



TANK TYPE Diaphragm	MOUNT Lugs	LOCATION Girth
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The propellant tank is a spherical pressure vessel constructed of 6AL-4V titanium. Positive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the sphere mid-plane. Mounting is accomplished by lugs parallel with the adjacent to the mid-plane. Connection is made to the propellant and pressurant compartments through tube stubs.

ATK Part Number 80385-1

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

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000463
Cleaning	CPP 3720
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			
Operating Pressure, psig	350	Total Volume, ci	5.555
Proof Pressure, psig	525	Prop Volume, ci	4.410
Cryo Proof, psig	NA	Max Design Wt, lbs	15.5
Burst Pressure, psig	700	Minimum Wall, inch	0.027
Actual Burst, psig	1000		

QUALIFICATION TESTS
N/A

ACCEPTANCE TESTS
Proof Pressure Test
Post-Proof Volume Determination
Internal Leakage Test
External Leakage Test
Penetrant Inspection
Radiographic Inspection
Weight Determination
Final Examination of Product
Cleanliness Verification

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	24.13	Total Volume, l	91.03
Proof Pressure, Bar	36.20	Prop Volume, l	72.27
Cryo Proof, Bar	NA	Max Design Wt, Kg	7.03
Burst Pressure, Bar	48.26	Minimum Wall, MM	0.686
Actual Burst, psig	68.95		

Notes:

- 1: Tooling owned by ATK
- 2: Proprietary Document
- 3: This tank similar to 80362-1
- 4: .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)
- 5: Fracture Critical
- 6: Tube protector is SK 1307

FORGINGS

FORGINGS P/N	SUPPLIER	Die No
80-346061-1 (2)		

RING SIZE, (Rough Machined)

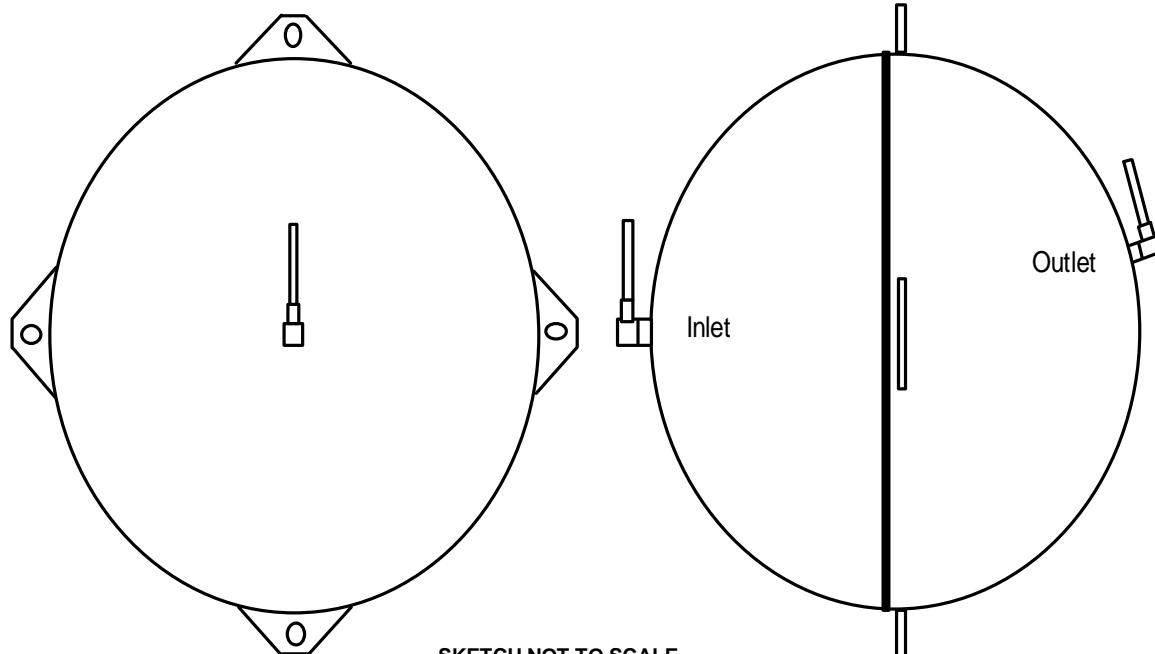
RING FORGING	
80-203009-11, Retainer	24.4 +.06 OD x 21 -.06 ID x 1.28 +.06 Lg
80-298063-1, Lug	25.81 +.09 OD x 22.38 -.09 ID x .71 +.06 Lg

TUBE TYPE AND SIZE

TRANSITION	SIZE
80-385001-1 (2)	See Note 4

VACUUM RATED

YES



SKETCH NOT TO SCALE