



<b>TANK TYPE</b> COMPLEX PMD	<b>MOUNT</b> Bosses	<b>LOCATION</b> Polar	<b>PMD DEVICE</b> VANE, TRAP, SCREEN & SPONGE
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The Propellant Tank Assembly is a 35 inch inside diameter spherical tank constructed of solution treated and aged 6AL-4V Titanium. The PTA contains an internally mounted propellant management device (PMD) whose function is to maintain separation of liquid propellant and gaseous pressurant which provides a predictable gas free liquid propellant at the tank outlet. The vane, perforated sheet and woven screen type PMD is mounted inside the PTA. Mounting of the PTA is provided by two (2) polar bosses.

**ATK Part Number 80415-1**

**SIZE: 35" ID SPHERE**  
**SIZE: 889 mm**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Bubble Point Test Procedure	50-000541
Acceptance Test Procedure	50-000540
Fracture Toughness Test	50-000377
Processes List	54-000100
PMD Performance Analysis Rpt	54-000101
Applicable Documents List	54-000103
Materials List	54-000104
Age Process Elimination	54-000119
Pre-Assy Clean, Sponge Assy	54-000146
Weld Qualification Report	55-000072
Forging Qual Report, JN 8804	55-000069
Weld Qualification Report	55-000072
Materials Properties Test, JN 8804	55-000073
EB Weld Repair	55-000074
QTR, Manifold, Perforated Sheet	56-000136
Qualification Test Report	56-000137
Protoflight Test Report	56-000139
Fracture Analysis Plan	54-000097
Cleaning	CPP 3873

Operating Pressure, psig	260	Total Volume, in <sup>3</sup>	22,450
Proof Pressure, psig	325	Prop Volume, in <sup>3</sup>	22,450
Cryo Proof, psig	N/A	Max Design Wt, lbs	29.30
Burst Pressure, psig	390	Minimum Wall, inch	0.023
Actual Burst, psig	555		

Preliminary Examination of Product
Tank Capacity
Proof Pressure Test
Tank Capacity
Sinusoidal Vibration
PMD Functional Test
External Leakage
Radiographic & Penetrant Inspect
Radiographic Inspection of PMD
Tank Weight
Final Examination of Product
Cleanliness

Operating Pressure, bar	17.93	Total Volume, l	368
Proof Pressure, bar	22.41	Prop Volume, l	368
Cryo Proof, bar	NO	Max Design Wt, kg	13.29
Burst Pressure, bar	26.89	Minimum Wall, MM	0.584
Actual Burst, bar	38.27		

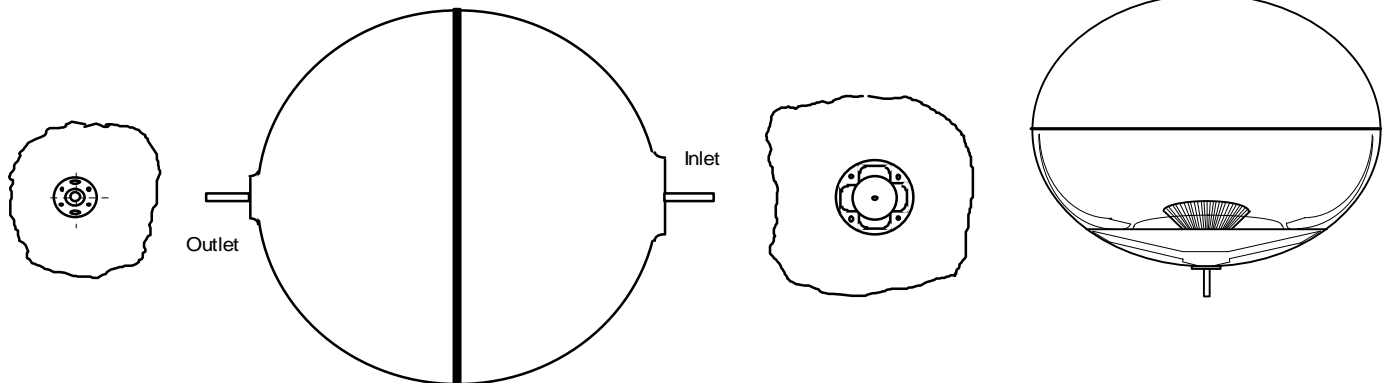
HEMI P/N	QTY	SUPPLIER	Die No
80-350061-1	2		

Ti 3AL-2.5V	SIZE
80-415020-5	.250 x 0.018 Wall Inlet
80-350150-5	.375 x 0.018 Wall Outlet

80-415020-5	6.350 x 0.457 Wall Inlet
80-350150-5	9.525 x 0.457 Wall Outlet

**Notes:**

- 1: Tooling belongs to ATK.
- 2: \*Sine Vibration (Dry/Three Axis)
- 3: Vib Fixture No. 3107-0036
- 4: \*Fracture Critical
- 5: Hughes Development Spec. DS 80003-H40-300
- 6: Same as the 80350 except the bulkhead & sponge are same as 80399



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