

CO

SECTION

ENGINE COOLING SYSTEM

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PRECAUTIONS

PRECAUTIONS

PFP:00001

Precautions for Battery Service

ABS003MG

This vehicle is equipped with the automatic window adjusting function. When a door is opened, the window automatically lowers slightly to avoid contact between the window and the side roof panel. After the door is closed, the window will automatically raise slightly.

On vehicles equipped with the automatic window adjusting function, lower both the driver and front passenger side windows before disconnecting the battery cables. This will prevent interference between the side window and the roof panel when either door is opened/closed.

CAUTION:

After the battery cables are disconnected, do not open/close the driver and/or front passenger door with the window in the full up position. The automatic window adjusting function will not work and the side roof panel may be damaged.

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

ABS002CR

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harness connectors.

Precautions for Liquid Gasket REMOVAL OF LIQUID GASKET SEALING

ABS000QL

- After removing the mounting bolts and nuts, separate the mating surface using a seal cutter and remove the liquid gasket sealing.

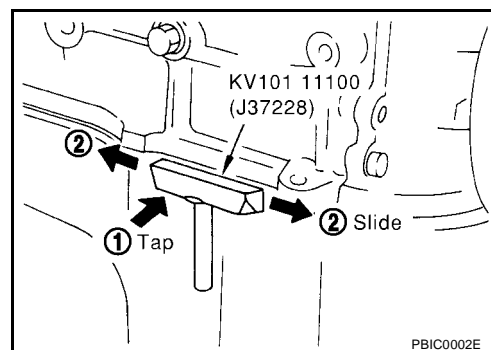
CAUTION:

Be careful not to damage the mating surfaces.

- In areas where the cutter is difficult to use, use a plastic hammer to lightly tap the areas where the RTV Silicone Sealant is applied.

CAUTION:

If for some unavoidable reason a tool such as a flat-bladed screwdriver is used, be careful not to damage the mating surfaces.



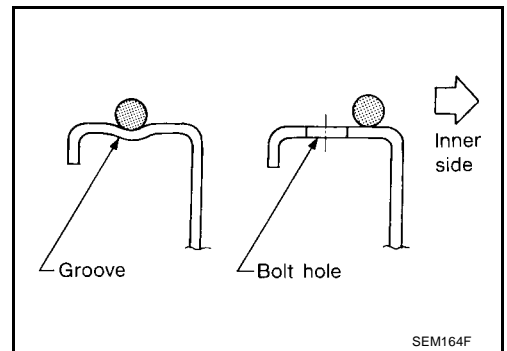
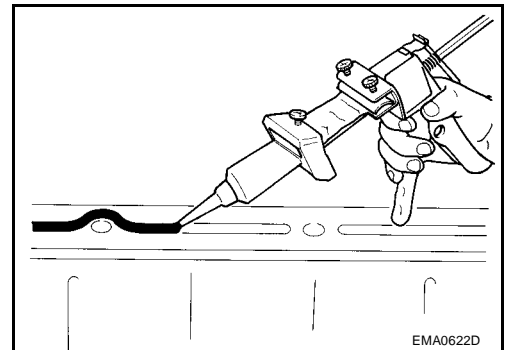
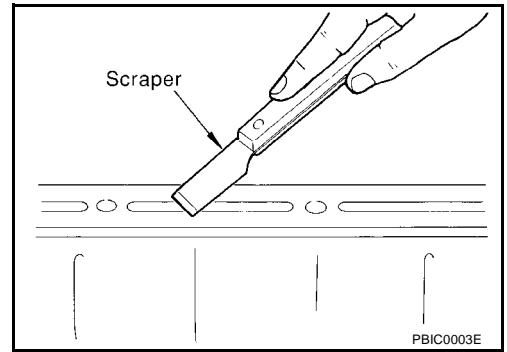
PRECAUTIONS

LIQUID GASKET APPLICATION PROCEDURE

1. Using a scraper, remove the old RTV Silicone Sealant adhering to the gasket application surface and the mating surface.
 - Remove the RTV Silicone Sealant completely from the groove of the gasket application surface, mounting bolts, and bolt holes.
2. Thoroughly clean the gasket application surface and the mating surface removing any adhering moisture, grease and foreign material.
3. Attach the RTV Silicone Sealant tube to the tube presser.
 - Use Genuine RTV Silicone Sealant or equivalent. Refer to [GL-48, "RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS"](#).
4. Apply the sealant without breaks to the specified location with the specified dimensions.
 - If there is a groove for the sealant application, apply the gasket to the groove.
- As for the bolt holes, normally apply the gasket inside the holes. Occasionally, it should be applied outside the holes. Make sure to read the text of this manual.
- Within five minutes of gasket application, install the mating component.
- If the RTV Silicone Sealant protrudes, wipe it off immediately.
- Do not retighten after the installation.
- Wait 30 minutes or more after installation before filling the engine with oil and coolant.

CAUTION:

If there are specific instructions in this manual, observe them.



PREPARATION

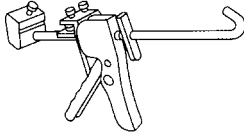
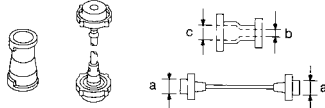

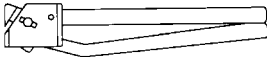
PREPARATION

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Special Service Tools

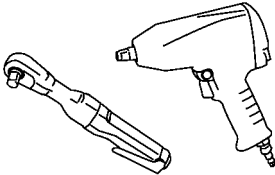
ABS000QM

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

Tool number (Kent-Moore No.) Tool name		Description
WS39930000 (-) Tube pressure	 S-NT052	Pressing the tube of liquid gasket
EG17650301 (J33984-A) Radiator cap tester adapter	 S-NT564	Adapting radiator cap tester to radiator cap and radiator filler neck a: 28 (1.10) dia. b: 31.4 (1.236) dia. c: 41.3 (1.626) dia. Unit: mm (in)
KV99103510 (-) Radiator plate pliers A	 S-NT224	Installing radiator upper and lower tanks
KV99103520 (-) Radiator plate pliers B	 S-NT225	Removing radiator upper and lower tanks

Commercial Service Tools

ABS000QN

Tool name		Description
Power tool	 PBIC0190E	Loosening bolts and nuts

OVERHEATING CAUSE ANALYSIS

	Symptom		Check items	
Cooling system parts malfunction	Poor heat transfer	Water pump malfunction	Worn or loose drive belt	—
		Thermostat stuck closed	—	
		Damaged fins	Dust contamination or paper clogging	
			Physical damage	
		Clogged radiator cooling tube	Excess foreign material (rust, dirt, sand, etc.)	
	Reduced air flow	Cooling fan does not operate	Fan assembly	—
		High resistance to fan rotation		
		Damaged fan blades		
	Damaged radiator shroud	—	—	—
	Improper coolant mixture ratio	—	—	—
	Poor coolant quality	—	Coolant viscosity	—
	Insufficient coolant	Coolant leaks	Cooling hose	Loose clamp
				Cracked hose
			Water pump	Poor sealing
			Radiator cap	Loose
				Poor sealing
		Radiator		O-ring for damage, deterioration or improper fitting
				Cracked radiator tank
				Cracked radiator core
		Reservoir tank		Cracked reservoir tank
		Overflowing reservoir tank	Exhaust gas leaks into cooling system	Cylinder head deterioration
				Cylinder head gasket deterioration

OVERHEATING CAUSE ANALYSIS

	Symptom		Check items	
Except cooling system parts malfunction	—	Overload on engine	Abusive driving	High engine rpm under no load
				Driving in low gear for extended time
				Driving at extremely high speed
			Powertrain system malfunction	—
			Installed improper size wheels and tires	
			Dragging brakes	
			Improper ignition timing	
	Blocked or restricted air flow	Blocked bumper	—	—
		Blocked radiator grille	Installed car brassiere	
			Mud contamination or paper clogging	
		Blocked radiator	—	
		Blocked condenser	Blocked air flow	
		Installed large fog lamp		

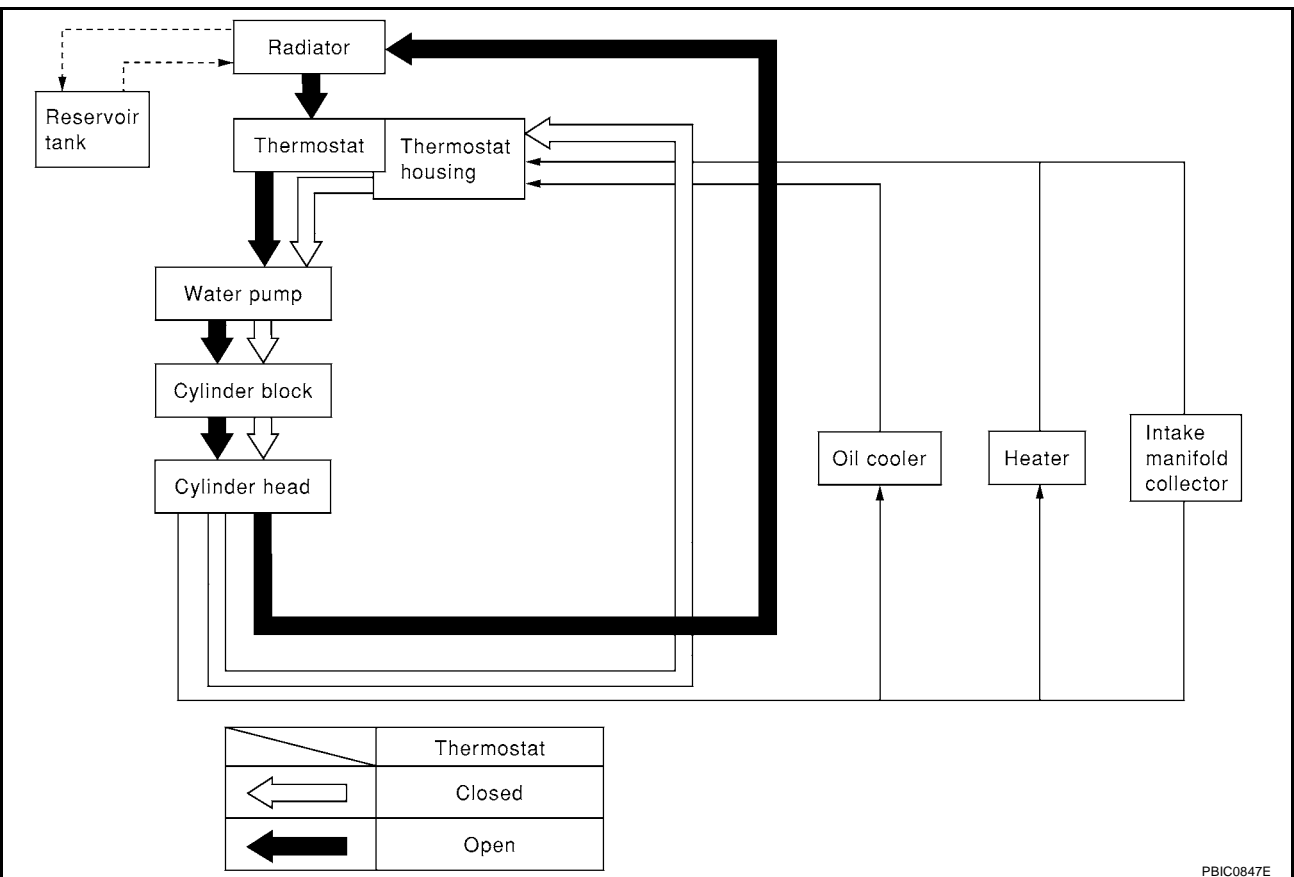
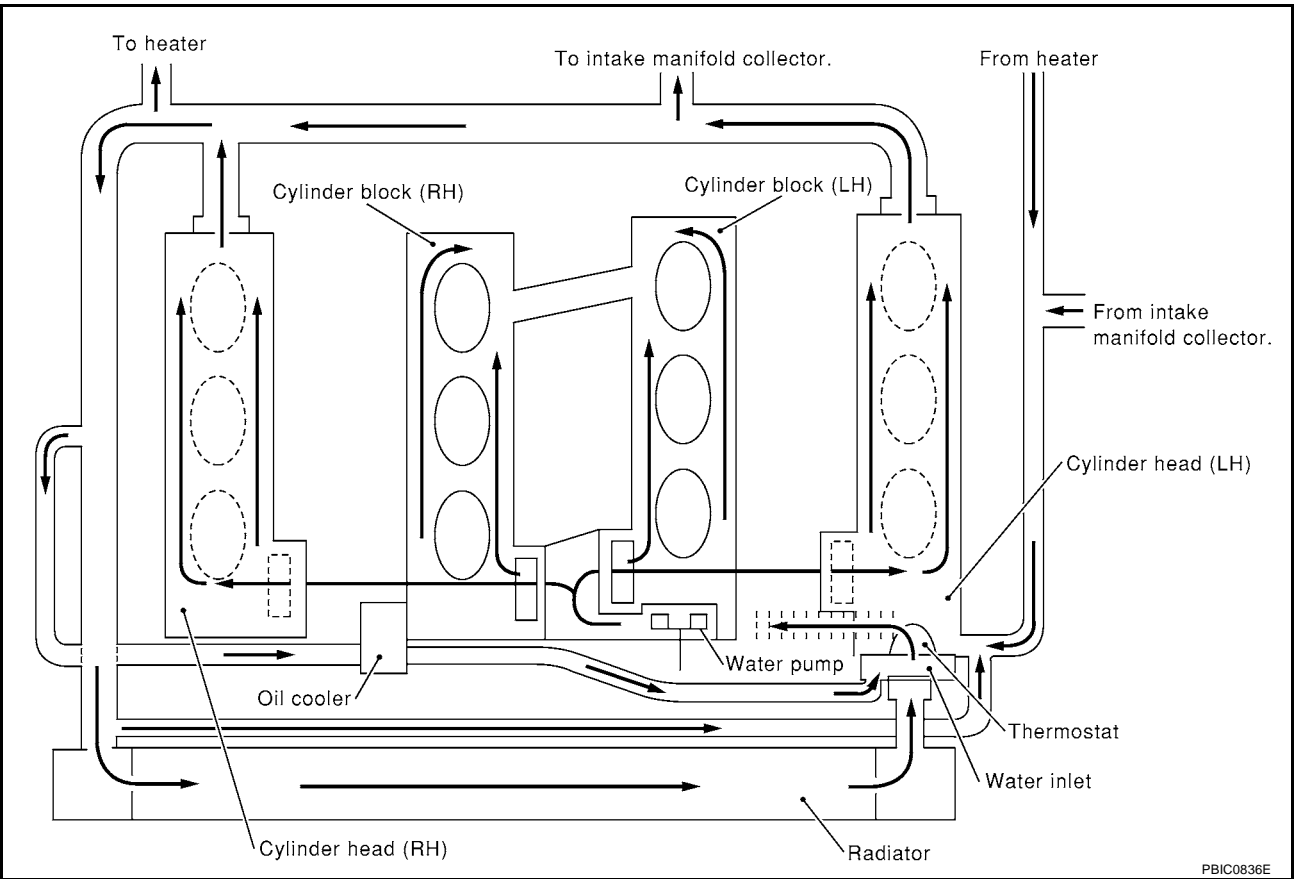
COOLING SYSTEM

COOLING SYSTEM

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Cooling Circuit

ABS000QP



ENGINE COOLANT

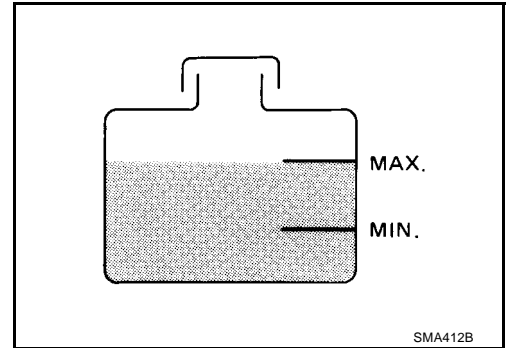
ENGINE COOLANT

PFP:KQ100

Inspection LEVEL CHECK

ABS000QQ

- Check if the reservoir tank coolant level is within the MIN to MAX range when the engine is cool.
- Adjust the coolant level as necessary.



LEAK CHECK

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

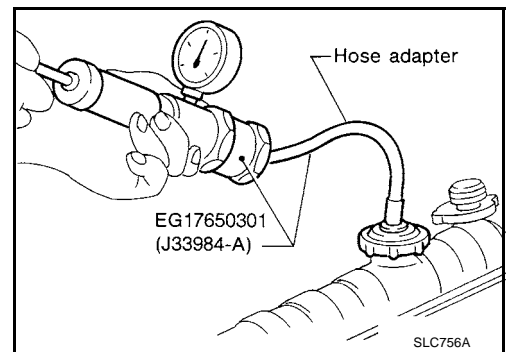
Testing pressure : 157 kPa (1.6 kg/cm² , 23 psi)

WARNING:

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

CAUTION:

Higher test pressure than specified may cause radiator damage.



Changing Engine Coolant

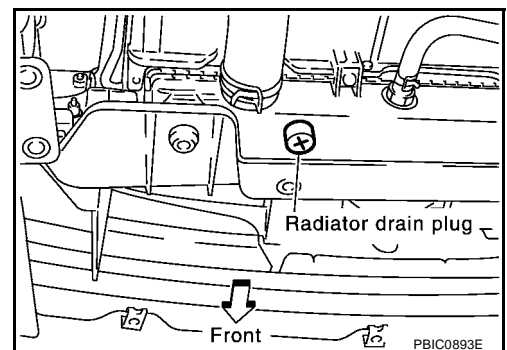
ABS000QR

WARNING:

- To avoid being scalded, never change the coolant when the engine is hot.
- Wrap a thick cloth around cap and carefully remove the cap. First, turn the cap a quarter of a turn to release built-up pressure. Then turn the cap all the way.
- Be careful not to allow coolant to contact drive belts.

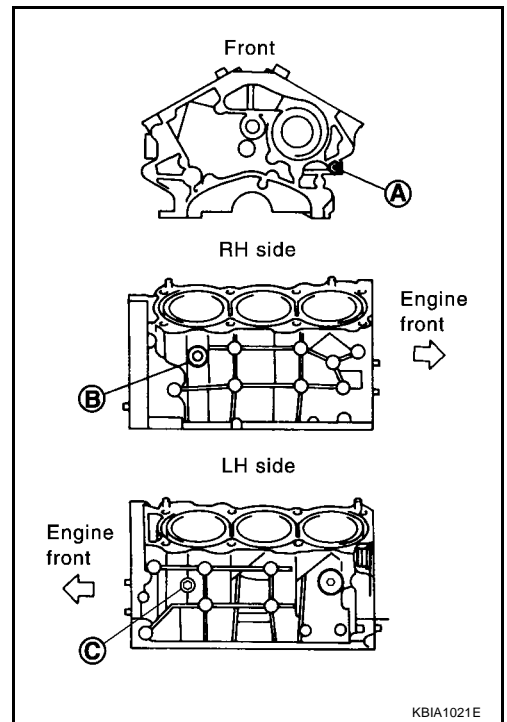
DRAINING ENGINE COOLANT

1. Remove engine undercover using power tools.
2. Open radiator drain plug at the bottom of radiator, and remove radiator cap.
When draining all the coolant in the system, also perform the following steps.
3. Remove the reservoir tank, drain the coolant and clean the tank before installing.



ENGINE COOLANT

4. Drain coolant from both sides of cylinder block at B and C in the figure and cylinder block front at A in the figure when draining all the coolant in the system.
5. Check drained coolant for contaminants such as rust, corrosion or discoloration.
If contaminated, flush the engine cooling system. Refer to [CO-10, "FLUSHING COOLING SYSTEM"](#).



REFILLING ENGINE COOLANT

1. Install reservoir tank if removed, and radiator drain plug.
2. Close and tighten cylinder block drain plugs securely if removed.
 - **Apply sealant to the threads of the cylinder block drain plugs.**
 - **Use Genuine RTV silicone sealant or equivalent. Refer to [GI-48, "RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS"](#).**

Radiator drain plug:

: 0.78 - 1.6 N·m (0.08 - 0.15 kg-m, 7 - 13 in-lb)

Cylinder block drain plug (LH):

: 17.6 - 21.6 N·m (1.8 - 2.2 kg-m, 13 - 15 ft-lb)

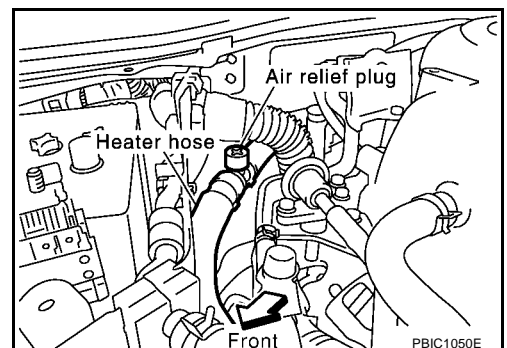
Cylinder block drain plug (RH):

: 17.6 - 21.6 N·m (1.8 - 2.2 kg-m, 13 - 15 ft-lb)

Cylinder block drain plug (Front side):

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

3. Remove air relief plug on heater hose.



ENGINE COOLANT

4. Fill radiator and reservoir tank to specified level.

- Pour coolant through coolant filler neck slowly of less than 2 ℓ (2-1/8US qt, 1-3/4 Imp qt) a minute to allow air in system to escape.
- Use genuine Nissan anti-freeze coolant or equivalent mixed with water (distilled or demineralized. Refer to [MA-11, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).

**Engine coolant capacity
(with reservoir tank at MAX level)**


: Approximately 8.7 ℓ (9-1/4 US qt, 7-5/8 Imp qt)

Reservoir tank capacity (at MAX level)

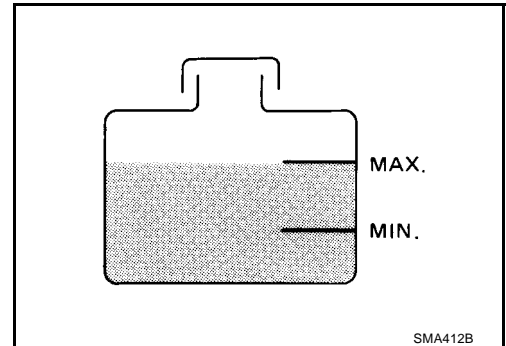
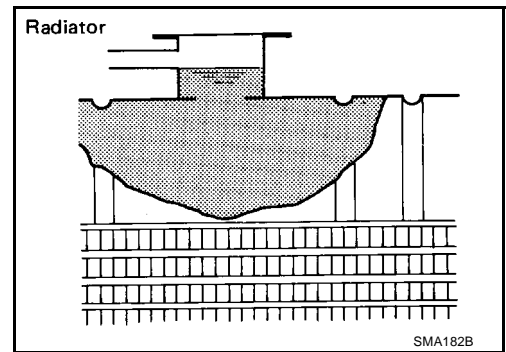
: 0.8 ℓ (7/8 US qt, 3/4 Imp qt)

- When coolant overflows air relief hole on heater hose, install air relief plug with new O-ring.

Air relief plug:

 **: 0.78 - 1.6 N·m (0.08 - 0.15 kg-m, 7 - 13 ft-lb)**

If coolant does not overflow air relief hole, grasp upper radiator hose so that it occurs with closing radiator cap. After installing air relief plug, open radiator cap and fill radiator.



5. Warm up engine to normal operating temperature with radiator cap installed.
6. Run engine at 3,000 rpm for 10 seconds and return to idle speed.
 - Repeat two or three times.
7. Stop engine and cool down to less than approximately 50°C (122°F).
 - Cool down using a fan to reduce the time.
 - If necessary, refill radiator up to filler neck with coolant.
8. Refill reservoir tank to MAX level line with coolant.
9. Repeat steps 5 through 8 two or more times with radiator cap installed until coolant level no longer drops.
10. Check cooling system for leaks with engine running.
11. Warm up engine, and check for sound of coolant flow while running engine from idle up to 3,000 rpm with heater temperature controller set at several position between COOL and WARM.
 - Sound may be noticeable at heater unit.
12. Repeat step 10 three times.
13. If sound is heard, bleed air from cooling system by repeating step 5 through 8 until coolant level no longer drops.
 - **Clean excess coolant from engine.**

FLUSHING COOLING SYSTEM

1. Fill radiator with water until water spills from the air relief hole, then close air relief plug. Fill radiator and reservoir tank with water and reinstall radiator cap.
2. Run engine and warm it up to normal operating temperature.
3. Rev engine two or three times under no-load.
4. Stop engine and wait until it cools down.
5. Drain the water from the system. Refer to [CO-8, "DRAINING ENGINE COOLANT"](#).
6. Repeat steps 1 through 5 until clear water begins to drain from the radiator.

RADIATOR

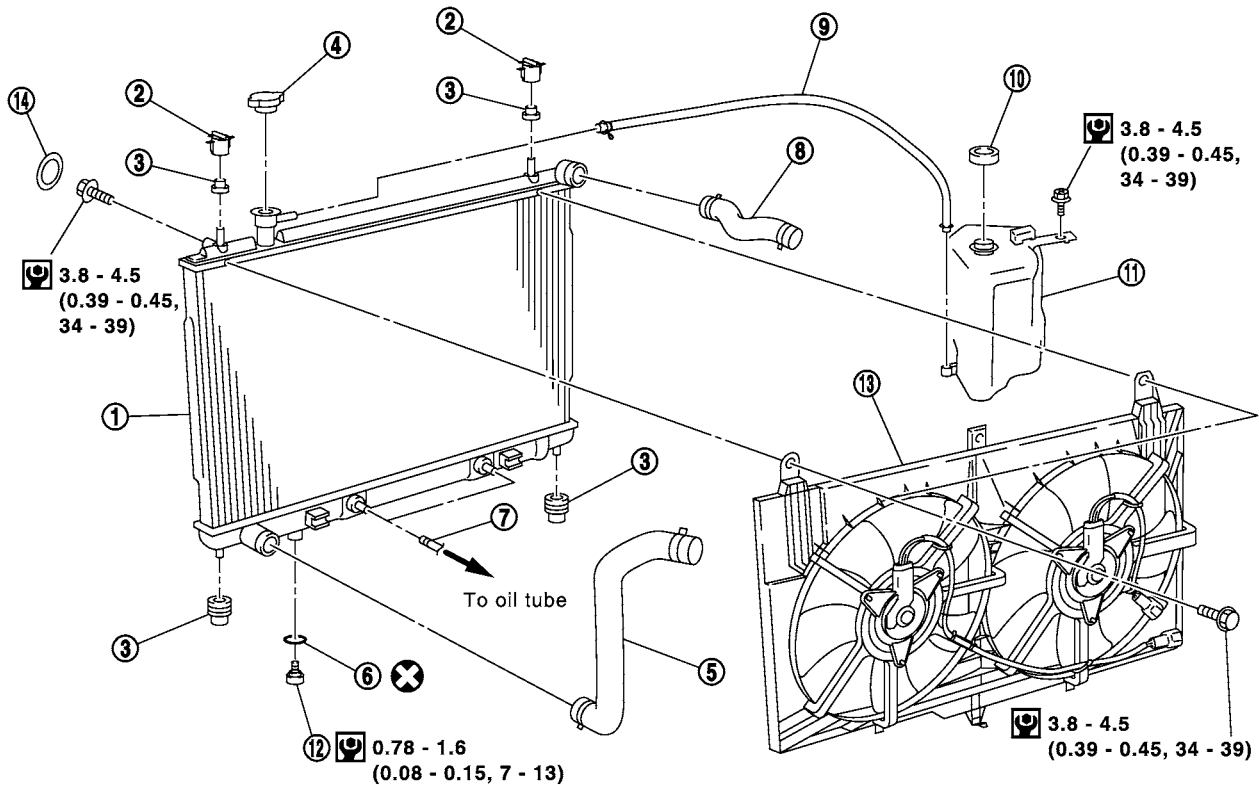
PFP:21400

ABS000QS

RADIATOR

Removal and Installation

SEC. 214



✕ : Always replace after every disassembly.

⊙ : N·m (kg-m, in-lb)

PBIC1051E

- | | | |
|-----------------------------------|--------------------------|------------------------|
| 1. Radiator | 2. Bracket | 3. Mounting rubber |
| 4. Radiator cap | 5. Radiator hose (lower) | 6. O-ring |
| 7. A/T oil cooler hose | 8. Radiator hose (upper) | 9. Reservoir tank hose |
| 10. Cap | 11. Reservoir tank | 12. Drain plug |
| 13. Radiator cooling fan assembly | 14. Cover | |

WARNING:

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

REMOVAL

1. Remove undercover using power tool.
2. Drain coolant from the radiator. Refer to [MA-14, "Changing Engine Coolant"](#).

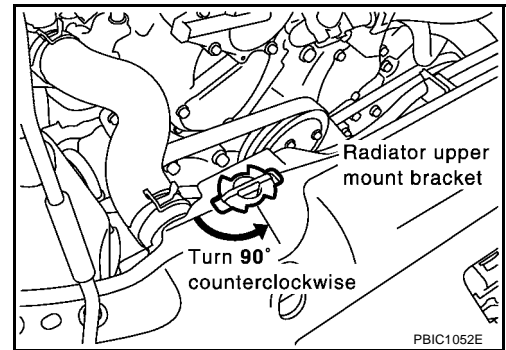
CAUTION:

Perform when the engine is cold.

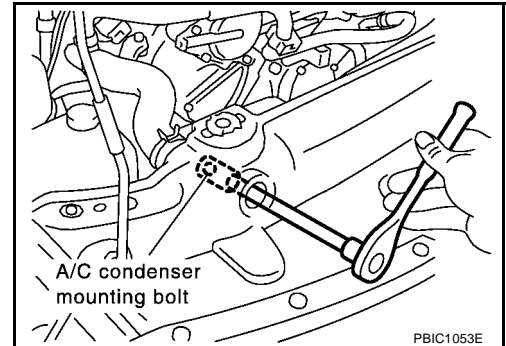
3. Remove air duct and air cleaner case assembly. Refer to [EM-15, "Removal and Installation"](#).
4. Remove reservoir tank and bracket.
5. Disconnect A/T oil cooler hoses.
 - Install blind plug to avoid leakage of A/T fluid.
6. Disconnect radiator upper and lower hoses.
7. Remove radiator cooling fan assembly.

RADIATOR

8. Rotate two radiator upper mount brackets 90 degrees in the direction shown in the figure, and remove them.
9. Remove bracket mounting bolt for anchoring air conditioner piping from vehicle left side, so that air conditioner piping can be moved.



10. Remove cover, and then two air conditioner condenser mounting bolts located in upper part of radiator.



11. Lift the air conditioner condenser up approximately 2 cm (0.79 in). Remove the radiator mounting brackets.

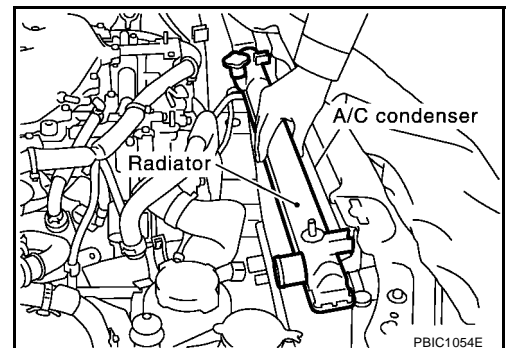
CAUTION:

To avoid putting a load on the air conditioner piping, be careful not to lift too much.

12. Lift up and remove the radiator.

CAUTION:

- Do not damage or scratch air conditioner condenser and radiator core when removing.
- After removing the radiator, fix the air conditioner condenser on the vehicle side with a rope or similar means. This is to prevent a load being applied to the air conditioner piping.



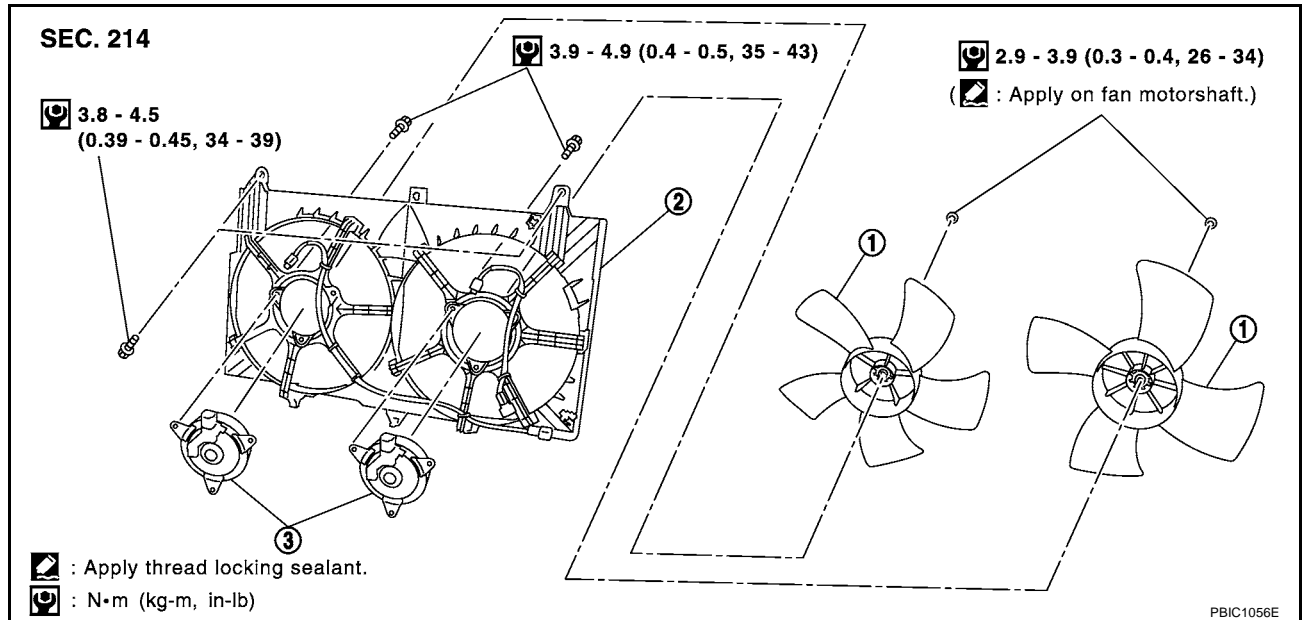
RADIATOR

INSTALLATION

- Install in the reverse order of removal.

Disassembly and Assembly of Cooling Fan

ABS002BV



1. Fan

2. Fan shroud

3. Fan motors

DISASSEMBLY

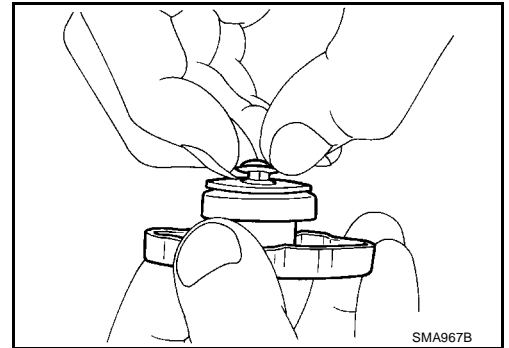
- Remove fan.
- Remove fan motor from fan shroud.

ASSEMBLY

- Install in the reverse order of removal.

CHECKING RADIATOR CAP

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



- Check radiator cap relief pressure.

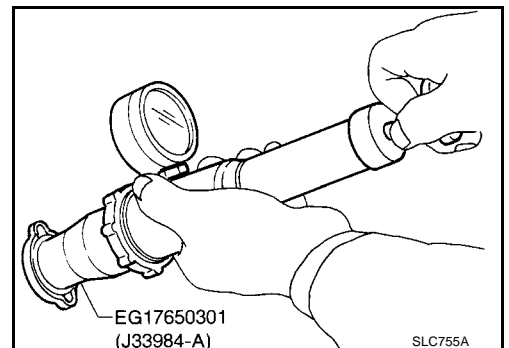
Standard:

78 - 98 kPa (0.8 - 1.0 kg/cm² , 11 - 14 psi)

Limit:

59 kPa (0.6 kg/cm² , 9 psi)

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



RADIATOR

- Replace the radiator cap if there is an unusualness in the negative-pressure valve, or if the open-valve pressure is outside of the limit.

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 electrical 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 surface once per minute.
 3. Stop washing if any stains no longer flow out from the radiator.
 4. Blow air into the back side of radiator core vertically downward.
 - Use compressed air lower than 490 kPa (5 kg/cm² , 71 psi) and keep distance more than 30 cm (11.8 in).
 5. Blow air again into all the radiator core surfaces once per minute until no water sprays out.

RADIATOR (ALUMINUM TYPE)

RADIATOR (ALUMINUM TYPE)

PFP:21460

Disassembly and Assembly

ABS000QT

A

CO

C

D

E

F

G

H

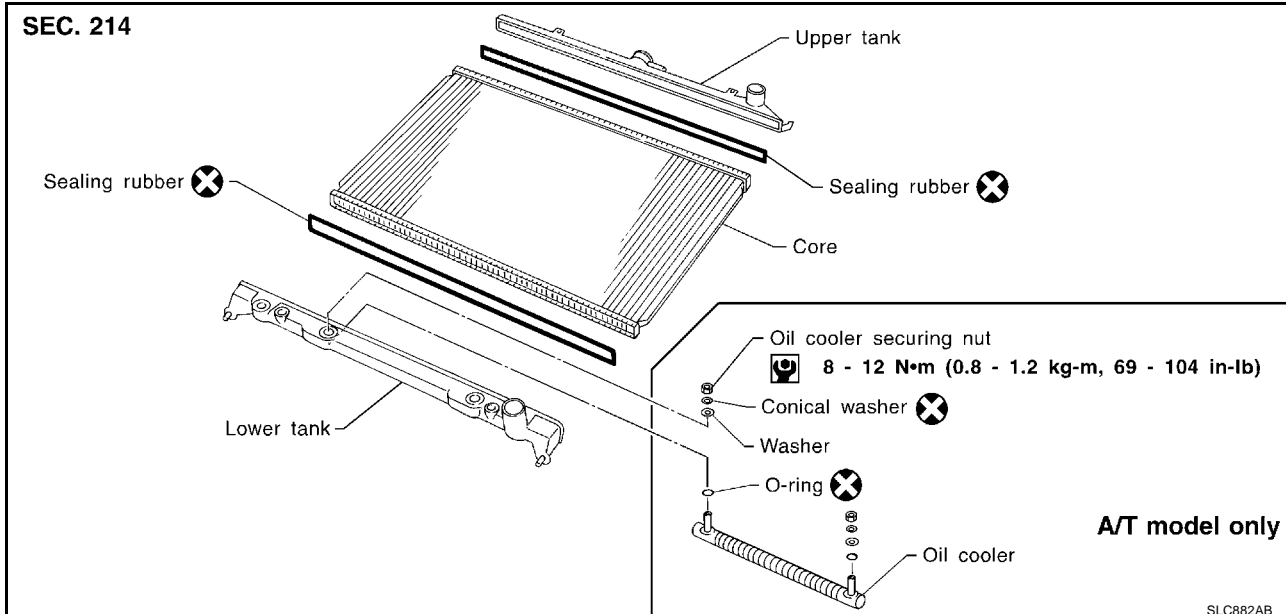
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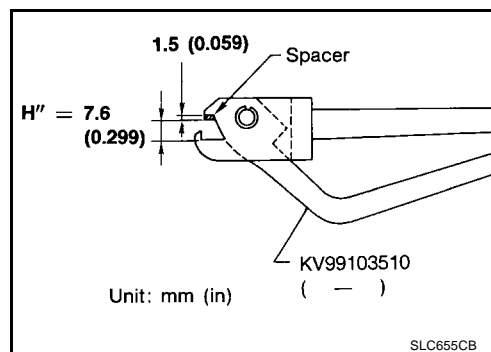
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M



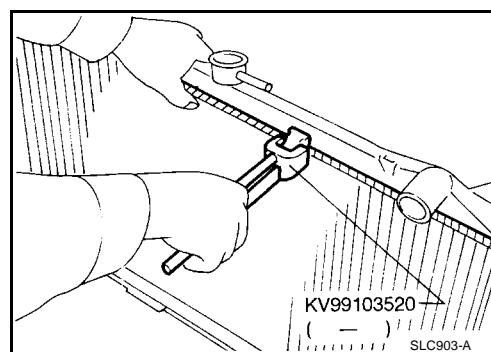
PREPARATION

1. Attach the spacer to the tip of the radiator plate pliers A.
Spacer specification: 1.5 mm (0.059 in) thick x 18 mm (0.71 in) wide x 8.5 mm (0.335 in) long.
2. Make sure that when radiator plate pliers A are closed dimension H'' is approx. 7.6 mm (0.299 in).
3. Adjust dimension H'' with the spacer, if necessary.



DISASSEMBLY

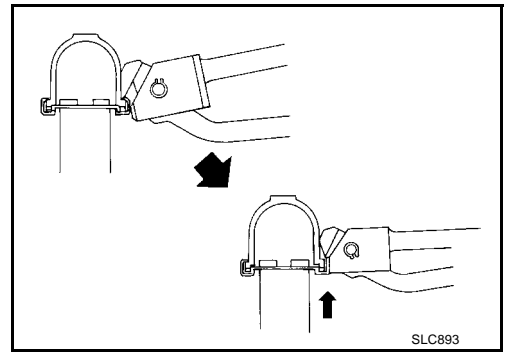
1. Remove upper and lower tanks with Tool.



RADIATOR (ALUMINUM TYPE)

- Grip the crimped edge and bend it upwards so that Tool slips off.

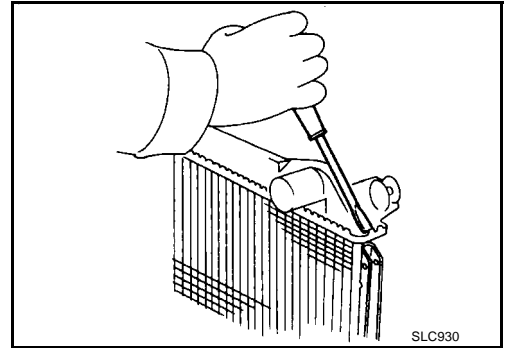
Do not bend excessively.



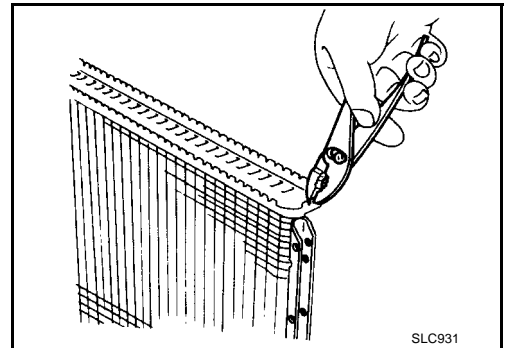
- In areas where Tool cannot be used, use a screwdriver to bend the edge up.

Be careful not to damage tank.

2. Remove sealing rubbers.



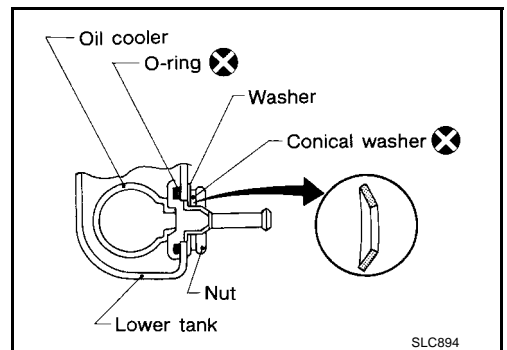
3. Make sure the edge stands straight up.
4. Remove oil cooler from tank. (A/T model only)



ASSEMBLY

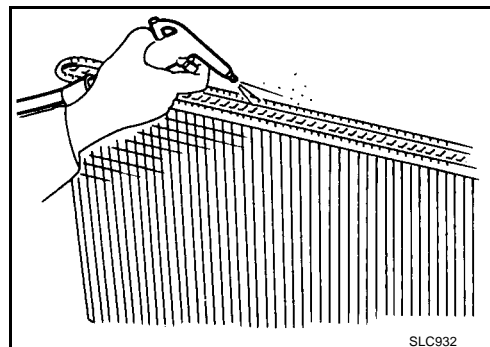
1. Install oil cooler. (A/T model only)

Pay attention to direction of conical washer.

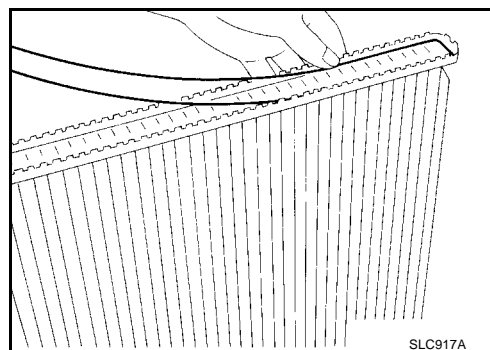


RADIATOR (ALUMINUM TYPE)

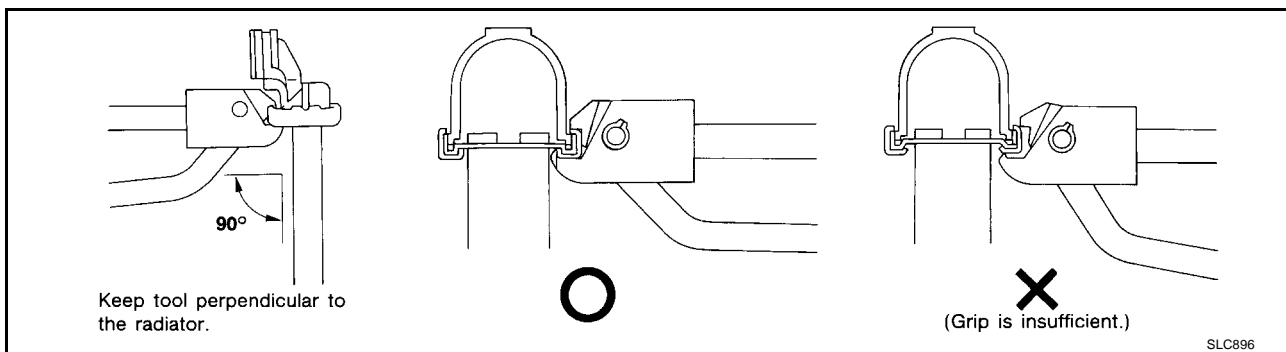
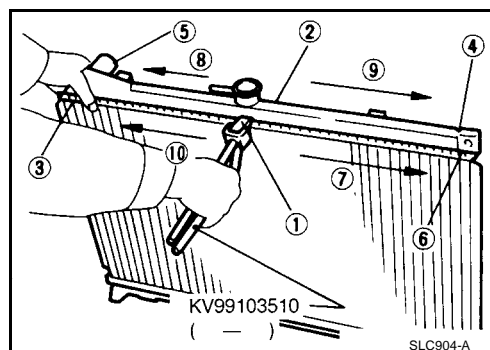
2. Clean contact portion of tank.



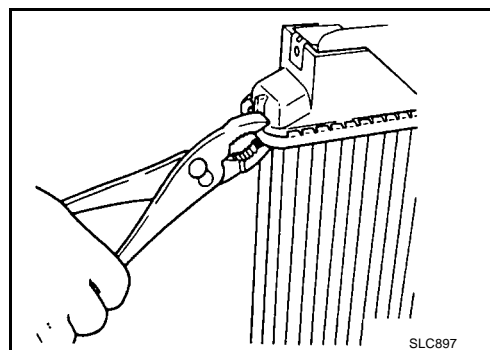
3. Install sealing rubber.
Push it in with fingers.
Be careful not to twist sealing rubber.



4. Caulk tank in specified sequence with Tool.



● Use pliers in the locations where Tool cannot be used.



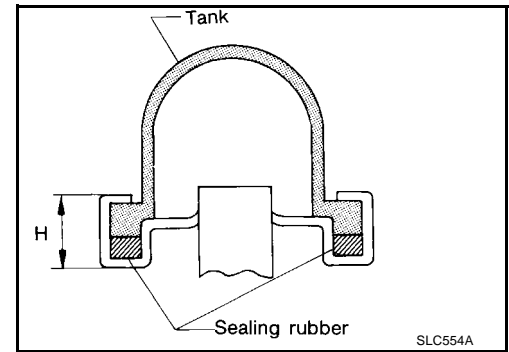
RADIATOR (ALUMINUM TYPE)

5. Make sure that the rim is completely crimped down.

Standard height "H" : 8.0 - 8.4 mm (0.315 - 0.331 in)

6. Confirm that there is no leakage.

Refer to **CO-18, "INSPECTION"** .



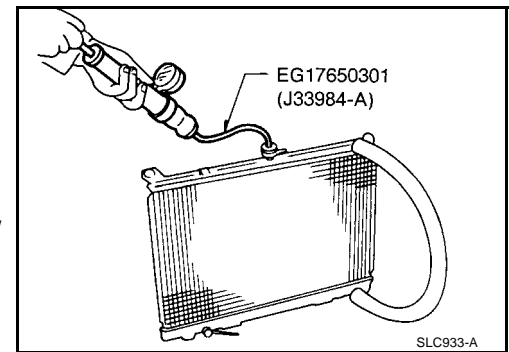
INSPECTION

1. Apply pressure with Tool.

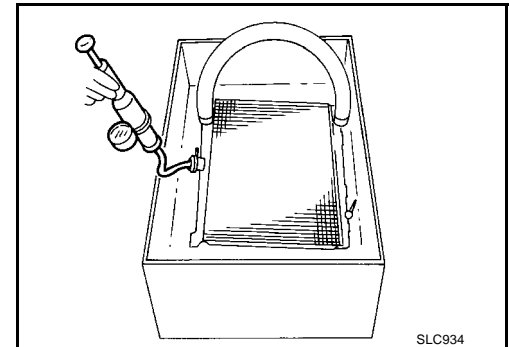
Specified pressure value : 157 kPa (1.6 kg/cm² , 23 psi)

WARNING:

To prevent the risk of the hose coming undone while under pressure, securely fasten it down with a hose clamp. Attach a hose to the oil cooler to seal its inlet and outlet. (A/T model only)



2. Check for leakage by soaking radiator in water container.



WATER PUMP

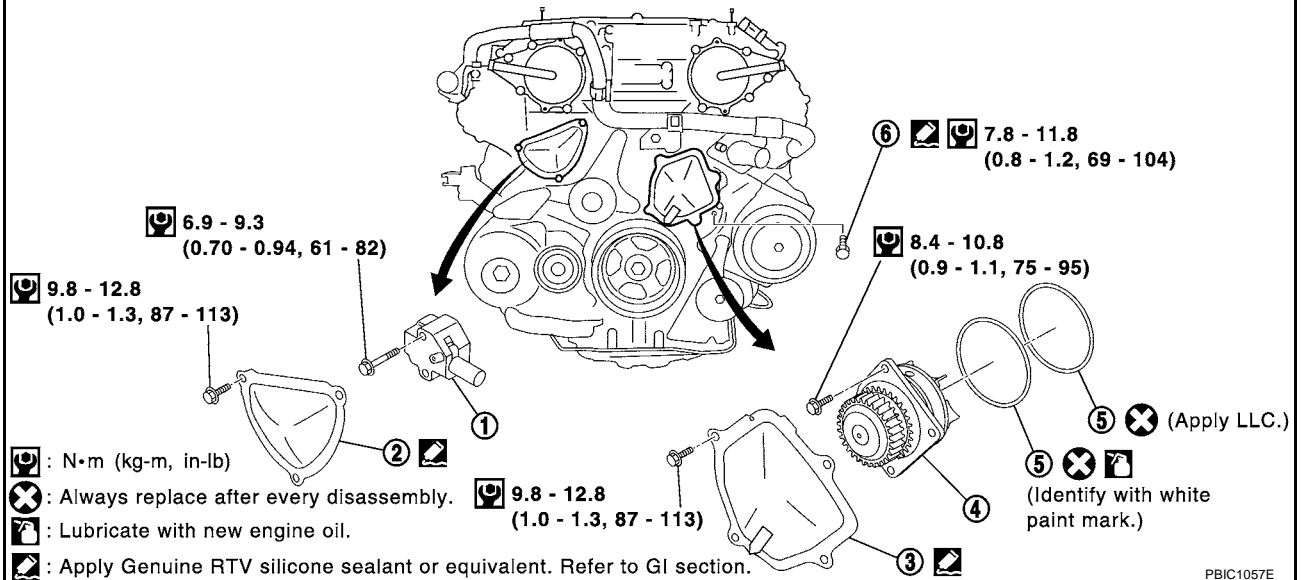
WATER PUMP

FFP:21020

Removal and Installation

ABS000QW

SEC. 130•135•210



CAUTION:

- When removing water pump assembly, be careful not to get coolant on drive belt.
- Water pump cannot be disassembled and should be replaced as a unit.
- After installing water pump, connect hose and clamp securely, then check for leaks using radiator cap tester.

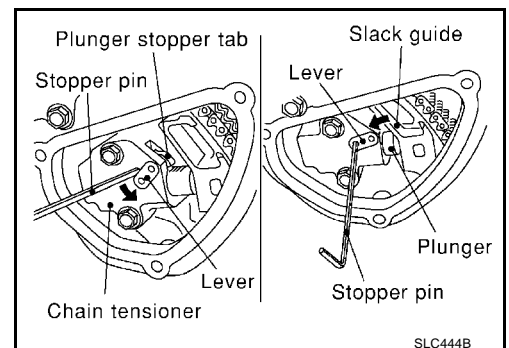
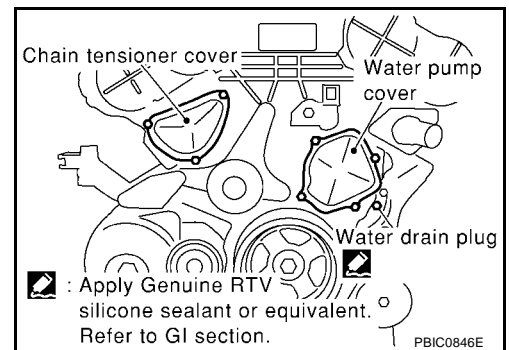
REMOVAL

- Remove undercover using power tools.
- Remove drive belts. Refer to [EM-14, "Removal and Installation"](#).
- Drain coolant from radiator. Refer to [MA-14, "Changing Engine Coolant"](#).

CAUTION:

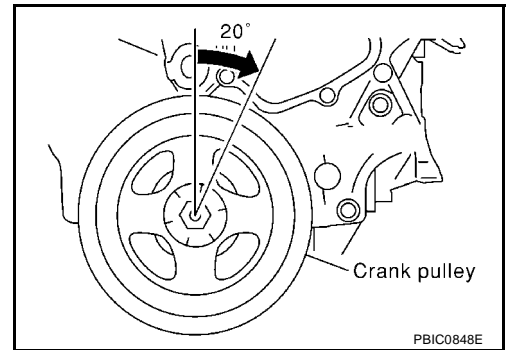
Perform when the engine is cold.

- Remove water drain plug on water pump side of cylinder block.
- Remove chain tensioner cover and water pump cover.
- Remove the chain tensioner assembly with the following procedure.
 - Pull the lever down and release the plunger stopper tab.
 - Plunger stopper tab can be pushed up to release (coaxial structure with lever).
 - Insert the stopper pin into the tensioner body hole to hold the lever and keep the stopper tab released.
 - Insert the plunger into the tensioner body by pressing the timing chain slack guide.
 - Keep the slack guide pressed and hold the plunger in by pushing the stopper pin deeper through the lever and into the tensioner body hole.



WATER PUMP

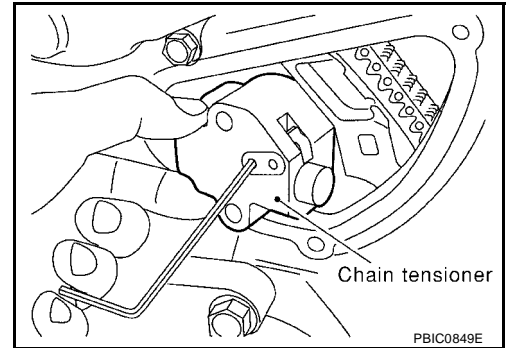
- e. Turn crankshaft pulley approximately 20° clockwise so that the timing chain on the chain tensioner side is loose.



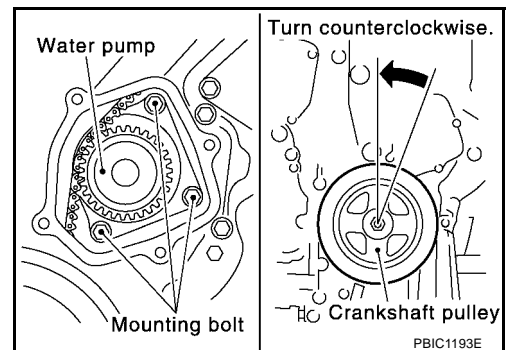
7. Remove chain tensioner.

CAUTION:

Be careful not to drop mounting bolts inside chain case.



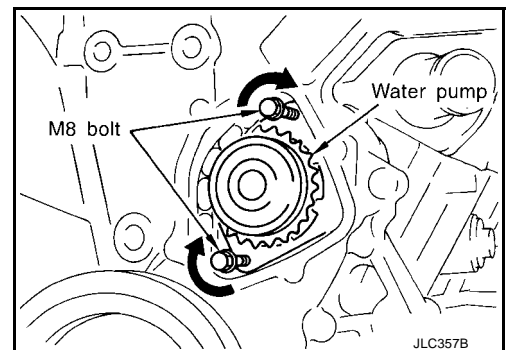
8. Remove the 3 water pump fixing bolts. Secure a gap between water pump gear and timing chain, by turning crankshaft pulley until timing chain looseness on water pump sprocket becomes maximum counterclockwise.



9. Screw M8 bolts [pitch: 1.25 mm (0.049 in) length: approx. 50 mm (1.97 in)] into water pumps upper and lower mounting bolt holes until they reach timing chain case. Then, alternately tighten each bolt for a half turn, and pull out water pump.

- Pull straight out while preventing vane from contacting socket in installation area.
- Remove water pump without causing sprocket to contact timing chain.

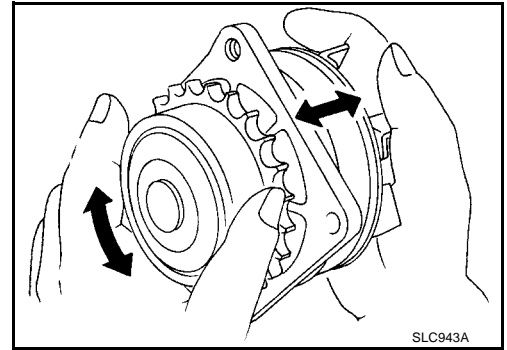
10. Remove M8 bolts and O-rings from water pump.



WATER PUMP

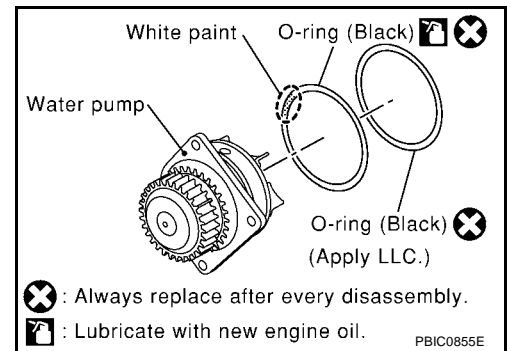
INSPECTION AFTER REMOVAL

1. Check for badly rusted or corroded water pump body assembly.
2. Check for rough operation due to excessive end play.

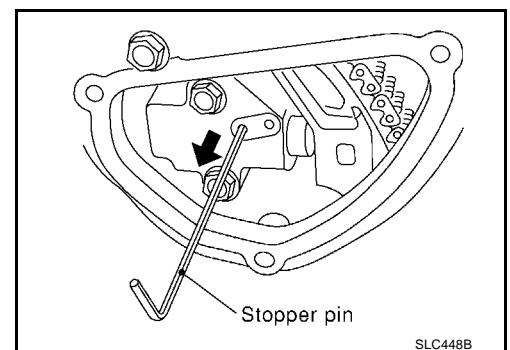
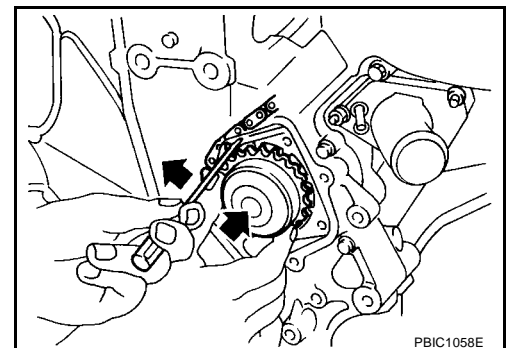


INSTALLATION

1. Install new O-rings to water pump.
2. Apply engine oil and coolant to the O-rings as shown.
 - Locate the O-ring with white paint mark to engine front side.

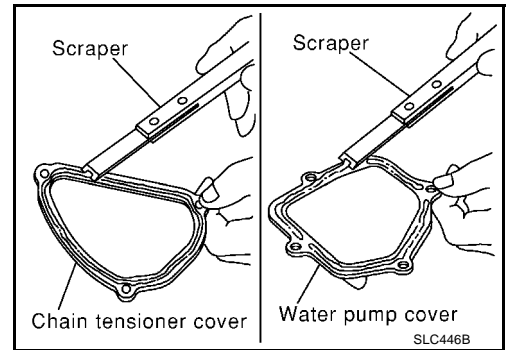


3. Install the water pump.
 - **Do not allow cylinder block to nip the O-rings when installing the water pump.**
 - Check that timing chain and water pump sprocket are engaged.
 - Insert water pump by tightening mounting bolts alternately and evenly.
4. Remove dust and foreign material completely from backside of chain tensioner and from installation area of rear timing chain case.
5. Turn the crankshaft pulley clockwise so that the timing chain on the timing chain tensioner side is loose.
 - **When installing the timing chain tensioner, engine oil should be applied to the oil hole and tensioner.**
6. Install the timing chain tensioner.
7. Remove the stopper pin.

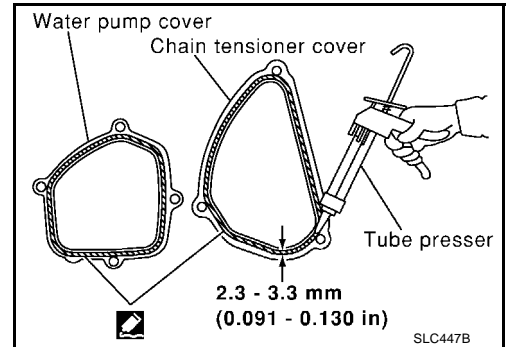


WATER PUMP

8. Install chain tensioner cover and water pump cover.
- a. Before installing, remove all traces of RTV Silicone Sealant from mating surface of water pump cover and chain tensioner cover using a scraper.
Also remove traces of RTV Silicone Sealant from the mating surface of the front cover.



- b. Apply a continuous bead of Genuine RTV Silicone Sealant, or equivalent, to mating surface of chain tensioner cover and water pump cover. Refer to [GI-48, "RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS"](#).
9. Install water drain plug on water pump side of cylinder block.
10. Installation is in the reverse order of removal.
- **After starting engine, let idle for three minutes, then rev engine up to 3,000 rpm under no load to purge air from the high-pressure chamber of the chain tensioner. The engine may produce a rattling noise. This indicates that air still remains in the chamber and is not a matter of concern.**



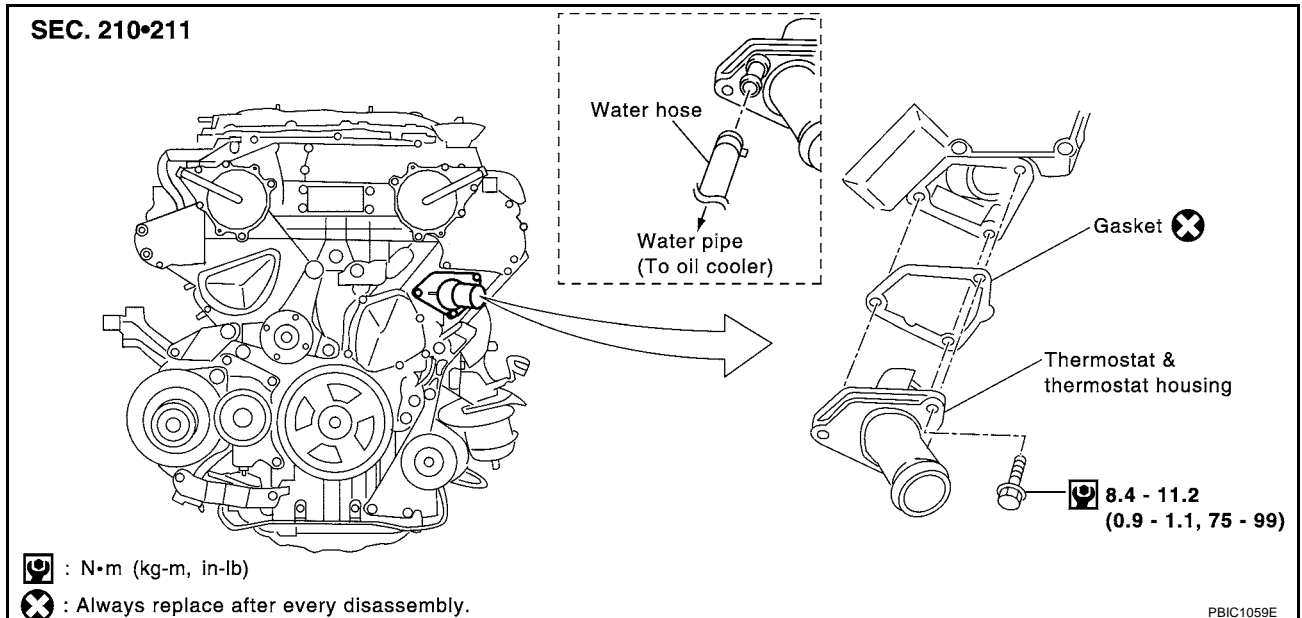
THERMOSTAT AND THERMOSTAT HOUSING

THERMOSTAT AND THERMOSTAT HOUSING

PPF:21200

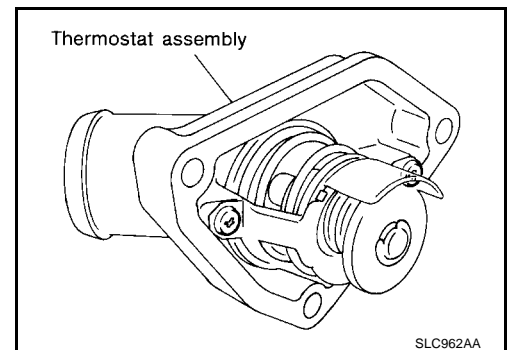
Removal and Installation

ABS000QX



REMOVAL

1. Remove undercover using power tools.
2. Drain coolant from radiator. Refer to [MA-14, "Changing Engine Coolant"](#).
3. Remove air duct and air cleaner case assembly. Refer to [EM-15, "Removal and Installation"](#).
4. Remove water drain plug on water pump side of the engine.
5. Remove radiator lower hose from thermostat and thermostat housing.
6. Remove oil cooler water hose from thermostat and thermostat housing.
7. Remove thermostat and thermostat housing.
 - **Do not disassemble thermostat and thermostat housing. Replace them as a unit, if necessary.**

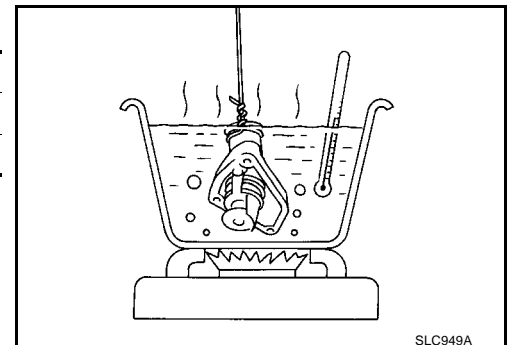


INSPECTION AFTER REMOVAL

1. Check valve seating condition at ordinary room temperatures. It should seat tightly.
2. Check valve opening temperature and maximum valve lift.

Thermostat	Standard
Valve opening temperature	76.5°C (170°F)
Valve lift	8.6 mm / 90°C (0.339 in / 194°F)

3. Then check if valve closes at 5°C (9°F) below valve opening temperature.



INSTALLATION

- Install in the reverse order of removal.

WATER OUTLET AND WATER PIPING

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00100

Capacity

ABS000QZ

Coolant capacity (With reservoir tank at MAX level)	8.7 ℓ (9-1/4 US qt, 7- 5/8 Imp qt)
Reservoir tank coolant capacity (at MAX level)	0.8 ℓ (7/8 US qt, 3/4 Imp qt)

Thermostat

ABS000R0

Valve opening temperature	76.5°C (170°F)
Valve lift	8.6 mm / 90°C (0.339 in / 194°F)

Radiator

ABS000R1

Unit: kPa (kg/cm² , psi)

Cap relief pressure	Standard	78 - 98 (0.8 - 1.0, 11 - 14)
	Limit	59 (0.6, 9)
Leakage test pressure		157 (1.6, 23)

Tightening Torque

ABS000R2

Unit: N·m (kg - m, ft - lb)
N·m (kg - m, in - lb)*

Cylinder block drain plug (LH)	17.6 - 21.6 (1.8 - 2.2, 13 - 15)
Cylinder block drain plug (RH)	17.6 - 21.6 (1.8 - 2.2, 13 - 15)
Cylinder block drain plug (Front side)	7.8 - 11.8 (0.8 - 1.2, 69 - 104)*
Air relief plug	0.78 - 1.6 (0.08 - 0.15, 7 - 13)*
Radiator drain plug	0.78 - 1.6 (0.08 - 0.15, 7 - 13)*
Fan	2.9 - 3.9 (0.3 - 0.4, 26 - 34)*
Radiator cooling fan assembly	3.8 - 4.5 (0.39 - 0.45, 34 - 39)*
Fan motor	3.9 - 4.9 (0.4 - 0.5, 35 - 43)*
Water pump	8.4 - 10.8 (0.9 - 1.1, 75 - 95)*
Water pump cover	9.8 - 12.8 (1.0 - 1.3, 87 - 113)
Chain tensioner cover	9.8 - 12.8 (1.0 - 1.3, 87 - 113)
Chain tensioner	6.9 - 9.3 (0.70 - 0.94, 61 - 82)*
Water outlet	21.6 - 27.4 (2.2 - 2.7, 16 - 20)
Thermostat and thermostat housing	8.4 - 11.2 (0.9 - 1.1, 75 - 99)*
Engine coolant temperature sensor	19.6 - 29.4 (2.0 - 2.9, 15 - 21)

SERVICE DATA AND SPECIFICATIONS (SDS)
