



TANK TYPE DIAPHRAGM	MOUNT Tabs	LOCATION MID-PLANE	PMD DEVICE
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The propellant tank is a 23" diameter x 25" long pressure vessel constructed of 6AL-4V Titanium. Positive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the tank mid-plane. Mounting is accomplished by (4) equally spaced tabs parallel with and adjacent to the mid-plane. Connection is made to the propellant and pressurant compartments through tube stubs.

ATK Part Number 80447-1

SIZE: 23.13-inch ID x 25.46 inch Long
SIZE: 587.5 mm x 646.7 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000593
Cleaning	CPP 3657

DIAPHRAGM INFORMATION

Diaphragm P/N	80-323007-1
Diaphragm Mold P/N	T-3129
Diaphragm Gross Wt	3 Lbs.
Diaphragm Matl Type	AF-E-332
Material Specification, Rubber	MT3-73
Diaphragm Processing Note 2	90-000094
N-Ray Procedure	1002

TANK CHARACTERISTICS

Operating Pressure, psig	417	Total Volume, in ³	7,261
Proof Pressure, psig	625	Prop Volume	250 lb _m hydrazine
Cryo Proof, psig	N/A	Prop Volume, lbs	250
Burst Pressure, psig	626	Max Design Wt, lbs	29.00
Actual Burst, psig	N/A	Minimum Wall, inch	0.040

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	28.75	Total Volume, l	119
Proof Pressure, bar	43.09	Prop Volume	113.4 kg hydrazine
Cryo Proof, bar	N/A	Prop Volume, kg	113.40
Burst Pressure, bar	43.16	Max Design Wt, kg	13.15
Actual Burst, bar	N/A	Minimum Wall, MM	1.016

HEMISPHERE FORGING

HEMI P/N	QTY	SUPPLIER	Die No
80-323061-1	2	ARCTURUS	3475

RING FORGINGS (Roughed Machined)

80-323063-1, Retainer	23.44 +/- .06 ODx22.0 +/- .06 IDx1.7 +.25 Lg
80-323063-3, Cylinder	24.0 +/- .06 ODx22.44 +/- .06 IDx3.56+.25 Lg
80-323065-1, Lug	23.87 + .13 ODx22.25 +/- .06 IDx4.0 +.25 Lg

TRANSITION TUBE

6AL-4V TO 304L	SIZE
80-447001-1	0.250" OD x 0.020" Wall (6.35 mm x 0.508 mm Wall)

QUALIFICATION TESTS

Qual performed on 80323-1

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

VACUUM RATED

YES

Notes:

- 1: Tooling belongs to ATK
- 2: Proprietary Document
- 3: Metric anchor nuts were furnished by the customer.
- 4: Tube protectors are SK 1031 & SK 1032
- 5: Fracture Critical
6. This tank is a derivative of 80428-1

