



TANK TYPE	MOUNT	LOCATION
Spinner Hydrazine	Bosses	Polar

The basic tank design selected for the Lunar Prospector mission was originally designed & qualified for the TRW Model 35 program in the early 1970's. The simple mounting arrangement includes a threaded boss at one end & a four bolt pattern at the other. The solution treated and aged 6Al-4V titanium alloy shell, machined from forgings, was stress & fracture mechanics analyzed to the new mission requirements. A slosh analysis was performed to establish the propellant location in the tanks during the separation, spin-up, & pitch maneuvers. This resulted in the only design change which was to add a vortex suppressor over the outlet.

ATK P/N 80396-1

SIZE: 19.23-inch ID Sphere
SIZE: 488.4-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS																			
Acceptance Test Procedure 50-000498 Cleaning CPP 3821	<table border="1"> <tr> <td>Operating Pressure, psig</td> <td>600</td> <td>Total Volume, ci</td> <td>3,776</td> </tr> <tr> <td>Proof Pressure, psig</td> <td>900</td> <td>Prop Volume, ci</td> <td>Variable</td> </tr> <tr> <td>Cryo Proof, psig</td> <td>NA</td> <td>Max Design Wt, lbs</td> <td>11.50</td> </tr> <tr> <td>Burst Pressure, psig</td> <td>1,200</td> <td>Minimum Wall, inch</td> <td>0.036</td> </tr> </table>	Operating Pressure, psig	600	Total Volume, ci	3,776	Proof Pressure, psig	900	Prop Volume, ci	Variable	Cryo Proof, psig	NA	Max Design Wt, lbs	11.50	Burst Pressure, psig	1,200	Minimum Wall, inch	0.036	Preliminary Inspection of Product Pre-Proof Volumetric Capacity Ambient Proof Pressure Visual Inspection, Post-Proof Volumetric Capacity External Leakage Test Radiographic Inspection Dye Penetrant Inspection Final Visual Inspection of Product Mass Measurement Cleanliness Check & Packaging Data Review			
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Lunar Prospector Hydrazine Tank, Design Heritage

