

TANK TYPE Propellant (COPV)	MOUNT POLAR	LOCATION CENTERLINE
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This Propellant Tank is a composite overwrapped pressure vessel (COPV) with a liner constructed of a center cylinder welded to end domes and overwrapped with T1000 carbon fiber. The commercially pure titanium liner has a nominal .032 in (.81 mm) membrane thickness. Mounting is provided by polar bosses located on the tank centerline axis.

Part Number 80592-1

SIZE: 16.50" DIA x 44.415" LONG
SIZE: 419.1 mm DIA x 1128.1 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000898
QBS Report	See note 1
Protoflight Test Procedure	50-000897
Protoflight Test Report	56-000340
Stress and Dynamics Report	54-000497
FMECA	54-000496
Cleaning	CPP 4170

TANK CHARACTERISTICS

Operating Pressure, psig	2,685	Total Volume, in ³	7,922
Proof Pressure, psig	3,375	Max Design Wt, lbs	45.2
Cryo Proof, psig	N/A	Minimum Wall, inch	0.032
Burst Pressure, psig	4,150	Qual Tank Mass, lbs	45.2
Actual Burst, psig	5,926		

ACCEPTANCE TESTS

- Examination of Product, Preliminary
- Autofrettage @ Ambient
- Volumetric Measurement @ Ambient
- Proof Pressure Test @ Ambient
- Volumetric Measurement @ Ambient
- Volumetric Capacity @ MEOP
- Borescope Inspection
- Internal Vacuum Test
- External Leak Test
- Weld Quality Inspection
- Examination of Product, Final
- Final Clean

Notes:

(1) QBS included in Stress Analysis Report 54-000231

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	185.1	Total Volume, l	129.8
Proof Pressure, bar	232.7	Max Design Wt, kg	20.5
Cryo Proof, bar	N/A	Minimum Wall, mm	0.813
Burst Pressure, bar	286.1	Qual Tank Mass, kg	20.5
Actual Burst, bar	408.6		

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-436061-1	2

QUALIFICATION TESTS (for 80458-1)

- Examination of Product, Preliminary
- Autofrettage
- Volumetric Measurement
- Proof Pressure Test
- Volumetric Measurement
- Strain Data Correlation
- Volumetric Capacity @ MEOP
- External Leakage Test
- Weight Measurement and Inspection
- Propellant Flow Rate Test
- MEOP Pressure Cycle Life Test
- Proof Pressure Cycle Life Test
- External Leakage Test
- Dynamic Testing Approval
- Sinusoidal Vibration Test
- Sine Burst Test
- Random Vibration Test
- External Leakage Test
- Thermal Cycling Test
- Random Vibration Test
- External Leakage Test
- Weld Quality Inspection
- Examination of Product, Final
- Burst Test

CYLINDERS

P/N	QTY
80-458100-1	1
80-592050-3	1

TUBE TYPE AND SIZE

Ti 3.0AL-2.5V	QTY	SIZE
80-592050-9	1	.250" OD x .028" WALL x 4.96" LONG

