Turbo air box repair final report

Date: 1/25/2013

Part: DG #1 Airbox,
Serial number_______________________ Inspected by: Alaa and Denn

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
   - X normal operation
   - other _______________________
5. Length of crack/s
   - 16" and 10"
6. Material thickness
   - ¾"
7. Operating pressure
   - 5.33 Bar
8. Operating temperature
   N/A

9. Working environment
   X hot
   cold
   safety concerns
   describe: ________________
   ______________________
   ______________________
   other ____________________

10. Remachining requirements
    X bolt holes
        bearing bores
    X machined surfaces
    other ____________________

11. Customer’s needs
    X permanent repair
    temporary repair
    turnaround time
    describe: ________________
    ______________________
    ______________________
    other ____________________

12. Accessibility
    room for the tools?
    room for the operator/s?
    X need for disassembly?
    describe: Remove air cooler
    box to allow for welding. Remove all
    studs
    other ____________________

13. Inspection method(s)
    Mag particle check using electro-magnet.

14. Damage found: Top left corner has 16” of crack. Previously arc welded. Removed old
    weld, and prepared crack for welding.
Grind out existing weld and Prep area.

Arc weld cracks.

Hand finished.

#2 Turbo support gusset is cracked. Prep for welding.
Turbo support gusset welded.
#3 Vertical support bar cracked.

Vertical support bar welded and hand finished.
#4 Overhead crack in center of air box, was previously welded. Removed old weld, and crack.

Welded center crack and hand finish.
#5 Two broken stud holes.

Two broken stud holes welded
#6 Installed *Full-Torque* thread inserts.
#7 Machined mounting flange.