



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Diaphragm	Tabs	Prop Hemi	AF-E-332 Rubber Diaphragm

The propellant tank is a family of 22" diameter x 39" length pressure vessel constructed of 6AL-4V titanium. An rubber diaphragm Propellant Management Device (PMD) provides gas-free expulsion of propellant. Mounting is provided via three (3) welded tabs located on the propellant side dome and a customer-provided flex plate on the propellant side boss.

ATK Part Number 80547-1

SIZE: 22.14" ID x 39.11" Length
SIZE: 562 mm ID x 993 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Qualification Test Report	56-000280
Acceptance Test Procedure	50-000754
Qualification Test Procedure	50-000751
Cleaning	CPP 4049

TANK CHARACTERISTICS

Operating Pressure, psig	325	Total Volume, in ³	10,700
Proof Pressure, psig	406	Prop Volume, in ³	5,022
Cryo Proof, psig	N/A	Prop Volume, lbs	226
Burst Pressure, psig	488	Max Design Wt, lbs	28.51
Actual Burst, psig	910	Minimum Wall, inch	0.040

QUALIFICATION TESTS

- Preliminary Examination of Product
- Pre-Proof Volumetric Capacity Test
- Proof Pressure Test
- Post-Proof Volumetric Capacity Test
- MEOP / Proof Pressure Cycling
- Diaphragm Cycle Test
- Internal (Diaphragm) Leak Test
- External Leak Test
- Expulsion Efficiency
- Expulsion Cycle Test
- Internal Vacuum
- Vibration Testing
- Static Load Test
- Burst Pressure

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	22.41	Total Volume, l	175
Proof Pressure, bar	27.99	Prop Volume, l	82
Cryo Proof, bar	N/A	Prop Volume, kg N ₂ H ₄	84.03
Burst Pressure, bar	33.646	Max Design Wt, kg	12.93
Actual Burst, bar	62.742	Minimum Wall, MM	1.016

NOTES
 The 80547-1 tank is identical to the 80534-1 tank except that the diaphragm orientation is reversed.

HEMISPHERE FORGINGS

HEMI P/N	QTY	SUPPLIER	Die No
80-313061-3	2	Arcturus	3045B

ACCEPTANCE TESTS

- Preliminary Examination of Product
- Pre-Proof Volumetric Capacity Test
- Proof Pressure Test
- Post-Proof Volumetric Capacity Test
- NDE
- Expulsion Efficiency
- Internal Vacuum
- Internal (Diaphragm) Leak Test
- External Leak Test
- Vibration Test
- Internal (Diaphragm) Leak Test
- External leak Test
- NDE
- Final Examination
- Cleanliness

RING FORGINGS (Roughed Machined) (inches)

Qty. 2, 80-534060-1, Cylinder Forging	23.12 OD x 21.37 ID x 16.32 Lg
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RING FORGINGS (Roughed Machined) (mm)

Qty. 2 80-534060-1, Cylinder Forging	587 OD x 543 ID x 415 Lg
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TUBE TYPE AND SIZE (inches)

Bi-Metallic - Titanium / CRES	SIZE
80-534001-1 Pressurant / Propellant	.250 OD x 0.028 Wall

TUBE TYPE AND SIZE (mm)

Bi-Metallic - Titanium / CRES	SIZE
80-534001-1 Pressurant / Propellant	6.350 mm x 0.711 Wall



VACUUM RATED
 Yes