

TM 9-1290-333-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD
AND DEPOT MAINTENANCE MANUAL

COMPASS, MAGNETIC,

UNMOUNTED: M 2

This copy is a reprint which includes current
pages from Changes 1 through 4.

HEADQUARTERS, DEPARTMENT OF THE ARMY

7 NOVEMBER 1963

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
FOR
COMPASS, MAGNETIC, UNMOUNTED: M2

Headquarters, Department of the Army, Washington 25, D.C.

7 November 1963

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*This manual supersedes SB 9-208, 28 June 1962; TM 9-6605200-12P, 6 March 1959; and that portion of TM 9-575, 20 October 1948, and TM 9-1530, 21 March 1950, pertaining to Compass M2.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual contains instructions for operation, organizational, field, and depot maintenance of compass, magnetic, unmounted: M2.

b. Appendix I contains a list of current references, including supply and technical manuals, forms, and other available publications applicable to compass M2.

c. Appendix II contains a basic issue item list required for stockage by first echelon maintenance and includes those components, with quantities thereof, constituting the major item. It also lists first echelon equipment and spare parts all of which constitute the major end item for issue to users. The list also includes maintenance parts and equipment, with quantities thereof, required for organizational, field and depot maintenance of the major end item and its equipment.

d. Appendix III contains a maintenance allocation chart which lists maintenance responsibilities allocated to each echelon of maintenance.

e. This first edition is being published in advance of complete technical review. The direct reporting of errors, omissions, and recommendations for improving this equipment -manual by the individual user is authorized and encouraged. DA Form 2028 will be used for reporting these improvements. This form may be completed using pencil, pen or typewriter. DA Forms 2028 will be completed in triplicate and forwarded by the individual using the manual. The original and one copy will be forwarded direct to the Commanding Officer, Frankford Arsenal, ATTN: SMUFA-3100, Philadelphia, Pennsylvania 19137. one information copy will be provided to the individual immediate superior.

2. Maintenance Allocation

The maintenance of compass M2 does not require the use of tools and will be performed as reflected in the maintenance allocation chart (app. III).

3. Form, Records, and Reports

a. *General.* Responsibility for the proper execution of forms, records, and reports rests upon the commanding officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for their compilation, maintenance, and use. Records, reports, and authorized forms are normally utilized to indicate the type, quantity, and condition of materiel to be inspected or replaced. Properly executed forms convey authorization and serve as records for replacement of materiel in the hands of troops.

b. *Authorized Forms.* The forms generally applicable to units operating or maintaining this materiel are listed in appendix I. For instructions on the use of these forms refer to TM 38-750, FM 9-3 and FM 9-4, For a listing of all forms, refer to DA Pam 310-2.

c. *Field Reports of Accidents.* The reports necessary to comply with the requirements of the Army safety program are prescribed in detail in AR. 385-40. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.

d. *Equipment Improvements Recommendations.* Deficiencies detected in the equipment or materials should be reported using the Equipment Improvement Recommendation section of DA Form 2407.

Section II. DESCRIPTION AND DATA

4. Description

a. *General.* Unmounted magnetic compass M2 (figs. 1 and 2) is a multiple purpose instrument applicable to obtaining clinometer, angle of site, and azimuth readings. The body of the compass is dustproof and moisture proof, and is made of nonmagnetic material except for the magnetic needle and its pivot. When the cover is closed, the magnetic needle is automatically lifted from its pivot to protect the pivot point and jewel bearing. The jewel bearing is agate. The compass is provided with an angle of site scale and an azimuth scale. The azimuth scale may be rotated approximately 1,800 mils. The compass is equipped with circular and tubular levels. In place of a telescope, the compass employs front and rear leaf

sights in conjunction with a mirror in the cover for sighting and reading the angles. The instrument has an azimuth scale adjuster for orienting the azimuth scale to the local magnetic declination, so that grid or Y azimuths may be read direct.

b. *Angle of Sight Mechanism and Related Parts.* Rotation of the level lever (fig. 6) causes the elevation level and elevation scale index to rotate as a unit. The index clamps against the bottom piece to prevent the mechanism from moving unless actuated by the level lever.

c. *Magnetic Needle and Lifting Mechanism.* The magnetic needle provides a magnetic north direction for orienting purposes. The needle is delicately balanced and jewel mounted, on a pivot, to rotate freely. The magnetic needle reading is

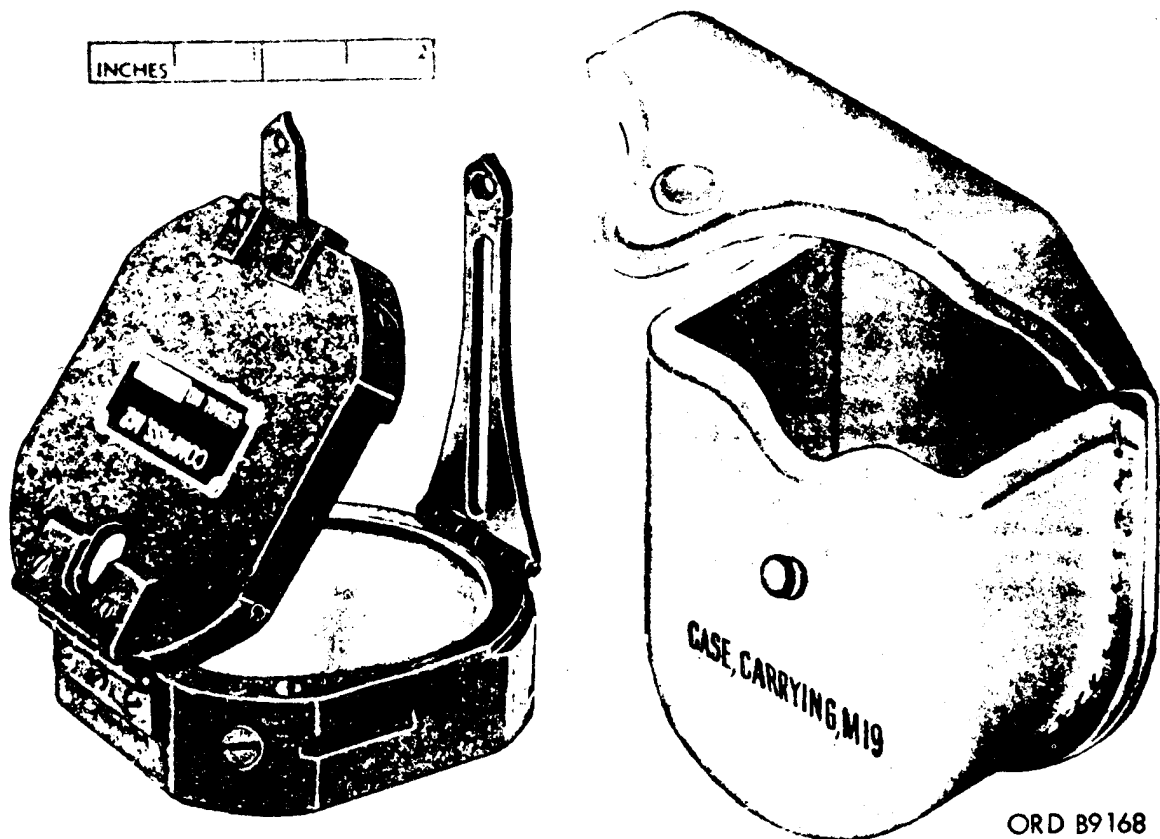


Figure 1. Compass M2 and carrying case M19.