SECTION MA
MAINTENANCE

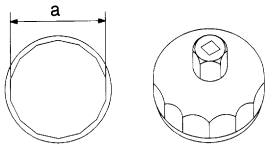
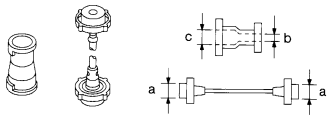
CONTENTS

PREPARATION

PFP:00002

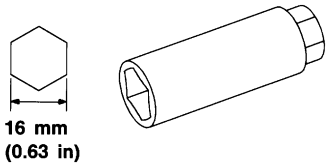
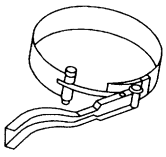
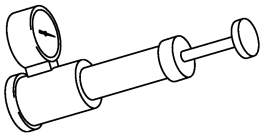
Special Service Tools

ELS000B6

Tool number Tool name	Description
KV10115801 Oil filter wrench  S-NT375	Removing and installing oil filter (QR20DE and QR25DE engine models) **a: 64.3 mm (2.531 in)**
EG17650301 Radiator cap tester adapter  S-NT564	Adapting radiator cap tester to radiator cap and radiator filler neck **a: 28 (1.10) dia.** **b: 31.4 (1.236) dia.** **c: 41.3 (1.626) dia.** Unit: mm (in)

Commercial Service Tools

ELS000K9

Tool name	Description
Spark plug wrench  S-NT047	Removing and installing spark plug (QR20DE and QR25DE engine models)
Fuel filter wrench  PBIC0519E	Removing fuel filter (YD22DDTi engine model)
Radiator cap tester  PBIC1982E	Checking radiator and radiator cap

DESCRIPTION

PFP:00000

Pre-delivery Inspection Items

ELS000Y5

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.

☐ Install vehicle protection kit

☐ Fit all accessories ordered (if applicable) (e.g. towbar, audio, navigation, air conditioner, styling kit)

UNDER HOOD — engine off

☐ Check coolant level and cooling system for leaks

☐ Charge battery and check terminals for condition

☐ Check drive belts tension (diesel only)

☐ Check fuel filter for water or dust (diesel only) and fuel system for leaks

☐ Check engine oil level and for oil leaks

☐ Check brake and clutch fluid levels and fluid lines for leaks

☐ Check and top up washer reservoirs

☐ Check power steering fluid level and fluid lines for leaks (if applicable)

☐ Check air conditioning system for gas leaks (if applicable)

ON INSIDE AND OUTSIDE

☐ Install transit fuse if removed for vehicle storage

☐ Check instruments, gauges, lamps, horn and accessories for operation

☐ Check wipers and washers for operation and adjustment

☐ Check interior and door mirrors and sun visors for operation

☐ Set radio code and set clock

☐ Check parking brake adjustment

☐ Check clutch pedal adjustment

☐ Check steering lock operation

☐ Check seat adjusters and seat belts for operation

☐ Check all windows for operation and alignment

☐ Check mouldings, trim and fittings for fit and alignment

☐ Check weatherstrips for fit and adhesion

☐ Check hood, trunk lid, door panels and fuel lid for fit and alignment

☐ Check latches, keys, remote key, door locks and remote trunk lid and fuel lid release for operation

☐ Check wheel nut torques

☐ Check tyre pressure (incl. spare tyre)

☐ Check tool kit and jack for operation

☐ Check automatic transmission/transaxle starter inhibitor (if applicable)

☐ Check sunroof for operation and alignment (if applicable)

UNDER BODY

☐ Check manual transmission/transaxle, differential and transfer box for oil level and oil leaks

☐ Tighten bolts and nuts steering linkage and gear box, axle/suspension parts, propeller and exhaust system

☐ Check brake and clutch lines, and oil/fluid reservoirs for leaks

☐ Remove front suspension spacer blocks (if applicable)

☒ Check body mounting torque (if applicable)

ROAD TEST

- ☐ Check clutch operation
- ☐ Check foot brake operation
- ☐ Check parking brake operation
- ☐ Check steering operation, self-centering and steering wheel alignment
- ☐ Check engine performance
- ☐ Check for squeaks, rattles and noise from interior, suspension and brakes
- ☐ Check heating, ventilation and air conditioning operation
- ☐ Check radio, cassette and CD player operation
- ☐ Check odometer and trip meter operation and cancelling
- ☐ Check instruments for operation
- ☐ Check automatic transmission/transaxle shift pattern and kickdown operation (if applicable)
- ☐ Check cruise control and navigation system operation (if applicable)

ENGINE OPERATING AND HOT

- ☒ Check idle speed
- ☐ Check automatic transmission/transaxle oil level (if applicable)

FINAL INSPECTION

- ☐ Remove vehicle protection kit
- ☐ Fit interior mats and wheel covers
- ☐ Check for interior and exterior metal and paint damage
- ☐ Wash, clean interior and exterior

☒ : Not applicable to this model

GENERAL MAINTENANCE

PFP:00000

General Maintenance

ELS000AL

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.	BL-12, BL-18
Tire rotation	Tires should be rotated every 5,000 km (3,000 miles).	MA-41

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-45

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-20 (QR20DE, QR25DE)
		MA-28 (YD22DDTi)
Engine oil level	Check the level after parking the vehicle on a level spot and turning off the engine.	MA-23 (QR20DE, QR25DE)
		MA-33 (YD22DDTi)
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-37, MA-41
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines.	—

PERIODIC MAINTENANCE

PFP:00026

Periodic Maintenance

ELS000AM

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 (QR20DE AND QR25DE 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	
Engine compartment and under vehicle										
Intake and exhaust valve clearance	See NOTE (1)									EM-61
Drive belt	See NOTE (2)									MA-20
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-23
Engine oil filter (Use NISSAN genuine part or equivalent)★		R	R	R	R	R	R	R	R	MA-25
Engine anti-freeze coolant (Use Genuine Nissan Anti-freeze Coolant (L250) or equivalent.)	See NOTE (3)			I			R		I	MA-20
Cooling system		I	I	I	I	I	I	I	I	MA-22
Fuel lines			I		I		I		I	MA-23
Air cleaner filter★					R				R	MA-23
Fuel filter (In-tank type)	See NOTE (4)									FL-4
Spark plugs			R		R		R		R	MA-26
EVAP vapor lines (With carbon canister)			I		I		I		I	MA-26

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.**

CHASSIS AND BODY MAINTENANCE (QR20DE AND QR25DE 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 either at number of kilometers (miles) or months, whichever comes first.	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	I	I	I	I	LT-14
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	I	I	MA-37, MA-41
Brake fluid★			R		R		R		R	MA-42
Brake booster vacuum hoses, connections & check valve			I		I		I		I	BR-26
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	I	I	MA-44
Manual transaxle gear oil (For leaks)		I	I	I	I	I	I	I	I	MA-37
Automatic transaxle fluid (For level & leaks)★		I	I	I	I	I	I	I	I	MA-38
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	I	I	MA-39
Differential gear oil (For level & leaks or replace)★		I	I	I	R	I	I	I	R	MA-40, MA-40
Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system★		I	I	I	I	I	I	I	I	MA-43, MA-44 , MA-40 , MA-45 , MA-37
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	I	I	FSU-6, MA-41
Brake pads, rotors & other brake components★		I	I	I	I	I	I	I	I	MA-43, MA-43 , MA-43
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	I	I	BR-6, PB-2 , CL-5
Ventilation air filter★			R		R		R		R	ATC-130
Body corrosion	See NOTE (1)									MA-45

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 (YD22DDTI 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 either at number of kilometers (miles) or months, whichever comes first.	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								
Intake & exhaust valve clearance	See NOTE (1)							EM-175
Drive belts		I	I	I	I	I	I	MA-27
Engine oil (recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	MA-33
Engine oil filter (Use Eco filter or equivalent)★	See NOTE (3)	R	R	R	R	R	R	MA-33
Engine anti-freeze coolant (Use Genuine Nissan Anti-freeze Coolant (L250) or equivalent)	See NOTE (4)		I			R		MA-28
Cooling system		I	I	I	I	I	I	MA-30
Fuel lines			I		I		I	MA-31
Air cleaner filter ★				R			R	MA-32
Fuel filter★		D	R	D	R	D	R	MA-31
Fuel injector	See NOTE (5)							EM-157

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) If valve noise increases, check valve clearance.**
- **(2) Never use CG-4 oil.**
- **(3) Oil filter element assembly and O-ring seal are replacement parts.**
- **(4) 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.**
- **(5) If engine power decreases, black exhaust smoke is emitted or engine noise increases, perform this maintenance item.**

CHASSIS AND BODY MAINTENANCE (YD22DDTI 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 either at number of kilometers (miles) or months, whichever comes first.	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	LT-14
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	MA-41, MA-37
Brake fluid★			R		R		R	MA-42
Brake booster vacuum hoses, connections & check valve			I		I		I	BR-25
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	MA-44
Manual transaxle gear oil (For leaks)		I	I	I	I	I	I	MA-37
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	MA-39

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12) 12	40 (24) 24	60 (36) 36	80 (48) 48	100 (60) 60	120 (72) 72	
Differential gear oil (For level & leaks or replace)★		I	I	R	I	I	R	MA-40
Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system★		I	I	I	I	I	I	MA-43, MA-44 , MA-40 , MA-45 , MA-37
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-6, MA-41
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-43, MA-43 , MA-43
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-6, CL-5
Ventilation air filter★		R	R	R	R	R	R	ATC-130
Body corrosion	See NOTE (1)							MA-45

NOTE:

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

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 — Repeatedly driving short distances
C — Towing a trailer or caravan
D — Extensive idling
E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
F — Driving in high humidity or mountainous areas
G — Driving in areas using salt or other corrosive materials
H — Driving on rough and/or muddy roads or in the desert
I — Driving with frequent use of braking or in mountainous areas
J — Frequent off road use or driving in water
K —Sustained high speed driving
L — For models without Euro-OBD system

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	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-23
													Diesel models	Replace	Every 30,000 km (18,000 miles) or 18 months	MA-32
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil & engine oil filter	Petrol models	Replace	Every 7,500 km (4,500 miles) or 6 months	MA-23, MA-25
													Diesel models	Replace	Every 10,000 km (6,000 miles) or 6 months	MA-33, MA-33
A	.	.	.	E	.	.	.	.	.	.	.	Fuel filter	Diesel models	Check & drain water	Every 10,000 km (6,000 miles) or 6 months	FL-17
														Replace	Every 20,000 km (12,000 miles) or 12 months	MA-31
.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-42
													Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months	MA-42
.	.	C	.	.	.	.	H	.	.	.	.	Differential gear oil	Petrol models	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-40
													Diesel models	Replace	Every 30,000 km (18,000 miles) or 18 months	MA-40
.	.	C	.	.	.	.	H	.	.	.	.	Automatic transaxle fluid	Petrol models	Replace	Every 30,000 km (18,000 miles) or 24 months	MA-39
.	.	.	.	.	.	G	H	.	.	.	.	Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system	Petrol models	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-43, MA-44 , MA-40 , MA-45 , MA-37
													Diesel models	Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-43, MA-44 , MA-40 , MA-45 , MA-37
A	.	C	.	.	.	G	H	I	.	.	.	Brake pads, rotors & other brake components	Petrol models	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-43, MA-43 , MA-43
													Diesel models	Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-43, MA-43 , MA-43
A	.	.	.	.	.	.	.	.	.	.	.	Ventilation air filter	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months	ATC-130
													Diesel models	Replace	Every 10,000 km (6,000 miles) or 6 months	ATC-130

ENGINE AND EMISSION CONTROL MAINTENANCE (QR20DE AND QR25DE PETROL ENGINE)

(Annual Mileage >30,000 Km/year)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Refer-ence 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)	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-61
Drive belt	See NOTE (2)	I	I	I	I	I	I	I	I	MA-20
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	MA-23
Engine oil filter (Use NISSAN genuine part or equivalent)★		R	R	R	R	R	R	R	R	MA-25
Engine anti-freeze coolant (Use Genuine Nissan Anti-freeze Coolant (L250) or equivalent.)	See NOTE (3)			I			R		I	MA-20
Cooling system			I		I		I		I	MA-22
Fuel lines					I				I	MA-23
Air cleaner filter★					R				R	MA-23
Fuel filter (In-tank type)	See NOTE (4)									FL-4
Spark plugs			R		R		R		R	MA-26
EVAP vapor lines (With carbon canister)					I				I	MA-26

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.**

CHASSIS AND BODY MAINTENANCE (QR20DE AND QR25DE 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 either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	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	LT-14
Brake & clutch, systems and fluid (For level & leaks)			I		I		I		I	MA-37, MA-41
Brake fluid★					R				R	MA-42
Brake booster vacuum hoses, connections & check valve					I				I	BR-26
Power steering fluid & lines (For level & leaks)			I		I		I		I	MA-44
Manual transaxle gear oil (For leaks)			I		I		I		I	MA-37
Automatic transaxle fluid (For level & leaks)★			I		I		I		I	MA-38
Transfer gear oil (For level & leaks)			I		I		I		I	MA-39
Differential gear oil (For level & leaks or replace)★			I		R		I		R	MA-40, MA-40
Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system★			I		I		I		I	MA-43, MA-44 , MA-40 , MA-45 , MA-37
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	FSU-6, MA-41
Brake pads, rotors & other brake components★			I		I		I		I	MA-43, MA-43 , MA-43
Foot brake, parking brake & clutch (For free play, stroke & operation)			I		I		I		I	BR-6, PB-2 , CL-5
Ventilation air filter★			R		R		R		R	ATC-130
Body corrosion	See NOTE (1)									MA-45

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 (YD22DDTI 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 either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Engine compartment and under vehicle								
Intake & exhaust valve clearance	See NOTE (1)							EM-175
Drive belts		I	I	I	I	I	I	MA-27
Engine oil (Use recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	MA-33
Engine oil filter (Use Eco filter or equivalent)★	See NOTE (3)	R	R	R	R	R	R	MA-33
Engine anti-freeze coolant (Use Genuine Nissan Anti-freeze Coolant (L250) or equivalent)	See NOTE (4)		I			R		MA-28
Cooling system		I	I	I	I	I	I	MA-30
Fuel lines				I			I	MA-31
Air cleaner filter ★				R			R	MA-32
Fuel filter★		D	D	R	D	D	R	MA-31
Fuel injector	See NOTE (5)							EM-157

NOTE:

- **★ Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".**
- **(1) If valve noise increases, check valve clearance.**
- **(2) Never use CG-4 oil.**
- **(3) Oil filter element assembly and O-ring seal are replacement parts.**
- **(4) 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.**
- **(5) If engine power decreases, black exhaust smoke is emitted or engine noise increases, perform this maintenance item.**

CHASSIS AND BODY MAINTENANCE (YD22DDTI 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 either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Underhood and under vehicle								
Headlamp aiming			I		I		I	LT-14
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	MA-41, MA-37
Brake fluid★				R			R	MA-42
Brake booster vacuum hoses, connections & check valve				I			I	BR-25
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	MA-44
Manual transaxle gear oil (For leaks)			I		I		I	MA-37
Transfer gear oil (For level & leaks)		I	I	I	I	I	I	MA-39

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
Differential gear oil (For level & leaks or replace)★		I	I	R	I	I	R	MA-40
Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system★				I			I	MA-43, MA-44, MA-40, MA-45, MA-37
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I	FSU-6, MA-41
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-43, MA-43, MA-43
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-6, CL-5
Ventilation air filter★		R	R	R	R	R	R	ATC-130
Body corrosion	See NOTE (1)							MA-45

NOTE:

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

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 — Repeatedly driving short distances
C — Towing a trailer or caravan
D — Extensive idling
E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
F — Driving in high humidity or mountainous areas
G — Driving in areas using salt or other corrosive materials
H — Driving on rough and/or muddy roads or in the desert
I — Driving with frequent use of braking or in mountainous areas
J — Frequent off road use or driving in water
K —Sustained high speed driving
L — For models without Euro-OBD system

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	Replace	Every 30,000 km (18,000 miles)	MA-23
													Diesel models	Replace	Every 30,000 km (18,000 miles)	MA-32
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil & engine oil filter	Petrol models	Replace	Every 7,500 km (4,500 miles)	MA-23, MA-25
													Diesel models	Replace	Every 10,000 km (6,000 miles)	MA-33, MA-33
A	.	.	.	E	.	.	.	.	.	.	.	Fuel filter	Diesel models	Check & drain water	Every 10,000 km (6,000 miles)	FL-17
														Replace	Every 30,000 km (18,000 miles)	MA-31
.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	Petrol models	Replace	Every 30,000 km (18,000 miles)	MA-42
													Diesel models	Replace	Every 30,000 km (18,000 miles)	MA-42
.	.	C	.	.	.	.	H	.	.	.	.	Differential gear oil	Petrol models	Replace	Every 30,000 km (18,000 miles)	MA-40
													Diesel models	Replace	Every 30,000 km (18,000 miles)	MA-40
.	.	C	.	.	.	.	H	.	.	.	.	Automatic transaxle fluid	Petrol models	Replace	Every 60,000 km (36,000 miles)	MA-39
.	.	.	.	.	.	G	H	.	.	.	.	Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system	Petrol models	Inspect	Every 30,000 km (18,000 miles)	MA-43, MA-44 , MA-40 , MA-45 , MA-37
													Diesel models	Inspect	Every 30,000 km (18,000 miles)	MA-43, MA-44 , MA-40 , MA-45 , MA-37
A	.	C	.	.	.	G	H	I	.	.	.	Brake pads, rotors & other brake components	Petrol models	Inspect	Every 15,000 km (9,000 miles)	MA-43, MA-43 , MA-43
													Diesel models	Inspect	Every 10,000 km (6,000 miles)	MA-43, MA-43 , MA-43
A	.	.	.	.	.	.	.	.	.	.	.	Ventilation air filter	Petrol models	Replace	Every 15,000 km (9,000 miles)	ATC-130
													Diesel models	Replace	Every 10,000 km (6,000 miles)	ATC-130

RECOMMENDED FLUIDS AND LUBRICANTS

PFP:00000

Fluids and Lubricants

ELS000C8

			Capacity (Approximate)		Recommended Fluids/Lubricants
			Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	QR20DE, QR25DE	3.9	3-3/8 qt	● Gasoline engine API SG, SH, SJ or SL *1 ILSAC grade GF-I, GF-II or GF-III *1 ACEA A2 ● Diesel engine API CF-4*1, *2 ACEA B1, B3, B4, B5*1, *2
		YD22DDTi	5.2	4-5/8 qt	
	Without oil filter change	QR20DE, QR25DE	3.5	3-1/8 qt	
		YD22DDTi	4.9	4-3/8 qt	
Dry engine (engine overhaul)		QR20DE, QR25DE	4.5	4 qt	
		YD22DDTi	6.3	5-1/2 qt	
Cooling system (with reservoir)		QR20DE, QR25DE	7.1	6-1/4 qt	● Genuine Nissan Anti-freeze Coolant (L250) or equivalent in its quality*3
		YD22DDTi	9.5	8-3/8 qt	
Reservoir tank		QR20DE, QR25DE	0.6	1/2 qt	
		YD22DDTi	0.6	1/2 qt	
Manual transaxle gear oil			2.3	4pt	● Genuine Nissan gear oil or API GL-4, Viscosity SAE 75W-85
Transfer gear oil			0.31	1/2 pt	● API GL-5*1, Viscosity SAE 80W-90
Differential gear oil			0.55	1 pt	● API GL-5*1, Viscosity SAE 80W-90
Automatic transaxle fluid			8.5	7-1/2 qt	Genuine Nissan ATF or equivalent*4
Power steering fluid			—	—	DEXRON™ III type ATF or equivalent
Brake and clutch fluid			—	—	● DOT 3 or DOT 4 (US FMVSS No. 116)*5
Multi-purpose grease			—	—	NLGI No. 2 (Lithium soap base)

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

*2: Never use API CG-4.

*3: Use Genuine Nissan Anti-freeze Coolant (L250) 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.

*4: Contact a Nissan dealership for more information regarding suitable fluids, including recommended brand(s) of DEXRON™ III/MERCON™ Automatic Transmission Fluid.

*5: Never mix different types of fluids (DOT 3 and DOT 4).

SAE Viscosity Number

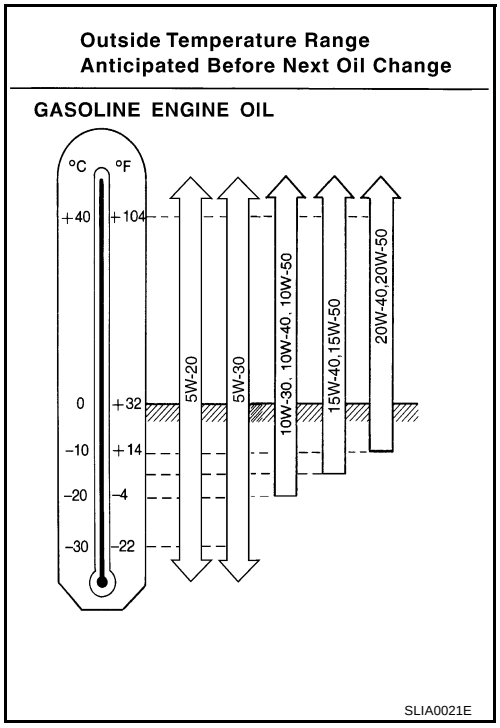
ELS000C9

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.

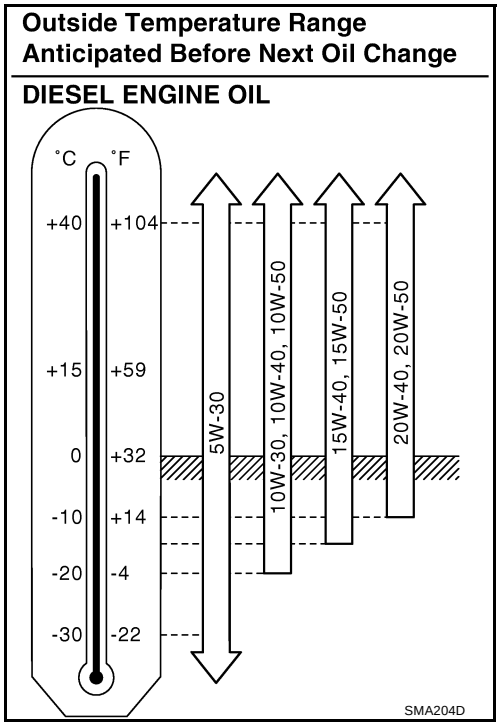
CAUTION:

- **5W-20 should only be used for QR engine models.**
- **5W-20 is not suitable for sustained high speed driving.**



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

ELS000AN

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.

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

SMA089D

CAUTION:

- **When adding or replacing coolant, be sure to use only Genuine Nissan Anti-freeze Coolant (L250) or equivalent. Because L250 is premixed type coolant.**

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

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

Mixed coolant specific gravity

Unit: specific gravity

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

WARNING:

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

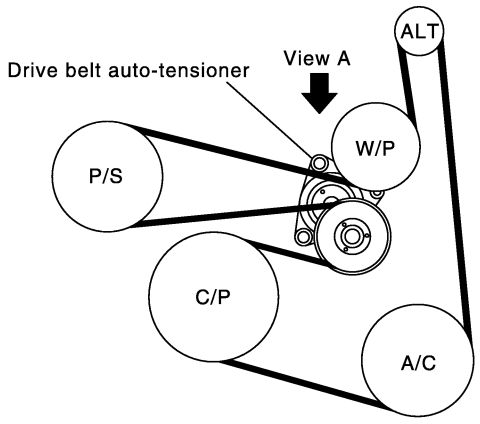
ENGINE MAINTENANCE (QR20DE·QR25DE)

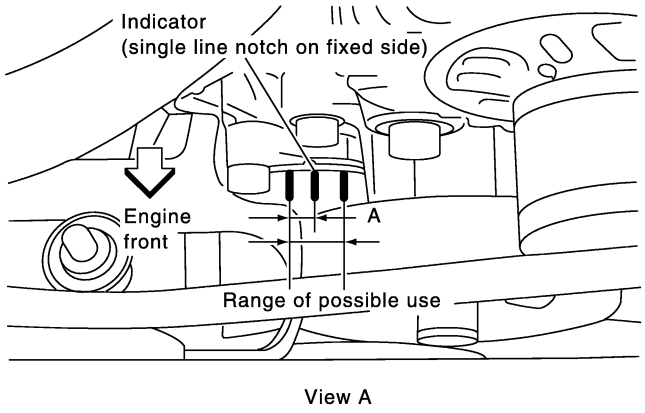
PFP:00100

Checking Drive Belts

ELS000ZC

SEC. 117





PBIC1234E

WARNING:

Be sure to perform when the engine is stopped.

- Make sure that the indicator (single line notch on fixed side) of drive belt auto-tensioner is within the possible use range (between three line notches on moving side).

  NOTE:

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

Tension Adjustment

ELS000ZD

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

Changing Engine Coolant

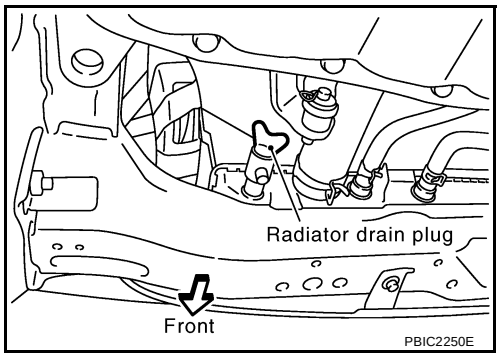
ELS000ZE

WARNING:

- **To avoid being scalded, do not change engine coolant when engine is hot.**
- **Wrap a thick cloth around radiator 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.**
- **Be careful not to allow engine coolant to contact drive belt.**

DRAINING ENGINE COOLANT

1. Remove RH and LH undercovers.
2. Open radiator drain plug at the bottom of radiator, and then remove radiator cap.



PBIC2250E

When drain all of engine coolant in the system, open water drain plug on cylinder block. Refer to EM-82, "CYLINDER BLOCK" .

3. Remove reservoir tank and drain engine coolant.
4. Check drained engine coolant for contaminants such as rust, corrosion or discoloration. If contaminated, flush the engine cooling system. Refer to CO-10, "FLUSHING COOLING SYSTEM" .

REFILLING ENGINE COOLANT

1. Install reservoir tank, and radiator drain plug.

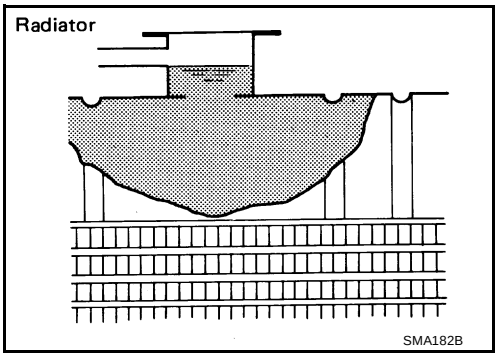
   CAUTION:
   Be sure to clean radiator drain plug and install with new O-ring.

   - **If water drain plug on cylinder block is removed, close and tighten it. Refer to EM-82, "CYLINDER BLOCK" .**

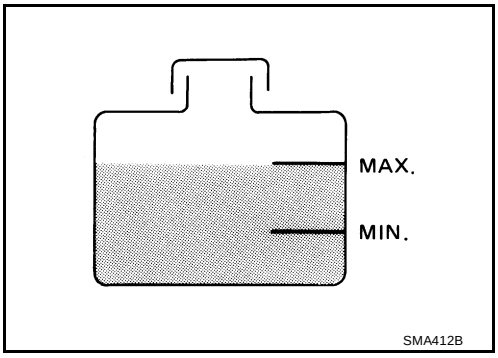
2. Fill radiator and reservoir tank to specified level.

   - **Pour engine coolant through engine coolant filler neck slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.**
   - **Use Genuine Nissan Anti-freeze Coolant or equivalent mixed with water (distilled or demineralized). Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS".**

   Engine coolant capacity
   (with reservoir tank at "MAX" level)
   : Approx. 7.1 ℓ (6-1/4 Imp qt)



   Reservoir tank capacity (at "MAX" level)
   : 0.6 ℓ (1/2 Imp qt)



3. Warm up engine to normal operating temperature with radiator cap installed.
4. Run engine at 3,000 rpm for 10 seconds and return to idle speed.
   - Repeat two or three times.

   CAUTION:
   Watch water temperature gauge so as not to overheat the engine.
5. Stop engine and cool down to less than approximately 50°C (122°F).
   - Cool down using a fan to reduce the time.
   - If necessary, refill radiator up to filler neck with engine coolant.
6. Refill reservoir tank to "MAX" level line with engine coolant.
7. Repeat steps 2 through 5 two or more times with radiator cap installed until engine coolant level no longer drops.
8. Check cooling system for leaks with engine running.
9. Warm up 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.
10. Repeat step 9 three times.
11. If sound is heard, bleed air from cooling system by repeating steps 2 through 5 until engine coolant level no longer drops.
    - **Clean excess engine coolant from engine.**

FLUSHING COOLING SYSTEM

1. Fill radiator and reservoir tank with water and reinstall radiator 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 from the system. Refer to MA-20, "DRAINING ENGINE COOLANT" .
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.

Checking Cooling System

ELS000ZF

WARNING:

- **Do not remove radiator cap when the engine is hot. Serious burns occur from high-pressure engine coolant escaping from radiator.**
- **Wrap a thick cloth around radiator 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.**

CHECKING COOLING SYSTEM HOSES

Check hoses for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.

CHECKING RADIATOR

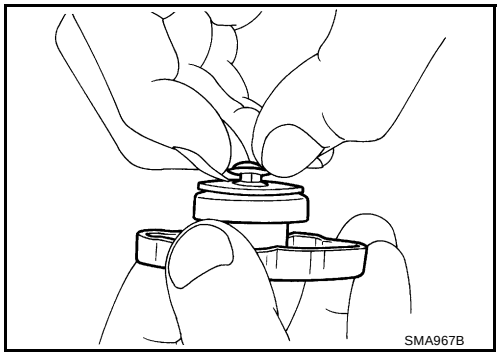
Check radiator for mud or clogging. If necessary, clean radiator as follows.

- Be careful not to bend or damage radiator fins.
- When radiator is cleaned without removal, remove all surrounding parts such as cooling fan, radiator shroud 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 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 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.

CHECKING RADIATOR CAP

1. Pull negative-pressure valve to open it and make sure that it closes completely when released.
   - Make sure that there is no dirt or damage on the valve seat of radiator cap negative-pressure valve.
   - Make sure that there are no unusualness in the opening and closing conditions of negative-pressure valve.



2. Check radiator cap relief pressure.

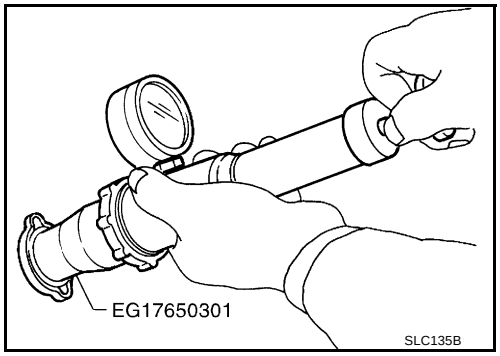
   Standard:

   78 - 98 kPa (0.78 - 0.98 bar, 0.8 - 1.0 kg/cm^2 , 11 - 14 psi)

   Limit:

   59 kPa (0.59 bar, 0.6 kg/cm^2 , 9 psi)

   - When connecting radiator cap to radiator cap tester (commercial service tool) and radiator cap tester adapter (special service tool), apply engine coolant to radiator cap seal surface.
   - Replace radiator cap if there is an unusualness in negative-pressure valve, or if the relief pressure falls below the limit.

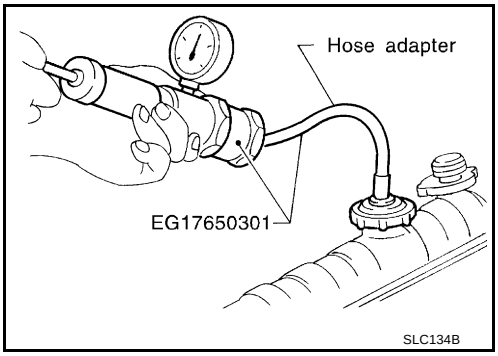


CHECKING RADIATOR SYSTEM FOR LEAKS

- To check for leakage, apply pressure to the cooling system with a radiator cap tester (commercial service tool) and a radiator cap tester adapter (special service tool).

Testing pressure:

157 kPa (1.57 bar, 1.6 kg/cm^2 , 23 psi)



WARNING:

Do not remove radiator cap when engine is hot. Serious burns could occur from high-pressure engine coolant escaping from radiator.

CAUTION:

Higher test pressure than specified may cause radiator damage.

NOTE:

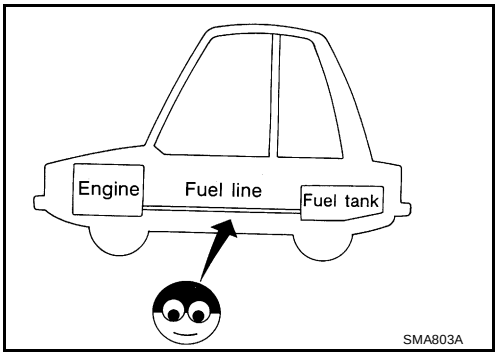
In a case that engine coolant decreases, replenish radiator with engine coolant.

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

Checking Fuel Lines

ELS000ZG

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

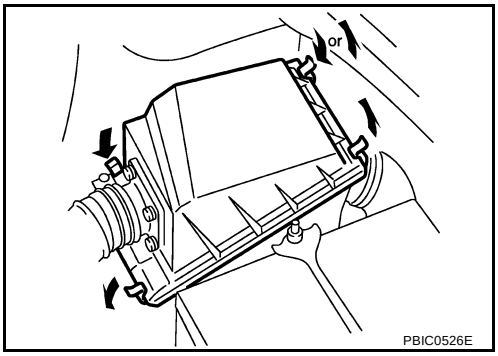


Changing Air Cleaner Filter

ELS000ZH

VISCOUS PAPER TYPE

The viscous paper type filter does not need cleaning.



Changing Engine Oil

ELS000ZI

WARNING:

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

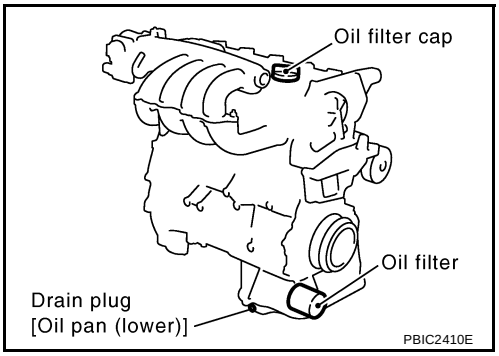
1. Warm up engine, put vehicle horizontally and check for oil leakage from engine components. Refer to LU-7, "ENGINE OIL LEAKAGE" .
2. Stop engine and wait for 10 minutes.

3. Loosen oil filler cap and then remove drain plug.
4. Drain engine oil.
5. Install drain plug with new washer. Refer to EM-25, "OIL PAN AND OIL STRAINER" .

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

Oil pan drain plug:

: 34.3 N·m (3.5 kg-m, 25 ft-lb)



6. Refill with new engine oil.
Engine oil specification and viscosity:
Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS" .

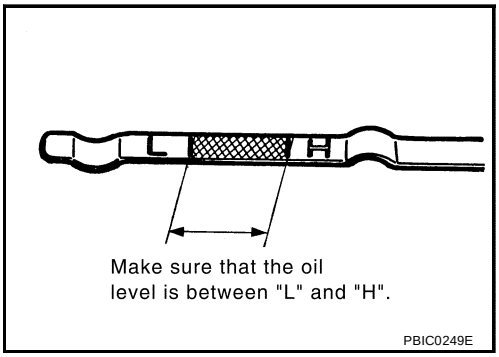
Engine oil capacity (Approximate):

Unit: ℓ (Imp qt)

Drain and refill	With oil filter change	3.9 (3-3/8)
	Without oil filter change	3.5 (3-1/8)
Dry engine (Overhaul)		4.5 (4)

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 the determine when the proper amount of engine oil is in the engine.**

7. Warm up engine and check area around drain plug and oil filter for oil leakage.
8. Stop engine and wait for 10 minutes.
9. Check the engine oil level.

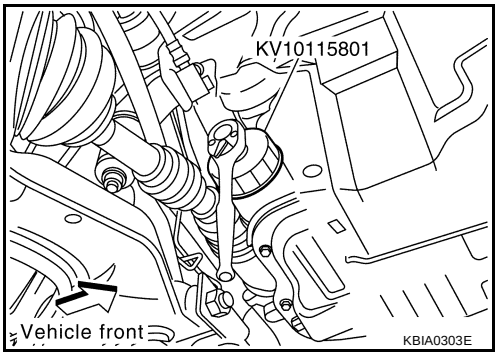


Changing Oil Filter

ELS000ZJ

REMOVAL

1. Open oil filter installation/removal cover on RH undercover.
2. Using an oil filter wrench (special service tool), remove oil filter.

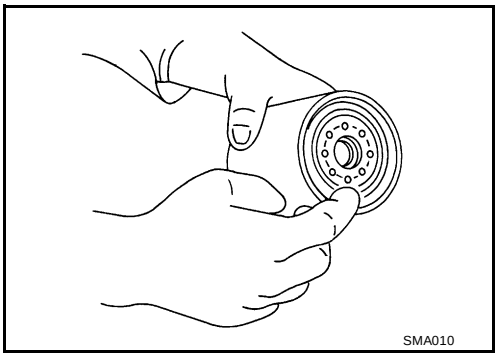


CAUTION:

- **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.**
- **Do not allow engine oil to adhere to drive belt.**
- **Completely wipe off any engine oil that adheres to engine and vehicle.**

INSTALLATION

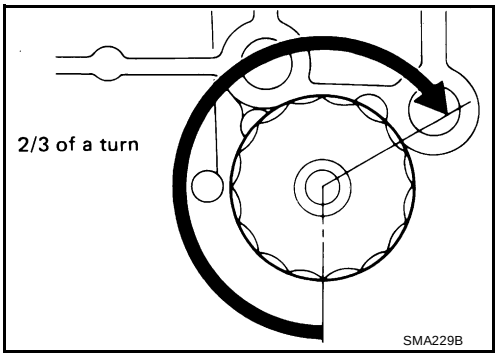
1. Remove foreign materials adhering to the oil filter installation surface.
2. Apply new engine oil to the oil seal contact surface of new oil filter.



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

Oil filter:

: 17.6 N·m (1.8 kg-m, 13 ft-lb)



INSPECTION AFTER INSTALLATION

1. Start engine, and make sure there is no leaks of engine oil.
2. Stop engine and wait for 10 minutes.
3. Check the engine oil level and add engine oil. Refer to MA-23, "Changing Engine Oil" .

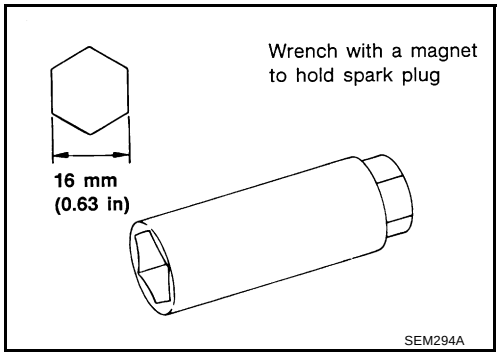
Checking and Changing Spark Plugs

ELS000ZK

REMOVAL

1. Remove ignition coil. Refer to EM-29, "IGNITION COIL" .
2. Remove spark plug with spark plug wrench (commercial service tool).

CAUTION:
Do not drop or shock it.



INSPECTION AFTER REMOVAL

Use standard type spark plug for normal condition.
Hot type spark plug is suitable when fouling occurs with standard type spark plug under conditions such as:

- Frequent engine starts
- Low ambient temperatures

Cold type spark plug is suitable when spark plug knock occurs with standard type spark plug under conditions such as:

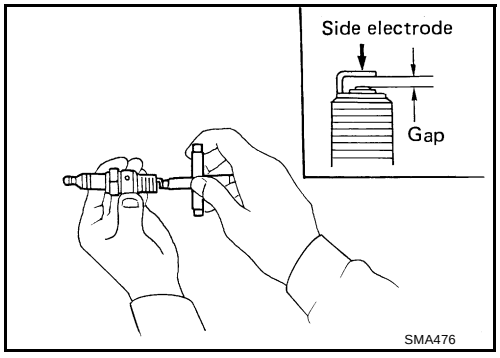
- Extended highway driving
- Frequent high engine revolution

Make	NGK
Standard type	LFR5A-11
Hot type	LFR4A-11
Cold type	LFR6A-11

- Check plug gap of each spark plug.

Standard **:1.0 - 1.1 mm (0.039 - 0.043 in)**

- If out of standard, adjust or replace spark plug.
- Use a wire brush for cleaning, if necessary.



INSTALLATION

Install in the reverse order of removal.

Spark plug:

: 24.5 N·m (2.5 kg-m, 18 ft-lb)

Checking EVAP Vapor Lines

ELS000ZL

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

Refer to EC-474, "EVAPORATIVE EMISSION LINE DRAWING" .

ENGINE MAINTENANCE (YD22DDTI)

PFP:00100

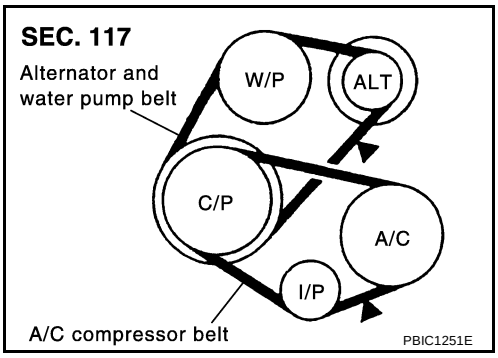
Checking Drive Belts

ELS000CC

- Before inspecting the engine, make sure the engine has cooled down; wait approximately 30 minutes after the engine has been stopped.
- Visually inspect all belts for wear, damage or cracks on contacting surfaces and edge areas.
- When measuring deflection, apply 98 N (10 kg, 22 lb) at the marked point (▲).

CAUTION:

- **When checking belt deflection immediately after installation, first adjust it to the specified value. Then, after turning the crankshaft two turns or more, re-adjust to the specified value to avoid variation in deflection between pulleys.**
- **Tighten idler pulley lock nut by hand and measure deflection without looseness.**



Belt Deflection:

Applied belt	Belt deflection with 98 N (10 kg, 22 lb) force applied* mm (in)		
	New	Adjusted	Limit for re-adjusting
A/C compressor belt	4 - 5 (0.16 - 0.20)	6 - 7 (0.24 - 0.28)	8.5 (0.335)
Alternator and water pump belt	9.0 - 10.5 (0.354 - 0.413)	11.0 - 12.5 (0.433 - 0.492)	16.5 (0.650)

*: When engine is cold.

Tension Adjustment

ELS000K5

Adjust belts with the parts shown below.

Applied belt	Belt adjustment method
A/C compressor belt	Adjusting bolt on idler pulley
Alternator and water pump belt	Adjusting bolt on alternator

CAUTION:

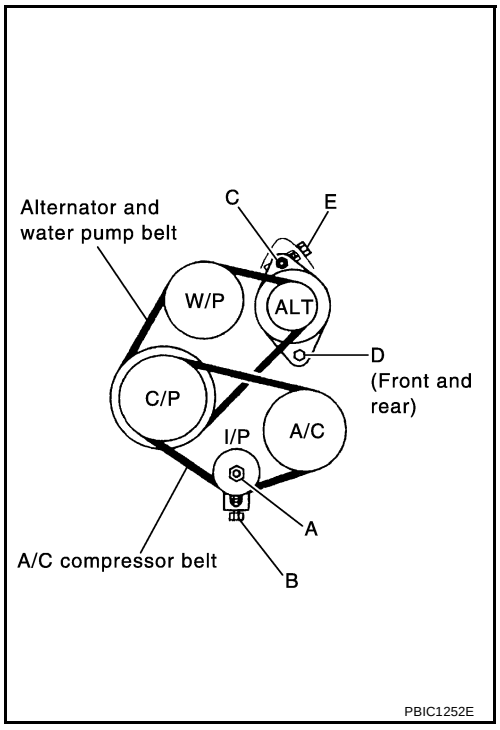
- **When a new belt is installed as a replacement, adjust it to the specified value under “New” value because of insufficient adaptability with pulley grooves.**
- **If the belt deflection of the current belt is out of the “Limit for re-adjusting”, adjust to the “Adjusted” value.**
- **When checking belt deflection immediately after installation, first adjust it to the specified value. Then, after turning crankshaft two turns or more, re-adjust it to the specified value to avoid variation in deflection between pulleys.**
- **Make sure the belts are fully fitted into the pulley grooves during installation.**
- **Handle with care to avoid smearing the belts with engine oil or engine coolant etc.**
- **Do not twist or bend the belts with strong force.**

A/C COMPRESSOR BELT

1. Remove RH engine undercover.
2. Loosen idler pulley lock nut (A).
3. Turn adjusting bolt (B) to adjust.
   - Refer to MA-27, "Checking Drive Belts" .
4. Tighten lock nut (A).

Nut A:

: 31 - 39 N-m (3.1 - 4.0 kg-m, 23 - 28 ft-lb)



ALTERNATOR AND WATER PUMP BELT

1. Loosen adjusting lock nut (C).
2. Loosen alternator fixing bolts (D) (each on front and rear).
3. Turn adjusting bolt (E) to adjust.
   - Refer to MA-27, "Tension Adjustment" .
4. Tighten nut (C) and bolt (D) in this order.

Nut C:

: 19 - 24 N-m (1.9 - 2.5 kg-m, 14 - 18 ft-lb)

Bolt D:

: 44 - 57 N-m (4.4 - 5.9 kg-m, 32 - 42 ft-lb)

Changing Engine Coolant

ELS000CD

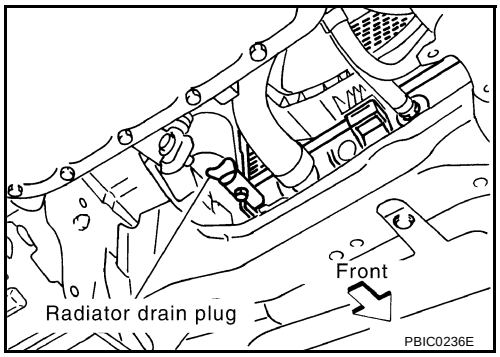
WARNING:

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

DRAINING ENGINE COOLANT

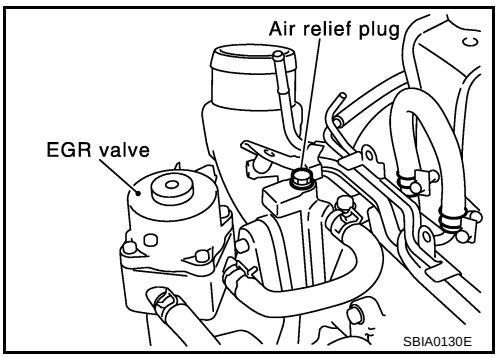
1. Remove engine undercover.
2. Open radiator drain plug at the bottom of radiator, and remove radiator cap.

   NOTE:
   - Be careful not to allow engine coolant to contact drive belts.
   - Cover the exhaust tube heat shield to prevent from splashing engine coolant.



When draining all the engine coolant in the system, also perform the following steps.

3. Remove air relief plug.



4. Open cylinder block drain plug. Refer to EM-212, "CYLINDER BLOCK" .
5. Remove reservoir tank, drain engine coolant, then clean reservoir tank.
6. Check drained engine coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system. Refer to CO-33, "FLUSHING COOLING SYSTEM" .

REFILLING ENGINE COOLANT

1. Install reservoir tank, and radiator drain plug.

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

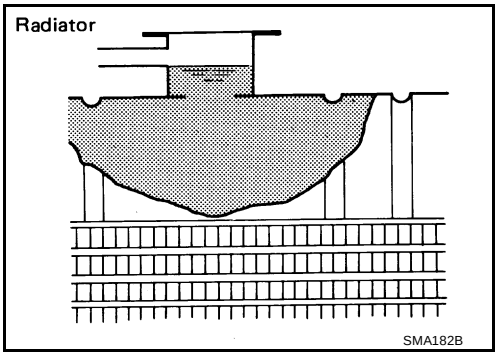
   - **If water drain plug on cylinder block is removed, close and tighten it. Refer to EM-82, "CYLINDER BLOCK" .**

2. Fill radiator and reservoir tank to specified level.

   - **Pour engine coolant through engine coolant filler neck slowly of less than 2 ℓ (1-3/4 lmp qt) a minute to allow air in system to escape.**
   - **Use Genuine Nissan Anti-freeze Coolant or equivalent mixed with water (distilled or demineralized). Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS".**

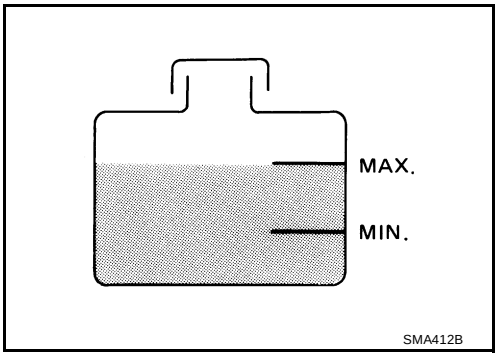
     Engine coolant capacity
     (with reservoir tank at “MAX” level)

     : Approx. 9.5 ℓ (8-3/8 lmp qt)



     Reservoir tank capacity (at “MAX” level)

     : 0.6 ℓ (1/2 lmp qt)



   - When engine coolant overflows air relief hole, install air relief plug with new copper washer.

     Air relief plug:

     : 6.9 - 7.8 N·m (0.7 - 0.8 kg-m, 61 - 69 in-lb)

3. Warm up engine to normal operating temperature without radiator cap installed.
   - **If engine coolant overflows radiator filler hole, install radiator cap.**
4. Run engine at 3,000 rpm for 10 seconds and return to idle speed with radiator cap installed.
   - Repeat two or three times.

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

5. Stop engine and cool down to less than approximately 50°C(122°F).
   - Cool down using a fan to reduce the time.
   - If necessary, refill radiator up to filler neck with engine coolant.
6. Refill reservoir tank to MAX level line with engine coolant.

7. Repeat steps 2 through 5 two or more times with radiator cap installed until engine coolant level no longer drops.
8. Check cooling system for leaks with engine running.
9. Warm up 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.
10. Repeat step 9 three times.
11. If sound is heard, bleed air from cooling system by repeating steps 2 through 5 until engine coolant level no longer drops.
    - **Clean excess engine coolant from engine.**

FLUSHING COOLING SYSTEM

1. Fill radiator with water until water spills from the air relief hole, then close air relief flag. Fill radiator and reservoir tank with water and reinstall radiator 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 from the system. Refer to MA-28, "DRAINING ENGINE COOLANT" .
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.

Checking Cooling System

ELS000C4

WARNING:

Never remove the radiator cap when the engine is hot. Serious burns could occur from high pressure engine coolant escaping from the radiator. Wrap a thick cloth around the cap. Slowly turn it a quarter turn to allow built-up pressure to escape. Carefully remove the cap by turning it all the way.

CHECKING COOLING SYSTEM HOSES

Check hoses for improper attachment, leaks, cracks, damage, loose connections, chafing and deterioration.

CHECKING RADIATOR

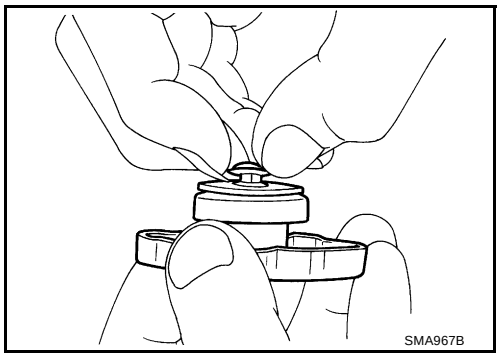
Check radiator for mud or clogging. If necessary, clean radiator as follows.

- Be careful not to bend or damage the radiator fins.
- When radiator is cleaned without removal, remove all surrounding parts such as cooling 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.

CHECKING RADIATOR CAP

1. Pull negative-pressure valve to open it and make sure that it closes completely when released.
   - Make sure that there is no dirt or damage on the valve seat of radiator cap negative-pressure valve.
   - Make sure that there are no unusualness in the opening and closing conditions of negative-pressure valve.



2. Check radiator cap relief pressure.

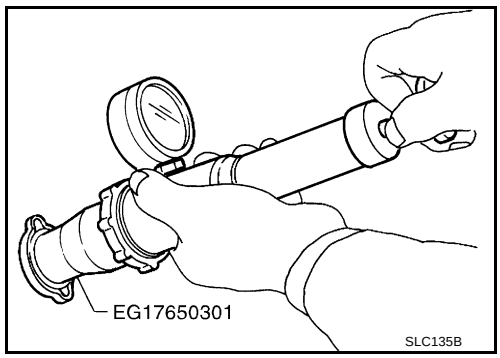
Standard:

78 - 98 kPa (0.78 - 0.98 bar, 0.8 - 1.0 kg/cm^2 , 11 - 14 psi)

Limit:

59 kPa (0.59 bar, 0.6 kg/cm^2 , 9 psi)

- When connecting radiator cap to radiator cap tester (commercial service tool) and radiator cap tester adapter (special service tool), apply engine coolant to the cap seal surface.
- Replace radiator cap if there is an unusualness in negative-pressure valve, or if the relief pressure exceed the limit.



CHECKING RADIATOR SYSTEM FOR LEAKS

- To check for leaks, apply pressure to the cooling system with radiator cap tester (commercial service tool) and radiator cap tester adapter (special service tool).

Testing pressure:

157 kPa (1.57 bar, 1.6 kg/cm^2 , 23 psi)

WARNING:

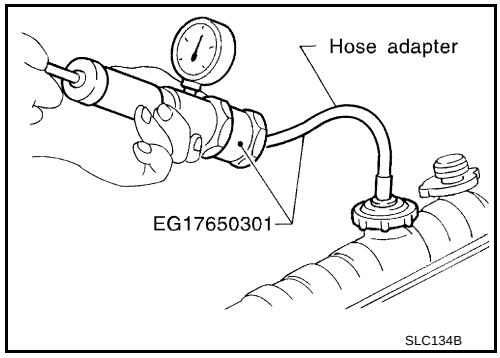
Never remove the radiator cap when the engine is hot. Serious burns could occur from high pressure engine coolant escaping from the radiator.

CAUTION:

Higher test pressure than specified may cause radiator damage.

NOTE:

In a case that engine coolant decreases, replenish radiator with engine coolant.

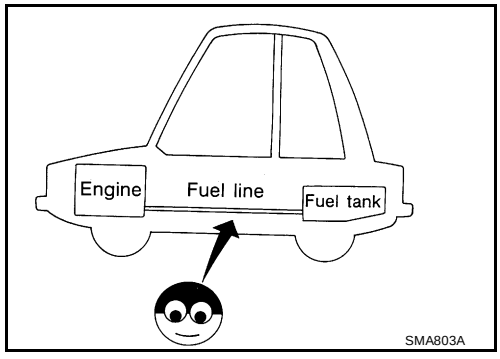


- If anything is found, repair or replace damaged parts.

Checking Fuel Lines

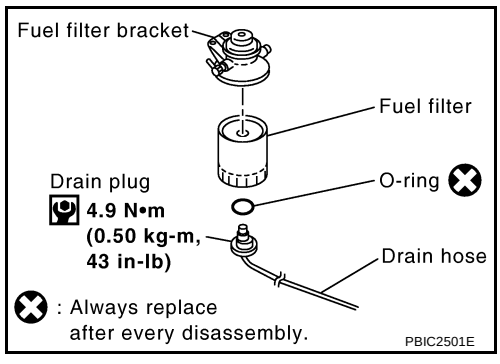
ELS000CE

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



Changing Fuel Filter

ELS000CF

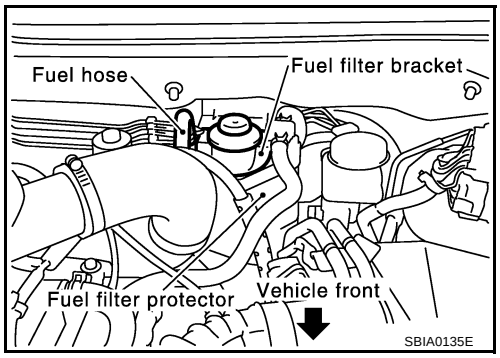


REMOVAL

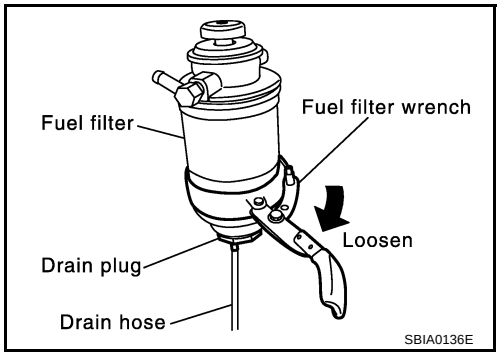
1. Remove air duct, air cleaner case and mass air flow sensor assembly. Refer to EM-133, "AIR CLEANER AND AIR DUCT" .
2. Remove fuel filter protector.
3. Remove fuel hoses from fuel filter bracket.

   CAUTION:
   Plug the pipe to prevent fuel from draining.
4. Remove fuel filter with fuel filter bracket.

   CAUTION:
   Do not splash fuel during removal. If fuel is splashed, immediately wipe it off.



5. Using band-type fuel filter wrench (commercial service tool), remove fuel filter.
6. Turn fuel filter upside down to drain fuel.
7. Remove drain plug from fuel filter.



INSTALLATION

Install in reverse order of removal, paying attention to following:

- Replace O-ring on drain plug with new one.

  Fuel filter drain plug:

  : 4.9 N·m (0.50 kg-m, 43 in-lb)
- Screw the fuel filter by hand until packing contacts sealing surface of bracket. Then tighten it by turning approximately 2/3 turn.
- After installation, bleed air from fuel path. Refer to FL-18, "Air Bleeding" .

INSPECTION AFTER INSTALLATION

Make sure there is no fuel leakage at connections in the following steps.

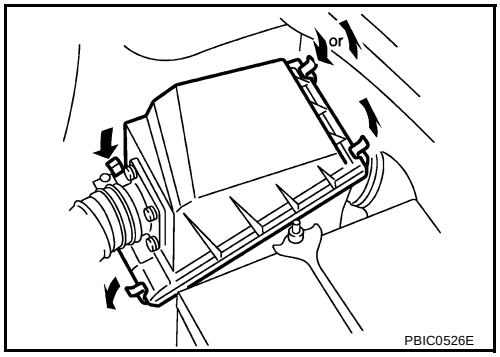
- Start the engine and rev it up and check for fuel leaks at connections.

Changing Air Cleaner Filter

ELS000CG

VISCOUS PAPER TYPE

The viscous paper type air cleaner filter does not require any cleaning operation between renewal.



Changing Engine Oil

ELS000CH

WARNING:

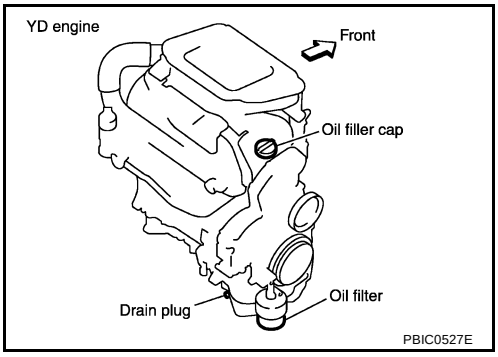
- **Be careful not to burn yourself, as the engine oil is hot.**
- **Prolonged and repeated contact with used engine oil may cause skin cancer: try to avoid direct skin contact with used engine oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**

1. Warm up engine, put vehicle horizontally and check for engine oil leakage from engine components.
2. Stop engine and wait for 10 minutes.
3. Loosen oil filter cap and then remove drain plug.
4. Drain engine oil.
5. Install drain plug with new washer. Refer to EM-147, "OIL PAN AND OIL STRAINER" .

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

   Oil pan drain plug:

   : 34 N·m (3.5 kg-m, 25 ft-lb)



6. Refill with new engine oil.
   Engine oil specification and viscosity:
   Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS" .

   Engine oil capacity (Approximate):

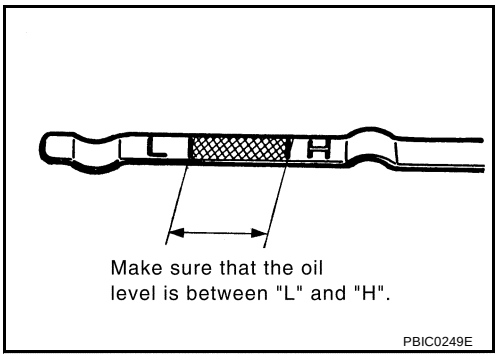
Unit: ℓ (Imp qt)

Drain and refill	With oil filter change	5.2 (4-5/8)
	Without oil filter change	4.9 (4-3/8)
Dry engine (Overhaul)		6.3 (5-1/2)

CAUTION:

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

7. Warm up engine and check area around drain plug and oil filter for oil leakage.
8. Stop engine and wait for 10 minutes.
9. Check the engine oil level.



Changing Oil Filter (TYPE A)

ELS000CI

REMOVAL

1. Open oil filter installation/ removal cover on RH engine undercover.
2. Using the oil filter wrench, remove the oil filter.

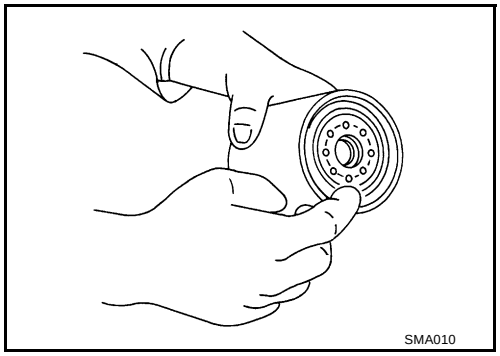
   CAUTION:

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

- **The oil filter is provided with a relief valve.**

INSTALLATION

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



3. Screw the oil filter manually until it touches the installation surface, then tighten it by 1/2 turn. Or tighten to specification.

Oil filter:

: 18 N·m (1.8 Kg-m, 13 ft-lb)

INSPECTION AFTER INSTALLATION

1. Start engine, and check there is no leak of engine oil.
2. Stop engine and wait for 10 minutes.
3. Check the engine oil level and add engine oil. Refer to MA-33, "Changing Engine Oil" .

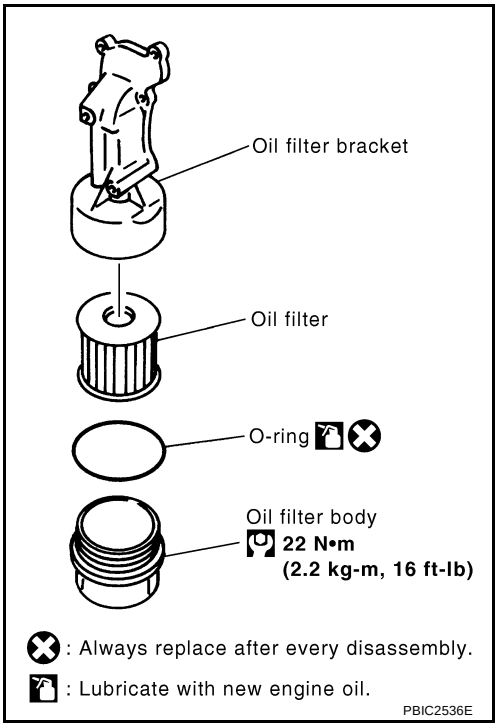
Changing Oil Filter (TYPE B)

ELS000ZM

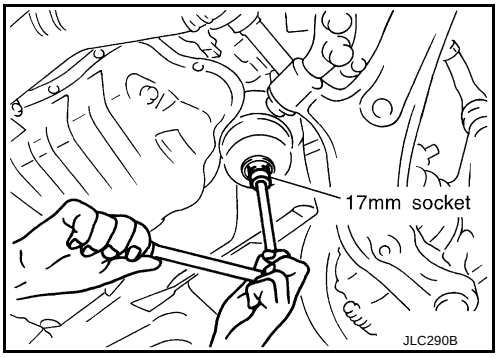
REMOVAL

CAUTION:

- **Be careful not to get burned when engine and engine oil are hot.**
- **When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.**
- **Do not allow engine oil to adhere to drive belts.**
- **Completely wipe off any engine oil that adhere to engine and vehicle.**

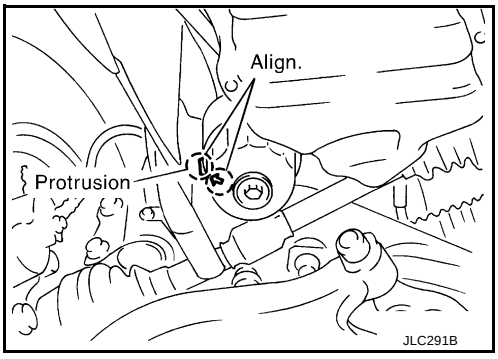


1. Open oil filter installation/removal cover on RH engine undercover.
2. Using a socket wrench [plane-to-plane width: 17 mm (0.67 in)], loosen oil filter body approximately four turns.



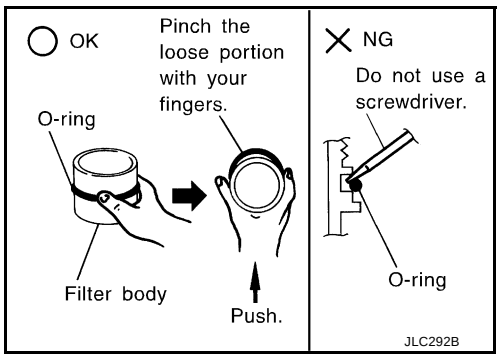
3. Drain engine oil after matching the "DRAIN" arrow mark at the bottom of oil filter body to the protrusion on oil filter bracket.
   - Catch engine oil with a pan or cloth.

   CAUTION:
   - **The drained engine oil flows over the right surface of oil filter body.**
   - **Completely wipe clean any engine oil remaining on oil filter body or vehicle.**
4. Remove oil filter body, then remove oil filter.



5. Remove O-ring from oil filter body.
   - Push O-ring in one direction, lift the slack part using fingers, and remove O-ring from oil filter body.

   CAUTION:
   Do not use a screwdrivers etc. as they may cause damage to oil filter body.



INSTALLATION

1. Completely remove all foreign objects adhering to the inside of oil filter body or O-ring mounting area (body side and bracket side).
2. Install oil filter and O-ring to oil filter body.
   - Push oil filter into filter body completely.
3. Install oil filter body to oil filter bracket.

Oil filter body:

: 22 N·m (2.2 Kg-m, 16 ft-lb)

INSPECTION AFTER INSTALLATION

1. After warming up engine, check there is no leaks of engine oil.
2. Stop engine and wait for 10 minutes.
3. Check the engine oil level and add engine oil. Refer to MA-33, "Changing Engine Oil" .

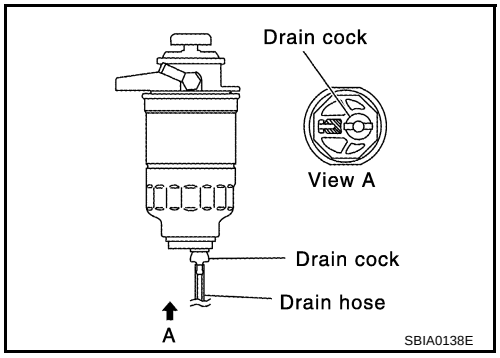
Draining Water

ELS000CJ

1. Prepare a tray at the drain hose open end.
2. Loosen drain cock, and operate priming pump 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 mount insulator.**
3. After draining, close drain cock by hand.

   CAUTION:
   If drain cock is tightened excessively, it may be damaged and fuel will leak. Do not use tools to tighten drain cock.
4. Bleed air in fuel piping. Refer to FL-18, "Air Bleeding" .
5. Start engine and make sure there is no fuel leakage.



CHASSIS AND BODY MAINTENANCE

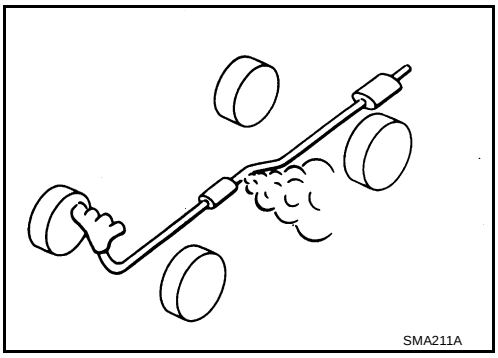
PFP:00100

Checking Exhaust System

ELS000B9

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

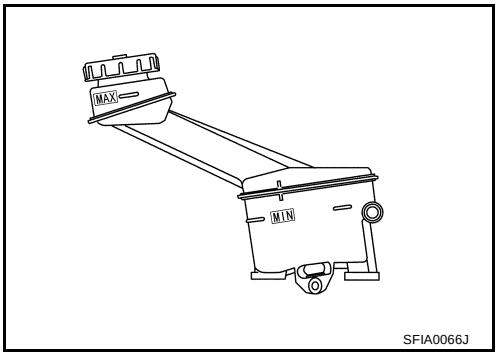
- If anything is found, repair or replace damaged parts.


SMA211A

Checking Clutch Fluid Level and Leaks

ELS000BA

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

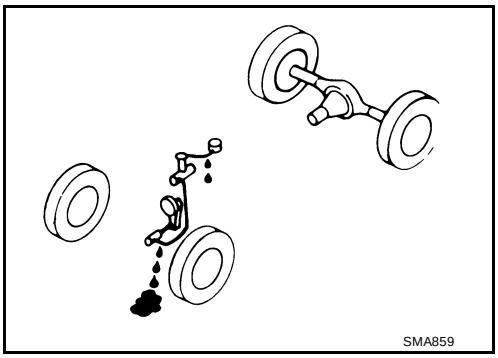


SFIA0066J

Checking Clutch System

ELS000BB

Check fluid lines and operating cylinder for improper attachment, cracks, damage, loose connections, chafing and deterioration.


SMA859

Checking M/T Oil

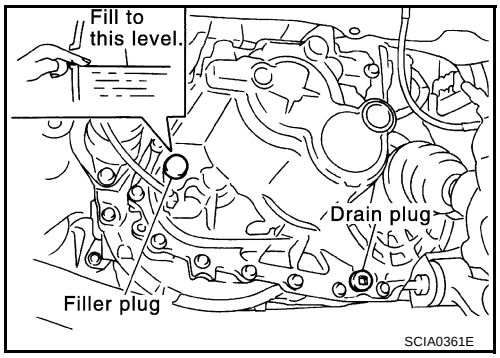
ELS000BC

Check for oil leakage.

Changing M/T Oil

ELS000BD

1. Drain oil from drain plug and refill with new gear oil.
2. Check oil level.



Oil grade:

API GL-4

Viscosity:

Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS"

Oil capacity:

Approx. 2.3 ℓ (4 Imp pt)

Filler plug and drain plug:

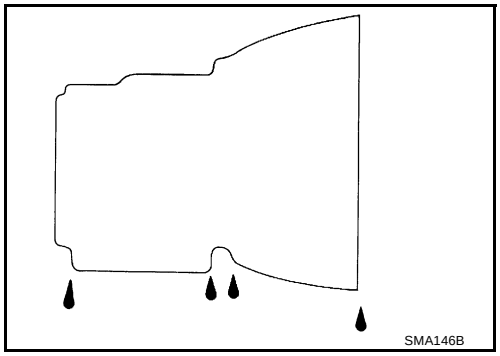
: 30 - 39 N·m (3.1 - 3.9 kg-m, 23 - 28 ft-lb)

CAUTION:
Do not reuse gasket.

Checking A/T Fluid

ELS000BV

1. Warm up engine.
2. Check for fluid leakage.



3. Before driving, fluid level can be checked at fluid temperatures of 30 to 50°C (86 to 122°F) using “COLD” range on dipstick.

a. Park vehicle on level surface and set parking brake.
b. Start engine and move selector lever through each gear position. Leave selector lever in “P” position.
c. Check fluid level with engine idling.
d. Remove dipstick and wipe clean lint-free paper.

CAUTION:
When wiping away the dipstick, always use lint-free paper, not cloth one.

e. Re-insert dipstick into charging pipe as far as it will go.

CAUTION:
To check fluid level, insert the dipstick until the cap contacts the end of the A/T fluid charging pipe, with the dipstick reversed from the normal attachment conditions.

f. Remove dipstick and note reading. If reading is at low side of range, add fluid to the A/T fluid charging pipe.

CAUTION:
Do not overfill.

4. Drive vehicle for approximately 5 minutes in urban areas.
5. Re-check fluid level at fluid temperatures of 50 to 80°C (122 to 176°F) using “HOT” range on dipstick.

CAUTION:
- **When wiping away the dipstick, always use lint-free paper, not cloth one.**
- **To check fluid level, insert the dipstick until the cap contacts the end of the A/T fluid charging pipe, with the dipstick reversed from the normal attachment conditions.**

6. Check fluid condition.
   - If fluid is very dark or smells burned, refer to AT section for checking operation of A/T. Flush cooling system after repair of A/T.
   - If A/T fluid contains frictional material (clutches, bands, etc.), replace radiator and flush cooler line using cleaning solvent and compressed air after repair of A/T. Refer to CO-12, "RADIATOR" , CO-14, "RADIATOR (ALUMINUM TYPE)" .
7. Install the removed dipstick in the A/T fluid charging pipe.

ELS000BW

Changing A/T Fluid

1. Warm up A/T fluid.
2. Stop engine.
3. Drain A/T fluid from drain plug and refill with new A/T fluid. Always refill same volume with drained fluid.

Fluid grade:

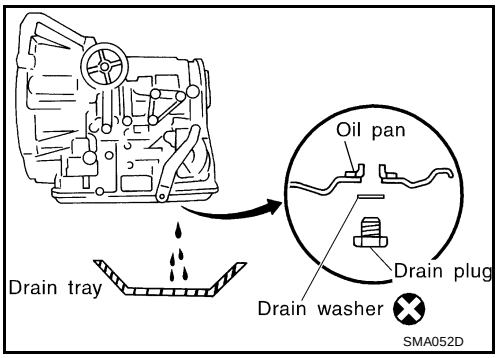
Genuine Nissan ATF or equivalent. Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS" .

Fluid capacity (With torque converter):

Approx. 8.5 ℓ (7-1/2 lmp qt)

Drain plug:

: 34 N·m (3.5 kg-m, 25 ft-lb)



4. Run engine at idle speed for five minutes.
5. Check fluid level and condition. Refer to MA-38, "Checking A/T Fluid" . If fluid is still dirty, repeat steps 2 through 5.

Checking Transfer Oil

ELS000BT

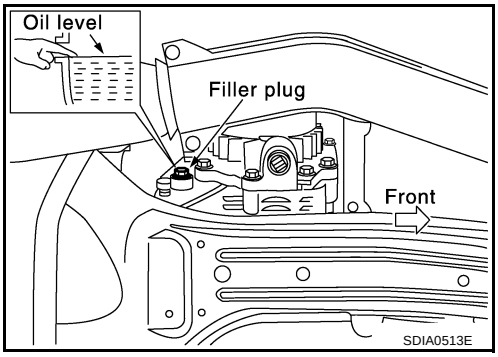
Check for oil leakage and oil level.

CAUTION:

Never start engine while checking oil level.

Filler plug:

: 9.8 - 19.6 N·m (1.0 - 1.9 kg-m, 87 - 173 in-lb)



Changing Transfer Oil

ELS000BU

1. Drain oil from drain plug and refill with new gear oil.

2. Check oil level.

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

Oil grade:

API GL-5

Viscosity:

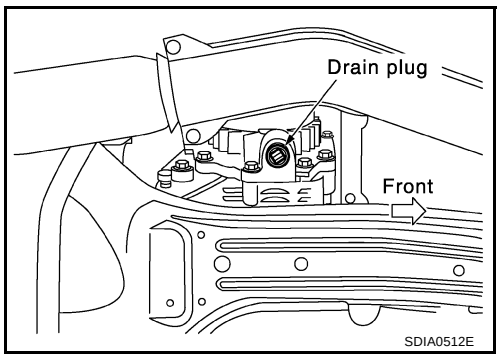
Refer toMA-17, "RECOMMENDED FLUIDS AND LUBRICANTS"

Oil capacity:

: Approx. 0.31 ℓ (1/2 Imp pt)

Drain plug:

: 9.8 - 19.6 N·m (1.0 - 1.9 kg-m, 87 - 173 in-lb)



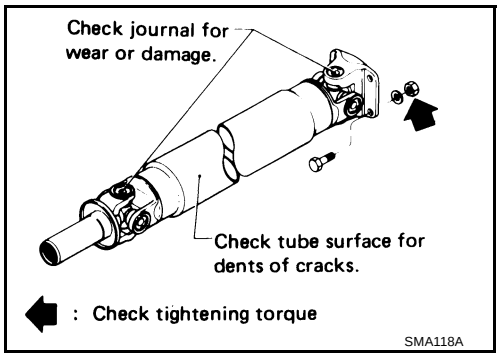
Checking Propeller Shaft

ELS000BE

Check propeller shaft for damage, looseness or grease leakage.

Tightening torque:

Refer to PR-3, "REAR PROPELLER SHAFT" .



Checking Differential Gear Oil

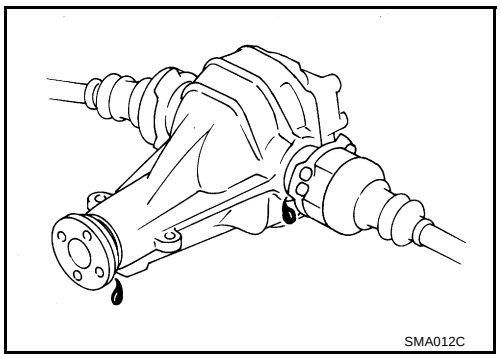
ELS000BF

1. Check for oil leakage and oil level.

Filler plug:

: 35 N·m (3.6 kg-m, 26 ft-lb)

CAUTION:
Gaskets are not reusable. Never reuse them.



Changing Differential Gear Oil

ELS000BG

1. Drain oil from drain plug and refill with new gear oil.
2. Check oil level.

Oil grad and Viscosity:

Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS" .

Capacity:

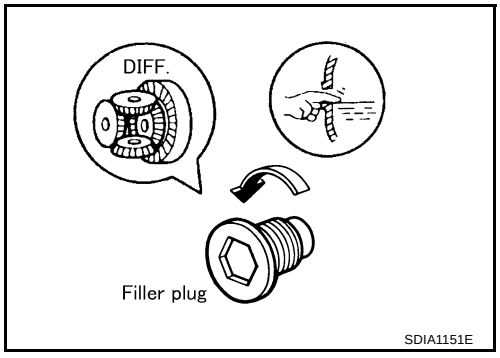
0.55 ℓ (1-1/8 US pt, 1 Imp pt)

Drain plug:

: 35 N·m (3.6 kg-m, 26 ft-lb)

Filler plug:

: 35 N·m (3.6 kg-m, 26 ft-lb)



CAUTION:
Gaskets are not reusable. Never reuse them.

Balancing Wheels

ELS000BH

Adjust wheel balance using the road wheel center.

Wheel balance (Maximum allowable unbalance):

Refer to WT-6, "SERVICE DATA AND SPECIFICATIONS (SDS)" .

Rotation

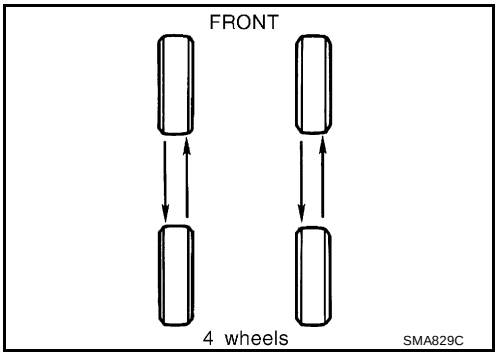
ELS000BI

- After rotating the tires, adjust the tire pressure.
- Retighten the wheel nuts when the vehicle has been driven for 1,000 km (600 miles) (also in cases of a flat tire, etc.).

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.

Tightening torque of wheel nut:

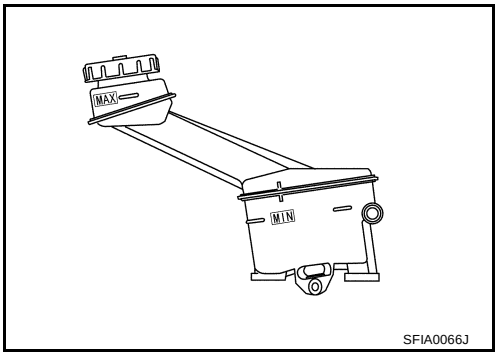
98 - 117 N·m (10 - 12 kg·m, 73 - 86 ft·lb)



Checking Brake Fluid Level and Leaks

ELS000BJ

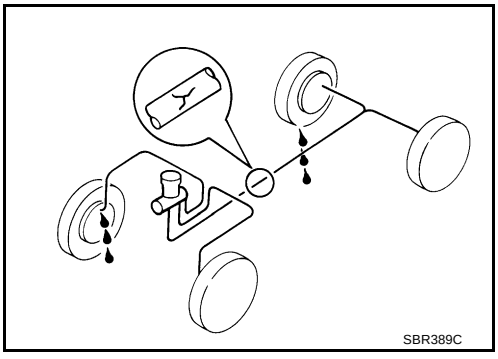
- If fluid level is extremely low, check brake system for leaks.



Checking Brake Lines and Cables

ELS000BK

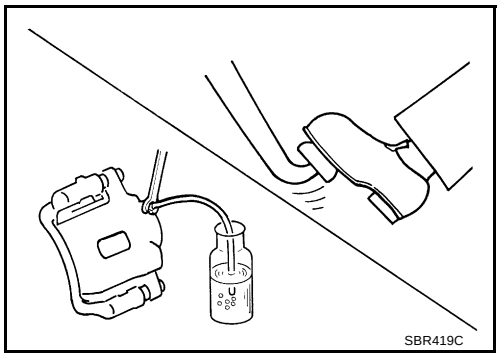
- Check brake fluid lines and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, etc.



Changing Brake Fluid

ELS000BL

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-8, "Changing Brake Fluid" .
   - Refill with recommended brake fluid “DOT 3” or “DO4”.
     Refer to MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS" .
   - Never reuse drained brake fluid.
   - Be careful not to splash brake fluid on painted areas.



Checking Disc Brake

ELS000BM

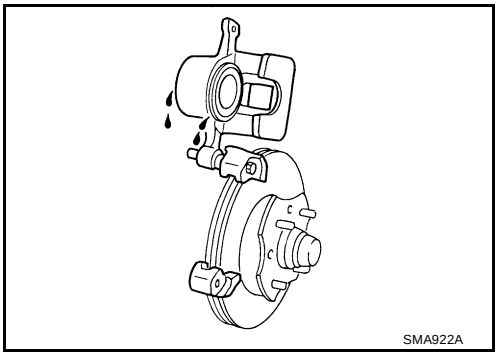
ROTOR

Check condition, wear, and damage.

Applied	Front	Rear
Brake model	AD31VD	AD9VA
Standard thickness	28.0 mm (1.102 in)	16.0 mm (0.630 in)
Maximum runout	0.04 mm (0.0016 in)	0.07 mm (0.0028 in)
Minimum thickness (Wear limit)	26.0 mm (1.024 in)	14.0 mm (0.551 in)

CALIPER

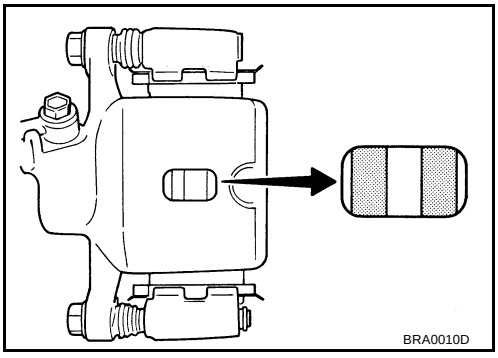
- Check for leakage.


SMA922A

PAD

- Check for wear or damage.

Brake model	AD31VD	AD9VA
Standard thickness	11 mm (0.43 in)	8.5 mm (0.335 in)
Minimum thickness (Wear Limit)	2.0 mm (0.079 in)	2.0 mm (0.079 in)

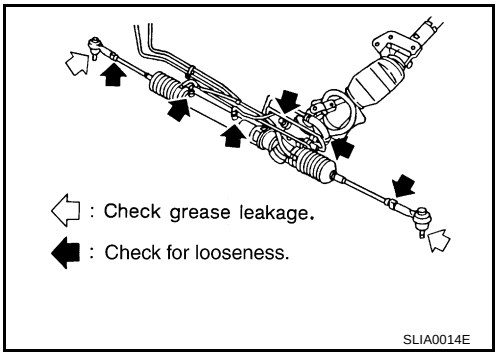

BRA0010D

Checking Steering Gear and Linkage

ELS000BO

STEERING GEAR

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



SLIA0014E

STEERING LINKAGE

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

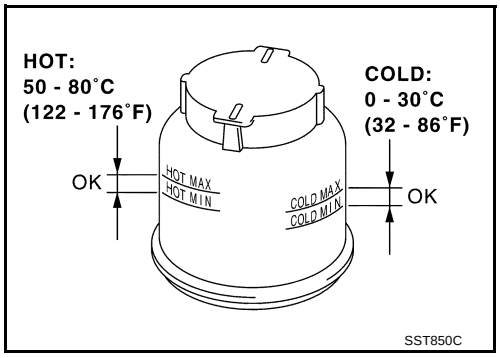
Checking Power Steering Fluid and Lines

ELS000BP

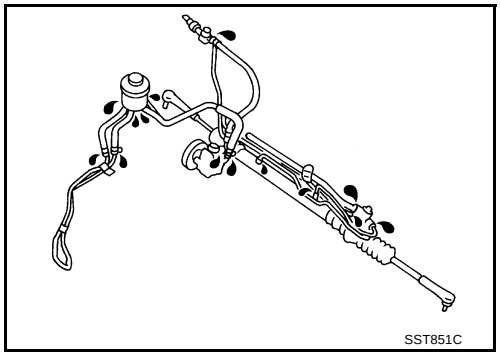
Check fluid level in reservoir tank with engine off.
Use “HOT” range at fluid temperatures of 50 to 80°C (122 to 176°F) or “COLD” range at fluid temperatures of 0 to 30°C (32 to 86°F).

CAUTION:

- **Do not overfill.**
- **Recommended fluid is DEXRON™ III type ATF or equivalent.**
  Refer to **MA-17, "RECOMMENDED FLUIDS AND LUBRICANTS"**



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

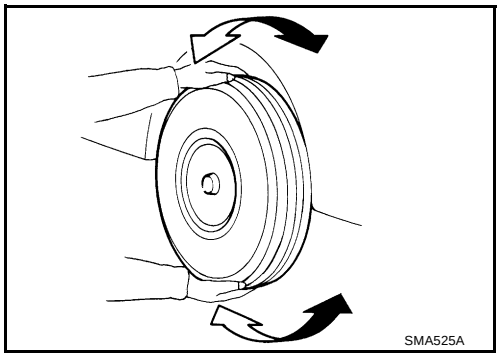


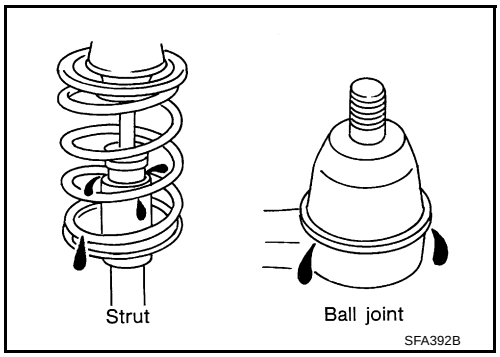
Axle and Suspension Parts

ELS000BQ

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.

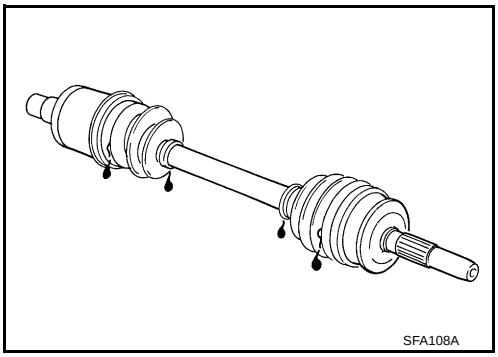




Drive Shaft

ELS000CL

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



Lubricating Locks, Hinges and Hood Latches

ELS000BR

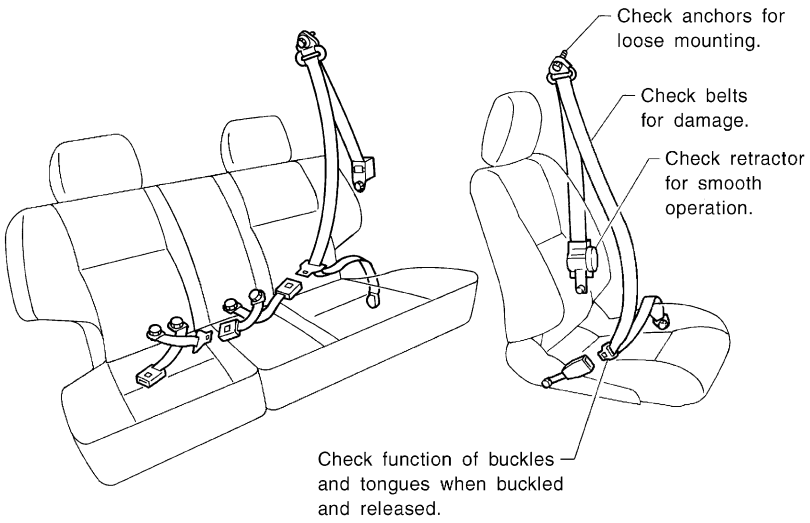
Front door	Refer to BL-18, "DOOR" .
Back door	Refer to BL-99, "BACK DOOR" .

Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

ELS000BS

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached hardwares (i.e. 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.
- **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 seat belt assembly.**



Anchor bolt

43 - 55 N·m (4.4 - 5.6 kg-m, 32 - 41 ft-lb)

Checking Body Corrosion

ELS000C0

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)

PFP:00030

Standard and Limit

ELS000K3

BELT DEFLECTION AND TENSION

QR20DE and QR25DE

Tensions of drive belts	Auto-adjustment by auto-tensioner

YD22DDTi

Applied belt	Belt deflection with 98 N (10 kg, 22 lb) force applied* mm (in)		
	New	Adjusted	Limit for re-adjusting
A/C compressor belt	4 - 5 (0.16 - 0.20)	6 - 7 (0.24 - 0.28)	8.5 (0.335)
Alternator and water pump belt	9.0 - 10.5 (0.354 - 0.413)	11.0 - 12.5 (0.433 - 0.492)	16.5 (0.650)

*: When engine is cold.

RADIATOR

Unit: kPa (bar, kg/cm^2 , psi)

Cap relief pressure	Standard	78 - 98 (0.78 - 0.98, 0.8 - 1.0, 11 - 14)
	Limit	59 (0.59, 0.6, 9)
Leakage test pressure		157 (1.57, 1.6, 23)

ENGINE COOLANT CAPACITY

QR20DE and QR25DE

Unit: ℓ (lmp qt)

Coolant capacity (With reservoir tank at “MAX” level)	7.1 (6-1/4)
Reservoir tank coolant capacity (At “MAX” level)	0.6 (1/2)

YD22DDTi

Unit: ℓ (lmp qt)

Coolant capacity (With reservoir tank at “MAX” level)	9.5 (8-3/8)
Reservoir tank coolant capacity (At “MAX” level)	0.6 (1/2)

ENGINE OIL CAPACITY (APPROXIMATE)

QR20DE and QR25DE

Unit: ℓ (lmp qt)

Drain and refill	With oil filter change	3.9 (3-3/8)
	Without oil filter change	3.5 (3-1/8)
Dry engine (Overhaul)		4.5 (4)

YD22DDTi

Unit: ℓ (lmp qt)

Drain and refill	With oil filter change	5.2 (4-5/8)
	Without oil filter change	4.9 (4-3/8)
Dry engine (Overhaul)		6.3 (5-1/2)

SPARK PLUG

QR20DE and QR25DE

Make		NGK
Standard type		LFR5A-11
Hot type		LFR4A-11
Cold type		LFR6A-11
Spark plug gap	mm (in)	1.0 - 1.1 (0.039 - 0.043)