



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
PMD	Tabs	Prop hemi	

The propellant tank is a family of 46" diameter x various lengths long pressure vessel constructed of 6AL-4V titanium, and overwrapped at the center section. A Propellant Management Device (PMD) provides gas-free expulsion of propellant. Mounting is provided by a mounting skirt consists of mounting tabs. Connection is made to the propellant and pressurant compartments through tube stubs.

ATK Part Number 80507-5

SIZE: 45.60" ID x 60" Length
SIZE: 1,158 mm ID x 1,524 mm

See below for shorter length Tanks

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000683
Qualification Test Procedure	50-000684
Cleaning	CPP 4008
Qualification Test Report	56-000240

Notes:

TANK CHARACTERISTICS

Operating Pressure, psig	271	Total Volume, in ³	76,525
Proof Pressure, psig	338	Prop Volume, in ³	
Cryo Proof, psig	N/A	Prop Volume, lbs NTO	3,866
Burst Pressure, psig	410	Max Design Wt, lbs	96.60
Actual Burst, psig	503	Minimum Wall, inch	0.032

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	18.68	Total Volume, l	1,254
Proof Pressure, bar	23.30	Prop Volume, l	
Cryo Proof, bar	N/A	Prop Volume, kg NTO	1,753.61
Burst Pressure, bar	28.269	Max Design Wt, kg	43.82
Actual Burst, bar	34.681	Minimum Wall, MM	0.813

HEMISPHERE FORGINGS

HEMI P/N	QTY	SUPPLIER	Die No
80-507061-1	2	ARCTURUS	3937

RING FORGINGS (Roughed Machined) (inches)

80-507065-1, Mounting Tab Ring	46.80 OD x 44.90 ID x 4.20 Lg
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RING FORGINGS (Roughed Machined) (mm)

80-507065-1, Mounting Tab Ring	1,188.72 OD x 1,140.46 ID x 106.68 Lg
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TUBE TYPE AND SIZE (inches)

Titanium		SIZE
80-507005-5	Pressurant	0.250 OD x 0.020 Wall
80-507215-3	Outlet	.3750 OD x 0.020 Wall

TUBE TYPE AND SIZE (mm)

Titanium		SIZE
80-507005-5	Pressurant	6.350 mm x 0.508 Wall
80-507215-3	Outlet	9.525 mm x 0.508 Wall

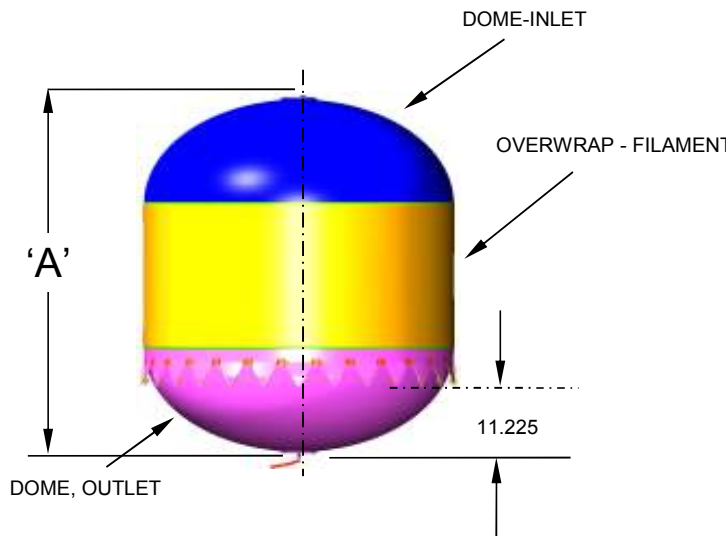
ACCEPTANCE TESTS

Preliminary Examination of Product
Weight
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Flow, Differential Pressure Test
External Leak Test
Radiograph Inspection of Welds
Final Examination of Product
Cleanliness Verification

QUALIFICATION TESTS

Preliminary Examination of Product
Pre-Proof Volumetric Capacity Test,
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Proof Pressure Cycling Test
MEOP Pressure Cycling Test
Propellant Outflow Test
Bubble Point Test
Radiograph Inspection of Welds
External Leak Test
Vibration Test
Bubble Point Test *
External Leak Test *
Collapse Pressure test
External Leak Test
Radiograph and Penetrant Inspection
Final Examination of Product
Burst Test
Data Review

ATK P/N	CAPACITY	MASS PROP. (Max.)
80507-1	673.39L (41,093 in ³)	66.82 lb _m (30.31 kg)
80507-2	831.74L (50,756 in ³)	76.75 lb _m (34.81 kg)
80507-3	990.11L (60,420 in ³)	83.92 lb _m (38.07 kg)
80507-4	1148.45L (70,083 in ³)	91.53 lb _m (41.52 kg)
80507-5	1254.02L (76,525 in ³)	96.60 lb _m (43.82 kg)



NOTE: 80576-1 and 80576-2 are the longer derivative tanks

