

TANK PMD	MOUNT Tabs	LOCATION Girth Weld	PMD DEVICE Complex
--------------------	----------------------	-------------------------------	------------------------------

The Tank Assembly is a hemispherical pressure vessel with a cylindrical section of all welded construction. It is mounted by 32 circumferential tabs with nut plates located on one of the hemispheres near the girth weld joint. The tank contains an internally-mounted propellant management device (PMD), with perforated sheet and woven screen, fabricated to maintain separation of liquid propellant and gaseous pressurant, and to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions. The PMD has been designed to allow horizontal handling with low fill fractions. The PMD has also been modified by the addition of a slosh control device to allow multiple erection and de-erection cycles.

Part Number 80441-1

SIZE: 48.9-inch ID x 57.8-inch Long
SIZE: 1242mm x 1468mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS																	
Protoflight	50-000581	Operating Pressure, psig	250	Total Volume, ci	77,805																
Acceptance Test Procedure	50-000580	Proof Pressure, psig	320.0	Prop Volume, ci	77,430																
Bubble Point Test Procedure	50-000584	Cryo Proof, psig	NA	Max Design Wt, lbs	91.0																
Materials List	54-000160	Burst Pressure, psig	375	Minimum Wall, inch	0.031																
Processes List	54-000161	TANK CHARACTERISTICS (Metrics) <table border="1"> <tr> <td>Operating Pressure, Bar</td> <td>17.24</td> <td>Total Volume, l</td> <td>1,275.01</td> </tr> <tr> <td>Proof Pressure, Bar</td> <td>22.06</td> <td>Prop Volume, l</td> <td>1,268.87</td> </tr> <tr> <td>Cryo Proof, Bar</td> <td>NA</td> <td>Max Design Wt, Kg</td> <td>41.28</td> </tr> <tr> <td>Burst Pressure, Bar</td> <td>25.85</td> <td>Minimum Wall, MM</td> <td>0.787</td> </tr> </table>				Operating Pressure, Bar	17.24	Total Volume, l	1,275.01	Proof Pressure, Bar	22.06	Prop Volume, l	1,268.87	Cryo Proof, Bar	NA	Max Design Wt, Kg	41.28	Burst Pressure, Bar	25.85	Minimum Wall, MM	0.787
Operating Pressure, Bar	17.24					Total Volume, l	1,275.01														
Proof Pressure, Bar	22.06	Prop Volume, l	1,268.87																		
Cryo Proof, Bar	NA	Max Design Wt, Kg	41.28																		
Burst Pressure, Bar	25.85	Minimum Wall, MM	0.787																		
Cleaning	CPP 3849	FORGINGS <table border="1"> <thead> <tr> <th>FORGINGS P/N</th> <th>SUPPLIER</th> <th>Die</th> </tr> </thead> <tbody> <tr> <td>80-363061-1</td> <td>Hemi Forge</td> <td></td> </tr> <tr> <td>80-363063-3</td> <td>Center Section</td> <td></td> </tr> <tr> <td>80-363065-1</td> <td>Tab Ring</td> <td></td> </tr> </tbody> </table>				FORGINGS P/N	SUPPLIER	Die	80-363061-1	Hemi Forge		80-363063-3	Center Section		80-363065-1	Tab Ring					
FORGINGS P/N	SUPPLIER	Die																			
80-363061-1	Hemi Forge																				
80-363063-3	Center Section																				
80-363065-1	Tab Ring																				
Notes: 1: Tooling owned by Northrop Grumman 2: Tank shell is similar to P/N 80366-1 & 80403 3: PMD design is by PMD Technology 4: Tube protectors are SK 1353 & SK 1354 5: Vibration Fixture: T-4646.		TUBE TYPE AND SIZE <table border="1"> <thead> <tr> <th>TITANIUM</th> <th>SIZE</th> </tr> </thead> <tbody> <tr> <td>80-380002-1</td> <td>.375 OD X .020 Wall</td> </tr> <tr> <td>80-380002-1</td> <td>.375 OD X .020 Wall</td> </tr> </tbody> </table>				TITANIUM	SIZE	80-380002-1	.375 OD X .020 Wall	80-380002-1	.375 OD X .020 Wall										
TITANIUM	SIZE																				
80-380002-1	.375 OD X .020 Wall																				
80-380002-1	.375 OD X .020 Wall																				
		ACCEPTANCE TESTS Preliminary Inspection of Product Mass Measurement Pre-Proof Volumetric Capacity Ambient Proof Pressure Visual Inspection Post Proof Volumetric Capacity External Leakage Test Bubble Point Test Sine Vibration Test and Visual Inspection Pressure Drop Test Bubble Point Test External Leakage Test Radiographic Inspection Dye Penetrant Inspection Cleanliness Check and Visual Inspection Data Review																			

