

**TM 9-224**

**WAR DEPARTMENT**

**TECHNICAL MANUAL**



**MACHINE GUN MOUNTS  
FOR TRUCKS**

**APRIL 22, 1943**

# MACHINE GUN MOUNTS FOR TRUCKS

Prepared under the direction of the  
Chief of Ordnance

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**MACHINE GUN MOUNTS FOR TRUCKS**

**Section I**

**INTRODUCTION**

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**1. SCOPE.**

a. This manual is published for the information and guidance of the personnel of the using arms charged with the operation and maintenance of this materiel. In addition to description, it contains information required for the identification, use, and care of the following machine gun mounts:

- (1) Truck Pedestal Mount M24.
- (2) Truck Pedestal Mount M24A1.
- (3) Truck Pedestal Mount M25.
- (4) Truck Pedestal Mount M31.
- (5) Cal. .30 Machine Gun Mount M48.
- (6) Truck Mount M32.
- (7) Truck Mount M36.
- (8) Truck Mount M37.
- (9) Truck Mount M37A1.
- (10) Truck Mount M37A2.

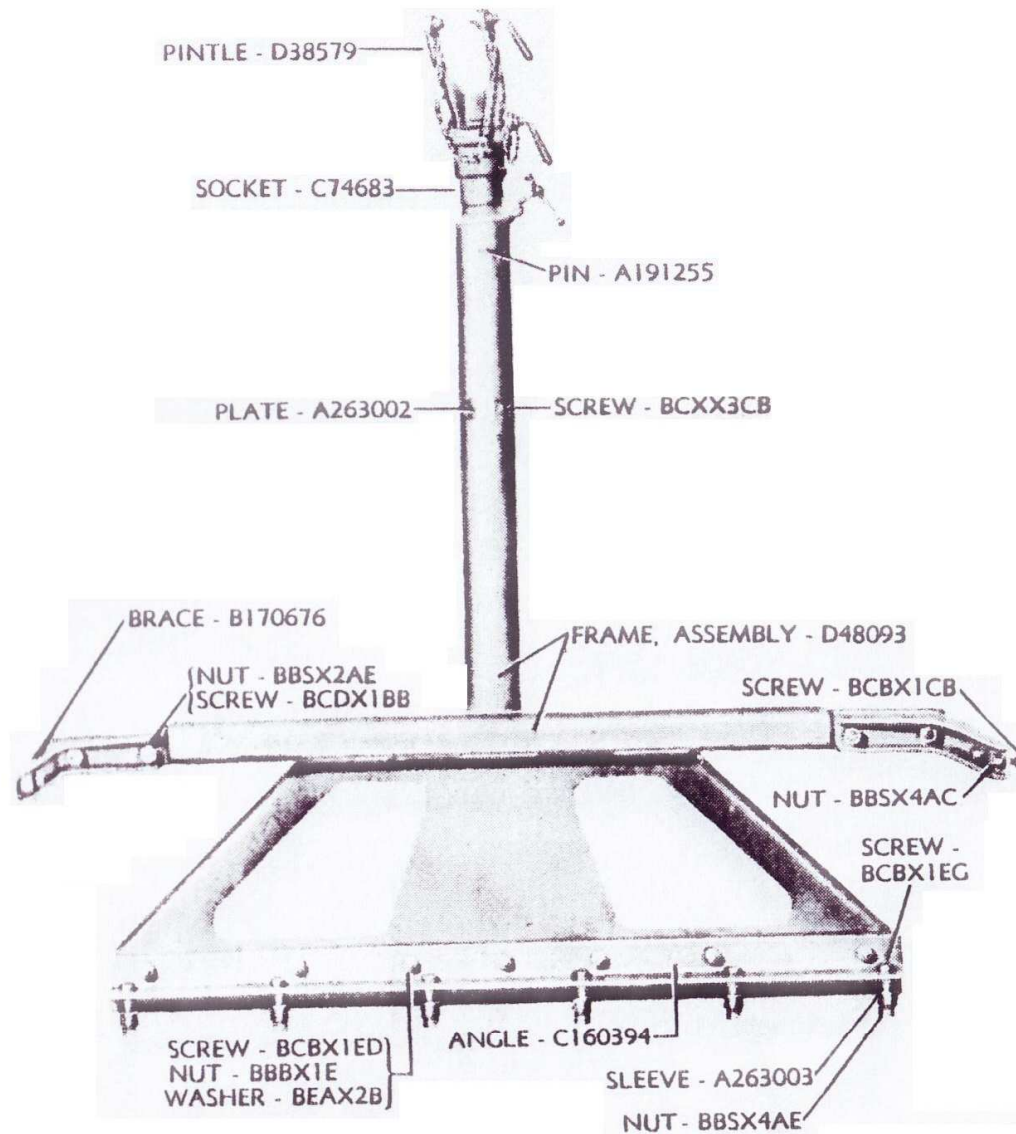
**2. DESCRIPTION AND CHARACTERISTICS.**

a. Truck Pedestal Mounts M24A1, M24, M25, M31, and M48 (figs. 1, 2, 3, 4, and 5). Each mount consists essentially of a cradle pintle and a pedestal body. The pintle is rotatable in a socket of the pedestal body, and can be locked at any point of traverse by means of the cradle pintle clamping screw.

(1) The weapons used with these truck pedestal mounts are as follows:

- (a) Browning Machine Gun, cal. .30, M1919A4, flexible.
- (b) Browning Machine Gun, cal. .50, M2, heavy barrel, flexible.
- (c) Browning Automatic Gun, cal. .30, M1918A2.
- (d) Browning Machine Gun, cal. .30, M1917A1 with Cradle D7431 of Tripod Mount M1917A1.

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RA PD 57901

**Figure 1—Truck Pedestal Mount M24A1**

- (2) The truck with which the mounts are used are as follows:
- (a) The M24 is used on 1/2-ton, 4 x 4 trucks.
  - (b) The M24A1 is used with 3/4-ton, 4 x 4 trucks.
  - (c) The M25 is used with Half-Track Personnel Carriers M3 and M5.
  - (d) The M31 is used with 1/4-ton, 4 x 4 trucks.
  - (e) The M48 is used with 1/4-ton, 4 x 4 trucks.

MACHINE GUN MOUNTS FOR TRUCKS

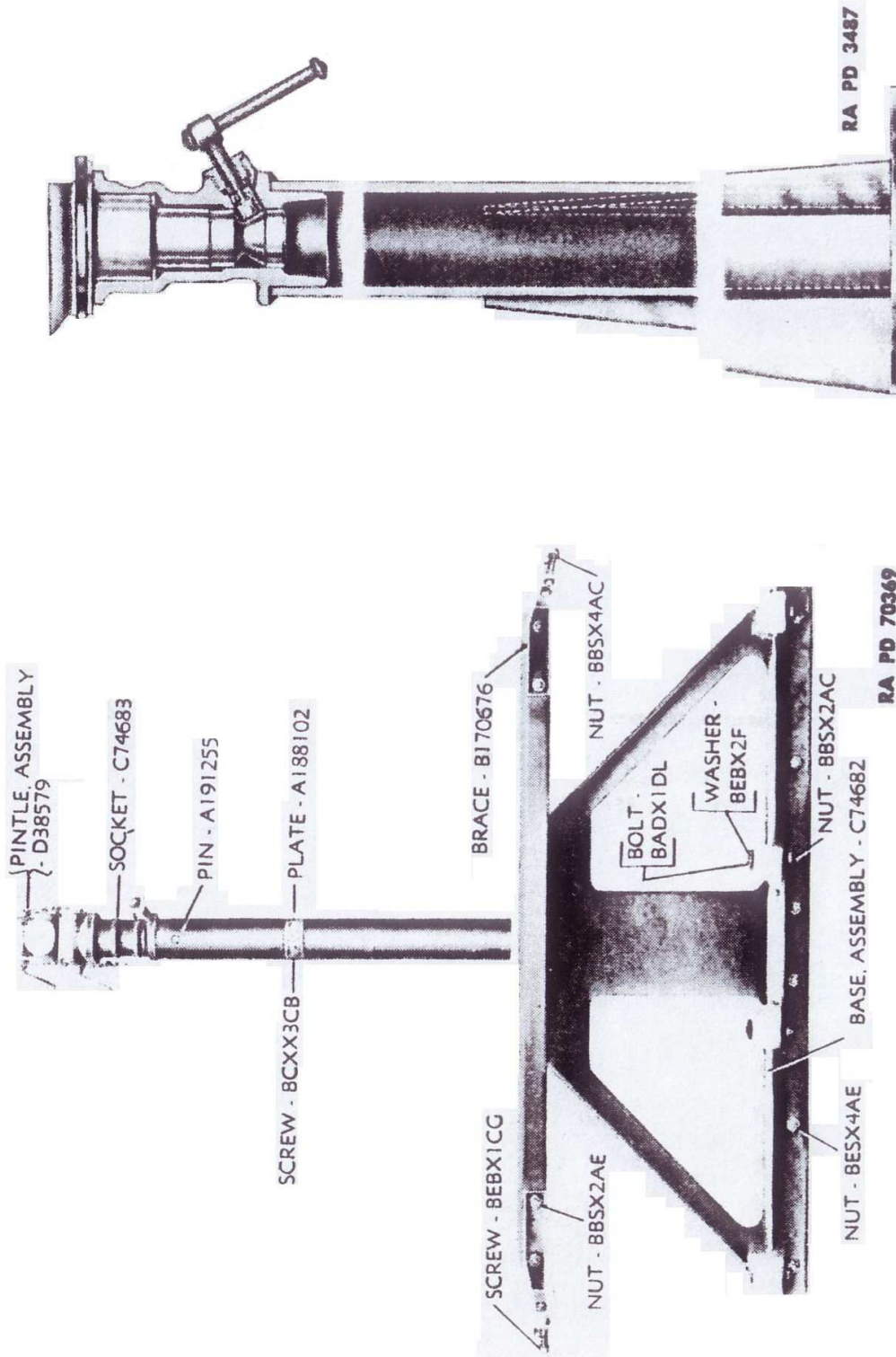


Figure 2—Truck Pedestal Mount M24

Figure 3—Truck Pedestal Mount M25

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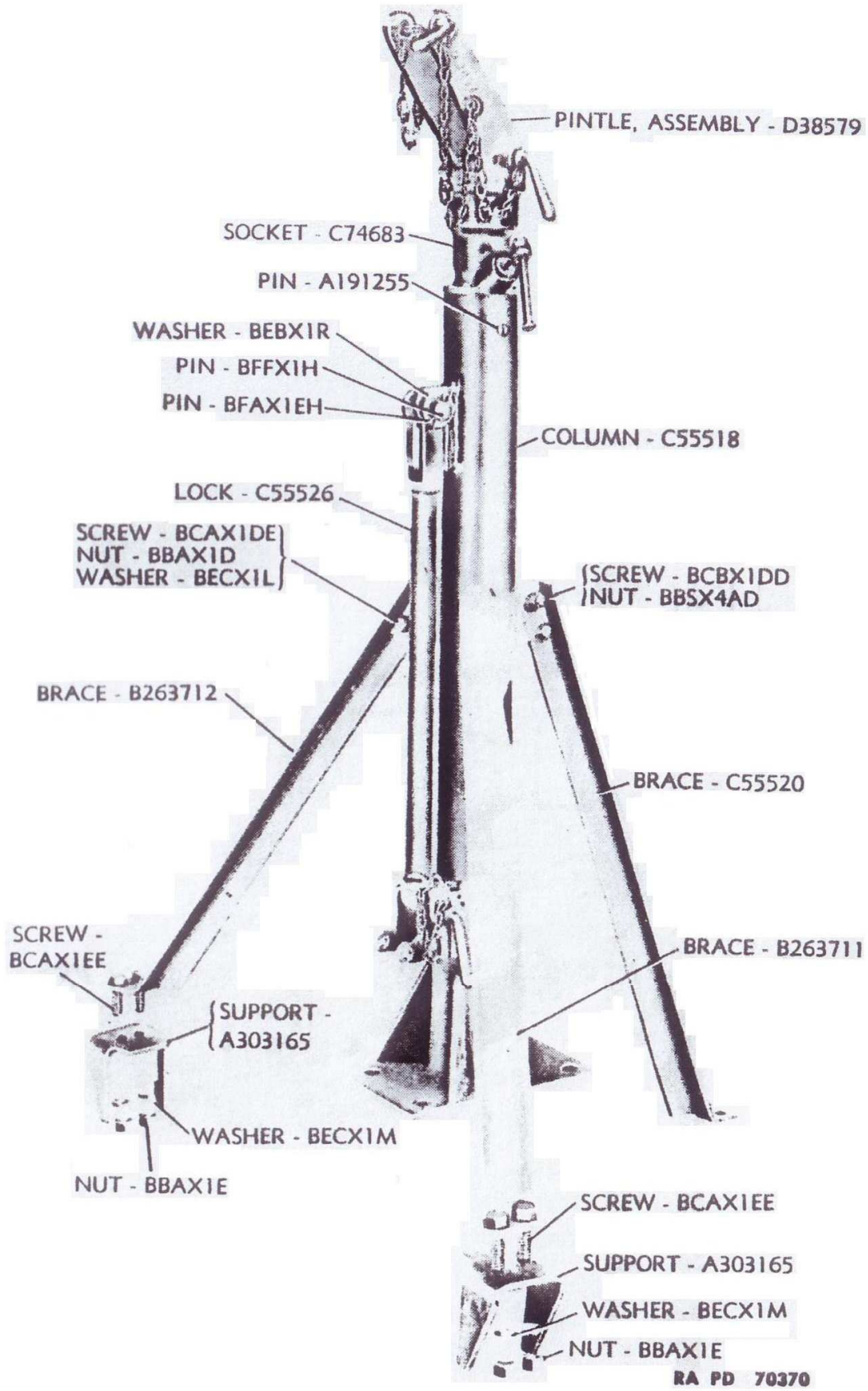
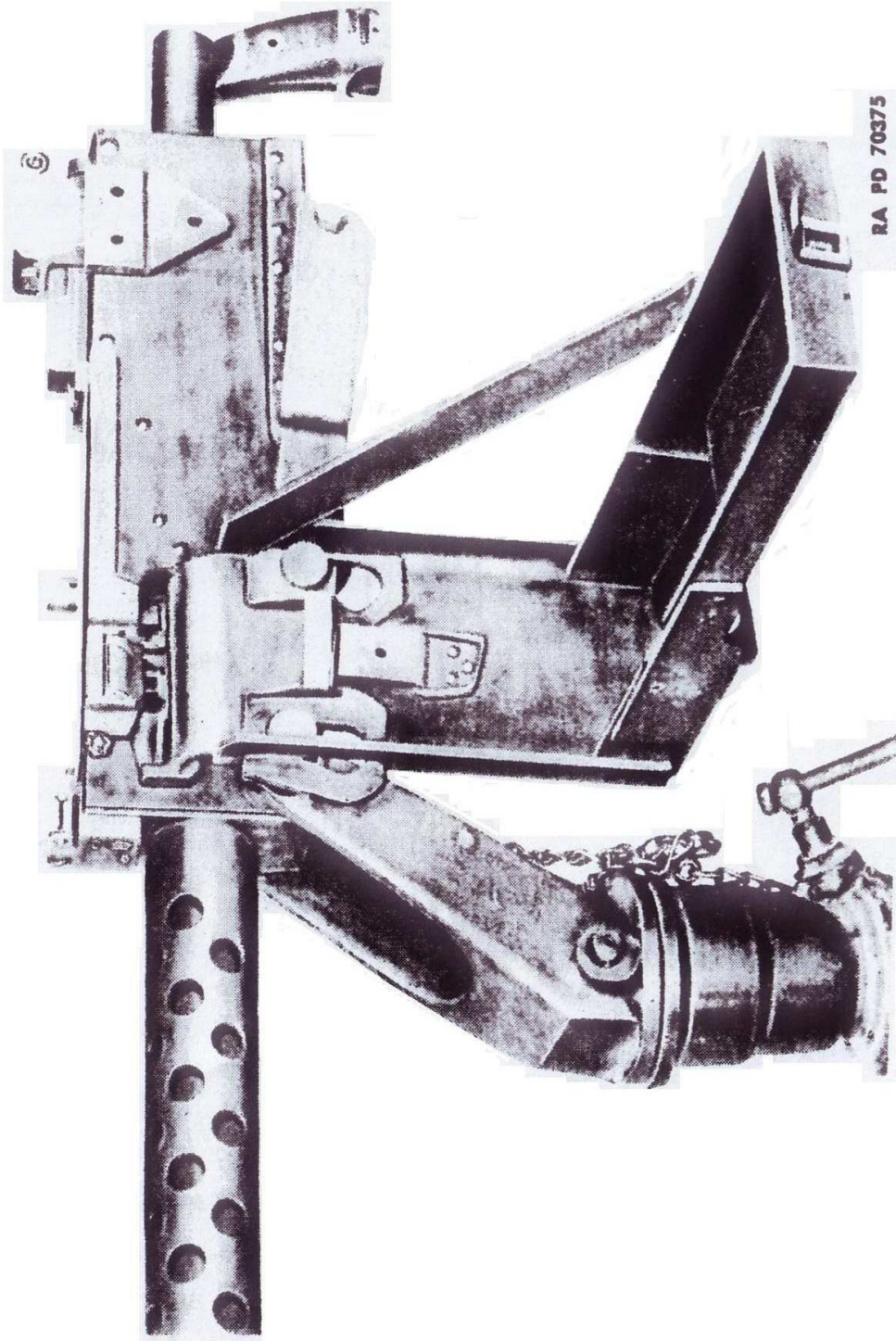


Figure 4—Truck Pedestal Mount M31

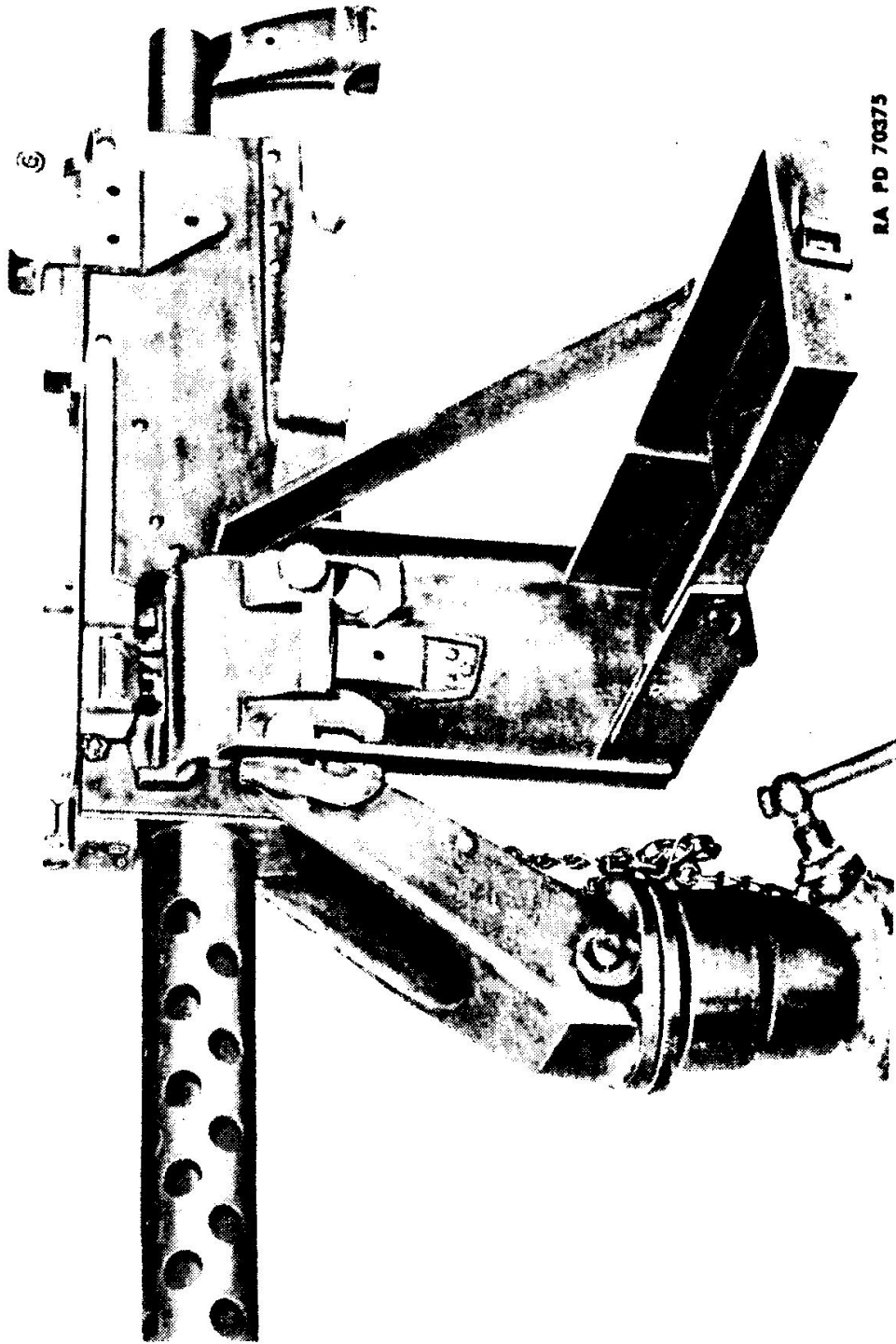
MACHINE GUN MOUNTS FOR TRUCKS



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Figure 5—Cal. .30 Machine Gun Mount M48 with TAC Holder for Ammunition Box M1

MACHINE GUN MOUNTS FOR TRUCKS



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Figure 5—Cal. .30 Machine Gun Mount M48 with TAC Holder for Ammunition Box M1



INTRODUCTION

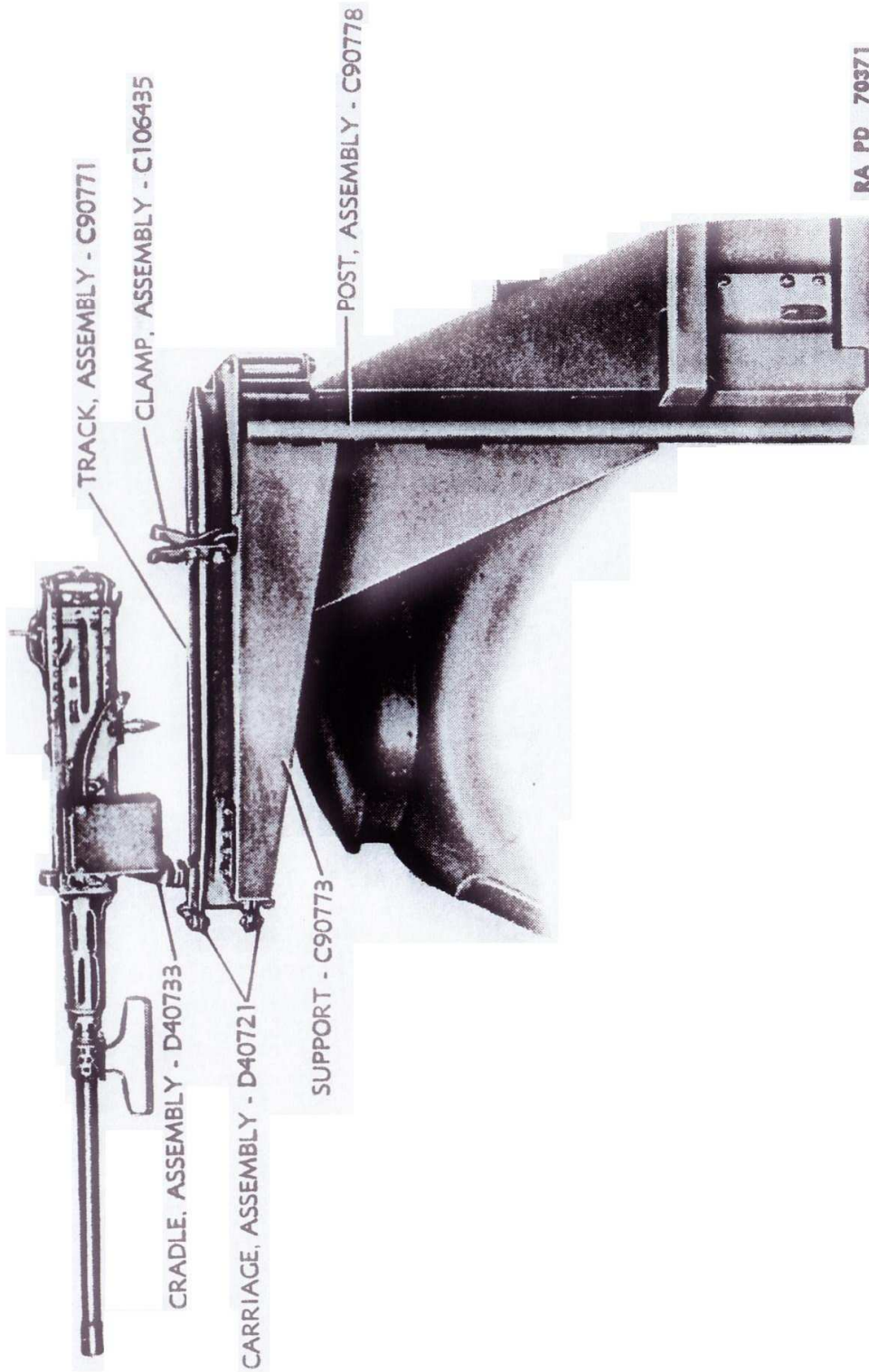


Figure 6—Truck Mount M32—Left Side View

INTRODUCTION

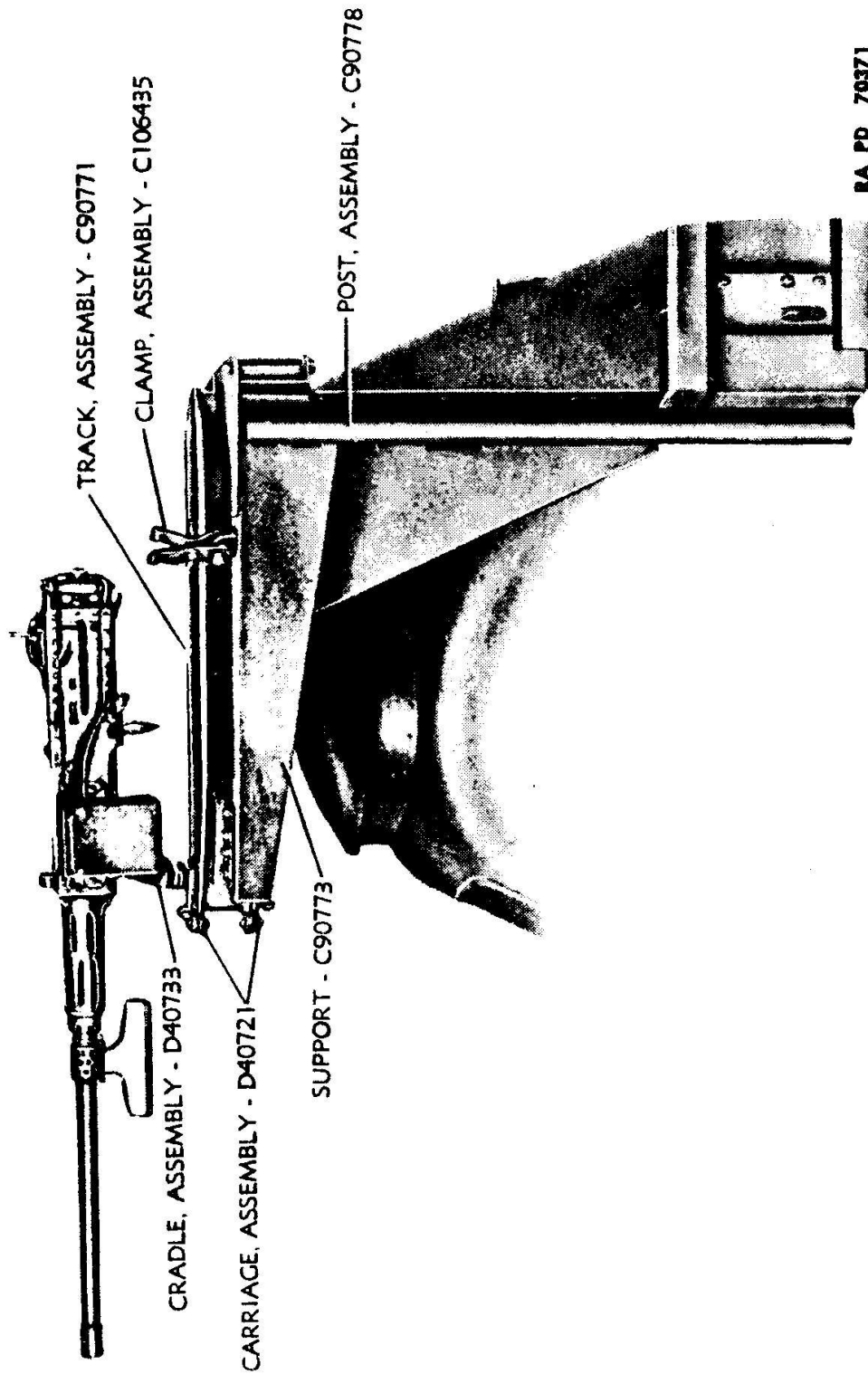
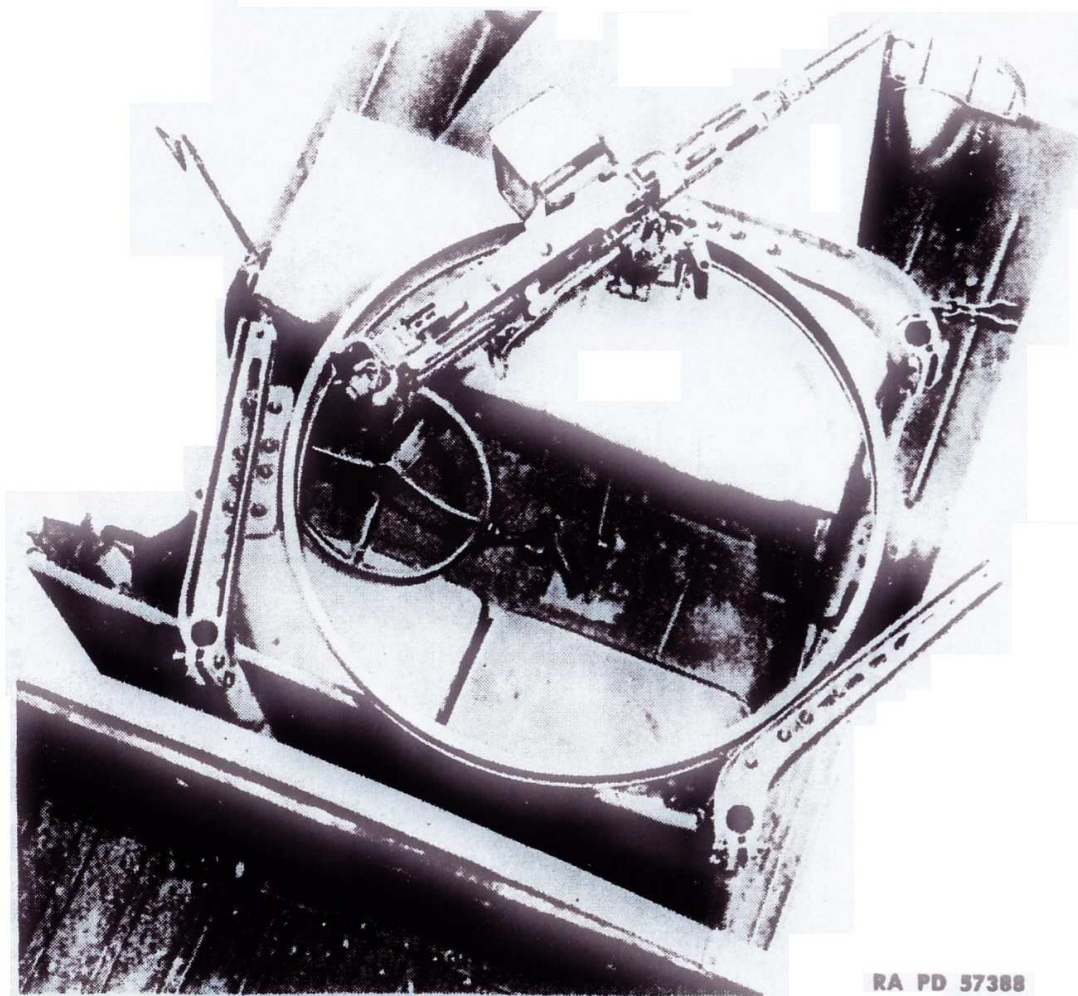


Figure 6—Truck Mount M32—Left Side View

## MACHINE GUN MOUNTS FOR TRUCKS



**Figure 7—Truck Mount M36—Top View**

b. Truck Mounts M32, M36, M37, M37A1, and M37A2 (figs. 6, 7, and 8). Each mount consists essentially of a cradle with a roller carriage on a circular track. The cradle is rotatable in the pintle sleeve of the carriage, and is adjustable for elevation. The carriage is guided on the track by means of rollers. The track is secured to the vehicle by supports.

(1) Each mount can be used with either the Browning Machine Gun, cal. .30, M1919A4, flexible, or Browning Machine Gun, cal. .50, M2, heavy barrel, flexible.

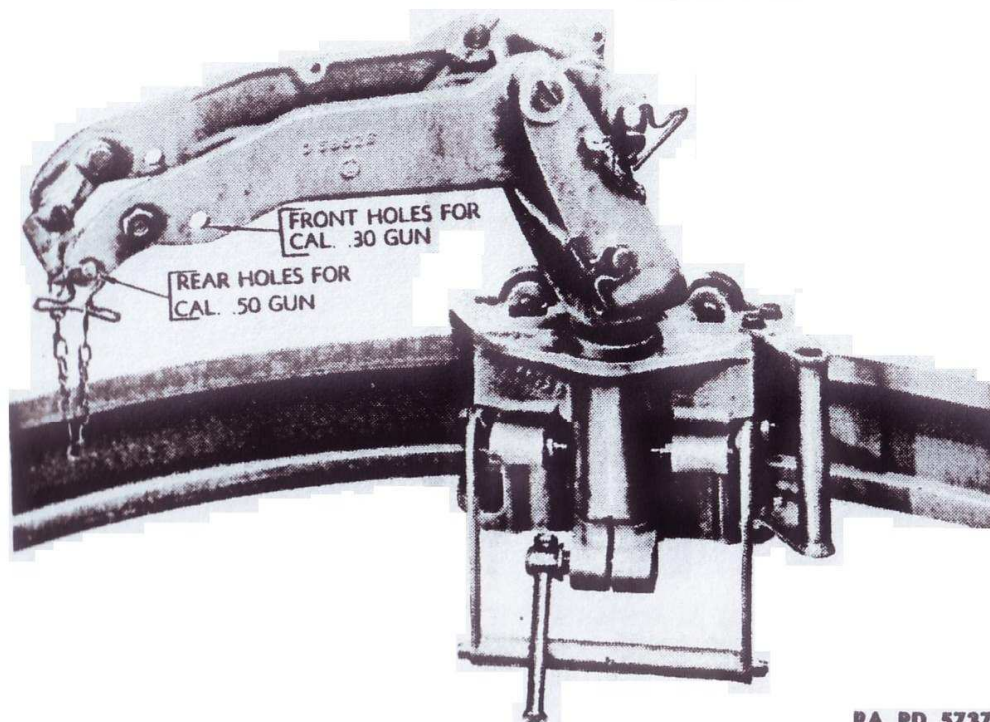
(2) The trucks with which the mounts are used are as follows:

(a) The M32 Truck can be installed only on the 2½-ton, 6 x 6, long wheel base closed trucks with conventional steel bodies.

(b) The M36 Truck Mount is used on the following trucks:

1. 2½-ton, 6 x 6 (GMC), L.W.B., open cab truck.
2. 2½-ton, 6 x 6 (GMC), S.W.B., open cab truck.
3. 2½-ton, 6 x 6 (GMC), C.O.E., open cab truck.

## INTRODUCTION



RA PD 57378

**Figure 8—Truck Mounts M32, M36, M37, M37A1, and M37A2 Above the Circular Track**

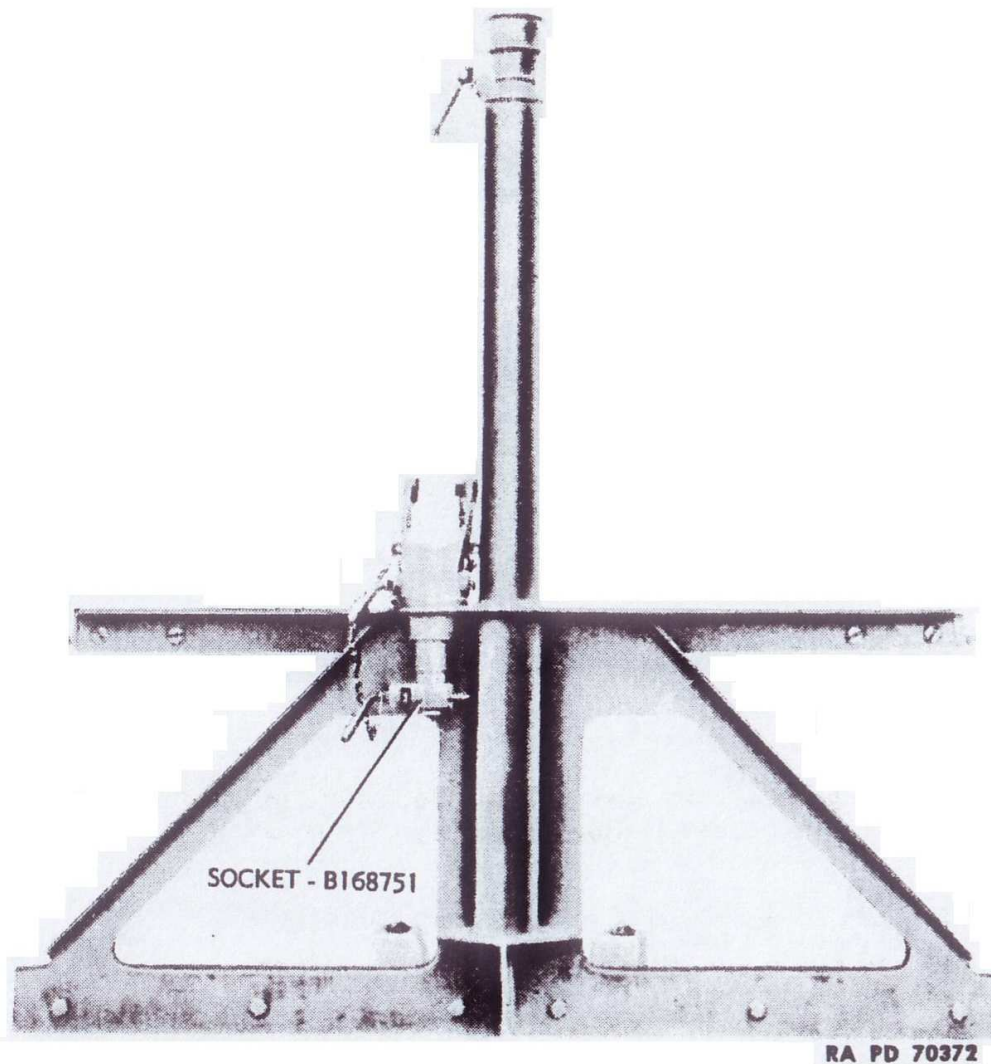
4. 2½-ton, 6 x 6 (GMC), amphibian truck.
5. 2½-ton, 6 x 6 (Studebaker), open cab truck.
6. 4-ton, 6 x 6 (Diamond-T), open cab truck.
7. 4-ton, 6 x 6 (Diamond-T), L.W.B., open cab truck.
8. 4-ton, 6 x 6 (Diamond-T), open cab wrecker.
9. 4- and 5-ton, 4 x 4 (Federal), open cab tractors.
10. 4- and 5-ton, 4 x 4 (Autocar), open cab tractors.
11. 5- and 6-ton, 4 x 4 (Autocar), open cab tractors.
12. 6-ton, 6 x 6 (White), open cab prime mover.
13. 6-ton, 6 x 6 (Corbitt), open cab prime mover.
14. 7½-ton, 6 x 6 (Mack), open cab prime mover.

(c) The M37 Truck Mount is used on 2½-ton, 6 x 6, short wheel base closed cab trucks with conventional steel bodies.

(d) The M37A1 Truck Mount is used on 2½-ton, 6 x 6, short wheel base closed cab trucks with wood bodies.

(e) The M37A2 Truck Mount is used on 2½-ton, 6 x 6, long wheel base closed cab trucks with wood bodies.

## MACHINE GUN MOUNTS FOR TRUCKS



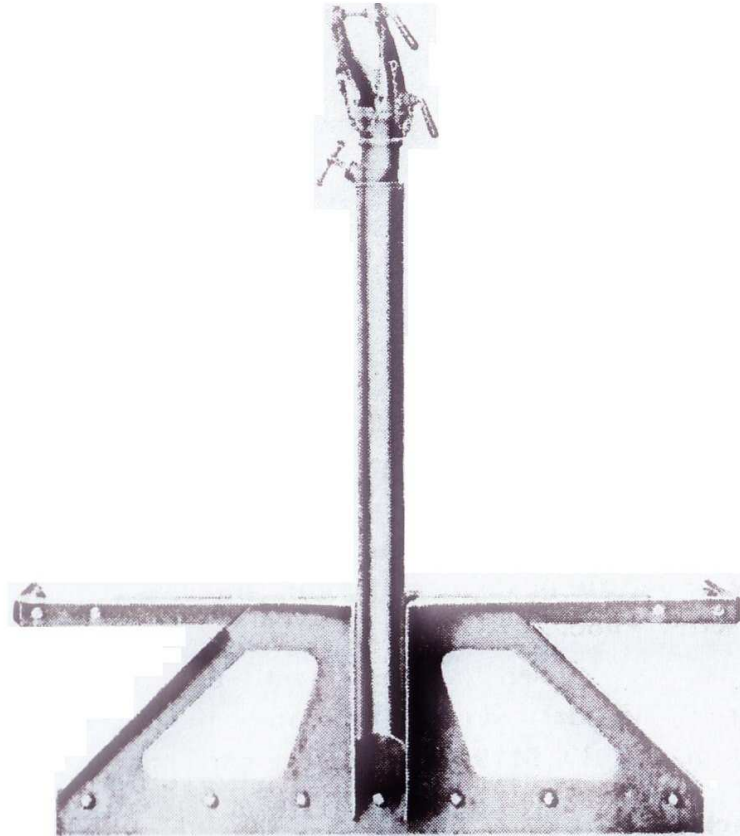
**Figure 9—Truck Pedestal Mount M24—Rear View with Pintle in Auxiliary Socket**

### 3. DIFFERENCES AMONG MODELS.

a. Truck Pedestal Mount M24 is similar to Truck Pedestal Mount M24A1. However, the M24 Mount has an auxiliary socket to carry the pintle in traveling position (fig. 9); whereas M24A1 Mount has none, and the M24A1 Mount has the bottom of the tube cut off to facilitate attachment to truck (fig. 10); whereas the M24 Mount does not have the tube cut off at the bottom.

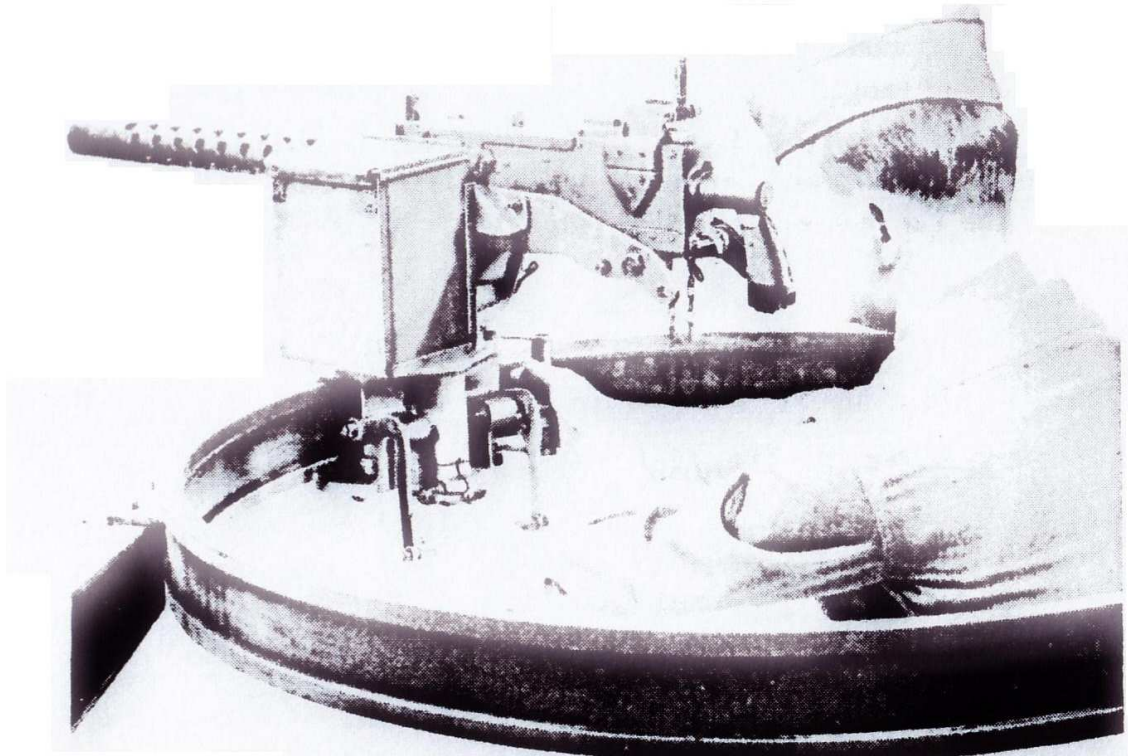
b. The portions of the Truck Mounts M32, M36, M37A1, and M37A2 above, and including the circular rails, are identical, the only differences being in the posts, braces, and other parts used to attach the rail portion of the mount to the particular truck (fig. 8). These three are ring type mounts; whereas the M24, M24A1, M25, and M48 are pedestal type mounts.

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Figure 10—Truck Pedestal Mount M24A1—Rear View



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Figure 11—Moving Mount on Track

**MACHINE GUN MOUNTS FOR TRUCKS**

**Section II**

**OPERATION**

|                 |                |
|-----------------|----------------|
| Operation ..... | Paragraph<br>4 |
|-----------------|----------------|

**4. OPERATION.**

**a. Truck Pedestal Mounts M24, M24A1, M25, M31, and M48.**

(1) **ELEVATION.** Grasp the rear of the weapon and elevate it or depress it through the desired range. If the Browning Machine Gun, cal. .30, M1917A1 is used, release the cradle clamping handle before attempting to elevate or depress the gun. For fine adjustments, use the elevating screw knob.

(2) **TRAVERSE.** Loosen the cradle pintle clamping screw, and rotate the gun through the desired range. For fine adjustments of the Browning Machine Gun, cal. .30, M1917A1, use the traversing screw knob.

**b. Truck Mounts M32, M36, M37, M37A1, and M37A2.**

(1) **ELEVATION.** Remove the cradle locking pin and place it in the carriage handle. Grasp the gun grips and elevate or depress the gun through the desired range.

(2) **TRAVERSE.** Grasp the gun grips and traverse the gun through any desired range.

(3) **MOVEMENT ON TRACK.** Raise the brake lever handle until it is retained by the brake detent plungers. Grasp the carriage handle and move the carriage on the track (fig. 11).

Section III

**MOUNTING AND DISMOUNTING WEAPONS**

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| Mounting weapons on truck pedestal mount M31 .....                       | 6         |
| Mounting weapons on truck mounts M32, M36, M37, M37A1, and M37A2 .....   | 7         |
| Dismounting weapons from mounts .....                                    | 8         |

**5. MOUNTING WEAPONS ON TRUCK PEDESTAL MOUNTS M24, M24A1, M25, and M48.**

a. **Browning Machine Gun, Cal. .30, M1919A4, Flexible.** Hold the machine gun over the cradle pintle so that the front mounting holes of the gun aline with the upper holes in the pintle. Secure the machine gun to the pintle by inserting the thicker of the two locking pins (fig. 12). In the case of the M48 Mount, the machine gun is secured at the front and rear by means of the cradle and studs; the locking pins are not used (fig. 13).

b. **Browning Machine Gun, Cal. .50, M2, Heavy Barrel (Flexible).** Proceed as in paragraph 4 a (fig. 15).

c. **Browning Automatic Rifle, Cal. .30, M1918A2.**

(1) Insert the bushing into its place in the upper hole of the cradle pintle (fig. 14).

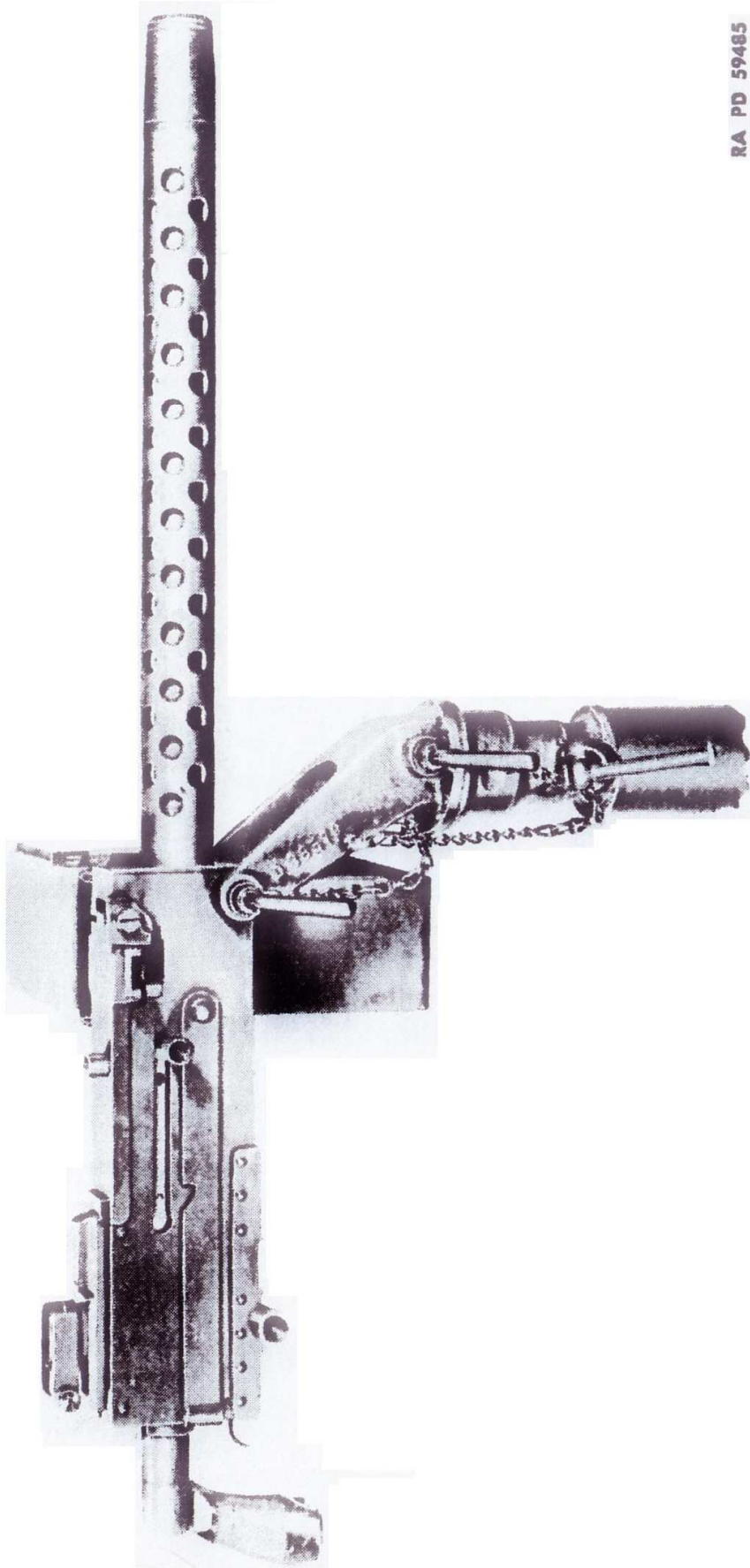
(2) With one hand, firmly grasp the barrel and forearm of the rifle; and with the other hand, rotate the gas cylinder tube retaining pin clockwise, and remove it (fig. 16). Do not release the hold on the rifle. **CAUTION:** Take care not to lose the gas cylinder tube retaining pin.

(3) Hold the rifle over the cradle pintle so that the upper holes in the pintle aline with the hole for the gas cylinder tube retaining pin. Attach the rifle by inserting the thinner of the two locking pins (fig. 17).

(4) The rifle is shown in position on the mount in figure 18.



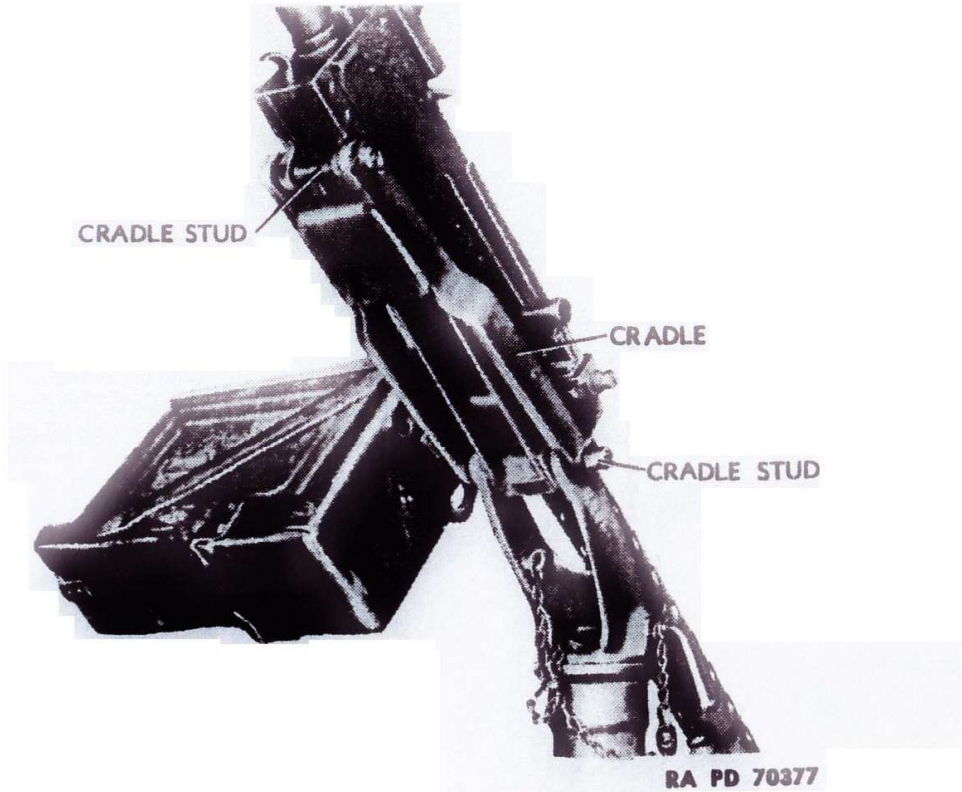
MACHINE GUN MOUNTS FOR TRUCKS



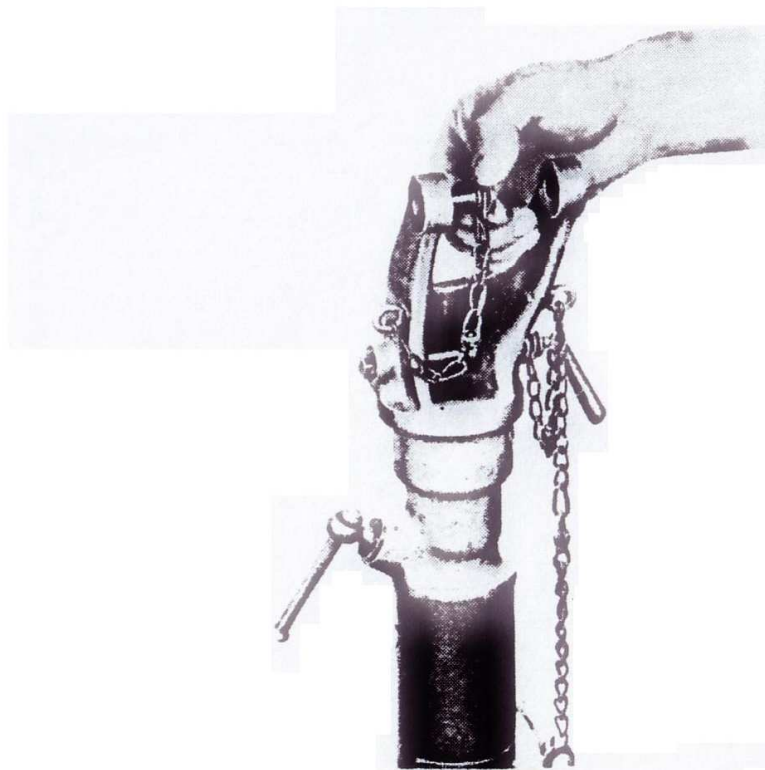
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Figure 12—Browning Machine Gun, Cal. .30, M1919A4 (Flexible)  
on Truck Pedestal Mount M24 or M24A1

**MOUNTING AND DISMOUNTING WEAPONS**

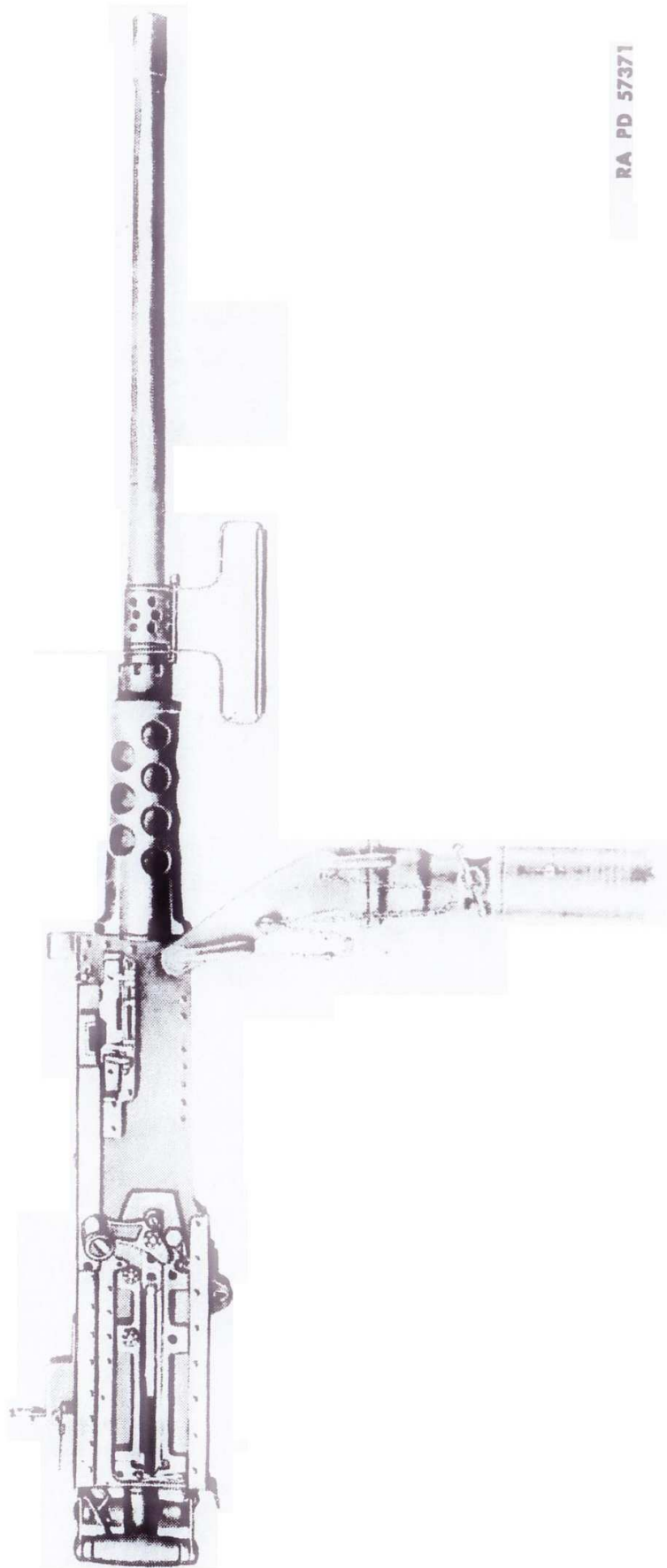


**Figure 13—Method of Securing Browning Machine Gun, Cal. .30, M1919A4 to M48 Mount**



**Figure 14—Inserting the Bushing Into Position on Cradle Pintle of Truck Pedestal Mount M24 or M24A1**

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RA PD 57371

**Figure 15—Browning Machine Gun, Cal. .50, M2, Heavy Barrel (Flexible) on Truck Pedestal Mount M24 or M24A1**

## MOUNTING AND DISMOUNTING WEAPONS

d. **Browning Machine Gun, Cal. .30, M1917A1 with Cradle D7431 of Tripod Mount 1917A1.**

(1) Loosen the cradle pintle clamping screw and remove the cradle pintle from the pedestal socket (fig. 1). Insert Cradle D7431 of Tripod Mount M1917A1 into the pedestal socket (fig. 19). Hold the machine gun (with gun pintle attached) over the cradle, so that the gun pintle aligns with its socket in the cradle (fig. 19) and lower it into position.

(2) Lock the gun pintle by means of the gun pintle lock. Then adjust the elevating knob until the rear mounting holes of the machine gun align with the hole in the elevating screw. Secure the rear of the machine gun by inserting the elevating screw joint pin (fig. 20).

(3) The machine gun is shown in position on the mount in figure 21.

## 6. MOUNTING WEAPONS ON TRUCK PEDESTAL MOUNT M31.

a. **Browning Machine Gun, Cal. .30, M1919A4, Flexible.** Proceed as in paragraph 4 a. For traveling position, secure the traveling lock to the machine gun. The lower end of the traveling lock is attached to the pedestal through the lower hole on the bracket (fig. 22).

b. **Browning Machine Gun, Cal. .50, M2, Heavy Barrel, Flexible.** Proceed as in paragraph 4 a. For traveling position, secure the traveling lock to the machine gun. The lower end of the traveling lock is attached to the pedestal through the upper hole on the bracket (fig. 23).

c. **Browning Automatic Rifle, Cal. .30, M1918A2.** Proceed as in paragraph 5 c. The rifle is shown in position on the mount in figure 24.

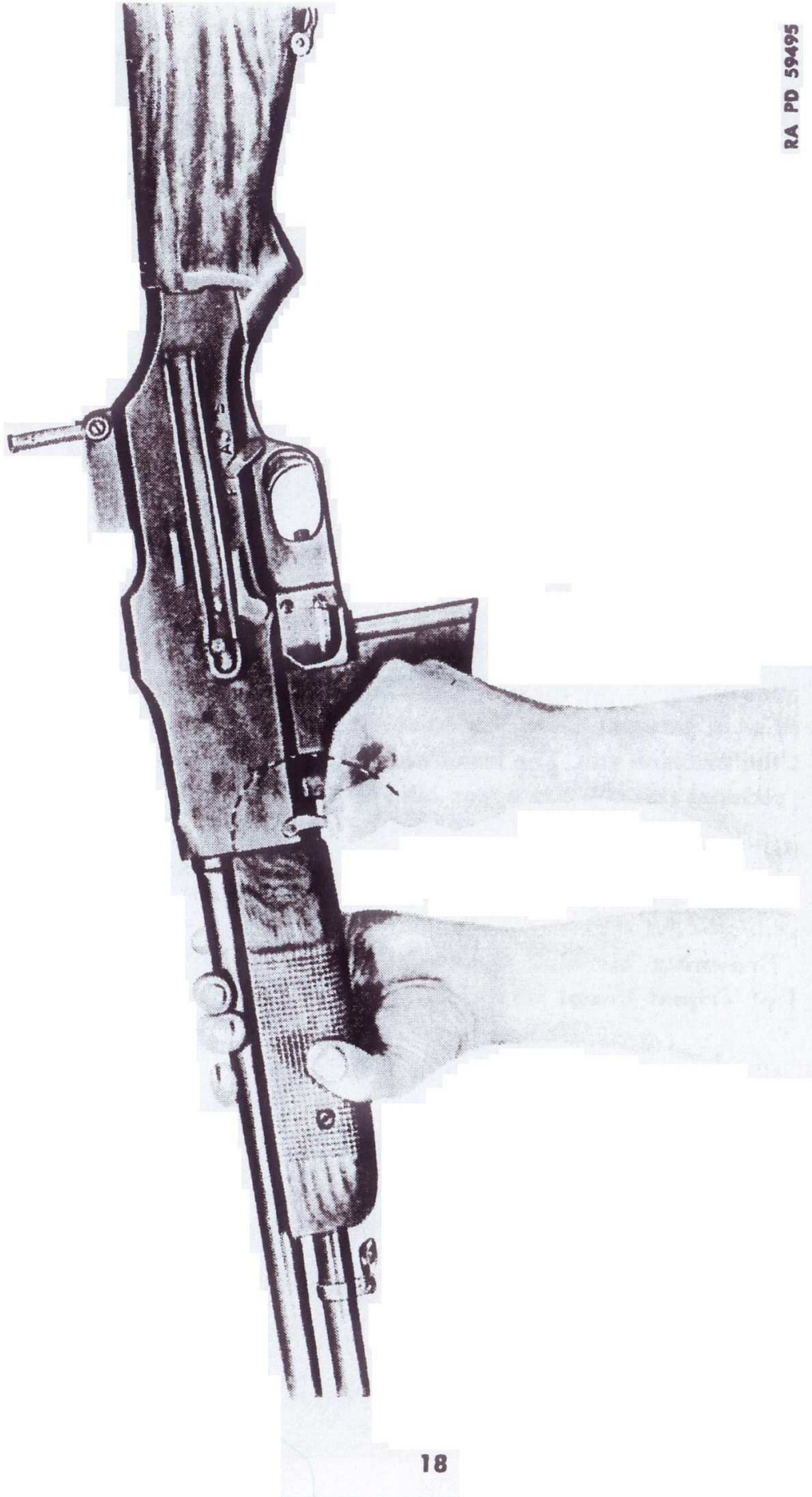
d. **Browning Machine Gun, Cal. .30, M1917A1 with Cradle D7431 of Tripod Mount M1917A1.** Proceed as in paragraph 5 d.

## 7. MOUNTING WEAPONS ON TRUCK MOUNTS M32, M36, M37, M37A1, and M37A2.

a. **Browning Machine Gun, Cal. .30, M1919A4, Flexible.**

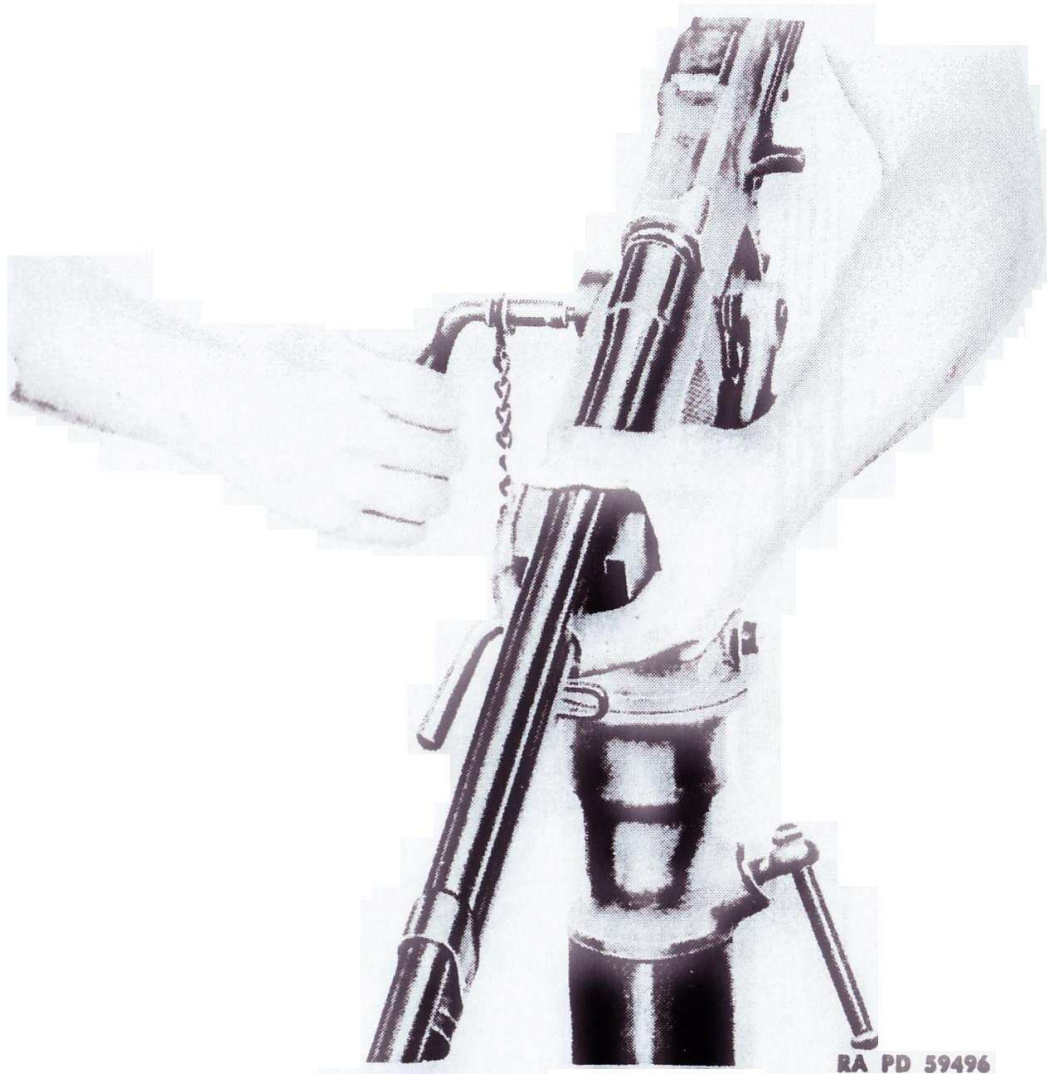
(1) Turn up the pintle clamping screw, but do not tighten. Raise the brake lever handle to lock carriage to the track. Adjust the cradle so that the locking holes of the cradle pintle and cradle align. Insert the cradle locking pin and lock the cradle in the horizontal position (fig. 25).

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RA PD 59495

Figure 16—Browning Automatic Rifle, Cal. .30, M1918A2—Removal of Gas Cylinder Tube Retaining Pin

**MOUNTING AND DISMOUNTING WEAPONS**

**Figure 17—Attaching the Rifle to the Cradle Pintle**

(2) Place the machine gun on the cradle so that the front mounting holes of the machine gun and of the cradle align. Secure the machine gun by inserting the machine gun front locking pin (fig. 26).

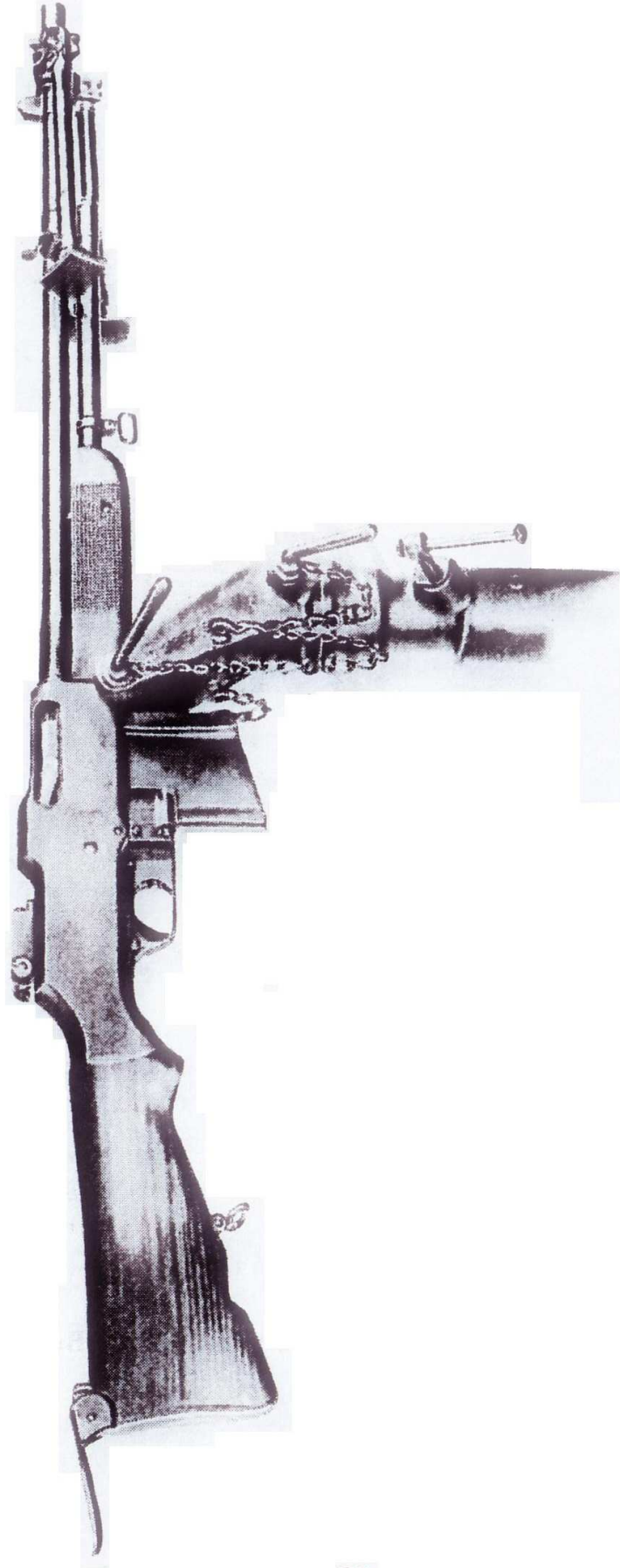
(3) Swing the pivoted rear gun spacer forward, so that the rear mounting holes of the machine gun align with the holes in the spacer, and with the cradle holes for the cal. .30 gun. Insert the rear machine gun locking pin to secure the machine gun (fig. 27).

**b. Browning Machine Gun, Cal. .50, M2, Heavy Barrel, Flexible.**

(1) Proceed as in subparagraph a, above, but swing the pivoted rear gun spacer backward to the holes for the cal. .50 gun.

(2) Position of cal. .50 machine gun on mount is shown in figure 29.

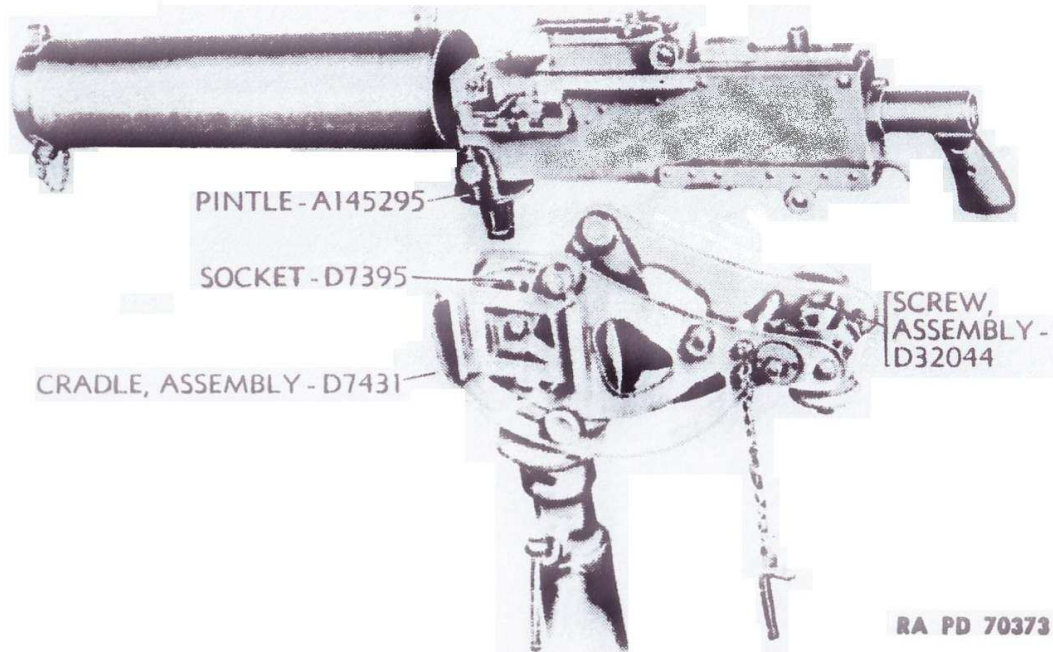
MACHINE GUN MOUNTS FOR TRUCKS



RA PD 59487

Figure 18—Browning Automatic Rifle in Position on Truck Pedestal Mount M24 or M24A1

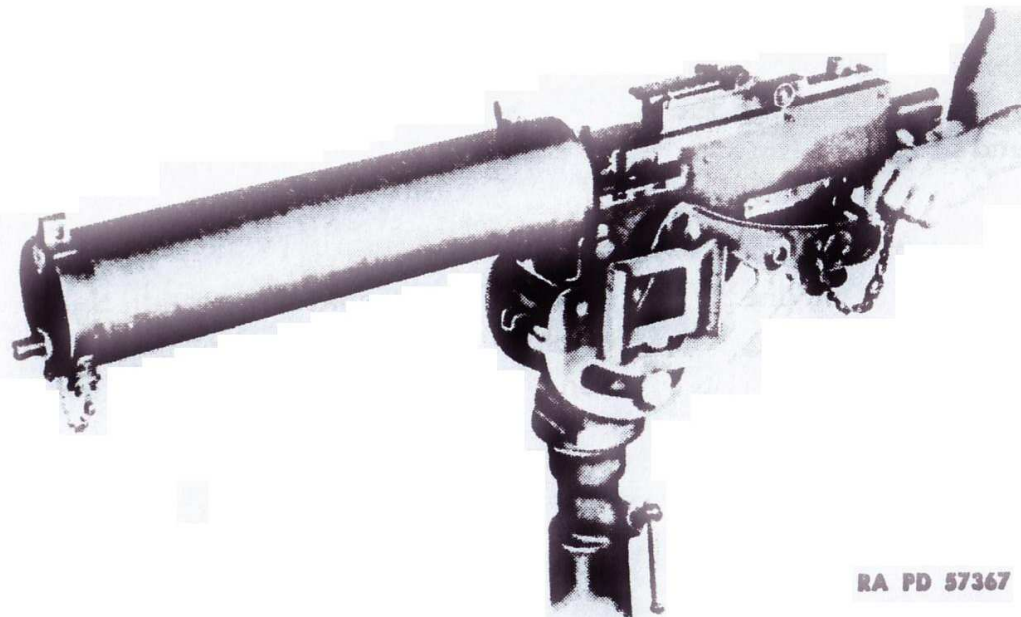
**MOUNTING AND DISMOUNTING WEAPONS**



RA PD 70373

**Figure 19—Lowering the Machine Gun Into Position**

c. **Traveling Position.** In traveling position, the machine gun barrel is supported and restrained from moving by means of the gun barrel clamp (fig. 28). In the M32 or M37 Mount, the clamp is attached to

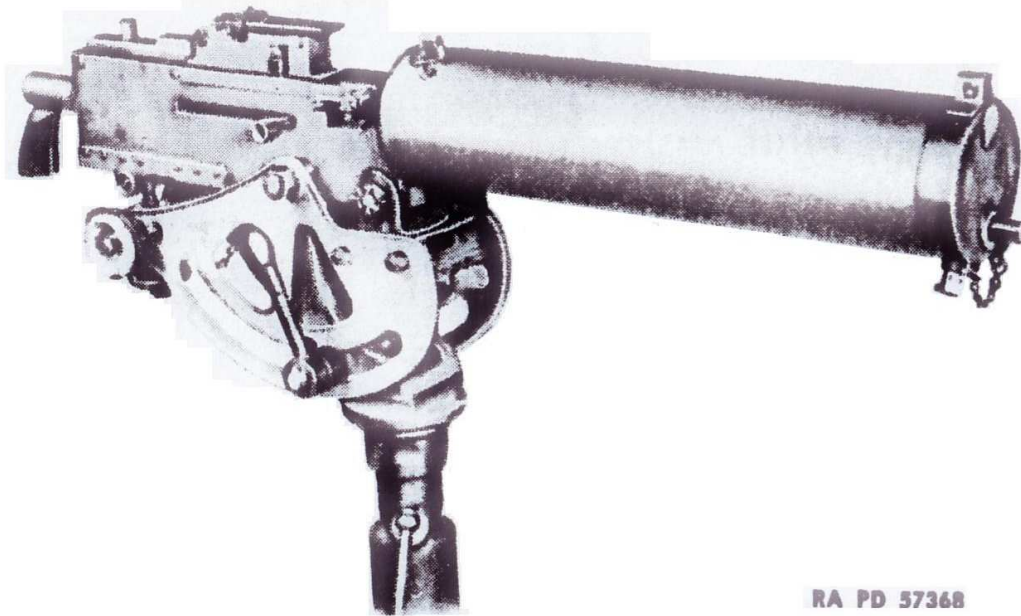


RA PD 57367

**Figure 20—Securing Rear of Machine Gun**



## MACHINE GUN MOUNTS FOR TRUCKS



RA PD 57368

**Figure 21—Browning Machine Gun, Cal. .30, M1917A1 and Cradle D7431 of Tripod Mount M1917A1 in Position on Mount**

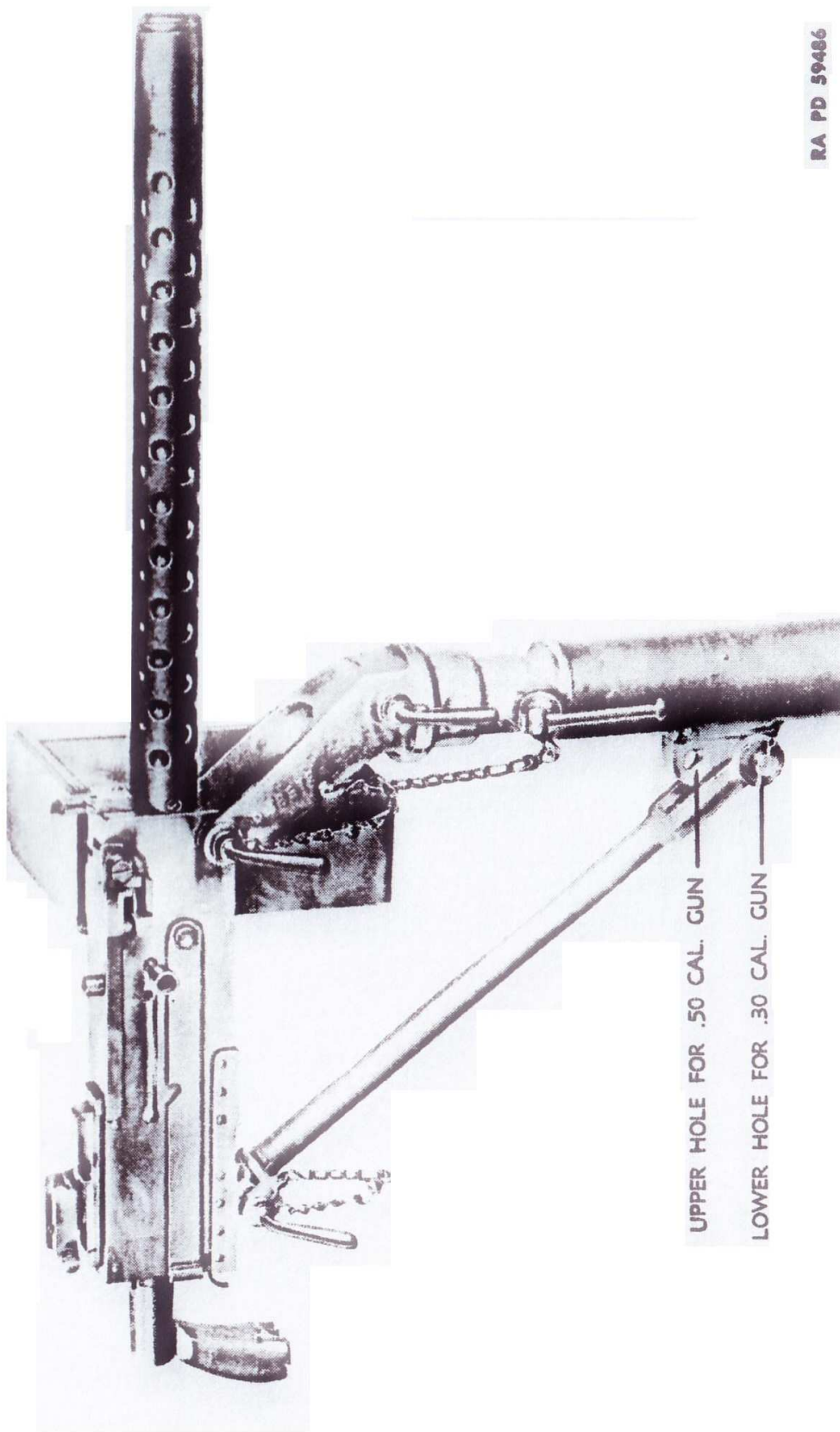
the lug on the left post when the cal. .30 machine gun is used and to the lug on the rear support when the cal. .50 machine gun is used.

d. **Attachment of Ammunition Tray.** Attach the ammunition tray to the cradle by means of the cap screws and nuts which fit into the two drilled holes in the cradle. The nuts should be away from the tray and fit against the pads of the cradle.

### 8. DISMOUNTING WEAPONS FROM MOUNTS.

a. To dismount the weapons from the mounts, proceed in the reverse order of mounting. However, in dismounting the Browning automatic rifle, the following precaution should be observed: With one hand, grasp the barrel and forearm of the rifle, and with the other hand, pull out the locking pin. *Do not release the hold on the rifle.* Immediately insert the gas cylinder tube retaining pin.

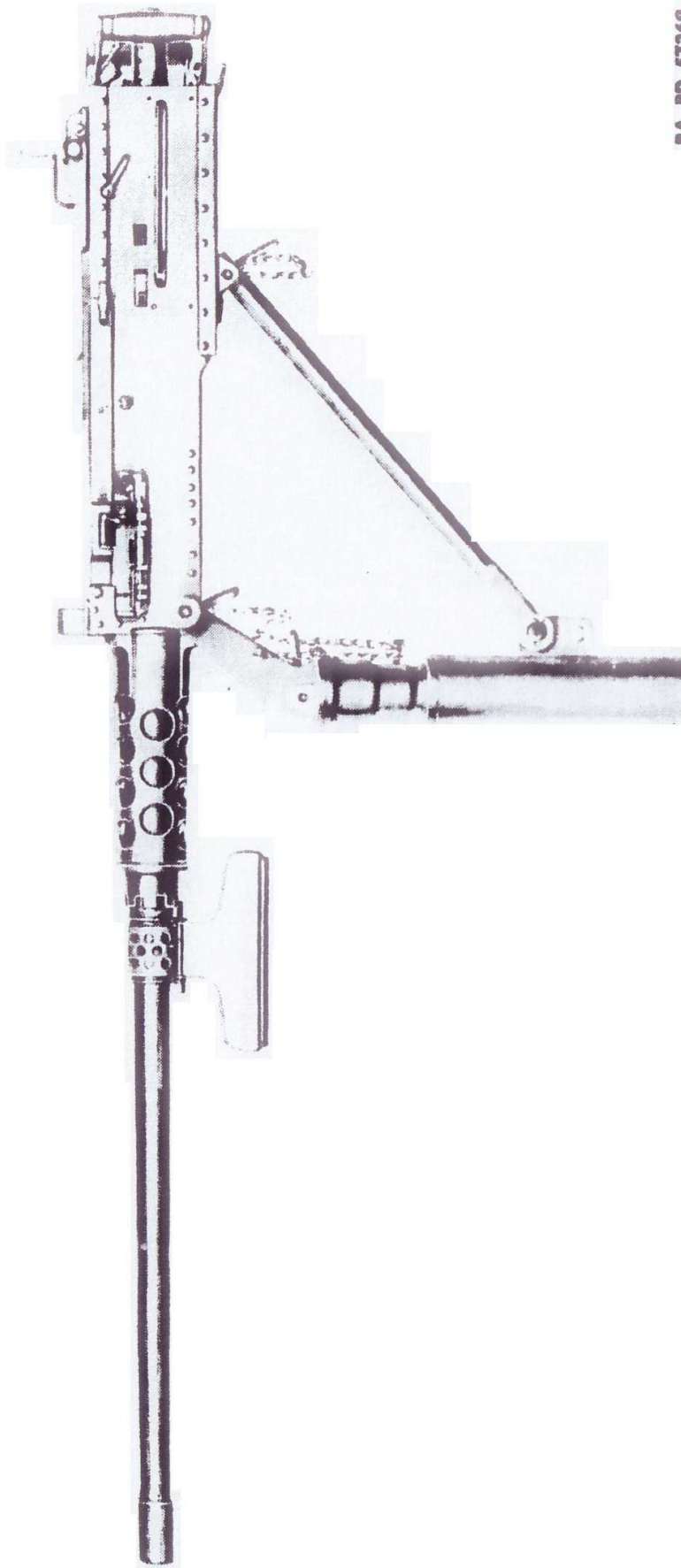
MOUNTING AND DISMOUNTING WEAPONS



RA PD 59486

Figure 22—Browning Machine Gun, Cal. .30, M1919A4 (Flexible) on Truck Pedestal Mount M31 (Traveling Position)

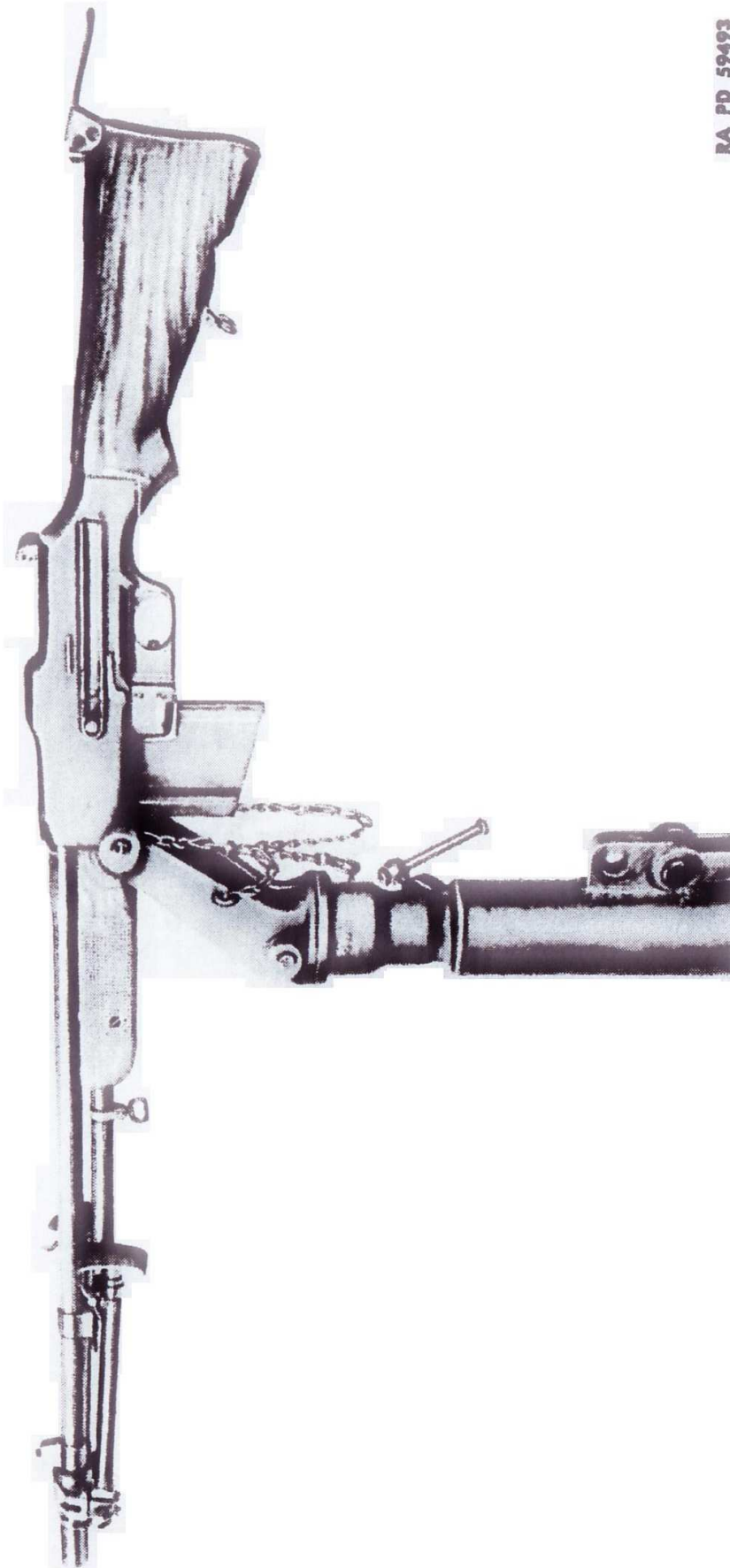
MACHINE GUN MOUNTS FOR TRUCKS



RA PD 57369

**Figure 23—Browning Machine Gun, Cal. .50, M2, Heavy Barrel (Flexible) on Truck  
Pedestal Mount M31 (Traveling Position)**

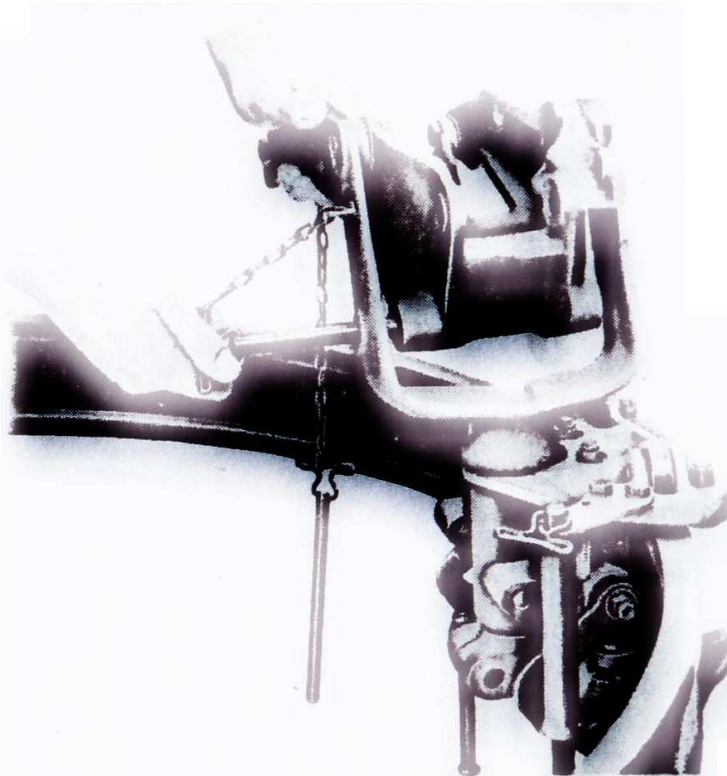
MOUNTING AND DISMOUNTING WEAPONS



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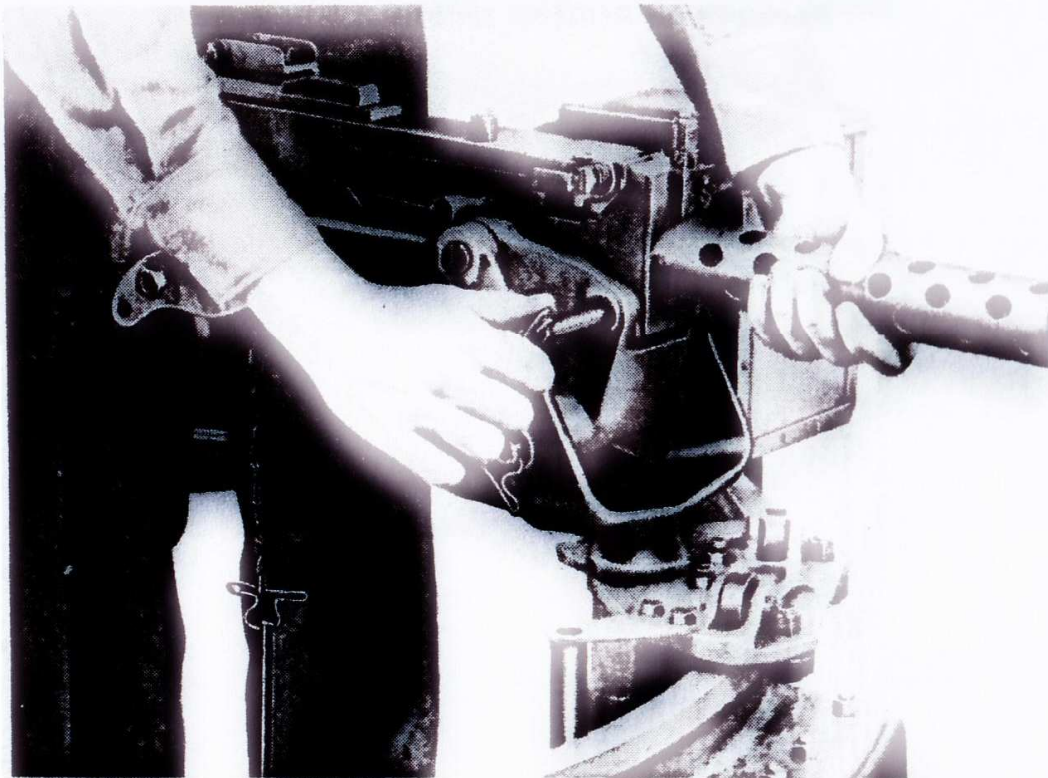
Figure 24—Browning Automatic Rifle, Cal. .30, M1918A2 on Truck Pedestal Mount M31

**MACHINE GUN MOUNTS FOR TRUCKS**



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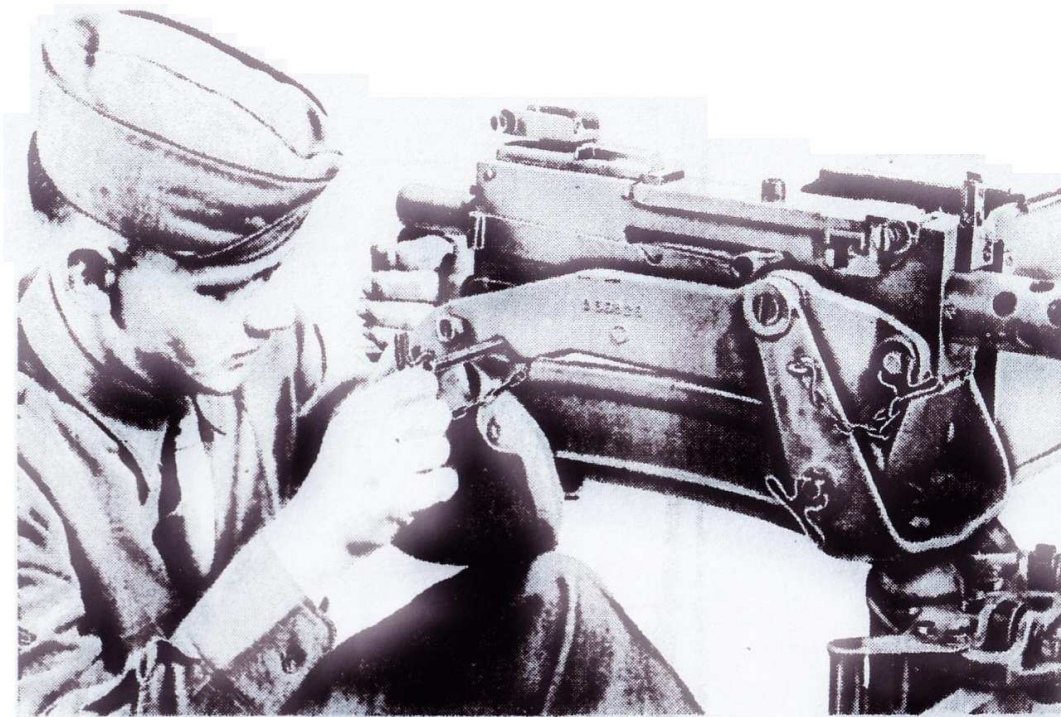
**Figure 25—Truck Mounts M32, M36, M37, M37A1, and M37A2—Locking the Cradle in the Horizontal Position.**



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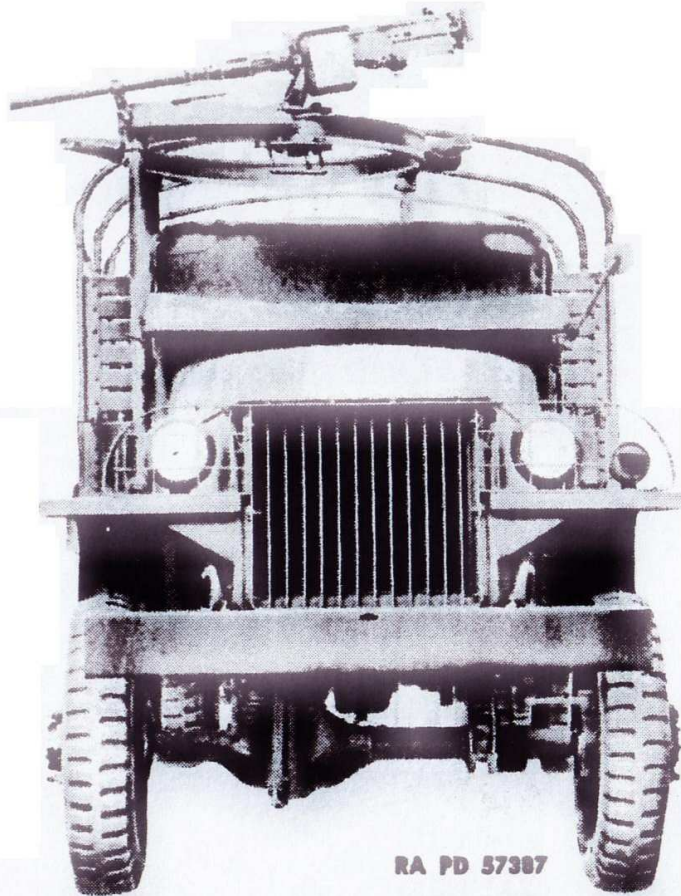
**Figure 26—Securing Front of Cal. .30 Machine Gun to Truck Mounts M32, M36, M37, M37A1, and M37A2**

**MOUNTING AND DISMOUNTING WEAPONS**



RA PD 57374

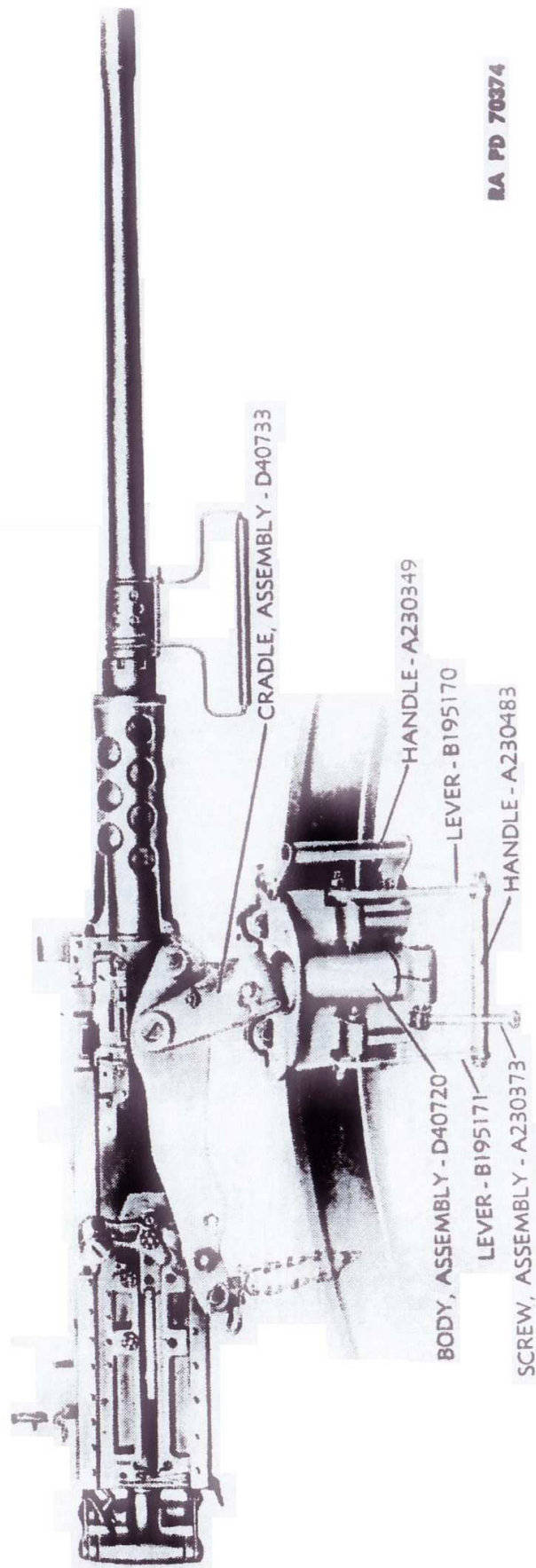
**Figure 27—Securing Rear of Cal. .30 Machine Gun to Truck Mounts M36, M37, M37A1, and M37A2**



RA PD 57387

**Figure 28—Machine Gun Barrel Secured by Clamp**

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RA PD 70374

Figure 29 — Browning Machine Gun, Cal. .50, M2, Heavy Barrel (Flexible) on Truck Mounts M32, M36, M37, M37A1, or M37A2

## Section IV

### DISASSEMBLY AND ASSEMBLY

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| Disassembly and assembly of truck mounts .....          | 11        |

#### 9. GENERAL.

a. The following instructions for disassembly and assembly are designed to enable the using arms to operate, clean, and inspect the materiel.

b. Before proceeding with the disassembly of the mounts, remove the weapons (par. 7).

#### 10. DISASSEMBLY AND ASSEMBLY OF TRUCK PEDESTAL MOUNTS.

a. **Disassembly.** Loosen the cradle pintle clamping screw and withdraw the cradle pintle (and cradle, if attached).

b. **Assembly.** Make certain the bore of the pedestal socket is clear (the clamping screw block is not in the way) and replace the cradle pintle.

#### 11. DISASSEMBLY AND ASSEMBLY OF TRUCK MOUNTS.

##### a. Disassembly.

(1) Loosen the pintle clamping screw. Rotate the cradle and pintle so that the cradle is outside the circular track and at right angles to the carriage. Lift the cradle with pintle (fig. 30) and remove it from the carriage.

(2) Remove the four bolts which hold the four outer carriage rollers in place. This is accomplished by turning the boltheads located on the roller side (fig. 31). Then slide the carriage off the track.

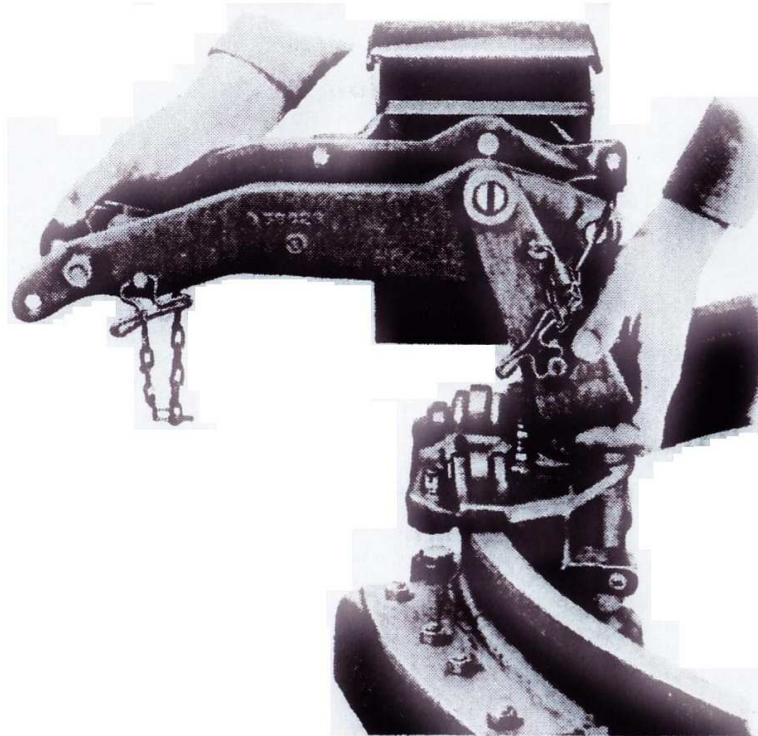
**CAUTION:** Do not attempt to unscrew the nuts which hold these bolts in place.

##### b. Assembly.

(1) Slide the carriage in place over the carriage track with the brake lever in the raised position (locked by the plungers) so as to provide slack for the assembly. Take care not to bump the brake lever off the plungers as they may pinch the fingers.



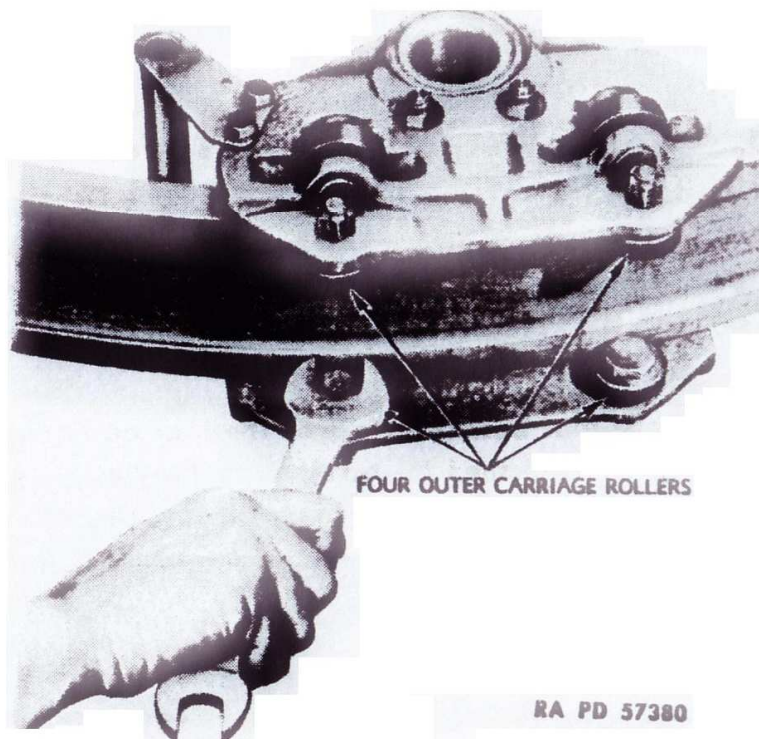
MACHINE GUN MOUNTS FOR TRUCKS



RA PD 57379

**Figure 30—Removing the Cradle and Pintle from the Carriage**

- (2) Reassemble the bolts and rollers and tighten.
- (3) Replace the cradle with the pintle on the carriage and rotate it until it snaps into position.



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**Figure 31—Removing the Bolts**

**Section V**

**CARE AND PRESERVATION**

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**12. GENERAL.**

a. Proper functioning and accuracy of firing depend to a large extent on care, cleaning, and oiling of the mount. All the operating parts of the mount should be checked daily for cleanliness and lubrication in garrison and camp, in the field, and on the range. The following instructions should be carefully observed.

**13. CLEANING OF COMPONENTS RECEIVED FROM STORAGE.**

a. Components which have been received from storage and are covered with COMPOUND, rust-preventive, should be cleaned with SOLVENT, dry-cleaning. Apply the solvent with rag swabs to large parts and as a bath for small parts. Take care to remove all traces of the compound, particularly from all recesses in which springs or plungers operate. After removing all traces of the compound, allow the parts to dry, and then wipe with a clean, dry rag.

**14. CARE IN GARRISON AND CAMP.**

a. Care and cleaning in garrison and camp include care of the mount necessary to preserve its condition and appearance during periods when no firing is being done. Mounts should be inspected daily for proper condition and cleanliness.

b. Remove the cradle pintle and with an oiled cloth wipe the contacting surfaces of the pintle and the inside surface of the pintle socket. Use OIL, lubricating, preservative, light.

c. Remove all dirt and rust from the track and wipe it with a cloth oiled with OIL, lubricating, preservative, light. Clean all unpainted metal parts thoroughly and wipe with an oiled cloth. In case of rain, snow, or dust storm, keep the machine gun on Truck Mounts M32, M36, and M37 covered with the gun cover (fig. 32).

## MACHINE GUN MOUNTS FOR TRUCKS



**Figure 32—Machine Gun Protected with Cover**

### 15. CARE IN THE FIELD AND ON THE RANGE.

a. In general, it should not be necessary to disassemble the mount in the field for cleaning. However, if the mechanism becomes very dirty and operates sluggishly, remove the weapon and then remove and clean the cradle pintle, gun pintle, and carriage. Then wipe with a cloth oiled with OIL, lubricating, preservative, light, and assemble the mount.

### 16. CARE AFTER FIRING.

a. After firing, remove the weapon. Disassemble the mount and clean the components with a dry, clean rag. Then wipe with a cloth oiled with OIL, lubricating, preservative, light, and reassemble.

### 17. CARE IN ARCTIC CLIMATES.

a. In arctic climates it is essential that all moving parts be kept absolutely free of moisture. Clean and lubricate all parts, but do not use excess lubricant because it may solidify to such an extent as to cause sluggish movement or even complete failure. When the materiel is in the open, all unprotected parts should be covered with tarpaulin or other suitable material. The covering selected should be firm, so that no loose material will get into the working parts. When the materiel is transferred

### **CARE AND PRESERVATION**

from the outside into a heated building, it should be immediately cleaned and oiled thoroughly to prevent the condensation of moisture. After the materiel has reached room temperature, wipe it dry with a clean rag, and oil again with OIL, lubricating, preservative, light.

#### **18. CARE IN TROPICAL CLIMATES.**

a. In hot and tropical climates where salt air is present, the materiel should be inspected and cleaned frequently, when and as required, rather than at fixed intervals. Clean and oil the materiel as soon as possible after firing, when wet or dirty, or if there is any reason to expect corrosion to start. In hot, but dry climates where sand or dust are prevalent, the unprotected parts of the materiel should be covered with tarpaulin or other suitable material. Oiling should be kept at a minimum because oil has a tendency to collect dust which acts as an abrasive.

#### **19. MATERIEL AFFECTED BY CHEMICALS.**

a. For instructions on decontamination of materiel and treatment of casualties, see FM 21-40 and TM 3-220.

**MACHINE GUN MOUNTS FOR TRUCKS**

**Section VI**

**INSPECTION**

|                 | <b>Paragraph</b> |
|-----------------|------------------|
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| Procedure ..... | 21               |

**20. PURPOSE.**

a. Inspection of your materiel is vital. Thorough systematic inspection at regular intervals is the best insurance against an unexpected break-down at the critical moment when maximum performance is absolutely necessary. Never let your materiel run down; keep it in first class fighting condition by vigilant inspection and prompt maintenance.

b. Inspection is for the purpose of determining the condition of the materiel and the repairs or adjustments necessary to insure serviceability and proper functioning. Its immediate aim is preventive maintenance which includes inspection for any damage caused by improper handling before delivery into your hands and inspection for ordinary wear or defects of parts that may require replacement.

**21. PROCEDURE.**

a. **General.** The instructions for inspection are given as a unit for all the mounts listed in paragraph 1. Instructions which do not apply to the particular mount in question should, therefore, be disregarded.

**b. Mount as a Unit.**

(1) Inspect the mount as a unit for condition, rigidity, or looseness of component assemblies. Check for welding defects.

(2) Elevate and depress the weapon on the mount through the full range and note any binding or sluggish movement.

(3) Rotate the mount through its full range and note any binding or sluggish movement.

(4) Test the functioning of the cradle pintle clamping screw.

(5) Test functioning of gun pintle lock.

(6) Test functioning of cradle pintle clamping handle.

(7) Move the carriage on the track and note freedom of movement.

(8) Test functioning of brake lever assembly.

**c. Cradle Group.**

(1) Check for looseness of pintle support and pintle lock assembly. Check for wear on plunger locking surface of gun pintle lock body.

(2) Check for wear on locking grooves of gun pintle.

(3) Test tension of gun pintle lock springs.

**INSPECTION****d. Socket Group.**

- (1) Test functioning of cradle pintle locking screw.
- (2) Check whether the pintle socket block pin extends into the groove on the underside of the block.
- (3) Check whether the twist link machine chains are firmly riveted to the pintle and properly secured to the locking pin bodies. Test functioning of locking pin balls and springs.

**e. Elevating and Traversing Mechanism.**

- (1) Operate the elevating and traversing knobs and note any binding, sluggish movement, or lost motion. The clicks should be perceptible, and each click should correspond to a change of one mil in elevation or traverse.
- (2) Note if elevating and traversing scales are loose. Markings on scale should be clear and not chipped.

## MACHINE GUN MOUNTS FOR TRUCKS

### Section VII

#### MAINTENANCE AND REPAIR

|   | Paragraph |
|---|-----------|
| General .....                             | 22        |
| Preventive maintenance .....              | 23        |
| Replacement of worn or broken parts ..... | 24        |

#### 22. GENERAL.

a. The instructions for maintenance and repair are given as a unit for all mounts listed in paragraph 1. Instructions which do not apply to the particular mount in question should, therefore, be disregarded. The immediate aim of these instructions is trouble prevention, which includes preventive maintenance and replacement of worn or broken parts.

#### 23. PREVENTIVE MAINTENANCE.

a. Tighten all bolts, nuts, and screws to prevent their becoming loose in service. This should be done periodically when the vehicle is in use.

b. Remove all dirt and rust from the track and rollers.

c. Clean all oil fittings and passages, making certain that all dirt and metal chips have been cleaned out. Clean the contacting surfaces on the pintle and in the pintle socket.

d. The brake detent springs are properly adjusted before shipment. If necessary, the brake detent plungers may be pulled in or out by grasping the screws directly behind the safety nuts on the plungers and turning the nuts (fig. 33).

e. As wear takes place on the spring-actuated brake lever assembly, the handle will automatically move downward until the levers hit the stops on the carriage. If this happens, adjust the brake levers as follows:

(1) Remove the two nuts on each end of the handle grip.

(2) Then remove the nuts and washers at the ends of the screws on the upper portion of the levers. These levers fit the screw ends on 36 serrations.

(3) Mark the relative location of the lever and screw on each side as assembled; then remove the levers and assemble them, one serration higher on the screws, so as to raise the handle assembly.

f. If there is not sufficient spring tension on the levers, remove the carriage assembly from the track and wind the coil springs a quarter of a turn. The screws on which these springs are anchored are cross-drilled for this purpose (figs. 34, 35, and 36).

MAINTENANCE AND REPAIR

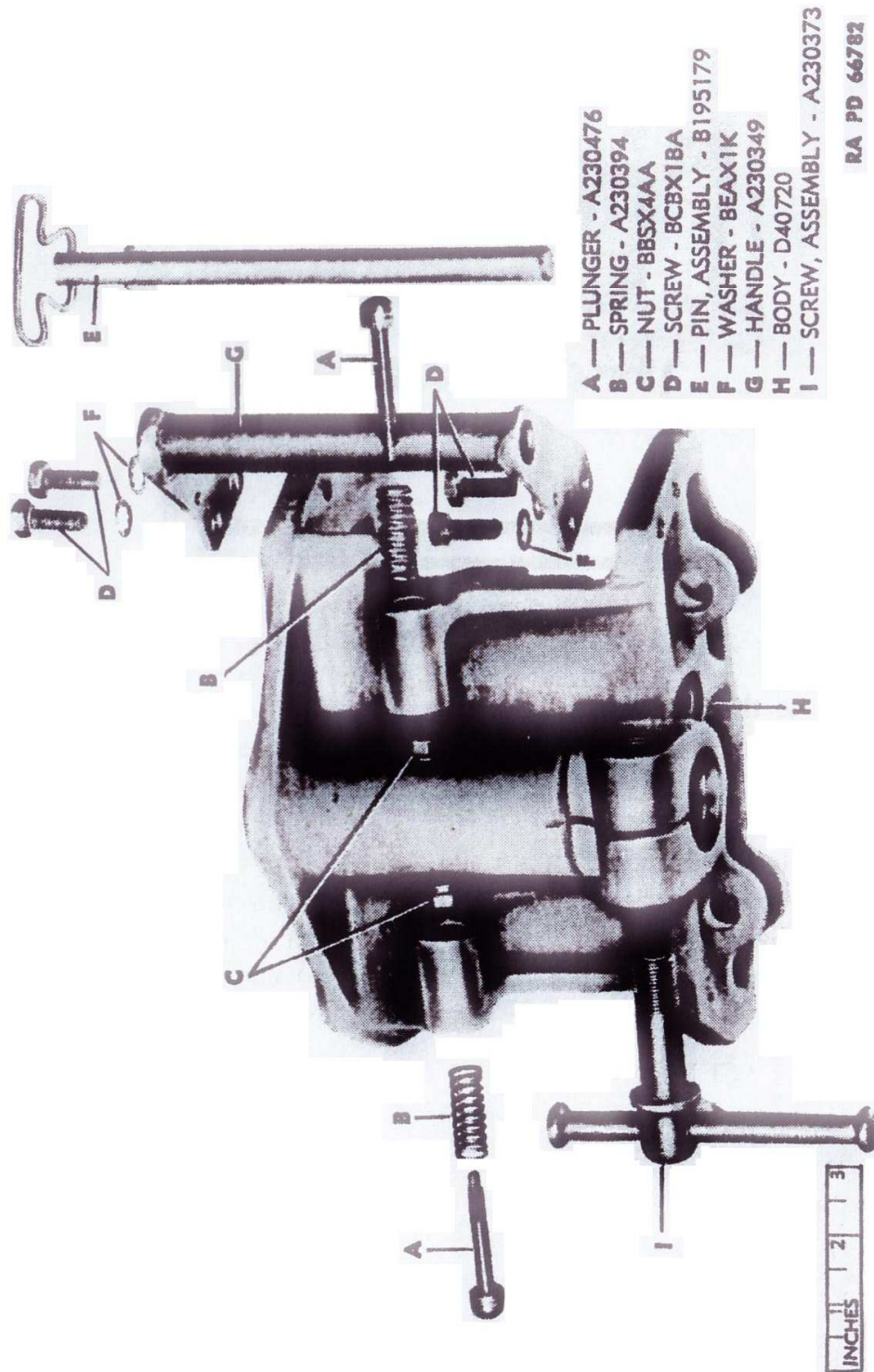
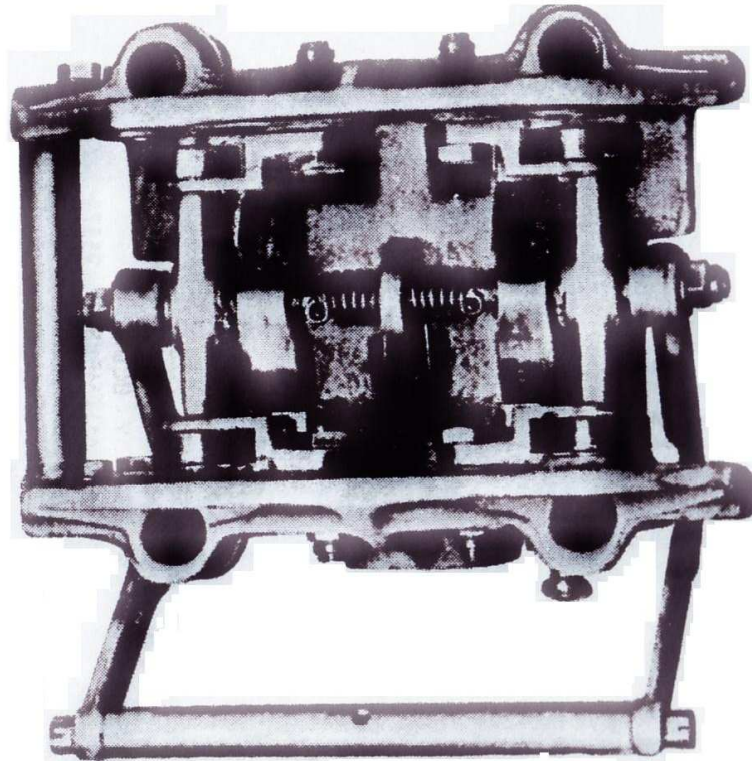


Figure 33 — Carriage Group Showing Brake Detent Springs and Plungers



## MACHINE GUN MOUNTS FOR TRUCKS



RA PD 70378

**Figure 34—Carriage Group Without Four Outer Rollers**

g. Raise the brake lever handle so that it is held by the brake detent springs. Then swing the carriage around the track to be sure that it travels freely. If the carriage tends to stick at certain points, it may be due to distortion of the track. If this happens, unbolt the track from the right- and left-hand posts. Check the alinement of the holes on posts with those in left and right brackets. These holes may not aline closely because of slight variations in truck body. If the posts spring in or out when unbolted, remove the track and spread the posts slightly with a jack or draw them together so that the holes aline.

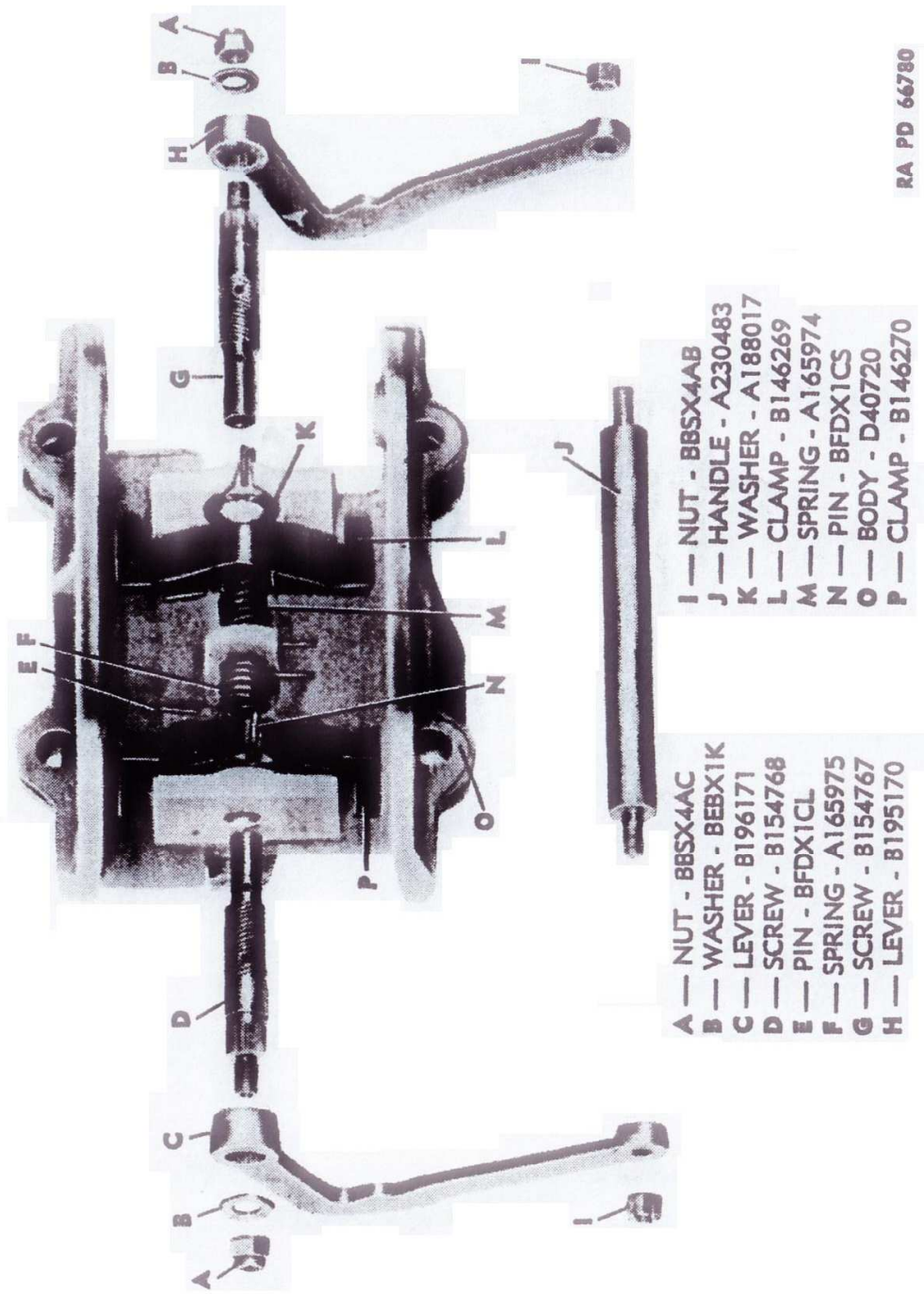
### **24. REPLACEMENT OF WORN OR BROKEN PARTS.**

a. If springs are excessively worn or broken, they should be replaced.

b. If gun pintle lock fails to engage the gun pintle, replace the gun pintle lock springs.

c. If the cradle pintle clamping screw fails to lock the cradle pintle, replace the cradle pintle clamping screw. To accomplish this, drive out the pin which secures the cradle pintle clamping screw nut. Loosen the cradle pintle clamping screw to its limit. Unscrew the cradle pintle clamping screw nut and replace the cradle pintle clamping screw, making certain that the pin rides in the groove on the underside of the pintle clamping block.

MAINTENANCE AND REPAIR



RA PD 66780

Figure 35—Carriage Group Showing Position of Brake Parts

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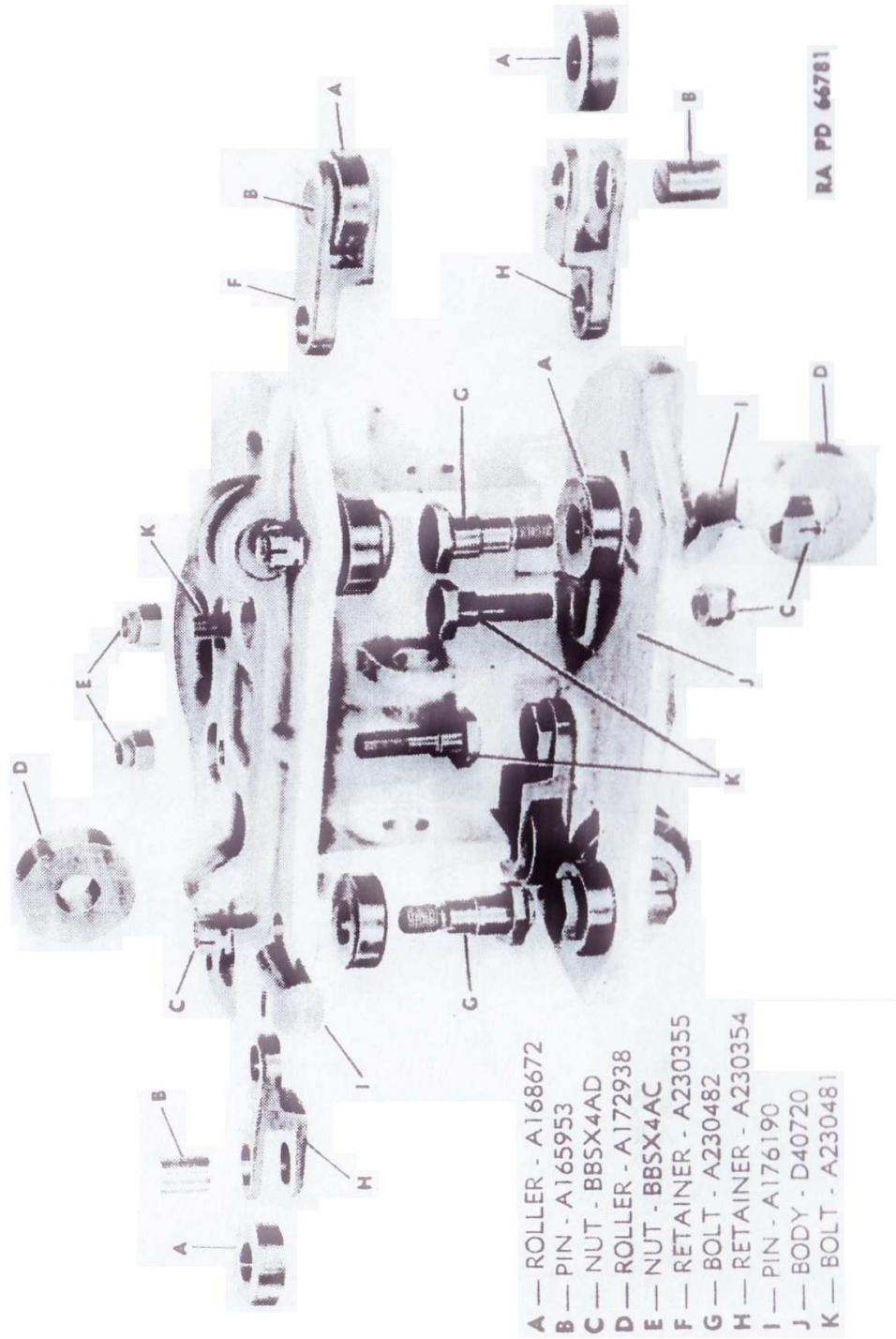
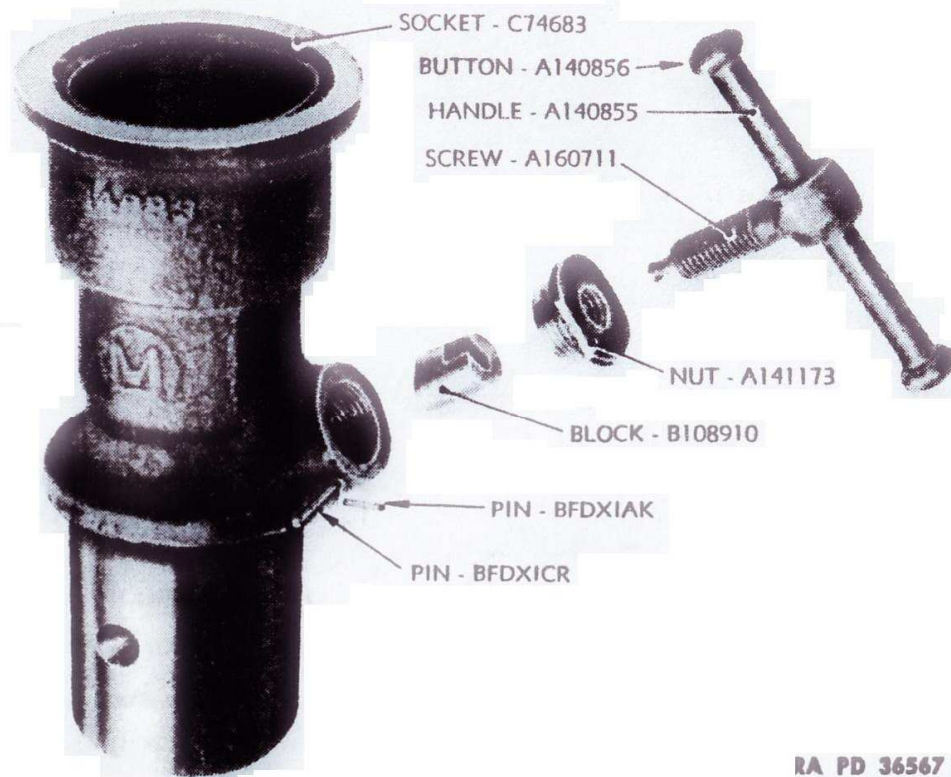


Figure 36—Carriage Group Showing Position of Rollers

MAINTENANCE AND REPAIR



RA PD 36567

Figure 37—Socket Group

d. Replacing the cradle pintle clamping screw usually necessitates replacing the pintle clamping block. Failure to lock the cradle pintle indicates that the pintle clamping block has been sheared off the cradle pintle clamping screw by forceful unscrewing of the latter from the cradle pintle clamping screw nut. However, if the cradle pintle clamping screw is bent or burred to an extent that it cannot be screwed all the way into the cradle pintle clamping screw nut, preventing the pintle clamping block from firmly engaging the cradle pintle, replacement of the cradle pintle clamping screw only is required (fig. 37).

e. If the small pin in the seat for the pintle clamping block does not protrude the proper amount, locate its seat by scratching off paint about  $\frac{3}{4}$  inch below the center of the cradle pintle clamping screw nut. This pin is  $\frac{1}{16}$  inch in diameter. Drive it in with proper-sized steel punch, so that it will keep the pintle clamping block properly positioned by means of the groove on the underside of the pintle clamping block. If this pin is missing, the pintle clamping block usually rotates with the cradle pintle clamping screw; this does not allow the pintle clamping block fully to engage the cradle pintle. This prevents locking the cradle pintle (fig. 37).

**MACHINE GUN MOUNTS FOR TRUCKS**

**Section VIII**

**PAINTING**

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| Painting metal surfaces .....              | 27        |
| Paint as camouflage .....                  | 28        |
| Removal of paint .....                     | 29        |

**25. GENERAL.**

a. Ordnance materiel is painted before issue to the using arms and one maintenance coat per year will ordinarily be ample for protection. With but few exceptions, this materiel will be painted with ENAMEL, synthetic, olive-drab, lusterless. The enamel may be applied over old coats of long oil enamel and oil paint previously issued by the Ordnance Department if the old coat is in satisfactory condition for repainting.

b. Paints and enamels are usually issued ready for use and are applied by brush or spray. They may be brushed on satisfactorily when used unthinned in the original package consistency, or when thinned no more than five percent by volume with THINNER. The enamel will spray satisfactorily when thinned with 15 percent by volume THINNER. (Linseed oil must not be used as a thinner since it will impart a luster not desired in this enamel.) If sprayed, it dries hard enough for repainting within ½ hour and dries hard in 16 hours.

c. Complete information on painting is contained in TM 9-850.

**26. PREPARATION OF SURFACES FOR PAINTING.**

a. If the base coat on the materiel is in poor condition, it is more desirable to strip the old paint from the surface than to use sanding and touch-up methods. After stripping, it will be necessary to apply a primer coat.

b. PRIMER, synthetic, rust-inhibiting, for bare metal, should be used on metal as a base coat.

c. The effectiveness of a painting job depends partly on the selection of a suitable paint, but largely upon the care used in preparing the surface prior to painting. All parts to be painted should be free of all extraneous matter such as rust, dirt, and grease, and must be dry.

**27. PAINTING METAL SURFACES.**

a. Metal parts in need of cleaning should be washed with a liquid solution consisting of ½ pound of SODA ASH in 8 quarts of warm water,

## PAINING

or an equivalent solution, then rinsed with clear water and wiped thoroughly dry. If the materiel is in fair condition and marred only in spots, these places should be touched up with **ENAMEL**, synthetic, olive-drab, lusterless, and permitted to dry. The whole surface should then be sandpapered with **PAPER**, flint, class B, No. 1, and a finish coat of **ENAMEL**, synthetic, olive-drab, lusterless, applied and allowed to dry thoroughly before the materiel is used. If the equipment is in bad condition, all parts should be thoroughly sanded with **PAPER**, flint, class B, No. 2, or equivalent, given a coat of **PRIMER**, synthetic, refinishing, and permitted to dry for at least 16 hours. They should then be sandpapered with **PAPER**, flint, class B, No. 00, wiped free from dust and dirt, and given a final coat of **ENAMEL**, synthetic, olive-drab, lusterless, and allowed to dry thoroughly before the materiel is used.

### 28. PAINT AS CAMOUFLAGE.

a. Camouflage is now a major consideration in painting ordnance materiel with rust prevention secondary. The camouflage plan employed at present utilizes three factors: color, gloss, and stenciling.

(1) **COLOR.** Vehicles are painted with **ENAMEL**, synthetic, olive-drab, lusterless, which was chosen to blend reasonably well with the average landscape.

(2) **GLOSS.** The new lusterless enamel makes it difficult to see a vehicle from the air or from relatively great distances over land. A vehicle painted with ordinary glossy paint can be detected more easily and at greater distances.

(3) **STENCILING.** White stencil numbers on materiel have been eliminated because they can be photographed from the air. A blue-drab stencil enamel is now used which cannot be so photographed. It is illegible to the eye at distances exceeding 75 feet.

#### b. Preservation of Camouflage.

(1) Continued friction or rubbing must be avoided, as it will smooth the surface and produce a gloss. The materiel should not be washed more than once a week. Care should be taken to see that the washing is done entirely with a sponge or a soft rag. The surface should never be rubbed or wiped, except while wet, or a gloss will develop.

(2) It is not desirable that materiel painted with lusterless enamel be kept as clean as that covered with glossy paint. A small amount of dust increases the camouflage value. Grease spots should be removed with **SOLVENT**, dry-cleaning. Whatever portion of the spot that cannot be so removed should be allowed to remain.

(3) Continued friction of wax-treated tarpaulins on the materiel will also produce a gloss, which should be removed with **SOLVENT**, dry-cleaning.

## **MACHINE GUN MOUNTS FOR TRUCKS**

(4) Tests indicate that repainting with olive-drab paint is necessary once a year and with blue-drab paint twice a year.

### **29. REMOVAL OF PAINT.**

a. After repeated paintings, the paint may crack and scale off in places, presenting an unsightly appearance. If such is the case, remove the old paint with a lime-and-lye solution (see TM 9-850 for details) or with REMOVER, paint and varnish. It is important that every trace of lye or other paint remover be completely rinsed off, and that the equipment be perfectly dry before repainting is attempted. It is preferable that the use of lye solutions be limited to iron or steel parts. If used on wood, the lye solution must not be allowed to remain on the surface for more than a minute before it is thoroughly rinsed off and the surface wiped dry with rags. Crevices or cracks in wood should be filled with putty and the wood sandpapered before refinishing. The surfaces thus prepared should be painted according to directions in paragraph 26.

**Section IX**

**REFERENCES**

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**30. STANDARD NOMENCLATURE LISTS.**

**a. Maintenance.**

|  |          |
|--|----------|
| Cleaning, preserving and lubricating materials; recoil fluids, special oils, and miscellaneous related items ..... | SNL K-1  |
| Soldering, brazing and welding material, gases and related items .....   | SNL K-2  |
| Truck, small arms repair, M1 .....   | SNL G-72 |

**b. Mount Materiel.**

|  |          |
|--|----------|
| Mounts, small-arms, for motor vehicles .....   | SNL A-55 |
| Current Standard Nomenclature Lists are as tabulated here. An up-to-date list of SNL's is maintained as the "Ordnance Publications for Supply Index" ..... | OPSI     |

**31. EXPLANATORY PUBLICATIONS.**

**a. Maintenance.**

|  |           |
|--|-----------|
| Chemical decontamination materials and equipment ..  | TM 3-220  |
| Cleaning, preserving, lubricating, and welding materials and similar items issued by the Ordnance Department ..... | TM 9-850  |
| Defense against chemical attack .....  | FM 21-40  |
| Field inspection of ordnance materiel by service command inspectors in continental United States .....             | TB 1100-1 |
| Military chemistry and chemical agents .....   | TM 3-215  |





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*Chief of Staff.*

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*The Adjutant General.*

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(For explanation of symbols, see FM 21-6)