

INCH - POUND

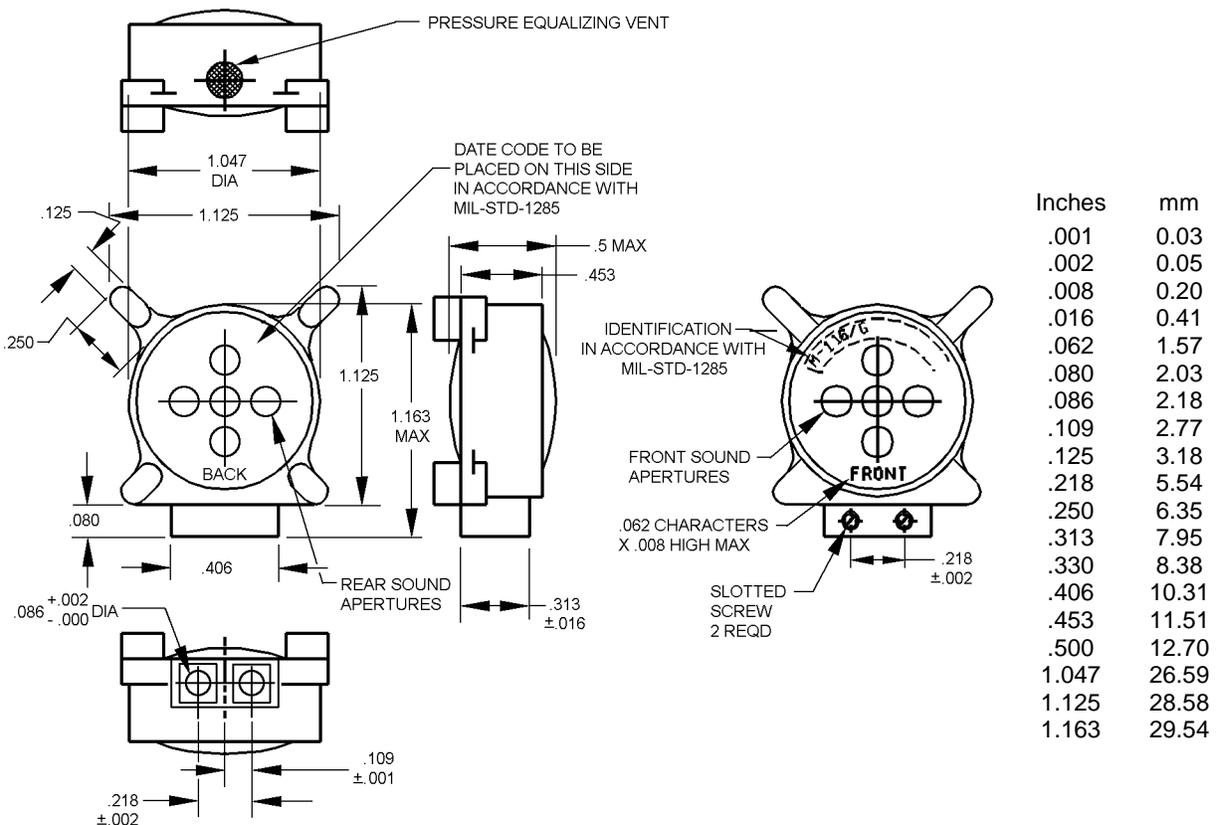
MIL-PRF-26542/8C
 12 September 2012
 SUPERSEDING
 MIL-PRF-26542/8B
 30 May 1997

PERFORMANCE SPECIFICATION SHEET

MICROPHONE AND MICROPHONE ASSEMBLY, DYNAMIC,
 M-116()/G AND M26542/8-01

This specification sheet is approved for use by all Departments
 and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and
 MIL-PRF-26542.

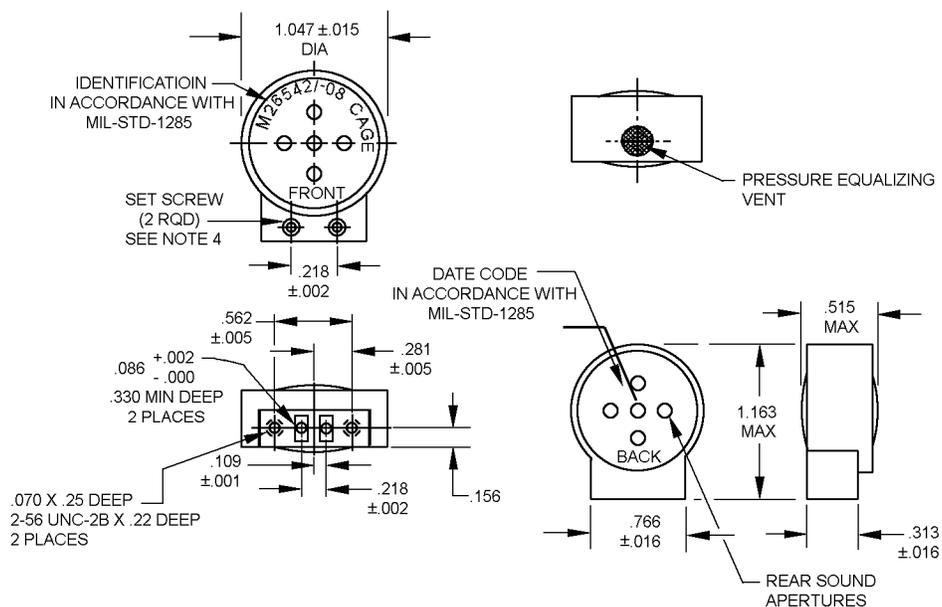


NOTES:

1. Configuration and number of sound apertures is optional.
2. Dimensions are in inches. Tolerance is $\pm .015$, unless otherwise specified.
3. Set-screws shall hold the unit securely to the bracket, slotted for consistency with US Army field-repair procedures and tooling (see NASM565, Part or Identifying Number (PIN) AN565DC2-1 or equal).
4. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 1. Microphone element M-116()/G.

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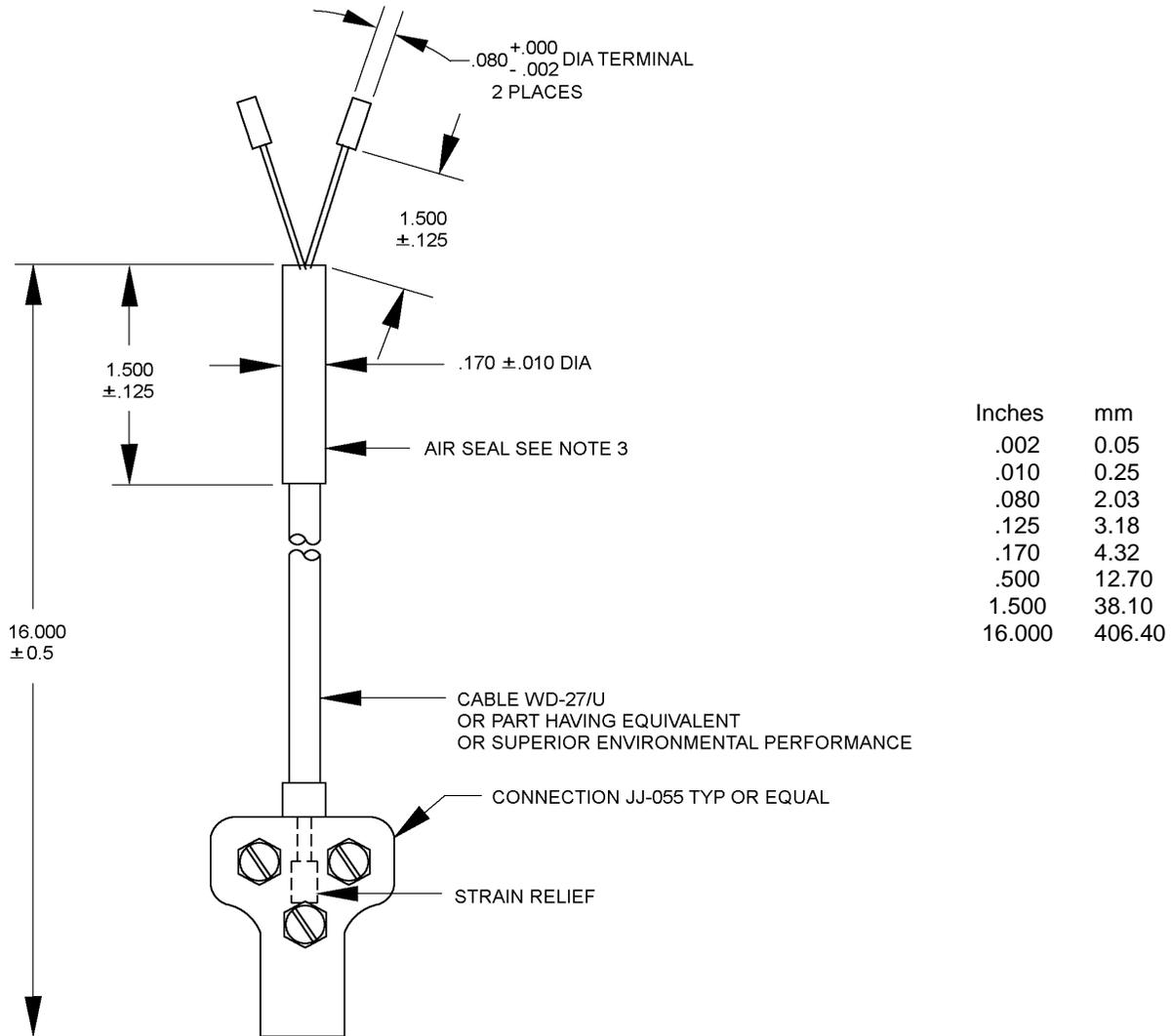


Inches	mm	Inches	mm
.001	0.03	.313	7.95
.002	0.05	.330	8.38
.005	0.13	.500	12.70
.016	0.41	.562	14.28
.086	2.18	.766	19.46
.109	2.77	1.047	26.59
.218	5.54	1.163	29.54
.281	7.14		

NOTES:

1. Dimensions are in inches. Tolerance is $\pm .015$, unless otherwise specified.
2. Configuration and number of sound apertures is optional.
3. Location of marking on surface shown is optional.
4. Set-screws shall enable the unit to mount securely to the associated bracket, shall be of type slotted, for consistency with US Army field-repair procedures and tooling, and shall be recessed (see NASM565, PIN AN565DC2-1 or equal).
5. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

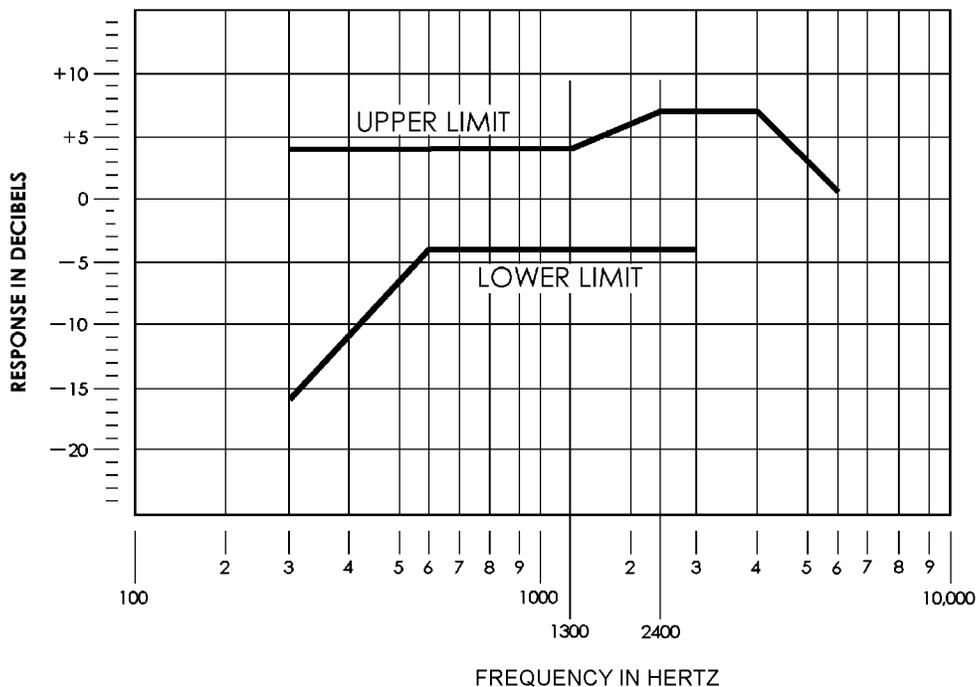
FIGURE 2. Microphone element M26542/8-01.



NOTES:

1. Dimensions are in inches. Tolerance is $\pm .015$, unless otherwise specified.
2. Dimensions shall be as shown, here, for interface to the microphone element, and elsewhere, for interface to the gas-mask assembly (cable-entry grommet and electronic connections).
3. Materials and dimensions shall provide air-seal when installed in the gas-mask assembly, while also meeting the environmental performance requirements of this specification sheet. Material shall be synthetic rubber, oil-resistant with medium volume-swell, durometer of 50 ± 5 , tensile strength of 500 psi, minimum elongation of 300 percent, and low-temperature brittleness resistance to - 40 degrees C, when tested against ASTM D2137, method A (F1). Seal color shall be red, to identify as leak-proof.
4. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 3. Cable assembly.



Frequency points (Hz)	300	600	1,300	2,400	3,000	4,000	6,000
Upper limits (dB)	+4.0	+4.0	+4.0	+7.0	+7.0	+7.0	+1.0
Lower limits(dB)	-16.0	-4.0	-4.0	-4.0	-4.0	-----	-----

FIGURE 4. Frequency response.

REQUIREMENTS:

Component parts:

Microphone element: Shall be in accordance with figure 1 or 2, as specified.

Cable assembly: Shall be in accordance with figure 3.

Cord assembly: One each electrical cord, PIN WD-27/U in accordance with MIL-DTL-10392 or PIN WD-34/U in accordance with MIL-DTL-5898, for compatibility with performance requirements of this specification sheet.

Plug assembly: JJ-055 type, PIN M641/8-1 in accordance with MIL-J-641/8, or an electrically and mechanically equivalent part.

Performance:

Sensitivity at ground level: Not less than 56 dB (re 1 μ V) or 630.95 μ V with an SPL input of 2.8 Pascal's (28 dynes/cm²) at 1 kHz.

Sensitivity at altitude: Within 3 dB of ground level sensitivity when measured at 10,000 feet.

Frequency response envelope shall be as shown on figure 4 (between 300 Hz to 3,000 Hz).

Frequency response at altitude: \pm 5 dB of ground level response when measured at 10,000 feet.
 Impedance: 150.0 ohms \pm 20 percent.

Total harmonic distortion: Between 300 Hz to 3,000 Hz, 5 percent at 114 dB relative to 20 micropascals.

Resistive load: 150.0 ohms.

Weight: 18 grams, less cord.

Blast: Shall meet the requirements of MIL-PRF-26542.

Air stop: When supplied with a cable (see figure 3), immerse the microphone end of the cable in water to a depth that will cover the air stop portion. Apply 4 pounds of air pressure to the connector end of the cable for 10 minutes. The air stop shall not allow passage of air.

Intended use: This microphone is used in the M42 Series gas-mask, in the US Army applications including Tanker crews.

The microphone assembly shall be identified as shown in table I and tested in accordance with the tests specified in table II.

TABLE I. PIN designations.

PIN	Characteristics
M-116()/G	Supplied with cable assembly, and per the dimensional requirements on figure 1.
M26542/8-01	Supplied without cable assembly, and per the dimensional requirements on figure 2. Part shall also meet the dimensional requirements of MIL-PRF-26542/4.

TABLE II. Parameter applicability.

Inspection <u>1/</u>	Qualification tests	Group "A" tests	Group "B" tests	Group "C" Tests
<u>Group I</u>				
Visual and mechanical inspection	X	X		
Sensitivity at ground level	X	X		
Sensitivity at altitude	X			
Frequency response at ground level	X	X		
Frequency response at altitude	X			
Impedance	X	X		
Noise cancellation characteristics				
Effect of external magnetic field				
Stray magnetic field				
Linearity				
Talk-out	X	X		
Dielectric withstanding voltage	X			
Signal-to-noise	X		X	
Distortion	X		X	
Interchangeability	X		X	
Air stop <u>2/</u>	X	X		
<u>Group II</u>				
Thermal shock	X			X
Humidity	X			X
Drop	X			X
Pressure equalization	X			X
Explosive decompression				
Salt fog	X			X
<u>Group III</u>				
Vibration				
Bounce	X			X
Altitude	X			X
Moisture barrier seal				
Immersion	X			X
<u>Group IV</u>				
Fungus	X			
<u>Group V</u>				
Gun blast	X			

1/ See MIL-PRF-26542.

2/ See requirements on this specification sheet.

Changes from previous issue. The margins of this specification sheet 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 D2137
NASM565
MIL-J-641/8
MIL-STD-1285
MIL-DTL-5898
MIL-DTL-10392
MIL-PRF-26542/4

CONCLUDING MATERIAL

Custodians:

Army – CR
Navy – EC
Air Force – 85
DLA – CC

Preparing activity:
DLA - CC

(Project 5965-2012-010)

Review activities:

Army – AT, AV, CR4, EA
Navy – AS, OS
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.dla.mil>.