



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Simple Pmd	Flange	Girth	Channel

This is a 42-inch spherical pressure vessel constructed of 6AL-4V titanium. A channel type propellant management device (PMD) is provided to expel NTO under low or zero gravity conditions. Mounting is accomplished by a continuous flange parallel with and adjacent to the mid-plane.

**ATK Part Number 80352-1**

**SIZE: 42-inch ID Sphere**

**SIZE: 1067-mm**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000368
Qualification Test Procedure	50-000369
Bubble Point Test Procedure	50-000370
Weight Analysis	54-000109
PMD Failure Analysis	54-000117
Fracture Analysis Plan	54-000102
Qualification Test Report	56-000145
Cleaning Procedure, Tank	CPP 3684
Cleaning Procedure, PMD	CPP 3546

**TANK CHARACTERISTICS**

Operating Pressure, psig	300	Total Volume, ci	39,440
Proof Pressure, psig	375	Prop Volume, ci	39,230
Cryo Proof, psig	600	Max Design Wt, lbs	51.5
Burst Pressure, psig	450	Minimum Wall, inch	0.036

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, Bar	20.68	Total Volume, l	646.31
Proof Pressure, Bar	25.85	Prop Volume, l	642.87
Cryo Proof, Bar	41.37	Max Design Wt, kg	23.4
Burst Pressure, Bar	31.03	Minimum Wall, MM	0.914

**Notes:**

- 1: Tooling owned by PSI
- 2: Original program was Mars Observer (MO)
- 3: Protoflight Test Procedure for Telstar is 50-000390
- 4: Flange has 48 holes
- 5: The PMD design is proprietary to GE/ASD
- 6: Tube protectors are SK-1220 & SK 1221
- 7: Foster Engineering
- 8: Telstar Fracture Mech Analysis No.Ge No.1R5H-91-TS4-059
- 9: Fracture Analysis Plan, 88-045
- 10: Stress Report, PMD, 88-059
- 11: Stress Report, Tank, 88-066A
- 12: Fracture Analysis Report, Tank, 89-005C
- 13: Fracture Critical

**FORGINGS**

FGGS P/N	SUPPLIER	Die
80-352061-1 (2)		

**TUBE TYPE AND SIZE**

TITANIUM	SIZE
80-352001-5, Inlet	.375 OD x .035 Wall
80-352002-5, Outlet	.500 OD x .028 Wall

**TUBE TYPE AND SIZE (Metrics)**

TITANIUM	SIZE
80-352001-5, Inlet	9.52 OD x .88 Wall
80-352002-5, Outlet	12.7 OD x .71 Wall

PSI P/N 80352-1

