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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RADIOSONDE BASELINE CHECK SETS AN/GMM-1 AND AN/GMM-1A

This copy is a reprint which includes current
pages from Changes 1 through 6.

HEADQUARTERS DEPARTMENT OF THE ARMY
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Technical Manual

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RADIOSONDE BASELINE CHECK SETS AN/GMM-I AND AN/GMM-IA

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•This manual supersedes as much of TM 11-2440 with C1, 18 November 1953; C2, 15 JULY 1954; C3.5 January 1959; and C4, 20 April 1959, applicable to operations and orgazational maintenance of the equipment.

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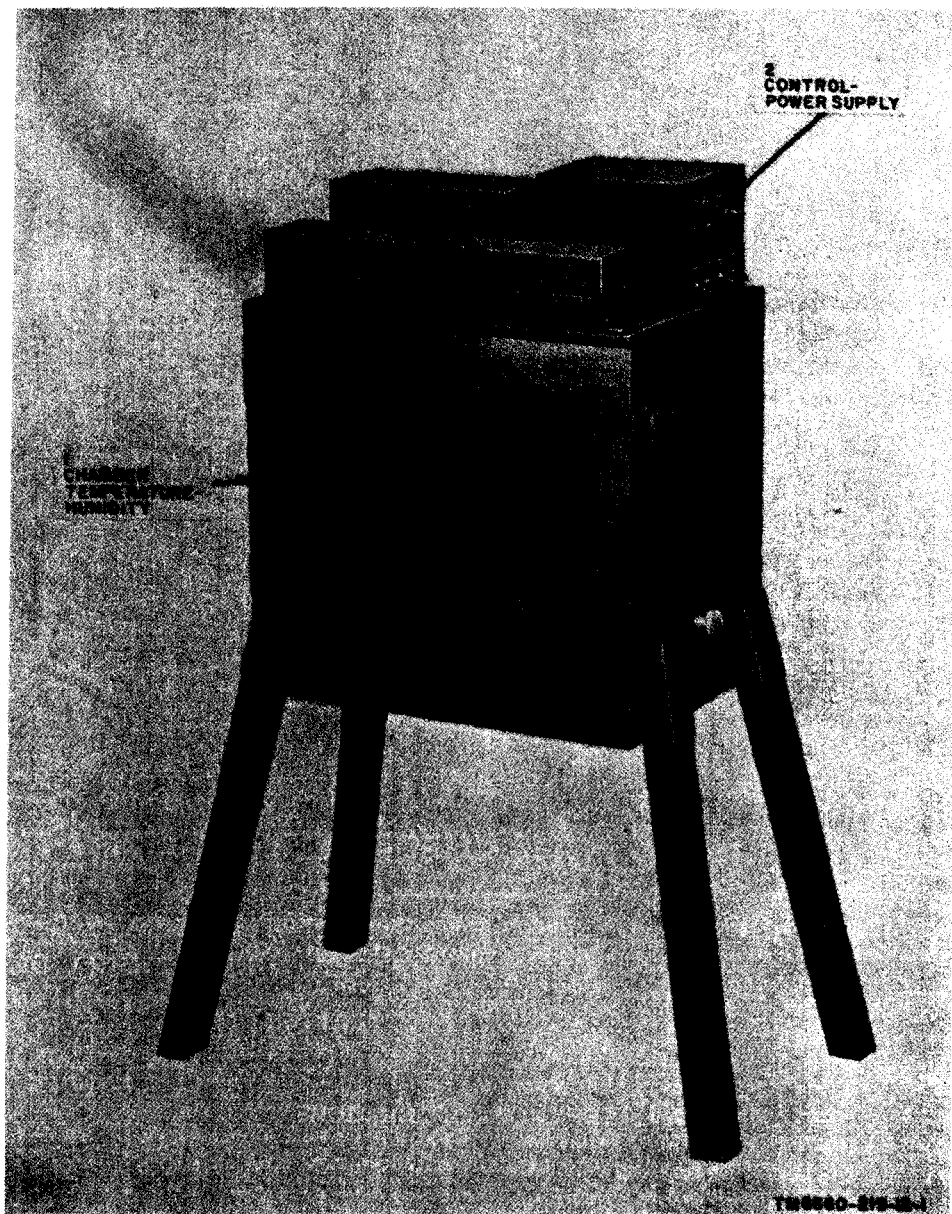


Figure 1. Radiosonde Baseline Check Set AN/GMM-1(), less carrying case, cable assemblies, and running spares.*

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual describes Radiosonde Baseline Check Sets AN/GMM-1 and AN/GMM-1A and covers their installation, operation, and organizational maintenance (first and second echelon). It includes operation under usual and unusual conditions, cleaning and inspection of the equipment, and replacing those parts available to first and second echelon maintenance personnel.

b. Official nomenclature followed by (*) is used to indicate all models of the equipment item covered in this manual. Thus, Radiosonde Baseline Check Set AN/GMM-1(*) represents Radiosonde Baseline Check Sets AN/GMM-1 and AN/GMM-1A. Radiosonde AN/AMT-4(*) represents Radiosondes AN/AMT-4B, AN/AMT-4C, and Radiosonde Set AN/AMT-4D. Radiosonde Recorder AN/TMQ-5(*) represents Radiosonde Recorders AN/TMQ-5, AN/TMQ-5A, AN/TMQ-5B, and AN/TMQ-5C. Rawin Set AN/GMD-1(*) represents Rawin Sets AN/GMD-1, AN/GMD-1A, and AN/GMD-1B.

2. Forms and Records

a. *Unsatisfactory Equipment Reports.*

- (1) Fill out and forward DA Form 468 (Unsatisfactory Equipment Report) to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort

Monmouth, N. J., as prescribed in AR 700-38.

- (2) Fill out and forward AF TO Form 29 (Unsatisfactory Report) to the Commander, Air Materiel Command, Wright-Patterson Air Force Base, Ohio, as prescribed in AF TO 00-35-D-54.

b. *Report of Damaged or Improper Shipment.* Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58 (Army), Navy Shipping Guide, Article 1850-4 (Navy), and AFR 71-4 (Air Force).

c. *Preventive Maintenance Forms* (fig. 19-22). Prepare DA Form 11-238 (Maintenance Check List for Signal Equipment-Sound Equipment, Radio, Direction Finding, Radar, Carrier, Radiosonde and Television) in accordance with instructions on the form.

d. *Parts List Form.* Forward DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9) direct to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort Monmouth, N. J., with comments on parts listings.

e. *Comment on Manual.* Forward all other comments on this publication direct to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-PA2d, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

a. *Purpose.* Radiosonde Baseline Check Set AN/GMM-1(*) (fig. 1) provides a chamber with a known temperature and humidity that remain constant enough under controlled conditions for preflight testing of radiosondes.

b. *Use.* The AN/GMM-1(*) is used to make a complete baseline check of tem-

perature and humidity elements of Radiosonde AN/AMT-4(*) and Radiosonde Set AN/AMT-12 before their release for measurements aloft. The baseline check indicates whether or not the radiosonde being tested is operating properly in all respects. The check is made in conjunction with a Rawin Set AN/GMD-1(*) and Radiosonde Recorder AN/TMQ-5(*). Rawin Set AN/GMD-1(*) picks up the sig-

nals transmitted by the radiosonde and relays them to Radiosonde Recorder AN/TMQ-5(*), which records on graph paper temperature, humidity and reference readings transmitted by the radiosonde. Only radiosondes that give a satisfactory baseline check are released into the atmosphere to gather weather data.

4. Technical Characteristics

Power requirements . . . 110 to 115 vac,
60 cps, single
phase.

Fan, centrifugal:

Motor type Capacitor-
induction.

Horsepower. 1/50.

Speed 3,300 rpm.

power requirements . . 115 vac, 60 cps,
single phase,
15 watts.

Heater:

Type Resistance
element,
strip.

Resistance 66.1 ohms.

Power 200 watts.

Control-power supply
motor:

Type Synchronous.

Speed 240 rpm.

Power input require-

ments 115 vac, 60 cps,
single phase.

Psychrometer:

Type Hand sling.

Thermometers (2) . . . Self-indicating,
mercury
thermal ele-
ment.

Temperature range. . . -37° to +46° C.

Thermometer scales. . 1/2°C subdivi-
sions.

5. Components

The components of Radiosonde Base-
line Check Set AN/GMM-1(*) are listed
in *a* below and the running spares in *b*
below.

a. Components

Quantity	Item	Height (in.)	Depth (in.)	Length (in.)	Unit weight (lb)
1	Case, carrying (fig. 9)	17-1/8	26-1/4	35-3/4	65
1	Chamber, temperature-humidity (fig. 1)	22	14	19	20
1	Control-power supply	5-1/8	6	7	6
1	Book, reference (1, fig. 8)				
1	Cable assembly, power, electrical			15 ft	
1	Cable assembly, electrical			102 ft	
1	Reel, wire		9	12-3/4	
2	Post, supporting	1-1/2	1-1/2	22-3/4	
2	Post, supporting	1-3/4	1-1/2	22-3/4	
1	Cup		1-1/8	1-5/8	
1	Tray, humidity				
1	Wick		3/8	3	
1 spool	Thread, cotton			40 yd	
1	Psychrometer ML-224 (with sling handle)		15/16	11-15/16	
1 set	Running spares (<i>b</i> below)				

b. Running Spares (fig. 2).

Quantity	Item	Federal stock No.
1	Psychrometer ML-224	6685-223-5084
3	Thermometer	7A 1324A/3
5	Fuse	5920-189-0846
6	Lamp LM-27	6240-057-2887
99	Wick	9390-264-6158
1	Book, reference (1, fig. 8)	6635-408-4818