



<b>TANK TYPE</b> Diaphragm	<b>MOUNT</b> Lugs, 2	<b>LOCATION</b> Girth
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This is a 19-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 two (2) lugs parallel with and adjacent to the sphere mid-plane.

**ATK Part Number 80512-1**

**SIZE: 19.06-inch ID Sphere**  
**SIZE: 484-MM**

## ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	QUALIFICATION TESTS
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Acceptance Test Procedure	50-000693
Qualification Test Procedure	50-000694
Qualification Test Report	56-000246
Cleaning	CPP 3865

Operating Pressure, psig	500	Total Volume, ci	3.660
Proof Pressure, psig	625	Prop Volume, ci	2.748
Cryo Proof, psig	NA	Max Design Wt, lbs	13.25
Burst Pressure, psig	750	Minimum Wall, inch	0.023
Actual Burst Pressure, psig	997		

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Post-Proof Volume Determination
Expulsion Efficiency / Pressure Drop
Tank Dryness Verification
Pentrant Inspection
Radiographic Inspection
Internal Leakage
External Leakage
Determination of Weight & Final Inspection
Final Visual Examination
ESD Grounding
Cycle Life Testing
Expulsion Cycle Life
Expulsion Efficiency / Pressure Drop
Tank Dryness Verification
Pentrant Inspection
Radiographic Inspection
Internal (Diaphragm) Leakage
External Leakage
Burst

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-274007-1
Diaphragm Mold P/N	T-1981
Diaphragm Gross Wt	1.71
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processing	Note 2 90-000079
N-Ray Inspection Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	34.47	Total Volume, l	59.98
Proof Pressure, Bar	43.09	Prop Volume, l	45.03
Cryo Proof	NA	Max Design Wt, Kg	6.01
Burst Pressure, Bar	51.71	Minimum Wall, MM	0.584
Actual Burst Pressure, Bar	68.74		

**Notes:**

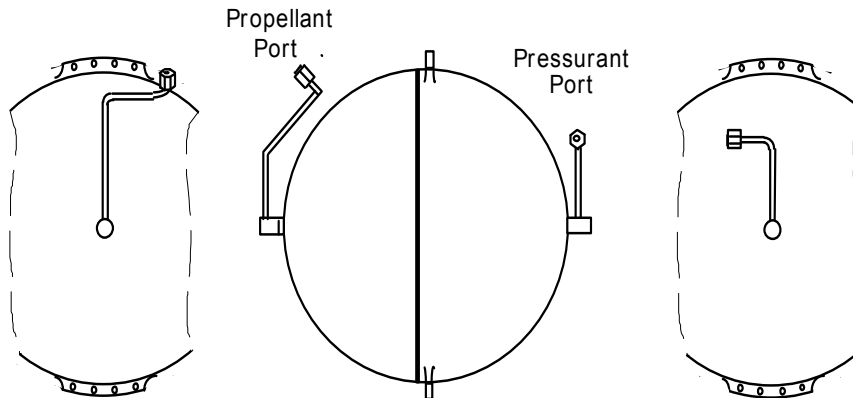
- 1: Tooling owned by ATK
- 2: Proprietary Document

FORGINGS P/N	SUPPLIER	Die No
80-182061-1 (2)	ARCTURUS	2696
RING FORGING		
RING SIZE, (Rough Machined)		
80-274065-1, Retainer	19.06 +.12 OD x 17.55 -.12 ID x 1.5 +.12 Lg	
80-274063-1, Lug	21.25 +.06 OD x 19.31 -.06 ID x .85 +.06 Lg	

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-512021-3, Pressurant	.500 OD x .028 Wall
80-512005-3, Propellant	.250 OD x .035 Wall



**SKETCH NOT TO SCALE**



ACCEPTANCE TESTS
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Internal Leakage
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Weight Determination
Cleanliness Verification
Final Examination of Product