

<b>TANK TYPE</b>	<b>MOUNT</b>	<b>LOCATION</b>
COPV	POLAR	POLAR

This composite overwrapped pressure vessel (COPV) Helium tank is 16.7" ( 424 mm) in diameter and 29.6" (752 mm) in length. The tank is constructed of a CP Titanium center cylinder welded to two CP Titanium end domes and overwrapped with T1000 carbon fiber. Mounting is provided by two polar bosses located on the tank centerline axis.

**Part Number 80530-1**

**SIZE:16.7" DIA X 29.6" LONG**

**SIZE: 424 mm DIA X 752 mm LONG**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000736
Qual Test Procedure	50-000576
Qualification Test Report	56-000197
Stress Analysis	54-000189
Stress and Dynamics Report	54-000189
Cleaning	3912

**TANK CHARACTERISTICS**

Operating Pressure, psig	4,800	Total Volume, in <sup>3</sup>	4,967
Proof Pressure, psig	6,000	Max Design Wt, lbs	28.00
Cryo Proof, psig	N/A	Minimum Wall, inch	0.018
Burst Pressure, psig	7,200		
Actual Burst, psig	8,297		

**QUALIFICATION TESTS**

Examination of Product
Volume Determination and Proof & MEOP Pressure Test
MEOP Pressure Cycle Life Test
Proof Pressure Cycle Life Test
External Leak Test
Pressurized Pyrotechnic Shock Test
External Leak Test
Vibration Test Sine Random
External Leak Test
Weld Quality Inspection
Examination of Product
Burst Pressure & Rupture Test

**Notes:**

1. Fracture Critical
2. Pressurant Tank based 80436-1

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	330.94	Total Volume, l	81
Proof Pressure, bar	413.68	Max Design Wt, kg	12.70
Cryo Proof, bar	N/A	Minimum Wall, MM	0.457
Burst Pressure, bar	496.41		
Actual Burst, bar	572.05		

**ACCEPTANCE TEST**

Examination of Product Preliminary
Volumetric Measurement @ Ambient
Proof Pressure Test @ Ambient
Volumetric Measurement @ Ambient
Volumetric Capacity @ MEOP
External Leak Test
Weld Quality Inspection
Examination of Product Final
Final Clean

**PROGRAM INFORMATION**

Program	GPS III
Customer	Boeing
Customer P/N	
Original Job No.	
Customer Installed Device	No
Customer Controlled Device	No

**HEMISPHERE FORGINGS**

HEMI P/N	QTY	SUPPLIER	Die No
80-436061-1	2	ARCTURUS	3852

**ROLLED AND SEAM WELDED CYLINDER**

P/N	QTY	SIZE
80-436100-1	1	15.87 in ID X 16.75 in LONG

**TUBE TYPE AND SIZE (in.)**

Ti 3AL-2.5V	SIZE
80-400002-1	0.375 O.D. x 0.050 Wall

**TUBE SIZE (mm)**

80-400002-1	9.525 O.D. x 1.270 Wall
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**VACUUM RATED**

YES

