



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Simple	Pads	Cylinder	Vane
<b>NTO</b>			
This tank is a 21-inch x 48-inches long titanium tank. The tank is constructed of titanium 6Al-4V with a nominal membrane thickness of 0.029"-0.032". Mounting is provided by 1 welded sidemount & 4 strut supports located on the tank inlet & outlet bosses. The tank contains an internal Propellant Management Device, constructed from titanium sheet & titanium woven screen. The PMD serves to maintain separation of liquid propellant (NTO) & gaseous pressurant, & to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions.			

**ATK Part Number 80394-1**

**SIZE: 21.25-inch ID x 47.8-inch Long**  
**SIZE: 540 x 1214-mm**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS	
Qualification Test Procedure	50-000489	Operating Pressure, psig	300
Qualification Test Report	56-000168	Proof Pressure, psig	375
Acceptance Test Procedure	50-000491	Cryo Proof, psig	NA
Bubble Point Test Procedure	50-000492	Burst Pressure, psig	450
Fracture Mechanics Plan	54-000148	Total Volume, ci	13.979
Cleaning	CPP 3820	Prop Volume, ci	25.70
		Max Design Wt, lbs	11.66
		Minimum Wall, inch	0.017

ACCEPTANCE TESTS
Examination of Product
Bubble Point Test
Volume & Proof Test
Pressure Drop Test
Vibration Test
Bubble Point Test
External Leak Test
Radiographic Inspection
Examination of Product
Cleanliness Verification
Data Review & Ship

- Notes:**
- 1: Tooling belongs to ATK.
  - 2: Stress/Fracture Report, Tank, 255
  - 3: Stress/Fracture Report, PMD, 251-A
  - 4: Fracture Critical

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	20.68	Total Volume, l	229.08
Proof Pressure, Bar	25.85	Prop Volume, l	
Cryo Proof, Bar	NA	Max Design Wt, Kg	11.66
Burst Pressure, Bar	31.03	Minimum Wall, MM	0.432

FORGINGS P/N	SUPPLIER	Die No
80-390061-1		
<b>RING FORGING</b>		
<b>RING SIZE, Rough Machined</b>		
80-390063-5, Cylinder	22.38+ .12, -.03	ODx20.93+ .03, -.09
		IDx25.75+ .25, -.00

QUALIFICATION TESTS
Examination of Product
Bubble Point Test
Volume Determination
Proof Pressure Test
Proof MEOP Pressure Cycle Life Test
Pressure Drop & Expulsion Efficiency Test
Vibration Testing
Bubble Point Test
External Leakage Test
Radiographic & Penetrant Inspection
Burst Pressure Test
Data Review

TITANIUM	SIZE
80-390040-5 (2)	

