Transition Block, Undercarpet Power System

1. INTRODUCTION

1.1. Purpose

Testing was performed on the AMP* Undercarpet Power System Transition Block to determine its conformance to the requirements of AMP Product Specification 108-6074 Rev. O.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the Undercarpet Power System Transition Block. Testing was performed at the Global Automotive Division, Americas North Laboratory between 18Jan96 and 31May96.

1.3. Conclusion

The Undercarpet Power System Transition Block listed in paragraph 1.5., met the electrical, mechanical, and environmental performance requirements of AMP Product Specification 108-6074 Rev O.

1.4. Product Description

The Undercarpet Power System Transition Block is designed to make the transition from round power cable to flat undercarpet cable.

1.5. Test Samples

The test samples were representative of normal production lots, and samples identified with the following part numbers were used for test:

Test Group	Quantity	Part Nbr	Description
1,2,3,4	10 ea.	554862-1	Transition Block, 5 conductor
1,2,3,4	50 ft.	553445-3	AWG10 flat cable

1.6. Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature:	15 to 35°C
Relative Humidity:	20 to 80%

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| Indicates change

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1.7. Qualification Test Sequence

Test or Examination	Test Groups			
	1	2	3	4
	Test Sequence			
Examination of product	1,3	1,3	1,5	1,5
Dielectric withstanding voltage	2			
Temperature rise vs current			2,4	2,4
Current cycling			3	
Sinusoidal vibration		2		
Thermal shock				3

NOTE *The numbers indicate sequence in which tests were performed.*

2. SUMMARY OF TESTING

2.1. Examination of Product - All Groups

All samples submitted for testing were representative of normal production lots. A Certificate of Conformance was issued by the Product Assurance Department of Communication Business Group. Where specified, samples were visually examined and no evidence of physical damage detrimental to product performance was observed.

2.2. Dielectric Withstanding Voltage - Group 1

No dielectric breakdown or flashover occurred.

2.3. Temperature Rise vs Current - Groups 3 and 4

All samples had a temperature rise of less than 30°C above ambient when tested using a baseline rated current of 30 amperes.

2.4. Current Cycling - Group 3

No evidence of physical damage was visible as a result of current cycling.

2.5. Vibration - Group 2

No discontinuities were detected during vibration. Following vibration, no cracks, breaks, or loose parts on the samples were visible.

2.6. Thermal Shock - Group 4

No evidence of physical damage was visible as a result of exposure to thermal shock.

3. TEST METHODS

3.1. Examination of Product

Where specified, samples were visually examined for evidence of physical damage detrimental to product performance.

3.2. Dielectric Withstanding Voltage

A test potential of 2,000 volts AC was applied between the adjacent terminals. This potential was applied for 1 minute and then returned to zero.

3.3. Temperature Rise vs Current

Temperature rise curves were produced by measuring individual contact temperatures at 5 different current levels. These measurements were plotted to produce a temperature rise vs current curve. Thermocouples were attached to individual contacts to measure their temperatures. The ambient temperature was then subtracted from this measured temperature to find the temperature rise. When the temperature rise of 3 consecutive readings taken at 5 minute intervals did not differ by more than 1°C, the temperature measurement was recorded.

3.4. Current Cycling

Testing consisted of 500 cycles of current cycling, with 125% rated current, with each cycle having current on for 60 minutes and current off for 60 minutes. The test current was 52.5 amperes AC.

3.5. Vibration, Sinusoidal

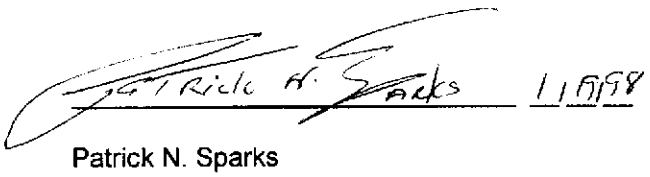
Mated samples were subjected to sinusoidal vibration, having a simple harmonic motion with an amplitude of 0.06 inch, double amplitude. The vibration frequency was varied uniformly between the limits of 10 and 55 Hz and returned to 10 Hz in 1 minute. This cycle was performed 120 times in each of 3 mutually perpendicular planes for a total vibration time of 6 hours. Samples were monitored for discontinuities of 10 microseconds or greater using a current of 100 milliamperes DC.

3.6. Thermal Shock

Samples were subjected to 20 cycles of thermal shock with each cycle consisting of 60 minute dwells at 0 and 60°C. The transition between temperatures was less than 1 minute.

4. VALIDATION

Prepared by:



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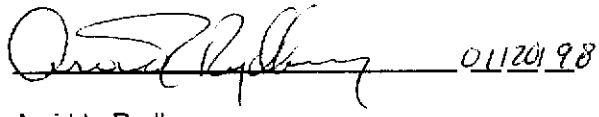

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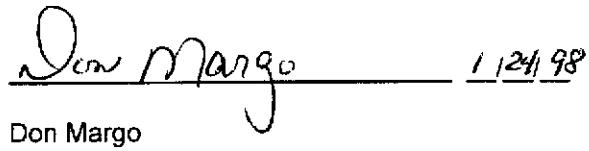

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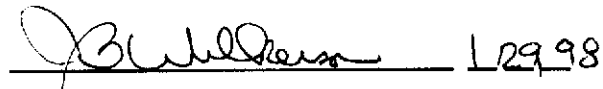

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