

**TECHNICAL MANUAL
OPERATORS MANUAL
FOR
ARMY MODEL
AH-1F
ATTACK HELICOPTER**

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HEADQUARTERS, DEPARTMENT OF THE ARMY

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DEPARTMENT OF THE ARMY
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FOR
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AH-1F
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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve these procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-LS-LP, Redstone Arsenal, AL 35898-5000. A reply will be furnished directly to you.

You may also submit your recommended changes by E-mail directly to ls-lp@redstone.army.mil or by fax (256) 842-6546/DSN 788-6546. Instructions for sending an electronic 2028 may be found at the end of this manual immediately preceding the hard copy 2028s.

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CHAPTER 1

INTRODUCTION

2-1. GENERAL.

These instructions are for use by the operator of the AH-1F helicopter.

2-2. WARNING, CAUTIONS, AND NOTES DEFINITION.

Warnings, cautions, and notes are used to emphasize important and critical instructions and are used for the following conditions:

WARNING

An operating procedure, practice, etc., which, if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operating procedure, practice, etc., which, if not strictly observed could result in damage to or destruction of equipment.

NOTE

An operating procedure, condition, etc., which it is essential to highlight.

2-3. DESCRIPTION.

This manual contains the best operating instructions and procedures for the AH-1F helicopter under most circumstances. The observance of limitations, performance and weight balance data provided is mandatory. The observance of procedure is mandatory except when modification is required because of multiple emergencies, adverse weather, terrain, etc. Your flying experience is recognized, and therefore, basic flight principles are not included. **THIS MANUAL SHALL BE CARRIED IN THE HELICOPTER AT ALL TIMES.**

2-4. APPENDIX A. REFERENCES.

Appendix A is a listing of official publications cited within the manual applicable to and available for flight crews.

2-5. APPENDIX B. ABBREVIATIONS AND TERMS.

Appendix B provides a glossary of abbreviations and terms used throughout the text.

2-6. INDEX.

The index lists, in alphabetical order, every titled paragraph, figure and table contained in this manual. Chapters 7 and 7.1 performance data have an additional index within each chapter.

2-7. ARMY AVIATION SAFETY PROGRAM

Reports necessary to comply with the safety program are prescribed in AR 385-40.

2-8. DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE.

For information concerning destruction of Army material to prevent enemy use, refer to TM 750-244-1-5.

2-9. FORMS AND RECORDS.

Army aviators flight record and helicopter maintenance records which are to be used by crewmembers are prescribed in DA PAM 738-751 and TM 55-1500-342-23.

2-10. EXPLANATION OF CHANGE SYMBOLS.

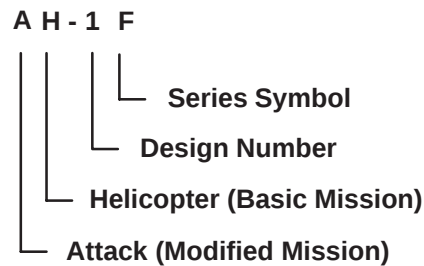
Changes, except as noted below, to the text and tables, including new material on added pages, are indicated by a vertical line in the outer margin extending close to the entire area of the material affected; exception: pages with emergency markings, which consist of black diagonal lines around three edges, may have the vertical line or change symbol placed along the inner margins. Symbols show current changes only. A miniature pointing hand symbol is used to denote a change to an illustration. However, a vertical line in the outer margin, rather than miniature pointing hands, is utilized when there have been extensive changes to an illustration. Change symbols are utilized to indicate changes in the following:

- a. Introductory material.
- b. Indexes and tabular data where the change cannot be identified.
- c. Blank space resulting from the deletion of text, an illustration, or a table.
- d. Correction of minor inaccuracies, such as spelling, punctuation, relocation of material, etc., unless such

correction changes the meaning of instructive information and procedures.

2-11. HELICOPTER DESIGNATION SYSTEM.

The designation system prescribed by AR 70-50 is used in helicopter designations as follows:



2-12. SERIES AND EFFECTIVITY CODES.

Designator symbols are used in conjunction with text contents, text headings and illustration titles to show limited effectivity of the material. One or more designator symbols may follow a text heading or illustration title to indicate proper effectivity, unless the material applies to all series and configurations within the manual. Designator symbol **CN** C-Nite precedes procedural steps in Chapters 4, 8, and 9 and other areas to indicate effectivity. If the material applies to all series and configurations, no designator symbols will be used. Where practical, descriptive information is condensed and combined for all models to avoid duplication.

Designator symbols for different types of main rotor blades are: **B540** for the Bell main rotor blade and **K747** for the Kaman main rotor blade.

2-13. USE OF SHALL, WILL, SHOULD, AND MAY.

Use "shall" whenever it is necessary to express a provision that is binding. Use "should" and "may" whenever it is necessary to express non-mandatory provisions. "Will" may be used to express a declaration of purpose.

CHAPTER 2

HELICOPTER AND SYSTEMS DESCRIPTION AND OPERATION

SECTION I. HELICOPTER

2-1. GENERAL DESCRIPTION.

The AH-1F helicopter is a tandem seat, two place (pilot and gunner), single engine aerial weapon platform.

a. Fuselage. The fuselage (forward section) employs aluminum alloy skins and aluminum, titanium and fiberglass honeycomb panel construction. Honeycomb deck panels and bulkheads attached to two main beams produce a box-beam structure. These beams make up the primary structure and provide support for the cockpit, landing gear, wings, engine, pylon assembly, fuel cells, and tailboom. The nose section incorporates the turret system and telescopic sight unit.

b. Wing. The fixed cantilever wings have a span of 129 inches (including tip) and a mean chord of 30 inches. The wings provide additional lift and support to the wing stores pylon. Each wing has two pylons. The inboard pylons are fixed and the outboard pylons are articulated by hydraulic actuators. An ejector rack is attached to each pylon. Both inboard and outboard pylons will each support 670 pounds of weight.

c. Tailboom. The tailboom (aft section) is a tapered semimonocoque structure attached to the forward section by four bolts. The tailboom supports the cambered fin, tail skid, elevators, tail rotor and tail rotor drive system.

d. Main Rotor Blades.

(1) **B540** The main rotor blades are metal, bonded assemblies. Each blade is attached in the hub with a retaining bolt assembly and is held in alignment by adjustable drag braces.

(2) **K747** The main rotor blades are glass fiber epoxy resin bonded assemblies with a rubber erosion

guard. The skin is basket weave which will not be as smooth as a metal blade. Each blade is attached in the hub with a retaining bolt assembly and is held in alignment by adjustable drag braces.

e. Weight Classification. The weight classification of this helicopter is Class 2. (Refer to Chapter 6.)

f. Controls and Indicators. Refer to applicable system for descriptive information.

2-2. GENERAL ARRANGEMENT.

Figure 2-1 shows the general arrangement of the items which are referred to in the exterior check paragraph of Chapter 8, Section 11.

2-3. PRINCIPAL DIMENSIONS.

Figure 2-2 shows the principal dimensions of the helicopter to the nearest inch.

2-4. TURNING RADIUS.

Figure 2-3 shows the minimum turning radius of the helicopter.

2-5. MAIN DIFFERENCES.

The main differences between the AH-1F and CN is the TSU FLIR Subsystem M65.

2-6. CREW COMPARTMENT DIAGRAMS.

The upper forward portion between the fuselage is the crew compartment. Tandem seating is provided with the pilot elevated in the rear seat.

a. Pilot Station. Figure 2-4 shows the location.

b. Gunner Station. Figure 2-5 shows the locations of equipment in the gunner station.

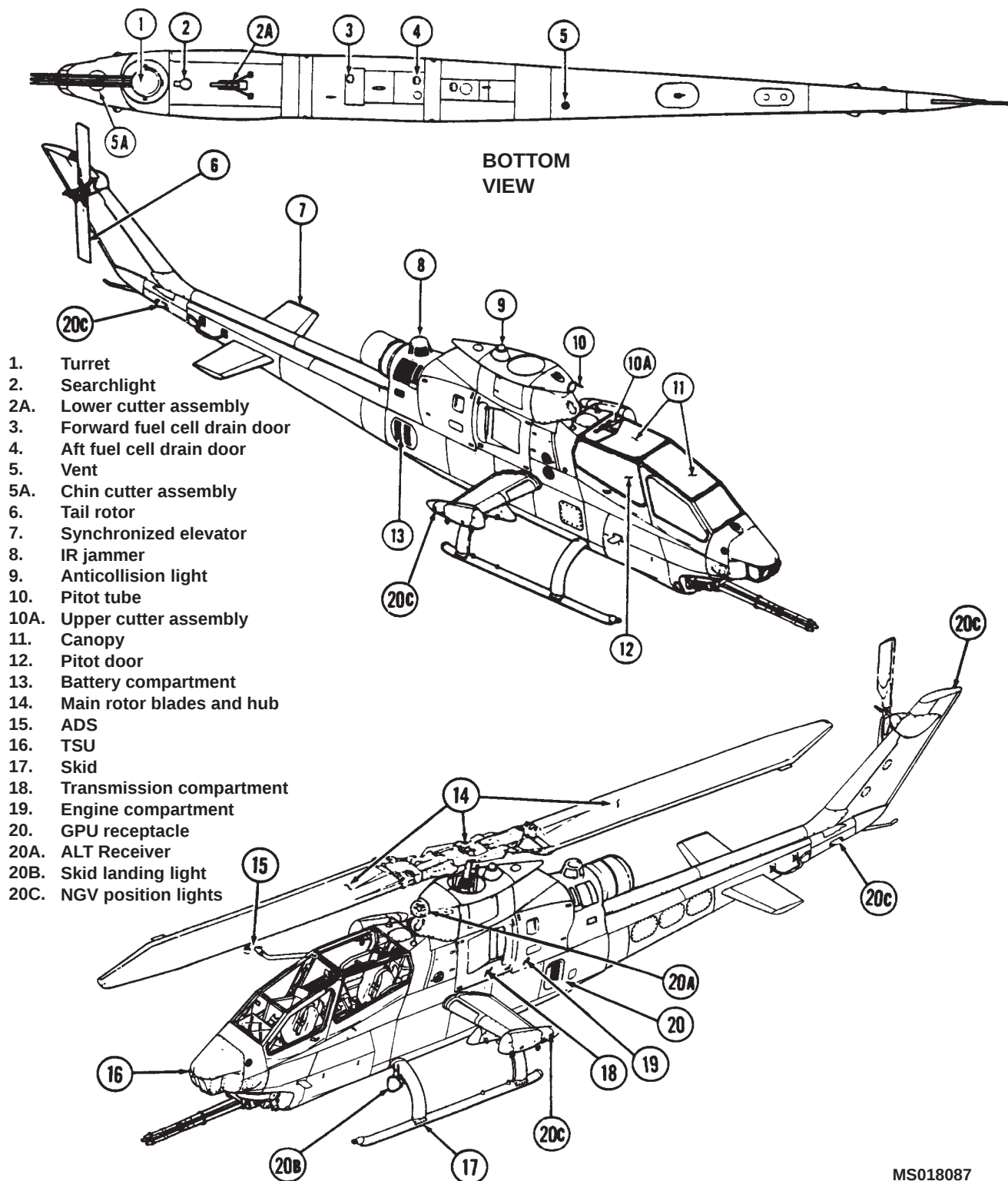


Figure 2-1. General Arrangement (Typical) (Sheet 1 of 2)