

INCH-POUND

MIL-C-13516R
 AMENDMENT 5
24 February 1992
 SUPERSEDING
 AMENDMENT 4
 26 August 1991

MILITARY SPECIFICATION
 CIRCUIT BREAKERS, MANUAL AND
 AUTOMATIC (28 VOLTS DC)

This amendment forms a part of Military Specification MIL-C-13516R, dated 28 March 1979, and is approved for use within the U.S. Army Tank-Automotive Command, Departments and Agencies of the Department of Defense.

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2.1, under "SPECIFICATIONS, MILITARY", delete:

"MIL-E-13856 - Electrical Components for Automotive
 Vehicles, Waterproofness Tests."

2.1, under "SPECIFICATIONS, MILITARY", add:

"MIL-I-81023 - Inductor, 28 V.D.C. Laboratory Test,
 General Specification for."

2.1, under "STANDARDS, MILITARY", add:

"MIL-STD-1184 - Electrical Components for Automotive
 Vehicles, Waterproofness Tests."

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Table I, first column, delete "65° ± 5°F" and substitute "-65 ± 5°F".

Table I, third column, delete "185" and substitute "196".

Table I, third column, delete "115" and substitute "122".

3.4.6, line 2, delete "130" and substitute "138".

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* 3.6, line 6, delete "PIN" and substitute "Military part number".

AMSC N/A

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FSC 5925

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Add new paragraph:

"4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material."

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4.3, add to end of first sentence", tolerance on inductors shall be -10 percent, +50 percent, tolerance on currents shall be ± 10 percent, and tolerance on resistors shall be ± 10 percent."

Table II, delete the column heading entitled "Maximum accuracy tolerance" and substitute "Maximum tolerance".

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4.6.6.2, line 7, delete "130" and substitute "138".

4.6.7, line 3, delete "4.5.6" and substitute "4.6.5".

4.6.7. in the tabular section, delete the first column and substitute:

"Classification

Type I - Class 1

Type I - Class 2

Type II - Class 1

Type II - Class 2"

4.6.7, in the tabular section, delete the column heading entitled "Minute cycles" and substitute "Minimum cycles".

Paragraph 4.6.9, delete in its entirety and substitute:

"4.6.9 Endurance test. To determine conformance to 3.4.9, the circuit breaker shall be connected as herein specified and calibrated as specified in 4.6.5 at 200 percent of rated current. Type I circuit breaker shall operate for 500 cycles (make and break) and type II for 2000 cycles, and shall subsequently be subjected to 105 percent and 145 percent of rated current. During testing, circuit breakers shall be observed to determine conformance to 3.3.3.1. One of the following alternate test circuits (paragraph 4.6.9.1 or 4.6.9.2) shall be used.

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4.6.9.1 Alternate A. The circuit breaker shall be connected as shown in figure 2a. The values selected for R_1 , R_2 , and L_1 shall be such that:

$$\frac{L_1}{R_1 + R_L} = 0.026 \pm 0.004$$

$$R_1 + R_L = R_2$$

Where:

R_1 = Variable resistance in right leg of circuit.

R_L = Resistance of coil L_1 in right leg of circuit.

R_2 = Variable resistance in left leg of circuit.

L_1 = Inductance of coil L_1 in right leg of circuit.

0.026 = Dimensionless time constant.

4.6.9.2 Alternate B. The circuit breaker shall be connected as shown in figure 2b. R_1 shall be adjusted to give the specified current. L_1 shall be an inductor conforming to type I, MIL-I-81023. When it is necessary to parallel inductors to achieve specified circuit breaker tests currents, paralleling shall be in accordance with MIL-I-81023."

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4.6.14, line 3, delete "MIL-E-13856" and substitute "MIL-STD-1184".

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Add new paragraph:

"6.7 Subject term (key word) listing.

Automatic circuit breakers

Circuit breakers

Manual circuit breakers"

Concluding material, after "Review activities", delete "ER" and "MU", and add "AR".

* Delete Paragraph 6.8 in its entirety.

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Renumber "Figure 2" as "Figure 2a".

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Add new figure:

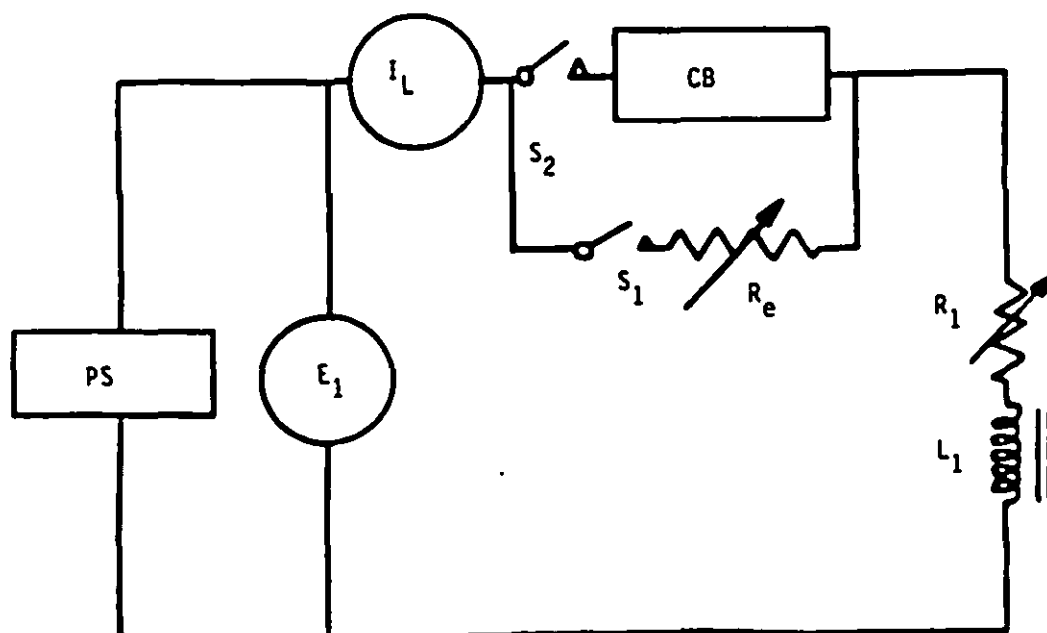


FIGURE 2b. Endurance test.

NOTE: The margins of this amendment are marked with asterisks to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were 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 and relationship to the last previous amendment.

Custodians:

Army - AT
Navy - MC
Air Force - 85

Preparing activity:

Army - AT

(Project 5925-0233)

Review activities:

Army - AR, CR, ER
Air Force - 99
DLA - ES

User activities:

Army - AV, ME