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*UH-1-00-05
Rev to UH-1-99-03
fin year*

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FROM :CDRAMCOM REDSTONE ARSENAL AL//AMSAM-SF-A// TO :AIG 8881 :AIG
 9004 :AIG 7515 :AIG 7471 :AIG 12124 :DCMC APMO OZARK AL//DCMDE-
 AOA// :CDRAMCOM REDSTONE ARSENAL AL//AMSAM-RA-FO// :ASF42 81ST ARCOM
 DOBBINS AFB GA :DEPT OF STATE AIR WING PATRICK AFB FL :CDRCBDCOM
 ABERDEEN PROVING GROUND MD//AMSCB-OPA// :CDRUSAATC ABERDEEN PROVING
 GROUND MD//CSTE-DTC- : AT-PC-WA// :RAYTHEON RANGE SYSTEMS ENGINEERING
 KWAJALEIN MH//PAT2// :CDRWSMR ARMY AIR HOLLOMAN AFB NM//CSTE-DTC-WS-
 NRO-F// :CDRUSADPG DUGWAY UT//CSTE-DTC-DP-DB-PO-A// :USDOCO
 LANDSOUTHEAST IZMIR TU//AV// :WALLOPS FLIGHT FACILITY NASA WALLOPS
 ISLAND VA : //CODE 831.2 AIRCRAFT QA// INFO :HQAFSPCCSS PETERSON AFB
 CO//LGM/SEF// :CDRMDW WASHINGTON DC//ANLG-LS// :SECDEF WASHINGTON
 DC//USDP-DSAA// :SECSTATE WASHINGTON DC//NEA/INL// :AFSOC HURLBURT FIELD
 FL//LGMW// :HQ PACAFDPC HICKAM AFB HI//DO/LGM// :HQAMC SCOTT AFB
 IL//LG/LGF/LGQ/DO/DOV/DOX/SEF// :89AW ANDREWS AFB MD//LG// :89OG
 ANDREWS AFB MD//CC/OGV// :1HS ANDREWS AFB MD//CC/DO// :NAVAVNDEPOT
 CHERRT PT NC//HI-ISST// :CDR FT BRAGG NC//AFZA-GT-OM// :CDR HQ 1ST COSCOM FT
 BRAGG NC//LOGOPS AVN SECT// :PM SW FT MONMOUTH NJ//SFAE-IEWS-SG// :FAA
 AERONAUTICALCEN OKLAHOMA CITY OK//AFS-620// :DISC PHILADELPHIA PA//QEBB-
 JU// :CDR LSE AVIATION IZMIR TU//LSE// :HQ AETC RANDOLPH AFB
 TX//DO/DOFI/SEF// :FAA SOUTHWEST RGN HQ FORT WORTH TX//ASW-
 100// :CDRUSASMDC ARLINGTON VA//CSSD/ZA// XMT : ACCT : TEXT

Subject

SAFETY OF FLIGHT MESSAGE, TECHNICAL, RCS CSGLD-

1860(R1), ALL UH-1 SERIES AIRCRAFT, REVISION TO UH-1-99-03 (TB 1-
 1520-210-30-01, DATED 9 JUN 99), MANDATORY INSPECTION OF TAIL
 BOOM VERTICAL FIN SPAR ASSEMBLY, UH-1-00-05 (TB 1-1520-210-30-01,
 DATED FEB 00).

NOTE

THIS IS A SAFETY OF FLIGHT MESSAGE ISSUED IAW AR 95-1, CHAPTER 6, 1 SEP 97. THIS MESSAGE HAS NOT BEEN TRANSMITTED TO UNITS SUBORDINATE TO ADDRESSEES. ADDRESSEES SHALL IMMEDIATELY RETRANSMIT THIS MESSAGE TO ALL SUBORDINATE UNITS, ACTIVITIES OR ELEMENTS AFFECTED OR CONCERNED. THE RETRANSMITTAL SHALL REFERENCE THE MESSAGE. ACTION ADDRESSES WILL IMMEDIATELY VERIFY THIS TRANSMISSION TO CDR, AMCOM, ATTN: AMSAM-SF-A (SOF COMPLIANCE OFFICER).

Priority Classification

NOTE

THE CHANGES AS A RESULT OF THIS MESSAGE WILL BE REFLECTED IN A REVISION TO TB 1-1520-210-30-01, FEBRUARY 2000.

NOTE

SEE AR 95-1, PARA 6-6A, FOR EXCEPTION AUTHORITY OF MAJOR COMMANDERS.

- A. AIRCRAFT IN USE - UPON RECEIPT OF THIS MESSAGE THE CONDITION STATUS SYMBOL OF THE CITED AIRCRAFT WILL BE CHANGED TO A RED HORIZONTAL DASH //-. THE RED HORIZONTAL DASH //-//ENTRY SHALL STATE "INSPECT TAIL BOOM VERTICAL FIN SPAR ASSEMBLY IAW UH-1-00-05 AT THE NEXT 75 FLIGHT HOUR SPECIAL INSPECTION AND, AS APPLICABLE IAW PARA 9B, SUBMIT THE MOST RECENT X-RAY TO AMCOM NLT BOTH THE INSPECTION OF PARA. 8 AND CORRECTION OF PARA. 9 ARE COMPLETED. THE AFFECTED AIRCRAFT SHALL BE INSPECTED AT THE NEXT SCHEDULED 75 HOUR SPECIAL INSPECTION. FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS MESSAGE WITHIN THE TIME FRAME SPECIFIED WILL CAUSE THE STATUS SYMBOL OF THE AFFECTED AIRCRAFT TO BE UPGRADED TO A RED //X//.
- B. AIRCRAFT IN DEPOT MAINTENANCE - SAME AS PARA 1A.
 C. AIRCRAFT UNDERGOING MAINTENANCE - SAME AS PARA 1A.
 D. AIRCRAFT IN TRANSIT - SAME AS PARA 1A.
 E. MAINTENANCE TRAINERS (CATEGORY A AND B) - SAME AS PARA 1A.
 F. COMPONENT/PARTS IN STOCK AT ALL LEVELS (DEPOT AND OTHERS) INCLUDING WAR RESERVES - N/A.
 G. COMPONENTS/PARTS IN WORK (DEPOT LEVEL AND OTHERS) - SAME AS UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99).

Task/Inspection Suspense Date

- (A) AT THE NEXT SCHEDULED 75 HOUR SPECIAL INSPECTION.
 (B) SUBMITTAL OF X-RAYS IAW PARA 9B NLT 25 FEB 2000.

Reporting Compliance Suspense Date

- NO LATER THAN 1 MAR 2000

IAW PARA 14A OF THIS MESSAGE.

Summary of Problem

A. BACKGROUND -

(1) SOF UH-1-99-03 REQUIRED INSPECTION OF THE VERTICAL FIN SPAR FOR CRACKS AND DEBONDING. DETAILED INSPECTION PROCEDURES WERE PROVIDED IN THE PUBLISHED VERSION OF TB 1-1520-210-30-01 DATED 9 JUN 99 THAT WERE NOT INCLUDED IN THE MESSAGE

VERSION OF SOF UH-1-99-03.

(2) THE SOF STATES THAT IF THE VERTICAL FIN SPAR IS FOUND CRACKED, THE BOOM ASSEMBLY SHALL NOT BE USED. THE UH-1 MAINTENANCE MANUAL, TM 55-1520-210-23-1, ALLOWS FOR REPAIR OF VERTICAL FIN SPAR CRACKS NEAR THE 90 DEGREE GEARBOX MOUNT ATTACHMENT AREA. IT HAS BEEN DETERMINED THAT THIS REPAIR IS ACCEPTABLE AND MAY CONTINUE TO BE USED PROVIDING THAT A RECURRING VISUAL INSPECTION BE PERFORMED ON THE SPAR FOR CRACK GROWTH.

(3) SOF UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99) REQUIRED AT LEAST TWO THIRDS OF COUNTERSUNK RIVET ON EXPOSURE #3 TO BE VISIBLE TO BE AN ACCEPTABLE X-RAY. REPORTS HAVE SINCE BEEN RECEIVED THAT SHOW CRACKS EMANATING FROM THE TOP/UPPER EDGE OF THE RIVET HOLE. THESE CRACKS WOULD NOT BE FOUND USING THE TWO THIRDS CRITERIA. FOR THIS REASON, THE ENTIRE CIRCUMFERENCE OF THE COUNTERSUNK RIVET IS REQUIRED TO BE VISIBLE ON THE X-RAY FILM.

(4) AMCOM HAS RECEIVED AND CONFIRMED SEVERAL REPORTS WHICH INDICATE THE X-RAY PROCEDURE OF TB 1-1520-210-30-01 DATED 9 JUN 99, IS BEING PERFORMED IMPROPERLY. AIRCRAFT THAT WERE INSPECTED BY ANY ENTITY OTHER THAN AN ARNG AVIATION CLASSIFICATION REPAIR ACTIVITY DEPOT(AVCRAD) ARE OF PARTICULAR CONCERN.

B. FOR MANPOWER/DOWNTIME AND FUNDING IMPACTS SEE PARA 12.

C. THE PURPOSE OF THIS MESSAGE IS TO REVISE SOF UH-1-99-03 AND TB 1-1520-210-30-01 DATED 9 JUN 99 TO -

(1) ALLOW REPAIR OF CRACKS IN THE VERTICAL FIN SPARS NEAR THE 90 DEGREE GEARBOX MOUNT IAW THE UH-1 MAINTENANCE MANUAL.

(2) REQUIRE THE ENTIRE CIRCUMFERENCE OF THE COUNTERSUNK RIVET OF EXPOSURE #3 TO BE VISIBLE ON THE RADIOGRAPH.

(3) REQUIRE THE SUBMITTAL OF ONE SET OF X-RAY FILM FOR REVIEW, IF APPLICABLE.

(4) CLARIFY LOCATION OF CRACK INITIATION.

(5) PROVIDE DISPOSITION OF CRACKED TAILBOOMS.

End Items To Be Inspected

- ALL UH-1 SERIES AIRCRAFT.

Assembly Components to be Inspected

- SAME AS UH-1-99-03 (TB

1-1520-210-30-01 DATED 9 JUN 99).

Parts to be Inspected

- SAME AS UH-1-99-03 (TB 1-1520-210-30-

Inspection Procedures

NOTE

INCORPORATE THESE REVISED INSPECTION PROCEDURES INTO THE NEXT 75 HOUR SPECIAL INSPECTION IAW SOF UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99). THERE IS NO IMMEDIATE REQUIREMENT TO INSPECT THE TAILBOOM BEFORE THE NEXT SCHEDULED 75 HOUR INSPECTION.

A. REVISE THE INSPECTION PROCEDURES OF TB 1-1520-210-30-01 DATED 9 JUN 99 AS FOLLOWS -

(1) CHANGE THE NOTE PRECEDING PARAGRAPH 8D(24) - "A FILM DENSITY OF 2.0 TO 2.8 IS MANDATORY ACROSS THE AREA OF INTEREST. THE PENETRAMETERS OUTLINE (EDGES) AND 2T HOLE MUST BE VISIBLE ON THE RADIOGRAPH TO QUALIFY THE IMAGE. THE EDGE OF TAPE USED TO ATTACH THE PENETRAMETER MAY APPEAR AS A CRACK ON THE X-RAY FILM."

(2) ADD THE FOLLOWING SENTENCE TO BOTH PARAGRAPHS 8D(9) AND 8D(17) - "SECURE THE PENETRAMETER USING TAPE OVER THE LEAD NUMBERS AND 4T HOLE ONLY, THIS WILL ELIMINATE POSSIBLE INTERPRETATION ERRORS FROM INDICATIONS GENERATED BY THE EDGES OF THE TAPE."

(3) CHANGE PARAGRAPH 8D(25)(A) TO READ - "CAREFULLY EXAMINE EXPOSURE TO ASSURE THAT A SINGLE RIVET IS SHOWN ABOVE THE PENETRAMETER AND AT LEAST TWO RIVETS ARE SHOWN BELOW THE PENETRAMETER. AT LEAST 0.2 INCHES OF FILM BEYOND THE TOP OF THE SINGLE (COUNTERSUNK) RIVET LOCATED ABOVE THE PENETRAMETER MUST BE VISIBLE ON THE X-RAY TO DETERMINE THE STATUS OF THE SPAR FOR THIS EXPOSURE. IF THE RIVET IS LOCATED UNDER THE ANGLE SUPPORT, WHICH TIES THE LEFT AND RIGHT SPAR CAPS TOGETHER AFT OF THE 42 DEGREE GEARBOX, IT IS POSSIBLE THAT THE ENTIRE RIVET CIRCUMFERENCE WILL NOT BE VISIBLE. IN THIS SITUATION, THE RADIOGRAPH MUST BE RETAKEN USING THE FOLLOWING METHOD:"

(4) CHANGE PARAGRAPH 8D(25)(A)1 TO READ - "CAREFULLY DRILL OUT THE THREE MOST OUTBOARD RIVETS (LEFT HAND SIDE) IN THE ANGLE SUPPORT (SEE FIGURE 9A)". FIGURE 9A WILL BE CHANGED IN THE REVISION TO TB 1-1520-210-20-01.

(5) CHANGE THE FIRST SENTENCE OF PARAGRAPH 8D(25)(A)2 TO READ - "CAREFULLY INSERT A PLASTIC OR PHENOLIC WEDGE BETWEEN THE ANGLE SUPPORT AND THE LEFT HAND SPAR CAP JUST ENOUGH TO PERMIT THE X-RAY FILM TO SLIDE UP BETWEEN THE ANGLE SUPPORT AND THE SPAR CAP."

(6) CHANGE PARAGRAPH 8D(25)(A)4 TO READ - "IF AT LEAST 0.2 INCHES OF FILM ABOVE THE COUNTERSUNK RIVET IS VISIBLE, CONTINUE WITH INTERPRETATION AND EVALUATION FOR CRACKS. IF THIS CRITERIA CANNOT BE ACHIEVED, CONTACT THE TECHNICAL POC IN PARAGRAPH 16A FOR FURTHER INSTRUCTIONS."

(7) CHANGE THE FIRST SENTENCE IN PARAGRAPH 8D(27) TO READ - "IF THE X-RAY INSPECTION REQUIRED REMOVAL OF THE THREE MOST OUTBOARD RIVETS ATTACHING THE ANGLE SUPPORT TO THE SPAR CAP (REFERENCE FIGURE 9A), AND NO CRACKS WERE FOUND DURING THIS INSPECTION, THE RIVETS SHALL BE REPLACED WITH THE FOLLOWING FASTENERS:"

(8) ADD THE FOLLOWING NOTE BETWEEN PARAGRAPH 8F(2) AND 8F(2)(A) -

*NOTE

SOME SPARS MAY HAVE A DOUBLER REPAIR ON THE OUTBOARD SIDE OF THE LEFT HAND SPAR CAP FLANGE NEAR THE 90 DEGREE GEARBOX MOUNT. THIS REPAIR IS AUTHORIZED BY TM 55-1520-210-23-1, PARA 2-296.1, FIGURE 2-73.1."

(9) CHANGE PARAGRAPH 8F(2)(A) TO ADD THE FOLLOWING AFTER THE LAST SENTENCE - "IF A DOUBLER REPAIR IS INSTALLED, OR HAS BEEN PREVIOUSLY INSTALLED IN THIS AREA, PER TM 55-1520-210-23-1, PARA 2-296.1, FIGURE 2-73.1., VISUALLY INSPECT THE UNDERNEATH/AFT SIDE OF THE SPAR TO DETECT CRACK GROWTH USING AN INSPECTION MIRROR THROUGH THE UPPERMOST LIGHTENING HOLE IN THE SPAR WEB."

(10) CHANGE PARAGRAPH 8F(3) TO READ - "IF A CRACK IS FOUND, ACCOMPLISH CORRECTION PROCEDURES OF PARA 9."

B. DETERMINE IF THE X-RAY INSPECTIONS WERE PERFORMED BY AN ARNG AVCRAD X-RAY TEAM OR AN AMCOM APPROVED SOURCE IAW PARA 9B. REPORT IAW PARA 9B.

Correction Procedures

A. REVISE THE CORRECTION PROCEDURES OF TB 1-1520-210-30-01 DATED 9 JUN 99 AS FOLLOWS -

(1) CHANGE PARAGRAPH 9A TO READ - "IF A CRACK IS CONFIRMED ON THE VERTICAL FIN SPAR ASSEMBLY, DETERMINE THE SERVICEABILITY OF THE VERTICAL FIN SPAR ASSEMBLY AS FOLLOWS:

(A) CRACKS ON THE OUTBOARD SIDE OF THE LEFT HAND SPAR CAP FLANGE BETWEEN THE UPPER MOST DZUS FASTENER RECEPTACLE AND THE 90 DEGREE GEARBOX MOUNT MAY BE REPAIRED USING THE CRITERIA CONTAINED IN TM 55-1520-210-23-1, PARA 2-296.1, FIGURE 2-73.1, HOWEVER, THE CRACK CANNOT EXCEED THE REPAIRABLE LENGTH LIMITS SPECIFIED IN THE TM.

(B) ALL OTHER CRACKS, TO INCLUDE THOSE ON THE OUTBOARD SIDE OF THE LEFT HAND SPAR CAP FLANGE BETWEEN THE UPPER MOST DZUS FASTENER RECEPTACLE AND THE 90 DEGREE GEARBOX MOUNT THAT EXCEED THE REPAIRABLE LENGTH LIMIT SPECIFIED IN TM 55-1520-210-23-1, PARA 2-296.1, FIGURE 2-73.1, SHALL NOT BE REPAIRED AND THE TAILBOOM SHALL BE CONSIDERED DISCREPANT.

NOTE

THE REQUIREMENT TO SUBMIT X-RAY FILM SAMPLES DOES NOT APPLY TO FMS CUSTOMERS.

B. UNITS THAT HAVE HAD THEIR X-RAY INSPECTIONS PERFORMED BY ANY ENTITY OTHER THAN AN ARNG AVCRAD X-RAY TEAM, SHALL SUBMIT ONE SET OF X-RAY FILM TO AMCOM UNLESS PREVIOUSLY SUBMITTED AND APPROVED BY THE LOGISTICS POC LISTED AT PARA 16B. CONTACT MIKE HARAGAN, THE LOGISTICAL POC LISTED AT PARA 16B, DSN 645-0211, (256) 955-0211, EMAIL "MIKE.HARAGAN@UH.REDBSTONE.ARMY.MIL", FOR INSTRUCTIONS ON WHERE TO SEND ONE SET OF FILM FROM THE MOST RECENT X-RAYS (TO INCLUDE EXPOSURE #1, #2, AND #3) FOR REVIEW. UNITS NEED TO INCLUDE WITH SUBMITTED FILM; A POINT OF CONTACT WITH EMAIL, PHONE/FAX NUMBER AND RETURN ADDRESS IN ORDER TO RECEIVE A TIMELY REPORT OF THE RESULTS. UNITS SHALL IDENTIFY THE NAME OF THE ORGANIZATION/COMPANY PERFORMING RADIOGRAPHIC INSPECTIONS. IF UNITS CHANGE THE ORGANIZATION/COMPANY PERFORMING THE X-RAY INSPECTION IN THE FUTURE, RESUBMITALS SHALL BE MADE WITHIN 15 DAYS OF THE NEW INSPECTION.

C. SOF UH-1-99-03, TB 1-1520-210-30-01 9 JUN 99, DESCRIBES A TYPICAL CRACK AS EMANATING FROM A RIVET HOLE AND PROPAGATING TOWARD THE EDGE OF THE SPAR CAP IN EITHER DIRECTION. REPORTS HAVE SINCE BEEN RECEIVED THAT SHOW CRACKS PROPAGATING FROM RIVET HOLES IN A VARIETY OF ORIENTATIONS. WHEN EXAMINING THE X-RAY FILM OR PERFORMING THE VISUAL INSPECTION, ATTENTION SHOULD BE PAID TO THE ENTIRE CIRCUMFERENCE OF EACH RIVET HOLE FOR INDICATIONS OF CRACKS. ILLUSTRATIONS DEPICTING TYPICAL SPAR CRACK ORIENTATION ARE AVAILABLE FOR VIEWING ON THE UTILITY HELICOPTERS WEB PAGE. THE URL ADDRESS IS: "WWW.UNPO.REDBSTONE.ARMY.MIL". GO TO SAFETY, THEN UH-1 IROQUOIS INFORMATION. ACCESS TO THE WEB SITE IS CONTROLLED. PROCEDURES TO OBTAIN LOGON ID ARE ACCESSIBLE BY CLICKING THE REGISTER BUTTON.

Supply/Parts and Disposition

A. PARTS REQUIRED - SAME AS UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99).

B. REQUISITIONING INSTRUCTIONS - SAME AS UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99).

C. BULK AND CONSUMABLE MATERIALS - SAME AS UH-1-99-03 (TB 1-1520-210-30-01 DATED 9 JUN 99).

D. DISPOSITION - DEMILITARIZE/MUTILATE IAW TM 1-1500-328-23 ANY PART/COMPONENT WHICH DOES NOT MEET INSPECTION CRITERIA.

E. DISPOSITION OF HAZARDOUS MATERIAL - SAME AS UH-1-99-03