

MIL-E-5272C(ASG)
AMENDMENT 2
18 September 1970.

SUPERSEDING
AMENDMENT 1
20 January 1960.

MILITARY SPECIFICATION

ENVIRONMENTAL TESTING, AERONAUTICAL AND ASSOCIATED EQUIPMENT,
GENERAL SPECIFICATION FOR

This amendment forms a part of Military Specification MIL-E-5272C(ASG), 13 April 1959, and has been approved by the Department of the Air Force and by the Naval Air Systems Command.

Page 6, paragraph 4.6.1: Delete and substitute:-

"4.6.1 Procedure I. The procedure shall be in accordance with Federal Test Method Standard No. 151, method 811, except as otherwise specified herein. The length of the salt spray test shall be not less than 50 hours, unless otherwise specified. At the end of the test period, the equipment shall be operated and inspected within 1 hour as directed in 3.8. Salt deposits resulting from the exposure conditions may be removed by rinsing with tapwater prior to operation. Equipment shall again be operated and inspected 48 hours later, as directed in 3.8.

"4.6.2 Procedure II. The procedure shall be in accordance with Federal Test Method Standard No. 151, method 811, except as otherwise specified herein. The length of the salt spray test shall be not less than 168 hours, unless otherwise specified. At the end of the test period, the equipment shall be operated and inspected within 1 hour as directed in 3.8. Salt deposits resulting from the exposure conditions may be removed by rinsing with tapwater prior to operation. Equipment shall again be operated and inspected 48 hours later, as directed in 3.8."

Page 8, figure 1, base line of ordinate scale: Delete ".0012" and substitute ".00012".

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Page 9, paragraph 4.7.12:

(1) Lines 10 and 11: Delete "Equipment which meets this standard generally is suitable for:" and substitute "Equipment which meets this standard is generally suitable for:".

(2) Delete the paragraph under the listing and substitute:

"This specimen shall be attached to a rigid fixture capable of transmitting the vibration conditions specified herein. Attachment of the specimen to the fixture shall be that which represents dynamically the most adverse of alternate service mountings. The test specimen shall be functioning and shall remain within the operational requirements in accordance with the provisions of the detail specification during the entire test. If the operational environment exceeds 71°C (160°F), half of each resonant and cycling period shall be conducted at room temperature and half at the applicable high temperature selected from 5.5.1 as specified by the procuring activity. Tests shall be conducted under both the resonant and cycling conditions specified herein, the order being optional. The amplitude of applied vibration shall be monitored on the test fixture near the specimen mounting points. At the end of the test period, the test specimen shall be evaluated in accordance with 3.8."

Page 11, paragraphs 4.7.12.2 and 4.7.12.3: Delete and substitute:

"4.7.12.2 Cycling. The specimen shall be vibrated under the cycling conditions specified herein for the applicable periods listed in the vibration test schedule (table I). The frequency shall be cycled between 5 and 500 cps at an applied double amplitude of 0.036 inch or an applied acceleration of $\pm 10g$ whichever is the lower value. The rate of change of frequency shall be logarithmic, and such that 15 minutes are required to proceed from 5 to 500 back to 5 cps. When there is no provision for logarithmic cycling, a linear rate of frequency change may be used.

"4.7.12.3 Supplementary test, electronic assemblies. In addition to the resonance and cycling tests, electronic assemblies shall be removed from their external resilient mountings rigidly installed on the vibrator, and subjected to the following tests to demonstrate a minimum structural resistance to vibration. Vibration frequency shall be varied between 5 and 500 cps at a double amplitude of 0.010 inch or an applied vibratory acceleration of $\pm 2g$ whichever is the lower value. The rate of frequency cycling shall be logarithmic and such that 15 minutes are required to proceed.

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from 5 to 500 back to 5 cps. When there is no provision for logarithmic cycling, a linear rate of frequency change may be used. The test shall be sustained for two complete cycles along each of three mutually perpendicular axis. All resonance points shall be noted. In addition to this cycling test, each resonant condition shall be sustained for 10 minutes at the vibratory double amplitude or acceleration shown on figure 1, curve B. At the end of the test period, the equipment shall be evaluated in accordance with 3.8."

Page 12, paragraphs 4.7.13.2 and 4.7.14: Delete and substitute:

"4.7.13.2 Cycling. The specimen shall be vibrated under the cycling conditions specified herein for the applicable periods listed in the vibration test schedule (table I). The frequency shall be cycled between 5 and 500 cps at an applied acceleration as specified by figure 1. Rate of frequency change shall be logarithmic and such that 15 minutes are required to proceed from 5 to 500 back to 5 cps. When there is no provision for logarithmic cycling, a linear rate of frequency change may be used.

"4.7.14 Procedure XIV. This procedure applies to equipment which mounts on the structure of the missiles propelled or launched by high-thrust rocket engines. Although the tests are of comparatively short duration, they are based upon the most severe conditions likely to be encountered in missiles, and should be adequate for most applications. More severe requirements in regard to magnitude of acceleration level may be necessary when equipment is installed near intense jet and rocket engine exhaust noise sources. The specimen shall be attached to a rigid fixture capable of transmitting the vibration conditions specified herein. Attachment of the specimen to the fixture shall be that which represents the most adverse of alternate service mountings. The amplitude of applied vibration shall be monitored on the test fixture near the specimen mounting points. The specimen shall be functioning, and shall remain within the operational requirements in accordance with the provisions of the detail specification during the entire test. If the operational environment exceeds 71° C (160° F), half of the cycling period shall be conducted at room temperature and half at the applicable high temperature selected from 5.5.1 as specified by the procuring activity. Tests shall be conducted under both the resonant and cycling conditions specified herein, the order of performance shall be evaluated in accordance with 3.8."

Page 12, paragraph 4.7.14.1, third sentence: Delete and substitute
"When there is no provision for logarithmic cycling, a linear rate of frequency change may be used."

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Page 27, paragraph 5.2: Delete and substitute:

"5.2 Vibration. Equipment will be subjected to vibration incident to its installation in the aircraft resulting from any of the following: reciprocating engine gas pressure and inertial forces; resonant burning; inlet turbulence and rotor unbalances in gas turbine engines; propeller unbalance, gun firing, aerodynamic disturbances, and sonic excitation. Every effort shall be made to maintain the specified double amplitude or acceleration at each mounting point. However, if it is impracticable to achieve this condition, the average must equal or exceed the specified value. Vibration at low temperatures shall be omitted unless required by the detail specification. If both high and low temperature tests are required, the test period shall be divided into three equal parts.

Page 28, paragraph 5.4.3, second sentence: Delete "Fenton Foundry Supply Company, Dayton, Ohio and"

Page 36, notice paragraph: Delete.

Custodians:
Air Force - 11
Navy - AS.

Preparing activity:
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Reviewers:
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