

TANK TYPE	MOUNT	LOCATION
Dipahragm	Base	Apex

This is a 15" spherical pressure vessel constructed of 6Al-4V titanium. Postive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the sphere mid-plane. Mounting is accomplished by a base mount welded to the propellant compartment. Connection is made to the propellant and pressurant compartments through titanium tubes.

Part Number 80468-1

SIZE: 15.38-inch ID Sphere
SIZE: 390.6-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS	
Acceptance Test Procedure	50-000629	Operating Pressure, psig	320	Total Volume, ci	1.865
Qual Test Procedure, Note 5	50-000184	Proof Pressure, psig	510	Prop Volume, ci	1.375
Qualification Test Report, Note 5	56-000068	Cryo Proof, psig	NA	Max Design Wt, lbs	8.20
Fracture Analysis plan	54-000150	Burst Pressure, psig	680	Minimum Wall, inch	0.019
Cleaning	CPP 3964	Actual Burst Pressure			

DIAPHRAGM INFORMATION		TANK CHARACTERISTICS (Metrics)		FORGINGS		QUALIFICATION TESTS	
Diaphragm P/N	80-225017-1	Operating Pressure, Bar	22.06	Total Volume, l	30.56	Qual performed on 80225-1.	
Diaphragm Mold Tool No	T-1647	Proof Pressure, Bar	35.16	Prop Volume, l	22.53	Examination of Product, Preliminary	
Diaphragm Gross Wt	1.19 (.539 Kg)	Cryo Proof, Bar	NA	Max Design Wt, Kg	3.72	Pre-Proof Volume	
Diaphragm Material Type	AF-E-332	Burst Pressure, Bar	47	Minimum Wall, MM	0.483	Proof Pressure Test	
Diaphragm Material	Note 2 90-000075					Post Proof Volume	
Diaphragm Processing	Note 2 90-000087					Fixture Evaluation & Vibration	
N-Ray Inspection Procedure	1002					Internal HE Leak (High Pressure)	

Notes:

- 1: Tooling owned by Northrop Grumman
- 2: Proprietary Document
- 3: This tank is a redesign 80225-1
- 4: Tube protectors are SK 1388 & SK 1389
- 5: QTP & QTR are for P/N 80225-1
- 6: Fracture Critical

PROGRAM INFORMATION

Program	Classified
Customer	Gencorp Aerojet
Customer P/N	N/A
Original Job No	0314
Customer Installed Device	No
Customer Controlled Design	No

HEMI P/N	QTY	SUPPLIER	Die No
80-225061-2	2	ARCTURUS	2105A

RING FORGING		RING SIZE. (Rough Machined)	
80-225063-1, Retainer	15.63 +.12 OD x 14.37 -.12 ID x 1.28 +.12 Lg		
80-225065-1, Base	9.5 +.09 OD x 7.12 -.09 ID x 2.2 +.09 Lg		

TUBE TYPE AND SIZE (inch)		SIZE
3AL-2.5V		
80-468070-3		.250 x .025
80-468015-3		.250 x .025

TUBE TYPE AND SIZE (mm)		SIZE
3AL-2.5V		
80-468070-3		6.35 x 0.635
80-468015-3		6.35 x 0.635

- Examination of Product, Preliminary
- Pre-Proof Volume
- Proof Pressure Test
- Post Proof Volume
- Fixture Evaluation & Vibration
- Internal HE Leak (High Pressure)
- Temperature Cycle
- Internal HE Leak (Low Pressure)
- Internal HE Leak (High Pressure)
- External HE Leak
- Final Examination of Product
- Weight Determination
- Cleanliness
- Sinusoidal & Random Vibration
- Internal HE Leak (High Pressure)
- Shock
- Internal HE Leak (High Pressure)
- Acceleration
- Internal HE Leak (High Pressure)
- Spin Expulsion
- Internal HE Leak (Low Pressure)
- Internal HE Leak (High Pressure)
- Temperature Cycle
- Life Cycle
- Internal HE Leak (Low Pressure)
- Internal HE Leak (High Pressure)
- External HE Leak
- Cleanliness Verification
- Post Test Inspection
- Burst Pressure Test

