

TANK TYPE PMD	MOUNT Tabs	LOCATION Prop hemi
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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.

Part Number 80507-5

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

ISO 9001 & AS 9100 REGISTERED

See below for shorter length Tanks

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000683
Qual Test Procedure	50-000684
Qual Test Report	56-000240
Bubble Point Test Procedure	50-000685
Fracture Analysis Plan	54-000266
FMECA	54-000268
Cleaning	CPP 4008

TANK CHARACTERISTICS

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

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

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	18.7	Total Volume, l	1,254.0
Proof Pressure, bar	23.3	Max Design Wt, kg	43.8
Cryo Proof, bar	N/A	Minimum Wall, mm	0.813
Burst Pressure, bar	28.3		
Actual Burst, bar	34.68		

QUALIFICATION TESTS

- Preliminary Examination of Product
- Pre-Proof Volumetric Capacity Test
- Proof Pressure Test
- Post-Proof Volumetric Capacity Test
- Proof Pressure Cycling Test
- MEO 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
- Burst Test
- Data Review

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-507061-1	2

RING FORGINGS

P/N	QTY	SIZE
80-507065-1	1	46.80" OD x 44.90" ID x 4.2" LONG

TUBE TYPE AND SIZE

Ti 3.0AL-2.5V	QTY	SIZE
80-507005-5	1	.250" OD x .020" WALL x 10" LONG
Ti 3.0AL-2.5V		
80-507215-3	1	.375" OD x .020" WALL x 5.30" LONG
Ti 6Al-4V		
80-507132-1	1	1.120" OD x .025" WALL x 4.270" LONG

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)

