

SUPPLEMENTAL DIAGNOSTIC ANALYSIS

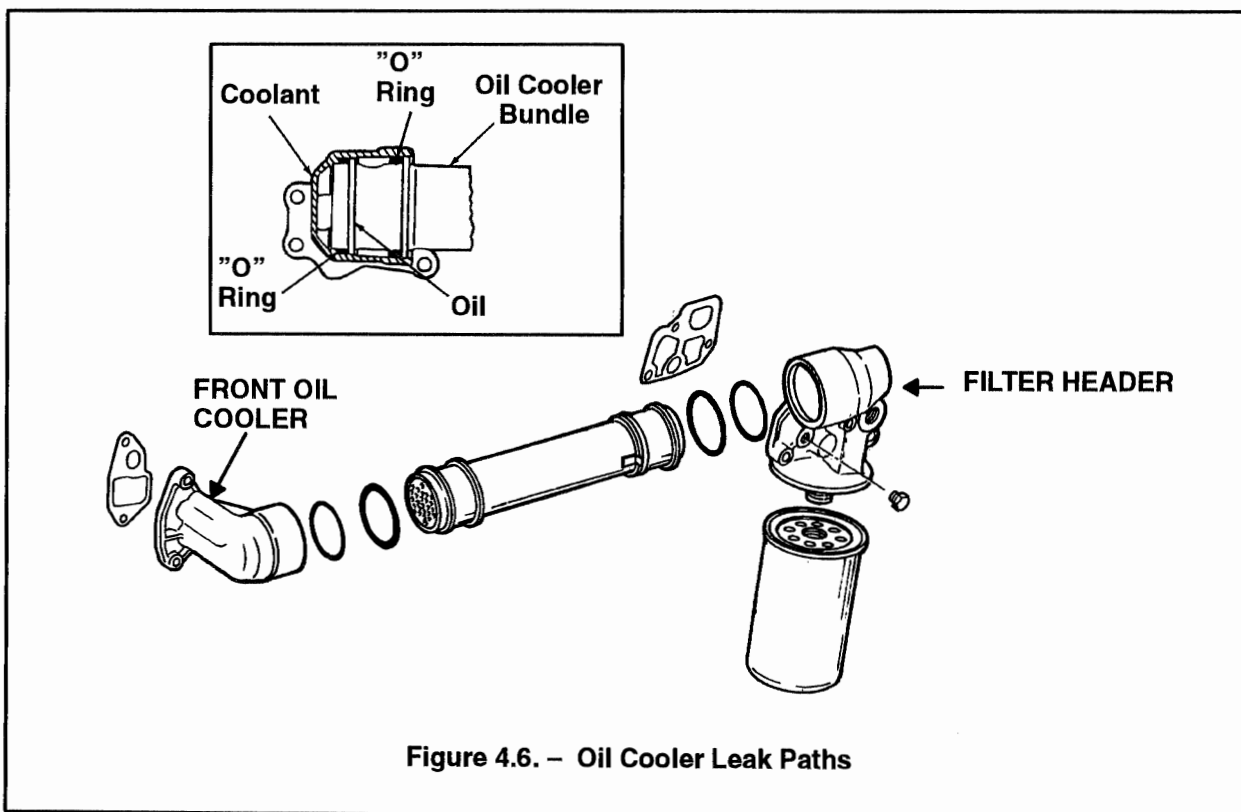
COOLANT IN LUBE OIL

PROBABLE CAUSES

Oil cooler bundle or "O" ring failure, front cover "O" ring damage, front cover porosity, cylinder head porosity, crankcase porosity, nozzle sleeve leakage.

PROCEDURES

- Plug in block heater to warm coolant.
- Remove oil pan plug, oil filter and glow plugs.
- Pressurize cooling system to 14 PSI.
- Observe/inspect rear of oil cooler (where oil filter was mounted), (**Figure 4.6.**) oil pan plug for coolant or air pressure escaping.
- If: Coolant/air leak is occurring from header at the oil filter mounting header the oil cooler assembly should be removed and inspected or pressure tested.
- If the coolant is escaping out of the oil pan drain plug remove valve covers, inspect the cylinder head area (**Figure 4.7. page 5**) under the valve cover and welch plugs in cylinder heads for coolant leakage.
- If no leaks are found remove engine and oil pan, block off coolant inlet, outlet and heater hose connections. Pressurize the cooling system with 14 PSI of regulated air pressure.
- Inspect bottom end of crankcase for pressure leaks.
- If no leaks found, remove front cover and inspect gaskets and sealing surfaces. **Figure 4.8. page 5.**
- Re-test after repair to confirm repair.



COOLANT IN LUBE OIL (Continued)

