



TRANE™

General Service Bulletin

HCOM-SB-71A

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Literature Changes:

Corrected serial number prefixes.

**SUBJECT: MODEL "E" COMPRESSOR TERMINAL BOARD RETAINING RING CAP SCREW
REPLACEMENT**

INTRODUCTION:

This service bulletin discusses the replacement of terminal board retaining ring cap screws on Model "E" hermetic compressors that were built between July, 1982 and December, 1983. The affected compressors have serial number prefixes *2G through *3M. Remanufactured compressors are not affected by this bulletin.

DISCUSSION:

There have been several cases where the cadmium plated cap screws of the terminal board retaining ring on Model "E" hermetic compressors have failed. See Figure 1. This allows the terminal ring to separate, ripping the terminal box cover from the compressor. The cap screws, manufactured by Rockford Bolt, can be identified by an "R" on the head of the screw.

These cap screws have failed due to hydrogen embrittlement, which is caused by hydrogen being trapped in the screw during the plating process. This can result in the head of the screw popping off.

*Variable letter - indicates motor manufacturer.

CORRECTIVE ACTION:

All cadmium plated screws produced by Rockford Bolt or Ferry, on Model "E" hermetic compressors with serial number prefixes *2G through *3M, must be replaced with new zinc plated cap screws, Trane part number SCR-53. Use the following procedure to change the cap screws:

1. Pump the compressor down to 1 or 2 psig suction pressure and close the compressor service valves. Open the unit disconnect switch.

WARNING: DISCONNECT ELECTRICAL POWER TO THE COMPRESSOR BEFORE ATTEMPTING REPAIRS. FAILURE TO DO SO MAY RESULT IN INJURY OR DEATH DUE TO ELECTRICAL SHOCK.

2. Remove the compressor terminal box cover.

WARNING: EXERCISE EXTREME CAUTION WHEN REMOVING THE TERMINAL BOX COVER OR INSPECTING THE TERMINAL BOARD RETAINING RINGS AND CAP SCREWS. DO NOT STAND DIRECTLY IN FRONT OF THE TERMINAL BOX COVER, TERMINAL BOARD, RETAINING RING OR CAP SCREWS.

3. Inspect the compressor for a cracked terminal board retaining ring and failed cap screws. If the retaining ring is cracked or any cap screw heads are discovered in the terminal box, do not proceed with repairs without immediately bleeding compressor pressure down to 0 psig.
4. If the terminal ring is not cracked and no cap screw heads are found in the terminal box, replace the cap screws one at a time, torquing them to 51 foot-pounds.
5. After all the cap screws have been replaced, install the terminal box cover, open the discharge and suction service valves and return the compressor to normal operation.

NEW PRODUCTION:

Zinc plated cap screws manufactured by Ferry have been used since January, 1984 without any known failures. Zinc plating is more impervious to hydrogen, greatly reducing the likelihood of hydrogen embrittlement.

No known cap screw failures have occurred on remanufactured compressors. Defective cap screws will fail at a low initial torque, typically less than 20 foot-pounds, and will fail during the reassembly process.

*Variable letter - indicates motor manufacturer.

Figure 1
Retaining Ring
Cap Screw
Location

