

TANK TYPE	MOUNT	LOCATION	PMD DEVICE
SIMPLE PMD	Tabs, 32	Girth	VANE, TRAP & SPONGE

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 & woven screen, fabricated to maintain separation of propellant & gaseous pressurant, & to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions.

Part Number 80482-1

SIZE: 48.9" ID x 63.335" Long
SIZE: 1,242 x 1,608 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000661
Bubble Point Test Procedure	50-000662
Cleaning	CPP 3866

TANK CHARACTERISTICS			
Operating Pressure, psig	250	Total Volume, in ³	87,575
Proof Pressure, psig	313	Prop Volume, in ³	87,575
Cryo Proof, psig	N/A	Max Design Wt, lbs	99.20
Burst Pressure, psig	375	Minimum Wall, inch	0.031
Actual Burst, psig			

ACCEPTANCE TESTS
Preliminary Inspection of Product
Mass Measurement
Pre-Proof Volumetric Capacity
Ambient Proof Pressure
Visual Inspection
Post Proof Volumetric Capacity
External Leakage Test
Tank Assembly Bubble Point Test
Sine and Random Vibration Test and Visual Inspection
Volumetric Capacity & Expulsion Test
Tank Assembly Bubble Point Test
External Leakage Test
Radiographic Inspection
Dye Penetrant Inspection
Cleanliness Check & Visual Inspection
Data Review

Notes:

1. Tooling belongs to Northrop Grumman
2. Tube Protectors SK 1491 & 1354
3. Same PMD ain 80442-1.

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	17.24	Total Volume, l	1,435
Proof Pressure, bar	21.55	Prop Volume, l	1,435
Cryo Proof, bar	NO	Max Design Wt, kg	45.00
Burst Pressure, bar	25.85	Minimum Wall, MM	0.787
Actual Burst, bar	0.00		

HEMISPHERE FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-363061	2		

RING FORGINGS			
RING P/N	QT QTY	RING SIZE, (Rough Machined")	
80-363063	1	49.57 +/- .06 x 48.31 +/- .06	3.19 +/- .09
80-363065	1	49.75 +/- .09 x 48.40 +/- .09	16 +/- .06

TUBE TYPE AND SIZE (in.)	
TRANS Ti to SS	SIZE
80-411001-3	0.375 OD x 0.020
80-411001-1	0.250 OD x 0.020

TUBE SIZE (mm)	
Ti 3AL-2.5V	SIZE
80-411001-3	9.525 x 0.508 mm
80-411001-1	6.350 x 0.508mm

QUALIFICATION TESTS
Qual by similarity on tank 80411-1.

