



# Manufacturing, Inspection and Test Plan For PVVS Segment Forming

## Procedure Number 03-8083-MITP-04 Rev. 0

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Purchaser



Job Number: 03-8083	Manufacturing and Inspection Test Plan for	Page: 2 of 5
Date: March 10, 2004	PVVS Segment Forming	Revision: 0

## **Manufacturing, Inspection and Test Plan**

Revision: 0

Job Number: 03-8083

Project Description: Forming of 3/8" inconel sheets into segments to be used in PVVS prototype.

Customer: Rohwedder Inc

Contract Number: 338302

Technical Specification: NCSX-CSPEC-121-01-01 Rev. 1, Rohwedder MIT Section 1.9

Quality Standard: ISO 9001:2000

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## **Inspection Glossary**

VP Indicates 'Verification' point.  
WP Indicates 'Witness' point.  
HP Indicates 'Hold' point.

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Job Number: 03-8083	Manufacturing and Inspection Test Plan for	Page: 3 of 5
Date: March 10, 2004	PVVS Segment Forming	Revision: 0

**PMW Drawing List**

Drawing Number	Revision	Description
N/A		

**Supplier List**

Material Supplier	Material Specification	Part Description	Supplier QA Program Level
N/A			

Component Subcontractor	Address	Scope of Work	QA Program Level
TrentonWorks Ltd	P.O. Box 130, Trenton, Nova Scotia, B0K 1X0	Pressing	Internal

**Procedures Index:**

Supplier	Procedure Number	Description	Revision	Quality Level
PMW	03-8083-P01 Part 1	Inspection and Test Control	1	ISO 9001:2000
PMW	03-8083-P01 Part 2	Inspection and Test Status	2	ISO 9001:2000
PMW	03-8083-P02	Control of Inspection, Measuring, and Test equipment	1	ISO 9001:2000
PMW	03-8083-P03 Part 1	Control of Non-conforming Product	1	ISO 9001:2000
PMW	03-8083-P03 Part 2	Corrective and Preventative Action	1	ISO 9001:2000
PMW	03-8083-P11	CMM Dimension and Tolerance Verification	0	ISO 9001:2000
PMW	03-8083-P14	Stress Relieving	0	ISO 9001:2000



Job Number: 03-8083	Manufacturing and Inspection Test Plan for	Page: 4 of 5
Date: March 10, 2004	PVVS Segment Forming	Revision: 0

**Manufacturing, Inspection and Test Plan Index:**

Operation Series	Description
100	Preparation and Shipping
200	Press Setup
300	Forming of Segment
400	Segment Inspections

**Manufacturing, Inspection and Test Plan Process:**

Operation	Description	PMW	Customer	Authorized Inspector
<b>100</b>	<b>Preparation and Shipping</b>			
101	Fit and weld alignment guides of 2"x2" OD and 2"x2" ID tubing to sides of die such that when top die is placed on bottom die the guides maintain proper placement of top die with respect to bottom die.			
102	With both die halves aligned and mated, sling from bottom and load onto truck for shipping.			
103	Rough cut 3/8" inconel plate oversized for segment			
104	Transport die and rough cut segment to TrentonWorks Ltd.			
<b>200</b>	<b>Press Setup</b>			
201	Remove lower tooling plate from die			
202	Using overhead crane, place die in closed position into die lifting only by slings.			
203	Once die is located in center of press, lower top plate of press until top plate touches the top of the die assembly			
204	Attach top die to top plate of press using 7/8" bolts			
205	Weld bottom of die to lower press bed			
206	Open press and close again to test alignment of die has remained			
<b>300</b>	<b>Forming of Segment</b>			
301	Place precut segment of 3/8" thick inconel to be pressed into die.			
302	With segment to be pressed held securely in place, lower die until die engages material on both sides.			
303	Ensuring that material is located to allow for material to flow in such a way to ensure full segment coverage, continue closing press until die is completely closed			
304	If press at full capacity cannot form segment it may be necessary to cut the segment into two pieces for forming. If cutting segment is required, plasma cut segment in half an repeat steps 302 and 303.			
305	Open press and visually inspect part and dies for any damage			



Job Number: 03-8083	Manufacturing and Inspection Test Plan for PVVS Segment Forming	Page: 5 of 5 Revision: 0
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Operation	Description	PMW	Customer	Authorized Inspector
306	Close press again with formed segment in die			
307	Weld flat bar joining top die to bottom die to hold die closed			
308	Unbolt top die from press			
309	Grind welds holding bottom die to base of press			
310	Remove closed die from press and load for shipping			
311	Ship closed die with segment formed inside to Stress Relieving as per procedure 03-8083-P14			
<b>400</b>	<b>Segment Inspections</b>			
401	Receive segment enclosed in die from Stress Relieving			
402	Mark reference points on segment using spring-loaded punch centered in various 3/8" holes located on die scab plate.			
405	Cut welded flat bar that joins top of die to bottom of die			
406	Remove formed segment from die assembly and place on granite table			
407	Inspect formed segment using CMM as per procedures 03-8083-P01, 03-8083-P02, 03-8083-P11 and record results on Form F034			