

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL

FOR
TELESCOPE, ARTICULATED: M127 (1240-437-1254)

AND M127A1 (M127E1) (1240-148-8539) AND
HANGER ASSEMBLY (1240-906-79451)

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Direct Support and General Support Maintenance Manual
TELESCOPE, ARTICULATED: M127 (1240-437-1254), M127A1 (M127E1)
(1240-148-8539) AND HANGER ASSEMBLY (1240-906-7945)

			Paragraph	Page
List of Illustrations				ii
CHAPTER	1.	INTRODUCTION		
Section	I.	General.....	1-1	1-1
	II.	Description and data	1-3	1-1
CHAPTER	2.	DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS		
Section	I.	Repair parts, special tools and equipment	2-1	2-1
	II.	Troubleshooting.....	2-3	2-1
	III.	General Maintenance -.....	2-5	2-2
CHAPTER	3.	REPAIR INSTRUCTIONS		
Section	I.	General.....	3-1	3-1
	II.	Repair of telescope	3-3	3-1
CHAPTER	4.	MAINTENANCE OF MATERIEL USED IN CONJUNCTION WITH TELESCOPE M127 AND M127A1 (M127E1)		
Section	I.	Description	4-1	4-1
	II.	Maintenance of hanger assembly	4-2	4-1
CHAPTER	5.	FINAL INSPECTION	5-1	5-1
APPENDIX	A.	REFERENCES.....	A-1	A-1
Index.....				Index-1

*This manual, together with TM 9-1240-311-34P, 16 November 1971, and DMWR 9-1240-311, December 1969, supersedes TM 9-1240-311-35, 25 April 1966 in its entirety.

LIST OF ILLUSTRATIONS

<i>Number</i>	<i>Title</i>	<i>Page</i>
1-1	Articulated telescope M127 and M127A1 (M127E1) with hanger assembly-assembled view.....	1-2
3-1	Eyeguard. headrest. and bracket assembly-partial exploded view	3-2
3-2	Headrest and bracket assembly-exploded view.....	3-3
3-3	Eyepiece assembly. diopter knob, and reticle projector-partial exploded view.....	3-4
3-4	Diopter knob assembly-exploded view.....	3-5
3-5	Conventional boresight control housing assembly-partial exploded view	3-7
3-6	Conventional reticle lampholder assembly-partial exploded view	3-8
3-7	Deflection and elevation boresight housing assembly-partial exploded view.....	3-10
3-8	Horizontal or verticle boresight control dial and reticle missile lamp assembly-partial exploded view.....	3-12
3-9	Reticle missile lamp assembly-partial exploded view.....	3-10
3-10	Receptacle assembly wiring diagram	3-13
3-11	Reticle projector charging valve and receptacle assembly-partial exploded view	3-14
3-12	Objective tube assembly, filter assembly, and filter assembly operating mechanism-partial..... exploded view	3-15
3-13	Parallax adjustment mechanism-partial exploded view	3-17
4-1	Hanger assembly-exploded view.....	4-2

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

- a. This publication contains instructions for repair of articulated telescope M127, M127A1 (M127E1) and associated equipment, by direct support (DS) and general support (GS) maintenance shops.
- b. Instructions for operation, lubrication, and preventative maintenance of this instrument at the operator and organizational levels are contained in TM 9-2350-230-12.

1-2. Forms and Reports

- a. Maintenance Forms and Records. Maintenance

forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed and prescribed by TM 38-750.

b. Reporting of Errors. 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 directly to the Commanding Officer, Frankford Arsenal, ATTN: SARFA-W3100, Philadelphia, PA 19137.

Section II. DESCRIPTION AND DATA

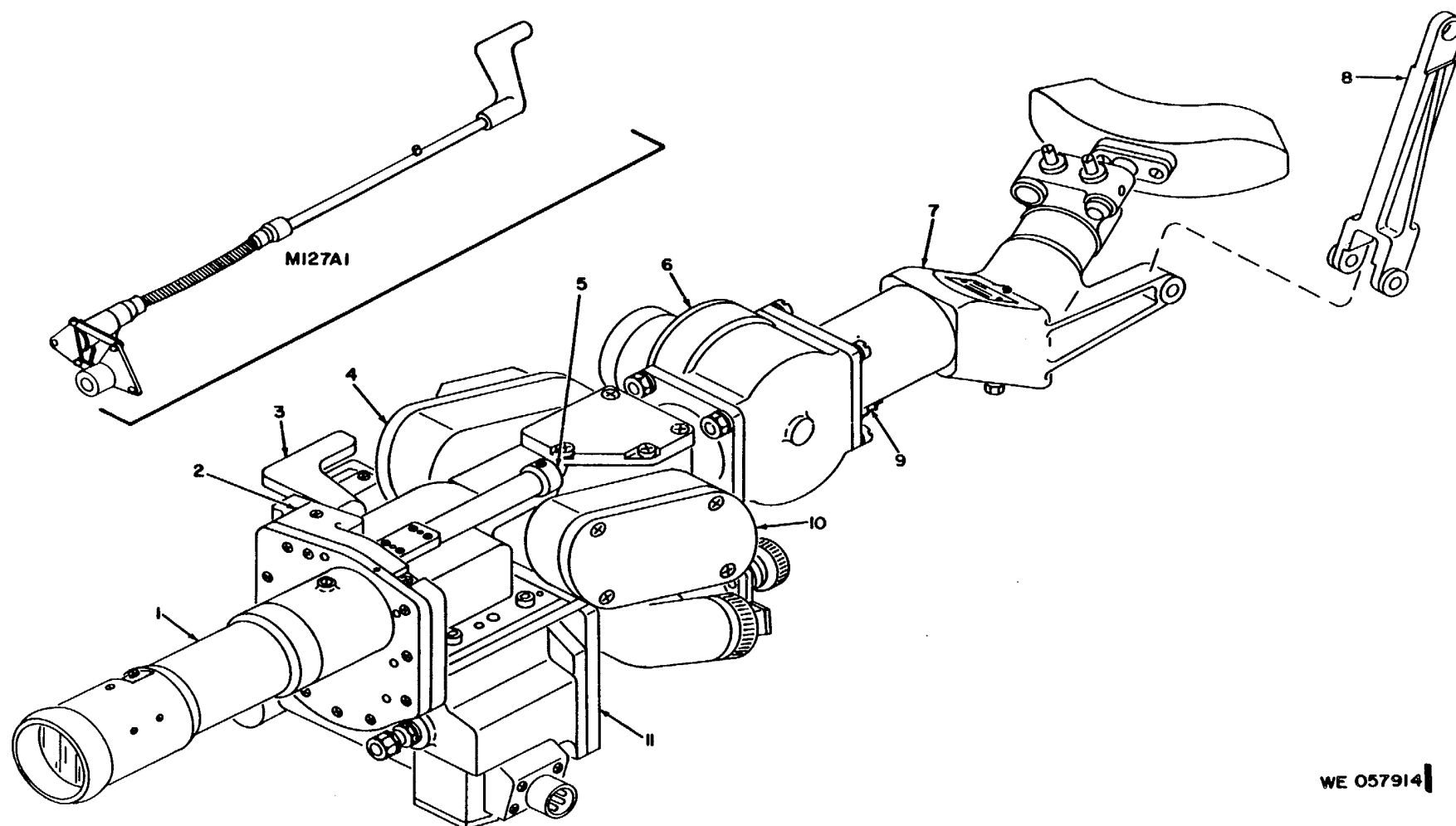
1-3. Description (Fig. 1-1)

- a. Articulated telescope M127 and M127A1 (M127E1) (fig. 1-1) are hermetically sealed, dual power, instrument used for direct fire control of the conventional (152MM) round and part of the guidance and control group for the Shillelagh missile, the main armament system of the armored reconnaissance airborne assault vehicle, M551. The telescope is supported in the vehicle by telescope mount M149, and hanger assembly (8) described in Chapter 4. The articulated joints (4 and 10) permits the gunner to view the target through the full range of gun elevation and depression.
- b. The filter selector lever (3) is used to select one of two filters, or a clear glass plate, as required. The dual power unit (6) contains an optical assembly which is placed into the field-of-view by means of a selector lever to increase magnification of the telescope from 8 to 12 power. A diopter adjustment knob (9) permits focusing of the telescope to the eye of the observer. Parallax is corrected by rotating the parallax adjustment (a slotted screw (5)) on top of the filter housing at the articulated joint. The reticle projector assembly (11) is separately housed on the underside of the telescope in front of the articulated joint. The assembly induces two reticle patterns, one for the guided missile the other for the conventional round. separately into the field-of-view by

means of optical projection. Selection of reticles is made by actuating a switch (gunner's control panel) to illuminate either reticle pattern.

1-4. Data

- a. General.
 - Length 41-1/4 in.
 - Weight 33 lbs
 - Electrical power source 24-28 VDC
- b. Operating Limits.
 - Elevation 20 degrees
 - Depression 10 degrees
- c. Characteristics.
 - Magnification 3 or 12 power
 - 8 power -8.0 degrees
 - Field-of-view 12 power -5.338 degrees
 - Clear eye distance 1.31 in.
 - Diameter of exit pupil 8 power -7MM
 - 12 power -4.7MM
 - Effective focal length of objective 12.00 in.
 - Diopter range ±4 diopters



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Figure 1-1. Articulated telescope M127 and M127A1 (M127E1) with hanger assembly--assembled view.

Change 1 1-2