

TM 9-6650-222-35

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DS, GS, AND DEPOT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOL LISTS
FOR
PERISCOPE, TANK: XM48
(6650-762-9336)



HEADQUARTERS, DEPARTMENT OF THE ARMY

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PERISCOPE, TANK: XM48
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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This publication contains instructions for the repair of tank periscope M48, 6650-762-9336, and associated equipment, by direct support (DS¼ general support (GS), and depot shops.

Note. Refer to DMWR 9-6650-222 for overhaul/reconditioning instructions for the Periscope M48. Requests for DMWR 9-6650-222 in support of approved overhaul /reconditioning programs shall be forwarded to Commanding Officer, Frankford Arsenal, ATTN: AMSWE-MAF-W3100, Philadelphia, Pa. 19137.

b. These instructions are used in conjunction with and are supplementary to those in the operator's and organizational maintenance manual for armored reconnaissance-airborne assault vehicle M55a. Instructions for operation, lubrication, and operator's maintenance (including installation and removal procedures, as well as tests and adjustments after installation) are contained in TM 9-2350-230-12. It may be necessary to refer to this

manual for complete procedures.

1-2. Comments

Report errors, omissions, and recommendations directly to Commanding Officer, Frankford Arsenal, ATTN: AMSWE-MAF-W3100, Philadelphia, Pa. 19137 on DA Form 2028.

1-3. Maintenance Allocation and Parts

The maintenance allocation chart in TM 9-2350-230-12 and repair parts and tools listed in appendix II allocates maintenance responsibilities.

1-4. Forms, Records, and Reports

a. *Authorized Forms.* The forms are listed in DA Pamphlet 310-2 and TM 38-750.

b. *Report of Accidents.* The necessary reports are prescribed in AR 385-40.

c. *Equipment Improvement Recommendations (EIR).* Use the Equipment Improvement Recommendation section of DA Form 2407.

Section II. DESCRIPTION AND DATA

1-5. Description

a. *General.* Periscope M48 (figs. 1-1 and 1-2) is an infrared, unity-power binocular periscope that provides a 41-1/2 degree field-of-view. The periscope is primarily intended for use in conjunction with two infrared headlights as the driver's night viewing system in the M551 vehicle. Operating instructions and a functional description of periscope are provided inutm 9-2350-230-12.

b. *Optical Scheme.* The periscope optical scheme (fig. 1-3) consists of a prism in the head assembly which deflects the field-of-view downward through

a vertical lens system to a prism in the body assembly; this prism further deflects the field-of-view through a horizontal lens system and image converter electron tubes to a binocular eyepiece viewing assembly.

c. *Head Assembly 6650-906- 7941.*

(1) Head assembly 6650-906-7941 contains prism 8599693 (fig. 1-1) which is mounted in the head and sealed against water penetration. The bottom of the head is open but is provided with a gasket for sealing when joined with body assembly 10513599.

(2) Two mounting holes are provided on the head for engaging the plungers of mount assembly 6650-906-7944. Mount assembly is required for assembling head assembly to body assembling 10513599.

d. Body Assembly 10513599.

(1) Body assembly 10513599 is a nitrogen gas filled, sealed unit that receives the reflected line of sight from head assembly 6650-906-7941. In-addition, body assembly 10513599 also houses electrical and electronic components for control of the infrared converter system.

(2) Two catches (fig. 1-1) engage corresponding strikes on mount assembly when mounting body assembly 10513599. An identification plate for periscope M48 is mounted on body assembly 10513599 and contains the serial number of the unit.

(3) Valve assembly 8201751 is located on the side of body assembly 10513599 and is used for purging and charging the unit with nitrogen gas.

(4) A compartment in body assembly 10513599 houses power supply 1240-077-1688 (fig. 1-4) and either the converter 1240-878-7768 or the 1.5 volt, C-size dry battery 6135-120-1010. These latter two items are interchangeable by removing cap

assembly 8589920 (fig. 1-1). This arrangement permits the use of externally supplied 24-volt dc, or 1.5-volt dc supplied by the dry battery. Switch 5930-925-3631 (fig. 1-1) on body assembly 10513-599 is provided to control the mode of operation used. Schematic representation of the two modes of operation are illustrated in figure 1-5.

1-6. Data

a. Optical Characteristics.

Power	1.00x
Field-of-View	41-1/2 degree
Effective focal length (objective).	1.323
Effective focal length (eyepiece).	1.020
Magnification of image tube.	0.77 x
Eyepiece setting	-0.50 to -1.0 diopters

b. Weight.

Head assembly	5.5 lb
Body assembly	11.1 lb
Mounting plate assembly	8.6 lb

c. Size.

Width	10.125 in.
Overall height.	9.625 in.9.625 in.
Maximum depth	7.125 in.

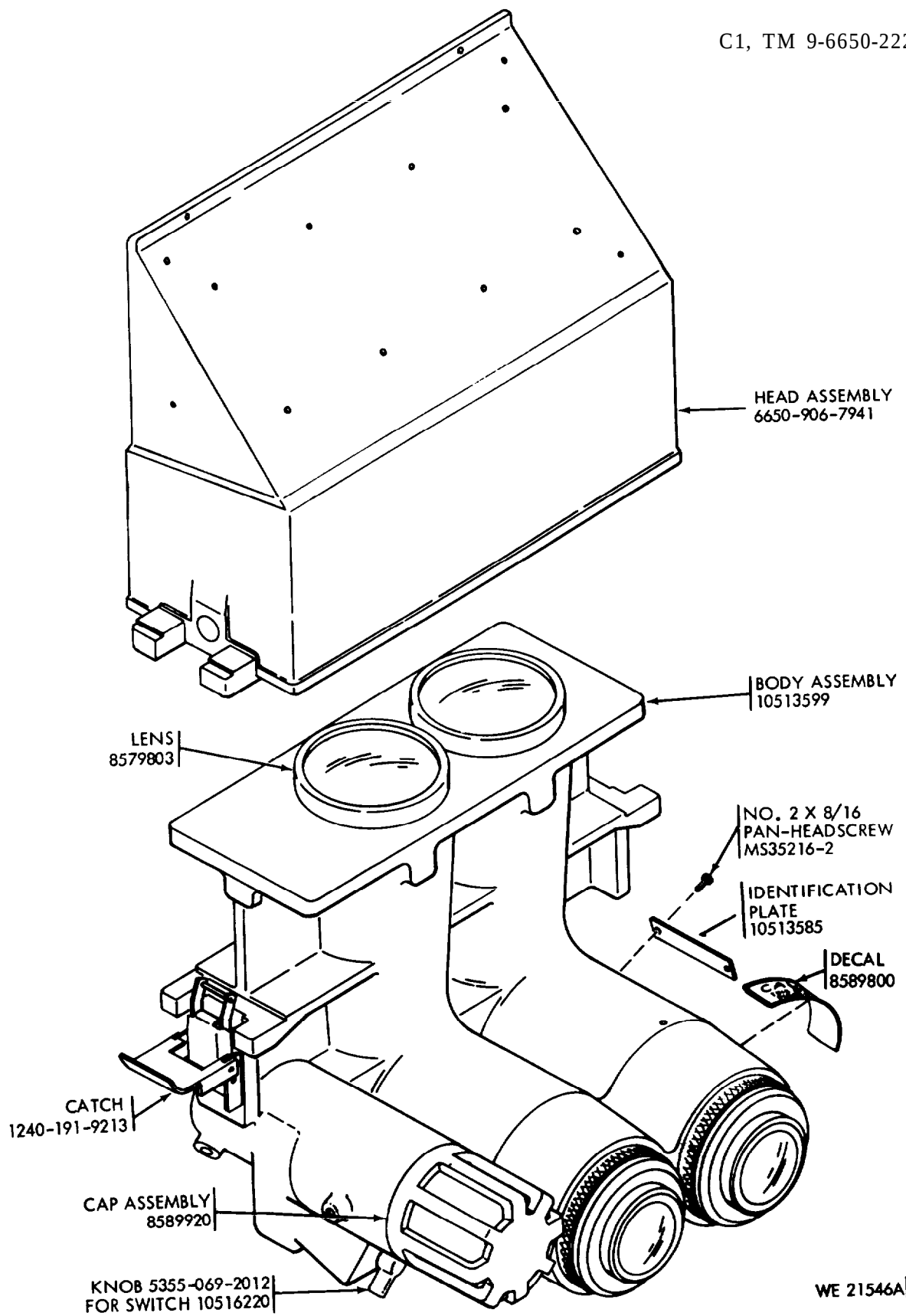


Figure 1-1. Periscope, tank M48, 6650-762-9936.