

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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**ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND  
SPECIAL TOOLS LIST FOR TELESCOPE, OBSERVATION  
M49 W/EE (6650-530-0960)**

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HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, D.C. 20315  
**7 July 1971**

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\*This manual supersedes that portion of ORD 7 F173 dated 31 Jan 57 pertaining to Telescope Observation M49.

## SECTION I. INTRODUCTION

### 1. Scope.

This manual lists repair parts, special tools and equipment required for the performance of organizational maintenance of the Telescope Observation M49.

### 2. General.

This repair parts and special tools list is divided into the following sections.

a. *Prescribed Load Allowances (PLA) - Section II.* A composite listing of repair parts, special tools, test and support equipment having quantitative allowances for initial stockage at organizational level.

b. *Repair Parts - Section III.* A list of repair parts authorized for the performance of maintenance at the organizational level in figure and item number sequence.

c. *Special Tools, Test and Support Equipment - Section IV.* A list of special tools, test and support equipment authorized for the performance of maintenance at the organizational level.

d. *Federal Stock Number and Reference Number Index - Section V.* A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers in ascending alpha-numeric sequence, cross-referenced to the illustration figure number and item number.

### 3. Explanation of Columns.

The following provides an explanation of columns in the tabular lists in Section II through IV.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

(1) Source code, indicates the selection status and source for the listed item. Source codes are:

Code	Explanation
P	Repair Parts, Special Tools, and Test Equipment supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
P2	Repair Parts, Special Tools, and Test Equipment which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
P9	Assigned to item which are NSA design controlled Unique repair parts, special tool, test, measuring and diagnostic equipment which are stocked and supplied by the Army COMSU Logistic System and which are not subject to the provisions of AR 380-41.
P10	Assigned to items which are NSA design controlled: Special tools, test, measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 380-41, and which are stocked and supplied by the Army COMSEC Logistic System.

Code	Explanation
M	Repair parts, Special Tools, and Test Equipment which are not procured or stocked, as such, in the system but are to be manufactured at indicated maintenance levels.
A	Assembles which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.
X	Parts and assemblies that are not procured or stocked because the failure rate is normally below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1	Repair Parts which are not procured or stocked The requirement for such items will be filled by the next higher assembly or component.
X2	Repair Parts, Special Tools, and Test Equipment which are not stocked and have no foreseen mortality. The indicated maintenance category requiring such repair parts will attempt to obtain the parts through cannibalization or salvage, if not obtainable through cannibalization or salvage, the item may be requisitioned with exception data, from the end item manager, for immediate use.
G	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and CSU level. These assemblies will not be stocked above the DS and GS level or returned to depot supply level. <i>Note:</i> Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded X1 and aircraft support item as restricted by AR 700-42.

(2) Maintenance Code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	Explanation
C	Operator/Crew
O	Organizational Maintenance

(3) Recoverability Code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability Codes are:

Code	Explanation
R	Applies to repair parts (assemblies and components) special tools and test equipment which are considered economically repairable at direct and general support maintenance levels. When the item is no longer economically repairable, it is normally disposed of at the GS level. When supply considerations dictate, some of these repair parts may be listed for automatic return to supply for depot level repair as set forth in AR 710-50. When so listed they will be replaced by supply on an exchange basis.
S	Repair parts, special tools, test equipment, and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a

Code	Explanation
	GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
r	Higher dollar value recoverable repair parts, special tools, and test equipment which are subject to special handling and are issued on an exchange basis. Such items will be evacuated to the depot for overhaul or final disposition. Communications-Electronics and Missile Support Items will be repaired/overhauled only at depots.
U	Repair parts, special tools, and test equipment specifically selected for salvage by reclamation units because of precious metal content, critical materials high dollar value, or reusable casings or castings.

b. *Federal Stock Number; Column 2.* This column indicates the federal stock number assigned to the item and will be used for requisitioning purposes.

c. *Description, Column 3.* This column indicates the Federal Item name and any additional description of the item required. The abbreviation "W/E" when used as a part of the nomenclature indicates the Federal stock number includes all armament, equipment, accessories, and repair parts issued with the item. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturer in parentheses.

d. *Unit of Measure (U/M), Column 4.* A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. *Quantity Incorporated in Unit, Column 5.* This column indicates the quantity of the item used in the assembly or the portion illustrated. A V appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated e.g., shims, spacers, gaskets, etc.

f. *15-Day Organizational Maintenance Allowance, Column 3 of Section II and Column 6 of Section III and IV.*

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of item authorized for the number of equipments supported. Subsequent appearance of the same item will have the letters "REF" in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizational authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the density column applicable to the number of items supported to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance for more than 100 of these equipments shall determine the

total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example, authorized allowances for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to Commanding General, U.S. Army Weapons Command, Attn: AMSWE-SMM-P, Rock Island, Illinois 61201 for exception or revision to the allowance list. Revision to the range of items authorized will be made by the Commanding General, U.S. Army Weapons Command, Attn: AMSWE-SMM-P Rock Island, Illinois 61201 based upon engineering experience, demand data, or TAERS information.

g. *Illustration Column, 7.* This column is divided as follows.

(1) *Figure Number Column, 7a.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item Number Column, 7b.* Indicates the callout number used to reference the item in the illustration.

#### 4. Special Information.

Action Change Codes indicated in the left hand margin of the listing page denote the following:

- N - Indicates an added item not included in previous publications.
- C - Indicates a change in data. .
- F - Indicates a change in FSN only.

#### 5. How to Locate Repair Parts.

a. When Federal Stock number or reference number is unknown:

(1) *First.* Using the table of contents, determine the assembly group within which the repair part belong. This is necessary since illustrations are prepared for assembly groups and listing are divided into the same groups.

(2) *Second.* Find the illustration covering the assembly group to which the repair part belongs.

(3) *Third.* Identify the Repair Parts Listing, find the assembly group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

(4) *Fourth.* Using the Repair Parts Listing find the assembly group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference is known:

(1) *First.* Using the Index of Federal Stock Numbers and Reference Numbers find the pertinent Federal

stock number or reference number. This index is in ascending FSN sequence followed by a list of referenced numbers in ascending alpha-numeric sequence, cross-referenced to the illustration figure number and item number.

(2) *Second.* Using the Repair Part Listing, find the assembly group of the repair part and the illustration figure number and item number referenced in the Index of Federal Stock Numbers and Reference Numbers.

**6. Abbreviations.**

<i>Abbreviation</i>	<i>Explanation</i>
<i>al</i> .....	aluminum
<i>id</i> .....	inside diameter
<i>thk</i> .....	thick

**7. Federal Supply Codes for Manufacturers.**

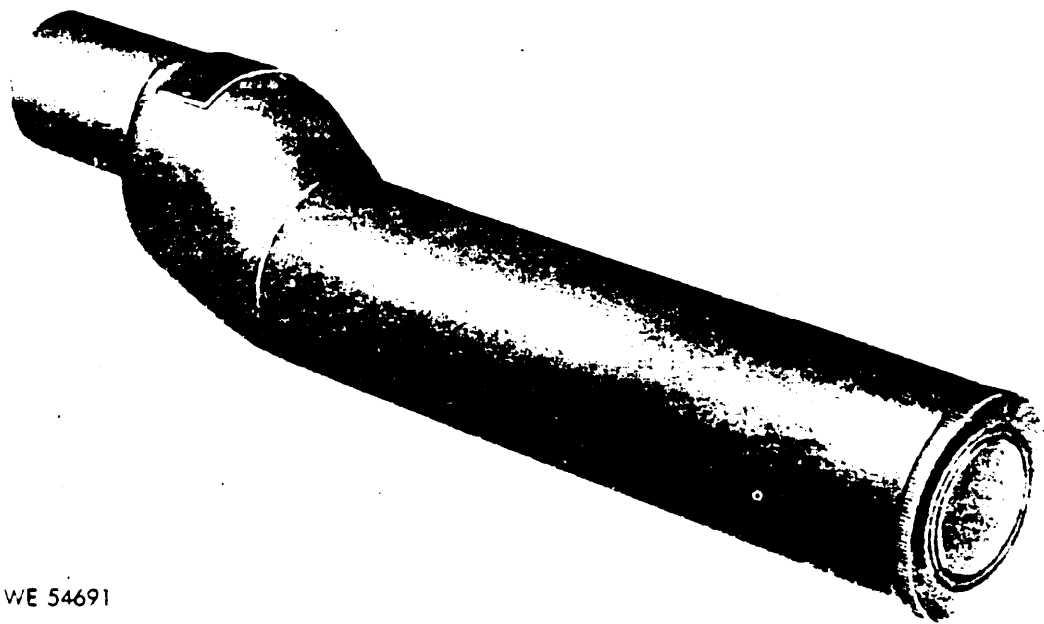
<i>Code</i>	<i>Manufacturer</i>
19200	Frankford Arsenal Philadelphia, Pa. 1913-

**8. Reporting of Errors.**

Report 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 DA publications) and forwarded direct to the Commanding Officer, Frankford Arsenal, ATTN: AMSWE-MAF-W3100, Philadelphia. Pa. 19137.

## SECTION II. PRESCRIBED LOAD ALLOWANCE LIST

(1) FEDERAL STOCK NO.	(2) DESCRIPTION	(3) 15-DAY ORGANIZATIONAL MAINT ALLOWANCE	(A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100
		USABLE ON CODE				
1240-654-3811	TRIPOD M15	*	*	1	1	
6650-310-2534	CASE, CARRYING, M42A1	*	*	1	1	
6650-531-7039	CAP EYEPIECE COVER	*	*	1	1	
6650-531-7041	COVER	*	*	1	1	
6650-871-2970	CASE, TELESCOPE, M164	*	*	*	1	



WE 54691

Figure 1. Telescope M49 observation

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

ACT ON CODE	(1) SMR CODE (A)	(B)	(C)	(2) FEDERAL STOCK NO.	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY IN IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUSTRATION	
	SOURCE	MAINT	RECOV		REFERENCE NUMBER	USABLE ON CODE		1-5	6-20	21-50	51-100	FIGURE NO.	ITEM NO.
					TELESCOPE, M49 7578445 OBSERVATION								
C	P	O		6650-531-7039	CPA EYEPiece COVER AL, 2-3/8 THK, 1-5/8 ID 5317039 (19200)	EA	1	*	*	1	1	2	1
C	P	O		6650-531-7041	COVER AL, 2 ID, 2-5/8 OD, 13/32 THK 5317041 (19200)	EA	1	*	*	1	1	2	2

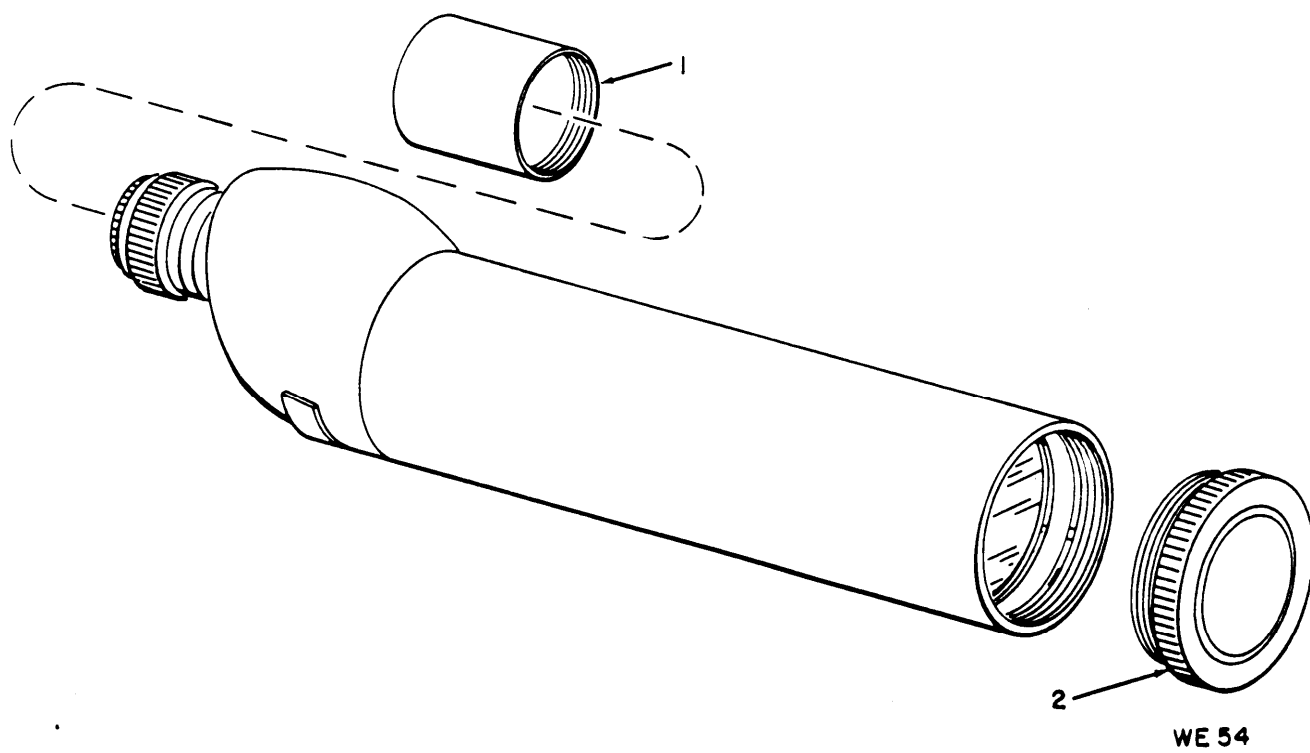
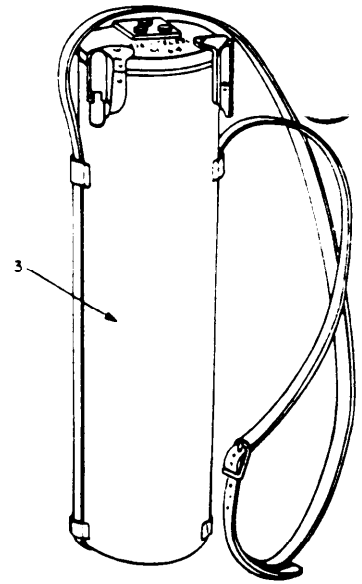
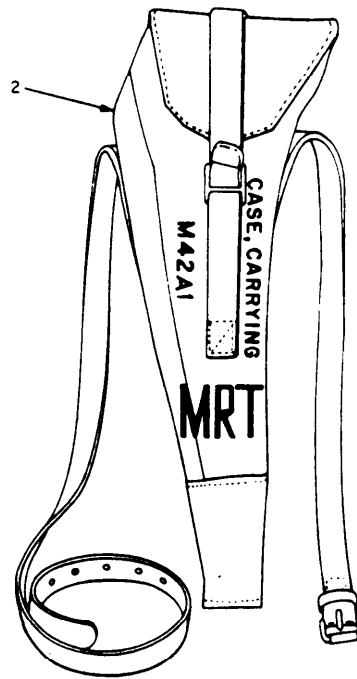
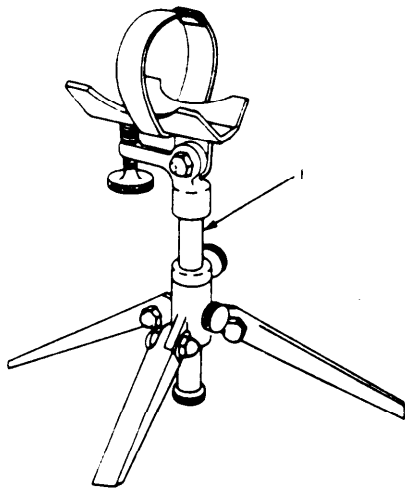


Figure 2. Telescope M49 observation



SECTION IV. SPECIAL TOOLS, TEST AND SUPPORT EQUIPMENT

ACT ON CODE	(1) SMR CODE (A)	(B)	(C)	(2) FEDERAL STOCK NO.	(3) DESCRIPTION	(4) UNIT OF MEAS	(5) QTY IN IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUSTRATION	
								(A)	(B)	(C)	(D)	(A)	(B)
	SOURCE	MAINT	RECOV		REFERENCE NUMBER	USABLE ON CODE		1-5	6-20	21-50	51-100	FIGURE NO.	ITEM NO.
	TOOLS AND EQUIPMENT EQUIPMENT												
C	P	C	R	1240-654-3811	TIRPOD, M15 6543811 (19200)	EA	1	*	*	1	1	3	1
C	P	C		6650-310-2534	CASE, CARRYING, M42A1 8244518 (19200)	EA	1	*	*	1	1	3	2
C	P	C		6650-871-2970	CASE, TELESCOPE, M164 8270828 (19200)	EA	1	*	*	*	1	3	3



WE 53981

Figure 3. Tripod and carrying cases

SECTION V. INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER

CROSS-REFERENCED TO FIGURE AND ITEM NUMBER

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.		
1240-654-3811	3	1					
6650-310-2534	3	2					
6650-531-7039	2	1					
6650-531-7041	2	2					
6650-871-2970	3	3					
REFERENCE NO.	MFR. CODE	FIGURE NO.	ITEM NO.	REFERENCE NO.	MFR. CODE	FIGURE NO.	ITEM NO.
5317039	19200	2	1				
5317041	19200	2	2				
6543811	19200	3	1				
8244518	19200	3	2				
8270828	19200	3	3				

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# The Metric System and Equivalents

## Linear Measure

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3,280.8 feet

## Weights

1 centigram = 10 milligrams = .15 grain  
 1 decigram = 10 centigrams = 1.54 grains  
 1 gram = 10 decigrams = .035 ounce  
 1 dekagram = 10 grams = .35 ounce  
 1 hectogram = 10 dekagrams = 3.52 ounces  
 1 kilogram = 10 hectograms = 2.2 pounds  
 1 quintal = 100 kilograms = 220.46 pounds  
 1 metric ton = 10 quintals = 1.1 short tons

## Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.18 gallons

## Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

## Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch  
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches  
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

## Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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