



<u>TANK</u> PMD	<u>MOUNT</u> Tabs	<u>LOCATION</u> Girth Weld	<u>PMD DEVICE</u> Complex
--------------------	----------------------	-------------------------------	------------------------------

The Tank Assembly is a hemispherical pressure vessel with a cylindrical section 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), with perforated sheet and woven screen, fabricated to maintain separation of liquid propellant and gaseous pressurant, and to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions. The PMD has been 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 80517-1

SIZE: 48.9" ID x 72.285" Long

SIZE: 1242.06-mm x 1836.04-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		QUALIFICATION TESTS	
Qualification Test Procedure	50-000703	Operating Pressure, psig	250	Total Volume, ci	104,344
Acceptance Test Procedure	50-000702	Proof Pressure, psig	312.5	Prop Volume, ci	
Bubble Point Test Procedure		Cryo Proof, psig	NA	Max Design Wt, lbs	130.0
Materials List		Burst Pressure, psig	375	Minimum Wall, inch	0.031
Processes List		Actual Burst Pressure			
Cleaning	CPP 3849				
		TANK CHARACTERISTICS (Metrics)			
		Operating Pressure, Bar	17.24	Total Volume, l	1,709.91
		Proof Pressure, Bar	21.55	Prop Volume, l	0.00
		Cryo Proof, Bar	NA	Max Design Wt, Kg	58.97
		Burst Pressure, Bar	25.85	Minimum Wall, MM	0.787
		Actual Burst Pressure	0.00		
		FORGINGS			
		FORGINGS P/N	SUPPLIER	Die	
		80-363061-1	Hemi Forge Ladish	TR038	
		80-363063-9	Center Section Carlton		
		80-363065-1	Tab Ring Forged Metals		
		TRANSITION		ACCEPTANCE TESTS	
		80-380002-1 (2)	.375 OD X .020 Wall (9.525 x .508 mm)	Preliminary Inspection of Product	
				Mass Measurement	
				Pre-Proof Volumetric Capacity	
				Ambient Proof Pressure	
				Visual Inspection	
				Post Proof Volumetric Capacity	
				External Leakage Test	
				Bubble Point Test	
				Sine Vibration Test and Visual Inspection	
				Pressure Drop Test	
				Bubble Point Test	
				External Leakage Test	
				Radiographic Inspection	
				Dye Penetrant Inspection	
				Cleanliness Check and Visual Inspection	
				Data Review	

Notes:

- 1: Tooling owned by ATK
- 2: Tank shell is similar to P/N 80442-1
- 3: PMD design is by PMD Technology
- 4: Tube protectors are SK 1353 & SK 1354
- 5: Vibration Fixture: T-4646.

