

TANK PMD	MOUNT	LOCATION	PMD DEVICE Complex
The propellant tank is a pressure vessel with spherical domes and center section constructed of 6AL-4V Titanium. Propellant in-flow and out-flow are provided by an internal PMD assembly retained at the outlet region of the tank. Mounting is accomplished by 2 polar boss shear / flex plates and 1 center section trunion / bearing. Connection is made to the propellant and pressurant compartments through welded 6AL/4V titanium tubes.			

Part Number 80527-1

SIZE: 29.5 in ID x 43.7 in long
SIZE: 749 mm ID x 1110 mm long

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000723
Qualification Test Procedure	50-000724
Bubble Point Test Procedure	50-000728
FMECA	54-000300
PMD PAR	54-000309
Stress Fracture	364
Cleaning	CPP 4035

TANK CHARACTERISTICS			
Operating Pressure, psig	315	Total Volume, ci	22,850
Proof Pressure, psig	472.5	Prop Volume, ci	15,835
Cryo Proof, psig	NA	Max Design Wt, lb	62.0
Burst Pressure, psig	630	Minimum Wall, incl	0.031
Actual Burst, psig	750		

QUALIFICATION TESTS
Pre-Proof Volume
Proof Pressure
Post-Proof Volume
PMD Bubble Point Test
External Leakage
Proof Pressure Cycling
MEOP Pressure Cycling
System Priming Test
Expulsion Efficiency
PMD Bubble Point Test
External Leakage
Penetrant Inspection
Radiographic Inspection
Vibration
PMD Bubble Point Test
External Leakage
Pre-Proof Volume
Proof Pressure
Post-Proof Volume
Expulsion Efficiency
External Leakage
PMD Bubble Point Test
Penetrant Inspection
Radiographic Inspection
Mass Measurement
Burst Test

- Notes:**
 1: Tooling owned by Northrop Grumman
 2: The PMD is a PMD Technology Design
 3: Tube protectors are SK 1927-1

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	21.72	Total Volume, l	374.45
Proof Pressure, Bar	32.58	Prop Volume, l	259.49
Cryo Proof, Bar	NA	Max Design Wt, Kg	28.12
Burst Pressure, Bar	43.44	Minimum Wall, MV	0.787
Actual Burst, Bar	51.71		

PROGRAM INFORMATION	
Program	COTS
Customer	Orbital Sciences
Customer P/N	6341-PF4720-02
Original Job No.	10450
Customer Installed Device	No
Customer Controlled Design	No

HEMI FORGINGS		
Forgings P/N	SUPPLIER	Die
80-381061-1	Arcturus	3454A

RING FORGINGS (Roughed Machined)	
80-527063-1, C/S	31.88 Min OD x 29.0 Max ID x 15.72 Min Lg
80-527065-1, Chann	8.26+/- .12 OD x 24.63+/- .12 ID x 2.62+/- .06 Lg

TUBE TYPE AND SIZE	
Ti Tubes	SIZE
80-527001-1 (2)	.375 OD X .020 Wall
80-527001-1 (2)	9.525 x .889 mm



ACCEPTANCE TESTS
Examination of Product
Weight Determination
Pre-Proof Volume Determination
Proof Pressure Test
Post-Proof Volume Determination
Expulsion Efficiency
PMD Bubble Point Test
External Leakage Test
Penetrant Inspection
Radiographic Inspection
Final Examination of Product
Cleanliness Verification

VACUUM RATED
YES