

MAINTENANCE

SECTION **MA**

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PRECAUTIONS AND PREPARATION

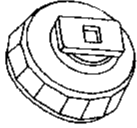
Supplemental Restraint System "AIR BAG"

The Supplemental Restraint System "Air Bag" helps to reduce the risk or severity of injury to the driver in a frontal collision. The Supplemental Restraint System consists of an air bag (located in the center of the steering wheel), sensors, a diagnosis unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **BF section** of this Service Manual.

WARNING:

- a. To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized NISSAN dealer.
- b. Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- c. All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation. Do not use electrical test equipment on any circuit related to the SRS "AIR BAG".

Special Service Tool

Tool number (Kent-Moore No.) Tool name	Description	Engine application	
		SR20DE	GA16DE
KV10115800 (J38956) Oil filter cap wrench 65 mm (2.56 in) dia.		X	—
	NT005		

GENERAL MAINTENANCE

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

Item	Reference page	
OUTSIDE THE VEHICLE		
The maintenance items listed here should be performed from time to time, unless otherwise specified.		
Tires Check the pressure with a gauge periodically when at a service station, including the spare, and adjust to the specified pressure if necessary. Check carefully for damage, cuts or excessive wear.	—	GI MA EM
Wheel nuts When checking the tires, make sure no nuts are missing, and check for any loose nuts. Tighten if necessary.	—	LC
Tire rotation Tires should be rotated every 12,000 km (7,500 miles.)	MA-23	EF & EC
Wheel alignment and balance If the vehicle should pull to either side while driving on a straight and level road, or if you detect uneven or abnormal tire wear, there may be a need for wheel alignment. If the steering wheel or seat vibrates at normal highway speeds, wheel balancing may be needed.	MA-23, FA-5	FE
Windshield wiper blades Check for cracks or wear if they do not wipe properly.	—	CL
Doors and engine hood Check that all doors and the engine hood operate smoothly as well as the truck lid and back hatch. Also ensure, that all latches lock securely. Lubricate hinges, latches, rollers and links if necessary. Make sure that the secondary latch keeps the hood from opening when the primary latch is released. When driving in areas using road salt or other corrosive materials, check lubrication frequently.	MA-27	WT
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 properly and installed securely. Also check headlight aim.	—	AT FA
Warning lights and buzzers/chimes Make sure that all warning lights and buzzers/chimes are operating properly.	—	RA
Windshield wiper and washer Check that the wipers and washer operate properly and that the wipers do not streak.	—	BR
Windshield defroster Check that the air comes out of the defroster outlets properly and in sufficient quantity when operating the heater or air conditioner.	—	ST
Steering wheel Check that it has the specified free play. Be sure to check for changes in the steering condition, such as excessive free play, hard steering or strange noises. Free play: Less than 35 mm (1.38 in)	—	BF
Seats Check seat position controls such as seat adjusters, seatback recliner, etc. to ensure they operate smoothly and that all latches lock securely in every position. Check that the head restraints move up and down smoothly and that the locks (if so equipped) hold securely in all latched positions. Check that the latches lock securely for folding-down rear seatbacks.	—	HA
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-27	EL
Clutch pedal Make sure the pedal operates smoothly and check that it has the proper free travel.	CL-4	IDX
Brakes Check that the brake does not pull the vehicle to one side when applied.	—	
Brake pedal and booster Check the pedal for smooth operation and make sure it has the proper distance under it when depressed fully. Check the brake booster function.	BR-7, 10	

GENERAL MAINTENANCE

Item	Reference page
Parking brake Check that the lever has the proper travel and confirm that your vehicle is held securely on a fairly steep hill with only the parking brake applied.	BR-25
Automatic transaxle "Park position" mechanism Check that the lock release button on the selector lever operates properly and smoothly. On a fairly steep hill check that your vehicle is held securely with the selector lever in the "P" position without applying any brakes.	—
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.	MA-11, 18
Radiator and hoses Check the front of the radiator and clean off any dirt, insects, leaves, etc., that may have accumulated. Make sure the hoses have no cracks, deformation, rot or loose connections.	—
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-24
Battery Check the fluid level in each cell. It should be between the "MAX" and "MIN" lines.	—
Engine drive belts Make sure that no belt is frayed, worn, cracked or oily.	MA-9, 16
Engine oil level Check the level on the dipstick after parking the vehicle on a level spot and turning off the engine.	MA-13, 20
Power steering fluid level and lines Check the level when the fluid is cold and the engine is turned off. Check the lines for proper attachment, leaks, cracks, etc.	MA-25
Automatic transaxle fluid level Check the level on the dipstick after putting the selector lever in "P" with the engine idling.	MA-22
Exhaust system Make sure there are no loose supports, cracks or holes. If the sound of the exhaust seems unusual or there is a smell of exhaust fumes, immediately locate the trouble and correct it.	MA-22
Underbody The underbody is frequently exposed to corrosive substances such as those used on icy roads or to control dust. It is very important to remove these substances, otherwise rust will form on the floor pan, frame, fuel lines and around the exhaust system. At the end of winter, the underbody should be thoroughly flushed with plain water, being careful to clean those areas where mud and dirt can easily accumulate.	—
Fluid leaks Check under the vehicle for fuel, oil, water or other fluid leaks after the vehicle has been parked for a while. Water dripping from the air conditioner after use is normal. If you should notice any leaks or gasoline fumes are evident, check for the cause and correct it immediately.	—

PERIODIC MAINTENANCE

Two different maintenance schedules are provided, and should be used, depending upon the conditions in which the vehicle is mainly operated. **After 60,000 miles (96,000 km) or 48 months, continue the periodic maintenance at the same mileage/time intervals.**

SCHEDULE 1

Follow Periodic Maintenance Schedule 1 if your driving habits frequently includes one or more of the following driving conditions:

- Repeated short trips of less than 5 miles (8 km).
- Repeated short trips of less than 10 miles (16 km) with outside temperatures remaining below freezing.
- Operating in hot weather in stop-and-go "rush hour" traffic.
- Extensive idling and/or low speed driving for long distances, such as police, taxi or door-to-door delivery use.
- Driving in dusty conditions.
- Driving on rough, muddy, or salt spread roads.
- Towing a trailer, using a camper or a car-top carrier.

SCHEDULE 2

Follow Periodic Maintenance Schedule 2 if none of the driving conditions shown in Schedule 1 apply to your driving habits.

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PERIODIC MAINTENANCE

Schedule 1

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

MAINTENANCE OPERATION	MAINTENANCE INTERVAL												Reference page				
	Miles x 1,000 (km x 1,000)	3.75 (6)	7.5 (12)	11.25 (18)	15 (24)	18.75 (30)	22.5 (36)	26.25 (42)	30 (48)	33.75 (54)	37.5 (60)	41.25 (66)		45 (72)	48.75 (78)	52.5 (84)	56.25 (90)
Perform at number of miles, kilometers or months, whichever comes first.	Months	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48

Emission control system maintenance

	SR series	GA series
Drive belts	I*	MA-9
Air cleaner filter	[R]	MA-12
Vapor lines	I*	MA-15
Fuel lines	I*	MA-11
Fuel filter		MA-12
Engine coolant		MA-10
Engine oil	R	MA-13
Engine oil filter (Use part No. 15208-H8903 for GA16DE engine and 15208-53J00 for SR20DE engine.)	R	MA-13
Spark plugs GA16DE engine SR20DE engine (Use PLATINUM-TIPPED type.) See NOTE (5).	[R]	MA-21
Idle rpm (GA16DE engine)	I*	MA-14
Intake & exhaust valve clearance (GA16DE engine) See NOTE (6)*.		EM-92

Chassis and body maintenance

Brake lines & cables	I	MA-24
Brake pads, discs, drums & linings	I	MA-25
Manual & automatic transaxle oil See NOTE (7).	I	MA-22
Steering gear & linkage, axle & suspension parts	I	MA-25, FA-5, RA-4
Steering linkage ball joints & front suspension ball joints	I	MA-25, FA-5
Exhaust system	I	MA-22
Drive shaft boots	I	FA-7
Air bag system See NOTE (8).		BF-91

- NOTE:** (1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months.
 (2) If operating mainly in dusty conditions, more frequent maintenance may be required.
 (3) If vehicle is operated under extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high, the filters might become clogged. In such an event, replace them immediately.
 (4) After 60,000 miles (96,000 km) or 48 months, replace every 30,000 miles (48,000 km) or 24 months.
 (5) Original equipment platinum-tipped plugs should be replaced at 60,000 miles (96,000 km). Conventional spark plugs can be used but should be replaced at 30,000 mile (48,000 km) intervals.
 (6) If valve noise increases, inspect valve clearance.
 (7) If towing a trailer, using a camper or a car-top carrier, or driving on rough or muddy roads, change (not just inspect) oil at every 30,000 miles (48,000 km) or 24 months.
 (8) Inspect the air bag system 10 years after the date of manufacture as noted on the F.M.V.S.S. certification label.
 (9) Maintenance items and intervals with "*" are recommended by NISSAN for reliable vehicle operation. The owner need not perform such maintenance in order to maintain the emission warranty or manufacturer recall liability. Other maintenance items and intervals are required.

Schedule 2

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

MAINTENANCE OPERATION	MAINTENANCE INTERVAL								Reference page		
	Miles x 1,000 (km x 1,000)	7.5 (12)	15 (24)	22.5 (36)	30 (48)	37.5 (60)	45 (72)	52.5 (84)		60 (96)	
	Months	6	12	18	24	30	36	42	48		
Emission control system maintenance											
Drive belts	See NOTE (1).				[R]				I*	MA-9	MA-16
Air cleaner filter									[R]	MA-12	MA-19
Vapor lines					I*				I*	MA-15	MA-21
Fuel lines					I*				I*	MA-11	MA-18
Fuel filter	See NOTE (2)*.									MA-12	MA-19
Engine coolant	See NOTE (3).								R*	MA-10	MA-17
Engine oil		R	R	R	R	R	R	R	R	MA-13	MA-19
Engine oil filter (Use Part No. 15208-H8903 for GA16DE engine and 15208-53J00 for SR20DE engine.)			R		R	R	R		R	MA-13	MA-20
Spark plugs	GA16DE engine				[R]				[R]	—	MA-21
	SR20DE engine (Use PLATINUM-TIPPED type.)								[R]	MA-14	—
Idle rpm (GA16DE engine)									I*	—	EF & EC-219
Intake & exhaust valve clearance (GA16DE engine)	See NOTE (5)*.									—	EM-92
Chassis and body maintenance											
Brake lines & cables											MA-24
Brake pads, discs, drums & linings											MA-24, 25
Manual & automatic transaxle oil											MA-22
Steering gear linkage, axle & suspension parts											MA-25, FA-5, RA-4
Exhaust system											MA-22
Drive shaft boots											FA-7
Air bag system	See NOTE (6).										BF-91

NOTE: (1) After 60,000 miles (96,000 km) or 48 months, inspect every 15,000 miles (24,000 km) or 12 months.
(2) If vehicle is operated under extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high, the filters might become clogged. In such an event, replace them immediately.
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(4) Original equipment platinum-tipped plugs should be replaced at 60,000 miles (96,000 km). Conventional spark plugs can be used but should be replaced at 30,000 mile (48,000 km) intervals.
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(7) Maintenance items and intervals with "*" are recommended by NISSAN for reliable vehicle operation. The owner need not perform such maintenance in order to maintain the emission warranty or manufacturer recall liability. Other maintenance items and intervals are required.

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

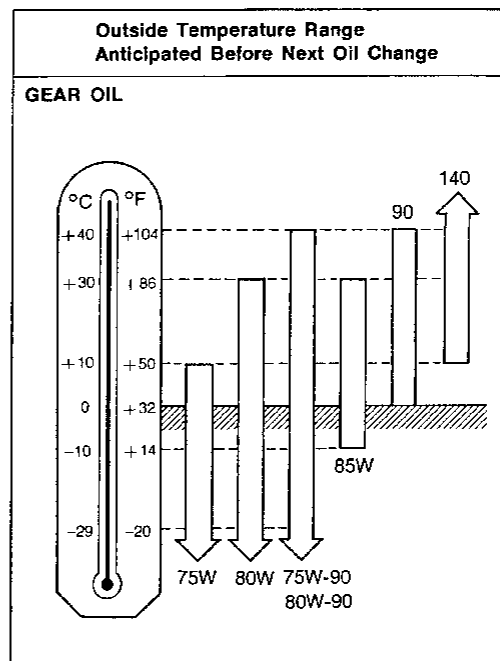
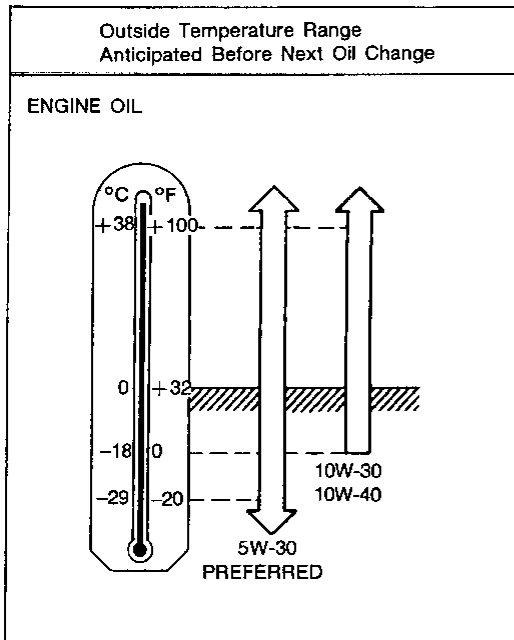
		Capacity (Approximate)			Recommended fluids and lubricants
		US measure	Imp measure	Liter	
Engine oil (Refill)	With oil filter	SR20DE	3-5/8 qt	3 qt	Energy Conserving Oils of API SG*2, *3
		GA16DE	3-3/8 qt	2-7/8 qt	
	Without oil filter	SR20DE	3-3/8 qt	2-7/8 qt	
		GA16DE	3 qt	2-1/2 qt	
Cooling system	M/T	SR20DE	5-7/8 qt	4-7/8 qt	Anti-freeze coolant (Ethylene glycol base)
		GA16DE	5-3/8 qt	4-1/2 qt	
	A/T	SR20DE	6-1/8 qt	5-1/8 qt	
		GA16DE	5-5/8 qt	4-5/8 qt	
Manual transaxle gear oil	RS5F31A	6-1/8 pt	5-1/8 pt	API GL-4*2	
	RS5F32V	7-3/8 - 7-7/8 pt	6-1/8 - 6-1/2 pt		
Automatic transaxle fluid	RL4F03A(V)	7-3/8 qt	6-1/8 qt	7.0	Genuine Nissan ATF*1 or equivalent Type DEXRON™ II-E
Power steering fluid		—	—	—	Type DEXRON™ II or equivalent
Brake fluid		—	—	—	Genuine Nissan Brake Fluid*1 or equivalent DOT 3 (US FMVSS No. 116)
Multi-purpose grease		—	—	—	NLGI No. 2 (Lithium soap base)

*1: Available in mainland U.S.A. through your Nissan dealer.

*2: For further details, see "Recommended SAE viscosity number".

*3: Energy conserving oils
These oils can be identified by such labels as EC-I, EC-II, energy conserving, energy saving, improved fuel economy, etc.

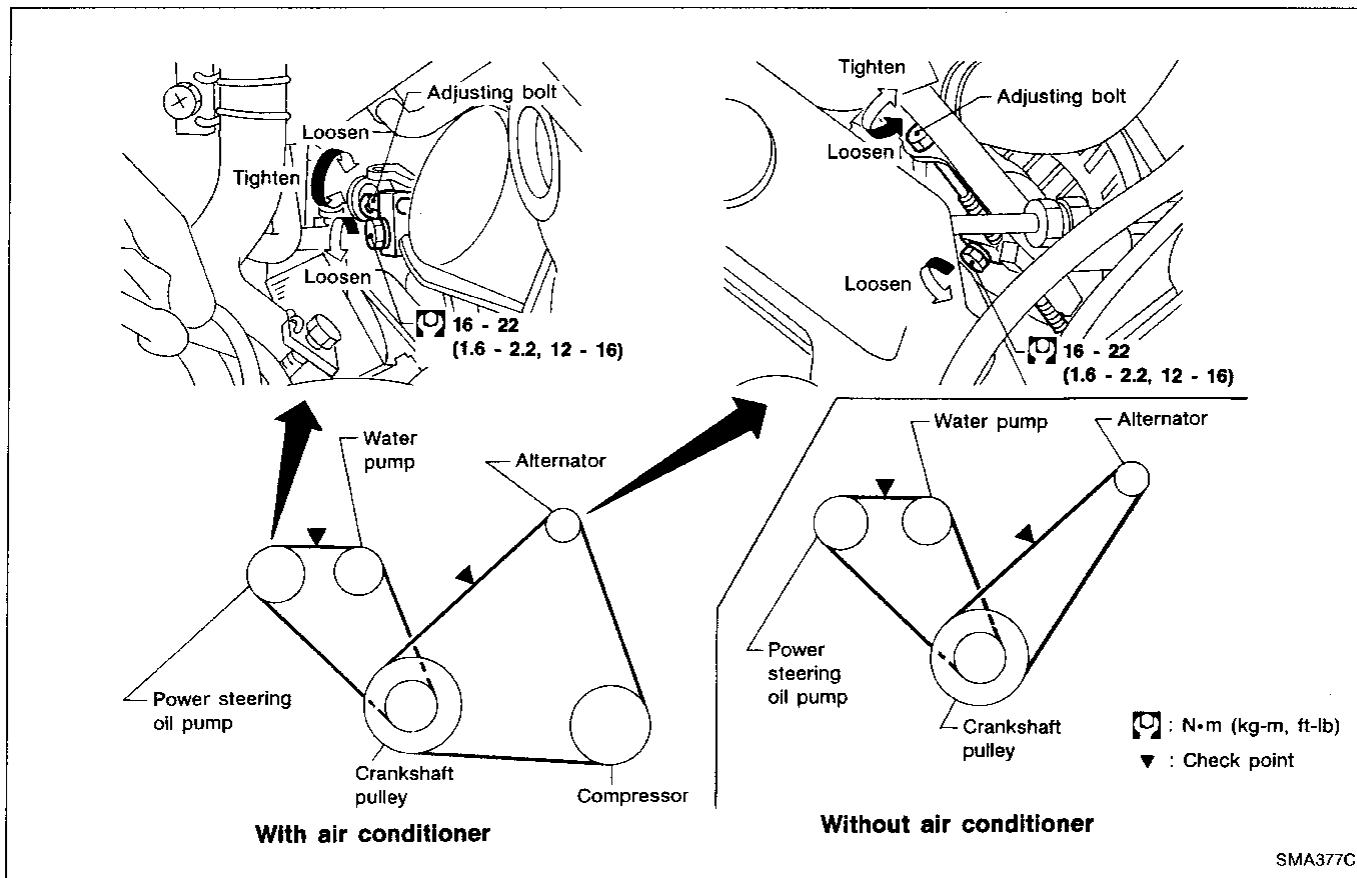
SAE Viscosity Number



5W-30 is preferable for all ambient temperatures. 20W-40 and 20W-50 are usable if the ambient temperature is above 10°C (50°F) for all seasons.

80W-90 is preferable if the ambient temperature is below 40°C (104°F).

Checking Drive Belts



SMA377C

1. Inspect for cracks, fraying, wear or oil adhesion. If necessary, replace with a new one.
2. Inspect drive belt deflections by pushing on the belt midway between pulleys.

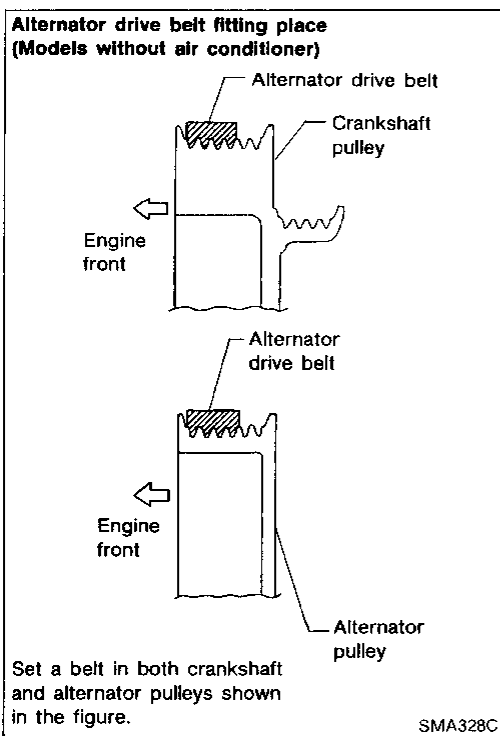
Adjust if belt deflections exceed the limit.

Belt deflection:

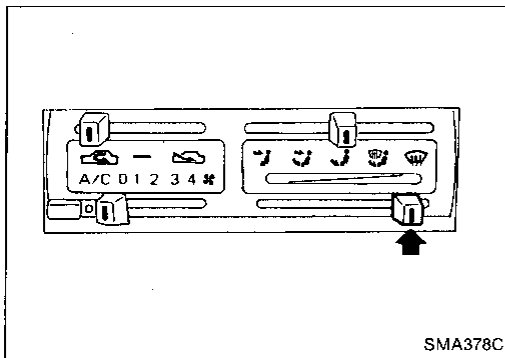
Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator			
With air conditioner compressor	11.5 - 12.5 (0.453 - 0.492)	7 - 8 (0.28 - 0.31)	6.5 - 7.5 (0.256 - 0.295)
Without air conditioner compressor	12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)
Power steering oil pump	6 - 7 (0.24 - 0.28)	4 - 5 (0.16 - 0.20)	3.5 - 4.5 (0.138 - 0.177)
Applied pushing force	98 N (10 kg, 22 lb)		

Inspect drive belt deflections when engine is cold.



SMA328C

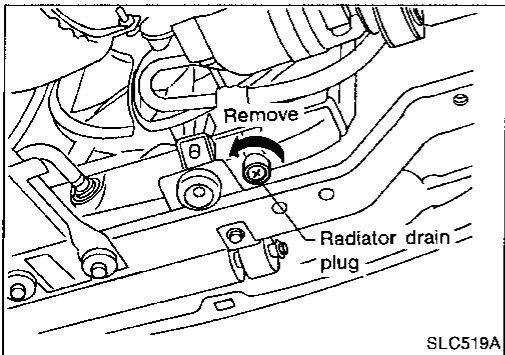


Changing Engine Coolant

WARNING:

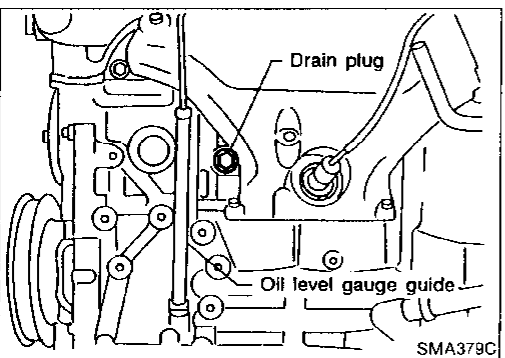
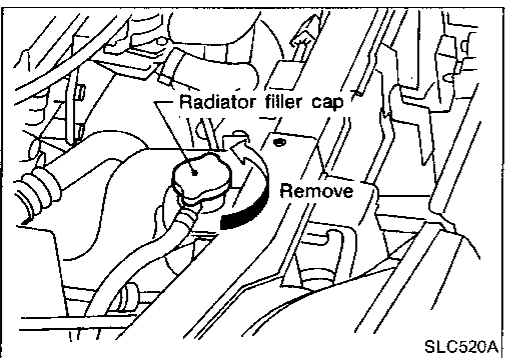
To avoid being scalded, never change the coolant when the engine is hot.

1. Move heater "TEMP" control lever all the way to "HOT".



2. Remove radiator drain plug and radiator filler 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. Install radiator drain plug and tighten cylinder block drain plug securely.
6. Fill radiator and reservoir tank with water. Air relief plug is reinstalled once coolant spills from the air relief hole during refill. Then fill radiator and reservoir tank with water.

Air relief plug:

: 10 N·m (1.0 kg-m, 7 ft-lb)

7. Reinstall radiator cap.
8. Warm up engine until cooling fan operates, then race engine 2 or 3 times under no-load.

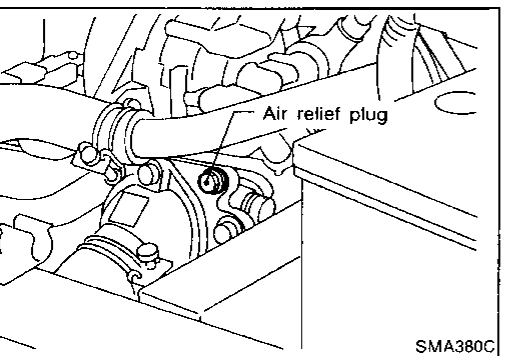
- Make sure that air conditioner switch is "OFF".

9. Stop engine and wait until it cools down.
10. Repeat step 2 through step 9 until clear water begins to drain from radiator.
11. Drain water.

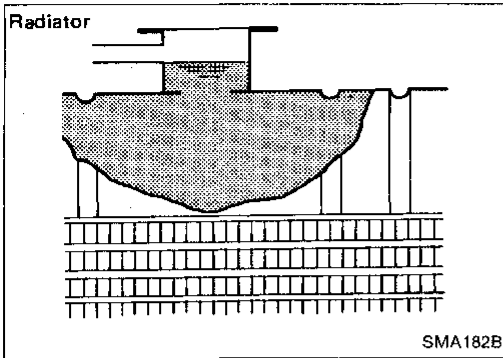
- Apply sealant to the thread of drain plug.

: 8 - 12 N·m (0.8 - 1.2 kg-m, 5.8 - 8.7 ft-lb)

12. Reinstall reservoir tank.



Changing Engine Coolant (Cont'd)



13. Fill radiator and reservoir tank with coolant up to specified level following step 6 through step 9.
Follow instructions attached to anti-freeze container for mixing ratio of anti-freeze to water.

Coolant capacity (With reservoir tank):

Unit: ℓ (US qt, Imp qt)

M/T	5.6 (5-7/8, 4-7/8)
A/T	5.8 (6-1/8, 5-1/8)

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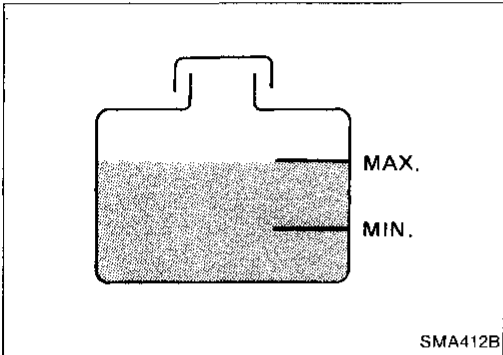
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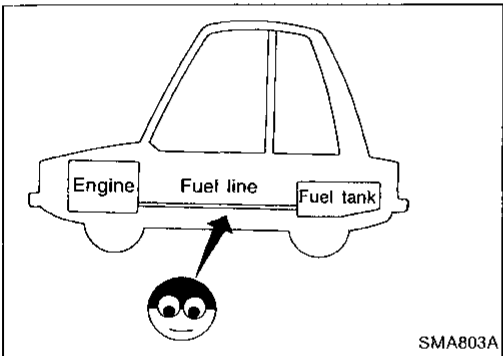


[Reservoir tank capacity for "H" level is 0.7 ℓ (3/4 US qt, 5/8 Imp qt).]

Pour coolant through coolant filler neck slowly to allow air in system to escape.

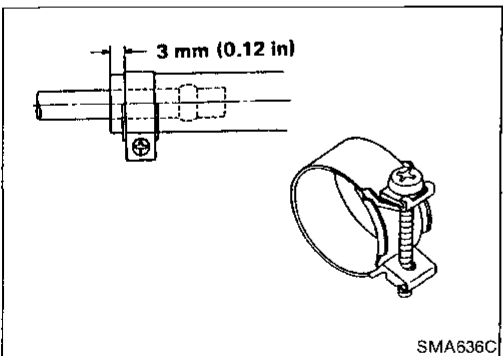
14. If necessary, add coolant.
15. Start and warm up engine, then increase engine speed to 4,000 rpm. Check that radiator coolant level is not lowered, and that no water noise is heard in heater core. If water noise is heard, bleed air by referring to "Refilling Engine Coolant" in section LC.

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.

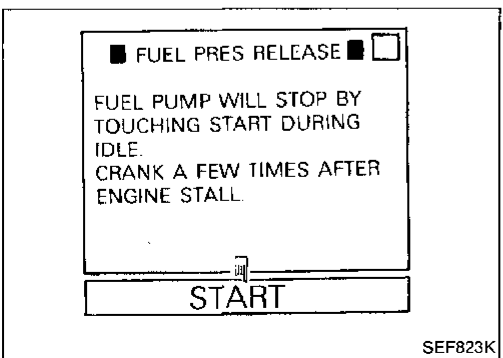


CAUTION:

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.



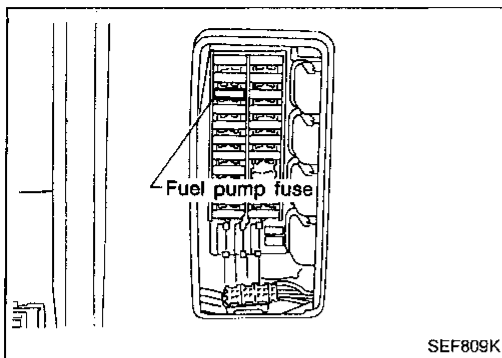
Changing Fuel Filter

WARNING:

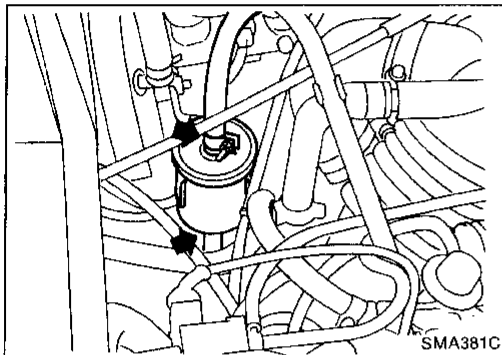
Before removing fuel filter, release fuel pressure from fuel line to eliminate danger.

1. Perform "FUEL PRESSURE RELEASE" in "WORK SUPPORT" mode and release fuel pressure to zero.
2. Turn ignition switch off.

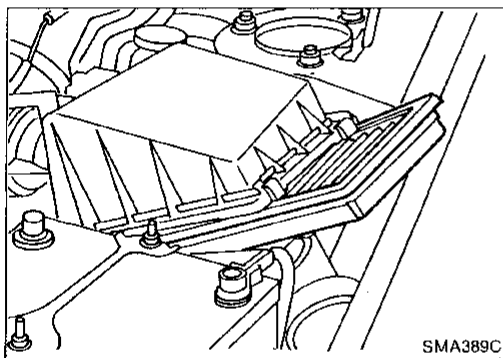
Changing Fuel Filter (Cont'd)



1. Remove fuel pump fuse.
2. Start engine.
3. After engine stalls, crank engine two or three times to make sure that fuel pressure is released.
4. Turn ignition switch off and install fuel pump fuse.



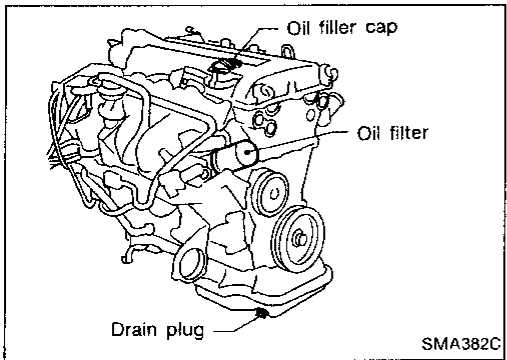
5. Loosen fuel hose clamps.
 6. Replace fuel filter.
- **Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.**
 - **Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.**
 - **When tightening fuel hose clamps, refer to "Checking Fuel Lines".**



Changing Air Cleaner Filter

Viscous paper type

The viscous paper type filter does not need cleaning between renewals.



Changing Engine Oil

WARNING:

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

1. Warm up engine, and check for oil leakage from engine components.
2. Remove drain plug and oil filler cap.
3. Drain oil and refill with new engine oil.

Oil grade: API SG

Viscosity: See RECOMMENDED FLUIDS AND LUBRICANTS in MA section.

Refill oil capacity (Approximately):

	Unit: ℓ (US qt, Imp qt)
With oil filter change	3.4 (3-5/8, 3)
Without oil filter change	3.2 (3-3/8, 2-7/8)

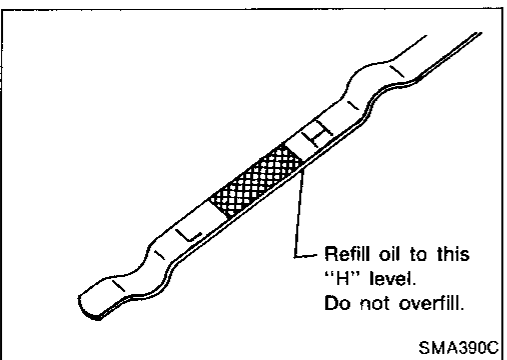
CAUTION:

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

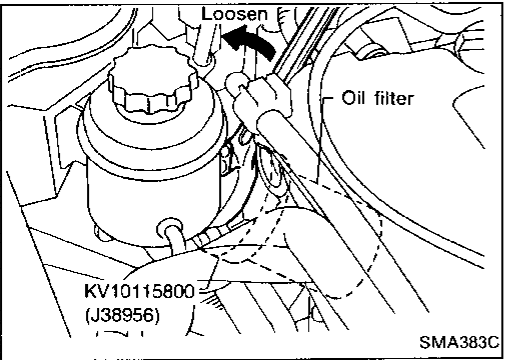
Drain plug:

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

The refill capacity changes depending on the oil temperature and drain time, use these values as a reference and be certain to check with the dipstick when changing the oil.



4. Check oil level.
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 Oil Filter

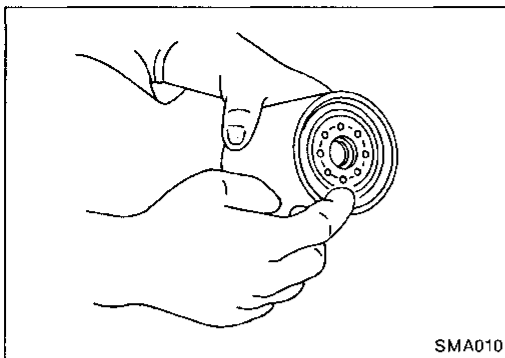
1. Remove oil filter with Tool.

WARNING:

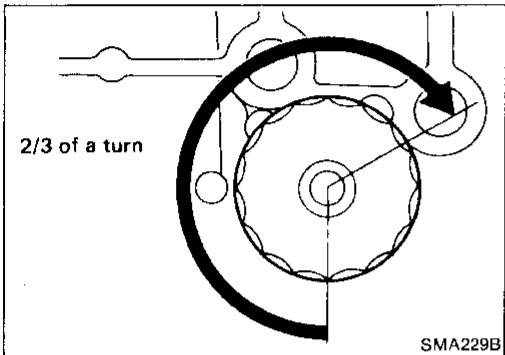
Be careful not to burn yourself, as the engine and the engine oil are hot.

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Changing Oil Filter (Cont'd)

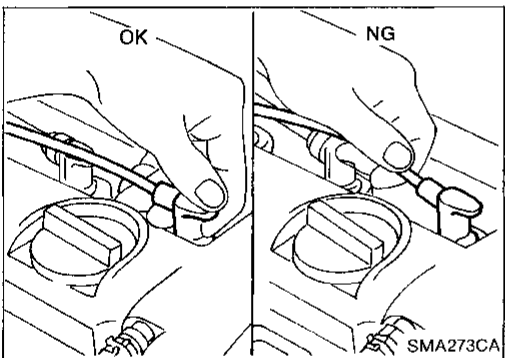


2. Before installing new oil filter, clean the oil filter mounting surface on cylinder block, and coat the rubber seal of oil filter with a little engine oil.



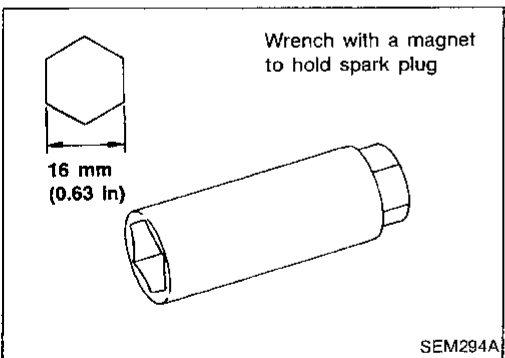
3. Screw in the oil filter until a slight resistance is felt, then tighten additionally more than 2/3 turn.
4. Add engine oil.

Refer to Changing Engine Oil.



Changing Spark Plugs (Platinum-tipped type)

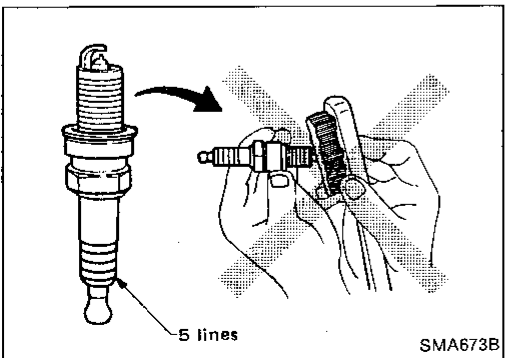
1. Disconnect ignition wires from spark plugs at boot. Do not pull on the wire.



2. Remove spark plugs with spark plug wrench.

Spark plug:

Standard type	PFR5B-11
Alternative	PFR6B-11
	PFR7B-11



- Checking and adjusting plug gap are not required between renewals.
- Do not use a wire brush for cleaning.
- If plug tip is covered with carbon, spark plug cleaner may be used.

Cleaner air pressure:

Less than 588 kPa (6 kg/cm², 85 psi)

Cleaning time:

Less than 20 seconds

**Changing Spark Plugs (Platinum-tipped type)
(Cont'd)**

3. Install spark plugs. Reconnect ignition wires according to numbers indicated on them.

Spark plug:

: 20 - 29 N·m (2.0 - 3.0 kg-m, 14 - 22 ft-lb)

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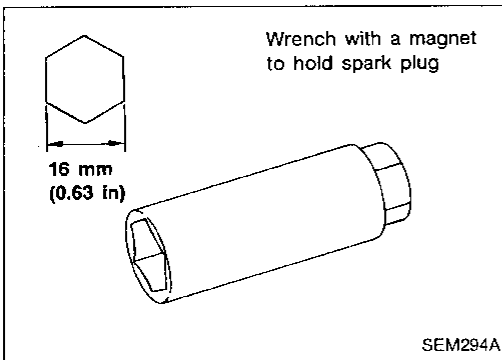
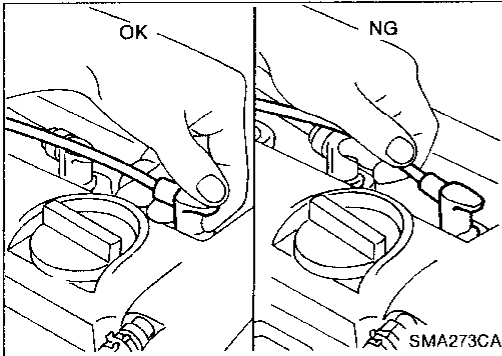
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Changing Spark Plugs (Conventional type)

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



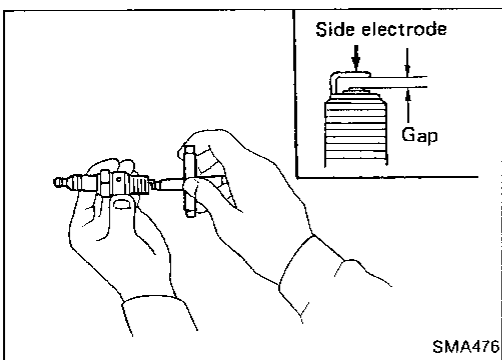
2. Remove spark plugs with spark plug wrench.

Spark plug:

Standard type BKR6E

Hot type BKR5E

Cold type BKR7E



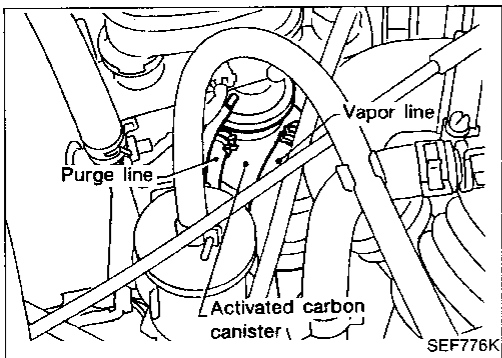
3. Check gap of each new spark plug.

Gap: 0.8 - 0.9 mm (0.031 - 0.035 in)

4. 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)

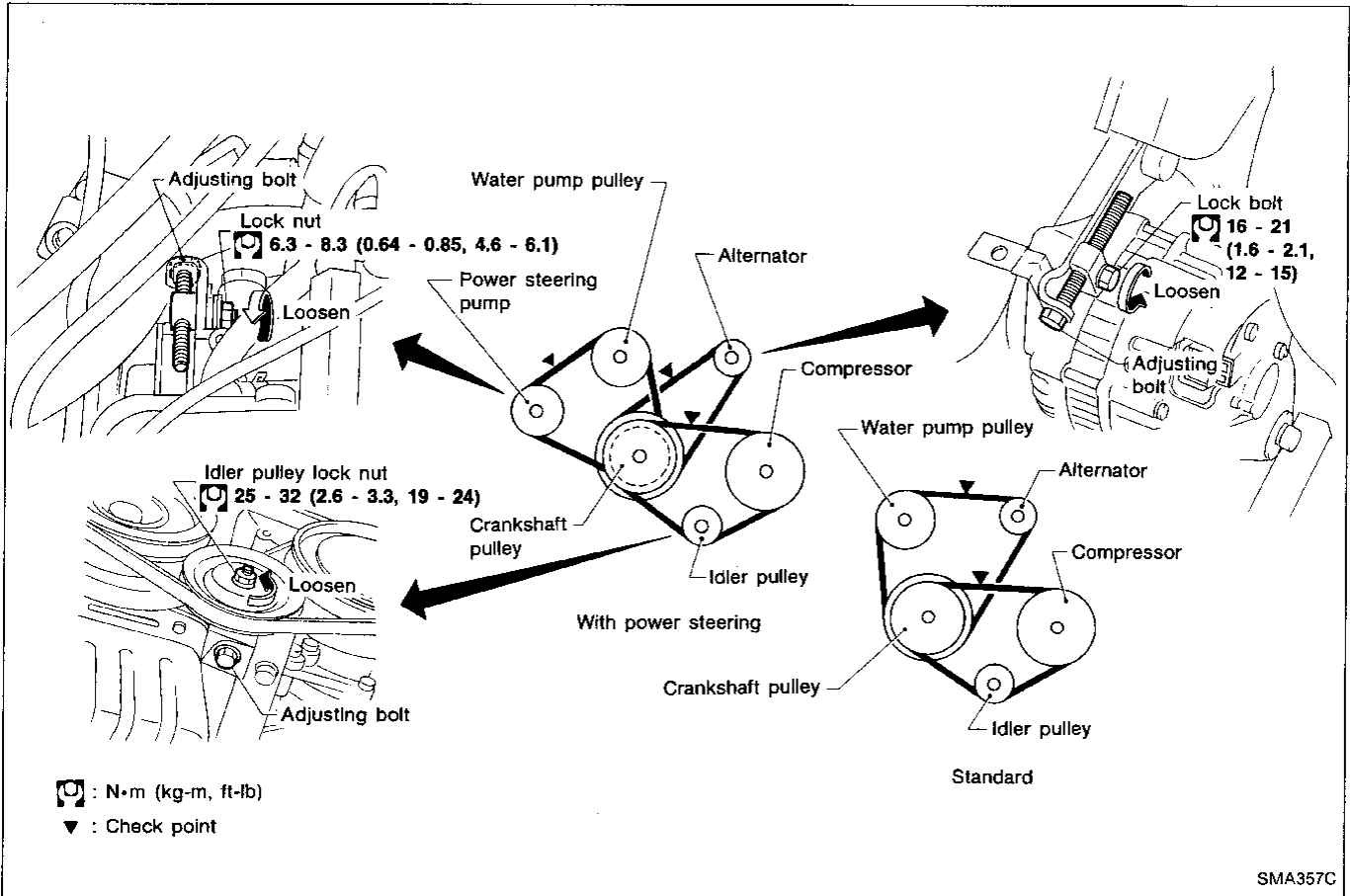


Checking Vapor Lines

1. Visually inspect vapor lines for improper attachment and for 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 SYSTEM in EF & EC section.

Checking Drive Belts



1. Inspect for cracks, fraying, wear or oil adhesion. If necessary, replace with a new one.
2. Inspect drive belt deflections by pushing on the belt midway between pulleys.

Adjust if belt deflections exceed the limit.

Belt deflection:

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator			
With power steering	11 (0.43)	7 - 9 (0.28 - 0.35)	6 - 8 (0.24 - 0.31)
Without power steering	10 (0.39)		
Air conditioner compressor	9.5 (0.374)	6 - 8 (0.24 - 0.31)	5 - 7 (0.20 - 0.28)
Power steering oil pump	7.5 (0.295)	4 - 6 (0.16 - 0.24)	3 - 5 (0.12 - 0.20)
Applied pushing force	98 N (10 kg, 22 lb)		

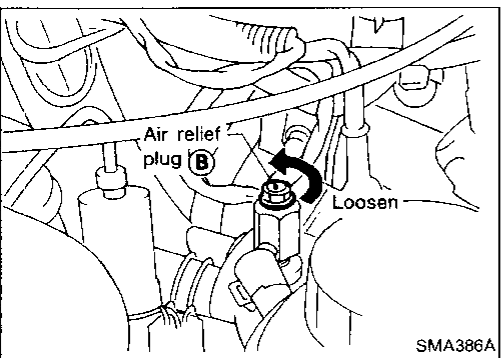
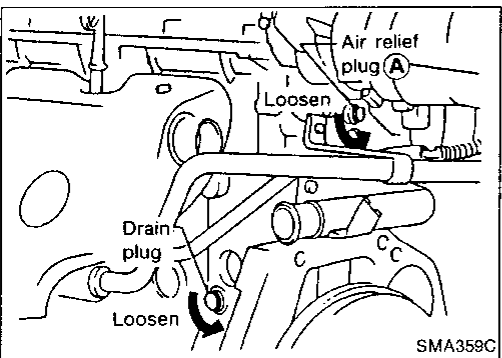
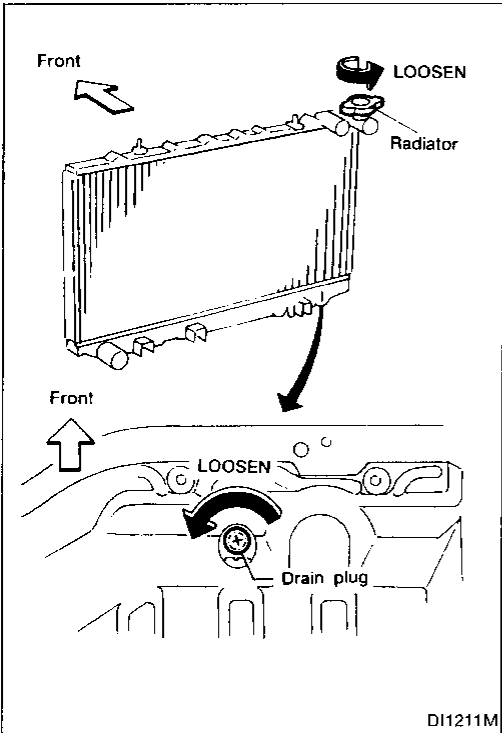
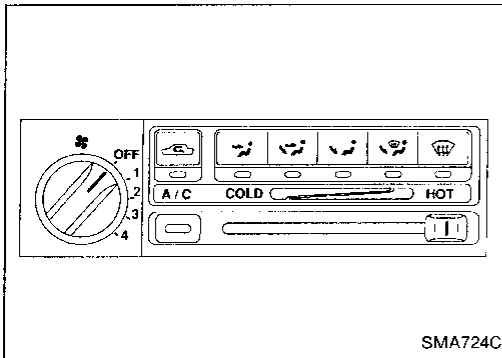
Inspect drive belt deflections when engine is cold.

Changing Engine Coolant

WARNING:

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

1. Move heater "TEMP" control lever all the way to "HOT".



2. Open radiator drain plug at the bottom of radiator 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 plugs (A) and (B).
5. Close radiator drain plug.
6. Fill radiator with water until coolant spills from drain plug hole during refill, then reinstall drain plug securely.
7. Fill radiator with water again until coolant spills from the air relief hole during refill, then reinstall air relief plugs (A) and (B).

Then fill radiator and reservoir tank with water.

Air relief plug:

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

8. Reinstall radiator cap.
9. Warm up engine until cooling fan operates, then race engine 2 or 3 times under no-load.

- Make sure that blower fan switch is "OFF".
10. Stop engine and wait until it cools down.
 11. Repeat step 2 through step 10 until clear water begins to drain from radiator.

- Apply sealant to the thread of drain plug.
- 34 - 44 N·m (3.5 - 4.5 kg-m, 25 - 33 ft-lb)
13. Reinstall reservoir tank.

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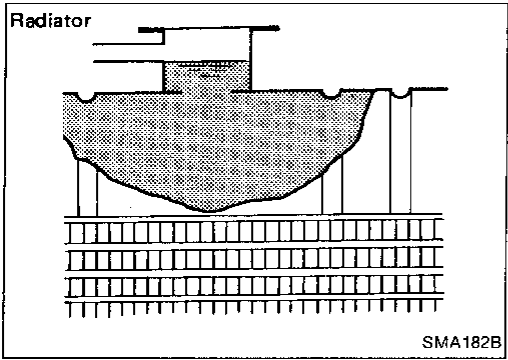
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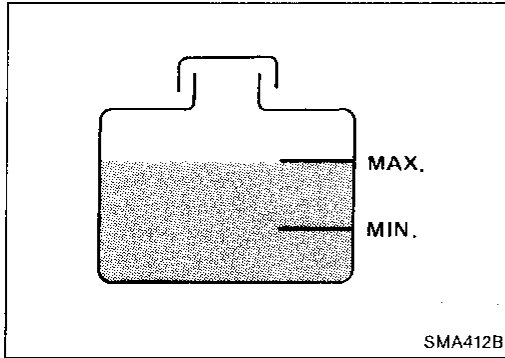
Changing Engine Coolant (Cont'd)



14. Fill radiator and reservoir tank with coolant up to specified level following step 6 through step 9. Follow instructions attached to anti-freeze container for mixing ratio of anti-freeze to water.

Coolant capacity (With reservoir tank):

M/T	5.1 ℓ (5-3/8 US qt, 4-1/2 Imp qt)
A/T	5.3 ℓ (5-5/8 US qt, 4-5/8 Imp qt)



[Reservoir tank capacity to "H" level is 0.7 ℓ (3/4 US qt, 5/8 Imp qt)]

Pour coolant through coolant filler neck slowly to allow air in system to escape.

15. If necessary, add coolant.

Checking Cooling System

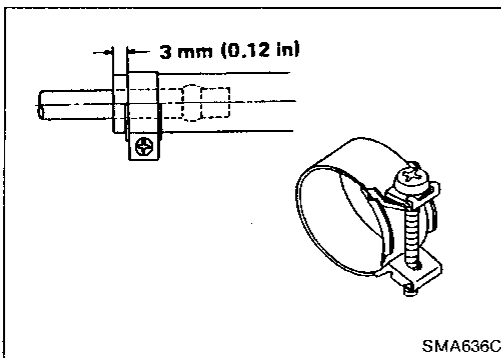
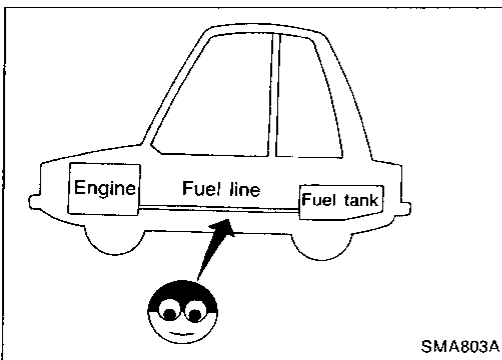
CHECKING HOSES

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

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 to eliminate danger.

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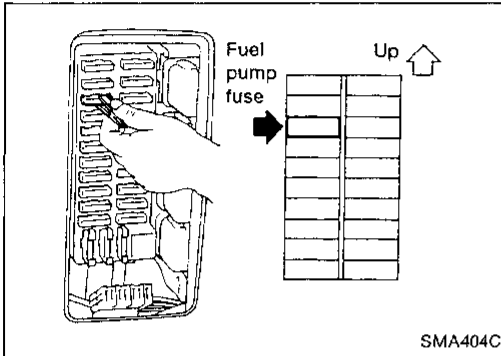
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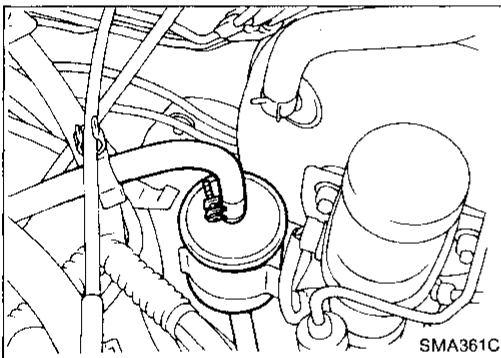
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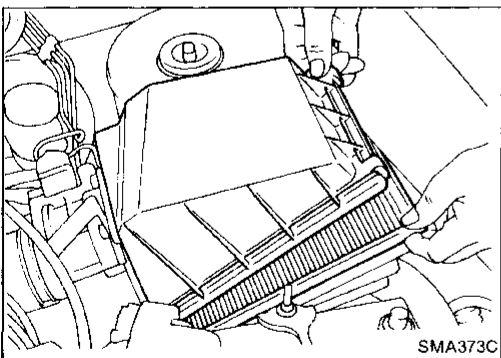
IDX



1. Remove fuel pump fuse.
2. Start engine.
3. After engine stalls, crank engine two or three times to make sure that fuel pressure is released.
4. Turn ignition switch off and install fuel pump fuse.



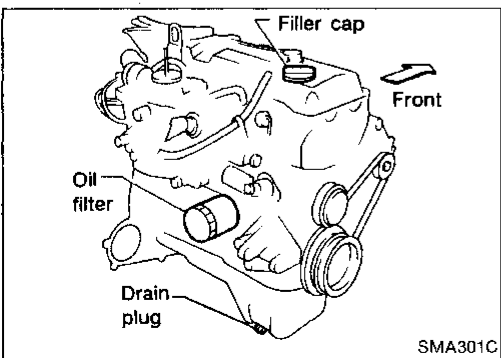
5. Loosen fuel hose clamps.
 6. Replace fuel filter.
- Be careful not to spill fuel over engine compartment. Place a shop towel to absorb fuel.
 - Use a high-pressure type fuel filter. Do not use a synthetic resinous fuel filter.
 - When tightening fuel hose clamps, refer to Checking Fuel Lines.



Changing Air Cleaner Filter

VISCOUS PAPER TYPE

The viscous paper type filter does not need cleaning between renewals.



Changing Engine Oil

WARNING:

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

1. Warm up engine, and check for oil leakage from engine components.
2. Remove drain plug and oil filler cap.
3. Drain oil and refill with new engine oil.

Oil grade: API SG

Viscosity: See "RECOMMENDED FLUIDS AND LUBRICANTS".

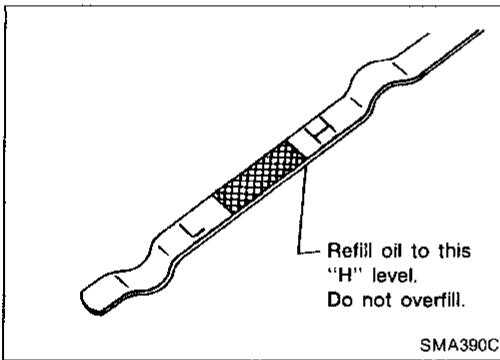
Changing Engine Oil (Cont'd)

Refill oil capacity (Approximately):

	Unit: ℓ (US qt, Imp qt)
With oil filter change	3.2 (3-3/8, 2-7/8)
Without oil filter change	2.8 (3, 2-1/2)

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 changes depending on the oil temperature and drain time. Use these values as a reference and be certain to check with the dipstick when changing the oil.**



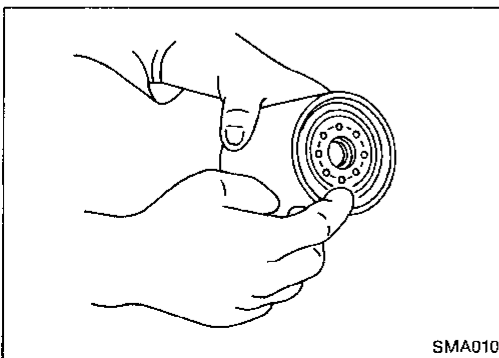
4. Check oil level.
5. Start engine and check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After several minutes, check oil level.

Changing Oil Filter

1. Remove oil filter with Tool.

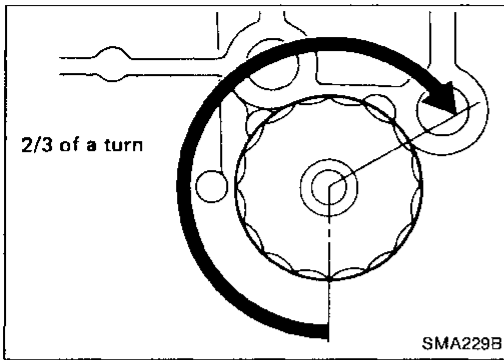
WARNING:

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



2. Before installing new oil filter, clean the oil filter mounting surface on cylinder block, and coat the rubber seal of oil filter with a little engine oil.

Changing Oil Filter (Cont'd)



3. Screw in the oil filter until a slight resistance is felt, then tighten additionally more than 2/3 turn.

4. Add engine oil.

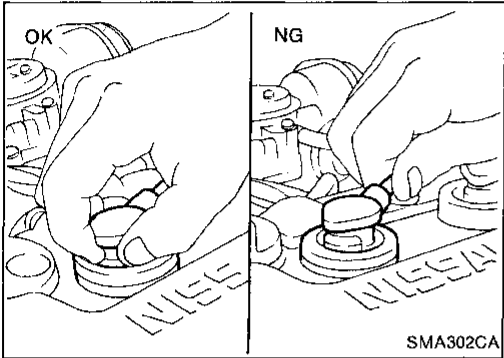
Refer to Changing Engine Oil.

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Changing Spark Plugs



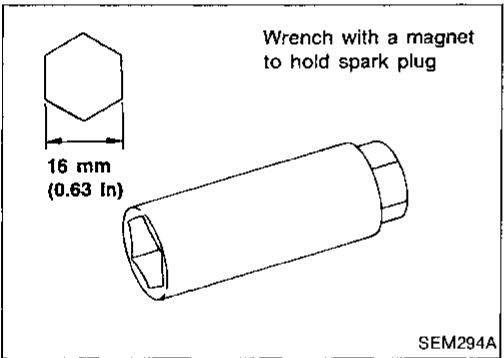
1. Disconnect ignition wires from spark plugs at boot. Do not pull on the wire.

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2. Remove spark plugs with spark plug wrench.

Spark plug:

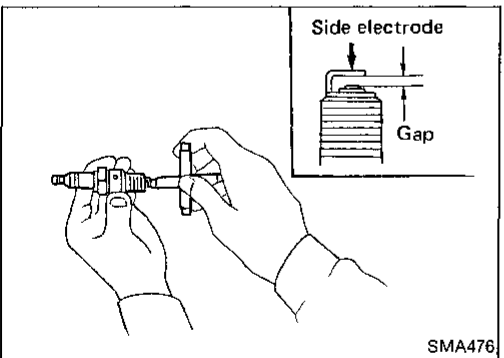
Standard type	BKR5E-11
Hot type	BKR4E-11
Cold type	BKR6E-11

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3. Check gap of each new spark plug.

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

4. Install spark plugs. Reconnect ignition wires according to numbers indicated on them.

Spark plug:

⌚: 20 - 29 N·m (2.0 - 3.0 kg·m, 14 - 22 ft·lb)

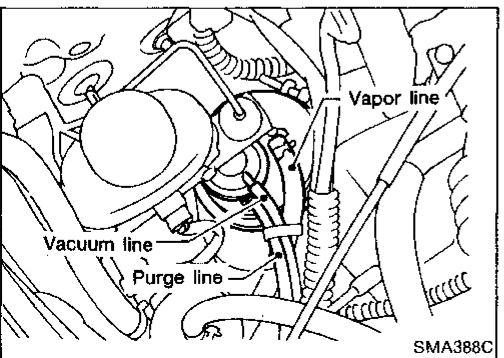
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Checking Vapor Lines

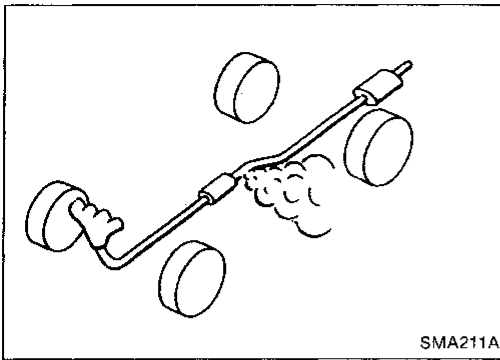


1. Visually inspect vapor lines for improper attachment and for cracks, damage, loose connections chafing and deterioration.
2. Inspect vacuum relief valve of fuel tank filler cap for clogging, sticking, etc.

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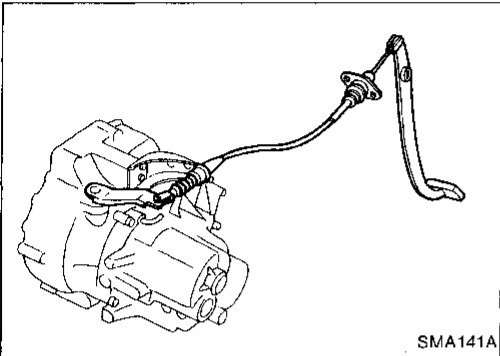
Refer to EVAPORATIVE EMISSION SYSTEM in EF & EC section.



SMA211A

Checking Exhaust System

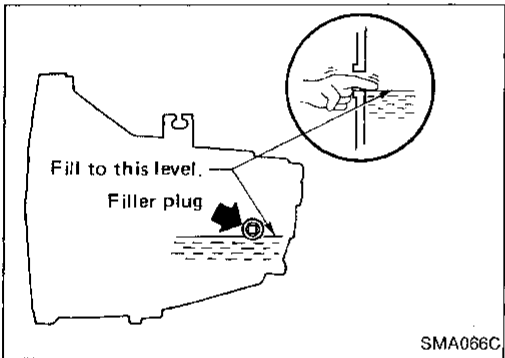
Check exhaust pipes, muffler and mounting for improper attachment and for leaks, cracks, damage, loose connections, chafing and deterioration.



SMA141A

Checking Clutch System

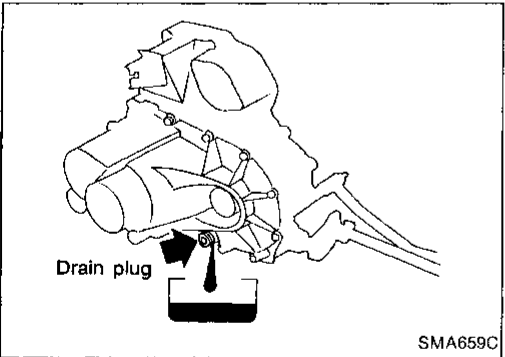
Check cable and lever for improper attachment, chafing, wear and deterioration.



SMA066C

Checking M/T Oil

1. Check for oil leaks and oil level.
- Never start engine while checking oil level.**



SMA659C

Changing M/T Oil

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

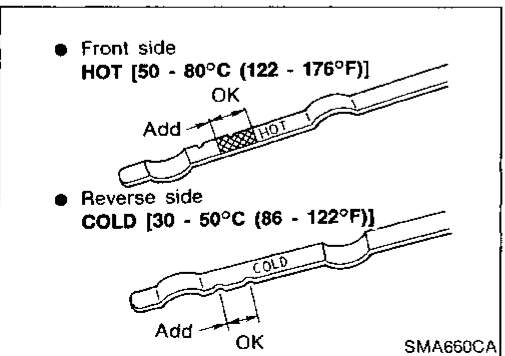
Oil capacity:

RS5F31A

2.9 liters (6-1/8 US pt, 5-1/8 Imp pt)

RS5F32V

3.5 - 3.7 liters (7-3/8 - 7-7/8 US pt, 6-1/8 - 6-1/2 Imp pt)



SMA650CA

Checking A/T Fluid

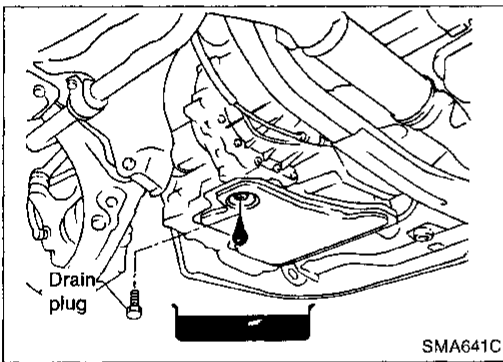
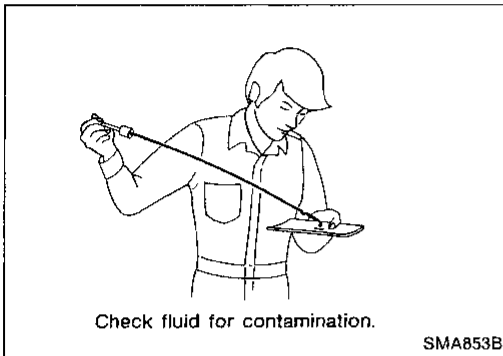
1. Check for fluid leakage and fluid level.
Fluid level should be checked using "HOT" range on dipstick at fluid temperatures of 50 to 80°C (122 to 176°F) after vehicle has been driven approximately 5 minutes in urban areas after engine is warmed up. But it can be checked at fluid temperatures of 30 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.

CHASSIS AND BODY MAINTENANCE

Checking A/T Fluid (Cont'd)

- 1) Park vehicle on level surface and set parking brake.
- 2) Start engine and then move selector lever through each gear range, ending in "P".
- 3) Check fluid level with engine idling.
- 4) Remove dipstick and wipe it clean with lint-free paper.
- 5) Re-insert dipstick into charging pipe as far as it will go.
- 6) Remove dipstick and note reading. If level is at low side of either range, add fluid to the charging pipe.

Do not overfill.



2. Check fluid for contamination. If fluid is very dark or smells burned, or contains frictional material (clutches, band, etc.), check operation of A/T. Refer to section AT for checking operation of A/T.

Changing A/T Fluid

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

Oil grade:

Genuine Nissan ATF or equivalent type DEXRON™ II-E

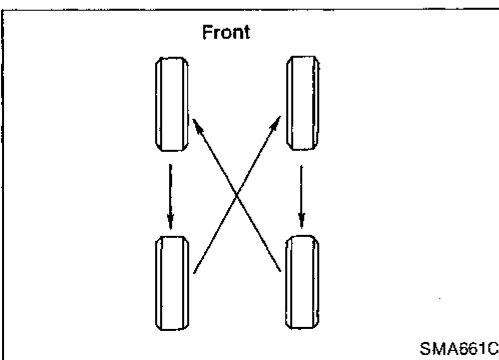
Oil capacity (With torque converter):

7.0 liters (7-3/8 US qt, 6-1/8 Imp qt)

Drain plug:

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

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



Balancing Wheels

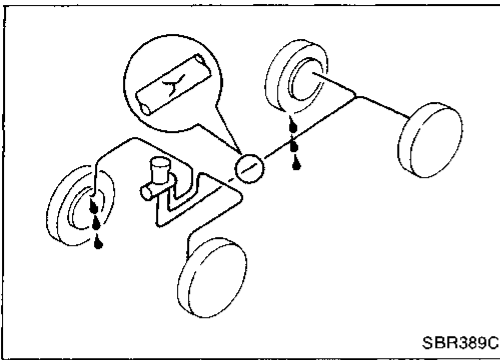
- Adjust wheel balance using road wheel center.
Wheel balance (Maximum allowable unbalance):
Refer to SDS.

Tire Rotation

Do not include the T-type spare tire when rotating the tires.

Wheel nuts:

⌚: 98 - 118 N·m (10.0 - 12.0 kg·m, 72 - 87 ft·lb)

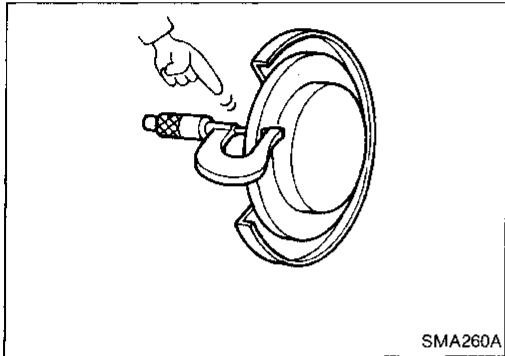


Checking Brake Fluid Level and Leaks

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

Checking Brake Lines and Cables

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



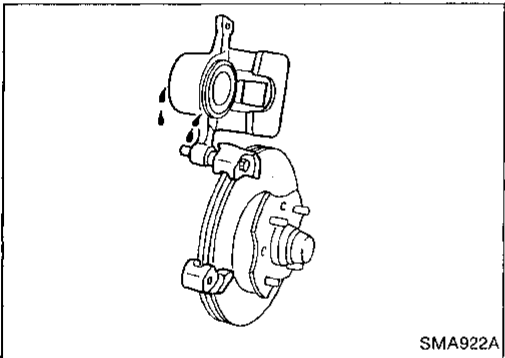
Checking Disc Brake

ROTOR

Check condition and thickness.

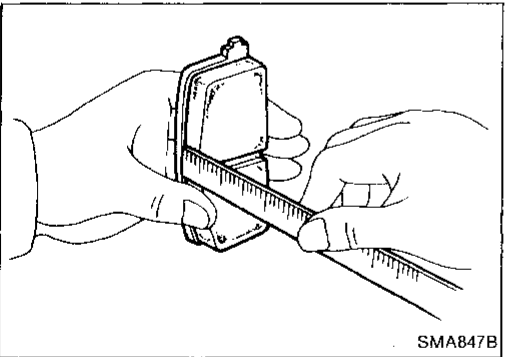
Thickness:

	Unit: mm (in)	
	CL18VD, AD18VE	AD7HA
Standard	18 (0.71)	7 (0.28)
Minimum	16.0 (0.630)	6.0 (0.236)



CALIPER

Check operation and for leakage.



PAD

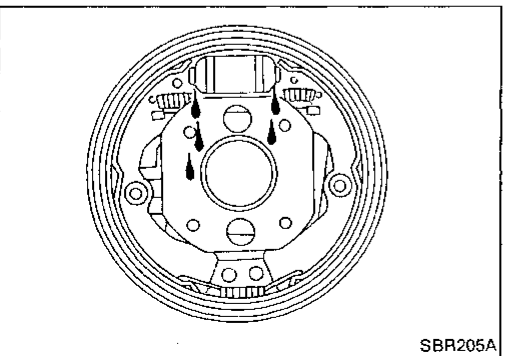
Check for wear or damage.

Standard thickness:

10 mm (0.39 in)

Minimum thickness:

2.0 mm (0.079 in)



Checking Drum Brake

WHEEL CYLINDER

Check operation and for leakage.

CHASSIS AND BODY MAINTENANCE

Checking Drum Brake (Cont'd)

DRUM

Check condition of inner surface.

Standard diameter:

180 mm (7.09 in)

Drum repair limit (Inner diameter):

181 mm (7.13 in)

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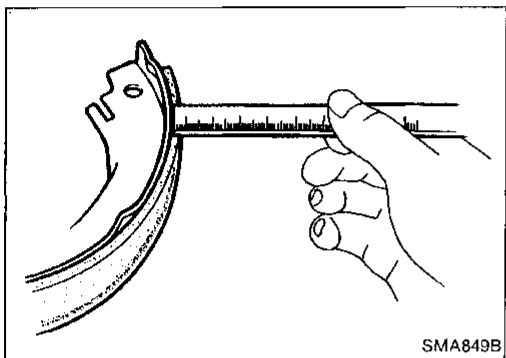
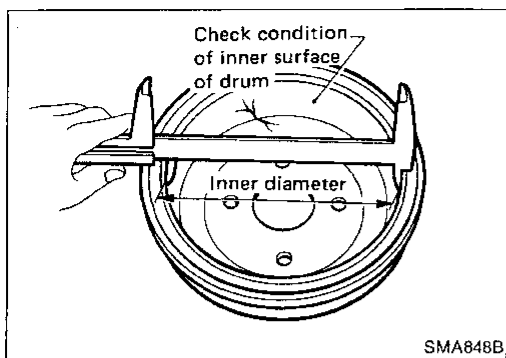
ST

BF

HA

EL

IDX



LINING

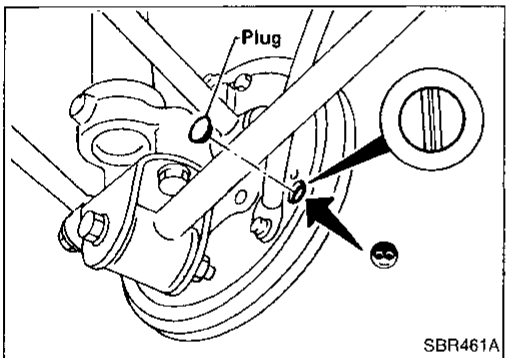
Check for wear or damage.

Standard thickness:

4 mm (0.16 in)

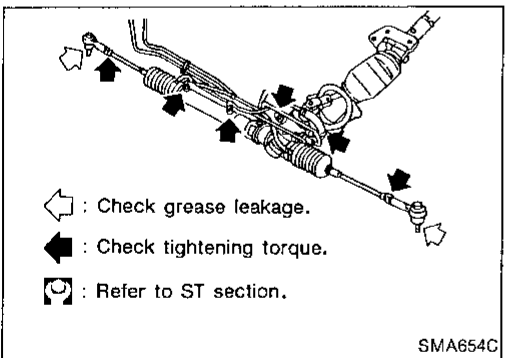
Lining wear limit (Minimum thickness):

1.5 mm (0.059 in)



TEMPORARY METHOD FOR CHECKING LINING WEAR

Remove inspection hole plug and check for lining wear.



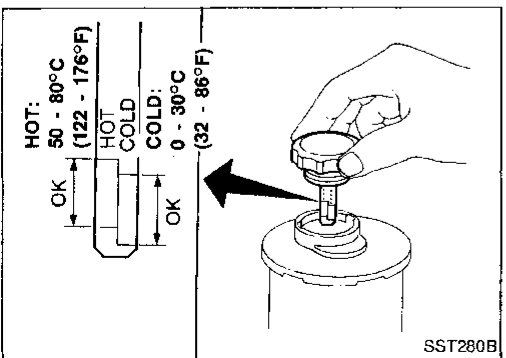
Checking Steering Gear and Linkage

STEERING GEAR

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

STEERING LINKAGE

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



Checking Power Steering Fluid and Lines

Check fluid level.

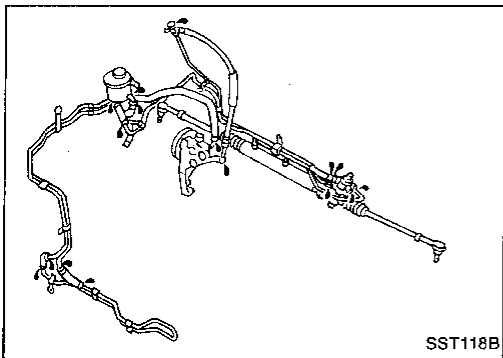
Fluid level should be checked using "HOT" range on dipstick at fluid temperatures of 50 to 80°C (122 to 176°F) or using "COLD" range on dipstick at fluid temperatures of 0 to 30°C (32 to 86°F).

CAUTION:

- Do not overfill.
- Recommended fluid is Automatic Transmission Fluid Type DEXRON™II or equivalent.

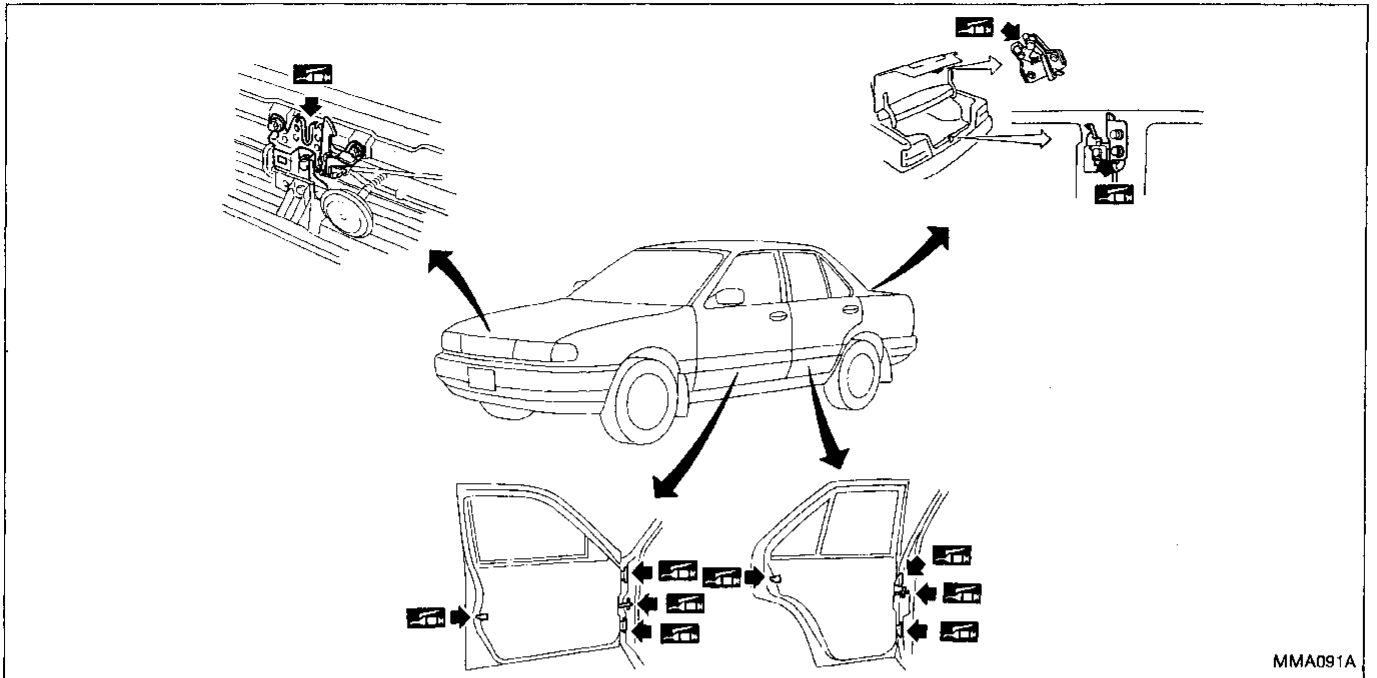
CHASSIS AND BODY MAINTENANCE

Checking Power Steering Fluid and Lines (Cont'd)



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


Lubricating Locks, Hinges and Hood Latches



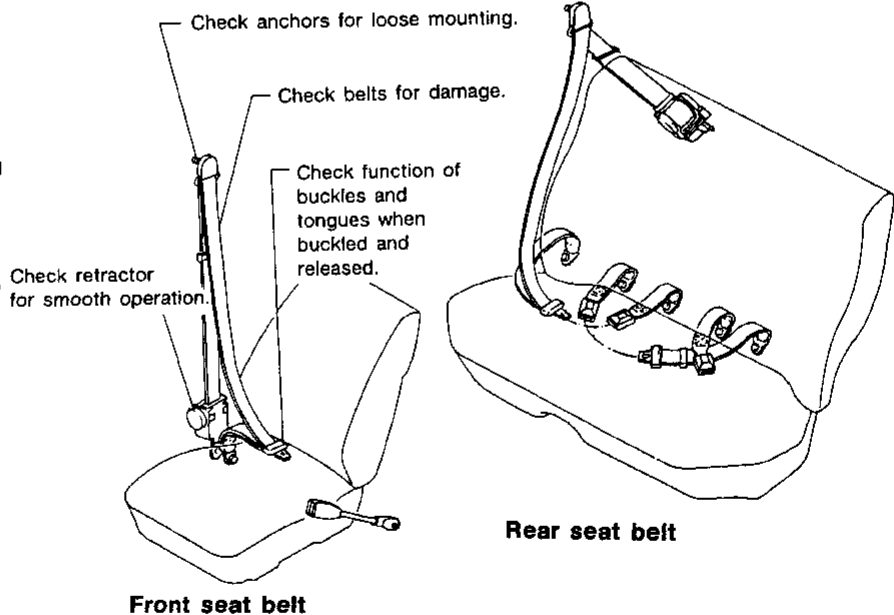
Checking Seat Belts, Buckles, Retractors, Anchors and Adjusters

CAUTION:

1. All seat belt assemblies, including retractors and attaching hardware such as guide rail set, etc., should be inspected after any collision. Nissan recommends that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly. Seat belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.
2. If the condition of any component of seat belt assembly is questionable, do not have it repaired, but replaced as seat belt assembly.
3. If webbing is cut, frayed, or damaged, replace belt assembly.
4. Do not spill drinks, oil, etc. on inner lap belt buckle. Never oil tongue and buckle.
5. Use a NISSAN genuine seat belt assembly.

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

For automatic seat belt, refer to BF section.



MMA006A

SERVICE DATA AND SPECIFICATIONS (SDS)

Engine Maintenance (SR)

INSPECTION AND ADJUSTMENT

Drive belt deflection

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator			
With air conditioner compressor	11.5 - 12.5 (0.453 - 0.492)	7 - 8 (0.28 - 0.31)	6.5 - 7.5 (0.256 - 0.295)
Without air conditioner compressor	12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)
Power steering oil pump	6 - 7 (0.24 - 0.28)	4 - 5 (0.16 - 0.20)	3.5 - 4.5 (0.138 - 0.177)
Applied pushing force	98 N (10 kg, 22 lb)		

Spark plug

	Platinum-tipped type	Conventional type
Type		
Standard	PFR5B-11	BKR6E
Alternative	PFR6B-11 PFR7B-11	BKR5E BKR7E
Plug gap	mm (in)	
	1.0 - 1.1 (0.039 - 0.043)	0.8 - 0.9 (0.031 - 0.035)

Engine Maintenance (GA)

INSPECTION AND ADJUSTMENT

Drive belt deflection

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
Alternator			
With power steering	11 (0.43)	7 - 9 (0.28 - 0.35)	6 - 8 (0.24 - 0.31)
Without power steering	10 (0.39)		
Air conditioner compressor	9.5 (0.374)	6 - 8 (0.24 - 0.31)	5 - 7 (0.20 - 0.28)
Power steering oil pump	7.5 (0.295)	4 - 6 (0.16 - 0.24)	3 - 5 (0.12 - 0.20)
Applied pushing force	98 N (10 kg, 22 lb)		

Spark plug

Type	
Standard	BKR5E-11
Hot	BKR4E-11
Cold	BKR6E-11
Plug gap	mm (in)
	1.0 - 1.1 (0.039 - 0.043)

Chassis and Body Maintenance

INSPECTION AND ADJUSTMENT

Wheel balance

Maximum allowable unbalance	Dynamic (at rim flange) g (oz)	10 (0.35) (One side)
	Static g (oz)	20 (0.71)

Brake

Disc brake	mm (in)	
Pad		
Standard thickness		10 (0.39)
Minimum thickness		2.0 (0.079)
Rotor		
Standard thickness		
CL18VD, AD18VE		18 (0.71)
AD7HA		7 (0.28)
Minimum thickness		
CL18VD, AD18VE		16.0 (0.630)
AD7HA		6.0 (0.236)

GI

MA

EM

LC

EF &
EC

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