

Damaged Cooper compressor frame



Frame damage that was seen on initial inspection on-site



Blown out pieces are sent to *LOCK-N-STITCH* Inc. to be used as templates also to use the good pieces that will be furnace brazed back together



Frame at *LOCK-N-STITCH* Inc. where the prep work begins on the damaged area



All damaged areas will need to be ground parallel to accept new casting that will be metal stitched



Broken pieces from the flange being laid out to be pieced back together and be furnace brazed



## Fitting broken flange pieces and furnace brazing



Flange is completed and ready to be welded 1 ½" plate

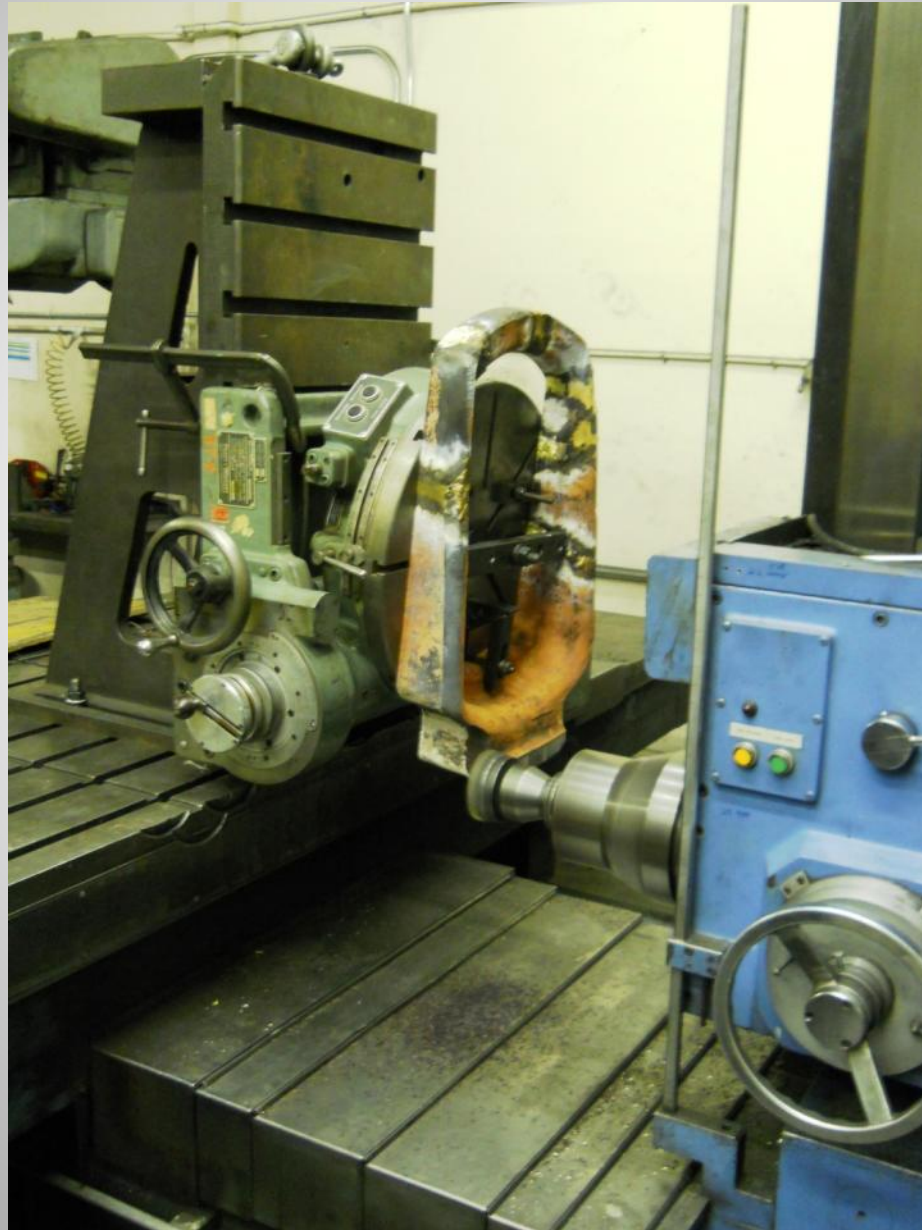




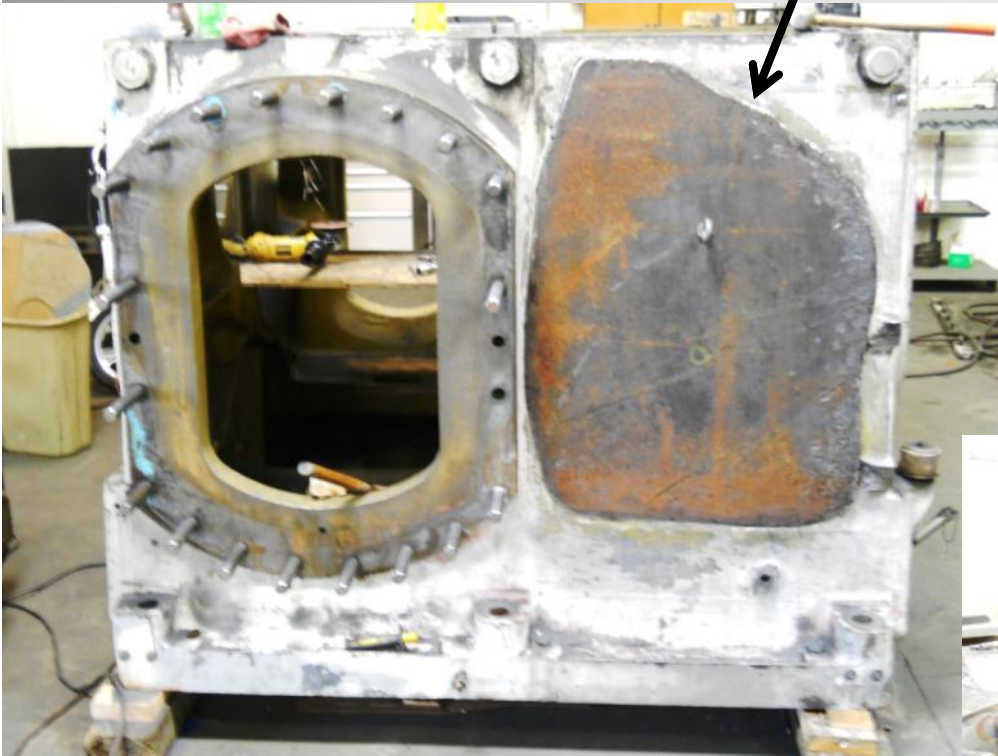
Making template for casting to be welded to flange and then metal stitched into frame



Machining the surface that will be welded to steel plate. Insuring that flange is completely flat against steel plate



Fitted steel patch to damaged area and flange being fitted as well to steel patch



Flange marked out and hole cut out of steel plate for flange opening. Flange is now ready to be welded to steel plate





Flange set up in oven and ready to be furnace brazed

Flange tacked to steel plate and ready to welded solid around joint line.



Furnace brazing in process



## Furnace brazing process of flange to steel plate



Flange is completed and ready to be metal stitched into the frame

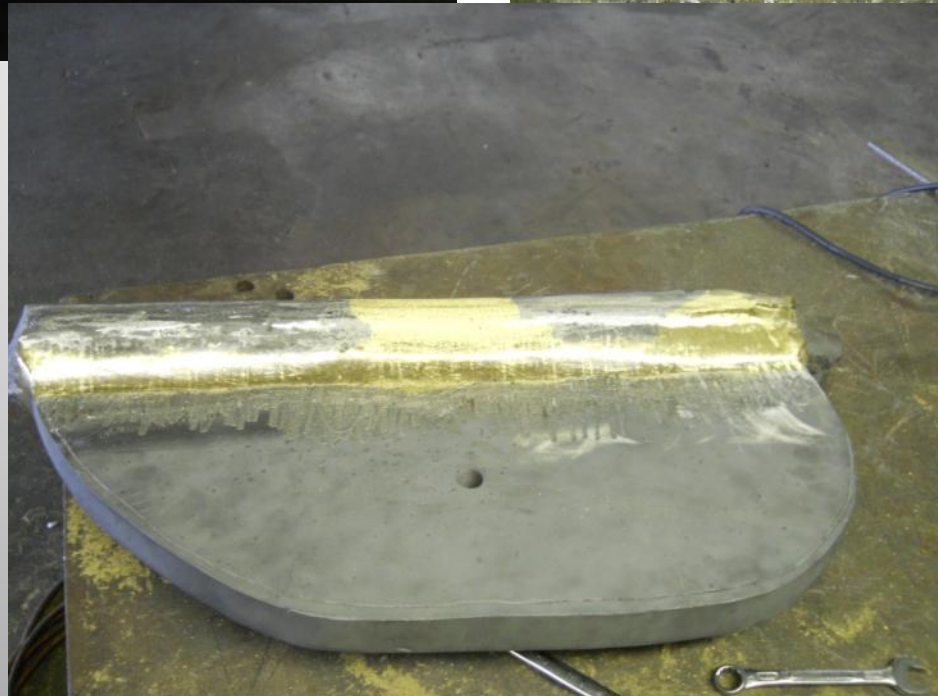
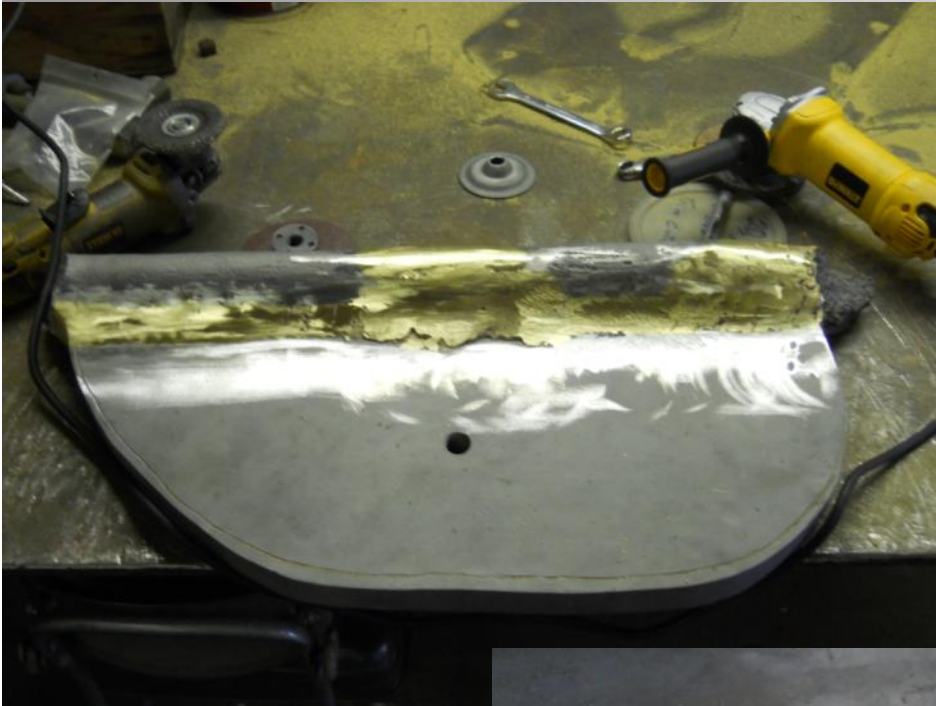




We saved the two pieces from the floor that would be hard to match up and welded them back together and then welded the steel plate to them to complete the floor casting. (See next slide)



Floor for frame has been welded and it ready to be metal stitched into frame



Floor patch has been fitted



Using a Mag base Drill to install the FP7 plugs



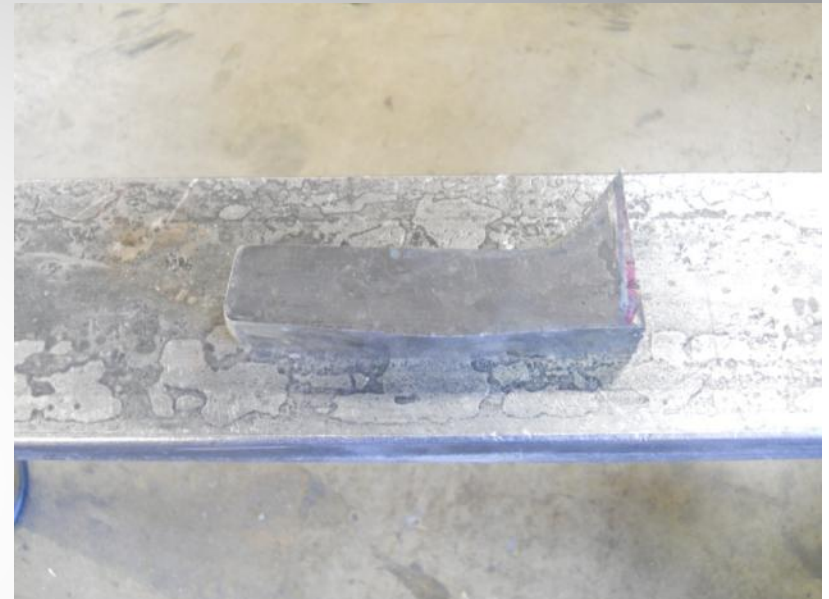
Floor is stitched in and ready to be hand finished



Completed floor repair



Before the main outside flange can be metal stitched all the external damage must be checked and repaired. This makes the accessibility that much easier. Here you see two of the main bearing wall gussets being metal stitched into place



Both main bearing wall gussets are repaired





Repairing upper floor on the upper half of compressor frame



Patch fitted and metal stitching almost complete



Using the 7' Bed Mill to mill off the front of the new casting so it sits flush with the casting



New manufactured  
flange casting is  
fitted and ready to  
be metal stitched  
into place



Flange has a couple stitching pins in place to hold it in place. Using the Mag base Drill the stitching begins until the entire joint is sealed with overlapping stitching pins





L20 Locks are being installed every inch to additional across the repair. These Locks have a total of 19,775 PSI per location

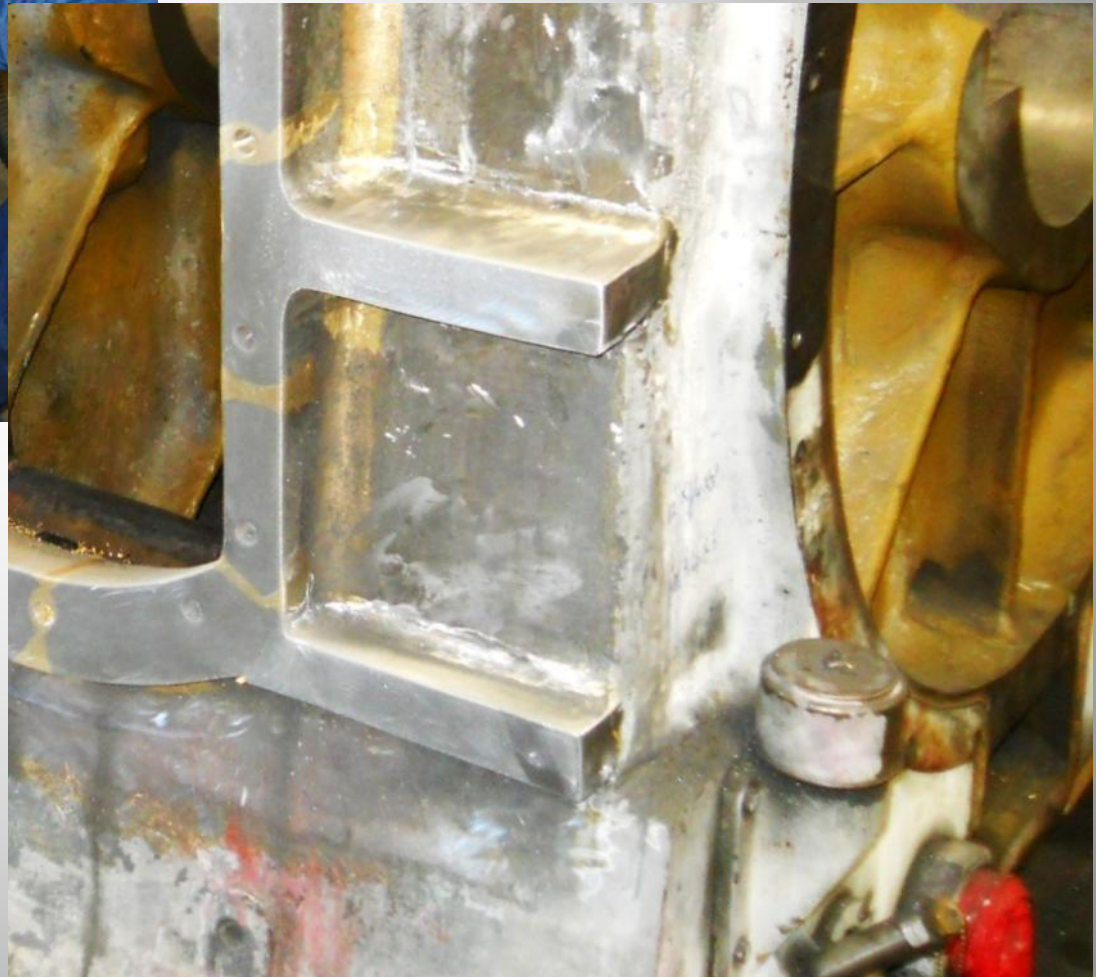


Metal stitching and Locks installed is completed. Ready to be hand finished and flange surface machined.





Outer gusset flanges repaired



Using the 7' Bed Mill to complete the final machining on the face of the flange



All repairs where Mag Checked to make sure that all damage was repaired





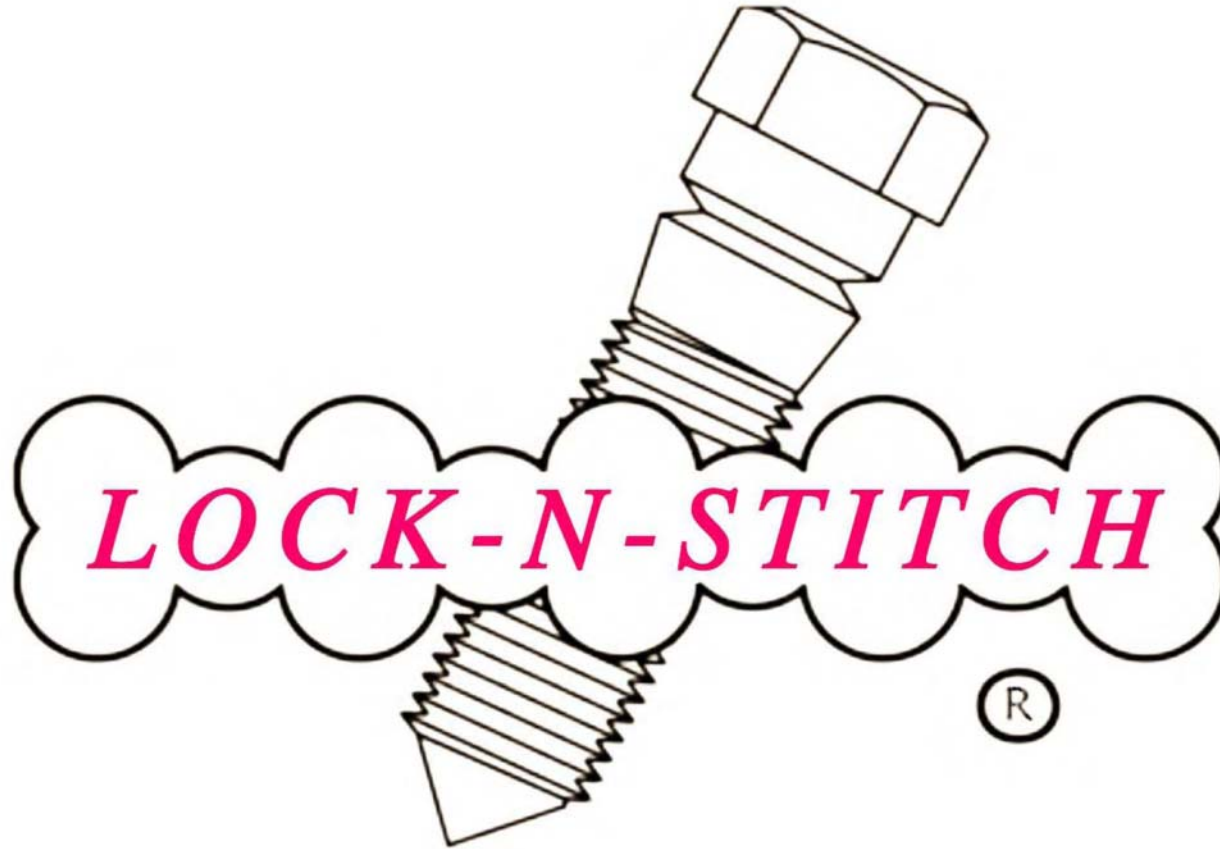
Pressured washed and ready for paint





Repair completed in 15 days 24 hours around the clock





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