

SECTION **MA**
MAINTENANCE

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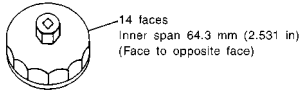
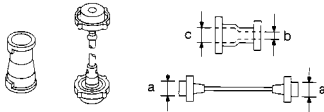
PREPARATION

PREPARATION

PFP:00002


Special Service Tools

ELS00007

Tool number Tool name	Description
KV10115801 Oil filter wrench	Removing oil filter
 <p>14 faces Inner span 64.3 mm (2.531 in) (Face to opposite face)</p> <p>S-NT772</p>	
EG17650301 Radiator cap tester adapter	Adapter radiator cap tester to radiator filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. c: 41.3 (1.626) dia. Unit: mm (in)
 <p>S-NT564</p>	

Commercial Service Tool

ELS00008

Tool name	Description
Spark plug wrench	Removing and installing spark plug
 <p>16 mm (0.63 in)</p> <p>NT047</p>	

DESCRIPTION

PFP:00000

Pre-delivery Inspection Items

ELS00009

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

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

UNDER HOOD — engine off

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

ON INSIDE AND OUTSIDE

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

UNDER BODY

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

ROAD TEST

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

DESCRIPTION

<input type="checkbox"/> Squeaks and rattles	A
ENGINE OPERATING AND HOT	
<input checked="" type="checkbox"/> Adjust idle speed	
<input type="checkbox"/> Automatic transmission/transaxle fluid level	B
<input checked="" type="checkbox"/> Engine idling and stop knob operation (Diesel only)	
FINAL INSPECTION	
<input type="checkbox"/> Install necessary parts (outside mirror, wheel covers, seat belts, mat, carpet or mud flaps)	C
<input type="checkbox"/> Inspect for interior and exterior metal and paint damage	
<input type="checkbox"/> Check for spare tire, jack, tools (wheel chock), and literature	D
<input type="checkbox"/> Wash, clean interior and exterior	
<input checked="" type="checkbox"/> : Not applicable to this model	E
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GENERAL MAINTENANCE

GENERAL MAINTENANCE

PFP:00000

General Maintenance

ELS0000A

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-5 , BL-10
Tire rotation	Tires should be rotated every 10,000 km (6,000 miles).	MA-31

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.	SE section*

*: Refer to the section in P12 ESM (SM2E00-1P12E0E).

UNDER THE HOOD AND VEHICLE

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

Item		Reference page
Windshield washer fluid	Check that there is adequate fluid in the tank.	—
Engine coolant level	Check the coolant level when the engine is cold.	CO-25 (F9Q)
		CO-8 (YD22DDTi)
Engine oil level	Check the level after parking the vehicle (on level ground) and turning off the engine.	LU-16 (F9Q)
		LU-5 (YD22DDTi)
Power steering fluid level and lines	Check the level with the engine off. Check the line for improper attachment, leaks, cracks, etc.	
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-31 , MA-30
Battery	Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines.	—

PERIODIC MAINTENANCE

PERIODIC MAINTENANCE

PPF:00026

Periodic Maintenance

ELS0000B

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 (YD 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 either at number of kilometers (miles) or months, whichever comes first.	km x 1,000	20	40	60	80	100	120	
	(Miles x 1,000)	(12)	(24)	(36)	(48)	(60)	(72)	
	Months	12	24	36	48	60	72	
Engine compartment and under vehicle								
Intake & exhaust valve clearance	See NOTE (1)							EM-78
Drive belts		I	I	I	I	I	I	EM-13
Engine oil (Use recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	LU-6
Engine oil filter (Use recommended filter)★	See NOTE (3)	R	R	R	R	R	R	LU-7
Engine anti-freeze coolant (Use genuine Nissan Anti-freeze coolant (L250) or equivalent)	See NOTE (4)		I			R		CO-8
Cooling system		I	I	I	I	I	I	CO-8
Fuel lines			I		I		I	FL-3
Air cleaner filter ★				R			R	EM-15
Fuel filter★		D	R	D	R	D	R	FL-4
Fuel injector	See NOTE (5)							EC-141

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 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 (YD 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	20	40	60	80	100	120	
	(Miles x 1,000)	(12)	(24)	(36)	(48)	(60)	(72)	
	Months	12	24	36	48	60	72	
Underhood and under vehicle								
Headlamp aiming		I	I	I	I	I	I	LT-7, LT-15
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	MA-31, MA-30
Brake fluid★			R		R		R	MA-32

PERIODIC MAINTENANCE

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	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-20
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	MA-33
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	MA-30
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★		I	I	I	I	I	I	MA-33 , MA-34 , MA-34 , MA-30
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	FSU-6 , MA-31
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-33 , MA-32 , MA-32
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-6 , PB section*, CL-5
Ventilation air filter★		R	R	R	R	R	R	ATC-128
Body corrosion	See NOTE (1)							MA-35

NOTE:

- (1) Inspect once per year.
- ★ Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- *: Refer to the section in P12 ESM (SM2E00-1P12E0E).

ENGINE AND EMISSION CONTROL MAINTENANCE (F9Q DIESEL ENGINE)

(Annual Mileage <30,000 km/year)

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary 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 15,000 km (9,000 miles) per year.	km x 1,000 (Mile x 1,000) Months	30 (18) 24	60 (36) 48	90 (54) 72	120 (72) 96	
Engine compartment and under vehicle						
Engine oil (Use recommended oil)★		R	R	R	R	LU-16
Engine oil filter (Use recommended oil filter)★		R	R	R	R	LU-18
Timing belt★	See NOTE (1)	Replace every 120,000 km/60 months				EM-157
Drive belt	See NOTE (2)	I	I	I	I	EM-142
Cooling system		I	I	I	I	CO-25
Engine anti-freeze coolant (Use genuine NISSAN Anti-freeze Coolant (L250) or equivalent)	See NOTE (3)	I	I		I	CO-25
Air cleaner filter★			R		R	EM-143
Intake & exhaust valve clearance	See NOTE (4)	Inspect every 100,000 km				EM-161
Fuel lines		I	I	I	I	FL-3
Fuel filter★		D	R	D	R	FL-6

NOTE:

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

PERIODIC MAINTENANCE

- (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 in to contact with fuel or damage is found during inspection.
- (3) First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 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.

CHASSIS AND BODY MAINTENANCE (F9Q ENGINE MODELS)

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

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 (Mile 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	LT-35, LT-37
Wheel alignment (if necessary, balance & rotate wheels)		I	I	I	I	FSU-6, MA-31
Brake pads, rotor & other brake components*		I	I	I	I	MA-32, MA-32 , MA-33
Foot brake, parking brake & clutch (for level and leaks)		I	I	I	I	BR-6 , PB section*, CL-5
Brake booster vacuum hoses, connections, check valve		I	I	I	I	BR-20
Brake & clutch, systems and fluid (for level and leaks)		I	I	I	I	MA-31, MA-30
Brake fluid★		R	R	R	R	MA-32
Power steering fluid & lines (for level & leaks)		I	I	I	I	MA-33
Ventilation air filter★		R	R	R	R	ATC-128
Manual transaxle gear oil (check for leakage. Use genuine Nissan gear oil or exact equivalent)		I	I	I	I	MA-30
Steering gear & linkage, axle & suspension parts, drive shafts, exhaust system★		I	I	I	I	MA-33, MA-34 , MA-34 , MA-30
Body corrosion	See NOTE (1)					MA-35

NOTE:

- ★: Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".
- (1) Inspect once per year.
- *: Refer to the section in P12 ESM (SM2E00-1P12E0E).

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

PERIODIC MAINTENANCE

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 — Repeated short journeys, cold engine at low temperature

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

Driving condition													Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	.	.	Air cleaner filter	F9Q engine models	Replace	Every 20,000 km (12,000 miles) or 12 months	EM-144
														YD engine models	Replace	Every 30,000 km (18,000 miles) or 18 months	EM-15
A	B	C	D	.	.	.	.	.	.	.	.	.	Engine oil & engine oil filter	F9Q engine models	Replace	Every 15,000 km (9,000 miles) or 12 months	LU-16 , LU-18
														YD engine models	Replace	Every 10,000 km (6,000 miles) or 6 months	LU-6 , LU-7
A	.	.	.	.	E	.	.	.	.	.	.	.	Fuel filter	F9Q engine models	Check & drain water	Every 15,000 km (9,000 miles) or 12 months	FL-7
															Replace	Every 30,000 km (18,000 miles) or 24 months	FL-6
													Fuel filter	YD engine models	Check & drain water	Every 10,000 km (6,000 miles) or 6 months	FL-5
															Replace	Every 20,000 km (12,000 miles) or 12 months	FL-4
.	.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	F9Q engine models	Replace	Every 15,000 km (9,000 miles) or 12 months	MA-32
														YD engine models	Replace	Every 20,000 km (12,000 miles) or 12 months	MA-32
.	.	.	.	.	.	.	G	H	.	.	.	.	Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system	F9Q engine models	Inspect	Every 7,500 km (4,500 miles) or 6 months	MA-33 , MA-34 , MA-34 , MA-30
														YD engine models	Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-33 , MA-34 , MA-34 , MA-30
A	B		D					H				L	Timing belt	F9Q engine models	Replace	More frequently	EM-157
A	.	C	.	.	.	.	G	H	I	.	.	.	Brake pads, rotors & other brake components	F9Q engine models	Inspect	Every 15,000 km (9,000 miles) or 12 months	MA-33 , MA-32 , MA-32
														YD engine models	Inspect	Every 10,000 km (6,000 miles) or 6 months	MA-33 , MA-32 , MA-32

PERIODIC MAINTENANCE

Driving condition													Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	.	.	Ventilation air filter	F9Q engine models	Replace	Every 15,000 km (9,000 miles) or 12 months	ATC-128
														YD engine models	Replace	Every 10,000 km (6,000 miles) or 6 months	ATC-128

ENGINE AND EMISSION CONTROL MAINTENANCE (YD 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) 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								
Intake & exhaust valve clearance	See NOTE (1)							EM-78
Drive belts		I	I	I	I	I	I	EM-13
Engine oil (Use recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	LU-6
Engine oil filter (Use recommended filter)★	See NOTE (3)	R	R	R	R	R	R	LU-7
Engine anti-freeze coolant (Use genuine Nissan Anti-freeze coolant (L250) or equivalent)	See NOTE (4)		I			R		CO-8
Cooling system		I	I	I	I	I	I	CO-8
Fuel lines				I			I	FL-3
Air cleaner filter ★				R			R	EM-15
Fuel filter★		D	D	R	D	D	R	FL-4
Fuel injector	See NOTE (5)							EC-141

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 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 (YD 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) 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	LT-7, LT-15
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	MA-31, MA-30
Brake fluid★				R			R	MA-32
Brake booster vacuum hoses, connections & check valve				I			I	BR-20

PERIODIC MAINTENANCE

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Reference page
Perform either 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)	
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	MA-33
Manual transaxle gear oil (For level & leaks)			I		I		I	MA-30
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★				I			I	MA-33 , MA-34 , MA-34 , MA-30
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I	FSU-6 , MA-31
Brake pads, rotors & other brake components★		I	I	I	I	I	I	MA-33 , MA-32 , MA-32
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	BR-6 , PB section*, CL-5
Ventilation air filter★		R	R	R	R	R	R	ATC-128
Body corrosion	See NOTE (1)							MA-35

NOTE:

- (1) Inspect once per year.
- ★ Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- *: Refer to the section in P12 ESM (SM2E00-1P12E0E).

ENGINE AND EMISSION CONTROL MAINTENANCE (F9Q DIESEL ENGINE)

(Annual Mileage > 30,000 km/year)

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary D = Check filter and drain water

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform on at kilometer (mile) interval.	km x 1,000 (Mile x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)	
Engine compartment and under vehicle										
Engine oil (Use recommended oil)★			R		R		R		R	LU-16
Engine oil filter (Use recommended oil filter)★			R		R		R		R	LU-18
Timing belt★	See NOTE (1)	Replace every 120,000 km								EM-157
Drive belt	See NOTE (2)		I		I		I		R	EM-142
Cooling system			I		I		I		I	CO-25
Engine anti-freeze coolant (Use genuine NISSAN Anti-freeze Coolant (L250) or equivalent)	See NOTE (3)		I		I		R		I	CO-25
Air cleaner filter★					R				R	EM-143
Intake & exhaust valve clearance	See NOTE (4)	Inspect every 100,000 km								EM-161
Fuel lines					I				I	FL-3
Fuel filter★			D		R		D		R	FL-6

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 moths. Replace drive belt if it comes in to contact with fuel or damage is found during inspection.

PERIODIC MAINTENANCE

- (3) First replace at 90,000 km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 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.

CHASSIS AND BODY MAINTENANCE (F9Q ENGINE MODELS)

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform on a kilometer basis only.	km x 1,000 (Mile 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	LT-35 , LT-37
Wheel alignment (if necessary, balance & rotate wheels)			I		I		I		I	FSU-6 , MA-31
Brake pads, rotor & other brake components*			I		I		I		I	MA-33 , MA-32 , MA-32
Foot brake, parking brake & clutch (for level and leaks)			I		I		I		I	BR-6 , PB section*, CL-5
Brake booster vacuum hoses, connections, check valve					I				I	BR-20
Brake & clutch, systems and fluid (for level and leaks)			I		I		I		I	MA-31 , MA-30
Brake fluid★					R				R	MA-32
Power steering fluid & lines (for level & leaks)			I		I		I		I	MA-33
Ventilation air filter★			R		R		R		R	ATC-128
Manual transaxle gear oil (check for leakage. Use genuine Nissan gear oil or exact equivalent)			I		I		I		I	MA-30
Steering gear & linkage, axle & suspension parts, drive shafts, exhaust system★					I				I	MA-33
Body corrosion	See NOTE (1)									MA-35

NOTE:

- ★: Maintenance items with "★" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".
- (1) Inspect once per year.
- *: Refer to the section in P12 ESM (SM2E00-1P12E0E).

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

PERIODIC MAINTENANCE

J — Frequent off road use or driving in water

K — Sustained high speed driving

L — Repeated short journeys, cold engine at low temperature

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

Driving condition													Maintenance item		Maintenance operation	Maintenance interval	Reference page
A	.	.	.	.	.	.	.	.	.	.	.	.	Air cleaner filter	Diesel models	Replace	Every 30,000 km (18,000 miles)	EM-15, EM-143
A	B	C	D	.	.	.	.	.	.	.	.	.	Engine oil & engine oil filter	F9Q engine models	Replace	Every 15,000 km (9,000 miles)	LU-16, LU-18
														YD engine models	Replace	Every 10,000 km (6,000 miles)	LU-6, LU-7
A	.	.	.	E	.	.	.	.	.	.	.	.	Fuel filter	F9Q engine models	Check & drain water	Every 15,000 km (9,000 miles)	FL-7
															Replace	Every 30,000 km (18,000 miles)	FL-6
														YD engine models	Check & drain water	Every 10,000 km (6,000 miles)	FL-5
															Replace	Every 30,000 km (18,000 miles)	FL-4
.	.	.	.	.	F	.	.	.	.	.	.	.	Brake fluid	Diesel models	Replace	Every 30,000 km (18,000 miles)	MA-32
.	.	.	.	.	.	G	H	.	.	.	.	.	Steering gear & linkage, axle & suspension parts, propeller shaft, front drive shafts & exhaust system	Diesel models	Inspect	Every 30,000 km (18,000 miles)	MA-33, MA-34, MA-34, MA-30
A	.	C	.	.	.	G	H	I	.	.	.	.	Brake pads, rotors & other brake components	F9Q engine models	Inspect	Every 15,000 km (9,000 miles)	MA-33, MA-32, MA-32
														YD engine models	Inspect	Every 10,000 km (6,000 miles)	MA-33, MA-32, MA-32
A	.	.	.	.	.	.	.	.	.	.	.	.	Ventilation air filter	F9Q engine models	Replace	Every 15,000 km (9,000 miles)	ATC-128
														YD engine models	Replace	Every 10,000 km (6,000 miles)	ATC-128

RECOMMENDED FLUIDS AND LUBRICANTS

RECOMMENDED FLUIDS AND LUBRICANTS

PFP:00000

Fluids and Lubricants

ELS0000C

			Capacity (Approximate)		Recommended Fluids/Lubricants
			Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	F9Q	4.66	4-1/8 qt	● F9Q engine API SG/CD ACEA B3 or B4 ● YD engine API grade CF-4*1 , *2 ACEA B1, B3
		YD22DDTi	5.2	4-5/8 qt	
	Without oil filter change	F9Q	4.5	4 qt	
		YD22DDTi	4.9	4-3/8 qt	
Dry engine (engine overhaul)		YD22DDTi	6.3	5-1/2 qt	
Cooling system (with reservoir)		F9Q	6.5	5-3/4 qt	● Genuine Nissan Anti-freeze Coolant (L250) or equivalent in its quality*3
		YD22DDTi	9.5	8-3/8 qt	
Reservoir tank		F9Q	1.0	1-7/8 qt	
		YD22DDTi	0.6	1/2 qt	
Manual transaxle gear oil		RS6F51R	2.3	2 qt	● Genuine Nissan gear oil, SAE viscosity 75W- 80 or exact equivalent
		RS6F93R	2.1	1-7/8 qt	
Power steering fluid			—	—	Type Dexron™ III 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).

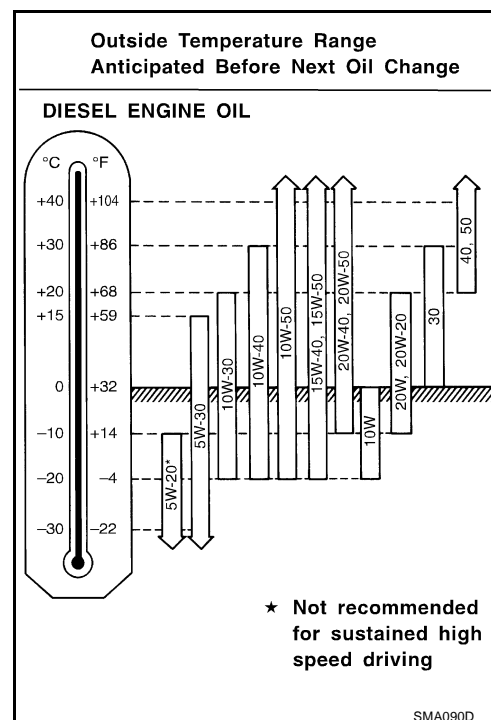
RECOMMENDED FLUIDS AND LUBRICANTS

SAE Viscosity Number

YD ENGINE

ELS0000D

- For cold areas: 10W-30 is preferable. On turbocharger models, 5W-20 is not recommended, and 5W-30 should be used only below 0°C (32°F).
- For hot and warm areas: 20W-40 and 20W-50 are suitable.



F9Q ENGINE

- 5W-40 is preferable for winter and summer.

Engine Coolant Mixture Ratio

ELS0000E

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 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.

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

SMA089D

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 (YD22DDTI)

PPF:00100

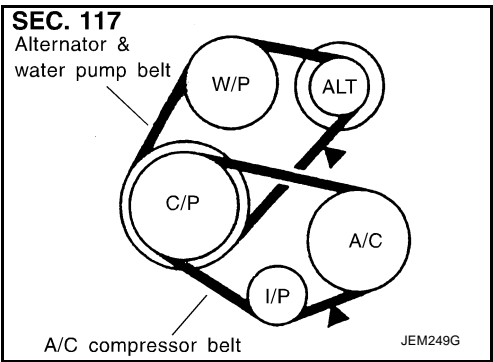
Checking Drive Belts

ELS0000P

- 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
Air conditioner 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.

Changing Engine Coolant

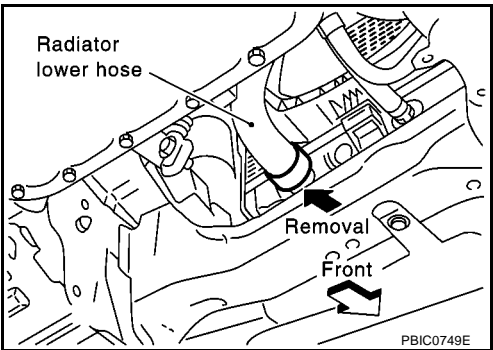
ELS0000Q

WARNING:

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

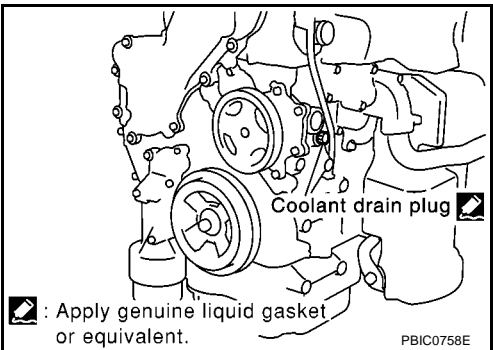
DRAINING ENGINE COOLANT

1. Disconnect radiator lower hose, and remove radiator cap.
 - Be careful not to allow coolant to contact drive belts.
 - Cover the exhaust tube heat shield to prevent from splashing coolant.
2. Remove reservoir tank, drain coolant, then clean reservoir tank.



3. Open drain plugs on cylinder block.
4. Check drained coolant for contaminants such as rust, corrosion or discoloration.

If contaminated, flush engine cooling system. Refer to [MA-18, "FLUSHING COOLING SYSTEM"](#).



ENGINE MAINTENANCE (YD22DDTI)

REFILLING ENGINE COOLANT

1. Install reservoir tank, radiator lower hose and cylinder block drain plug.

Apply sealant to the thread of cylinder block drain plug.

- Use Genuine Liquid Gasket or equivalent.

 : 7.8 - 11.8 N·m (0.8 -1.2 kg-m , 69 - 104 in-lb)


2. Fill radiator slowly with coolant until coolant spills from the air relief plugs, then install air relief plugs.

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.

- Replace the copper washer of the air relief plug.

Air relief plug :

 : 6.7 - 7.9 N·m (0.68 - 0.81 kg-m, 59 - 70 in-lb)

- Use genuine Nissan anti-freeze coolant or equivalent mixed with water (distilled or demineralized). Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

Engine coolant capacity (With reservoir tank):

9.5 ℓ (8-3/8 Imp qt)

Reservoir tank : 0.6 ℓ (1/2 Imp qt)

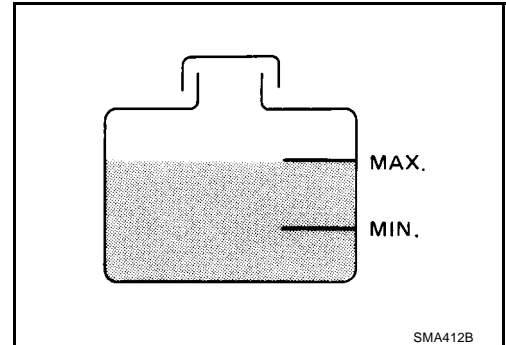
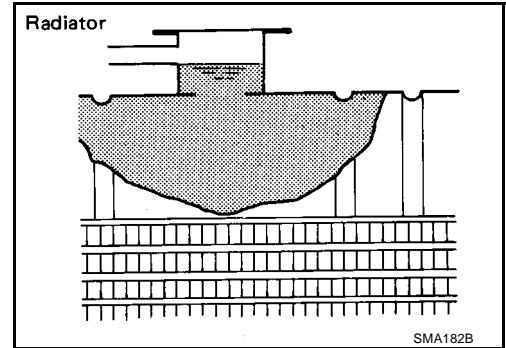
- Pour coolant through coolant filler neck slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.
3. Fill reservoir tank to specified level.
 4. Warm up engine to normal operating temperature without radiator cap installed.
 - If coolant overflows radiator filler hole, install filler cap.
 5. Run engine at 3,000 rpm for 10 seconds and return to idle speed with radiator cap installed.
 - Repeat two or three times.

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

6. 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 coolant.
7. Refill reservoir tank to MAX level line with coolant.
8. Repeat steps 5 through 7 two or more times with radiator cap installed until coolant level no longer drops.
9. Check cooling system for leaks with engine running.
10. Warm up engine, and check for sound of 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.
11. If sound is heard, bleed air from cooling system by repeating steps 5 through 7 until coolant level no longer drops.
- Clean excess coolant from engine.

FLUSHING COOLING SYSTEM

1. Fill radiator with water until water spills from the air relief hole, then close air relief plug. 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.
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.

Checking Cooling System

ELS0000R

WARNING:

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

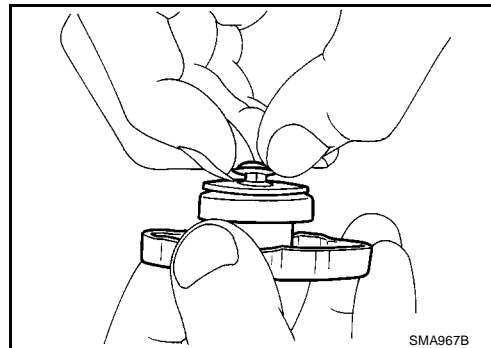
CHECKING RADIATOR

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 (5 kg/cm² , 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

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

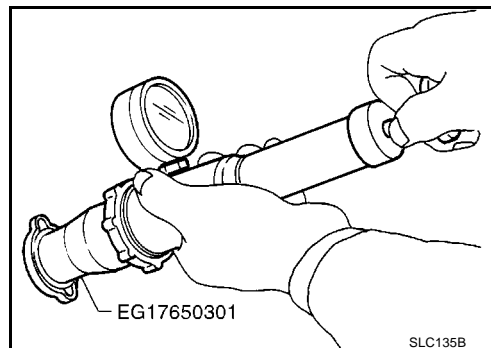


- Check radiator cap relief pressure.

Standard : 78 - 98 kpa (0.78 - 0.98 bar, 0.8 - 1.0 kg/cm² , 11 - 14 psi)

Limit : 59 kpa (0.59 bar, 0.6 kg/cm² , 9 psi)

- When connecting the radiator cap to the tester, apply water or LLC to the cap seal part.
- Replace the radiator cap if there is an unusualness in the negative-pressure valve, or if the relief pressure is outside of the limit.



ENGINE MAINTENANCE (YD22DDTI)

CHECKING COOLING SYSTEM FOR LEAKS

- To check for leakage, apply pressure to the cooling system with a tester.

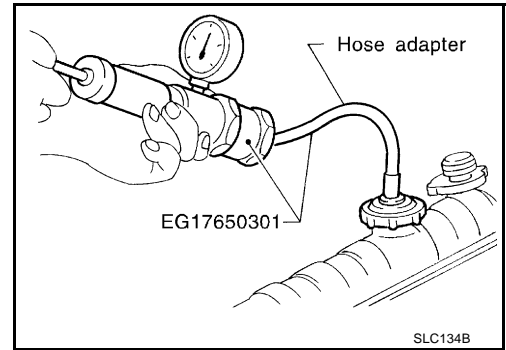
Testing pressure : 157 kPa (1.57bar, 1.6 kg/cm² , 23 psi)

WARNING:

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

CAUTION:

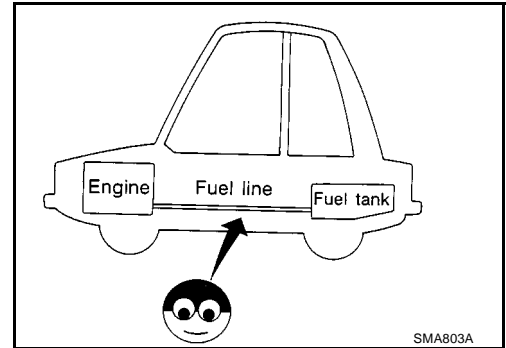
Higher pressure than specified may cause radiator damage.



ELS0000S

Checking Fuel Lines

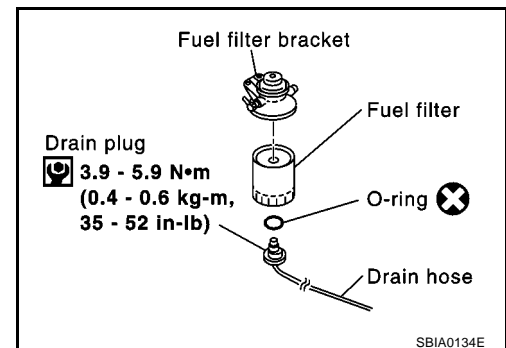
Inspect fuel lines, filler cap and tank for improper attachment, leaks, cracks, damage, loose connections, chafing or deterioration. If necessary, repair or replace faulty parts.



SMA803A

Changing Fuel Filter REMOVAL

ELS0000T



SBIA0134E

1. Remove air duct and upper air cleaner case.
2. Remove fuel filter protector.
3. Remove fuel hoses from fuel filter bracket.

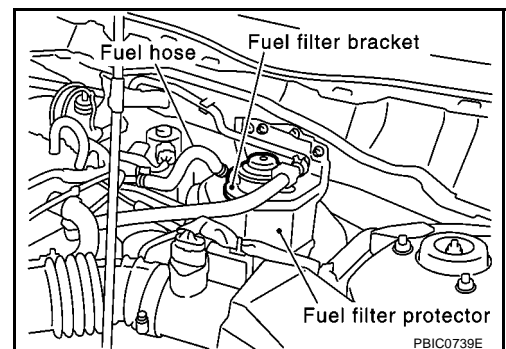
CAUTION:

Plug the pipe to prevent fuel from draining.

4. Remove fuel filter with bracket.

CAUTION:

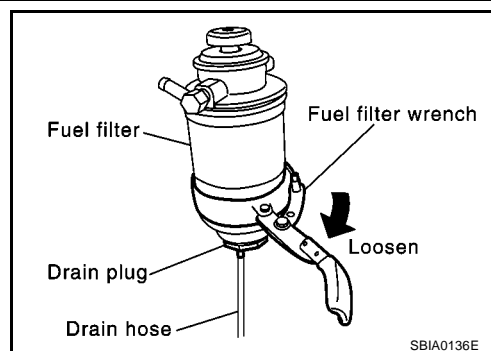
Do not splash fuel during removal. If fuel is splashed, immediately wipe it off.



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ENGINE MAINTENANCE (YD22DDTI)


5. Using band-type 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 the following.

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

 **3.9 - 5.9 N·m (0.4 - 0.6 kg-m, 35 - 52 in-lb)**

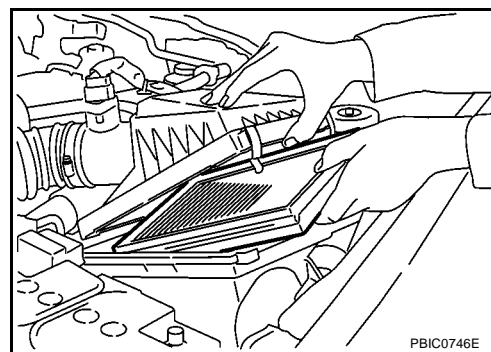
- Screw the fuel filter by hand until O-ring contacts sealing surface of bracket. Then tighten it by turning approximately 2/3 turn.
- After installation, bleed air from fuel path. Refer to [FL-5, "Air Bleeding"](#).

INSPECTION AFTER INSTALLATION

Run engine and check for fuel leakage at connections.

Changing Air Cleaner Filter VISCIOUS PAPER TYPE

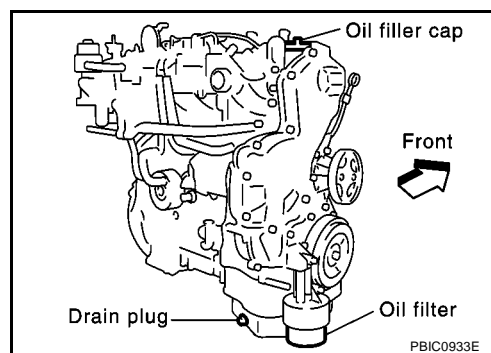
The viscous paper type air cleaner filter does not require any cleaning operation between renewal.



Changing Engine Oil

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. Remove drain plug and oil filler cap.



ENGINE MAINTENANCE (YD22DDTI)

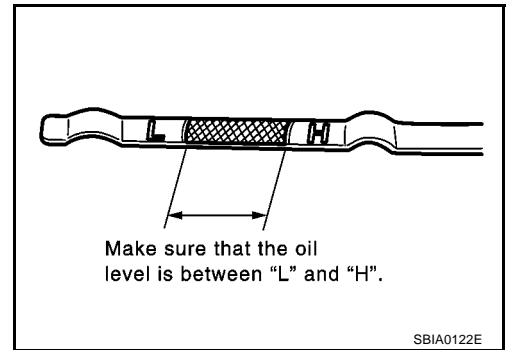
5. Drain oil and refill with new engine oil.

Oil specification and viscosity:

- API grade CF-4.
- Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

Oil capacity (Approximate):

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



- The refill capacity depends on the oil temperature and drain time. Use these specifications for reference only.

Always use the dipstick to determine when the proper amount of oil is in the engine.

CAUTION:

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

Oil pan drain plug:

: 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)

- The refill capacity depends on the oil temperature and drain time. Use these specifications for reference only.

Always use the dipstick to determine when the proper amount of oil is in the engine.

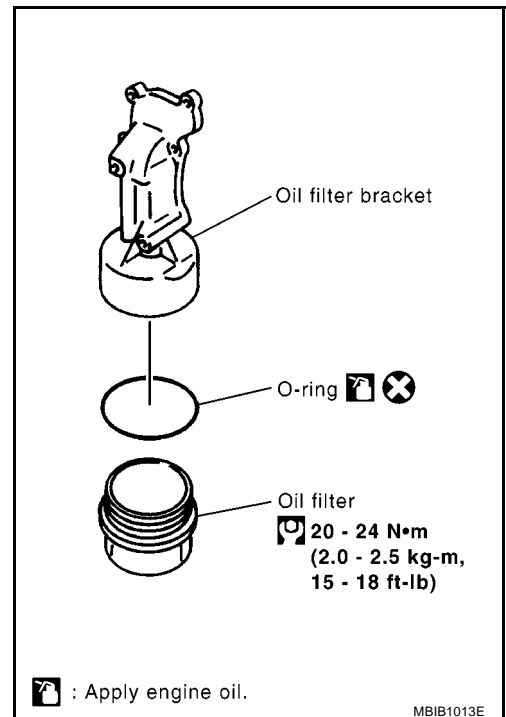
6. Warm up engine and check area around drain plug and oil filter for oil leakage.
7. Stop engine and wait for 10 minutes.
8. Check oil level.

Changing Oil Filter

REMOVAL

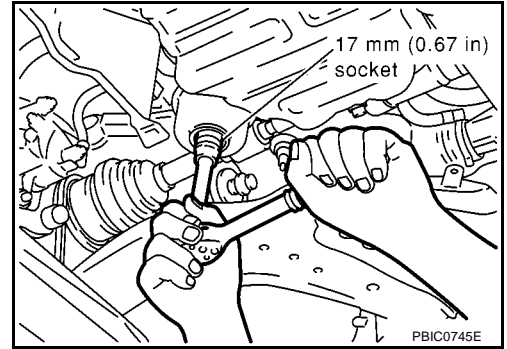
CAUTION:

- 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 adheres to the engine and the vehicle.



ENGINE MAINTENANCE (YD22DDTI)

1. Using a socket wrench [plane-to-plane width 17 mm (0.67in)] loosen the filter body approximately four turns.



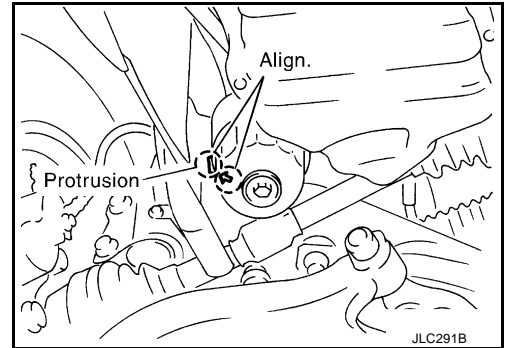
2. Drain the oil after matching the "DRAIN" arrow mark at the bottom of the filter body to the protrusion on the oil filter bracket.

- Catch the oil with a pan or cloth.

CAUTION:

- The drained oil flows over the right surface of the filter body.
- Completely wipe clean any engine oil remaining on the filter body or vehicle.

3. Remove the filter body, then remove the oil filter element.

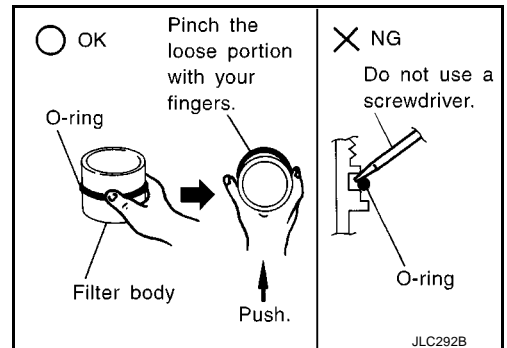


4. Remove the O-ring from the filter body.

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

CAUTION:


Do not use wires or flat-bladed screwdrivers etc. as they may cause damage to the filter body.



INSTALLATION

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

Oil filter:

 **20 - 24 N·m (2.0 - 2.5 kg-m, 15 - 18 ft-lb)**

4. After warming up the engine, check for engine oil leakage.
5. Check oil level and add engine oil. Refer to [MA-21, "Changing Engine Oil"](#).

ENGINE MAINTENANCE (YD22DDTI)

ELS0000X

Draining Water

1. Prepare a tray at the drain hose open end.
2. Loosen drain cock turning counterclockwise in view from bottom, and operate priming pump to drain water from fuel filter.

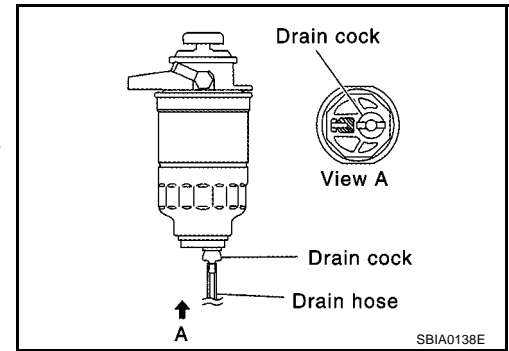
CAUTION:

- Coolant in filter is drained with fuel. Prepare larger capacity pan than fuel filter volume.
 - Drained coolant 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 and check for fuel leakage. Refer to [FL-5, "Air Bleeding"](#).
5. Start engine.



ENGINE MAINTENANCE (F9Q)

PFP:00100

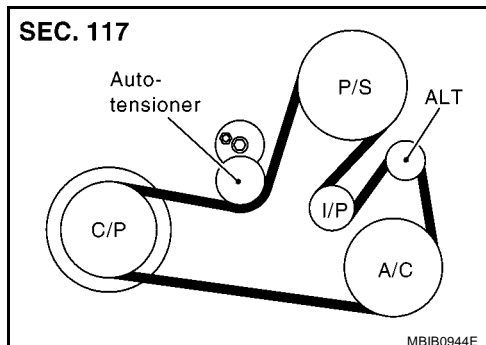
Checking Drive Belts

ELS000PO

WARNING:

Be sure to perform when the engine is stopped.

- Inspect belts for cracks, fraying, wear and oil. If necessary, replace.



TENSION ADJUSTMENT

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

CAUTION:

- Keep oil and water away from belt.
- Do not twist or bend belt excessively.

Changing Engine Coolant

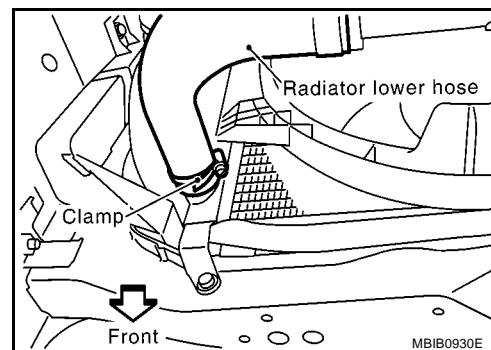
ELS000PP

WARNING:

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

DRAINING ENGINE COOLANT

1. Remove engine undercover.
 2. Disconnect radiator lower hose, and open reservoir tank cap.
 3. Drain engine coolant.
 4. Check drained coolant for contaminants such as rust, corrosion or discoloration.
- If contaminated, flush engine cooling system. Refer to [MA-26, "FLUSHING COOLING SYSTEM"](#).



REFILLING ENGINE COOLANT

1. Install reservoir tank, radiator lower hose and radiator upper hose.
2. Fill radiator slowly with coolant.

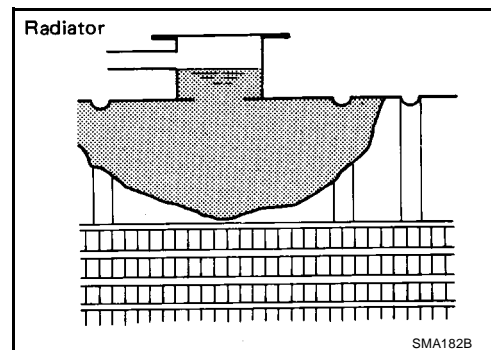
CAUTION:

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 anti-freeze coolant or equivalent mixed with water (distilled or demineralized). Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

Engine coolant capacity (With reservoir tank):

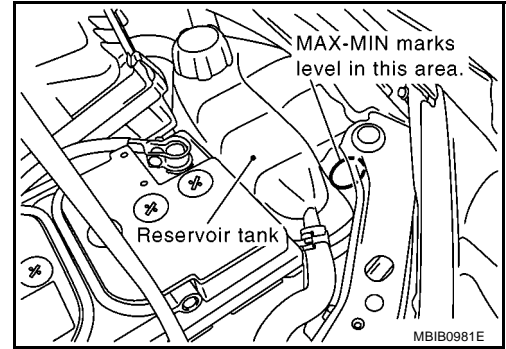
6.5 ℓ (5-3/4 Imp qt)



ENGINE MAINTENANCE (F9Q)

Reservoir tank : 1.0 ℓ (1-7/8 Imp qt)

- **Pour coolant through coolant filler neck slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.**
- 3. Fill reservoir tank to specified level.
- 4. Warm up engine to normal operating temperature reservoir tank cap installed.
- **If coolant overflows reservoir tank filler hole, install reservoir tank cap.**
- 5. Run engine at 3,000 rpm for 10 seconds and return to idle speed with reservoir tank cap installed.
- Repeat two or three times.



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

- 6. 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 coolant.
- 7. Refill reservoir tank to MAX level line with coolant.
- 8. Repeat steps 5 through 7 two or more times with reservoir tank cap installed until coolant level no longer drops.
- 9. Check cooling system for leaks with engine running.
- 10. Warm up engine, and check for sound of 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.
- 11. If sound is heard, bleed air from cooling system by repeating steps 5 through 7 until coolant level no longer drops.
- **Clean excess coolant from engine.**

FLUSHING COOLING SYSTEM

- 1. Fill radiator and reservoir tank with water and 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.

Checking Cooling System

ELS000PQ

WARNING:

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

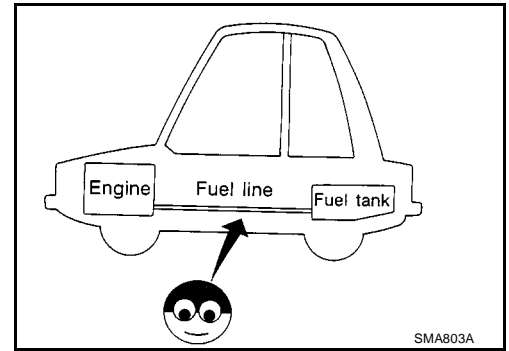
- Be careful not to bend or damage the radiator fins.
- When radiator is cleaned without removal, remove all surrounding parts such as cooling fan, radiator shroud and horns. Then tape the harness and connectors to prevent water from entering.
- 1. Apply water by hose to the back side of the radiator 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 (5 kg/cm² , 71psi) and keep distance more than 30 cm (11.8 in).

ENGINE MAINTENANCE (F9Q)

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

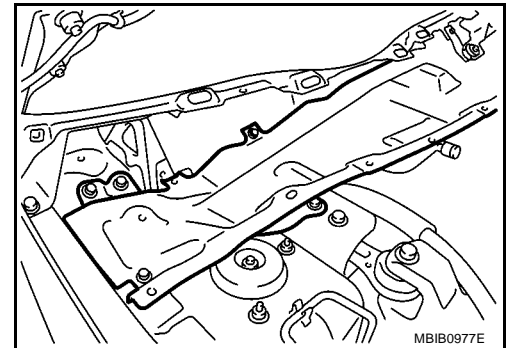
Checking Fuel Lines

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.

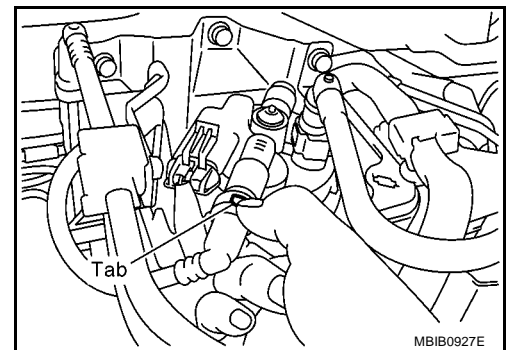


Changing Fuel Filter REMOVAL

1. Remove wiper arms and wiper motor.
2. Remove brackets as shown.



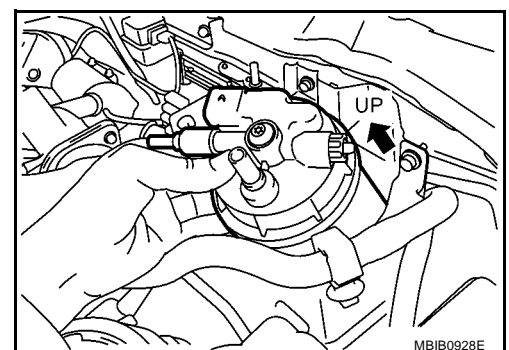
3. Remove quick connectors as shown.



4. Remove fuel filter from fuel filter bracket.

CAUTION:

Do not spill the fuel during removal. If the fuel is spill, immediately wipe it off. Be especially careful to prevent the fuel from adhering to the insulators of the engine mounts.



INSTALLATION

- Install in the reverse order of removal.
- After installation, operate the priming bulb vertically to perform air bleeding. Refer to [FL-7, "Air Bleeding"](#).

ENGINE MAINTENANCE (F9Q)

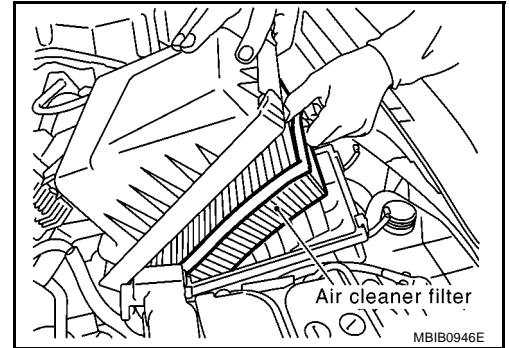
INSPECTION AFTER INSTALLATION

Run engine and check for fuel leakage at connections.

Changing Air Cleaner Filter REMOVAL

ELS000PT

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



INSTALLATION

Install in the reverse order of removal.

Changing Engine Oil

ELS000PU

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. Remove oil pan drain plug and oil filler cap (with oil level gauge).
 5. Drain oil and refill with new engine oil.

Oil specification and viscosity:

- Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

Oil capacity (Approximate):

Drain and refill	With oil filter change	4.66 ℓ (4-1/8 Imp qt)
	Without oil filter change	4.5 ℓ (4 Imp qt)

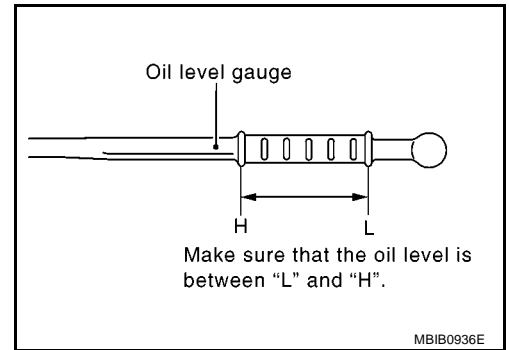
- The refill capacity depends on the oil temperature and drain time. Use these specifications for reference only.
Always use the dipstick to determine when the proper amount of oil is in the engine.

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 determine when the proper amount of oil is in the engine.
6. Warm up engine and check area around drain plug and oil filter for oil leakage.
 7. Stop engine and wait for 10 minutes.

ENGINE MAINTENANCE (F9Q)

8. Check oil level.

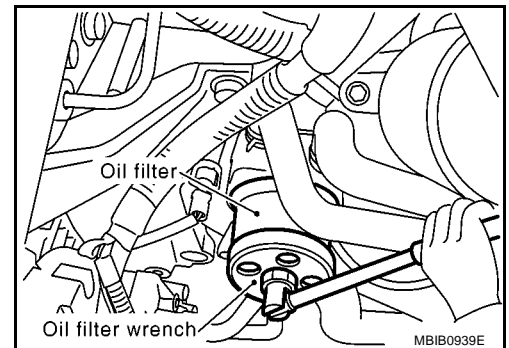


Changing Oil Filter REMOVAL

1. Using an oil filter wrench (special service too), remove oil filter.

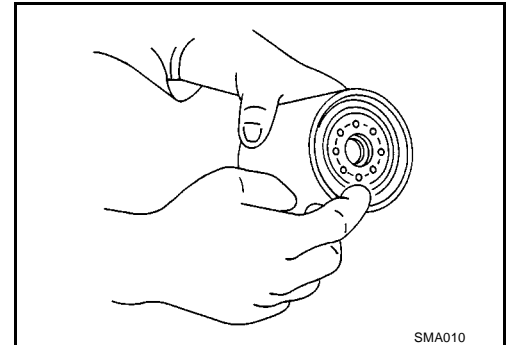
CAUTION:

- 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.



INSTALLATION

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



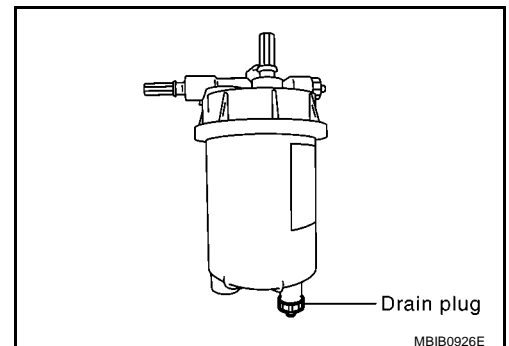
3. Install the oil filter to oil cooler.
4. After warming up the engine, check for engine oil leakage.
5. Check oil level and add engine oil. Refer to [LU-16, "ENGINE OIL"](#).

Draining Water

1. Prepare a tray at the drain plug.
2. Open drain valve at the bottom of fuel filter.

CAUTION:

- Water in filter is drained with fuel. Prepare larger capacity tray than fuel filter volume.
 - Drained water is mixed with fuel. Prevent fuel from adhering to rubber parts.
3. After draining, close drain plug.
 4. Bleed air in fuel piping and check for fuel leakage. Refer to [FL-7, "Air Bleeding"](#).
 5. Start engine.



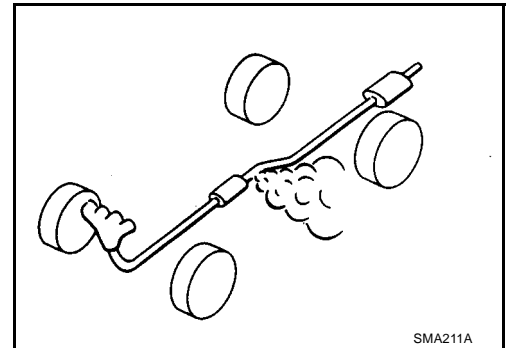
CHASSIS AND BODY MAINTENANCE

PFP:00100

Checking Exhaust System

ELS0000Y

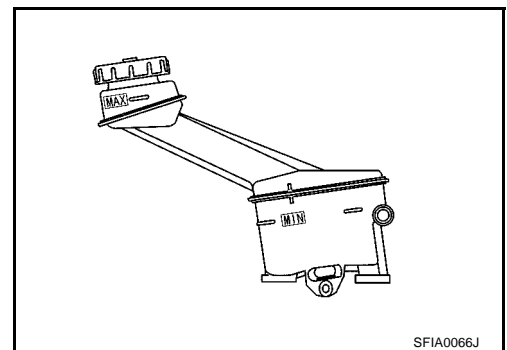
Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage, chafing or deterioration.



Checking Clutch Fluid Level and Leaks

ELS0000Z

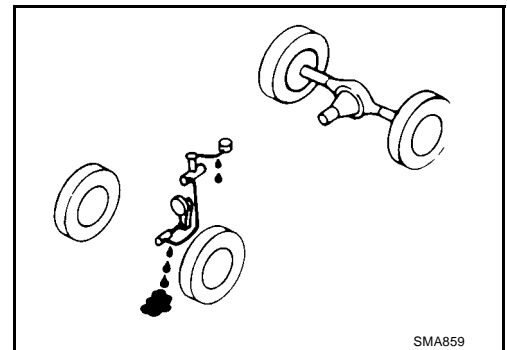
If fluid level is extremely low, check clutch system for leaks.



Checking Clutch System

ELS000P0

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



Checking M/T Oil

ELS000P1

- Check that oil is not leaking from transaxle or around it.
- 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 the filler plug and install it on the transaxle.

Filler plug:

RS6F93R

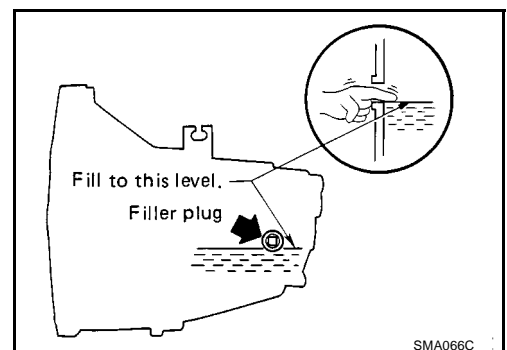
 : 35 N·m (3.6 kg-m, 26 ft-lb)

RS6F51R

 : 30 - 39 N·m (3.1 - 4.0 kg-m, 23 - 28 ft-lb)

CAUTION:

Do not reuse gasket.



CHASSIS AND BODY MAINTENANCE

Changing M/T Oil

ELS000P2

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

Oil grade and viscosity:

Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#)

Oil capacity (Reference):

RS6F93R

Approx. 2.1 ℓ (1-7/8 Imp qt)

RS6F51R

Approx. 2.3 ℓ (2 Imp qt)

Drain plug:

RS6F93R

: 35 N·m (3.6 kg·m, 26 ft·lb)

RS6F51R

: 30 - 39 N·m (3.1 - 4.0 kg·m, 23 - 28 ft·lb)

CAUTION:

Do not reuse gasket.

Balancing Wheels

ELS000P7

Adjust wheel balance using the road wheel center.

Wheel balance (Maximum allowable unbalance):

Refer to [WT-5](#).

Rotation

ELS000P8

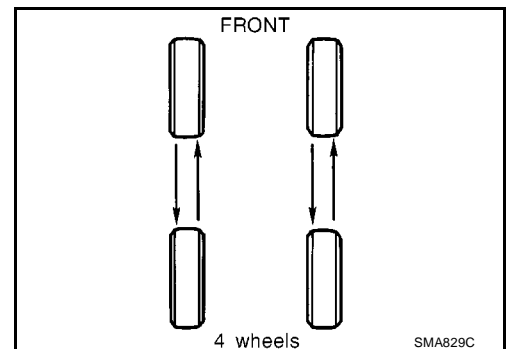
- After rotating the tires, adjust the tire pressure.
- Retighten the wheel nuts when the vehicle has been driven for 1,000 km (600 miles) (also in cases of a flat tire, etc.).

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:

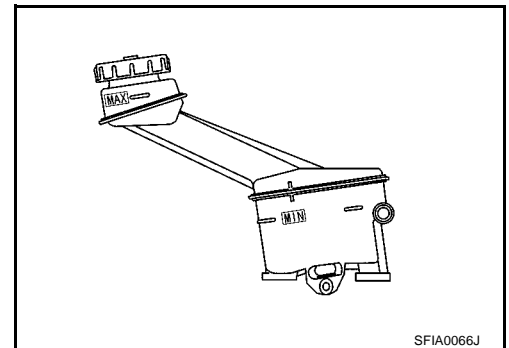
98 - 118N·m (10 - 12 kg·m, 72 - 87 ft·lb)



Checking Brake Fluid Level and Leaks

ELS000P9

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

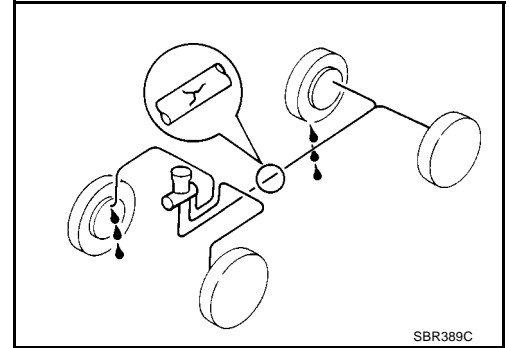


CHASSIS AND BODY MAINTENANCE

Checking Brake Lines and Cables

ELS000PA

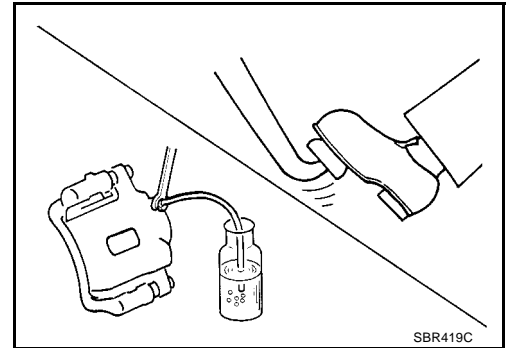
- Check brake fluid lines and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, etc.



Changing Brake Fluid

ELS000PB

1. Drain brake fluid from each air bleeder valve.
 2. Refill until new brake fluid comes out from each air bleeder valve.
Use same procedure as in bleeding hydraulic system to refill brake fluid.
Refer to [BR-9, "Changing Brake Fluid"](#).
- Refill with recommended Genuine Brake Fluid or equivalent "DOT 3" or "DO4".
Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).
 - Never reuse drained brake fluid.
 - Be careful not to splash brake fluid on painted areas.



Checking Disc Brake ROTOR

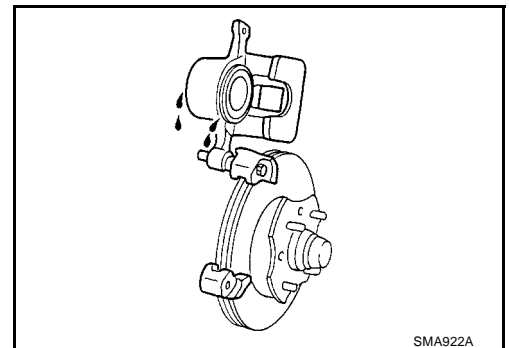
ELS000PC

Check condition, wear, and damage.

Applied	Front	Rear
Brake model	CL25VCG	FNc38/11/11, FN11
Standard thickness	28.0 mm (1.102 in)	10.0 mm (0.39 in)
Maximum runout	0.07 mm (0.0028 in)	0.15 mm (0.0059 in)
Minimum thickness (Wear limit)	26.0 mm (1.024 in)	9.0 mm (0.35 in)

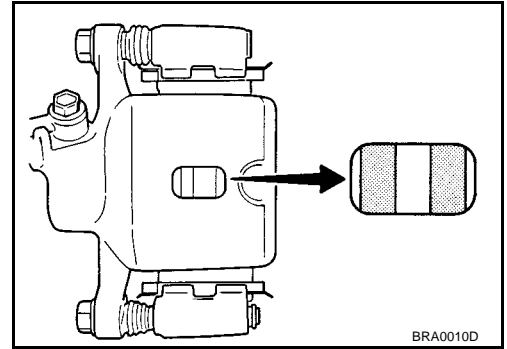
CALIPER

- Check for leakage.



CHASSIS AND BODY MAINTENANCE

PAD



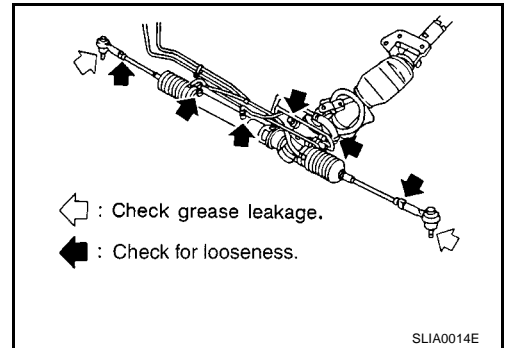
- Check for wear or damage.

Applied	Front	Rear
Brake model	CL25VCG	FNc38/11/11, FN11
Standard thickness	11.0 mm (0.433 in)	11.0 mm (0.433 in)
Minimum thickness (Wear Limit)	2.0 mm (0.079 in)	2.0 mm (0.079 in)

Checking Steering Gear and Linkage

ELS000PD

- 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.

Checking Power Steering Fluid and Lines

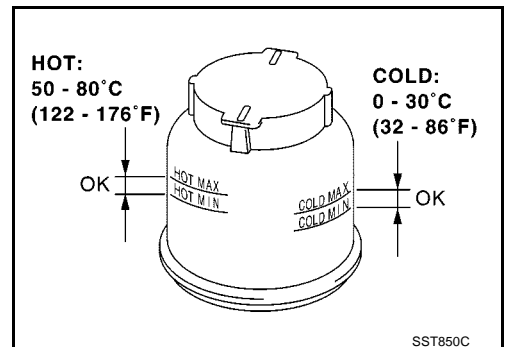
ELS000PE

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).

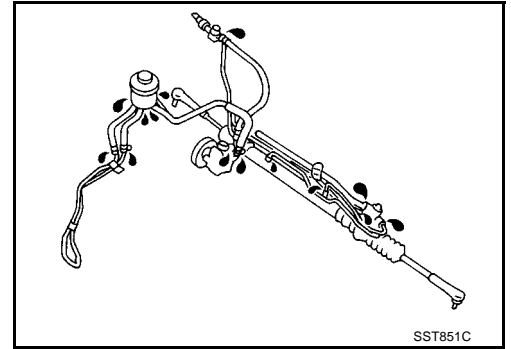
CAUTION:

- Do not overfill.
- Recommended fluid is DEXRON™ III or equivalent. Refer to [MA-15, "RECOMMENDED FLUIDS AND LUBRICANTS"](#)



CHASSIS AND BODY MAINTENANCE

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

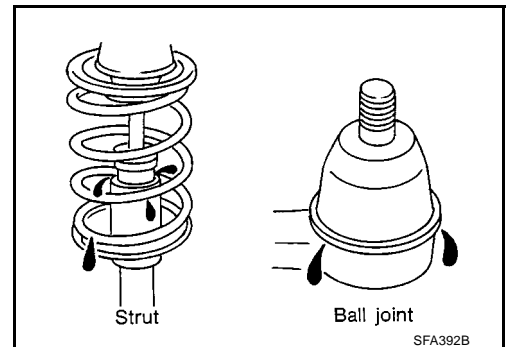
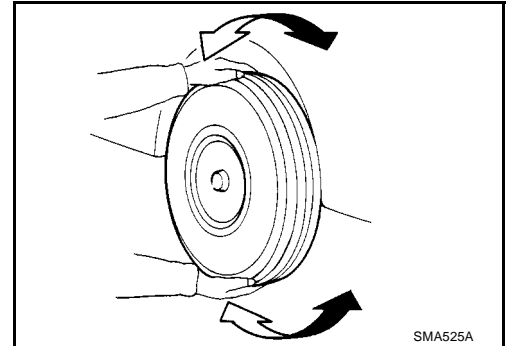


ELS000PF

Axle and Suspension Parts

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

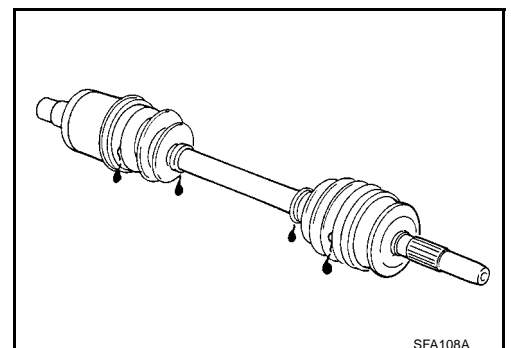
- Shake each wheel to check for excessive play.
- Check wheel bearings for smooth operation.
- Check axle and suspension nuts and bolts for looseness.
- Check strut (shock absorber) for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks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



ELS000PG

Drive Shaft

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



ELS000PH

Lubricating Locks, Hinges and Hood Latches

Front door	Refer to BL-10, "DOOR" .
Back door	Refer to BL-114, "BACK DOOR" .

CHASSIS AND BODY MAINTENANCE

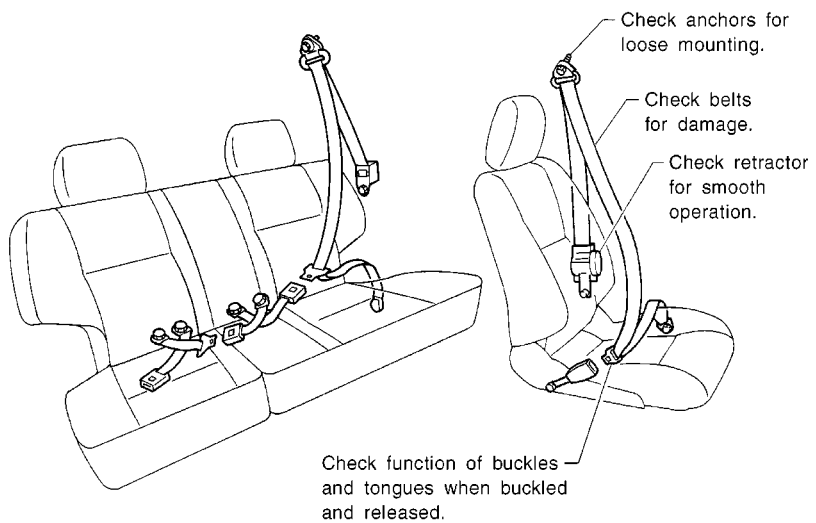
Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

ELS000PI


A
B
C
D
E
F
G

CAUTION:

- After any collision, inspect all seat belt assemblies, including retractors and other attached hardware (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

ELS000PJ

H
I
J
K

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.

MA

M

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

Standard and Limit

ELS000PK

BELT DEFLECTION AND TENSION (YD ENGINE MODELS)

Applied belt	Belt deflection with 98 N (10 kg, 22 lb) force applied* mm (in)		
	New	Adjusted	Limit for re-adjusting
Air conditioner 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.