



TITLE FITTING/PURGE PROCEDURE FOR PUMP PORT ATTACHMENT WELDS		IDENTIFICATION FPPUMPPORT LIGO-ER308L-2-05-B				
		REFERENCE NO. 930212		SHT 1 OF 3		
PRODUCT LIGO BEAM TUBE MODULES CALIFORNIA INSTITUTE OF TECHNOLOGY		OFFICE COH		REVISION 5		
		MADE BY RWP	CHKD BY BGG	MADE BY WLR	CHKD BY SDH	
		DATE 1/25/94	DATE 1/31/94	DATE 8/21/95	DATE 8/21/95	

1.0 PURPOSE:

This procedure is to be used in conjunction with WPS-ER308L/PORT. It is to be used for the fitting / purging and welding of the pump port fittings to the stiffened spiral welded tube.

2.0 LIST OF EQUIPMENT:

- 2.1 Pump port fitting device.
- 2.2 External purging unit.
- 2.3 Jack/purge device.
- 2.4 Internal purge diaphragm.
- 2.5 Plasma cutting machine.

3.0 JACKING:

- 3.1 The jack/purge device shall be placed within the tube at the design location and jacked out to apply outward pressure with the jack screw.

4.0 CUTTING HOLE:

- 4.1 The tube shall be rotated so the pump port location is at the top of the tube.
- 4.2 Plasma cut the hole and clean/prepare the tube shell edges.

5.0 FITTING:

- 5.1 Install fitting device to jack / purge device.

APPROVED	
 M. Jellison CBI	11/10/95 DATE
 J. Jones	11/10/95



		IDENTIFICATION			
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5.2 Place and level pump port in location by tightening screw clamps on fitting device.

***** Caution *****

Pump port shall have protective cover in place to protect pump port flange face prior to any fitting operation

5.3 Tack on the outside of the joint using small autogenous "button" tacks no larger than 1/8" in diameter with a purge of 100% argon inside the jack / purge device.

5.4 Use WPS-ER308L/REPAIR and cleaned ER308L to fill any gaps over 0.010" and record length on a repair check list. No gap shall exceed 0.010" prior to making the autogenous pass.

5.5 Tacks shall be space approximately every 4 to 5". Remove fitting device from jack/purge device.

6.0 WELDING:

6.1 After the pump port is tack welded in position, Weld the two outside passes using WPS-ER308L/PORT.

6.2 Maintain purge with 100% argon with the oxygen level below 1.0%.

6.3 Perform a visual inspection of the outside of the weld joint. The outside of the port must have a smooth contour with no linear indications. Install external purge unit.

6.4 Weld the inside pass of the pump port per WPS-ER308L/PORT.

6.5 Remove external purge unit and perform a visual inspection of the inside of the weld joint. Grind edge of tube shell flush with pump port pipe.



IDENTIFICATION			
FPPUMPPORT			
REFERENCE NO.		SHT 3 OF 3	
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- 6.6 All repairs shall have a purge on the outside. Make repairs using WPS-ER308L/REPAIR and repeat step 6.4.
- 6.7 Clean all contamination from inside the jack/purge device using a vacuum cleaner.

7.0 FINAL INSPECTION:

- 7.1 Perform a visual inspection of pump port welds. If there are to be any welded repairs, purge the appropriate side and repair using WPS-ER308L/REPAIR.
- 7.2 Repeat step 7.1 above until no welded repairs are required.
- 7.3 Remove purge units and jack / purge device from within the tube.