



BY JOHNSON CONTROLS

Service Information

File In/With: N/A

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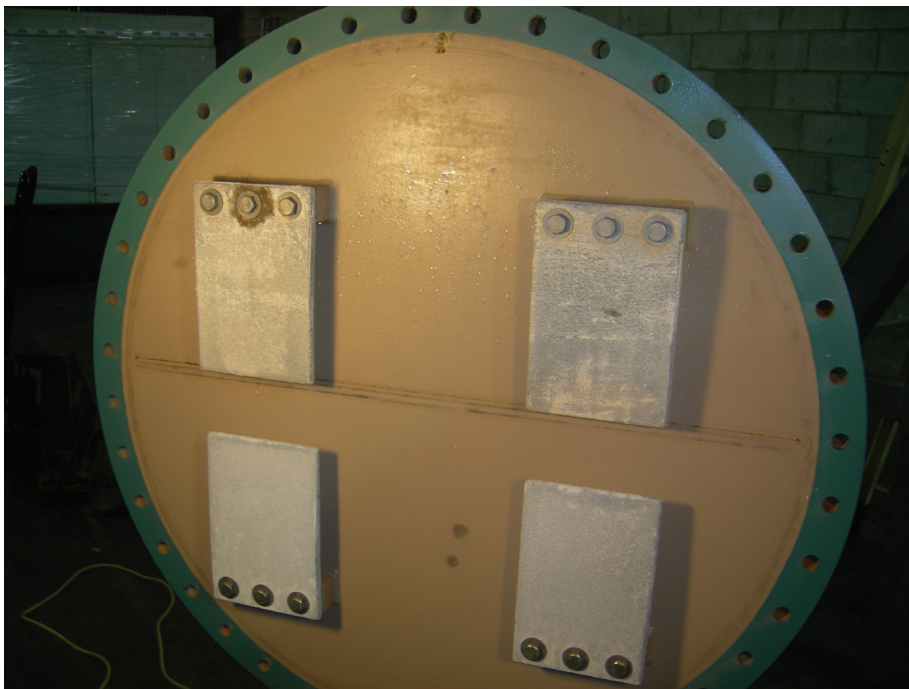
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Equipment Affected: All Single Stage Centrifugal Chillers

CONDENSER WATERBOX INSTALLATION PROCEDURE

This service information letter provides detailed steps required to install the condenser waterbox on a single stage centrifugal chiller.

1. Remove Waterbox Cover.
 - a. Place removed bolts and nuts into a container.
 - b. Place cover in a location where it will not interfere with Waterbox removal and can be secured.



Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

The instructions on this service bulletin are written assuming the individual who will perform this work is a fully trained HVAC & R journeyman or equivalent, certified in refrigerant handling and recovery techniques, and knowledgeable with regard to electrical lock out/tag out procedures. The individual performing this work should be aware of and comply with all Johnson Controls, national, state and local safety and environmental regulations while carrying out this work. Before attempting to work on any equipment, the individual should be thoroughly familiar with the equipment by reading and understanding the associated service literature applicable to the equipment. If you do not have this literature, you may obtain it by contacting a Johnson Controls Service Office.

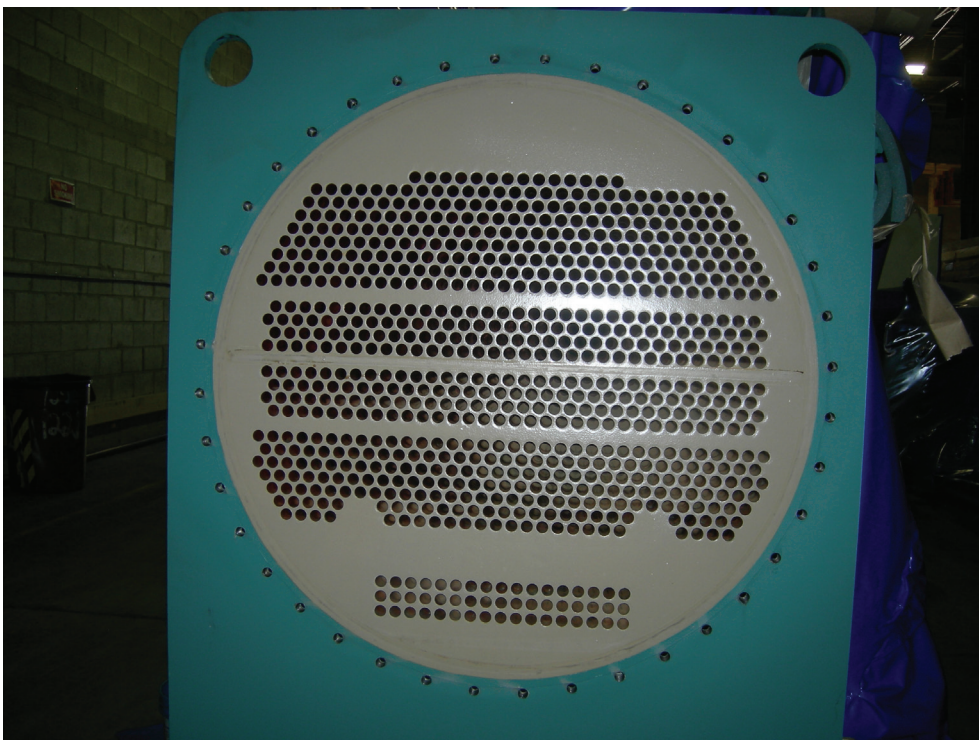
Should there be any question concerning any aspect of the tasks outlined in this bulletin, please consult a Johnson Controls Service Office prior to attempting the work. Please be aware that this information may be time sensitive and that Johnson Controls reserves the right to revise this information at any time. Be certain you are working with the latest information.

Product Technical Support

2. Remove Waterbox to access gasket removal and inspect mating surfaces.
 - a. Place removed bolts into a container.
 - b. Waterbox is to be suspended to allow repeated installation and removal.



3. Clean mating surfaces.
 - a. Clean mating surfaces with fluids that will not damage coatings.



4. Reinstall Waterbox without gasket material in place.
 - a. Locate Waterbox against tubesheet and bolt in at least four separate locations to insure the Waterbox is held tight against tubesheet.

5. Measure and record gap location and dimensions.
 - a. Using a feeler gage record gap dimensions.



6. Contour mating surfaces.

- a. Remove material from gasket ring location until surfaces mate to a maximum of .0625 (1/16TH).
- b. Clean mating surfaces of debris from grinding and filing.



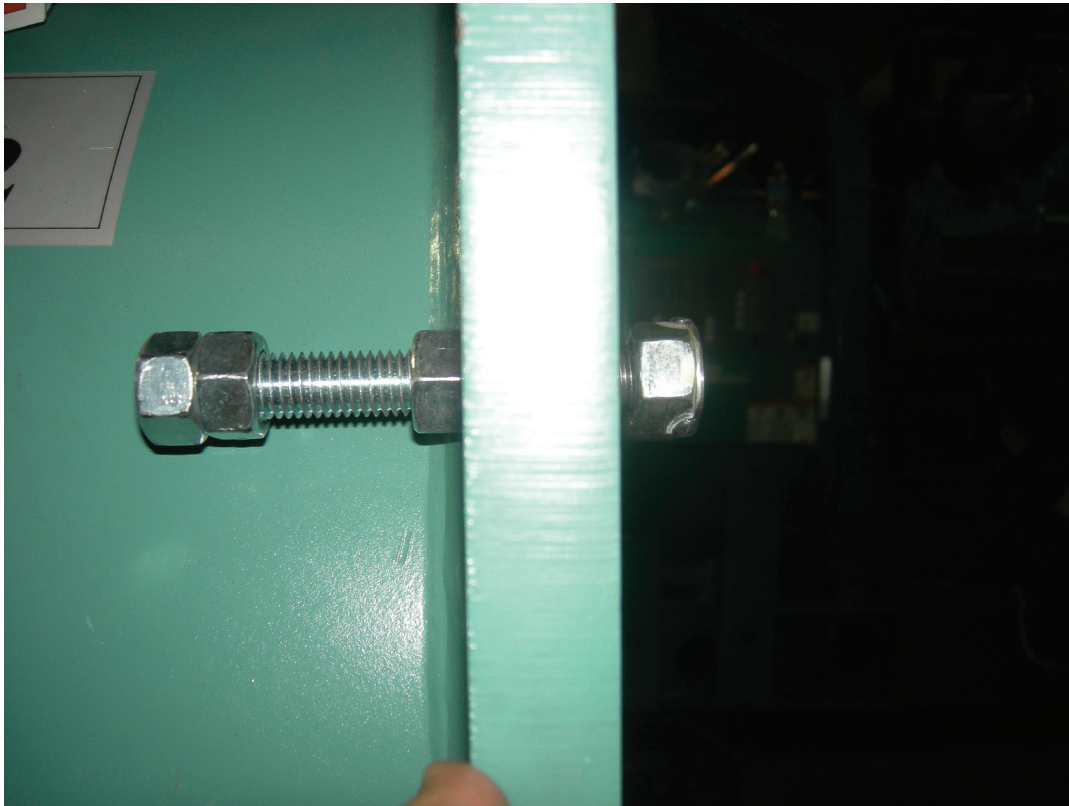
7. Install compression stops.

a. Compression stops consist of:

- i. 5/8th stud – minimum of 6.00” long.
- ii. 5/8th nuts – 4 per stop.

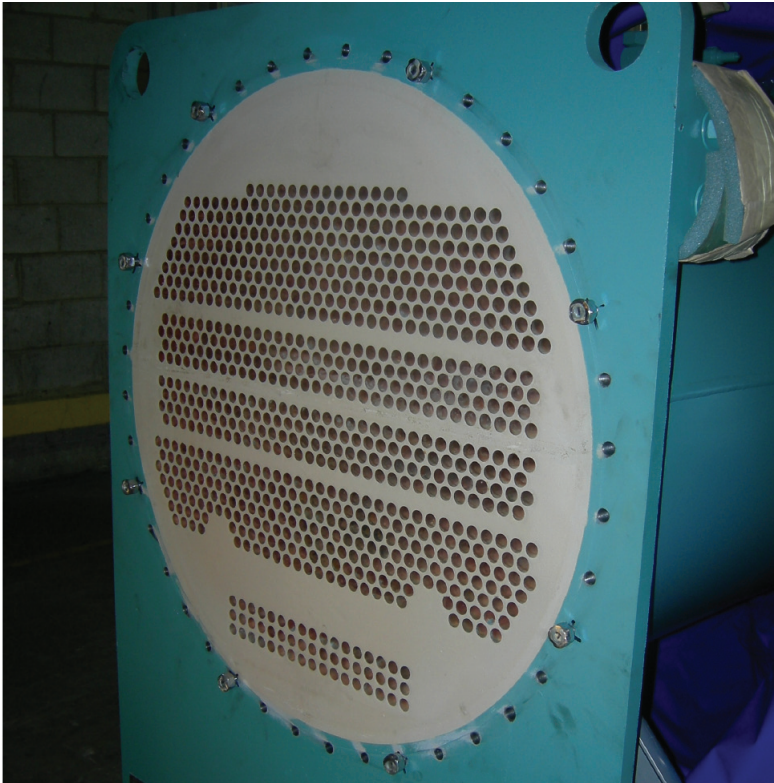
b. Place 2 nuts on the end of a stud and lock them together. This is to be able to drive them into the Waterbox to tubesheet holes from the back side of the tubesheet.

c. Place 1 nut on the stud with the two nuts locked together. This nut will lock the stud against the backside of the tubesheet.



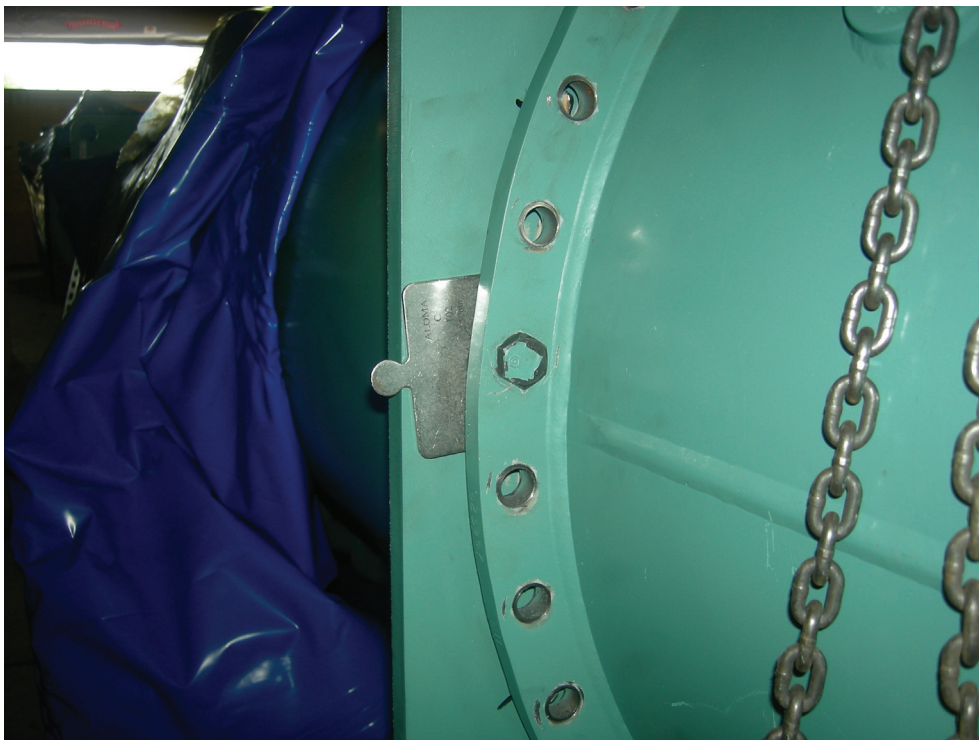
d. The last nut will be placed on the opposite end of the stud (between the tubesheet and Waterbox) to set the stop that the Waterbox will go against.

- e. Install a minimum of 6 compression stops - evenly spaced .



8. Reinstall Waterbox with .100" shimming.

- a. Install four (4) .100" shims between the tubesheet and Waterbox gasket locations at evenly spaced locations.



9. Install and tighten Waterbox bolts at a minimum of six (6) evenly spaced locations.
10. Set compression stops.
 - a. Adjust compression stop nuts against the Waterbox flange.



11. Remove Waterbox and install new gasket material.



12. Reinstall Waterbox.

- a. Locate Waterbox against tubesheet and install all bolts (hand-tight) except the locations where the compression stops are.
- b. Tighten all bolts evenly until the Waterbox rests against the compression stops.
- c. Remove stops and install the remainder of the bolts and tighten.



13. Install Waterbox Cover.

- a. Install new gasket material on Waterbox.
- b. Install Cover and evenly torque bolts/nuts to between 30-60 ft/lbs.