

LOCK-N-STITCH Inc.
Casting Repair Specialists
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Turlock CA 95380

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Final Report

Date 11-12-12

Part Wärtsilä WASA 4R32 Generator

Inspected by: Ramiro Balderas

Repaired by: Brandon Juliot Completion date: 12-1-12

1. Base metal

- cast iron
- ductile iron
- cast steel
- cast aluminum
- other _____

2. Machinability

- no previous repairs
- arc-welded
- brazed
- heat-related cracks
- other _____

3. Casting shape where cracked

- flat
- inside/outside corner
- radius
- other _____

4. Cause of damage

- impact
- heat
- freezing
- normal operation
- other Over torquing_

5. Length of crack/s

- 1) 2 1/2" long X 3/4" deep
- 2) 2 1/4" long X 3/4" deep
- 3) 1 1/2" long X 1/2" deep

6. Material thickness

See above

7. Operating pressure

8. Operating temperature
Less than 200 F

9. Working environment
 hot
 cold
 safety concerns
describe: _____

 other _____

10. Remachining requirements
 bolt holes
 bearing bores
 machined surfaces
 other _____

11. Customer's needs
 permanent repair
 temporary repair
 turnaround time
describe: _____

 other _____

12. Accessibility
 room for the tools?
 room for the operator/s?
 need for disassembly?
describe: Great accessibility

 other _____

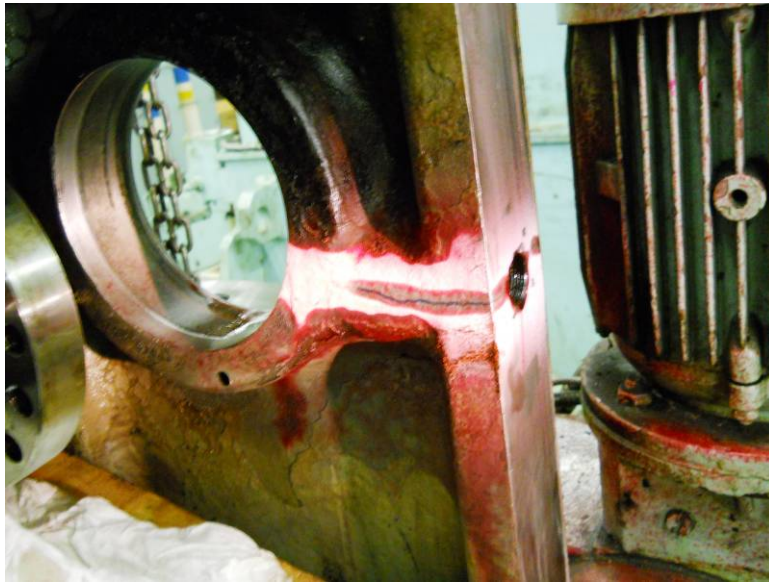
13. Inspection method(s)

Magnetic Powder tests on all damaged area

14. Damage found: Please see pictures below.

#1

Crack number 1 is 2 ½" long x ¼" deep. Will be using our patented Castmaster stitching pins.

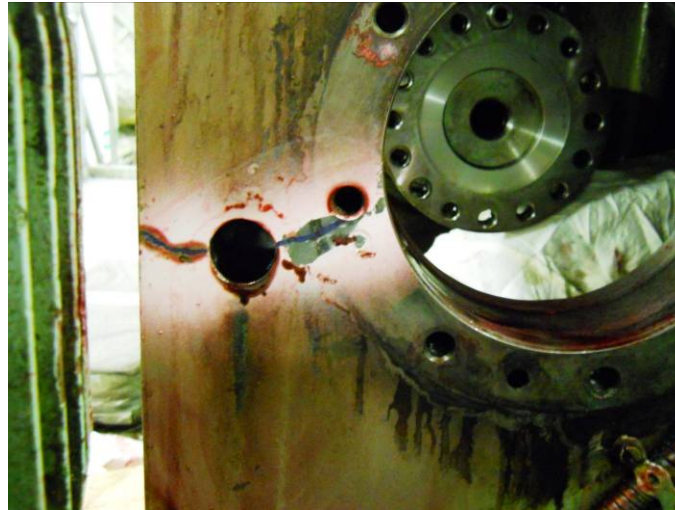


#2

Crack number 2 is 2 ¼" long x ¾" deep. Will be using our patented Castmaster stitching pins.

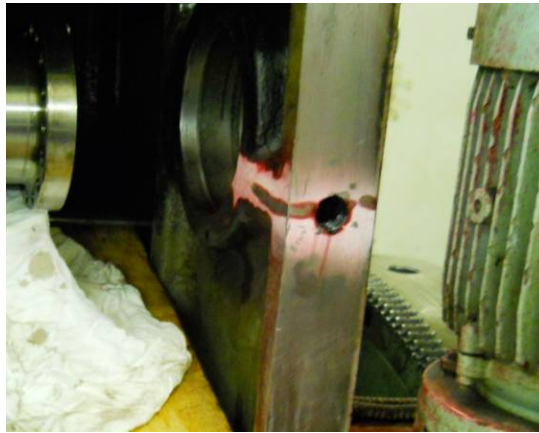
Install one (1) M26 X 1.5 Full-Torque insert

Install one (1) 12mm X 1.75 Full-Torque insert

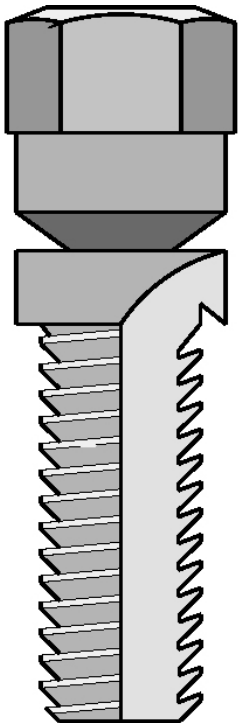


#3

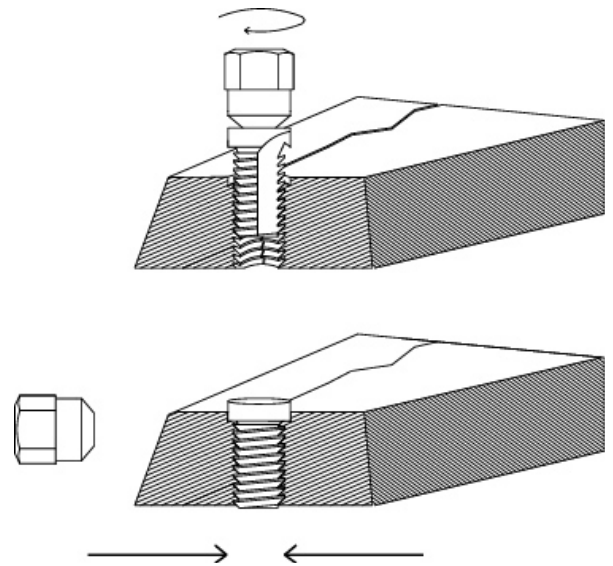
Crack number 3 is 1 ½" x ½". Will be using our patented Castmaster stitching pins.
Install one (1) M26 X 1.5 Full-Torque insert



CASTMASTER® Stitching Pins



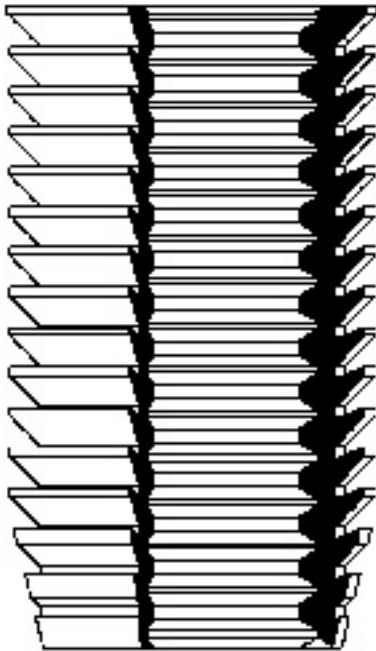
CASTMASTER stitching pins have the unique ability to draw the sides of a crack together when tightened into the drilled, Spotfaced and tapped hole.



#5

The secret is in the patented external threads that pulls the surrounding metal into the threads of the insert and adds strength to the part being repaired. It is now very easy to make bolt holes stronger than the bolt or stud, even in aluminum.

Cracked holes, stripped holes, weak holes, holes with broken taps or easy-outs. Holes that need to be sealed pressure tight.



Pictured right is the *Full-Torque* insert manufactured by *LOCK-N-STITCH* Inc. to repair the cracked bolt hole.

