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|--|-----------------------|--------------------------|------------------------------------|
| TANK TYPE PMD | MOUNT SKIRT | LOCATION GIRTH | PMD DEVICE VANE & SPONGE |
| <p>This propellant tank is a 40.5" (1030 mm) spherical pressure vessel constructed of 6AL-4V solution treated and aged (STA) titanium. An internally mounted sponge and vane titanium propellant management device (PMD) provides gas-free liquid propellant at the tank outlet throughout the mission. Mounting is accomplished by a skirt of 24 circumferential tabs with nut plates located near the girth weld.</p> | | | |
| <p>ISO 9001 & AS 9100 REGISTERED</p> | | | |

Part Number 80466-1
SIZE: 40.5-inch Sphere
SIZE: 1030 mm

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|-----------------------------|-----------------------------|-------------------------|
| APPLICABLE DOCUMENTS | TANK CHARACTERISTICS | ACCEPTANCE TESTS |
|-----------------------------|-----------------------------|-------------------------|

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|-----------------------------|-----------|
| Protoflight Test Procedure | 50-000627 |
| Protoflight Test Report | 56-000212 |
| Bubble Point Test Procedure | 50-000628 |
| Fracture Analysis Plan | 54-000216 |
| Materials List | 54-000222 |
| Processes List | 54-000223 |
| Cleaning (1) | CPP-3901 |
| Cleaning (2) | CPP-3546 |

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|--------------------------|-----|-------------------------------|--------|
| Operating Pressure, psig | 330 | Total Volume, in ³ | 34,481 |
| Proof Pressure, psig | 413 | Prop Volume, in ³ | 34,481 |
| Cryo Proof, psig | N/A | Prop Volume, lbs | 882 |
| Burst Pressure, psig | 495 | Max Design Wt, lbs | 48.0 |
| Actual Burst, psig | 691 | Minimum Wall, inch | 0.037 |

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| Inspection |
| Mass Measurement |
| Ambient Proof Pressure & Internal Volume |
| Visual Inspection |
| External Leakage |
| Bubble Point |
| Random Vibration |
| Radiographic Inspection |
| Penetrant Inspection |
| Expulsion Test |
| Bubble Point |
| External Leakage |
| Cleanliness & Visual Inspection |
| Data Review |

Notes:

1. Fracture Critical
2. Tank is a derivative of 80338-1.
3. Tank is a derivative of 80430-1

| TANK CHARACTERISTICS (Metrics) | | | |
|--------------------------------|-------|-------------------|-------|
| Operating Pressure, bar | 22.75 | Total Volume, l | 565 |
| Proof Pressure, bar | 28.47 | Prop Volume, l | 565 |
| Cryo Proof, bar | N/A | Prop Volume, kg | 400.0 |
| Burst Pressure, bar | 34.13 | Max Design Wt, kg | 21.0 |
| Actual Burst, bar | 47.64 | Minimum Wall, MM | 0.940 |

| PROGRAM INFORMATION | |
|---------------------------|---------|
| Program | GLAST |
| Customer | Aerojet |
| Customer P/N | N/A |
| Original Job No | 0310 |
| Customer Installed Device | No |
| Customer Controlled Des. | No |

| HEMISPHERE FORGINGS | | | |
|---------------------|-----|----------|--------|
| HEMI P/N | QTY | SUPPLIER | Die No |
| 80-430061-1 | 2 | ARCTURUS | 3841 |

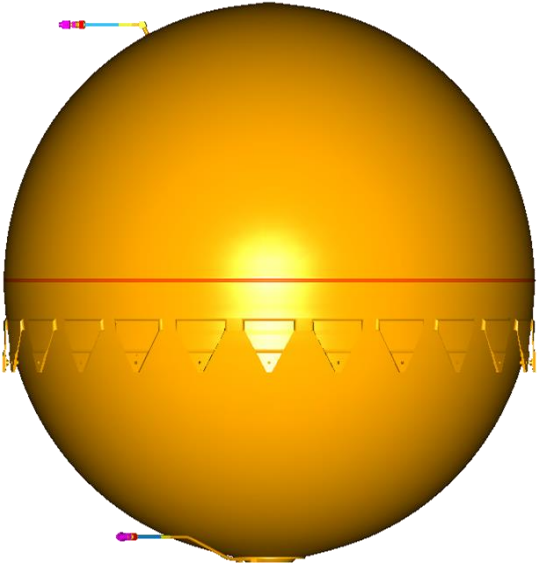
| QUALIFICATION TESTS |
|-------------------------------------|
| Qual was performed on tank 80338-1. |

| HEMISPHERE FORGING SIZES | | |
|--------------------------|-----|--|
| RING P/N | QTY | RING SIZE |
| 80-338063-1 | 1 | 41.2 in OD : 39.8 in ID X 3.87 in LONG |

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| Pressure Log |
| Mass Measurement & Preliminary Inspection of Product |
| Volume Determination |
| Proof Pressure Test |
| Pressure Cycle Test |
| External Leakage Test |
| Bubble Point Test - Tank Assembly |
| Dry Sine Vibration Tests |
| Dry Random Vibration Tests |
| Wet Random Vibration Tests |
| Wet Sine Vibration Tests |
| Cleanliness Verification |
| Shock Test |
| Volumetric Capacity & Expulsion Test |
| External Leakage Test |
| Bubble Point Test - Tank Assembly |
| Radiographic Inspection & Dye Penetrant Inspection |
| Cleanliness Verification |
| Burst Test |
| Data Review |
| Draining and Drying Log |

| TUBE TYPE AND SIZE (in.) | |
|----------------------------|------------------------|
| Transition Ti to SS | SIZE |
| 80-466001-1 | 0.25 O.D. x 0.020 Wall |
| 80-466001-3 | 0.25 O.D. x 0.020 Wall |

| TUBE SIZE (mm) | |
|----------------|-------------------------|
| 80-411001-2 | 6.350 O.D. x 0.508 Wall |
| 80-411001-2 | 6.350 O.D. x 0.508 Wall |



| VACUUM RATED |
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| YES |