MAINTENANCE

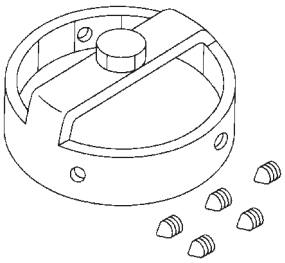
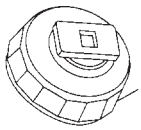
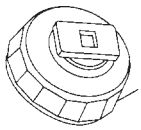
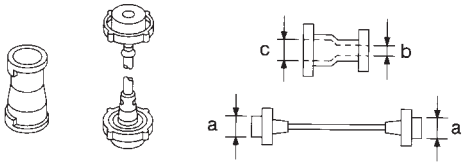
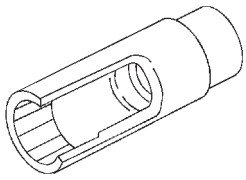
MA

SECTION MA

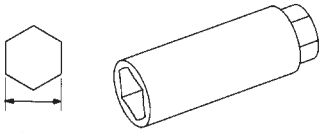
CONTENTS

Special Service Tools

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

Tool number Tool name	Description		Engine application		
			QG	SR	CD
KV10115800 Oil filter cap wrench 65 mm (2.56 in) dia.	 NT346	Removing oil filter	–	X	–
KV10105900 Oil filter cap wrench	 15 faces, Inner span: 80 mm (3.15 in) (Face to opposite corner) NT555	Removing oil filter	X	–	–
99545R2500 (KV101060S0) Oil filter wrench	 15 faces, Inner span: 92.5 mm (3.642 in) (Face to opposite corner) NT631	Removing oil filter	–	–	X
EG17650301 Radiator cap tester adapter	 NT564	**a: 28 (1.10) dia.** **b: 31.4 (1.236) dia.** **c: 41.3 (1.626) dia.** Unit: mm (in)	X	X	X
KV119E0030 Nozzle holder socket	 NT648	Removing and installing injection nozzle assembly	–	–	X

Commercial Service Tool

Tool name	Description		Engine application		
			QG	SR	CD
Spark plug wrench	 **16 mm** **(0.63 in)** NT047	Wrench with a magnet to hold spark plug	X	X	–

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 dust, 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 purifier (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
- ☐ Squeaks and rattles

ENGINE OPERATING AND HOT

- ☐ Adjust idle mixture and speed (and ignition timing*1)
- ☐ Automatic transmission/transaxle fluid level
- ☐ Engine idling and stop knob operation (Diesel only)

FINAL INSPECTION

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

*1: Not required on models with a direct ignition system

☒: Not applicable to this model.

General maintenance includes those items which should be checked during normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue functioning correctly. Owners can perform the checks and inspections themselves, or they can be carried out by a NISSAN dealer.

Item	Reference pages
OUTSIDE THE VEHICLE The maintenance items listed here should be checked periodically, unless otherwise specified.	
Tires Check the pressure with a gauge weekly 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 function correctly. Also ensure that all latches lock securely. Lubricate if necessary. Make sure that the secondary latch prevents the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check for lubrication more often.	MA-54
Tire rotation Tires should be rotated every 10,000 km (6,000 miles).	MA-53
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.	
Lights Make sure that the headlights, stop lights, tail lights, turn signal lights, and other lights are all operating correctly and installed securely. Also check headlight aim.	–
Warning lights and buzzers/chimes Make sure that all warning lights and buzzers/chimes are functioning correctly.	–
Steering wheel Check that it has the specified play. Check for changes in the steering operation, such as excessive free play, hard steering or strange noises. **Free play: Less than 35 mm (1.38 in.)**	–
Seat belts Check that all parts of the seat belt system (e.g. buckles, anchors, adjusters and retractors) operate properly and smoothly, and are installed securely. Check the belt webbing for cuts, fraying, wear or damage.	MA-54
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.	
Windshield washer fluid Check that there is adequate fluid in the tank.	–
Engine coolant level Check the coolant level when the engine is cold.	–
Engine oil level Check the level after parking the vehicle (on level ground) and turning off the engine.	MA-24 / MA-34 / MA-45
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-51 / MA-48
Battery Check the fluid level in each cell. It should be between the “MAX” and “MIN” lines.	–

Maintenance Schedule for Petrol Engines (Annual Mileage < 30,000 km/year)

QG16DE/QG18DE/SR20DE engines

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary [ ] = At the specified mileage only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) per year	km × 1,000	15	30	45	60	75	90	105	120		
	(miles × 1,000)	(9)	(18)	(27)	(36)	(45)	(54)	(63)	(72)		
	Months	12	24	36	48	60	72	84	96	QG16DE/ QG18DE	SR20DE
Engine compartment and under vehicle										Reference pages	
Engine oil (Use recommended oil)*		R	R	R	R	R	R	R	R	MA-24	MA-34
Engine oil filter (Use NISSAN genuine part or equivalent)*		R	R	R	R	R	R	R	R	MA-24	MA-35
Drive belts		I	I	I	I	I	I	I	I	MA-18	MA-28
Cooling system		I	I	I	I	I	I	I	I	MA-21	MA-31
Engine anti-freeze coolant (Use genuine NISSAN Anti-Freeze Coolant (L2N) or equivalent)	See NOTE (1)									MA-19	MA-29
Air cleaner filter*					R				R	MA-23	MA-34
Intake and exhaust valve clearance (Non HLA models)	See NOTE (2)									EM-92	—
Fuel and vapour lines			I		I		I		I	MA-22/MA-26	MA-33/ MA-37
Spark plugs	(Conventional type)		R		R		R		R	MA-25	MA-35
Ignition leads				I			I			—	MA-36
Fuel filter*							R			MA-23	MA-33
Heated oxygen sensor*	See NOTE (3)									MA-27, EC-QG-134/ EC-QG-173	MA-38, EC-SR-146/ EC-SR-182
PCV system			I		I		I		I	MA-26	MA-36

NOTE: (1) First replace at 90,000 km (54,000 miles)/72 months, then every 60,000 km (36,000 miles)/48 months.

(2) Periodic maintenance is not required for QG engine models. However, if valve noise increases, check valve clearance.

(3) Perform only according to “Maintenance under severe driving conditions”.

*** Maintenance items with “*” should be performed more frequently according to “Maintenance under severe driving conditions”.**

Chassis and Body Maintenance

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary L = Lubricate T = Tighten [ ] = At the specified mileage only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform on a kilometer basis, but on an annual basis when driving less than 15,000 km (9,000 miles) in a year	km × 1,000	15	30	45	60	75	90	105	120	
	(miles × 1,000)	(9)	(18)	(27)	(36)	(45)	(54)	(63)	(72)	
	Months	12	24	36	48	60	72	84	96	
Underhood and under vehicle										Reference pages
Headlamp aiming		I	I	I	I	I	I	I	I	EL-87
Wheel alignment (if necessary, balance & rotate wheels)		I	I	I	I	I	I	I	I	FA-6/RA-6 MA-53
Brake pads, rotors & other components*		I	I	I	I	I	I	I	I	MA-51
Foot brake, parking brake & clutch (for free play, stroke & operation)		I	I	I	I	I	I	I	I	BR-13/BR-48/CL-5
Brake booster vacuum hoses, connections, check valve			I		I		I		I	MA-51
Brake & clutch, systems and fluid (for level and leaks)		I	I	I	I	I	I	I	I	MA-51/MA-48
Brake fluid*			R		R		R		R	BR-7
Power steering fluid and lines (for level and leaks)		I	I	I	I	I	I	I	I	MA-53
Air bag system	See NOTE (1)									RS-11
Ventilation air filter*			R		R		R		R	HA-117
Manual transmission oil (check for leakage. Use genuine NISSAN XZ gear oil or exact equivalent)		I	I	I	I	I	I	I	I	MA-49
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]	MA-50
Steering gear & linkage, axle & suspension, exhaust system*			I		I		I		I	MA-53/FA-5/ RA-5/MA-48
Body corrosion	See NOTE (2)									MA-55

NOTE: (1) Inspect after 10 years, then every 2 years.
(2) Inspect once per year.
*** Maintenance items with "*" should be performed more frequently according to "Maintenance under severe driving conditions".**

Maintenance Schedule for Diesel Engines (Annual Mileage < 30,000 km/year)

CD20T engine

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary C = Clean [ ] = At the specified mileage only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL												
Perform on a kilometer basis, but on a semi-annual basis when driving less than 20,000 km (12,000 miles) per year.	km × 1,000	10	20	30	40	50	60	70	80	90	100	110	120	
	(miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)	
	Months	6	12	18	24	30	36	42	48	54	60	66	72	CD20T
Engine compartment and under vehicle														Reference pages
Engine oil (Use recommended oil)*		R	R	R	R	R	R	R	R	R	R	R	R	MA-45
Engine oil filter (Use NISSAN genuine part or equivalent)*		R	R	R	R	R	R	R	R	R	R	R	R	MA-45
Drive belts		I	I	I	I	I	I	I	I	I	I	I	I	MA-39
Timing belts	Camshaft								[R]					EM-59
	Injection pump								[R]					EM-59
Cooling system			I		I		I		I		I		I	MA-42
Engine anti-freeze coolant (Use genuine NISSAN Anti-freeze Coolant (L2N) or equivalent)	See NOTE (1)													MA-40
Air cleaner filter*							R						R	MA-44
Fuel lines					I				I				I	MA-43
Injection nozzles	See NOTE (2)													MA-46
Fuel filter					R				R				R	MA-43

NOTE: (1) First replace at 80,000 km (48,000 miles)/48 months, then every 60,000 km (36,000 miles)/36 months.
(2) If engine power decreases, black exhaust smoke is emitted or engine noise increases, inspect and if necessary, adjust the fuel injection nozzles starting pressure and spray pattern.
*** Maintenance items with "*" should be performed more frequently according to "Maintenance under severe driving conditions".**

Chassis and Body Maintenance

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary L = Lubricate T = Tighten [ ] = At the specified mileage only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL											
Perform on a kilometer basis, but on a semi-annual basis when driving less than 20,000 km (12,000 miles) per year	km × 1,000	10	20	30	40	50	60	70	80	90	100	110	120
	(miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)
	Months	6	12	18	24	30	36	42	48	54	60	66	72
Underhood and under vehicle													Reference pages
Headlamp aiming			I		I		I		I		I		EL-87
Wheel alignment (if necessary, balance & rotate wheels)			I		I		I		I		I		FA-6/RA-6/ (MA-53)
Brake pads, rors & other components*			I		I		I		I		I		MA-51
Foot brake, parking brake & clutch (for free play, stroke & operation)			I		I		I		I		I		BR-48/ BR-13/CL-5
Brake booster vacuum hoses, connections, check valve					I				I				I MA-51
Brake & clutch, systems and fluid (for level and leaks)			I		I		I		I		I		MA-51/ MA-48
Brake fluid*					R				R				R BR-7
Power steering fluid and lines (for level and leaks)			I		I		I		I		I		MA-53
Air bag system	See NOTE (1)												RS-11
Ventilation air filter*				R			R			R			R HA-117
Manual transmission oil (check for leakage. Use genuine NISSAN XZ gear oil or exact equivalent)			I		I		I		I		I		MA-49
Steering gear & linkage, axle & suspension, exhaust system*					I				I				I MA-53/FA-5/ RA-5/MA-48
Body corrosion	See NOTE (2)												MA-55

NOTE: (1) Inspect after 10 years, then every 2 years.
(2) 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 Driving Distance < 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.

A — Driving under dusty conditions
B — Driving repeatedly 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 areas or in mountainous areas
G — Driving in areas using salt or other corrosive materials
H — Driving on rough and/or muddy roads or in the desert
I — Driving with frequent use of braking or in mountainous areas
J — Frequent off road use or driving in water
K — Sustained high speed driving
L — Low quality lubricants or fuel

Driving condition	Maintenance item	Maintenance operation	Maintenance interval
A B C D	**Engine oil & engine oil filter**		
	Petrol models	Replace	Every 7,500 km (4,500 miles) or 6 months
	Diesel models	Replace	Every 5,000 km (3,000 miles) or 3 months
A	**Air cleaner filter**		
	Petrol models	Replace	Every 30,000 km (18,000 miles) or 24 months
	Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months
A . . . E	**Fuel filter**		
	Petrol models	Replace	Every 45,000 km (27,000 miles) or 36 months
	Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months
. L	**Front/Rear Heated Oxygen Sensor**		
	Petrol models	Inspect	Every 30,000 km (18,000 miles) or 24 months
A	**Ventilation air filter**		
	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months
	Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months
. . . . . F	**Brake fluid**		
	Petrol models	Replace	Every 15,000 km (9,000 miles) or 12 months
	Diesel models	Replace	Every 20,000 km (12,000 miles) or 12 months
. . C . . . . H	**CVT fluid**		
	Petrol models	Replace	Every 30,000 km (18,000 miles)
A . C . . . G H I . . .	**Brake pads, rotors & other brake system components**		
	Petrol models	Inspect	Every 7,500 km (4,500 miles) or 6 months
	Diesel models	Inspect	Every 10,000 km (6,000 miles) or 6 months
. . . . . G H	**Steering gear & linkage, axle & suspension parts, exhaust system**		
	Petrol models	Inspect	Every 15,000 km (9,000 miles) or 12 months
	Diesel models	Inspect	Every 20,000 km (12,000 miles) or 12 months

Maintenance Schedule for Petrol Engines (Annual Mileage > 30,000 km/year)

QG16DE/QG18DE/SR20DE engines

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

MAINTENANCE OPERATION	MAINTENANCE INTERVAL									
Perform on a kilometer basis only.	km × 1,000	15	30	45	60	75	90	105	120	
	(miles x 1,000)	(9)	(18)	(27)	(36)	(45)	(54)	(63)	(72)	QG16DE/ QG18DE / SR20DE
Engine compartment and under vehicle										Reference pages
Engine oil (Use recommended oil)*		R	R	R	R	R	R	R	R	MA-24 / MA-34
Engine oil filter (Use NISSAN genuine part or equivalent)*		R	R	R	R	R	R	R	R	MA-24 / MA-35
Drive belts		I	I	I	I	I	I	I	I	MA-18 / MA-28
Cooling system			I		I		I		I	MA-21 / MA-31
Engine anti-freeze coolant (Use genuine NISSAN Anti-Freeze Coolant (L2N) or equivalent)	See NOTE (1)									MA-19 / MA-29
Air cleaner filter*					R				R	MA-23 / MA-34
Intake & exhaust valve clearance (Non HLA models)	See NOTE (2)									EM-92 / —
Fuel and vapour lines					I				I	MA-22/ MA-26 / MA-33/ MA-37
Spark plugs	(Conventional type)		R		R		R		R	MA-25 / MA-35
Ignition leads							I			— / MA-36
Fuel filter*							R			MA-23 / MA-33
Heated oxygen sensor*	See NOTE (3)									EC-QG-134/ EC-QG-173 / EC-SR-146/ EC-SR-182
PCV system			I		I		I		I	MA-26 / MA-36
PCV filter*					R				R	— / —

NOTE: (1) First replace at 90,000 km (54,000 miles), then every 60,000 km (36,000 miles).
(2) Periodic maintenance is not required for QG engine models. However, if valve noise increases, check valve clearance.
(3) Perform only according to “Maintenance under severe driving conditions”.
*** Maintenance items with “*” should be performed more frequently according to “Maintenance under severe driving conditions”.**

Chassis and Body Maintenance

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary L = Lubricate T = Tighten [ ] = At the specified mileage only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform on a kilometer basis only.	km × 1,000	15	30	45	60	75	90	105	120	
	(miles x 1,000)	(9)	(18)	(27)	(36)	(45)	(54)	(63)	(72)	
Underhood and under vehicle										Reference pages
Headlamp aiming			I		I		I		I	EL-87
Wheel alignment (if necessary, balance & rotate wheels)			I		I		I		I	FA-6/RA-6/ (MA-53)
Brake pads, rotors & other components*			I		I		I		I	MA-51
Foot brake, parking brake & clutch (for free play, stroke & operation)			I		I		I		I	BR-48/BR-13/ CL-5
Brake booster vacuum hoses, connections, check valve					I				I	MA-51
Brake & clutch, systems and fluid (for level and leaks)			I		I		I		I	MA-51/MA-48
Brake fluid*					R				R	BR-7
Power steering fluid and lines (for level and leaks)			I		I		I		I	MA-53
Air bag system	See NOTE (1)									RS-11
Ventilation air filter*			R		R		R		R	HA-117
Manual transmission oil (check for leakage. Use genuine NISSAN XZ gear oil or exact equivalent.)			I		I		I		I	MA-49
CVT fluid (for level and leaks or replace. Use genuine NISSAN CVT fluid (NS-1) or exact equivalent)*			I		[R]		I		[R]	MA-50
Steering gear and linkage, axle & suspension, exhaust system*					I				I	MA-53/FA-5/ RA-5/MA-48
Body corrosion	See NOTE (2)									MA-55

NOTE: (1) Inspect after 10 years, then every 2 years.
(2) Inspect once per year.
*** Maintenance items with "*" should be performed more frequently according to "Maintenance under severe driving conditions".**

Maintenance Schedule for Diesel Engines (Annual Mileage > 30,000 km/year)

CD20T engine

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

MAINTENANCE OPERATION		MAINTENANCE INTERVAL												
Perform on a kilometer basis only.	km × 1,000	10	20	30	40	50	60	70	80	90	100	110	120	
	(miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)	CD20T
Engine compartment and under vehicle														Reference pages
Engine oil (Use recommended oil)*		R	R	R	R	R	R	R	R	R	R	R	R	MA-45
Engine oil filter (Use NISSAN genuine part or equivalent)*		R	R	R	R	R	R	R	R	R	R	R	R	MA-45
Drive belts		I	I	I	I	I	I	I	I	I	I	I	I	MA-39
Timing belts	Camshaft									R				MA-47
	Injection pump									R				MA-47
Cooling system				I			I			I			I	MA-42
Engine anti-freeze coolant (Use genuine NISSAN Anti-Freeze Coolant (L2N) or equivalent)	See NOTE (1)													MA-40
Air cleaner filter*							R						R	MA-44
Fuel lines							I						I	MA-43
Injection nozzles	See NOTE (2)													MA-46
Fuel filter							R						R	MA-43

NOTE: (1) First replace at 90,000 km (54,000 miles), then every 60,000 km (36,000 miles).
(2) If engine power decreases, black exhaust smoke is emitted or engine noise increases, inspect and if necessary, adjust the fuel injection nozzles starting pressure and spray pattern.
*** Maintenance items with "*" should be performed more frequently according to "Maintenance under severe driving conditions".**

Chassis and Body Maintenance

Abbreviations: R = Replace I = Inspect: Correct or replace if necessary L = Lubricate T = Tighten

MAINTENANCE OPERATION		MAINTENANCE INTERVAL											
Perform on a kilometer basis only.	km × 1,000	10	20	30	40	50	60	70	80	90	100	110	120
	(miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)	(66)	(72)

Underhood and under vehicle													Reference pages
Headlamp aiming				I			I			I			I	EL-87
Wheel alignment (if necessary, balance & rotate wheels)				I			I			I			I	FA-6/RA-6/ (MA-53)
Brake pads, rotors & other components*				I			I			I			I	MA-51
Foot brake, parking brake & clutch (for free play, stroke & operation)				I			I			I			I	BR-13/BR-48/ CL-5
Brake booster vacuum hoses, connections, check valve							I						I	MA-51
Brake & clutch, systems and fluid (for level and leaks)				I			I			I			I	MA-51/MA-48
Brake fluid*							R						R	BR-7
Power steering fluid and lines (for level and leaks)				I			I			I			I	MA-53
Air bag system	See NOTE (1)													RS-11
Ventilation air filter*				R			R			R			R	HA-117
Manual transmission oil (check for leakage. Use genuine NISSAN XZ gear oil or exact equivalent.)				I			I			I			I	MA-49
Steering gear & linkage, axle & suspension, exhaust system*							I						I	MA-53/FA-5/ RA-5/MA-48
Body corrosion	See NOTE (2)													MA-55

NOTE: (1) Inspect after 10 years, then every 2 years.
(2) 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 Driving Distance > 30,000 km)

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.

A — Driving under dusty conditions
B — Driving repeatedly 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 areas or in mountainous areas
G — Driving in areas using salt or other corrosive materials
H — Driving on rough and/or muddy roads or in the desert
I — Driving with frequent use of braking or in mountainous areas
J — Frequent off road use or driving in water
K — Sustained high speed driving
L — Low quality lubricants or fuel

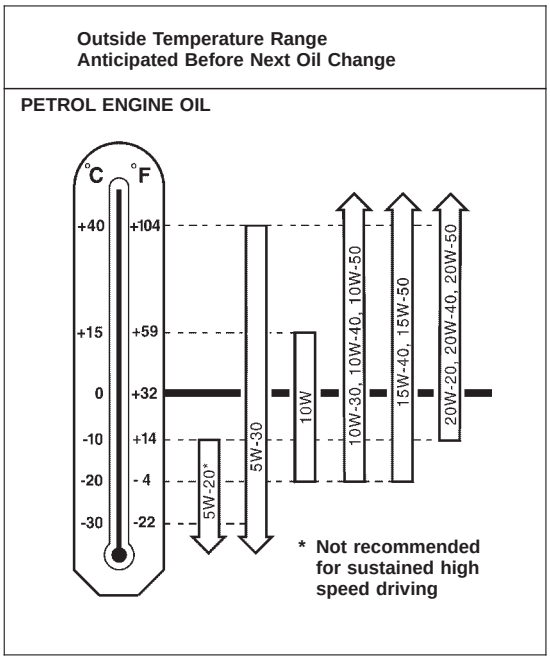
Driving condition	Maintenance item	Maintenance operation	Maintenance interval
A B C D	**Engine oil & engine oil filter**		
	Petrol models	Replace	Every 7,500 km (4,500 miles)
	Diesel models	Replace	Every 5,000 km (3,000 miles)
A	**Air cleaner filter**		
	Petrol models	Replace	Every 30,000 km (18,000 miles)
	Diesel models	Replace	Every 30,000 km (18,000 miles)
A . . . E	**Fuel filter**		
	Petrol models	Replace	Every 45,000 km (27,000 miles)
	Diesel models	Replace	Every 30,000 km (18,000 miles)
A	**PCV filter**		
	QG16DE	Replace	Every 30,000 km (18,000 miles)
. L	**Front/Rear Heated Oxygen Sensor**		
	Petrol Models	Inspect	Every 60,000 km (36,000 miles)
A	**Ventilation air filter**		
	Petrol models	Replace	Every 15,000 km (9,000 miles)
	Diesel models	Replace	Every 15,000 km (9,000 miles)
. . . . . F	**Brake fluid**		
	Petrol models	Replace	Every 30,000 km (18,000 miles)
	Diesel models	Replace	Every 30,000 km (18,000 miles)
. . C . . . . H	**CVT fluid**		
	Petrol models	Replace	Every 22,500 km (13,500 miles)
A . C . . . G H I . . .	**Brake pads, rotors & other brake system components**		
	Petrol models	Inspect	Every 15,000 km (9,000 miles)
	Diesel models	Inspect	Every 15,000 km (9,000 miles)
. . . . . G H	**Steering gear & linkage, axle & suspension parts, exhaust system**		
	Petrol models	Inspect	Every 30,000 km (18,000 miles)
	Diesel models	Inspect	Every 30,000 km (18,000 miles)

Fluids and Lubricants

			Capacity (Approximate)		Recommended fluids and lubricants
			Liter	Imp measure	
Engine oil (Refill)					
With oil filter	QG16DE/QG18DE		2.9	5-1/8 pts	Petrol engines: API SH or SJ*/ACEA A2/96 Diesel engines: ACEA B2-96 (CCMC-PD2)*
	SR20DE		3.7	6-1/2 pts	
	CD20T		5.0	8-3/4 pts	
Without oil filter	QG16DE/QG18DE		2.7	4-3/4 pts	
	SR20DE		3.5	6-1/8 pts	
	CD20T		4.5	7-7/8 pts	
Cooling system (With reservoir tank)	QG16DE/QG18DE		6.1	10-3/4 pts	Genuine NISSAN Anti-freeze Coolant (L2N) or equivalent.
	SR20DE	M/T	6.6	11-5/8 pts	
		CVT	6.8	12 pts	
	CD20T		6.4	11-1/4 pts	
Reservoir			0.8	1-3/8 pts	
Manual transmission gear oil	RS5F70A		3.0	5-1/4 pts	Genuine NISSAN XZ gear oil or exact equivalent.
	RS5F32A		3.6	6-3/8 pts	
CVT fluid			8.1	14-1/8 pts	Genuine NISSAN CVT fluid (NS-1) or exact equivalent
Power steering fluid			1.1	2 pts	Type DEXRON™ III or equivalent
Brake fluid			–	–	DOT 4 (US FMVSS No. 116)
Multi-purpose grease			–	–	NLGI No. 2 (Lithium soap base)
Air conditioning system refrigerant					R-134a
Air conditioning system lubricants			compressor CR-14		NISSAN A/C System Oil Type R or exact equivalent
			compressor CSV613		NISSAN A/C System Oil Type S or equivalent

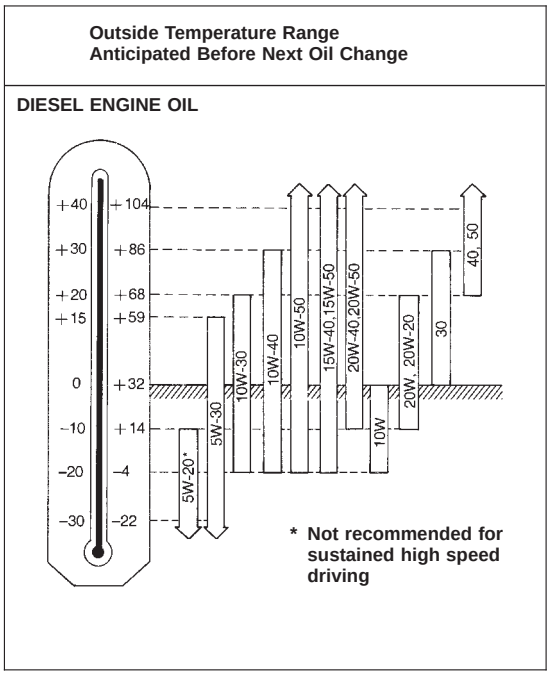
*: For further details, see “SAE Viscosity Number”.

SAE Viscosity Number



NTI035

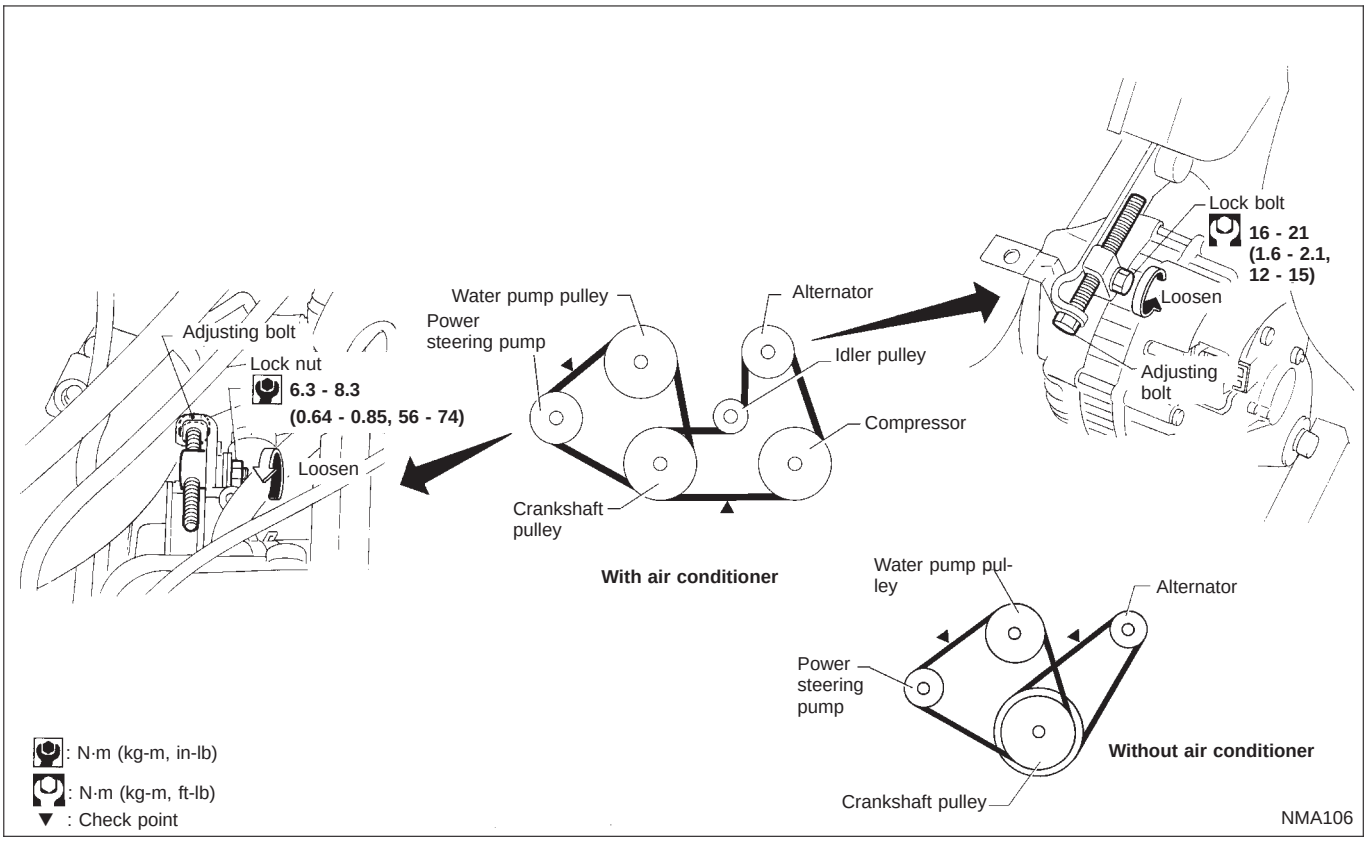
- **For warm and cold areas: 10W-30 is suitable. The use of 5W-30 can have a positive effect on fuel economy (ACEA A1-98).**
- **For hot areas: 20W-40 and 20W-50 are suitable.**



TI0006

- **For cold and warm areas: 10W-30 is preferable for ambient temperatures above −20°C (−4°F).**
- **On turbocharger models, 5W-20 is not recommended, and 5W-30 should be used only below 0°C (32°F).**
- **For hot areas: 20W-40 and 20W-50 are suitable.**

Checking Drive Belts

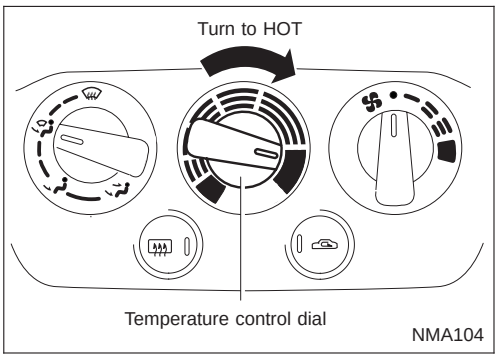


1. Inspect belt for cracks, fraying, wear and oil. If necessary, replace.
2. Inspect drive belt deflection or tension at a point on the belt midway between pulleys.

- **Inspect drive belt deflection or tension when engine is cold.**
- **Adjust if belt deflection exceeds the limit or if belt tension is not within specifications.**
- **Turn crankshaft two revolutions and recheck drive belt deflection or tension.**

	Deflection adjustment Unit: mm (in)			Tension adjustment* Unit: N (kg, lb)		
	Used belt		New belt	Used belt		New belt
	Limit	After adjustment		Limit	After adjustment	
Alternator						
Without airconditioner compressor	10.2 (0.402)	6.5 - 7.0 (0.256 - 0.276)	5.5 - 6.1 (0.217 - 0.240)	292 (29.8, 65.6)	652 - 740 (66.5 - 75.5, 146.6 - 166.4)	789 - 877 (80.5 - 89.7, 177.4 - 197.6)
With airconditioner 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	10.8 (0.425)	6.6 - 7.5 (0.260 - 0.295)	6.0 - 6.6 (0.236 - 0.260)	196 (20.0, 44.1)	495 - 583 (50.5 - 59.5, 111.3 - 131.1)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)
Applied pushing force	98 N (10 kg, 22 lb)			—		

*: If belt tension gauge cannot be installed at check points shown, check drive belt tension at a different location on the belt.



Changing Engine Coolant

WARNING:

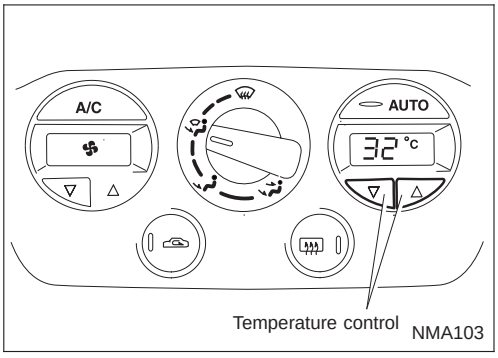
To avoid being scalded, never change the coolant when the engine is hot.

— DRAINING ENGINE COOLANT —

Heater

1. Set heater system as follows to prevent coolant from remaining in the system.

- Move temperature control dial all the way to “HOT”.

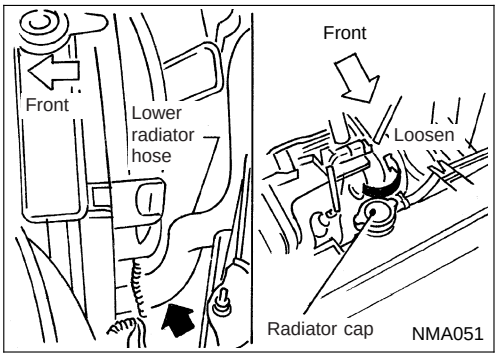


Semi-automatic air conditioning

1. Set air conditioning system as follows to prevent coolant from remaining in the system.

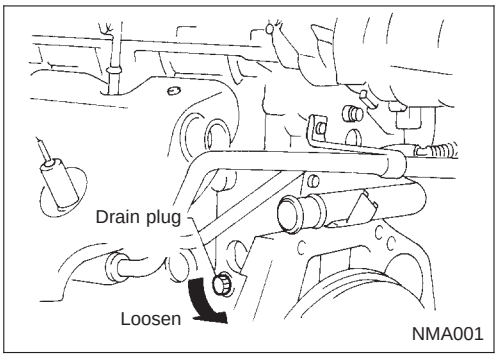
a. Turn ignition switch “ON” and enter a temperature of 32°C on the heater control.

b. Wait 30 seconds before turning ignition switch “OFF”.

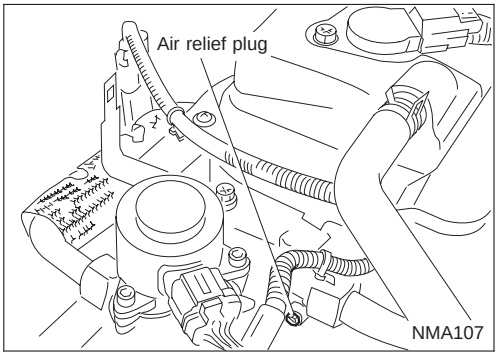


2. Disconnect lower radiator hose and remove radiator cap.
3. Remove reservoir tank, drain coolant, then clean reservoir tank.
   Install it temporarily.

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



4. Remove cylinder block drain plug and air relief plug.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system.
   Refer to “FLUSHING COOLING SYSTEM”, MA-21.



Changing Engine Coolant (Cont'd)

— REFILLING ENGINE COOLANT —

6. Install lower radiator hose, reservoir tank and tighten cylinder block drain plug securely.
- **Apply sealant to the thread of the cylinder block drain plug.**

  : 34 - 44 N·m (3.5 - 4.5 kg-m, 25 - 33 ft-lb)

7. Fill up radiator with coolant at the speed of less than 3ℓ (2-5/8 Imp qt)/min.
- If coolant spills from the air relief hole without bubbles, reinstall the plug.

  Air relief plug:

  : 7 - 8 N·m (0,7 - 0,8 kg-m, 5,1 - 5,8 ft-lb)

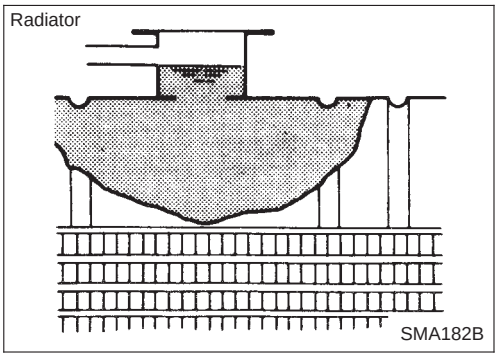
Then pour coolant in again.

- **Use genuine NISSAN Anti-Freeze Coolant or equivalent.** Refer to "RECOMMENDED FLUIDS AND LUBRICANTS", MA-16.

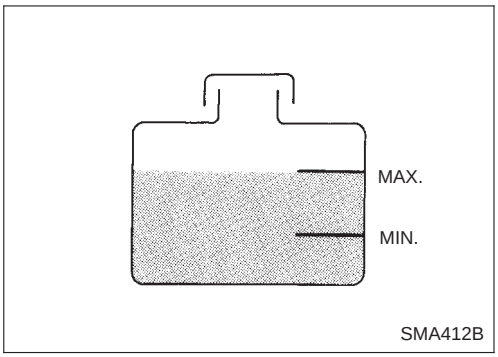
Coolant capacity (With reservoir tank):

Unit: (Imp qt)

QG16DE/QG18DE	6.1 (5-3/8)



8. Fill radiator and reservoir tank to specified level.
9. Start engine without installing radiator cap and warm it up at 2,000 rpm until radiator lower hose becomes hot.
- If coolant level becomes low, refill coolant until coolant level does not change.
- If coolant overflows radiator filler hole, install filler cap.



10. Run engine at 2,500 rpm for 10 seconds and return to idle speed.
- Repeat 2 or 3 times.

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

11. Stop engine and wait until it cools down.
- If necessary, refill radiator up to filler neck.

12. Refill reservoir tank to Max line with coolant.
13. Repeat steps 9 through 12 two or more times with radiator cap installed until coolant level no longer drops.
14. Check cooling system for leaks with engine running.
15. Warm up engine, and check for sound of coolant flow while running engine from idle up to 3,000 rpm with heater temperature control set at several positions between COOL and HOT.
- Sound may be noticeable at heater water cock.

16. If the sound is heard, bleed air from cooling system by repeating steps 9 through 12 until coolant level no longer drops.

Changing Engine Coolant (Cont'd)

— FLUSHING COOLING SYSTEM —

1. Open air relief plug.
2. Fill radiator with water until water spills from the air relief hole. Then reinstall air relief plug.
   Air relief plug
   : 7 - 8 N·m (0.7 - 0.8 kg-m, 5.1 - 5.8 ft-lb)
   Fill radiator and reservoir tank with water and reinstall radiator cap.
3. Run engine and warm it up sufficiently.
4. Rev engine 2 or 3 times under no-load.

● Make sure that blower fan is "OFF".

5. Stop engine and wait until it cools down.
6. Drain water.
7. Repeat steps 1 through 6 until clear water begins to drain from radiator.

Checking Cooling System

CHECKING HOSES

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

CHECKING RADIATOR

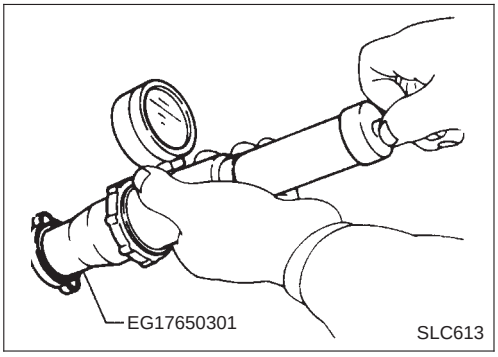
Check radiator for mud or clogging. If necessary, clean radiator as follows.

● 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 5 kg/cm^2 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.



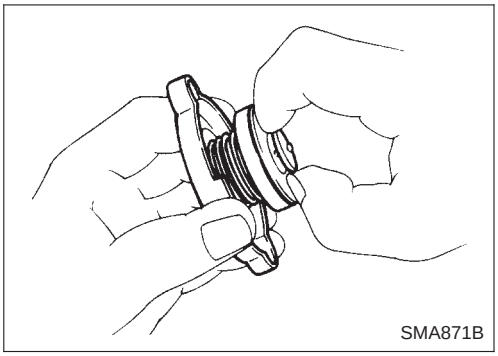
Checking Radiator Cap

Apply pressure to radiator cap with cap tester to see if it is satisfactory.

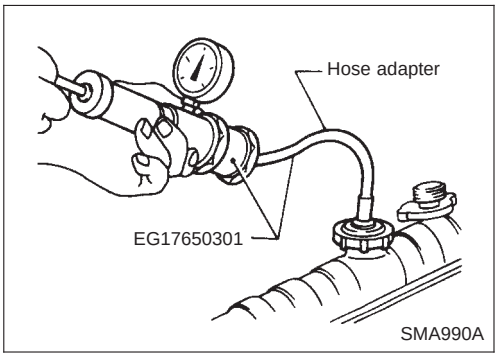
Radiator cap relief pressure:
Standard
78 - 98 kPa
(0.78 - 0.98 bar, 0.8 - 1.0 kg/cm^2, 11 - 14 psi)
Limit
59 - 98 kPa
(0.59 - 0.98 bar, 0.6 - 1.0 kg/cm^2, 9 - 14 psi)

Checking Radiator Cap (Cont'd)

- When installing radiator cap to the tester, apply water or coolant to the radiator cap seal.


SMA871B

Pull the negative-pressure valve to open it. Check that it closes completely when released.



SMA990A

CHECKING COOLING SYSTEM FOR LEAKS

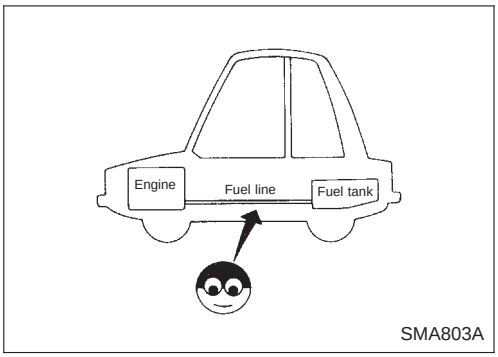
Apply pressure to the cooling system with cap tester to check for leakage.

Testing pressure:

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

CAUTION:

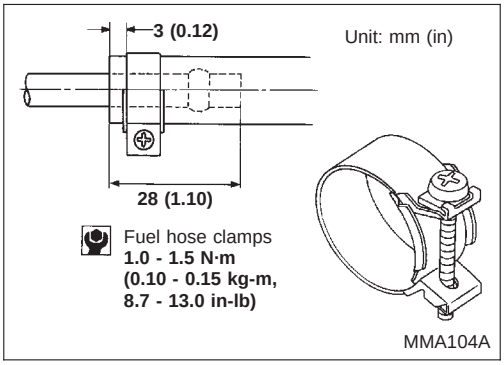
Higher pressure than the specified value may cause damage to radiator.



SMA803A

Checking Fuel Lines

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



MMA104A

CAUTION:

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

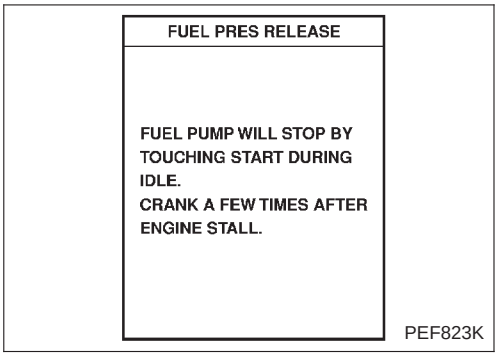
Tightening torque specifications are the same for all rubber hose clamps.

Ensure that screw does not contact adjacent parts.

Changing Fuel Filter

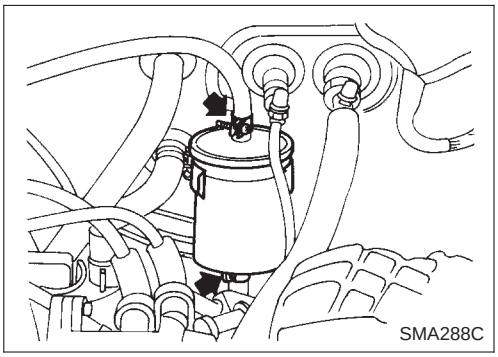
WARNING:

Before removing fuel filter, release fuel pressure from fuel line.



With Consult II

1. Release fuel pressure using the following procedure.
a. Start engine.
b. Perform “FUEL PRESSURE RELEASE” in “WORK SUPPORT” mode to release fuel pressure to zero.
c. After engine stalls, crank engine two or three times to make sure that fuel pressure is released.
d. Turn ignition switch “OFF”.

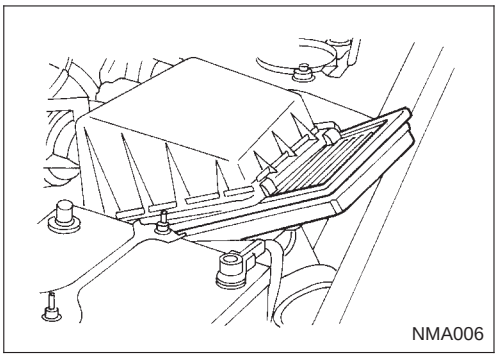


WARNING:

Use rubber gloves to prevent fuel from contacting the skin when removing fuel hoses and filter.

2. Loosen fuel hose clamps.
3. Replace fuel filter.

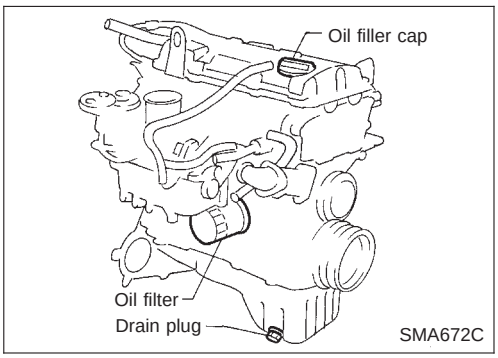
- **Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.**
- **Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.**
- **When tightening fuel hose clamps, refer to “Checking Fuel Lines”, MA-22**



Changing Air Cleaner Filter

Viscous paper type

Unfasten clamps to change air cleaner filter.
The viscous paper type filter does not need cleaning.



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.
3. Remove drain plug and oil filler cap.
4. Drain oil and refill with new engine oil.

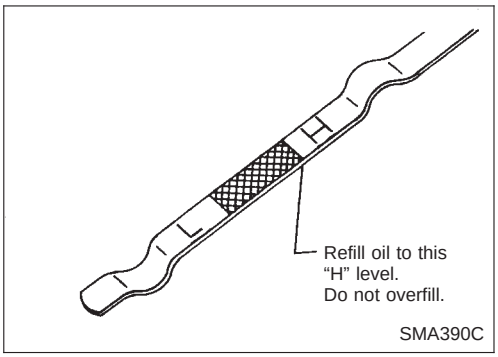
Oil grade: API SH or SJ/ACEA A2/96
Viscosity: See "RECOMMENDED FLUIDS AND LUBRICANTS", MA-16.
Refill oil capacity (Approximate):

Unit: ℓ (Imp pts)

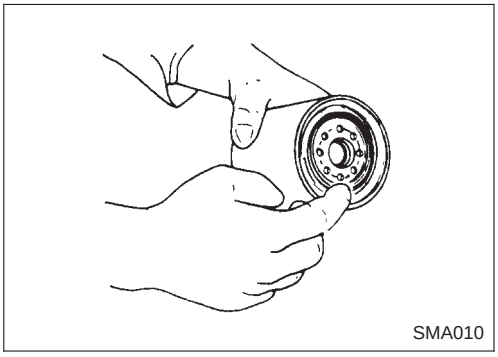
Drain and refill	
With oil filter change	2.9
Without oil filter change	2.7
Dry engine (engine overhaul)	3.0

CAUTION:

- **Be sure to clean drain plug and install with new washer.**
  Drain plug:
  : 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)
- **The refill oil capacity depends on oil temperature and drain time. Use these specifications as a reference only. Always use the dipstick to determine when the proper amount of oil is in the engine.**



5. Start engine and check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes, check oil level.



Changing Engine Oil Filter

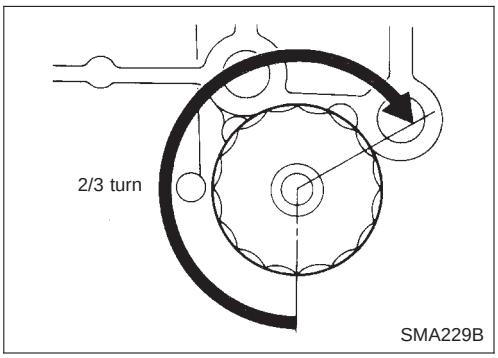
1. Remove oil filter with Tool.

WARNING:

Be careful not to burn yourself, as the engine and the engine oil are hot.

2. Clean the oil filter mounting surface on the cylinder block. Coat the rubber seal of the new oil filter with engine oil.

Changing Engine Oil Filter (Cont'd)

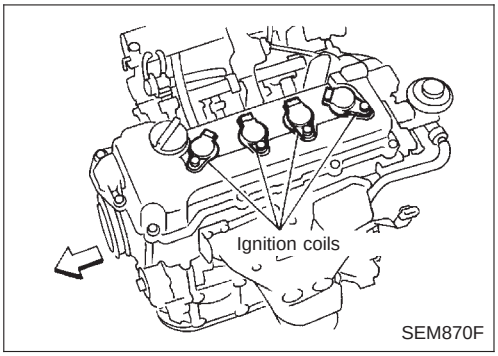


3. Screw in the oil filter until a slight resistance is felt, then tighten an additional 2/3 turn.
4. Add engine oil.

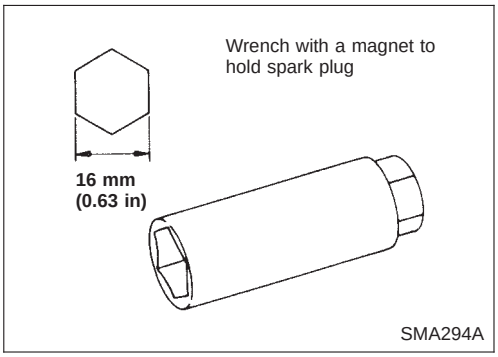
Refer to "Changing Engine Oil", MA-24.

- **Clean excess oil from engine.**

Checking and Changing Spark Plugs



1. Remove ignition coils.



2. Remove spark plugs with spark plug wrench.
3. Check insulator for cracks or chips, gasket for damage or deterioration and electrode for wear and burning. If excessively worn, replace with new spark plugs.

Spark plug:

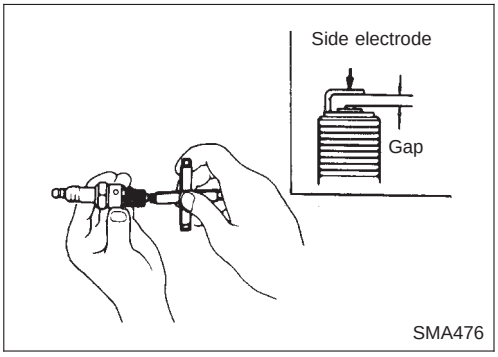
Make	CHAMPION	NGK
Standard type	RC10YCC4, RC10YC4	BKR5E-11
Hot type	RC12YCC4, RC12YC4	BKR4E-11
Cold type	RC7YCC4, RC7YC4	BKR6E-11

Use standard type spark plug for normal condition.
The hot type spark plug is suitable when fouling may occur with the standard type spark plug such as:

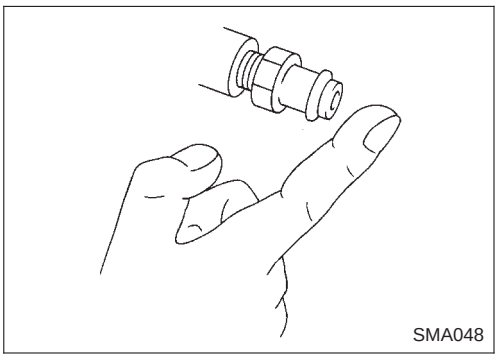
- frequent engine starts
- low ambient temperatures

The cold type spark plug is suitable when spark knock may occur with the standard type spark plug such as:

- extended highway driving
- frequent high engine revolution



4. Check spark plug gap.
   Gap: 1.0 - 1.1 mm (0.039 - 0.043 in)
5. Install spark plugs. Reinstall ignition coils.
   Spark plug:
   : 20 - 29 N·m (2.0 - 3.0 kg-m, 14 - 22 ft-lb)


SMA048

Checking Positive Crankcase Ventilation (PCV) System

CHECKING PCV VALVE

With engine running at idle, disconnect ventilation hose from PCV valve. If valve is working correctly, a hissing noise will be heard as air passes through it, and a strong vacuum should be felt immediately when a finger is placed over valve inlet.

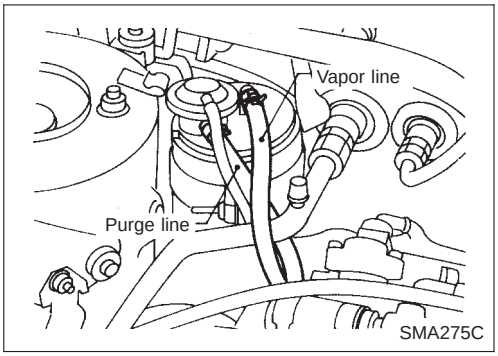
CHECKING VENTILATION HOSES

1. Check hoses and hose connections for leaks.
2. Disconnect all hoses and clean with compressed air. If any hose cannot be freed of obstructions, replace.

Checking Vacuum Hoses and Connections

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

Refer to Vacuum Hose Drawing in EMISSION CONTROL OVERALL SYSTEM in EC section.



SMA275C

Checking EVAP Vapour Lines

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

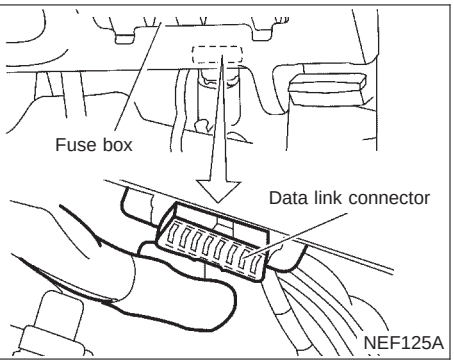
Refer to EVAPORATIVE EMISSION CONTROL SYSTEM INSPECTION in EC section.

A

DATA MONITOR	
MONITORING	NO FAIL
ENG SPEED	XXX rpm
FR 02 MNTR-B1	RICH

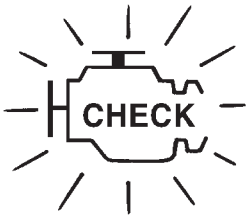
C2DMM06

B



NEF125A

C



Malfunction indicator lamp

SEF051PA

Checking Front Heated Oxygen Sensor (HO2S)

Checking procedure

INSPECTION START

↓

Start engine and warm it up until water temperature indicator points to the middle of gauge.

↓

A B C

1. See “M/R F/C MNT” in “Data monitor” mode.
2. Run engine at about 2,000 rpm for about 2 minutes under no-load.
3. Maintaining engine at 2,000 rpm under no-load (engine is warmed up sufficiently.), check that the monitor fluctuates between “LEAN” and “RICH” more than 5 times during 10 seconds.
   1 time **RICH → LEAN → RICH**
   2 times **RICH → LEAN → RICH → LEAN → RICH ...**

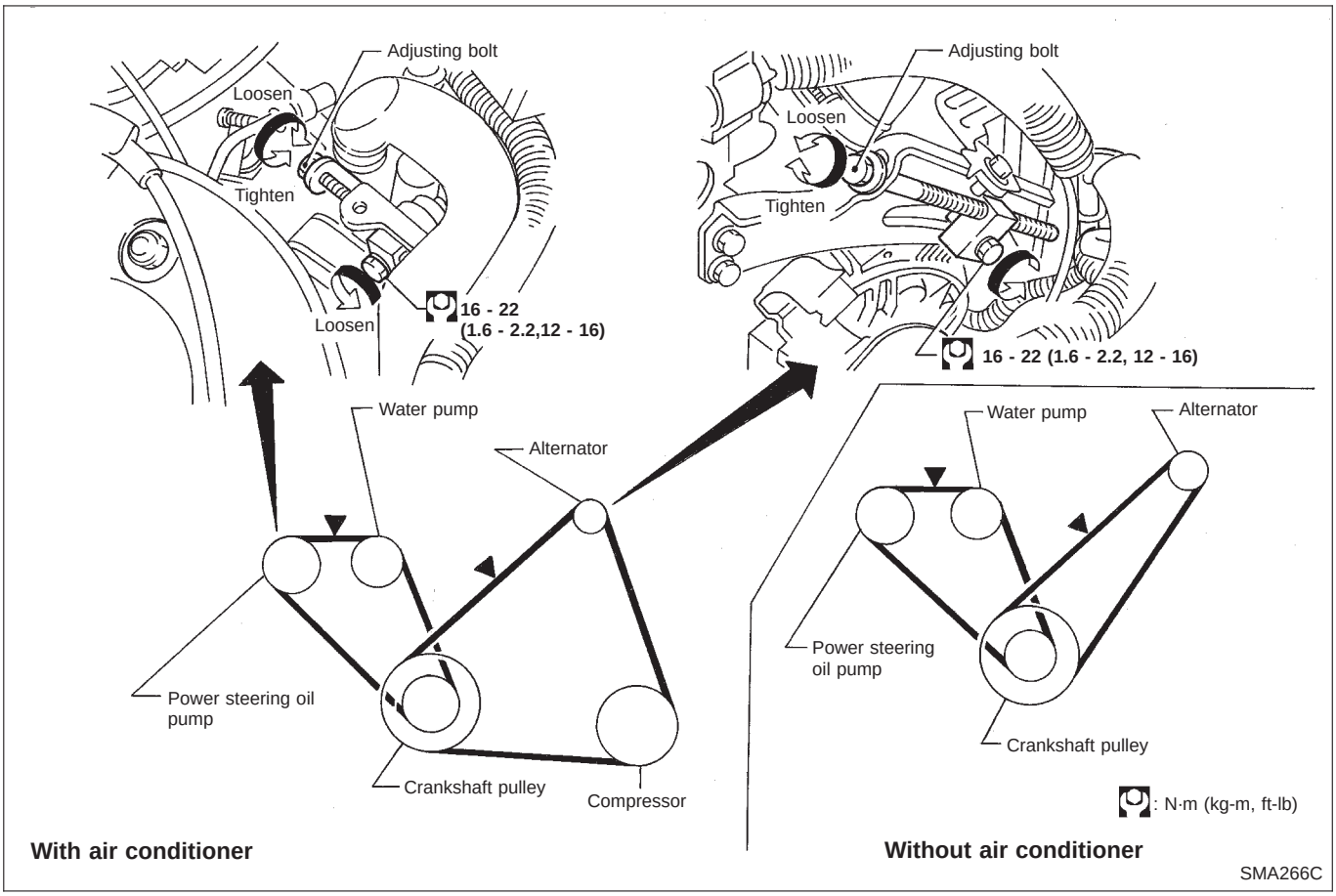
OK ↓

INSPECTION END

NG ↓

Check and adjustment should be made by referring to IDLE SPEED/IGNITION TIMING/ IDLE MIXTURE RATIO INSPECTION (**BASIC SERVICE PROCEDURE**) in EC section.

Checking Drive Belts



1. Inspect belt for cracks, fraying, wear and oil. If necessary, replace.
2. Inspect drive belt deflection or tension at a point on the belt midway between pulleys.

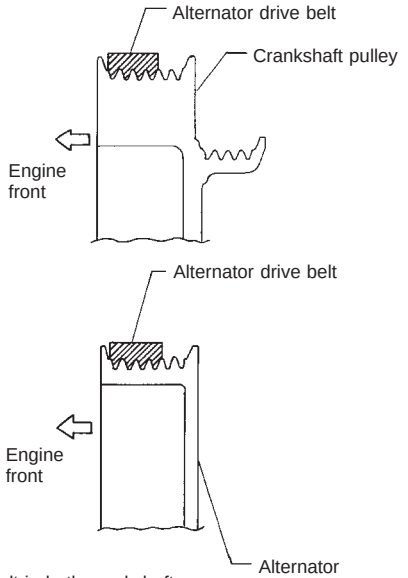
- **Inspect drive belt deflection or tension when engine is cold.**
- **Adjust if belt deflection exceeds the limit or if belt tension is not within specifications.**
- **Turn crankshaft two revolutions and recheck drive belt deflection or tension.**

	Deflection adjustment Unit: mm (in)			Tension adjustment* Unit: N (kg, lb)			
	Used belt		New belt	Used belt		New belt	
	Limit	After adjustment		Limit	After adjustment		
Alternator	12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)	264 (26.9, 59.3)	493 - 583 (50.3 - 59.5, 110.8 - 131.1)	11720 70J00 603 - 691 (61.5 - 70.5, 135.6 - 155.3)	11720 70J05 652 - 740 (66.5 - 75.5, 146.6 - 166.4)
Air conditioner compressor	9 (0.35)	5.5 - 6.5 (0.217 - 0.256)	4.5 - 5.5 (0.177 - 0.217)	304 (31.0, 68.3)	534 - 623 (54.5 - 63.5, 120.0 - 140.1)	11920 9F500 652 - 740 (66.5 - 75.5, 146.6 - 166.4)	11920 9F505 838 - 926 (85.5 - 94.5, 188 - 208)
Power steering oil pump	12 (0.47)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)	264 (26.9, 59.3)	493 - 583 (50.3 - 59.5, 110.8 - 131.1)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)
Applied pushing force	98 N (10 kg, 22 lb)			—			

*: If belt tension gauge cannot be installed at check points shown, check drive belt tension at a different location on the belt.

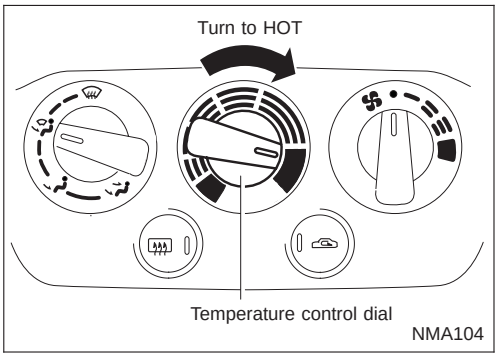
Checking Drive Belts (Cont'd)

Alternator drive belt fitting place (Models without air conditioner)



Set a belt in both crankshaft and alternator pulleys as shown in the figure.

SMA328C



NMA104

Changing Engine Coolant

WARNING:

To avoid being scalded, never change the coolant when the engine is hot.

Heater

— DRAINING ENGINE COOLANT —

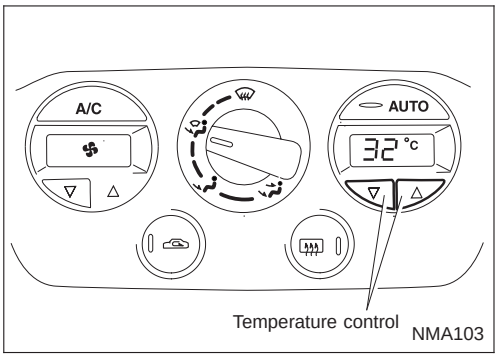
1. Set heater system as follows to prevent coolant from remaining in the system.
- Move temperature control dial all the way to "HOT".

Semi-automatic air conditioning

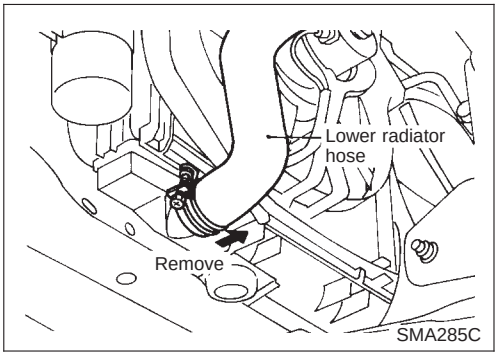
1. Set air conditioner system as follows to prevent coolant from remaining in the system.

a. Turn ignition switch "ON" and enter a temperature of 32°C on the heater control.

b. Wait 30 seconds before turning ignition switch "OFF".



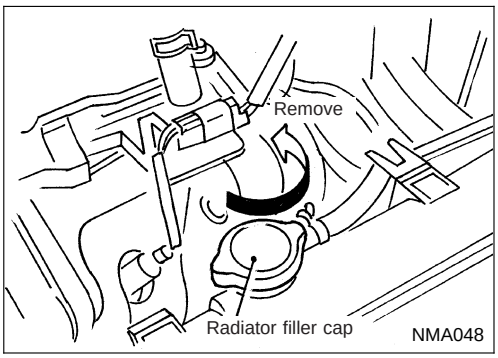
NMA103



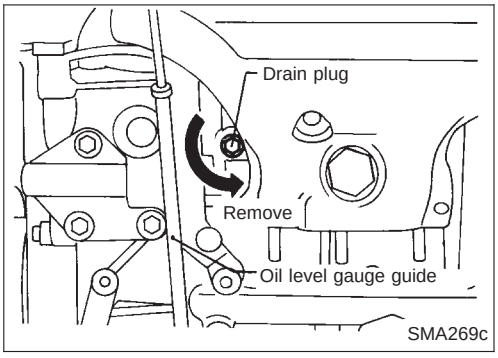
SMA285C

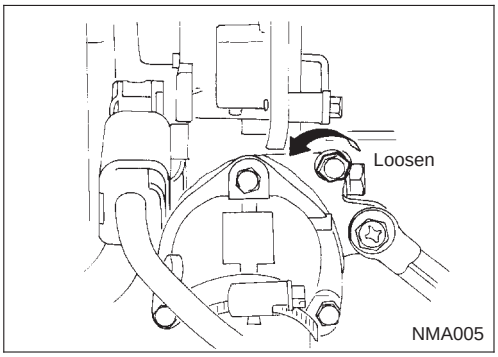
2. Disconnect lower radiator hose and remove radiator cap.
3. Remove reservoir tank, drain coolant, then clean reservoir tank.
   Install it temporarily.
- **Be careful not to allow coolant to contact drive belts.**

Changing Engine Coolant (Cont'd)



4. Remove cylinder block drain plug on water pipe and air relief plug.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system.
   Refer to "FLUSHING COOLING SYSTEM", MA-31.





— REFILLING ENGINE COOLANT —

6. Install lower radiator hose, reservoir tank and tighten cylinder block drain plug securely.

- **Apply sealant to the thread of the cylinder block drain plug.**
  : 34 - 44 N·m (3.5 - 4.5 kg-m, 25 - 33 ft-lb)

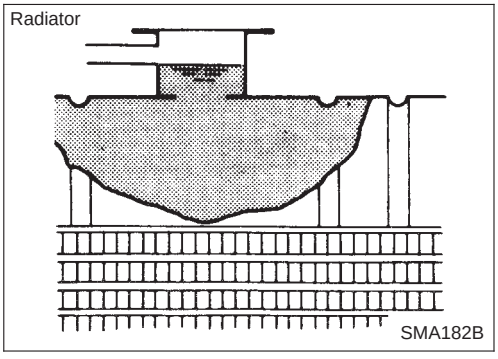
7. Fill up radiator with coolant at the speed of less than 3ℓ (2-5/8 Imp qt)/min.

- If coolant spills from the air relief hole without bubbles, re-install the plug.
  Air relief plug:
  : 10 N·m (1.0 kg-m, 7 ft-lb)
  Then pour coolant in again
- **Use genuine NISSAN Anti-Freeze Coolant or equivalent.** Refer to "RECOMMENDED FLUIDS AND LUBRICANTS", MA-16.

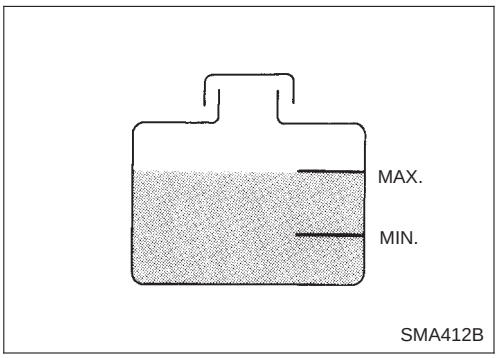
Coolant capacity (With reservoir tank):

Unit: ℓ (Imp qt)

SR20DE	M/T	6.6 (5-7/8)
	CVT	6.8 (6)



Changing Engine Coolant (Cont'd)



8. Fill radiator and reservoir tank to specified level.
9. Start engine without installing radiator cap and warm it up at 2,000 rpm until radiator lower hose becomes hot.
- If coolant level becomes low, refill coolant until coolant level does not change.
- If coolant overflows radiator filler hole, install filler cap.

10. Run engine at 2,500 prm for 10 seconds and return to idle speed.
- Repeat 2 or 3 times.

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

11. Stop engine and cool it down.
- Cool down using a fan to reduce the time.
- If necessary, refill radiator up to filler neck.

12. Refill reservoir tank to Max line with coolant.
13. Repeat steps 9 through 12 two or more times with radiator cap installed until coolant level no longer drops.
14. Check cooling system for leaks with engine running.
15. Warm up engine, and check for sound of coolant flow while running engine from idle up to 3,000 rpm with heater temperature control set at several positions between COOL and HOT.
- Sound may be noticeable at heater water cock.

16. If the sound is heard, bleed air from cooling system by repeating steps 9 through 12 until coolant level no longer drops.

— FLUSHING COOLING SYSTEM —

1. Open air relief plug.
2. Fill radiator with water until water spills from air relief hole, then reinstall air relief plug.

   Air relief plug:
   : 7 - 8 N·m (0.7 - 0.8 kg-m, 5,1 - 5.8 ft-lb)

   Fill radiator and reservoir tank with water and reinstall radiator cap.
3. Run engine and warm it up sufficiently.
4. Rev engine 2 or 3 times under no-load.
- Make sure that blower fan is "OFF".

5. Stop engine and wait until it cools down.
6. Drain water.
7. Repeat steps 1 through 6 until clear water begins to drain from radiator.

Checking Cooling System

CHECKING HOSES

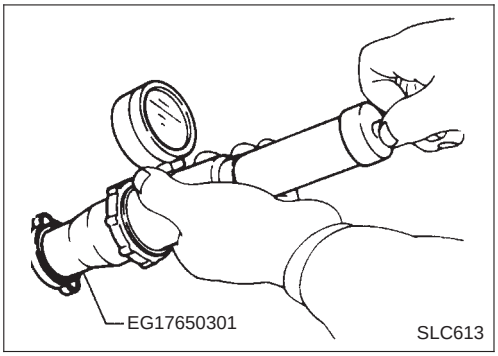
Check hoses for proper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.

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.

Checking Cooling System (Cont'd)

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 5 kg/cm^2 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.

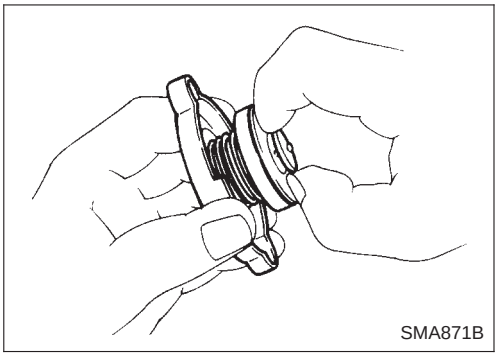


CHECKING RADIATOR CAP

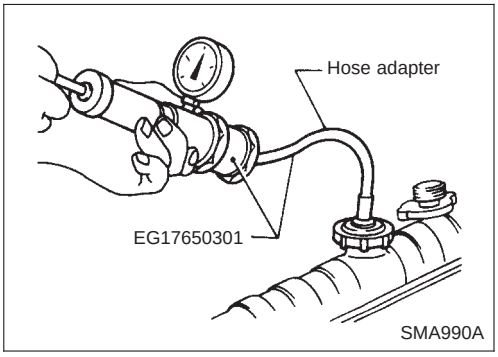
Apply pressure to radiator cap with cap tester to see if it is satisfactory.

Radiator cap relief pressure:
Standard
78 - 98 kPa
(0.78 - 0.98 bar, 0.8 - 1.0 kg/cm^2, 11 - 14 psi)
Limit
59 - 98 kPa
(0.59 - 0.98 bar, 0.6 - 1.0 kg/cm^2, 9 - 14 psi)

- When installing radiator cap to the tester, apply water or coolant to the radiator cap seal.



Pull the negative-pressure valve to open it. Check that it closes completely when released.

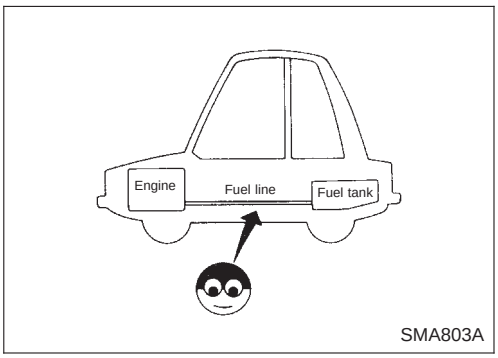


CHECKING COOLING SYSTEM FOR LEAKS

Apply pressure to the cooling system with cap tester to check for leakage.

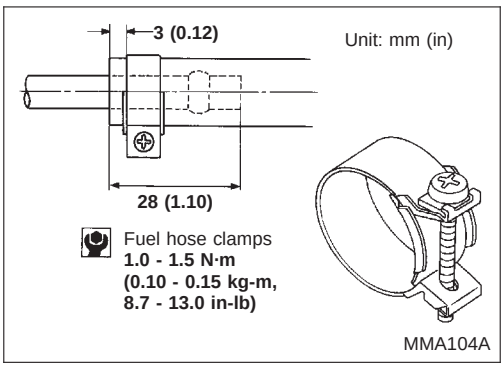
Testing pressure:
157 kPa (1.57 bar, 1.6 kg/cm^2, 23 psi)

CAUTION:
Higher pressure than the specified value may cause damage to radiator.



Checking Fuel Lines

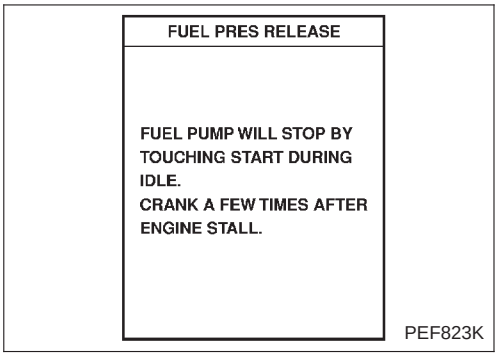
Inspect fuel lines and tank for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration. If necessary, repair or replace faulty parts.



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.

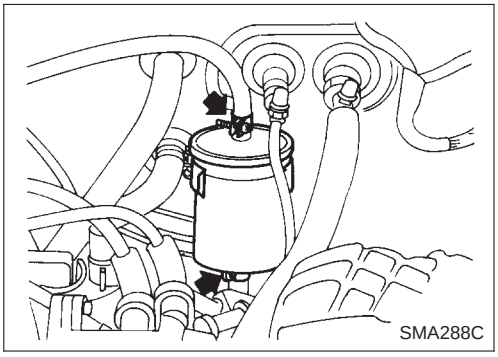
Changing Fuel Filter

WARNING:
Before removing fuel filter, release fuel pressure from fuel line.



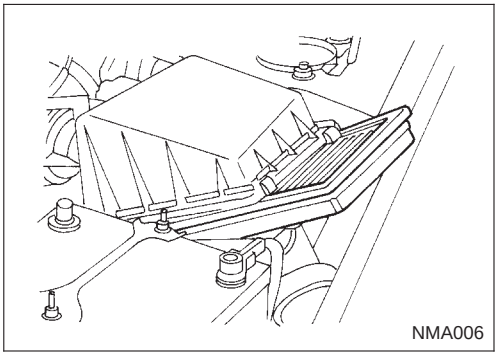
With Consult II

1. Release fuel pressure using the following procedure.
a. Start engine.
b. Perform “FUEL PRESSURE RELEASE” in “WORK SUPPORT” mode to release fuel pressure to zero.
c. After engine stalls, crank engine two or three times to make sure that fuel pressure is released.
d. Turn ignition switch “OFF”.



WARNING:
Use rubber gloves to prevent fuel from contacting the skin when removing fuel hoses and filter.
2. Loosen fuel hose clamps.
3. Replace fuel filter.

- **Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.**
- **Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.**

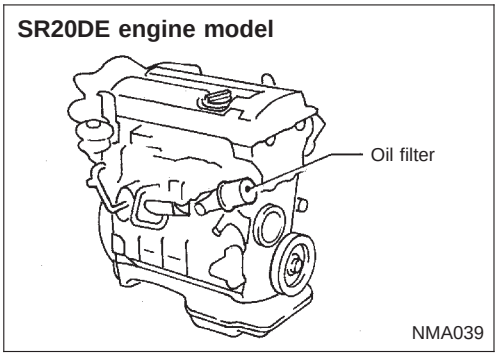

NMA006

Changing Air Cleaner Filter

Viscous paper type

Unfasten clamps to change air cleaner filter.
The viscous paper type filter does not need cleaning.

SR20DE engine model



NMA039

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.
3. Remove drain plug and oil filler cap.
4. Drain oil and refill with new engine oil.

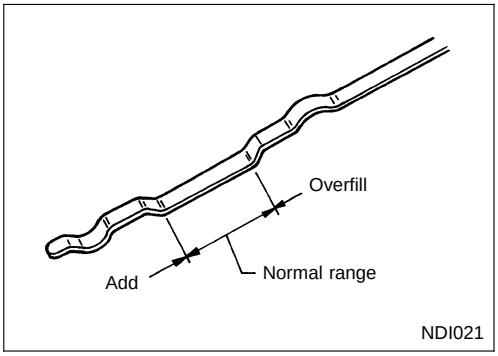
Oil grade: API SH or SJ/ACEA A2/96
Viscosity: See "RECOMMENDED FLUIDS AND LUBRICANTS", MA-16.
Refill oil capacity (Approximate):

Unit: ℓ (Imp pts)

Drain and refill	
With oil filter change	3.7 (6 - 1/2)
Without oil filter change	3.5 (6 - 1/8)
Dry engine (engine overhaul)	3.9 (6 - 7/8)

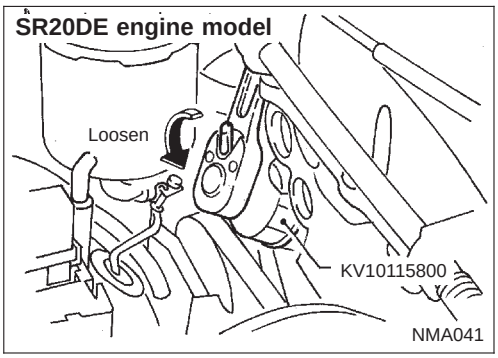
CAUTION:

- **Be sure to clean drain plug and install with new washer.**
  Drain plug:
  : 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)
- **The refill oil capacity depends on oil temperature and drain time. Use these specifications as a reference only. Always use the dipstick to determine when the proper amount of oil is in the engine.**



NDI021

5. Start engine and check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes, check oil level.

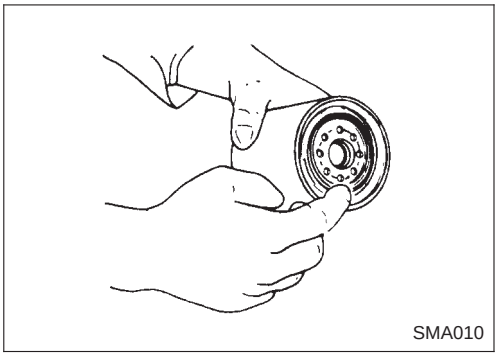


Changing Engine Oil Filter

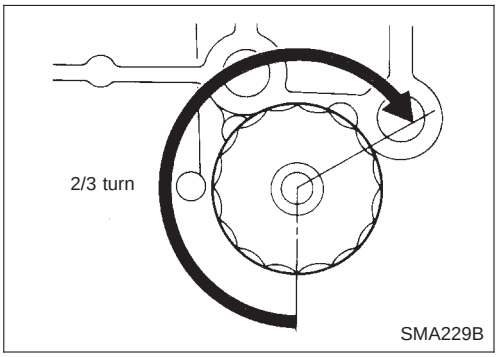
1. Remove oil filter with Tool.

WARNING:

Be careful not to burn yourself, as the engine and the engine oil are hot.



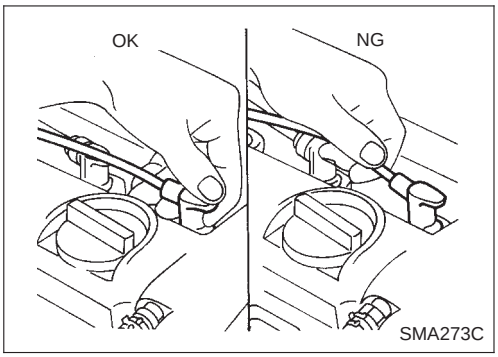
2. Clean the oil filter mounting surface on cylinder block. Coat the rubber seal of the new oil filter with engine oil.



3. Screw in the oil filter until a slight resistance is felt, then tighten an additional 2/3 turn.
4. Add engine oil.

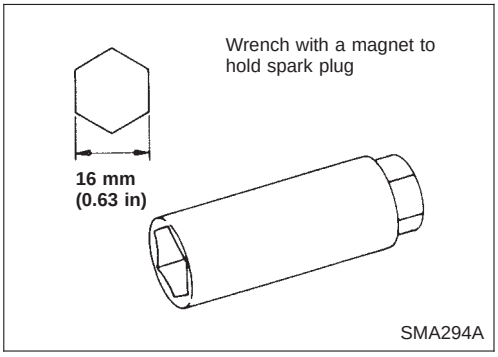
Refer to “Changing Engine Oil”, MA-34.

- **Clean excess oil from engine.**



Checking and Changing Spark Plugs

1. Disconnect ignition wires from spark plugs at boot. Do not pull on the wire.

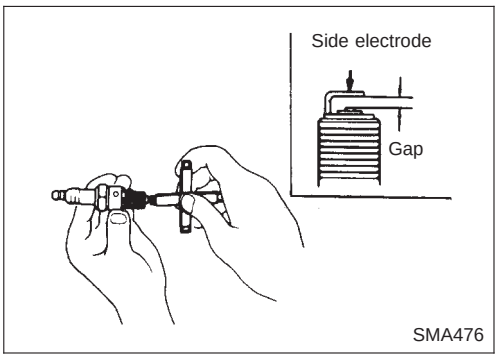


2. Remove spark plugs with spark plug wrench.
3. Check insulator for cracks or chips, gasket for damage or deterioration and electrode for wear and burning. If excessively worn, replace with new spark plugs.

Spark plug

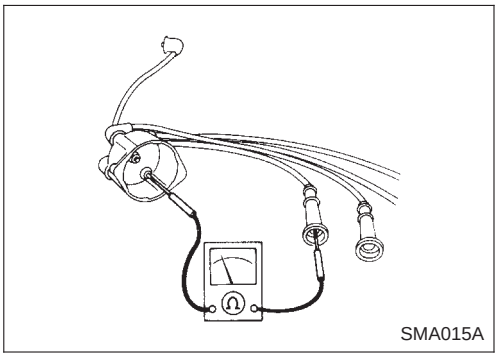
Make	NGK
Standard type	BKR6EY-11
Hot type	—
Cold type	—

Checking and Changing Spark Plugs (Cont'd)



4. Check spark plug gap.
   Gap: 1.0 - 1.1 mm (0.039 - 0.043 in)

5. Install spark plugs. Reconnect ignition wires according to numbers indicated on them.
   Spark plug:
   : 20 - 29 N·m (2 - 3 kg-m, 14 - 22 ft-lb)



Checking Ignition Leads

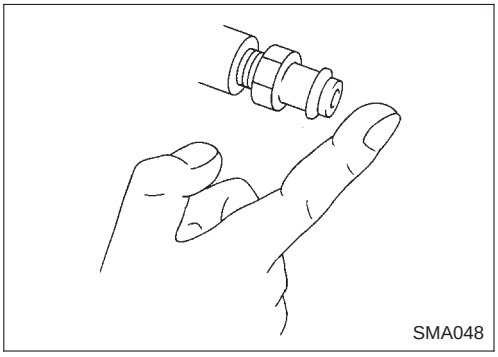
1. Inspect wires for cracks, damage, burned terminals and for improper fit.
2. Measure the resistance of wires and check for intermittent breaks.

Resistance:

Cylinder No.	Resistance kΩ [at 25°C (77°F)]
1	Approximately 3.8
2	Approximately 3.5
3	Approximately 2.7
4	Approximately 2.4

For U.K. (Made by Bougicord)
4.48 - 6.72 kΩ/m (1.365 - 2.048 kΩ/ft) [at 25°C (77°F)]

If it exceeds the limit, replace the ignition wire with a new one.



Checking Positive Crankcase Ventilation (PCV) System

CHECKING PCV VALVE

With engine running at idle, disconnect ventilation hose from PCV valve. If valve is working correctly, a hissing noise will be heard as air passes through it, and a strong vacuum should be felt immediately when a finger is placed over valve inlet.

Checking Positive Crankcase Ventilation (PCV) System (Cont'd)

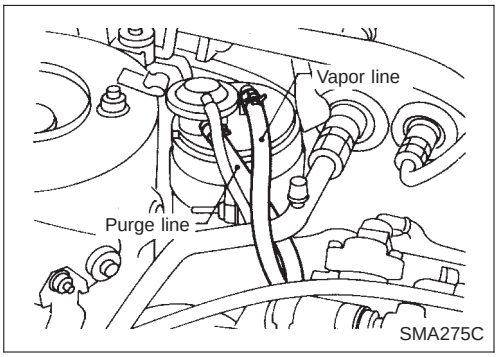
CHECKING VENTILATION HOSES

1. Check hoses and hose connections for leaks.
2. Disconnect all hoses and clean with compressed air. If any hose cannot be freed of obstructions, replace.

Checking Vacuum Hoses and Connections

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

Refer to Vacuum Hose Drawing in EMISSION CONTROL OVERALL SYSTEM in EC section.



Checking EVAP Vapor Lines

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

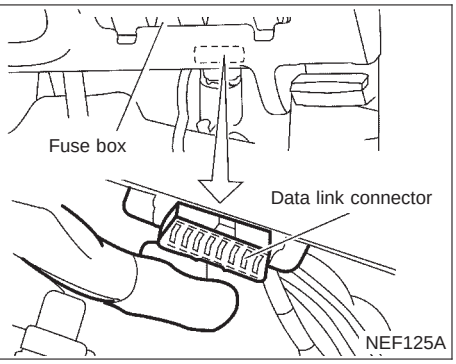
Refer to EVAPORATIVE EMISSION CONTROL SYSTEM INSPECTION in EC section.

A

DATA MONITOR	
MONITORING	NO FAIL
CMPS~RPM(REF)	XXX rpm
FR O2 MNTR	RICH

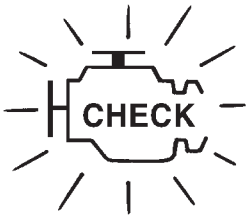
PEF054P

B



NEF125A

C



Malfunction indicator lamp

SEF051PA

Checking Front Heated Oxygen Sensor (HO2S)

Checking procedure

INSPECTION START

↓

Start engine and warm up until water temperature indicator points to the middle of gauge.

↓

A B C

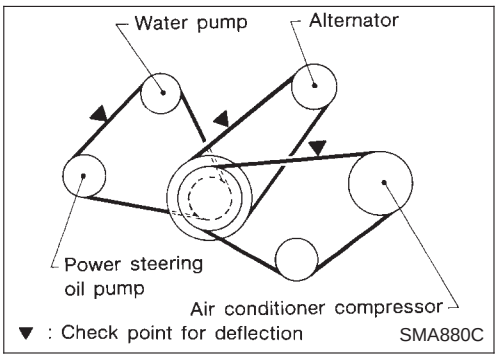
1. See “M/R F/C MNT” in “Data monitor” mode.
2. Run engine at about 2,000 rpm for about 2 minutes under no-load.
3. Maintaining engine at 2,000 rpm under no-load (engine is warmed up sufficiently.), check that the monitor fluctuates between “LEAN” and “RICH” more than 5 times during 10 seconds.

1 time **RICH → LEAN → RICH**

2 times **RICH → LEAN → RICH → LEAN → RICH ...**

OK → INSPECTION END

NG → Check and adjustment should be made by referring to IDLE SPEED/IGNITION TIMING/ IDLE MIXTURE RATIO INSPECTION (**BASIC SERVICE PROCEDURE**) in EC section.

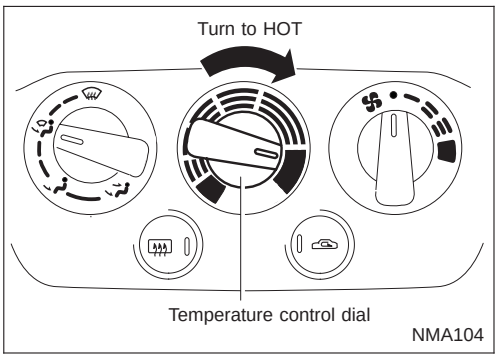


Checking Drive Belts

1. Inspect belt for cracks, fraying, wear and oil. If necessary, replace.
2. Inspect drive belt deflection or tension at a point on the belt midway between pulleys.

- **Inspect drive belt deflection or tension when engine is cold.**
- **Adjust if belt deflection exceeds the limit or if belt tension is not within specifications.**
- **Turn crankshaft two revolutions and recheck drive belt deflection or tension.**

	Deflection adjustment Unit: mm (in)		
	Used belt		New belt
	Limit	After adjustment	
Generator	17 (0.67)	10.5 - 12.5 (0.413 - 0.492)	8.5 - 10.5 (0.335 - 0.413)
Air conditioner compressor	17 (0.67)	11.5 - 13.5 (0.453 - 0.531)	9.5 - 11.5 (0.374 - 0.453)
Power steering oil pump	8 (0.31)	5 - 7 (0.20 - 0.28)	4 - 6 (0.16 - 0.24)
Applied pushing force	98 N (10 kg, 22 lb)		



Changing Engine Coolant

WARNING:

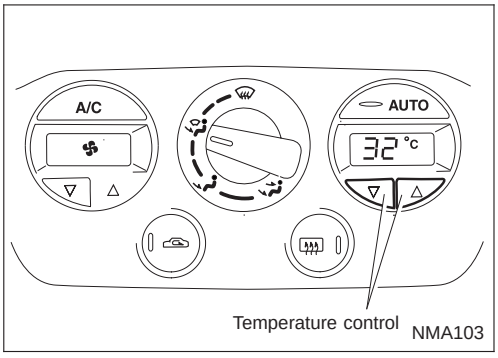
To avoid being scalded, never change the coolant when the engine is hot.

— DRAINING ENGINE COOLANT —

Heater

1. Set heater system as follows to prevent coolant from remaining in the system.

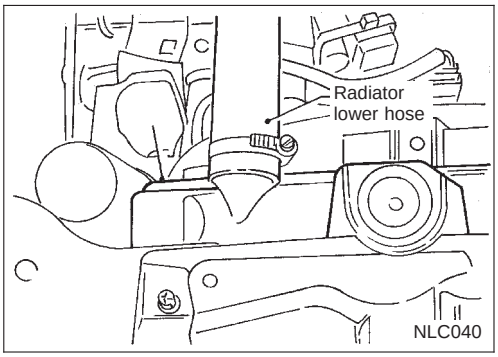
- Move temperature control dial all the way to “HOT”.



Semi-automatic air conditioning

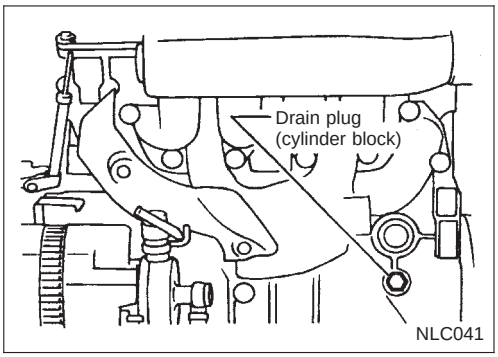
1. Set air conditioning system as follows to prevent coolant from remaining in the system.

a. Turn ignition switch “ON” and enter a temperature of 32°C on the heater control.
b. Wait 30 seconds before turning ignition switch “OFF”.

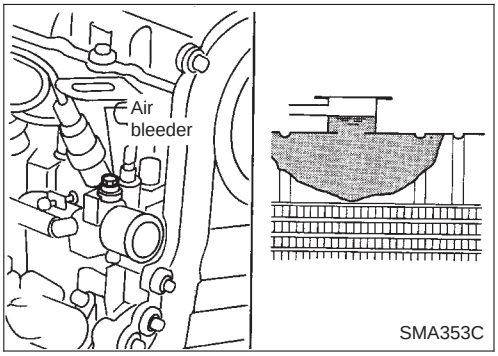


2. Disconnect lower radiator hose and remove radiator cap.
3. Remove reservoir tank, drain coolant, then clean reservoir tank.
   Install it temporarily.

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



4. Remove cylinder block drain plug and air relief plug.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system.
   Refer to “FLUSHING COOLING SYSTEM”, MA-41.



— REFILLING ENGINE COOLANT —

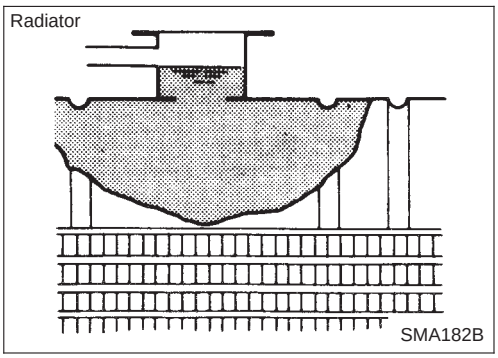
6. Install lower radiator hose, reservoir tank and tighten cylinder block drain plug securely.

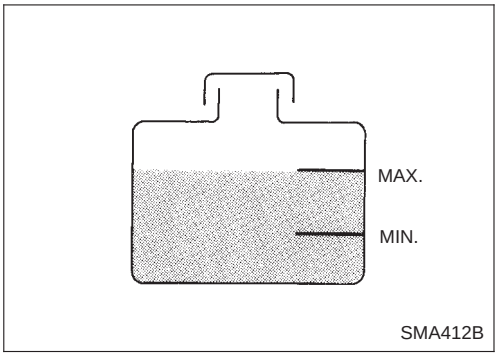
- **Apply sealant to the thread of the cylinder block drain plug.**
- **: 55 - 75 N·m (5.7 - 7.6 kg-m, 41 - 55 ft-lb)**

7. Fill up radiator with coolant at the speed of less than 3ℓ (2-5/8 Imp qt)/min.

- If coolant spills from the air relief hole without bubbles, install the plug and then pour coolant in again.

Changing Engine Coolant (Cont'd)





Air relief plug:
: 8 - 9 N·m (0.8 - 0.9 kg-m, 5.9 - 6.6 ft-lb)

- **Use genuine NISSAN Anti-Freeze Coolant or equivalent.** Refer to "RECOMMENDED FLUIDS AND LUBRICANTS", MA-16.

Coolant capacity (With reservoir tank):

Unit: ℓ (Imp qt)

CD20T	6.1 (5-3/8)

8. Fill radiator and reservoir tank to specified level.
9. Start engine without installing radiator cap and warm it up at 2,000 rpm until radiator lower hose becomes hot.
- If coolant level becomes low, refill coolant until coolant level does not change.
- If coolant overflows radiator filler hole, install filler cap.

10. Run engine at 2,500 prm for 10 seconds and return to idle speed.
- Repeat 2 or 3 times.

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

11. Stop engine and wait until it cools down.
- If necessary, refill radiator up to filler neck.

12. Refill reservoir tank to Max line with coolant.
13. Repeat steps 9 through 12 two or more times with radiator cap installed until coolant level no longer drops.
14. Check cooling system for leaks with engine running.
15. Warm up engine, and check for sound of coolant flow while running engine from idle up to 3,000 rpm with heater temperature control lever set at several positions between COOL and HOT.
- Sound may be noticeable at heater water cock.

16. If the sound is heard, bleed air from cooling system by repeating steps 9 through 12 until coolant level no longer drops.

— FLUSHING COOLING SYSTEM —

1. Open air relief plug.
2. Fill radiator with water until water spills from the air relief hole, then close air relief plug.

Air relief plug
: 7 - 8 N·m (0.7 - 0.8 kg-m, 5.1 - 5.8 ft-lb)

Fill radiator and reservoir tank with water and reinstall radiator cap.

3. Run engine and warm it up sufficiently.
4. Rev engine 2 or 3 times under no-load.
- Make sure that blower is "OFF".

5. Stop engine and wait until it cools down.
6. Drain water.
7. Repeat steps 1 through 6 until clear water begins to drain from radiator.

Checking Cooling System

CHECKING HOSES

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

CHECKING RADIATOR

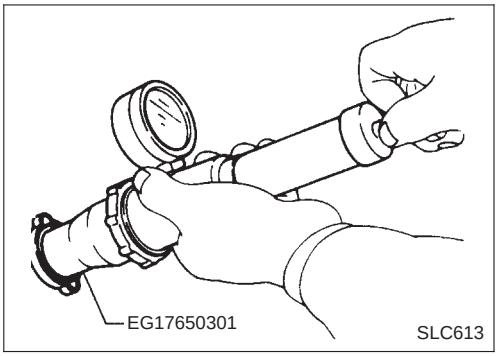
Check radiator for mud or clogging. If necessary, clean radiator as follows.

- 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 5 kg/cm^2 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.



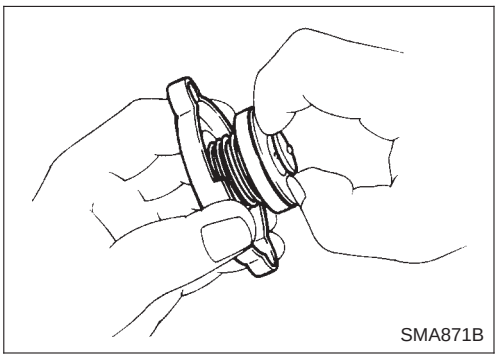
CHECKING RADIATOR CAP

Apply pressure to radiator cap with cap tester to see if it is satisfactory.

Radiator cap relief pressure:
Standard
98 - 118 kPa
(0.98 - 1.18 bar, 1.0 - 1.2 kg/cm^2, 14 - 17 psi)
Limit
59 - 118 kPa
(0.59 - 1.18 bar, 0.6 - 1.2 kg/cm^2, 9 - 17 psi)

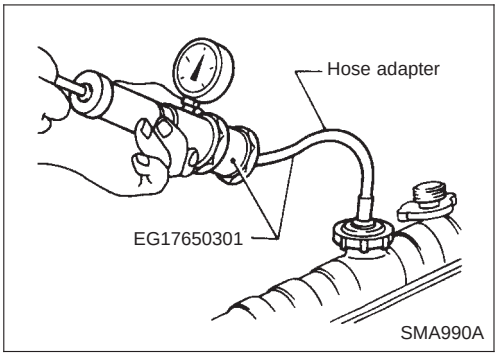
- When installing radiator cap to the tester, apply water or coolant to the radiator cap seal.

Checking Cooling System (Cont'd)


SMA871B

Pull the negative-pressure valve to open it. Check that it closes completely when released.

CHECKING COOLING SYSTEM FOR LEAKS



SMA990A

Apply pressure to the cooling system with cap tester to check for leakage.

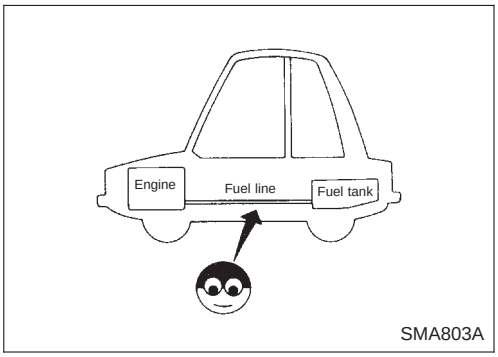
Testing pressure:

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

CAUTION:

Higher pressure than the specified value may cause damage to radiator.

Checking Fuel Lines

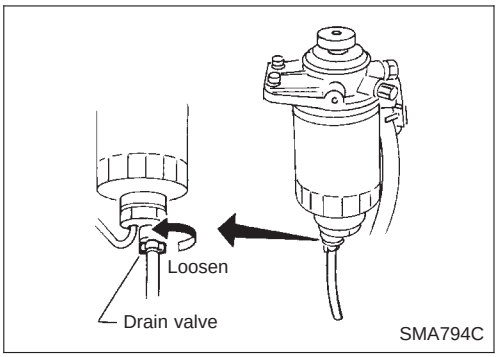


SMA803A

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

Checking and Replacing Fuel Filter and Draining Water

CHECKING FUEL FILTER



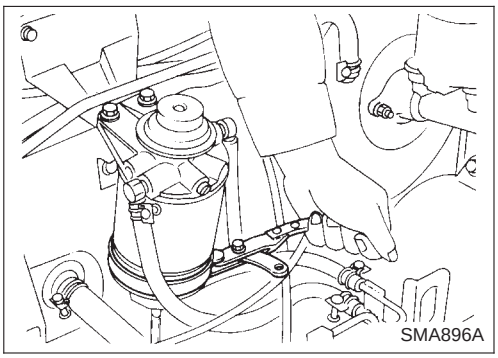
SMA794C

Check fuel filter for fuel leakage, damage and other abnormal signs.

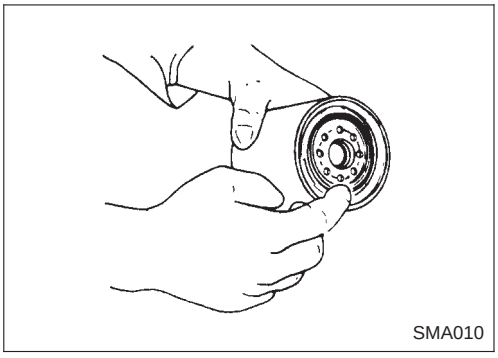
REPLACING FUEL FILTER

1. Disconnect fuel filter sensor connector and drain fuel.

Checking and Replacing Fuel Filter and Draining Water (Cont'd)

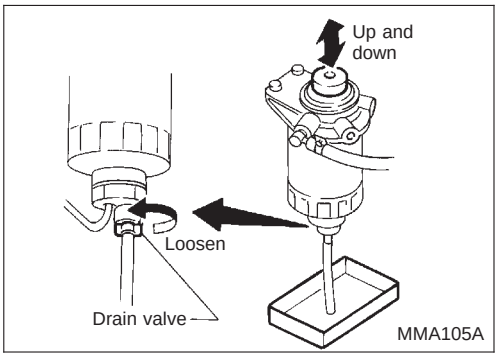

SMA896A

2. Remove fuel filter, using a suitable tool.


SMA010

3. Wipe clean fuel filter mounting surface on fuel filter bracket and smear a little fuel on rubber seal of fuel filter.
4. Screw fuel filter on until O-ring touches mounting surface, then tighten an additional 2/3 turn. Follow instructions on fuel filter.
5. Install fuel filter sensor to new fuel filter.
6. Bleed air from fuel line.
7. Start engine and check for leaks.

DRAINING WATER



MMA105A

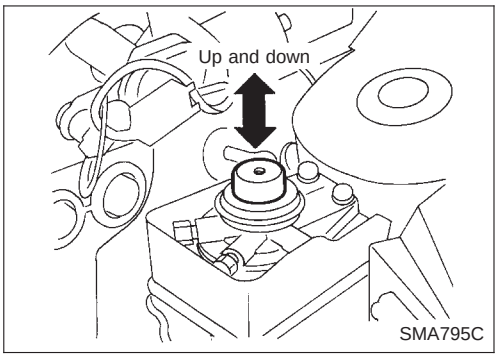
1. Set a container under fuel filter.
2. Loosen drain cock and drain water.

Loosening drain cock 4 to 5 turns causes water to start draining. Do not remove drain cock by loosening it excessively.

If water does not drain properly, move the priming pump up and down.

3. Bleed air.

FUEL SYSTEM AIR BLEEDING

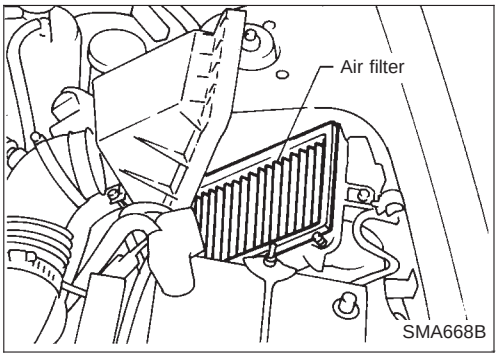


SMA795C

1. Move priming pump up and down until there is suddenly more resistance in the movement. Then stop this action and start the engine.
2. If engine does not operate smoothly after being started, rev it two or three times.

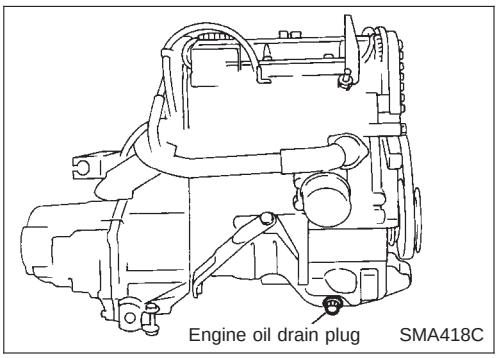
When refilling empty fuel tank, bleed air out of fuel system.

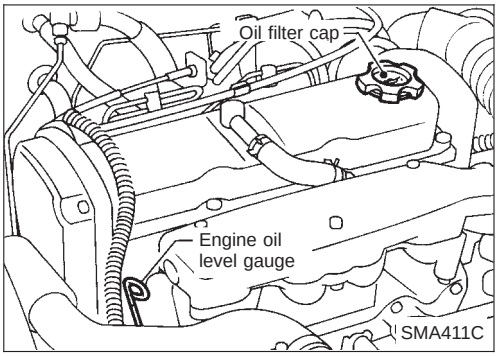
Changing Air Cleaner Filter

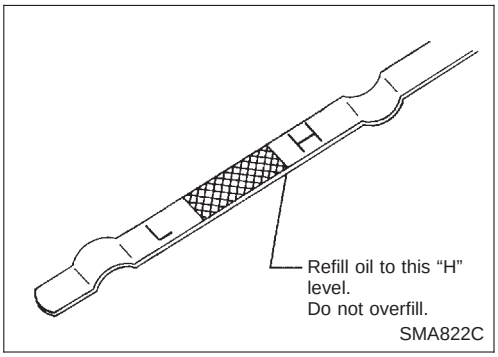


SMA668B

Unfasten clamps to change air cleaner filter.
The viscous paper type filter does not need cleaning.







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.
3. Remove drain plug and oil filler cap.
4. Drain oil and refill with new engine oil.

Oil specification and viscosity:

- **ACEA B2-96 (CCMC-PD2)**
- **See “RECOMMENDED FLUIDS AND LUBRICANTS”, MA-16.**

Oil capacity (Approximately):

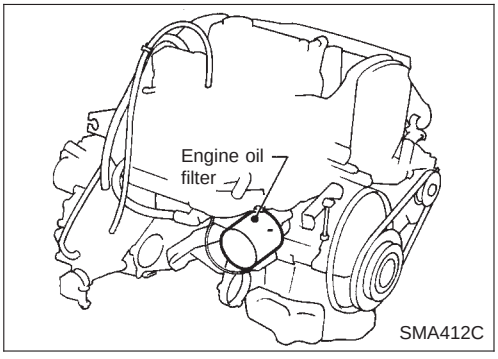
Unit: ℓ (Imp pts)

Drain and refill	
With oil filter change	5.0
Without oil filter change	4.5
Dry engine (engine overhaul)	5.1

CAUTION:

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

5. Warm up engine, and check area around drain plug and oil filter for oil leakage.
6. Stop engine.
7. Check oil level.



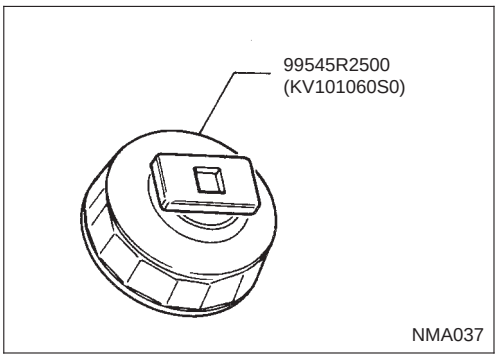
Changing Engine Oil Filter

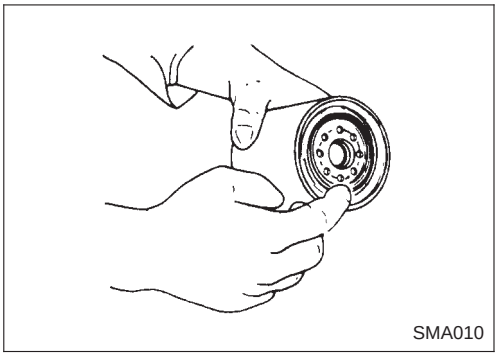
1. Remove oil filter with Tool.

WARNING:

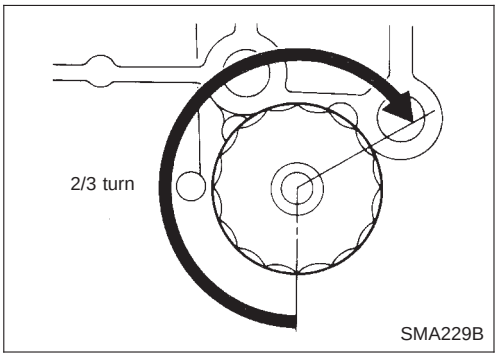
Be careful not to burn yourself, as engine and engine oil are hot.

Changing Engine Oil Filter (Cont'd)





2. Clean the oil filter mounting surface on cylinder block. Coat the rubber seal of the new oil filter with engine oil.

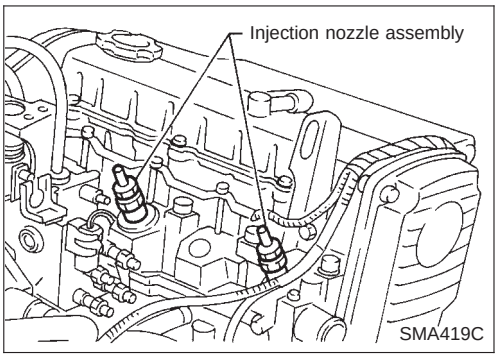


3. Screw in the oil filter until a slight resistance is felt, then tighten an additional 2/3 turn.
4. Add engine oil.

Refer to "Changing Engine Oil", MA-45.

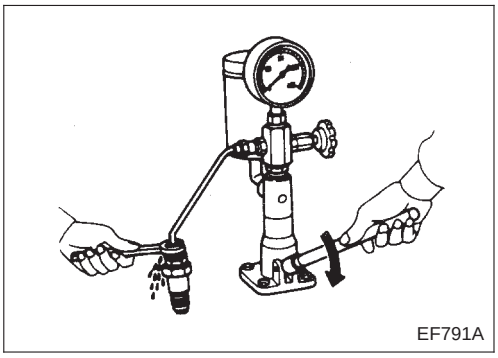
- **Clean excess oil from engine.**

Checking Injection Nozzles



1. Remove injection delivery tubes and fuel spill tube.
2. Remove nozzle assembly with S.S.T. KV119E0030.

No. 1 cylinder nozzle assembly should not be disassembled as it is provided with a needle lift sensor.

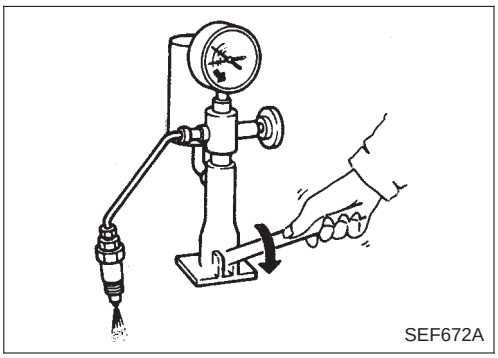


WARNING:

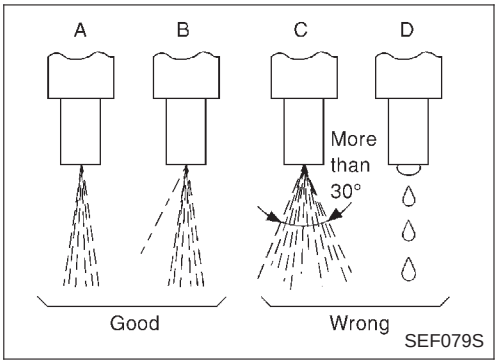
When using nozzle tester, be careful not to allow diesel fuel sprayed from nozzle to come into contact with your hand or body, and make sure that your eyes are properly protected.

3. Clean and check nozzles.
4. Install nozzle to injection nozzle tester and bleed air from flare nut.

Checking Injection Nozzles (Cont'd)


SEF672A

5. Check initial injection pressure by pumping tester handle slowly (one time per second).
   Injection pressure:
   12,749 kPa (127.5 bar, 130 kg/cm^2, 1,849 psi)
- **Always check initial injection pressure before installing new nozzle.**



SEF079S

6. Check fuel spray pattern by pumping tester handle quickly (4 or 6 times per second).

a. If main spray angle is within 30 degrees as shown, injection nozzle is good.

b. It is still normal even if a thin stream of spray deviates from main spray (pattern B).

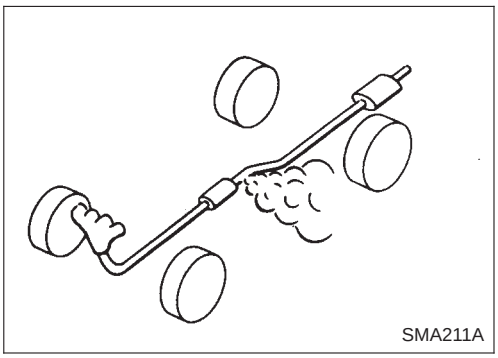
7. If spray is not correct, clean injection nozzle tip or replace it.

Refer to EC section for injection pressure adjustment, cleaning and replacement.

8. Install all injection nozzles with S.S.T. KV119E0030 and securely connect fuel spill hoses and delivery tubes.
9. Bleed air from fuel system and check for fuel leakage with engine running.

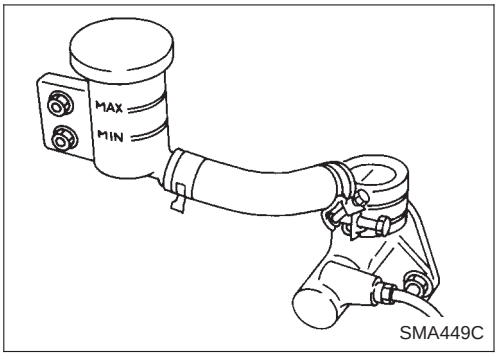
Replacing Timing Belt

Refer to "TIMING BELT" in EM section.


SMA211A

Checking Exhaust System

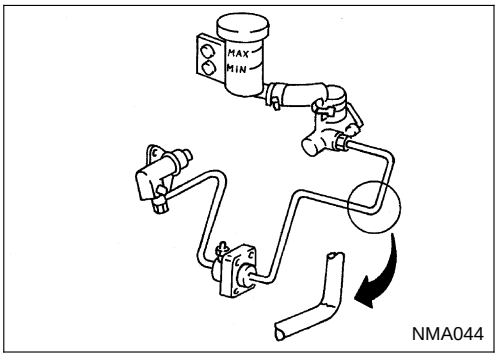
Check exhaust pipes, silencers and mountings are attached correctly and inspect for leaks, cracks, damage, loose connections, chafing or deterioration.



SMA449C

Checking Clutch Fluid Level and Leaks

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

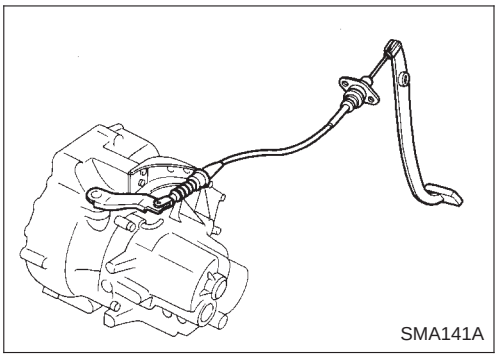


NMA044

Checking Clutch System

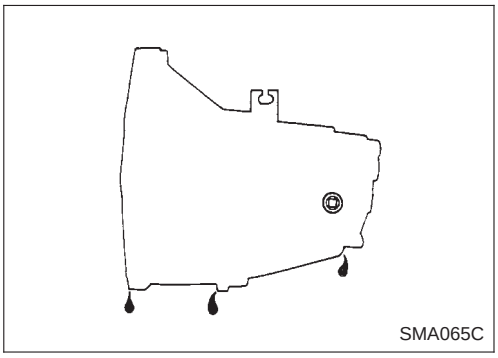
HYDRAULIC TYPE

Check fluid lines, operating cylinder & damper for leaks, cracks, damage, loose connections, chafing & deterioration.


SMA141A

MECHANICAL TYPE

Check cable and linkage for incorrect attachment, chafing, wear and deterioration.


SMA065C

Checking M/T Oil

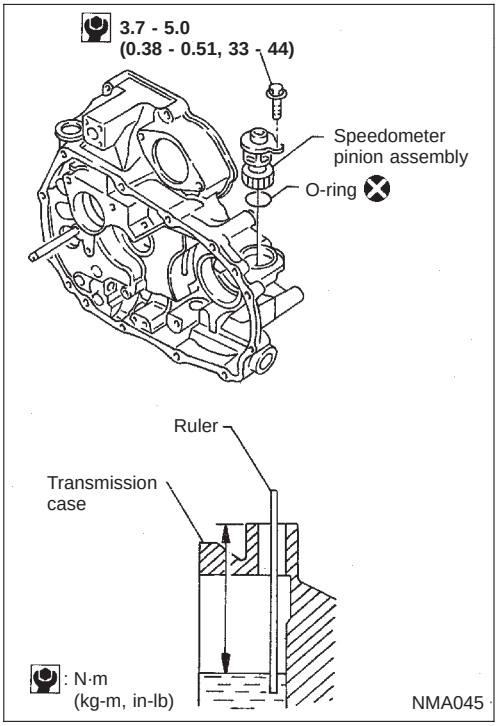
Check for oil leakage and oil level.

Never start engine while checking oil level.

Filler plug:

: 25 - 34 N·m (2.6 - 3.4 kg-m, 19 - 25 ft-lb)

Checking M/T Oil (Cont'd)



Check that oil is not leaking from transaxle or around it.

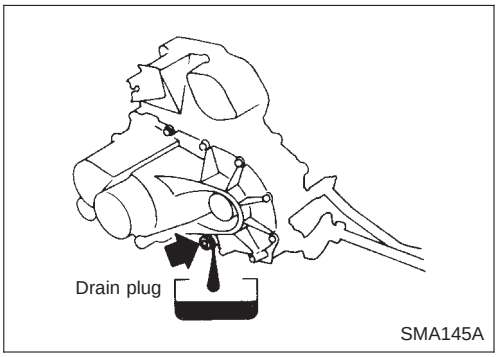
- Remove speedometer pinion and check oil level distance "L" as shown.

Oil level ("L"):

RS5F70A (QG16DE/QG18DE)
75.5 - 80.5 mm (2.97 - 3.17 in)
RS5F70A (SR20DE)
56.5 - 61.0 mm (2.22 - 2.60 in)
RS5F32A (CD20T)
57 - 62 mm (2.24 - 2.44 in)

Use genuine NISSAN XZ gear oil or exact equivalent.

Changing M/T Oil



Oil capacity (reference values only):

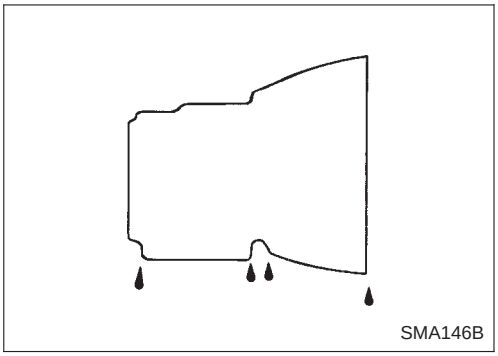
RS5F70A 3.0 ℓ (5-1/4 Imp pts)
RS5F32A 3.6 - 3.8 ℓ (6-3/8 - 6-3/4 Imp pts)

Drain plug:

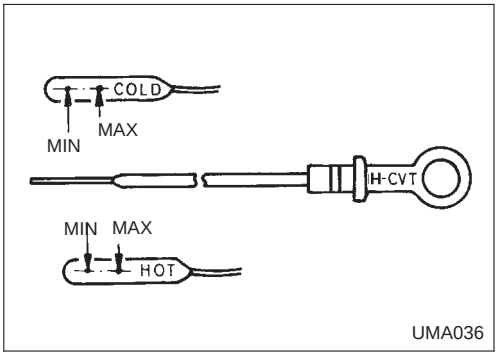
: 25 - 34 N·m (2.5 - 3.5 kg-m, 18 - 25 ft-lb)

Use genuine NISSAN XZ gear oil or exact equivalent.

Checking CVT Fluid Level



1. Check for fluid leakage.



2. Check fluid level.
   Fluid level should be check using "HOT" range on dipstick 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 dipstick 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".

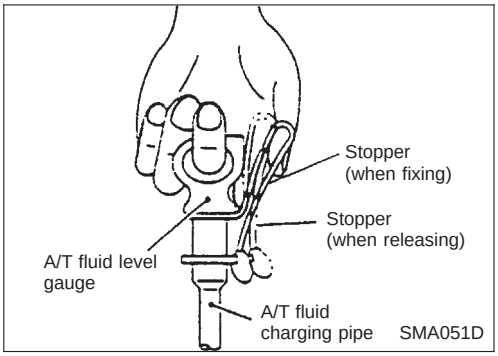
Checking CVT Fluid Level (Cont'd)

c. Check fluid level with engine idling.
d. Remove dipstick and wipe it clean with lint-free paper.
e. Re-insert dipstick into charging pipe as far as it will go.
f. Remove dipstick and note reading. If level is at low side of either range, add fluid.

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

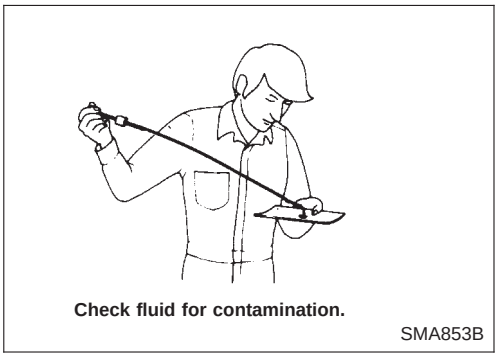
CAUTION

Do not overfill.

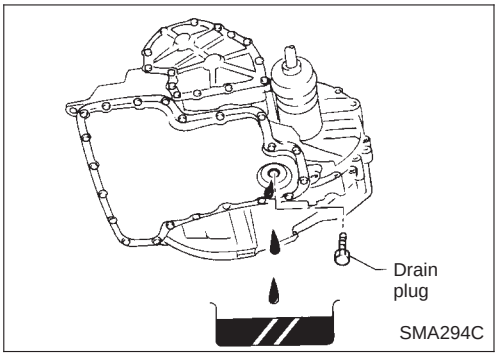


CAUTION:

Firmly fix the dipstick 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 AT for checking operation of CVT.



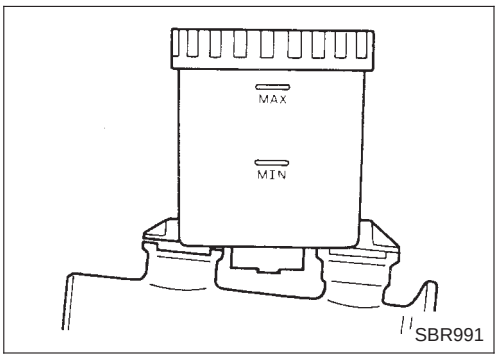
Changing CVT Fluid

1. Warm up CVT fluid by driving the vehicle for 10 minutes.
2. Stop engine.
3. Drain CVT fluid from drain plug and refill with new CVT fluid. Always refill same volume compared with drained fluid.

   Oil capacity:
   8.1 ℓ (14 - 1/4 Imp pt)
   Drain plug:
   : 23 - 27 N·m (2.4 - 2.8 kg-m, 17 - 20 ft-lb)

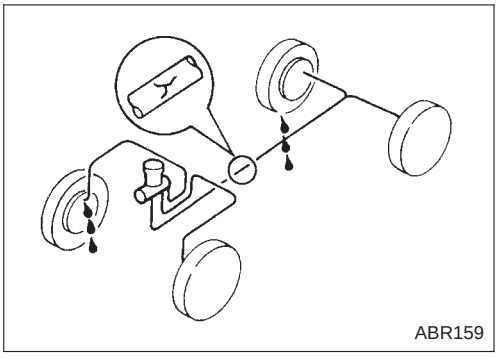
Use genuine NISSAN CVT fluid (NS-1) or exact equivalent.

4. Run engine at idle speed for five minutes.
5. Jack up the front of the vehicle, and rotate front wheels by selecting "D" and depressing accelerator pedal slowly until 50 km/h (2 or 3 times).
6. Check fluid level and condition. Refer to "Checking CVT Fluid Level". If fluid is still dirty, repeat step 2. throught 6.



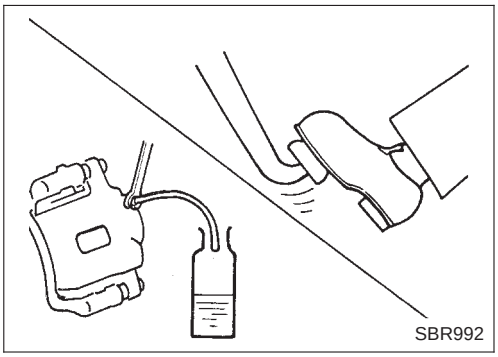
Checking Brake Fluid Level and Leaks

If fluid level is extremely low, check brake system for leaks, and brake pads for wear.



Checking Brake System

Check brake fluid lines and parking brake cables for security, leaks, chafing, abrasion, deterioration, etc.

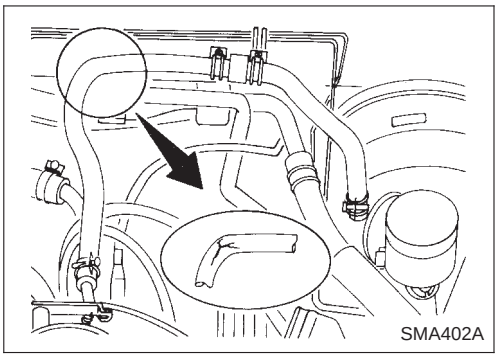


Changing Brake Fluid

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.

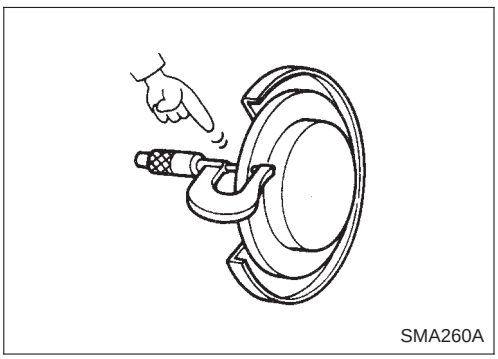
Refer to section BR.

- **Refill with recommended brake fluid “DOT 4”.**
- **Never reuse drained brake fluid.**
- **Be careful not to splash brake fluid on painted areas.**
- **Avoid skin contamination and ingestion.**



Checking Brake Booster, Vacuum Hoses, Connections and Check Valve

Check vacuum lines, connections and check valve for security, air tightness, chafing and deterioration.



Checking Disc Brake

Check condition of disc brake components.

ROTOR

Check condition and thickness.

CL25VBG:

Standard thickness

22.0 mm (0.866 in)

Minimum thickness

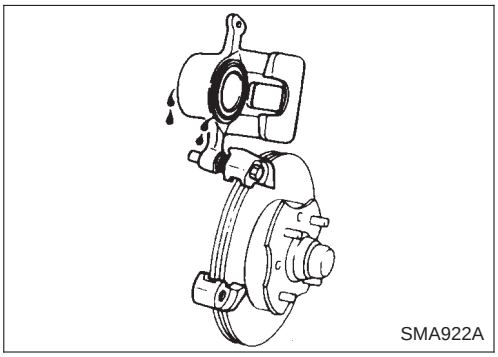
20.0 mm (0.787 in)

Checking Disc Brake (Cont'd)

CL25VG:
- **Standard thickness**
  - **22.0 mm (0.866 in)**
- **Minimum thickness**
  - **20.0 mm (0.787 in)**

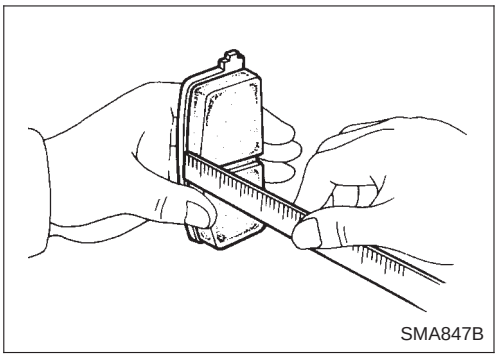
CL9HG:
- **Standard thickness**
  - **10.0 mm (0.394 in)**
- **Minimum thickness**
  - **9.0 mm (0.354 in)**

CL9HDG:
- **Standard thickness**
  - **10.0 mm (0.394 in)**
- **Minimum thickness**
  - **9.0 mm (0.354 in)**


SMA922A

CALIPER

Check operation and for leakage.


SMA847B

PAD

Check for wear or damage.

CL25VBG:
- **Standard thickness**
  - **11.0 mm (0.433 in)**
- **Minimum thickness**
  - **2.0 mm (0.079 in)**

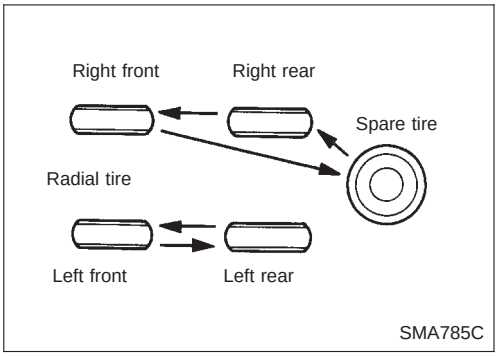
CL25VG:
- **Standard thickness**
  - **11.0 mm (0.433 in)**
- **Minimum thickness**
  - **2.0 mm (0.079 in)**

CL9HG:
- **Standard thickness**
  - **9.3 mm (0.366 in)**
- **Minimum thickness**
  - **2.0 mm (0.079 in)**

CL9HDG:
- **Standard thickness**
  - **9.3 mm (0.366 in)**
- **Minimum thickness**
  - **2.0 mm (0.079 in)**

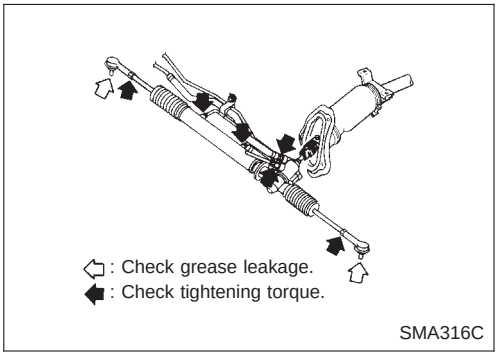
Balancing Wheels

Wheel balance (maximum allowable unbalance):
10 g (0.35 oz) at rim flange.
Tire balance weight:
5 - 60 g (0.18 - 2.12 oz)



Tire Rotation

- **Do not include the T-type or space saver spare tire when rotating the tires.**
  Wheel nuts:
  : 98 - 118 N·m (10 - 12 kg-m, 72 - 87 ft-lb)



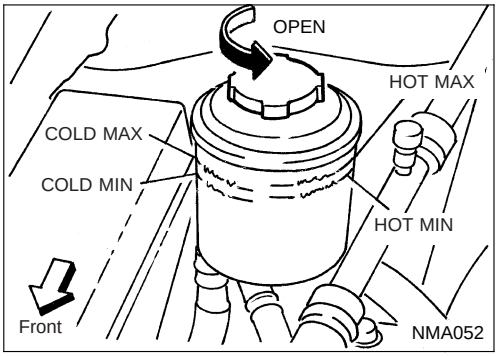
Checking Steering Gear and Linkage

STEERING GEAR

- Check gear housing and boots for security, damage or grease leakage.
- Check connection with steering column for security.
  : Refer to ST section.

STEERING LINKAGE

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

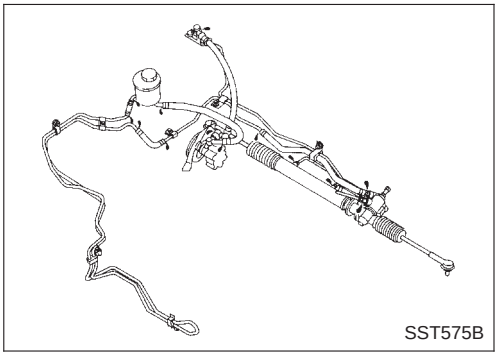


Checking Power Steering Fluid and Lines

Check fluid level in reservoir with engine off.
Use “HOT” range at fluid temperatures of 50 to 80°C (122 to 196°F). Use “COLD” range at fluid temperatures of 0 to 30°C (32 to 86°F).

CAUTION:

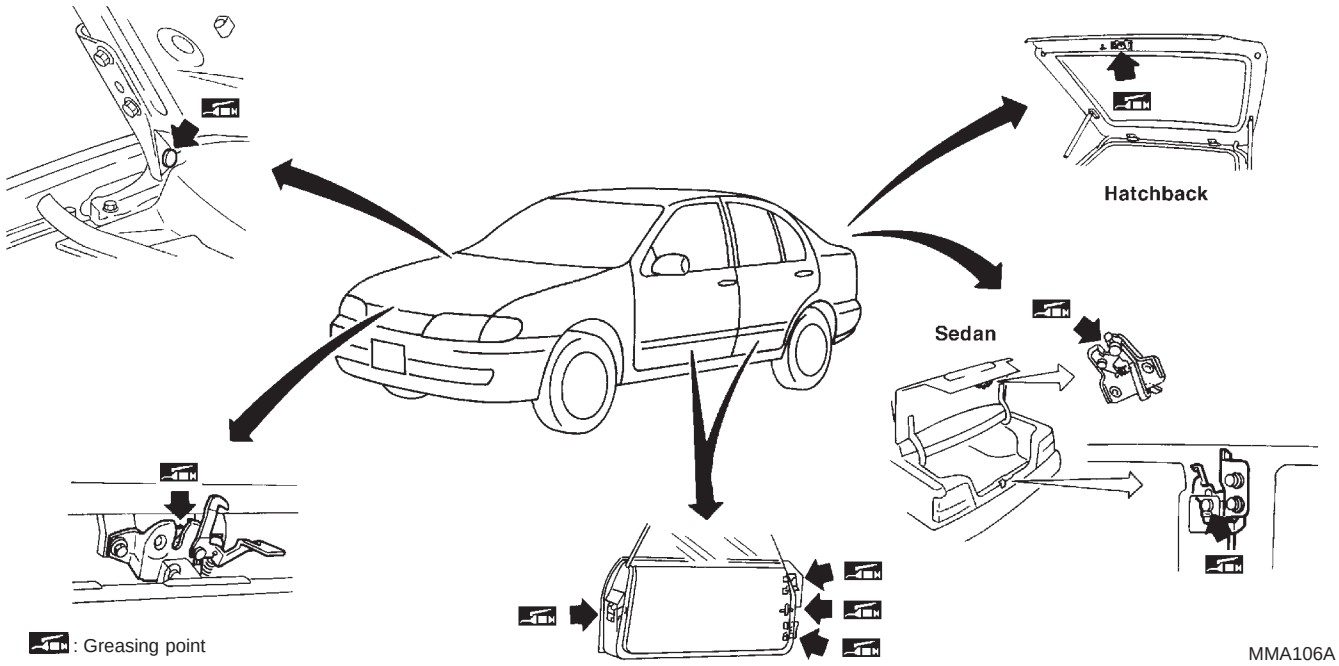
- **Do not overfill.**
- **Recommended fluid is Automatic Transmission Fluid “DEXRON™ III” type.**



CHECKING LINES

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

Lubricating Hood Latches, Locks and Hinges



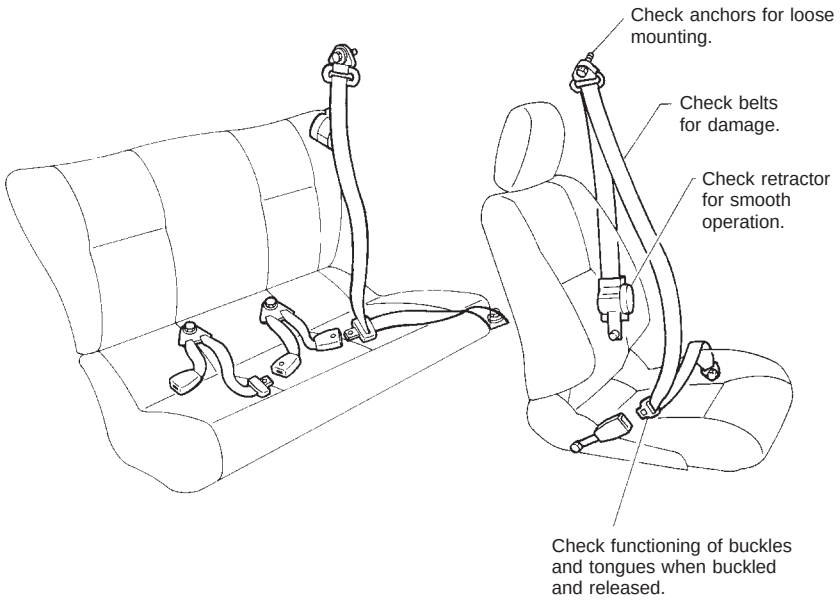
Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

CAUTION:

- **After any collision, inspect all seat belt assemblies, including retractors and other attached hardwares (i.e. guide rail set). Nissan recommends to replace all seat belt assemblies in use during a collision, unless not damaged and properly operating after minor collision.**
  Also inspect seat belt assemblies not in use during a collision, and replace if damaged or improperly operating.
- **If any component of seat belt assembly is questionable, do not repair. Replace as seat belt assembly.**
- **If webbing is cut, frayed, or damaged, replace belt assembly.**
- **Never oil tongue and buckle.**
- **Use a genuine seat belt assembly.**

For seat belt pre-tensioner, refer to section RS.

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



Checking Body Corrosion

Visually check body panels for corrosion, paint 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.

Engine Maintenance

INSPECTION AND ADJUSTMENT

Drive belt deflection and tension

	Deflection adjustment Unit: mm (in)			Tension adjustment* Unit: N (kg, lb)		
	Used belt		New belt	Used belt		New belt
	Limit	After adjustment		Limit	After adjustment	
Alternator						
Without airconditioner compressor	10.2 (0.402)	6.5 - 7.0 (0.256 - 0.276)	5.5 - 6.1 (0.217 - 0.240)	292 (29.8, 65.6)	652 - 740 (66.5 - 75.5, 146.6 - 166.4)	789 - 877 (80.5 - 89.7, 177.4 - 197.6)
With airconditioner 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	10.8 (0.425)	6.6 - 7.5 (0.260 - 0.295)	6.0 - 6.6 (0.236 - 0.260)	196 (20.0, 44.1)	495 - 583 (50.5 - 59.5, 111.3 - 131.1)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)
Applied pushing force	98 N (10 kg, 22 lb)			—		

*: If belt tension gauge cannot be installed at check points shown, check drive belt tension at a different location on the belt.

Oil capacity (Refill capacity)

Unit: ℓ (Imp pts)

With oil filter change	2.9 (5 - 1/8)
Without oil filter change	2.7 (4 - 3/4)

Coolant capacity

Unit: ℓ (Imp pts)

With reservoir tank	6.1 (10 - 3/4)
Reservoir tank	0.8 (1 - 3/8)

Spark plug

Make	CHAMPION	NGK
Standard type	RC10YCC4 RC10YC4	BKR5E-11
Hot type	RC12YCC4 RC12YC4	BKR4E-11
Cold type	RC7YCC4 RC7YC4	BKR6E-11
Plug gap mm (in)	1.0 - 1.1 (0.039 - 0.043)	

Engine Maintenance

INSPECTION AND ADJUSTMENT

Drive belt deflection and tension

	Deflection adjustment Unit: mm (in)			Tension adjustment* Unit: N (kg, lb)			
	Used belt		New belt	Used belt		New belt	
	Limit	After adjustment		Limit	After adjustment		
Alternator	12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)	264 (26.9, 59.3)	493 - 583 (50.3 - 59.5, 110.8 - 131.1)	11720 70J00 603 - 691 (61.5 - 70.5, 135.6 - 155.3)	11720 70J05 652 - 740 (66.5 - 75.5, 146.6 - 166.4)
Air conditioner compressor	9 (0.35)	5.5 - 6.5 (0.217 - 0.256)	4.5 - 5.5 (0.177 - 0.217)	304 (31.0, 68.3)	534 - 623 (54.5 - 63.5, 120.0 - 140.1)	11920 9F500 652 - 740 (66.5 - 75.5, 146.6 - 166.4)	11920 9F505 838 - 926 (85.5 - 94.5, 188 - 208)
Power steering oil pump	12 (0.47)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)	264 (26.9, 59.3)	493 - 583 (50.3 - 59.5, 110.8 - 131.1)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)	603 - 691 (61.5 - 70.5, 135.6 - 155.3)
Applied pushing force	98 N (10 kg, 22 lb)			—			

*: If belt tension gauge cannot be installed at check points shown, check drive belt tension at a different location on the belt.

Oil capacity (Refill capacity)

Unit: ℓ (Imp pts)

With oil filter change	3.7 (6 - 1/2)
Without oil filter change	3.5 (6 - 1/8)

Coolant capacity (Refill capacity)

Unit: ℓ (Imp pts)

Engine		SR20DE
With reservoir tank	M/T	6.6 (11 - 5/8)
	CVT	6.8 (12)
Reservoir tank		0.8 (1 - 3/8)

Spark plug

Make		NGK
Type		
	Standard	BKR6EY-11
	Hot	—
	Cold	—
Plug gap	mm (in)	1.0 - 1.1 (0.039 - 0.043)

Ignition lead

Unit: kΩ/m

Ignition lead	Resistance [at 25°C (77°F)]
No. 1 cylinder	Approx 3.8
No. 2 cylinder	Approx 3.5
No. 3 cylinder	Approx 2.7
No. 4 cylinder	Approx 2.4

For U.K. (Made by Bougicord) 4.48 - 6.72 kΩ (1.365 - 2.048 kΩ/ft) [at 25°C (77°F)]

Engine Maintenance

INSPECTION AND ADJUSTMENT

Drive belt deflection

	Deflection adjustment Unit: mm (in)		
	Used belt		New belt
	Limit	After adjustment	
Alternator	17 (0.67)	10.5 - 12.5 (0.413 - 0.492)	8.5 - 10.5 (0.335 - 0.413)
Air conditioner compressor	17 (0.67)	11.5 - 13.5 (0.453 - 0.531)	9.5 - 11.5 (0.374 - 0.453)
Power steering oil pump	8 (0.31)	5 - 7 (0.20 - 0.28)	4 - 6 (0.16 - 0.24)
Applied pushing force	98 N (10 kg, 22 lb)		

Coolant capacity (Refill capacity)

Unit: ℓ (Imp pts)

With reservoir tank	6.4 (11 - 1/4)
Reservoir tank	0.8 (1 - 3/8)

Engine oil capacity (Refill capacity)

Unit: ℓ (Imp pts)

With oil filter	5.0 (8 - 3/4)
Without oil filter	4.5 (7 - 7/8)

Injection nozzle

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

Injection pressure	12,749 (127.5, 130, 1,849)

Chassis and Body Maintenance

Wheel balance

Wheel balance (Maximum allowable unbalance at rim flange) g (oz)	10 (0.35)
Tire balance weight g (oz)	5 - 60 (0.18 - 2.12) Spacing 5 (0.18)

NOTE