

SECTION **MA**  
MAINTENANCE

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# PREPARATION

## PREPARATION

PFP:00002

## Special Service Tools

ELS000EE

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 <b>a: 28 (1.10) dia.</b> <b>b: 31.4 (1.236) dia.</b> <b>c: 41.3 (1.626) dia.</b> Unit: mm (in)
<p>S-NT564</p>	

## Commercial Service Tool

ELS000GD

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**

ELS000EF

**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
<b>ENGINE OPERATING AND HOT</b>	
<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)	
<b>FINAL INSPECTION</b>	
<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

ELS000EG

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
<b>Tires</b>	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.	—
<b>Windshield wiper blades</b>	Check for cracks or wear if not functioning correctly.	—
<b>Doors and engine hood</b>	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.	<a href="#">BL-5</a> , <a href="#">BL-10</a>
<b>Tire rotation</b>	Tires should be rotated every 10,000 km (6,000 miles).	<a href="#">MA-40</a>

### 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
<b>Lamps</b>	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.	—
<b>Warning lamps and chimes</b>	Make sure that all warning lamps and buzzers/chimes are operating properly.	—
<b>Steering wheel</b>	Check that it has the specified play. Check for changes in the steering conditions, such as excessive free play, hard steering or strange noises. <b>Free play: Less than 35 mm (1.38 in)</b>	—
<b>Seat belts</b>	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.	<a href="#">SB-3</a>

### 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
<b>Windshield washer fluid</b>	Check that there is adequate fluid in the tank.	—
<b>Engine coolant level</b>	Check the coolant level when the engine is cold.	<a href="#">CO-28</a> (QR20DE)
		<a href="#">CO-8</a> (QG16-18DE)
		<a href="#">CO-47</a> (YD22DDTi)
<b>Engine oil level</b>	Check the level after parking the vehicle (on level ground) and turning off the engine.	<a href="#">LU-16</a> (QR20DE)
		<a href="#">LU-6</a> (QG16-18DE)
		<a href="#">LU-27</a> (YD22DDTi)
<b>Brake and clutch fluid levels</b>	Make sure that the brake and clutch fluid levels are between the "MAX" and "MIN" lines on the reservoir.	<a href="#">MA-40</a> , <a href="#">MA-36</a>
<b>Battery</b>	Check the fluid level in each cell. It should be between the "MAX" and "MIN" lines.	—

# PERIODIC MAINTENANCE

## PERIODIC MAINTENANCE

PFP:00026

### Periodic Maintenance

ELS000EH

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 (QR-QG 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) 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)									<a href="#">EM-147</a> , <a href="#">EM-47</a>
Drive belts	See NOTE (2)									<a href="#">EM-120</a> , <a href="#">EM-15</a>
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	<a href="#">LU-16</a> , <a href="#">LU-6</a>
Engine oil filter (Use NISSAN genuine part or equivalent)★		R	R	R	R	R	R	R	R	<a href="#">LU-18</a> , <a href="#">LU-8</a>
Engine anti-freeze coolant (Use genuine NISSAN Anti-Freeze Coolant (L2N) or equivalent.)	See NOTE (3)			I			R		I	<a href="#">CO-28</a> , <a href="#">CO-8</a>
Cooling system		I	I	I	I	I	I	I	I	<a href="#">CO-28</a> , <a href="#">CO-8</a>
Fuel lines			I		I		I		I	<a href="#">FL-3</a>
Air cleaner filter★					R				R	<a href="#">EM-122</a> , <a href="#">EM-18</a>
Fuel filter (In-tank type)	See NOTE (4)									<a href="#">FL-6</a>
Spark plugs			R		R		R		R	<a href="#">EM-134</a> , <a href="#">EM-30</a>
EVAP vapor lines (With carbon canister)			I		I		I		I	<a href="#">EC-1003</a> or <a href="#">EC-41</a>
Heated oxygen sensor 1	See NOTE (5)									<a href="#">EC-1720</a> , <a href="#">EC-896</a> or <a href="#">EC-903</a>

#### NOTE:

- ★ Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belts if found damaged or if the auto belt tensioner reading reaches the maximum limit.
- (3) First replace at 90,000 Km (54,000 miles)/60 months, then every 60,000 km (36,000 miles)/48 months. Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (4) Fuel filter is maintenance-free. For service procedures, refer to FL section.
- (5) Perform only according to “Maintenance Under Severe Driving conditions” for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.

### CHASSIS AND BODY MAINTENANCE (QR-QG PETROL ENGINE)

(Annual Mileage <30,000 Km/year)

# PERIODIC MAINTENANCE

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								Reference page
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (Miles x 1,000) Months	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	<a href="#">LT-7, LT-15</a>
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	I	I	<a href="#">MA-40, MA-36</a>
Brake fluid★			R		R		R		R	<a href="#">MA-40</a>
Brake booster vacuum hoses, connections & check valve			I		I		I		I	<a href="#">BR-18</a>
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	I	I	<a href="#">MA-42</a>
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	I	I	<a href="#">MA-36</a>
Automatic transaxle fluid (For level & leaks)★		I	I	I	I	I	I	I	I	<a href="#">MA-37</a>
CVT fluid [for level and leaks or replace. Use genuine NISSAN CVT fluid (NS-1) or exact equivalent]		I	I	I	[R]	I	I	I	[R]	<a href="#">MA-38</a>
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★		I	I	I	I	I	I	I	I	<a href="#">MA-41, MA-42, MA-43, MA-36</a>
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	I	I	<a href="#">FSU-6, MA-39</a>
Brake pads, rotors & other brake components★		I	I	I	I	I	I	I	I	<a href="#">MA-41, MA-41, MA-40</a>
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	I	I	<a href="#">BR-6, PB-3, CL-5</a>
Ventilation air filter★			R		R		R		R	<a href="#">ATC-125</a>
Body corrosion	See NOTE (1)									<a href="#">MA-43</a>

## 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 (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) 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)							<a href="#">EM-266</a>
Drive belts		I	I	I	I	I	I	<a href="#">EM-221</a>
Engine oil (Use recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	<a href="#">LU-28</a>
Engine oil filter (Use Eco filter or equivalent)★	See NOTE (3)	R	R	R	R	R	R	<a href="#">LU-29</a>



## PERIODIC MAINTENANCE

MAINTENANCE OPERATION		MAINTENANCE INTERVAL						Refer- ence page
	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	
Perform either at number of kilometers (miles) or months, whichever comes first.								
Engine anti-freeze coolant (Use genuine Nissan Anti-freeze coolant (L2N) or equivalent)	See NOTE (4)		I			R		<a href="#">CO-47</a>
Cooling system		I	I	I	I	I	I	<a href="#">CO-46</a>
Fuel lines			I		I		I	<a href="#">FL-3</a>
Air cleaner filter ★				R			R	<a href="#">EM-223</a>
Fuel filter★		D	R	D	R	D	R	<a href="#">FL-4</a>
Fuel injector	See NOTE (5)							<a href="#">EC-1873</a>

### 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 (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 (Miles x 1,000)	20 (12)	40 (24)	60 (36)	80 (48)	100 (60)	120 (72)	
	Months	12	24	36	48	60	72	
Underhood and under vehicle								
Headlamp aiming		I	I	I	I	I	I	<a href="#">LT-7, LT-15</a>
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	<a href="#">MA-40, MA-36</a>
Brake fluid★			R		R		R	<a href="#">MA-40</a>
Brake booster vacuum hoses, connections & check valve			I		I		I	<a href="#">BR-20</a>
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	<a href="#">MA-42</a>
Manual transaxle gear oil (For level & leaks)		I	I	I	I	I	I	<a href="#">MA-36</a>
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★		I	I	I	I	I	I	<a href="#">MA-41, MA-42 , MA-43 , MA-36</a>
Wheel alignment (If necessary, rotate & balance wheels)		I	I	I	I	I	I	<a href="#">FSU-6, MA-39</a>
Brake pads, rotors & other brake components★		I	I	I	I	I	I	<a href="#">MA-41, MA-40 , MA-41</a>
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	<a href="#">BR-6, PB-3 , CL-5</a>
Ventilation air filter★		R	R	R	R	R	R	<a href="#">ATC-125</a>
Body corrosion	See NOTE (1)							<a href="#">MA-43</a>

# PERIODIC MAINTENANCE

## 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	<a href="#">EM-19</a> , <a href="#">EM-123</a>
														Diesel models	Replace	Every 30,000 km (18,000 miles) or 18 months	<a href="#">EM-223</a>
A	B	C	D										Engine oil & engine oil filter	Petrol models	Replace	Every 7,500 km (4,500 miles) or 6 months	<a href="#">LU-7</a> , <a href="#">LU-8</a> or <a href="#">LU-17</a> , <a href="#">LU-18</a>
														Diesel models	Replace	Every 10,000 km (6,000 miles) or 6 months	<a href="#">LU-28</a> , <a href="#">LU-29</a>
A				E									Fuel filter	Diesel models	Check & drain water	Every 10,000 km (6,000 miles) or 6 months	<a href="#">FL-5</a>
															Replace	Every 20,000 km (12,000 miles) or 12 months	<a href="#">FL-4</a>
												L	Heated oxygen sensor 1	Petrol models	Inspect	Every 30,000 km (18,000 miles) or 24 months	<a href="#">EC-896</a> , <a href="#">EC-903</a> , <a href="#">EC-1720</a>
					F								Brake fluid	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months	<a href="#">MA-40</a>
														Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months	<a href="#">MA-40</a>
		C						H					Automatic transaxle fluid	Petrol models	Replace	Every 30,000 km (18,000 miles) or 24 months	<a href="#">AT-13</a>

# PERIODIC MAINTENANCE

Driving condition													Maintenance item		Maintenance operation	Maintenance interval	Reference page
.	.	.	.	.	.	G	H	.	.	.	.		Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system	Petrol models	Inspect	Every 7,500 km (4,500 miles) or 6 months	<a href="#">MA-41</a> , <a href="#">MA-42</a> , <a href="#">MA-43</a> , <a href="#">MA-36</a>
.	.	.	.	.	.	.	.	.	.	.	.			Diesel models	Inspect	Every 10,000 km (6,000 miles) or 6 months	<a href="#">MA-41</a> , <a href="#">MA-42</a> , <a href="#">MA-43</a> , <a href="#">MA-36</a>
A	.	C	.	.	.	G	H	I	.	.	.		Brake pads, rotors & other brake components	Petrol models	Inspect	Every 7,500 km (4,500 miles) or 6 months	<a href="#">MA-41</a> , <a href="#">MA-40</a> , <a href="#">MA-41</a>
														Diesel models	Inspect	Every 10,000 km (6,000 miles) or 6 months	<a href="#">MA-41</a> , <a href="#">MA-40</a> , <a href="#">MA-41</a>
A	.	.	.	.	.	.	.	.	.	.	.		Ventilation air filter	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months	<a href="#">ATC-125</a>
														Diesel models	Replace	Every 10,000 km (6,000 miles) or 6 months	<a href="#">ATC-125</a>

## ENGINE AND EMISSION CONTROL MAINTENANCE (QR-QG 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 either at number of kilometers (miles) basis only.	km x 1,000 (Miles x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)		
Engine compartment and under vehicle											
Intake and exhaust valve clearance	See NOTE (1)									<a href="#">EM-147</a> , <a href="#">EM-47</a>	
Drive belts	See NOTE (2)	I	I	I	I	I	I	I	I	<a href="#">EM-120</a> , <a href="#">EM-15</a>	
Engine oil (Use recommended oil.)★		R	R	R	R	R	R	R	R	<a href="#">LU-16</a> , <a href="#">LU-6</a>	
Engine oil filter (Use NISSAN genuine part or equivalent)★		R	R	R	R	R	R	R	R	<a href="#">LU-18</a> , <a href="#">LU-8</a>	
Engine anti-freeze coolant (Use genuine NISSAN Anti-Freeze Coolant (L2N) or equivalent.)	See NOTE (3)			I			R		I	<a href="#">CO-28</a> , <a href="#">CO-8</a>	
Cooling system			I		I		I		I	<a href="#">CO-28</a> , <a href="#">CO-8</a>	
Fuel lines					I				I	<a href="#">FL-3</a>	
Air cleaner filter★					R				R	<a href="#">EM-122</a> , <a href="#">EM-18</a>	
Fuel filter (In-tank type)	See NOTE (4)									<a href="#">FL-6</a>	
Spark plugs			R		R		R		R	<a href="#">EM-134</a> , <a href="#">EM-30</a>	
EVAP vapor lines (With carbon canister)					I				I	<a href="#">EC-1003</a> or <a href="#">EC-41</a>	
Heated oxygen sensor 1	See NOTE (5)									<a href="#">EC-1720</a> , <a href="#">EC-896</a> or <a href="#">EC-903</a>	

# PERIODIC MAINTENANCE

## NOTE:

- ★ Maintenance items with “★” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.
- (1) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (2) Replace the drive belts if found damaged or if the auto belt tensioner reading reaches the maximum limit.
- (3) First replace at 90,000 Km (54,000 miles), then every 60,000 km (36,000 miles). Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary) at the middle of replacement interval.
- (4) Fuel filter is maintenance-free. For service procedures, refer to FL section.
- (5) Perform only according to "Maintenance Under Severe Driving conditions" for models without Euro-OBD system. For models with Euro-OBD system, periodic maintenance is not required.

## CHASSIS AND BODY MAINTENANCE (QR-QG 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) basis only.	km x 1,000 (Miles x 1,000)	15 (9)	30 (18)	45 (27)	60 (36)	75 (45)	90 (54)	105 (63)	120 (72)	
Underhood and under vehicle										
Headlamp aiming			I		I		I		I	<a href="#">LT-7, LT-15</a>
Brake & clutch, systems and fluid (For level & leaks)			I		I		I		I	<a href="#">MA-40, MA-36</a>
Brake fluid★					R				R	<a href="#">MA-40</a>
Brake booster vacuum hoses, connections & check valve					I				I	<a href="#">BR-18</a>
Power steering fluid & lines (For level & leaks)			I		I		I		I	<a href="#">MA-42</a>
Manual transaxle gear oil (For level & leaks)			I		I		I		I	<a href="#">MA-36</a>
Automatic transaxle fluid (For level & leaks)★			I		I		I		I	<a href="#">MA-37</a>
CVT fluid [for level and leaks or replace. Use genuine NISSAN CVT fluid (NS-1) or exact equivalent]			I		[R]		I		[R]	<a href="#">MA-38</a>
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★			I		I		I		I	<a href="#">MA-41, MA-42, MA-43, MA-36</a>
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I		I	<a href="#">FSU-6, MA-39</a>
Brake pads, rotors & other brake components★			I		I		I		I	<a href="#">MA-41, MA-41, MA-40</a>
Foot brake, parking brake & clutch (For free play, stroke & operation)			I		I		I		I	<a href="#">BR-6, PB-3, CL-5</a>
Ventilation air filter★			R		R		R		R	<a href="#">ATC-125</a>
Body corrosion	See NOTE (1)									<a href="#">MA-43</a>

## 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 (YD DIESEL ENGINE)

(Annual Mileage >30,000 Km/year)

# PERIODIC MAINTENANCE

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)							<a href="#">EM-266</a>
Drive belts		I	I	I	I	I	I	<a href="#">EM-221</a>
Engine oil (Use recommended oil.)★	See NOTE (2)	R	R	R	R	R	R	<a href="#">LU-28</a>
Engine oil filter (Use Eco filter or equivalent)★	See NOTE (3)	R	R	R	R	R	R	<a href="#">LU-29</a>
Engine anti-freeze coolant (Use genuine Nissan Anti-freeze coolant (L2N) or equivalent)	See NOTE (4)		I			R		<a href="#">CO-47</a>
Cooling system		I	I	I	I	I	I	<a href="#">CO-46</a>
Fuel lines				I			I	<a href="#">FL-3</a>
Air cleaner filter ★				R			R	<a href="#">EM-223</a>
Fuel filter★		D	D	R	D	D	R	<a href="#">FL-4</a>
Fuel injector	See NOTE (5)							<a href="#">EC-1873</a>

## 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 (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	<a href="#">LT-7, LT-15</a>
Brake & clutch, systems and fluid (For level & leaks)		I	I	I	I	I	I	<a href="#">MA-40, MA-36</a>
Brake fluid★				R			R	<a href="#">MA-40</a>
Brake booster vacuum hoses, connections & check valve				I			I	<a href="#">BR-20</a>
Power steering fluid & lines (For level & leaks)		I	I	I	I	I	I	<a href="#">MA-42</a>
Manual transaxle gear oil (For level & leaks)			I		I		I	<a href="#">MA-36</a>
Steering gear & linkage, axle & suspension parts, front drive shafts & exhaust system★				I			I	<a href="#">MA-41, MA-42 , MA-43 , MA-36</a>
Wheel alignment (If necessary, rotate & balance wheels)			I		I		I	<a href="#">FSU-6, MA-39</a>
Brake pads, rotors & other brake components★		I	I	I	I	I	I	<a href="#">MA-41, MA-40 , MA-41</a>
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	I	I	<a href="#">BR-6, PB-3 , CL-5</a>

# 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)	
Ventilation air filter★		R	R	R	R	R	R	<a href="#">ATC-125</a>
Body corrosion	See NOTE (1)							<a href="#">MA-43</a>

## 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)	<a href="#">EM-19, EM-123</a>	
													Diesel models	Replace	Every 30,000 km (18,000 miles)	<a href="#">EM-223</a>	
A	B	C	D	.	.	.	.	.	.	.	.	Engine oil & engine oil filter	Petrol models	Replace	Every 7,500 km (4,500 miles)	<a href="#">LU-7, LU-8</a> or <a href="#">LU-17</a> , <a href="#">LU-18</a>	
													Diesel models	Replace	Every 10,000 km (6,000 miles)	<a href="#">LU-28, LU-29</a>	
A	.	.	.	E	.	.	.	.	.	.	.	Fuel filter	Diesel models	Check & drain water	Every 10,000 km (6,000 miles)	<a href="#">FL-5</a>	
														Replace	Every 30,000 km (18,000 miles)	<a href="#">FL-4</a>	
.	.	.	.	.	.	.	.	.	.	.	.	L	Heated oxygen sensor 1	Petrol models	Inspect	Every 60,000 km (36,000 miles)	<a href="#">EC-896, EC-903</a> , <a href="#">EC-1720</a>
.	.	.	.	.	F	.	.	.	.	.	.	Brake fluid	Petrol models	Replace	Every 30,000 km (18,000 miles)	<a href="#">MA-40</a>	
													Diesel models	Replace	Every 30,000 km (18,000 miles)	<a href="#">MA-40</a>	
.	.	C	.	.	.	.	.	H	.	.	.	.	Automatic trans-axle fluid	Petrol models	Replace	Every 60,000 km (36,000 miles)	<a href="#">MA-38</a>

# PERIODIC MAINTENANCE

							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)	<a href="#">MA-41</a> , <a href="#">MA-42</a> , <a href="#">MA-43</a> , <a href="#">MA-36</a>
															Diesel models	Inspect	Every 30,000 km (18,000 miles)	<a href="#">MA-41</a> , <a href="#">MA-42</a> , <a href="#">MA-43</a> , <a href="#">MA-36</a>
A		C					G	H	I					Brake pads, rotors & other brake components	Petrol models	Inspect	Every 15,000 km (9,000 miles)	<a href="#">MA-41</a> , <a href="#">MA-40</a> , <a href="#">MA-41</a>
															Diesel models	Inspect	Every 10,000 km (6,000 miles)	<a href="#">MA-41</a> , <a href="#">MA-40</a> , <a href="#">MA-41</a>
A														Ventilation air filter	Petrol models	Replace	Every 15,000 km (9,000 miles)	<a href="#">ATC-125</a>
															Diesel models	Replace	Every 10,000 km (6,000 miles)	<a href="#">ATC-125</a>

A  
B  
C  
D  
E  
F  
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MA  
M

# RECOMMENDED FLUIDS AND LUBRICANTS

## RECOMMENDED FLUIDS AND LUBRICANTS

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### Fluids and Lubricants

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			Capacity (Approximate)		Recommended Fluids/Lubricants
			Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	QR20DE	3.9	3-3/8 qt	<ul style="list-style-type: none"><li>● Gasoline engine API SG, SH or SJ*1 ILSAC grade GF-I or GF-II*1 ACEA 96-A2</li><li>● Diesel engine API grade CF-4*1 , *2 ACEA 98-B1</li></ul>
		QG16-18DE	2.7	2-3/8 qt	
		YD22DDTi	5.2	4-5/8 qt	
	Without oil filter change	QR20DE	3.5	3-1/8 qt	
		QG16-18DE	2.5	2-1/4 qt	
		YD22DDTi	4.9	4-3/8 qt	
Dry engine (engine overhaul)		QR20DE	4.5	4 qt	
		QG16-18DE	3.1	2-3/4 qt	
		YD22DDTi	6.3	5-1/2 qt	
Cooling system (with reservoir)		QR20DE	6.9	6-1/8 qt	<ul style="list-style-type: none"><li>● Genuine Nissan Anti-freeze Coolant (L2N) or equivalent in its quality*3</li></ul>
		QG16-18DE	6.7	5-7/8 qt	
		YD22DDTi	9.5	8-3/8 qt	
Reservoir tank		QR20DE	0.7	5/8 qt	
		QG16-18DE	0.7	5/8 qt	
		YD22DDTi	0.6	1/2 qt	
Manual transaxle gear oil		RS5F30A	2.8 - 3.0	4-7/8 - 5-1/4 qt	<ul style="list-style-type: none"><li>● Genuine Nissan gear oil or API GL-4, Viscosity SAE 75W-80, 75W-85</li><li>● Genuine Nissan gear oil, SAE viscosity 75W- 80 or exact equivalent</li></ul>
		RS5F70A	2.9 - 3.1	5-1/4 qt	
		RS6F51A	2.3	4 qt	
Automatic transaxle fluid			7.0	6-1/8 qt	Genuine Nissan ATF or equivalent*4
CVT fluid			8.1	7-1/8 qt	Genuine Nissan CVT fluid or exact equivalent
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 (L2N) 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

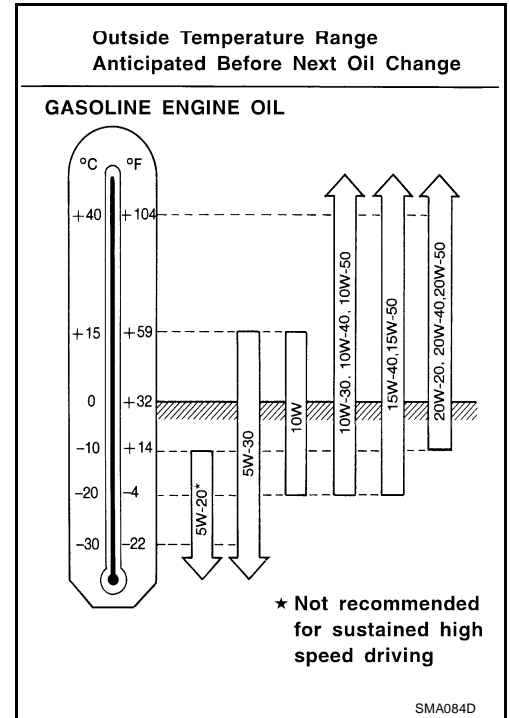
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# RECOMMENDED FLUIDS AND LUBRICANTS

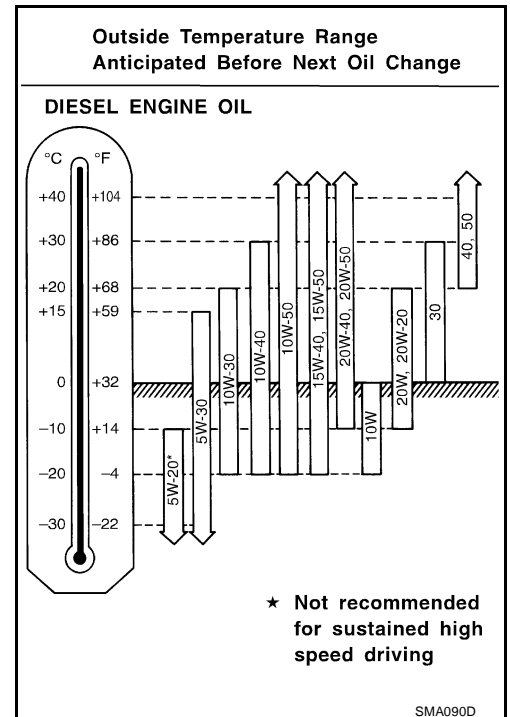
## GASOLINE ENGINE

- For warm and cold areas: 10W-30 is preferable for ambient temperature above  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ).
- 5W-30 will positively improve fuel economy.
- For hot areas: 20W-40 and 20W-50 are suitable.



## DIESEL ENGINE

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



# RECOMMENDED FLUIDS AND LUBRICANTS

## Engine Coolant Mixture Ratio

ELS000EK

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 (L2N)** or equivalent. Because L2N 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.

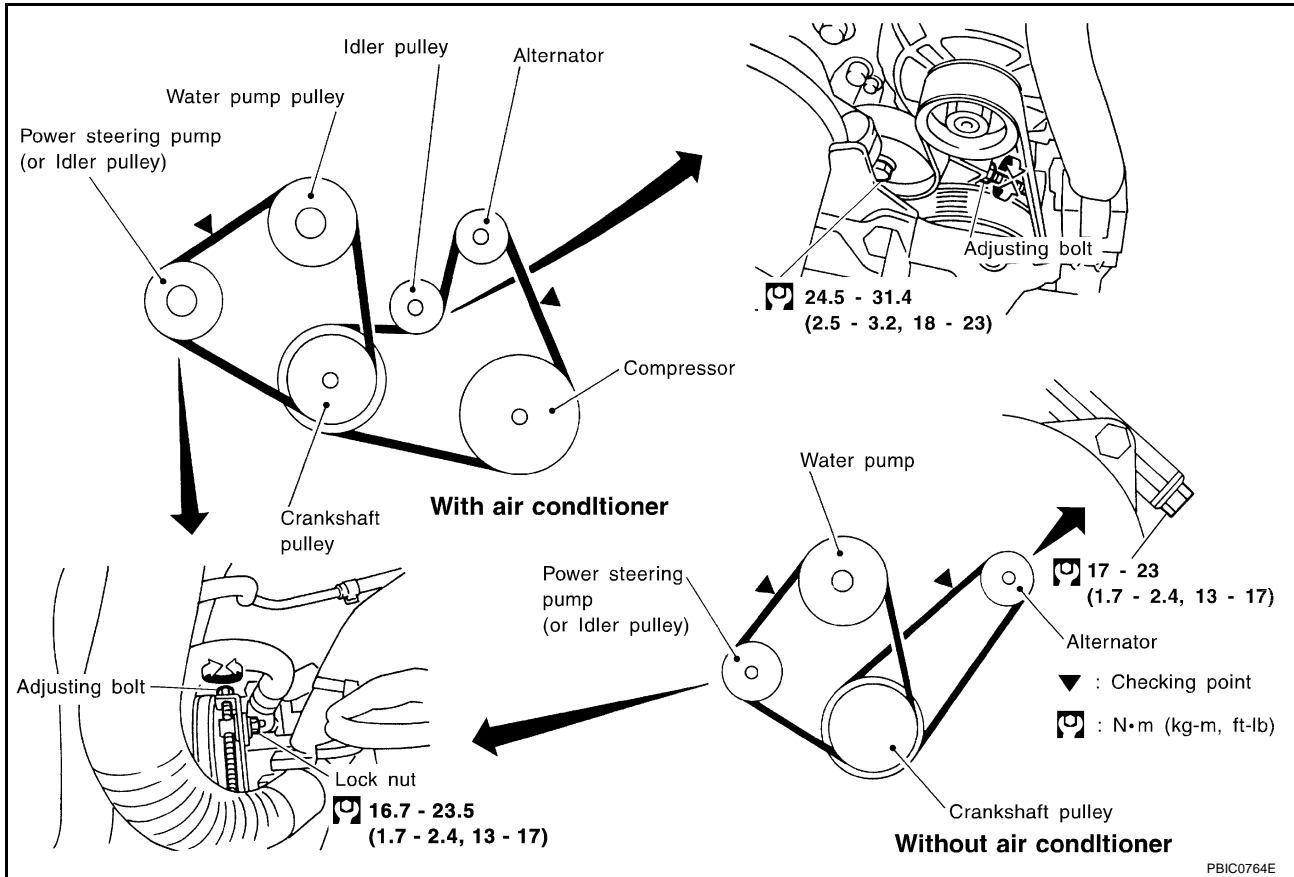
# ENGINE MAINTENANCE (QG/QR)

## ENGINE MAINTENANCE (QG/QR)

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### Checking Drive Belts (QG Engine Models)

ELS000GC



- 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:

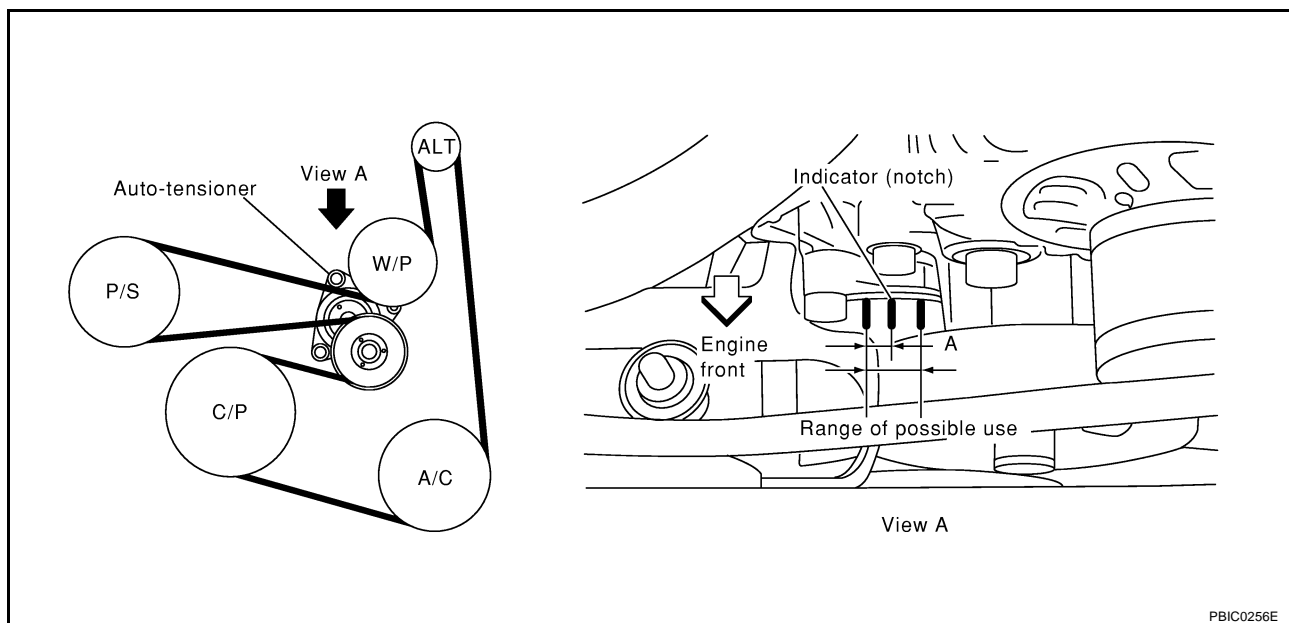
When measuring belt tension immediately after belt is installed, first set the tension to the standard. Then, rotate crankshaft for more than two turns in order to eliminate variance in belt deflection between the pulleys. Re-measure and adjust the tension to the standard.

Unit: mm (in)

		Deflection adjustment		
		Used belt		New belt
		Limit	After adjustment	
Alternator	Without air conditioner compressor	10.2 (0.402)	6.5 - 7.0 (0.256 - 0.276)	5.5 - 6.1 (0.217 - 0.240)
	With air conditioner compressor	8.1 (0.319)	5.3 - 5.7 (0.209 - 0.224)	4.5 - 5.0 (0.177 - 0.197)
Power steering oil pump		7.1 (0.280)	4.4 - 4.9 (0.173 - 0.193)	3.9 - 4.4 (0.154 - 0.173)
Applied pushing force		98 N (10 kg, 22 lb)		

## Checking Drive Belts (QR Engine Models)

ELS000G3



PBIC0256E

### **WARNING:**

**Be sure to perform when the engine is stopped.**

- Make sure that the stamp mark of auxiliary drive belt auto-tensioner is within the usable range.

### **NOTE:**

- Check the auto-tensioner indicator when the engine is cold.
- When the new drive belt is installed, the range should be A.
- Visually check entire belt for wear, damage or cracks.
- If the indicator is out of allowable use range or belt is damaged, replace the belt. Refer to [EM-15, "DRIVE BELTS"](#) (QG engine models), [EM-120, "DRIVE BELTS"](#) (QR engine models).
- Belt tensioning is not necessary, as it is automatically adjusted by auto-tensioner.

## Changing Engine Coolant

ELS000G4

### **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**

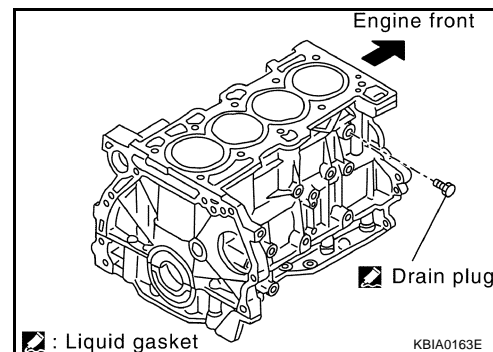
1. Remove undercover.
2. Disconnect radiator lower hose and remove radiator cap.

### **CAUTION:**

**Be careful not to allow coolant to contact drive belts.**

3. Open drain plugs on cylinder block (QR engine is shown in the figure as an example).
4. Remove reservoir tank and drain coolant.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.

If contaminated, flush engine cooling system. Refer to [MA-22, "FLUSHING COOLING SYSTEM"](#).



### **REFILLING ENGINE COOLANT**


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

## ENGINE MAINTENANCE (QG/QR)


Apply sealant to the thread of cylinder block drain plug.

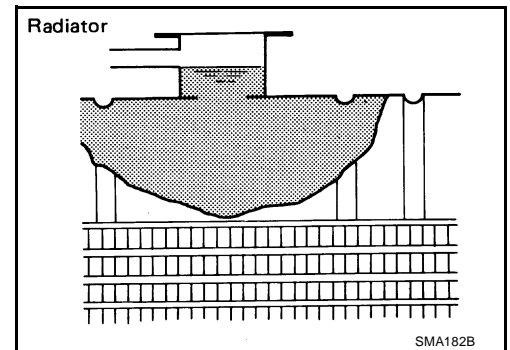
- Use Genuine Liquid Gasket or equivalent.

**QG engine models:**

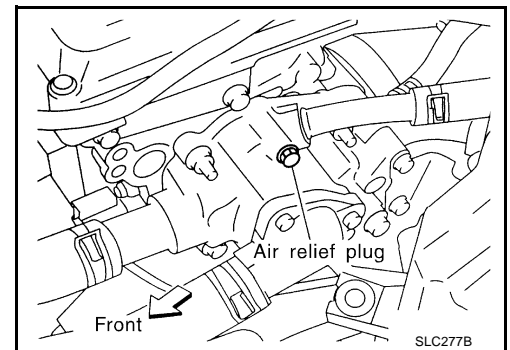
 : 34.3 - 44.1 N·m (3.5 - 4.4 kg-m, 26 - 32 ft-lb)

**QR engine models:**

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



2. Remove air relief plug (QG engine models only).



3. Fill radiator and reservoir tank to specified level.

- Use Genuine Nissan Anti-freeze Coolant or equivalent mixed with water (distilled or demineralized).

Refer to [MA-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

**Engine coolant capacity (With reservoir tank):**

**QG engine models : Approx. 6.7 ℓ (5-7/8 Imp qt)**

**QR engine models : Approx. 6.9 ℓ (6-1/8 Imp qt)**

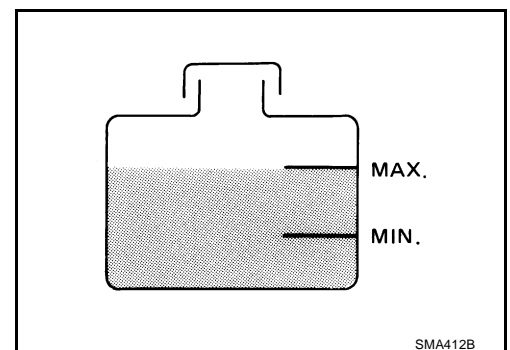
**Reservoir tank:**

**0.7 ℓ (5/8 Imp qt)**

- Pour coolant slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.
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 4 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.



## ENGINE MAINTENANCE (QG/QR)

- Sound may be noticeable at heater unit.
11. If sound is heard, bleed air from cooling system by repeating steps 4 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 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

ELS000G5

#### **WARNING:**

**Never remove the radiator cap when the engine is hot; serious burns could be caused by high pressure fluid escaping from the radiator.**

**Wrap a thick cloth around the cap and carefully remove it by turning it a quarter turn to allow built-up pressure to escape and then turn the cap all the way off.**

### CHECKING COOLING SYSTEM HOSES

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

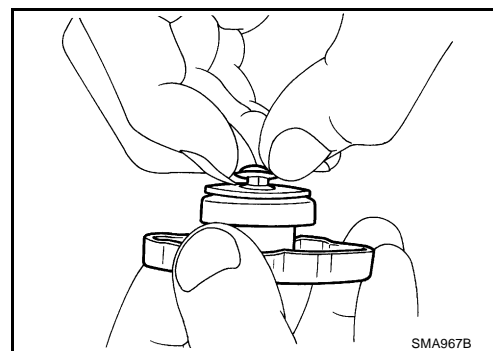
### CHECKING RADIATOR

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 downward.
  2. Apply water again to all radiator core surfaces 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<sup>2</sup>, 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 the negative-pressure valve to open it and check that it close completely when released.
- Check that there is no dirt or damage on the valve seat of the radiator cap negative-pressure valve.
  - Check that there are no unusual conditions in the opening and closing conditions of the negative-pressure valve.



SMA967B

## ENGINE MAINTENANCE (QG/QR)

### 2. Check radiator cap relief pressure.

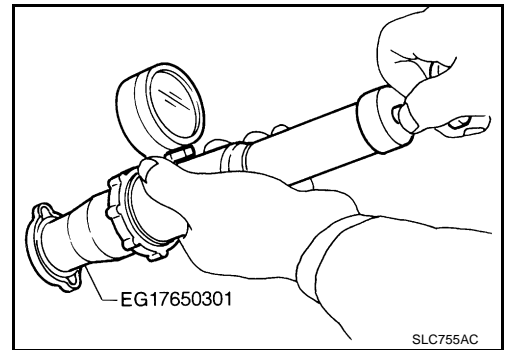
#### Standard:

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

#### Limit:

59 kPa (0.59 bar, 0.6 kg/cm<sup>2</sup> , 9 psi)

- When connecting the radiator cap to the tester, apply engine coolant to the cap seal part.
- Replace the radiator cap if there is an unusual conditions in the negative-pressure valve, or if the open-valve pressure is outside of the standard values.



### CHECKING COOLING SYSTEM FOR LEAKS

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

#### Testing pressure:

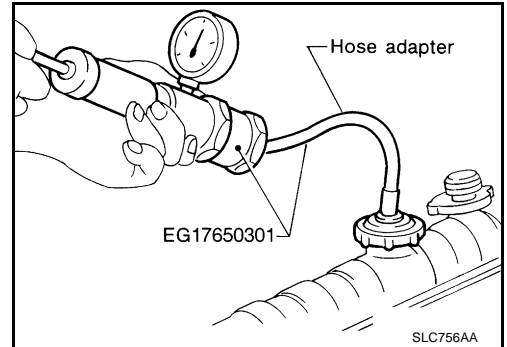
157 kPa (1.57 bar, 1.6 kg/cm<sup>2</sup> , 23 psi)

#### WARNING:

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

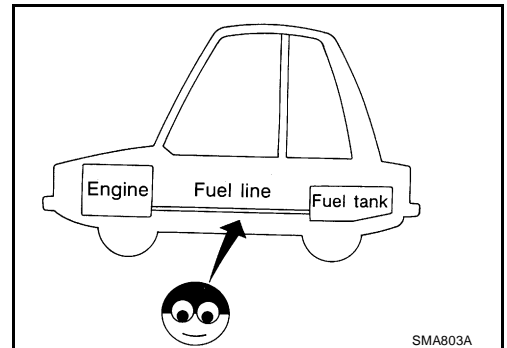
#### CAUTION:

Higher pressure than specified may cause radiator damage.



### 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 malfunctioning parts.



#### CAUTION:

Tighten high-pressure rubber hose clamp so that clamp end is 3 mm (0.12 in) from hose end.

Tightening torque specifications are the same for all rubber hose clamps.

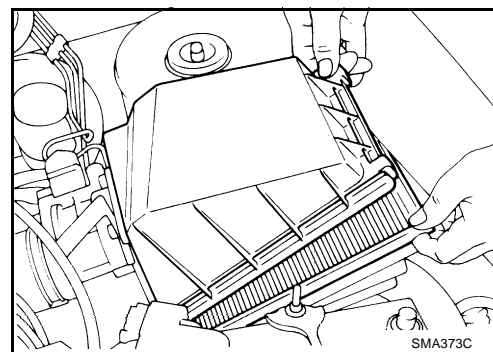
Ensure that screw does not contact adjacent parts.

# ENGINE MAINTENANCE (QG/QR)

## Changing Air Cleaner Filter VISCOUS PAPER TYPE

ELS000G7

The viscous paper type filter does not need cleaning.



ELS000G8

## 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. Warm up engine, and check for oil leakage from engine components.
  2. Stop engine and wait for 10 minutes.
  3. Remove drain plug and oil filler cap.
  4. Drain oil.
  5. Install drain plug and refill with new engine oil.

### Oil specification and viscosity:

- API grade SG, SH or SJ
- ILSAC grade GF-I or GF-II
- Refer to [MA-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#) .

### Oil capacity (Approximate):

QG Engine Models:

Unit: liter (Imp qt)

Drain and refill	With oil filter change	Approximately 2.7 (2-3/8)
	Without oil filter change	Approximately 2.5 (2-1/4)
Dry engine (engine overhaul)		Approximately 3.1 (2-3/4)

QR Engine Models:


Unit: liter (Imp qt)

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

### CAUTION:

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

### Oil pan drain plug:

 : 29.4 - 39.2 N·m (3.0 - 3.9 kg-m, 22 - 28 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. Refer to [LU-6, "Inspection"](#) (QG engine models), [LU-16, "Inspection"](#) (QR engine models).

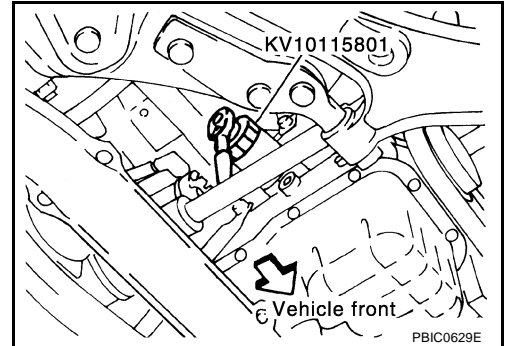


# ENGINE MAINTENANCE (QG/QR)

## Changing Oil Filter QG ENGINE MODELS

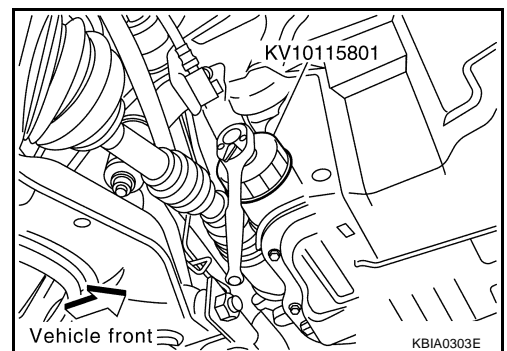
ELS000G9

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



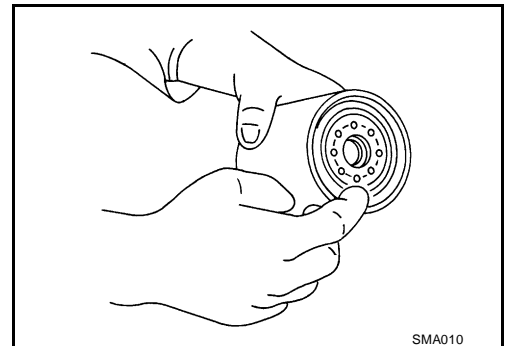
## QR ENGINE MODELS

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



### CAUTION:


- The oil filter is provided with a relief valve.
  - Use genuine NISSAN oil filter or equivalent.
  - 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.
3. Remove foreign materials adhering to the oil filter installation surface.
  4. Apply engine oil to the oil seal circumference of the new oil filter.

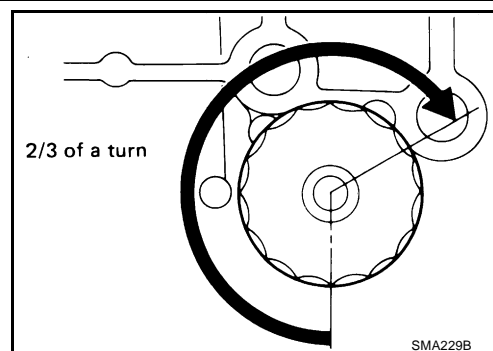


## ENGINE MAINTENANCE (QG/QR)

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

**Oil filter:**

 : 14.7 - 20.5 N·m (1.5 - 2.1 kg-m, 11 - 15 ft-lb)



- After warming up the engine, check for engine oil leakage.
- Check oil level and add engine oil.

### Checking and Changing Spark Plugs

ELS000GA

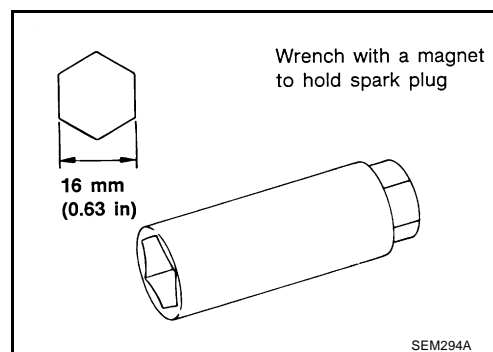
- Remove ignition coil. Refer to [EM-29, "IGNITION COIL"](#) (QG engine models), [EM-133, "IGNITION COIL"](#) (QR engine models).
- Remove spark plug with spark plug wrench (commercial service tool).

#### QG Engine Models:

Make	NGK	Champion
Standard type	LFR5A-11	REC10YC4
Hot type	LFR4A-11	—
Cold type	LFR6A-11	—

#### QR Engine Models:

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



- Use standard type spark plug for normal condition.

The hot type spark plug is suitable when fouling occurs with the standard type spark plug under conditions such as.

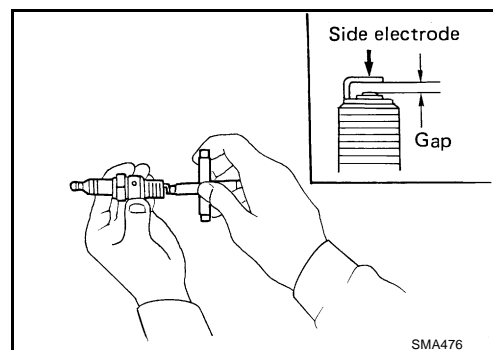
- frequent engine starts.
- low ambient temperatures.

The cold type spark plug is suitable when spark plug knock occurs with the standard type spark plug under conditions such as.


- extended highway driving.
  - frequent high engine revolution.
- Check plug gap of each spark plug. Adjust or replace if necessary.

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

- Use a wire brush for cleaning, if necessary.



4. Install in the reverse order of removal.

 : 19.6 - 29.4 N·m (2.0 - 3.0 kg-m, 15 - 21 ft-lb)

### Checking EVAP Vapor Lines

ELS000GB

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-593, "EVAPORATIVE EMISSION SYSTEM"](#) (QG engine models with E-OBD), [EC-984, "EVAPORATIVE EMISSION SYSTEM"](#) (QG engine models without E-OBD), [EC-1463, "EVAPORATIVE EMISSION SYSTEM"](#) (QR engine models with E-OBD) or [EC-1783, "EVAPORATIVE EMISSION SYSTEM"](#) (QR engine models without E-OBD).

A

B

C

D

E

F

G

H

I

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K

MA

M

# ENGINE MAINTENANCE (YD22DDTI)

## ENGINE MAINTENANCE (YD22DDTI)

PFP:00100

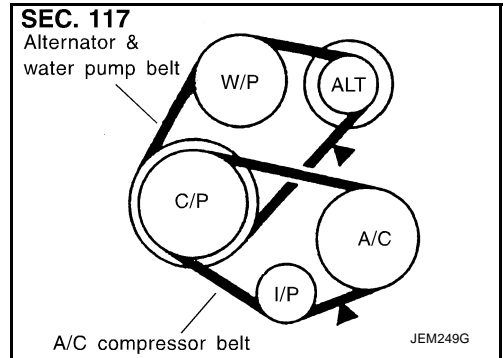
### Checking Drive Belts

ELS000EU

- 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

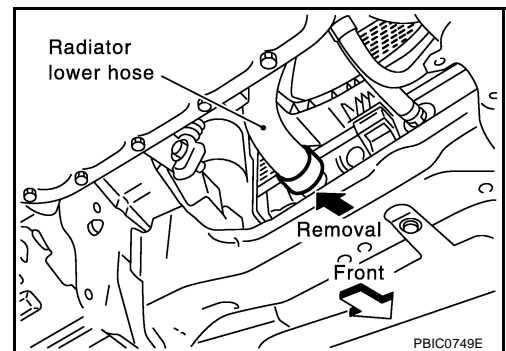
ELS000EV

#### 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.

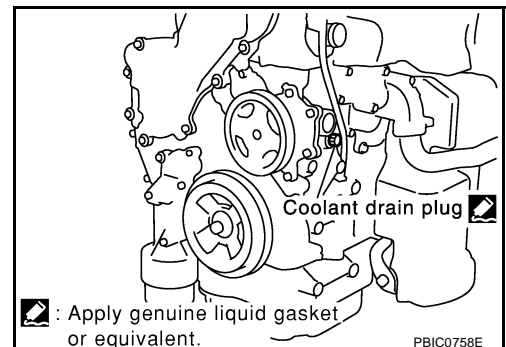
### DRAINING ENGINE COOLANT

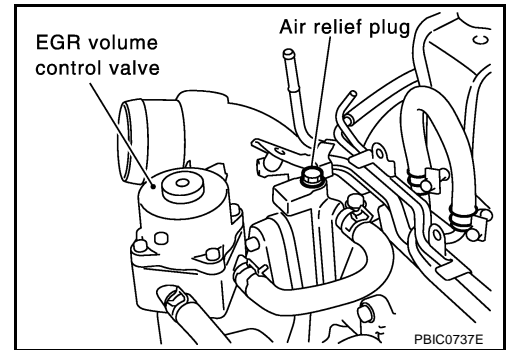
1. Disconnect radiator lower hose, and remove radiator cap.
  - Be careful not to allow coolant to contact drive belts.
  - Cover the exhaust tube heat shield to prevent from splashing coolant.
2. Remove reservoir tank, drain coolant, then clean reservoir tank.



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

If contaminated, flush engine cooling system. Refer to [MA-30. "FLUSHING COOLING SYSTEM"](#).





## 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-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

**Engine coolant capacity (With reservoir tank):**

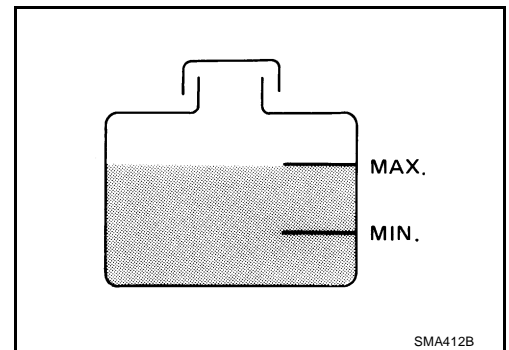
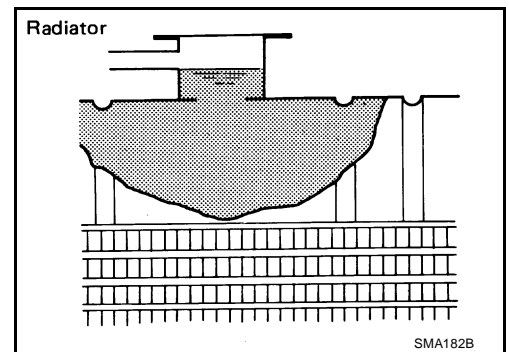
**9.5 ℓ ( 8-3/8 Imp qt)**

**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.



## ENGINE MAINTENANCE (YD22DDTI)

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

ELS000EW

#### **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.

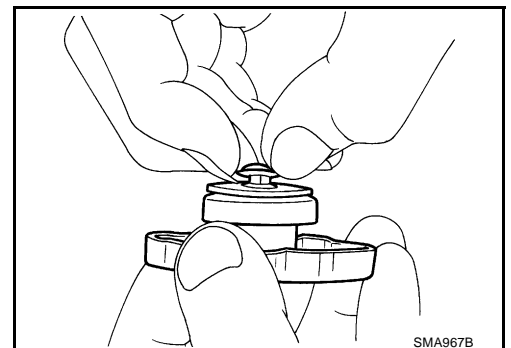
### CHECKING RADIATOR

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/cm<sup>2</sup>, 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.



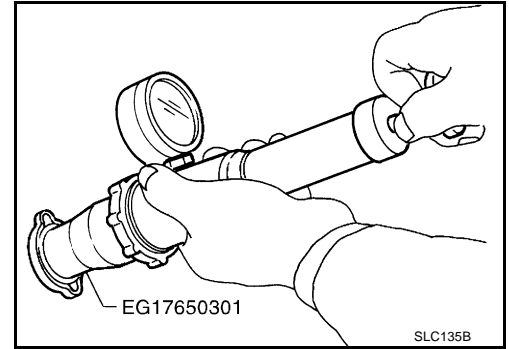
# ENGINE MAINTENANCE (YD22DDTI)

- Check radiator cap relief pressure.

**Standard** : 78 - 98 kPa (0.78 - 0.98 bar, 0.8 - 1.0 kg/cm<sup>2</sup> , 11 - 14 psi)

**Limit** : 59 kPa (0.59 bar, 0.6 kg/cm<sup>2</sup> , 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.



## CHECKING COOLING SYSTEM FOR LEAKS

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

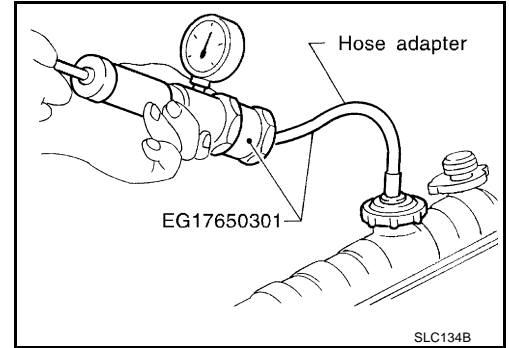
**Testing pressure** : 157 kPa (1.57bar, 1.6 kg/cm<sup>2</sup> , 23 psi)

### WARNING:

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

### CAUTION:

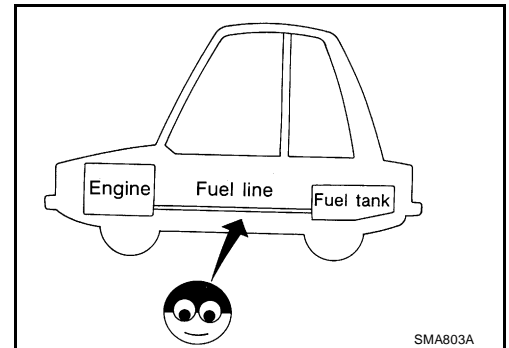
Higher pressure than specified may cause radiator damage.



ELS000EX

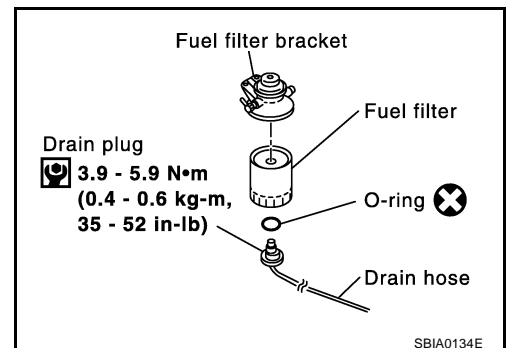
## Checking Fuel Lines

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.



ELS000EY

## Changing Fuel Filter REMOVAL



1. Remove air duct and upper air cleaner case.
2. Remove fuel filter protector.

## ENGINE MAINTENANCE (YD22DDTI)

3. Remove fuel hoses from fuel filter bracket.

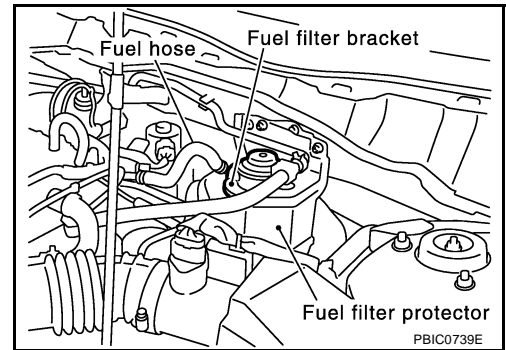
**CAUTION:**

**Plug the pipe to prevent fuel from draining.**

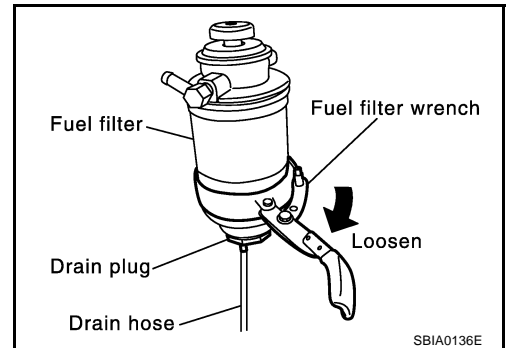
4. Remove fuel filter with bracket.

**CAUTION:**

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




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"](#).

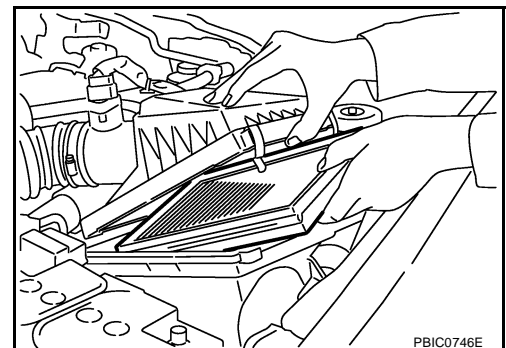
### INSPECTION AFTER INSTALLATION

Run engine and check for fuel leakage at connections.

### Changing Air Cleaner Filter VISCOUS PAPER TYPE

ELS000EZ

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



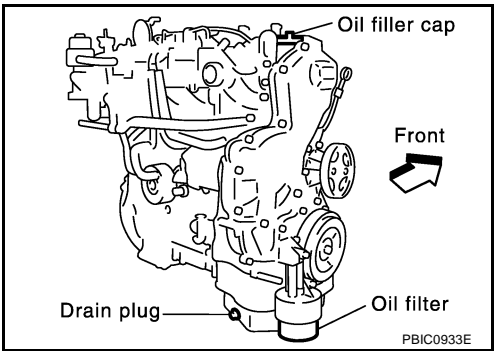


Changing Engine Oil

ELS000F0

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.



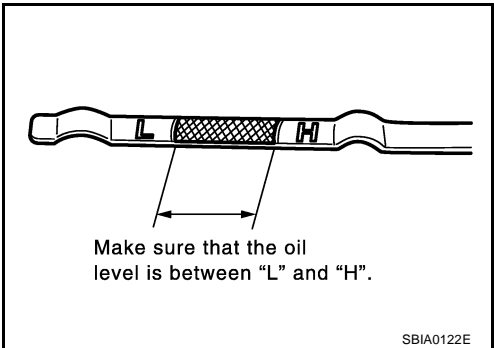
5. Drain oil and refill with new engine oil.

Oil specification and viscosity:

- API grade CF-4.
- Refer to [MA-16, "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:

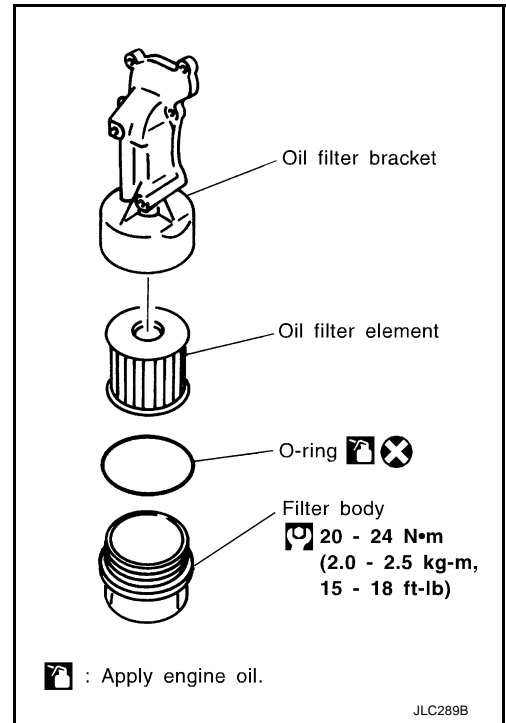
: 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)

- 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.

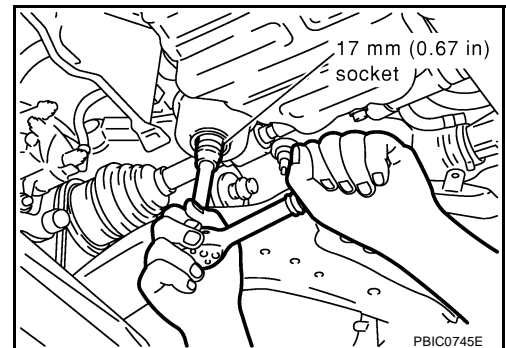
## Changing Oil Filter REMOVAL

### 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 adhere to the engine and the vehicle.



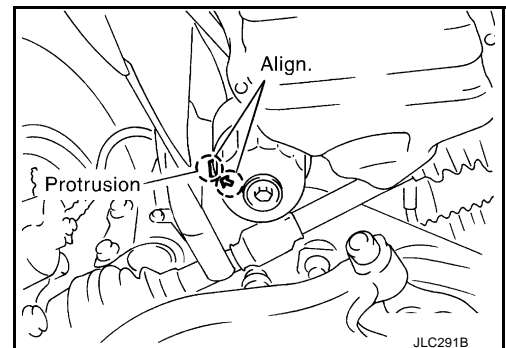
1. Using a socket wrench [plane-to-plane width 17 mm (0.67in)] loosen the filter body approximately four turns.



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.

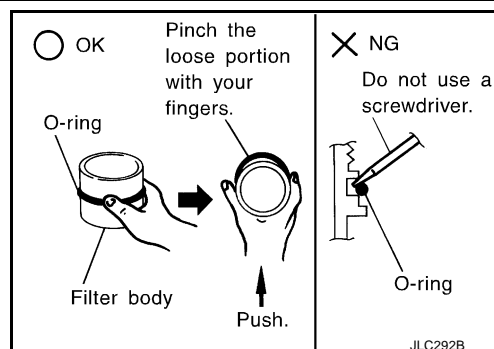


## ENGINE MAINTENANCE (YD22DDTI)

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-33, "Changing Engine Oil"](#).

## 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.

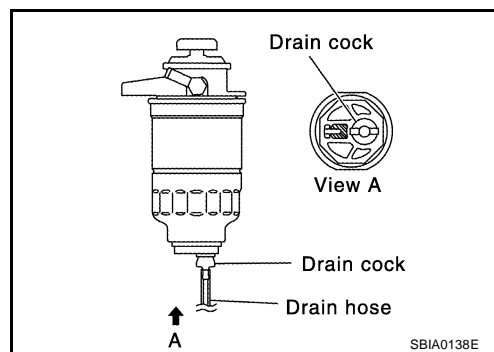
### CAUTION:

- **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.



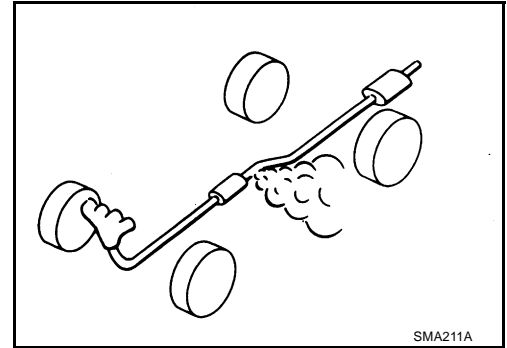
## CHASSIS AND BODY MAINTENANCE

PFP:00100

### Checking Exhaust System

ELS000F3

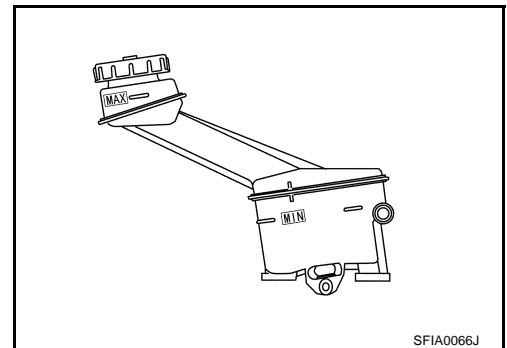
Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage, chafing or deterioration.



### Checking Clutch Fluid Level and Leaks

ELS000F4

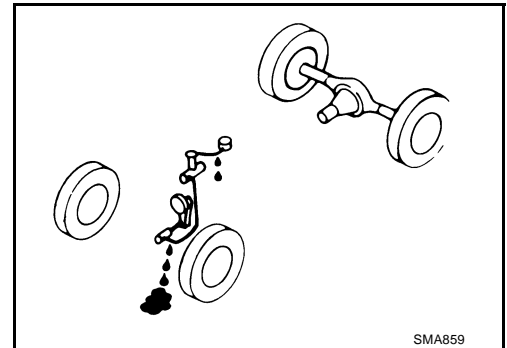
If fluid level is extremely low, check clutch system for leaks.



### Checking Clutch System

ELS000F5

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



### Checking M/T Oil

ELS000F6

- 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:

**RS5F30A-70A**

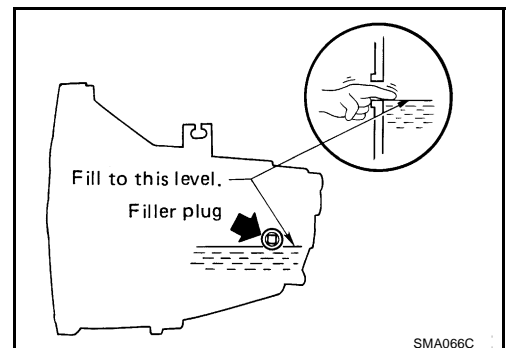
 : 10 - 19 N·m (1.0 - 2.0 kg-m, 87 - 173 in-lb)

**RS6F51A**

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

#### CAUTION:

**Do not reuse gasket.**



## Changing M/T Oil

ELS000F7

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

### Oil grade and viscosity:

Refer to [MA-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#)

### Oil capacity (Reference):

RS5F30A

Approx. 2.8 - 3.0 ℓ (4-7/8 - 5-1/4 Imp qt)

RS5F70A


Approx. 2.9 - 3.1 ℓ (5-1/4 Imp qt)

RS6F51A


Approx. 2.3 ℓ (4 Imp qt)

### Drain plug:

RS5F30A-70A

: 25 - 34 N·m (2.5 - 3.5 kg-m, 18 - 25 ft-lb)

RS6F51A

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

### CAUTION:

Do not reuse gasket.

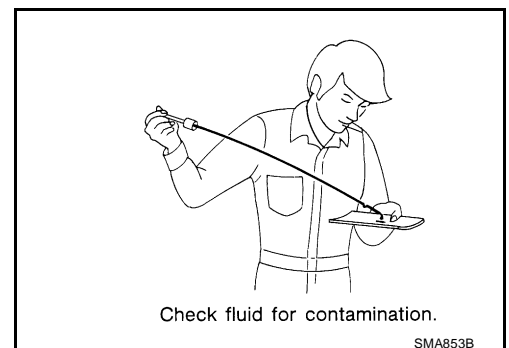
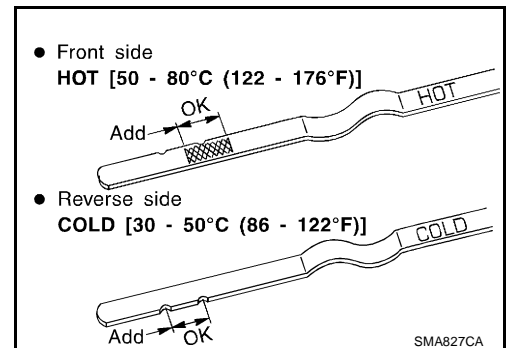
## Checking A/T Fluid

ELS000F8

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 note reading. If level is at low side of either range, and fluid to the charging pipe.
  - e. Re-insert dipstick into charging pipe as far as it will go.
  - f. Remove dipstick and note reading. If reading is at low side of range, add fluid to the charging pipe.

### 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.
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-11, "RADIATOR" \(QG\)](#), [CO-30, "RADIATOR" \(QR\)](#), [CO-50, "RADIATOR" \(YD\)](#), [CO-14, "RADIATOR \(ALUMINUM TYPE\)" \(QG\)](#), [CO-33, "RADIATOR \(ALUMINUM TYPE\)" \(QR\)](#), [CO-53, "RADIATOR \(ALUMINUM TYPE\)" \(YD\)](#).



# CHASSIS AND BODY MAINTENANCE

## Changing A/T Fluid

ELS000F9

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:

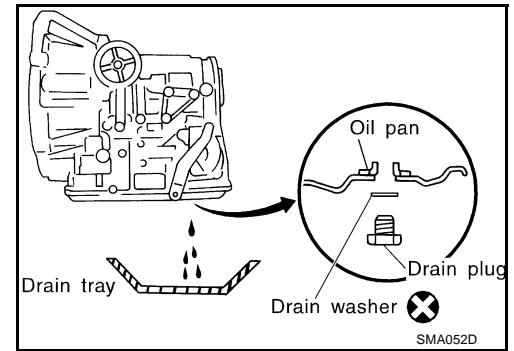
**Genuine Nissan ATF or equivalent. Refer to [MA-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).**

### Fluid capacity (With torque converter):

**Approx. 7.0 ℓ (6-1/8 Imp qt)**

### Drain plug:

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

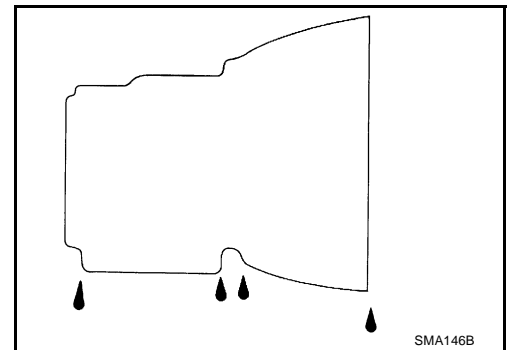


4. Run engine at idle speed for five minutes.
5. Check fluid level and condition. Refer to "Checking A/T Fluid". If fluid is still dirty, repeat steps 2 through 5.

## Checking CVT Fluid

ELS000GE

1. Check for fluid leakage.



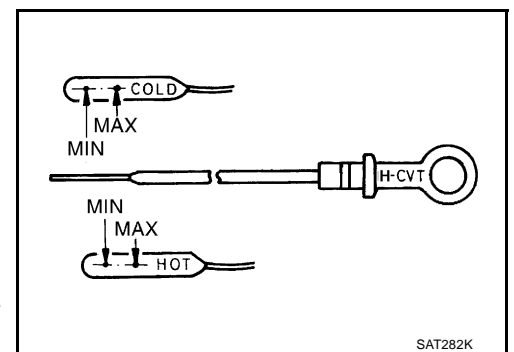
2. Check fluid level.  
Fluid level should be checked using "HOT" range on CVT fluid level gauge at fluid temperatures of 50 to 80°C (122 to 176°F) after vehicle has been driven approximately 10 minutes in urban areas after engine is warmed up. But it can be checked at fluid temperatures of 30 to 50°C (86 to 122°F) using "COLD" range on CVT fluid level gauge for reference after engine is warmed up and before driving. However, fluid level must be rechecked using "HOT" range.

- a. Park vehicle on level surface and set parking brake.
- b. Start engine and then move selector lever through reach gear range, ending in "P".
- c. Check fluid level with engine idling.
- d. Remove CVT fluid level gauge and wipe it clean with lint-free paper.
- e. Re-insert CVT fluid level gauge into charging pipe as far as it will go.
- f. Remove CVT fluid level gauge and note reading. If level is at low side of either range, add fluid through the speedometer cable hole.

**Use genuine NISSAN CVT fluid (NS-1) or exact equivalent.**

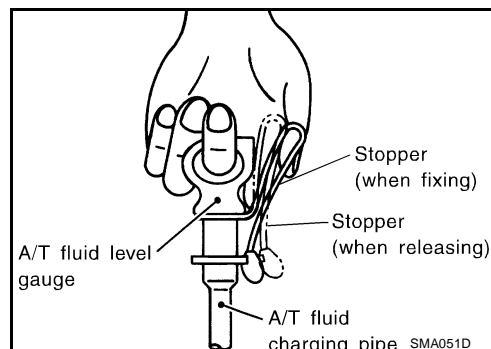
### CAUTION:

- Do not overfill.



## CHASSIS AND BODY MAINTENANCE

- Firmly fix the CVT fluid level gauge using a lip attached to the fluid charging pipe.



3. Check fluid condition.  
Check fluid for contamination. If fluid is very dark, smells burned or contains frictional material check operation of CVT. Refer to section CVT for checking operation of CVT.




### Changing CVT Fluid

1. Warm up CVT fluid by driving the vehicle for 10 minutes.
2. Drain CVT fluid from radiator cooler hose (return side) and refill with new CVT fluid at charging pipe with the engine running at idle speed.
3. Refill until new CVT fluid comes out from radiator cooler hose (return side).  
About 30 to 50% extra fluid will be required for this procedure.

#### Fluid capacity

Hyper CVT: Approx. 8.1 ℓ (7-1/8 Imp qt)

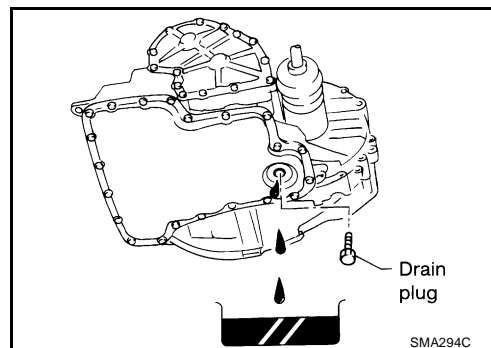
#### Drain plug:

: 23 - 27 N-m (2.4 - 2.8 kg-m, 18 - 20 ft-lb)

#### CAUTION:

Use genuine NISSAN CVT fluid (NS-1) or exact equivalent.

4. Check fluid level and condition.



### Balancing Wheels

Adjust wheel balance using the road wheel center.

Wheel balance (Maximum allowable unbalance):

Refer to [WT-5](#) .

# CHASSIS AND BODY MAINTENANCE

## Rotation

ELS000FG

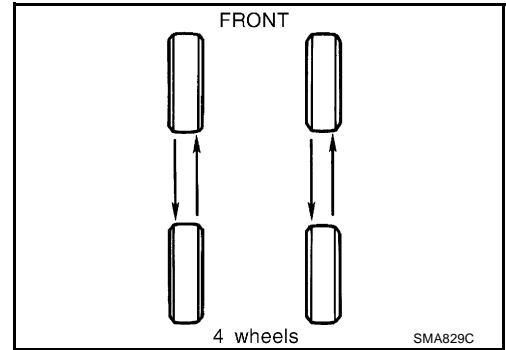
- After rotating the tires, adjust the tire pressure.
- Retighten the wheel nuts when the vehicle has been driven for 1,000 km (600 miles) (also in cases of a flat tire, etc.).

### 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:**

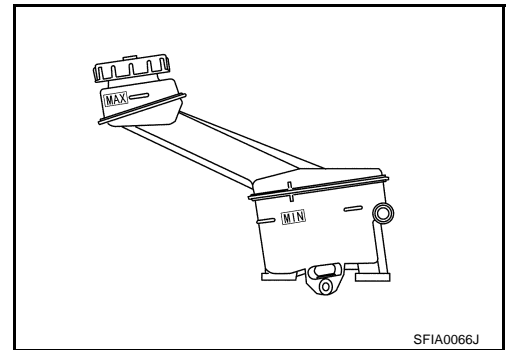
**98 - 118N·m (10 - 12 kg·m, 72 - 87 ft·lb)**



## Checking Brake Fluid Level and Leaks

ELS000FH

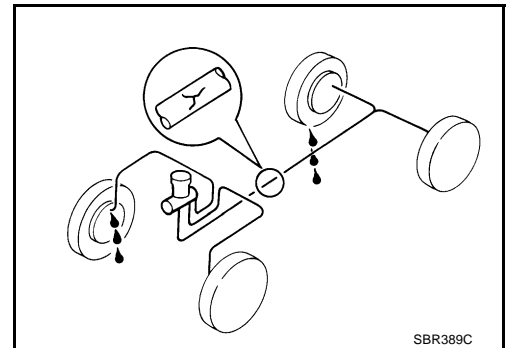
- If fluid level is extremely low, check brake system for leaks.



## Checking Brake Lines and Cables

ELS000FI

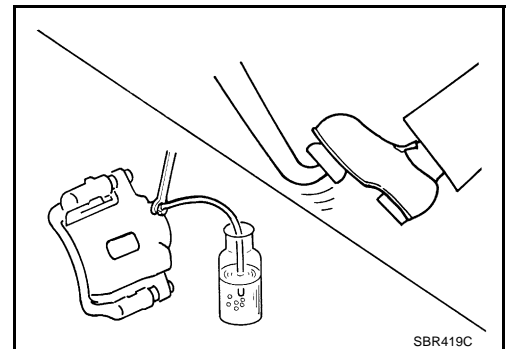
- Check brake fluid lines and parking brake cables for improper attachment, leaks, chafing, abrasions, deterioration, etc.



## Changing Brake Fluid

ELS000FJ

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-16, "RECOMMENDED FLUIDS AND LUBRICANTS"](#) .
  - Never reuse drained brake fluid.
  - Be careful not to splash brake fluid on painted areas.



## Checking Disc Brake ROTOR

ELS000FK

Check condition, wear, and damage.

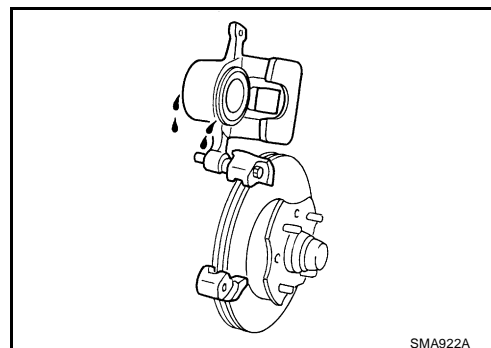


# CHASSIS AND BODY MAINTENANCE

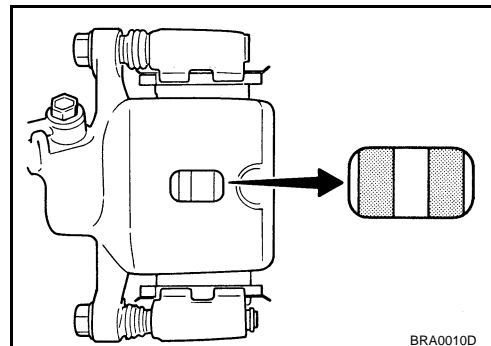
Applied	Front	Rear
Brake model	CL25VCG	FNc38/11/11
Standard thickness	28.0 mm (1.102 in)	16.0 mm (0.630 in)
Maximum runout	0.07 mm (0.0028 in)	0.15 mm (0.0059 in)
Minimum thickness (Wear limit)	26.0 mm (1.024 in)	14.0 mm (0.551 in)

## CALIPER

- Check for leakage.



## PAD

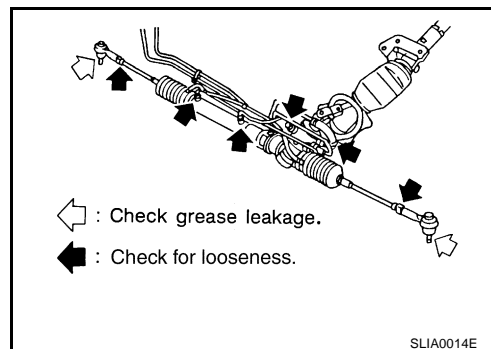


- Check for wear or damage.

Applied	Front	Rear
Brake model	CL25VCG	FNc38/11/11
Standard thickness	11.0 mm (0.433 in)	9.3 mm (0.366 in)
Minimum thickness (Wear Limit)	2.0 mm (0.079 in)	2.0 mm (0.079 in)

## Checking Steering Gear and Linkage

- 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.

# CHASSIS AND BODY MAINTENANCE

## Checking Power Steering Fluid and Lines

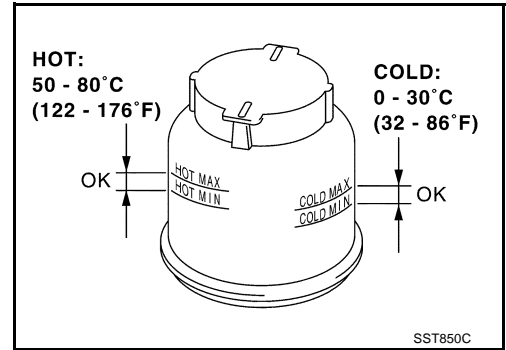
ELS000FN

Check fluid level in reservoir tank with engine off.

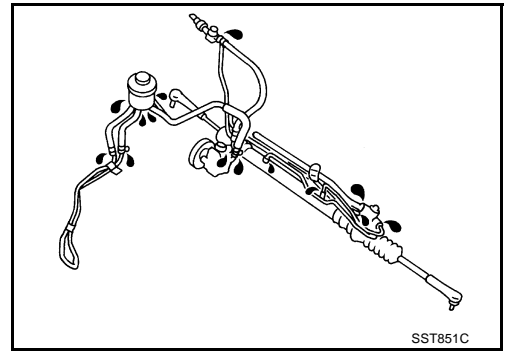
Use "HOT" range at fluid temperatures of 50 to 80°C (122 to 176°F) or "COLD" range at fluid temperatures of 0 to 30°C (32 to 86°F).

### CAUTION:

- Do not overfill.
- Recommended fluid is DEXRON™ III or equivalent. Refer to [MA-16, "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.

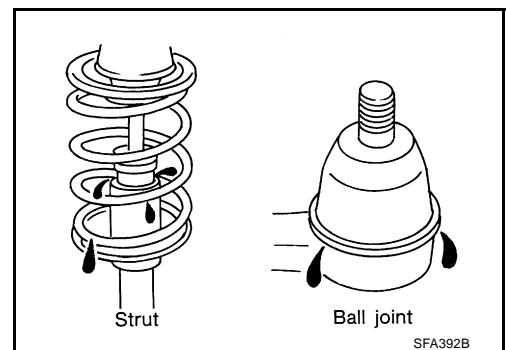
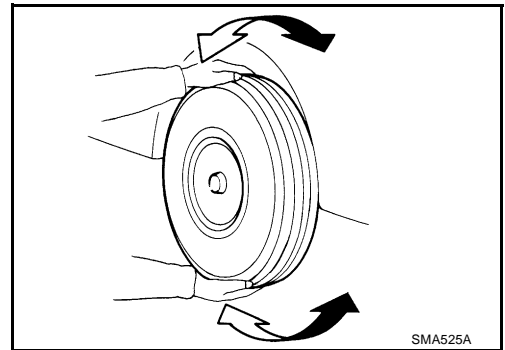


## Axle and Suspension Parts

ELS000FO

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.

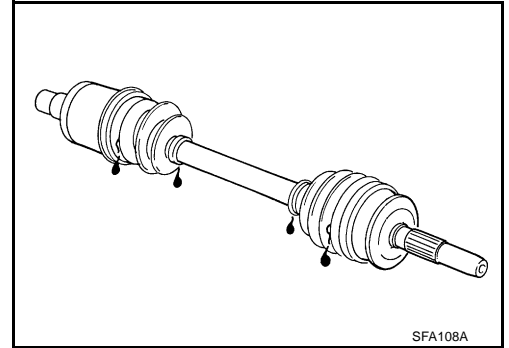


# CHASSIS AND BODY MAINTENANCE

## Drive Shaft

ELS000FP

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



## Lubricating Locks, Hinges and Hood Latches

ELS000FQ

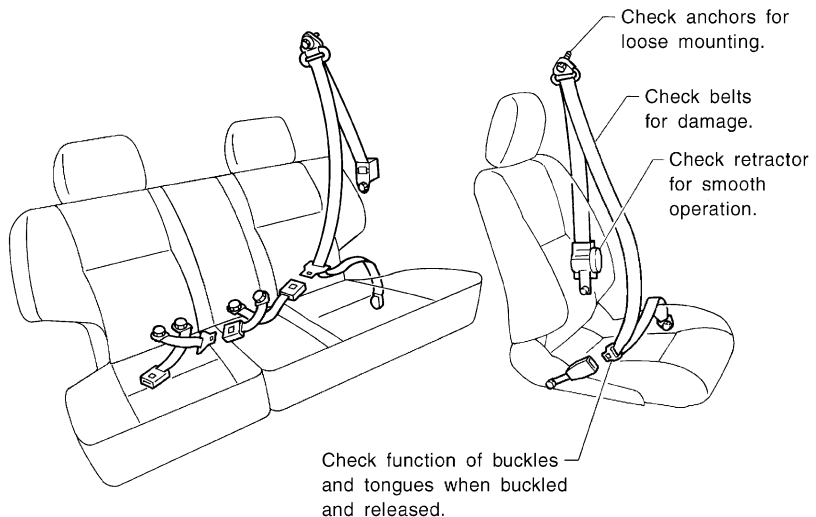
Front door	Refer to <a href="#">BL-10, "DOOR"</a> .
Back door	Refer to <a href="#">BL-119, "BACK DOOR"</a> .

## Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters


ELS000FR

### 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

ELS000FS

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.

## CHASSIS AND BODY MAINTENANCE

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### **PROTECTORS**

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

### **ANTI-CORROSION MATERIALS**

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

### **DRAIN HOLES**

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

# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

### Standard and Limit

ELS000FT

### BELT DEFLECTION AND TENSION (QG ENGINE MODELS)

Unit: mm (in)

		Deflection adjustment		
		Used belt		New belt
		Limit	After adjustment	
Alternator	Without air conditioner compressor	10.2 (0.402)	6.5 - 7.0 (0.256 - 0.276)	5.5 - 6.1 (0.217 - 0.240)
	With air conditioner compressor	8.1 (0.319)	5.3 - 5.7 (0.209 - 0.224)	4.5 - 5.0 (0.177 - 0.197)
Power steering oil pump		7.1 (0.280)	4.4 - 4.9 (0.173 - 0.193)	3.9 - 4.4 (0.154 - 0.173)
Applied pushing force		98 N (10 kg, 22 lb)		

### BELT DEFLECTION AND TENSION (QR ENGINE MODELS)

Tensions of drive belts	Auto-adjustment by auto tensioner
-------------------------	-----------------------------------

### 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.

### SPARK PLUG (QG ENGINE MODELS)

Make	NGK	Champion
Standard type	LFR5A-11	REC10YC4
Hot type	LFR4A-11	—
Cold type	LFR6A-11	—
Plug gap mm (in)	1.0 - 1.1 (0.039 - 0.043)	

### SPARK PLUG (QR ENGINE MODELS)

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

## SERVICE DATA AND SPECIFICATIONS (SDS)

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