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TANK TYPE	MOUNT	LOCATION	PMD DEVICE
DIAPHRAGM	Tabs	MID-PLANE	

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 sphere 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 80469-1

SIZE: 23.13-inch **ID x 25.46** inches L
SIZE: 587.5 mm x 646.7 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000630
Fracture Analysis Plan	54-000224
Cleaning	CPP 3965

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, in^3	7,261
Cryo Proof, psig	N/A	Prop Volume, lbs	250
Burst Pressure, psig	1,000	Max Design Wt, lbs	29.00
Actual Burst, psig		Minimum Wall, inch	0.040

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	28.75	Total Volume, l	119
Proof Pressure, bar	43.09	Prop Volume, l	119
Cryo Proof, bar	N/A	Prop Volume, kg	113.40
Burst Pressure, bar	68.95	Max Design Wt, kg	13.15
Actual Burst, bar		Minimum Wall, MM	1.016

ACCEPTANCE TESTS

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

Notes:

1. 'Tooling belongs to ATK
2. Proprietary Document
3. Tube Protector SK 1505
4. Fracture Critical
5. This tank is derivative of 80428-1.
6. Transition tube is attached to the outlet tube
7. QTR 56-000130

HEMISPHERE FORGINGS

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

RING FORGINGS

RING P/N	QTY	RING SIZE, (Rough Machined)
80-323063-1	Retainer (1)	23.44 +/-.06 ODx22 +/-.06 IDx1.7 +.25 Lg
80-323063-3	Cylinder (1)	24.0 +/-.06 ODx22.44 +/-.06 ID x3.56 +.25Lg
80-323065-1	Lug (1)	23.87 +.13 ODx22.25 +/-.06x4.0 +.25 Lg

TUBE TYPE AND SIZE (in.)

Ti 3AL-2.5V	-304L Transition	SIZE
80-454001-3 (2)		0.250" OD x .016" Wall Press

TUBE SIZE (mm)

80-454001-3 (2)	6.350 OD x 0.4064 mm Wall

QUALIFICATION TESTS

Qual performed on 80428-1.

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