

TECHNICAL MANUAL

PHASED MAINTENANCE

CHECKLISTS

AH-1E/F/P/S HELICOPTER

Approved for public release: Distribution is unlimited.

This manual supersedes TM 55-1500-220-PM, 22 September 1978.

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 APRIL 1990

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 APRIL 1990

PHASED MAINTENANCE CHECKLISTS
AH-1 E/F/P/S HELICOPTER

GENERAL INFORMATION AND SCOPE

WARNING: CERTAIN INSPECTIONS ARE MANDATORY SAFETY-OF-FLIGHT REQUIREMENTS, AND THE INSPECTION INTERVALS CANNOT BE EXCEEDED. IN THE EVENT THESE INSPECTIONS CANNOT BE ACCOMPLISHED AT THE SPECIFIED INTERVAL, THE AIRCRAFT CONDITION STATUS SYMBOL WILL BE IMMEDIATELY CHANGED TO A RED "X". THESE TYPE INSPECTION ITEMS ARE PRECEDED BY "MANDATORY SAFETY-OF-FLIGHT INSPECTION ITEM".

NOTE: INSPECTION ITEMS CONTAINED IN THIS MANUAL ARE CONSIDERED THE MINIMUM REQUIREMENTS FOR PERFORMING A DAILY INSPECTION AND MUST BE PERFORMED. THE CUMULATIVE EFFECTS OF INSPECTION DEFERRALS ARE UNKNOWN AND COULD RESULT IN CATASTROPHIC FAILURE OR INCREASED MAINTENANCE AT A LATER DATE. THEREFORE, THE USE OF SPECIAL LETTERING TO EMPHASIZE MANDATORY SAFETY-OF-FLIGHT INSPECTION ITEMS IS NOT TO BE CONSTRUED AS AUTHORITY FOR DEFERRAL OF OTHER INSPECTIONS.

THIS MANUAL MAY DUPLICATE INSPECTION DATA CONTAINED IN THE PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) TABLES IN THE SUBSYSTEM TMs OR THE INSPECTION CRITERIA INCLUDED IN THE PM AND PMD MAY DIFFER FROM THAT INCLUDED IN THE SUBSYSTEM TMs. WHEN A DIFFERENT INSPECTION INTERVAL IS SPECIFIED IN THE PMCS, THE PM AND PMD WILL TAKE PRECEDENCE. THE PM AND PMD SHALL BE USED TO PERFORM ALL DAILY AND/OR PHASE INSPECTIONS EXCEPT WHERE THE INSPECTION IS REFERENCED TO THE APPROPRIATE SUBSYSTEM TM. IN THIS CASE THE PMCS TABLES IN THE SUBSYSTEM TMs SHALL BE USED.

*This manual supersedes TM 55-1500-220-PM, 22 September 1978.

1-1 Change 4

SECTION I - GENERAL INFORMATION

1-1. PHASED SCHEDULE This phased maintenance inspection checklist contains requirements for inspection of all AH-1 E/F/P/S aircraft on a phased schedule having a 600 hour (flight hours) cycle with 150 hour phases. Each 150 hour requirement included herein is designated for accomplishment at least once, but not more than four times during the 600 hour cycle. In addition to the 150-hour checklist, 25, 50, 75, 100, and 125 hour airframe, armament missile and avionic checks have been included. These inspections are to be completed once for each 150 hour cycle of the 600 hour phase cycle. As the 25, 50, 75, 100, and 125 hour inspections are special inspections, they may be accomplished within a plus or minus 10 percent tolerance.

1-2. EXCEEDING THE PHASED SCHEDULE. The maintenance inspection intervals designated are the maximum and shall not be exceeded except in actual operational emergencies as explained herein. It is the Commander's responsibility to determine (on an individual aircraft basis) when inspection intervals may be exceeded. For this purpose, operational emergencies are conditions of combat or disaster which necessitate flight to evacuate aircraft or personnel. Those inspections annotated by a "C" in the Inspect Phase No's column along with the DA Form 2408-18 (Equipment Inspection Record) items that are due, constitute the MINIMUM mandatory inspections required on helicopters scheduled for imminent deployment to, or stationed in a combat environment. Under no circumstances will two combat phase inspections be performed sequentially. When aircraft are operated beyond the normal inspection due time because of such emergency situations, a circled red X status symbol and an appropriate statement (to include authority) must be entered in block 16 and 17 of DA Form 2408-13 (Aircraft Inspection and Maintenance Record) until such time as the inspection is complete. When inspections are delayed to meet emergency requirements, Commanders will assure that the aircraft status symbol reverts to a red X and that delayed inspections are accomplished immediately upon termination of the actual emergency. When unusual local conditions (utilization, type of mission personnel, periods of inactivity, environmental conditions, etc.) dictate, it is the prerogative and responsibility

of the Maintenance Officer to increase the scope and/or frequency of maintenance or inspection as necessary to ensure safe operation (TM 1-1500-238-23).

1-3. MAINTENANCE ACTIVITIES. The inspections prescribed by this checklist will be accomplished at specific times by Aviation Unit Maintenance (AVUM) activities with assistance of Aviation Intermediate Maintenance (AVIM) and Depot Maintenance activities when required.

1-4. LIMITATIONS. The checklist does not contain instructions for repair, adjustment or other means of rectifying conditions. Neither does it contain special tolerances, limits or instructions for special troubleshooting to find causes for malfunctions. Such data will be contained from the latest issue of the applicable armament, missile or avionic maintenance manuals. Airframe data will be obtained from the latest issue of TM 55-1520-234-23 (AH-1 S) and TM 55-1520-236-23 (AH-1 E/F/P) Maintenance Manuals.

1-5. CHANGEOVER FROM SUPERSEDED TM 55-1500-220-PM and implementation of this publication: This TM will be implemented at the next 25 hour inspection interval. An aircraft that is in phase maintenance I.A.W. TM 55-1500-220-PM shall be completed (150 cycle) using that publication. For an aircraft, for example, that is 65 hours out of phase maintenance, this TM will be implemented at the 75 hour inspection interval. This publication is based on recording 25, 50, 75, 100, 125 and will be completed at 150 hours.

1-6. PRE-INSPECTION MAINTENANCE TEST FLIGHT (MTF). A pre-inspection MTF to duplicate nonhazardous equipment problems, determine unsatisfactory conditions, determine equipment operation problems, etc., is recommended prior to start of aircraft disassembly for phased maintenance inspection. The decision to perform the preinspection MTF, however, shall be the responsibility of the unit Maintenance Officer.

1-7. SPECIAL AND CALENDAR INSPECTIONS AND LUBRICATION REQUIREMENTS. Special and calendar inspections recorded on DA

TM 55-1520-244-PM

Form 2408-18 shall be reviewed and accomplished in accordance with the inspection due requirements specified.

1-8 TIME BETWEEN OVERHAUL (TBO) AND RETIREMENT LIFE ITEMS CHECK. Prior to start of the applicable phased maintenance inspection, a check will be made of components and their remaining operating hours prior to removal. The latest issue of TM 55-1520-234-23 or TM 55-1520-236-23 and DA Form 2408-16 shall be referred to for a complete listing of components and their TBO and retirement life.

1-9. USING THE INSPECTION CHECKLISTS. For use of the phased inspection checklist, refer to DA PAM 738-751.

1-10. FINAL RECORDS CHECK. After all corrective actions have been completed and following completion of the phased inspection, the Technical Inspector or designated supervisor shall verify that all applicable forms and records have been properly updated. All uncorrected faults shall be entered on DA Form 2408-13, or 2408-13-1 prepared for that date or to the DA Form 2408-14. A Final Records Checklist (table 1-2) is provided to ensure forms and records have been inspected for completeness and accuracy prior to release of the aircraft from the maintenance inspection. The inspector verifying the final records check shall enter his initials adjacent to the indicated form or record on Final Records Checklist. The initials entered shall be registered on the Signature Sheet (table 1-1) adjacent to that person's signature. The TI stamp can be used in lieu of the inspector's initials IAW FM 1-500.

1-11. SIGNATURE SHEET. All personnel performing inspection and/or maintenance tasks shall place their signature and initials on the signature sheet (Table 1-1). A signature sheet is included at the end of each section. The purpose of the signature sheet is to provide a correlation between initials entered on the individual checklist sheets and the actual names of the personnel accomplishing these tasks.

1-12. MAINTENANCE OPERATIONAL CHECKS (MOC). After the completion of any required corrective actions to any of the components of a functional system of the aircraft, MOC shall be performed on that system to determine the effectiveness of the maintenance actions performed and to verify the proper operation of that system. These MOC shall be performed in accordance with TM 1-1500-328-23. Copies of Supplemental sheets (DA Form 4676-R) may be used to record and sign off the maintenance operational checks performed.

1-13. MAINTENANCE TEST FLIGHT. When all required inspections have been accomplished and initialed in accordance with the above procedure, a daily inspection in accordance with TM 55-1520-244-PMD will be performed on the aircraft to permit performance of a Maintenance Test Flight (MTF) if required. The MTF shall be performed in accordance with the requirements of TM 1-1500-328-23 and TM 55-1520-244-MTF or TM 55-1520-236-MTF as applicable, using the MTF form in the MTF technical manual. A rotor smoothing record (figure 1-4) is provided at the end of Section 1.

1-14. CHECKLIST DISPOSITION. The booklet should be maintained in the aircraft's historical files as one unit. When the 150-hour (phase) inspection is completed, the entire booklet with all six completed inspections is attached to the DA Form 2408-13(S) or 2408-13-1(S) on which completion of the 150-hour inspection is recorded and filed for the six month period as required by DA PAM 738-751. At the end of the six month period, these records will be destroyed per the disposition instructions in DA PAM 738-751.

1-15. INSPECTION AREAS. Figure 1-2 reflects the inspection areas of the AH-1 E/F/P/S aircraft. Those areas are titled as shown. Figure 1-3 shows the location of access doors and panels which require removal at various phased maintenance inspections.

1-16. INSPECTION OF REMOVED COMPONENTS. When components are being removed from an aircraft, all inspections required by the next phase maintenance inspection must be accomplished prior to either immediate reuse or storage. Upon installation, the component will be inspected in accordance with the current phase (either that phase the receiving aircraft is in or if in between phase, the last phase performed). This will ensure that a re-used component will not overfly any PM inspections, and that it will be properly interfaced with the receiving aircraft phase sequence.

1-17. 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 the 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 1 Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP,

4300 Goodfellow Blvd., St. Louis, MO 63120-1798. You may also submit your recommended changes by E-mail directly to <mpmt%avma28@st-louis-emh7.army.mil>. A reply will be furnished to you. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

1-18 UNCORRECTED FAULTS/INCOMPLETE INSPECTIONS. In the event a fault/inspection cannot be corrected/completed during phase, and the uncorrected fault/inspection does not exceed a mandatory Safety-Of-Flight criteria or affect the flight safety of the aircraft, the uncorrected fault/inspection may be transferred to DA Form 2408-13 and the system or subsystem assigned a proper rating status per AR 700-138. This may be accomplished in order to perform MOC or MTF to get the aircraft flyable. Uncorrected faults/inspections should be corrected as soon as possible thereafter.

1-4 Change 8

TM 55-1520-244-PM

PHASE NO. /		Area Name and No. PYLON - 9 (RIGHT SIDE)		Aircraft Serial No. 67-15660		Date 1 JUN 89	
Inspect Phase No's	Inspection Requirements	Status	Faults and/or Remarks	Action Taken	Initial		
3	1. Pylon center fairing for cracks and missing or stripped fasteners. Seals for cuts, tears and bonding separation. Access 11		THIS ITEM NOT APPLICABLE TO PHASE NO. 1.	N/A	MPC		
	EXAMPLE OF TWO FAULTS IN ONE BLOCK				HEAVY LINES ADDED TO SEPARATE FAULTS WITHIN A BLOCK		
2.3	2. Upper pylon access doors for cracks, dents and security. Latches for proper operation. Seals for cuts, tears and bonding separation. Access 12	✓	Access door has crack near latch MPC	Repaired	MPC		
		✓	Access door latch bending MPC	Repaired	MPC		
ALL	3. Transmission access doors for cracks, dents and proper alignment. Latches for proper operation. Seals for cuts, tears and bonding separation. Access 11.		EXAMPLE				
		✓	Access door latch snap MPC	Repaired	MPC		
ALL	4. Transmission access door hinges for wear, cracks, corrosion and proper adjustment. Access 11						
			TI SIGNED OFF.	Insp - found OK R. Simon			
ALL	5. Pylon structure, including forward pylon bulkhead for cracks, corrosion and loose or missing rivets. Access 11, 12			Insp - found OK	MPC		
					KAD		

"FOD REMINDER"
Check area for tools and parts after completion of maintenance and inspection.

Figure 1-1. Example of Using Phased Maintenance Checklist (Sheet 1 of 3)

PHASE NO. 1		Area Name and No. AFT FUEL CELL AND ELECTRICAL EQUIPMENT - 13		Aircraft Serial No. 67-15660		Date 10 JUN 89	
Inspect Phase No's	Inspection Requirements	Status	Faults and/or Remarks	Action Taken	Initial		
ALL	16. Ensure that electrical connectors 20P1, 20J1, 20P2, and 20J2 are free contaminants or corrosion; clean with isopropyl alcohol. (TM 9-1425-473-20) DENOTES CHANGE	X	Electrical Connector 20J1 Corroded MPC	Cleaned all connectors	MPC		
			NOTE THAT THE SAME PERSON (MPC) DISCOVERED AND CORRECTED THE FAULT AS EVIDENCED BY SAME INITIALS.				
	Incorrect fault/discrepancy from DA Form 2408-13	X	Aft Fuel Cell Outlet Panel Nicks Spot Paint MPC (27 Jun 89)	Painted panel.	TMS		
	INSPECTION ITEM ADDED TO AVAILABLE SPACE ON A CHECKLIST PAGE.		A DIFFERENT PERSON CORRECTED THIS FAULT.				

"FOD REMINDER"

Check work area for tools and parts after completion of maintenance and inspection.

Figure 1-1. Example of using Phased Maintenance Checklist (Sheet 2 of 3)