

LOCK-N-STITCH Inc.  
Casting Repair Specialists  
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## Inspection Report

Customer: Chevron \_\_\_\_\_

Contact: Patrick Baldwin \_\_\_\_\_

Address: 841 Chevron Way \_\_\_\_\_

City: Richmond California 94802 \_\_\_\_\_

Date: 8/14/2013 \_\_\_\_\_

Part: K550 Diaphragm #4 and #5 \_\_\_\_\_

Inspected by: Gary Reed \_\_\_\_\_

- |                                                                                                                                                           |                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1. <u>Base metal</u><br><u>X cast iron</u>                                                                                                                | 4. <u>Cause of damage</u><br><u>X normal operation</u>         |
| 2. <u>Machinability</u><br><u>X arc-welded</u>                                                                                                            | 5. <u>Machining requirements</u><br><u>X machined surfaces</u> |
| 3. <u>Casting shape where cracked</u><br><u>X flat</u><br><u>X inside/outside corner</u><br><u>X radius</u><br><u>X other; Grooves on inner diameter.</u> | 6. <u>Customer's needs</u><br><u>X permanent repair</u>        |
|                                                                                                                                                           | 7. <u>Inspection method</u><br><u>Magnetic Particle.</u>       |

Damage found: When receiving Diaphragms into *LOCK-N-STITCH* facilities the parts were inspected. We found cracks and breaks and one welded area at the split line and in the labyrinth ring grooves.



#1: The damage areas on the diaphragms were ground away.  
This prepares the parts for Furnace Brazing.

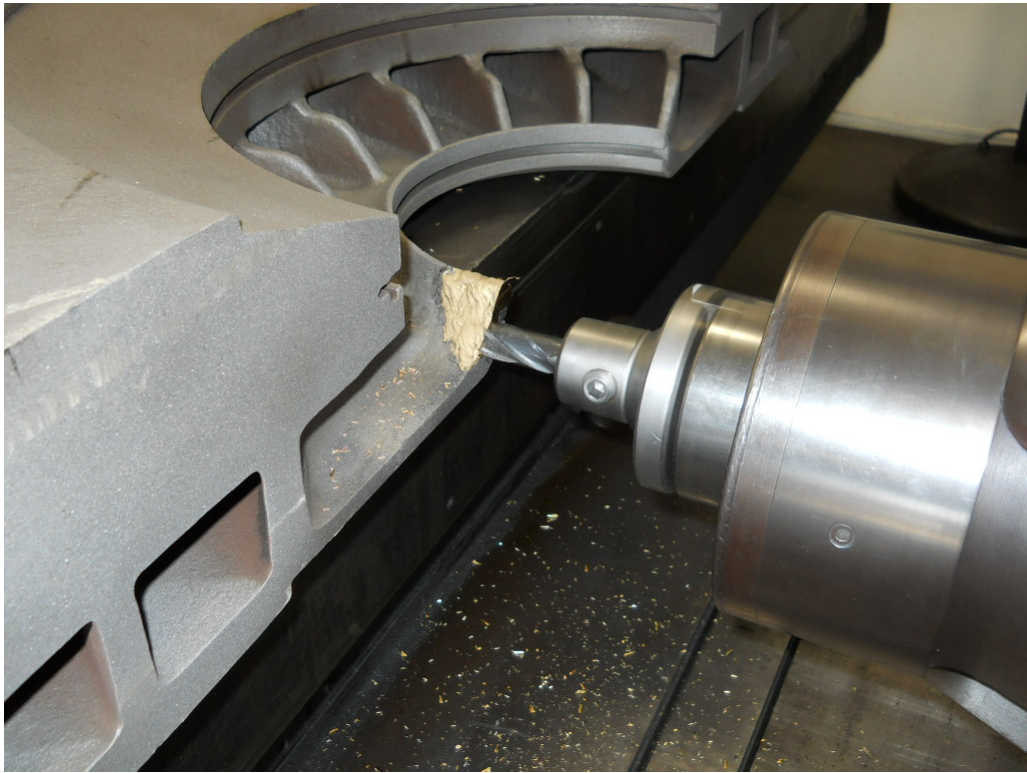


#2: The oven for Furnace Brazing was constructed and the preheat was done to 200 degrees.  
Corner Brazing was done to each damaged area.





#3: The parts are set up on Nomura Boring mill to machine away excess bronze to within .0005 of the original split line surface.

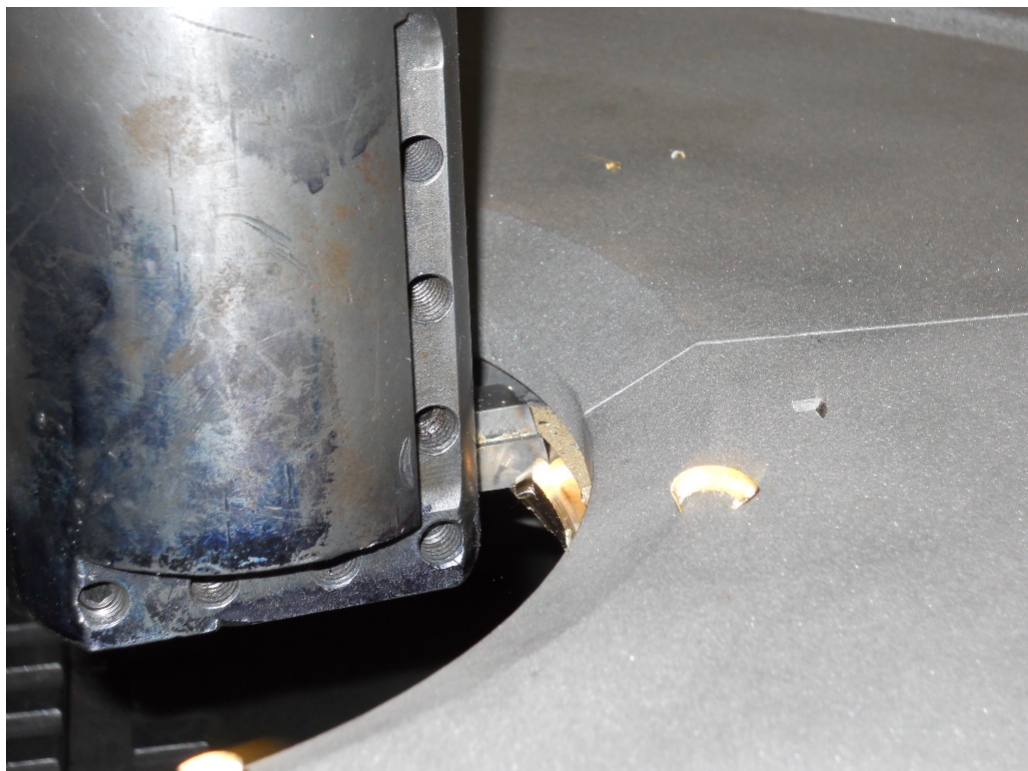


#4: With milling operation completed. The parts are match up and bolted together to prepare for lathe operations.





#5: Both diaphragms were set up on the Bullard lathe. Dial into .002 of center. The inner diameter and groove is machined back to original sizes.







#6: Hand finishing and texturizing was completed to match part.

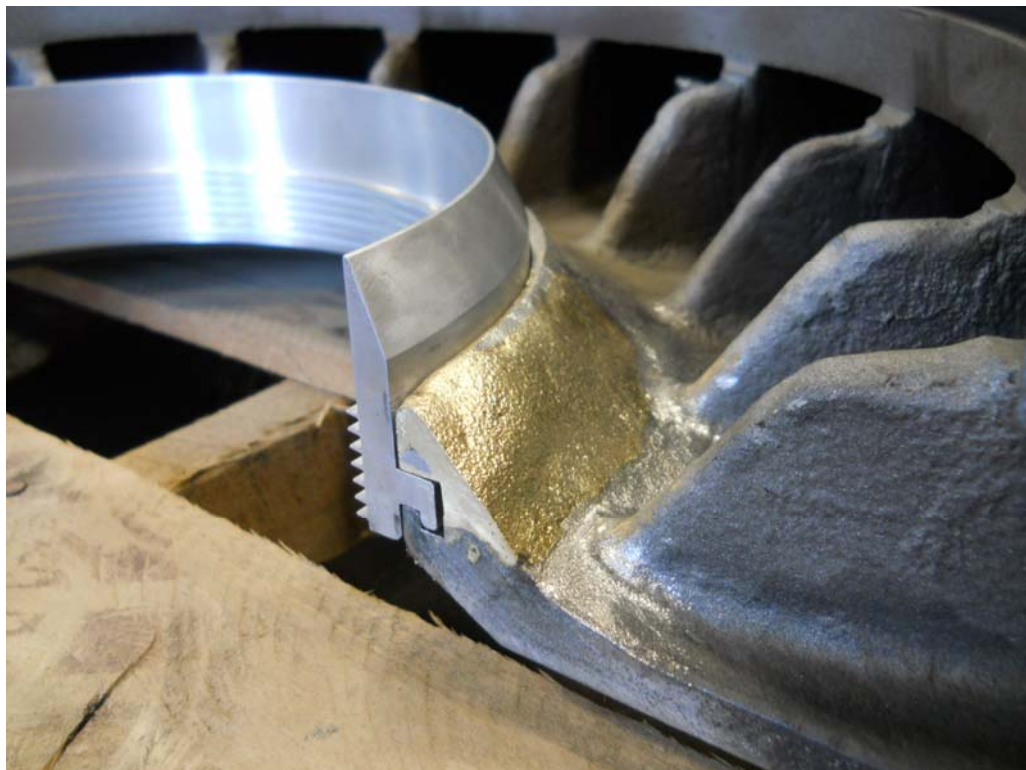


#7: Parts are remagnetic particle inspected to insure no further damage.





#8: The diaphragms are cleaned. The labyrinth rings are installed to insure proper fits. Parts are completed ready to ship to customer.





Conclusion: After evaluation the parts were brought back to 100% strength. The Diaphragms were complete in a timely fashion. Due to the expertise and team effort by *Lock-n-stitch Inc.* the part are ready for a long life of service.

Warranty available:

This limited warranty covers our materials and workmanship for the repair of your part. Disassembly and downtime are not covered by this warranty. The limited warranty is for a period of one year from the date of completion of the repair. If there should be any failure in our repair during that period of time due to faulty materials and or workmanship, we will again repair the part at our cost including all labor, materials and travel expense, or we could choose to refund the money you paid for the repair in part or full. We reserve the right to make the final decision whether to repair or refund. This is the limit of our liability. Be aware that we are not responsible for failures due to faulty installation or improper operation and maintenance of the part. If the problem that caused the original damage has not been remedied this warranty will become null and void.

Extended warranty: