

# ROUTINE

*MWO effective date is 1 October 1984 and completion date is 3 December 1994.*

MWO 9-2350-222-30-4

## MODIFICATION WORK ORDER

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**MODIFICATION OF  
VEHICLE, COMBAT, ENGINEER, FULL-TRACKED: M728 W/E  
(2350-00-795-1797) (EIC: ABF)**

**TO PROVIDE FIELD MODIFICATION INSTRUCTIONS FOR  
REPLACEMENT OF M73/M73A1/M219, 7.62-MM MACHINE GUN  
WITH M240, 7.62MM MACHINE GUN**

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Headquarters, Department of the Army, Washington, D.C.

8 APRIL 1993

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FIELD MODIFICATION INSTRUCTIONS

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VEHICLE, COMBAT, ENGINEER, FULL-TRACKED:

M728 W/E

(2350-00-795-1797)

TO PROVIDE INSTRUCTIONS FOR  
REPLACEMENT OF M73/M73A1/M219, 7.62-MM MACHINE GUN WITH  
M240, 7.62-MM MACHINE GUN

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REPORTING OF ERRORS

You can improve this modification by recommending improvements using DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this modification and mail the form direct to Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished direct to you.

1. Purpose of Modification. This modification is to upgrade vehicle secondary armament and significantly improve combat effectiveness of the vehicle by replacing the coaxial mounted M73/M73A1/M219, 7.62-mm Machine Gun with the coaxial mounted M240, 7.62-mm Machine Gun.
2. Priority Classification.
  - a. Classification. This modification is in the ROUTINE classification. ‘

b. Equipment in Use (Including Equipment in Supply or Maintenance Activities Below Depot Level and Equipment in Administrative Storage). Equipment in use (end item) will be modified in accordance with the schedule developed by the commander and the memorandum of understanding (MOU) between H.Q., AMCCOM and the gaining command.

c. Equipment in Depot Supply or Maintenance. Serviceable equipment in depot supply or maintenance will be modified prior to issue but not later than 31 December 1994. The modification will be applied to unserviceable equipment at time of normal maintenance, or scheduled depot maintenance.

d. Prepositioned Stock. Equipment which is prepositioned will be modified during cyclic maintenance consistent with TM 38-450.

3. End Item or Systems to be Modified (table 1).

Table 1. End Item or Systems to Be Modified

Nomenclature	NSN	Part No.	Model No.	Serial No. Range
Vehicle, Combat Engineer, Full Tracked	2350-00-795-1797	8738334	M728	All

4. Modules (Components, Assemblies, Subassemblies, Boards and Cards) to be Modified. Following items listed in table 2, whether installed or in stock, will be modified.

Table 2. Items to be Modified

Nomenclature	NSN	Part No.	Qty.	Paragraph No.
Shield, Protector, Personnel	1015-00-974-3822	10905893	1	10d
Chute, Ammunition	1005-00-116-3363	10870759	1	10e
Cover, Ammunition Box	1015-00-445-9154	10905290	1	10e
	or 1015-01-020-2002	11673750	1	
Turret		10940100	1	10f and 10g

5. Part(s) to be Modified. Nonapplicable.

6. Application.

a. Time Compliance Date. These field modification instructions are effective 1 October 1984 and completion date is 31 December 1994.

b. Level of Maintenance. Direct support maintenance.

c. Applied By. Tank turret repairman (MOS 45K) and metal welder (MOS 44B), assisted by tank crew members

d. Time Required.

(1) Time for completion of modification to one end item.

(a) Total Of 7.0 man-hours using two men.

(b) Total of 4.0 hours downtime for one end item.

(2) Time for completion of one assembly or component (table 3).

Table 3. Time for Completion

Nomenclature	Part No.	Man-Hours
Shield, Protector, Personnel:	10905893	1.3
Chute, Ammunition:	10870759	0.2
Cover, Ammunition Box:	10905290 or 11673750	1.2
Turret	10940100	2.0

(3) Time for completion of one part. Not applicable.

e. Other Modifications To Be Applied Prior To Or Concurrently With This Modification. None.

7. Technical Publications Affected/Changed as a Result of these Field Modification Instructions.

TM 9-1000-202-10  
 TM 9-1005-231-10  
 TM 9-1005-231-25  
 TM 9-1005-233-10  
 TM 9-1005-233-24  
 TM 9-2300-378-20P/2-1  
 TM 9-2300-378-20P/2-2

TM 9-2300-378-35P/2-1  
 TM 9-2300-378-35P/2-2  
 TM 9-2350-222-10  
 TM 9-2350-222-20  
 TM 9-2350-222-34P/2  
 LO 9-2350-222-12

8. Supply Kits/Parts and Disposition.

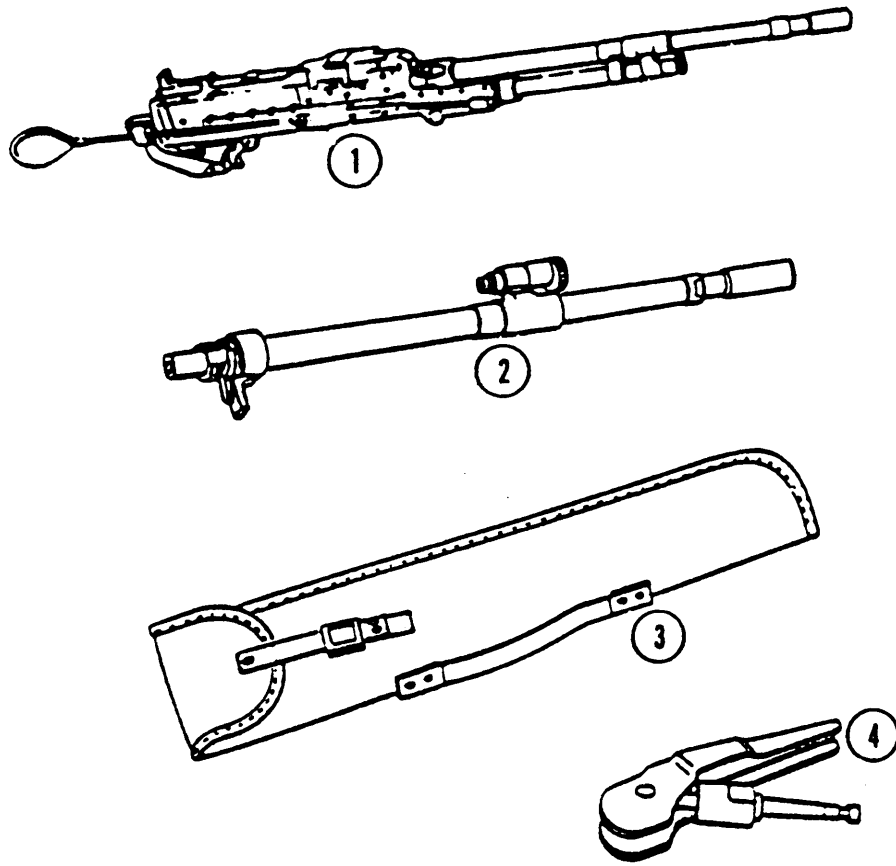
a. Kits/Parts Required To Accomplish This Field Modification.

(1) General. The M240 machine gun 11825980, barrel assembly 11825985, spare barrel case 11826275 and the ruptured cartridge case extractor 11826264 (fig. 1) are all basic issue items and are not included as components of M728 modification kit. Hardware required to perform the M728 modification is furnished in the following three packages. Contents of all packages shall be checked to assure completeness in accordance with table 4.

**NOTE**

Due to a variance in manufacturer packaging procedures, items (a) and (b) below may be received in the same package,

- (a) Coaxial mount assembly (fig 2)
- (b) Spent brass bag support hardware kit (fig. 3)
- (c) Hardware and accessories kit (fig. 4)



Legend for fig. 1:

7.82-mm machine gun M240  
Barrel assembly - 11825980

3. Spare barrel case - 11826275  
4. Ruptured cartridge case extractor  
- 11826264

Figure 1. 7.82-mm machine gun M240 and basic issue items



Table 4. Modification Kits Parts

NSN	Item Name and Part No.	Quantity Required		Figure and Item No.	
		Per End Item/System Module	Part	Fig	Item
1005-01-235-0449	MODIFICATION KIT, M240 Machine Gun Installation 12258003 (19202)	1	1		
1005-01-041-9487	Mount Assembly, Coaxial (Kit 1) 12006400 (19204)	1		2	
1005-01-046-7818	Kit, Spent Brass Bag Support Hardware (Kit 2) 12257800 (19207) Consisting of:	1		3	
1005-01-038-2399	Frame, Cartridge Bag 12006450 (19207)	1			1
5340-01-046-3849	Bracket, Support Rod, Rear 12006452 (19207)	2			2
5340-01-046-3850	Bracket, Support Rod, Front 12006453 (19207)	2			3
5305-00-978-9378	Screw, Cap MS16997-58 (96906)	3			4
5310-00-889-2528	Washer, Lock MS45904-68 (96906)	3			5
	Kit, Hardware and Accessories, M240 Machine Gun (Kit 3) 12258003 (19207) Consisting of:	1		4	
5340-00-543-3398	Strap, Webbing 8690462 (19207)	2			2
5340-00-764-2334	Loop, Strap Fastener MS51939-1 (96906)	4			1
7690-00-880-1184	Decal 10873596 (19207)	1			10
1005-01-061-0799	Deflector Cover 12257550 (19207)	1			3
1005-01-061-0798	Shield, Heat 12257530 (19207)	1			4
1005-01-061-0797	Collar, Heat Shield 12257531 (19207)	1			5
5305-00-988-1727	Screw, Machine MS35206-283 (96906)	4			6
5310-00-582-5965	Washer, Lock MS35338-44 (96906)	4			7
5310-00-184-8992	Washer, Thrust MS9320-14 (96906)	4			8

Table 4. Modification Kits Parts - Continued

NSN	Item Name and Part No.	Quantity Required Per End Item/System		Figure and Item No.	
		Module	Part	Fig	Item
5306-01-070-7096	Screw, Cap MS18153-113L (96906)	4		4	9
9905-01-064-6398	Plate, Instruction 12257644 (19207)	1			16
1005-01-066-3837	Plate, Retainer 12257732 (19207)	1			11
5305-00-957-6266	Screw, Machine MS35190-252 (96906)	4			12
5310-00-809-8544	Washer, Flat MS27183-7 (96906)	4			13
5310-00-045-3299	Washer, Lock MS35338-42 (96906)	4			14
5310-00-934-9757	Nut, Plain, Hex MS35649-282 (96906)	4			15

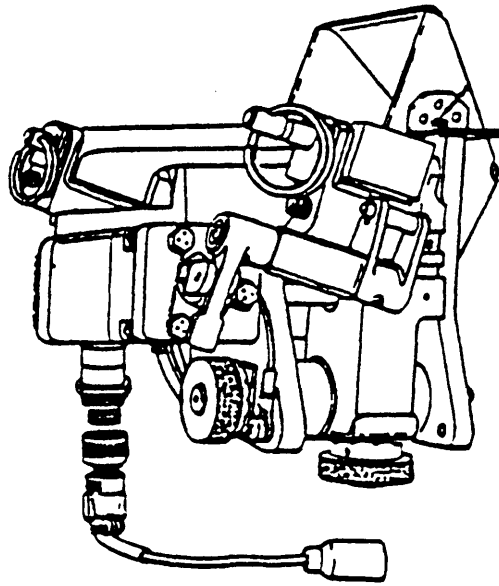
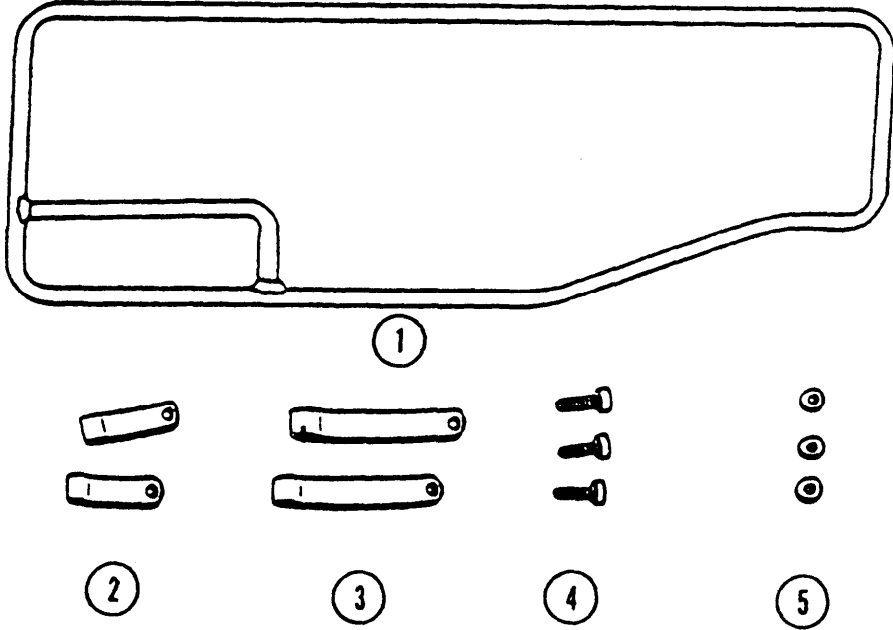


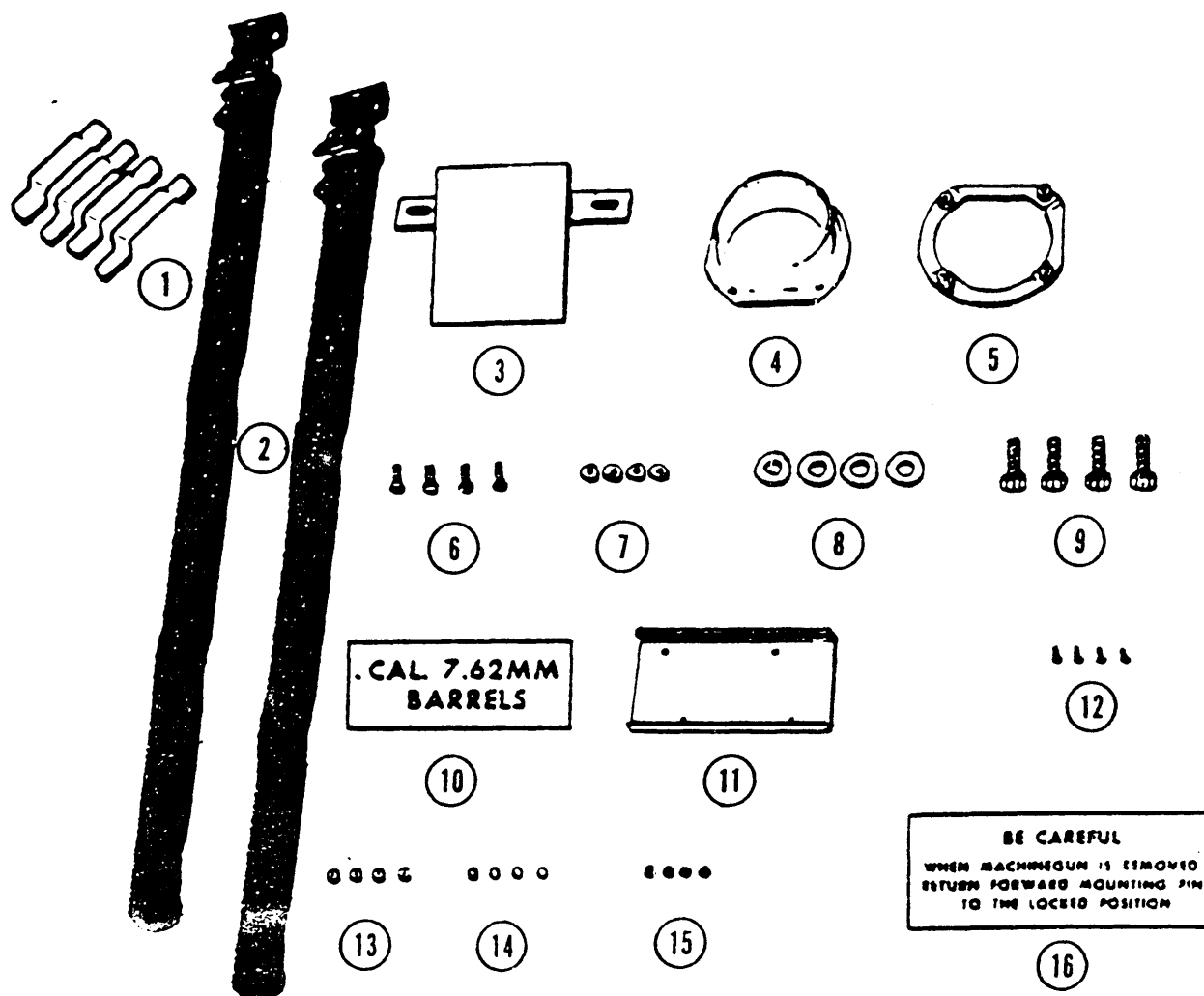
Figure 2. Coaxial mount assembly 12006400



Legend for fig. 3:

- 1. Cartridge bag frame - 12006450
- 2. Rear support rod bracket - 12006452
- 3. Front support rod bracket - 12006453
- 4. Cap screw - MS16997-38
- 5. Lockwasher - MS45904-68

Figure 3. Spent brass bag kit



Legend for fig. 4:

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1. Loop, strap fastener - MS51939-1 | 9. Cap screw - MS18153-113L       |
| 2. Strap, webbing - 8690462         | 10. Decal - 10873596              |
| 3. Deflector cover - 12257550       | 11. Retainer plate - 12257732     |
| 4. Heat shield - 12257530           | 12. Machine screw - MS35190-252   |
| 5. Heat shield collar - 12257531    | 13. Flat washer - MS27183-7       |
| 6. Machine screw - MS35206-283      | 14. Lockwasher - MS35338-42       |
| 7. Lockwasher - MS35338-44          | 15. Hex plain nut - MS35849-282   |
| 8. Thrust washer - MS9320-14        | 16. Plate, instruction - 12257644 |

Figure 4. Hardware and accessories kit

(2) Kits: Table 5 contains a listing of National Stock Numbers, weight, dimensions and volume (cu ft).

Table 5. Modification Kit Dimensions

Modification Kit	NSN	Weight (lb)	Dimensions (inch)	Cube (cu ft)
Assembly, Coaxial Mount (Kit 1)	1005-01-041-9487	33.0	14 length x 9.75 width x 9.50 height	0.75
Kit, Spent Brass Bag Support Hardware (Kit 2)	1005-01-046-7818	2.25	18 length x 6.5 width x 1.0 height	0.07
Kit, Hardware and Accessories, M240 Machine Gun (Kit 3)		5.25	27.5 length x 8.5 width x 5.5 height	0.23
Modification Kit, M240 Machine Gun Installation/ M728 CEV		40.50		1.05

b. Distribution and Issue Instructions.

- (1) US Forces: Do not requisition kits. They will be shipped automatically as detailed in the memorandum of understanding (MOU).
- (2) US Army Depots: Requisition required kits through supply channels.
- (3) MAP/MAS Countries: Special shipping instructions shall be provided for MAP/MAS countries.

c. Bulk and Consumable Materials. None.

d. Parts Disposition.

- (1) Turn-in of removed parts. The parts listed in table 6 will be returned to stock in accordance with AR 753-1.

**NOTE**

The kits are to be requisitioned from HQ, AMCCOM, B14, ATTN: AMSMC-MMD. One kit is authorized for each twelve vehicles requiring modification. After all the vehicles in the command have been modified, the kits will be returned to HQ, AMCCOM, ATTN: AMSMC-MAG-S, Rock Island, IL 61299-6000.

Table 6. Parts to be Returned to Stock

NSN	Item	Part Number	Qty	Fig.	Item
1005-00-869-8818	MACHINE GUN, M73 (or)	12002935 (11013375)	1	7	17
1005-00-937-7323	MACHINE GUN, M73A1 (or)	12002936 (11013440)	1		17
1005-00-077-2354	MACHINE GUN, M219	12002937 (8448760)	1		17
1005-00-869-8817	SUPPRESSOR, FLASH	11013376	1		16
	MACHINE GUN BRACKET GROUP, Consisting of:				
1015-00-440-8822	SHIELD, SHELL EJECTING	10893550	1		1
1015-00-446-9839	SUPPORT, SHIELD	10893552	1		4
1015-00-672-8646	BRACKET, MOUNTING	10905584	1		5
1015-00-791-1543	PLATE, DEFLECTOR	10887522	1		12
1015-00-672-8598	RETAINER	10870844	1	27	3
1015-00-774-9444	BRACKET	10886889	1		4
1015-00-901-1597	BRACKET	10886892	1		8

(2) Disposal of excess parts. Dispose of parts listed in table 7 in accordance with AR 710-2.

Table 7. Excess Parts

Nomenclature	Part No.	Qty	Fig.	Item
HEATSHIELD ASSEMBLY (M219)	10918014	1	8	6
SCREW	MS35225-64	4		7
WASHER	MS35338-24	4		3
NUT	MS35649-102	4		2
SETSCREW	11626652-2	3	6	
BOLT, SELF-LOCKING	10870909	2	7	13
WASHER, FLAT	MS27183-18	2		14
BOLT, SHOULDER	10870908	1		15
RETAINER	10905280-1	2	11	A
SPRING, FLAT	7738980	2	20	
DECAL	10873596	1	4	10
WASHER, LOCK	MS35338-44	6	7	2
SCREW, CAP	MS90728-5	4		3
SCREW, SOCKET-HEAD	MS16998-98	2	27	1
WASHER, LOCK	279332PC2	2		2
NUT, SELF-LOCKING, HEXAGON	MS21083-N-5	4		5
NUT, PLAIN, HEXAGON	MS35691-13	4		6
SETSCREW	223076	2		7
SCREW, HEX-HEAD	MS90727-114	2		9
WASHER, LOCK	MS35338-48	2		10



Table 7. Excess Parts - Continued

Nomenclature	Part No.	Qty	Fig.	Item
WASHER, FLAT	MS27183-18	2	27	11
SETSCREW	AN565-F524H28	2		12
SCREW, CAP	MS90725-5	2		7
CLAMP, LOOP	8370413	2		8
NUT, PLAIN	MS35649-282	1		9
WASHER, LOCK	MS35338-42	1		10
STUD, SNAP FASTENER	MS27977-13B	1		11

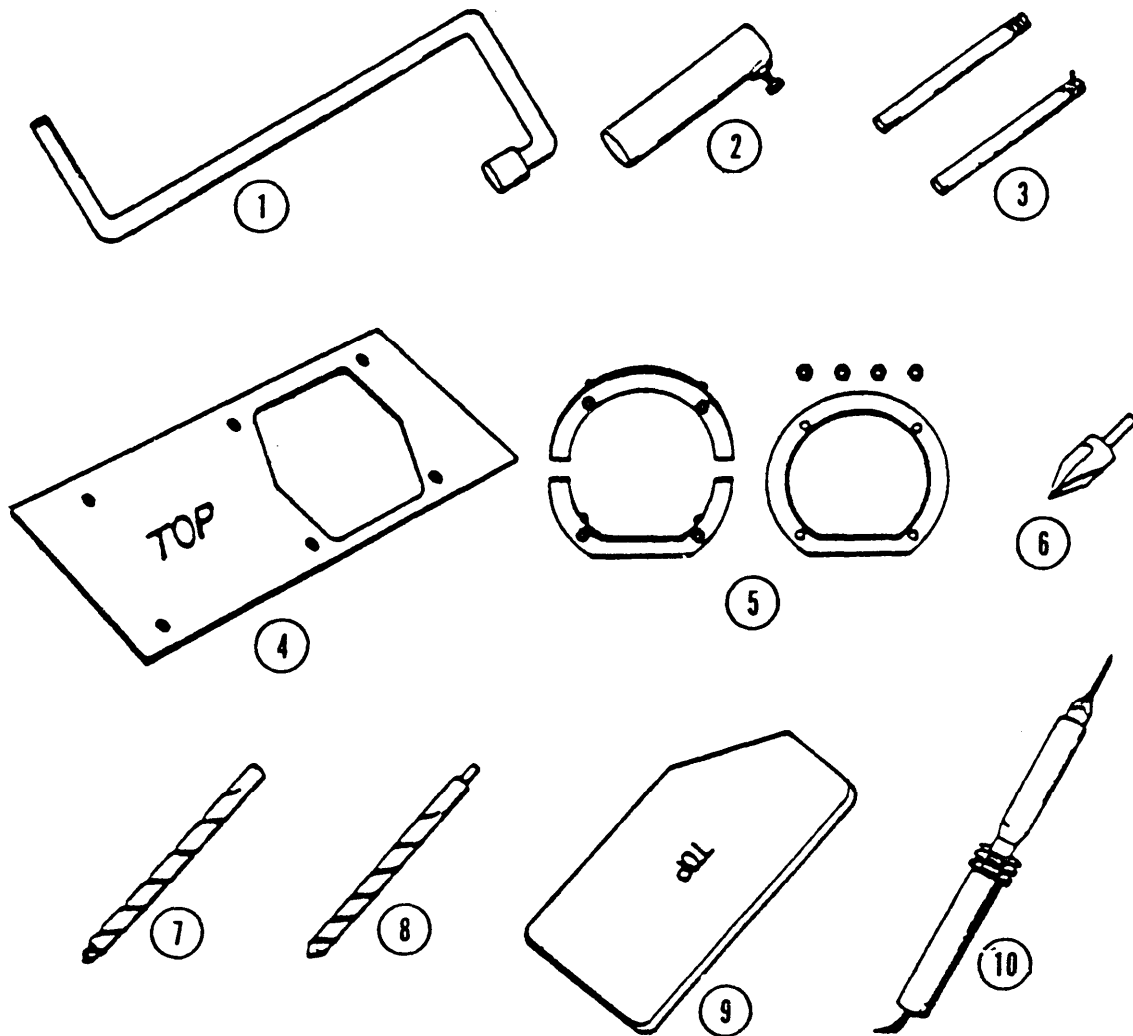
(3) Special remark. Machine guns and mounts are to be exchanged on a one-for-one basis. Upon installation of the gun and mount, property book officers will adjust their records accordingly.

9. Special Tools; Jigs, Test, Measurement, and Diagnostic Equipment (TMDE); and Fixtures Required (table 8 and fig. 5).

Table 8. Special Tools; Jigs; Test, Measurement and Diagnostic Equipment (TMDE); and Fixtures Required

Nomenclature	NSN	Part No.	Qty.	Fig.	Item
TOOL KIT, SPECIAL: M240 Machine Gun and Coaxial Mount Installation	1005-01-048-8571	5911223	1	5	
Consisting of:					
Wrench Assembly	N/A	7541548	1		1
Stud Alinement, Heat Shield	N/A	7541636	2		3
Template, Ammo Box Cover	N/A	7541635	1		4
**Template, Cutting Guide	N/A	7541198	1		5
Countersink Tool, 82	5133-00-239-0786	N/A	1		6
Drill, Step, 1/2 Inch	N/A	7541637	1		7
Drill, Twist, 7/16 Inch Modified	N/A	7541547	1		8
Template, Ammo Chute	N/A	7541546	1		9
**Soldering Iron, Blade Tip	N/A	7541196	1		10

\*\* Not packaged in Tool Kit 5911223. Notify HQ, TACOM, ATTN: AMSTA-MRP, Warren, MI 48090 upon modification completion so that these parts can be shipped to other locations.



Legend for fig. 5:

- |   |   |
|---|---|
| 1. Wrench assembly - 7541548                                | 8. 82 degree countersink tool             |
| 2. Propane torch adapter - 7541639                          | *7. 1/2-inch step drill - 7541637         |
| 3. Heat shield alignment studs - 7541636                    | *8. 7/16-inch twist drill (mod) - 7541547 |
| 4. Ammo box cover template - 7541635                        | 9. Ammo chute template - 7541546          |
| 5. Cutting guide template - 7541198<br>and nuts MS35649-102 | 10. Soldering iron, blade tip - 7541196   |

Items 7 and 8 are used only in M60A1 modification (MWO 0-2300-301-30-1).

Figure 5. Special tool kit

10. Modification Procedure.

**WARNING**

Make sure that all ammunition is removed from the vehicle before apply these field instructions

Make sure that there are no live rounds in the main gun, the 7.62-mm or caliber .50 machine gun chambers.



**CAUTION**

Before proceeding with the modification of the personnel protector shield, check and make absolutely sure that the coaxial machine gun opening in the shield is in alinement with the machine gun opening bore in main gun shield.



- a. Check contents of all packages of the modification kit with table 4 to assure completeness.

NOTE

The main gun may be elevated or depressed as required to facilitate the modification.

- b. Removal of 7.62-mm Machine Gun and Machine Gun Bracket Group.

- (1) Remove three set screws 11626652-2 that aline the M73/M73A1/M219 machine gun in the mantlet tube (fig. 6).

- (2) Remove empty cartridge bag in accordance with TM 9-2350-222-10.

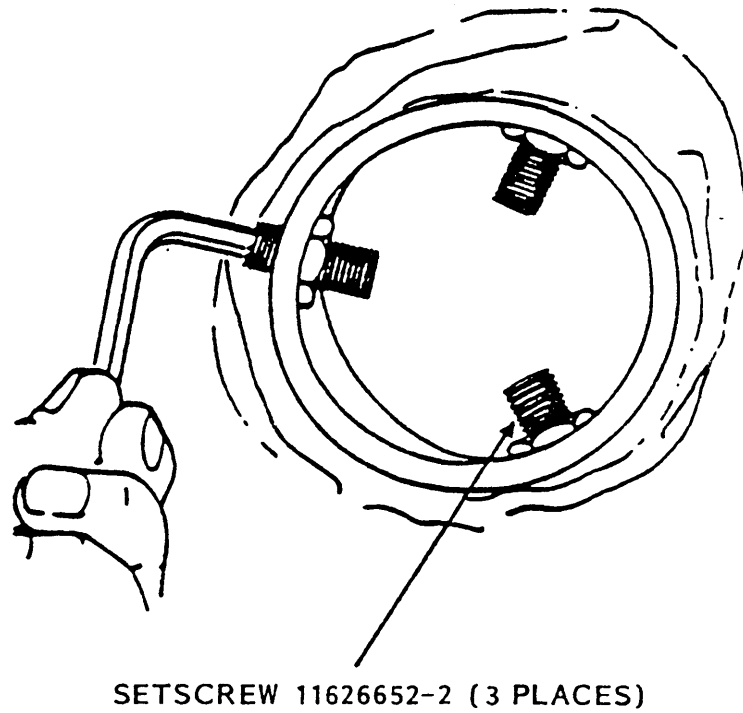


Figure 6. Removal of set screws from mantlet

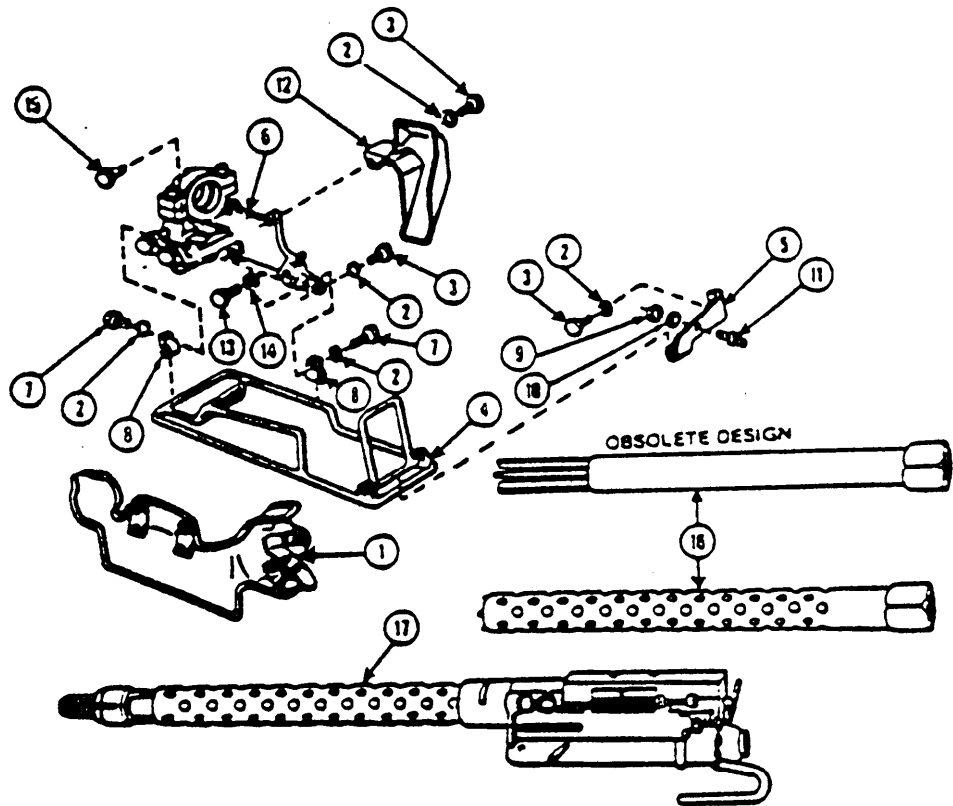
- (3) Remove the 7.62-mm machine gun and nylon case ejection shield 10893550 in accordance with figure 7 and TM 9-2350-222-10.
- (4) Remove the machine gun bracket assembly 10886891 in accordance with figure 7 and TM 9-2350-222-20.
- (5) Remove the mounting bracket 10870898 in accordance with figure 7 and TM 9-2350-222-20.

c. Removal of Heatshield 10916014 (fig. 8).

- (1) Using wrench 7541548 (1, fig. 5) and a screwdriver, remove the bottom screw MS35225-64, nut MS35649-102, and washer MS35338-24, securing the heatshield 10916014 to the protector shield 10905893 (fig. 8).
- (2) Continuing in clockwise direction, remove the three remaining screws, nuts, and washers.
- (3) Remove heatshield 10916014 and backplate. (Backplate may be bent to facilitate removal).

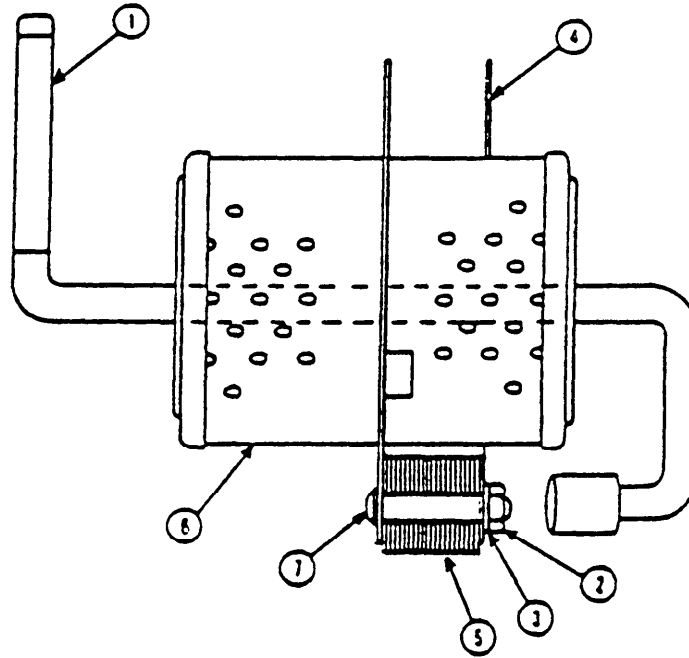
**NOTE**

If nuts, washers, or backplate fall behind the protector shield during removal and cannot be retrieved, leave items where they are until the protector shield hole is modified. Then retrieve items, if possible to c 30 without removing protector shield.



- |                                |                                  |
|--------------------------------|----------------------------------|
| 1. Shield - 10893550           | 10. Washer - MS35338-42          |
| 2. Washer - MS35338-44         | 11. Stud - MS27977-13B           |
| 3. Screw - MS90728-5           | 12. Plate - 10887522             |
| 4. Support - 10893552          | 13. Bolt - 10870909              |
| 5. Bracket - 10870898          | 14. Washer - MS27183-18          |
| 6. Bracket assembly - 10886891 | 15. Bolt - 10870908              |
| 7. Screw - MS90725-5           | 16. Suppressor, flash - 11013376 |
| 8. Loop clamp - 8370413        | 17. Machine gun M73/M73A1/M219   |
| 9. Nut - MS35649-282           |                                  |

Figure 7. Removal of M73/M73A1/M219 machine gun and equipment.



- |                              |  |
|------------------------------|--|
| 1. Wrench assembly - 7541548 | 5. Personnel protector shield - 10905893 |
| 2. Nut - MS35649-102         | 6. Heatshield - 10916014                 |
| 3. Washer - MS35338-24       | 7. Screw - MS35225-64                    |
| 4. Backplate                 |  |

Figure 8. Protector shield and components

d. Modification of Personnel Protector Shield, 10905893.

- (1) Adjust elevation of the main gun tube as necessary to reduce the creases and wrinkles from the heatshield mounting area of the protector.
- (2) Install the two half-rings of template (5, fig. 5) on rear side of protector shield with mounting studs protruding through heatshield mounting holes. Make sure that half-ring with straight side is installed on the right, with straight side adjacent to the main gun recoil assembly (A, fig. 9).
- (3) Install the whole ring on the front side of the protector shield over the half-ring mounting studs, Make sure straight side of ring is adjacent to the main gun recoil assembly (A, fig. 9).
- (4) Install four mounting nuts MS35649-102 on studs and tighten securely.

**WARNING**

Make sure mantlet tube is unobstructed ammunition has been removed, a CO<sub>2</sub> type fire extinguisher is available, safety goggles or a face shield is worn, and tank ventilation system is turned on.

- (5) Plug power cord of soldering iron (10, fig. 5) into 115 volt power source and allow iron to heat for approximately five minutes.



(6) Place blade tip of soldering iron against inner diameter of cutting guide template. Rotate iron around the inner diameter slowly to enlarge mounting hole by cutting/melting away the protruding edge of the nylon shield (B, fig. 9).

(7) Allow the template and area to cool and remove template.

(8) Trim melted nylon from edges of the mounting hole with a knife, hacksaw blade or other suitable tool (C, fig. 9).

e. Modification of Ammunition Box Cover 10905290 or 11673750.

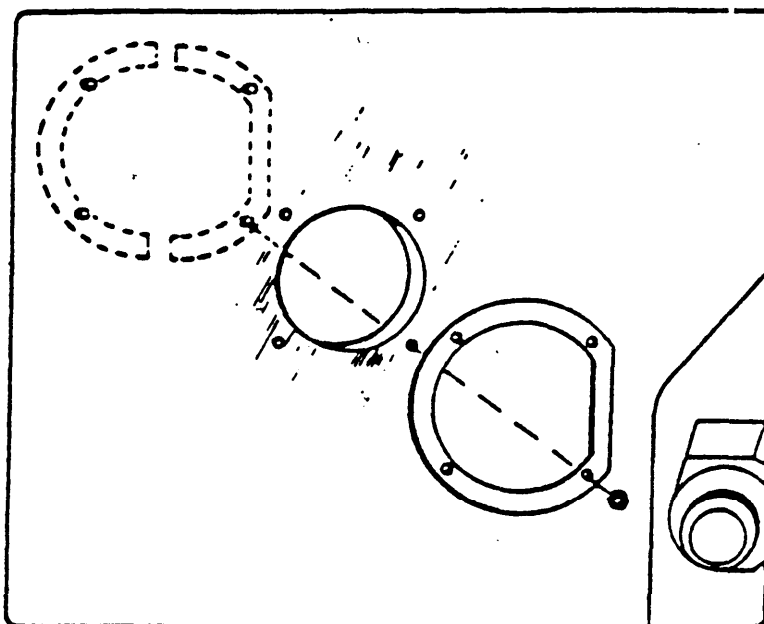
NOTE

Cover assembly 11673750 is equipped with chute 11673735. Cover assembly 10905290 is equipped with chute 10870759. Both chutes are acceptable; however, chute 10870759 must be modified before reinstallation.

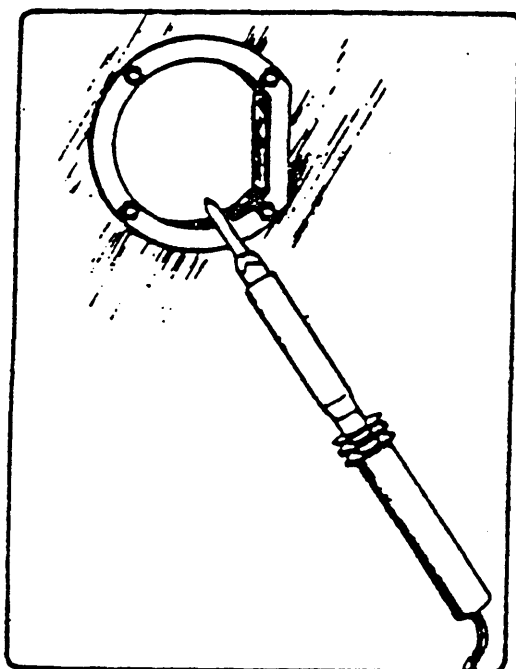
(1) Unlatch and remove the 7.62-mm machine gun cover 10905290 or 11673750 (fig. 10).

(2) Remove four nuts, lockwashers, flat washers, screws, and chute from the cover (fig. 10).

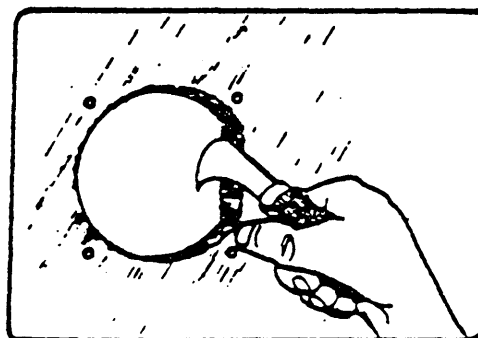
(3) Place cover on a flat surface and center punch the spot welds on the two short retainers 10905280-1 to a depth approximately 1/8 inch (A, fig. 11).



A. INSTALLATION OF CUTTING GUIDE TEMPLATE



B. CUTTING/MELTING OF NYLON SHIELD



C. TRIMMING AWAY MELTED NYLON

Figure 9. Modification of personnel protector shield

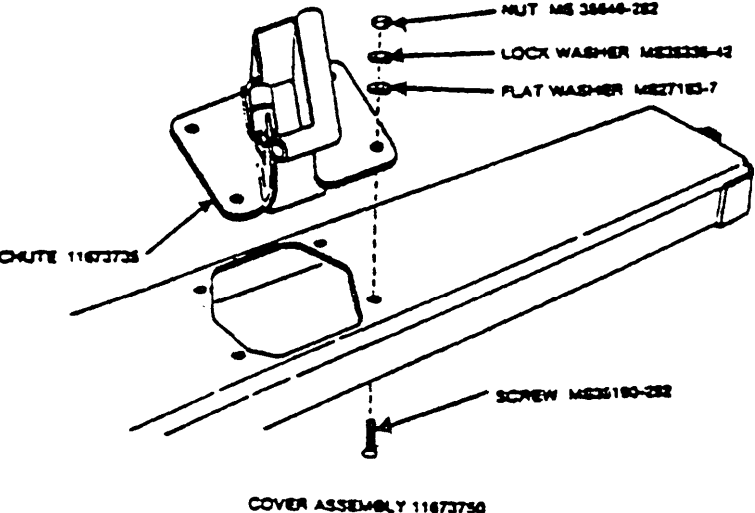
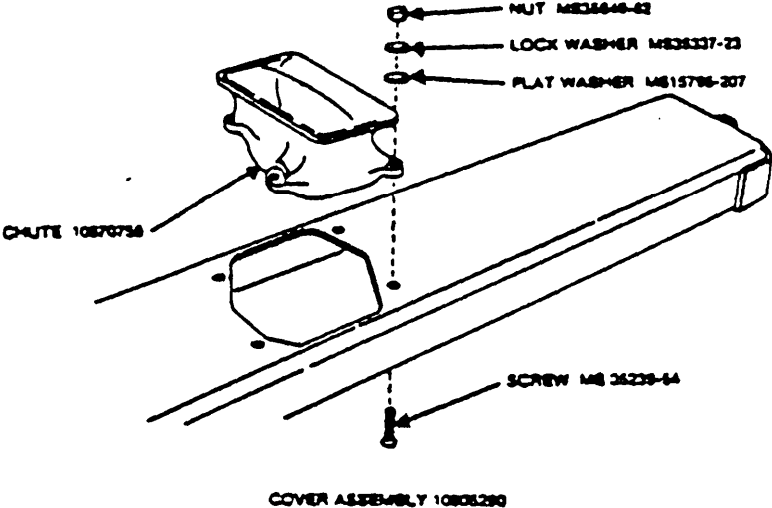
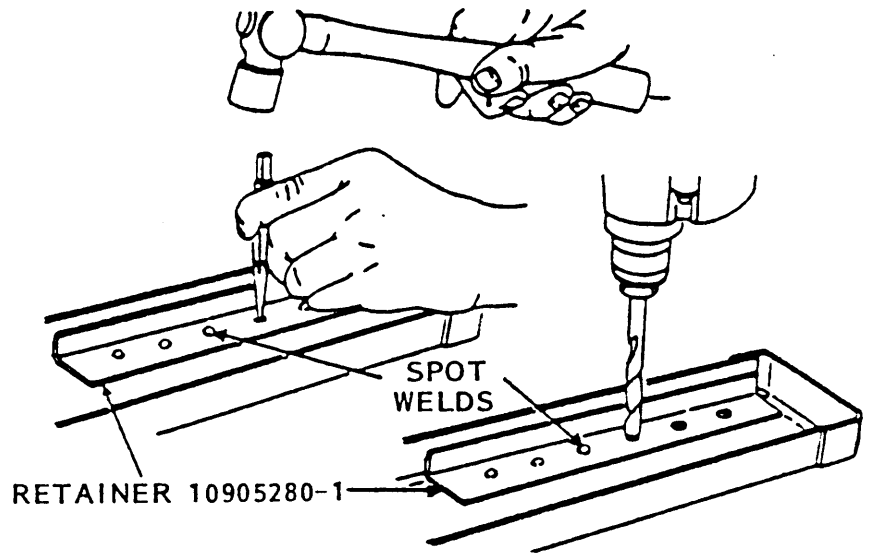
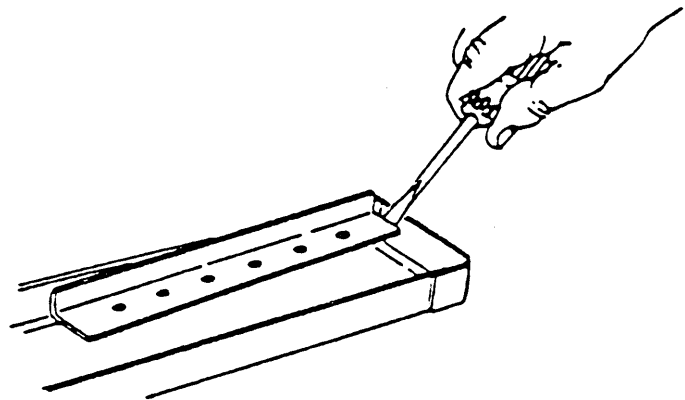


Figure 10. Removal of chute from cover assembly



A. CENTER PUNCH AND DRILL OUT SPOT WELDS ON RETAINERS 10905280-1 (UNDERSIDE OF COVER)



B. LIFT OUT THE RETAINERS

Figure 11. Removal of retainers from cover

- (4) Install step drill 7341637 (7, fig. 5) into an electric drill and align the tip of the drill with the center punched area of the spot weld(s). Commence drilling carefully until the step on the drill (large diameter) contacts the retainer assembly. After all spot welds are drilled to this depth pry up each retainer with a screwdriver or chisel (B, fig. 11).
- (5) Place template 7541635 (4, fig. 5) on top of cover (fig. 12). Align the two mounting holes on the left side of the template with the two mounting holes on the right side of the cover.
- (6) Using a scribe, pencil, or other suitable marking instrument, trace the outline of the four chute mounting holes and the access opening on top of the cover (fig. 12).
- (7) Center punch the four mounting holes. Place cover in a vise and drill out the holes using a 3/16-inch drill bit (A, fig. 13).
- (8) using countersink tool 5133-00-239-0786 (6, fig. 5), countersink the underside of the four mounting holes until the mounting screw heads are slightly below flush when installed (B, fig. 13).

**NOTE**

The following operations (9) and (10) may be performed by using a bayonet (saber) saw with metal cutting blade.

- (9) Drill a series of adjoining or Overlapping holes around the inner circumference of the chute access opening (marked in (6) above) with a 1/4, 3/8, or 7/16-inch drill bit (A, fig. 13).

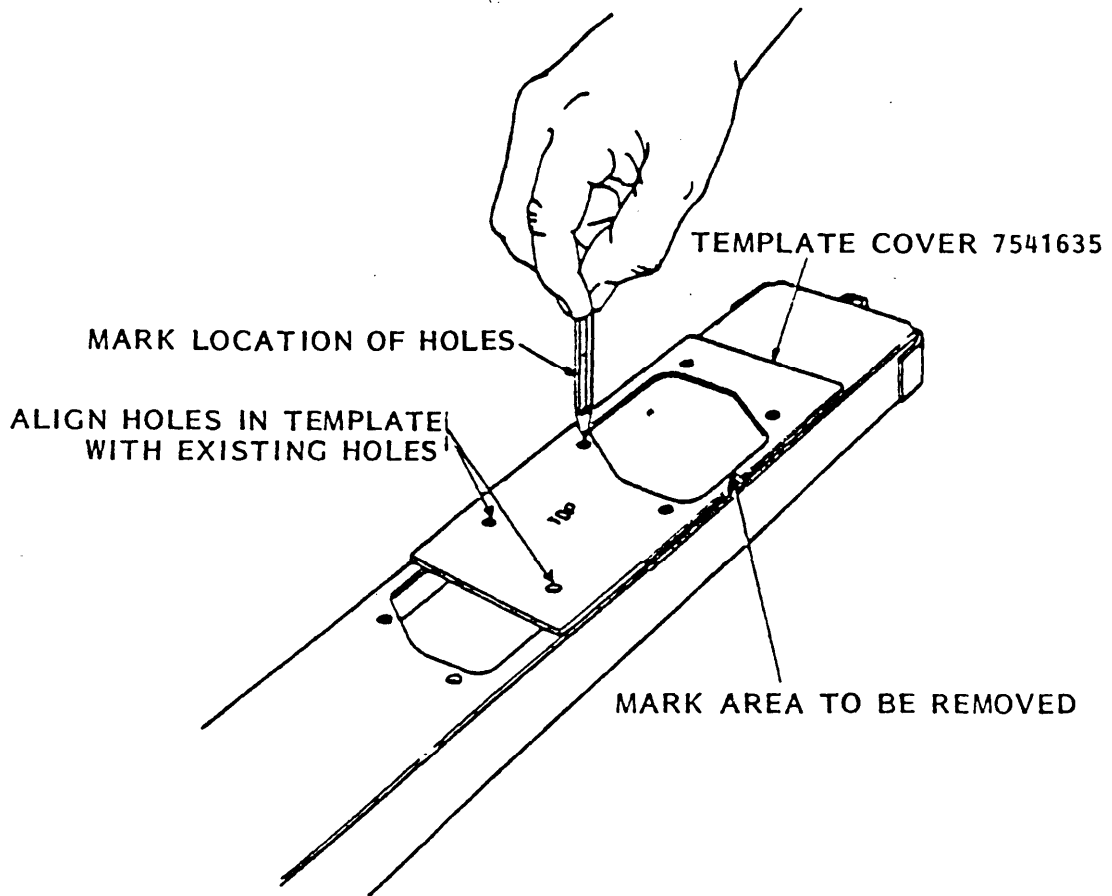


Figure 12. Marking of cover

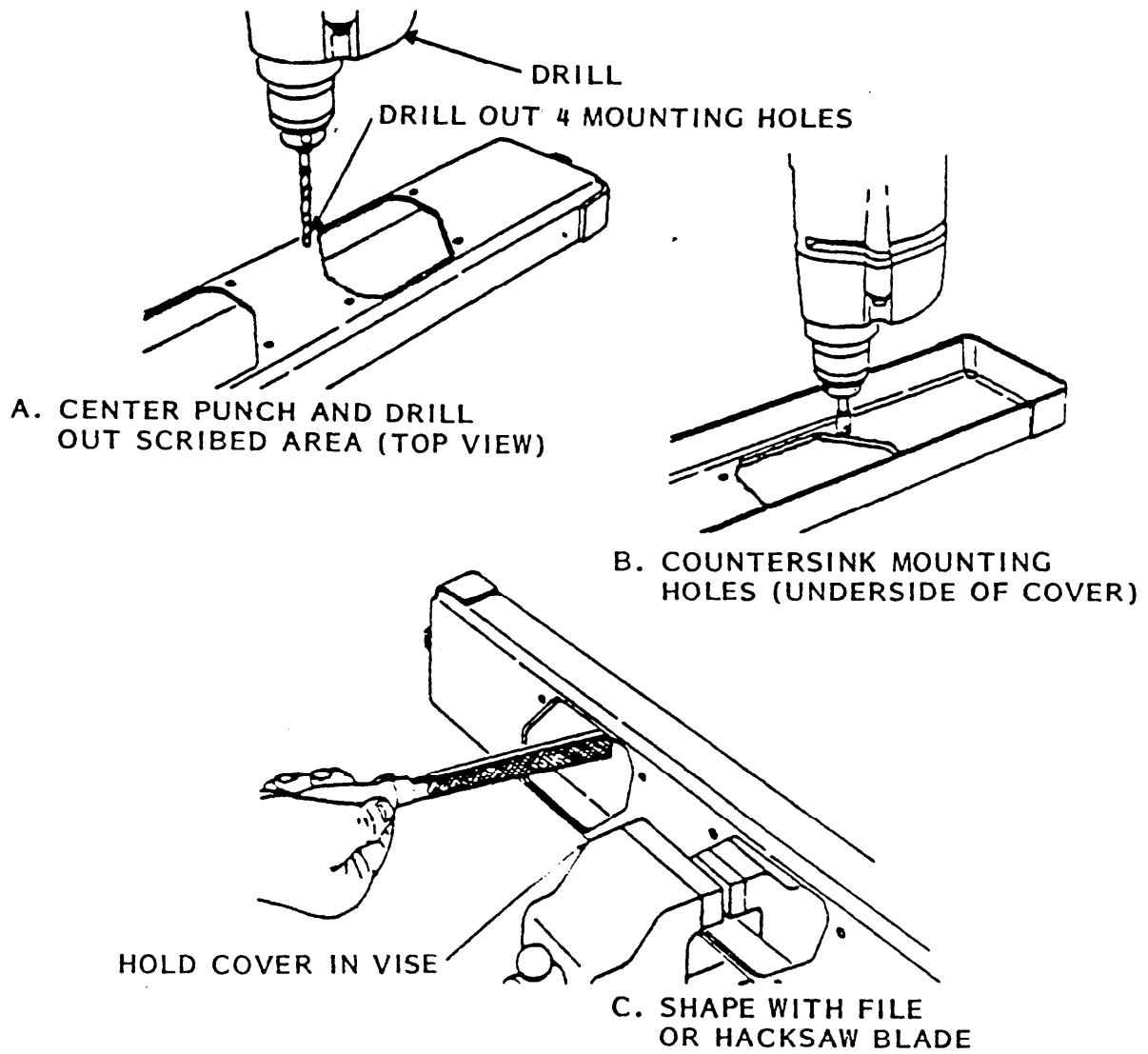


Figure 13. Modification of cover

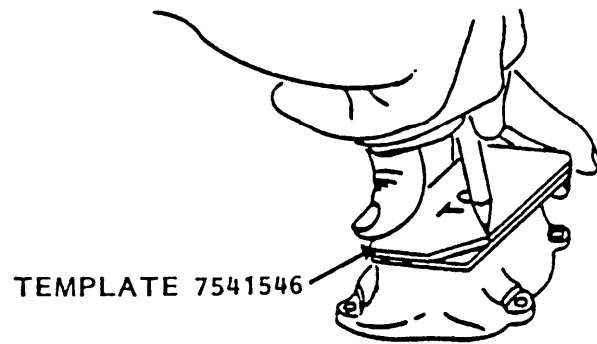
## MWO 9-2350-222-304

- (10) File, saw, or grind as necessary to shape the opening as previously marked and remove all burrs and sharp edges (C, fig. 13).
- (11) Place template 7541546 (9, fig. 5) on chute 10870759 and mark the area to be removed (A, fig. 14). (Chute 11673735 does not require modification).
- (12) Saw off the marked portion of the chute lip with a hacksaw and file or grind off all burrs and sharp edges (B, fig. 14).
- (13) Prime reworked surface with primer (Spec. TT-P-1757) and topcoat, color white (Spec. TT-E-489).
- (14) Place retainer plate 12257732 on the underside of the original chute mounting area and fasten with four screws MS35190-252, flat washers MS27183-7, lockwashers MS35338-42, and nuts MS35649-282 (fig. 15).
- (15) Assemble chute to the cover with the four screws, flat washers, lockwashers, and nuts previously removed (fig. 16).

### f. Modification of Turret 10940100.

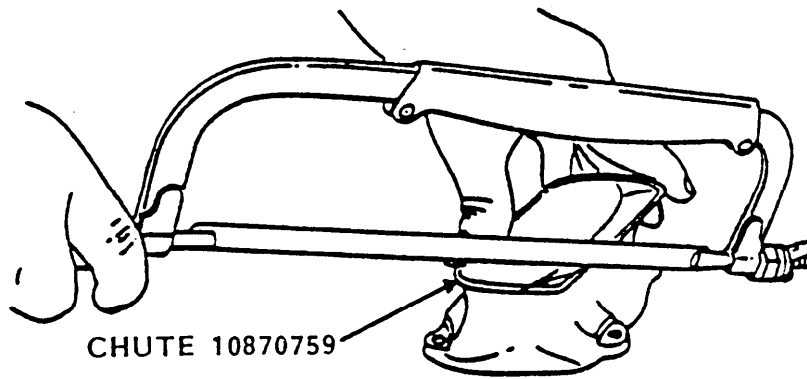
- (1) Locate in position the four strap fastener loops MS51939-1 (fig. 17).
- (2) Weld strap fastener loops in place (fig. 18).





TEMPLATE 7541546

A. MARK AREA OF LIP TO BE REMOVED



CHUTE 10870759

B. SAW OFF MARKED AREA WITH HACKSAW

Figure 14. Modification of chute

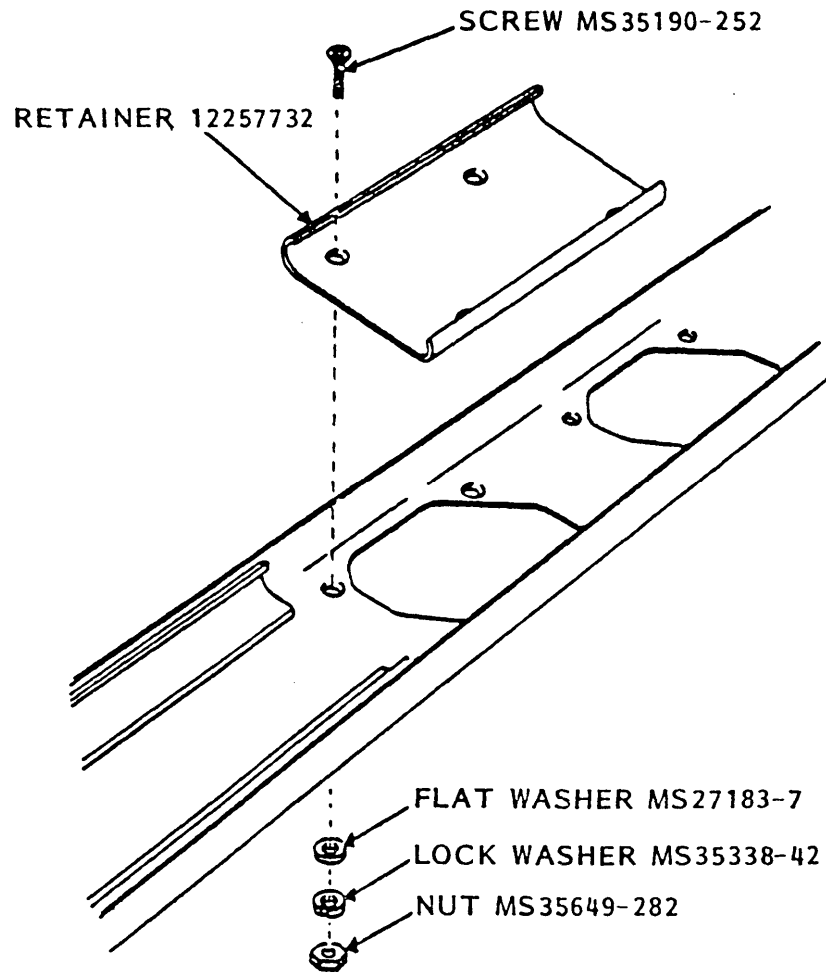


Figure 15. Installation of retainer plate

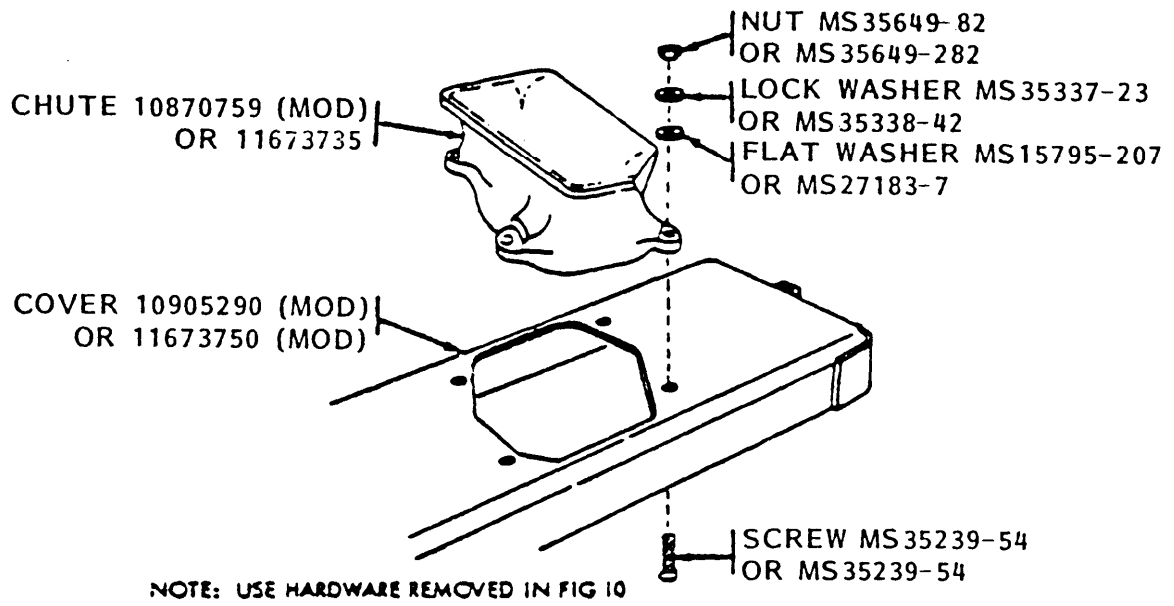


Figure 16. Installation of chute

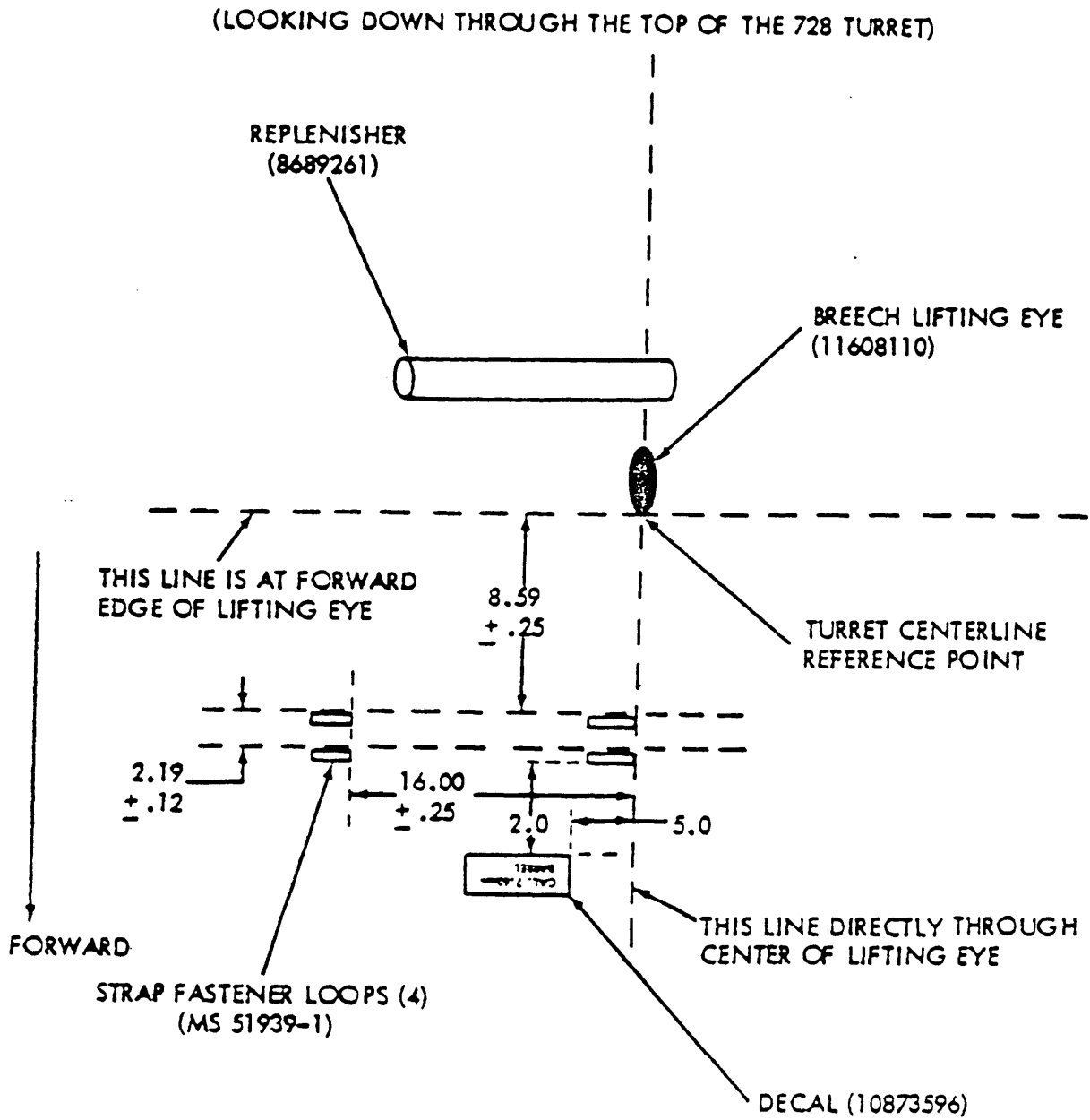


Figure 17. Positioning of strap fastener loops, decal and webbing straps

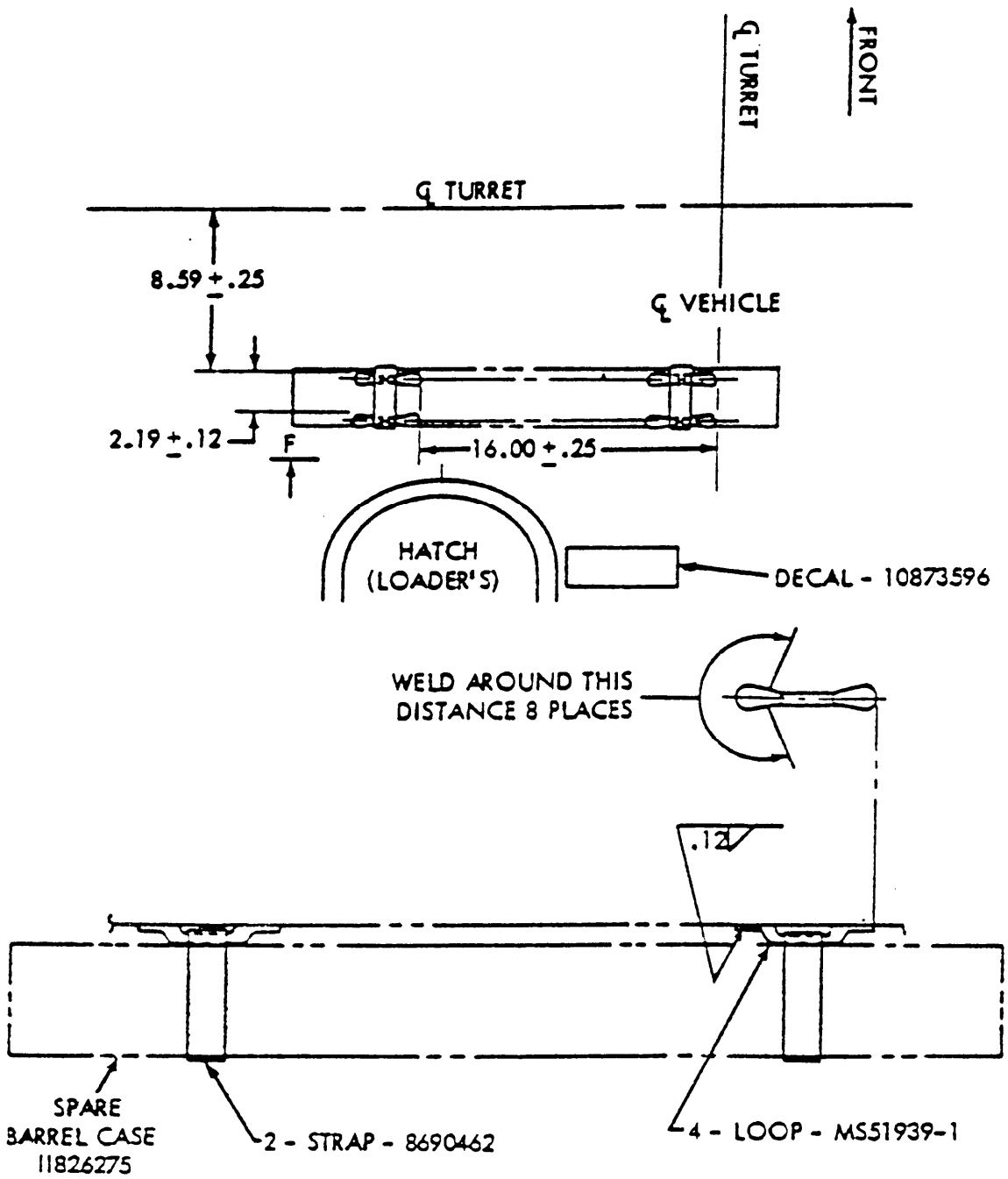
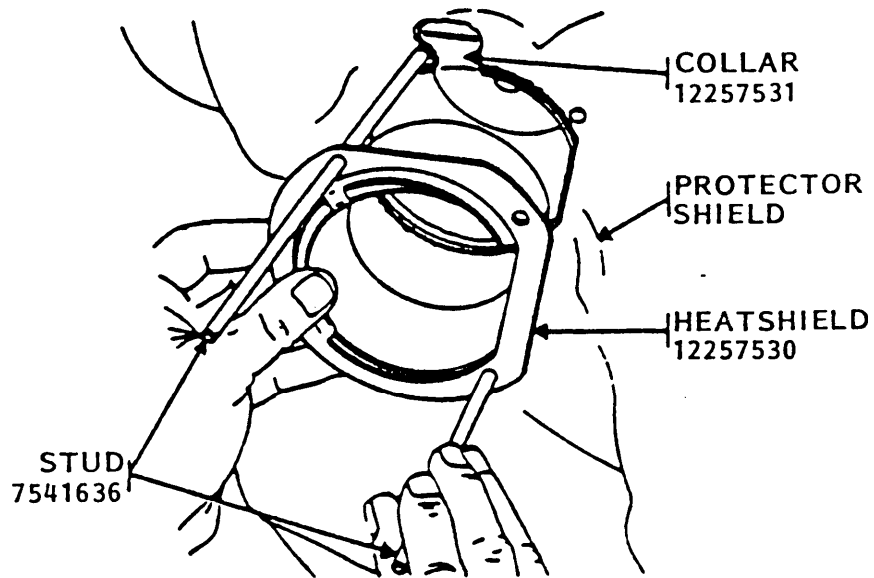


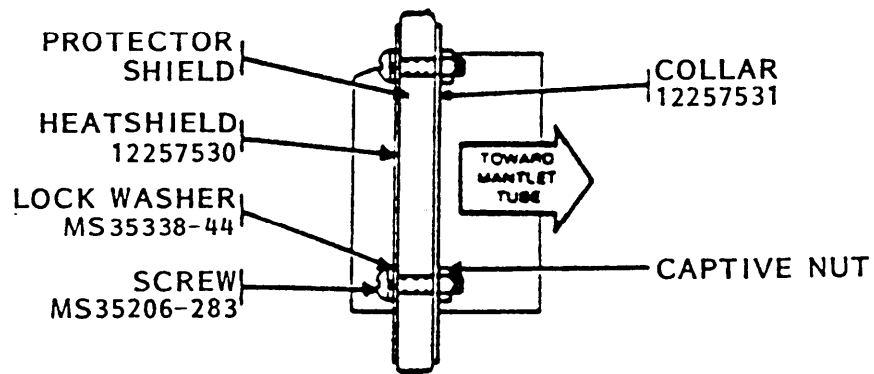
Figure 18. Weldment of strap fastener loops

g. Installation of Components.

- (1) Install collar assembly 12257531 through protector hole and hold in place. Make sure that the Straight portion of the inner surface faces the main gun recoil mechanism. Collar may be bowed slightly to facilitate installation. Captive nuts must face away from the protector shield (A fig. 19).
- (2) Install two studs 7541636 (3, fig. 5) through any two diagonally opposed mounting holes in the protector shield and thread them into the captive nuts (A fig. 19).
- (3) Aline heatshield 12257530 with collar and install heatshield on studs. Slide heatshield forward through the protector hole and collar (A, fig. 19).
- (4) Place lockwashers MS35388-44 on screws MS35206-283 and install two each through the heatshield flange and into the captive nuts (B, fig. 19).
- (5) Remove two alignment studs and install the two remaining screws and lockwashers.
- (6) Remove nuts MS51922-17, washer MS27183-15, and ballistic clamps 7738980 from the two upper left protector shield mounting studs directly above the heatshield A, fig. 20). Discard the ballistic clamps.
- (7) Position deflector cover 12257550 over the two studs with the long flat portion of the plate facing upward. Install nuts and washers previously removed (B, fig. 20).



A. INSTALLATION OF COLLAR AND HEATSHIELD



B. ASSEMBLED VIEW SHIELD 12257532

Figure 19. Installation of collar and heatshield

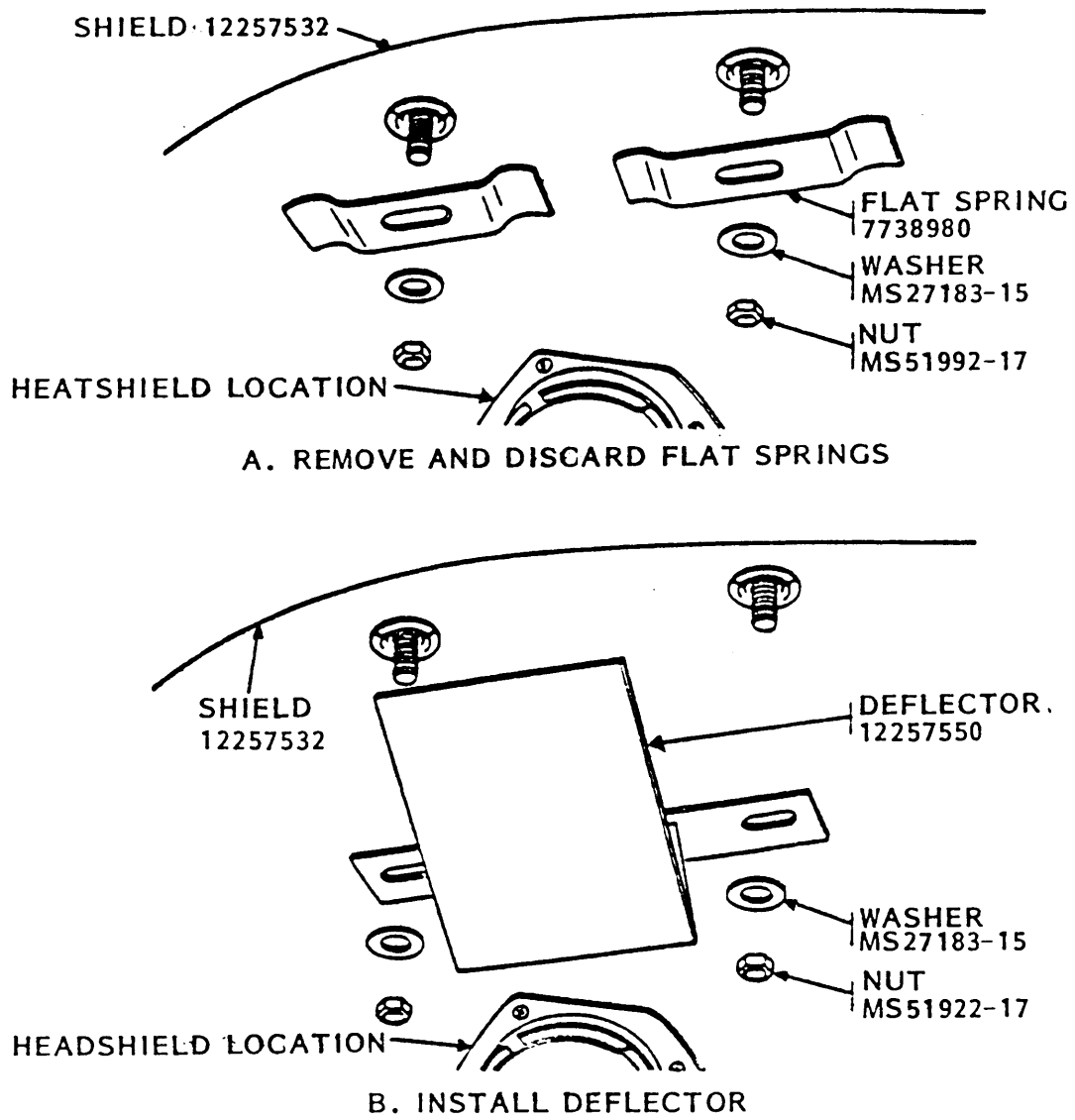


Figure 20. Installation of deflector

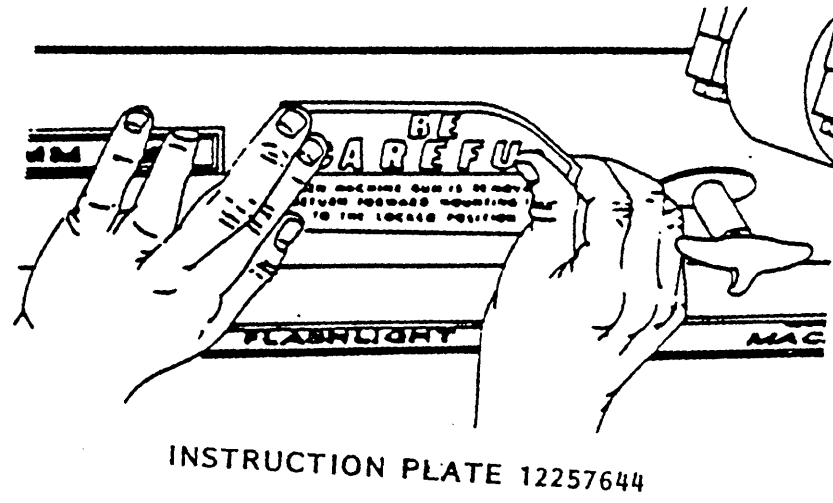


- (8) Peel off protective backing from instruction plate 12257644 and fasten instruction plate to the top left panel of the ammo box (fig. 21).
- (9) Install straps 8690462 through strap fastener loop (fig. 17).
- (10) Remove protective backing from decal 10873596 and position decal to roof of turret (fig. 17).

NOTE

During the following procedures it may be necessary to bend or twist the mounting brackets to obtain a proper fit. Do not tighten the mounting screws until the cartridge bag frame is properly positioned.

- (11) assemble cartridge bag frame 12006450 to the mount assembly 12006400 as follows (fig. 22).
  - (a) Remove screw MS16997-58 and lockwasher MS45904-68 from the solenoid ground wire
  - (b) Attach two loop clamps 12006453 to the front of frame assembly 12006450 and fasten to the mount with two screws MS16997-58 and lockwashers MS45904-68. Bend right loop clamp to fit at assembly.
  - (c) Attach two loop clamps 12006452 to rear of frame assembly 12006450.



**Figure 21** Installation of instruction plate, 12257644

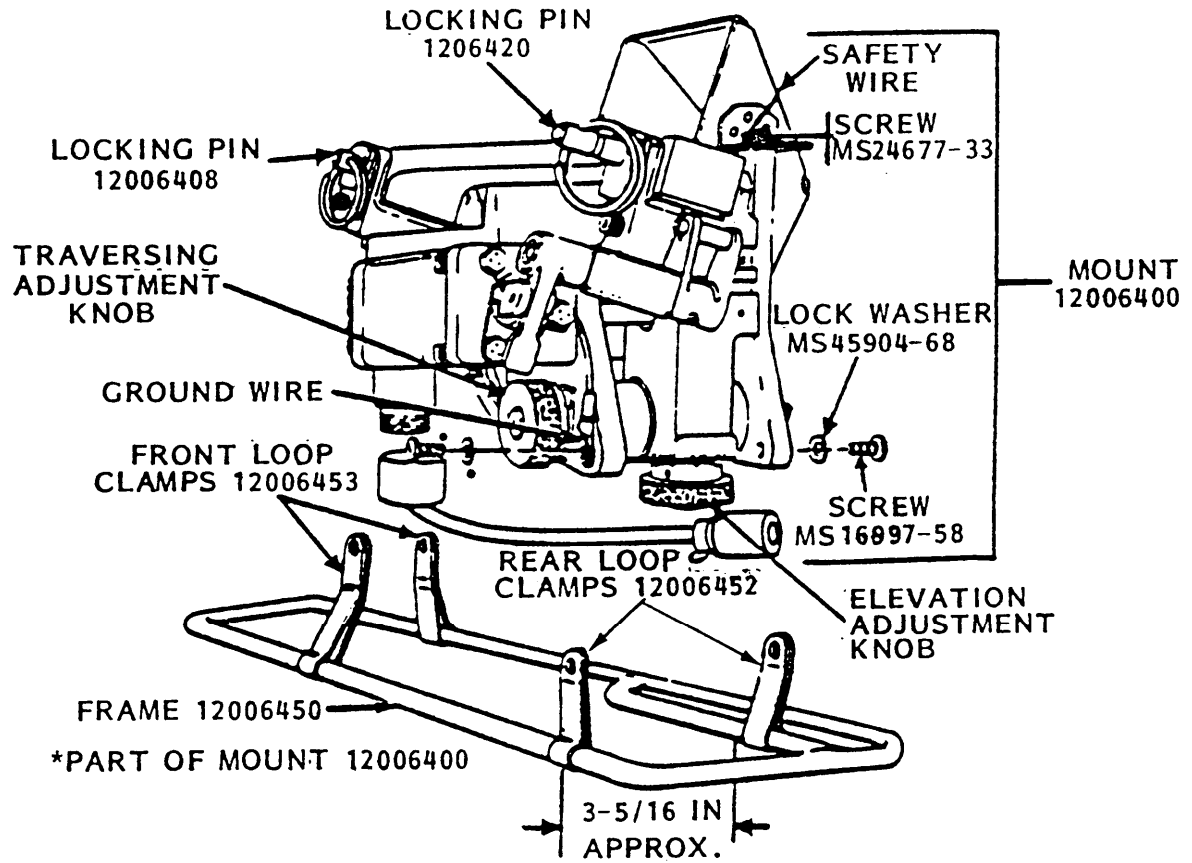
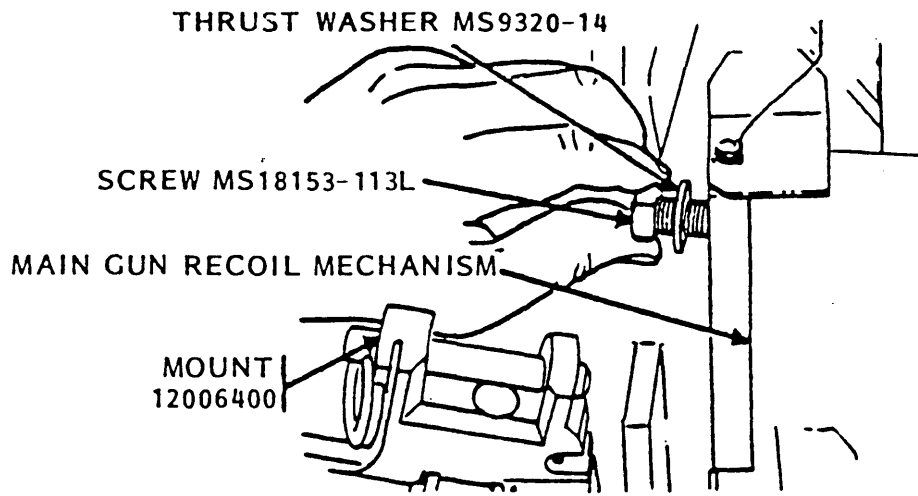
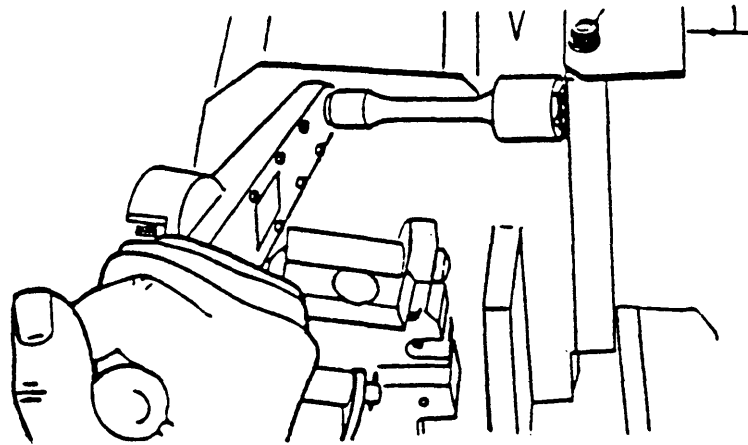


Figure 22. Installation of frame on mount 12006400

- (d) Aline left loop clamp with solenoid ground wire mounting hole and fasten with screw MS16997-58 and lockwasher MS45904-68 previously removed. (Make sure that ground wire is positioned under bracket.)
  - (e) Position right loop clamp over the right rear mounting hole and fasten with screw MS16997-58 and lockwasher MS45904-68. Position left and right front brackets on corresponding holes on mount and fasten with two screws MS16997-58 and lockwashers MS45904-68.
  - (f) Adjust location of the cartridge bag frame by sliding it forward or rearward as necessary to center the frame opening directly beneath the large opening in the mount. Make sure rear support is approximately 3 5/16-inch from loop champ mounting hole (fig. 22).
  - (g) Torque all four mounting screws to 8 ft-lb (10.846 N m).
- (12) Disengage the two grooved pins and remove the travel lock 12006473 from the mount Remove safety wire from screw MS24677-33 and loosen screws (fig. 22).
- (13) position the M240 machine gun coaxial mount 12006400 on the recoil mechanism. Install four mounting screws MS18153-113L and four flat washers MS9320-14 and torque to 90 to 110 ft-lb (122.0 to 149.14 N m) (fig. 23).
- (14) Tighten screws MS24677-33 securely and install safety wire.



A. INSTALL MOUNT



B. TORQUE TO 90 TO 110 FT-LB (122.0 TO 149.14N·m)

Figure 23. Installation of mount

- (15) Install travel lock and secure with the two grooved pins 12006408 and 12006420.
- (16) Loosen the front mounting block nut MS21083-N12 (fig. 24).
- (17) Retighten the nut until tension is felt between the nut and washer M12133/1-12P (fig. 24). Then tighten an additional 1/3 turn. Remove the travel lock

**NOTE**

Travel lock is to secure the solenoid in position when the machine gun is removed. When the machine gun is installed in position, the travel lock is stowed in oddment tray.

- (18) Install the M240 machine gun into the mount and secure with the two pins (fig. 25).
- (19) Connect solenoid lead to solenoid connector hand-tight Using appropriate tool, tighten an additional one-quarter turn. Connect the vehicle electrical lead to the mount solenoid lead (fig. 26).
- (20) Position the empty cartridge bag 7797410 on the support assembly and fasten the snaps
- (21) Install barrel assembly 11825985, item 2, fig. 1, and ruptured cartridge case extractor 11826264, item 4, fig. 1, into spare barrel case 11826275, item 3, fig. 1. Position spare barrel case to turret (fig. 18) and strap in place.

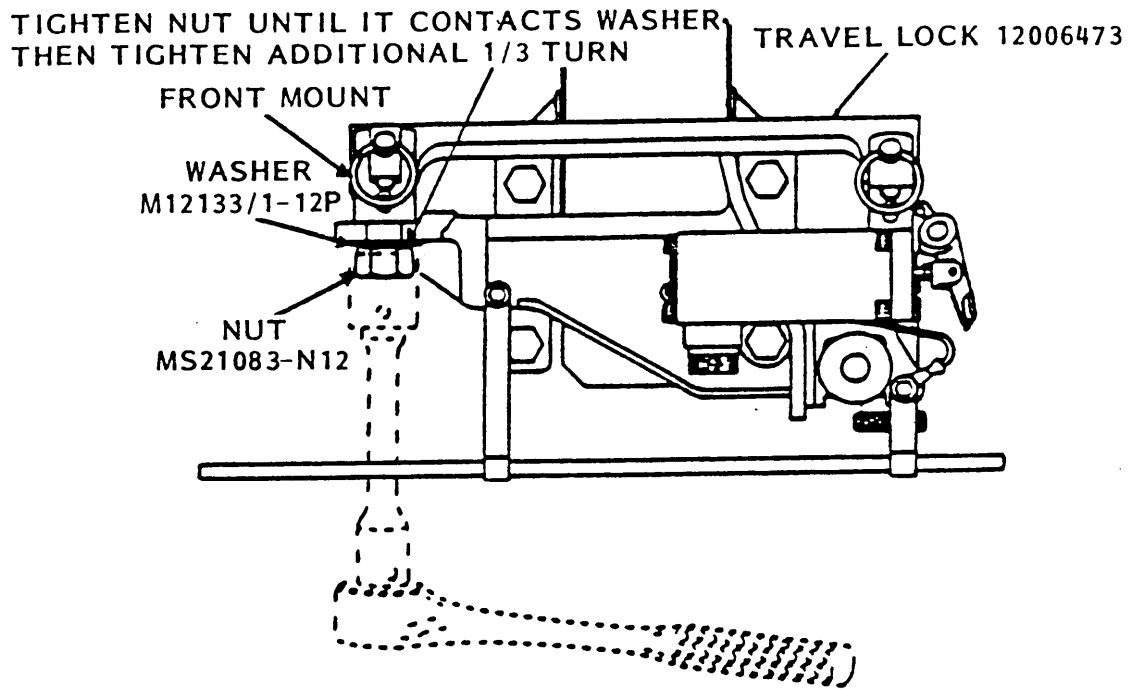


Figure 24. Adjustment of mount with travel lock

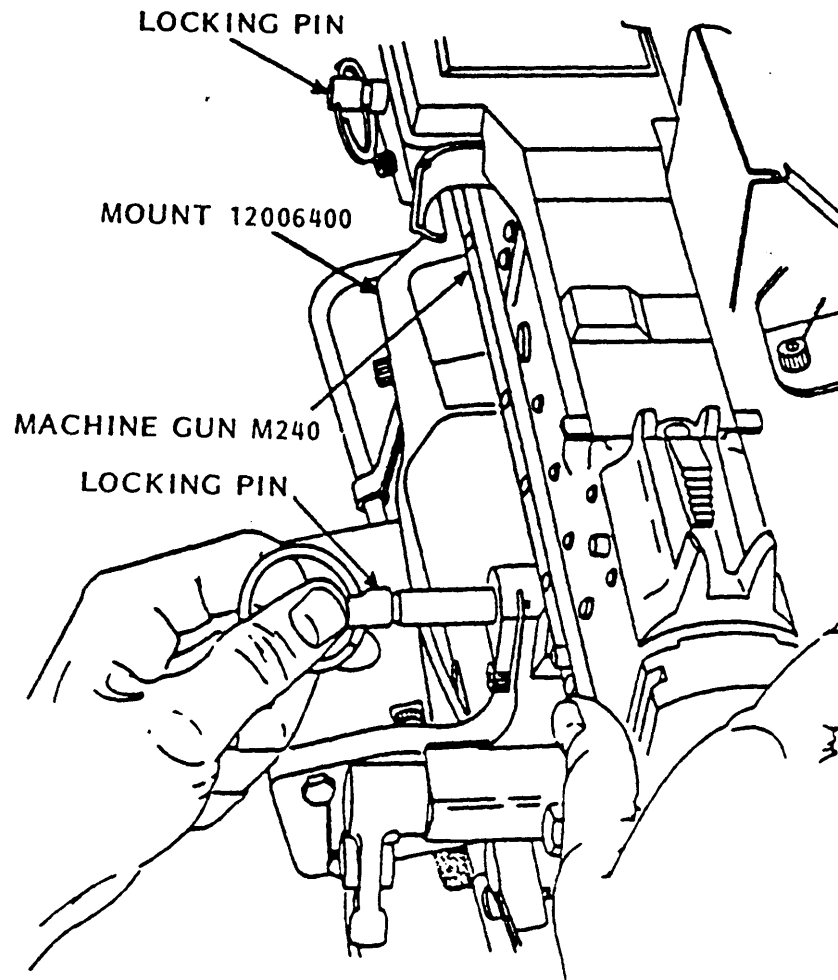


Figure 25. Installation of machine gun



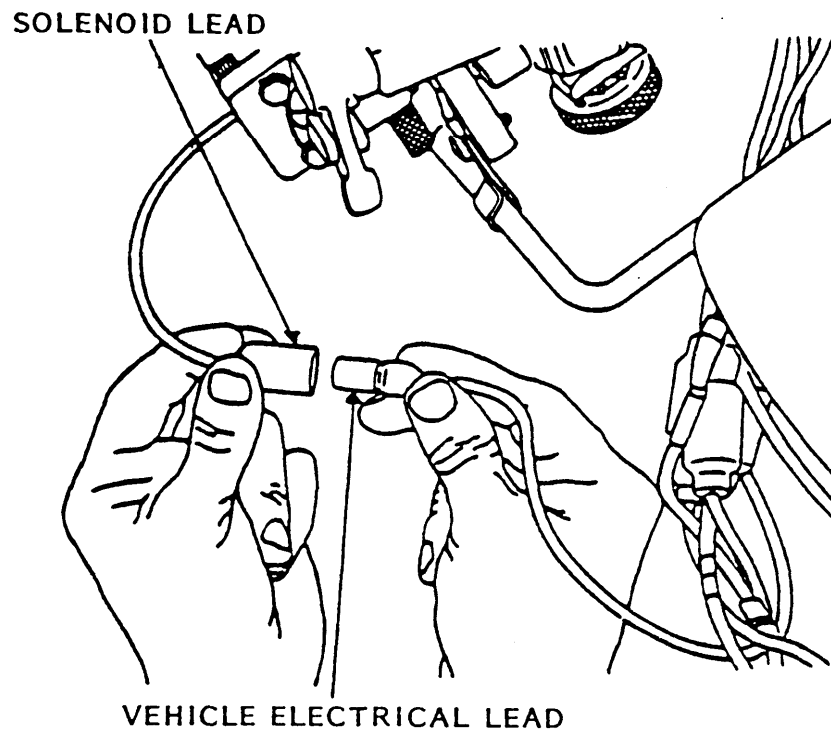


Figure 26. Connecting solenoid lead to vehicle electrical lead

(22) Prior to installation of machine gun, preset mount by turning elevation knob clockwise until rear mounting bracket bottoms onto flange of elevation shaft (figure 22). Turn elevation knob counterclockwise for 23 clicks. Turn traversing knob clockwise until the traversing and elevating bracket backs up to its bottom of travel. Then turn traversing knob counterclockwise 31 clicks.

h Disassembly of Machine Gun Bracket Assembly. Disassemble the machine gun bracket assembly in accordance with figures 7 and 27.

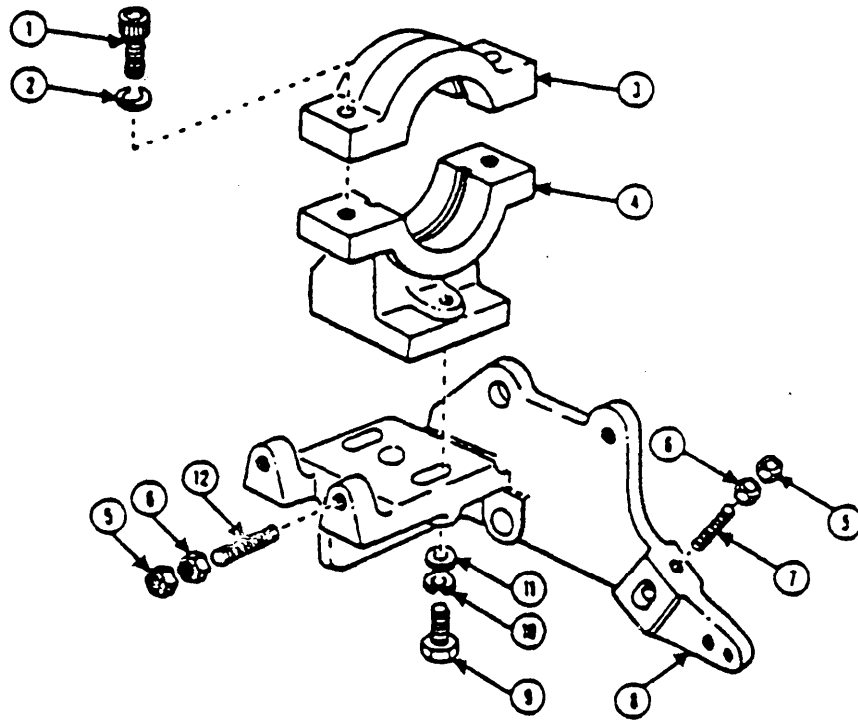
11. Calibration Requirements. Not applicable.

12. Weight and Balance Data Weight and balance are not significantly affected.

13. Quality Assurance Requirements. Refer to TM 750-245-4.

**14. Recording and Reporting of the Modification.**

a. Records and Report Forms. Record and report accomplishment of the modification in accordance with DA PAM 738-750.



Legend for fig. 27:

- |   |                                    |
|---|------------------------------------|
| 1. Screw, socket-head - MS16998-98          | 7. Setscrew - 223076               |
| 2. Washer, lock - 279332PC2                 | 8. Bracket, machine gun - 10886892 |
| 3. Retainer - 10870844                      | 9. Screw, hex head - MS90727-114   |
| 4. Bracket assembly - 10886889              | 10. Washer, lock - MS35338-48      |
| 5. Nut, self-locking, hexagon - MS21083-N-5 | 11. Washer, flat - MS27183-18      |
| 6. Nut, plain, hexagon - MS35691-13         | 12. Setscrew - AN565-F24H28        |

Figure 27. Disassembly of bracket assembly 10886891

DA Form 2407, Maintenance Request (fig 28). Identify the equipment for which the form is initiated in blocks 2, 3, 5 and 6. Normally this will be the end item modified. The NSN of the actual item modified (end item, module, or part) will be entered in block 20. The serial number to be reported will be the serial number of the end item listed in paragraph 3 of these field instructions. After completing this form, forward copy number 2 to: Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MPR, Warren, Michigan 48090. Forward copy number 3 to: Commander, US Army Depot System Command, ATTN: DRSDS-PM, Chambersburg, PA 17201. The above copies should be forwarded no later than 5 working days after modification completion.

b. Marking Equipment. Not applicable.

c. Identification Data. Refer to paragraph 10g.

15. Product Improvement Proposal (PIP) Number. PIP 1-78-05-6016.

MAINTENANCE REQUEST										PAGE NO.	NO. OF PAGES	REQUIREMENT CONTROL SYMBOL		
For use of this form, see TM 38 750, the proponent agency is DCSLOG.										1	1	CSGLD-1047(R1)		
SECTION I - EQUIPMENT DATA														
CONTROL NUMBER <b>818230</b>		WORK ORDER NUMBER		WESOC		ORG PD		PD AUTHENTICATION						
<input type="checkbox"/> WORK REQUEST <input checked="" type="checkbox"/> MWO <input type="checkbox"/> WARRANTY CLAIM		1a. ORGANIZATION <b>172d ORD DET</b>			b. LOCATION <b>APO NY 09086</b>			c. UNIT IDENT CODE <b>WK4F87</b>						
2. SERIAL NO. <b>15999</b>		3. NOUN NOMENCLATURE <b>TANK COMBAT</b>		4. LINE NO.		5. MODEL		6. NATIONAL STOCK NUMBER <b>2350-00-795-1797</b>						
7. MAINTENANCE ACTIVITY		8. LEVEL		9. UTILIZATION CODE <b>ON</b>		10. MCSR ITEM		11. ERC		12. PACING ITEM		13. HOURS <b>8946</b>		
14. FAILURE DETECTED DURING (Select one - use ✓ or X) <input type="checkbox"/> A Scheduled Maintenance <input type="checkbox"/> B Handling						15. FIRST INDICATION OF TROUBLE (Select one - use ✓ or X) <input type="checkbox"/> Overheating <input type="checkbox"/> Low Performance						ENTER THE CODE ASSIGNED THE ORG. LISTED IN BLOCK 1A. THIS MUST BE THE CODE USED ON THE ORG. MORNING REPORT.		
16. DESCRIBE DEFICIENCIES OR SYMPTOMS ON THE BASIS OF COMPLETE CHECKOUT AND DIAGNOSTIC PROCEDURE IN EQ prescribe repairs)						ORGANIZATION OWNING EQUIPMENT <b>ORGANIZATION OWNING EQUIPMENT</b>						APPLICABLE CODE - DA PAM TABLE 7 APP A 738-750		
16a. REMARKS <b>Apply MWO 9-2350-222-30-3</b>						END ITEM MODIFIED MUST BE IN PARA 3 OF MWO						MUST BE EXACTLY AS PRINTED ON MWO		
NOTE: PREPARE A SEPARATE DA FORM 2407 FOR EACH SERIAL NUMBERED END ITEM														
SECTION II - WORK ACCOMPLISHED														
17a. REPAIR ORGANIZATION/ACTIVITY				b. LOCATION				18. TYPE ORGANIZATION/ACTIVITY, AC. COMPLEISHING WORK (Select one - use ✓ or X) <input type="checkbox"/> 1 TOE <input type="checkbox"/> 2 TO <input type="checkbox"/> 3 CONTRACTOR			19. AMS ACCOUNT CODE			
20a. ACT CODE		FAILURE CODE	c. COMPONENT/PART NOUN, SVC, OR MWO NO.			MANHOURS (Hrs & tenths)		NATIONAL STOCK NUMBER		PART SOURCE CODE	QTY	PARTS COST		
H		801	9-2350-222-30-3 MILITARY			6.0		2350-00-795-1797						
			CIVILIAN			2.0								
ACTUAL MANHOURS CHARGED TO INSTALL, INSPECT AND CHECK-OUT						ENTER SAME NSN SHOWN IN BLOCK 6								
<b>SAMPLE</b>														
EXAMPLE														
USE DA FORM 2407 TO RECORD APPLICATION OF AN MWO TO A SINGLE END ITEM BY ORGANIZATIONAL, DEPOT OR TEAM. (IF MWO IS ACCOMPLISHED BY SUPPORT PERSONNEL, BLOCKS 17, 18 AND 21 THRU 28 ARE TO BE COMPLETED).														
I. TOTAL MANHOURS <b>8.0</b>				m. TOTAL MANHOURS COST \$				n. TOTAL PARTS COST \$						
21 DELAY (Select one) <input type="checkbox"/> 1 Parts <input type="checkbox"/> 2 Manpower <input type="checkbox"/> 3 Facilities <input type="checkbox"/> 4 Funds <input type="checkbox"/> 5 Tools			22 DATA TRANSCRIBED			23 SUBMITTED BY			24 RECEIVED BY			25 WORK STARTED BY		
						J. Murphy			T. Smith			H. Braun		
JULIAN DATE			JULIAN DATE			JULIAN DATE			JULIAN DATE			JULIAN DATE		
7026			7029			7031								
26. INSPECTED BY						27. ACCEPTED BY								
28 DISPOSITION (Select one) <input type="checkbox"/> A To User <input type="checkbox"/> C Salvaged <input type="checkbox"/> B To Stock <input type="checkbox"/> D Evacuated <input type="checkbox"/> E Cannibalization														

DA FORM MAY 81 2407

EDITION OF JUL 79 IS OBSOLETE.

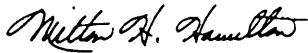
Figure 28. Completion of Da Form 2407.



By Order of the Secretary of the Army:

GORDON R. SULLIVAN  
*General, United States Army*  
*Chief of Staff*

Official:



MILTON H. HAMILTON  
*Administrative Assistant to the*  
*Secretary of the Army*

03731

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requirements for MWO 9-2350-222-30-4.

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