

TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs, 4	Girth

NORTHROP GRUMMAN

This is a 16.5" 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 4 lugs parallel with and adjacent to the sphere mid-plane.

Part Number 80573-1

SIZE: 16.5-inch ID Sphere
SIZE: 419.1-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000857
Fracture Analysis Report	54-000465
Cleaning	CPP 4089
Handling, Pckg & Filling Inst.	60-000819
PMP List	60-000838

TANK CHARACTERISTICS

Operating Pressure, psig	348	Total Volume, ci	2,300
Proof Pressure, psig	522	Prop Volume, ci	1,965
Cryo Proof, psig	NA	Max Design Wt, lbs	13.0
Burst Pressure, psig	1,584	Minimum Wall, inch	0.040

ACCEPTANCE TESTS

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure Test
Post-Proof Volume Determination
Internal Leakage
External Leakage
Outside Surface Quality Inspection
Weld Quality Inspection
Weight Test
Examination of Product
Cleanliness

DIAPHRAGM INFORMATION

Diaphragm P/N	80-271007-1
Diaphragm Mold P/N	SK 666
Diaphragm Gross Wt	0.88 (.399 Kg)
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processing	Note 2 90-000087
N-Ray Procedure	1002

TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	23.99	Total Volume, l	37.69
Proof Pressure, Bar	35.99	Prop Volume, l	32.20
Cryo Proof, Bar	NA	Max Design Wt, Kg	5.9
Burst Pressure, Bar	109.21	Minimum Wall, MM	1.016

QUALIFICATION TESTS

Qual performed on tank 80303-1.

Acceptance Test
Random Vibration
Internal Leakage High/Low Pressure
External Leakage
Proof Pressure cycles
Internal Leakage High/Low Pressure
External Leakage
Life Cycle & Expulsion Efficiency
Internal Leakage High/Low Pressure
External Leakage

FORGINGS

FORGINGS P/N	
80011-63, Pressurant (80-276061-1)	
80157-61, Propellant (80-276061-1)	
RING FORGING	
80-214065-1, Retainer	16.75 OD x 15.5 ID x 1.4 Lg
80-271060-3, Lug	19.38 OD x 17.19 ID x .87 Lg

Notes:

- Majority of tooling belongs to Northrop Grumman
- Proprietary Document
- This tank is similar to P/N 80358-1
- Each lug ring will make 9 lugs
- Tube protectors are SK 1247 & SK 1249
- Fracture Critical

TUBE TYPE AND SIZE

TRANSITION	SIZE
80-573001-1 (2)	.250 OD x .028 wall x 3.85 Long
80-573001-1 (2)	6.35mm OD x .7112mm wall x 97.79mm Long

