Heater Core: Testing and Inspection

WARNING: CARBON MONOXIDE IS COLORLESS, ODORLESS AND DANGEROUS. IF IT IS NECESSARY TO OPERATE THE ENGINE WITH THE VEHICLE IN A CLOSED AREA SUCH AS A GARAGE, ALWAYS USE AN EXHAUST COLLECTOR TO VENT THE EXHAUST GASES OUTSIDE THE CLOSED AREA. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

1. Inspect for evidence of coolant leakage at the heater water hose to heater core attachments. A coolant leak in the heater water hose could follow the heater core tube to the heater core and appear as a leak in the heater core.

   NOTE: Testing of returned heater cores reveals that a large percentage of heater cores are good and did not require installation of a new heater core. If a heater core leak is suspected, the heater core must be tested by following the plugged heater core component test before the heater core pressure test. Carry out a system inspection by checking the heater system thoroughly as follows:

2. Check the integrity of the heater water hose clamps.

   NOTE: Spring-type clamps are installed as original equipment. Installation and overtightening of non-specification clamps can cause leakage at the heater water hose connection and damage the heater core.

Heater Core-Plugged

WARNING: THE HEATER CORE INLET HOSE WILL BECOME TOO HOT TO HANDLE IF THE SYSTEM IS WORKING CORRECTLY.

1. Check to see that the engine coolant is at the proper level.
2. Start the engine and turn on the heater.
3. When the engine coolant reaches operating temperature, feel the heater core outlet hose to see if it is hot.

   If it is not hot:
   - the heater core may have an air pocket
   - the heater core may be plugged.
   - the thermostat may not be working correctly.

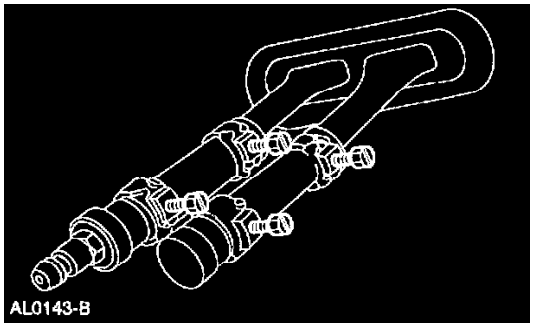
Heater Core-Pressure Test

Use the radiator/heater core pressure tester to carry out the pressure test.

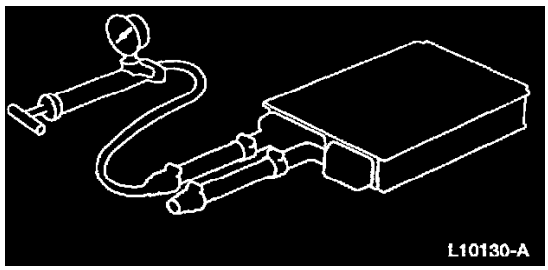
1. Drain the coolant from the cooling system.

   NOTE: Due to space limitations, a bench test may be necessary for pressure testing.

2. Disconnect the heater water hoses from the heater core.
3. Install a short piece of heater water hose, approximately **101 mm (4 inches)** long on each heater core tube.



4. Fill the heater core and heater water hoses with water and install plug BT-7422-B and adapter BT-7422-A from the radiator/heater core pressure tester in the heater water hose ends. Secure the heater water hoses, plug and adapter with hose clamps.
5. Attach the pump and gauge assembly from the radiator/heater core pressure tester to the adapter.
6. Close the bleed valve at the base of the gauge. Pump **241 kPa (35 psi)** of air pressure into the heater core.
7. Observe the pressure gauge for a minimum of **three minutes**.
8. If the pressure drops, check the heater water hose connections to the core tubes for leaks. If the heater water hoses do not leak, remove the heater core from the vehicle and carry out the bench test.



Heater Core-Bench Test

Remove the heater core from the vehicle.

2. Drain all of the coolant from the heater core.
3. Connect the **101 mm (4 inch)** test heater water hoses with plug and adapter to the core tubes. Then connect the radiator/heater core pressure tester to the adapter.
4. Apply **241 kPa (35 psi)** of air pressure to the heater core. Submerge the heater core in water.
5. If a leak is observed, install a new the heater core.