

TANK TYPE Diaphragm	MOUNT Lugs, 3	LOCATION Girth
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This is a 16.5-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 three (3) lugs parallel with and adjacent to the sphere mid-plane.

Part Number 80271-3

SIZE: 16.5-inch ID Sphere
SIZE: 419-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS	
Qualification Test Procedure, Note 4	50-000216	Operating Pressure, psig	300	Total Volume, ci	2,280
Acceptance Test procedure	50-000357	Proof Pressure, psig, Note 7	900	Prop Volume, ci	1,520
Qualification Test Report, Note 4	56-000077	Cryo Proof, psig	NA	Max Design Wt, lbs	11.4
Cleaning	CPP 3532	Burst Pressure, psig	1,200	Minimum Wall, inch	0.031

DIAPHRAGM INFORMATION		TANK CHARACTERISTICS (Metrics)		ACCEPTANCE TESTS	
Diaphragm P/N	80-271007-1	Operating Pressure, bar	20.68	Total Volume, l	37.36
Diaphragm Mold P/N	SK 666	Proof Pressure, bar, Note 7	62.05	Prop Volume, l	24.91
Diaphragm Gross Wt	0.88 (.339 Kg)	Cryo Proof, bar	NA	Max Design Wt, Kg	5.17
Diaphragm Matl Type	AF-E-332	Burst Pressure, bar	82.74	Minimum Wall, MM	0.7874
Diaphragm, Material	Note 2				
Diaphragm Processing	Note 2				
N-Ray Inspection	1002				

Notes:

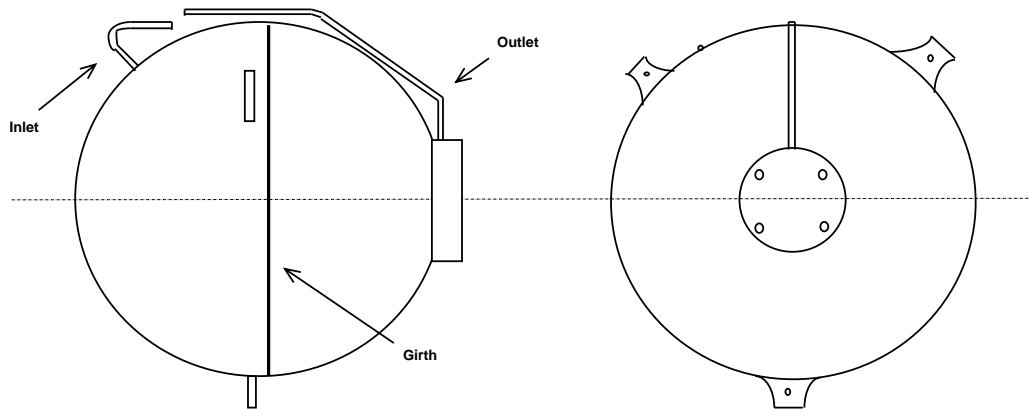
- 1: Some tooling owned by Fairchild
- 2: Proprietary Document
- 3: Forging qualified under P/N 80157-1
- 4: This tank was qualified under P/N 80271-1
- 5: Actual burst pressure was 1417 psig (97.69 Bar)
- 6: This design has a factor of 4:1
- 7: This pressure was used on qual tank only
Flight tank proof pressure was 970 psig (66.87 Bar)
- 8: Original Job No. of the -1 tank is 7821
- 9: TOPEX is Ocean Topography Experiment
- 10: Fracture Critical

FORGINGS		FORGINGS	
FORGINGS P/N	SUPPLIER	Die No	
80-276061-1 (2)			
RING FORGING		RING SIZE, (Rough Machined)	
80-271060-3, Lug		19.38 +.06 OD x 17.19 -.06 ID x .87 Lg	
80-214065-1, Retainer		16.75 +.06 OD x 15.5 -.06 ID x 1.4 +/- .06 Lg	

TUBE TYPE AND SIZE		SIZE
TITANIUM		
80-271003-3, Inlet		.250 OD x .020 Wall
80-271002-3, Outlet		.250 OD x .020 Wall
		(6.35 x .5 MM)

QUALIFICATION TESTS
Qual by similarity on 80271-1

SKETCH NOT TO SCALE



6033 East Bandini Boulevard
Commer, California 90040

Telephone (323) 722-0222
Facsimile (323) 721-6002