| TANK TYPE | MOUNT | LOCATION |
|---|---|---|
| Diaphragm | Lugs, 2 | Girth |

NORTHROP GRUMMAN

This is a 19-inch spherical pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a reversible ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) at the sphere mid-plane. Mounting is accomplished by two (2) lugs parallel with and adjacent to the sphere mid-plane.

**Part Number 80512-1**

**SIZE: 19.06-inch ID Sphere**
**SIZE: 484-MM**

**ISO 9001 & AS 9100 REGISTERED**

## APPLICABLE DOCUMENTS

| | |
|---|---|
| Acceptance Test Procedure | 50-000693 |
| Qualification Test Procedure | 50-000694 |
| Qualification Test Report | 56-000246 |
| Cleaning | CPP 3865 |

## DIAPHRAGM INFORMATION

| | | |
|---|---|---|
| Diaphragm P/N | | 80-274007-1 |
| Diaphragm Mold P/N | | T-1981 |
| Diaphragm Gross Wt | | 1.71 |
| Diaphragm Matl Type | | AF-E-332 |
| Diaphragm, Material | Note 2 | 90-000075 |
| Diaphragm Processing | Note 2 | 90-000079 |
| N-Ray Inspection Procedure | | 1002 |

**Notes:**

1: Tooling owned by Northrop Grumman

2: Proprietary Document

## PROGRAM INFORMATION

| | |
|---|---|
| Program | PACS |
| Customer | LMC |
| Customer P/N | |
| Original Job No. | 0614 |
| Customer Installed Device | No |
| Customer Controlled Device | No |

## TANK CHARACTERISTICS

| | | | |
|---|---|---|---|
| Operating Pressure, psig | 500 | Total Volume, ci | 3,660 |
| Proof Pressure, psig | 625 | Prop Volume, ci | 2,748 |
| Cryo Proof, psig | NA | Max Design Wt, lbs | 13.25 |
| Burst Pressure, psig | 750 | Minimum Wall, inch | 0.023 |
| ActualBurst Pressure, psig | 997 | | |

## TANK CHARACTERISTICS (Metrics)

| | | | |
|---|---|---|---|
| Operating Pressure, Bar | 34.47 | Total Volume, l | 59.98 |
| Proof Pressure, Bar | 43.09 | Prop Volume, l | 45.03 |
| Cryo Proof | NA | Max Design Wt, Kg | 6.01 |
| Burst Pressure, Bar | 51.71 | Minimum Wall, MM | 0.584 |
| Actual Burst Pressure, Bar | 68.74 | | |

## FORGINGS

| FORGINGS P/N | SUPPLIER | Die No |
|---|---|---|
| 80-182061-1 (2) | ARCTURUS | 2696 |

| RING FORGING | RING SIZE, (Rough Machined) |
|---|---|
| 80-274065-1, Retainer | 19.06 +.12 OD x 17.55 -.12 ID x 1.5 +.12 Lg |
| 80-274063-1, Lug | 21.25 +.06 OD x 19.31 -.06 ID x .85 +.06 Lg |

## TUBE TYPE AND SIZE

| TITANIUM | SIZE |
|---|---|
| 80-512021-3, Pressurant | .500 OD x .028 Wall |
| 80-512005-3, Propellant | .250 OD x .035 Wall |

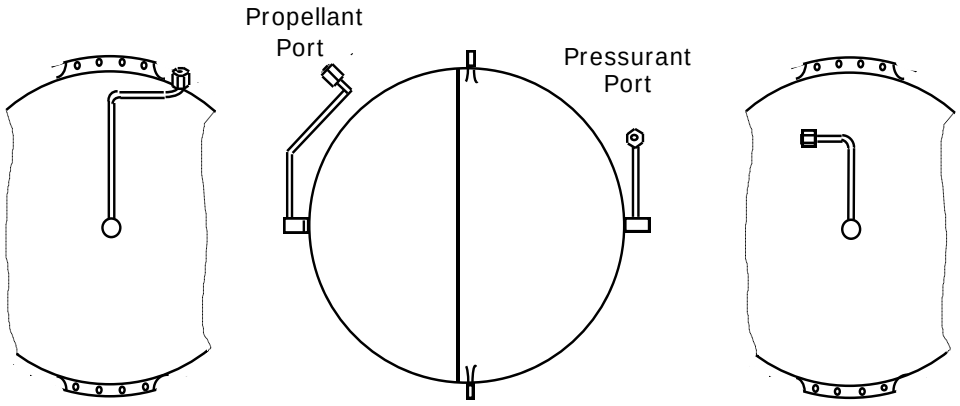
## QUALIFICATION TESTS

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure
- Post-Proof Volume Determination
- Expulsion Efficiency / Pressure Drop
- Tank Dryness Verification
- Pentrant Inspection
- Radiographic Inspection
- Internal Leakage
- External Leakage
- Determination of Weight & Final Inspection
- Final Visual Examination
- ESD Grounding
- Cycle Life Testing
- Expulsion Cycle Life
- Expulsion Efficiency / Pressure Drop
- Tank Dryness Verification
- Pentrant Inspection
- Radiographic Inspection
- Internal (Diaphragm) Leakage
- External Leakage
- Burst

## ACCEPTANCE TESTS

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure Test
- Post-Proof Volume Determination
- Expulsion Efficiency
- Penetrant Inspection
- Radiographic Inspection
- Internal Leakage
- External Leakage
- Weight Determination
- Cleanliness Verification
- Final Examination of Product

**SKETCH NOT TO SCALE**





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