

Drilling ship

Repair completed by *LOCK-N-STITCH* Inc.

September 2012



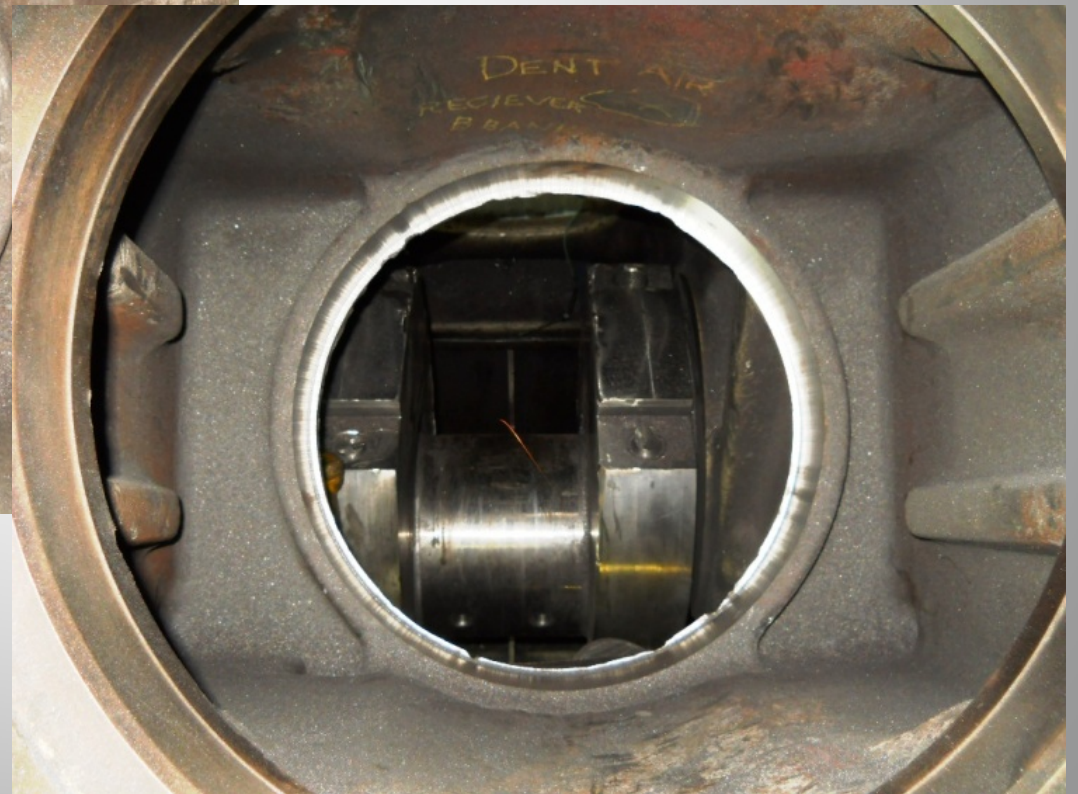
Water jacket to air box crack completed



Lower bore repair side A2 needs two more pins and finish work



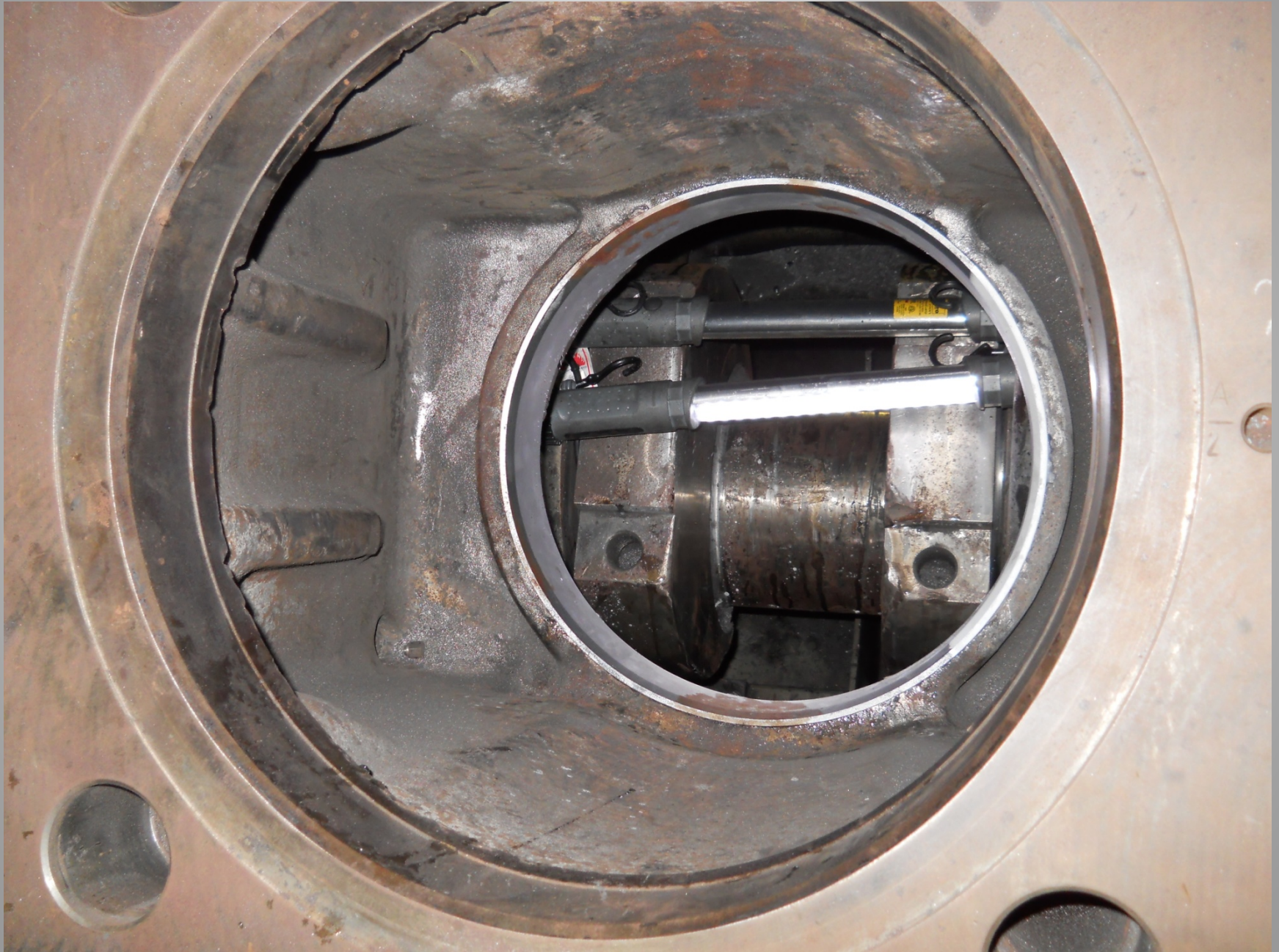
Bores A2 and B2 are bored and ready to accept repair sleeves



Using liquid Nitrogen to shrink the repair sleeve for the lower bores



Lower bore repair sleeve installed and ready for final machining



Stiffening bracket side A2 completed



Stiffening bracket side B2 is stitched and ready for finish work



Side B2 main bearing web damage removed and ready to be stitched



B Side Main Bearing Wall damage casting metal stitching completed and ready to be hand finished



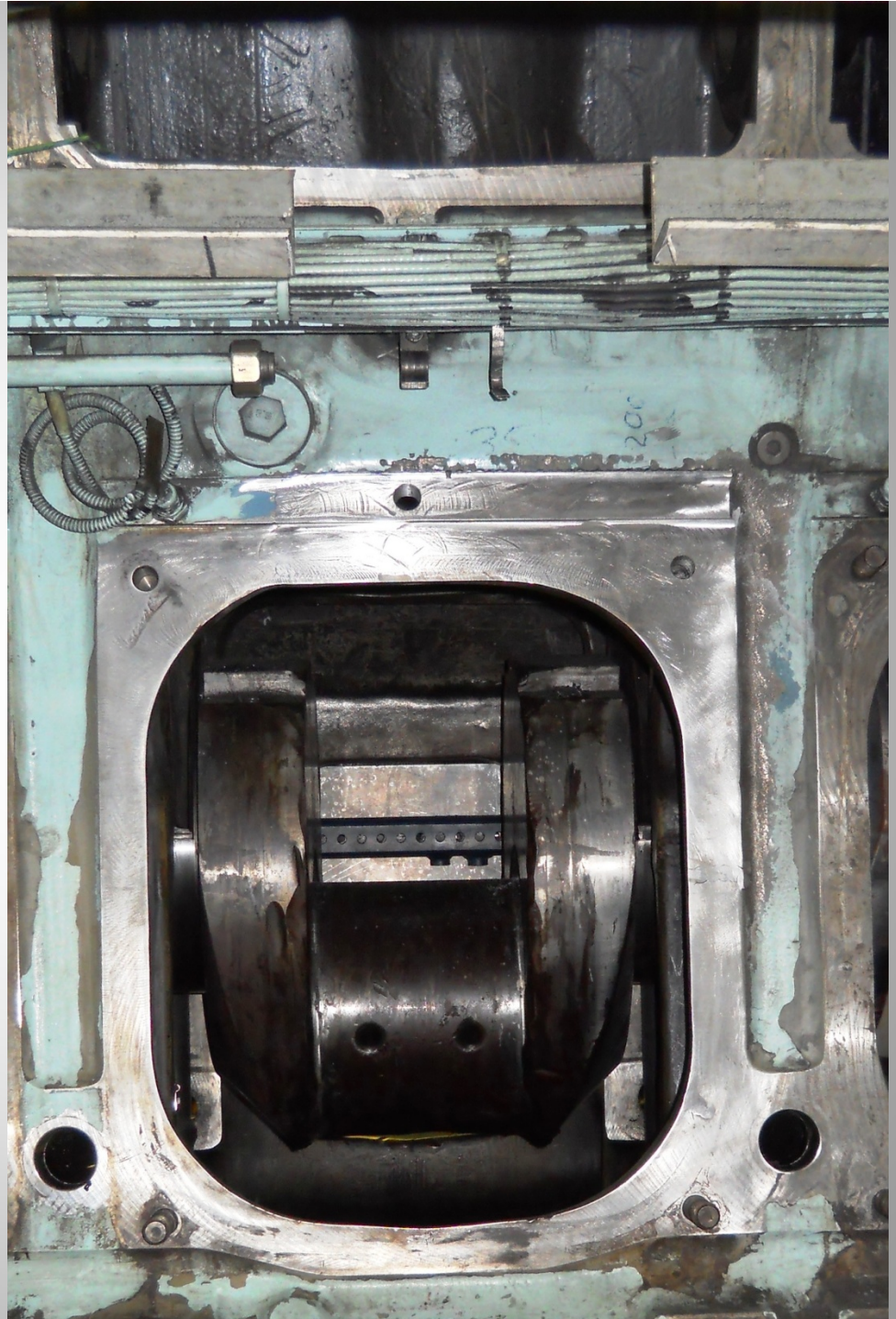
Inspection door side A2 damaged cut out and ready for new casting



A Side Inspection gasket surface stitched into place



A side inspection door gasket surface repaired and machined



Inspection door B2 damage cut out and still need to cut damaged pocket above door



B side inspection gasket surface casting fitted and ready to be metal stitched



Metal stitching in process on the B side Inspection Door Gasket Surface



B Side Inspection Door gasket Surface



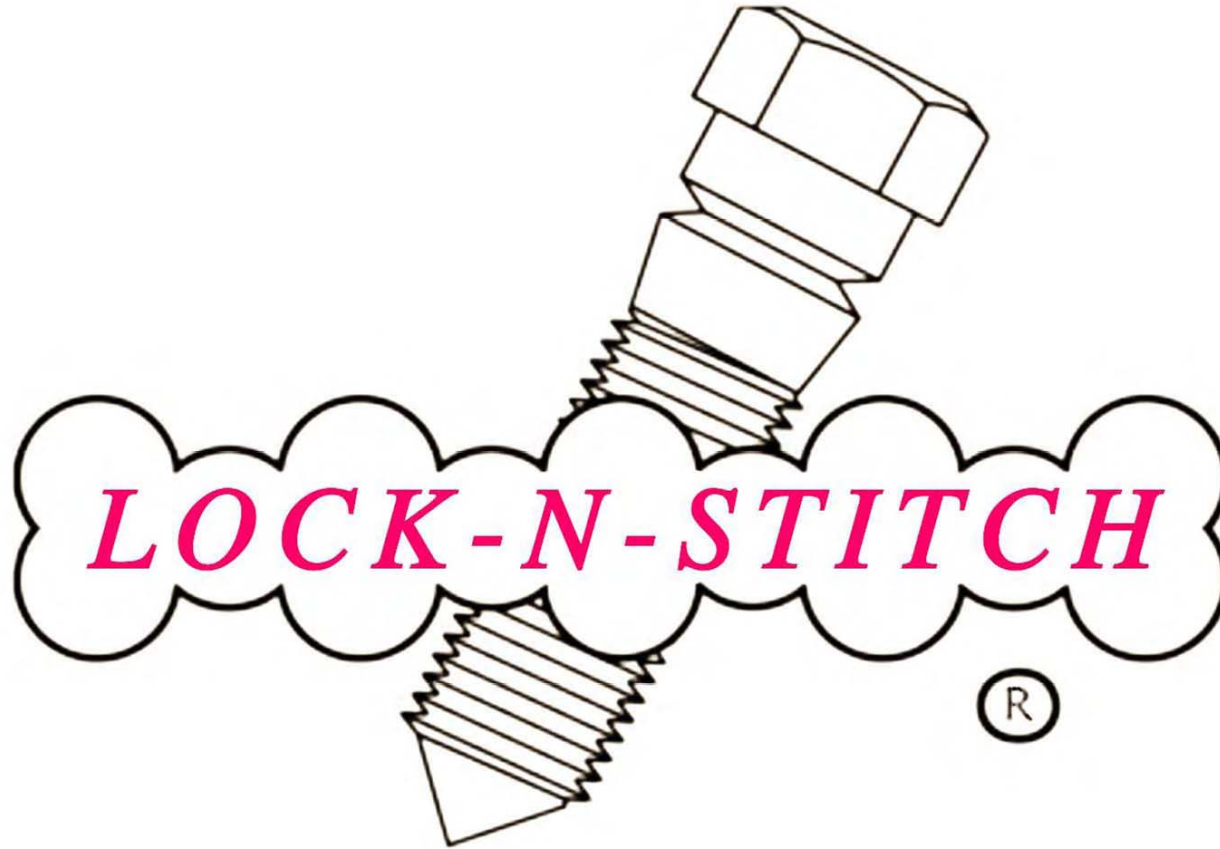
7' Climax bed Mill machining the gasket surfaces on the inspection door





Final repair inspection process

1. LNS technicians performed in-process and final inspections of each repair site once the metal stitching process for that area was concluded.
2. The process involved using a magnetic particle inspection process with either dry powder or wet particle methods.
3. The metal stitching locks and stitching pins have magnetic properties that are slightly different from the cast iron so the outline of the repairs attracts the magnetic powder when a special magnet is placed on the part with the North and south poles spanning the repair.
4. This method quickly and easily shows any gaps between the pins or any crack that may have been missed.
5. If a gap is detected on either side of the repaired wall, additional stitching pins could have been added to the repair.
6. The final inspection showed no spaces, gaps or cracks at or around the metal stitching repairs that were repaired.



This repair required eight (8) weeks to complete and is guaranteed for one year.