

LOCK-N-STITCH Inc.
 Casting Repair Specialists
 1015 S. Soderquist Rd.
 Turlock CA 95380

800-736-8261
 209 632-2345
 Fax 209-632-1740
 www.locknstitch.com

Final Report

Date: 12/13/2012

Part: 10 x 10 Discharge Head Mfg. Marcy

Serial number: #18

Inspected by: Jeff Reed

1. Base metal

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

4. Cause of damage

- impact
- heat
- freezing
- normal operation
- other _____

2. Machinability

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

5. Length of crack/s

- | | |
|------------------|-----------------|
| 1A 4.5" | 1F 2.75" |
| 1B 2.75" | 1G 5.75" |
| 1C 5.125" | 1H 4.5" |
| 1D 5" | 1J 3.75" |
| 1E 3.75" | 1K ? |

3. Casting shape where cracked

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

6. Material thickness: 2.5" -- 2.75"

7. Operating pressure: Static

8. Operating temperature:
Under 100 degrees

9. Working environment

- hot
- cold
- safety concerns
describe: _____

- other _____

10. Remachining requirements

- bolt holes
- bearing bores
- machined surfaces
- Grind to blend

11. Customer's needs

- permanent repair
- temporary repair
- turnaround time
Describe: Start as soon as
Sunday, November 25, 2012
- other _____

12. Accessibility

- room for the tools?
- room for the operator/s?
- need for disassembly?
Describe: Customer to remove
liners and sandblast prior to
LNS starting.
- other _____

13. Inspection method(s)

Mag Particle check.

14. Damage found:

1 crack found on multiple surfaces. Below are the measurements of each surface and photos.

1A and 1B

Crack starts at 1A, measuring 4.5" long. It proceeds onto surface 1B, and measures 2.75" long. 1A is in rough casting, while 1B is a machined surface.



Metal stitched 1A: 4.5" long by 2" deep, using C4B stitching pins and 2" long by 1" deep using C3B stitching pins.

Metal stitched 1B 2.75" long by 0.5" deep, using C2.5A pins.

Installed (1) L60S lock and (3) L60B bottom locks in 1A. (Retained locks with (2) L6A pins).



Completed crack repair for 1A and 1B:

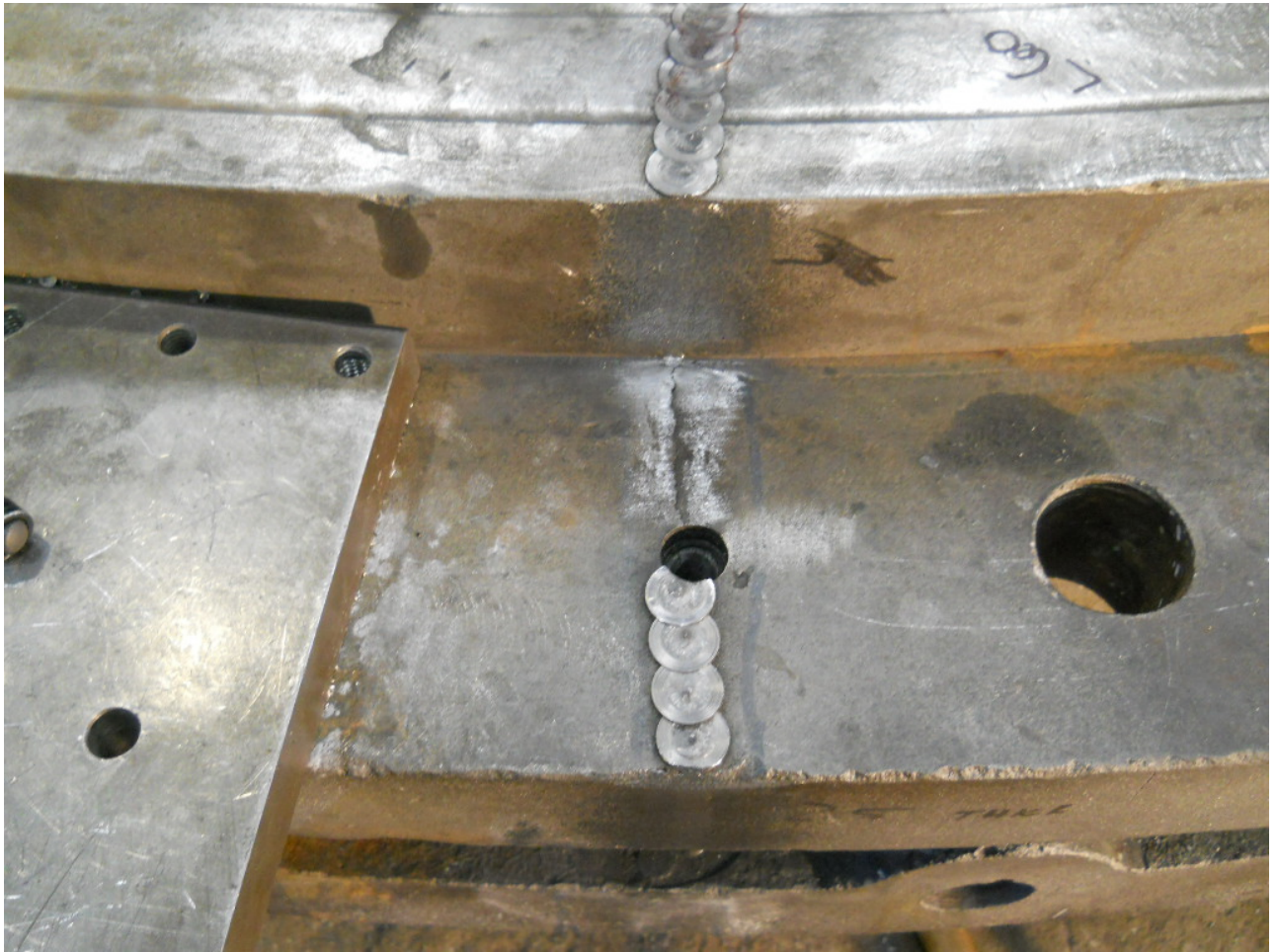


1C

This is the top flange with thru-hole bolt holes. The crack runs through the flange completely. Measurements of the flange are 5.125" x 2.5" thick. Crack measures 3.75" from the hole shown.



Metal stitched 1C, 5.125" long by 2.5" deep, using C4C stitching pins; and 2.5" long by 0.5" deep using C2.5A stitching pins, on outside of outer bolt hole flange.



Installed (1) L60S lock, (4) L60B locks, (1) L40S lock and (4) L40B locks in 1C. (Retained locks with (4) L6A pins).



Completed crack repair for 1C:



1D

Crack is 5" long before it runs into lower flange. Crack is 3" from hole shown in this photo.



Metal stitched 1D, 5.0" long by 2" deep, using C4B stitching pins.



Installed (2) surface L40S locks and (6) L40B bottom locks in 1D. (Retained locks with (2) L6A pins).

Metal stitch corners on 1D, 1.5" long by 1" deep, using C3B stitching pins.



Completed crack repair for 1D:



1E

The crack then runs through the thru-hole bolt hole. The bolt hole measures is 1.620 x 2.75 deep. The lower flange is 3.75" x 2.75" thick.



Metal stitched 1E using (1) C4C stitching pin and (1) C3C stitching pin.

Completed crack repair for 1E:
(Please note: arrow is pointing to 1E)



1F

Shows the thickness of the lower flange (2.75" thick)



Metal stitched 1F crack, 2.75" long by 0.5" deep, using C2.5A stitching pins.

Completed crack repair for 1F:



1G

This is the surface on the bottom, next to the lower flange. It measures 2.75”.



Metal stitched 1G crack, 2.75" long by 3" deep, using C4C stitching pins.



Installed (1) L50S lock and (5) L50B bottom locks in 1G. (Retained lock with (2) L6A pins).



Completed crack repair for 1G:



1H

This is the back side to 1D (or inside the Discharge Head). It measures 4.5”.



Metal stitched 1H crack, 4.5" long by 3" deep.

Installed (1) L60S lock and (2) L60B bottom locks in 1H. (Retained locks with (2) L6A pins).



1J

Measures 3.75" before it turns up behind the liner. They are removing the liner for more measurements.



Metal stitch 1J crack, 9" long by 1" deep.



Completed crack repair for 1H and 1J:

