



# Service Information

File In/With:	SI0346	
	New	517
Equipment Affected:	YLAA	
Bitzer BSD6 60Hz Scroll Compressor Noise & Vibration		

## SYMPTOM

Some chillers with Bitzer GSD6 60Hz scroll compressor may exhibit a noise and/or vibration related rattle emanating from the trio bank of compressors. This noise is typically diagnosed as being generated from the middle compressor and usually described as a rattling sound. While the sound does not exist in all GSD6 trio sets, it has been found on some cases and care should be taken when diagnosing. Use the checklist on *page 3* for troubleshooting steps. Do not replace the compressor until actions listed in the checklist on *page 3* are followed. If help in diagnosing this noise is needed, please contact Screw & Scroll PTS for assistance. Note: a sound recording is helpful and can be sent to the PTS team if you cannot be on site for a discussion.

It is important to note that at this time, the source of the noise has not been associated to a failure, or, deemed to be detrimental to the compressor(s). However, through rigorous testing, the following solution has been developed to eliminate the noise within the existing product line.

## PARTS

**Kit# 392-56720-000** - This kit will include parts for changes made to the middle compressor only. See below for what is included with this kit.

KIT # 392-56720-000		
Part Number	Part Description	Qty
028-17595-000	Washer Neoprene	4
021-35642-000	Washer Step	4
092-56720-000	Instruction Sheet	1

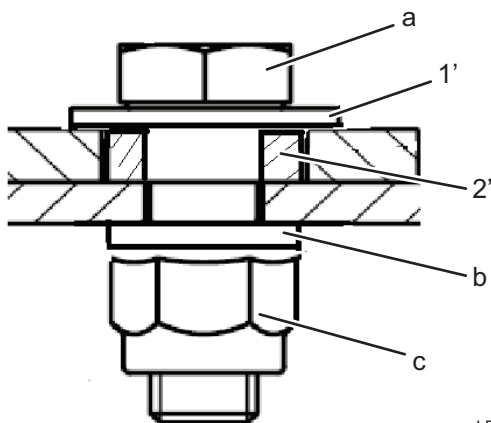
Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

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.

## PROCEDURE

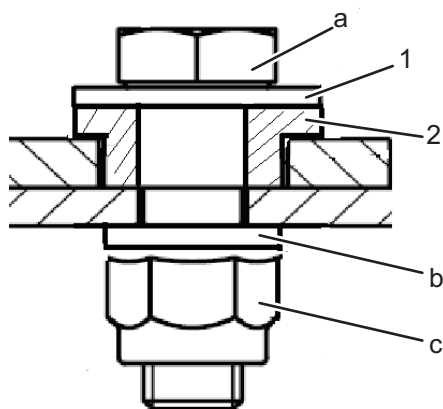
1. Lock out tag out.
2. Untighten the 4 bolts of middle compressor in Trio sub assembly.
3. Take out the plain washer (1') and spring lock washer (2').
4. Save the bolt (a), spring lock washer (b) and nut (c).



LD22321

ITEM	DESCRIPTION
1'	Plain Washer
2'	Spring Lock Washer
a	Screw Cap Hex 3/8 UNC1.25"
b	Sping Lock Washer
c	Nut

5. Put kit step washer (2), kit neoprene washer (1), bolt (a), spring lock washer (b) and nut (c) into each mounting hole.
6. Tighten the bolt so that Neoprene washer deflection is limited to 1/16 inch.



LD22322

ITEM	DESCRIPTION
1	Neoprene Washer
2	Step Washer
a	Screw Cap Hex 3/8 UNC1.25"
b	Sping Lock Washer
2	Nut

7. Operate unit in normal conditions to verify effective repair.
8. If compressors continue to make the same noise make a recording and contact Screw and Scroll PTS.
9. If repair corrects the problem, put unit back in normal operation and clean up area. Work complete.

## SCROLL COMPRESSOR TROUBLESHOOTING AND FAILURE/CONDEMN CHECKLIST

### Level 1 Checks

- Check chiller controls to make sure the chiller control is allowing the compressor to start.
- Replace motor protector module to ensure the motor protector is not defective. (This can be done by swapping a motor protector module from a known good/operational compressor.)
- Check compressor to determine if motor is grounded. (To be completed with the compressor power and control wiring removed from the compressor.)
- Check to determine if the motor has an open winding. (To be completed with the compressor power and control wiring removed from the compressor.)

**NOTE:** If any of these checks fail, replace compressor.

If the above are satisfactory proceed to **Level 2 Checks**.

### Level 2 Checks

- Check compressor oil for wear metals using oil sample test kits. Test kits can be purchased through Baltimore Parts using part number (064 54053 000).
- With the compressor in question, running alone, record the current draw, voltage, suction and discharge pressure. It is important that these readings be taken together for proper diagnosis.

After you have collected your readings, contact Product Technical Support (PTS). (This information will be used to run a selection using the Bitzer scroll Web-based software to compare actual readings calculated.)

Each level 2 check will require review with PTS for appropriate and final direction.