



# Technical Bulletin

12/03

## Repeated Heater Core Leakage/Failure On 1984-2003 Ford Vehicles

The AERA Technical Committee offers the following information regarding repeated heater core leakage/failure for 1984-2003 Ford vehicles. This type of leakage or failure has been reported generally shortly after service work has been done on the engine.

This leak may be caused by a chemical reaction called electrolysis. Electrolysis involves an ion exchange between the heater core and engine coolant, which can result in a breakdown of the heater core metal. This is similar to the operation of a battery as it deteriorates.

Check for electrolysis on any vehicle with a heater core failure. If electrolysis is verified, flush the coolant and follow additional steps as required. Refer to the following service procedure for details on checking for electrolysis.

To check for electrolysis, use a DVOM set on DC volts. Place the positive probe of the meter in the engine coolant and the negative probe on the negative battery post. Adjust engine throttle to 2,000 RPM to properly get coolant flow and true electrolysis voltages. If more than .2V is recorded, flush the coolant and recheck.

If there is still excessive voltage present in the coolant, check the engine to body/battery grounds. Also, verify proper grounding of any aftermarket/electronic equipment, which has been installed into the vehicle. Improperly grounded electrical devices can cause electrolysis to occur.

If the condition is still present after the grounds have been checked, it may be necessary to add extra grounds to the heater core and engine. A hose clamp can be used to secure a 16 AWG stranded copper wire to the heater core inlet tube. The other end should be secured to an EXISTING FASTENER on the body sheet metal. Extra grounds to the engine should be attached between EXISTING FASTENERS on the engine and body sheet metal. Verify continuity of any added grounds to the negative battery terminal.

If the condition is still present, add a restrictor (part F1UZ-18D406-A) on the inlet hose with the arrow facing the direction of coolant flow (toward heater core). Cut the line and install with two hose clamps. It is important that the restrictor be installed in the right direction of flow and as close to the engine block as possible (not near the heater core itself).

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