



## TECHNICAL SERVICE BULLETIN

**Date:** September 30, 2005, updated May 10, 2006

**Scope:** Refrigerant leaks at compressor discharge tube connection

**Product:** GS015 & 018

ClimateMaster has had reports on the subject models, which have experienced a refrigerant leak on the compressor discharge tube between the compressor and the reversing valve. The most common location has been on the discharge line close to or at the compressor stub. Units built after September 12, 2005 are not effected.

These fractures have been caused by a harmonic frequency vibration of the tubing assembly within the unit. This harmonic frequency can be caused by many factors and can change as one or more of the factors change, and may not be present in all units. Some causes include factory compressor mounting bolts not loosened, shipping clips not removed, unit operating voltage - effecting compressor motor speed, water flow rate and entering water temperature - effecting refrigerant pressures.

Units that have had a refrigerant leak at the compressor discharge line will require:

- 1) Repair leak by removing the effected portion of tube and re-braze to compressor.
- 2) Check to ensure the compressor mounting has been loosened and is floating freely.
- 3) Determine if there is any excessive vibration and/or movement of the copper tubing.
- 4) If there is excessive vibration, add a line weight in the designated location. (see instruction below) For questions or clarification regarding line weights contact ClimateMaster Technical Service.

In instances where several units on the same job have failed, a vibration inspection of each unit is recommended to avoid potential failure. Line weights should be added as required at this time.

Units that have not yet been commissioned, should be inspected at start-up to ensure there is no vibration, if there is, line weight should be added.

If excessive vibration is confirmed or suspected the harmonic frequency of the tubing can be altered. The typical method is to add mass and therefore weight to one or more refrigerant tube(s). ClimateMaster has found the addition of line weight to the offending tube to be an effective repair. The photo illustrates the recommended line weight and installation location. To install the line weights, open the line weight at the pre cut slit and position so the hole fits snugly around the discharge line in the recommended location. Multiple weights can be used on vertical and/or horizontal tubing to dampen the line movement. Secure the weights with a six or eight inch cable tie to insure the weights do not vibrate loose which can lead to noise and/or the weight moving or becoming detached.

**CAUTION: PRIOR TO ATTEMPTING ANY REPAIR DISCONNECT THE POWER SUPPLY (S) TO AVOID ELECTRICAL SHOCK.**

**NOTE: A REFRIGERANT DISCHARGE LINE MAY BE A BURN HAZARD. ALLOW DISCHARGE LINE TO COOL SUFFICIENTLY TO ALLOW SAFE CONTACT.**

To check for excessive vibration access to the compressor discharge line will be required WHILE THE COMPRESSOR IS OPERATING. USE EXTREME CAUTION. A visual examination may be adequate but a "touch test" may also be required. The "touch test" consists of holding something against the discharge line at various locations. A screwdriver is a suitable tool for this purpose. DO NOT USE A BARE HAND. THE DISCHARGE LINE POSES A BURN HAZARD WHILE THE COMPRESSOR IS OPERATING. If excessive vibration is present the screwdriver will bounce when held lightly against the tube.

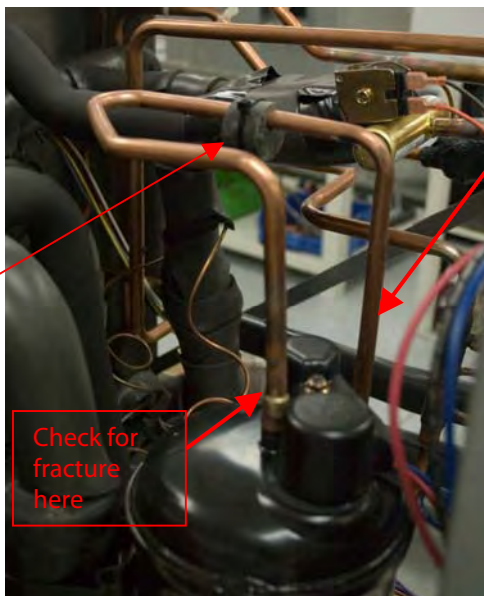
For further information contact ClimateMaster Technical Service at 405-745-6000.



Close up of tube fracture →



3/8" tube line weight  
Part # 69881300



Locate line weight as shown secure with cable tie

Check for vibration here

Check for fracture here

Ensure all bolts are loosened and shipping brackets have been removed

