TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Complex PMD	Tabs	Girth	Channel, Trap & Screen

NORTHROP GRUMMAN

This tank assembly is a pressure vessel with hemispherical ends & a cylindrical section of all welded construction. It is mounted by 32 circumferential tabs with nut plates located on one of the hemispheres near the cylindrical section weld joint. The tank contains an internally mounted propellant management device (PMD), with perforated sheet and woven screen, fabricated to maintain separation of liquid propellant & gaseous pressurant, & to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions.

Part Number 80363-1

SIZE: 48.9" ID x 59.66"Long
SIZE: 1242 x 1515 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000398
Bubble Point Test Procedure	50-000396
Qualification Test Procedure	50-000415
Protoflight Test Procedure	50-000416
Materials List	54-000122
Processes List	54-000123
Ring Forging Qualification Report	55-000077
Vibration Fixture Test Report	56-000147
Qualification Test Report	56-000156
Cleaning Procedure, PMD	CPP 3546
Cleaning Procedure, Tank	CPP 3722

Notes:

1: Tooling owned by Northrop Grumman
2: This tank is similar to P/N 80367-1
3: Trap vent screens are stainless steel
4: PMD is proprietary to Loral
5: Brunswick Wintec Proprietary*
6: Weld Qual Ring = SK1285
7: Center Body & Channel Screen is titanium
8: Tube Protectors are SK 1314 & SK 1315
9: Stress Analysis, Tank (Foster), 92-014A
10: Fracture Mechanics Analysis(Foster), 92-015A
11: Stress Analysis, PMD, 92-016A
12: Fracture Critical

PROGRAM INFORMATION

Program	INTELSAT VIIA
Customer	Space Systems/Loral
Customer P/N	E020936-03
Original Job No	9119
Customer Installed Device	No
Customer Controlled Design	Yes, PMD

TANK CHARACTERISTICS

Operating Pressure, psig	250	Total Volume, ci	77,800
Proof Pressure, psig	313	Prop Volume, ci	77,800
Cryo Proof, psig	430	Max Design Wt, lbs	93.5
Burst Pressure, psig	375	Minimum Wall, inch	0.031

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	17.24	Total Volume, l	1,274.93
Proof Pressure, bar	21.58	Prop Volume, l	1,274.93
Cryo Proof, bar	29.65	Max Design Wt, Kg	42.41
Burst Pressure, bar	25.85	Minimum Wall, MM	0.787

FORGINGS

FORGINGS P/N	SUPPLIER	Die
80-363061-1 (2)	LADISH	TR-038

RING FGG	RING SIZE, (Rough Machined)
80-363063-3	49.57 +/-.09 OD x 48.4 +/-.09 ID x 9.37 +/-.06 Long
80-363065-1	49.75 +/-.09 OD x 48.31 +/-.09 ID x 3.19 +/-.06 Long
80-363067-1	48.63 +/-.12 OD x 42.63 +/- .12 ID x 3.00 +/- .06 Long

TUBE TYPE AND SIZE

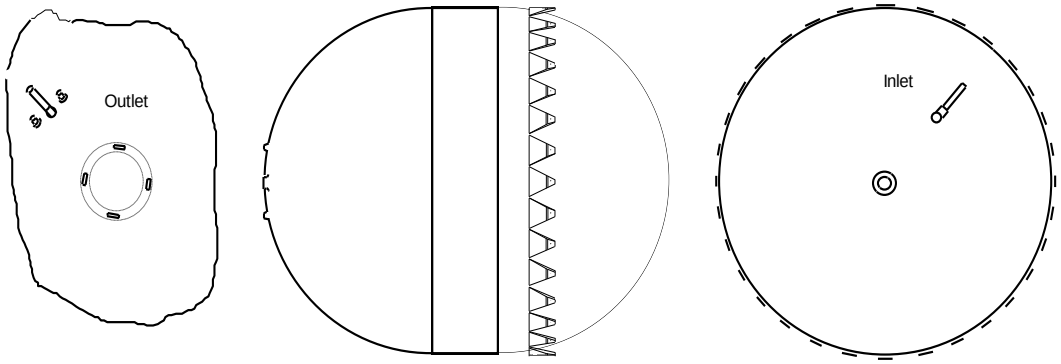
TRANSITION	SIZE
80-363001-1 (2)	.500 OD x .028 Wall (12.7 x .711 MM)

ACCEPTANCE TESTS

Performed on 80367-1.

QUALIFICATION TESTS

Preliminary Inspection of Product
Mass Measurement
Pre-Proof Volumetric Capacity
Ambrient Proof Pressure Test
Post Proof Volumetric Capacity
Cryogenic Proof Pressure Test
Post Proof Volumetric Capacity
External Leakage Test
Bubble Point Test
Cleanliness Verfication
Dry Sine, Wet Sine, Random Vibration Test
Bubble Point Test
External Pressure Cycle Test
MEOP Cycle Test
Proof Pressure Cycle Test
Expulsion Test
External Leakage Test
Bubble Point Test
Final Inspection of Product
Cleanliness Verfication



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