

Motor Service Hugo Stamp, Inc. Shughart #7 cylinder block



Repaired October
2011

USNS Shughart

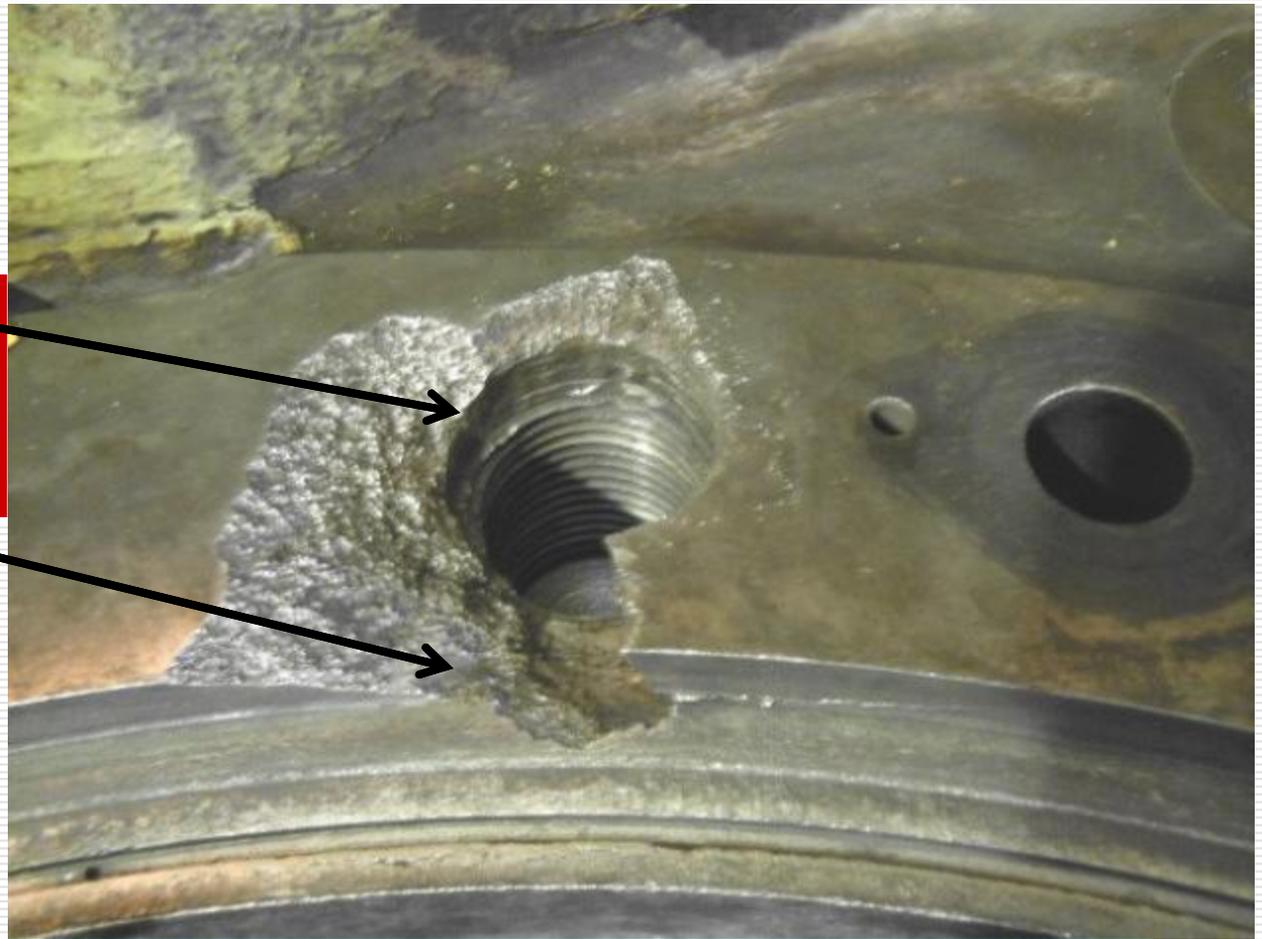
Violet Docks, LA

Scope of Work

- 1. Manufacture new head stud and thread repair insert with 68mm internal threads**
 - 2. Mill out the damaged area on the engine to receive a repair patch**
 - 3. Fabricate a steel patch to fill the milled out area and drill a hole to accept the thread repair insert**
 - 4. Metal stitch the plate in place**
 - 5. Drill and tap to accept the thread insert**
 - 6. Install the thread insert**
 - 7. Set up and mill the top surface where the insert is installed flush on the top of the block**
 - 8. Bore out liner landing on the block to accept a large repair ring**
 - 9. Manufacture the special repair ring.**
 - 10. Install the repair ring by freezing in liquid nitrogen**
 - 11. Perform final machining on the ring liner landing and inside bore**
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Damaged area

Damaged 68mm
bolt hole with
damage into the
liner landing.



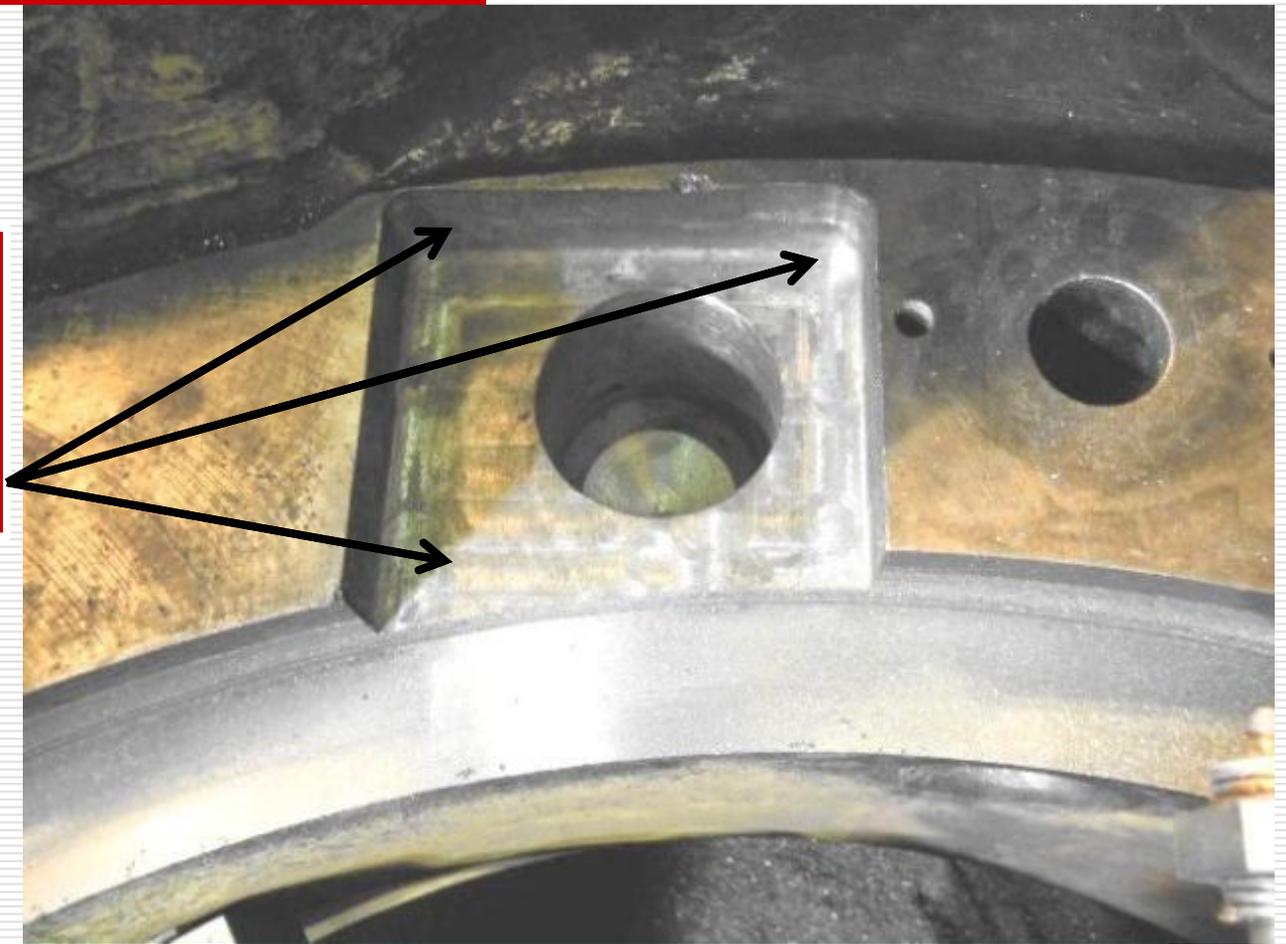
Mill out damaged area

Milling out
damaged area
with a portable
Milling machine



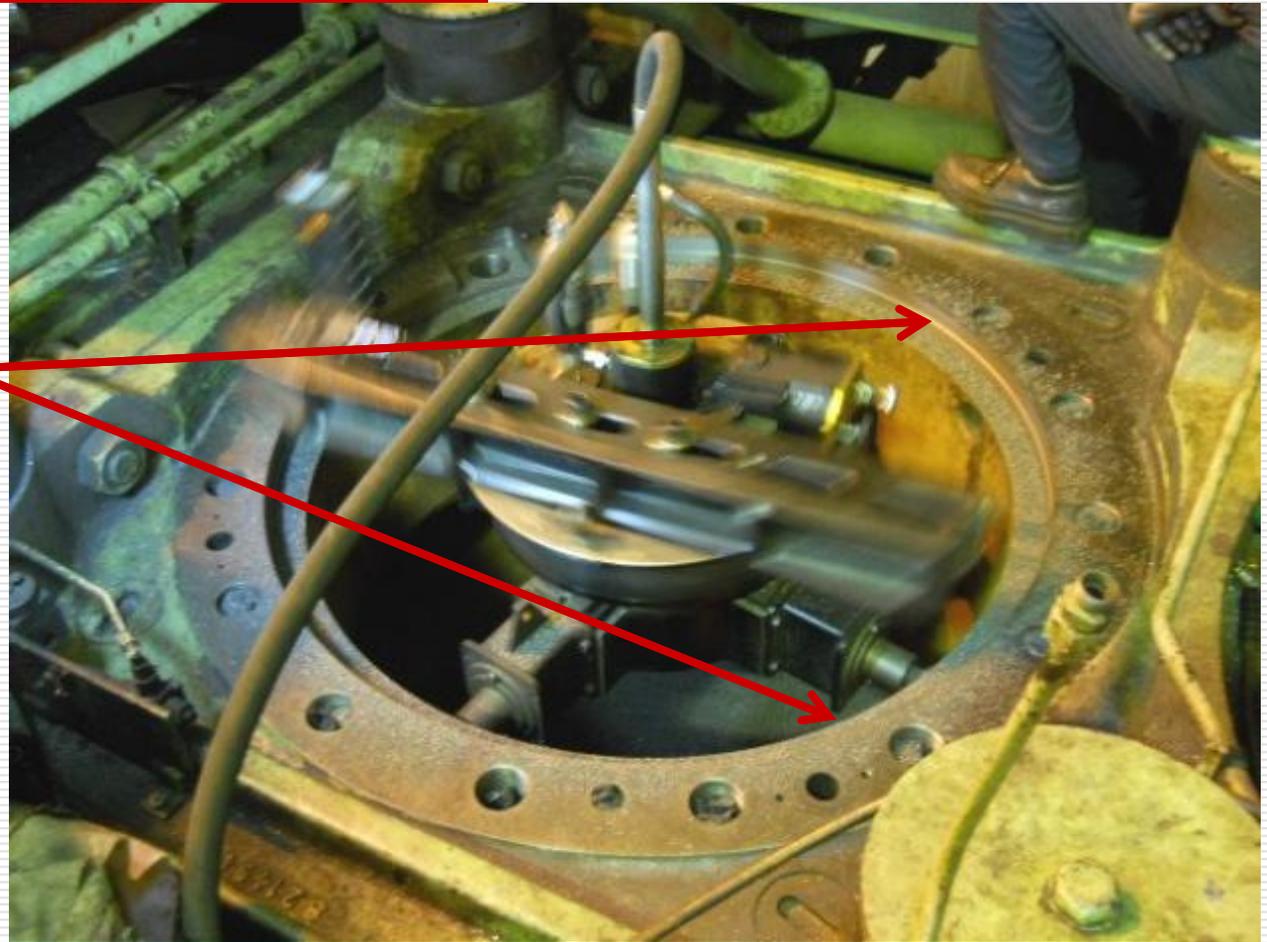
Damage completely milled out

Damaged area completely milled and ready to accept the patch to fill the void.



Liner landing repair

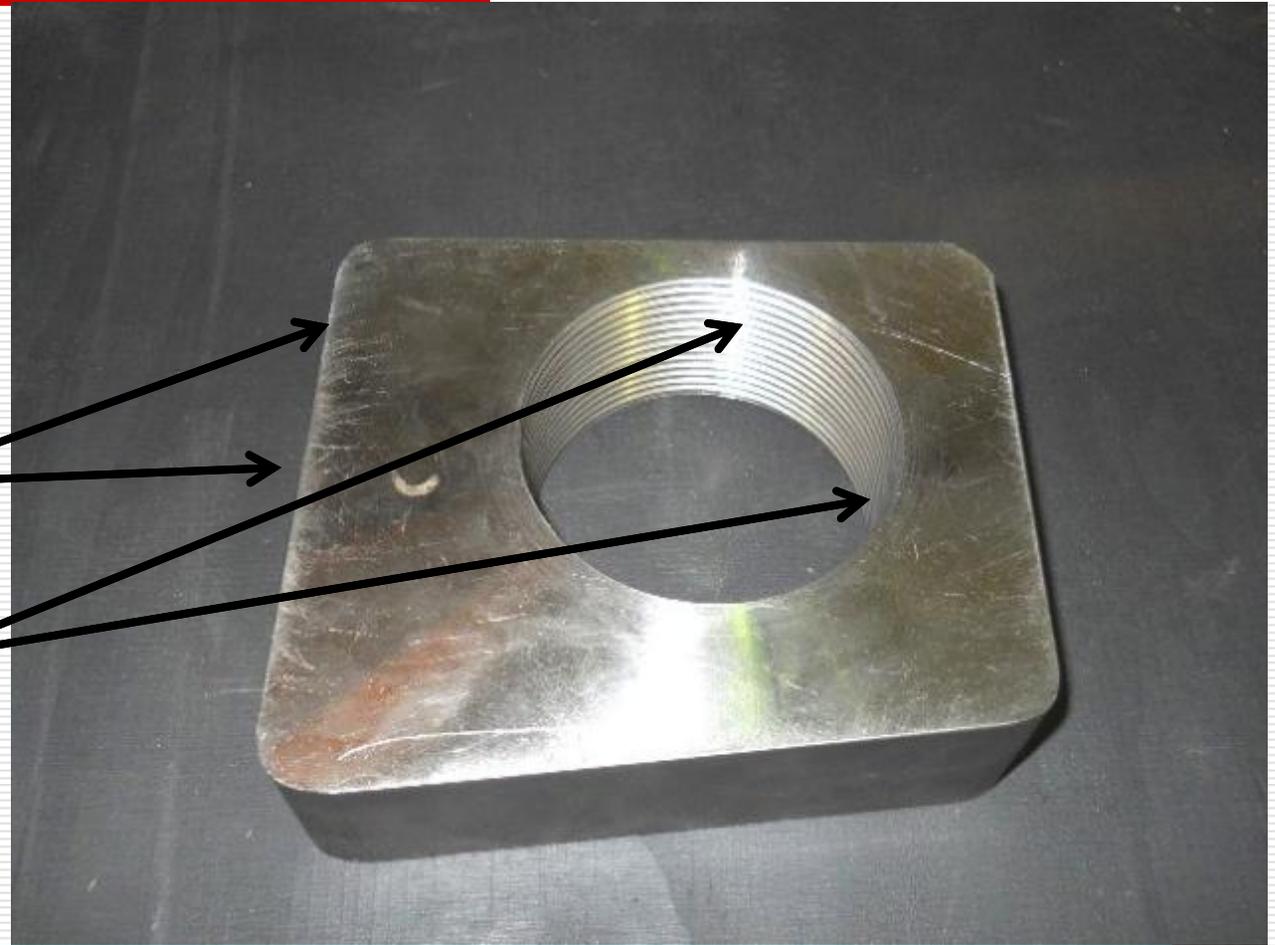
Using a flange facing machine
LNS bored the
liner landing
bigger and deeper
to accept repair
the repair ring



Fabricated steel patch

Once the damaged area is milled out LNS fabricated a steel patch to fit the milled out area.

Full-Torque O.D. threads are threaded into the patch to accept the repair insert.

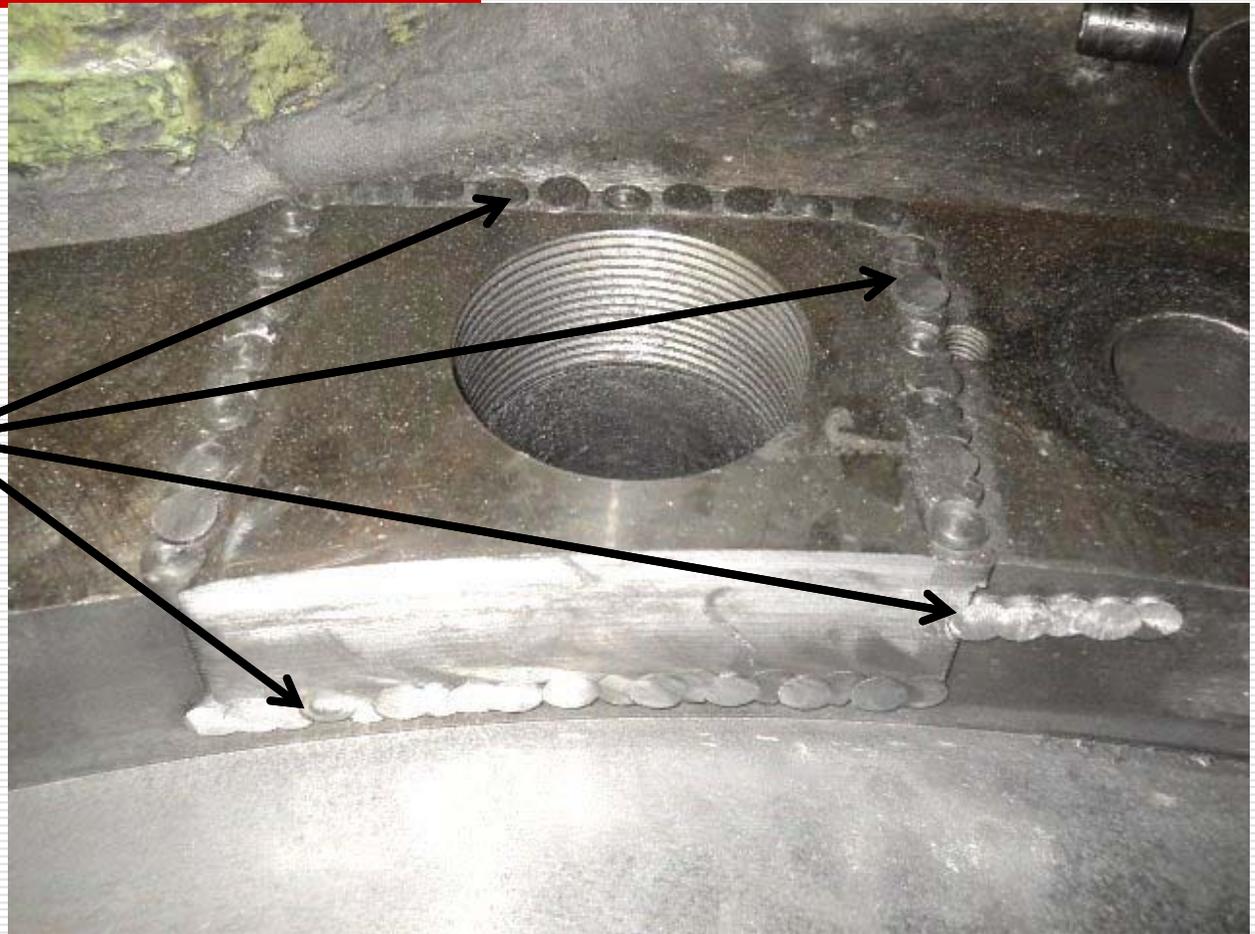


Metal stitching the patch

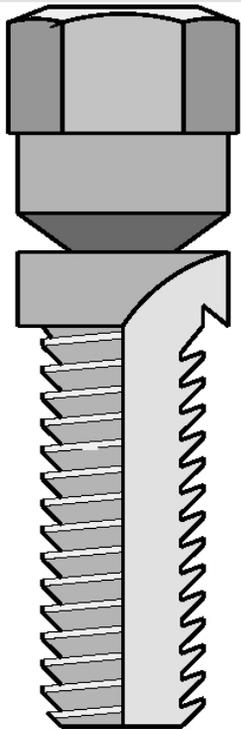


Final metal stitching

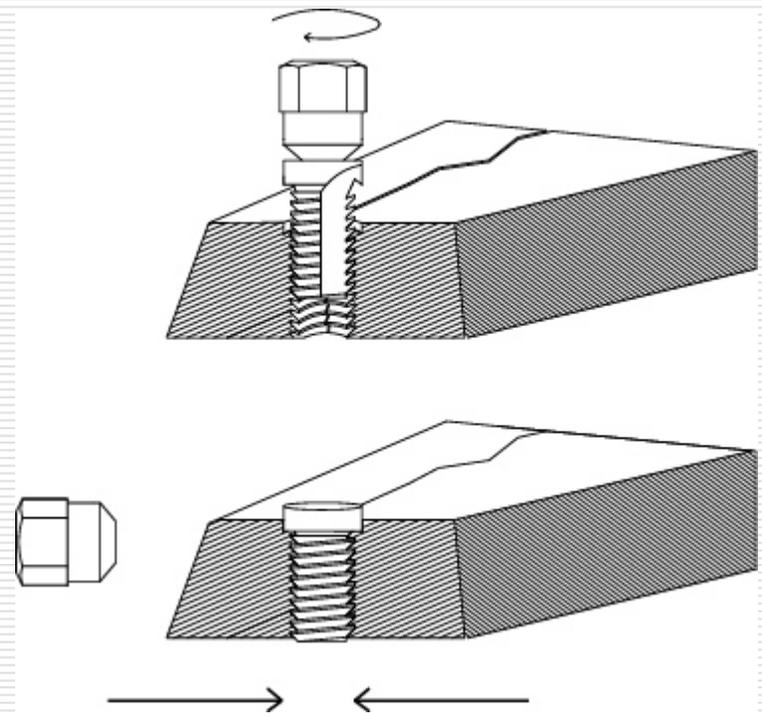
Patch is metal stitched and ready to accept the Full-Torque thread insert.



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.



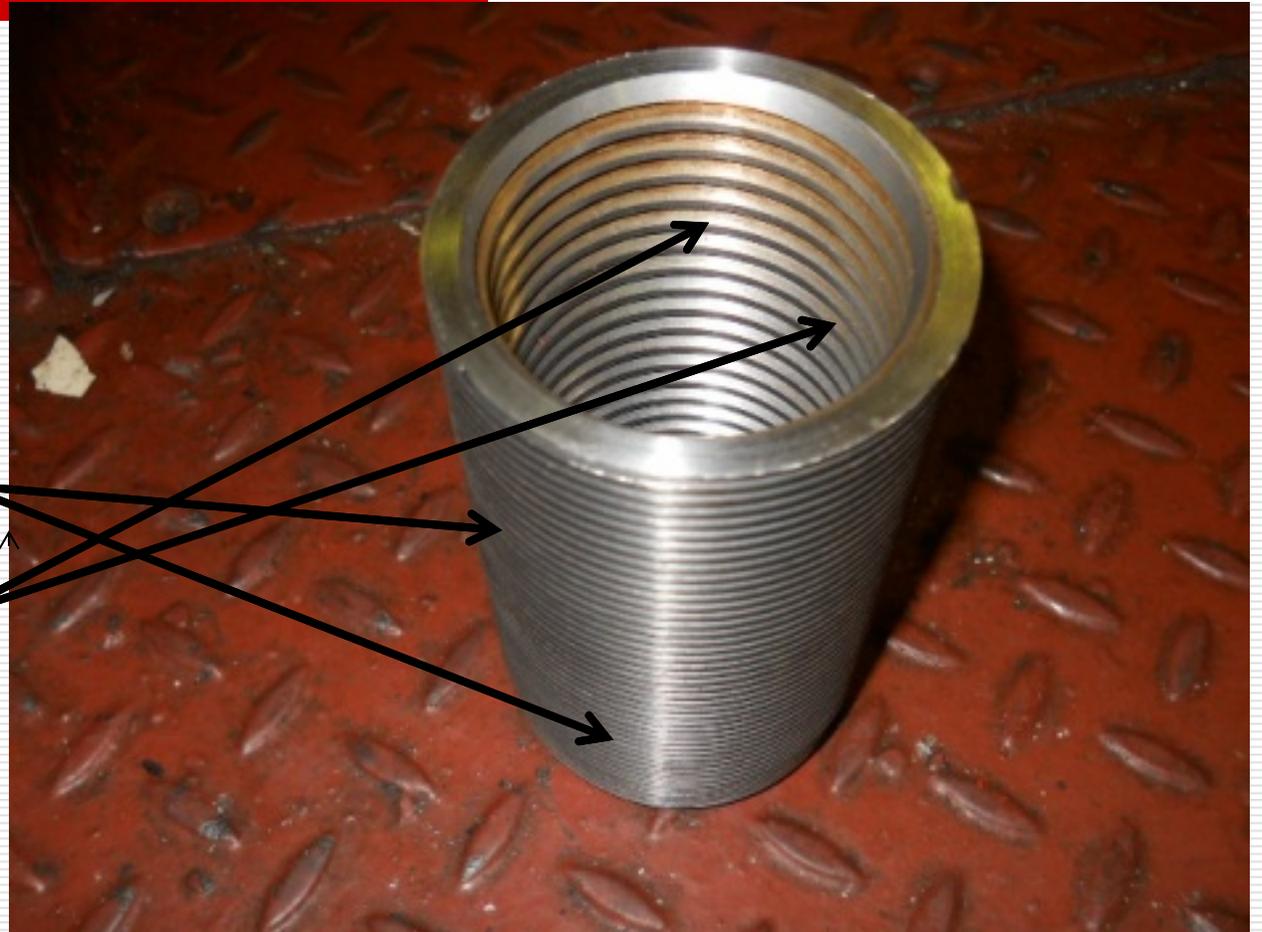
Full-Torque thread insert

Full-Torque thread
Insert tap



Full-Torque thread insert

Our Full-Torque thread insert with our patented spiral hook design threads on the O.D. and the m68 threads on the I.D.



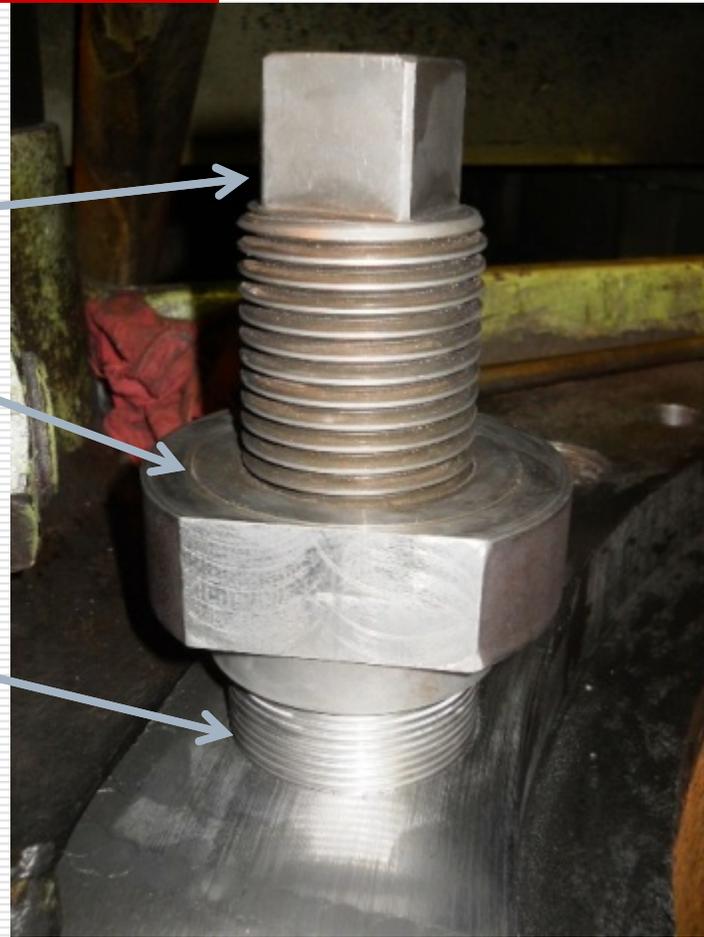
Tapping the hole for the Full-Toque insert

Using a magnetic base drill with a torque multiplier we tap the hole through the repair patch and into the base material



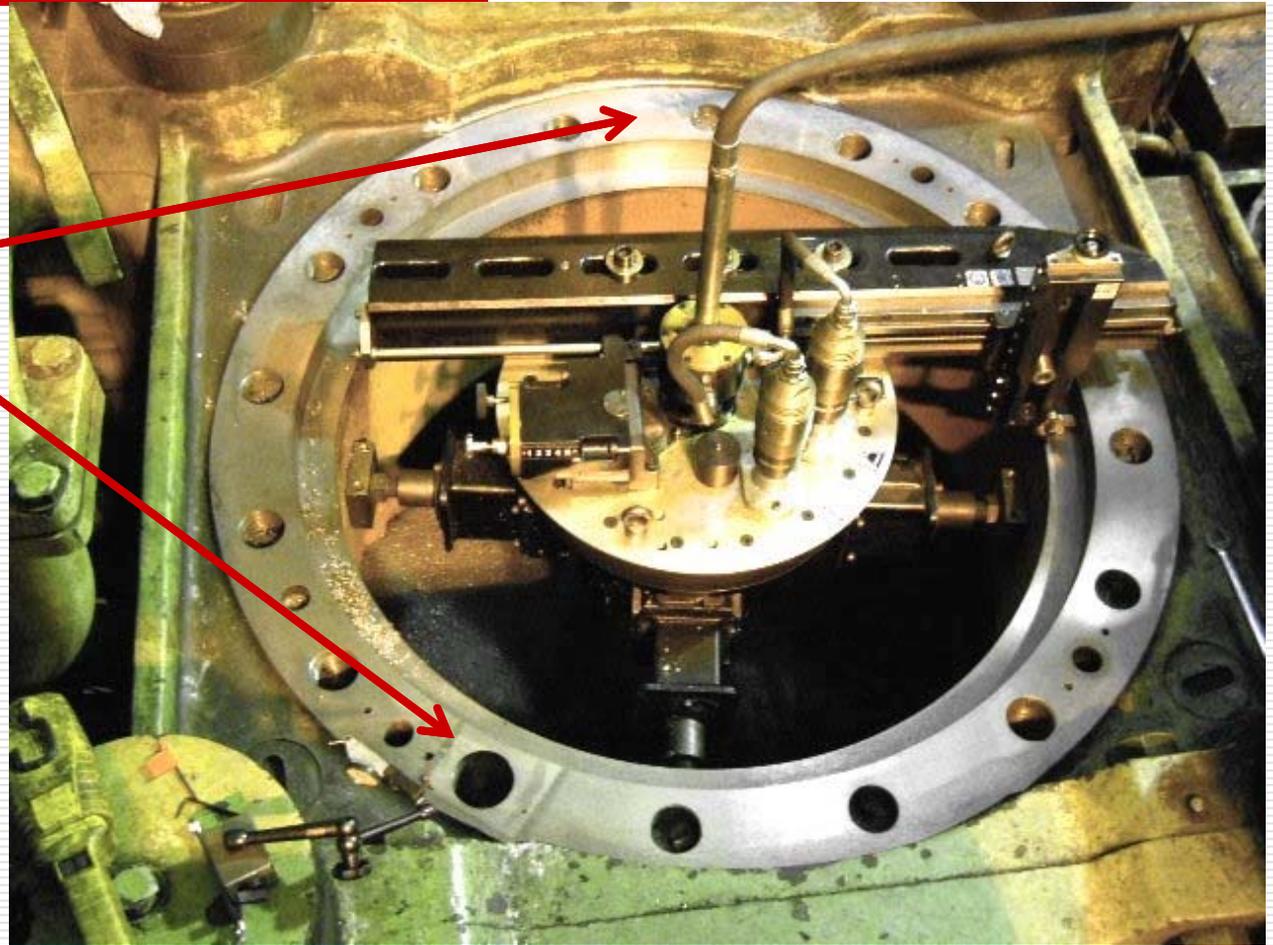
Installing insert

Using an installation tool the insert is screwed onto the install tool and until snug against hardened washer. The hardened washer is larger than the insert so it will tighten down flush to the machine surface.



Milling top surface

Using the flange
facer to machine
deck surface



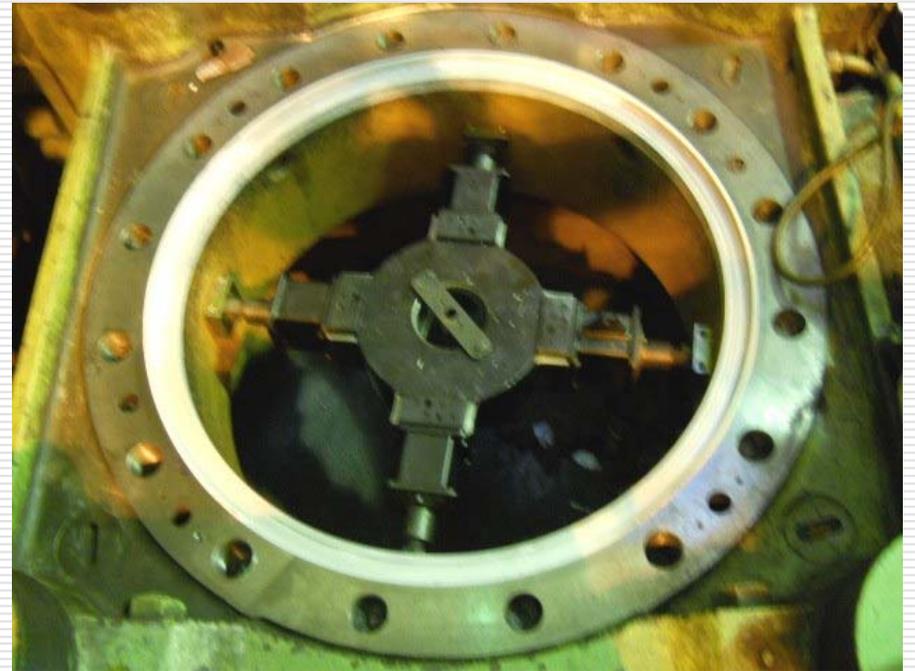
Repair ring in liquid nitrogen

Using liquid nitrogen to shrink repair ring to fit in bored out liner landing



Final machining

FT thread insert installed



Locking pins to prevent rotation

Final repair

Completed repair by
LOCK-N-STITCH Inc.
1015 S Soderquist Rd
Turlock, CA 95380
(209) 632-2345

