

PROTOFLIGHT ENVIRONMENTS
FOR
GLAST PROPELLANT TANK ASSEMBLY
ATK P/N 80466-1

80466-1 was subjected to the following protoflight tests:

<u>Test Sequence</u>	<u>Test Description</u>
1	Preliminary Inspection of Product
2	Mass Measurement
3	Pre-Proof Volumetric Capacity, Ambient Proof Pressure, Visual Inspection, and Post-Proof Volumetric Capacity
4 *	External Leakage Test
5 *	Tank Assembly Bubble Point Test
6	Random Vibration Test and Visual Inspection
7	Volumetric Capacity & Expulsion Test
8 **	Tank Assembly Bubble Point Test
9 **	External Leakage Test
10 +	Radiographic Inspection
11 +	Dye Penetrant Inspection
12	Cleanliness Check & Visual Inspection
13	Data Review

Random Vibration Test

Random Vibration Levels (Wet)

<u>Frequency (HZ)</u>	<u>Levels</u>
20	0.026 G ² /Hz
20-50	+6 dB/Octave
50-800	0.16 G ² /Hz
800-2000	-6 dB/Octave
2000	0.026 G ² /Hz
Overall G-rms	14.1

The 14.1 G-rms random vibration spectrum may be split into two bands, if necessary, to meet vibration shaker equipment limitations.

- 1.) Tank is filled with 776 lbs of distilled, deionized water and pressurized to 330 psig.
- 2.) The vibration tests are performed in the following sequence:
 - Wet Random – One axis (X, Y, or Z)
 - Wet Random – 2nd axis
 - Wet Random – 3rd axis