



| TANK TYPE  | MOUNT | LOCATION |
|------------|-------|----------|
| Pressurant | Strap | Other    |

This tank is a 9-inch spherical pressure vessel constructed of 6Al-4V titanium. This vessel has an all welded construction exterior. This tank contains a port for pressurant outflow.

**ATK Part Number 80345-1**  
**SIZE: 9.44-inch ID Sphere**  
**SIZE: 240-mm**

**ISO 9001 & AS 9100 REGISTERED**

| APPLICABLE DOCUMENTS         |           |
|------------------------------|-----------|
| Qualification Test Procedure | 50-000351 |
| Acceptance Test Procedure    | 50-000352 |
| Fracture Analysis Plan       | 54-000212 |
| Qualification Test Report    | 56-000141 |
| Cleaning                     | CPP 3669  |

| TANK CHARACTERISTICS        |            |                    |       |
|-----------------------------|------------|--------------------|-------|
| Operating Pressure, psig    | 4,500      | Total Volume, ci   | 400   |
| Proof Pressure, psig        | 6,700      | Actual Volume      | N/A   |
| Cryo Proof, psig            | See note 6 | Actual Mass        | 7.17  |
| Design Burst Pressure, psig | 8,985      | Max Design Wt, lbs | 7.40  |
| Actual Burst Pressure, psig | 10,460     | Minimum Wall, inch | 0.132 |

| ACCEPTANCE TESTS                   |
|------------------------------------|
| Preliminary Examination of Product |
| Volumetric Capacity Test           |
| Proof Pressure Test                |
| Volumetric Capacity Test           |
| Cryogenic Proof Pressure Test      |
| External Leakage Test              |
| Random Vibration Test              |
| External Leakage Test              |
| Outside Surface Quality Inspection |
| Weld Quality Inspection            |
| Weight Test                        |
| Final, Examination of Product      |
| Cleanliness Verification           |

**Notes:**

- ATK owns majority of this tooling
- Customer furnished vibration fixture, including straps
- Tube protector is SK 1086
- Fracture Critical
- General Electric Astro Space
- Cryo Proof pressure test is no longer performed.  
 We will conduct a fracture update & inspect this tank using fracture critical non-destructive inspection (NDI) techniques. (X-Ray & Penetrant)

| TANK CHARACTERISTICS (Metrics) |            |                   |       |
|--------------------------------|------------|-------------------|-------|
| Operating Pressure, bar        | 310.26     | Total Volume, l   | 6.6   |
| Proof Pressure, bar            | 461.94     | Prop Volume, l    | N/A   |
| Cryo Proof, bar                | See note 6 | Max Design Wt, kg | 3.36  |
| Design Burst Pressure, bar     | 619.48     | Minimum Wall, MM  | 3.353 |
| Actual Burst Pressure, bar     | 721.18     |                   |       |

**FORGINGS**

| FORGINGS P/N | SUPPLIER | Die  |
|--------------|----------|------|
| 80082-63     | ARCTURUS | 3326 |

**TUBE TYPE AND SIZE**

| TRANSITION  | SIZE                |
|-------------|---------------------|
| 80-345001-1 | .250 OD x .035 Wall |

**TUBE TYPE AND SIZE (Metrics)**

| TRANSITION  | SIZE           |
|-------------|----------------|
| 80-345001-1 | 6.35 x .889 mm |

**PROGRAM INFORMATION**

|                            |              |
|----------------------------|--------------|
| Program                    | DMSF & TIROS |
| Customer                   | Note 5       |
| Customer P/N               | 2629323-1    |
| Original Job No.           | 8722         |
| Customer Installed Device  | No           |
| Customer Controlled Design | No           |

| QUALIFICATION TESTS                |
|------------------------------------|
| Preliminary Examination of Product |
| Volumetric Capacity Test           |
| Proof Pressure Test                |
| Volumetric Capacity Test           |
| Cryogenic Proof Pressure Test      |
| External Leakage Test              |
| Random Vibration Test              |
| External Leakage Test              |
| Outside Surface Quality Inspection |
| Weld Quality Inspection            |
| Vacuum Integrity Test              |
| External Leakage Test              |
| Random Vibration Test              |
| External Leakage Test              |
| Cycle Life Test                    |
| External Leakage Test              |
| Outside Surface Quality Inspection |
| Weld Quality Inspection            |
| Final Examination of Product       |
| Burst Pressure Test                |

