

INCH-POUND

MIL-STD-981B
NOTICE 3
9 JUNE 1995

NOTICE OF
CHANGE

DESIGN, MANUFACTURING AND QUALITY STANDARDS FOR CUSTOM
ELECTROMAGNETIC DEVICES FOR SPACE APPLICATIONS

TO ALL HOLDERS OF MIL-STD-981B, NOTICE 1 AND NOTICE 2.

1. THE FOLLOWING PAGES OF MIL-STD-981B HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

<u>NEW PAGE</u>	<u>DATE</u>	<u>SUPERSEDED PAGE</u>	<u>DATE</u>
37	26 MAY 1995	37	27 April 1993
38	26 MAY 1995	38	27 April 1993
39	26 MAY 1995	39	27 April 1993
39A	26 MAY 1995	39A	27 April 1993

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-981B will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

NOTE: Portions of this notice are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous revision have been made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:
NASA - NA
Air Force - 19

Preparing activity:
NASA - NA

Review activities:
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DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TABLE VIII. Group A screening tests for families 03, 04, 11, 12, 20, 21, 31, 36, 37, 40, and 41, respectively (see 30.1, 30.2 and 30.4).

Examination/Test	Class		Applicable Military Specification	Inspection
	S	B		
<i>Subgroup I</i>				
Thermal shock	X	X	See 30.1.1	100 percent
Burn-in	X	X	See 30.1.2	
Seal (when applicable)	X	X	MIL-T-27	
Dielectric withstanding voltage (at atmospheric pressure)	X	X	MIL-T-27	
Induced voltage	X	X	MIL-T-27	
Insulation resistance	X	X	MIL-T-27	
Electrical characteristics	X	X	MIL-T-27	
Radiographic inspection	X	(1)	See appendix C	
<i>Subgroup II</i>				
Visual and dimensional examination (external)	X	X	MIL-T-27	100 percent

(1) When specified.

30.1.2.1.2 No load burn-in (applicable for transformers with an output equal to or less than 0.8 watts).
 Devices shall be tested as follows:

- a. Test duration: 96 hours minimum
- b. Test temperature: Maximum rated ambient temperature
- c. Test voltages and current: Rated input voltage and current at minimum rated frequency with no load.

30.1.2.2 No-load burn-in for inductors. Devices shall be tested as follows:

- a. Test duration: 96 hours minimum
- b. Test temperature: Maximum operating temperature
- c. Test voltages and currents: Not applicable.

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30.2 Radio frequency, fixed, and variable transformers (families 11 and 12, respectively). These devices shall be subjected to the group A screening tests in table VIII except tests shall be performed in accordance with MIL-T-55631 in lieu of MIL-T-27.

30.3 Radio frequency fixed and variable coils (families 13 and 14). These devices shall be subjected to the group A screening tests in table IX.

TABLE IX. Group A screening tests for families 13 and 14 (30.3).

Examination/Test	Class		Applicable Military Specification	Inspection
	S	B		
<i>Subgroup I</i>				
Thermal shock	X	X	Sec 30.3.1	100 percent
No-load burn-in	X	X	Sec 30.3.2	
Dielectric withstanding	X	X	MIL-C-15305	
Insulation resistance	X	X	MIL-C-15305	
Inductance	X	X	MIL-C-15305	
Q	X	X	MIL-C-15305	
Self resonant frequency	X	X	MIL-C-15305	
DC resistance	X	X	MIL-C-15305	
Radiographic inspection	X	(1)	MIL-C-15305	
<i>Subgroup II</i>				
Visual and mechanical examination	X	X	MIL-C-15305	100 percent

(1) When specified.

30.3.1 Thermal shock. Thermal shock screening shall be in accordance with MIL-C-15305 and as follows: (Note: End point measurements per MIL-C-15305 shall not apply).

- a. Number of cycles: 25.
- b. Continually monitor continuity during the entire final cycle to verify no intermittent conditions. Continuity monitoring current shall not exceed 100 microamperes. Equipment shall be capable of detecting intermittent opens exceeding 100 microseconds.
- c. Class S parts using magnet wire smaller than AWG 38 shall have dc resistance measured before and after the thermal shock screen. The change in resistance shall not exceed ± 3 percent.

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***30.3.2 No load burn-in.** Devices shall be tested as follows:

- a. Test duration: 96 hours minimum
- b. Test temperature: Maximum rated operating temperature
- c. Test voltage: Not applicable

***30.4 Low power pulse transformers (family 31).** These devices shall be subjected to the group A screening tests in table VIII except tests shall be performed in accordance with MIL-T-21038 in lieu of MIL-T-27.

TABLE X. Group A screening tests for families 50 and 51 (see 30.5).

Examination/Test	Class		Applicable Military Specification	Inspection
	S	B		
<i>Subgroup I</i>				
Thermal shock	X	X	See 30.5.1	100 percent
No-load burn-in	X	X	See 30.5.2	
Dielectric withstanding voltage	X	X	MIL-C-83446	
Insulation resistance	X	X	MIL-C-83446	
Inductance	X	X	MIL-C-83446	
Q	X	X	MIL-C-83446	
Self resonant frequency	X	X	MIL-C-83446	
DC resistance	X	X	MIL-C-83446	
Radiographic inspection	X	(1)	MIL-C-83446	
<i>Subgroup II</i>				
Visual and mechanical examination (external)	X	X	MIL-C-83446	100 percent

(1) When specified.

30.5 Radio frequency, fixed and variable, chip coils (families 50 and 51, respectively). These devices shall be subjected to the group A screening tests in table X.

30.5.1 Thermal shock. Thermal shock screening shall be in accordance with MIL-C-83446 and as follows:

- a. Number of cycles: 25
- b. Continually monitor continuity during the entire final cycle to verify no intermittent conditions. Continuity monitoring current shall not exceed 3 microamperes. Equipment shall be capable of detecting intermittent opens exceeding 100 microseconds.

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- c. Class S parts using magnet wire smaller than AWG 38 shall have dc resistance measured before and after the thermal shock screen. The change in resistance shall not exceed ± 3 percent.

30.5.2 No-load burn-in.

- a. Test duration: 96 hours minimum.
- b. Test temperature: Maximum rated operating temperature.
- c. Test voltage: Not applicable.

TABLE XI. Inspection of transformers and inductors similar to transformers and inductors that have been qualified by test

Test (1)	*Class B	
	Sample Size	Reject allowed
Visual and mechanical examination (external) Resistance to soldering heat Terminal strength Dielectric withstanding voltage (at atmospheric pressure) (2) Temperature rise Vibration Shock Dielectric withstanding voltage (at reduced voltage) Insulation resistance Winding continuity Solderability Electrical characteristics Life (1000 hours) Dielectric withstanding voltage (at reduced voltage) Insulation resistance (3) Electrical characteristics Visual and mechanical examination (external) Visual and mechanical examination (internal) (one sample unit)	3	0

- (1) Specified tests shall be performed in accordance with MIL-T-27 or MIL-T-21038 as applicable and in the order shown herein.
- (2) At maximum temperature for the class
- (3) At specified voltage with IR of 7,500 megohms minimum.