# General Service Bulletin

# RTAA

## Bearing Housing to Rotor/motor housing O-ring Replacement CHHB 70-100

Order Number:**RTAA-SVB14A-EN** Date: May 2003

## Introduction

The purpose of this bulletin is to explain the procedure to replace the bearing housing - rotor/motor housing o-ring on the CHHB 70-100 ton helical rotor compressor.

**NOTICE:**

Warnings and Cautions appear at appropriate sections throughout this literature. Read these carefully.

⚠ **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**CAUTION:** Indicates a situation that may result in equipment or property-damage only accidents.

## Discussion

When an o-ring leak is detected between bearing housing - rotor/motor housing; the o-ring can be replaced according to the following procedures.

# Repair Procedure

## ⚠ WARNING

## Contains Refrigerant!

**System contains oil and refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.**

**Failure to follow proper procedures or the use of non-approved refrigerants, refrigerant substitutes, or refrigerant additives could result in death or serious injury or equipment damage.**

Isolate compressor from refrigerant. See RTAA-SB-10 for assistance. Make sure to manually energize master solenoid with 120VAC while isolating compressor. When refrigerant is isolated, remove power from master solenoid.

1. Lock Circuit out.

## ⚠ WARNING

## Hazardous Voltage!

**Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.**

2. Isolate and evacuate the compressor.

   The load and unload solenoids need to be energized during the recovery process to remove refrigerant trapped in the piston cavity.

3. Disconnect the load/unload solenoid coils. Make sure to disconnect the power to at least the unload solenoid or you'll burn it up.
4. Disconnect the three hydraulic lines attached to the compressor and the low side of the differential pressure switch.
5. Disconnect the discharge line by unbolting the flange connected to the discharge bearing plate.
6. Disconnect the suction line by unbolting the suction service valve from the compressor.
7. Seal the discharge opening in the compressor by placing a clean rag in the opening.

8. With all of the piping disconnected from the compressor, unbolt the compressor from the frame. Turn the compressor so the discharge end is facing out of the side of the RTAA unit.

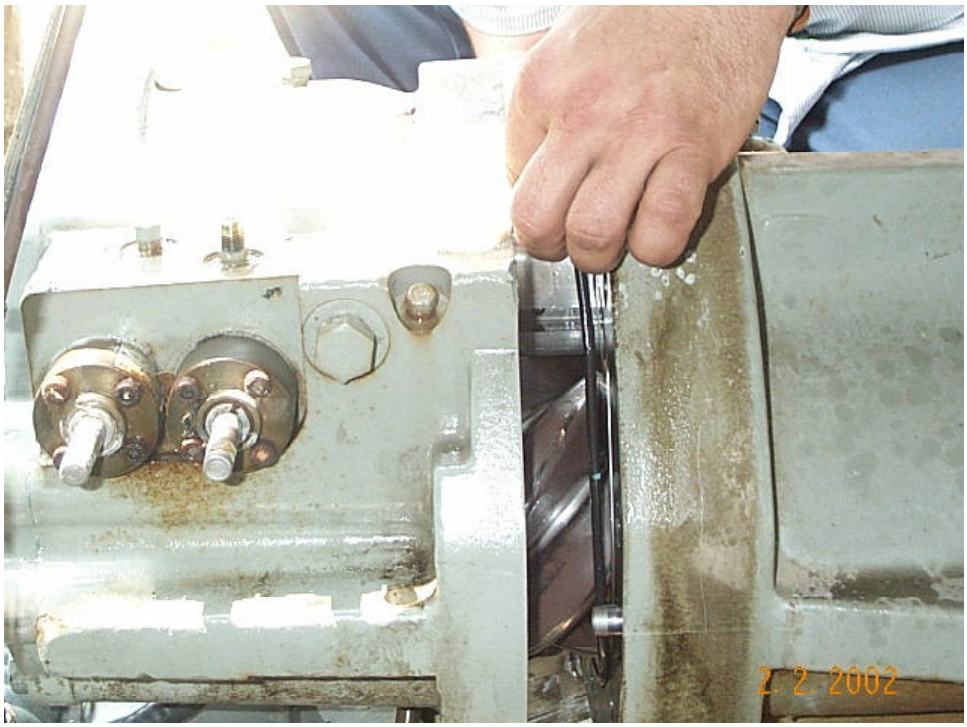

9. Use a hydraulic jack to lift the suction end of the compressor.
10. Remove the suction strainer by placing your hands in the strainer and pulling outward.
11. With the strainer removed, remove the motor rotor bolt to allow for the separation of bearing housing from the motor/rotor housing. Use an impact wrench to loosen the bolt.

It will take an impact wrench that can generate 200 ft-lb of torque to loosen the 24mm bolt.


12. Lower the hydraulic jack.
13. On the discharge end of the compressor, remove the center bolt on the bearing plate and insert an eyebolt.

    Note: The eyebolt is Metric.
14. Remove the bearing housing bolts so the bearing housing can be separated from the rotor/motor housing.
15. By using the eye bolt in the discharge bearing plate, pry and/or pull the bearing housing away from the rotor/motor housing. The two housing should be separated no more than 3 inches.
16. Remove the old o-ring by maneuvering it around the outside of the bearing housing.
17. Clean flange surfaces and o-ring groove. Check for any surface deficiencies.
18. Slightly stretch the new o-ring around the bearing housing and place it into the o-ring groove. An extremely light film of Loc-tite 515 can be placed on the o-ring as a sealant if necessary.

Note: to prevent damage to the new o-ring, a 8 mil plastic covering may be wrapped around the compressor. A heavy duty garbage bag can also be used to protect the o-ring.




19. With the o-ring in place, push the bearing housing against the rotor/ motor housing and re-install the bolts. The bolts need to be torqued at 170 ft-lbs.
20. Raise the suction end of the compressor again with the hydraulic jack.
21. On the suction end of the compressor, reinsert the motor rotor bolt with Loc-tite 271 on the threads. Use an impact wrench to tighten the bolt.
22. Reinstall the suction strainer and lower the hydraulic jack.
23. Remove the eye bolt on the discharge bearing plate and reinsert the original bolt. Torque the bolt to 170 ft-lbs.
24. Turn the compressor back to its proper position and install the mounting bolts. Torque the mounting bolts to 150 ft-lbs.
25. With the compressor in place, all of the refrigerant and hydraulic lines can be re connected.
26. Before opening any valves, pressure test and evacuate the compressor. Note: the master oil solenoid and the load/unload solenoids must be energized.
27. Evacuate the compressor from the same ports described in RTAA-SB-10. See "General" section.
28. Open all valves and put compressor back in service.

## Part Ordering Information

Use the following table to order the parts necessary for this Service Bulletin. One kit per unit is required.

| | 70 Ton Compressor | 85/100 Ton Compressor |
|---|---|---|
| Discharge O-ring | RNG01406 | RNG01410 |
| Suction Gasket | GKT02718 | GKT02718 |
| Rotor/Motor Bearing Housing O-ring | RNG01436 | RNG01424 |

Obtain the required parts from your local Trane Parts Center.

## Questions

Contact the Product Technical Service department in Pueblo, Colorado with questions regarding this Service Bulletin.

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