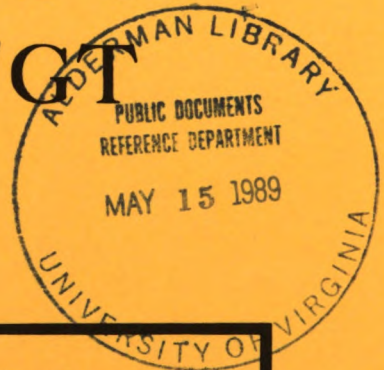


D 101.11:  
11-2546

# TM 11-2546

WAR DEPARTMENT TECHNICAL MANUAL

## CONNECTING AND SWITCHING KIT MX-155/QT



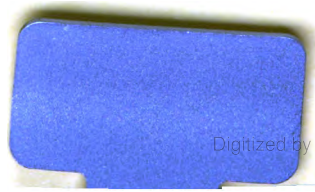
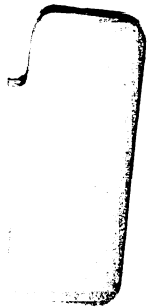
This reprint includes all changes in effect at the time of publication; Changes 1 through 3.

WAR DEPARTMENT • 8 SEPTEMBER 1944

UNIVERSITY OF VIRGINIA LIBRARY



Digitized by Google



TECHNICAL MANUAL

CONNECTING AND SWITCHING KIT MX-155/GT

TM 11-2546 }  
CHANGES No. 1 }

HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
WASHINGTON 25, D.C., 18 September 1961.

TM 11-2546, 8 September 1944, is changed as follows:  
Page 21-22. Delete section V. Add the following:

APPENDIX I

MAINTENANCE ALLOCATION CONNECTING  
AND SWITCHING KIT MX-155/GT

Section I. INTRODUCTION

1. General

a. This appendix assigns maintenance functions to be performed on components, assemblies, and subassemblies by the lowest appropriate maintenance echelon.

b. Columns in the maintenance allocation chart are as follows:

- (1) *Component.* This column shows only the nomenclature or standard item name. Additional descriptive data is included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies which are part of a component are listed immediately below that component, and the subassemblies which are part of an assembly are listed immediately below that assembly. Each generation breakdown (components, assemblies, or subassemblies) are listed in disassembly order or alphabetical order.
- (2) *Maintenance function.* This column indicates the various maintenance functions allocated to the echelons.
  - (a) *Service.* To clean, to preserve, and to replenish lubricants.
  - (b) *Adjust.* To regulate periodically to prevent malfunction.
  - (c) *Inspect.* To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.
  - (d) *Test.* To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

---

\* These changes supersede so much of DA Supply Manual SIG 7 & 8 MX-155/GT, 24 August 1956 as pertains to first echelon items.

- (e) *Replace.* To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.
  - (f) *Repair.* To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.
  - (g) *Align.* To adjust two or more components of an electrical system so that their functions are properly synchronized.
  - (h) *Calibrate.* To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.
  - (i) *Overhaul.* To restore an item to *completely serviceable* condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.
  - (j) *Rebuild.* To restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.
- (3) *1st, 2d, 3d, 4th, 5th echelon.* The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.
- (4) *Tools required.* This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform the maintenance function.
- (5) *Remarks.* Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding columns.

c. Columns in the allocation of tools for maintenance functions are as follows:

- (1) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.
- (2) *1st, 2d, 3d, 4th, 5th echelon.* The dagger (†) symbol in these columns indicates the echelons normally allocated the facility.
- (3) *Tool code.* This column lists the tool code assigned.

## 2. Maintenance by Using Organizations

When this equipment is used by signal services organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including third echelon are authorized to the organization operating this equipment.

## 3. Salvage

This equipment shall not be maintained above third echelon. When unrepairable at third echelon the equipment shall be salvaged.

## Section II. MAINTENANCE ALLOCATION CHART

(1) Part or component	(2) Maintenance function	(3) 1st ech.	(4) 2d ech.	(5) 3d ech.	(6) Tools required	(7) Remarks
CONNECTING AND SWITCHING KIT MX-155/GT.	Service.....	X				Exterior. Interior. Jack contacts.
	Adjust.....		X		2	
	Inspect.....		X		2	Continuity.
	Test.....			X	1	
	Repair.....		X		2	
BRACKET ASSEMBLY. JACK-PANEL SB-16/GT.	Repair.....		X		2	
	Repair.....			X	2	

(1) Tools required for maintenance functions	(3) 2d ech.	(4) 3d ech.	(7) Tool code	(8) Remarks
MX 155/GT (continued)				
MULTIMETER AN/URM-105*.....		†	1	*If not available, use TS-352/U
TOOL EQUIPMENT TE-49.....	†	†	2	

# APPENDIX II

## BASIS ISSUE ITEMS LIST FOR CONNECTING AND SWITCHING KIT MX-155/GT

### Section I. INTRODUCTION

#### 1. Scope

a. This appendix lists items supplied for initial operation and for running spares. The list includes tools, accessories, parts, and material issued as part of the major end item. The list includes all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

b. Columns are as follows:

- (1) *Source, maintenance and recoverability code.* Not used.
- (2) *Federal stock number.* This column lists the 11-digit Federal stock number.
- (3) *Designation by model.* Not used.
- (4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.
- (5) *Unit of issue.* The unit of issue is each, not annotated, is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.
- (6) *Expendability.* Nonexpendable items are indicated by NX. Expendable items are not annotated.
- (7) *Quantity authorized.* Under "Items Comprising an Operable Equipment", the column lists the quantity of items supplied for the initial operation of the equipment. Under "Running Spares and Accessory Items", the quantities listed are those issued initially with the equipment as spare parts. The quantities are authorized to be kept on hand by the operator for maintenance of the equipment.
- (8) *Illustration.* The "Figure No." column lists the figure and reference numbers used for identification of the items in the illustration.

#### 2. Comments or Suggestions

Any comments concerning omissions and discrepancies in appendices I and II will be prepared on DA Form 2028 and forwarded direct to Commanding Officer, U.S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort Monmouth, N.J.

## Section II. FUNCTIONAL PARTS LIST

(3) Federal stock No.	(4) Description	(7) Quantity author- ized	(8) Illustra- tions  Figure No.
5805-407-4203	CONNECTING and SWITCHING KIT MX-155/GT: Used for communicating between armored field artillery Executive Officer and six gun sections, also for connecting to adjacent battery.  ITEMS COMPRISING AN OPERABLE EQUIPMENT		
Ord thru AGC 5805-161-5210	TECHNICAL MANUAL TM 11-2546..... BRACKET ASSEMBLY: For holding Reel R-39; Sig dwg No. SC-D-13617.	2 7	
5995-164-6471	CORD ASSEMBLY, ELECTRICAL, CX-67/GT: Sig dwg No. SC-D-13615.	15	1
5935-193-9680	JACK, TELEPHONE, U-17/GT: Mounts on Spool DR-8 of Reel RL-39; Sig dwg No. SC-D-1457.	7	1
5935-162-1262	PANEL, JACK, SB-16/GT: Mounted on Executive Officer's half-track for communicating with battery gun sections, Assistant Executive Officer, and adjacent gun battery; Sig dwg No. SC-D-13616.  RUNNING SPARES AND ACCESSORY ITEMS	1	2
5935-193-9680	JACK TELEPHONE, U-17/GT: Mounts on Spool DR-8 of Reel RL-39; Sig dwg No. SC-D-1457.	2	

BY ORDER OF THE SECRETARY OF THE ARMY:

G. H. DECKER,  
*General, United States Army,  
Chief of Staff.*

Official:

R. V. LEE,  
*Major General, United States Army,  
The Adjutant General.*

Distribution:

*Active Army:*

DASA (6)	USAEPG (2)
USASA (2)	EMC (1)
CNGB (1)	USACA (2)
Tech Stf, DA (1) except CSigO (15)	USASEA (1)
Tech Stf Bd (1)	USA Carib Sig Agcy (1)
USCONARC (4)	USA Sig Msl Spt Agcy (12)
USAARTYBD (1)	USASSA (20)
USAARMBD (2)	USASSAMRO (1)
USAIB (1)	Army Pictorial Cen (2)
USARABD (2)	USAOMC (3)
USAABELCTBD (1)	USA Trans Tml Comd (1)
USAAVNBD (1)	Army Tml (1)
USAATBD (1)	POE (1)
ARADCOM (2)	OSA (1)
ARADCOM Rgn (2)	AMS (1)
OS Maj Comd (2)	Sig Fld Maint Shops (2)
OS Base Comd (2)	JBUSMC (2)
LOGCOMD (2)	Units organized under following TOE's (2 each unless other- wise indicated):
MDW (1)	6-28
Armies (2)	6-37
Corps (5)	6-100
USATC AD (2)	6-115
USATC Armor (2)	6-117
USATC Engr (2)	6-118
USATC FA (2)	6-125
USATC Inf (2)	6-127
Svc College (2)	6-128
Br Svc Sch (2)	6-135
GENDEP (2) except Atlanta	6-137
GENDEP (None)	6-138
Sig Sec, GENDEP (5)	6-200
Sig Dep (12)	6-214
Instl (2)	6-217
Ft Monmouth (63)	6-300
USA Corps (3)	6-315
1st Msl Bde (5)	6-317
AFIP (1)	6-537
WRAMC (1)	6-325
AFSSC (1)	



**Units organized under following TOE's (2 each unless otherwise indicated):**

6-327	11-117
6-328	11-155
6-330	11-500 AA-AE (4)
6-415	11-557
6-417	11-587
6-418	11-592
6-425	11-597
6-427	17
6-525	17-51
6-535	17-55
7	17-115
7-11	17-116
7-19	17-117
7-31	29-56
11-7	39-51
11-16	39-61
11-57	39-65
11-97	57

**NG:** State AG (3) units same as Active Army except allowance is one copy to each unit.

**USAR:** None.

For explanation of abbreviations used, see AR 320-50.



**CONNECTING AND SWITCHING KNIT MX-155/GT**

CHANGE

No. 2

}  
}

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 8 October 1963

TM 11-2546, 8 September 1944, is changed as follows:

*Note.* The parenthetical reference to previous change (example: "page 6 of C2") indicates that pertinent material was published in that change.

Change "PL-55" to PJ-055B in the following places:

*Page 3*, paragraph 3, line 2.

Paragraph 4, line 1.

*Page 12*, figure 9, lower center section of the illustration.

Paragraph 17, line 1.

Change "JK-34-A" to JJ-034 in the following places:

*Page 3*, paragraph 5, line 4.

*Page 15*, paragraph 19, lines 1, 2 and 4.

Change "W-130" to WD-1/TT in the following places:

*Page 8*, paragraph 14, heading.

*Page 9*, figure 6.

Paragraph 15, heading, line 2.

Paragraph 15a.

Paragraph 15b, line 2.

Paragraph 15d, line 3.

*Page 10*, paragraph 16a, line 1.

*Page 11*, paragraph 16b.

Paragraph 16c, line 1.

*Page 12*, figure 9, callout at upper right-hand section of illustration.

Procedure, Note 1.

Figure caption.

Paragraph 16d, line 1.

*Page 13*, figure 10.

Callout at upper left-hand section of illustration.

Callout at center right-hand section of illustration.

Page 14 paragraph 18a, line 1.

Paragraph 18c, line 1.

Change "Telephone EE-8-( )" to Telephone Set TA-312/PT in the following places:

Page 10, paragraph 16, heading, line 1.

Paragraph 16a, line 2.

Page 11, paragraph 16c, line 2.

Page 14, paragraph 18, heading, line 2.

Paragraph 18a, line 2.

Page 16, paragraph 19d, line 2.

Page 1, section I. Change the existing paragraph 1 to 1.3 and add paragraphs 1, 1.1, and 1.2 immediately after the section heading.

## **1. Scope**

This manual describes Connecting and Switching Kit MX-155/GT and covers its installation, operation, theory, operator's maintenance and second and third echelon maintenance. It also includes instructions for performing preventive and periodic maintenance services.

### **1.1 Index of Publications**

Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment. DA Pam 310-4 is an index of current technical manuals, technical bulletins, supply bulletins, lubrication orders, and modification work orders which are available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc.) and the latest changes to and revisions of each equipment publication.

### **1.2 Forms and Records**

*a. Reports of Maintenance and Unsatisfactory Equipment.* Use equipment forms and records in accordance with instructions in TM 38-750.

*b. Report of Damage or Improper Shipment.* Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58 (Army), NAVSANDA Publication 378 (Navy), and AFR 71-4 (Air Force).

*c. Reporting of Equipment Manual Improvements.* The direct reporting by the individual user of errors, omissions, and recommendations for improving this manual is authorized and encour-

aged. DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9) will be used for reporting these improvements. This form will be completed in triplicate using pencil, pen, or typewriter. The original and one copy will be forwarded direct to Commanding Officer, U.S. Army Electronics Materiel Support Agency, ATTN: SELMS-MP, Fort Monmouth, N.J., 07703. One information copy will be furnished to the individual's immediate supervisor (officer, noncommissioned officer, supervisor, etc.).

*Page 2*, paragraph 1. Make the following changes:

Delete subparagraph *a* and substitute:

*a.* Telephone Set TA-312/PT.

Delete subparagraph *d* and substitute:

*d.* 1/4-mile lengths of Wire WD-1/TT.

Delete paragraph 2 and substitute:

## **2. List of Components of Connecting and Switching Kit MX-155/GT**

The major components and accessory items for the MX-155/GT are listed in appendix III.

*Page 13*, figure 10.

Delete the block diagram symbol for and the callout to Telephone EE-8-( ).

Bracket the leads at the unterminated portion of Cord CX-231/GT and add the following callout adjacent to the bracket:

TO: TELEPHONE SET TA-312/PT.

*Page 17*. Delete section IV and substitute:

## **SECTION IV**

### **MAINTENANCE INSTRUCTIONS**

#### **20. Scope of Operator's Maintenance**

The maintenance duties assigned to the operator of the equipment are listed below together with a reference to the paragraphs covering the specific maintenance functions.

- a.* Daily preventive maintenance checks and services (par. 23).
- b.* Cleaning (par. 24).

## 21. Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

*a. Systematic Care.* The procedures given in paragraphs 23 and 24 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment.

*b. Preventive Maintenance Checks and Services.* The preventive maintenance checks and services chart (par. 23) outlines functions to be performed at specific intervals. These checks and services are to maintain Army electronic equipment in a combat serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the chart indicates what to check, how to check, and what the normal conditions are. The references column lists the illustrations, paragraphs, or manuals that contain supplementary information. If the defect cannot be remedied by the operator, higher echelon maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750.

## 22. Preventive Maintenance Checks and Services Periods

Preventive maintenance checks and services of the equipment are required daily. Paragraph 23 specifies the checks and services that must be accomplished daily and under the conditions listed below.

- a. When the equipment is initially installed.
- b. When the equipment is reinstalled after removal for any reason.
- c. At least once each week if the equipment is maintained in standby condition.

## 23. Daily Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure	References
1	MX-155/GT .....	Check to be sure that the equipment has a full complement of required components and running spares.	App. III.
2	Exterior surfaces.	Clean the exterior of the equipment. Check to be sure that painted surfaces are free of bare spots, rust, and corrosion.	Par. 24.

Sequence No.	Item	Procedure	References
3	Jacks .....	Inspect the jacks for snug fit and good contact. Check to be sure that all jacks are secured firmly to the jack panel.	Figs. 1 and 2.
4	Cord CX-231/GT.	Inspect the CX-231/GT for chafed, cracked, or frayed insulation. Check to be sure that the connector is not broken and shows no evidence of damage or deformity.	Fig. 1.
5	Reel bracket .....	Check the reel bracket to be sure that all mounting bolts, nuts, and washers are correctly positioned and properly tightened.	Fig. 1.
6	Installation .....	Check to be sure that the equipment is properly installed.	Para. 10-18.
7	Operation .....	Check for normal operation and complete functional response of the equipment. Be alert to any unusual performance condition.	

## 24. Cleaning

Inspect the exterior of the equipment. The exterior surfaces should be clean, and free of dust, dirt, grease, and fungus.

a. Remove dust and loose dirt with a clean soft cloth.

**Warning:** Cleaning Compound is flammable and its fumes are toxic. Provide adequate ventilation. Do not use near a flame.

b. Remove grease, fungus, and ground-in dirt from the jack panel and reel bracket; use a cloth dampened (not wet) with cleaning compound (FSN 7930-395-9542).

c. Remove dust or dirt from plugs and jacks with a brush.

d. Clean the jack panel and reel bracket; use a soft clean cloth. If dirt is difficult to remove, dampen the cloth with water; mild soap may be used for more effective cleaning.

## 25. Scope of Organizational Maintenance

a. The following paragraphs contain instructions covering second echelon maintenance of the equipment. It includes instructions for

performing preventive and periodic maintenance services and repair functions to be accomplished by the organizational repairman.

b. The tools required for second echelon maintenance of the equipment are listed in appendix III.

## 26. Organizational Preventive Maintenance

a. Preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all echelons concerned with the equipment and includes the inspection, testing, and repair or replacement of parts, subassemblies, or units that inspection and tests indicate would probably fail before the next scheduled periodic service. Preventive maintenance checks and services of the equipment at the second echelon level are made at monthly intervals unless otherwise directed by the commanding officer. The preventive maintenance checks and services should be scheduled concurrently with the periodic service schedule of the carrying vehicle for all vehicular installations.

b. Maintenance forms and records to be used and maintained on this equipment are specified in TM 38-750.

## 27. Monthly Maintenance

Perform the maintenance functions indicated in the monthly preventive maintenance checks and services chart (par. 28). A month is defined as approximately 30 calendar days of 8-hour-per-day operation. If the equipment is operated 16 hours a day, the monthly preventive maintenance checks and services should be performed at 15-day intervals. Adjustment of the maintenance intervals must be made to compensate for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks and services performed on it. Equipment in limited storage requires service before operation; it does not require monthly preventive maintenance.

## 28. Monthly Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure	References
1	Publications	See that all publications are complete, serviceable, and current.	DA Pam 310-4.



Sequence No.	Item	Procedure	References
2	Modifications ...	Check DA Pam 310-4 to determine if new applicable MWO's have been published. All URGENT MWO's must be applied immediately. All NORMAL MWO's must be scheduled.	TM 88-750.
3	Preservation .....	Check all surfaces for evidence of fungus. Remove rust and corrosion and spot-paint bare spots.	Par. 29.

### 29. Touchup Painting Instructions

Clean rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TM 9-218.

### 30. Scope of Third Echelon Maintenance

a. Third echelon maintenance of the equipment supplements the procedures performed at organizational maintenance level and includes any additional techniques required to maintain the equipment. The equipment will not be maintained above third echelon; when unrepairable at third echelon maintenance, the equipment should be salvaged.

b. Third echelon maintenance of the equipment consists of the following:

- (1) Adjustment of jack contacts (par. 82).
- (2) Continuity tests (par. 83).
- (3) Repair of Jack Panel SB-16/GT (par. 84).

### 31. Tools and Test Equipment Required

The tools and test equipment required for third echelon maintenance of the equipment are listed in appendix III.

### 32. Jack Contact Adjustment

Adjustment of the jack contacts on Jack Panel SB-16/GT are made only when necessary to restore normal operating conditions. The procedure for checking the jack contacts is outlined in a through c below.

a. Remove the four mounting screws at the upper and lower corners of the SB-16/GT (fig. 2) and remove the front panel.

b. Examine the jack contacts both visually and by observing the action of the jack contacts when holding the contacts slightly separated and then releasing them.

c. Note the amount of tension and freedom of action and adjust, if necessary, the contact follow and separation requirements.

### **33. Continuity Test**

With the AN/URM-105, perform a continuity check between the tip and sleeve of jacks located on Jack Panel SB-16/GT. Figure 11 shows, schematically, the electrical arrangement of the individual jacks on the SB-16/GT.

### **34. Repair of Jack Panel SB-16/GT**

Repair procedures of Jack Panel SB-16/GT are necessarily limited in scope to the replacement of individual jacks and repair of internal wiring.

Change the existing "appendix I" (page 1 of C 1) to: APPENDIX II.

Add appendix I immediately following section IV.

## **APPENDIX I**

### **REFERENCES**

Following is a list of applicable publications available to the operator and organizational maintenance personnel of Connecting and Switching Kit MX-155/GT:

- |              |  |
|--------------|--|
| DA Pam 310-4 | Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders. |
| TM 9-213     | Painting Instructions for Field Use.   |
| TM 38-750    | The Army Equipment Record System and Procedures.   |

Change the existing "appendix II" (page 4 of C 1) to: APPENDIX III.

Appendix III. Delete paragraph 2.

Section II (page 5 of C 1). Functional parts list, "Description" column, line 11. Change "CX-67/GT to: CX-231/GT.

By Order of the Secretary of the Army

**EARLE G. WHEELER,**  
*General, United States Army,*  
*Chief of Staff.*

Official:

**J. C. LAMBERT,**  
*Major General, United States Army,*  
*The Adjutant General.*

Distribution

*Active Army:*

DASA (6)  
USASA (2)  
CNGB (1)  
CofEngrs (1)  
TSG (1)  
CSigO (7)  
CofT (1)  
CofSpts (1)  
USA CD Agcy (1) except  
    USAARMCDA,  
    USASWCDA,  
    USAARTYCDA (5)  
USCONARC (5)  
USAMC (5)  
ARADCOM (2)  
ARADCOM Rgn (2)  
OS Maj Comd (3)  
OS Base Comd (2)  
LOGCOMD (2)  
USAECOM (5)  
USAMICOM (4)  
USASCC (4)  
MDW (1)  
Armies (2)  
Corps (2)  
USA Corps (3)  
USATC AD (2)  
USATC Engr (2)  
USATC Inf (5)  
USATC Armor (5)  
USASTC (5)  
Instl (2) except  
    Ft Monmouth (65)  
Svc Colleges (2)  
Br Svc Sch (2) except  
GENDEP (OS) (2)  
Sig Dep (OS) (12)  
Sig Sec, GENDEP (5)

Army Dep (2) except  
    Ft Worth (8)  
    Lexington (12)  
    Sacramento (28)  
    Tobyhanna (12)  
USA Trans Tml Comd (1)  
Army Tml (1)  
USAOSA (1)  
POE (1)  
WRAMC (1)  
AMS (1)  
AFIP (1)  
Army Pic Cen (2)  
USA Mbl Spt Cen (1)  
USA Elct Mat Agcy (1)  
Chicago Proc Dist (1)  
USA Elct RD Actv,  
    White Sands (13)  
USA Elct RD Actv,  
    Ft Huachuca (2)  
USARSOUTHCOM  
    Sig Agcy (1)  
Sig Fld Maint Shop (3)  
Units org under fol TOE:  
    2 cy ea unit UNOINDC:  
    6-28  
    6-37  
    6-100  
    6-115  
    6-117  
    6-118  
    6-125  
    6-127  
    6-128  
    6-134  
    6-135  
    6-137  
    6-138

6-155	6-565
6-157	6-615
6-165	6-617
6-167	7
6-168	7-11
6-175	7-16
6-177	7-19
6-185	7-31
6-200	7-35
6-204	7-36
6-214	7-45
6-215	7-46
6-225	7-100
6-227	11-7
6-228	11-16
6-285	11-57
6-300	11-97
6-315	11-98
6-317	11-117
6-325	11-155
6-327	11-157
6-328	11-500 (AA-AE) (4)
6-330	11-557
6-345	11-587
6-347	11-592
6-355	11-597
6-357	17
6-358	17-51
6-405	17-55
6-407	17-100
6-415	29-56
6-417	37
6-425	37-100
6-427	39-51
6-435	39-65
6-437	57
6-447	57-100
6-525	

**NG:** State AG (3); units—same as Active Army except allowance is one copy each unit.

**USAR:** None.

**For explanation of abbreviations used, see AR 320-50.**

TM 11-2546  
C 3

CHANGE }  
No. 8 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 18 December 1973

## CONNECTING AND SWITCHING KIT MX-155/GT

TM 11-2546, 8 September 1944, is changed as follows:

Page 1. Paragraph 1.1 is superseded as follows:

### 1.1. Indexes of Publications

a. *DA Pam 310-4*. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7*. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

Paragraph 1.2 is superseded as follows:

### 1.2. Forms and Records

a. *Reports of Maintenance and Unsatisfactory Equipment*. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. *Report of Packaging and Handling Deficiencies*. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army)/NAVSUP PUB 378 (Navy)/AFR 71-4 (Air Force)/and MCO P4080.29 (Marine Corps).

c. *Discrepancy in Shipment Report (DISREP) (SF 361)*. Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army)/NAVSUP PUB 459 (Navy)/AFM 75-34 (Air Force)/and MCO P4610.19 (Marine Corps).

Paragraph 1.3 is added as follows:

### 1.3. Reporting of Equipment Publication Improvements

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 direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-C, Fort Monmouth, NJ 07703.

Page 2. Paragraph 2 is superseded as follows:

## 2. Items Comprising on Operable Equipment

<i>F3N</i>	<i>Qty</i>	<i>Nomenclature, part No., and m/r code</i>
<b>NOTE</b>		
The part number is followed by the applicable 5-digit Federal supply code for manufacturers (FSCM) identified in SB 708-42 and used to identify manufacturer, distributor, or Government agency, etc.		
5905-161-5210	7	Bracket Assembly: For holding reel R-39; SC-D-13617; 80063
5995-164-6471	15	Cord Assembly, Electrical, CX-67/GT; SC-D-13615; 80063
5935-193-9680	7	Jack, Telephone, U-17/GT: Mounts on Spool DR-8 of Reel RL-39; SC-D-1457; 80063
5935-162-1262	1	Panel, Jack, SB-16/GT: Mounted on Executives Officer's half-track for communicating with battery gun sections, Assistant Executive Officer, and adjacent gun battery; SC-D-13616; 80063

Page 22. Appendix II is deleted in its entirety.

By Order of the Secretary of the Army:

**CREIGHTON W. ABRAMS**  
*General, United States Army*  
*Chief of Staff*

Official:

**VERNE L. BOWERS**  
*Major General, United States Army*  
*The Adjutant General*

Distribution:

*Active Army:*

USASA (2)  
CNGB (1)  
ACSC-E (2)  
Dir of Trans (1)  
COE (1)  
TSG (1)

USAARENBD (1)  
USAMB (10)  
AMC (1)  
TRADOC (2)  
ARADCOM (2)  
ARADCOM Egn (2)

OS Maj Comd (4)  
 LOGCOMDS (3)  
 MICOM (2)  
 TECOM (2)  
 USACC (4)  
 MDW (1)  
 Armies (2)  
 Corps (2)  
 HISA (ECOM) (21)  
 Svc Colleges (1)  
 USASESS (5)  
 USAADS (2)  
 USAFAS (2)  
 USAARMS (2)  
 USAIS (2)  
 USAES (2)  
 USAINTS (3)  
 WRAMC (1)  
 USACDCEC (10)  
 ATS (1)  
 Instl (2) except  
     Fort Gordon (10)  
     Fort Huachuca (10)  
     WSMR (1)  
     Fort Carson (5)  
     Ft Richardson (ECOM  
         Ofc) (2)  
 Army Dep (2) except  
     LBAD (14)  
     SAAD (30)  
     TOAD (14)  
     ATAD (10)  
 USA Dep (2)

Sig Sec USA Dep (2)  
 Sig Dep (2)  
 Sig FLDMS (1)  
 USAERDAA (1)  
 USAERDAW (1)  
 MAAAG (1)  
 USARMIS (1)  
 Units org under fol TOE:  
 (1 copy each unit)

6-37	6-525	29-126
6-100	6-615	37
6-115	6-617	37-100
6-117	7	39-51
6-155	7-16	57
6-157	7-15	57-100
6-165	7-35	
6-167	7-36	
6-175	7-45	
6-177	7-46	
6-185	7-100	
6-200	11-16	
6-215	11-97	
6-217	11-98	
6-300	11-117	
6-347	11-158	
6-358	11-500(AA-AC)	
6-405	17	
6-407	17-51	
6-425	17-55	
6-435	17-100	
6-437	29-56	
6-447	29-124	

**NG:** None.

**USAR:** None.

**For explanations of abbreviations used, see AR 310-50.**





**WAR DEPARTMENT TECHNICAL MANUAL**  
**TM 11-2546**

---

**CONNECTING AND  
SWITCHING KIT  
MX-155/GT**

**WAR DEPARTMENT      8 SEPTEMBER 1944**

---

WAR DEPARTMENT,  
WASHINGTON 25, D. C., 8 SEPTEMBER 1944.

TM 11-2546, Connecting and Switching Kit MX-155/GT, is published  
for the information and guidance of all concerned.

[A. G. 300.7 (8 Aug 44).]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,  
*Chief of Staff.*

OFFICIAL:

J. A. ULIO,  
*Major General,  
The Adjutant General.*

DISTRIBUTION:

IBn 6(2); IC 6,11(5).

(For explanation of symbols see FM 21-6.)

# TABLE OF CONTENTS

Section I. Description.	<i>Paragraph</i>	<i>Page</i>
General .....	1	1
List of components of Connecting and Switching Kit MX-155/GT.....	2	2
Cord CX-231/GT.....	3	3
Jack U-17/GT.....	4	3
Jack Panel SB-16/GT.....	5	3
Reel bracket.....	6	4
<b>II. Installation and operation.</b>		
General .....	7	5
Parts of Reel RL-39-( ) required.....	8	5
Disassembly of Reel RL-39-( ) for modification	9	5
Mounting Jack U-17/GT on Spool DR-8-( )..	10	6
Mounting modified Reel RL-39-( ) on reel bracket .....	11	7
Mounting reel bracket to howitzer motor carriage or half-track .....	12	7
Mounting Jack Panel SB-16/GT in executive officer's half-track.....	13	8
Placing Wire W-130 on Spool DR-8-( ) of Reel RL-39-( ) .....	14	8
Procedure for splicing Cord CX-231/GT to Wire W-130 .....	15	9
Connecting Telephone EE-8-( ) to modified reel	16	10
Connecting modified reel to Jack Panel SB-16/GT	17	12
Connecting executive officer's Telephone EE-8-( ) to Jack Panel SB-16/GT.....	18	14
<b>III. Functioning of parts.</b>		
Jack Panel SB-16/GT.....	19	15

## TABLE OF CONTENTS

---

	<i>Paragraph</i>	<i>Page</i>
<b>Section IV. Maintenance.</b>		
General .....	20	17
Lubrication of modified Reel RL-39-( ).....	21	17
Moistureproofing and fungiproofing.....	22	18
<b>V. Supplementary data.</b>		
Maintenance parts list for Connecting and Switch- ing Kit MX-155/GT.....	23	21

## LIST OF ILLUSTRATIONS

---

<i>Fig. No.</i>	<i>Title</i>	<i>Page</i>
1	Components of Connecting and Switching Kit MX-155/GT.....	1
2	Jack Panel SB-16/GT.....	3
3	Parts of Reel RL-39-( ) required.....	6
4	Details of mounting Jack U-17/GT on Spool DR-8-( ).....	7
5	Details of mounting reel on reel bracket.....	8
6	General assembly of modified reel.....	9
7	Mounting reel bracket on gun motor carriage.....	10
8	Mounting reel bracket on half-track.....	11
9	Splicing Cord CX-231/GT to Wire-130.....	12
10	Operational diagram.....	13
11	Jack Panel SB-16/GT, schematic diagram.....	15
12	Jack U-17/GT and Jack Panel SB-16/GT, prepared for moisture-proofing and fungiproofing.....	19

## **DESTRUCTION NOTICE**

**WHY** —To prevent the enemy from using or salvaging this equipment for his benefit.

**WHEN** —When ordered by your commander.

- HOW**
- 1. Smash—Use sledges, axes, handaxes, pickaxes, hammers, crowbars, heavy tools.
  2. Cut—Use axes, handaxes, machetes.
  3. Burn—Use gasoline, kerosene, oil, flame throwers, incendiary grenades.
  4. Explosives—Use firearms, grenades, TNT.
  5. Disposal—Bury in slit trenches, fox holes, other holes.  
Throw in streams. Scatter.

### **USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT.**

- WHAT**
- 1. Smash—Jacks, jack panel, reel brackets, and reels.
  2. Cut—Wires and cords.
  3. Burn—Cords, jack panel, and technical manual.
  4. Bend—Reel brackets and reels.
  5. Bury or scatter—All debris in ground or streams, or other bodies of water.

## **DESTROY EVERYTHING**

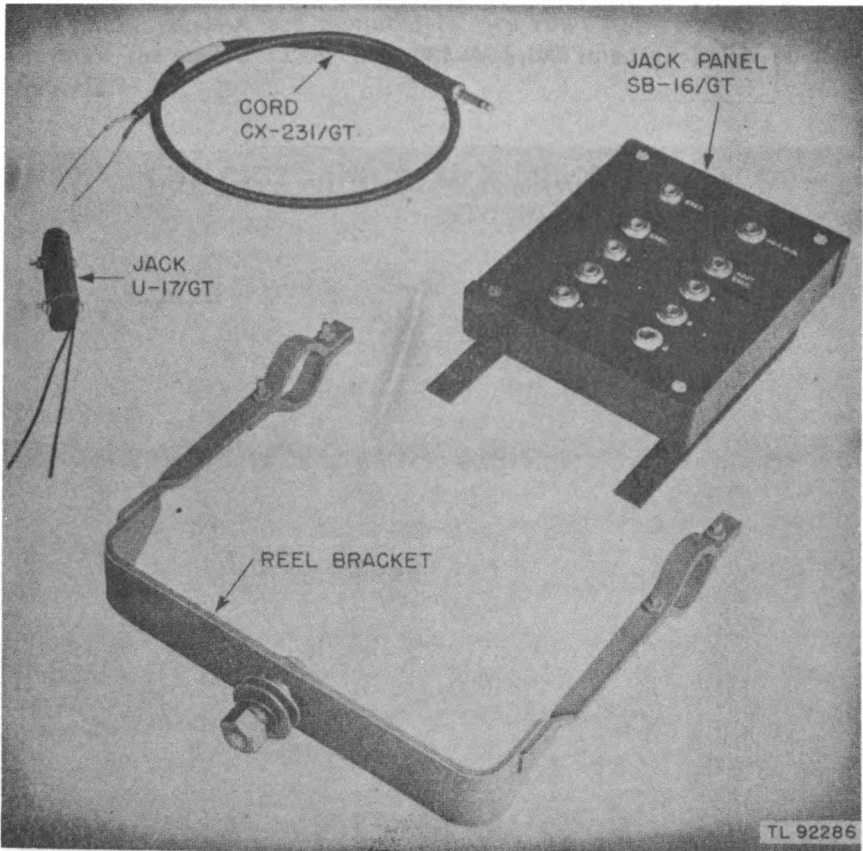
# SECTION I

## DESCRIPTION

---

### 1. GENERAL (fig. 1).

Connecting and Switching Kit MX-155/GT provides a quick and convenient means for establishing individual or conference telephone circuits among the battery executive officer, the battery assistant executive officer, and the six gun sections of an armored field artillery



*Figure 1. Components of Connecting and Switching Kit MX-155/GT.*

battery, when used with telephone, reel, and line wire equipment already issued to such batteries. It also provides means for communication between the battery executive officer and the executive officer of an adjacent gun battery. The kit is intended to equip a battery of 6 Carriages, motor, 105-mm howitzer, M7 (one for each gun section), and 2 Carriers, personnel, half-tracks M3A1 (one for the assistant executive officer and the other for the executive officer). It is convenient to assemble and consists of a sufficient quantity of cordage, plugs, jacks, a jack panel, and metal reel brackets for modifying and supporting reel equipment already issued. Connecting and Switching Kit MX-155/GT is used in conjunction with the following equipment already issued to the battery :

- a. Telephones EE-8- ( ).
- b. Head and Chest Sets HS-19 or equal.
- c. Reels RL-39- ( ).
- d.  $\frac{1}{4}$ -mile lengths of Wire W-130.

## 2. LIST OF COMPONENTS OF CONNECTING AND SWITCHING KIT MX-155/GT.

<i>Quantity</i>	<i>Name of part</i>
15	Cords CX-231/GT.
7	Jacks U-17/GT.
1	Jack Panel SB-16/GT.
7	Reel brackets.
1 set	Spare parts as follows :
3	Bolts, $\frac{1}{2}$ ".
3	Cords CX-231/GT.
3	Jacks JK-34-A.
2	Jacks U-17/GT.
3	Nuts, hex., std, for $\frac{1}{2}$ -inch bolt.
12	Nuts, hex., std, for No. 10 screw.
12	Screws, machine, roundhead, 10-32 x $\frac{3}{4}$ ".
12	Screws, machine, flathead, 8-32 x $\frac{1}{4}$ ".
3	Lockwashers SAE, reg, for $\frac{1}{2}$ " bolt.
12	Lockwashers SAE, reg, for No. 10 screw.
3	Bushings, for $\frac{1}{2}$ " bolt.
9	Washers, std, for $\frac{1}{2}$ " bolt.



### 3. CORD CX-231/GT.

Cord CX-231/GT consists of 36 inches of 2-conductor Cordage CO-144 terminating at one end in Plug PL-55 for connection to Jack U-17/GT or Jack Panel SB-16/GT, and bared 3 inches at the other end for connection to field wire.

### 4. JACK U-17/GT.

Jack U-17/GT is a double jack used to engage two Plugs PL-55. The jack mounts on Spool DR-8-( ) of Reel RL-39-( ) and, through the hook-up wire soldered to it, connects the jack with the binding posts on Spool DR-8-( ).

### 5. JACK PANEL SB-16/GT (fig. 2).

Jack Panel SB-16/GT is a metal panel with two brackets welded to the panel box for convenient attachment to a side wall or rear door of the executive officer's half-track without the use of tools. Ten Jacks JK-34-A are mounted in two rows of five each on the front of the panel. They are arranged and marked as shown in figure 2.

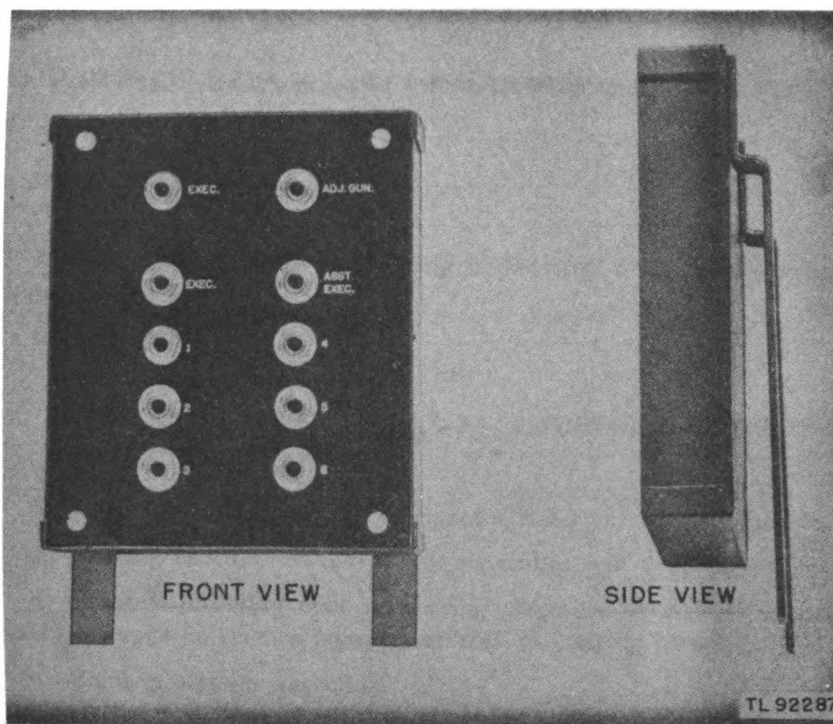


Figure 2. Jack Panel SB-16/GT.

## **6. REEL BRACKET.**

The reel bracket provides a means of mounting Reel RL-39-( ) to either the howitzer motor carriage or the assistant executive officer's half-track. It consists of a steel frame, clamps, and bolt. The reel bearing assemblies fit into the holes formed by the clamps and the frame. The bolt mounts the reel bracket to the carrier. The reel bracket provides a swivel mounting for the reel spool, permitting field wire to be drawn out freely in any direction.

## **SECTION II**

### **INSTALLATION AND OPERATION**

---

#### **7. GENERAL.**

The purpose of Connecting and Switching Kit MX-155/GT is described in paragraph 1. To use Connecting and Switching Kit MX-155/GT, Reel RL-39-( ) must be modified to accept Jack U-17/GT and to be mounted on the reel bracket. The reel bracket with the modified reel attached must be mounted to the howitzer motor carriage or the assistant executive officer's half-track. Provision then must be made for connecting the gun section commander, the assistant executive officer, and the adjacent battery executive officer with the battery executive officer.

#### **8. PARTS OF REEL RL-39-( ) REQUIRED (fig. 3).**

- a. Spool DR-8-( ).
- b. Cotter pin.
- c. Axle and handle.
- d. Bearing assemblies (consisting of bearings and bearing bushings).
- e. Connector M-221.

#### **9. DISASSEMBLY OF REEL RL-39-( ) FOR MODIFICATION.**

- a. Remove cotter pin.
- b. Remove axle from drum of Spool DR-8-( ).
- c. Bearing assemblies and handle assembly will drop out.
- d. Remove retaining disk on bearing assembly by removing four flathead machine screws from inner side of bearing bushing.
- e. Remove handle assembly.
- f. Replace retaining disk on bearing bushing and reassemble the bearing assemblies.

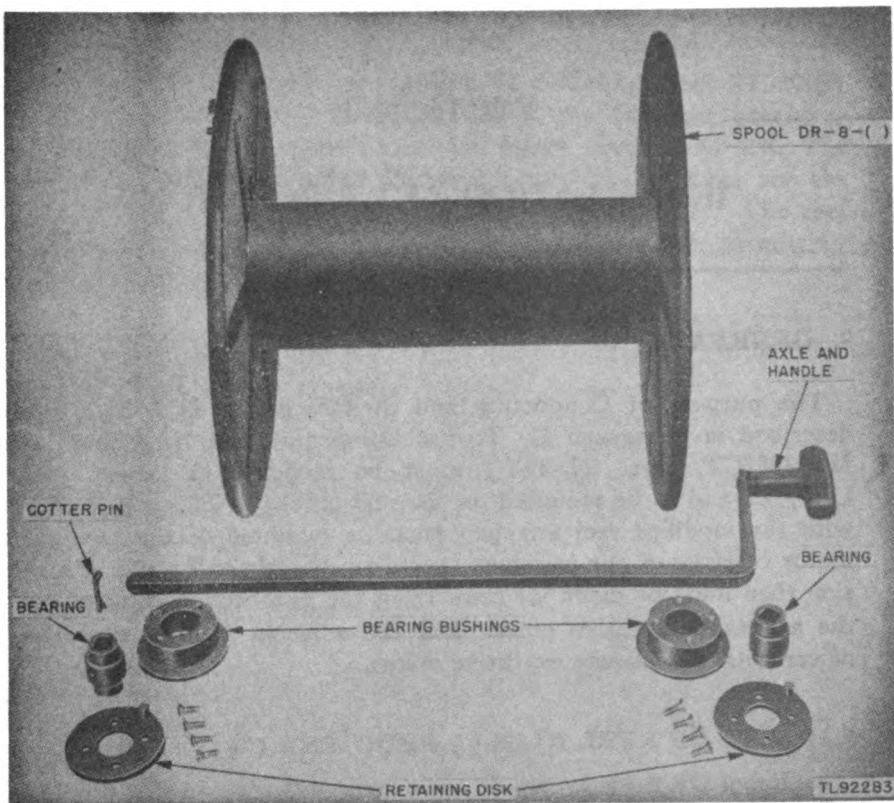


Figure 3. Parts of Reel RL-39-() required.

#### 10. MOUNTING JACK U-17/GT ON SPOOL DR-8-().

- a. Using a No. 24 drill, drill two holes on Spool DR-8-() in positions shown in figure 4.
- b. Cut off portion of spool flange as indicated in figure 4.
- c. Place two screws furnished with Jack U-17/GT into holes drilled in side of spool. The screw heads must be on the inner side of the spool.
- d. Mount Jack U-17/GT on the two screws keeping the jack holes on the top.
- e. Place lockwashers and nuts on end of screws and tighten.
- f. Connect leads from Jack U-17/GT to binding posts on Connector M-221.

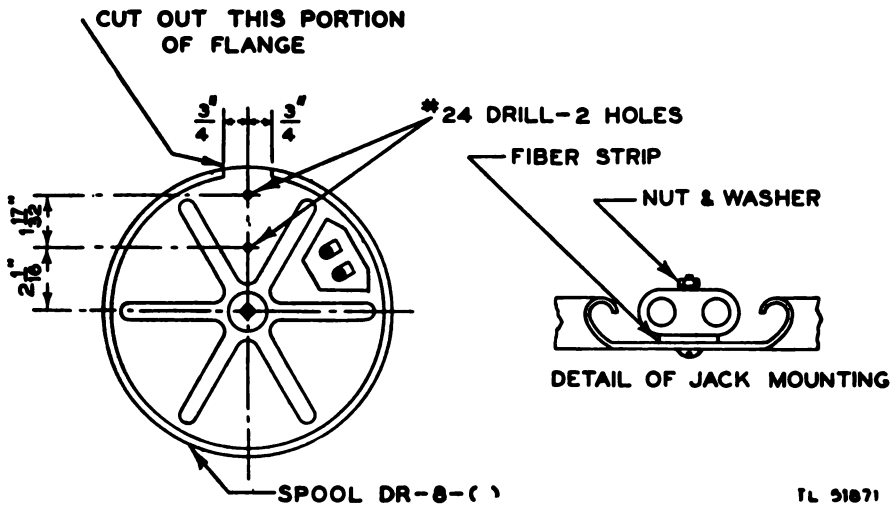


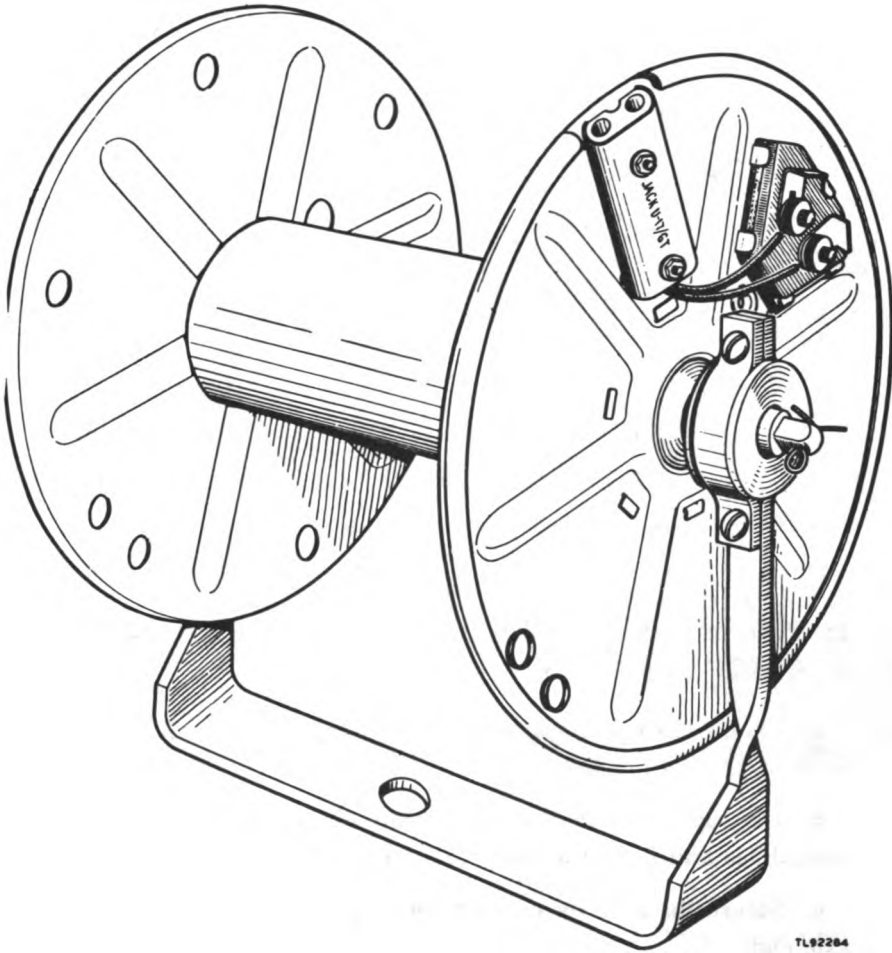
Figure 4. Details of mounting Jack U-17/GT on Spool DR-8-().

## 11. MOUNTING MODIFIED REEL RL-39-() ON REEL BRACKET (figs. 5 and 6).

- a. Clamp the bearing assemblies of Reel RL-39-() in the clamp arms of the reel bracket.
- b. Line up the holes in the reel drum with the holes in the bearing assemblies and push the axle through the drum.
- c. Secure the axle by putting cotter pin through the hole in the axle end.

## 12. MOUNTING REEL BRACKET TO HOWITZER MOTOR CARRIAGE OR HALF-TRACK.

- a. Using a 17/32-inch drill, drill a hole in the vehicle in the position indicated in figures 7 and 8.
- b. Place the hole in the base of the reel bracket over the hole drilled in the vehicle.
- c. Bolt the reel bracket to the vehicle as shown in detail in figures 7 and 8.



*Figure 5. Details of mounting reel on reel bracket.*

**13. MOUNTING JACK PANEL SB-16/GT IN EXECUTIVE OFFICER'S HALF-TRACK.**

Hang Jack Panel SB-16/GT on any suitable place in the executive officer's half-track by means of the clips provided on the rear of the panel box.

**14. PLACING WIRE W-130 ON SPOOL DR-8( ) OF REEL RL-39( ).**

Connect the spool end of the wire to the binding posts on Connector M-221 of Spool DR-8( ). To do this, insert the end of the

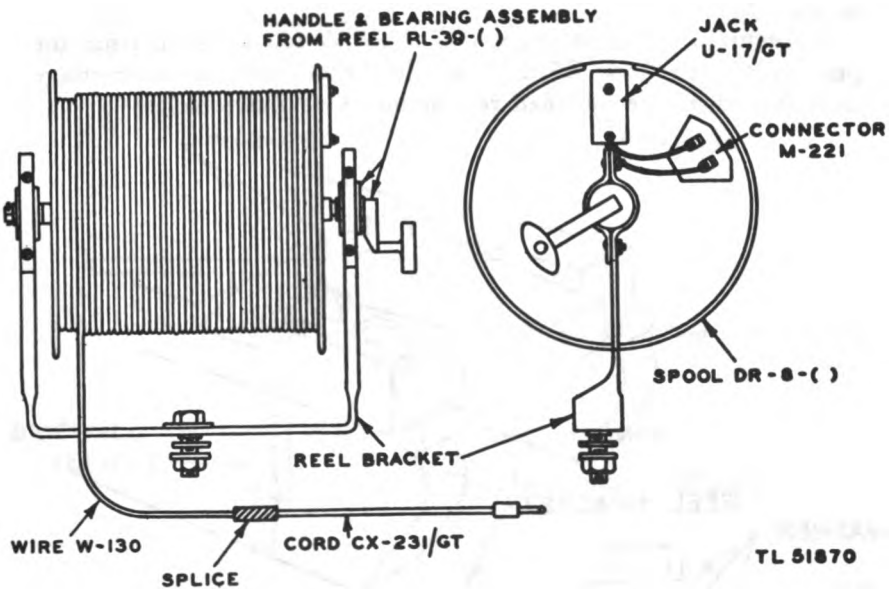


Figure 6. General assembly of modified reel.

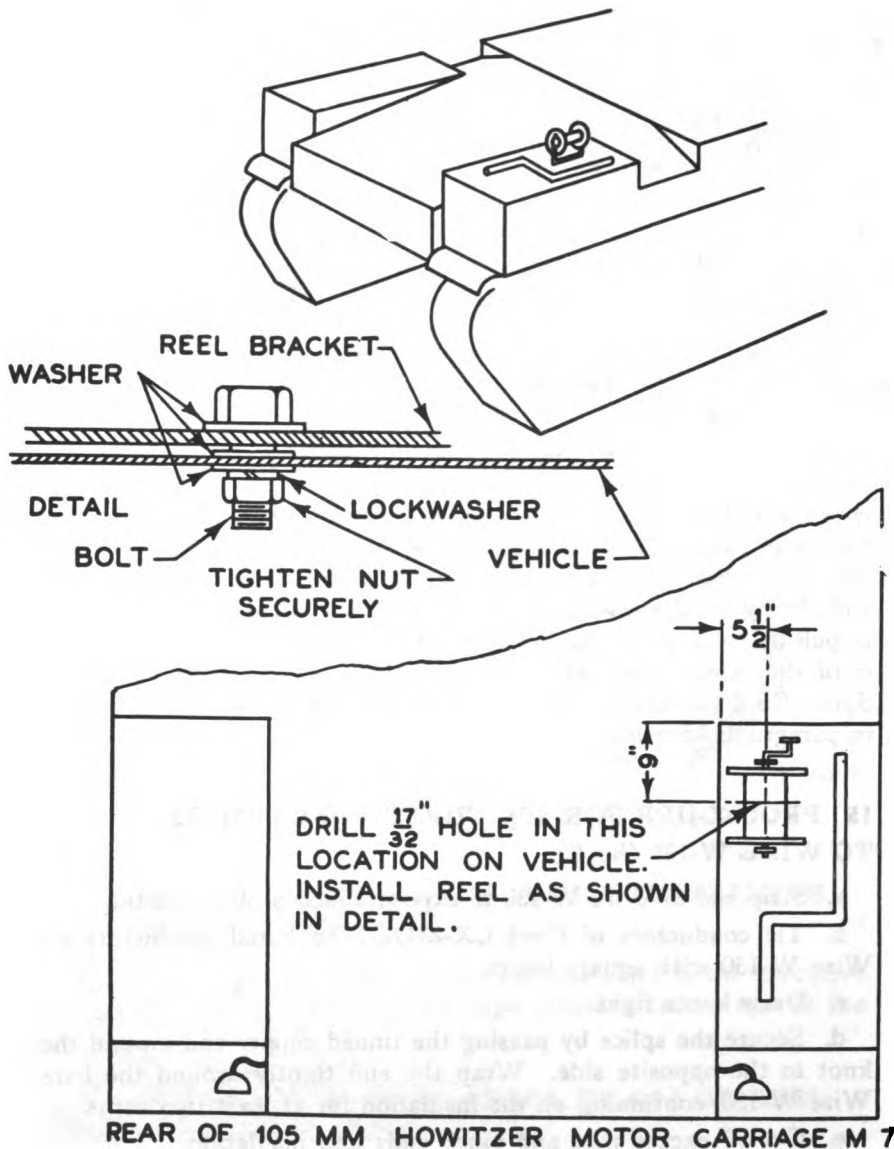
wire through the rubber bushing directly below the binding posts on the spool flange and remove about  $\frac{3}{4}$ -inch of the insulation. Connect the bare wire ends to the terminals by means of the thumbnuts and slowly wind a few turns of wire onto the spool. Be careful not to pull the wire out of the binding posts. Continue to turn the handle until the desired amount of wire has been wound onto the spool. Splice Cord CX-231/GT to the running end of the wire as described in paragraph 15 below.

#### 15. PROCEDURE FOR SPLICING CORD CX-231/GT TO WIRE W-130 (fig. 9).

- a. Strip end of Wire W-130 to expose 3 inches of conductor.
- b. Tie conductors of Cord CX-231/GT to bared conductors on Wire W-130 with square knots.
- c. Draw knots tight.
- d. Secure the splice by passing the tinned copper end around the knot to the opposite side. Wrap the end tightly around the bare Wire W-130, continuing on the insulation for at least two turns.
- e. Cut off excess wire and pinch ends into insulation.
- f. Tape each splice.

**16. CONNECTING TELEPHONE EE-8(-) TO MODIFIED REEL (fig. 10).**

- a. Secure a sufficient amount of Wire W-130 to reach from the position of Telephone EE-8(-) within the howitzer motor carriage or half-track to the modified reel mounted on the vehicle.

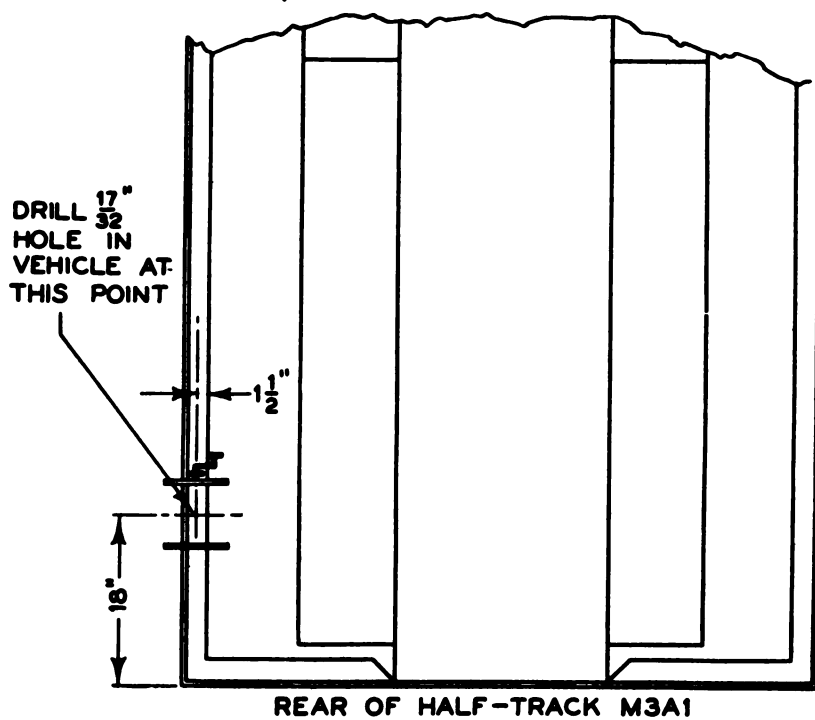
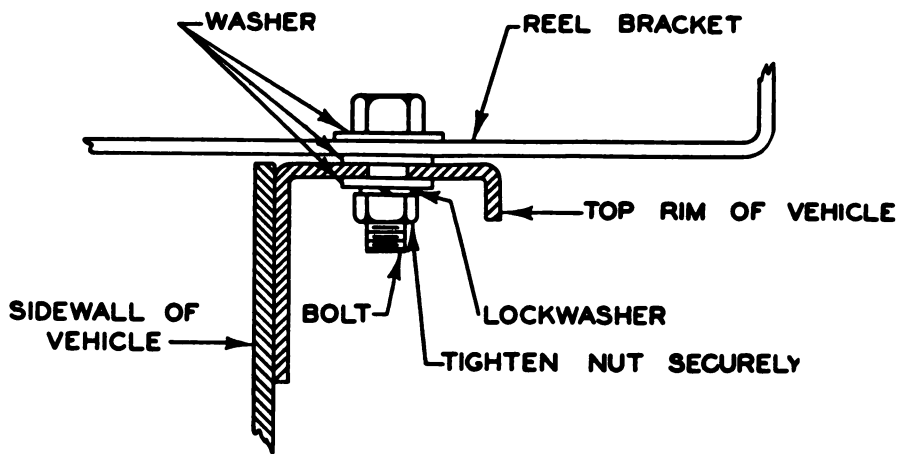


TL 51873

Figure 7. Mounting reel bracket on gun motor carriage.



- b. Bare 3 inches of each conductor at each end of Wire W-130.
- c. Connect the bare conductors of one end of Wire W-130 to the L1 and L2 terminals on Telephone EE-8-().

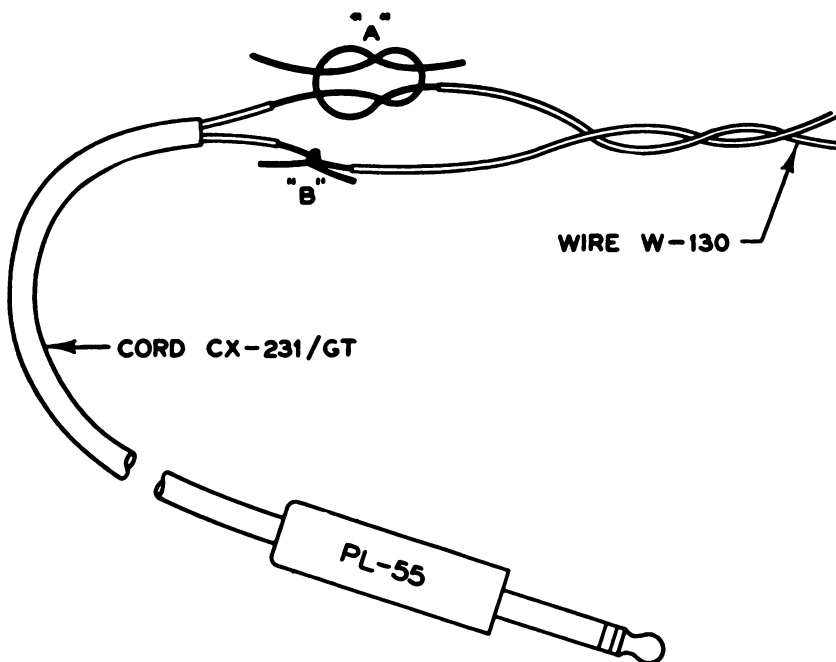


TL 51866

REAR OF HALF-TRACK M3A1

TL51872

Figure 8. Mounting reel bracket on half-track.



#### **PROCEDURE**

1. STRIP WIRE W-130 TO EXPOSE 3 INCHES OF CONDUCTOR
2. TIE CONDUCTOR OF WIRE TO CONDUCTOR OF CORD CX-231/GT AS SHOWN AT "A".
3. DRAW KNOT TIGHT AS SHOWN AT "B".
4. TAPE EACH SPLICE.

*Figure 9. Splicing Cord CX-231/GT to Wire W-130.*

d. Splice Cord CX-231/GT to the other end of Wire W-130 as described in paragraph 15. Insert the plug of Cord CX-231/GT into Jack U-17/GT mounted on modified Reel RL-39-( ).

#### **17. CONNECTING MODIFIED REEL TO JACK PANEL SB-16/GT.**

Insert Plug PL-55 of Cord CX-231/GT, which is spliced to the running end of the wire mounted on modified Reel RL-39-( ), into the proper jack hole on Jack Panel SB-16/GT.

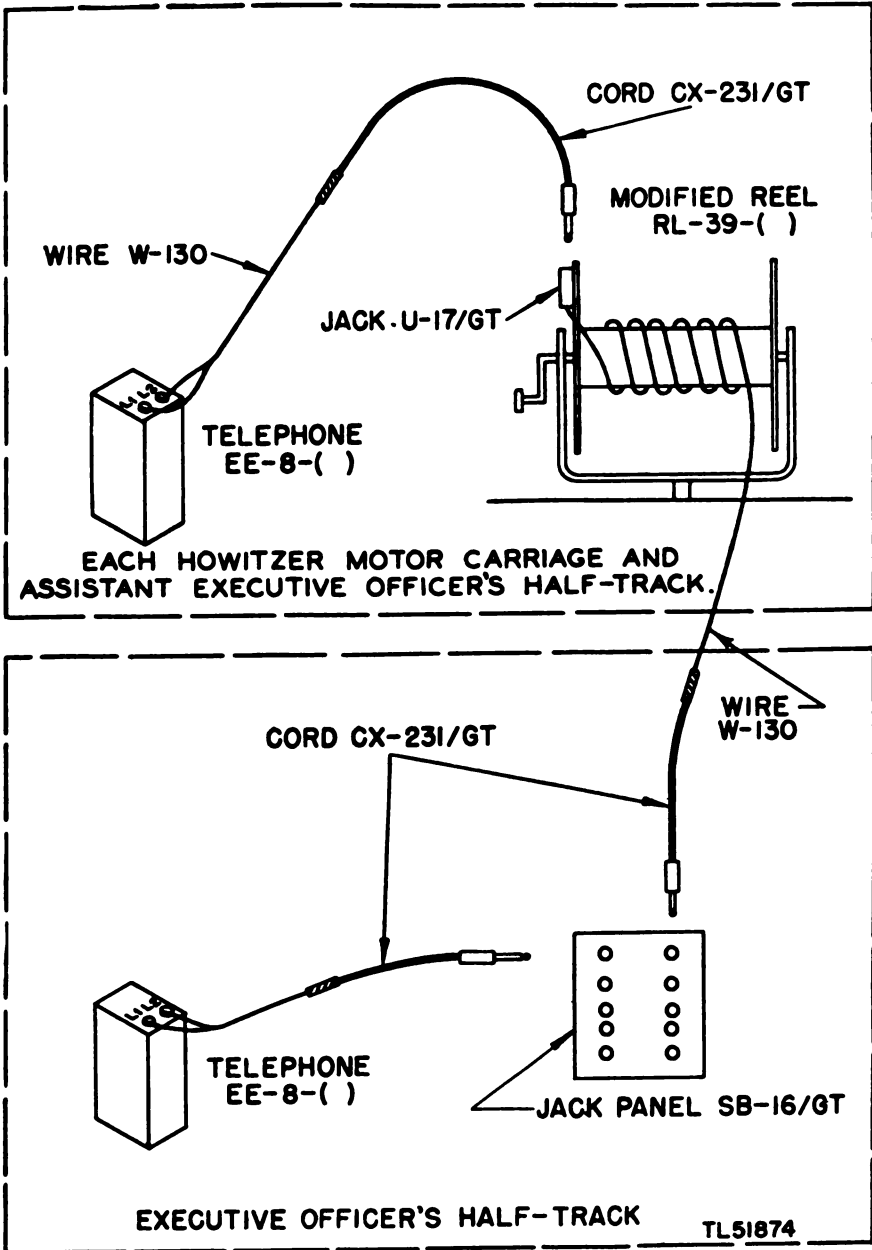


Figure 10. Operational diagram.

**18. CONNECTING EXECUTIVE OFFICER'S TELEPHONE  
EE-8( ) TO JACK PANEL SB-16/GT.**

a. Secure sufficient Wire W-130 to reach from the executive officer's Telephone EE-8( ) within the half-track to Jack Panel SB-16/GT.

b. Proceed as described in paragraph 16b and c.

c. Splice Cord CX-231/GT to the other end of Wire W-130 as described in paragraph 15. Insert the plug of Cord CX-231/GT into the EXEC. jack of Jack Panel SB-16/GT.

**NOTE:** The procedure outlined in paragraphs 9, 10, 11, 12, 14, 15, 16 and 17 should be followed by each gun section and by the assistant executive officer so that all gun crews involved can be brought into telephone communication with the battery executive officer.

## SECTION III

### FUNCTIONING OF PARTS

---

#### 19. JACK PANEL SB-16/GT (figs. 2 and 11).

a. Jack Panel SB-16/GT consists of 10 Jacks JK-34-A arranged in two separate circuits. The two Jacks JK-34-A on the panel labeled ADJ. GUN. and EXEC. are wired in parallel and have no electrical connection to the other eight Jacks JK-34-A. The other eight jacks labeled ASST. EXEC., EXEC., and numbered 1 to 6 make up the gun battery circuit and are wired in parallel also.

b. When Cords CX-231/GT are plugged into the two jacks in the smaller circuit (ADJ. GUN. and EXEC.), signals can be carried between the adjacent gun battery and the battery executive officer.

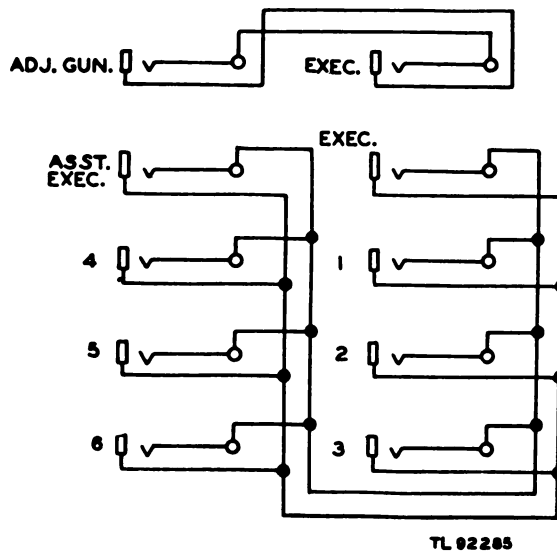


Figure 11. Jack Panel SB-16/GT, schematic diagram.

c. In the gun battery circuit, with Cords CX-231/GT plugged into the EXEC. jack and any or all of the other seven jacks, the signals from the battery executive officer can be simultaneously carried to all others plugged in.

d. Power for these circuits is furnished by the Batteries BA-30 in Telephones EE-8-( ) used by operating personnel.

## SECTION IV

### MAINTENANCE

Note: Failure or unsatisfactory performance of equipment will be reported on W.D., A.G.O. Form 468. If this form is not available, see TM 38-250.

---

#### 20. GENERAL.

Prior to each time that the equipment is to be used take care to insure that parts are mounted securely.

- a. Tighten nuts on the bolts mounting Jack U-17/GT to Spool DR-8-().
- b. Tighten reel bracket clamps around the bearing assemblies on modified Reel RL-39-().
- c. Tighten nut on the bolt mounting reel bracket to vehicle.

#### 21. LUBRICATION OF MODIFIED REEL RL-39-().

##### a. Recommended Lubricants.

<i>Approved symbol</i>	<i>Standard nomenclature</i>	<i>Specification No.</i>
SD	Solvent, Dry Cleaning.	Federal P-S-661a.
OE	Oil, Engine, SAE No. 30.	U. S. Army 2-104B.

Note: Army Regulation 850-20 prohibits the use of leaded gasoline as a cleaning fluid under any condition.

b. **General.** A few drops of engine oil SAE No. 30 (OE) should be placed monthly in the small oil fittings in each bearing assembly and in the oil hole of the crank handle.

c. **Cleaning Bearing Assemblies.** To clean the bearing bushing and bearing remove the axle from the spool and unscrew the four flathead machine screws on the inner side of each bearing bushing.

The retaining disk can then be removed and the bearing bushing and bearing made accessible for cleaning with dry cleaning solvent (SD) and a piece of cotton waste. When reassembling the bearing and bearing bushing make sure that the sides containing the machine screws are facing each other, with the oil cups on the outside. Put a few drops of engine oil SAE No. 30 (OE) in each oil cup after the unit has been completely reassembled.

## **22. MOISTUREPROOFING AND FUNGIPROOFING (fig. 12).**

**a. General.** The operation of Signal Corps equipment in tropical areas where temperature and relative humidity are extremely high requires special attention. The following items represent problems which may be encountered in operation.

(1) Hook-up wire and cable insulation break down. Fungus growth accelerates deterioration.

(2) Moisture forms electrical leakage paths on terminal boards and insulating strips, causing flash-overs and crosstalks.

**b. Treatment.** A moistureproofing and fungiproofing treatment has been devised which, if properly applied, provides a reasonable degree of protection against fungus growth, insects, corrosion, salt spray, and moisture. The treatment involves the use of a moisture- and fungi-resistant varnish applied with a spray gun or brush. Refer to TB SIG 13, Moistureproofing and Fungiproofing Signal Corps Equipment, for a detailed description of the varnish-spray method of moistureproofing and fungiproofing.

**CAUTION:** Varnish spray may have toxic effects if inhaled. To avoid inhaling spray, use respirator if available; otherwise fasten cheesecloth or other cloth material over nose and mouth.

**c. Step-by-step Instructions for Treating Connecting and Switching Kit MX-155/GT.**

### **(1) PREPARATION.**

(a) Make all repairs and adjustments necessary for proper operation to the parts of the kit.

(b) Clean all dirt, dust, rust, fungus, oil, grease, etc., from all parts of the kit.

### **(2) DISASSEMBLY.**

(a) Unscrew the four flathead screws and remove the phenolic panel from the steel box of Jack Panel SB-16/GT.

(b) Unscrew the shell of Plug PL-55 and slip it back over the cordage part of Cord CX-231/GT.

(c) Remove two mounting nuts and bolts from Jack U-17/GT.



Unscrew the four cover-plate screws and slide the cover off the jack. Remove the fiber strip.

**(3) MASKING.**

(a) Mask the contact springs of Jacks JK-34-A on the Jack Panel SB-16/GT. On the back of the panel mask the hole in the sleeve of each Jack JK-34-A.

(b) Mask the contact points on the two contact springs of Jack U-17/GT. Mask the two sleeve holes in the body of Jack U-17/GT.

(c) No masking of Cord CX-231/GT is necessary.

**(4) DRYING.** Place the panel of Jack Panel SB-16/GT, Plug PL-55, and Jack U-17/GT in an oven or under heat lamps and dry for 2 to 3 hours at 160°F.

**(5) VARNISHING.**

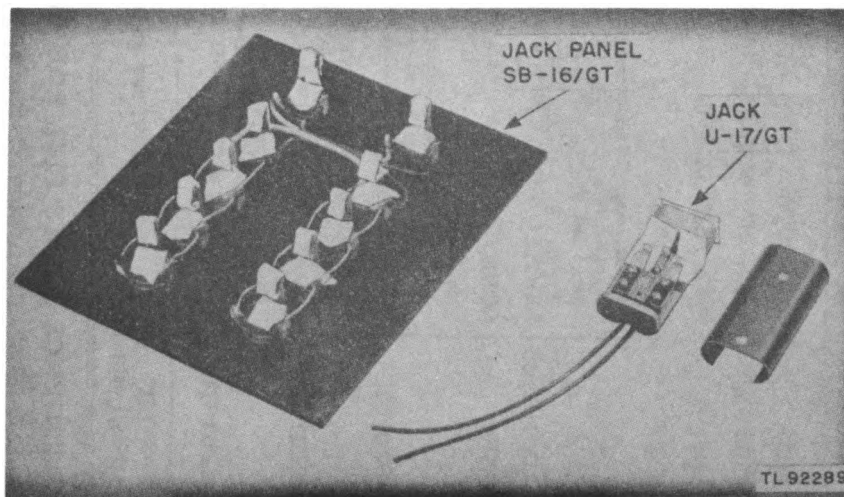
(a) Apply three coats of Lacquer, Fungus-resistant, Spec. No. 71-2202 (Stock No. 6G1005.3) or equal.

(b) With a spray gun, spray all surfaces exposed on the back of the phenolic panel of Jack Panel SB-16/GT.

(c) Use a brush to apply varnish to the edges of the phenolic panel.

(d) With a small brush apply varnish to terminals and wires inside Plug PL-55.

(e) With a small brush apply varnish to all exposed surfaces inside Jack U-17/GT.



*Figure 12. Jack U-17/GT and Jack Panel SB-16/GT, prepared for moisture-proofing and fungiproofing.*

(f) Do not treat steel box of Jack Panel SB-16/GT, cover plate of Jack U-17/GT, or shell of Plug PL-55.

**(6) REASSEMBLY.**

(a) Remove all masking tape.

(b) Clean all contacts with varnish remover, and burnish the contacts.

(c) Reassemble the parts of the kit and test its operation.

**(7) MARKING.** Mark the equipment with MFP and the date of treatment.

**EXAMPLE:** MFP—11 August 1944.

## SECTION V SUPPLEMENTARY DATA

### 23. MAINTENANCE PARTS LIST FOR CONNECTING AND SWITCHING KIT MX-155/GT.

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
(Fig. 1)	4C5325-155/B2	BUSHING: bearing; steel; 1/2" ID, 5/8" OD x 7/32" long; parkerized; (used with bracket mtg bolt); G. S. Alverson Co.	7	3		*	*	*	*
(Fig. 1)	4C5325-155/C1	CLAMP: steel; 7/16" x 3-3/4" x 3/16" overall; two 0.204" diam holes in 2-3/8" centers; (holds reel in bracket).	14					*	*
(Fig. 1)	3E6000-231	CORD CX-231/GT: 2-conductor; 32" long; Cordage CO-144; complete with Plug PL-55 on one end, other end stripped 3"; (connects circuit).	15	3	*	*		*	*
(Fig. 1)	3E2144	CORDAGE CO-144.				*	*		*
(Fig. 1)	4C5325-155/F1	FRAME: reel bracket; steel; 9-15/32" x 8-7/8"; four 0.204" holes on 2-3/8" centers; one 21/32" mtg hole in center; cross member 3/16" x 1-1/2"; legs 3/16" x 7/16"; bonderized; (mounts reel).	7			*	*	*	*
(Fig. 2)	2Z5534A	JACK JK-34-A.	10	3		*	*	*	*
(Fig. 1)	2Z5565-17	JACK U-17/GT.	7	2	*	*	*	*	*
(Fig. 1)	6L3508-13Z	NUT: hex; steel; 1/2"; (mounts bracket).	7	3		*	*	*	*
	2Z7155	PLUG PL-55.				*	*	*	*

**N 23. MAINTENANCE PARTS LIST FOR CONNECTING AND SWITCHING KIT MX-155/GT. (Contd.)**

Ref symbol	Signal Corps stock No.	Name of part and description	Quan per unit	Run-ning spares	Orgn stock	3d ech	4th ech	5th ech	Depot stock
(Fig. 1)	6L6832-4P	SCREW: machine; steel; FH; parkerized; No. 8-32 x 1/4"; (mounts jack panel).	4	12		*	*	*	*
(Fig. 6)	6L608-1.8PH	SCREW: cap; hex. head; cold-steel; 1/2"-13 x 1-3/4"; parkerized; (mounts reel bracket).	7	3		*	*	*	*
	6L58018P	WASHER: flat; steel; 9/16" ID x 1-3/8" OD x 7/64" thick; parkerized; (for 1/2" bolt).	21	9		*	*	*	*
	6L71109P	WASHER: lock; steel; 9/16"; parkerized; (for 1/2" bolt).	7	3		*	*	*	*







