

S.A.C.-1 Articulated Connector**Male Casting Crack Repair
For Maximum Crack Depth of 0.25 inch**

January 11, 2002

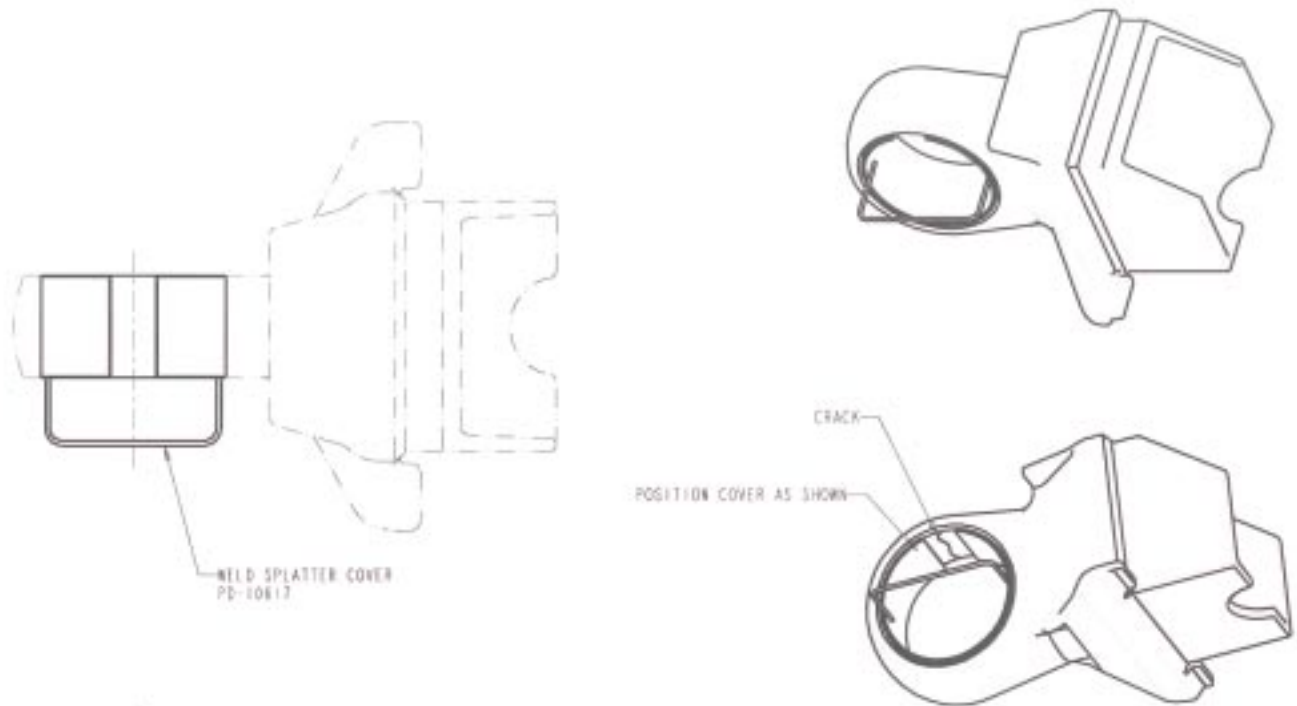
1. Uncouple the connector per TTX Maintenance Instruction No. 83-486, Cardwell Westinghouse SAC-1 Articulated Connector Inspection and Maintenance, clean the surface area of the suspected crack and verify crack using dye penetrate or magnetic particle inspection. If crack is present then proceed to STEP 2.
2. Remove spherical ball and liner from male casting per TTX Maintenance Instruction No. 83-486 Cardwell Westinghouse SAC-1 Articulated Connector Inspection and Maintenance.
3. The entire defect must be removed by grinding prior to weld repair. The area to be welded must have the sides contoured to provide for the application of a sound weld. Verify crack removal using dye penetrate or magnetic particle inspection.
4. Locally pre-heat the casting loop by uniformly heating the casting loop between 300 °F and 400 °F. Welding shall be accomplished while the casting is maintained at a temperature above 200 °F. **DO NOT EXCEED 400 °F.**
5. Before repair welding insert the weld cover inside the casting bore to protect bore surface from weld splatter. Figure 1 is a visual guide for installing the Weld Cover.
6. Over build repair area using E9015, E9016, or E9018 low hydrogen coated electrodes or equivalent welding wire and wire manufacturer's recommended shield/cover gas for gas-shielded welding.
7. Allow repaired casting to slowly cool to ambient temperature. NOTE: **DO NOT** accelerate cooling by forced air, water, or other means. **If ambient temperature is 40 °F or below**, cover the casting with an insulating blanket and allow the repaired casting to slowly cool to 200 °F.
8. Blend repair area smooth to the surrounding surfaces by grinding. Check for weld cracks and incomplete fusion using dye penetrate or magnetic particle inspection.
9. Insert bore NO-GO Gauge into casting bore to ensure bore dimensions are sufficient to properly install race liner and ball assembly. See Figure 2 for application drawing for the bore NO-GO Gauge.

NOTE: Welders MUST be qualified and use procedures contained in AWS 15.1, in the position welding is to be performed.

*For crack depths greater than 0.25" contact Robert Herron at Cardwell Westinghouse 773-483-7575 ext. 249.

Attachments: Weld Cover and Bore Gauge Drawings

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Weld Cover Installation Comments:

- (1) The weld repair area should be accessible from within the opening in the weld cover as shown above.
- (2) The weld cover should be installed with the handle on the opposite side of the casting from where the welding will be performed so the handle will not interfere with welding.

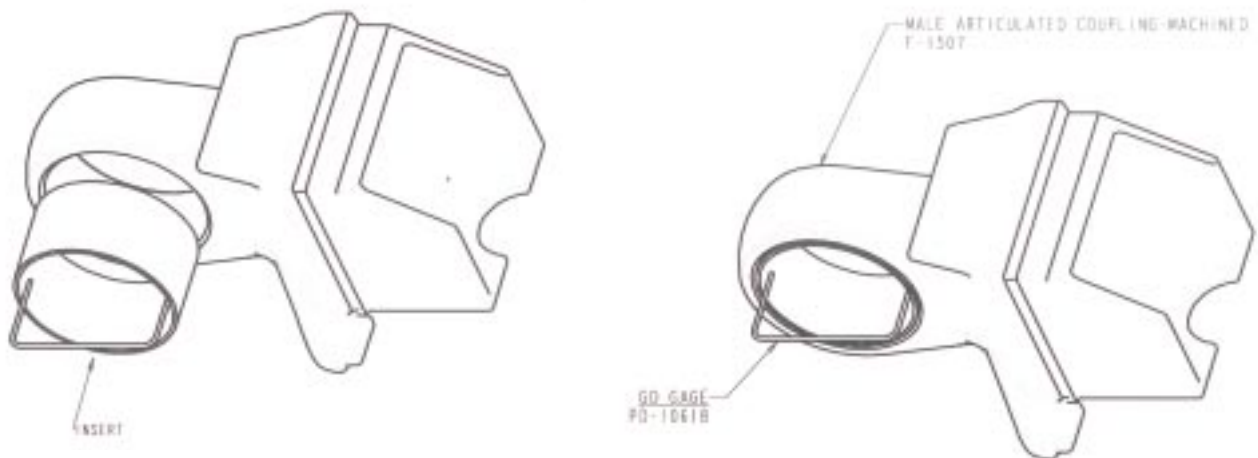
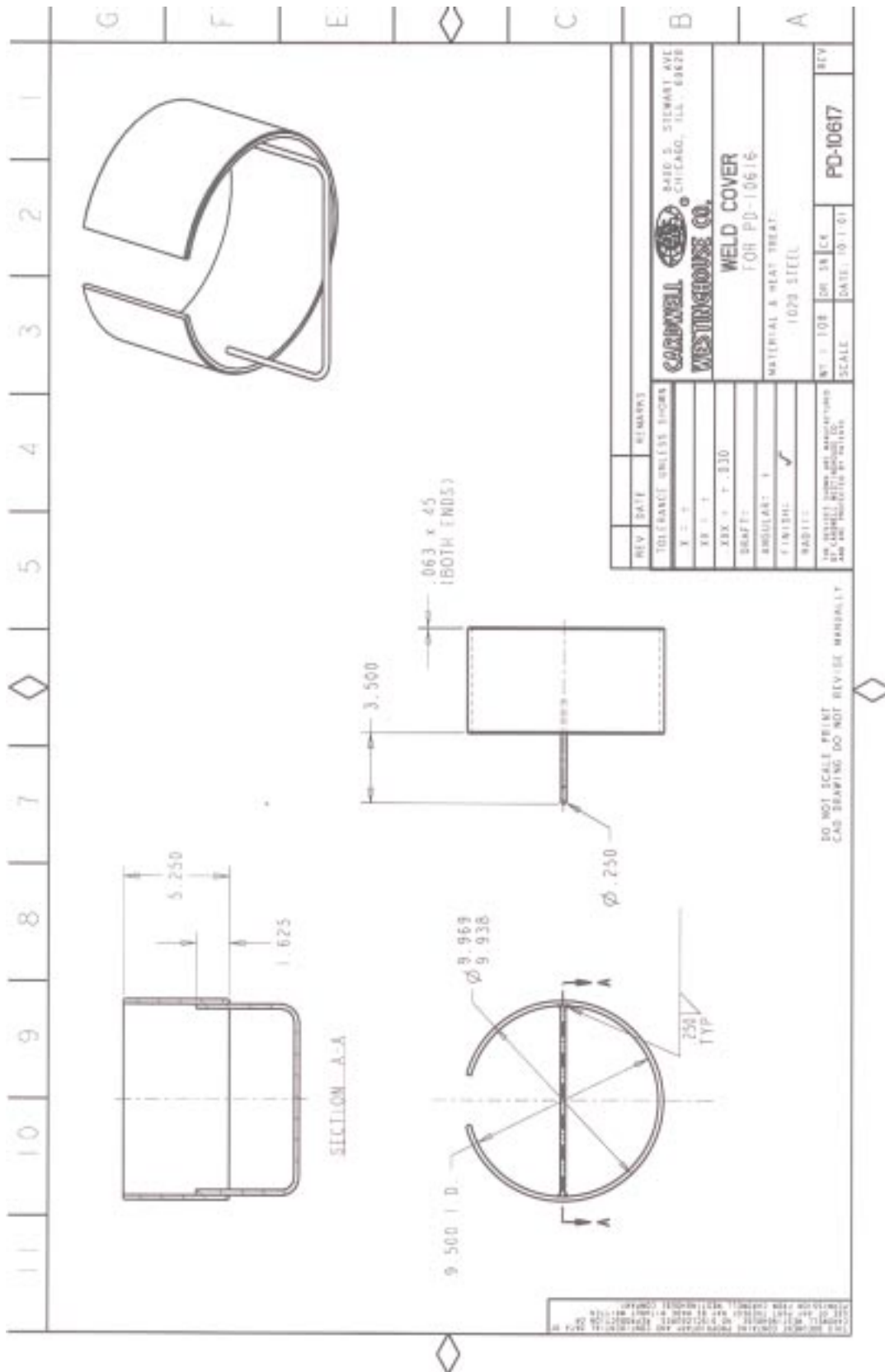


Figure 2. Bore NO-GO Gauge Application Figure

Bore NO-GO Gauge Comments:

- (1) The gauge can be inserted from either side of the casting.
- (2) The entire width of the gauge should pass through the bore.



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