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TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs, 2	Girth

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.

ISO 9001 & AS 9100 REGISTERED

ATK Part Number 80512-1

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

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000693
Qualification Test Procedure	50-000694
Qualification Test Report	56-000246
Cleaning	CPP 3865

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

Notes:

1: Tooling owned by ATK

2: Proprietary Document

TANK CHARACTERISTICS

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
ActualBurst Pressure, psig	997		

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		

FORGINGS

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	.375 OD x .020 Wall
80-512005-3, Propellant	.500 OD x .028 Wall

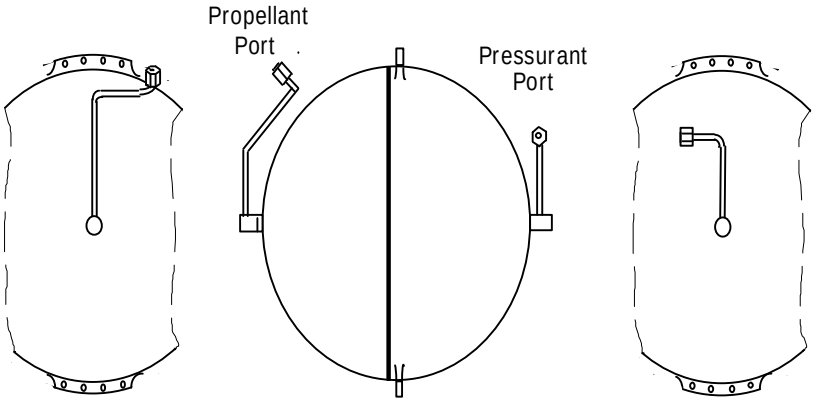
QUALIFICATION TESTS

- 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

ACCEPTANCE TESTS

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

SKETCH NOT TO SCALE



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10-Oct-08