

ROUTINE

MWO effective date is 15 November 2002 and completion date is 15 November 2006

MWO 1-1520-238-20-02

MODIFICATION WORK ORDER

**MODIFICATION OF
ATTACK HELICOPTER AH-64A TO REPLACE
M43 SLIDE MOUNT BRACKET ASSEMBLY P/N 5-1-1317 WITH
M48 BRACKET ASSEMBLY, KEVLAR PANEL P/N 5-1-3502
NSN 1520-01-106-9519**

U.S. Army Aviation and Missile Command
19 December 2002

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can 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-MA-NP, Redstone Arsenal, AL 35898-4000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our fax number is: DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028. For the World Wide Web use: <https://amcom2028.redstone.army.mil>.

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

1. **PURPOSE:** The purpose of this modification is to provide instructions for the removal of the current slider plate on the left armored wing of the pilot and co-pilot gunner (CPG) crew seats, and for installation of a new slider plate in the same location to provide an interface to accommodate the M48 Mask Lighter Weight Motor Blower.
2. **PRIORITY** This modification is classified **ROUTINE**.
3. **END ITEM OR SYSTEM TO BE MODIFIED:**
 - a. Aircraft having the following National Stock Numbers will be modified in accordance with the instructions contained in paragraph 10.

NOMENCLATURE

NSN

EFFECTIVITY RANGE

AH-64A Attack Helicopter 1520-01-106-9519 All US Army AH-64A Aircraft

- b. Aircraft modified during validation verification. AH-64A, 8940214.

4. **MODULE(S) (COMPONENTS, ASSEMBLIES, SUBASSEMBLIES) TO BE MODIFIED:** Not applicable.
5. **PARTS TO BE MODIFIED:** Not applicable.
6. **APPLICATION:**
 - a. **Time Compliance Schedule:** This MWO is effective 15 November 2002 and the completion date is 08 15 November 2006.
 - b. **Level of Maintenance:** Aviation Unit Maintenance personnel are authorized to apply this MWO.
 - c. **Application Time:** The total man-hours required for a single application of this MWO is 2.0 hours.
 - d. This MWO does not affect any other MWO or upgrade.
7. **TECHNICAL PUBLICATIONS AFFECTED/CHANGED:** TM 1-1520-238-10, TM 1-1520-238-23-2 and TM 1-1520-238-23P.
8. **MWO KIT(S)/PART(S) AND THEIR DISPOSITION:**

a. **Kit(s)/Part(s) Needed to Apply the MWO:**

NOMENCLATURE	NSN	CAGEC	PARTNUMBER	QTY	FIG 2
Bracket Assembly, Kevlar Panel	1560-01-497-5069	81361	5-1-3502	2	4
Cover, Electrical Connector	5935-01-146-1981	81349	MS3180-8C	2	4 (fig 1)
Nut, Hex, .190-32UNF	N/A	N/A	B18.24.2	8	11,14
Screw, Machine, .190-32UNF, .75LG	N/A	N/A	B18.6.3	8	9,12
Shim, Kevlar Bracket Panel	N/A	81361	5-1-351 1-1	8	a
Shim, Kevlar Bracket Panel	N/A	81361	5-1-351 1-2	8	8
Strap, Tiedown	5975-00-985-6630	81349	MIL-S-23190	2	1
Washer, Flat, No. 10 Type A	N/A	N/A	B18.22.1	a	10,13

NOTE

The quantities above reflect installation of two brackets into the Apache Aircraft.

- b. **Bulk And Expendable Material:**
- c. **Parts Disposition:** Disposition of excess parts will be IAW AR 710-2, AR 735-5 and local policy.

9. SPECIAL TOOLS; TOOL KITS; JIGS; TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TDME); AND FIXTURES REQUIRED:

NOMENCLATURE	NSN	CAGEC	PART NUMBER	QTY
Tool Kit, Aircraft Mechanic's or equivalent.	5180-00-323-4692	81996	SC518099CLA0I	1
Wrench, Torque, Dial Indicator, Yeinch drive, 0-75 inch-pound	5120-00-585-8434	58536	A-A-24 11	1

10. MODIFICATION PROCEDURES:

a. M43 Mask Blower Slider Plate Removal

- (1) Helicopter is safed (TM 1-1520-238-23-1, para 1.57).
- (2) Access pilot or CPG station (TM 1-1520-238-23-1, para 1.56).

WARNING

There is an upward spring preload at all times. The seat must be occupied whenever it is adjusted. If the seat vertical adjustment handle is pulled when the seat is unoccupied, the seat will snap up to its full up position. This could cause severe personal injury. If injury occurs, seek medical aid.

NOTE

All callout references in steps (3) through (7) refer to Figure 1, page 6.

- (3) Disconnect connector (1) P993 (pilot) or P997 (CPG) from connector (2) (A148)J1 or (A147)J1 (CPG) on slider plate (3).
- (4) Screw electrical connector cover (4) onto connector P993/P997.
- (5) Remove and discard two screws (5), two washers (6) and two nuts (7) from upper bracket (8).
- (6) Remove and discard two screws (9), two washers (10) and two nuts (11) from lower bracket (12).
- (7) Remove M43 Mask Blower slider plate (3) from brackets.

b. M48 Kevlar Panel Bracket Assembly Installation

NOTE

All callout references in steps (1) through (8) refer to Figure 2, page 7.

- (1) Thread the tiedown strap (1) through one of the links on the electrical connector cover chain (2).
- (2) Fold approximately four inches of the cable (3) onto itself, and tighten the tiedown strap.
- (3) Install new bracket assembly (4) into existing upper bracket (5) and lower bracket (6) on left armored wing (7) of crew seat.

10. MODIFICATION PROCEDURES: (Cont)

- (4) Install or remove laminated shims (8) (as required) from lower bracket so that slider plate will attain a tight fit.
- (5) Install two .190-32UNF, .75 LG machine screws (9) through upper bracket with screw heads on the inside of the bracket.
- (6) Install two No. 10, Type A flat washers (10) and two .190-32SUNF hex nuts (11) on screws and hand tighten.
- (7) Install two .190-32UNF, .75 LG machine screws (12) through lower bracket with screw heads on the inside of the bracket.
- (8) Install two No. 10, Type A flat washers (13) and two .190-32SUNF hex nuts (14) on screws and hand tighten.
- (9) Torque four nuts to 25 INCH-POUNDS.
- (10) Inspect (QA).
- (11) Repeat steps (1) through (8) for other crew seat.

11. CALIBRATION REQUIREMENTS: Not applicable.

12. WEIGHT AND BALANCE DATA: Enter the following data being sure to also include dates, item numbers and revised Chart C basic weight in accordance with TM 55-1500-342-23.

a. Chart A (DD Form 365-1) entries:

Item No	Items	Weight	Arm	Moment 1000	In Aircraft	Chart C Entry
D	BRACKET ASSEMBLY, KEVLAR PANEL 5-1-3502 (Date)	1	82.2	0.8		
E	M48 BLOWER PLATE ASSEMBLY 5-1-3503 (Date)	1	143.3	1.4		

Date YYMMDC	Item No		Descrip title or Modification	Weight Change						Current Total Basic Aircraft		
				Added			Removed			Weight	Moment	Index
	Weight	Arm		Moment	Weight	Arm	Moment					
			BRACKET ASSEMBLY 5-1-3502 (Date)	1	82.2	0.8	1	82.2	0.8			
			PILOT SLIDER PLATE 5-1-3503 (Date)	1	143.3	1.4	1	143.3	1.4			

13. QUALITY ASSURANCE REQUIREMENTS:

- a. General quality assurance inspection criteria shall be in accordance with MIL-Q-9858A or TM 1-1520-238-23-series.
- b. Modification installation shall be inspected.
- c. Verify that modification is properly recorded (para 14).

14. RECORDING AND REPORTING OF THE MODIFICATION:

a. Records and Reports.

- (1) The following forms are applicable and completed in accordance with DA PAM 738-751, 15 June 1992, TAMMS-A.
 - (a) DA Form 2407, Maintenance Request.
 - (b) DA Form 2408-5, Aircraft Equipment Modification Record.
 - (c) DA Form 2408-13, Aircraft Status information Record.
 - (d) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
 - (e) DA Form 2408-13-2, Related Maintenance Action Record.
- (2) If the work is completed by a Contract Field team (CFT) either on site or at a remote location, the National Maintenance Point (NMP) DA Form 2407, copy #2 will be forwarded to and retained by the project Officer of the applicable OLR site.
- (3) If the work is completed by other than CFT (i.e. Depot, Equipment user organization, etc.), the NMP DA Form 2407, copy #3 will be forwarded to

CDR, USAAMCOM
ATTN: AMSAM-MMC-MA-O1
Sparkman Center
Redstone Arsenal, AL 35898-5180

b. Marking of Equipment. Not applicable.

c. Identification Data. Not applicable.

15. MATERIAL CHANGE (MC) NUMBER: This MWO is authorized by MC No. 1-02-01-0017.

16. MODIFICATION IDENTIFICATION: Completion of MWO being applied on the aircraft can be verified by the presence of the M48 Mask Blower Bracket Slider Plate attached to the brackets on the left armored wing of the pilot/CPG crew seat.

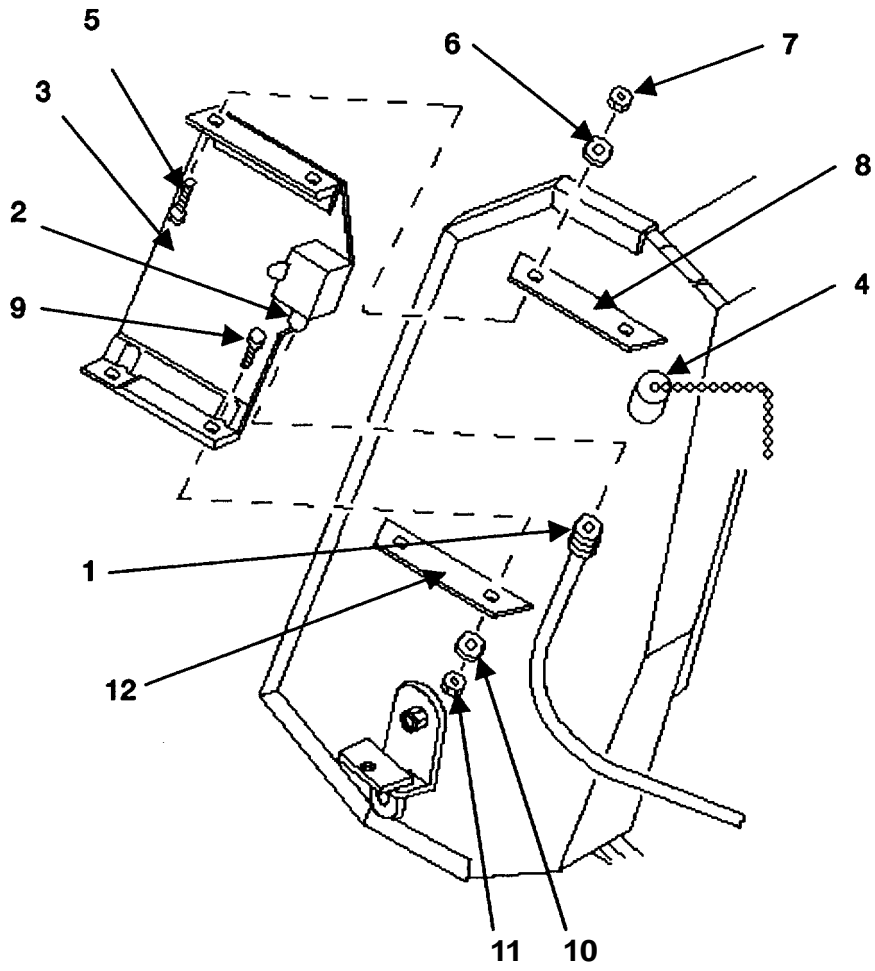


Figure 1

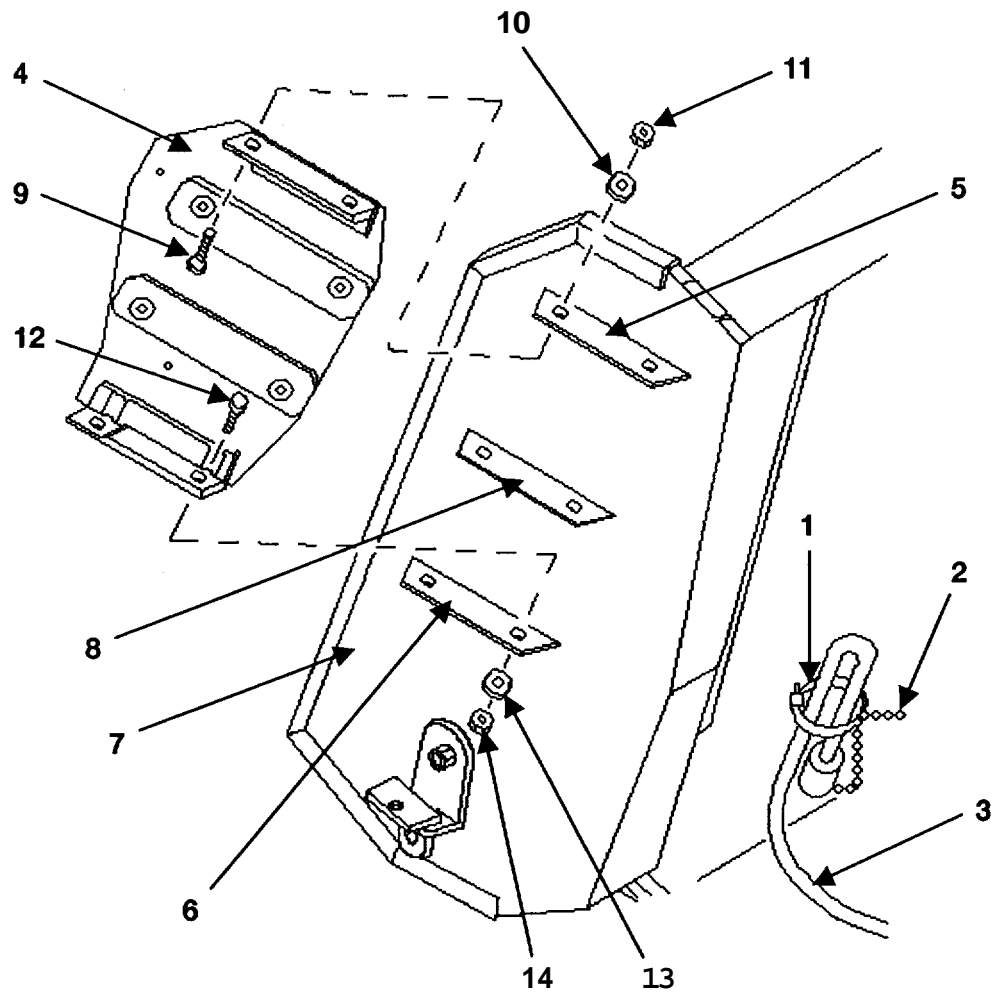
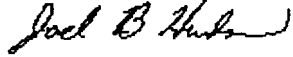


Figure 2

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*

0230909

ERIC K. SHINSEKI
*General, United States Army
Chief of Staff*

To be distributed in accordance with Initial Distribution No. (IDN) 314072, requirements for
MWO 1-1520-238-20-02.

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@wherever.army.mil>

To: 2028@redstone.army.mil

Subject: DA Form 2028

1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St:** MO
6. **Zip:** 77777
7. **Date Sent:** 19-OCT-93
8. **Pub no:** 55-2840-229-23
9. **Pub Title:** TM
10. **Publication Date:** 04-JUL-85
11. **Change Number:** 7
12. **Submitter Rank:** MSG
13. **Submitter FName:** Joe
14. **Submitter MName:** T
15. **Submitter LName:** Smith
16. **Submitter Phone:** 123-123-1234
17. **Problem:** 1
18. **Page:** 2
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
25. **Item:** 9
26. **Total:** 123
27. **Text:**

This is the text for the problem below line 27.

TO: (Forward direct to addressee listed in publication) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	FROM: (Activity and location) (Include ZIP Code) MSG, Jane Q. Doe 1234 Any Street Nowhere Town, AL 34565	DATE 8/30/02
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS (Any general remarks, corrections, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

EXAMPLE

TYPED NAME, GRADE OR TITLE MSG, Jane Q. Doe, SFC	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION 788-1234	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM)	DATE
For use of this form, see AR 25-30; the proponent agency is ODISC4.							
TO: (Forward to proponent of publication or form)(Include ZIP Code) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898						FROM: (Activity and location)(Include ZIP Code)	
PART 1 - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER						DATE	TITLE
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON	
* Reference to line numbers within the paragraph or subparagraph.							
TYPED NAME, GRADE OR TITLE						TELEPHONE EXCHANGE/ AUTOVON, PLUS EXTENSION	SIGNATURE

TO: (Forward direct to addressee listed in publication) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	FROM: (Activity and location) (Include ZIP Code)	DATE
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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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