

Status 2 - Disposition Needed Trend 07-Out Of Tolerance  
 Department NCSX Division NCSX Field Period Assembly  
 Source/Org VENDOR  
 Item Dwg/Part# NCSX-CSPEC-121-02-06 Procurement # S005243-F Cost Center \_\_\_\_\_  
 RAP# 3245 Job Doc # S005243-F Vendor MAJOR TOOL AND MACHINE, INC.  
 RAP Title Vacuum Vessel Subassembly Component Receipt Inspection

HoldTag Applied

**Nonconforming Condition (include requirement(s) violated):**

VSA-3, The following items were found to have a magnetic permeability greater than the 1.02 Mu maximum allowed by NCSX-CSPEC-121-02-06 section 3.2.4. Items found were either higher than reported by the vender, were not reported by the vender, or the vender reports were not specific enough (port 12 covers).  
 Items: Port 4A Cover; Port 4B Cover; Port 4A Flange; Port 4B Flange; Port 12A Cover; Port 12B Cover; Ports 11A, 11B, 10A, 10B, 6A and 6B Hardware.  
 See attached pages for item descriptions and details.  
 (D-NCSX-FPA-QA1-00)

Rev. 1 - 12/20/06 - Reinspected port 12A cover with new permeability gauge #5906 with values of 1.4, 1.5, and 1.6. Revised data sheet for the port 12A cover is attached.

Lot Size Recd 0 Sample Size Insp 0  Lot Rejected # Rejected 0  
 Reported By Phelps C Validated By Malinowski F Validated Date 12/20/06

Disposition: Rework\*    Repair\*    Use As Is\*    Return To Vendor\*    Scrap\*   

Rev 0: The VVSA #3 port 12A covers are significantly higher, 1.7 over the entire back side and edges, and is NOT acceptable. The permeability must be below 1.2 overall.  
 Only very small regions (less than 1 square inch cumulatively) may be up to 1.7; machined edges may be up to 1.6.

For rework or repair of vendor supplied equipments, fill in information below:

#Hours _____	\$Est Labor _____	\$G&A _____
\$Material _____	\$Burden _____	\$Total _____

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Disposition By _____	Date _____
Supervisor's Concur _____	Date _____
Eng. Dept. Head Concur _____	Date _____
WCO/Other _____	Date _____

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PQA/QC Mgr Dispos Concur _____	Date _____
QC Field Verification By _____	Date _____

**Distribution**  
 Cog M. Viola  
 Insp Phelps C  
 Proj. Doc Control (when closed)  
 QC Files  
 Malsbury J  
 Boscoe J  
 Malinowski F  
 Edwards J  
 Nelson B  
 Reiersen W  
 Williams M  
 Tyrrell M

Disposition: Rework\_\_\_ Repair \_\_\_ Use As Is\_\_\_ Return to Vendor\_\_\_ Scrap\_\_\_

For rework or repair of vendor supplied equipment, fill in information below:

# Hours \_\_\_\_\_ \$ Est Labor \_\_\_\_\_ \$ G&A \_\_\_\_\_  
\$ Material \_\_\_\_\_ \$ Burden \_\_\_\_\_ \$ Total \_\_\_\_\_

Disposition by \_\_\_\_\_

~~Supervisor's Concurrence~~ RLM \_\_\_\_\_

Eng. Dept. Head Concurrence \_\_\_\_\_

Other (i.e., WCO/FPE) Concurrence \_\_\_\_\_

PQA/QC Mgr Disposition Concurrence \_\_\_\_\_

QA Field Verification by \_\_\_\_\_

VVSA-3 Items Above Magnetic Permeability Tolerance

Item	Permeability Readings (Mu)					Vender NCR
	Front Face	Edge - Face	Edge - Middle	Edge - Back	Back Face	
Port 12A	>1.1 <1.2	>1.2 <1.3	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	MTM NCR 19063
Cover	>1.1 <1.2	>1.2 <1.3	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	"Port 12 Cover"
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	>1.04 <1.05 Mu
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	MTM NCR 19176
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	"Port 12 Cover"
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.3 <1.4]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 >1.3 <1.4 Mu
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.2 <1.3	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.2 <1.3	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.2 <1.3	>1.3 <1.7 [ >1.6 <1.7]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.3 <1.4]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.09 <1.1	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.09 <1.1	>1.1 <1.2	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.09 <1.1	>1.2 <1.3	>1.3 <1.7 [ >1.6 <1.7]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.5 <1.6]	>1.3 <1.7 [ >1.4 <1.5]	>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2				>1.3 <1.7 [ >1.4 <1.5]	
	>1.09 <1.1				>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09				>1.3 <1.7 [ >1.5 <1.6]	
	>1.08 <1.09				>1.3 <1.7 [ >1.4 <1.5]	
	>1.06 <1.08				>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09				>1.3 <1.7 [ >1.5 <1.6]	
	>1.09 <1.1				>1.3 <1.7 [ >1.4 <1.5]	
	>1.09 <1.1				>1.3 <1.7 [ >1.4 <1.5]	
	>1.1 <1.2				>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09				>1.3 <1.7 [ >1.4 <1.5]	
	>1.08 <1.09				>1.3 <1.7 [ >1.4 <1.5]	
	>1.06 <1.08				>1.3 <1.7 [ >1.4 <1.5]	
	>1.06 <1.08				>1.3 <1.7 [ >1.4 <1.5]	

Notes: Measurements taken in a 3" x 3" grid.  
 Available Test Values: 1.02, 1.03, 1.04, 1.05, 1.06, 1.08, 1.09, 1.1, 1.2, 1.3, 1.7, 1.8, 2.0  
 Reference NCR #3676

Revision 1 All areas originally found to be >1.3 <1.7 were reinspected with new Severn permeability gauge #5906  
 12/20/2006 which includes the following values 1.4, 1.5, 1.6. New values are listed next to original values in [brackets] above.