



**TRANE®**

## Service Alert

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# CVHE/F/G and CDHF/G Tang Operator Design Change

Order Number: **CTV-SVA18A-EN**

DATE: February 14, 2005

### Introduction

The purpose of this service alert is to advise service and maintenance persons of a design change to the direct drive CenTraVac first stage tang operator, and to describe the new procedures for the proper service of the assembly.

### Units Affected

All standard CVHE/F/G or CDHF/G chillers produced after December 11th, 2004 will have a first stage tang operator with a changed design.

The design of the rotary tang operators on CVHF or CDHF extended capacity chillers with 1470 or 1720 compressors is not changed.

Replacement 1st stage tang operators for standard chillers, purchased through Trane parts after January 2005, will also be the revised design and this discussion will apply.

### Discussion

Beginning December, 2004, a production change has been made for the first stage tang operator used on standard CenTraVac chillers. The old tang operator used a single lubrication port and was serviced using refrigeration oil, the new tang operator uses two lubrication ports and is serviced using Rheolube synthetic grease.

The tang operators should be serviced at least annually.



**To service the new design 1st stage tang operator on standard CVHE/F/G and standard CDHF/G chillers:**

1. The chiller must be off.
2. Carefully remove any insulation that may have been placed over the two lubrication ports of the tang operator base. This insulation will need to be replaced after the service is complete.
3. Note the position of the tang operator arm, note the placement of spacing washers etc., then disconnect the linkage rod from the tang operator arm. Manually move the tang operator arm and note the amount of effort required to operate the assembly.
4. Loosen but **DO NOT REMOVE** the 1/16" NPT lubrication port plug that is highest on the assembly.
  - Note: Some plugs may be difficult to remove if the base has experienced corrosion. A six-point 5/16" socket wrench is recommended in order to provide the best torque for the removal of the 1/16" NPT plugs.
5. Loosen and remove the remaining lower 1/16" NPT plug.
  - Note: The lubrication ports on standard chillers are 1/16" NPT. Grease fittings are not commonly available in this small size. Alternative methods of inserting grease may include:
    - Use a needle type nozzle with a rubber tip. If using a needle type nozzle with a metal tip, care must be taken to prevent damaging the threads of the lubrication port.
    - Use a grease fitting with 1/16" NPT male adapter. Trane part # ADP01108.
6. Using a grease gun and an appropriate fitting, insert grease until clean grease is seen to appear around the threads of the plug in the opposite port.
7. Tighten the plug that was loosened in step 4. Tighten the plug to hand tight plus 1/4 to 1/2 turn.
8. Remove the grease fitting, if used.

**DO NOT LEAVE GREASE FITTINGS INSTALLED.**

If grease fittings have been used for this procedure then they **MUST BE REMOVED** before returning the unit to service. Grease fittings are not vacuum-tight and will become a leak path.

9. Using a clean wooden dowel or other similar tool, remove excess grease from the remaining open lubrication port.
10. Clean and then lightly coat the threads of the plug with Rheolube grease and re-install it into the lubrication port. Tighten the plug to hand tight plus 1/4 to 1/2 turn.
11. Before reconnecting the vane linkage, grasp the tang operator arm and manually operate the vane assembly. If it is now difficult to move, then the tang operator may have become "hydraulically locked" as a result of excess



grease in the assembly. This situation could cause damage to the o-rings of the assembly. If this occurs then remove one of the lubrication port plugs, remove some of the grease, then re-install the plug.

12. Reconnect the linkage to the tang operator arm. Ensure the spacer washers between the linkage and the arm are properly placed and that the assembly does not bind. Re-install any insulation that was cut or removed. The unit may be restarted.

**To service the 1st and 2nd stage tang operators on CVHF and CDHF extended capacity chillers with 1470 or 1720 compressors.**

The 1st and 2nd stage rotary inlet guide vane tang operators of the extended capacity chillers also require periodic lubrication, at least annually, with R123 compatible Rheolube grease. These actuators have two 1/8" NPT plugs located 180 degrees apart, with one on the top and the other on the bottom of the operator base. 1/8" NPT grease fittings are commonly available and should be purchased locally. Use the same basic service procedure described above for the standard chillers, except that it will be necessary to temporarily disconnect the vane actuators from the tang operator arms in order to test for a "hydraulically locked" condition.

## Parts Identification

Rheolube grease, 16oz. Standard Grease gun cartridge	LUB00033
Rheolube grease, 3oz. Mini Grease gun cartridge	LUB00063
Replacement plugs, 1/16" NPT	PLU00971
Grease fitting with 1/16" NPT male adapter	ADP01108

### 1st Stage Tang Operator Part #s

Original Part #	New Part #
OPR00033	OPR00321
OPR00034	OPR00322
OPR00035	OPR00323
OPR00037	OPR00324
OPR00032	OPR00325
OPR00036	OPR00326
OPR00114	OPR00327
OPR00152	OPR00328



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Supersedes	New
Stocking Location	Electronic Only

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