CTRL Systems, Inc. Best Practices

Industry
Automotive Equipment

Application
Quality Assurance

System
Pressurized

Component
Radiators

Current Procedures

Inspection procedure for radiators requires that they be submerged in a water tank and pressurized in order to check for leaks. After the leaks are found and marked, the radiator must be dried before it can be repaired. Once repairs have been completed, the radiator must be re-submerged in order for the repair to be confirmed. If leaks are still present, the procedure must be repeated. This procedure is very time-consuming, not to mention that some radiators are heavy/bulky and require two personnel.

UL101 Test Procedures

1. Select UL101 Receiver, Headset, Mini-Concentrator, and 1-Inch Acoustic Tip from case.
2. Attach Mini-Concentrator and plug in headset to UL101 Receiver.
3. Test battery by moving output switch to headset only position. If meter needle is below the 5-10 (½ scale) of the meter, replace the battery. Return output switch to headset/meter position.
4. Turn gain switch to ½ gain (half-moon); adjust potentiometer knob between 1 and 2.
5. Begin at one end of the HVAC system. Point the UL101 receiver in the direction of the refrigerant lines and fittings and walk along while scanning with the receiver.
6. A leak is indicated by a jump in the meter and a loud rushing sound through the headset.
7. Once a leak is detected, pinpoint by switching the Mini-Concentrator attachment with the 1-Inch Acoustic Tip. Adjust the potentiometer down to locate the exact source of the leak.
8. Indicate the location by marking the leak, and repair. Verify repairs with UL101.

Benefit

Testing radiators can be accomplished by using one of the following two procedures. Pressurizing the system with air and using the UL101 to scan the radiator for the sound associated with escaping air. The second is to inject ultrasound into the radiator using the UT2000 transmitter and use the UL101 to scan the radiator for the sound of the escaping ultrasound.

A quick and effective means of determining integrity was developed. The need to submerge and possibly re-submerge was eliminated. By using these testing procedures, enormous time and man-hours can be saved.