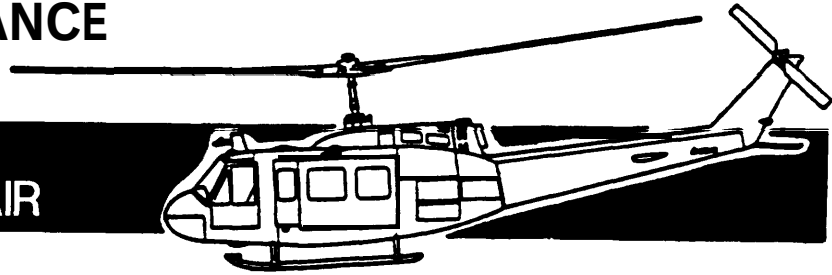

TECHNICAL MANUAL
OPERATORS, AVIATION UNIT.
AND AVIATION
INTERMEDIATE MAINTENANCE

BATTLEFIELD DAMAGE
ASSESSMENT AND REPAIR



FOR
HELICOPTER,
UTILITY,
UH-1H
(1520-00-087-7637)
AND
UH-1V
(1520-01-043-4949)

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CHAPTER 2 ASSESSING BATTLEFIELD DAMAGE

CHAPTER 3 GENERAL REPAIRS

CHAPTER 4 AIRFRAME

CHAPTER 5 ALIGHTING GEAR

CHAPTER 6 POWER PLANT INSTALLATION

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CHAPTER 8 DRIVE TRAIN SYSTEMS

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HEADQUARTERS, DEPARTMENT OF THE ARMY
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DEPARTMENT OF THE ARMY
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BATTLEFIELD DAMAGE ASSESSMENT AND REPAIR FOR
HELICOPTER, UTILITY, UH-1H (1520-00-087-7637) AND
UH-1V (1520-01-043-4949)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedure, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, U.S. Army Aviation Systems Command, ATTN: AMSAV-MC, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

This manual is developed to assist the soldier in a battlefield environment make assessment and repair of damage to the UH-1H/V utility helicopter which cannot, due to asset availability or environmental factors, be repaired in the normal prescribed manner. Within this technical manual, the word shall is used to indicate a mandatory requirement. The word should is used to indicate a nonmandatory but preferred method of accomplishment. The word may is used to indicate an acceptable method of accomplishment.

1. Organization of the Manual. This manual contains a general information chapter (chapter 1), a general assessment chapter (chapter 2), a general repair chapter (chapter 3), and specific repair chapters (chapters 4 thru 18). It also contains five appendixes, A through F.

2. Chapter 2 is used to assess the helicopter in general and references specific chapters for detailed repair procedures of the major functional groups. The major functional groups correspond with the functional groups of the -23 series manuals that are employed in routine repairs to the helicopter.

3. Chapter 3 contains repairs for equipment which does not fall under one of the standard helicopter functional groups.

4. Each chapter is organized as follows:

a. Section I - Introduction.

- (1) Scope. Purpose of the chapter.
- (2) Assessment Procedures. General assessment Information for the repairs covered therein.
- (3) Repair Procedure Index.

b. Section II - Repair Item. A subsection is included for each repair item covered in that functional group. It contains the following:

- (1) General. About the nature and cause of damage and repair.
- (2) Item and trouble statement with:
 - (a) Limits given.
 - (b) Personnel and time required to effect repairs.
 - (c) Materials and tools needed.
 - (d) Procedural steps to accomplish the repair.
- (3) If more than one method of repair can be used, the various options will be included next.

NOTE

The first option is the preferred choice, the second option is the next preferred, etc. Selection of the option should be the most preferred method possible under the circumstances and with the available materials and manpower.

HOW TO USE THIS MANUAL (Cont)

5. Finding Repairs in this Manual.

a. When the damage is obvious and known, find the functional group chapter of which the damaged item is a part. Turn to the repair procedure index, section I, subparagraph 3, of each chapter to locate the item being repaired. Then turn to the repair section and review each option to find an appropriate fix. Read the entire section for all the options. Select a repair and follow the procedures given to fix the helicopter.

b. When the damage is hidden or unknown, follow the overall assessment procedures provided in chapter 2, and follow the procedures and directions provided.

6. Preparation.

a. Each mechanic/technician shall have read chapters 1 and 2 and become familiar with the repairs and layout of the manual prior to attempting to accomplish BDAR repairs.

b. All warnings, cautions, and safety precautions shall be followed at all times during BDAR procedures so as not to further damage and/or jeopardize either personnel or the equipment during or subsequent to the BDAR action. Ensure all documentation is completed as directed in this manual and by local command.

7. Expendable/Durable Supplies and Materials.

a. Each fix or repair option contains a short listing of materials and tools considered basic to the repair. It is important to note that the expendable materials listed usually cover a wide range for any one item.

Example: MATERIALS/TOOLS REQUIRED:

- Drill with Bit
- Sheet Metal (Items 129-141, App C)
- Rivets (items 94-114, App C)

In this example, sheet metal covers the range of items 129 thru 141 listed in Appendix C. This means that, depending on the circumstances and location of the fix, any one of these metals could be used. Likewise any one of the rivets, items 94 thru 114, may be used to attach the patch plate depending on the application.

b. One of the key points concerning successful BDAR repairs is flexibility. The users of this manual should strive to use the items on hand, provided a safe repair is made. The stringent requirements of normal maintenance may be lifted.

CHAPTER 1

GENERAL INFORMATION

BDAR FIXES SHALL BE USED ONLY IN COMBAT OR FOR TRAINING
AT THE DISCRETION OF THE COMMANDER.
(AUTHORIZED TRAINING FIXES ARE LISTED IN APPENDIX E.)
IN EITHER CASE, DAMAGES SHALL BE REPAIRED BY STANDARD
PROCEDURES AS SOON AS PRACTICABLE.

Section I. INTRODUCTION

1-1. PURPOSE. The purpose of Battlefield Damage Assessment and Repair (BDAR) is to quickly return the disabled helicopter to duty by expeditiously fixing, bypassing, or jury-rigging components to restore the minimum essential systems required for the support of the specific combat mission, or self-recovery. These repairs will be temporary and may not restore full performance capability. Standard repair will be completed as soon as practicable.

1-2. SCOPE.

a. This technical manual (TM) describes BDAR procedures and fixes applicable to UH-1 utility helicopter. These procedures are to be used by crew, operators, aviation unit maintenance (AVUM) teams, and aviation intermediate maintenance (AVIM) support teams.

b. Standard repair techniques for the UH-1 helicopter are included in other technical manuals which are referenced in Appendix A of this TM. If the repairs are more than one page in length, the repairs may only be referenced to the appropriate TM.

c. All possible types of combat damage and failure cannot be predicted, nor are all effective field expedient repairs known. This TM provides guide-

lines for assessing and repairing battlefield failures of UH-1 helicopters and is not intended to be a complete catalog of all possible emergency repairs. The repairs described here will serve as guidelines and will stimulate the experienced mechanic or operator to devise repairs as needed to quickly return equipment to operation in a combat situation.

d. The direct replacement of a piece of equipment by its spare, even under battlefield conditions, is not a BDAR fix and is not covered in this TM. A standard procedure should be performed in preference to a BDAR fix when time and spares are available.

1-3. APPLICATION.

a. The procedures in this manual are designed for battlefield environments. BDAR procedures are only authorized for use in a battlefield environment, and only at the direction of the commander. These fixes are only temporary and are not to be continued after the equipment is out of the battle environment.

b. BDAR techniques are not limited to simple restoration of minimum functional combat capability. If full functional capability can be restored expeditiously with a limited expenditure of time and assets, it should be accomplished.