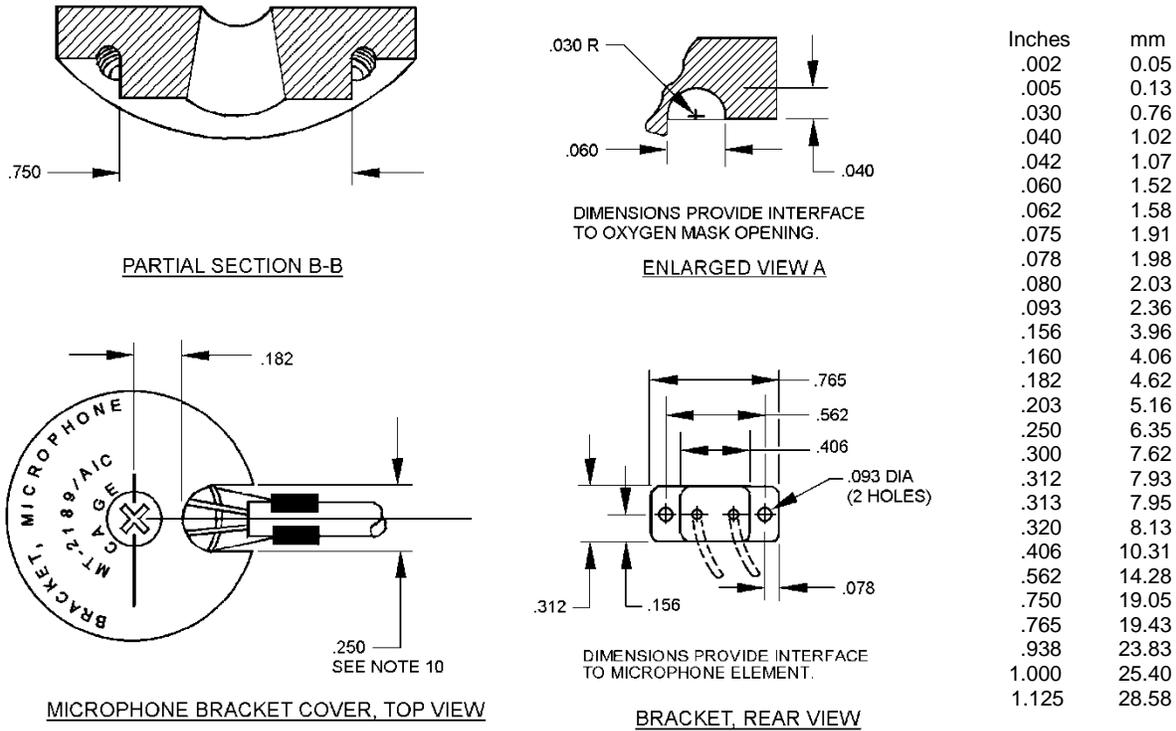


MIL-PRF-26542/3E



NOTES:

1. Dimensions are in inches. Tolerance is ± 0.015 inch (0.38 mm), unless otherwise specified.
2. Microphone element shall be in accordance with MIL-PRF-26542/4.
3. Specific dimensions are required in order to provide a sealed interface to the next-higher assembly (MBU-5/P oxygen mask) and interface to associated communications equipment.
4. Position of bracket marking (on surface shown) is optional.
5. Screws shall be AN500D2-6 (3/8", 2-56 thread, in accordance with AN500 or equal), for interchangeability of spares. Screws shall be provided along with a means for retaining tightness during use, such as lock washers.
6. Set-screws shall secure the part firmly to the bracket, shall be of type slotted, and recessed in accordance with NASM565, p/n AN565DC2-1 or equal.
7. Plug dimensions shall enable the plug pins to seal firmly in the M101/AIC microphone element, providing a strong electrical connection, and not becoming detached during normal use. The heads of the screws shall not extend beyond the body of the plug.
8. Bracket-cover screws shall enable the part to pass the specified leakage test. Use part number MS51957-12, in accordance with MS51957 or equal.
9. The contractor shall certify wire hardness minimum 90 HK (see ASTM E384) or (Rockwell B: 33, see ASTM E140). Evidence of test results shall include use of a Knoop indenter under a test force of 500 gf (4.9 Newtons), (see ASTM E384). Teflon jacket or equal, color same as microphone.
10. Bracket opening shall be sufficiently wide to prevent damage to wire jacketing (as a result of the flex and pull of the cable during normal use), without compromising the pressure seal.
11. Metal-insert threads shall be as shown, for cover-screw interchangeability across manufacturers.
12. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 1. Microphone assembly, M100/AIC - Continued.

MIL-PRF-26542/3E

REQUIREMENTS:

Positioning adjustment of bracket: The flex-life of the wire and flexible tubing between the oxygen mask mounting plate and the terminal block for the microphone element shall be determined by the following method: The microphone element, assembled in proper position, shall be compressed toward the oxygen mask mounting plates. The major axis of the microphone element shall be kept parallel to the flat surface of the oxygen mask mounting plates. The wire and tubing shall be flexed within such a range that the minimum distance between parallel surfaces is 0.375 inch (9.53 mm) and the maximum distance is one 1 inch (25.4 mm). There shall be no evidence of physical damage, which would cause a malfunction, after at least 25 position adjustments. Following the test, the talk requirement shall be met. This is a qualification and group C test.

Microphone bracket leakage {Mechanical fit to oxygen mask (leakage)}: The microphone bracket shall permit no more than 100 milliliters/minute of inboard leakage, when tested as specified. This test is to be performed during initial product qualification, and as a group C test (in accordance with MIL-PRF-26542, microphone bracket leakage test). The rubber used in this test shall simulate the mask rubber across the full tolerance range specified in MIL-M-27274, with testing repeated at simulated thicknesses of 0.110 inch (2.79 mm) and 0.140 inch (3.56 mm).

Threaded metal insert (see figure 1 on page 1): The threaded metal insert shall be secured to the bracket body, and shall not become detached or loosen during normal use, providing a secure interface of the bracket to the sealed oxygen mask.

Functional operation test: Each microphone shall be given an operational test, as a final test prior to packaging, in order to verify the electrical continuity of the connection between the U-179A/U plug and the microphone element.

Component parts: The microphone shall be supplied with the following components assembled in accordance with Air Force drawing (CAGE 97151) 59C12795 and figure 1, to provide interchangeability, and to meet the performance requirements of MIL-PRF-26542.

Microphone element: One each M101/AIC in accordance with MIL-PRF-26542/4. Screws (see figure 1) shall be supplied. The screws shall be supplied with additional hardware necessary to ensure that they do not become disengaged during normal use, such as lock washers.

Microphone bracket: One each MT-2189/AIC in accordance with this specification sheet and Air Force drawing (CAGE 97151) 59C12796 (see figure 1).

Cord assembly: One each electrical cord, in accordance with Air Force drawing (CAGE 97151) 59C12796, using WD-27/U or WD-34/U (MIL-DTL-5898) cord, for compatibility with performance requirements of this specification sheet.

Dielectric strength of bracket: The bracket shall be designed to completely prevent conduction of unsafe current to the user, and shall meet the dielectric withstanding requirements of MIL-PRF-26542. The dielectric withstanding voltage tests may be performed on the bracket separate from the microphone element, at the manufacturer's option. These are both qualification and group A tests.

Intended use: Microphone assembly M100/AIC is a noise-canceling dynamic moving coil microphone assembly designed for use with oxygen mask type MBU-5/P. The microphone is intended to provide communication under the noise conditions encountered in military aircraft.

MIL-PRF-26542/3E

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue 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 upon the entire content, regardless of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to MIL-PRF-26542, this document references the following:

ASTM E140
ASTM E384
AN500
NASM565
MIL-DTL-5898
MIL-PRF-26542/4
MIL-M-27274
MS51957
(CAGE 97151) 59C12795
(CAGE 97151) 59C12796

CONCLUDING MATERIAL

Custodians:

Army - AT
Navy - MC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5965-2010-004)

Review activities:

Navy - SA
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dia.mil>.