



TANK TYPE	MOUNT	LOCATION
PMD PROPELLANT	girth tabs	girth tabs

The Tank Assembly is a hemispherical pressure vessel of all welded construction. It is mounted by 32 circumferential tabs with nut plates located on one of the hemispheres near the girth weld joint. The tank contains an internally-mounted propellant management device (PMD) designed to allow horizontal handling with low fill fractions. The PMD has also been modified by the addition of a slosh control device to allow multiple erection and de-erection cycles.

ATK Part Number 80501-1

SIZE: 49.1" DIA x 50.500" LONG
SIZE: 1247.14mm DIA x 1282.7mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000674
Proto-Flight Test Procedure	50-000675
Proto-Flight Test Report	56-000235
Qual By Similarity(QBS)Report	56-000232
Qualification Test Report	56-000156
Fracture Analysis	54-000259
Stress and Dynamics Report	WADA 342
Cleaning	CPP 3849

TANK CHARACTERISTICS

Operating Pressure, psig	235	Total Volume, in ³	62545
Proof Pressure, psig	313	Max Design Wt, lbs	78
Cryo Proof, psig	N/A	Minimum Wall, inch	0.031
Burst Pressure, psig	387	Tank Mass, max	77.5 lbs
Actual Burst, psig	did not burst	Qual Tank Mass, ref.	N/A

ACCEPTANCE TESTS

Preliminary Inspection of Product
Mass Measurement
Pre-Proof Volumetric Capacity
Ambient Proof Pressure & Visual Inspection
Post-Proof Volumetric Capacity
External Leakage Test
Tank Assembly Bubble Point Test
Sine & Random Vibration Tests & Visual Inspection
Pressure Drop Test
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	16	Total Volume, l	1,025
Proof Pressure, bar	22	Max Design Wt, kg	35.15
Cryo Proof, bar	N/A	Minimum Wall, mm	0.787
Burst Pressure, bar	27	Qual Tank Mass	NA
Actual Burst, bar	did not burst		

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-363061-1	2

RING FORGINGS

P/N	QTY	SIZE
80-363065-1	1	49.75" OD x 48.31" ID x 3.19" LONG
		1263.65mm OD x 1227.074mm ID x 81.026mm LONG
80-380063-1	1	12.75" OD x 6.18" ID x 1.38" LONG
		323.85mm OD x 156.972mm ID x 35.052mm LONG
80-380065-1	1	13.42" OD x 6.62" ID x 1.25" LONG
		34.868mm OD x 168.148mm ID x 31.75mm LONG

TUBE TYPE AND SIZE

Transition Ti to SS	QTY	SIZE
80-517002-1	1	0.375" OD x 0.020" Wall x 4.75" LONG
		241.935mm OD x 0.508mm Wall x 120.65

80363-1 QUALIFICATION TESTS

Preliminary Inspection of Product
Mass Measurement
Pre-Proof Volumetric Capacity
Ambient Proof Pressure & Visual Inspection
Post-Proof Volumetric Capacity
Cryogenic Proof Pressure & Visual Inspection
Post-Proof Volumetric Capacity
External Leakage Test
Tank Assembly Bubble Point Test
Tank Cleanliness
Sine and Random Vibration Test
Visual Inspection
Cleanliness Check
Tank Assembly Bubble Point Test
Pressure Cycling & Visual Inspection
Expulsion Test
Tank Assembly Bubble Point Test
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