

<b>TANK</b>	<b>MOUNT</b>	<b>LOCATION</b>	<b>PMD DEVICE</b>
PMD	Tabs	Girth Weld	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 8U442-1**

**SIZE: 48.9" ID x 63.335" Long**  
**SIZE: 1242.06-mm x 1608.71-mm**

# ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS																					
Protoflight	50-000581	Operating Pressure, psig	250	Total Volume, ci	87,575																				
Acceptance Test Procedure	50-000580	Proof Pressure, psig	312.5	Prop Volume, ci																					
Bubble Point Test Procedure	50-000584	Cryo Proof, psig	NA	Max Design Wt, lbs	100.5																				
Materials List	54-000160	Burst Pressure, psig	375	Minimum Wall, inch	0.031																				
Processes List	54-000161	<table border="1"> <thead> <tr> <th colspan="4">TANK CHARACTERISTICS (Metrics)</th> </tr> </thead> <tbody> <tr> <td>Operating Pressure, Bar</td> <td>17.24</td> <td>Total Volume, l</td> <td>1,435.11</td> </tr> <tr> <td>Proof Pressure, Bar</td> <td>21.55</td> <td>Prop Volume, l</td> <td>0.00</td> </tr> <tr> <td>Cryo Proof, Bar</td> <td>NA</td> <td>Max Design Wt, Kg</td> <td>45.59</td> </tr> <tr> <td>Burst Pressure, Bar</td> <td>25.85</td> <td>Minimum Wall, MM</td> <td>0.787</td> </tr> </tbody> </table>				TANK CHARACTERISTICS (Metrics)				Operating Pressure, Bar	17.24	Total Volume, l	1,435.11	Proof Pressure, Bar	21.55	Prop Volume, l	0.00	Cryo Proof, Bar	NA	Max Design Wt, Kg	45.59	Burst Pressure, Bar	25.85	Minimum Wall, MM	0.787
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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.																									

