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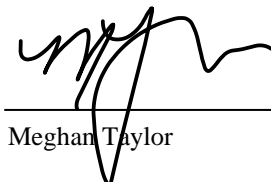
**VERIFICATION TEST REPORT ABSTRACT  
FOR  
SUPERNINE®  
HERMETIC, JAM NUT MOUNT RECEPTACLE  
(HYDROSTATIC PRESSURE-STATIC)**

**REPORT NO. GT-21-374 ABSTRACT**



**Jam-Nut Hermetic Receptacle  
P/N 233-100-H7**

PREPARED BY: \_\_\_\_\_

  
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DATE: 3/11/2022

UPDATED BY: \_\_\_\_\_



DATE: 5/13/2022

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**VERIFICATION TEST REPORT ABSTRACT**  
**SuperNine®**  
**Jam-Nut Mount Receptacle**

**No.:** GT-21-374 Abstract  
**Date:** May 13, 2022  
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1.0 Product Description/Application

Supernine® 233-100-H7 is a MIL-STD-38999 Series III type jam-nut mount hermetic receptacle. This Supernine® hermetic connector is ideally suited for harsh vacuum environments. Typical applications include medical, geophysical, military aerospace, and industrial use.

1.1 Purpose

Testing was performed on P/N 233-100-H7 to validate a pressure range of 500 to 10,000 lb/in<sup>2</sup> or before maximum pressure is determined to verify its conformance to the performance requirements of MIL-DTL-38999 and EIA-364 per Qualification Test Procedure (QTP) 964.

1.2 Scope

This report summarizes the environmental verification testing and results thereof of P/N 233-100-H7. The information in this report was obtained from tests conducted by Vertical Laboratories, LLC. The documents listed below are on file at Glenair and are available upon request.

Applicable Test Reports		
Test Report Number	Provider	Date Tested
GT-21-374	Glenair, Inc.	6/15/2021
20209D1BMV4	Vertical Laboratories, LLC	8/13/2021

1.3 Conclusion

Supernine® 233-100-H7 has been shown to be capable of meeting performance requirements of MIL-DTL-38999 and EIA 364.

1.4 Test Specimen

Test Sample Description			
Part Number	Description	Qty	Serial No.
233-100-H7Z113-35PN	Connector, Receptacle, Hermetic, Jam Nut Mount Solder Contac, MIL-DTL-38999, Series III Type	3	13-1, 13-2, 13-3
233-100-H7Z119-35PN	Connector, Receptacle, Hermetic, Jam-Nut Mount, Solder Contacts, MIL-DTL-38999, Series III Type	3	19-1, 19-4, 19-5
233-100-H7Z125-35PN	Connector, Receptacle, Hermetic, Jam-Nut Mount, Solder Contacts, MIL-DTL-38999, Series III Type	3	25-1, 25-2, 25-3



## 2.0 Qualification Test Summary

Qualification Test Summary			
Test Description	Part Number	Serial Number	Results
Visual and mechanical inspection	233-100-H7Z113-35PN 233-100-H7Z119-35PN 233-100-H7Z125-35PN	13-1, 13-2, 13-3 19-1, 19-4, 19-5 25-1, 25-2, 25-3	PASS
Hydrostatic Pressure-Static	233-100-H7Z113-35PN 233-100-H7Z119-35PN 233-100-H7Z125-35PN	13-1, 13-2, 13-3 19-1, 19-4, 19-5 25-1, 25-2, 25-3	PASS
Hermeticity (Air Leakage)	N/A	N/A	PASS
Final examination of product	233-100-H7Z113-35PN 233-100-H7Z119-35PN 233-100-H7Z125-35PN	13-1, 13-2, 13-3 19-1, 19-4, 19-5 25-1, 25-2, 25-3	PASS

Notes:

1/ Vertical Laboratories visually inspected the final examination of the product on all specimens for any mechanical damage, cracks, foreign object debris, grease, or contamination.

2/ Vertical Laboratories did not test Hermeticity (Air Leakage) because the test specimens reached burst pressure (Max pressure), therefore it was not needed.

## 3.0 Qualification Testing Details

### 3.1 **Visual and mechanical inspection**

#### 3.1.1 Specification

The individual item requirements shall be specified according to QTP 964 and in accordance with the Glenair sales drawings.

#### 3.1.2 Materials

Materials shall be in accordance with sales drawing Shell – Cres/Passivated or Nickel plated

#### 3.1.3 Configuration

Connectors and accessories shall be configured to withstand normal handling incident to installation and maintenance in service. Connector intermateability control dimensions shall be as specified on Glenair sales drawings and individual component drawings.

#### 3.1.4 Contact Arrangement

Contact arrangement shall be in accordance with MIL-STD-1560

#### 3.1.5 Contacts

The connectors, contacts shall be examined for mechanical defects at three power (3X) magnification, conformance to the applicable appendices.

### 3.2 **Hydrostatic Pressure-Static**

#### 3.2.1 Requirement

Connectors shall be tested within a hydrostatic gage pressure range beginning with 500 to 10,000 lb/in<sup>2</sup> or before failure rate is determined. Each increment shall be at 100 lb/in<sup>2</sup> and

hold time shall be at minimum of on minute. When tested, there shall be no evidence of mechanical damage, water leakage, or impaired electrical characteristics.

**3.2.2 Test**

The unmated receptacle was subjected to a hydrostatic pressure test, at both open face and terminal side as specified therein.

**3.2.3 Hydrostatic Gage Pressure Test**

The test receptacle assembly was mounted to a pressure vessel cover flange. For the unmated receptacle test, the face of the receptacle web section was exposed to the pressure and filled with fresh water (both directions).

Burst Pressure Test Results		
Unit	Burst Pressure [psi]	Average [psi]
13-1	5985	6102
13-2	6159	
13-3	6162	
19-1	3044	3096
19-4	3107	
19-5	3136	
25-1	1695	1698
25-2	1807	
25-3	1593	

**3.2.4 Post Test Examination**

Following the pressure tests, the parts were examined for leakage and mechanical damage.

**3.2.5 Test Anomalies/Deviations**

N/A

**3.3 Hermeticity (Air Leakage)**

**3.3.1 Requirement**

There shall be no evidence of leakage in excess of (1x10<sup>-7</sup> CM<sup>3</sup>/Sec) standard cubic centimeters per second when subjected to a pressure differential across the connector which shall be 1 atmosphere (14.7 psi) of pure Helium through the sealing surfaces.

**3.3.2 Test**

The connector was subjected to test procedure EIA-364-02. Assembly was placed in the Helium Leak tester.

**3.3.3 Hermeticity (Air Leakage) Test**

Apply a pressure differential of 14.7 psi across the connector using helium in the high-pressure side for 10 seconds minimum period required to measure the helium leakage rate after stabilization of pressure in the test fixture. Record the results on the test data sheet.

**3.3.4 Examination**

The leakage rate of the test sample did not exceed 1x10<sup>-7</sup> standard cubic centimeters per second.



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3.3.5 Test Anomalies/Deviations  
N/A

3.4 **Final examination of product**

3.4.1 Visual Examination

Connectors and Contact socket tines were closely visually examined for cracks, loosening of parts, carbon tracking, excess wear, or missing parts. Any evidence of the above discrepancies is cause for failure.

3.4.2 Results

PASS

3.4.3 Test Anomalies/Deviations

N/A