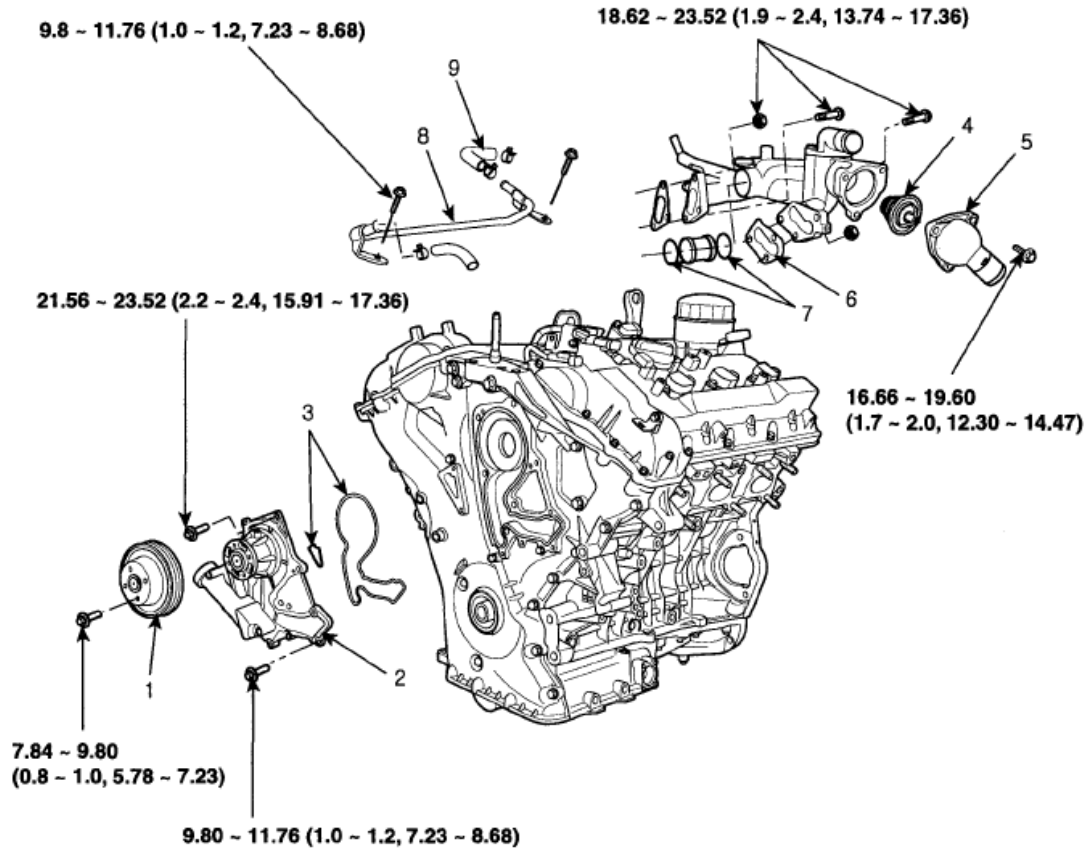


COOLING SYSTEM

COMPONENT

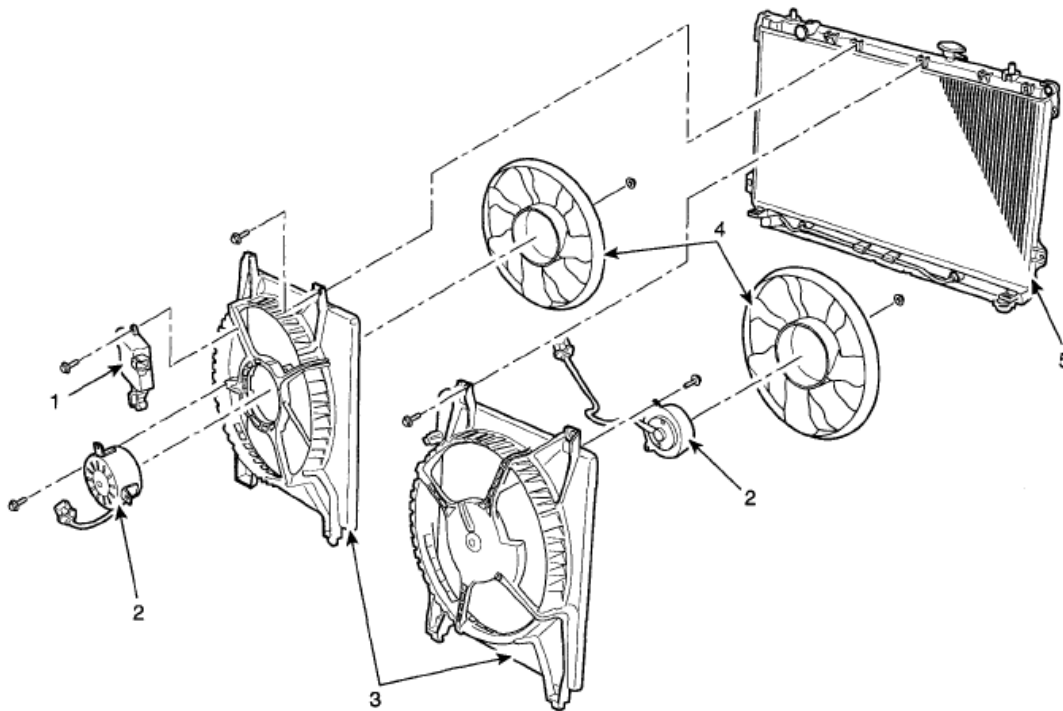


TORQUE : N.m (kgf.m, lb-ft)

- | | |
|----------------------|------------------------|
| 1. Water pump pulley | 5. Water inlet fitting |
| 2. Water pump | 6. Gasket |
| 3. Water pump gasket | 7. O - ring |
| 4. Thermostat | 8. Water vent pipe |
| | 9. Hose |

SEP6M8005N

Fig. 227: Identifying Cooling System Component And Tightening Torque (1 Of 2)
Courtesy of HYUNDAI MOTOR CO.



1. Cooling fan controller
2. Cooling fan motor
3. Cooling fan cover
4. Cooling fan
5. Radiator assembly

BCKG011A

Fig. 228: Identifying Cooling System Component And Tightening Torque (2 Of 2)
Courtesy of HYUNDAI MOTOR CO.

ENGINE COOLANT REFILLING AND BLEEDING

WARNING: Never remove the radiator cap when the engine is hot. Serious scalding could be caused by hot fluid under high pressure escaping from the radiator.

CAUTION: When pouring engine coolant, be sure to shut the relay box lid and not to let coolant spill on the electrical parts or the paint. If any coolant spills, rinse it off immediately.

1. Make sure the engine and radiator are cool to the touch.
2. Remove radiator cap.
3. Loosen the drain plug, and drain the coolant.

2009 Hyundai Entourage GLS

2009 ENGINE Engine (G6DA - GSA 3.8L) - Entourage

4. Tighten the radiator drain plug securely.
5. Remove, drain and reinstall the reservoir. Fill the tank halfway to the "F" mark with water, then up to the "F" mark with antifreeze.
6. Fill fluid mixture with coolant and water (4:6) slowly through the radiator cap. Push the upper/lower hoses of the radiator to ensure proper air bleeding.

NOTE:

- **Use only genuine antifreeze/coolant.**
- **For best corrosion protection, the coolant concentration must be maintained year-round at 50% minimum.**

Coolant concentrations less than 50% may not provide sufficient protection against corrosion or freezing.

- **Coolant concentrations greater than 60% will impair cooling efficiency and are not recommended.**

CAUTION:

- **Do not mix different brands of antifreeze/coolants.**
- **Do not use additional rust inhibitors or antirust products; they may not be compatible with the coolant.**

7. Start the engine.

When the cooling fan operates and coolant circulates, refill coolant through the radiator cap.

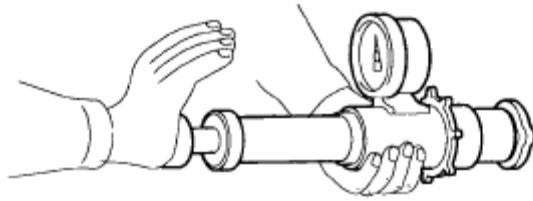
8. Repeat 7 until the cooling fan cycles 3~5 times and bleed air sufficiently out of the cooling system.
9. Install the radiator cap and fill the reservoir tank to the "MAX" line with coolant.
10. Run the vehicle under idle until the cooling fan operates 2~3 times.
11. Stop the engine and wait until the cooling system is cool to the touch.
12. Repeat 6 to 11 until the coolant level doesn't fall any more, bleed air out of the cooling system.

NOTE:

Proper cooling system operation depends on the absence of trapped air within the system. It is essential that the cooling system be properly filled and bled before returning the vehicle to service.

CAP TESTING

1. Remove the radiator cap, wet its seal with engine coolant, then install it no pressure tester.



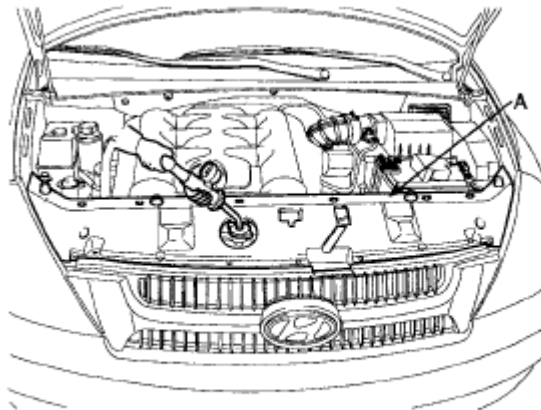
ECKD501X

Fig. 229: Testing Radiator Cap
Courtesy of HYUNDAI MOTOR CO.

2. Apply a pressure of 93~123 kPa (0.95~1.25 kgf/cm² , 14~19 psi)
3. Check for a drop in pressure.
4. If the pressure drops, replace the cap.

RADIATOR TESTING

1. Wait until engine is cool, then carefully remove the radiator cap and fill the radiator with engine coolant, then install it on the pressure tester.



SEPEM8003N

Fig. 230: Inspecting For Engine Coolant Leaks And Drop In Pressure
Courtesy of HYUNDAI MOTOR CO.

2. Apply a pressure tester to the radiator and apply a pressure of 93~123 kPa (0.95~1.25 kgf/cm² 14~18 psi).
3. Inspect for engine coolant leaks and a drop in pressure.
4. Remove the tester and reinstall the radiator cap.

NOTE: Check for engine oil in the coolant and/or coolant in the engine oil.

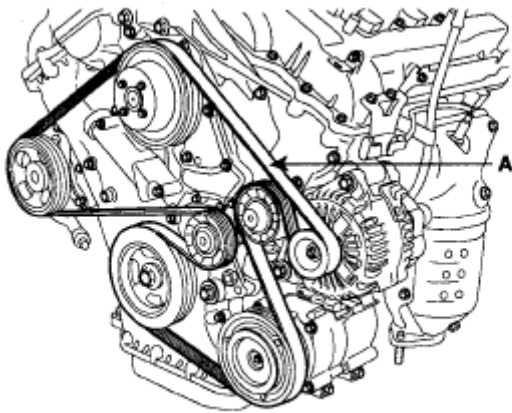
REMOVAL

WATER PUMP

1. Drain the engine coolant.

WARNING: System is under high pressure when the engine is hot. To avoid danger of releasing scalding engine coolant, remove the cap only when the engine is cool.

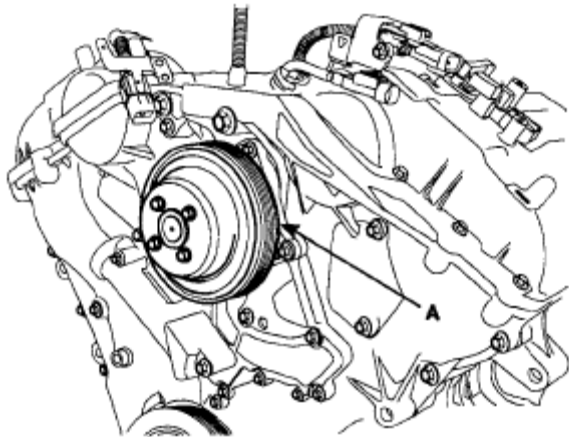
2. Remove drive belt (A).



KDRF101A

Fig. 231: Identifying Drive Belt
Courtesy of HYUNDAI MOTOR CO.

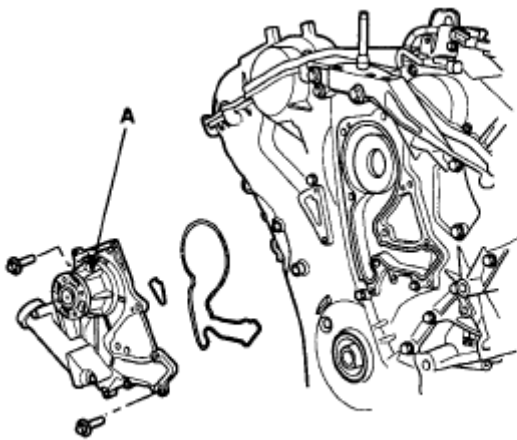
3. Remove the 4 bolts and pump pulley (A).



KDRF107A

Fig. 232: Identifying Pump Pulley
Courtesy of HYUNDAI MOTOR CO.

4. Remove the water pump (A) and gasket.



KDRF221A

Fig. 233: Identifying Water Pump And Gasket
Courtesy of HYUNDAI MOTOR CO.

WATER TEMPERATURE CONTROL ASSEMBLY

1. Drain the engine coolant.
2. Remove air cleaner assembly.
3. Disconnect radiator upper and lower hose (A).