

# ALUMINUM RADIATORS AND ELECTROLYSIS

**#@\$!\*@#\$\$% INSTRUCTIONS**  
**MID FIFTY F-100 PARTS 1-800-252-1956**

**INST-91080**

PART NUMBERS  
all aluminum radiators

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## WHAT IS ELECTROLYSIS?

Electrolysis is the result of electricity flowing through your cooling system and causing an electrochemical charge across the aluminum. This results in rapid corrosion and severe damage to the components in your cooling system including discoloration, pitting, flaking, and pinholes. Electrolysis will usually occur if there is a defective or missing ground on one of the numerous potential electrical sources.

## HOW CAN I TEST FOR ELECTROLYSIS?

To test if your cooling system has been affected by electrolysis, you will need to test the voltage in your cooling system. The first step is to connect the negative lead of a volt/ohm meter to the battery ground. Then, carefully insert the positive lead of the volt/ohm meter into the coolant inside the radiator without contacting the filler neck. If the result is more than 0.10 V, this indicates that there is an electrical current flowing through the system. Continue to check the voltage between the coolant and 1) the engine 2) the frame by touching the negative lead to each respectively. Repeat test with the positive lead touching the radiator instead of the coolant. A simple and usually effective way to try and determine the faulty electrical source is to conduct this test with the engine running and all vehicle accessories on. Have a friend systematically switch on and off components of the truck as you monitor the meter (in some instances, fuses need to be removed in order to switch the accessory off. You may also want to test with the ignition off). If voltage drops when disconnecting an electrical circuit, that circuit represents a likely electrical source.

## WAYS TO PREVENT ELECTROLYSIS:

Unfortunately, only the careful monitoring and proper maintenance of your cooling and electrical system can really prevent electrolysis from destroying your system. ALWAYS make sure the radiator is not used as a ground and that all components are functioning properly. Periodically test your system and check for any discoloration or pinholes – especially around the tube-to-header joints and tubes near the center of the core by the electric fan mounts.

Make sure the ground wires for the headlights and park lights are not using the Radiator Saddle as a ground.