Major Tool & Machine, Inc.

1458 East 19th Street
MTM N/C: 19464
Indianapolis, IN 46218-4289

Page: 1
Date: 04/06/06
User ID: MANUEL

<b>Customer:</b>	PRINCETON PL	ASMA	PHYSICS 1	LAB

Contact: LARRY SUTTON Telephone: 609-243-2441 E-Mail: S-04286-F Fax: 609-243-2021

Part: / Customer P.O.: S005243-F/Ln:1
Drawing ID: Revision: Serial No./Qty: 2 PARTS (SN 1&2)

Links: 1-Type:W: 65678/1.0 Sub: 0 Op: 10

2-Type:W: 65678/2.0 Sub: 0 Op: 10

Reported By: DOUG MCCORKLE Telephone: 317-636-6433 E-Mail: dMcCorkle@MajorTool.com Fax: 317-634-9420

Problem: Ref: Drawing SE120-004, Sht 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19. The drawing weld symbol for

joining the port extension to the vessel.

All round ports: Current design requires the tube to be butted to the exterior surface of the vessel wall, prepped to the outside of the tube, and welded 100% with no backing weld or interior weld, with a continuous fillet around the exterior. The following was actually done: The hole was cut to the o.d. size of the tube and welding full penetration from the vessel interior (ground flush) with a continuous fillet weld around the tube exterior. The majority of the joint is filled from the interior, and the exterior is back ground and filled in for 100% penetration. A 3/16" continuous fillet is applied to the exterior of the joint for strength and to properly blend the two surfaces together.

Ports 4, 12, NB: Current design offers two welding options. MTM chose the optional method. The exterior fillet wasd welded as a continuous fillet opposed to the specified intermittent weld.

Clevis bosses: Added a 3/16 fillet to the exterior side of the joint.

Number of addition	nal pages:					
Customer Disposition:			[ ] Repair	[ ] Scrap	[ ] Replace	
Technical Contact Approval:			Т	itle <u>:</u>		Date:
Buyer Approval:			Title:			Date:
	Major Tool Implemented By:		Title:			

Root Cause 1: 806-PROCEDURE NONCOMPLIANCE

Resource: FAB MEDIUM SOUTH Equipment:

Description: Manufacturing personnel welded ports to the vessels with a continuous full penetration weld in opposition to the

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drawing which called for an interrupted weld. Manufacturing personnel did this in concert with Engineering personnel under the misguided perception that Engineering was working with the customer to change the drawing to the weld seam design that they were welding the vessel to. Manufacturing personnel failed to initiate an N/C in compliance with QA-SOP-01.

Corr Actn: 1: Action: 04/06/06 By: 890-M.VISLAY

Description: I have communicated to all weld shop T.L.'s via an e-mail sent on 4-4-06 to follow QA-SOP-01. We can not work to

verbal instructions when deviating from a customer drawing. If the drawing hasn't been changed upon request, an

NC must be generated and dispositioned "continue" prior to working on the part.

Verify Notes: Participated in the discussion. And received a copy of the e-mail.

Root Cause 2: 806-PROCEDURE NONCOMPLIANCE

Resource: SILVER TEAM, ENGINEERING Equipment:

Description: Manufacturing personnel welded ports to the vessels with a continuous full penetration weld in opposition to the

drawing which called for an interrupted weld. Manufacturing personnel did this in concert with Engineering personnel under the misguided perception that Engineering was working with the customer to change the drawing to the weld seam design that they were welding the vessel to. Engineering personnel failed to ensure that an N/C was

initiated in compliance with QA-SOP-01.

Corr Actn: 2: Action: 04/06/06 By: 927-M.MANUEL

Description: The engineer on the PPPL vessel project will be instructed on the right action to follow per the MTM QA-SOP-01.

The fact that the customer knew of the deviation and engineering was planning to document the change doesn't

change the fact that our processes did not follow the customer requirements.

Root Cause 3: 806-PROCEDURE NONCOMPLIANCE

Resource: Equipment:

Description: Manufacturing personnel welded ports to the vessels with a continuous full penetration weld in opposition to the

> drawing which called for an interrupted weld. Manufacturing personnel did this in concert with Engineering personnel under the misguided perception that Engineering was working with the customer to change the drawing to the weld seam design that they were welding the vessel to. The CWI inspector noted the variance to the drawing but did not initiate an N/C under the misguided perception that Engineering had an imminent drawing change coming

throught he customer.

Corr Actn: 3: Action: By: 596-D.KNAUB

CWI personnel have been instructed on their failure to follow correct procedure and have been re-instructed in the Description:

tenets of QA-SOP-01.

Verify Notes: Issue was discussed with V.P. of Quality.