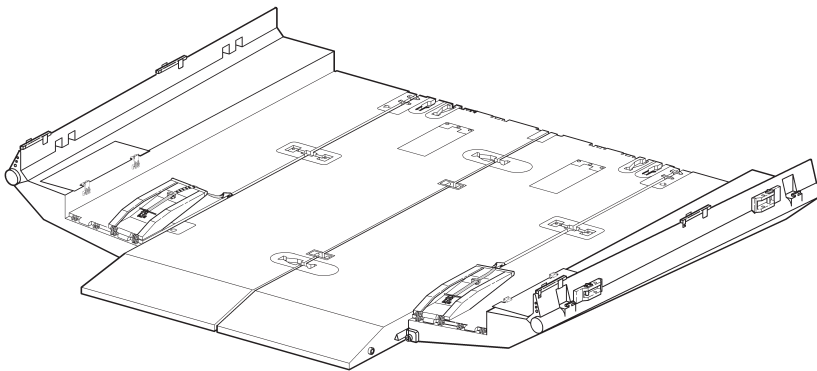
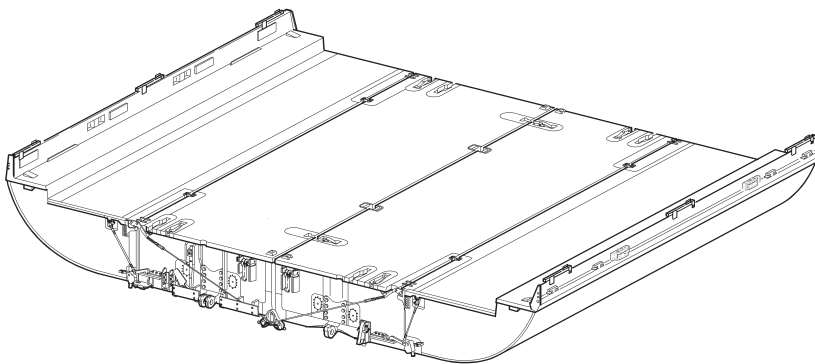


**UNIT, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST)
FOR
IMPROVED RIBBON BRIDGE (IRB)**



**RAMP BAY M16
NSN 5420-01-470-5825
P/N 12478918 EIC: XMT**



**INTERIOR BAY M17
NSN 5420-01-470-5824
P/N 12478919 EIC: XMS**

HOW TO USE THIS MANUAL

GENERAL INFORMATION

**CHAPTER 1
DESCRIPTION AND THEORY
OF OPERATION**

**CHAPTER 2
UNIT TROUBLESHOOTING**

**CHAPTER 3
UNIT MAINTENANCE
INSTRUCTIONS**

**CHAPTER 4
DIRECT SUPPORT
TROUBLESHOOTING**

**CHAPTER 5
DIRECT SUPPORT MAINTENANCE
INSTRUCTIONS**

**CHAPTER 6
GENERAL SUPPORT
MAINTENANCE INSTRUCTIONS**

**CHAPTER 7
GENERAL MAINTENANCE**

**CHAPTER 8
SHIPMENT AND LIMITED STORAGE**

**CHAPTER 9
SUPPORTING INFORMATION**

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 2003

TM 5-5420-278-24&P

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 8 April 2003

TECHNICAL MANUAL
UNIT, DIRECT SUPPORT, AND GENERAL
SUPPORT MAINTENANCE
FOR
IMPROVED RIBBON BRIDGE (IRB)

IRB	MODEL	NSN	P/N	EIC
Ramp Bay	M16	5420-01-470-5825	12478918	XMT
Interior Bay	M17	5420-01-470-5824	12478919	XMS

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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HOW TO USE THIS MANUAL

ABOUT YOUR MANUAL

Maintenance personnel shall familiarize themselves with the format and use of this Technical Manual (TM) prior to performing equipment maintenance and repair. Learning how to use this manual will enable personnel to quickly locate information, gain proper knowledge of the equipment and shorten the time necessary to complete the required procedure.

The basic features of this TM are:

- a. Work Package Format** – This TM is organized in Work Packages (WP). Each WP is an independent, stand alone data unit. The subject title of each WP is assigned a six digit sequence number. The first four digits of the sequence number identify the WP, and WPs are positioned in the TM in numerical order using the same four digits. The fifth and sixth digits of the sequence number are reserved for numbering WPs added to the TM as part of a future revision. Each WP is page numbered consecutively, after the sequence number, at the bottom of each page. A WP may contain as many as thirty pages.
- b. Text Design** – WP titles and sequence numbers are listed in the Table of Contents, at the beginning of each chapter and section, and in the index. The index is organized by subject, in alphabetical order, with WP sequence and page numbers provided. Task steps and figure(s) are located side-by-side on facing pages. Lubrication instructions are included with operator's Preventive Maintenance Checks and Services (PMCS).
- c. Use of Illustrations** – Illustrations are presented with exploded views, cut-away views, and individual callouts for identification of components and parts. Callouts are numbered in clockwise order starting at the 11 o'clock position.

HOW TO USE YOUR MANUAL

The format of this manual is designed to make accessing information quick and easy. The following example is intended as a guide and should be reviewed and put to memory before attempting to use this manual. If you have any questions after reviewing the following example, don't hesitate to ask your supervisor.

PROBLEM: You receive a report that states the IRB-I inner ponton leaks water.

SOLUTION: You must find information on ponton leaks in the IRB manual and perform the necessary troubleshooting and maintenance tasks to solve the problem.

NOTE

If you're trying to find information by subject, a subject index can be found at the back of the book.

1. Go to Table of Contents and find Chapter 2. You will find two sections in Chapter 2. Turn to WP 0006 00, Section I. Introduction to Troubleshooting Table of Contents first, then proceed to WP 0007 00 and read the information under "General" in Introduction to Troubleshooting.
2. Go to WP 0008 00, Section II, Unit Troubleshooting Procedures Table of Contents to find the work package number for the appropriate symptom index. In this case, you have a mechanical problem. Turn to WP 0009 00, Mechanical Troubleshooting Symptom Index, and look down the list of malfunctions until you identify the heading for ponton leaking.
3. Go to malfunction no. 4, WP 0010 00-2, Inner or Outer Ponton Leaking, and follow the steps and substeps listed. As you perform step 1a, you discover there are no seals on the bilge plugs. Now you must go to WP 0053 00 as referenced in step 1b.

HOW TO USE THIS MANUAL (Contd)

4. Before beginning WP 0053 00, Bilge/Drain Plug and Inserts Replacement, you must review the entire procedure starting with the INITIAL SETUP. The first page of the work package contains the INITIAL SETUP and is always located on the right-hand page. The INITIAL SETUP provides the maintenance technician with the requirements to perform and complete all tasks included in the work package as follows:
 - a. Test Equipment: All test equipment required to perform the procedure.
 - b. Tools and Special Tools: Those tools required to perform the procedure.
 - c. Materials/Parts: All expendable items, support materials, and mandatory replacement parts required to perform the procedure.
 - d. Personnel Required: The number of personnel required for the procedure if more than one is required.
 - e. References: TMs and other work packages required to complete the procedure that are not listed in the Equipment Condition.
 - f. Equipment Condition: Any special conditions required before the procedure can be started.
 - g. Special Environmental Conditions: Any special environment conditions required.
5. Complete the INITIAL SETUP requirements by going to the appropriate work package references and gathering all information, tools, and parts that are required. Complete all equipment condition requirements as references.
6. Review the entire task prior to performing it. Perform the steps in the order they are listed. Notice that text and illustrations are used together on facing pages, and the exploded views show part location by number as called out in the text.
7. Follow all warnings, cautions, and notes; they provide supplemental information as follows:
 - a. WARNINGS: Indicate conditions, practices, or procedures which must be observed to avoid personnel injury, loss of life, or long-term health hazards.
 - b. CAUTIONS: Indicate conditions, practices, or procedures which must be observed to avoid damage to equipment or destruction of equipment.
 - c. NOTES: Include essential information of special importance, interest, or aid in job performance, which should be remembered and would be otherwise difficult to find or incorporate into the text.
8. Once you have completed bilge plug replacement, return to WP 0010 00, Inner or Outer Ponton Leaking and check for leaks by performing a ponton leak test as noted in step 2b. You may discover there still is a leak in the inner ponton due to structural damage. If this is determined to be the case, step 2a tells you to notify direct support maintenance. This means the repair cannot be performed by unit level maintenance, and you must inform your supervisor of the diagnosis.

**GENERAL INFORMATION
FOR
IMPROVED RIBBON BRIDGE (IRB)**

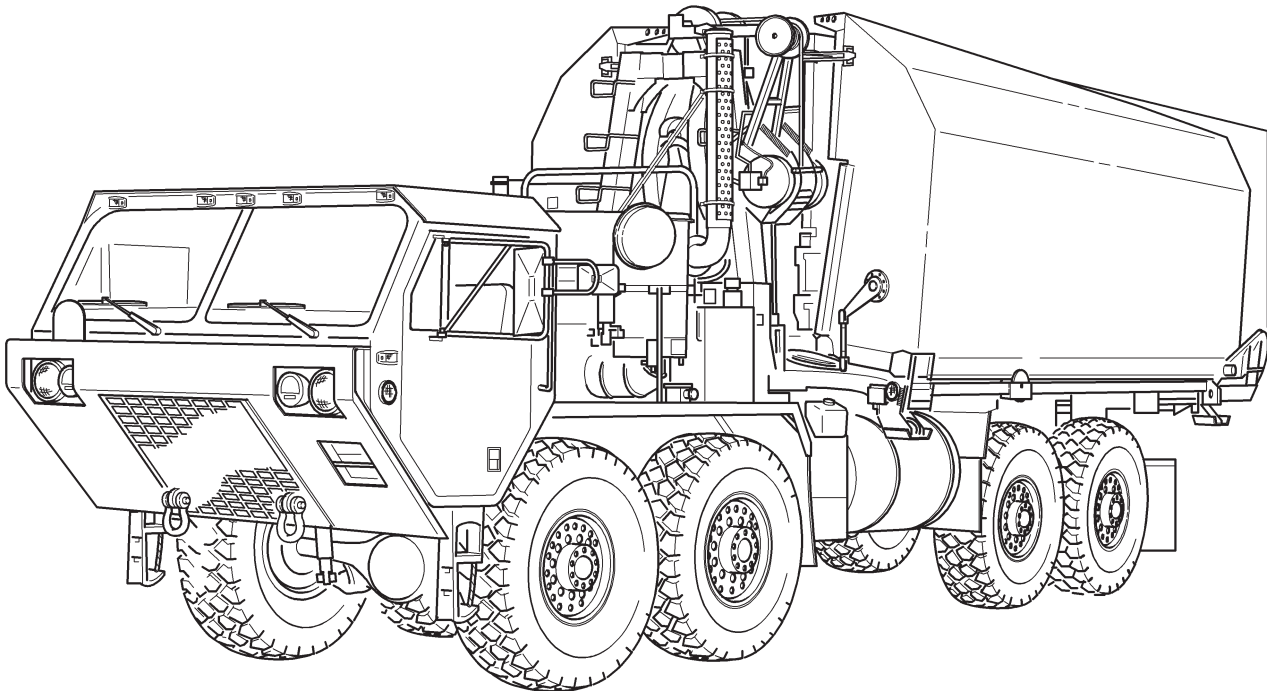
General Information WP 0001 00-1

GENERAL INFORMATION

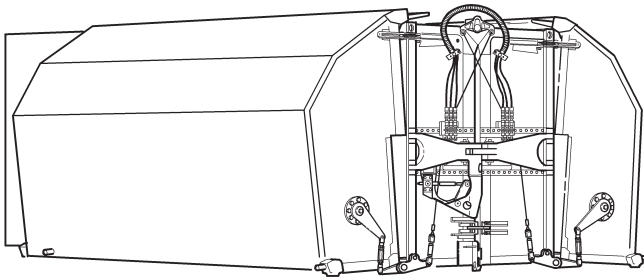
SCOPE

This TM contains instructions for the maintenance and repair of the Improved Ribbon Bridge (IRB). This includes all troubleshooting, maintenance, and repair of components as allocated by the Maintenance Allocation Chart (MAC). This TM does not cover maintenance and repair of M1977 HEMTT Common Bridge Transporter (CBT), Bridge Adapter Pallet (BAP), Improved Boat Cradle (IBC), or Bridge Erection Boat (BEB). Operation and servicing of the IRB and CBT is covered in TM 5-5420-278-10.

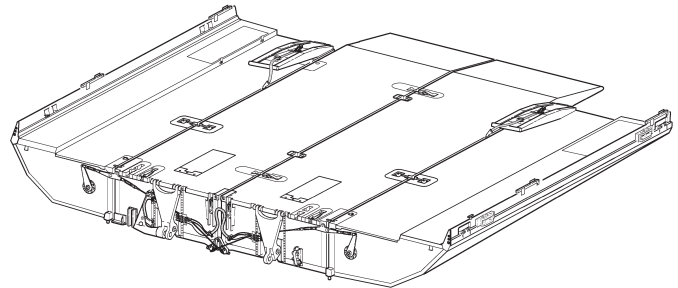
- a. Type of Manual:** Unit, Direct Support, and General Support Maintenance.
- b. Model Number and Equipment Names:** The IRB consists of two major components: the Ramp Bay M16 and the Interior Bay M17.
- c. Purpose of Equipment:** To provide a means to carry military vehicles, equipment, and personnel across a moving body of water in a minimum amount of time, thereby increasing the strategic options for a military convoy. The IRB facilitates U.S. Army task force defensive and offensive maneuvers by supporting operations across wet gap barriers to rapidly cross tactical vehicles.
- d. Special Inclusions:** For operation and maintenance of the basic M977 HEMTT truck chassis, refer to TM 9-2320-279-10, -12, and -20. For maintenance and repair of the CBT and the BAP, refer to TM 5-5420-234-14&P. For operation of the Bridge Erection Boat (BEB), refer to TM 5-1940-277-10. For operation of the Improved Boat Cradle (IBC), refer to TM 5-5420-277-14&P. For training instructions, refer to TC 5-210, Military Float Bridging Equipment and Field Manual 5-34, Engineer Field Data, chapter 7, Bridging. For river crossing instructions, refer to FM 90-13, River Crossing Operations.



RAMP BAY M16 ON CBT, TYPICAL

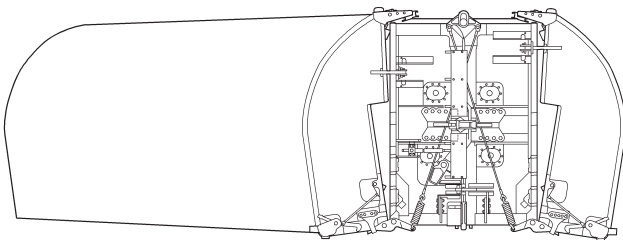


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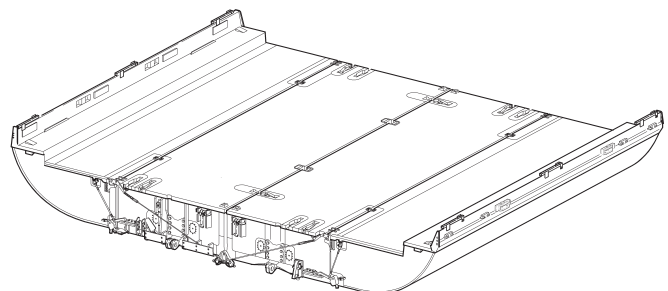


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M16 RAMP BAY



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M17 INTERIOR BAY