

TANK TYPE	MOUNT	LOCATION
DIAPHRAGM	Lug	Girth

The Propellant Tank is a pressure vessel constructed of STA 6AL-4V Titanium shell. Positive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the sphere mid-plane. Mounting is accomplished by four (4) equally spaced lugs parallel with and adjacent to the mid-plane. Connection is made to the propellant and pressurant compartments through tube stubs.

Part Number 80531-1

SIZE: 23.13" ID x 25.46" LONG
SIZE: 588 mm ID x 647 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000727
Qual Test Procedure-80323	50-000315
QBS Report	56-000253
Stress and Dynamics Report	203, 370
FMECA	54-000290
Cleaning	CPP 3894
Qual Test Report	56-000129

TANK CHARACTERISTICS

Operating Pressure, psig	450 @ 140°F	Total Volume, in ³	7,261
Proof Pressure, psig	562.5 @ 140°F	Max Design Wt, lbs	29.0
Cryo Proof, psig	N/A	Minimum Wall, inch	0.040
Burst Pressure, psig	900 @ 140°F	Flight Tank Mass, lbs	27.38
Actual Burst, psig	Up to 1104 psi		

ACCEPTANCE TESTS

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

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	31 @ 60°C	Total Volume, l	119.0
Proof Pressure, bar	38.8 @ 60°C	Max Design Wt, kg	13.2
Cryo Proof, bar	N/A	Minimum Wall, mm	1.02
Burst Pressure, bar	62.1 @ 60°C	Qual Tank Mass, kg	12.4
Actual Burst, bar	Up to 76 bar		

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-323061-1	2

80323-1 QUALIFICATION TESTS

Acceptance Test
Vibration
Internal Leakage
External Leakage
Differential Pressure Test
Internal Leakage
Life Cycling
Penetrant Inspection
Radiographic Inspection
Internal Leakage
External Leakage
Burst Pressure - no rupture
Penetrant Inspection
Radiographic Inspection
Final Examination of Product
Preparation for Delivery

RING FORGINGS

P/N	QTY	SIZE
80-323063-1	1	22.00" ID x 23.44" OD x 1.75" LONG
		588.8mm ID x 595.376mm OD x 44.45mm LONG
80-323063-3	1	22.44" ID x 24.00" OD x 3.56" LONG
		569.976mm ID x 609.6mm OD x 90.424mm LONG

TUBE TYPE AND SIZE

Ti 3AL-2.5V	QTY	SIZE
80-428001-5	2	0.250" OD x 0.035" Wall x 7.58" LONG
		6.35 OD mm x 0.889 mm Wall x 192.532mm LONG

