



TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs	Girth

This is a 22-inch spherical pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a reversible ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) at the sphere mid-plane. Mounting is accomplished by four (4) lugs parallel with & adjacent to the sphere mid-plane.

**ATK Part Number 80439-1**

**SIZE: 22.14-inch ID Sphere**  
**SIZE: 562.3-mm**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000570
Cleaning	CPP 3903

**TANK CHARACTERISTICS**

Operating Pressure, psig	387	Total Volume, ci	5,555
Proof Pressure, psig	484	Prop Volume, ci	4,410
Cryo Proof, psig	NA	Max Design Wt, lbs	16.0
Burst Pressure, psig	580	Minimum Wall, inch	0.027

**ACCEPTANCE TESTS**

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure
- Post-Proof Volume Determination
- Radiographic Inspection
- Penetrant Inspection
- Internal Leakage
- External Leakage
- Determination of Weight and Final Inspection
- Cleanliness Verification
- Final Examination

**DIAPHRAGM INFORMATION**

Diaphragm P/N	80-259007-1
Diaphragm Mold P/N	T-1261
Diaphragm Gross Wt	2.47 (1.12 Kg)
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processin	Note 2 90-000087
N-Ray Inspection Procedure	1002

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, Bar	26.68	Total Volume, l	91.03
Proof Pressure, Bar	33.37	Prop Volume, l	72.27
Cryo Proof, Bar	NA	Max Design Wt, Kg	7.26
Burst Pressure, Bar	39.99	Minimum Wall, MM	0.686

**FORGINGS**

FORGINGS P/N	SUPPLIER	Die No
80-346061-1 (2)		
<b>RING FORGING</b>		<b>RING SIZE, (Rough Machined)</b>
80-203009-11, Retainer	24.4 +.06 OD x 21 -.06 ID x 1.28 +.06 Lg	
80-298063-1, Lug	25.81 +.09 OD x 22.38 -.09 ID x .71 +.06 Lg	

**QUALIFICATION TESTS**

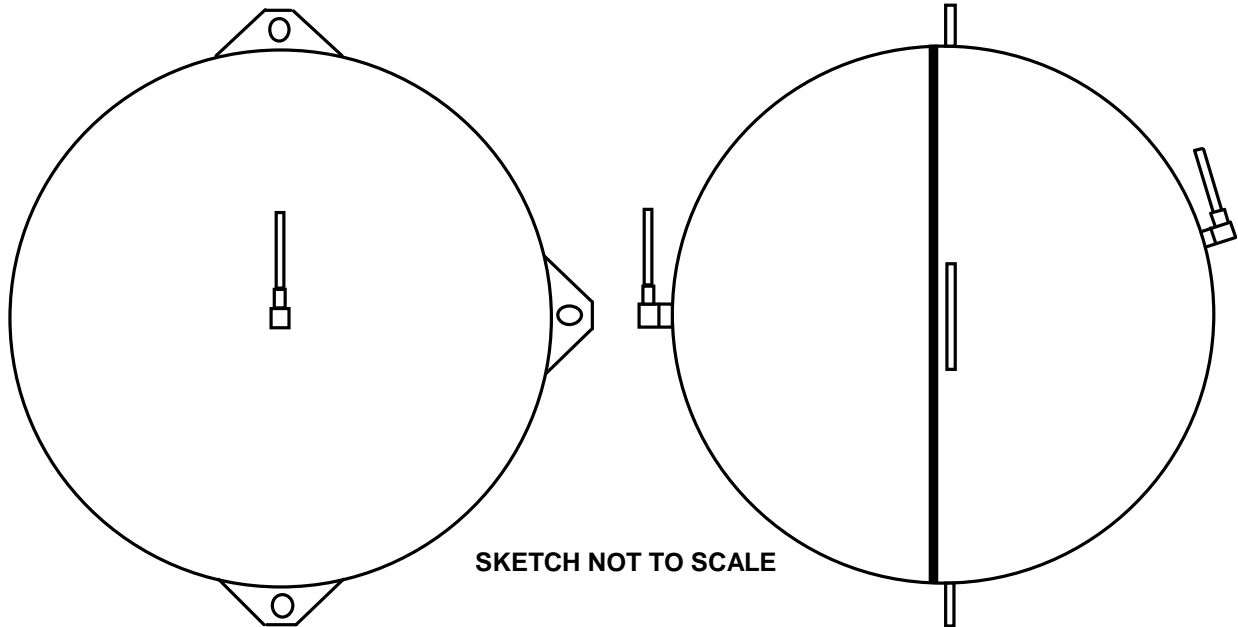
Qual by similarity on 80362-1.

**Notes:**

- 1: Tooling owned by ATK
- 2: Proprietary Document
- 3: This tank similar to 80362-1
- 4: Fracture Critical

**TUBE TYPE AND SIZE**

TRANSITION	SIZE
80-385001-1 (2)	250" OD x 3.74 Long (6.35 x 94.99 MM) 1st 2.14" is .028 Wall (54.35 x .71 MM) Last 1.6" has .016 Wall (40.64 x .406 MM)



**SKETCH NOT TO SCALE**