

MIL-T-16049C
AMENDMENT 3
3 December 1986
SUPERSEDING
AMENDMENT 2
17 August 1981

MILITARY SPECIFICATION

TACHOMETERS: ELECTRICAL; SELF-GENERATING;
MECHANICAL, FIXED MOUNTING AND HAND HELD;
AND VIBRATING REED

This amendment forms a part of MIL-T-16049C, dated 10 January 1980,
and is approved for use by all Departments and Agencies of the
Department of Defense.

PAGE 1

- * Beneficial comments statement at bottom of page, line 4: Delete "SEA 3112, Department of the Navy, Washington, DC 20362" and substitute "SEA 5523, Department of the Navy, Washington, DC 20362-5101."

PAGE 3

1.2: Add new type "IC/PEC-5: 120 to 19,999 r/min".

PAGE 4

- * 3.1: Delete and substitute:

"3.1 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3 and 6.3)."

AMSC N/A

FSC 6680

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PAGE 22

3.5.11, line 12: After "meter" add "or a digital display."

TABLE X: Delete and substitute:

"TABLE X. Ranges for type IC/PEC.

Type	Minimum scale range
	r/min
IC/PEC-1	0 - 1,000
IC/PEC-2	0 - 3,000
IC/PEC-3	0 - 10,000
IC/PEC-4	0 - 30,000
IC/PEC-5 ^{1/}	120 - 19,999

^{1/} An overrange indicator shall be included."

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3.5.11.4: Delete and substitute:

"3.5.11.4 Indicator. For types IC/PEC-1 through IC/PEC-4, the indicator shall be a direct reader ruggedized meter conforming to MIL-M-10304. The meter shall have a 250-degree scale and deflection. For type IC/PEC-5, the indicator shall be a 4-1/2 digit liquid crystal (LCD) or light emitting diode (LED) display."

3.5.11.5: Delete and substitute:

"3.5.11.5 Accuracy. For types IC/PEC-1 through IC/PEC-4, the accuracy of the tachometer shall be not less than plus or minus 2 percent of the full scale reading at any point on the scale at any ambient temperature between 40°F and 149°F. For IC/PEC-5, the accuracy shall be plus or minus 1 r/min at any ambient temperature between 40°F and 149°F."

3.5.11.7: Delete and substitute:

"3.5.11.7 Dimensions. Overall dimensions of the unit shall not exceed 10-1/2 inches by 3 inches by 4-1/2 inches."

Add as new paragraph:

"3.5.11.8 Power source. The type IC/PEC tachometers shall be powered by non-mercury, AA 1.5 volts (V) or 9V NEDA type 1604, or both types of batteries. A 'low batteries' indication shall also be provided."

3.5.11.12, third sentence: Delete and substitute: "When the speed indicator blanking device is provided to minimize battery drain, a display recall button shall also be provided."

3.5.12.2, line 1: After "LCD" add "or LED."

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3.5.12.6, line 2: Delete "four AA 1.5-volt batteries." and substitute "non-mercury, AA 1.5V or 9V NEDA type 1604, or both types of batteries."

Add as new paragraph 4.1.1.1:

- * "4.1.1.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- (a) First article inspection (see 4.2).
(b) Quality conformance inspection (see 4.3)."

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- * 4.2: Delete and substitute:

"4.2 First article inspection. One sample tachometer shall be subjected to the examination and tests specified in table XI.

TABLE XI. First article inspection.

Examination and test	Requirement	Test
General examination Accuracy (initial)	3.3 3.5.1.3, 3.5.2.5, 3.5.3.3, 3.5.4.2, 3.5.5.3, 3.5.6.2, 3.5.7.4, 3.5.8.7, 3.5.9.3, 3.5.10.2, 3.5.11.5, and 3.5.12.3	MIL-I-983 4.4.1
Damping	3.5.2.6, 3.5.3.4, 3.5.5.4, 3.5.6.3, 3.5.7.5, 3.5.8.8, 3.5.9.4, 3.5.10.3, 3.5.11.6, and 3.5.12.4	4.4.2
Supply line voltage and frequency variation ^{1/}	3.3	MIL-I-983
Electromagnetic interference ^{1/}	3.4.10	4.4.6
Airborne noise ^{1/}	3.3	MIL-I-983
Magnetizing	3.4.2	4.4.3
Structureborne noise for submarine equipment	3.3	MIL-I-983
Temperature and humidity	3.3	MIL-I-983
Inclination ^{2/}	3.3	MIL-I-983
Accelerated life	3.3 and 3.4.5	4.4.4

See footnotes at end of table.

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Examination and test	Requirement	Test
Dielectric strength and insulation resistance ^{1/}	3.3	MIL-I-983
Enclosure	3.5.2, 3.5.4, 3.5.5, 3.5.6, and 3.5.7	MIL-I-983
Salt spray ^{2/}	3.3	MIL-I-983
Vibration (nonvital)	3.3	MIL-I-983
Shock	3.4.6	4.4.5
Accuracy (final)	3.5.1.3, 3.5.2.5, 3.5.3.3, 3.5.4.2, 3.5.5.3, 3.5.6.2, 3.5.7.4, 3.5.8.7, 3.5.9.3, 3.5.10.2, 3.5.11.5, and 3.5.12.3	4.4.1

^{1/} Applies to types IC/EFA, IC/EFB, IC/EFC, IC/efd, IC/EPC, IC/EPD, and IC/PEC.

^{2/} Inclination and salt spray tests required for control or accessory package for types IC/BFB, IC/EFA, IC/EFB, IC/EFC, and IC/efd. Inclination test required for IC/TCD."

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* 4.2.1: Delete in its entirety.

PAGE 34

6.2: Delete and substitute:

* "6.2 First article. When a first article inspection is required, the items should be a first article sample. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract."

* 6.2.1: Delete in its entirety.

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LAST PAGE

- * DD Form 1426, Standardization Document Improvement Proposal: Delete address and substitute:

"COMMANDER
NAVAL SEA SYSTEMS COMMAND (SEA 5523)
DEPARTMENT OF THE NAVY
WASHINGTON, DC 20362-5101"

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.

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