



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Simple Pmd	Bosses	Girth	Vane & Channel

This is a 19-inch spherical pressure vessel constructed of 6AL-4V titanium. A vane & channel type propellant management device (PMD) is provided to expel fuel under low or zero gravity conditions. Mounting is accomplished by three (3) lugs parallel with & adjacent to the mid-plane.

**ATK Part Number 80353-1**

**SIZE: 19.03<sup>-</sup>inch ID Sphere**  
**SIZE: 483<sup>-</sup>mm**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000371
Protoflight Test Procedure	50-000372
Protoflight Test Report	56-000139
Cleaning Procedure, Tank	CPP 3685
Cleaning Procedure, PMD	CPP 3546

TANK CHARACTERISTICS			
Operating Pressure, psig	400	Total Volume, ci	3.575
Proof Pressure, psig	500	Prop Volume, ci	3.575
Cryo Proof, psig	750	Max Design Wt, lbs	8.50
Burst Pressure, psig	600	Minimum Wall, inch	0.024

ACCEPTANCE TESTS
Preliminary Examination of Product
Radiographic & Penetrant Inspection
Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Inspection
Cryogenic Proof Pressure Test
Post Cryogenic Proof Dimensional Test
External Leakage Test
Weld Quality Inspection
Weight
Cleanliness Verification

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	27.58	Total Volume, l	59.56
Proof Pressure, bar	34.47	Prop Volume, l	59.56
Cryo Proof, bar	51.71	Max Design Wt, kg	3.86
Burst Pressure, bar	41.37	Minimum Wall, MM	0.610

**Notes:**

- 1: Tooling belongs to ATK
- 2: Forging die is controlled by GE/ASD
- 3: Tube protector is SK 1222
- 4: Foster Engineering
- 5: Fracture Analysis Plan, 88-045
- 6: Stress Report, Tank, 88-052
- 7: Stress Report, PMD, 88-061
- 8: Fracture Analysis Report, Tank, 88-003
- 9: Fracture Critical

FORGINGS P/N	SUPPLIER	Die
2306579-2 (2)		
RING FORGING		RING SIZE, (Rough machined)
80-353063-1, Channel	19.18 +.13 ODx17.62 +/- .06 IDx1.0 +.25 Lg	

TUBE TYPE AND SIZE		
TITANIUM		SIZE
80-304009-1, Inlet		.250 OD x .016 Wall
80-304009-3, Outlet		.250 OD x .016 Wall

TUBE TYPE AND SIZE		
TITANIUM		SIZE
80-304009-1, Inlet		6.35 x .406mm
80-304009-3, Outlet		6.35 x .406mm

