

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DS, GS, AND DEPOT MAINTENANCE MANUAL

PERISCOPE, TANK: M28 (T46) (1240-00-346-8735),
M28C (1240-00-706-0794), AND M28D (1240-00-990-1851)

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PERISCOPE M28 (T46), M28C, AND M28D (T46)

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the information and guidance of personnel responsible for field and depot maintenance of periscope M28 (T46), M28C, and M28D (T46). This manual does not contain information which is intended primarily for the using organization, since such information is available to Ordnance maintenance personnel in the pertinent operator's technical manuals or organizational technical manuals.

b. This manual contains a description of and procedures for inspection, disassembly, repair and rebuild, and assembly of the periscope M28 (T46), M28C, and M28D, formerly (T46).

c. The appendix contains a list of current references, including supply and technical manuals, forms, and other available publications applicable to the material. The maintenance allocation chart is contained in TM 9-7022, TM 9-2350-215-20, and TM 9-2350-224-20.

d. Operation, lubrication, and all maintenance operations allocated to using organizations in performing maintenance work within their scope for the periscope M28, M28C, and M28D are contained in TM 9-7022, TM 9-2300-203-12, TM 9-2350-215-10, and TM 9-2350-224-10.

e. Report errors, omissions and recommendations direct to Commanding Officer, Frankford Arsenal, ATTN: AMSWE-SMF-W3100, Philadelphia, Pa. 19137 on DA Form 2028 (Recommended Changes to DA Publications).

2. Field and Depot Maintenance

The publication of instructions for complete disassembly and rebuild is not to be construed as authority for the performance by direct support and general support units of those functions which are restricted to depots and arsenals. In general, the prescribed maintenance responsibilities will apply as reflected in the allocation of maintenance parts listed in

the appropriate columns of Department of the-Army Supply Manual ORD 8 SNL F-402 and tools listed in ORD 6 SNL J132. Instructions for depot maintenance are to be used by maintenance companies in the field only when the tactical situation makes the repair functions imperative. Provisions of parts listed in the depot stock guide column of ORD 8 SNL F-402 will be made to direct support and general support only when the emergency nature of the maintenance to be performed has been certified by a responsible officer of the requisitioning organization.

3. Forms, Records, and Reports

a. *General.* Responsibility for the proper execution of forms, records, and reports rests upon the 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 material to be inspected, to be repaired, or to be used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of material in the hands of troops and for delivery of material requiring further repair to Ordnance shops in arsenals, depots, etc. The forms, records, and reports establish the work required, the progress of the work within the shops, and the status of the material upon completion of its repair or rebuild.

b. *Authorized Forms.* The forms generally applicable to units operating or maintaining this materiel are listed in the appendix. For instructions on use of these forms, refer to FM 94 and FM -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 material occur.

d. *Report of Unsatisfactory Equipment or Materials.* Any deficiencies detected in the equipment covered

herein, which occur under the circumstances indicated AR 700-38, should be immediately reported in

accordance with the applicable instructions in cited regulation.

Section II. DESCRIPTION AND DATA

4. Description

a. Periscopes M28 (T46), M280, and M28D are monocular-type optical sighting instruments which serve as components of the fire control system for the following vehicles.

- (1) Periscope, tank M28 (T46) is used with-
Carrier, personnel, full tracked, armored,
M59 with preferred M13 cupola.
Mortar, 4.2-inch, self propelled, full tracked,
M84.
Tank combat, full tracked, 90-MM gun,
M48A1 and M48A2.
- (2) Periscope, tank M280 is used with -
Flame thrower M67A1 (Army), Flame
thrower M67A2 (USMC).
Tank combat, full tracked, 90-MM gun
M48A20 and M48A3.
Tank combat, full tracked, 105-MM gun
MA60 and M60A1.
- (3) Periscope, tank M28D is used with flame
thrower M132 and M132A1.

b. The eyepiece of the sight, which contains the eyelens, center lens and field lens (fig. 3), is fixed and remains stationary relative to the vehicle. The prism rotates the line of sight from 15 degrees depression to 60 degrees elevation in maintaining the line of sight parallel to the line of fire of the machinegun throughout the gun's full range. Connection from the gun to the sight is made through a quick-release sight link assembly (fig. 4), movement of which is transmitted to the prism (fig. 2) through tape-connected pulleys. The sight link assembly (fig. 1) is not part of the periscope sight, but is issued as equipment with the sight.

c. Means for making azimuth boresighting adjustment is provided by azimuth adjustment pin (fig. 4) at the mounting flange of the sight. Elevation adjustment

is provided at the connecting arm to which the sight link assembly connects.

d. A rubber eyeshield (fig. 5), mounted over the sight's eyepiece, serves to protect the eyelens and prevent injury to the machine gunner. A dovetailed lamp bracket slot in the plate (H, fig. 6) receives the lamp bracket of instrument light M50 which is furnished as equipment for periscope mount M104A1 and M104A2 in order that illumination of the sight's reticle (fig. 3) during night operations may be accomplished.

e. An adjusting wrench (fig. 1) is chained to the sight in order to provide the operator with a means of adjusting the azimuth adjusting pin (fig. 4) while boresighting the installed sight.

f. The sight is sealed against the entrance of moisture to the optical system and is filled with dry nitrogen gas.

5. Tabulated Data

a. The Periscope Sight Has the Following Optical Characteristics:

Magnification.....	1.5 power
Diameter of exit pupil	17 in.
Field of view	48 degrees
Vertical rotation of line of sight	76 degrees
Elevation (above 0)	60 degrees
Depression (below 0)	15 degrees

b. The Weight and Overall Dimension Are as Follows:

Weight without link assembly, eyeshield, 8 lb and clamp.

Length (front to back)	8 in.
Width (side to side)	5 1/2 in.
Height (without attached chain)	14 1/4 in.

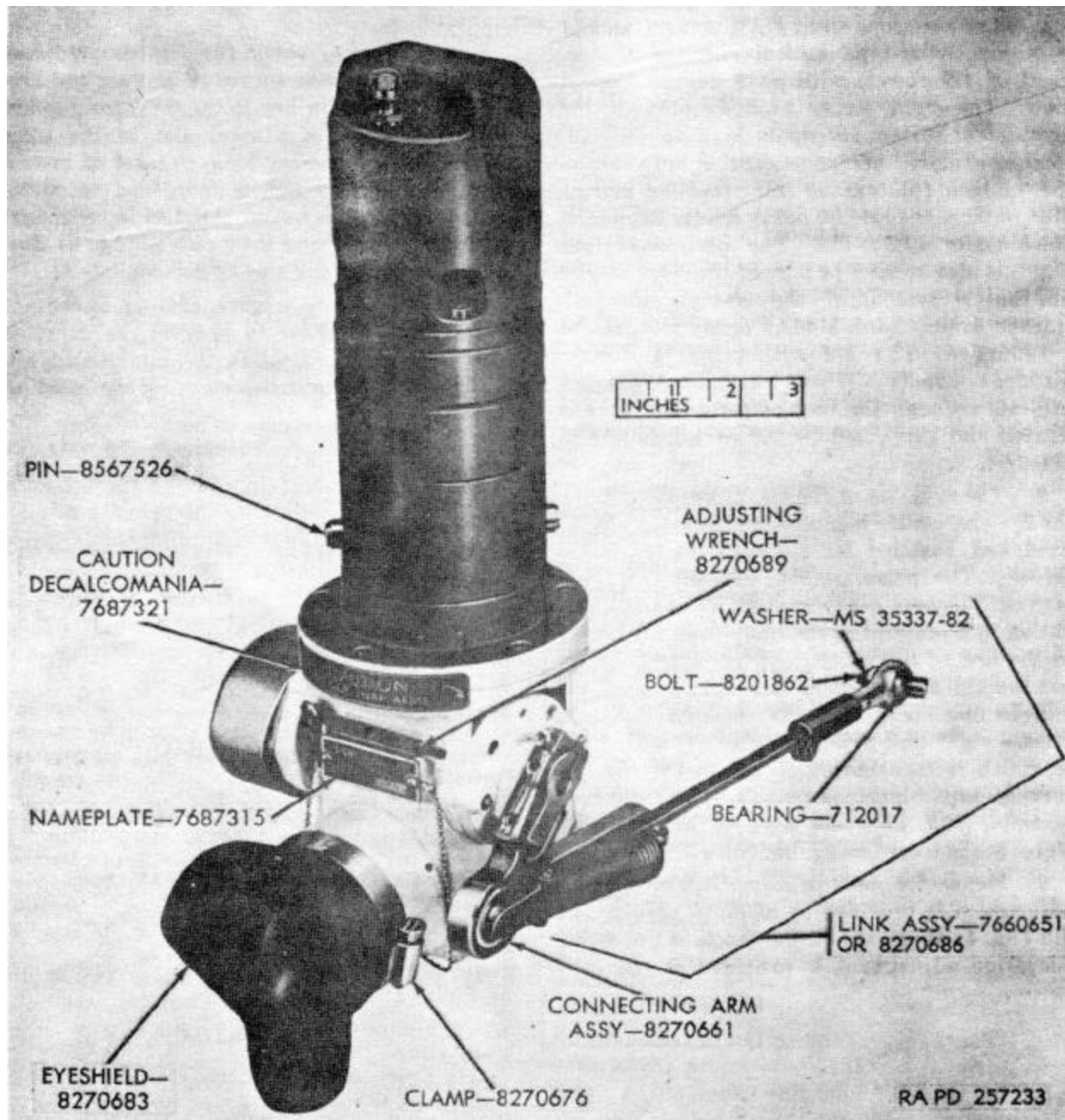


Figure 1. Complete periscope M28 (T46), M28C, and M28D with equipment.