



FUEL TYPE NTO / MMH	MOUNT Polar	LOCATION Boss	PMD DEVICE yes
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This tank is an all-welded pressure vessel with hemispherical ends. It is mounted by 8 threaded holes in the polar boss of the propellant hemisphere, and 4 threaded holes in the polar boss of the pressurant hemisphere. The tank contains an internally-mounted propellant management device (PMD), with perforated sheet to provide gas-free liquid propellant under low or zero gravity.

ATK Part Number 80474-1

SIZE: 29.8 -inch ID Sphere

SIZE: 756.92 -mm ID Sphere

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Qualification Test Procedure	50-000644
Acceptance Test Procedure	50-000645
Bubble Point Procedure	50-000646
Fracture Analysis Plan	54-000225
Qualification Test Report	56-000217
Cleaning	CPP 3979

TANK CHARACTERISTICS

Operating Pressure, psig	250	Total Volume, ci	13,750
Proof Pressure, psig	313	Prop Volume, ci	98% FF
Cryo Proof, psig	No	Max Design Wt, lbs	18.6
Design Burst Pressure, psig	375	Minimum Wall, inch	0.020
Actual Burst Pressure, psig	565		

ACCEPTANCE TESTS

- Preliminary Inspection of Product
- Mass Measurement
- Pre-Proof Volumetric Capacity, Ambient Proof Pressure
- Visual Inspection
- Post-Proof Volumetric Capacity
- Expulsion Test
- Tank Assembly Bubble Point Test
- Radiographic Inspection & Dye Penetrant Inspection
- External Leakage Test
- Dry Random Vibration Test, and Visual Inspection
- Tank Assembly Bubble Point Test
- External Leakage Test
- Radiographic Inspection
- Dye Penetrant Inspection
- Cleanliness Check & Visual Inspection
- Data Review

TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	17.24	Total Volume, l	225.32
Proof Pressure, Bar	21.55	Prop Volume, l	98% FF
Cryo Proof, Bar	No	Max Design Wt, Kg	8.44
Burst Pressure, Bar	25.85	Minimum Wall, MM	0.508
Actual Burst, Bar	38.95		

FORGINGS

<u>FORGINGS P/N</u>	<u>SUPPLIER</u>	<u>Die</u>
80-474061-1 (2)		

TUBE TYPE AND SIZE

<u>TRANSITION</u>	<u>SIZE</u>
80-466001-3	0.375" OD x 0.035" Wall
80-466001-1	0.250" OD x 0.035" Wall (9.525 mm x 0.889 mm) (6.35 mm x 0.889 mm)

QUALIFICATION TESTS

- Preliminary Inspection of Product
- Mass Measurement
- Pre-Proof Volumetric Capacity
- Proof Pressure Test
- Post-Proof Volumetric Capacity
- MEOP Pressure Cycling Test
- Proof Pressure Cycling Test
- Tank Assembly Bubble Point Test
- Radiographic and Dye Penetrant Inspection
- Negative pressure
- Acceptance, Qual. Level Dry Random Vibration Test (3 axes)
- Bubble Point and Visual Inspection
- Wet Random Vibration Test, Sine Burst (3 axes)
- Bubble Point and Visual Inspection
- Volumetric Capacity & Expulsion Test
- External Leakage Test
- Tank Assembly Bubble Point Test
- Radiographic Inspection
- Dye Penetrant Inspection
- Burst Test

