SECTION MA
MAINTENANCE

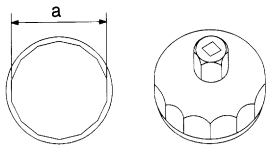
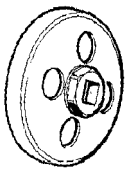
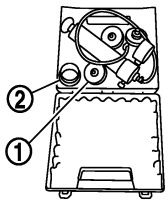
CONTENTS

PREPARATION

PREPARATION

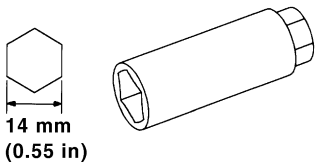
Special Service Tool

INFOID:0000000001194310

Tool number (RENAULT Tool number) Tool name	Description
KV10115801 (—) Oil filter wrench  S-NT375	Removing and installing oil filter (HR16DE and MR20DE engine models) **a: 64.3 mm (2.531 in)**
KV113C0010 (Mot.1329) Oil filter wrench  MBIB0369E	Removing and installing oil filter (K9K engine models)
— (M.S. 554-07) Reservoir tank cap tester 1. Adapter A — (M.S. 554-01) 2. Adapter B — (M.S. 554-06)  E1BIA0058ZZ	Leak checking Checking reservoir tank cap

Commercial Service Tool

INFOID:0000000001194311

Tool name	Description
Spark plug wrench  PBIC3874E	Removing and installing spark plug (HR16DE and MR20DE engine models)

Pre-Delivery Inspection Item

INFOID:0000000001194312

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.

NEW CAR **PRE-DELIVERY INSPECTION**

Customer name:	Model:
Address:	VIN:
	Engine code & no.:
	Registration number: Delivery date:
Dealer name:	Key no.:
Code:	Radio code:

No.	☑	Operation
1	☐	Install vehicle protection kit
Where applicable:		
2	☐	Fit all accessories ordered (e.g. towbar, audio, navigation, air conditioner, styling kit)
UNDER HOOD		
3	☐	Check coolant level and cooling system for leaks
4	☐	Charge battery and check terminals for condition
5	☐	Check drive belts tension
6	☐	Check fuel filter for water or dust (diesel only) and fuel system for leaks
7	☐	Check engine oil level and for oil leaks
8	☐	Check brake and clutch fluid levels and fluid lines for leaks
9	☐	Check and top up washer reservoirs
Where applicable:		
10	☐	Check power steering fluid level and fluid lines for leaks
11	☐	Check air conditioning system for gas leaks
INSIDE AND OUTSIDE		
12	☐	Install transit fuse if removed for vehicle storage and perform initialization of disabled electrical systems
13	☐	Check instruments, gauges, lamps, horn and accessories for operation
14	☐	Check wipers and washers for operation and adjustment
15	☐	Check interior and door mirrors and sun visors for operation
16	☐	Set radio code and set clock
17	☐	Check parking brake adjustment
18	☐	Check clutch pedal adjustment
19	☐	Check steering lock operation
20	☐	Check seat adjusters and seat belts for operation
21	☐	Check electric window operation and alignment, including 1 touch up and down (if applicable). Perform initialization if required
22	☐	Check mouldings, trim and fittings for fit and alignment
23	☐	Check weatherstrips for fit and adhesion
24	☐	Check hood, trunk lid, door panels and fuel lid for fit and alignment
25	☐	Check latches, keys, remote key, door locks and remote trunk lid and fuel lid release for operation. Ensure child locks are off
26	☐	Check wheel nut torques
27	☐	Check tire pressure (incl. spare tire)
28	☐	Check tool kit and jack for operation
29	☐	Remove towing eye from bumper (if applicable)
Where applicable:		
30	☐	Check automatic transmission starter inhibitor
31	☐	Check sunroof for operation and alignment
32	☐	Set up Trip Computer service reminder
UNDER VEHICLE		
33	☐	Check manual transmission/ transaxle, differential and transfer box for oil level and oil leaks
34	☐	Tighten bolts and nuts steering linkage and gear box, axle/suspension parts, propeller shaft and exhaust system
35	☐	Check brake and clutch lines, and oil/fluid reservoirs for leaks
Where applicable:		
36	☐	Remove front suspension spacer blocks
37	☐	Check body mountings torque

No.	☑	Operation
ROAD TEST		
38	☐	Check clutch operation
39	☐	Check foot brake operation
40	☐	Check parking brake operation
41	☐	Check steering operation, self-centering and steering wheel alignment
42	☐	Check engine performance
43	☐	Check for squeeks, rattles and noise from interior, suspension and brakes
44	☐	Check heating, ventilation and air conditioning operation
45	☐	Check Audio and Navigation system operation
46	☐	Check odometer and trip meter operation and cancelling
47	☐	Check instruments for operation
Where applicable:		
48	☐	Check automatic transmission/ transaxle/ CVT shift pattern and kickdown operation
49	☐	Check cruise control and navigation system operation
WITH ENGINE AT OPERATING TEMPERATURE		
50	☐	Check idle speed
Where applicable:		
51	☐	Check automatic transmission/ transaxle/ CVT oil level
FINAL INSPECTION - TECHNICIAN		
52	☐	Remove vehicle protection kit
53	☐	Fit interior mats and wheel covers
54	☐	Check for interior and exterior metal and paint damage
55	☐	Wash, clean interior and exterior

The above checks have been completed, any faults found have been corrected as necessary and the vehicle passed fit for delivery

Date: _____ Job no.: _____

Technician's signature:

FINAL INSPECTION - SALES EXECUTIVE

56	☐	Confirm all accessories ordered have been fitted
57	☐	Check content of vehicle owner's manuals pack, operation manuals for accessories and Quick Reference Guide (if applicable)
58	☐	Complete warranty booklet record

I confirm that I am satisfied with the condition of the vehicle and it is ready for delivery to the customer

Date: _____

Sales executive signature:

SAIA1597E

ON-VEHICLE MAINTENANCE

GENERAL MAINTENANCE

General Maintenance

INFOID:0000000001194313

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

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 periodically when at a service station, including the spare, and adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear.	—
Windshield wiper blades	Check for cracks or wear if not functioning correctly.	—
Doors and engine hood	Check that all doors, the engine hood, the trunk lid and back door operate properly. Also ensure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check for lubrication frequently.	MA-83
Tire rotation	Tires should be rotated every 10,000 km (6,000 miles) for 2WD models and every 5,000 km (3,000 miles) for 4WD models.	MA-79

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
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.	—
Warning lamps and chimes	Make sure that all warning lamps and buzzers/chimes are operating properly.	—
Steering wheel	Check that it has the specified play. Check for changes in the steering conditions, such as excessive free play, hard steering or strange noises. **Free play: Less than 35 mm (1.38 in)**	—
Seat belts	Check that all parts of the seat belt system (e.g. buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	MA-83

UNDER THE HOOD AND VEHICLE

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

Item		Reference page
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	MA-31 (HR) MA-38 (MR) MA-46 (K9K) MA-52 (M9R)
Engine oil level	Check the level after parking the vehicle on a level spot and turning off the engine.	LU-6 (HR) LU-14 (MR) LU-23 (K9K) LU-33 (M9R)

Item		Reference page
Brake and clutch fluid levels	Make sure that the brake and clutch fluid levels are between the “MAX” and “MIN” lines on the reservoir.	MA-79, MA-76
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines.	—

PERIODIC MAINTENANCE

Periodic Maintenance

INFOID:0000000001194314

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 (HR16DE PETROL ENGINE)

(Annual Mileage <30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, [ ] = At the specified mileage only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 30,000 km (18,000 miles) per 2 years.	km x 1,000 (Miles x 1,000) Months	30 (18) 24	60 (36) 48	90 (54) 72	120 (72) 96	
Engine compartment and under vehicle						
Intake and exhaust valve clearance	See NOTE (1)					EM-22
Drive belt	See NOTE (2)	I	I	I	I	MA-30
Engine oil (Use recommended oil.)★	Replace every 30,000 km (18,000 miles)/12 months					MA-35
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★	Replace every 30,000 km (18,000 miles)/12 months					MA-35
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)	I	I	R	I	MA-31
Cooling system		I	I	I	I	MA-31, MA-33, MA-34
Fuel and EVAP vapor lines		I	I	I	I	MA-34, MA-37
Air cleaner filter★			R		R	MA-34
Fuel filter (In-tank type)	See NOTE (4)					—
Spark plugs (Platinum-tipped type)	See NOTE (5)	[R]*1	[R]*1	[R]	[R]*1	MA-36
Heated oxygen sensor 1	See NOTE (6)					ECH-562

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 belt if found damaged.**
- **(3) First replace at 90,000 Km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) Fuel filter is maintenance-free. For service procedures, refer to FL section.**
- **(5) Intervals marked with "*1" are for Russia and Ukraine only.**
- **(6) Perform only according to "Maintenance Under Severe Driving conditions" for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.**

CHASSIS AND BODY MAINTENANCE (HR16DE PETROL ENGINE)

(Annual Mileage <30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 30,000 km (18,000 miles) per 2 years.	km x 1,000 (Miles x 1,000) Months	30 (18) 24	60 (36) 48	90 (54) 72	120 (72) 96	
Underhood and under vehicle						
Headlamp aiming		I	I	I	I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	MA-79, MA-79
Brake fluid★		R	R	R	R	MA-80
Brake booster vacuum hoses, connections & check valve		I	I	I	I	BR-14, BR-61
Manual transaxle gear oil (For level & leaks)		I	I	I	I	MA-72
Steering gear & linkage, axle & suspension parts, front drive shafts, & exhaust system★		I	I	I	I	MA-81, MA-81, MA-82, MA-70
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★		R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (1)					MA-83

NOTE:

- **(1) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (MR20DE PETROL ENGINE)
(Annual Mileage <30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, [ ] = At the specified mileage only.

MAINTENANCE OPERATION			MAINTENANCE INTERVAL							Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96	
Engine compartment and under vehicle										
Intake and exhaust valve clearance	See NOTE (1)									EM-140

MAINTENANCE OPERATION			MAINTENANCE INTERVAL							Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96	
Drive belt	See NOTE (2)		I		I		I		I	MA-38
Engine oil (Use recommended oil.)★	Replace every 30,000 km (18,000 miles)/12 months									MA-42
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★	Replace every 30,000 km (18,000 miles)/12 months									MA-43
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)		I		I		R		I	MA-39
Cooling system			I		I		I		I	MA-38, MA-41, MA-41
Fuel and EVAP vapor lines			I		I		I		I	MA-42, MA-45
Air cleaner filter★					R				R	MA-42
Fuel filter (In-tank type)	See NOTE (4)									—
Spark plugs (Platinum-tipped type)	See NOTE (5)		[R]*1		[R]*1		[R]		[R]*1	MA-44
Heated oxygen sensor 1	See NOTE (6)									ECM-564

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 belt if found damaged or if the auto belt tensioner reading reaches the maximum limit.**
- **(3) First replace at 90,000 Km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) Fuel filter is maintenance-free. For service procedures, refer to FL section.**
- **(5) Intervals marked with "*1" are for Russia and Ukraine only.**
- **(6) Perform only according to "Maintenance Under Severe Driving conditions" for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.**

CHASSIS AND BODY MAINTENANCE (MR20DE PETROL ENGINE)

(Annual Mileage <30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96	
Underhood and under vehicle										
Headlamp aiming			I		I		I		I	MA-60, MA-62, MA-64, MA-67

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	15 (9) 12	30 (18) 24	45 (27) 36	60 (36) 48	75 (45) 60	90 (54) 72	105 (63) 84	120 (72) 96	
Brake & clutch, systems and fluids (For level & leaks)			I		I		I		I	MA-79, MA-79
Brake fluid★			R		R		R		R	MA-80
Brake booster vacuum hoses, connections & check valve			I		I		I		I	BR-14, BR-61
CVT fluid (For level & leaks)	See NOTE (1)		I		I		I		I	MA-70, MA-71
Manual transaxle gear oil (For level & leaks)			I		I		I		I	MA-72 (2WD) MA-74 (4WD)
Transfer gear oil (For level & leaks)			I		I		I		I	MA-76
Differential gear oil (For level & leaks)★			I		I		I		I	MA-78
Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts, & exhaust system★			I		I		I		I	MA-81, MA-81, MA-82, MA-70
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★			I		I		I		I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)			I		I		I		I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★			R		R		R		R	VTL-19, VTL-78
Body corrosion	See NOTE (2)									MA-83

NOTE:

- **(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 90,000 km (54,000 miles), then change CVT fluid NS-2 if necessary. And if Consult-III is not available, change (do not just inspect) CVT fluid NS-2 every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT fluid NS-2 will damage the CVT, which is not covered by the warranty.**
- **(2) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (K9K DIESEL ENGINE)

(Annual Mileage <30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, D = Check filter and drain water

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Engine compartment and under vehicle								
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	MA-50
Engine oil filter (Use recommended oil filter)★		R	R	R	R	R	R	MA-51
Timing belt★	See NOTE (1)	Replace every 120,000 km/60 months						EM-288
Drive belt	See NOTE (2)	I	I	I	I	I	R	MA-46
Cooling system		I	I	I	I	I	I	MA-46, MA-48, MA-49
Engine coolant (Use genuine Nissan Engine Coolant or equivalent in its quality.)	See NOTE (3)		I			R		MA-47
Air cleaner filter ★			R		R		R	MA-49
Intake & exhaust valve clearance	See NOTE (4)	Inspect every 100,000 km						EM-263
Fuel lines		I	I	I	I	I	I	MA-49
Fuel filter★	See NOTE (5)	D	R	D	R	D	R	FL-21, FL-21

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) The replacement interval for the timing belt is the maximum lifespan which should not be exceeded. Replace the timing belt if it comes into contact with fuel. The frequency of replacement should be adapted depending on vehicle usage. See "Maintenance Under Severe Driving Conditions".**
- **(2) Replace every 120,000 km/maximum 60 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.**
- **(3) First replace at 100,000 Km (60,000 miles)/60 months, then every 60,000Km (36,000 miles)/36 months. After first replacement, perform "I" (checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) If valve noise increases, check valve clearance.**
- **(5) Replace every 40,000 km/48 months.**

CHASSIS AND BODY MAINTENANCE (K9K DIESEL ENGINE)

(Annual Mileage <30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Underhood and under vehicle								
Headlamp aiming		I	I	I	I	I	I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	I	I	MA-79, MA-79
Brake fluid★			R		R		R	MA-80

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Brake booster vacuum hoses, connections & check valve			I		I		I	BR-14, BR-61
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	MA-72
Steering gear & linkage, axle & suspension parts, & exhaust system★			I		I		I	MA-81, MA-81, MA-70
Front drive shaft★		I	I	I	I	I	I	MA-82
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★		R	R	R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (1)							MA-83

NOTE:

- **(1) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (M9R DIESEL ENGINE)

(Annual Mileage <30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, D = Check filter and drain water [ ] = At the specified mileage only.

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Engine compartment and under vehicle								
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	MA-57
Engine oil filter (Use recommended oil filter.)★			R		R		R	MA-58
Drive belt	See NOTE (1)	I	I	I	I	I	I	MA-52
Cooling system		I	I	I	I	I	I	MA-52, MA-55, MA-55
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (2)		I			R		MA-53
Air cleaner filter ★				R			R	MA-57
Intake & exhaust valve clearance (Hydrauric lash adjuster type)	See NOTE (3)							—

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	Refer-ence page
Fuel lines		I	I	I	I	I	I	MA-56
Fuel filter★		[D]	[D]	R	[D]	[D]	R	FL-33, FL-32

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) Replace every 160,000 km (96,000 miles)/96 months. Replace drive belt if it comes into contact with fuel or damage is found during inspection.**
- **(2) First replace at 100,000 Km (60,000 miles)/60 months, then every 60,000Km (36,000 miles)/36 months. After first replacement, perform "I" (checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval (every 30,000 km (18,000 miles)/18 months).**
- **(3) Intake & exhaust valve clearance is maintenance-free item.**

CHASSIS AND BODY MAINTENANCE (M9R DIESEL ENGINE)

(Annual Mileage <30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	Reference page
Underhood and under vehicle								
Headlamp aiming		I	I	I	I	I	I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	I	I	MA-79, MA-79
Brake fluid★			R		R		R	MA-80
Brake booster vacuum hoses, connections & check valve			I		I		I	BR-14, BR-61
Automatic transaxle fluid	See Note (1)							—
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	MA-73 MA-74
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	MA-76
Differential gear oil (For level & leaks)		I	I	I	I	I	I	MA-78
Steering gear & linkage, axle & suspension parts, propeller shaft, & exhaust system★		I*1	I	I*1	I	I*1	I	MA-81, MA-81, MA-70
Drive shaft★		I	I	I	I	I	I	MA-82
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform on a kilometer basis, but on an annual basis when driving less than 20,000 km (12,000 miles) per year.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★		R	R	R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (2)							MA-83

NOTE:

- **(1) Automatic transaxle fluid is maintenance-free.**
- **(2) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- ***1 : For 4WD models only.**

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

(Annual Mileage <30,000 Km/year)

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 — Driving repeatedly short distances or door to door driving
C — Towing a trailer or caravan
D — Extensive idling or urban driving
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 areas or in 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 off road use or driving in water
K —Sustained high speed driving
L — For models without Euro-OBD system (For petrol engine models)
L — Repeated short journeys, cold engine at low temperature (For K9K diesel engine models)

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

Driving condition												Maintenance item			Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	.	Air cleaner filter	Petrol models	HR	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-34
														MR			MA-42
													Diesel models	K9K			MA-49
														M9R		Every 30,000 km (18,000 miles) or 18 months	MA-57

Driving condition												Maintenance item			Maintenance operation	Maintenance interval	Reference page
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil	Petrol models	HR	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-35
														MR			MA-42
													Diesel models	K9K		Every 10,000 km (6,000 miles) or 6 months	MA-50
														M9R			MA-57
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil filter	Petrol models	HR	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-35
														MR			MA-43
													Diesel models	K9K		Every 10,000 km (6,000 miles) or 6 months	MA-51
														M9R		Every 20,000 km (12,000 miles) or 12 months	MA-58
.	.	C	.	.	.	.	H	.	.	.	.	Fuel filter	Diesel models	K9K	Check & drain water	Every 15,000 km (9,000 miles) or 12 months	FL-21,
															Replace	Every 30,000 km (18,000 miles) or 24 months	FL-21
														M9R	Check & drain water	Every 10,000 km (6,000 miles)	FL-33
															Replace	Every 30,000 km (18,000 miles) or 18 months	FL-32
.	.	.	.	.	.	.	.	.	.	.	L	Heated oxgen sensor 1	Petrol models	HR	Inspect	Every 30,000 km (18,000 miles) or 24 months	ECH-562 ECM-564
														MR			
A	B	.	D	.	.	.	H	.	.	.	L	Timing belt	Diesel models	K9K	Replace	More frequently	EM-288
.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	Petrol models	HR	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-80
														MR			
													Diesel models	K9K		Every 20,000 km (12,000 miles) or 12 months	
														M9R			
.	.	C	.	.	.	.	H	.	.	.	.	Differential gear oil	Petrol models	MR	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-78
													Diesel models	M9R		Every 40,000 km (24,000 miles) or 24 months	

Driving condition												Maintenance item			Maintenance operation	Maintenance interval	Reference page
.	.	.	.	.	.	G	H	.	.	.	.	Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts, & exhaust system	Petrol models	HR	Inspect	Every 15,000km (9,000miles) or 12 months	MA-81 MA-81 MA-82 MA-70
														MR			
												Steering gear & linkage, axle & suspension parts, propeller shaft, & exhaust system	Diesel models	K9K		Every 20,000km (12,000miles) or 12 months for 2WD models, Every 10,000km (6,000miles) or 6 months for 4WD models	
														M9R			
.	.	.	.	.	.	G	H	.	.	.	.	Drive shaft	Diesel models	K9K	Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-82
														M9R			
A	.	C	.	.	.	G	H	I	.	.	.	Brake pads, rotors & other brake components	Petrol models	HR	Inspect	Every 15,000km (9,000miles) or 12 months	MA-80 BR-15 BR-16 BR-62 BR-63
														MR			
													Diesel models	K9K			
														M9R			
A	.	.	.	.	.	.	.	.	.	.	.	Air conditioner filter	Petrol models	HR	Replace	Every 15,000 km (9,000 miles) or 12 months	VTL-19, VTL-78
														MR			
													Diesel models	K9K		Every 10,000 km (6,000 miles) or 6 months	
														M9R			

ENGINE AND EMISSION CONTROL MAINTENANCE (HR16DE PETROL ENGINE)

(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	30 (18)	60 (36)	90 (54)	120 (72)	
Engine compartment and under vehicle						
Intake and exhaust valve clearance	See NOTE (1)					EM-22
Drive belt	See NOTE (2)	I	I	I	I	MA-30
Engine oil (Use recommended oil.)★		R	R	R	R	MA-35
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★		R	R	R	R	MA-35
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)	I	I	R	I	MA-31
Cooling system		I	I	I	I	MA-31, MA-33, MA-34
Fuel and EVAP vapor lines			I		I	MA-34, MA-37
Air cleaner filter★			R		R	MA-34

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	30 (18)	60 (36)	90 (54)	120 (72)	
Fuel filter (In-tank type)	See NOTE (4)					—
Spark-plugs (Platinum-tipped type)	See NOTE (5)	R*1	R*1	R*1	R*1	MA-36
Heated oxygen sensor 1	See NOTE (6)					ECH-562

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 belt if found damaged or if the auto belt tensioner reading reaches the maximum limit.**
- **(3) First replace at 90,000 Km (54,000 miles), then every 60,000 km (36,000 miles). Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) Fuel filter is maintenance-free. For service procedures, refer to FL section.**
- **(5) Intervals marked with "*1" are for Russia and Ukraine only.**
- **(6) Perform only according to "Maintenance Under Severe Driving conditions" for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.**

CHASSIS AND BODY MAINTENANCE (HR16DE PETROL ENGINE)

(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	30 (18)	60 (36)	90 (54)	120 (72)	
Underhood and under vehicle						
Headlamp aiming		I	I	I	I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	MA-79, MA-79
Brake fluid★			R		R	MA-80
Brake booster vacuum hoses, connections & check valve			I		I	BR-14, BR-61
Manual transaxle gear oil (For level &leaks)		I	I	I	I	MA-72
Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts, & exhaust system★		I	I	I	I	MA-81, MA-81, MA-82, MA-70
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	BR-8, BR-55, PB-2, CL-6

MAINTENANCE OPERATION		MAINTENANCE INTERVAL				Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	30 (18)	60 (36)	90 (54)	120 (72)	
Air conditioner filter★		R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (1)					MA-83

NOTE:

- **(1) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (MR20DE PETROL ENGINE)
(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION			MAINTENANCE INTERVAL							Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)	
Engine compartment and under vehicle										
Intake and exhaust valve clearance	See NOTE (1)									EM-140
Drive belt	See NOTE (2)		I		I		I		I	MA-38
Engine oil (Use recommended oil.)★			R		R		R		R	MA-42
Engine oil filter (Use genuine NISSAN engine oil filter or equivalent)★			R		R		R		R	MA-43
Engine coolant (Use genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)		I		I		R		I	MA-39
Cooling system			I		I		I		I	MA-38, MA-41, MA-41
Fuel and EVAP vapor lines					I				I	MA-42, MA-45
Air cleaner filter★					R				R	MA-42
Fuel filter (In-tank type)	See NOTE (4)									—
Spark-plugs (Platinum-tipped type)	See NOTE (5)		R*1		R*1		R		R*1	MA-44
Heated oxygen sensor 1	See NOTE (6)									ECM-564

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 belt if found damaged or if the auto belt tensioner reading reaches the maximum limit.**
- **(3) First replace at 90,000 Km (54,000 miles), then every 60,000 km (36,000 miles). Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) Fuel filter is maintenance-free. For service procedures, refer to FL section.**
- **(5) Intervals marked with "*1" are for Russia and Ukraine only.**
- **(6) Perform only according to "Maintenance Under Severe Driving conditions" for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.**

CHASSIS AND BODY MAINTENANCE (MR20DE PETROL ENGINE)

(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)	
Underhood and under vehicle										
Headlamp aiming			I		I		I		I	MA-60, MA-62, MA-64, MA-67
Brake, systems and fluid (For level & leaks)			I		I		I		I	MA-79, MA-79
Brake fluid★					R				R	MA-80
Brake booster vacuum hoses, connections & check valve					I				I	BR-14, BR-61
CVT fluid (For level & leaks)	See NOTE (1)		I		I		I		I	MA-70, MA-71
Manual transaxle gear oil (For level & leaks)			I		I		I		I	MA-72 (2WD) MA-74 (4WD)
Transfer gear oil (For level & leaks)			I		I		I		I	MA-76
Differeantial gear oil (For level & leaks)★			I		I		I		I	MA-78
Steering gear & linkage, axle & suspension parts, propeller shaft, drive shafts, & exhaust system★			I		I		I		I	MA-81, MA-81, MA-82, MA-70
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★			I		I		I		I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)			I		I		I		I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★			R		R		R		R	VTL-19, VTL-78
Body corrosion	See NOTE (2)									MA-83

NOTE:

- **(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 90,000 km (54,000 miles), then change CVT fluid NS-2 if necessary. And if Consult-III is not available, change (do not just inspect) CVT fluid NS-2 every 90,000 km (54,000 miles). Using transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the warranty.**
- **(2) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (K9K DIESEL ENGINE)

(Annual Mileage >30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, D = Check filter and drain water

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Refer-ence page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Engine compartment and under vehicle								
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	MA-50
Engine oil filter (Use recommended oil filter)★		R	R	R	R	R	R	MA-51
Timing belt★	See NOTE (1)	Replace every 120,000 km						EM-288
Drive belt	See NOTE (2)	I	I	I	I	I	R	MA-46
Cooling system		I	I	I	I	I	I	MA-46, MA-48, MA-49
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (3)		I			R		MA-47
Air cleaner filter ★			R		R		R	MA-49
Intake & exhaust valve clearance	See NOTE (4)	Inspect every 100,000 km						EM-263
Fuel lines		I	I	I	I	I	I	MA-49
Fuel filter★	See NOTE (5)	D	R	D	R	D	R	FL-21, FL-21

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) The replacement interval for the timing belt is the maximum lifespan which should not be exceeded. Replace the timing belt if it comes into contact with fuel. The frequency of replacement should be adapted depending on vehicle usage. See "Maintenance Under Severe Driving Conditions".**
- **(2) Replace every 120,000 km. Replace drive belt if it comes into contact with fuel or damage is found during inspection.**
- **(3) First replace at 100,000 Km (60,000 miles), then every 60,000Km (36,000 miles). After first replacement, perform "I" (checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.**
- **(4) If valve noise increases, check valve clearance.**
- **(5) Replace every 40,000 km.**

CHASSIS AND BODY MAINTENANCE (K9K DIESEL ENGINE)

(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Underhood and under vehicle								
Headlamp aiming			I		I		I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	I	I	MA-79, MA-79
Brake fluid★				R			R	MA-80
Brake booster vacuum hoses, connections & check valve				I			I	BR-14, BR-61

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Manual transaxle gear oil (For leaks)		I	I	I	I	I	I	MA-72
Steering gear & linkage, axle & suspension parts, & exhaust system★				I			I	MA-81, MA-81, MA-70
Front drive shaft★		I	I	I	I	I	I	MA-82
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★		R	R	R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (1)							MA-83

NOTE:

- **(1) Inspect once per year.**
- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**

ENGINE AND EMISSION CONTROL MAINTENANCE (M9R DIESEL ENGINE)

(Annual Mileage >30,000 Km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, D = Check filter and drain water

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Engine compartment and under vehicle								
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	MA-57
Engine oil filter (Use recommended oil filter.)★			R		R		R	MA-58
Drive belt	See NOTE (1)	I	I	I	I	I	I	MA-52
Cooling system		I	I	I	I	I	I	MA-52, MA-55, MA-55
Engine coolant (Use Genuine NISSAN Engine Coolant or equivalent in its quality.)	See NOTE (2)		I			R		MA-53
Air cleaner filter ★				R			R	MA-57
Intake & exhaust valve clearance (Hydrauric lash adjuster type)	See NOTE (3)							—
Fuel lines		I	I	I	I	I	I	MA-56
Fuel filter★		D	D	R	D	D	R	FL-33, FL-32

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) Replace every 160,000 km (96,000 miles). Replace drive belt if it comes into contact with fuel or damage is found during inspection.**
- **(2) First replace at 100,000 Km (60,000 miles), then every 60,000Km (36,000 miles). After first replacement, perform "I" (checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval (every 30,000 km (18,000 miles)).**
- **(3) Intake & exhaust valve clearance is maintenance-free item.**

CHASSIS AND BODY MAINTENANCE (M9R DIESEL ENGINE)
(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Underhood and under vehicle								
Headlamp aiming			I		I		I	MA-60, MA-62, MA-64, MA-67
Brake & clutch, systems and fluids (For level & leaks)		I	I	I	I	I	I	MA-79, MA-79
Brake fluid★				R			R	MA-80
Brake booster vacuum hoses, connections & check valve				I			I	BR-14, BR-61
Automatic transaxle fluid	See NOTE (1)							—
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	MA-73, MA-74
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	MA-76
Differential gear oil (For level & leaks)★		I	I	I	I	I	I	MA-78
Steering gear & linkage, axle & suspension parts, propeller shaft, & exhaust system★		I*1	I*1	I	I*1	I*1	I	MA-81, MA-81, MA-70
Drive shaft★		I	I	I	I	I	I	MA-82
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-7, RSU-5, MA-79
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-80, BR-15, BR-62, BR-16, BR-63
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-8, BR-55, PB-2, CL-6
Air conditioner filter★		R	R	R	R	R	R	VTL-19, VTL-78
Body corrosion	See NOTE (2)							MA-83

NOTE:
- **(1) Automatic transaxle fluid is maintenance-free.**
- **(2) Inspect once per year.**

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- *** 1 : For 4WD models only**

MAINTENANCE UNDER SEVERE DRIVING CONDITIONS

(Annual Mileage >30,000 Km/year)

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 — Driving repeatedly short distances or door to door driving
C — Towing a trailer or caravan
D — Extensive idling or urban driving
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 areas or in 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 off road use or driving in water
K —Sustained high speed driving
L — For models without Euro-OBD system (For petrol engine models)
L — Repeated short journeys, cold engine at low temperature (for K9K diesel engine models)

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

Driving condition												Maintenance item			Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	.	Air cleaner filter	Petrol models	HR	Replace	Every 30,000 km (18,000 miles)	MA-34
														MR			MA-42
													Diesel models	K9K			MA-49
														M9R			MA-57
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil	Petrol models	HR	Replace	Every 15,000 km (9,000 miles)	MA-35
														MR			MA-42
													Diesel models	K9K		Every 10,000 km (6,000 miles)	MA-50
														M9R			MA-57
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil filter	Petrol models	HR	Replace	Every 15,000 km (9,000 miles)	MA-35
														MR			MA-43
													Diesel models	K9K		Every 10,000 km (6,000 miles)	MA-50, MA-51
														M9R		Every 20,000 km (12,000 miles)	MA-58
A	.	.	.	E	.	.	.	.	.	.	.	Fuel filter	Diesel models	K9K	Check & drain water	Every 15,000 km (9,000 miles)	FL-21,
															Replace	Every 30,000 km (18,000 miles)	FL-21
														M9R	Check & drain water	Every 10,000 km (6,000 miles)	FL-33
															Replace	Every 30,000 km (18,000 miles)	FL-32

Driving condition												Maintenance item			Maintenance operation	Maintenance interval	Reference page
.	.	.	.	.	.	.	.	.	.	.	L	Heated oxgen sensor 1	Petrol models	HR	inspect	Every 60,000 km (36,000 miles)	ECH-562 ECM-564
														MR			
A	B	.	D	.	.	.	H	.	.	.	L	Timing belt	Diesel models	K9K	Replace	More frequently	EM-288
.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	Petrol models	HR	Replace	Every 30,000 km (18,000 miles)	MA-80
														MR			
													Diesel models	K9K			
														M9R			
.	.	C	.	.	.	.	H	.	.	.	.	Differential gear oil	Petrol models	MR	Replace	Every 30,000 km (18,000 miles)	MA-78
													Diesel models	M9R		Every 60,000 km (36,000 miles)	
.	.	.	.	.	.	G	H	.	.	.	.	Steering gear & linkage, axle & suspension parts, drive shafts, propeller shaft, & exhaust system	Petrol models	HR	Inspect	Every 15,000 km (9,000 miles)	MA-81 MA-81 MA-82 MA-70
														MR			
												Steering gear & linkage, axle & suspension parts, propeller shaft, & exhaust system	Diesel models	K9K		Every 30,000 km (18,000 miles) for 2WD models, Every 15,000 km (9,000 miles) for 4WD models	
														M9R			
.	.	.	.	.	.	G	H	.	.	.	.	Drive shaft	Diesel models	K9K	Inspect	Every 10,000 km (6,000 miles)	MA-82
														M9R			
A	.	C	.	.	.	G	H	I	.	.	.	Brake pads, rotors & other brake components	Petrol models	HR	Inspect	Every 15,000 km (9,000 miles)	MA-80 BR-15 BR-16 BR-62 BR-63
														MR			
													Diesel models	K9K			
														M9R			
A	.	.	.	.	.	.	.	.	.	.	.	Air conditioner filter	Petrol models	HR	Replace	Every 15,000 km (9,000 miles)	VTL-19, VTL-78
														MR			
													Diesel models	K9K			
														M9R			

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

INFOID:0000000001194315

				Capacity (Approximate)		Recommended Fluids/Lubricants
				Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	HR16DE		4.3	3-3/4 qt	• Gasoline engine Genuine NISSAN engine oil*1 API SL or SM*1 ILSAC grade GF-3 or GF-4*1 ACEA A1/B1, A3/B3, A3/B4, A5/B5, C2 or C3*1 • Diesel engine Genuine NISSAN engine oil *1 ACEA A/B1*1 for K9K engine ACEA C3 Low ASH HTHS 3.5, Viscosity SAE 5W-30 for M9R engine
		MR20DE		4.4	3-7/8 qt	
		K9K		4.55	4 qt	
		M9R		7.4	6-1/2 qt	
	Without oil filter change	HR16DE		4.1	3-5/8 qt	
		MR20DE		4.2	3-3/4 qt	
		K9K		4.39	3-7/8 qt	
		M9R		7.0	6-1/8 qt	
Dry engine (engine overhaul)		HR16DE		4.8	4-1/4 qt	
		MR20DE		5.2	4-5/8 qt	
		K9K		4.71	4-1/8 qt	
		M9R		8.4	7-3/8 qt	
Cooling system (with reservoir)		HR16DE		6.2	5-1/2 qt	Genuine NISSAN Engine Coolant or equivalent in its quality*2
		MR20DE	M/T models	6.8	6 qt	
			CVT models	8.2	7-1/4 qt	
		K9K		7.0	6-1/8 qt	
		M9R	M/T models	8.0	7 qt	
			A/T models	8.4	7-3/8 qt	
Reservoir tank		HR16DE		0.78	5/8 qt	
		MR20DE		0.78	5/8 qt	
		K9K		0.8	3/4 qt	
		M9R		0.78	5/8 qt	
Manual transaxle gear oil		RS5F92R		2.3	4 pt	Genuine NISSAN gear oil or API GL-4, Viscosity SAE 75W-80
		RS6F94R		2.0	3-1/2 pt	
		RS6F52A		2.0	3-1/2 pt	Genuine NISSAN Manual Transmission Fluid (MTF) HQ Multi: 75W-85 or API GL-4, Viscosity SAE 75W-85
Transfer gear oil		MR20DE	M/T	0.38	5/8 pt	Genuine NISSAN Differential oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90
		M9R	M/T, A/T			
		MR20DE	CVT	0.36	5/8 pt	
Differential gear oil				0.55	1 pt	Genuine NISSAN Differential oil Hypoid Super GL-5 80W-90 or API GL-5, Viscosity SAE 80W-90
CVT fluid			2WD	8.5	7-1/2 qt	Genuine NISSAN CVT Fluid NS-2*3
			4WD	9.5	8-3/8 qt	
Automatic trnasaxle fluid				7.5	6-5/8 qt	Genuine NISSAN Matic J ATF*4
Brake and clutch fluid				—	—	Genuine NISSAN brake fluid or equivalent DOT 4 (US FMVSS No. 116)
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.**

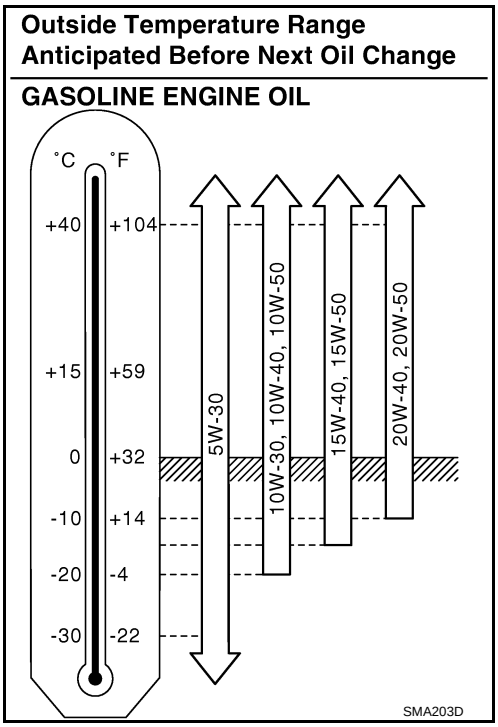
***4: Using automatic transmission fluid other than Genuine NISSAN Matic J ATF will cause deterioration in driveability and automatic trnasmission durability, and may damage the automatic transmission, which is not covered by the warranty.**

SAE Viscosity Number

INFOID:0000000001194316

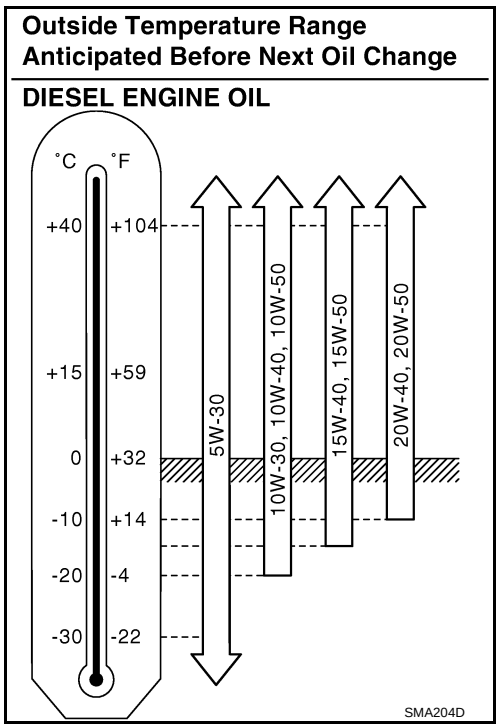
GASOLINE ENGINE

- 5W-30 is preferable.
  If 5W-30 is not available, select the viscosity, from the chart, that is suitable for the outside temperature range.



DIESEL ENGINE

- 5W-30 is preferable.
  If 5W-30 is not available, select the viscosity, from the chart, that is suitable for the outside temperature range.



Engine Coolant Mixture Ratio

INFOID:0000000001194317

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. Genuine NISSAN Engine Coolant is premixed (mixture ratio 50%) type coolant.**

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:

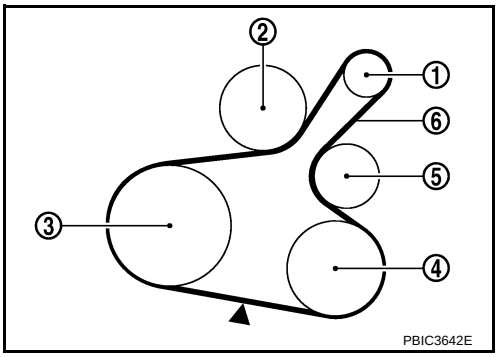
Never remove the radiator cap when the engine is hot. Serious burns could be caused by high pressure fluid escaping from the radiator. Wait until the engine and radiator cool down.

ENGINE MAINTENANCE (HR16DE)
DRIVE BELTS
DRIVE BELTS : Checking

INFOID:0000000001572236

- Inspection should be done only when engine is cold or over 30 minutes after the engine is stopped.

1 : Alternator
2 : Water pump
3 : Crankshaft pulley
4 : A/C compressor (with A/C models)
: Idler pulley (without A/C models)
5 : Idler pulley
6 : Drive belt



- Visually check belts for wear, damage, and cracks on inside and edges.
- Turn crankshaft pulley two time clockwise, and make sure tension on all pulleys is equal before doing the test.
- When measuring deflection, apply 98 N (10 kg, 22 lb) at the (▼) marked point.
- Measure the belt tension and frequency with acoustic tension gauge (commercial service tool) at the (▼) marked point.

CAUTION:
- **When the tension and frequency are measured, the acoustic tension gauge should be used.**
- **When checking immediately after installation, first adjust it to the specified value. Then, after turning crankshaft two turns or more, re-adjust to the specified value to avoid variation in deflection between pulleys.**

Belt Deflection / Belt Tension and Frequency:

Refer to EM-116, "Drive Belts".

DRIVE BELTS : Tension Adjustment

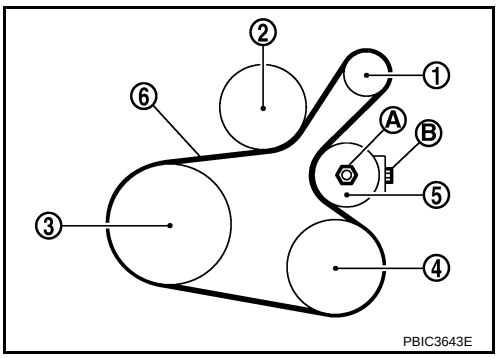
INFOID:0000000001572237

Location	Location of adjuster and tightening method
Drive belt	Adjusting bolt on idler pulley

CAUTION:
- **When belt is replaced with new one, adjust belt tension to the value for “New belt”, because new belt will not fully seat in the pulley groove.**
- **When tension of the belt being used exceeds “Limit”, adjust it to the value for “After adjusted”.**
- **When installing a belt, make sure it is correctly engaged with the pulley groove.**
- **Never allow oil or engine coolant to get on the belt.**
- **Never twist or bend the belt strongly.**

1. Remove front fender protector (RH). Refer to EXT-21, "Exploded View".
2. Loosen the idler pulley lock nut (A) from the tightening position with the specified torque by 45 degrees.

1 : Alternator
2 : Water pump
3 : Crankshaft pulley
4 : A/C compressor (with A/C models)
: Idler pulley (without A/C models)
5 : Idler pulley
6 : Drive belt
B : Adjusting bolt



CAUTION:
- **When the lock nut is loosened excessively, the idler pulley tilts and the correct tension adjustment cannot be performed. Never loosen it excessively (more than 45 degrees).**
- **Put a matching mark on the lock nut, and check turning angle with a protractor. Never visually check the tightening angle.**

3. Adjust the belt tension by turning the adjusting bolt.

CAUTION:
- **When checking immediately after installation, first adjust it to the specified value. Then, after turning crankshaft two turns or more, re-adjust to the specified value to avoid variation in deflection between pulleys.**
- **When the tension adjustment is performed, the lock nut should be in the condition at step“2”. If the tension adjustment is performed when the lock nut is loosened more than the standard, the idler pulley tilts and the correct tension adjustment cannot be performed.**

4. Tighten the lock nut.

: 34.8 N·m (3.5 kg-m, 26 ft-lb)

ENGINE COOLANT

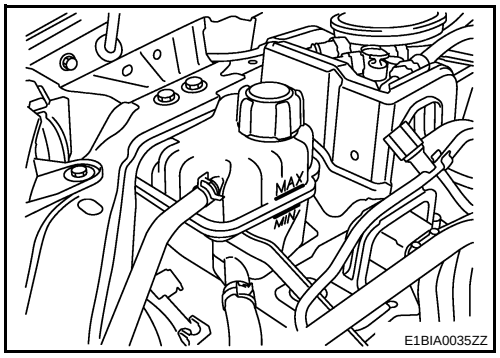
ENGINE COOLANT : Inspection

INFOID:0000000001569768

LEVEL

- Check if the reservoir tank engine coolant level is within the “MIN” to “MAX” when the engine is cool.
- Adjust the engine coolant level as necessary.
- Check that the reservoir tank cap is tightened.

WARNING:
Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.

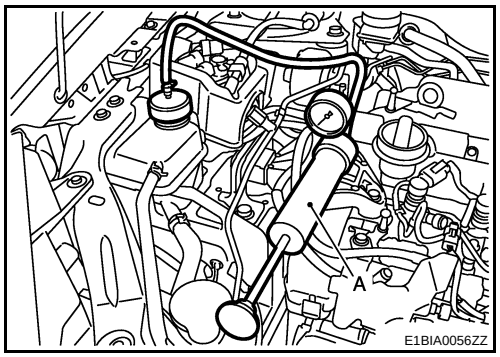


LEAKAGE

- To check for leakage, fit the adapter to the reservoir tank, and then connect it to the reservoir tank cap tester [SST: — (M.S.554-07)] (A) as shown.

Testing pressure: Refer to CO-23, "Radiator".

WARNING:
Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.
CAUTION:
Higher test pressure than specified may cause radiator damage.



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

ENGINE COOLANT : Draining

INFOID:0000000001569769

WARNING:
- **Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.**
- **Wrap a thick cloth around the reservoir tank cap. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.**

1. Disconnect radiator hose (lower) and reservoir tank cap.
When draining all of engine coolant in the system, open water drain plugs on cylinder block. Refer to EM-94, "Exploded View".

CAUTION:
- **Perform this step when engine is cold.**
- **Never spill engine coolant on drive belt.**

2. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing. Refer to CO-13, "Exploded View".
3. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to CO-12, "RADIATOR : Inspection".

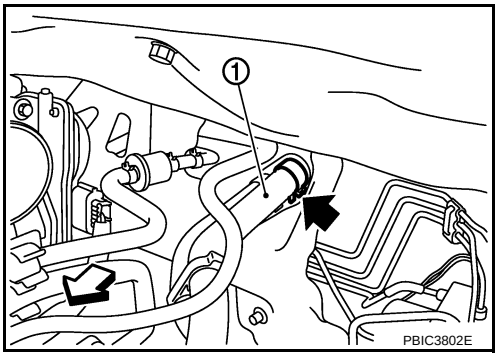
ENGINE COOLANT : Refilling

INFOID:0000000001569770

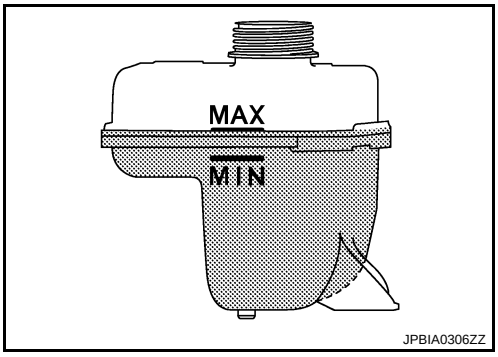
1. Install reservoir tank if removed.
2. Connect radiator hose (lower).
   - If water drain plugs on cylinder block are removed, close and tighten them. Refer to EM-94, "Exploded View".
3. Make sure that each hose clamp has been firmly tightened.
4. Disconnect heater hose (1) at position (⇦) in the figure.

   ⇦ : Vehicle front

   - Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.



5. Fill reservoir tank to specified level.
   - Pour coolant slowly of less than 2 ℓ (1-3/4 lmp qt) a minute to allow air in system to escape.
   - When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
   - Start engine without closing reservoir tank cap.
   - Keep engine racing at 1,500 rpm for about 2-3 minutes, filling reservoir tank up to MAX. Level, if necessary.
   - Use Genuine Nissan Engine Coolant or equivalent mixed with water (distilled or demineralized). Refer to MA-27, "Fluids and Lubricants".



Engine coolant capacity
(With reservoir tank at “MAX” level)

Refer to CO-23, "Periodical Maintenance Specification".

Reservoir tank engine coolant capacity
(At “MAX” level)

Refer to: CO-23, "Periodical Maintenance Specification".

6. Install reservoir tank cap.
7. Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 2,000 - 2,500 rpm.
   - Make sure thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.

CAUTION:
Watch water temperature gauge so as not to overheat engine.

8. Stop the engine and cool down to less than approximately 50°C (122°F).
   - Cool down using fan to reduce the time.
9. Refill reservoir tank to “MAX” level line with engine coolant, if necessary.

10. Repeat steps 6 through 9 two or more times with reservoir tank cap installed until reservoir tank level no longer drops.
11. Check cooling system for leaks with engine running.
12. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between “COOL” and “WARM”.
    • Sound may be noticeable at heater unit.
13. Repeat step 12 three times.
14. If sound is heard, bleed air from cooling system by repeating step 6 through 9 until reservoir tank level no longer drops.
15. Check that the reservoir tank cap is tightened.

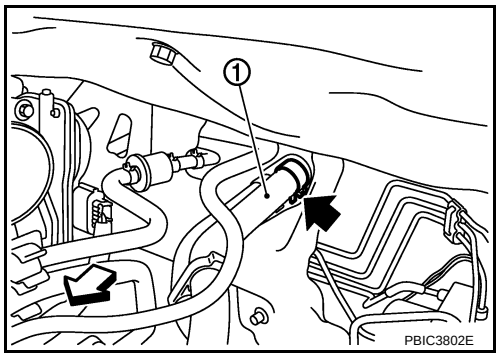
ENGINE COOLANT : Flushing

INFOID:0000000001569771

1. Install reservoir tank if removed, and connect radiator hose (lower).
   If water drain plugs on cylinder block are removed, close and tighten them. Refer to EM-94, "Exploded View".
2. Disconnect heater hose (1) at position (⇦) in the figure.

   ⇦ : Vehicle front

   • Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.



3. Fill reservoir tank with water.
   • When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
4. Install reservoir tank cap.
5. Run the engine and warm it up to normal operating temperature.
6. Rev the engine two or three times under no-load.
7. Stop the engine and wait until it cools down.
8. Drain water from the system. Refer to MA-31, "ENGINE COOLANT : Draining".
9. Repeat steps 1 through 8 until clear water begins to drain from radiator.
10. Check that the reservoir tank cap is tightened.

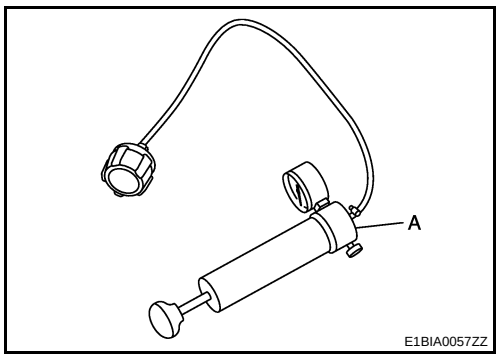
RESERVOIR TANK CAP

RESERVOIR TANK CAP : Inspection

INFOID:0000000001604807

- Fit the adapter to the reservoir tank cap tester [SST: — (M.S. 554-07)] (A) as shown.
- When connecting the reservoir tank cap to the reservoir tank cap tester, apply water or LLC to the reservoir tank cap seal part.
- Check reservoir tank cap relief pressure.

Standard: Refer to CO-23, "Radiator".



- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.

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

RADIATOR

RADIATOR : Inspection

INFOID:0000000001604808

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

CAUTION:

- **Be careful not to bend or damage radiator fins.**
- **When radiator is cleaned without removal, remove all surrounding parts such as radiator cooling fan assembly and horns. Then tape harness and connectors to prevent water from entering.**

1. Apply water by hose to the back side of the radiator core vertically downward.
2. Apply water again to all radiator core surfaces once per minute.
3. Stop washing if any stains no longer flow out from radiator.
4. Blow air into the back side of radiator core vertically downward.
   - Use compressed air lower than 490 kPa (5 kg/cm^2, 71 psi) and keep distance more than 30 cm (11.8 in).
5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

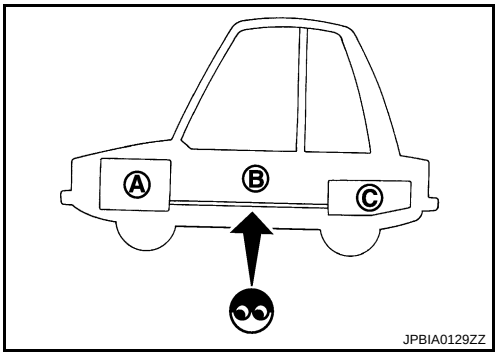
FUEL LINES

FUEL LINES : Inspection

INFOID:0000000001538169

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.

A : Engine
B : Fuel line
C : Fuel tank



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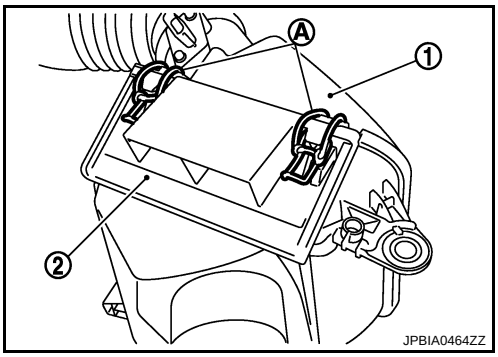
AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

INFOID:0000000001194327

REMOVAL

1. Unhook clips (A) and remove holder (2) from air cleaner case (1).



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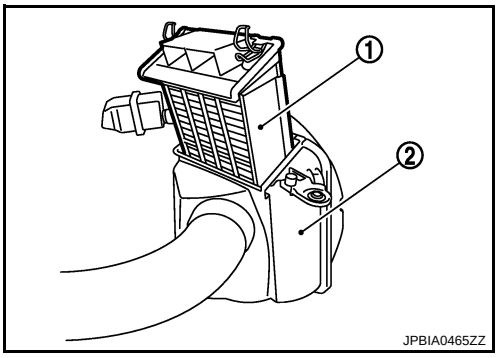
2. Remove air cleaner filter (1) from air cleaner case (2).



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INSTALLATION

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

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

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000001194328

WARNING:

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

1. Warm up the engine, and check for engine oil leakage from engine components. Refer to LU-6, "Inspection".
2. Stop the engine and wait for 10 minutes.
3. Loosen oil filler cap.
4. Remove drain plug and then drain engine oil.

ENGINE OIL : Refilling

INFOID:0000000001194329

1. Install drain plug with new washer. Refer to EM-41, "Exploded View".
   CAUTION:
   Be sure to clean drain plug and install with new washer.

   Tightening torque : Refer to EM-41, "Exploded View".
2. Refill with new engine oil.
   Engine oil specification and viscosity: Refer to MA-27, "Fluids and Lubricants".

   Engine oil capacity : Refer to LU-10, "Periodical Maintenance Specification".

   CAUTION:
   - **The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.**
   - **Always use oil level gauge to determine the proper amount of engine oil in the engine.**
3. Warm up engine and check area around drain plug and oil filter for engine oil leakage.
4. Stop engine and wait for 10 minutes.
5. Check the engine oil level. Refer to LU-6, "Inspection".

OIL FILTER

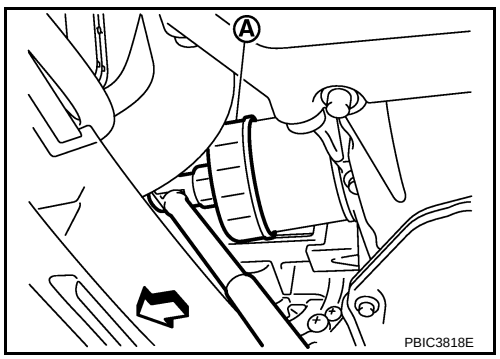
OIL FILTER : Removal and Installation

INFOID:0000000001194330

REMOVAL

- Using oil filter wrench [SST: KV10115801] (A), remove oil filter.

⇦ : Vehicle font

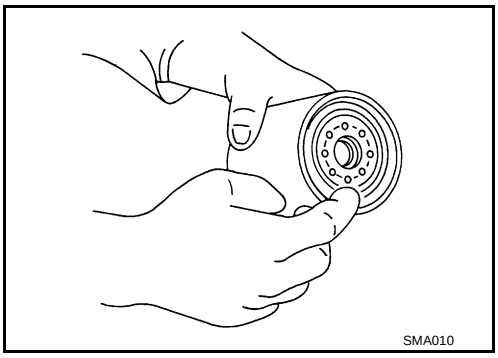


CAUTION:

- **Oil filter is provided with relief valve. Use Genuine NISSAN Oil Filter or equivalent.**
- **Be careful not to get burned when engine and engine oil may be hot.**
- **When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.**
- **Completely wipe off any engine oil that adheres to engine and vehicle.**

INSTALLATION

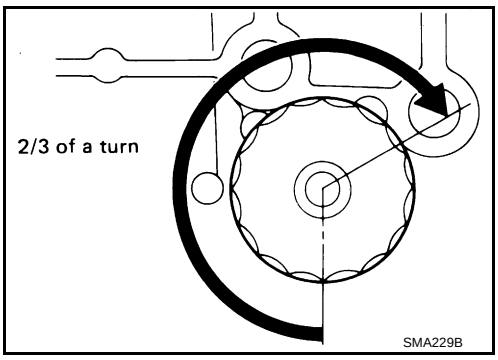
1. Remove foreign materials adhering to the oil filter installation surface.
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



OIL FILTER : Inspection

INFOID:0000000001194331

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to LU-6, "Inspection".
2. Start the engine, and check there is no leak of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to LU-6, "Inspection".

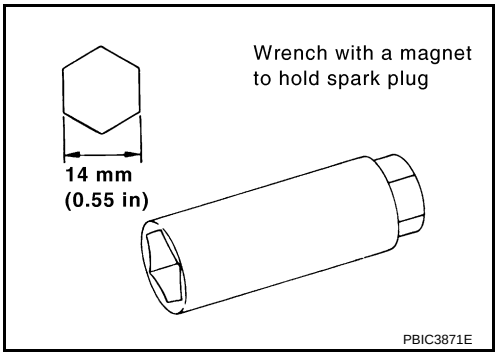
SPARK PLUG

SPARK PLUG : Removal and Installation

INFOID:0000000001194332

REMOVAL

1. Remove intake manifold. Refer to EM-30, "Removal and Installation".
2. Remove ignition coil. Refer to EM-44, "Removal and Installation".
3. Remove spark plug with a spark plug wrench (commercial service tool).



INSTALLATION

Installation is the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000001194333

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

Spark plug (Standard type): **Refer to EM-117, "Spark Plug".**

CAUTION:

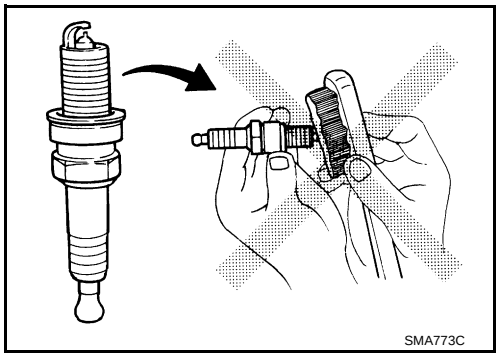
- **Never drop or shock spark plug.**
- **Never use a wire brush for cleaning.**
- **If plug tip is covered with carbon, spark plug cleaner may be used.**

Cleaner air pressure:

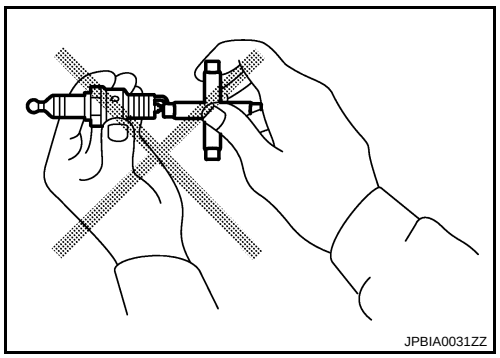
Less than 588 kPa (6 kg/cm^2, 85 psi)

Cleaning time:

Less than 20 seconds



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



EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000001194334

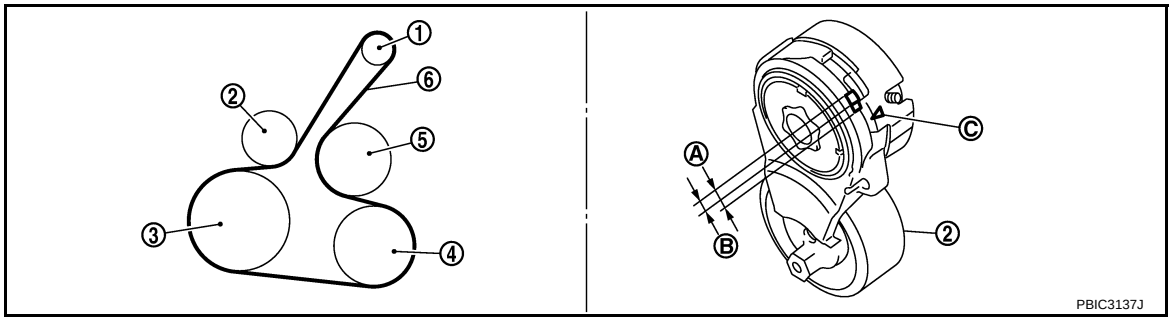
Refer to ECH-347, "Inspection" (WITH EURO-OBD), ECH-624, "Inspection"(WITHOUT EURO-OBD).

ENGINE MAINTENANCE (MR20DE)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000001194335



1.	Alternator	2.	Drive belt auto-tensioner	3.	Crankshaft pulley
4.	A/C compressor (with A/C models) Idler pulley (without A/C models)	5.	Water pump	6.	Drive belt
A.	Possible use range	B.	Range when new drive belt is installed	C.	Indicator

DRIVE BELTS : Checking

INFOID:0000000001194336

WARNING:

Perform this step when engine is stopped.

- Make sure that the indicator (notch on fixed side) of drive belt auto-tensioner is within the possible use range (A) in the figure.

  NOTE:

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

DRIVE BELTS : Tension Adjustment

INFOID:0000000001194337

Refer to : EM-237, "Drive Belt".

Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.

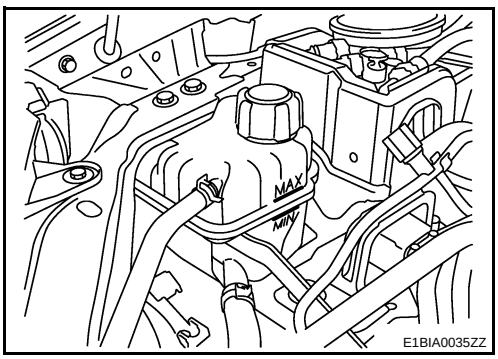
ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000001569772

LEVEL

- Check if the reservoir tank engine coolant level is within the “MIN” to “MAX” when the engine is cool.
- Adjust the engine coolant level as necessary.
- Check that the reservoir tank cap is tightened.

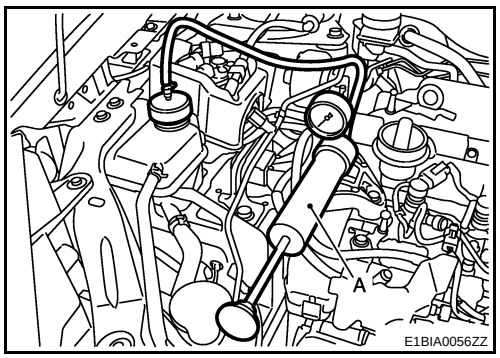


WARNING:

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

LEAKAGE

- To check for leakage, fit the adapter to the reservoir tank, and then connect it to the reservoir tank cap tester [SST: — (M.S.554-07)] (A) as shown.



Testing pressure: Refer to CO-46, "Radiator".

WARNING:
Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.
CAUTION:
Higher test pressure than specified may cause radiator damage.

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

ENGINE COOLANT : Draining

INFOID:0000000001569773

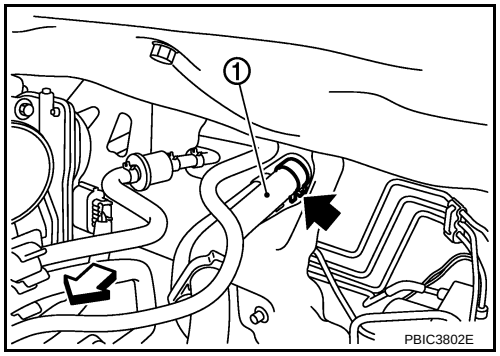
WARNING:
- **Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.**
- **Wrap a thick cloth around the reservoir tank cap. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.**

1. Disconnect radiator hose (lower) and reservoir tank cap.
   When draining all of engine coolant in the system, open water drain plugs on cylinder block. Refer to EM-211, "Exploded View".
   CAUTION:
   - **Perform this step when engine is cold.**
   - **Never spill engine coolant on drive belt.**
2. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.
   - Remove of engine mounting insulator (RH) is necessary. Refer to EM-195, "M/T : Exploded View" (M/T models) or EM-200, "CVT : Exploded View" (CVT models).
3. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to CO-33, "RADIATOR : Inspection".

ENGINE COOLANT : Refilling

INFOID:0000000001569774

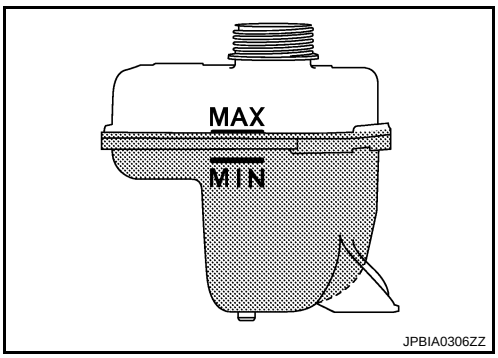
1. Install reservoir tank if removed.
2. Connect radiator hose (lower).
   If water drain plugs on cylinder block are removed, close and tighten them. Refer to EM-211, "Exploded View".
3. Make sure that each hose clamp has been firmly tightened.
4. Disconnect heater hose (1) at position (⇦) in the figure.



⇦ : Vehicle front

- Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.

5. Fill reservoir tank to specified level.
   - Pour coolant slowly of less than 2 ℓ (1-3/4 lmp qt) a minute to allow air in system to escape.
   - When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
   - Start engine without closing reservoir tank cap.
   - Keep engine racing at 1,500 rpm for about 2-3 minutes, filling reservoir tank up to MAX. Level, if necessary.
   - Use Genuine Nissan Engine Coolant or equivalent mixed with water (distilled or demineralized). Refer to MA-27, "Fluids and Lubricants".



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

Refer to :CO-46, "Periodical Maintenance Specification"

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

Refer to CO-46, "Periodical Maintenance Specification".

6. Install reservoir tank cap.
7. Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 2,000 - 2,500 rpm.
   - Make sure thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.

   CAUTION:
   Watch water temperature gauge so as not to overheat engine.
8. Stop the engine and cool down to less than approximately 50°C (122°F).
   - Cool down using fan to reduce the time.
9. Refill reservoir tank to "MAX" level line with engine coolant, if necessary.
10. Repeat steps 6 through 9 two or more times with reservoir tank cap installed until reservoir tank level no longer drops.
11. Check cooling system for leaks with engine running.
12. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between "COOL" and "WARM".
    - Sound may be noticeable at heater unit.
13. Repeat step 12 three times.
14. If sound is heard, bleed air from cooling system by repeating step 6 through 9 until reservoir tank level no longer drops.
15. Check that the reservoir tank cap is tightened.

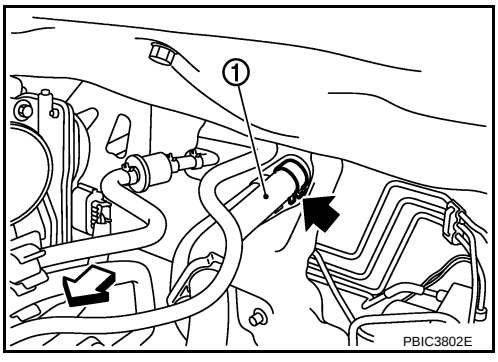
ENGINE COOLANT : Flushing

INFOID:0000000001569775

1. Install reservoir tank if removed, and connect radiator hose (lower).
   If water drain plugs on cylinder block are removed, close and tighten them. Refer to EM-211, "Exploded View".
2. Disconnect heater hose (1) at position (⬅) in the figure.

   ⇦ : Vehicle front

   - Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.



3. Fill reservoir tank with water.
   - When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
4. Install reservoir tank cap.
5. Run the engine and warm it up to normal operating temperature.
6. Rev the engine two or three times under no-load.
7. Stop the engine and wait until it cools down.
8. Drain water from the system. Refer to CO-30, "Draining".
9. Repeat steps 1 through 8 until clear water begins to drain from radiator.
10. Check that the reservoir tank cap is tightened.

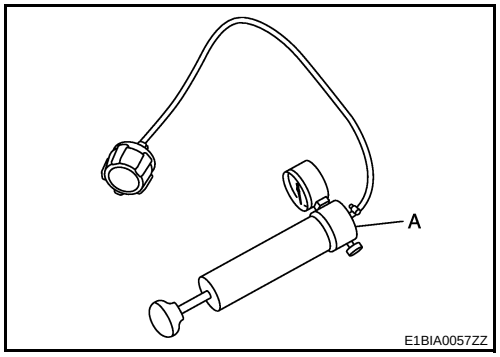
RESERVOIR TANK CAP

RESERVOIR TANK CAP : Inspection

INFOID:0000000001604874

- Fit the adapter to the reservoir tank cap tester [SST: — (M.S.554-07)] (A) as shown.
- When connecting the reservoir tank cap to the reservoir tank cap tester, apply water or LLC to the reservoir tank cap seal part.
- Check reservoir tank cap relief pressure.

Standard: Refer to CO-46, "Radiator".



- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.

CAUTION:

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

RADIATOR

RADIATOR : Inspection

INFOID:0000000001604875

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

CAUTION:

- **Be careful not to bend or damage radiator fins.**
- **When radiator is cleaned without removal, remove all surrounding parts such as radiator cooling fan assembly and horns. Then tape harness and connectors to prevent water from entering.**

1. Apply water by hose to the back side of the radiator core vertically downward.
2. Apply water again to all radiator core surfaces once per minute.
3. Stop washing if any stains no longer flow out from radiator.
4. Blow air into the back side of radiator core vertically downward.
   - Use compressed air lower than 490 kPa (5 kg/cm^2, 71 psi) and keep distance more than 30 cm (11.8 in).
5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

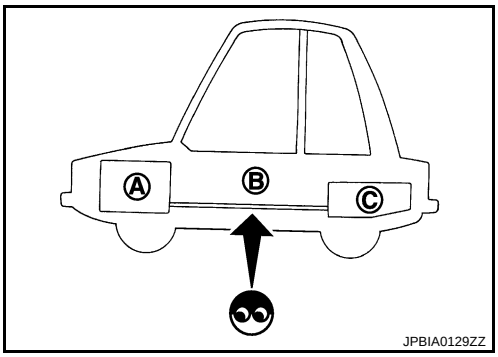
FUEL LINES

FUEL LINES : Inspection

INFOID:0000000001538170

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.

A : Engine
B : Fuel line
C : Fuel tank



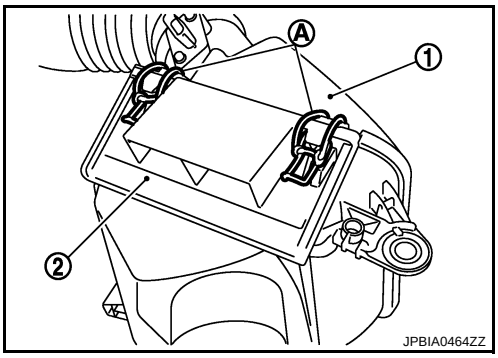
AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

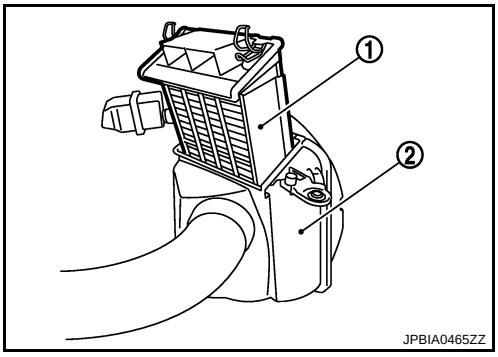
INFOID:0000000001194345

REMOVAL

1. Unhook clips (A) and remove holder (2) from air cleaner case (1).



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



INSTALLATION

Note the following, and install in the reverse order of removal.
- Install the air cleaner filter by aligning the seal with the notch of air cleaner case.

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000001194346

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

1. Warm up the engine, and check for engine oil leakage from engine components. Refer to LU-14, "Inspection".
2. Stop the engine and wait for 10 minutes.

3. Loosen oil filler cap.
4. Remove drain plug and then drain engine oil.

ENGINE OIL : Refilling

INFOID:0000000001194347

1. Install drain plug with new washer. Refer to EM-153, "Exploded View".
   CAUTION:
   Be sure to clean drain plug and install with new washer.

   Tightening torque : Refer to EM-153, "Exploded View".
2. Refill with new engine oil.
   Engine oil specification and viscosity: Refer to MA-27, "Fluids and Lubricants".

   Engine oil capacity : Refer to LU-20, "Periodical Maintenance Specification".

   CAUTION:
   - **The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.**
   - **Always use oil level gauge to determine the proper amount of engine oil in the engine.**
3. Warm up engine and check area around drain plug and oil filter for engine oil leakage.
4. Stop engine and wait for 10 minutes.
5. Check the engine oil level. Refer to LU-14, "Inspection".

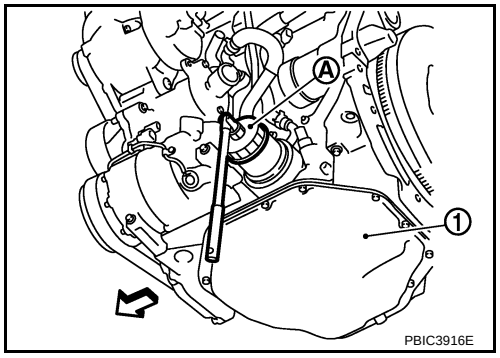
OIL FILTER

OIL FILTER : Removal and Installation

INFOID:0000000001194348

REMOVAL

- Using oil filter wrench [SST: KV10115801] (A), remove oil filter.



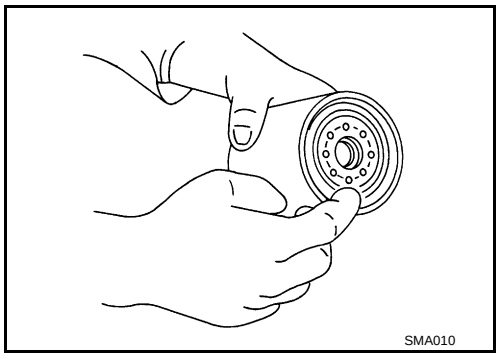
1 : Oil pan (lower)

⇦ : Vehicle front

CAUTION:
- **Oil filter is provided with relief valve. Use Genuine NISSAN Oil Filter or equivalent.**
- **Be careful not to get burned when engine and engine oil may be hot.**
- **When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.**
- **Completely wipe off any engine oil that adheres to engine and vehicle.**

INSTALLATION

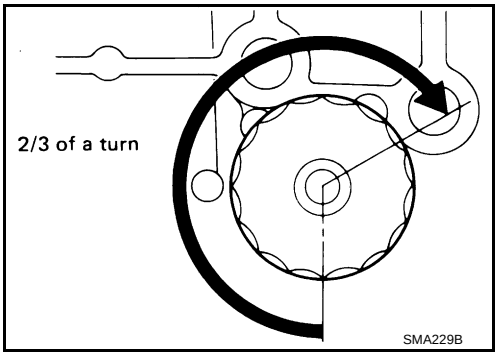
1. Remove foreign materials adhering to the oil filter installation surface.
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



OIL FILTER : Inspection

INFOID:0000000001194349

INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to LU-14, "Inspection".
2. Start the engine, and check there is no leak of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to LU-14, "Inspection".

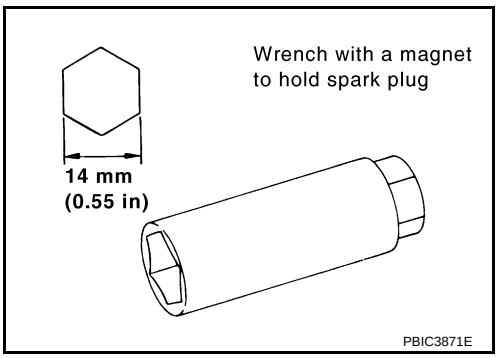
SPARK PLUG

SPARK PLUG : Removal and Installation

INFOID:0000000001194350

REMOVAL

1. Remove ignition coil. Refer to EM-161, "Exploded View".
2. Remove spark plug with a spark plug wrench (commercial service tool).



INSTALLATION

Installation is the reverse order of removal.

SPARK PLUG : Inspection

INFOID:0000000001194351

INSPECTION AFTER REMOVAL

Use the standard type spark plug for normal condition.

Spark plug (standard) : Refer to EM-237, "Spark Plug".

CAUTION:

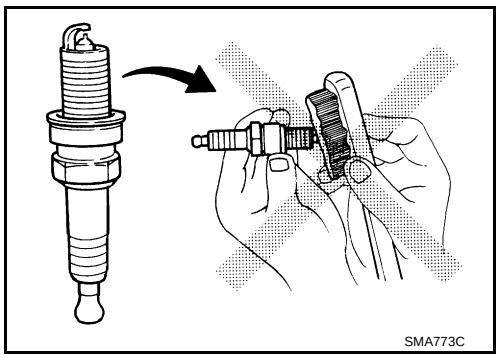
- **Never drop or shock spark plug.**
- **Never use a wire brush for cleaning.**
- **If plug tip is covered with carbon, spark plug cleaner may be used.**

Cleaner air pressure:

Less than 588 kPa (6 kg/cm^2, 85 psi)

Cleaning time:

Less than 20 seconds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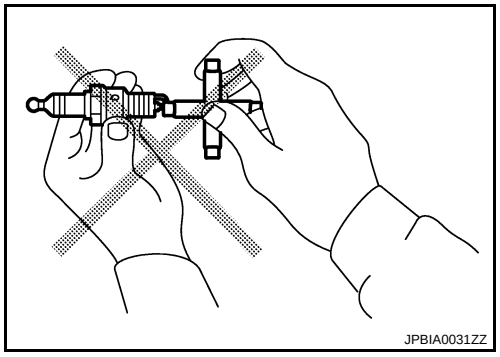
- **Checking and adjusting plug gap is not required between change intervals.**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EVAP VAPOR LINES

EVAP VAPOR LINES : Inspection

INFOID:0000000001194352

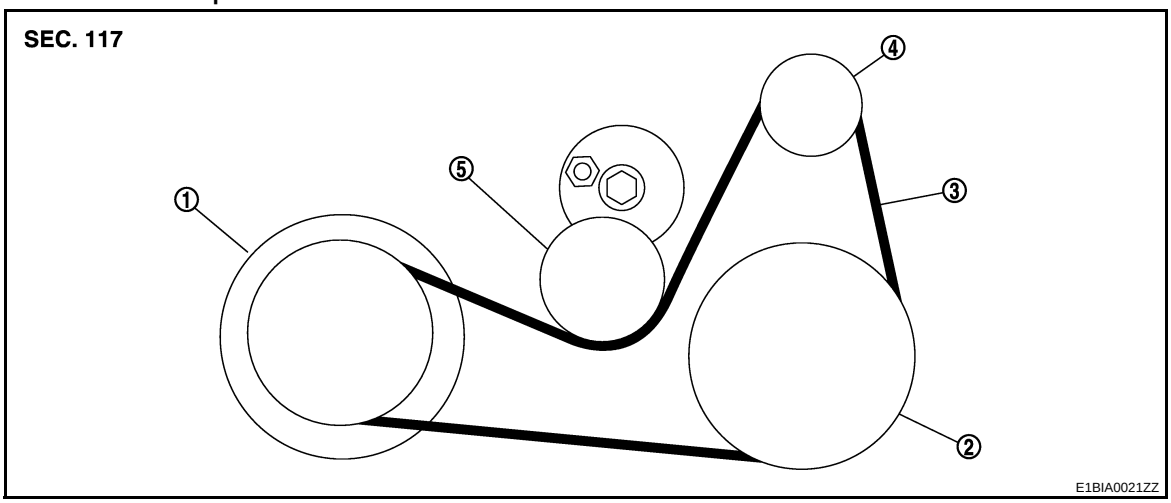
Refer to ECM-351, "Inspection"(WITH EURO-OBD), ECM-626, "Inspection"(WITHOUT EURO-OBD).

ENGINE MAINTENANCE (K9K)

DRIVE BELTS

DRIVE BELTS : Exploded View

INFOID:0000000001194353



1. Crankshaft pulley
2. A/C compressor
3. Drive belt
4. Alternator
5. Drive belt auto-tensioner

DRIVE BELTS : Inspection and Adjustment

INFOID:0000000001194354

INSPECTION

WARNING:

Be sure to perform when the engine is stopped.

1. Inspect belts for cracks, fraying, wear and oil. If necessary, replace.
2. Evaluate manually if the belt is enough tensioned (tension cannot be measured by way of frequency meter).
3. When drive belt is considered as not enough tensioned, replace it.
   CAUTION:
   Auto-tensioner must be replaced with a new one when the belt is replaced.

ADJUSTMENT

Refer to EM-330, "Drive Belt".

Belt tensioning is not necessary, as it is automatically adjusted by auto-tensioner.

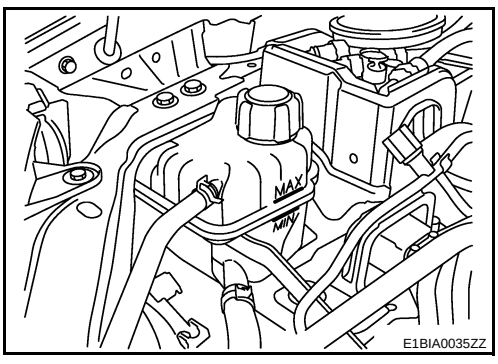
ENGINE COOLANT

ENGINE COOLANT : Inspection

INFOID:0000000001194355

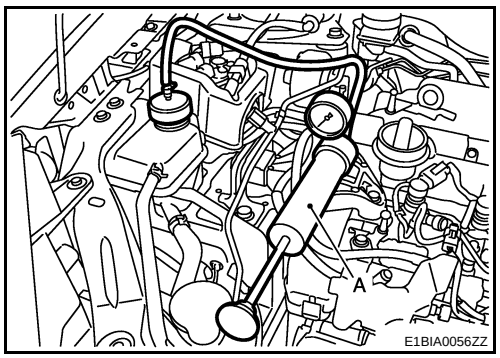
LEVEL

1. Check if the reservoir tank coolant level is within MIN to MAX when engine is cool.
2. Adjust coolant if too much or too little.



LEAKAGE

- To check for leakage, fit the adapter to the reservoir tank, and then connect it to the tester [SST: — (M.S. 554-07)] (A) as shown.
- Warm up the engine and turn it off.
- To check for leaks, apply pressure to the cooling system with the radiator cap tester and radiator reservoir cap tester adapter.



Testing pressure : Refer to CO-64, "Radiator".

- If the pressure drops, look for leakage.
- Unscrew slowly the adapter from the reservoir tank to reduce the pressure in cooling system, and install the reservoir tank cap.

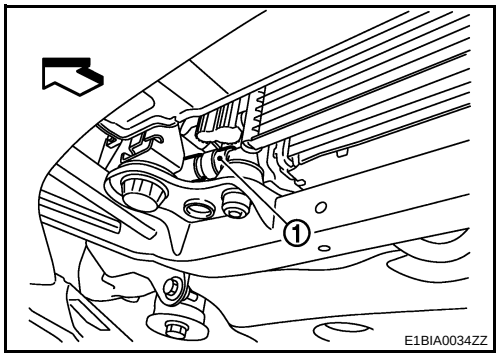
WARNING:
Never remove the radiator cap when the engine is hot. Serious burns could occur from high pressure engine coolant escaping from the radiator.
CAUTION:
Higher pressure than specified may cause radiator damage.

ENGINE COOLANT : Draining

INFOID:0000000001194356

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.**

1. Remove engine undercover.
2. Disconnect reservoir tank hose (lower) (1) from radiator and remove reservoir tank cap.
3. Remove air relief plug from water outlet. Refer to CO-62, "Exploded View".
4. Remove reservoir tank, then clean reservoir tank.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system. Refer to CO-53, "Flushing".

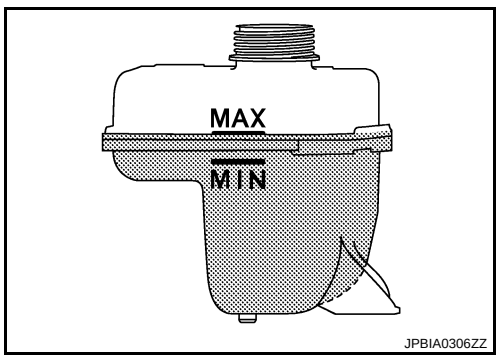


ENGINE COOLANT : Refilling

INFOID:0000000001604880

- **Before start working, turn off the automatic air conditioner and the blower motor.**

1. Install reservoir tank, lower radiator hose and air relief plug.
2. Fill reservoir tank slowly with coolant until coolant spills from the air relief hole. Refer to CO-62, "Exploded View".
   - **Put a cloth under the air relief plug to prevent engine coolant to dampen the crankshaft position sensor.**
   - Pour coolant to the MAX level line of the reservoir tank at a rate of 2 liter (1-3/4 lmp qt)/min or lower.
3. Close the air relief plug.
   CAUTION:
   If the filling rate is too fast, this could lead to air being mixed in the coolant. Be sure to fill the coolant slowly according to the rate indicated above.
   Use Genuine NISSAN Engine Coolant or equivalent in its quality mixed with water (distilled or demineralized). Refer to MA-29, "Engine Coolant Mixture Ratio".



Engine coolant capacity (With reservoir tank)	**: Refer to CO-64, "Periodical Maintenance Specification".**
Reservoir tank capacity	**: Refer to CO-64, "Periodical Maintenance Specification".**

4. Start engine without closing reservoir tank cap and keep engine racing at 1,500 rpm for about 2-3 minutes. If necessary, pour engine coolant up to MAX level.
   - **If coolant overflows reservoir tank hole, install filler cap.**
   - **Watch engine coolant temperature gauge so as not overheat the engine during all of the operation.**

   WARNING:
   - **Be careful not be scaled with hot engine coolant or vacuum pump when operating.**
   - **Radiator fan blade can start at any time and make personal injuries.**
5. Turn off the engine and loose air relief plug until coolant spills from air relief hole.
6. Close the air relief plug and run the engine at 2,000 rpm until the upper hose comes hot and radiator fan operates. Let the engine running approximately 5 minutes at idle speed and check for sound of coolant flow while running engine from idle up to 3,000 rpm.
   - Sound may be noticeable at heater water cock.
7. If sound is heard, bleed air from cooling system by repeating steps 4 to 6 until coolant lever no longer drops.
   - Check the radiator lower hose for any signs of leakage.
8. Turn off the engine and let it cool down.
   - Cool down using a fan to reduce the time.
9. After cooling period, loose the air relief plug and check if coolant spills from the air relief hole. In other case, remove the air relief plug until the coolant spills, and then close the relief air plug. Bleed air from cooling system by repeating steps 6 to 10 until the coolant spills immediately.
10. Check the engine coolant level when engine is cool and refill to MAX level line if the level is lower.
    - Clean excess coolant from engine.
11. Check that the reservoir tank cap is tightened.

ENGINE COOLANT : Flushing

INFOID:0000000001194358

1. Fill reservoir tank with water until water spills from the air relief hole, then close air relief plug. Reinstall reservoir tank cap.
2. Run engine and warm it up to normal operating temperature.
3. Rev engine two or three times under no-load.
4. Stop engine and wait until it cools down.
5. Drain water.
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.
7. Blow compressed air into cooling circuit through the reservoir tank valve hole to drain all the water.

RADIATOR CAP

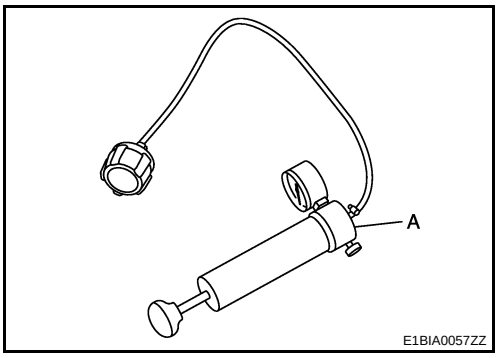
RADIATOR CAP : Inspection

INFOID:0000000001194359

- Fit the adapter to the tester as shown.
- When connecting the reservoir tank cap to the tester [SST: — (M.S. 554-07)] (A), apply water or LLC to the cap seal part.
- Check reservoir tank cap relief pressure.

Standard : Refer to CO-64, "Radiator".

- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.



RADIATOR

RADIATOR : Inspection

INFOID:0000000001194360

Check radiator for mud or clogging. If necessary, clean radiator as follows.
- Be careful not to bend or damage the radiator fins.
- When radiator is cleaned without removal, remove all surrounding parts such as radiator fan, radiator shroud and horns. Then tape the harness and connectors to prevent water from entering.

1. Apply water by hose to the back side of the radiator core vertically downwards.
2. Apply water again to all radiator core surface once per minute.
3. Stop washing if any stains no longer flow out from the radiator.
4. Blow air into the back side of radiator core vertically downwards.

- Use compressed air lower than 490 kPa (4.9 bar 5 kg/cm^2, 71psi) and keep distance more than 30 cm (11.8 in).

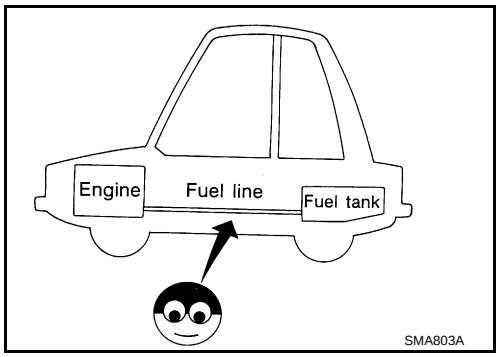
5. Blow air again into all the radiator core surface once per minute until no water sprays out.

FUEL LINES

FUEL LINES : Inspection

INFOID:0000000001538171

Inspect fuel lines and tank for improper attachment, leaks, cracks, damage, chafing and deterioration.If necessary, repair or replace.



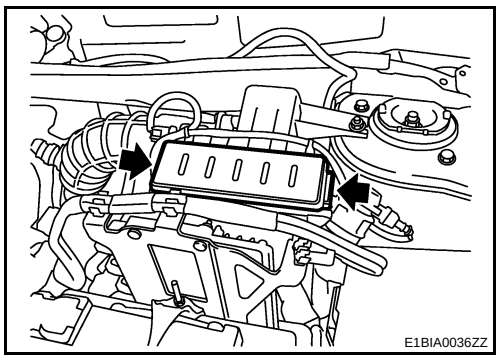
AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

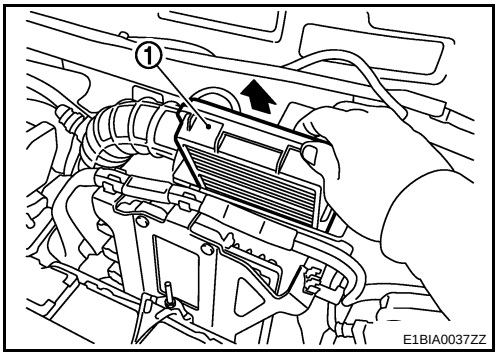
INFOID:0000000001194362

REMOVAL

1. Open air cleaner case.



2. Remove air cleaner filter (1).



INSTALLATION

Install in the reverse order of removal.

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000001194363

WARNING:

- **Be careful not to burn yourself, as the engine oil is 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. Put vehicle horizontally.
2. Warm up engine, and check for oil leakage from engine components.
3. Stop engine and wait for 10 minutes.
4. Loosen oil filler cap.
5. Remove drain plug and then drain engine oil.

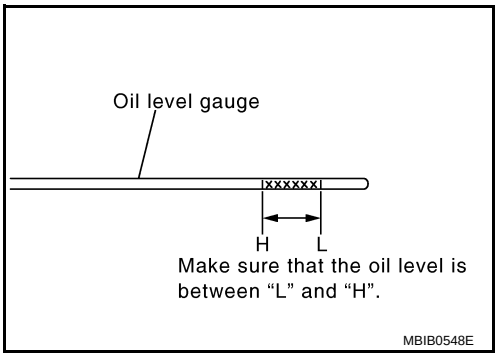
ENGINE OIL : Refilling

INFOID:0000000001194364

1. Refill with new engine oil.
   - Refer to MA-27, "Fluids and Lubricants".

Oil capacity (Approximate)

: Refer to LU-30, "Periodical Maintenance Specification".



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

CAUTION:

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

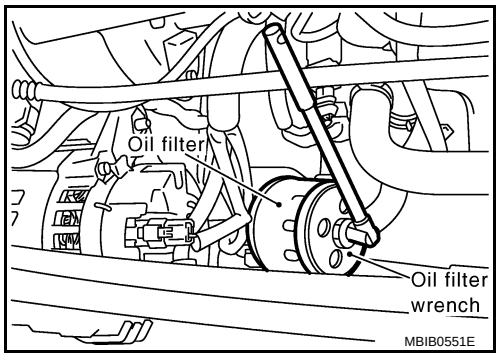
2. Warm up engine and check area around drain plug and oil filter for oil leakage.
3. Stop engine and wait for 10 minutes.
4. Check oil level.

OIL FILTER

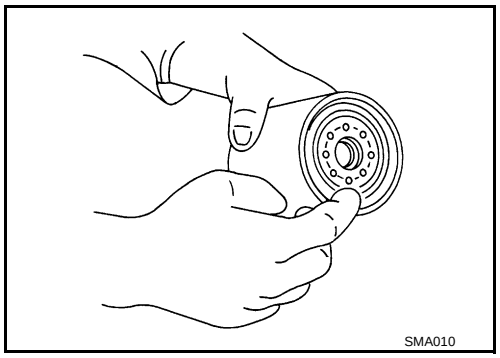
OIL FILTER : Replacement

INFOID:0000000001194365

1. Using an oil filter wrench [SST: KV113C0010 (Mot. 1329)], remove oil filter.
   CAUTION:
   - **Be careful not to get burned when the engine and engine oil are 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 adhere to the engine and the vehicle.**



2. Remove foreign materials adhering to the oil filter installation surface.
3. Install oil filter bracket to oil cooler.
   CAUTION:
   Install oil filter bracket, positioning lug in the hole of oil cooler.
4. Apply engine oil to the oil seal contact surface of the new oil filter.
5. Install the oil filter until it comes into contact with the oil seal on the engine bracket.
6. Using an oil filter wrench [SST: KV113C0010 (Mot. 1329)], tighten oil filter.



   : 14 N·m (1.4 kg-m, 10 ft-lb)
7. After warming up the engine, check for engine oil leakage.
8. Check oil level and add engine oil. Refer to LU-23.

OIL FILTER : Inspection

INFOID:0000000001604881

INSPECTION AFTER INSTALLATION

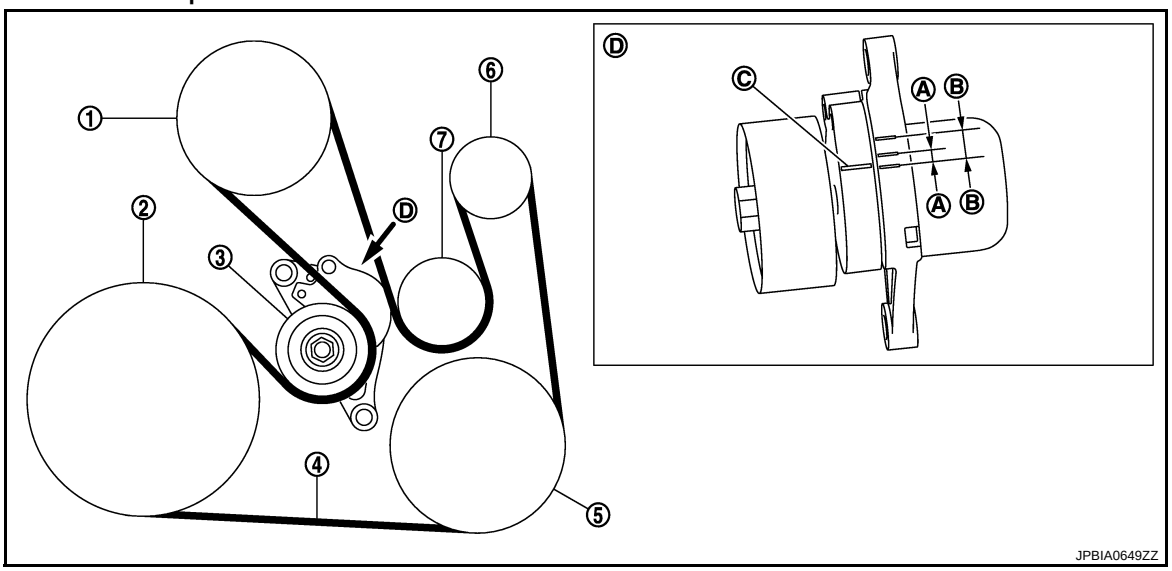
1. Check the engine oil level. Refer to LU-23, "Inspection".
2. Start the engine, and check there is no leak of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check the engine oil level, and adjust the level. Refer to LU-23, "Inspection".

ENGINE MAINTENANCE (M9R)

DRIVE BELT

DRIVE BELT : Exploded View

INFOID:0000000001538172



1. Water pump
2. Crankshaft pulley
3. Drive belt auto-tensioner
4. Drive belt
5. A/C compressor
6. Alternator
7. Idler pulley

A. Range when new drive belt is installed
B. Possible use range
C. Indicator
D. View

DRIVE BELT : Checking

INFOID:0000000001538173

WARNING:

Be sure to perform this step when the engine is stopped.

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

  NOTE:

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

  CAUTION:

  Drive belt auto-tensioner and idler pulley must be replaced with new ones when the drive belt is replaced.

DRIVE BELT : Tension Adjustment

INFOID:0000000001538174

Refer to MA-85, "DRIVE BELTS (M9R) : Drive Belts".

ENGINE COOLANT

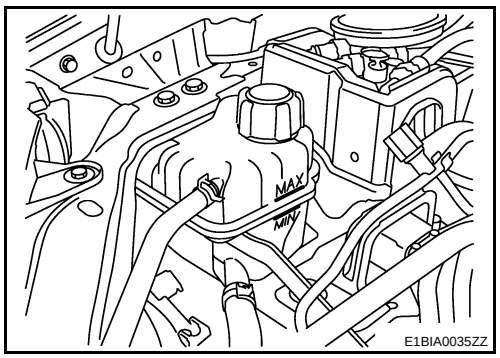
ENGINE COOLANT : Inspection

INFOID:0000000001604882

LEVEL

- Check if the reservoir tank engine coolant level is within the “MIN” to “MAX” when the engine is cool.
- Adjust the engine coolant level as necessary.
- Check that the reservoir tank cap is tightened.

WARNING:
Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.

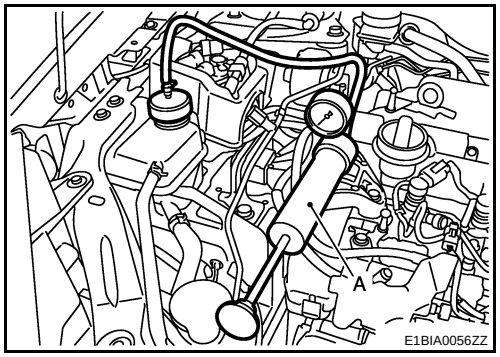


LEAKAGE

- To check for leakage, fit the adapter to the reservoir tank, and then connect it to the reservoir tank cap tester [SST: — (M.S.554-07)] (A) as shown.

Testing pressure: Refer to CO-23, "Radiator".

WARNING:
Never remove reservoir tank cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from reservoir tank.
CAUTION:
Higher test pressure than specified may cause radiator damage.



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

ENGINE COOLANT : Draining

INFOID:0000000001604883

WARNING:
- **Never remove reservoir tank cap when engine is hot. Serious burns may occur from high-pressure engine coolant escaping from radiator and reservoir tank.**
- **Wrap a thick cloth around the caps. Slowly turn it a quarter of a turn to release built-up pressure. Then turn it all the way.**

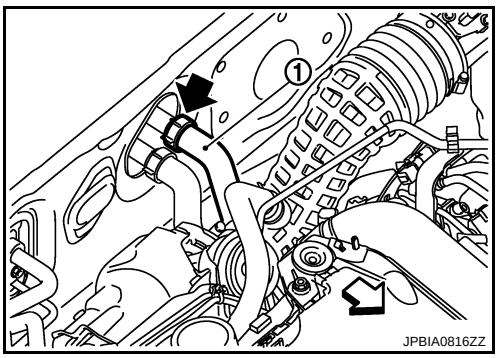
1. Remove engine undercover.
2. Disconnect radiator hose (lower), and then remove reservoir tank cap. Refer to CO-75, "Exploded View".
   CAUTION:
   Perform this step when engine is cold.
3. Remove reservoir tank if necessary, and drain engine coolant and clean reservoir tank before installing.
   - Removal of engine mounting insulator (RH) is necessary. Refer to EM-403, "Exploded View".
4. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to MA-54, "ENGINE COOLANT : Flushing".

ENGINE COOLANT : Refilling

INFOID:0000000001604884

1. Install reservoir tank if removed.
2. Connect radiator hose (lower). Refer to CO-75, "Exploded View".
3. Make sure that each hose clamp has been firmly tightened.

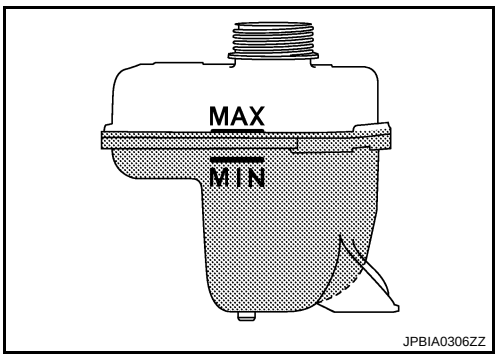
4. Disconnect heater hose (1) at position (⬅) in the figure.



⇦ : Vehicle front

- Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.

5. Fill reservoir tank to specified level.
   - Pour coolant slowly of less than 2 ℓ (1-3/4 lmp qt) a minute to allow air in system to escape.
   - When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
   - Start engine without closing reservoir tank cap.
   - Keep engine racing at 1,500 rpm for about 2-3 minutes, filling reservoir tank up to MAX. Level, if necessary.
   - Use Genuine Nissan Engine Coolant or equivalent mixed with water (distilled or demineralized). Refer to MA-27, "Fluids and Lubricants".



Engine coolant capacity
(With reservoir tank at “MAX” level)
Refer to CO-23, "Periodical Maintenance Specification".

Reservoir tank engine coolant capacity
(At “MAX” level)
Refer to: CO-23, "Periodical Maintenance Specification".

6. Install reservoir tank cap.
7. Warm up engine until opening thermostat. Standard for warming-up time is approximately 10 minutes at 2,000 - 2,500 rpm.
   - Make sure thermostat opening condition by touching radiator hose (lower) to see a flow of warm water.

   CAUTION:
   Watch water temperature gauge so as not to overheat engine.
8. Stop the engine and cool down to less than approximately 50°C (122°F).
   - Cool down using fan to reduce the time.
9. Refill reservoir tank to “MAX” level line with engine coolant, if necessary.
10. Repeat steps 6 through 9 two or more times with reservoir tank cap installed until reservoir tank level no longer drops.
11. Check cooling system for leaks with engine running.
12. Warm up the engine, and check for sound of engine coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between “COOL” and “WARM”.
    - Sound may be noticeable at heater unit.
13. Repeat step 12 three times.
14. If sound is heard, bleed air from cooling system by repeating step 6 through 9 until reservoir tank level no longer drops.
15. Check that the reservoir tank cap is tightened.

ENGINE COOLANT : Flushing

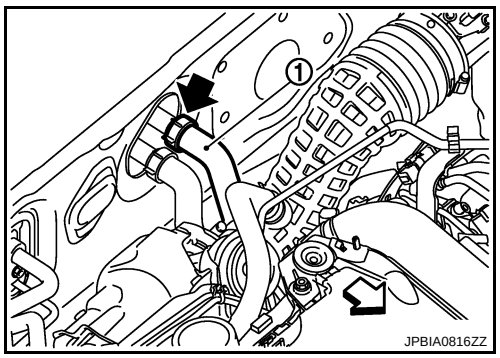
INFOID:0000000001604885

1. Install reservoir tank if removed.
2. Connect radiator hose (lower). Refer to CO-75, "Exploded View".

3. Disconnect heater hose (1) at position (⬅) in the figure.

⇦ : Vehicle front

- Enhance heater hose as high as possible, keeping heater hose end above reservoir tank MAX level.



4. Fill reservoir tank with water.
   - When coolant from heater unit starts to drain, connect heater hose and continue to fill up to reservoir tank MAX level.
5. Install reservoir tank cap.
6. Run the engine and warm it up to normal operating temperature.
7. Rev the engine two or three times under no-load.
8. Stop the engine and wait until it cools down.
9. Drain water from the system. Refer to CO-9, "Draining".
10. Repeat steps 1 through 9 until clear water begins to drain from radiator.
11. Check that the reservoir tank cap is tightened.

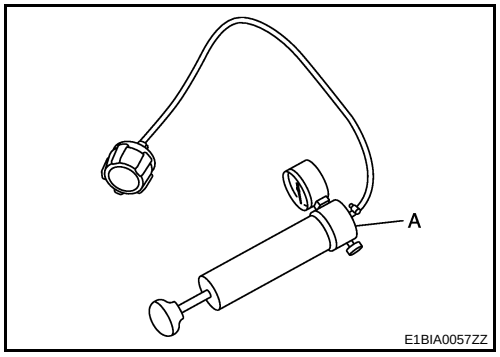
RESERVOIR TANK CAP

RESERVOIR TANK CAP : Inspection

INFOID:0000000001605850

- Fit the adapter to the reservoir tank cap tester [SST: — (M.S. 554-07)] (A) as shown.
- When connecting the reservoir tank cap to the reservoir tank cap tester, apply water or LLC to the reservoir tank cap seal part.
- Check reservoir tank cap relief pressure.

Standard: Refer to CO-86, "Radiator".



- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.

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

RADIATOR

RADIATOR : Inspection

INFOID:0000000001538181

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

CAUTION:
- **Be careful not to bend or damage radiator fins.**
- **When radiator is cleaned without removal, remove all surrounding parts such as radiator cooling fan assembly and horns. Then tape harness and connectors to prevent water from entering.**

1. Apply water by hose to the back side of the radiator core vertically downward.
2. Apply water again to all radiator core surfaces once per minute.
3. Stop washing if any stains no longer flow out from radiator.
4. Blow air into the back side of radiator core vertically downward.
   - Use compressed air lower than 490 kPa (4.9 bar, 5 kg/cm^2, 71 psi) and keep distance more than 30 cm (11.8 in).
5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

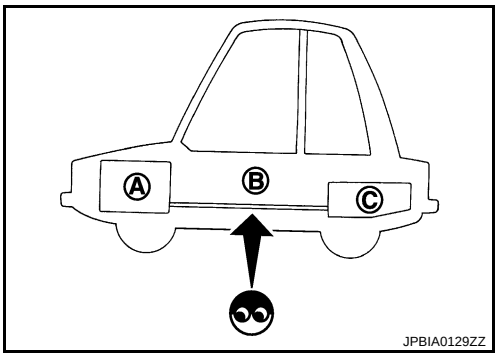
FUEL LINES

FUEL LINES : Inspection

INFOID:0000000001538182

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

A : Engine
B : Fuel line
C : Fuel tank

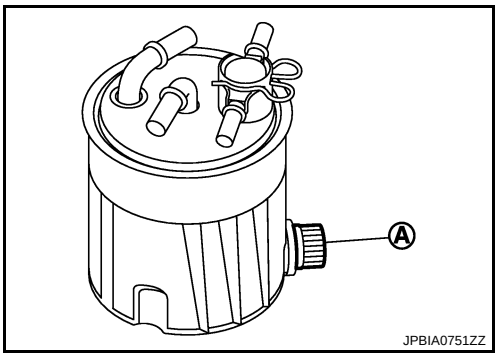


FUEL FILTER

FUEL FILTER : Water Draining

INFOID:0000000001538183

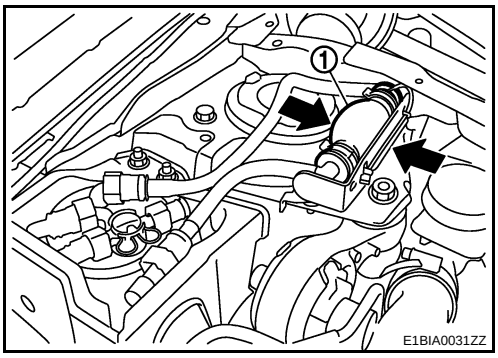
1. Connect drain hose (suitable hose) to the end of drain plug (A).
2. Prepare a tray at the drain plug open end.
3. Loosen drain plug, and operate priming bulb to drain water from fuel filter.
   CAUTION:
   - **Water in filter is drained with fuel. Prepare larger capacity pan than fuel filter volume.**
   - **Drained water is mixed with fuel. Prevent fuel from adhering to rubber parts such as engine mounting insulator.**
4. After draining, close drain plug by hand.
   CAUTION:
   If drain plug is tightened excessively, it may be damaged and fuel will leak. Never use tools to tighten drain plug.
5. Bleed air in fuel piping. Refer to FL-33, "Air Bleeding".
6. Start engine and check there is no fuel leakage.



FUEL FILTER : Air Bleeding

INFOID:0000000001605851

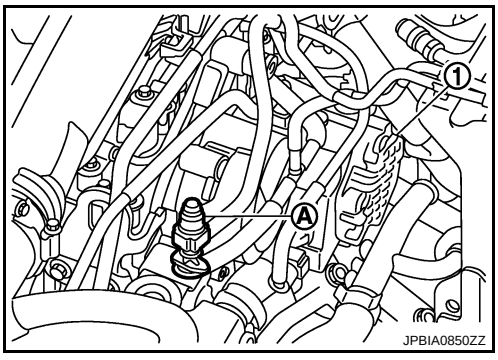
1. Prime the circuit using the priming bulb (1).
2. Perform engine cranking with repeating several times until engine starting.



3. If the engine does not start, disconnect the quick connector (A) on the fuel hose (return).

   1 : Fuel pump

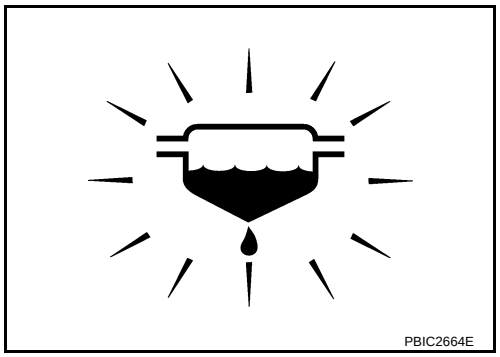
4. When the bleeding is completed, connect the quick connector, and check absence of leakage.



FUEL FILTER : Fuel Filter Sensor (With Fuel Filter Warning)

INFOID:0000000001538184

- Drain water from fuel filter, when the fuel filter warning lamp turns ON. Refer to MA-56, "FUEL FILTER : Water Draining".



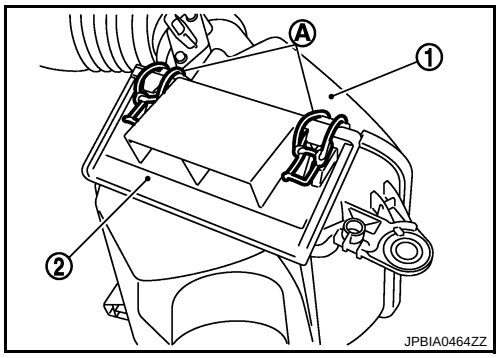
AIR CLEANER FILTER

AIR CLEANER FILTER : Removal and Installation

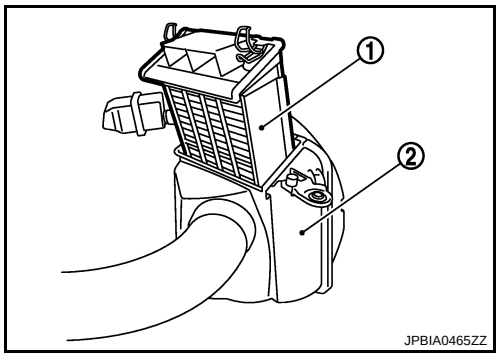
INFOID:0000000001538185

REMOVAL

1. Unhook clips (A) and remove holder (2) from air cleaner case (1).



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



INSTALLATION

Install in the reverse order of removal.

ENGINE OIL

ENGINE OIL : Draining

INFOID:0000000001538186

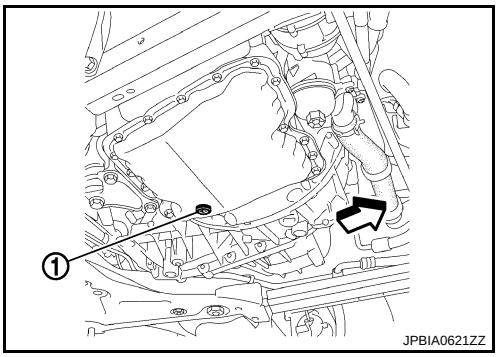
WARNING:

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

1. Warm up the engine, and check for engine oil leakage from engine components. Refer to LU-33, "Inspection".
2. Stop the engine and wait for 10 minutes.
3. Remove engine undercover.

4. Loosen oil level gauge.
5. Remove oil pan drain plug (1) using a square driver [8 mm (0.315 in)]. Drain engine oil.

⇦ : Vehicle front



ENGINE OIL : Refilling

INFOID:0000000001538187

1. Install drain plug with new washer.
   CAUTION:
   Be sure to clean drain plug and install with new washer.

   Tightening torque : Refer to EM-371, "Exploded View".
2. Refill with new engine oil.
   Engine oil specification and viscosity: Refer to MA-27, "Fluids and Lubricants".

   Engine oil capacity : Refer to MA-87, "ENGINE OIL (M9R) : Periodical Maintenance Specification".

   CAUTION:
   - **The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.**
   - **Always use oil level gauge to determine the proper amount of engine oil in the engine.**
3. Warm up engine and check area around drain plug and oil filter body for engine oil leakage.
4. Stop engine and wait for 10 minutes.
5. Check the engine oil level. Refer to LU-33, "Inspection".

OIL FILTER

OIL FILTER : Removal and Installation

INFOID:0000000001538188

REMOVAL

WARNING:
Be careful not to get burned when engine and engine oil may be hot.
CAUTION:
- **When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.**
- **Completely wipe off any engine oil that adheres to engine and vehicle.**

1. Remove engine undercover.
2. Loosen oil filter body assembly using a socket [27 mm (1.06 in)].
3. Remove oil filter body, and then remove oil filter and O-ring.
   CAUTION:
   Completely wipe clean any engine oil remaining on oil filter body or vehicle.

INSTALLATION

1. Completely remove all foreign objects adhering to the inside of oil filter body or O-ring mounting area.
2. Install oil filter and O-ring to oil filter body.
3. Install oil filter body assembly to oil cooler.

Tightening torque: Refer to LU-36, "Exploded View".

OIL FILTER : Inspection

INFOID:0000000001538189

INSPECTION AFTER INSTALLATION

1. Check that the engine oil level. Refer to LU-33, "Inspection".
2. Start the engine, and check that there is no leak of engine oil.
3. Stop the engine and wait for 10 minutes.
4. Check that the engine oil level, and adjust the level. Refer to LU-33, "Inspection".

CHASSIS MAINTENANCE

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - LHD)

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - LHD) : Description

INFOID:0000000001604887

PREPARATION BEFORE ADJUSTING

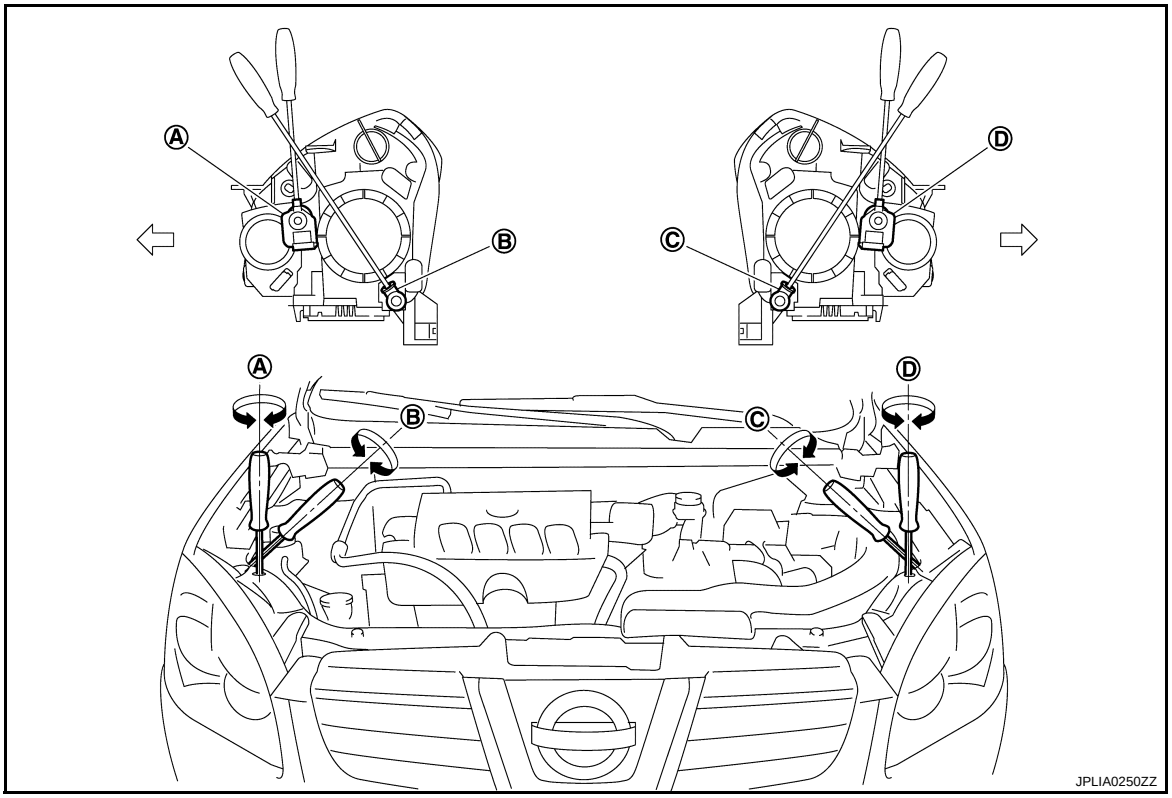
NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw
B. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw

⇦: Vehicle center

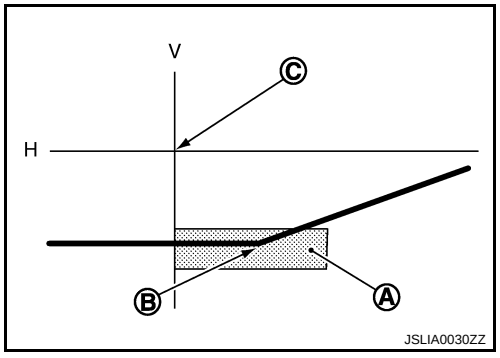
Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
C	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
D	Headlamp LH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - LHD) : Aiming Adjustment Procedure

INFOID:0000000001604888

1. Place the screen.
   NOTE:
   - Stop the vehicle at the perpendicular angle to the wall.
   - Set the screen perpendicularly to the ground.
2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).
3. Start the engine and illuminate the headlamp (LO).
   NOTE:
   Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.
   CAUTION:
   Never cover lens surface with tape, etc. because it is made from plastic.
4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

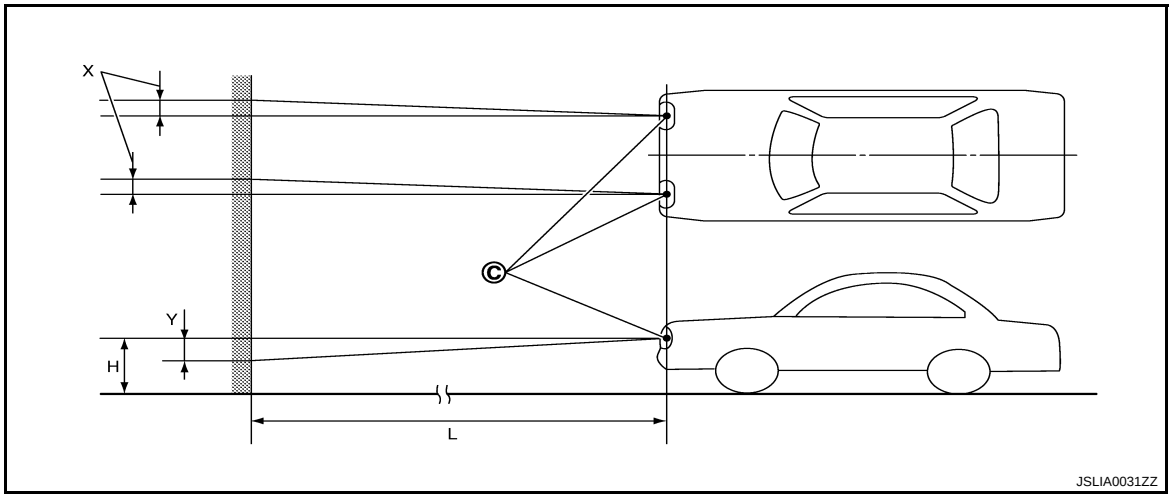
Low beam distribution on the screen



A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp

Unit: mm (in)

Aiming adjustment area	
Vertical direction (Y) (Lower side from headlamp center height)	Lateral direction (X) (Right side from headlamp centerline)
100 – 124 (3.94 – 4.88)	Within 120 (4.72)



C. Vertical center line of headlamp
H. Horizontal center line of headlamp
L. Distance from headlamp center to screen
X. Aiming adjustment area (lateral)
Y. Aiming adjustment area (Vertical)

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - RHD)

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - RHD) : Description

INFOID:0000000001604889

PREPARATION BEFORE ADJUSTING

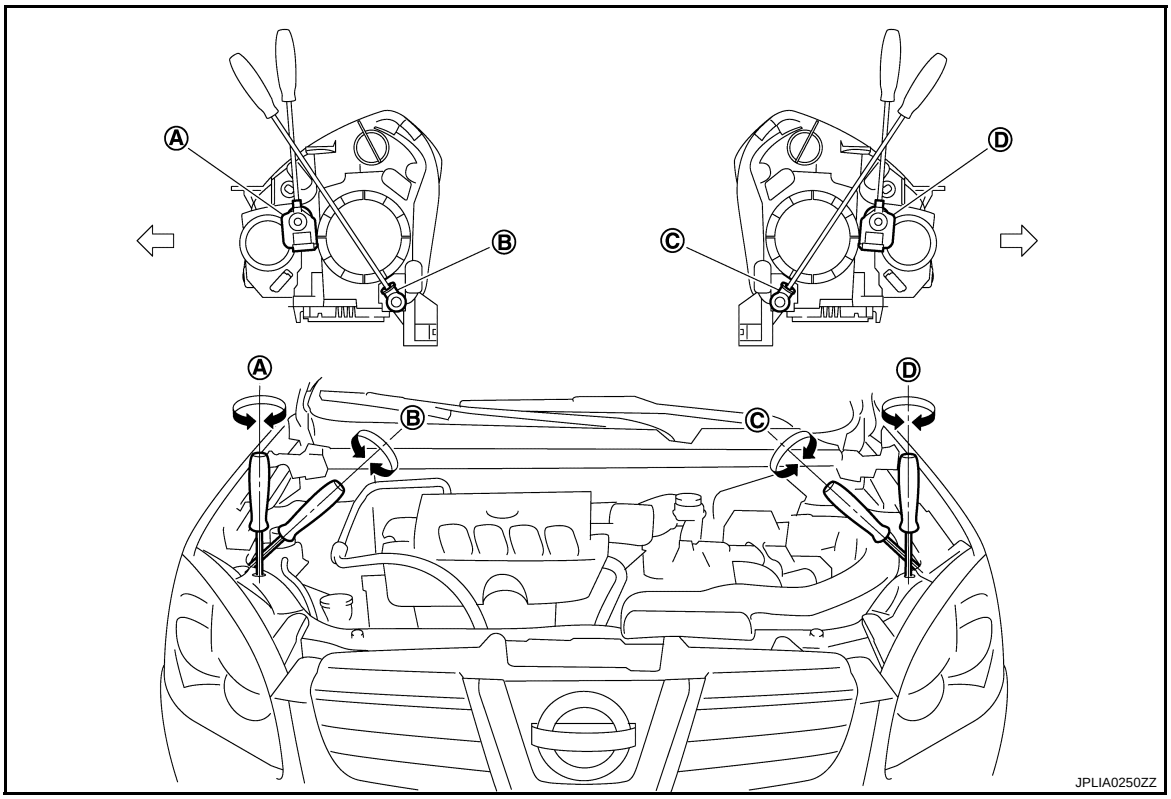
NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw
B. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw

⇦: Vehicle center

Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
C	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
D	Headlamp LH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT (XENON TYPE - RHD) : Aiming Adjustment Procedure

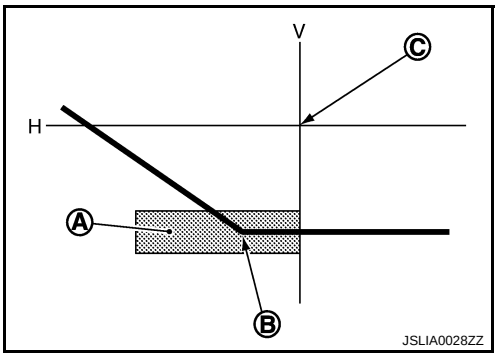
INFOID:0000000001604890

1. Place the screen.
   NOTE:
   • Stop the vehicle at the perpendicular angle to the wall.
   • Set the screen perpendicularly to the ground.
2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).
3. Start the engine and illuminate the headlamp (LO).
   NOTE:
   Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.

CAUTION:
Never cover lens surface with tape, etc. because it is made from plastic.

4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

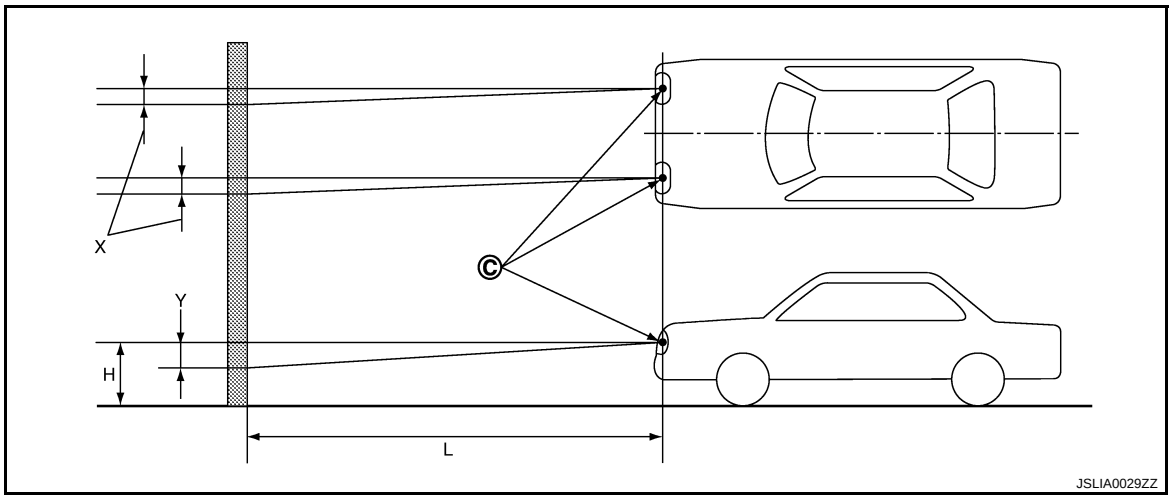
Low beam distribution on the screen



A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp

Unit: mm (in)

Aiming adjustment area	
Vertical direction (Y) (Lower side from headlamp center height)	Lateral direction (X) (Left side from headlamp centerline)
100 – 124 (3.94 – 4.88)	Within 120 (4.72)



C. Vertical center line of headlamp
H. Horizontal center line of headlamp
L. Distance from headlamp center to screen
X. Aiming adjustment area (lateral)
Y. Aiming adjustment area (Vertical)

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - LHD)

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - LHD) : Description

INFOID:0000000001604891

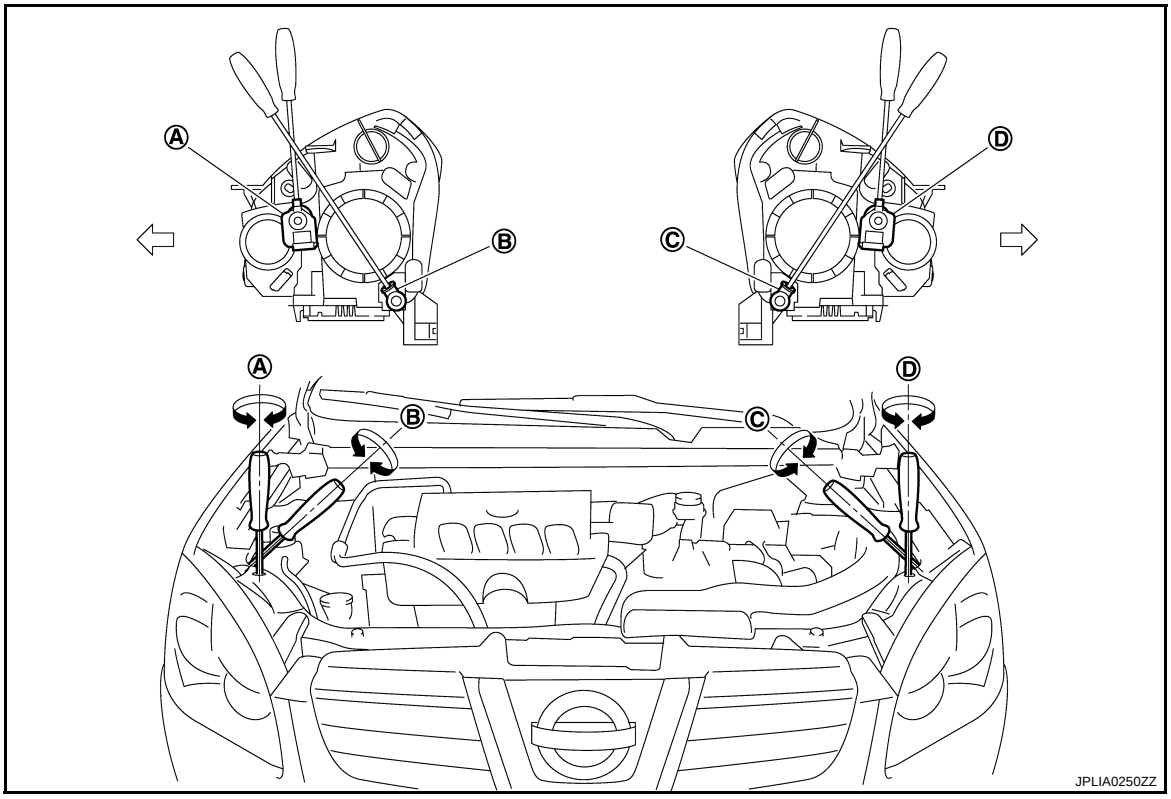
PREPARATION BEFORE ADJUSTING
NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.
- Headlamp aiming switch sets to “0”.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw
B. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw

⇦: Vehicle center

Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE

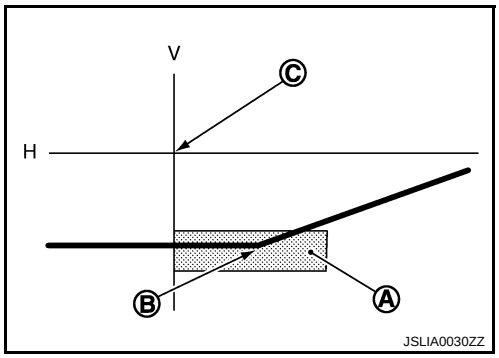
Adjustment screw		Screw driver rotation	Facing direction
C	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
D	Headlamp LH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - LHD) : Aiming Adjustment Procedure

INFOID:0000000001604892

1. Place the screen.
   NOTE:
   • Stop the vehicle at the perpendicular angle to the wall.
   • Set the screen perpendicularly to the ground.
2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).
3. Start the engine and illuminate the headlamp (LO).
   NOTE:
   Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.
   CAUTION:
   Never cover lens surface with tape, etc. because it is made from plastic.
4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

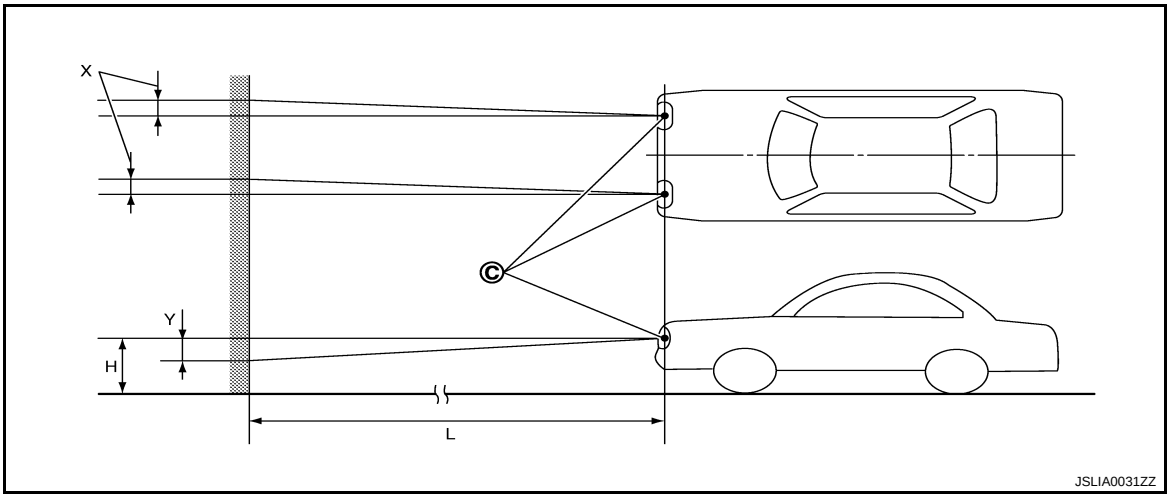
Low beam distribution on the screen



A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp

Unit: mm (in)

Aiming adjustment area	
Vertical direction (Y) (Lower side from headlamp center height)	Lateral direction (X) (Right side from headlamp centerline)
100 – 124 (3.94 – 4.88)	Within 120 (4.72)



C. Vertical center line of headlamp
H. Horizontal center line of headlamp
L. Distance from headlamp center to screen
X. Aiming adjustment area (lateral)
Y. Aiming adjustment area (Vertical)

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - RHD)

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - RHD) : Description

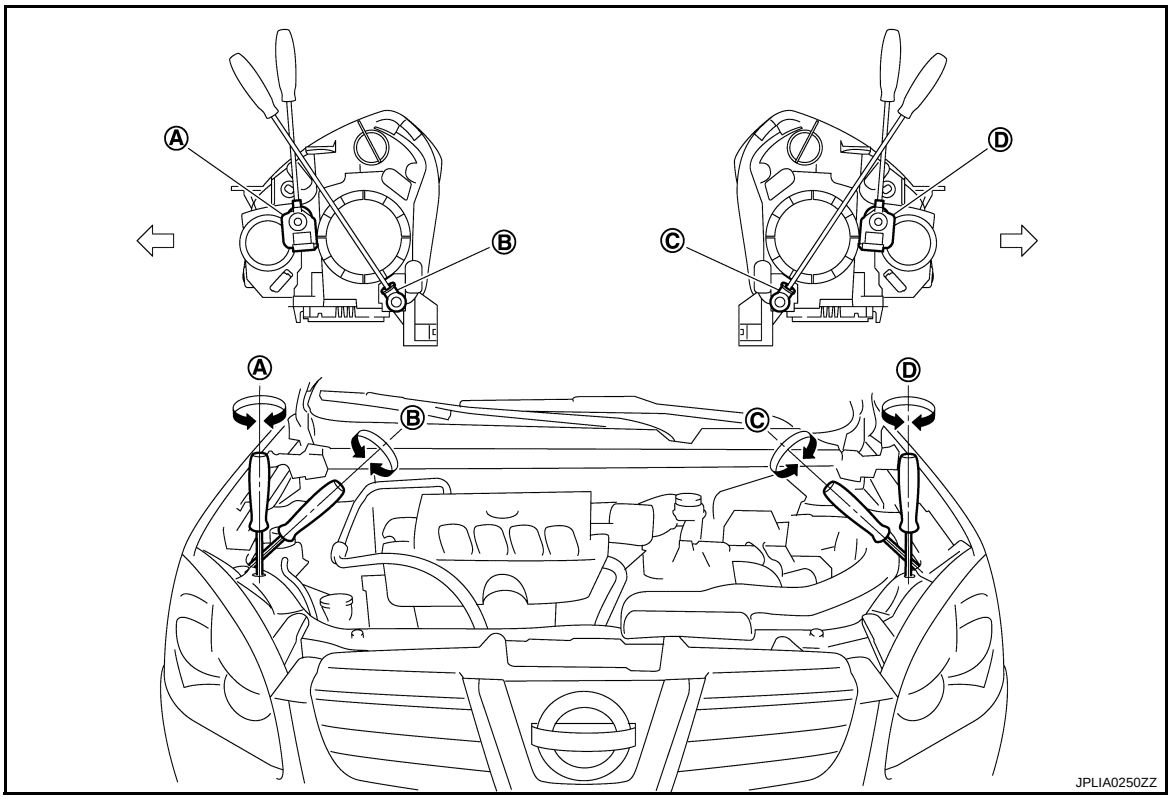
INFOID:0000000001604893

PREPARATION BEFORE ADJUSTING

NOTE:
- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.
- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.
- Headlamp aiming switch sets to “0”.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw
B. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw

⇦: Vehicle center

Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
C	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
D	Headlamp LH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT (HALOGEN TYPE - RHD) : Aiming Adjustment Procedure

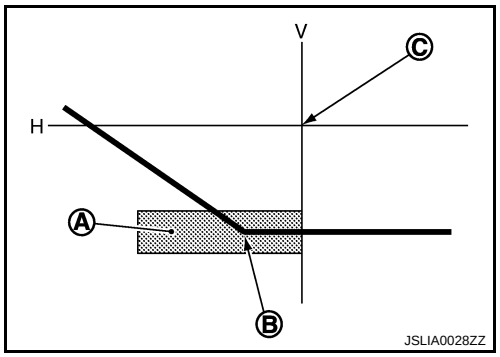
INFOID:0000000001604894

1. Place the screen.
   NOTE:
   • Stop the vehicle at the perpendicular angle to the wall.
   • Set the screen perpendicularly to the ground.
2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).
3. Start the engine and illuminate the headlamp (LO).
   NOTE:
   Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.

CAUTION:
Never cover lens surface with tape, etc. because it is made from plastic.

4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

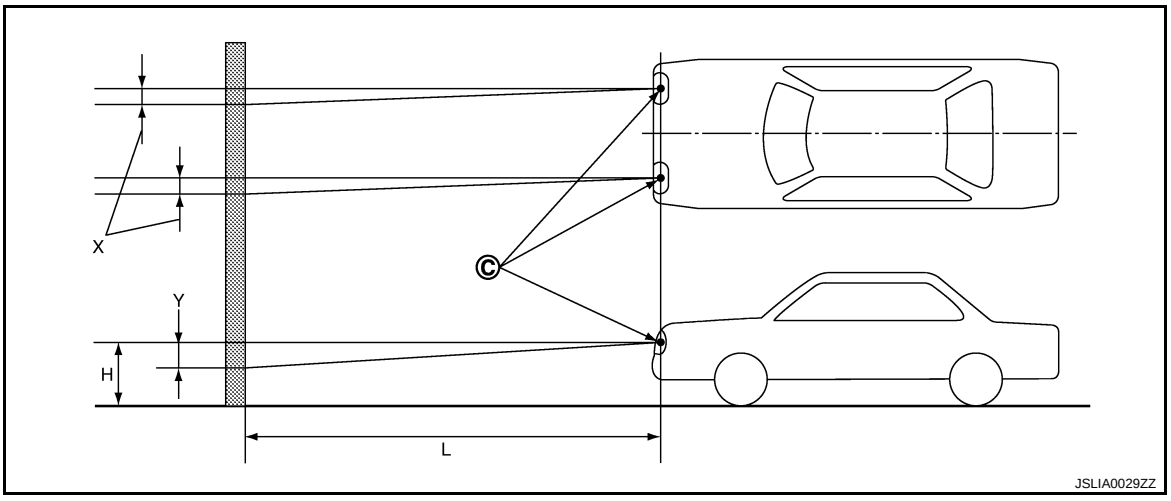
Low beam distribution on the screen



A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp

Unit: mm (in)

Aiming adjustment area	
Vertical direction (Y) (Lower side from headlamp center height)	Lateral direction (X) (Left side from headlamp centerline)
100 – 124 (3.94 – 4.88)	Within 120 (4.72)



C. Vertical center line of headlamp
H. Horizontal center line of headlamp
L. Distance from headlamp center to screen
X. Aiming adjustment area (lateral)
Y. Aiming adjustment area (Vertical)

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

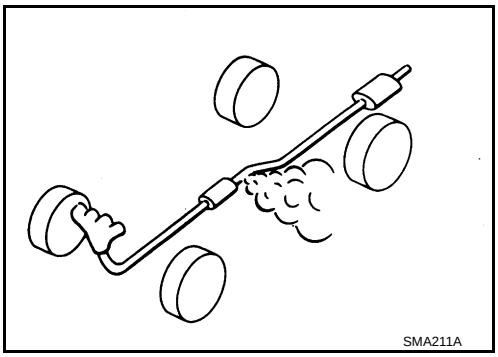
EXHAUST SYSTEM

EXHAUST SYSTEM : Inspection

INFOID:0000000001538190

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

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


SMA211A

CVT FLUID

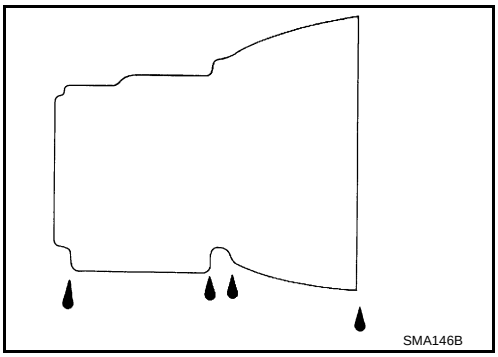
CVT FLUID : Inspection

INFOID:0000000001194375

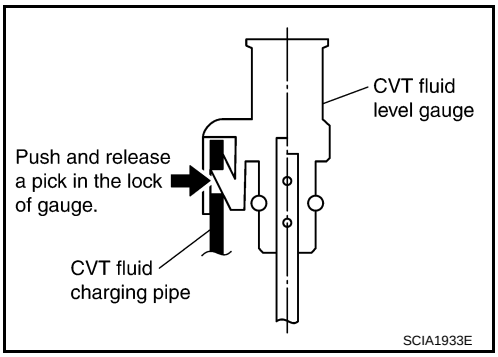
CHECKING CVT FLUID

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.


SMA146B

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.

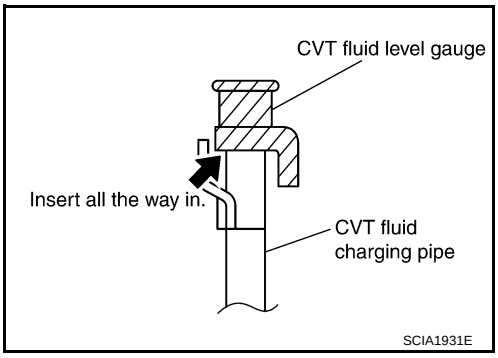


SCIA1933E

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.

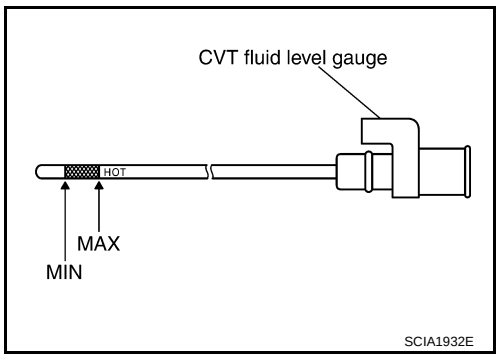
   CAUTION:

   When wiping away the CVT fluid level gauge, always use lint-free paper, not a cloth rag.



SCIA1931E

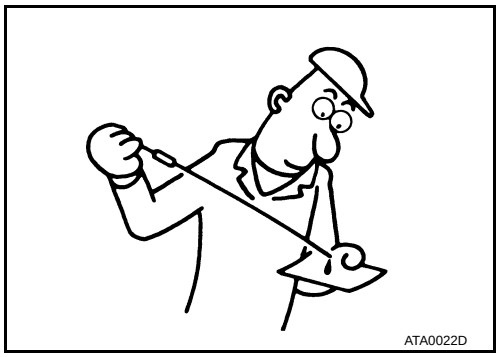
8. Place the selector lever in “P” or “N” and make sure the fluid level is within the specified range.
   CAUTION:
   When reinstalling CVT fluid level gauge, insert it into the CVT fluid charging pipe and rotate it to the original installation position until securely locked.



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.), replace radiator and flush cooler line using cleaning solvent and compressed air after repair of CVT. Refer to CO-34, "Exploded View".



Fluid status	Conceivable cause	Required operation
Varnished (viscous varnish state)	CVT fluid become 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:0000000001194376

1. Remove drain plug, and then drain CVT fluid from oil pan.
2. Install drain plug to oil pan.
   CAUTION:
   Never reuse drain plug gasket.

Drain plug – tightening torque : Refer to TM-550, "Exploded View".

3. Fill CVT fluid from CVT fluid charging pipe to the specified level.
4. 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).
5. Check CVT fluid level and condition.
6. Repeat steps 1 to 5 if CVT fluid has been contaminated.

CVT fluid : Refer to TM-576, "General Specification".

Fluid capacity : Refer to TM-576, "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.**

GEAR OIL: RS5F92R

GEAR OIL: RS5F92R : Inspection

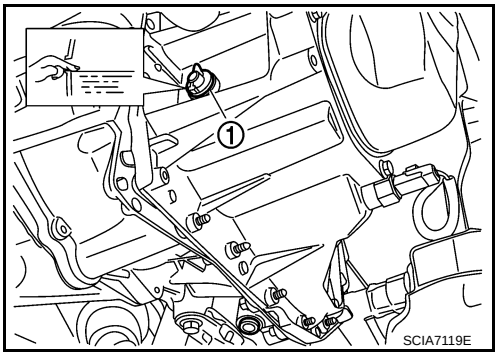
INFOID:0000000001604900

LEAKAGE

Make sure that gear oil is not leaking from transaxle or around it.

LEVEL

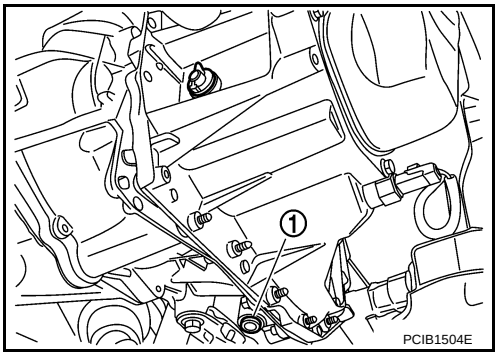
1. Remove filler plug (1) and check oil level at filler plug hole as shown.
   CAUTION:
   Never start engine while checking oil level.
2. Set a gasket on filler plug and then install it to transaxle case.
   CAUTION:
   Never reuse gasket.
3. Tighten filler plug to the specified torque.



GEAR OIL: RS5F92R : Draining

INFOID:0000000001604901

1. Start engine and let it run to warm up transaxle.
2. Stop engine. Remove drain plug (1) and then drain gear oil.
3. Set a gasket on drain plug and install it to clutch housing. Tighten drain plug to the specified torque.
   CAUTION:
   Never reuse gasket.



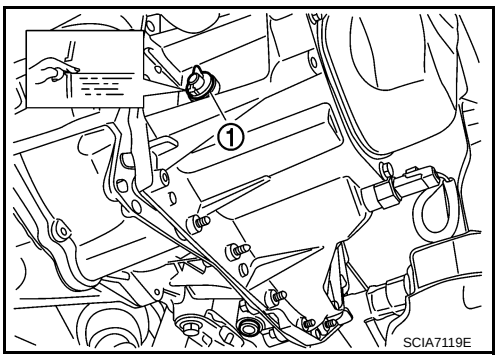
GEAR OIL: RS5F92R : Refilling

INFOID:0000000001604902

1. Remove filler plug (1). Fill with new gear oil until oil level reaches the specified limit at filler plug hole as shown.

Oil grade and viscosity	**: Refer to MA-27, "Fluids and Lubricants".**
Oil capacity	**: Refer to TM-53, "General Specification".**

2. After refilling gear oil, check oil level. Refer to MA-72, "GEAR OIL: RS5F92R : Inspection".
3. Set a gasket on filler plug and then install it to transaxle case.
   CAUTION:
   Never reuse gasket.
4. Tighten filler plug to the specified torque.



GEAR OIL: RS6F94R

GEAR OIL: RS6F94R : Inspection

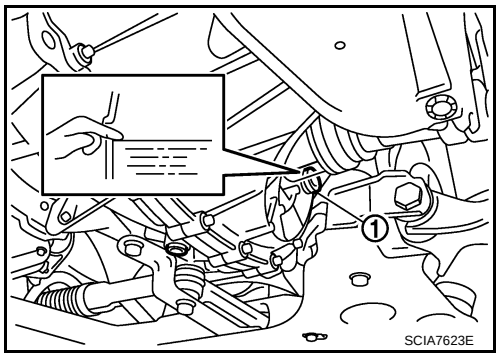
INFOID:0000000001604905

LEAKAGE

Make sure that gear oil is not leaking from transaxle or around it.

LEVEL

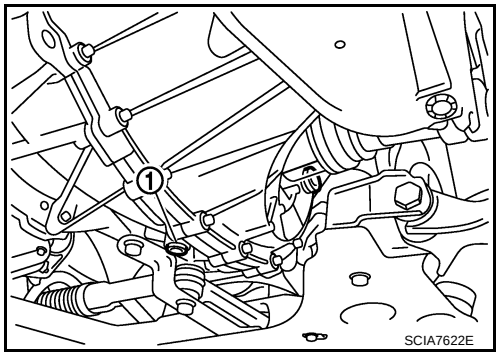
1. Remove filler plug (1) and check oil level at filler plug hole as shown.
   CAUTION:
   Never start engine while checking oil level.
2. Set a gasket on filler plug and then install it to transaxle case.
   CAUTION:
   Never reuse gasket.
3. Tighten filler plug to the specified torque.



GEAR OIL: RS6F94R : Draining

INFOID:0000000001604907

1. Start engine and let it run to warm up transaxle.
2. Stop engine. Remove drain plug (1) and then drain gear oil.
3. Set a gasket on drain plug and install it to clutch housing. Tighten drain plug to the specified torque.
   CAUTION:
   Never reuse gasket.



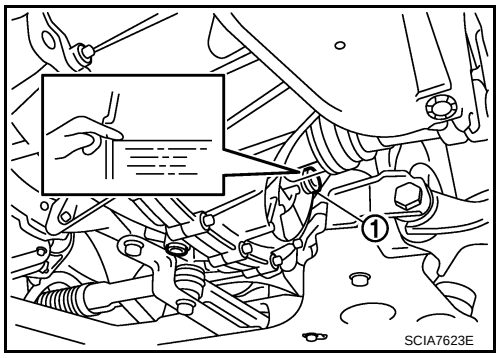
GEAR OIL: RS6F94R : Refilling

INFOID:0000000001604908

1. Remove filler plug (1). Fill with new gear oil until oil level reaches the specified limit at filler plug hole as shown.

Oil grade and viscosity	**: Refer to MA-27, "Fluids and Lubricants".**
Oil capacity	**: Refer to TM-106, "General Specification".**

2. After refilling gear oil, check oil level. Refer to MA-72, "GEAR OIL: RS6F94R : Inspection".
3. Set a gasket on filler plug and then install it to transaxle case.
   CAUTION:
   Never reuse gasket.
4. Tighten filler plug to the specified torque.



GEAR OIL RS6F52A (2WD)

GEAR OIL RS6F52A (2WD) : Inspection

INFOID:0000000001604909

LEAKAGE

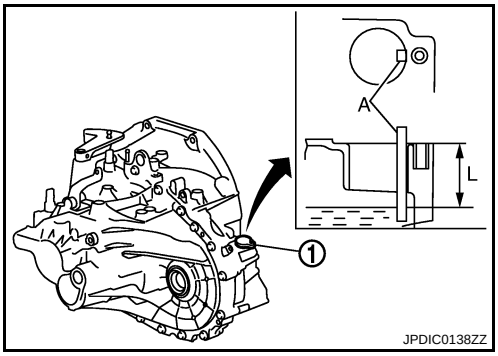
Make sure that gear oil is not leaking from transaxle or around it.

LEVEL

1. Remove plug (1).
2. Measure oil level using a suitable gauge (A) as shown in the figure and then check if it is within the specifications.

Oil level "L" **: Refer to TM-223, "General Specifications".**

CAUTION:
- **Never start engine while checking oil level.**
- **Measure suitable gauge according to the wall of the plug mounting hole.**

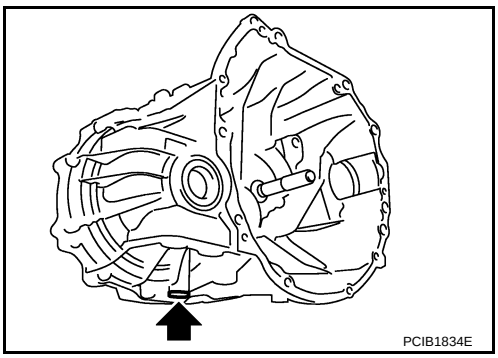


3. Set a O-ring on plug and then install it to transaxle case.
CAUTION:
Never reuse O-ring.
4. Tighten plug mounting bolt to the specified torque.

GEAR OIL RS6F52A (2WD) : Draining

INFOID:0000000001604910

1. Start engine and let it run to warm up transaxle.
2. Stop engine. Remove drain plug and then drain gear oil.
3. Set a gasket on drain plug and install it to clutch housing. Tighten drain plug to the specified torque.
CAUTION:
Never reuse gasket.



GEAR OIL RS6F52A (2WD) : Refilling

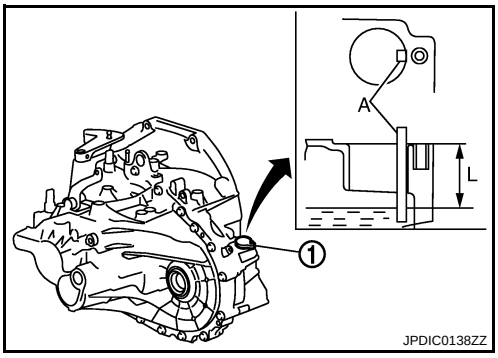
INFOID:0000000001604911

1. Remove plug (1). Fill with new gear oil to transaxle.

A : Suitable gauge

Oil grade and viscosity **: Refer to MA-27, "Fluids and Lubricants".**

Oil capacity (reference) **: Refer to TM-223, "General Specifications".**



2. After refilling gear oil, check oil level. Refer to MA-73, "GEAR OIL RS6F52A (2WD) : Inspection".
3. Set a O-ring on plug and then install it to clutch housing.
CAUTION:
Never reuse O-ring.
4. Tighten plug mounting bolt to the specified torque.

GEAR OIL RS6F52A (4WD)

GEAR OIL RS6F52A (4WD) : Inspection

INFOID:0000000001538377

LEAKAGE

Make sure that gear oil is not leaking from transaxle or around it.

LEVEL

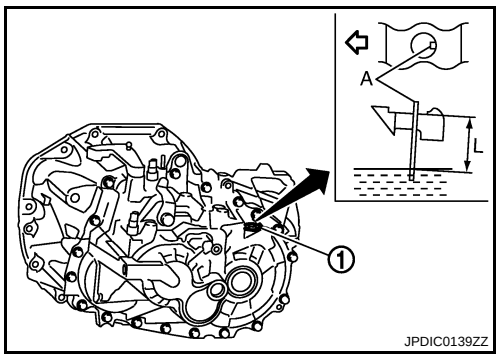
1. Remove filler plug (1).

⇦ : Vehicle front

2. Measure oil level using a suitable gauge (A) as shown in the figure and then check if it is within the specifications.

Oil level "L" : Refer to TM-223, "General Specifications".

CAUTION:
- **Never start engine while checking oil level.**
- **Measure suitable gauge according to the wall of the plug mounting hole.**

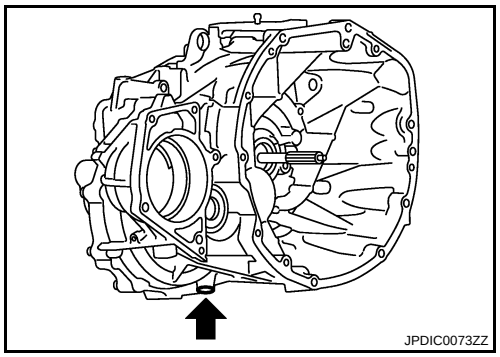


3. Set a gasket on filler plug and then install it to transaxle case.
CAUTION:
Never reuse gasket.
4. Tighten filler plug to the specified torque.

GEAR OIL RS6F52A (4WD) : Draining

INFOID:0000000001538378

1. Start engine and let it run to warm up transaxle.
2. Stop engine. Remove drain plug and then drain gear oil.
3. Set a gasket on drain plug and install it to clutch housing. Tighten drain plug to the specified torque.
CAUTION:
Never reuse gasket.



GEAR OIL RS6F52A (4WD) : Refilling

INFOID:0000000001538379

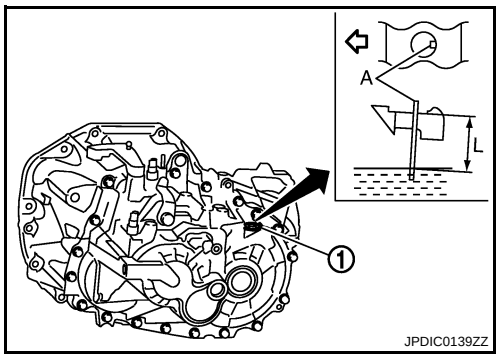
1. Remove filler plug (1). Fill with new gear oil to transaxle.

A : Suitable gauge

⇦ : Vehicle front

Oil grade and viscosity : Refer to MA-27, "Fluids and Lubricants".

Oil capacity (reference) : Refer to TM-223, "General Specifications".



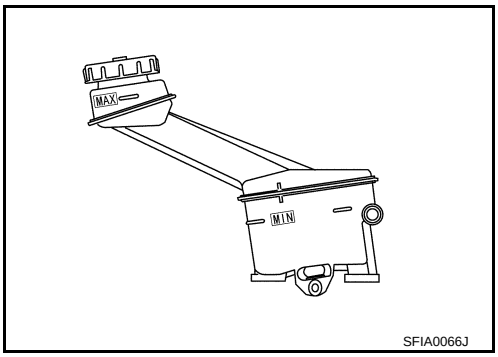
2. After refilling gear oil, check oil level. Refer to MA-74, "GEAR OIL RS6F52A (4WD) : Inspection".
3. Set a gasket on filler plug and then install it to transaxle case.
CAUTION:
Never reuse gasket.
4. Tighten filler plug to the specified torque.

CLUTCH FLUID

CLUTCH FLUID : Inspection

INFOID:0000000001194386

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



TRANSFER OIL

TRANSFER OIL : Inspection

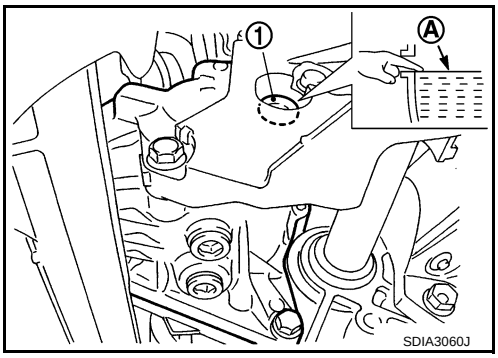
INFOID:0000000001604912

OIL LEAKAGE

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

OIL LEVEL

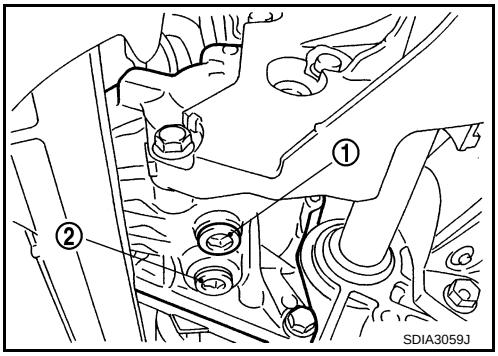
1. Remove filler plug (1) and gasket. Then check that oil is filled up (A) from mounting hole for the filler plug.
2. Before installing filler plug, set a new gasket. Install filler plug on transfer and tighten to the specified torque. Refer to DLN-63, "M/T, A/T : Exploded View" (M/T, A/T), DLN-66, "CVT : Exploded View" (CVT).
   CAUTION:
   Never reuse gaskets.



TRANSFER OIL : Draining

INFOID:0000000001604913

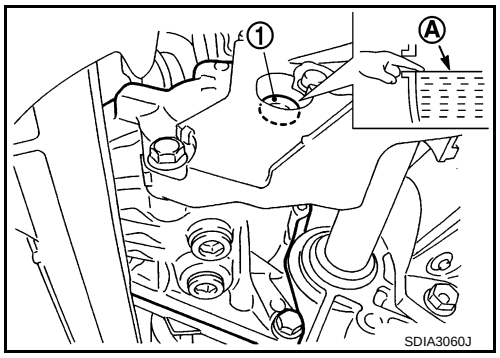
1. Run the vehicle to warm up the transfer unit sufficiently.
2. Stop the engine and remove drain plug (1) and gaskets to drain the transfer oil.
   CAUTION:
   Never remove tooth contact test hole plug (2).
3. Before installing drain plug, set a new gasket. Install drain plug on transfer and tighten to the specified torque. Refer to DLN-63, "M/T, A/T : Exploded View" (M/T, A/T), DLN-66, "CVT : Exploded View" (CVT).
   CAUTION:
   Never reuse gaskets.



TRANSFER OIL : Refilling

INFOID:0000000001604914

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



Oil grade and viscosity : Refer to MA-27, "Fluids and Lubricants".

Oil capacity : Refer to DLN-109, "General Specifications".

CAUTION:
Carefully fill the oil. (Fill up for approximately 3 minutes.)

2. Leave the vehicle for 3 minutes. Then check oil level again.
3. Before installing filler plug, set a new gasket. Install filler plug on transfer and tighten to the specified torque. Refer to DLN-63, "M/T, A/T : Exploded View" (M/T, A/T), DLN-66, "CVT : Exploded View" (CVT).

CAUTION:
Never reuse gasket.

REAR PROPELLER SHAFT

REAR PROPELLER SHAFT : Inspection

INFOID:0000000001604915

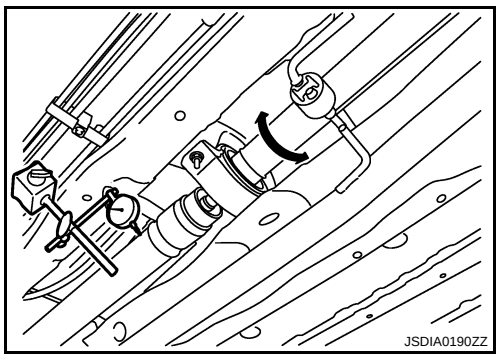
NOISE

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

VIBRATION

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

1. Measure propeller shaft runout at runout measuring points by rotating final drive companion flange with hands.



Limit

Propeller shaft runout : Refer to DLN-115, "Propeller Shaft Runout".

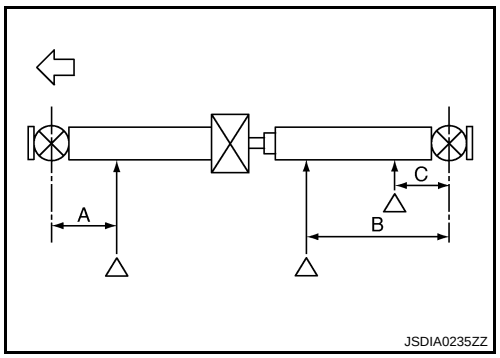
2. If runout still exceeds specifications, separate propeller shaft at final drive companion flange or transfer companion flange; then rotate companion flange 90 degrees and install propeller shaft. Check runout again. If the runout still exceeds the specifications, repeat the operation rotating the propeller shaft 90 more degrees until runout does not exceed the specifications or total rotation is 270 degrees.
3. If the runout still exceeds the specifications, replace the propeller shaft assembly.
4. Check the vibration by driving vehicle.

RUNOUT MEASURING POINT

Propeller shaft runout measuring point (Point "△").

- MR20DE

⇦ : Vehicle front



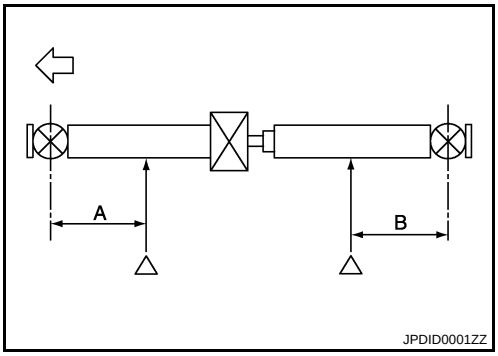
Dimension

A: 200 mm (7.87 in)
B: 639 mm (25.16 in)
C: 159 mm (6.26 in)

- M9R

⇦ : Vehicle front

Dimension **A: 495 mm (19.49 in)**
B: 416 mm (16.38 in)



REAR DIFFERENTIAL GEAR OIL

REAR DIFFERENTIAL GEAR OIL : Inspection

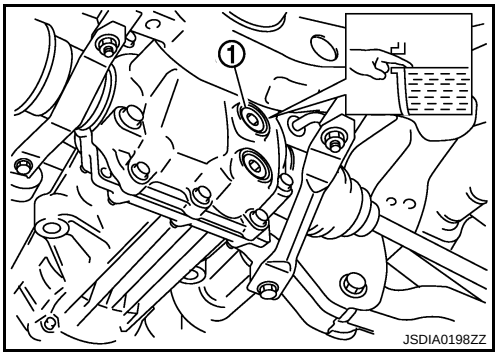
INFOID:0000000001194391

OIL LEAKEGE

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

OIL LEVEL

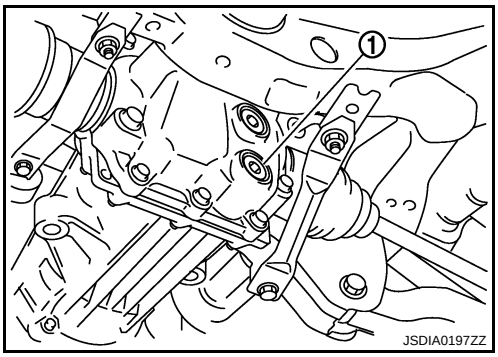
- Remove filler plug (1) and check oil level from filler plug mounting hole as shown in the figure.
  CAUTION:
  Never start engine while checking oil level.
- Set a new gasket on filler plug and install it on final drive assembly. Refer to DLN-133, "Exploded View".
  CAUTION:
  Never reuse gasket.



REAR DIFFERENTIAL GEAR OIL : Draining

INFOID:0000000001194392

1. Stop engine.
2. Remove drain plug (1) and drain gear oil.
3. Set a new gasket on drain plug and install it to final drive assembly and tighten to the specified torque. Refer to DLN-133, "Exploded View".
   CAUTION:
   Never reuse gasket.



REAR DIFFERENTIAL GEAR OIL : Refilling

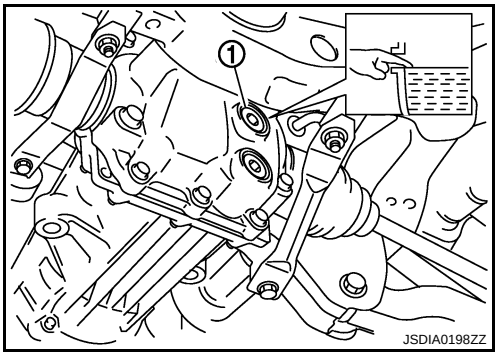
INFOID:0000000001604917

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

   Oil grade and viscosity **: Refer to MA-27, "Fluids and Lubricants".**

   Oil capacity **: Refer to DLN-156, "General Specification".**

2. After refilling oil, check oil level. Set a new gasket to filler plug, then install it to final drive assembly. Refer to DLN-133, "Exploded View".



CAUTION:
Never reuse gasket.

WHEELS (BONDING WEIGHT TYPE)

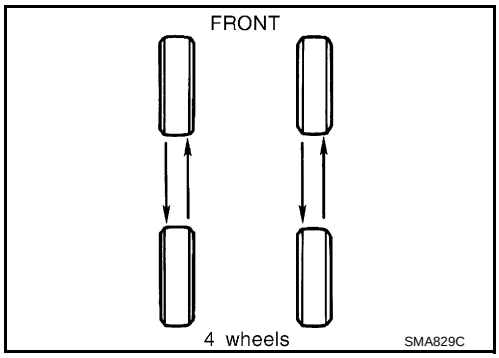
WHEELS (BONDING WEIGHT TYPE) : Adjustment

INFOID:0000000001604918

TIRE RORATION

1. Follow the maintenance schedule for tire rotation service intervals. Refer to MA-7, "General Maintenance".
2. Do not include the T-type spare tire when rotating the tires.
3. When installing the wheel, tighten wheel nuts to the specified torque.

CAUTION:
- **When installing wheels, tighten them diagonally by dividing the work two to three times in order to prevent the wheels from developing any distortion.**
- **Be careful not to tighten wheel nut at torque exceeding the criteria for preventing strain of disc rotor.**
- **Use NISSAN genuine wheel nuts for aluminum wheels.**



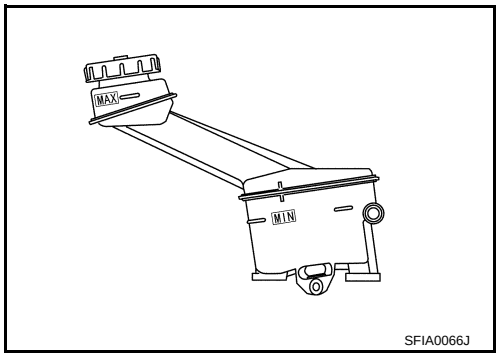
Wheel nuts tightening torque: **Refer to WT-4, "Road Wheel".**

BRAKE FLUID LEVEL AND LEAKS

BRAKE FLUID LEVEL AND LEAKS : Inspection

INFOID:0000000001194395

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

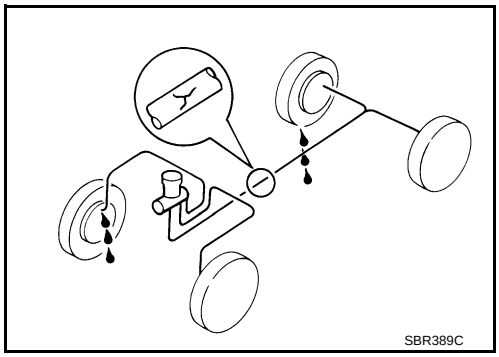


BRAKE LINES AND CABLES

BRAKE LINES AND CABLES : Inspection

INFOID:0000000001194396

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

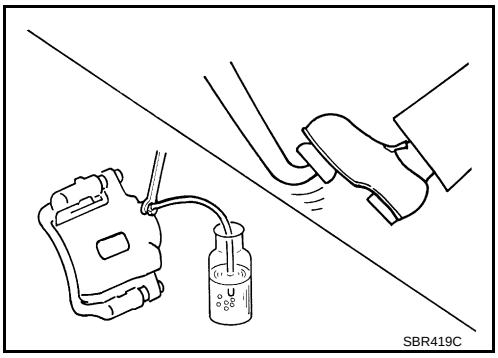


BRAKE FLUID

BRAKE FLUID : Changing

INFOID:0000000001194397

1. Drain brake fluid from each bleed valve.
2. Refill until new brake fluid comes out from each bleed valve.
   Use same procedure as in bleeding hydraulic system to refill brake fluid.
   Refer to BR-12, "Bleeding Brake System" (LHD), BR-59, "Bleeding Brake System" (RHD).
   - Refill with recommended brake fluid.
     Refer to MA-27, "Fluids and Lubricants".
   - Never reuse drained brake fluid.
   - Be careful not to splash brake fluid on painted areas.


SBR419C

DISC BRAKE

DISC BRAKE : Inspection

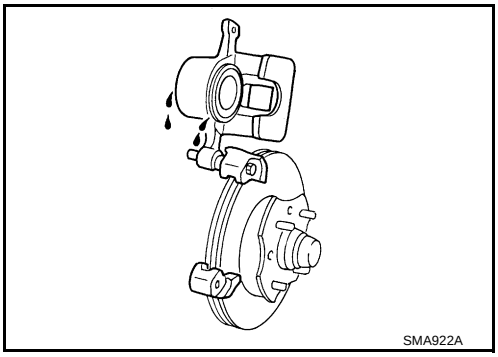
INFOID:0000000001194398

DISC ROTOR

Check condition, wear, and damage.

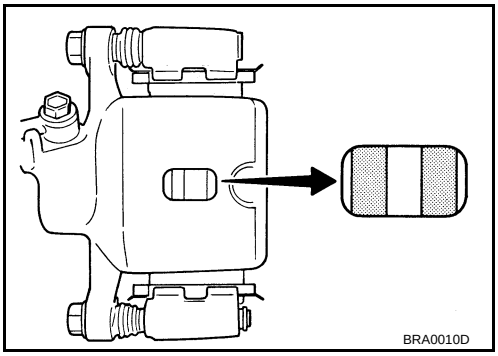
CALIPER

- Check for leakage.


SMA922A

BRAKE PAD

- Check for wear or damage.


BRA0010D

DISC BRAKE : Front Disc Brake

INFOID:0000000001194399

Unit: mm (in.)

Brake pad	Standard thickness	11.0 (0.433)
	Wear limit thickness	2.0 (0.079)
Disc rotor	Standard thickness	26.0 (1.024)
	Wear limit thickness	24.0 (0.945)
	Thickness variation (measured at 8 positions)	0.020 (0.0008)
	Runout limit (with it attached to the vehicle)	0.035 (0.0014)

DISC BRAKE : Rear Disc Brake

INFOID:0000000001194400

Unit: mm (in.)

Brake pad	Standard thickness	8.5 (0.335)
	Wear limit thickness	2.0 (0.079)
Disc rotor	Standard thickness	9.0 (0.354)
	Wear limit thickness	8.0 (0.315)
	Thickness variation (measured at 8 positions)	0.020 (0.0008)
	Runout limit (with it attached to the vehicle)	—

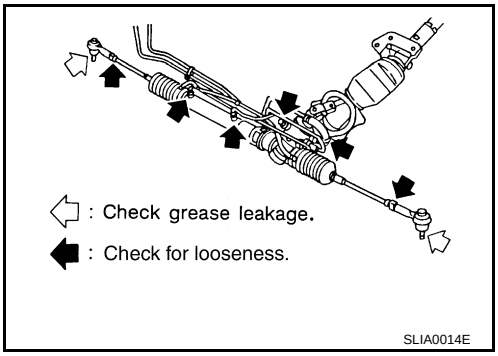
STEERING GEAR AND LINKAGE

STEERING GEAR AND LINKAGE : Inspection

INFOID:0000000001194401

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.

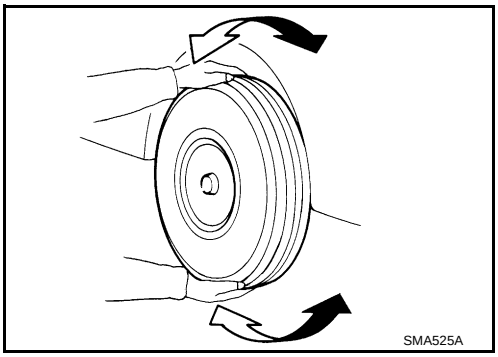
AXLE AND SUSPENSION PARTS

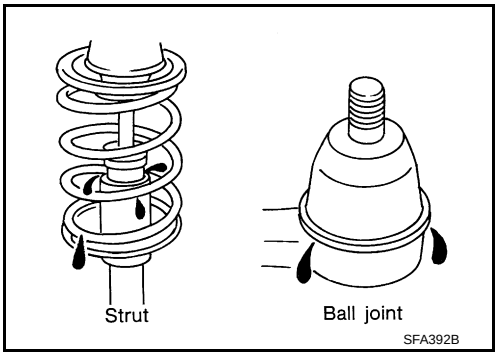
AXLE AND SUSPENSION PARTS : Inspection

INFOID:0000000001194402

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.



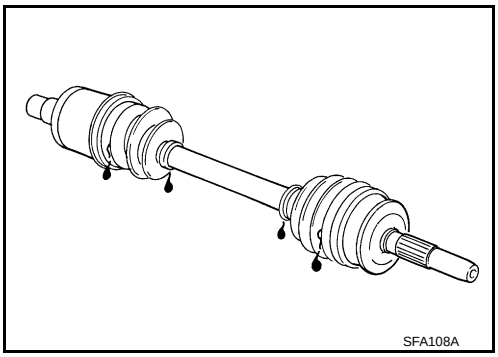


DRIVE SHAFT

DRIVE SHAFT : Inspection

INFOID:0000000001194403

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



BODY MAINTENANCE

LOCKS, HINGES AND HOOD LATCH

LOCKS, HINGES AND HOOD LATCH : Lubricating

INFOID:0000000001194404

For hood and hood lock illustration.
- Hood: Refer to DLK-222, "HOOD ASSEMBLY : Exploded View".
- Hood lock control: Refer to DLK-227, "HOOD LOCK CONTROL : Exploded View".

For door and door lock illustration.
- Front door: Refer to DLK-234, "DOOR ASSEMBLY : Exploded View".
- Front door lock: Refer to DLK-254, "DOOR LOCK : Exploded View".
- Rear door: Refer to DLK-240, "DOOR ASSEMBLY : Exploded View".
- Rear door lock: Refer to DLK-260, "DOOR LOCK : Exploded View".

For back door and back door lock illustration.
- Back door: Refer to DLK-246, "BACK DOOR ASSEMBLY : Exploded View".
- Back door lock: Refer to DLK-266, "DOOR LOCK : Exploded View".

SEAT BELT, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

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

INFOID:0000000001194405

For front seat belt illustration. Refer to SB-6, "SEAT BELT RETRACTOR : Exploded View".
For rear seat belt illustration. Refer to SB-12, "OUTER SEAT BELT RETRACTOR : Exploded View".

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

For details, refer to SB-3, "SEAT BELT RETRACTOR : Inspection" , SB-10, "OUTER SEAT BELT RETRACTOR : Inspection" in SB section.
- Check anchors for loose mounting
- Check belts for damage
- Check retractor for smooth operation
- Check function of buckles and tongues when buckled and released

BODY CORROSION

BODY CORROSION : Checking Body Corrosion

INFOID:0000000001194406

Visually check body panels for collision damage (scratches, chipping, rubbing, etc.) or damage to the anti-corrosion materials. In particular, check the following locations.

HEMMED PANELS
Hood front end, door lower end, trunk lid rear end, etc.

PANEL JOINT
Side sill of rear fender and center pillar, rear wheel housing of rear fender, around strut tower in engine compartment, etc.

PANEL EDGE
Trunk lid opening, sunroof opening, fender wheel-arch flange, fuel filler lid flange, around holes in panel, etc.

PARTS CONTACT
Waist moulding, windshield moulding, bumper, etc.

PROTECTORS

Damage or condition of mudguard, fender protector, chipping protector, etc.

ANTI-CORROSION MATERIALS

Damage or separation of anti-corrosion materials under the body.

DRAIN HOLES

Condition of drain holes at door and side sill. When repairing corroded areas, refer to the Corrosion Repair Manual.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

DRIVE BELTS (HR16DE)

DRIVE BELTS (HR16DE) : Drive Belts

INFOID:0000000001194407

BELT DEFLECTION:

Location		Deflection adjustment *		Unit: mm (in)
		Used belt		New belt
		Limit	After adjusted	
Drive belt	With A/C models	7.9 (0.31)	4.8 - 5.3 (0.19 - 0.21)	4.2 - 4.5 (0.17 - 0.18)
	Without A/C models	7.1 (0.28)	4.3 - 4.7 (0.17 - 0.19)	3.6 - 3.9 (0.14 - 0.15)
Applied pushing force		98 N (10 kg, 22 lb)		

*: When engine is cold.

BELT TENSION AND FREQUENCY:

Location		Tension adjustment *		Unit: N (kg, lb)	Frequency adjustment *		Unit: Hz
		Used belt		New belt	Used belt		New belt
		Limit	After adjusted		Limit	After adjusted	
Drive belt	With A/C models	500 (51.0, 112)	876 - 964 (89.4 - 98.3, 197 - 217)	1064 - 1152 (108.5 - 117.5, 239 - 259)	163	216 - 225	238 - 246
	Without A/C models	500 (51.0, 112)	876 - 964 (89.4 - 98.3, 197 - 217)	1064 - 1152 (108.5 - 117.5, 239 - 259)	183	242 - 252	266 - 276

*: When engine is cold.

DRIVE BELTS (MR20DE)

DRIVE BELTS (MR20DE) : Drive Belt

INFOID:0000000001194408

DRIVE BELT

Tension of drive belt	Auto adjustment by auto-tensioner

DRIVE BELTS (K9K)

DRIVE BELTS (K9K) : Drive Belt

INFOID:0000000001194409

DRIVE BELT

Tension of drive belt	Auto adjustment by auto-tensioner

DRIVE BELTS (M9R)

DRIVE BELTS (M9R) : Drive Belts

INFOID:0000000001538380

DRIVE BELT

Tension of drive belt	Belt tensioning is not necessary, as it is automatically adjusted by drive belt auto-tensioner.

ENGINE COOLANT (HR16DE)

ENGINE COOLANT (HR16DE) : Periodical Maintenance Specification

INFOID:0000000001551344

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Engine coolant capacity [With reservoir tank (“MAX” level)]	6.2 (5-1/2)
Reservoir tank engine coolant capacity (At “MAX” level)	0.78 (5/8)

ENGINE COOLANT (MR20DE)

ENGINE COOLANT (MR20DE) : Periodical Maintenance Specification

INFOID:0000000001551345

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Engine coolant capacity (With reservoir tank at “MAX” level)	M/T models	6.8 (6)
	CVT models	8.2 (7-1/4)
Reservoir tank engine coolant capacity (At “MAX” level)		0.78 (5/8)

ENGINE COOLANT (K9K)

ENGINE COOLANT (K9K) : Periodical Maintenance Specification

INFOID:0000000001194412

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Engine coolant capacity [With reservoir tank (“MAX” level)]	7.0 (6-1/8)
Reservoir tank engine coolant capacity (At “MAX” level)	0.8 (3/4)

ENGINE COOLANT (M9R)

ENGINE COOLANT (M9R) : Periodical Maintenance Specification

INFOID:0000000001569797

ENGINE COOLANT CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Engine coolant capacity (With reservoir tank at “MAX” level)	M/T models	8.0 (7)
	A/T models	8.4 (7-3/8)
Reservoir tank engine coolant capacity (At “MAX” level)		0.78 (5/8)

ENGINE OIL (HR16DE)

ENGINE OIL (HR16DE) : Periodical Maintenance Specification

INFOID:0000000001194413

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Drain and refill	With oil filter change	4.3 (3-3/4)
	Without oil filter change	4.1 (3-5/8)
Dry engine (Overhaul)		4.8 (4-1/4)

ENGINE OIL (MR20DE)

ENGINE OIL (MR20DE) : Periodical Maintenance Specification

INFOID:0000000001194414

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Drain and refill	With oil filter change	4.4 (3-7/8)
	Without oil filter change	4.2 (3-3/4)
Dry engine (Overhaul)		5.2 (4-5/8)

ENGINE OIL (K9K)

ENGINE OIL (K9K) : Periodical Maintenance Specification

INFOID:0000000001194415

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℓ ·(Imp qt)

With oil filter change	4.55 (4)
Without oil filter change	4.39 (3-7/8)
Dry engine (overhaul)	4.71 (4-1/8)

ENGINE OIL (M9R)

ENGINE OIL (M9R) : Periodical Maintenance Specification

INFOID:0000000001538382

ENGINE OIL CAPACITY (APPROXIMATE)

Unit: ℓ (Imp qt)

Drain and refill	With oil filter change	7.4 (6-1/2)
	Without oil filter change	7.0 (6-1/8)
Dry engine (Overhaul)		8.4 (7-3/8)

SPARK PLUG (HR16DE)

SPARK PLUG (HR16DE) : Spark Plug

INFOID:0000000001194416

SPARK PLUG (PLATINUM-TIPPED TYPE)

Unit: mm (in)

Make	NGK
Standard type	PLZKAR6A-11
Gap (Nominal)	1.1 (0.043)

SPARK PLUG (MR20DE)

SPARK PLUG (MR20DE) : Spark Plug

INFOID:0000000001194417

SPARK PLUG

Unit: mm (in)

Make	NGK
Standard type	PLZKAR6A-11
Gap (Nominal)	1.1 (0.043)

ROAD WHEEL

ROAD WHEEL : Road Wheel

INFOID:0000000001604919

Kind of wheel	Aluminum	Steel	
		Conventional	For temporary use

Maximum radial runout limit	Lateral deflection	Less than 0.3 mm (0.012 in)	Less than 0.8 mm (0.031 in)	Less than 1.2 mm (0.047 in)
	Vertical deflection		Less than 0.7 mm (0.028 in)	Less than 1.3 mm (0.051 in)
Maximum allowable unbalance limit	Dynamic (At flange)	Less than 10 g (0.35 oz) (one side)		
	Static (At flange)	Less than 20 g (0.71 oz)		
Wheel nuts tightening torque		112.6 N·m (11 kg–m, 83 ft–lb)		