

COOLING AND LUBRICATION SYSTEM

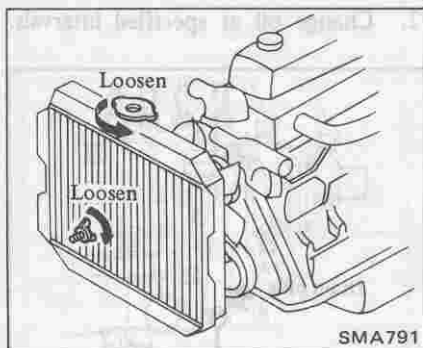
CHANGING ENGINE COOLANT

WARNING:

To avoid the danger of being scalded, never attempt to change the coolant when the engine is hot.

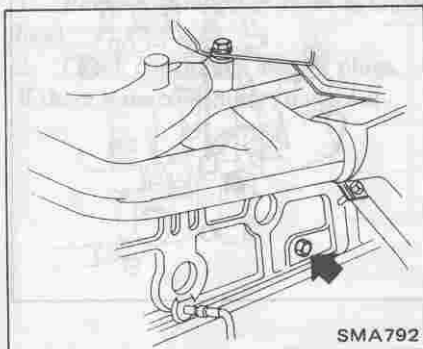
When changing engine coolant on heater equipped models, set heater "TEMP" control lever at full "HOT" position.

1. Open drain cock at bottom of radiator, and remove radiator cap.



SMA791

2. Remove cylinder block drain plug.



SMA792

3. Drain coolant completely. Then flush cooling system.
4. Close drain cock and plug.
5. Fill radiator with coolant up to filler opening, observing instructions attached to anti-freeze container for mixing ratio of anti-freeze to water.
6. Run engine for a few minutes. If necessary, add coolant.
7. Fill reservoir tank with coolant up to "MAX" level.
8. Install radiator cap. Check drain cock and plug for any sign of leakage.

CHECKING COOLING SYSTEM HOSES AND CONNECTIONS FOR LEAKS

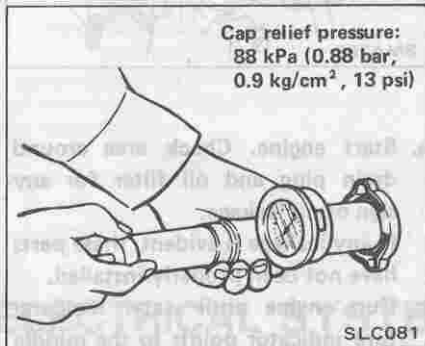
Check hoses and fittings for loose connections or deterioration.

Retighten or replace if necessary.

CHECKING RADIATOR CAP

Using cap tester, check the radiator cap relief pressure.

If the pressure gauge drops rapidly and excessively, replace the radiator cap.



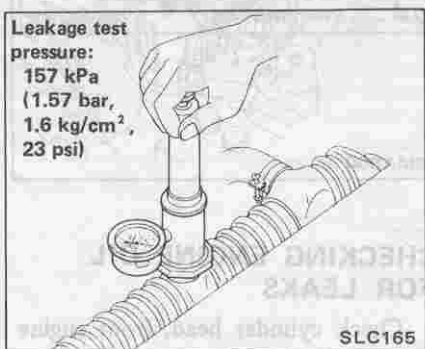
Cap relief pressure:
88 kPa (0.88 bar,
0.9 kg/cm², 13 psi)

SLC081

CHECKING COOLING SYSTEM FOR LEAKS

Attach pressure tester and pump tester, and apply specified pressure. Check for drop in pressure.

If pressure drops, check for leaks from hoses, radiator, or water pump. If no external leaks are found, check heater core, block and head.



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

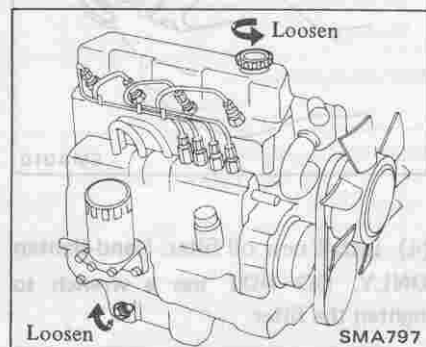
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CHANGING ENGINE OIL AND OIL FILTER

1. Warm up engine.
2. Remove oil pan drain plug and oil filler cap, and allow oil to drain.

WARNING:

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



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- A milky oil indicates the presence of cooling water. Isolate the cause and take corrective measures.
- An oil with extremely low viscosity indicates the presence of fuel.

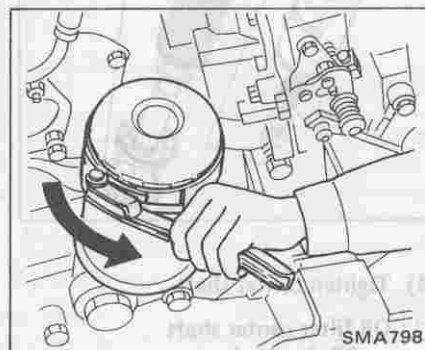
3. Clean and install oil pan drain plug with washer.

Ⓙ : Oil pan drain plug
49 - 59 N·m
(5 - 6 kg-m,
36 - 43 ft-lb)

4. Remove oil filter.

Cartridge type

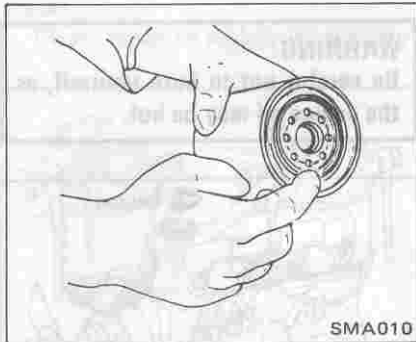
- (1) Using Tool, remove oil filter.



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- (2) Wipe oil filter mounting surface with a clean rag.

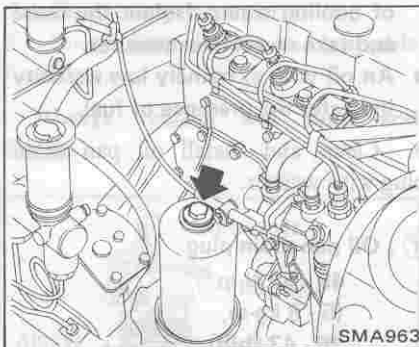
- (3) Smear a little engine oil on rubber lip of new oil filter.



- (4) Install new oil filter. **Hand-tighten ONLY. DO NOT** use a wrench to tighten the filter.

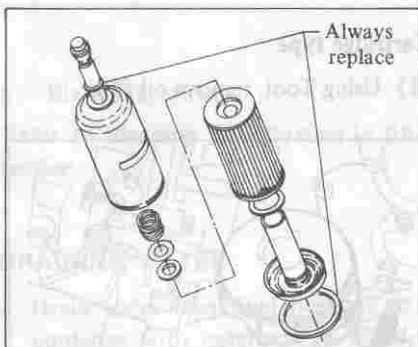
Center shaft type

- (1) Remove center shaft.



- (2) Take out filter element.
- (3) Install new element

Always use new gaskets.



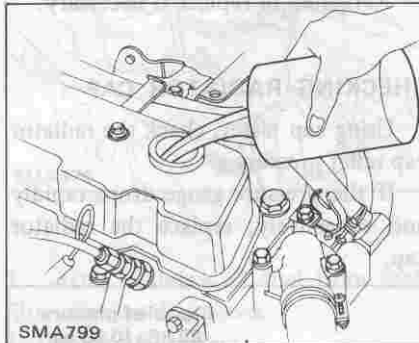
- (4) Tighten center shaft.

Ⓙ : Oil filter center shaft
SD 4-cylinder
25 - 29 N·m
(2.5 - 3.0 kg·m,
18 - 22 ft·lb)

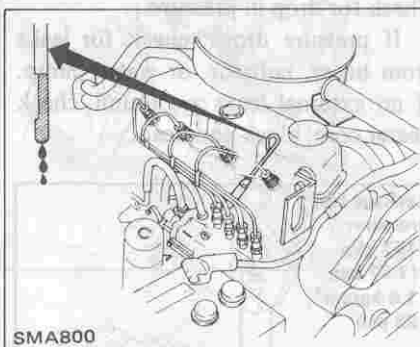
SD33

20 - 25 N·m
(2.0 - 2.5 kg·m,
14 - 18 ft·lb)

5. Refill engine with new engine oil, referring to Recommended Lubricants in Owner's Manual loaded on vehicle.



- a. Start engine. Check area around drain plug and oil filter for any sign of oil leakage. If any leakage is evident, these parts have not been properly installed.
- b. Run engine until water temperature indicator points to the middle of gauge. Then stop engine and check oil level with dipstick. If necessary, add engine oil.
- c. When checking oil level, park the car on a level surface.

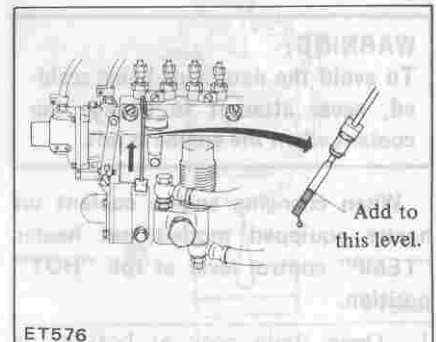


CHECKING ENGINE OIL FOR LEAKS

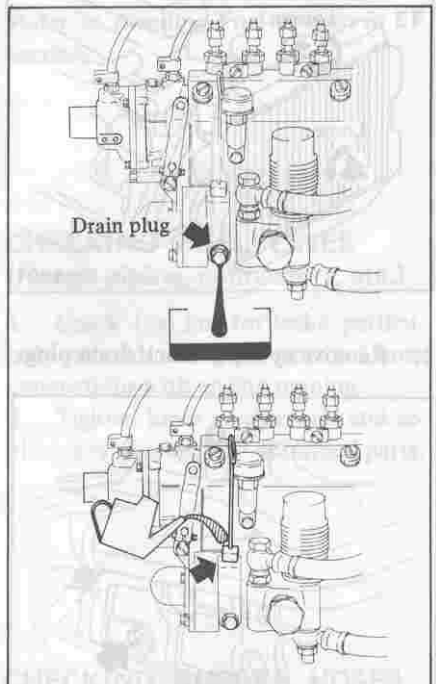
Check cylinder head, front engine cover, oil pan, oil pump, oil filter gasket, etc. or other parts for sign of leaks past their gasketed surfaces. If necessary, replace gaskets or faulty parts. After maintenance has been done, check replaced parts to see if any leaks occur.

CHECKING AND CHANGING INJECTION PUMP OIL (Lubrication type only)

1. Check oil level.



2. Change oil at specified intervals.



3. Check for leaks.