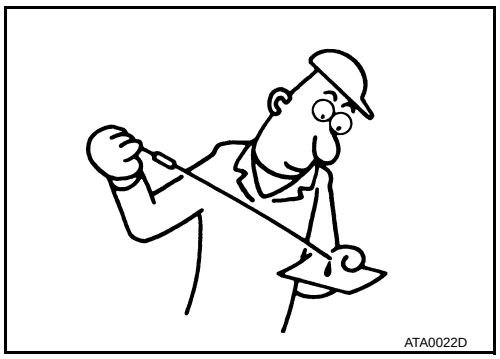
8. Place the selector lever in “P” or “N” and check that the fluid level is within the specified range.
CAUTION:
When reinstalling CVT fluid level gauge, insert it into the CVT fluid charging pipe and rotate it to the original installation position until securely locked.



CVT FLUID CONDITION

Check CVT fluid condition.

- If CVT fluid is very dark or smells burned, check operation of CVT. Flush cooling system after repair of CVT.
- If CVT fluid contains frictional material (clutches, brakes, etc.), inspect and clean the CVT fluid cooler mounted in the radiator and flush cooler line using cleaning solvent and compressed air after repair of CVT. Refer to TM-154, "Cleaning".



Fluid status	Conceivable cause	Required operation
Varnished (viscous varnish state)	CVT fluid becomes degraded due to high temperatures.	Replace the CVT fluid and check the CVT main unit and the vehicle for malfunctions (wire harnesses, cooler pipes, etc.)
Milky white or cloudy	Water in the fluid	Replace the CVT fluid and check for places where water is getting in.
Large amount of metal powder mixed in	Unusual wear of sliding parts within CVT	Replace the CVT fluid and check for improper operation of the CVT.

CVT FLUID : Changing

INFOID:0000000004304940

CAUTION:

Replace a O-ring with new ones at the final stage of the operation when installing.

1. Remove drain plug from oil pan.
2. Remove O-ring from drain plug.
3. Install O-ring to drain plug.
   CAUTION:
   Never reuse O-ring.
4. Install drain plug to oil pan. Refer to TM-174, "Exploded View".
5. Fill CVT fluid from CVT fluid charging pipe to the specified level.

CVT fluid	**: Refer to TM-186, "General Specification".**
Fluid capacity	**: Refer to TM-186, "General Specification".**

CAUTION:
- **Use only Genuine NISSAN CVT Fluid NS-2. Never mix with other fluid.**
- **Using CVT fluid other than Genuine NISSAN CVT Fluid NS-2 will deteriorate in driveability and CVT durability, and may damage the CVT, which is not covered by the warranty.**
- **When filling CVT fluid, take care not to scatter heat generating parts such as exhaust.**
- **Sufficiently shake the container of CVT fluid before using.**
- **Delete CVT fluid deterioration date with CONSULT-III after changing CVT fluid. Refer to TM-35, "CONSULT-III Function (TRANSMISSION)".**

6. With the engine warmed up, drive the vehicle in an urban area.
   NOTE:
   When ambient temperature is 20°C (68°F), it takes about 10 minutes for the CVT fluid to warm up to 50 to 80°C (122 to 176°F).
7. Check CVT fluid level and condition.
8. Repeat steps 1 to 5 if CVT fluid has been contaminated.

WHEELS

WHEELS : Inspection

INFOID:0000000004304941

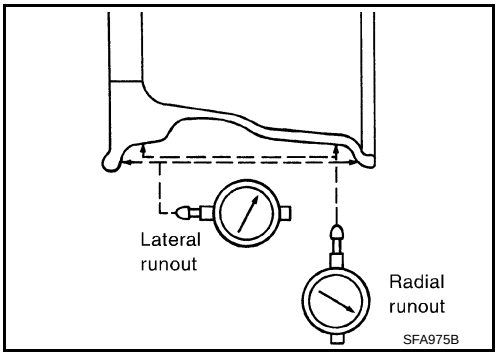
ALUMINUM WHEEL

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

a. Remove tire from aluminum wheel and mount on a tire balance machine.

b. Set dial indicator as shown in the figure.

Wheel runout (Dial indicator value):
Refer to WT-66.



STEEL WHEEL

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

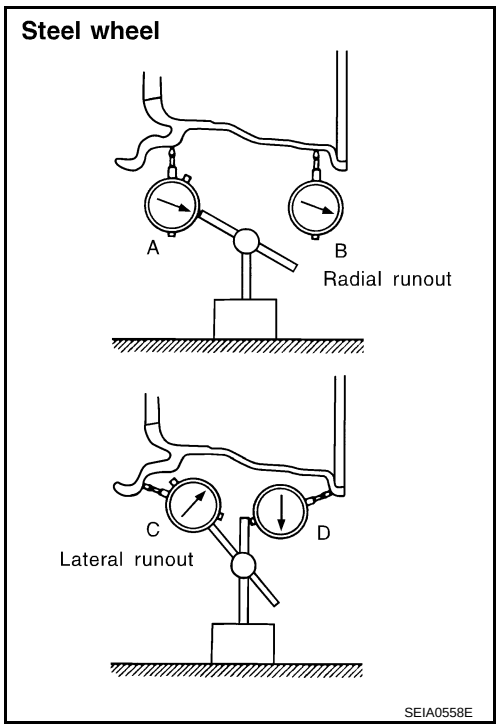
a. Remove tire from steel wheel and mount on a tire balance machine.

b. Set two dial indicators as shown in the figure.
c. Set each dial indicator to 0.
d. Rotate wheel and check dial indicators at several points around the circumference of the wheel.
e. Calculate runout at each point as shown below.

Radial runout = (A+B)/2
Lateral runout = (C+D)/2

f. Select maximum positive runout value and the maximum negative value.
Add the two values to determine total runout.
In case a positive or negative value is not available, use the maximum value (negative or positive) for total runout.
If the total runout value exceeds the limit, replace steel wheel.

Wheel runout : Refer to WT-66.



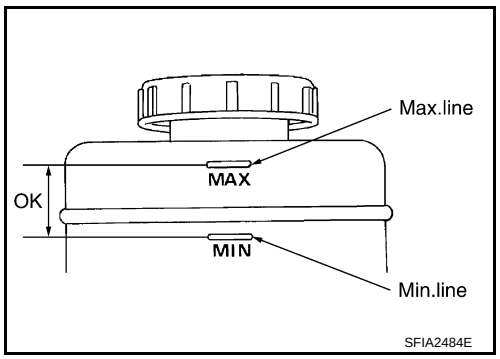
BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Inspection

INFOID:0000000004304942

LEVEL CHECK

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

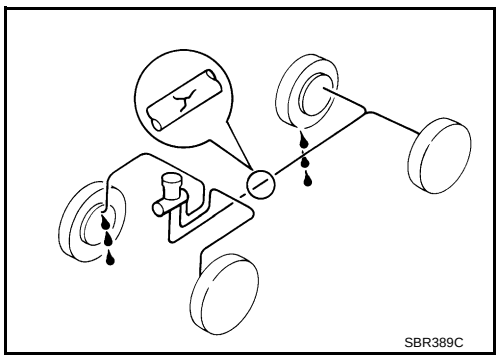


BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

INFOID:0000000003900007

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



BRAKE FLUID

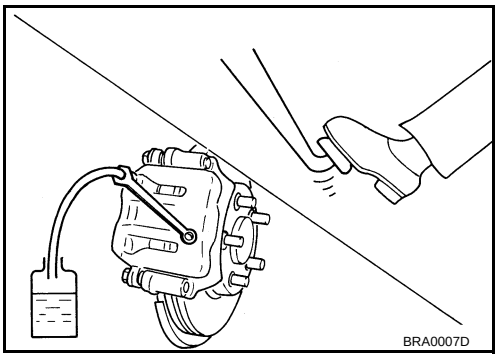
BRAKE FLUID : Drain and Refill

INFOID:0000000004304943

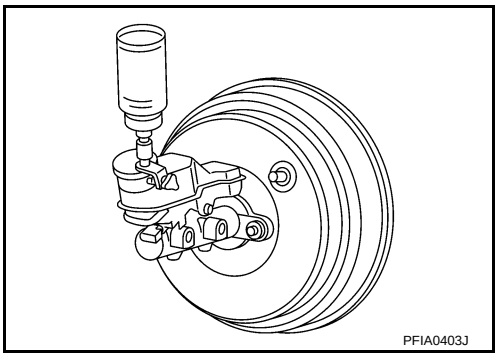
CAUTION:

- **Refill with new brake fluid. Refer to MA-17, "FOR NORTH AMERICA : Fluids and Lubricants".**
- **Do not reuse drained brake fluid.**
- **Do not let brake fluid splash on the painted surfaces of the body. This might damage the paint. If brake fluid is splashed on painted areas, wash it away with water immediately.**
- **Before working, disconnect ABS actuator and electric unit (control unit) connector or battery negative terminal.**

1. Turn ignition switch OFF and disconnect ABS actuator and electric unit (control unit) connector or battery negative terminal.
2. Connect a vinyl tube to bleed valve.
3. Depress brake pedal, loosen bleed valve, and gradually remove brake fluid.


BRA0007D

4. Make sure there is no foreign material in the reservoir tank, and refill with new brake fluid.
5. Rest foot on brake pedal. Loosen bleed valve. Slowly depress brake pedal until it stops. Tighten bleed valve. Release brake pedal. Repeat the process a few times, then pause to add new brake fluid to master cylinder. Continue until the new brake fluid flows out of bleed valve.
   Bleed the air out of the brake hydraulic system. Refer to BR-15, "Bleeding Brake System".


PFIA0403J

DISC BRAKE

DISC BRAKE : Front Brake Pad

INFOID:0000000003900010

DISC BRAKE : Inspection

INFOID:0000000003900011

PAD WEAR

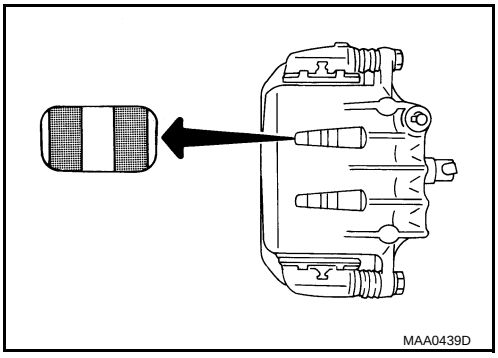
Check pad thickness from an inspection hole on cylinder body. Check using a scale if necessary.

Standard

Standard thickness	**: Refer to BR-46, "Front Disc Brake"**

Limit

Wear limit thickness	**: Refer to BR-46, "Front Disc Brake"**


MAA0439D

DISC BRAKE : Front Brake Rotor

INFOID:0000000003900012

DISC BRAKE : Inspection

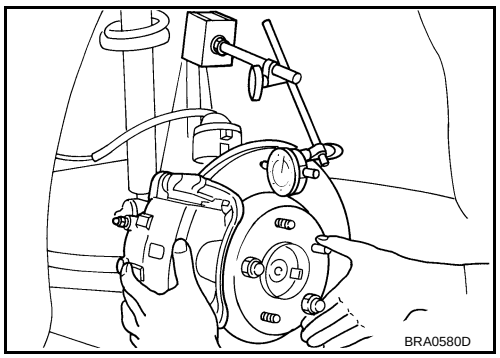
INFOID:0000000003900013

VISUAL

Check surface of disc rotor for uneven wear, cracks, and serious damage. Repair or replace rotor if necessary.

RUNOUT

1. Attach disc rotor to wheel hub using wheel nuts (2 or more positions).
2. Inspect runout using a dial gauge. [Measured at 10 mm (0.39 in) inside the disc edge.]


BRA0580D

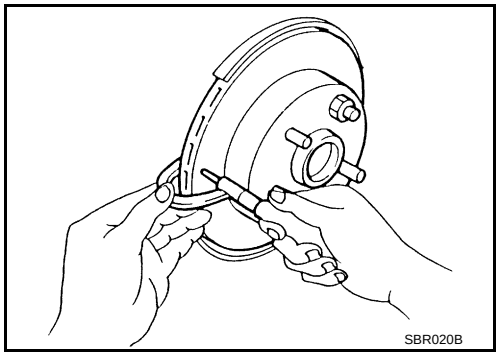
Runout limit : 0.035 mm (0.0014 in)
(with it attached to the vehicle)

NOTE:
Before measuring, make sure that wheel bearing axial end play is within the specification. Refer to FAX-6, "Inspection".

3. When runout exceeds limit value, displace mounting positions of disc rotor by one hole. And then find a position of the minimum value for runout.
4. Replace or lathe disc rotor if runout is outside the specified value after performing the above operation.

THICKNESS

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


SBR020B

Standard thickness : 26.0 mm (1.024 in)
Wear limit : 24.0 mm (0.945 in)
Thickness variation (Measured at 8 positions) : 0.015 mm (0.0006 in)

DISC BRAKE : Rear Brake Pad

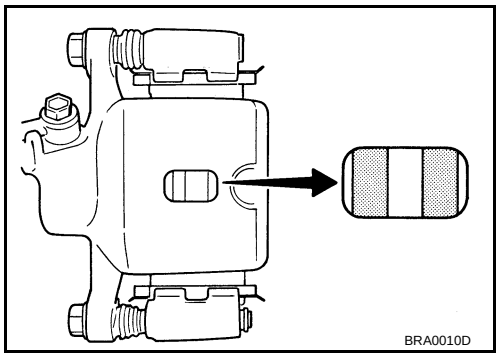
INFOID:0000000003900014

DISC BRAKE : Inspection

INFOID:0000000003900015

PAD WEAR

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


BRA0010D

Standard
Standard thickness : 8.5 mm (0.335 in)
Repair limit thickness : 1.0 mm (0.039 in)

DISC BRAKE : Rear Brake Rotor

INFOID:0000000003900016

DISC BRAKE : Inspection

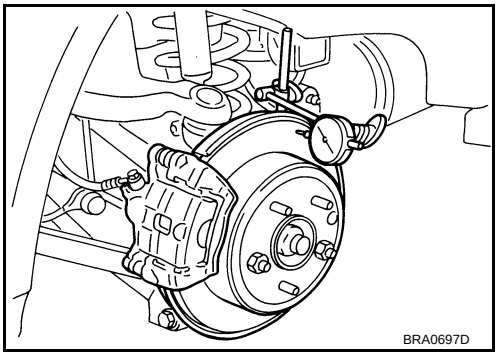
INFOID:0000000003900017

VISUAL

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace if there are.

RUNOUT

1. Fix disc rotor to wheel hub using wheel nuts (2 or more positions).
2. Inspect runout using dial gauge. [Measured at 10 mm (0.39 in) inside disc edge.]



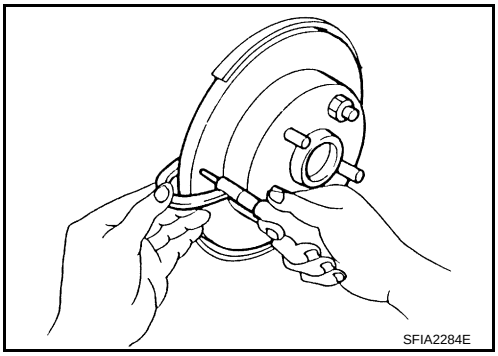
Runout limit : 0.05 mm (0.002 in)
(With it attached to the vehicle)

NOTE:
Before measuring, make sure that wheel bearing axial end play is within the specification. Refer to FAX-6, "Inspection".

3. When runout exceeds limit value, displace mounting positions of disc rotor by one hole. And then find a position of the minimum value for runout.
4. Replace disc rotor if it is outside repair limit after performing the above operation.

THICKNESS

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



Standard thickness	**: 9.0 mm (0.354 in)**
Wear limit	**: 8.0 mm (0.315 in)**
Thickness variation (Measured at 8 positions)	**: 0.015 mm (0.0006 in)**

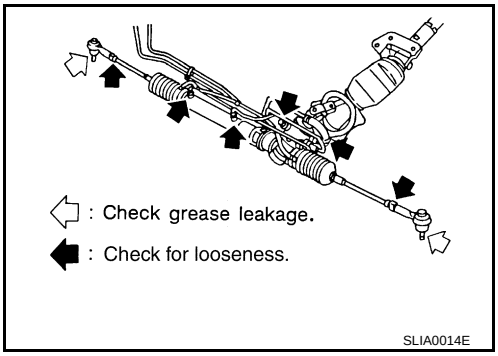
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000003900018

STEERING GEAR

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



STEERING LINKAGE

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

POWER STEERING FLUID AND LINES

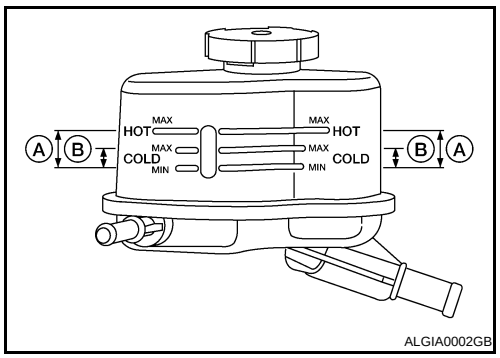
POWER STEERING FLUID AND LINES : Inspection

INFOID:0000000004304944

FLUID LEVEL

- Check fluid level with engine stopped.

- Make sure that fluid level is between MIN and MAX.
- Fluid levels at HOT (A) and COLD (B) are different. Do not confuse them.



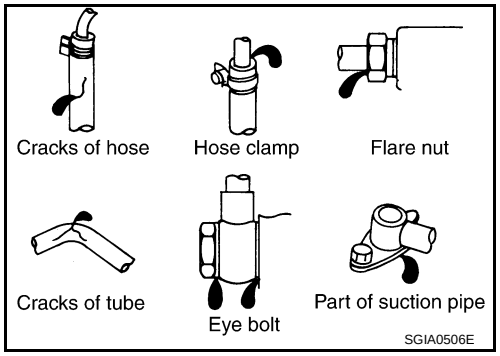
HOT (A) : Fluid temperature 50 - 80 °C (122 - 176°F)
COLD (B) : Fluid temperature 0 - 30°C (32 - 86°F)

CAUTION:
- **The fluid level should not exceed the MAX line. Excessive fluid will cause fluid leakage from the cap.**
- **Do not reuse drained power steering fluid.**
- **Recommended fluid is Genuine Nissan PSF or equivalent.**

FLUID LEAKAGE

Check hydraulic connections for fluid leakage, cracks, damage, looseness, or wear.

1. Run engine until the fluid temperature reaches 50 to 80° C (122 to 176°F) in reservoir tank, and keep engine speed idle.
2. Turn steering wheel several times from full left stop to full right stop.
3. Hold steering wheel at each lock position for five seconds and carefully, check for fluid leakage.
   CAUTION:
   Do not hold the steering wheel in a locked position for more than 10 seconds. (There is the possibility that oil pump may be damaged.)



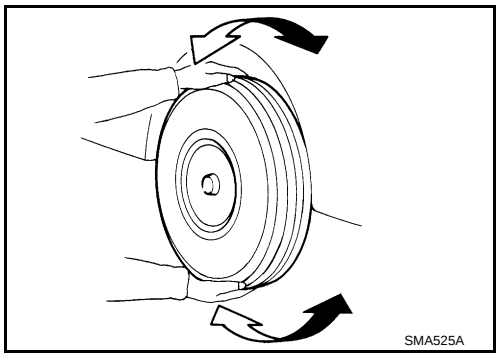
4. If fluid leakage at connections is noticed, then loosen flare nut and then retighten. Do not overtighten connector as this can damage O-ring, washer and connector.
5. If fluid leakage from oil pump is noticed, check oil pump. Refer to ST-32, "Disassembly and Assembly".
6. Check steering gear boots for accumulation of fluid indicating leakage from steering gear.

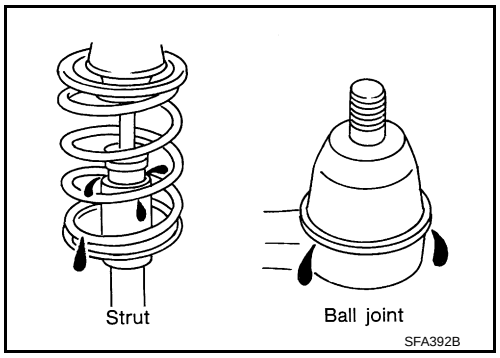
AXLE AND SUSPENSION PARTS

AXLE AND SUSPENSION PARTS : Inspection

INFOID:0000000003900020

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



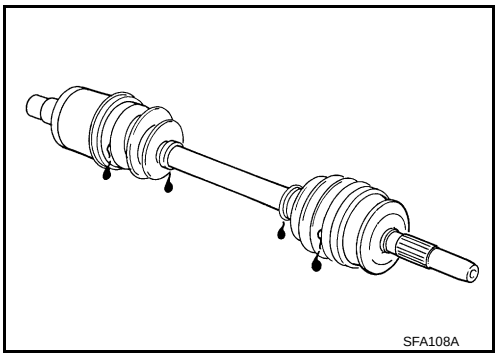


DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:0000000003900021

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



LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

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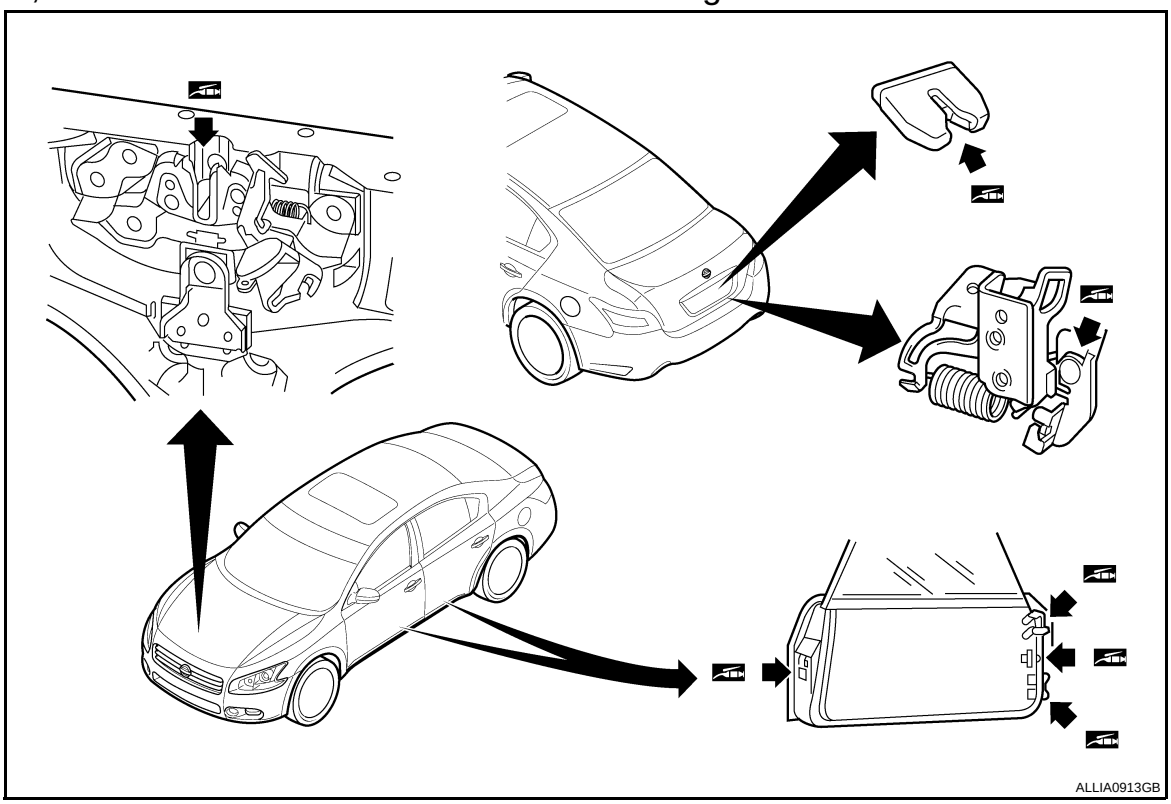

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

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CAUTION:

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

For details, refer to SB-4, "Inspection" in SB section.

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