

TANK TYPE	MOUNT	LOCATION	PMD DEVICE
PMD	SKIRT	GIRTH	VANE & SPONGE

This 40.5" (1028.7 mm) propellant tank has hemispherical heads and a 8.4" cylindrical center section. The pressure vessel is constructed of 6AL-4V solution treated and aged (STA) titanium. An internally mounted sponge and vane titanium propellant management device (PMD) provides gas-free liquid propellant at the tank outlet throughout the mission. Mounting is accomplished by a skirt of 24 circumferential tabs with nut plates located near the girth weld. The tank is a derivative of PSI tank P/N 80430-1.

Part Number 80470-1

SIZE: 40.5-inch Dia x 48.8-inch long
SIZE: 1028.7 x 1239.5 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Qualification Test Procedure	50-000640	Operating Pressure, psig	340	Total Volume, in ³	45,161
Bubble Point Test Procedure	50-000641	Proof Pressure, psig	442.0	Prop Volume, in ³	45,161
Static Load Test Procedure	50-000654	Cryo Proof, psig	N/A	Prop Volume, lbs	1,014
Stress Analysis (Wada), note 4	# 318	Burst Pressure, psig	524	Minimum Wall, inch	0.034
Materials List	54-000181	Actual Burst, psig	669	Max Design Wt, lbs	60.00
Processes List	54-000182			Qual Actual Wt, lbs	62.91
Fracture Analysis Plan	54-000219				

Flight Tank Never Built.

Bracket Bonding Test Report	56-000218	TANK CHARACTERISTICS (Metrics)			
Qualification Test Report	56-000219	Operating Pressure, bar	23.44	Total Volume, l	740.1
Cleaning, note 2	CPP-3546	Proof Pressure, bar	30.47	Prop Volume, l	740.1
Cleaning, note 1	CPP-3901	Cryo Proof, bar	N/A	Prop Volume, kg	459.9
		Burst Pressure, bar	36.13	Minimum Wall, MM	0.864
		Actual Burst, bar	46.13	Max Design Wt, kg	29.4
				Qual Actual Wt, kg	28.54

QUALIFICATION TESTS

- Preliminary Inspection of Product
- Mass Measurement
- Pre-Proof Volumetric Capacity
- Ambient Proof Pressure
- Visual Inspection
- Post-Proof Volumetric Capacity
- Pressure Cycling Test & Visual Inspection
- External Leakage Test
- Tank Assembly Bubble Point Test
- Dry & Wet Sine & Random Vibration Test
- Visual Inspection & Clean
- Shock Test & Visual Inspection
- Visual Inspection
- Volumetric Capacity & Expulsion Test
- Tank Assembly Bubble Point Test
- External Leakage Test
- Radiographic Inspection
- Dye Penetrant Inspection
- Clean
- Burst Test & Visual Inspection
- Data Review

- Notes:**
1. Tank Assy.
 2. Parts / Subassemblies
 3. Fracture Critical
 4. This tank is a modified 80430-1 (Wada #282)
 5. Matched inlet tube is made from 80-411001-1 and connected to the customer supplied pipe assembly.

PROGRAM INFORMATION

Program	IGS
Customer	Eagle
Customer P/N	FSAKK71286-G05
Original Job No	0317
Customer Installed Device	No
Customer Controlled Des.	No

FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-430061-1	2	ARCTURUS	3841
RING P/N		QTY	RING SIZE
80-338063-1		1	41.18 O.D. x 39.75 I.D. x 3.87 Lg
CYLINDER P/N			SIZE
80-470067-1			41.0 +.09 O.D. x 40.04 -.09 I.D. x 9.3 +.25 Lg

TUBE TYPE AND SIZE			
Transition Ti to SS			SIZE
80-411001-1	outlet		0.250 O.D. x 0.020 Wall
80470-3, note 5	inlet		0.250 O.D. x 0.020 Wall

TUBE SIZE (Metrics)			
80-411001-1	outlet		6.350 O.D. x 0.508 MM Wall
80470-3, note 5	inlet		6.350 O.D. x 0.508 MM Wall

VACUUM RATED

N/A

