

# DEPARTMENT OF THE ARMY TECHNICAL MANUAL

## DEPOT MAINTENANCE MANUAL MICROPHONES T-30, T-46, T-50, M-29/U, AND M-80(\*)/GR

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### 1. Scope

a. This manual covers the inspection requirements to be used in determining the quality and acceptability of repaired Microphones T-30, T-45, T-50 and M-29/U and Microphone, Dynamic M-80/GR or M-80A/GR.

b. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N.J. 07703.

### 2. Indexes of Publications

a. *DA Pam 310-4*. Refer to the *latest* issue of *DA Pam 310-4* to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7*. Refer to the latest issue of *DA Pam 310-7* to determine whether there are modification work orders (MWO'S) pertaining to the equipment.

### 3. Applicability of Depot Overhaul Standards

The tests outlined in this manual are designed to measure the performance capability of a required equipment. Equipment that is to be returned to stock should meet the standards given in these tests.

### 4. Applicable References

a. *Technical Publications*. The following technical publications are applicable to this equipment:

| Title                                                      | Number       |
|------------------------------------------------------------|--------------|
| Depot Inspection Standard for Repaired<br>Signal Equipment | TB SIG 355-1 |
| Test Seta I-142, I-142B and Telephone Test<br>Net AN/PTM-6 | TM 11-2062   |

b. *Modification Work Orders*. Perform all applicable MWO's pertaining to the equipment before making the specified data. *DA Pam 310-7* lists all available MWO's.

### 5. Test Facilities Required

The following equipment, or suitable equipments will be used in determining compliance with the requirements of this specific standard. Connector-Receptacle U-79/U is required for testing Microphone M-29/U.

\*This manual supersedes TM 5965-268-50, 4 November 1964.

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| Equipment                    | Federal stock No. | Quantity required | Applicable literature |
|------------------------------|-------------------|-------------------|-----------------------|
| Telephone Test Set AN/PTM-6. | 0625-230-1048     | 1                 | TM 11-3002            |
| Connector-Receptacle U-79/U. | 5835-440-2046     | 1                 |                       |
| Multimeter TS-352/U          |                   |                   |                       |

## 6. Tests

Use the following requirements to determine the acceptability of repaired microphones for return to stock of reissue.

*a. Mechanical Requirements.* The mechanical requirements are as follows:

(1) *Microphone T-30.* Neckband elastic webbing must return to its original length after being stretched approximately 2 inches, as judged by the eye.

(2) *Microphone T-45.* Earphone cords of face straps must be equipped with tips. Case assembly screws on the microphone must be sealed in place, and the front and back of the case must be cemented together.

(3) *Microphone T-50.*

(a) *Electro-Voice Model 600C.* The red transformer leads must be connected to the normally closed switch terminals on the cord side of the switch. The green transformer lead must be connected to the microphone terminals at the top of the front housing. The cord connectors must be connected to the switch terminals and cord connector pins as indicated in the chart below.

| Cord conductor | Connector pin | Switch position normally | Switch side | Terminal position |
|----------------|---------------|--------------------------|-------------|-------------------|
| Black          | 1             | Open                     | Transformer | Center            |
| Red            | 2             | Open                     | Transformer | End               |
| White          | 3             | Closed                   | Cord        | Center            |
| Shield         | 1             | Closed                   | Cord        | End*              |

\*Cord shielding must be soldered to the terminal under the switch mounting cover.

(b) *Electro-Voice Model 600D.* One of the yellow secondary leads must be connected to the end terminal of the terminal board opposite the cord side, and the other lead must go to the terminal under the transformer screw. The black primary transformer

leads must be connected to the microphone terminals. The cord conductors must be connected to the switch terminals and cord connector pins indicator in the chart below.

| Cord conductor | Connector pin | Switch position normally | Switch terminal board | Terminal position |
|----------------|---------------|--------------------------|-----------------------|-------------------|
| White          | 1             | Open                     | Cord side             | Center            |
| Red            | 2             | Open                     | Cord side             | End               |
| Slate          | 3             | Closed                   | Opposite cord side    | End               |
| Shield         | 1             | Closed                   | Opposite cord side    | Center*           |

\*Cord shielding must be soldered to the terminal under the transformer screw, and a yellow jumper must be connected between the shield terminal and the microphone retaining plate screw terminal.

(4) *Microphone M-29/U.* Each microphone must be provided with a cover, and the windows must meet heat-sealed to the housing.

*b. Electrical Requirements.* (1) The following insulation resistance measurements will apply to all microphones included in this Depot Inspection Standard except Microphone T-50 ((2) end (3) below). The insulation resistance between cord conductors, between current-carrying parts of switches, between current-carrying parts of the plug, and between current-carrying parts of the microphone must be at least 200,000 ohms as measured on Test Set I-142. The points above must also withstand a dielectric test of 100 to 250 volts root mean square (rms).

(2) The insulation resistance for Microphone T-50 (Electro-Voice Model 600C), between the points and under the conditions listed in the chart below must be at least 200,000 ohms, and the same points must withstand a dielectric test of 100 to 250 volts rms. The transformer red leadout wire must be disconnected

from the switch terminal grounding to the housing for all tests.

| From | Connector pins To | Conditions        |
|------|-------------------|-------------------|
| 1    | 2                 | Switch unoperated |
| 1    | 3                 | Switch operated   |
| 1    | Connector housing | Switch unoperated |

(3) Insulation resistance for Microphone T-50 (Electro-Voice Model 600D), between the points and under conditions indicated in the chart below, will be at least 200,000 ohms. The points above must also withstand a dielectric test of 100 to 250 volts rms. The yellow secondary transformer lead connected to the end terminal of the terminal board opposite the cord must be disconnected for all tests.

| From | Connector pins To | Conditions                   |
|------|-------------------|------------------------------|
| 1    | 2                 | Microphone unit open         |
| 1    | 3                 | Switch removed for all tests |
| 1    | Connector housing |                              |
| 2    | 3                 |                              |

*Note.*—Reassemble the microphone and begin the next test.