



TANK TYPE	MOUNT	LOCATION
PMD PROPELLANT	32 Girth Tabs	Lower Hemisphere near girth weld

The MAVEN Fuel Tank is a pressure vessel with hemispherical ends and a cylindrical center section constructed of 6AL-4V Titanium. The tank contains a customer-furnished internally mounted propellant management device. The pressurant port is a 3/8" diameter 3Al 2.5 V Ti tube stub while the propellant port is a 3/4" diameter 6Al 4V tube stub. The tank is mounted by 32 equally-spaced circumferential tabs. The holes are near the propellant hemi outlet located near the girth weld joint.

**ATK Part Number 80554-1**

**SIZE: 49.25" OD x 75.85" Long**

**SIZE : 1251 mm interface OD x 1927 mm Long**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000770
Qual Test Procedure- QBS	
Qual Test Report (80517)	56-000263
Stress and Dynamics Report	
FMECA	
Cleaning	CPP 4050

**TANK CHARACTERISTICS**

Operating Pressure, psig	250 psig @ 104 °F	Total Volume, in <sup>3</sup>	107000
Proof Pressure, psig	313 psig @ 104 °F	Max Design Wt, lb <sub>m</sub>	135 lbm
Cryo Proof, psig	N/A	Minimum Wall, inch	0.031
Burst Pressure, psig	375	Qual Tank Mass	
Actual Burst, psig	519		

**ACCEPTANCE TESTS**

Pre-Assembly Inspection & Test
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Differential Pressure, Mass flow rate & Expulsion Efficiency Test
Bubble Point Test
External Leakage Test
Weld Quality Inspection
Final Examination of Product
Cleanliness Verification
Preparation for Delivery

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	17.2 bar @ 40 °C	Total Volume, l	1,754
Proof Pressure, bar	21.6 bar @ 40 °C	Max Design Wt, kg	61.2 kg
Cryo Proof, bar	N/A	Minimum Wall, mm	0.787
Burst Pressure, bar	26	Qual Tank Mass	-
Actual Burst, bar	36		

**HEMISPHERE FORGINGS**

HEMI P/N	QTY
80-363061-1	2

**80517-1 QUALIFICATION TESTS**

Preliminary Inspection of Product
Mass Measurement
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Pressure Cycling Test & Visual Inspection
External Leakage Test
Tank Assembly Bubble Point Test
Cleanliness Check & Visual Inspection
Sine & Random Vibration Tests & Visual Inspection
Expulsion & Pressure Drop Test
Tank Assembly Bubble Point Test
External Leakage Test
Radiographic Inspection
Dye Penetrant Inspection
Cleanliness Check & Visual Inspection
Burt Test & Visual Inspection
Data Review

**Ring Forgings**

P/N	QTY	SIZE
80-363063-11	1	49.57" OD X 48.40" ID X 26" Long
		1259.078mm OD X 1229.36mm ID X 660.4 Long

**TUBE TYPE AND SIZE**

Ti 3AL-2.5V	QTY	SIZE
80-456015-3	1	0.750" OD x 0.028" Wall X 5.5" Long
		19.05 OD mm x 0.7112 mm Wall X 139.7mm Long
80-456009-5	1	0.375" OD x 0.020" Wall X 9.71" Long
		9.525mm OD x 0.508 mm Wall X 246.634mm long

