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**QUALIFICATION TEST REPORT ABSTRACT FOR
GLENAIR
SPEEDMASTER QUALIFICATION TESTING
REPORT NO. GT-26-022 ABSTRACT**



**SpeedMaster
SuperNine**

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QUALIFICATION TEST REPORT
Glenair SpeedMaster

No.: GT-26-022 Abstract
Date: February 26, 2026
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1.0 Product Description/Application

The SpeedMaster contact module, incorporating size 22D contacts for Cat6A High-Speed networks, is available in multiple industry-proven connector styles for general purpose, military, and commercial applications. Choose from Series 824 Mighty Mouse push/pull connectors, Series 23 SuperNine MIL-DTL-38999 type connectors, Series 7925 Advanced-Performance Rectangular connectors, and Series 707 SeaKing underwater connectors. Glenair SpeedMaster solutions deliver next-generation Cat6A 10GBASE-T performance today.

1.1 Purpose

Testing was performed on 858-100, and 858-101, SpeedMaster contacts within a SpeedMaster 233-219 connector to determine their ruggedness and conformance to the performance requirements of MIL-DTL-38999 and MIL-DTL-32546.

1.2 Scope

This report summarizes mechanical and electrical qualification testing and results thereof in accordance with QTP-1546. The information in this report was obtained from tests conducted by Vertical Laboratories LLC and Glenair Inc. The documents listed below are on file at Glenair and available upon request.

Applicable Test Reports		
Test Report Number	Provider	Date Tested
25134R1DTV1	Vertical Labs	12/18/2025
GT-26-022	Glenair Inc.	02/13/2026

1.3 Conclusion

Glenair’s SpeedMaster contact has been shown to be capable of meeting performance requirements of MIL-DTL-38999 and MIL-DTL-32546.

1.4 Test Specimen

Test Sample Description	
Description	Part Number
SpeedMaster Contact, Socket, Size #22D, 10G Ethernet	858-100
SpeedMaster Contact, Pin, Size #22D, 10G Ethernet	858-101
Connector, Environmental, SpeedMaster, 10G Connector, MIL-DTL-38999 Series III Type, SuperNine	233-219

1.4.1 Test Specimen Preparation

The units under test were mated pairs of 233-219-G6 plugs and 233-219-00 receptacles. Plugs were populated with an 858-100 SpeedMaster socket, receptacles with an 858-101 SpeedMaster pin. Both pins and sockets were terminated to five feet of Glenair 963-066-24 SpeedLine cable with an RJ45 on the opposite end. Group 1 assemblies were secured with a 620HS090 strain relief backshell, and group 2 assemblies with a 377N*119 sealing backshell.



1.5 Inspection Procedure

All tests were performed with the test specimens at standard laboratory conditions and within procedural parameters as defined below.

1. Ambient room temperature: 25°C ± 10°C (77°F ± 18°F)
2. Relative humidity: Room ambient up to 90% relative
3. Barometric pressure: Prevailing room conditions

2.0 Qualification Test Summary

Qualification Test Summary		
Test Description	Abstract Reference	Results
Examination of product	3.1	Pass
Temperature Shock, -65°C to +200°C	3.2	Pass
Coupling & Uncoupling Torque	3.3	Pass
Insulation Resistance @ Ambient Temperature 5,000 MOhm @ 500 VDC	3.4	Pass
Insulation Resistance @ +200°C 1,000 MOhm @ 500 VDC	3.5	Pass
Mating Durability, 500 cycles	3.6	Pass
Sine Vibration, 60g	3.7	Pass
Random Vibration, 5g ²	3.8	Pass
Mechanical Shock, 300g	3.9	Pass
Humidity, 240 hours	3.10	Pass
Altitude Immersion	3.11	Pass
Dielectric Withstanding Voltage, 700 Vac	3.12	Pass
Electrical Performance 10GBASE-T	3.13	Pass

3.0 Qualification Testing Details

3.1 **Visual and mechanical examination**

Specimen submitted for testing was representative of standard production lots. Specimen was assembled at Glenair and accepted by Glenair Quality Assurance prior to submittal for testing.

3.2 Temperature Shock, -65°C to +200°C

3.2.1 Test Method

EIA-364-32, Method A, Condition VI
Steps 2 and 4: 2 minutes maximum duration

3.2.2 Requirement

No blistering, peeling, flaking, or separation of plating or other damage detrimental to the operation of the connector.

3.2.3 Results

All parts pass.

3.2.4 Test Anomalies/Deviations

N/A

3.3 Coupling & Uncoupling Torque

3.3.1 Test Method

EIA-364-114

3.3.2 Requirement

12 in-lb. max engagement, 2 in-lb. min disengagement

3.3.3 Results

All parts pass.

3.3.4 Test Anomalies/Deviations

N/A

3.4 Insulation Resistance at Ambient Temperature

3.4.1 Test Method

EIA-364-21

Unmated condition

3.4.2 Requirement

Resistance between any pair of inner contacts and between any contact and the outer body shall be 5,000 Megaohms minimum at 500 VDC

3.4.3 Results

All parts pass.

3.4.4 Test Anomalies/Deviations

N/A

3.5 Insulation Resistance at Elevated Temperature, +200°C

3.5.1 Test Method

EIA-364-21

Unmated condition, 30-minute soak

3.5.2 Requirement

Resistance between any pair of inner contacts and between any contact and the outer body shall be 1,000 Megaohms minimum at 500 VDC

3.5.3 Results

All parts pass.

3.5.4 Test Anomalies/Deviations

N/A

3.6 Mating Durability, 500 Cycles

3.6.1 Test Method

Pairs of populated connectors shall be mated and unmated 500 times

3.6.2 Requirement

No sign of defects detrimental to operation after testing

3.6.3 Results

All parts pass.

3.6.4 Test Anomalies/Deviations

N/A

3.7 Sine Vibration, 60g

3.7.1 Test Method

One sample of each configuration shall be subjected to a simple harmonic motion from 10 to 2,000 Hz in each of three mutually perpendicular axes. The level of vibration shall be a velocity of 254 mm/sec from 10-50 Hz; 1.5 mm double amplitude from 50-140 Hz, and 60 G from 140- 2,000 Hz. The entire frequency range from 10-2,000 Hz and back shall be traversed in 20 minutes. The vibration shall be applied for a duration of 4 hours in each of the three mutually perpendicular axes for a total of 12 hours.

A test current of 100 milliamperes maximum shall be applied and the mated pair continuously monitored for microsecond discontinuities.

3.7.2 Requirement

No disengagement of the mated connectors, backing off, the coupling mechanism, evidence of cracking, breaking, or loosening of parts.

3.7.3 Results

All parts pass.

3.7.4 Test Anomalies/Deviations

N/A

3.8 Random Vibration, 5g²

3.8.1 Test Method

EIA-364-28, Condition V

Except with vibration profile as specified in MIL-DTL-38999

3.8.2 Requirement

No disengagement of the mated connectors, backing off, the coupling mechanism, evidence of cracking, breaking, or loosening of parts.

3.8.3 Results

All parts pass.

3.8.4 Test Anomalies/Deviations

N/A

3.9 Mechanical Shock, 300g

3.9.1 Test Method

EIA-364-27, Condition D

3.9.2 Requirement

No disengagement of mated connectors, backing off the coupling mechanism, evidence of cracking, breaking, or loosening of parts.

3.9.3 Results

All parts pass.

3.9.4 Test Anomalies/Deviations

N/A

3.10 Humidity, 240 Hours

3.10.1 Test Method

EIA-364-31, Duration B

3.10.2 Requirement

Insulation resistance during final cycle shall be 100 megaohms minimum at 500 VDC

After test, DWV per EIA-364-20 at 500 VAC. Leakage shall be less than 2 mA.

Samples shall not show any deterioration which will adversely affect their performance

3.10.3 Results

All parts pass.

3.10.4 Test Anomalies/Deviations

N/A



3.11 **Altitude Immersion**

3.11.1 Test Method

EIA-364-03

3.11.2 Requirement

Insulation Resistance at the end of the final cycle while still submerged shall be 1,000 megaohms minimum. DWV shall pass after testing.

3.11.3 Results

All parts pass.

3.11.4 Test Anomalies/Deviations

N/A

3.12 **Dielectric Withstanding Voltage**

3.12.1 Test Method

EIA-364-20, Method C

3.12.2 Requirement

2 milliamperes max leakage at 700 Vac.

3.12.3 Results

All parts pass.

3.12.4 Test Anomalies/Deviations

N/A

3.13 **Electrical Performance**

3.13.1 Test Method

After each test, mated pairs shall be tested using a Fluke Networks Cable Analyzer

3.13.2 Requirement

10GBASE-T

3.13.3 Results

All parts pass.

3.13.4 Test Anomalies/Deviations

N/A