



<b>TANK TYPE</b>	<b>MOUNT</b>	<b>LOCATION</b>	<b>PMD DEVICE</b>
COMPLEX PMD	BRACKET & PIN	POLAR / CYLINDER	SPONGE

This oxidizer propellant tank is a 6Al-4V titanium pressure vessel constructed of two 21.3" dia. hemispherical heads with a center cylinder for an overall length of 35.9". Mounting of the tank is provided by two polar brackets and a side mount. The tank contains a propellant management device (PMD) to provide gas free liquid throughout the mission.

**ATK Part Number 80426-1**

**SIZE: 21.3" dia X 35.9 " length**  
**SIZE: 541 mm dia. X 912 mm long**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000569
Protoflight Test Procedure	50-000568
Bubble Point Test Procedure	50-000565
Stress Report	54-000184
Dynamics Report	54-000183
Fracture Analysis Plan	54-000176
PMD Performance Analysis	54-000198
Cleaning (tank)	CPP-3909

**TANK CHARACTERISTICS**

Operating Pressure, psig	300	Total Volume, in <sup>3</sup>	9,712
Proof Pressure, psig	375	Prop Volume, in <sup>3</sup>	9,712
Cryo Proof, psig	N/A	Prop Volume, lbs	492
Burst Pressure, psig	450	Max Design Wt, lbs	20.0
Actual Burst, psig (3)	647	Minimum Wall, inch	0.017

**ACCEPTANCE TESTS**

Examination of Product, Preliminary
Volumetric Capacity Measurement
Proof Pressure Test
Volumetric Capacity Measurement
PMD Bubble Point Test
External Leak Test
Weld Quality Inspection
Mass Measurement
Final Visual Inspection
Final Cleanliness

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	20.68	Total Volume, l	159
Proof Pressure, bar	25.85	Prop Volume, l	159
Cryo Proof, bar	N/A	Prop Volume, kg	223.17
Burst Pressure, bar	31.03	Max Design Wt, kg	9.07
Actual Burst, bar	44.61	Minimum Wall, MM	0.432

**QUALIFICATION TESTS**

Qual by similarity on 80394-1.

**Notes:**

1. Fracture Critical
2. Tank shell is qualified by similarity to P/N 80394-1
3. Rupture pressure of 80394-1

**HEMISPHERE FORGINGS**

HEMI P/N	QTY	SUPPLIER	Die No
80-390061-1	2		

**RING FORGING**

P/N	QTY	SIZE
80-390063-7	1	22.35 in OD ; 20.93 in ID X 13.62 in LONG

**TUBE TYPE AND SIZE (in.)**

TI 3AL-2.5V	SIZE
80426-51	0.375 x 0.02 Wall Press
80426-51	0.375 x 0.02 Wall Press

**TUBE SIZE (mm)**

80426-51	9.525 x 0.508 Wall Press
80426-51	9.525 x 0.508 Wall Press

