

## Microchannel Heat Exchanger

### REPAIR KIT

#### REQUIRED TOOLS:

- Alcohol Wipe (Supplied with kit)
- Disposable Gloves (Supplied with kit)
- Epoxy (Supplied with kit)
- File or Emery Cloth
- Gage Manifold
- Heat gun
- Protective Goggles
- Vacuum Pump
- Wire Brush (supplied with kit)
- Wire Cutters or Metal Shears

#### SAFETY INFORMATION

Please Pay attention to all safety warnings and any other special notes highlighted in this repair kit. Safety markings are used frequently throughout this kit to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

#### **WARNING:**

- **Epoxy ingredients may cause burns, skin sensitization, or other allergic responses. Do not get into eyes, on skin or clothing.**
- **Wear disposable gloves, goggles, long sleeved shirt, or other protective equipment. If contact with skin occurs, wash immediately with soap and water. In case of contact with eyes, flush immediately with water for at least 15 minutes. Contact a physician if needed.**
- **Avoid inhalation of vapors. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory irritations with asthma-like symptoms in susceptible individuals. Use only in well ventilated area.**
- **Avoid using Epoxy near extreme heat, sparks, and open flame.**
- **If swallowed, DO NOT induce vomiting. Call a physician or poison control center immediately!**
- **PROPOSITION 65 WARNING:** This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.
- **Please see Technical Bulletin TB08-133R for MSDS information.**

#### REPAIR INSTRUCTIONS:

This repair kit establishes guidelines for field repairs of the Microchannel Heat Exchanger. Please read all instructions before beginning repair processes. The Microchannel should only be repaired by well qualified service technicians.

1. Determine origin of leak in the heat exchanger.
2. Using wire cutters, cut away the fins from the damaged area on both sides of the coil as shown in Figure 1.

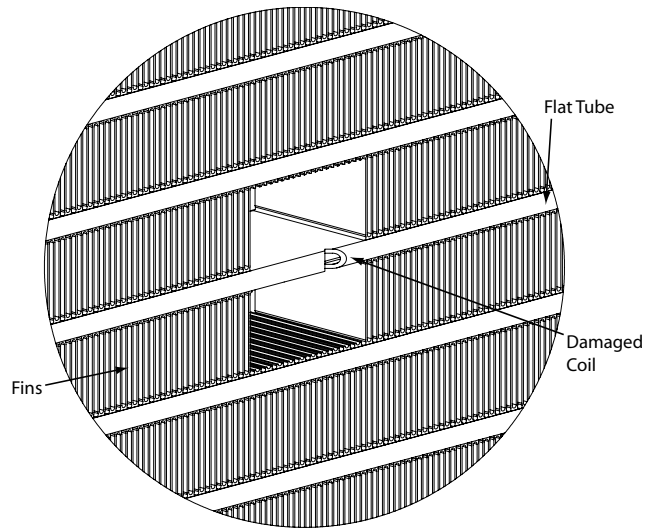


Figure 1. Damaged Coil With Fins Removed

3. Smooth out remaining fin material using a small fine file or emery cloth.
4. Remove all dust or loose debris from the damaged coil with a small brush.
5. Clean the damaged area with alcohol wipe.
6. Connect the gauge manifold to the HI and LO service valves on the condensing coil.
7. Connect the vacuum pump to gauge manifold.
8. Dispense the resin or hardener by removing the cap from the tube and puncturing the inner seal with pointed end of cap. Squeeze tube from bottom. Make sure to reinstall cap when finished dispensing product.

#### **CAUTION:**

Curing epoxy generates exothermic heat while curing. **DO NOT** mix the resin and hardener in styrofoam containers.

Use the Epoxy only in temperatures between -76 ° F to 248 ° F.

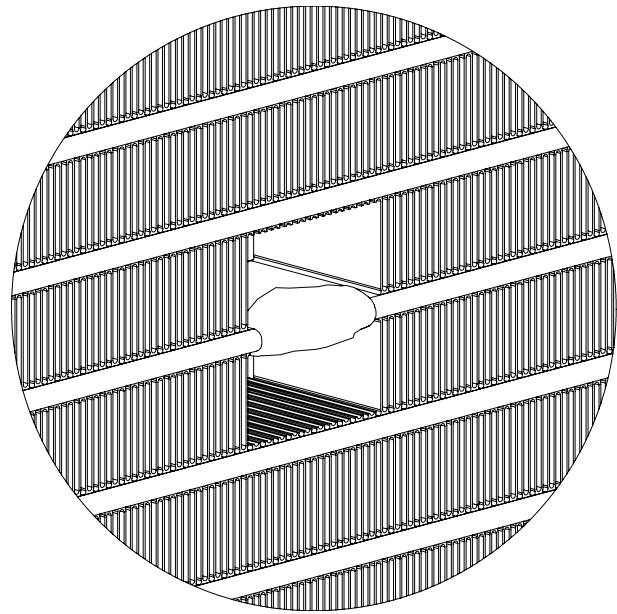
9. Mix equal parts (1:1 ratio) of the GREEN (A) and RED (B) Epoxy ingredients. Mix the resin and the hardener together until thoroughly incorporated. The consistency should be thick like peanut butter, not watery or runny.
10. Open the gauge manifold until heat exchanger is under slight vacuum (1-3 inches vac).
11. Apply generous amounts of the mixed Epoxy to the damaged coil while making sure the sealant is pulled into the damaged coil.
12. Turn off the vacuum when a small amount of Epoxy is drawn into the coil.
13. Using a heat gun, blow hot air over the repaired area until Epoxy solidifies.

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 **CAUTION:**

**Hold heat gun back from area approximately 12 inches. Do not overheat the Epoxy as this will cause the Epoxy to bubble and not seal the coil sufficiently. Do not inhale vapors from the heated Epoxy as this may cause respiratory irritation.**

14. Apply an additional layer of Epoxy until the coil is adequately sealed. The Epoxy should cover the entire cut area and appear “bump shaped” (See Figure 2).
15. Allow the repaired area to cool for 10 minutes.
16. Pressurize the system with nitrogen and use appropriate methods for detecting leaks. (Example: Soap and water solution or electronic detectors.)
17. Disconnect the vacuum pump and the gauge manifold.
18. Allow the unit to sit idle for 1 hour before recharging
19. Dispose of resin, hardener and empty containers safely. Do not dispose of the mixture until the reaction is complete and has cooled.



**Figure 2. Coil Sealed With Epoxy**

The individual performing this work assumes all responsibility for this type of repair. These instructions are primarily intended to assist qualified individuals experienced in the proper repair of HVAC components. Some local codes may require licensed installation/service personnel for repair and maintenance of equipment. Safety should always be the deciding factor when using this product and using common sense plays an important role as well. Improper usage of the materials or failure to follow safety warnings could result in serious injury, death, or property damage.

