

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, AND
DIRECT SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
ANTITANK MINE
DISPENSING SYSTEM
M57
(NSN 1095-00-169-0300)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1980

WARNING

Do not attempt to dispense other than the antitank, HE, heavy, M15 mine with fuze AT M603 with the M57 dispenser. Note that the mine containers furnished with M57 are to be used only with M15 antitank mines.

Reports of "intention to lay, " "initiation of laying, " and "completion of laying" are mandatory for every mine field laid by friendly troops. The report of completion of laying must be followed by a completed standard mine field record, DA Form 1355. Refer to FM 20-32 for preparation of these reports. These safety requirements and precautions will be complied with during storage, handling, and inspection of M15 antitank mines and/or M603 fuzes. AU personnel engaged directly as well as indirectly in operations in which ammunition, explosives, and/or other hazardous material is involved should be aware of the potentially hazardous situation. Thinking safety and working safely must become a firmly established habit when working with or in the vicinity of items capable of exhibiting a hazard due to the nature of their explosive filler.

DO NOT ATTEMPT TO CONTAINERIZE OR DISPENSE OTHER THAN TYPE M1S MINES WITH M603 AT FUZES.

USE ONLY TYPE M1S MINES IN FURNISHED CONTAINERS.

Mines must be handled with extreme care at all times. The explosive elements in fuzes, primers, detonators, and boosters are particularly sensitive to mechanical shock, friction, static electricity, and high temperature.

All fuzed mines must be transported unarmed and containerized in the proper container for the particular mine/fuze combination.

Safety inspectors (NCOs) shall be assigned to both mine cache and mine dispenser operations to insure safe procedures, especially concerning the fuzing and containerizing of the mines.

All using personnel must be instructed in the handling of mines (TM 9-1345-203-12&P). The safety requirements set forth in TM 9-1300-206, as applicable, will be complied with. The absence of a safety requirement in this manual or in the above referenced manuals does not necessarily indicate that no safeguards are needed.

Early production models of the M57 antitank mine dispensing system included a drag blade assembly for the purpose of smoothing or leveling the ground behind the plow blade as it passes over the plowed ground. This drag blade assembly must be removed and not used because the weight of this assembly could cause the mines that have been laid to explode.

During training or practice sessions with the mine dispenser, live fuzes should not be used with live mines. Although there is only a very remote chance of a mishap, there is no need to take any risk in the training of operating personnel. Live fuzes with inert mines or practice fuzes give identical performance without any risk.

The camouflage man or noncommissioned officer in charge (NCOIC) must not walk beside the dispenser when it is operating in the subsurface mode. The dispenser can move rapidly to either side if an impenetrable buried obstacle is encountered by the plow. The camouflage man or NCOIC must walk to the rear and left of the dispenser to observe exit of mines.

In both training and combat installed mine fields, the standard Army Marking Set No. 2 may be used to temporarily locate the position of buried mines. After subsequent parallel rows of mines are emplaced, the temporary markers will be removed.

Inert or practice mines used for training operating personnel must be properly weighted with 21.2 pounds of sand or other inert material to simulate the processing of live mines. Empty or unweighted mine cases will not provide proper training conditions.

Containerizing line personnel must insure that no mines are armed and that fuze plugs are tight.

Subsurface mines should be emplaced no deeper than is required to achieve good camouflage.

Check the position of the last dispensed mine prior to attempting extrication of a stalled dispenser.

Cautiously disarm and remove any mine near the rear of the dispenser, to avoid danger to personnel and equipment.

The mine containers in the tow vehicle should be positioned and restrained as far forward in the cargo area as the tie-down strap will allow to prevent shifting of the mine containers.

Operator arming mine must watch for violent movement of the arming table when towing vehicle crosses a deep depression or trench as the table will have a tendency to enter the truck.

Do not leave an armed mine on the arming table. Arm mine immediately prior to pushing it down the chute.

b

**Operator's, Organizational, and Direct Support
Maintenance Manual
(Including Repair Parts and Special Tools Lists)
ANTITANK MINE DISPENSING SYSTEM M57
(NSN 1095-00-169-0300)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS-MA, Dover, NJ 07801. A reply will be furnished direct to you.

Current as of 27 June 1980

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CHAPTER 1 INTRODUCTION

Section I. General

1-1. Scope

These instructions are published for the use of personnel to whom the ANTITANK mine dispensing system M57 is issued. They provide information on the operation and organizational and direct support maintenance of the system.

1-2. Forms and Records

a. Mine Laying Reports. At least three reports are mandatory for each minefield laid. These reports are the Report of Intention to Lay, the Report of Initiation of Laying, and the Report of Completion of Laying. The Report of Completion of Laying must be followed by a completed Standard Minefield Record, DA Form 1355. Refer to FM 20-32 for preparation of these reports.

b. Field Report of Accidents. Accidents or malfunctions

involving the use of ammunition which occur during training or combat will be reported immediately to the qualified ammunition representative under whose supervision the ammunition for the unit involved is maintained or issued. The report will be made by the officer in charge or by the senior noncommissioned officer or enlisted man of the unit involved. AU available pertinent facts will be included in the report. It is the duty of the qualified ammunition representative to investigate thoroughly all cases of malfunction or accident observed by him or reported to him and to report all such cases as outlined in AR 75-1 and AR 385-40.

c. Maintenance Forms and Records. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

Section II. DESCRIPTION AND DATA

1-3. Description and Data

NOTE

All left- and right-hand references are based on view of unit from the rear.

The Antitank Mine Dispensing System (ATMDS) consists of mine cache equipment, a set of mine containers, a mine dispenser, and an overpack kit.

a. The mine cache equipment is used for mine containerization and loading of the mine containers into the towing vehicle.

NOTE

Furnished containers are for M15 AT mines only.

b. The mine containers provide a means for safe transport of the fused, unarmed mines to the minefield. A minimum of three containers should be transported by the recommended towing vehicles (the mine container furnished is configured to hold only M15 AT mines). See figure 2-15 for suggested loading.

c. The mine dispenser (fig. 1-1 and 1-2) is a two-wheeled, towed vehicle with adjustable axles, tow beam, and a detachable mid and upper chute. The upper chute is attached to the dispenser during general transport of the dispenser. The dispenser contains a tool box in which tools and spare parts are stored. It is provided with two taillights and a rear service light, but has no brakes. A replaceable weak link in the tow beam allows the

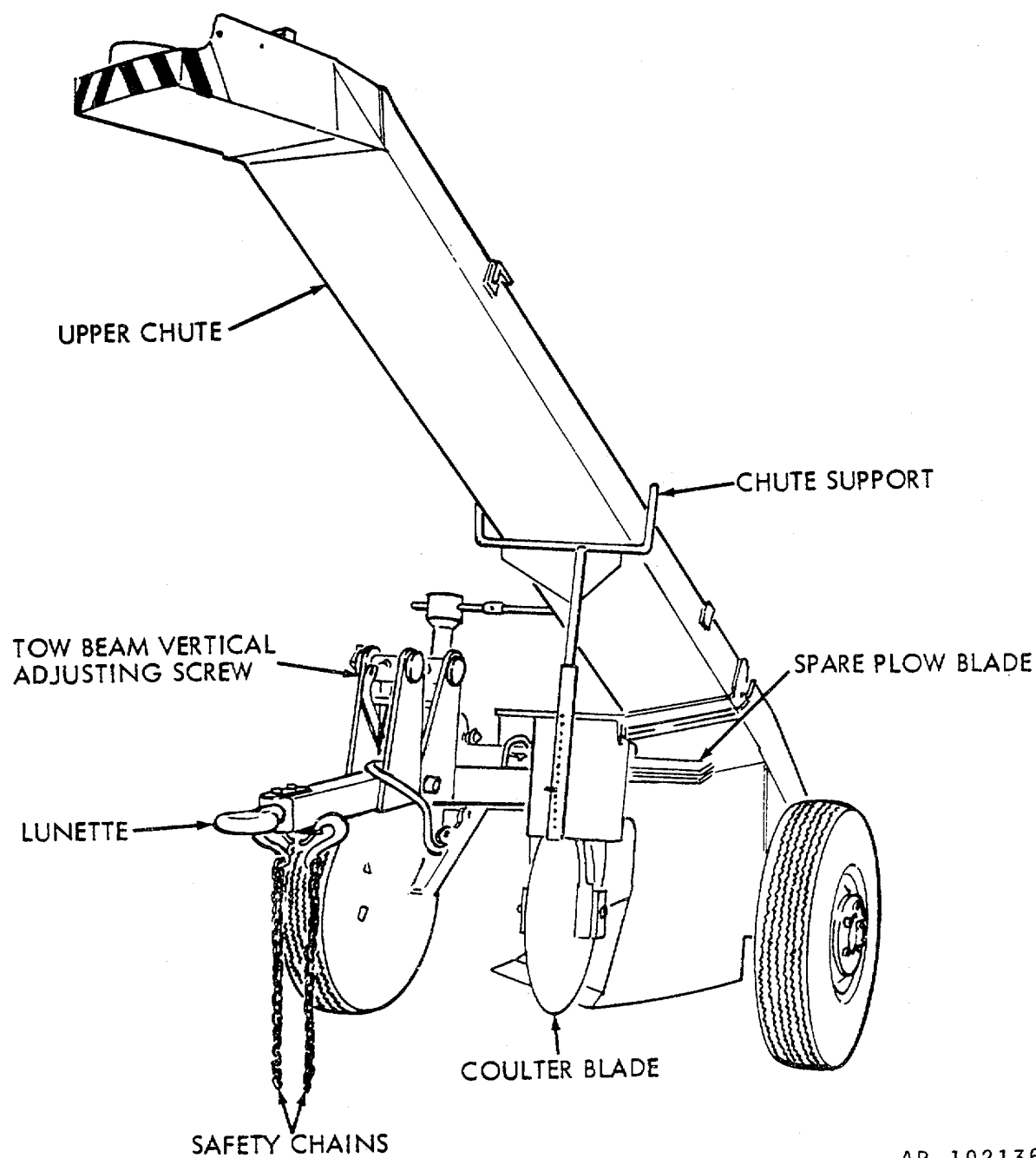
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penser to break away from the towing vehicle when tensile forces of approximately 10,000 pounds are encountered. This weak link thus prevents damage to the dispenser or towing vehicle when large obstacles are encountered by the dispenser. To aid the plow performance, a disk coulter is mounted in front of the plow side plate. A reinforced rubber stabilizing flap, stored in the dispenser tool box, is used on the rear of the moldboard to prevent mines from "turning over" when surface-dispensed.

WARNING

Early production models of the M57 antitank mine dispensing system included a drag blade assembly for the purpose of smoothing or leveling the ground behind the plow blade as it passes over the plowed ground. This drag blade assembly must be removed and not used because the weight of this assembly could cause the mines that have been laid to explode.

d. The drag blade assembly (see fig. 1-2) is a large steel blade that was issued only with the early production models of the mine dispenser assembly. This assembly, when attached to the drag blade mounting bracket of the mine dispenser, smooths or levels the plowed ground covering the mines that are laid. This drag blade assembly is no longer issued as a part of the mine dispenser and should not be used with the mine dispenser.



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Figure 1-1. Mine dispenser, -left front view.

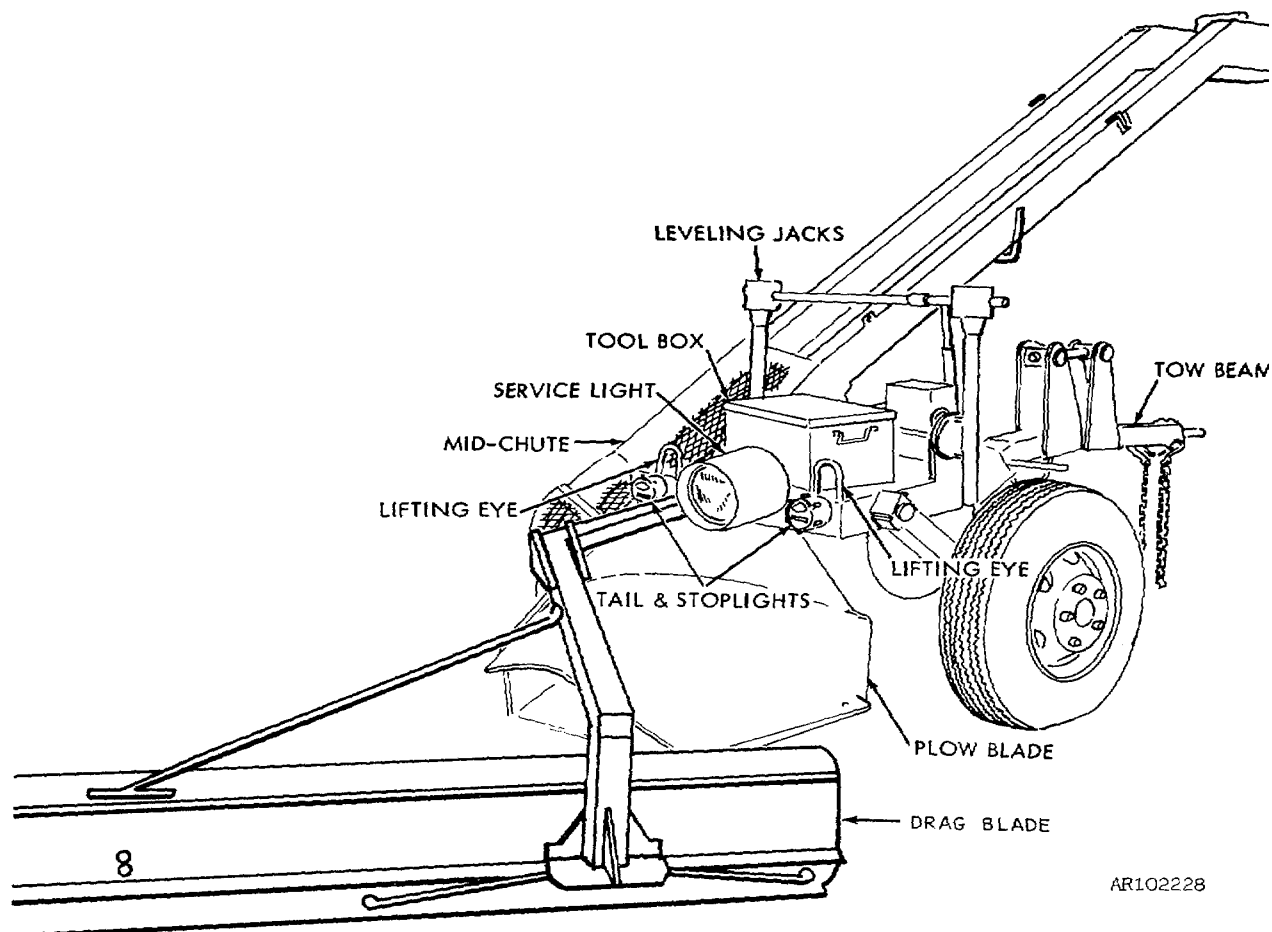


Figure 1-2. Mine dispenser showing drag blade.

1-4. Towing Vehicles

The ATMDS can be used to maximum advantage with M34, M35, M36, M41, M51, M54, MS5, M135, M211, and M656 wheeled trucks. The M548 tracked truck can also be used to full advantage as a prime mover. M1 13 armored personnel carriers (APCs) can be used in a limited capacity with the ATMDS, but its use is not recommended.

1-5. Identification and Tabulated Data

a. Identification. The ATMDS has only one nameplate; it is located on the dispenser side board, at the left rear of the dispenser. It specifies the nomenclature, stock number, contract number, serial number, date of manufacture, manufacturer, and dispenser weight.

b. Tabulated Data.

(1) Dispenser.

Length-road towing 163 inches (max)

Height-road towing	72 inches (max)
Height-dispensing	110 inches (max)
Width	80 inches (max)
Weight	3235 pounds
Tire size	900 x 16
Tire pressure	20 psi
Road clearance	12 inches (approx)
Vehicle attachment	Standard military
Electrical	Standard 24 v military connector
Towing pintle height	Variable, 15 to 40 inches
Towing vehicle requirements	Dispensing, 21/2 ton (min)
Mine planting depth	Variable (surface to 6 in. below surface)
Towing speed	Road, 35 mph (max)
	Dispensing, 1 to 3 mph
Mine dispensing rate	Variable, to 600 mines per hour
	(2) Conveyor sections (10 each furnished).
Model	RL-1 .9020-45
Length	60 inches

Width 22 inches overall
 Weight 84 pounds each
 Number rollers 15 per section
 Stops 4 each, furnished for two containerization lines in mine cache tool box

(3) Conveyor stands (12 each furnished).

Model S/8-20-2632
 Height Variable, 20 to 32 inches
 Width 22 inches overall
 Weight 30 pounds each

(4) Mine containers (18 each furnished) (for M15 AT mines only).

Capacity 48 each, M15 AT mines
 Height 48 inches
 Width 40 1/2 inches
 Depth 30 inches
 Weight-empty 253 pounds
 Weight-loaded 1693 pounds

(5) Can opener assemblies (2 each furnished).

Capacity 1 gallon cans
 Height 44 inches overall
 Width, base 24 inches
 Length, base 30 inches
 Weight 20 pounds, each

(6) Mine cache tool box.

Length 24 inches
 Height 12 inches
 Width 12 inches
 Weight 30 pounds

(7) Lifting fork.

Height 58 inches
 Length 44 inches
 Width 20 inches
 Weight 275 pounds
 Capacity 3000 pounds

c. Wiring Diagram. Refer to figure 1-3.

d. Maintenance and Operating Supplies. Refer to table 1-1.

Table 1-1. Maintenance and operating Supplies

(1) Component application	(2) Qty req'd National stock number	(3) Qty req'd -Initial Description	(4) -8 hours operation	(5) operation		
Grease points and wheel bearings			Grease, Automotive and Artillery: 1-lb can			
¹ 9150-00-190-0904	GAA 1 pound	As req'd				
Moldboard, plow blade, and coulter blade			Oil, Lubricating, Engine 1-qt can			
¹ 9150-00-265-9440	OE-51 quart	As req'd				

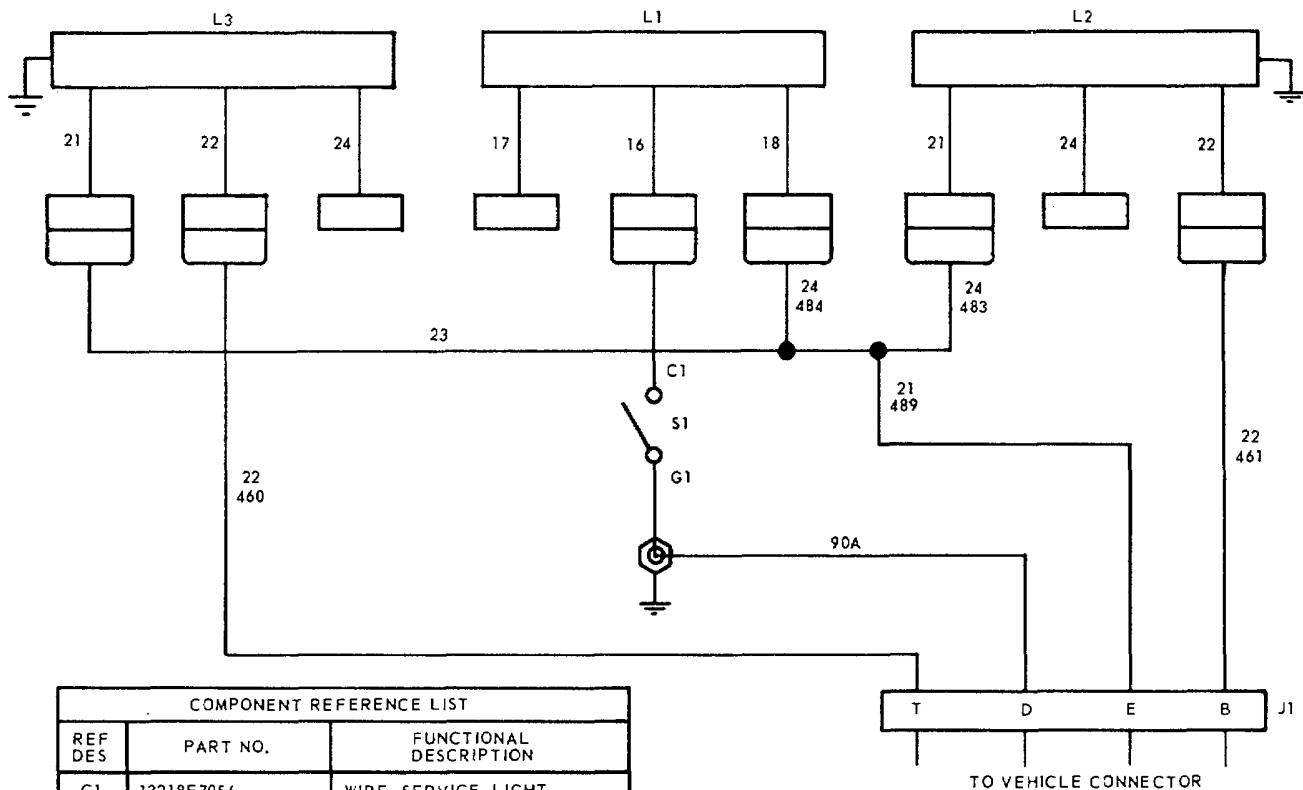


Figure 1-3. Wiring diagram.

Section III. GENERAL SAFETY REQUIREMENTS

1-6. GENERAL SAFETY REQUIREMENTS

These safety requirements and precautions will be complied with during storage, handling, and inspection of MIS antitank mines and/or M603 fuzes. AU personnel engaged directly as well as indirectly in operations in which ammunition, explosives, and/or hazardous material is involved should be thoroughly trained in explosive safety and capable of recognizing potentially hazardous situations. Thinking safety and working safely must become a firmly established habit when working with or in the vicinity of items capable of exhibiting a hazard due to the nature of their explosive filler.

1-7. Requirements

WARNING

Do not attempt to containerize or dispense other than type MIS mines with M603 fuzes.

CAUTION

Use only M15 mines in the furnished containers.

The use of a drag (drag blade, chain, or any other device attached to the dispenser that is used to "drag" a cover over the furrow after mine emplacement) is not authorized.

Limit dispensing operations to side slopes and descending longitudinal slopes of less than 15 degrees.

After each reassembly or modification of the dispenser, an M-12 practice mine should be cycled through the dispenser to assure all clearances are appropriate cycled through the dispenser to assure all clearances are appropriate.

a. Fuzed Mines.

WARNING

Mines must be handled with extreme care at all times. The explosive elements in fuzes, primer, detonators, and boosters are particularly sensitive to mechanical shock, friction, static electricity, and high temperature.

All fuzed mines must be transported unarmed and containerized.

b. Inspectors. Safety inspectors (NCOs) shall be

assigned to both mine cache and mine dispenser operations to insure safe procedures, especially concerning the fuzing and containerizing of the mines.

c. Safety Instructions. AU using personnel must be instructed in the handling of mines (TM 9-1345-203-12&P). The safety requirements set forth in TM 9-1300-206, as applicable, will be complied with. The absence of safety requirement in this manual or in the above referenced manuals does not necessarily indicate that no safeguards are needed.

CHAPTER 2 OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

2-1. Inspecting and Servicing the Equipment

a. *Components.* New equipment is shipped in the configuration tabulated below. There are 24 separate packages.

Item	Package Type	Quantity		
Dispenser	None	1		
Plow blades	Deck-plated mounted		3	
Conveyor assembly	Skid-mounted.....		2	
Mine containers (Mi5)	Skid-mounted.....		18	
Tool box, mine cache	Banded to Fork Skid		1	
Can opener stands	Banded to Fork Skid		2	
Lifting fork	Skid mounted		1	
Support post	Banded to Fork.....		2	
Container accessories	Skid-mounted.....		1	
Overpack kit	Skid-mounted		1	

Overpack Kit

Item Name	Part Number	FSCM ¹	Qty		
Blade, Coulter	13219E0800		97403	2	
Jack, Left	132186994	97403	1		
Jack, Right	13218E6995	97403	1		
Seal	25400 95026.....	2			
Gasket	8-1004 95026.....	6			
Blade, Plow	13219E0816	97403	4		
Roller Conveyor	13218E7036		97403	15	
Strap Restraint	13218E029		97403	15	
Weak Link	13218E7004	97403	7		
Lamp, Incandescent	MS35478-1683		96906	1	
Lamp, Incandescent	MS15570-1251		96906	1	

¹Federal Supply Code for manufacturer (FSCM). For identification of the codes, see SB 708-42.

b. *Inspection.* Unpack and identify each of the ATMDS equipment items to the shipping list. Inspect all equipment for shipping damage and loose hardware. Make certain that all items are accounted for and in serviceable condition. Specifically check that:

(1) Dispenser is complete with tool box, tools, lights, tow-beam, stabilizing flap, operating and maintenance manual, and all parts-attaching pins. Refer to table 2-1 for contents of dispenser tool box.

(2) Upper chute is not damaged.

(3) Conveyor assembly is complete with assembly hardware and stops.

(4) AU mine containers are complete with parts and assembly hardware.

(5) Can opener stands are complete. Mine cache tool box has a complete complement of tools. Refer to table 2-2.

(6) Obtain or requisition any missing parts.

NOTE

Retain the shipping skids, if possible, for reshipping as required.

c. *Servicing.*

(1) Lubricate the dispenser in accordance with the lubrication chart (fig. 3-1).

(2) Perform the before operation Preventive Maintenance Checks and Services (PMCS) (table 3-1).

(3) Correct all deficiencies or report them to organizational maintenance.

Table 2-1. Items Packed in Dispenser Tool Box

Qty	Item name	National Part number-FSCM	stock number	
15	Bolt, Plow			5306-00-021-8150
	MS35754-34-96906			
1	Case, Maintenance			7520-W5S9-9618
	MIL-B-1 1743B			
1	Chisel, Cold, 3/4 x 6 1/2 long, type V, class 1			5110-00-236-3272
	GGG-C-313A-41348			

Table 2-1. Items Packed in Dispenser Tool Box Continued

Qty	Item name Part number-FSCM	National stock number
1	Flap, Stabilizing 13218E7013-97403	
1	Grease Gun, Hand Lever type, Type 1 MIL-G-3859-81349	4930-00-253-2478
1	Hammer, Ball-Pein, 2 lb, type U, class 1, style B GGG-H-86-81348	5120-00-061-8546
15	Nut, Plow Bolt MS51967-14-96906	5310-00-768-0318
1	Punch, Drive Pin, type VIII, class A, style 1, size 7 GGG-P-831-81348	
1	Socket, 3/a drive, 3/4 12 point, type 11, class 2 GG-W-641D-81348	5120-00-227-6705
9	Weak Link, Tow Beam 1321 8E7004-97403	
1	Wrench, Ratchet, 3/4 drive 17.11 handle, type III, class 2 GGG-W-6418 1348	5120-00-249-1076
1	Wrench, Flex Handle, 3/a type 11, class 2 GGG-W-641-81348	5120-00-240-5396
1	Wrench, Crescent, 8 inch GGG-W-631B	5120-00-240-5328
3	Wrench, Arming 13218E7057-97403	
3	Whistle, Ball, Plastic, type B MIL-W-1053-81348	8465-00-254-8803

Table 2-2. Items Packed in Mine Cache Tool Box

Qty	Item name Part number-FSCM	National stock number
2	Band Cutter, Light Duty, type 1 GGG-C-835-81348	5110-00-771-3732
2	Can Opener EDLUND No. 1-83190	
1	Case Maintenance MIL-B-11743B	7520-00-559-9618
2	Pliers, 6-in., type 11, class 2 GGG-P-00471-81348	5120-00-223-7396
1	Rope 13218E6986-140-97403	
1	Socket, 3/s drive, 9/16, type H, class 2, style B GGG-W-641-81348	5120-00-277-1464
4	Stop, Conveyor 13218E7037-97403	
2	Strap, Guide 13218E7055-14-97403	
1	Strap, Retaining 13218E7055-9-97403	
1	Screwdriver Phillips, type VI, class 1, style 1, size 2	5120-00-724-3766
1	Wrench, Flex Handle, 3/8 x 81/2, type n3, class 2 GGG-W-641D-81348	5120-00-240-5396
2	Wrench, Crescent, 8 inch	5120400-240-5328
4	Wrench, Fuze 13218E7058-97403	

2-2. Mine Dispensing Systems Installation**NOTE**

Mine cache equipment (containers, conveyors, and can opener stands) should be assembled at the mine cache area.

a. Mine Conveyor.

(1) The purpose of the conveyor is to move the mines from the cache to the mine containers. The con-

veyor surface area is used in preparing the mines for use as they move along the conveyor. Refer to figure 2-13. Each ATMDS is provided with 12 stands and 10 conveyor sections to provide two five-section conveyor lines.

(2) Assemble the mine conveyors in reverse order of disassembly. Refer to figure B-13. (Omit item 1 on the illustration.)

b. Mine Containers.

(1) The containers are used to move the mines from the mine cache to the dispenser at the mine laying area.

(2) Assemble the mine containers in the reverse of numerical sequence illustrated in figure B-14.

NOTE

Tighten lag screws through corner post and into spacer until 1/2-inch of shank remains between spacer and head of lag screw.

c. Can Opener.

(1) The purpose of the can opener is to open the fuze cans so fuzes can be removed.

(2) Remove the can opener from the mine cache tool box. Refer to figure B-12 and insert the shaft of the can opener (2) into the opening on top of the can opener stand (6).

d. Lifting Fork.

WARNING

Extreme caution must be exercised in handling the containers of fuzed mines. Be sure the restraint strap at the top of the container is tight so that mines do not shift when lifted. Each loaded container (MI5 mines) weighs an approximate 1700 pounds, and can severely injure or kill personnel if mishandled. Armed mine

will detonate if dropped 6 inches directly on the pressure plate.

The purpose of the lifting fork (fig. 2-16) is to lift the mine containers into the transport vehicle. The lifting fork is equipped with two straps to be used as tag lines to stabilize the load. The fork is also equipped with a strap to restrain the container in the lifting fork.

e. Upper Chute and Support Installation.

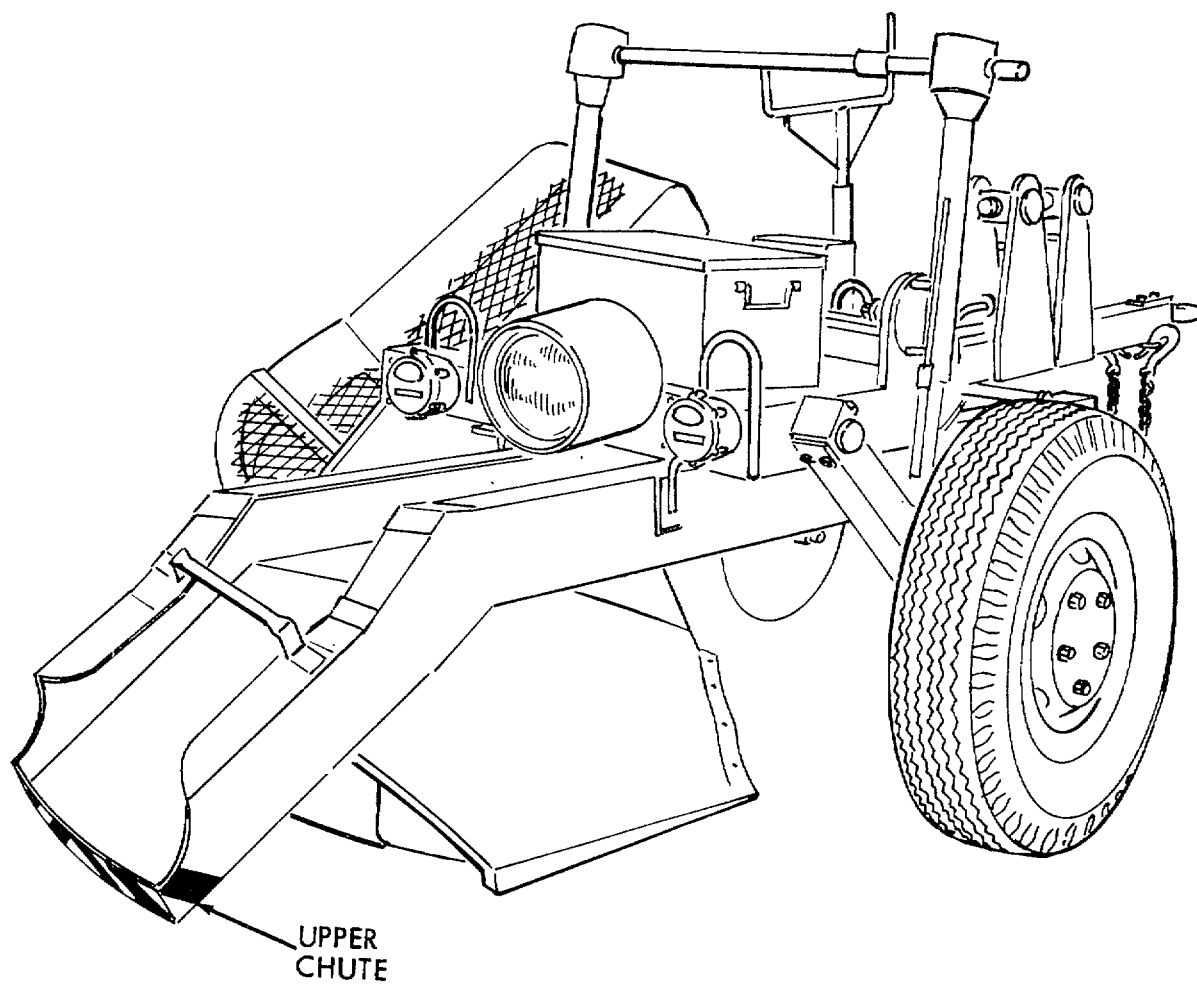
(1) Install the chute support in the chute support bracket. Refer to paragraph 3-13 for instructions on adjusting the chute support.

(2) Remove locking pin and chute pin which retains upper chute in stowed position beneath deck plate. Remove chute from stowed position and install upper chute to the mid-chute. Insert chute pin and locking pin. Refer to figures 1-1 and 2-1.

f. Stabilizing Flap Installation.

(1) The reinforced rubber stabilizing flap, stored in the dispenser tool box, is used on the rear of the mold-board to prevent mines from turning over during surface laying operation.

(2) Install the stabilizing flap to the rear of the mold-board by inserting two spring snaps through the two holes located in the upper surface of the moldboard. Refer to figure 3-5.



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Figure 2-1. Dispenser in transport configuration (1 of 2).

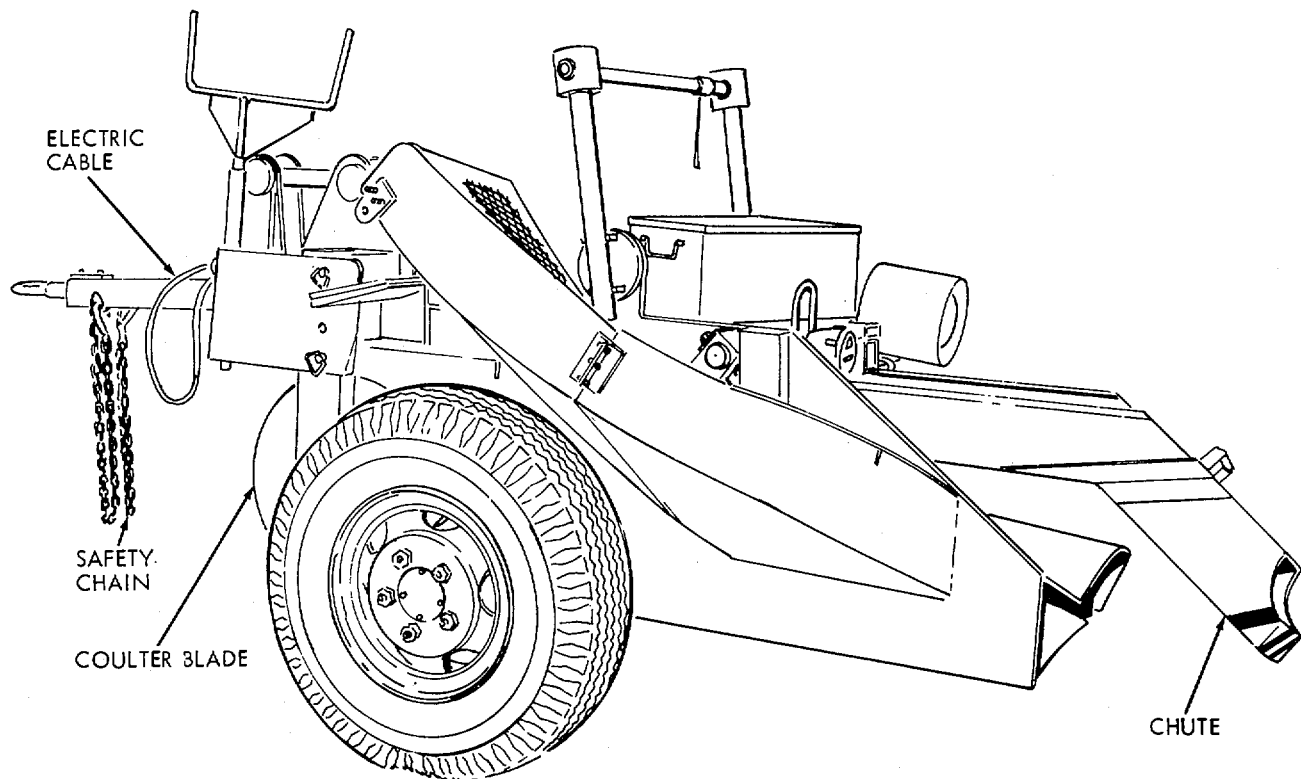


Figure 2-1. Dispenser in transport configuration (2 of 2).

Section II. MOVEMENT TO A NEW WORKSITE

2-3. Dismantling for Movement

a. *Conveyor.* Refer to figure B-13 and disassemble the conveyor.

b. *Dispenser.*

(1) *Subsurface position.*

(a) When mine laying mission has been completed the dispenser must be removed from the subsurface position by the following step by step procedure.

1. Detach tow beam from the towing vehicle and install in the road tow position (c(1) (a) below). Reattach tow beam to the towing vehicle.

2. Lower wheels (para c(1) (e) below), until pressure is exerted on the leveling jacks.

3. Adjust the tow beam (para c(1) (b) below) to reduce the exposed end of the adjusting screw to 1/2-inch.

4. Pull truck forward a few feet to raise plow out of ground.

5. Repeat above steps 2, 3, and 4 above until plow is completely free of ground.

6. Put wheels and tow beam in road tow position.

(b) Remove locking pin from chute pin, remove chute pin and remove upper chute from mid-chute. Install the upper chute in the road tow position by aligning hooks on the chute with guides on the bottom rear of the frame.

Push chute forward and insert chute pin through the guide provided beneath the tow beam, Insert the locking pin through chute pin.

(c) Make final tow beam adjustment to level the moldboard.

(d) Position coultter assembly in uppermost position.

(2) *Surface position.*

(a) Crank wheels all the way down to road tow position (para c(1) (e) below).

(b) Make final tow beam adjustment to level moldboard.

(c) Remove stabilizing flap by disengaging two spring snaps; store flap in tool box.

(d) Install upper chute and support in road tow position ((1) (b) above).

(e) Install coultter assembly in uppermost position.

c. *Transporting Dispenser.*

(1) *Short distance transport.* Refer to figure 2-1. When the dispenser is to be moved to a new location less than 25 miles away, it is to be towed on its own wheels behind a 21/2-ton (or larger) truck.

(a) *Tow beam lateral adjustment.*

CAUTION

Upper chute must be removed from transport position under deck plate before lateral adjustment of tow beam can be made.

Assure that tow beam is in the road tow position. Three positions exist for anchoring the rear of the tow beam to the center of the dispenser frame. Use the pin through the rear of the tow beam to secure the tow beam in the right-hand hole for road towing. The tow beam pivots between two upright posts at the front of the dispenser frame. Refer to figure 2-2 and make lateral adjustment as follows:

1. Remove lock pin.
2. Remove tow beam pin.
3. Position tow beam in desired position.
4. Install tow beam pin.
5. Install lock pin.

(b) *Tow beam vertical adjustment.*

CAUTION

The crank pin and crank must be removed from the vertical adjusting screw before adjustment can be made. Replace pin and crank immediately after adjustment has been made.

1. The vertical adjusting screw on the tow beam controls the plow vertical attitude for adapting the dispenser to different vehicles. The numerical indicator located on the tow beam is used only as a reference point.

2. Refer to figure 2-3 for instructions on vertical adjustment of the tow beam.

(c) *Tow beam length adjustment.* Two holes are provided in the rear of the tow beam to adjust the length of the tow beam (fig. 2-3). The short tow beam is used only when the M13 armored personnel carrier is used as a towing vehicle.

(d) *Attaching safety chains and electrical cable.* Attach safety chains and electrical cable to the towing vehicle. Refer to figure 2-1.

(e) *Jacking down wheels.*

CAUTION

Do not exert force against the axle stops with the jacks. Depth indicator on right jack contains upper and lower stop indicators in the form of arrow. Once the upper end of the depth indicator rod reaches either stop-indicating arrow, decrease rate of jacking and carefully seat axle against mechanical stop.

Using a 5/8-inch diameter bolt or a 3/4-inch ratchet to operate the leveling jacks, jack the wheels down until the left axle is seated in the axle stop and the moldboard is in the uppermost position. Refer to figure 2-4.

(f) *Installing upper chute in road-tow position.* Install the upper chute in its road tow position (b(1) (b) above).

(2) *Long distance transport.*

(a) For long distance travel, greater than 25 miles, the dispenser is to be transported on another vehicle. Excessive road vibrations are detrimental to the dispenser.

(b) Remove the plow blade (para 3-8) and stow in its appropriate place on deck and place nuts and bolts in the tool box.

(c) Install the upper chute in the transport position (b(2) (d) above).

(d) When the dispenser is properly located on the transporting vehicle the wheel jacks are adjusted to raise the wheels and allow the weight of the dispenser to rest on the moldboard.

(e) Attach tiedown lines to the three lifting eyes on the dispenser and securely fasten to tiedown points on the vehicle.

NOTE

Maximum road tow speed is 35 miles an hour.

Cross country transport speed should be limited to approximately 5 mph. The tow vehicle operator must exercise judgement to determine safe operating speed for transversing rough terrain.

(3) *Helilift transport.* Three lifting eyes on the dispenser allow a three-hook sling to be connected, enabling helilift of this item. Refer to figure 1-2.

(4) *Cargo aircraft transport.* The ATMDS, as issued, weighs approximately 9000 pounds and may be transported via nearly any cargo aircraft. Weight distribution may be calculated on the basis of unit weights listed below:

Dispenser-3250

Mine container (empty)-253 lb (each)

Conveyors with stands

(10 sections)-1200 lb (total)

5' section-84 lb (each)

Can opener assemblies (2)-20 lb (each)

Mine cache tool box-40 lb (with tools)

Lifting fork-275 lb

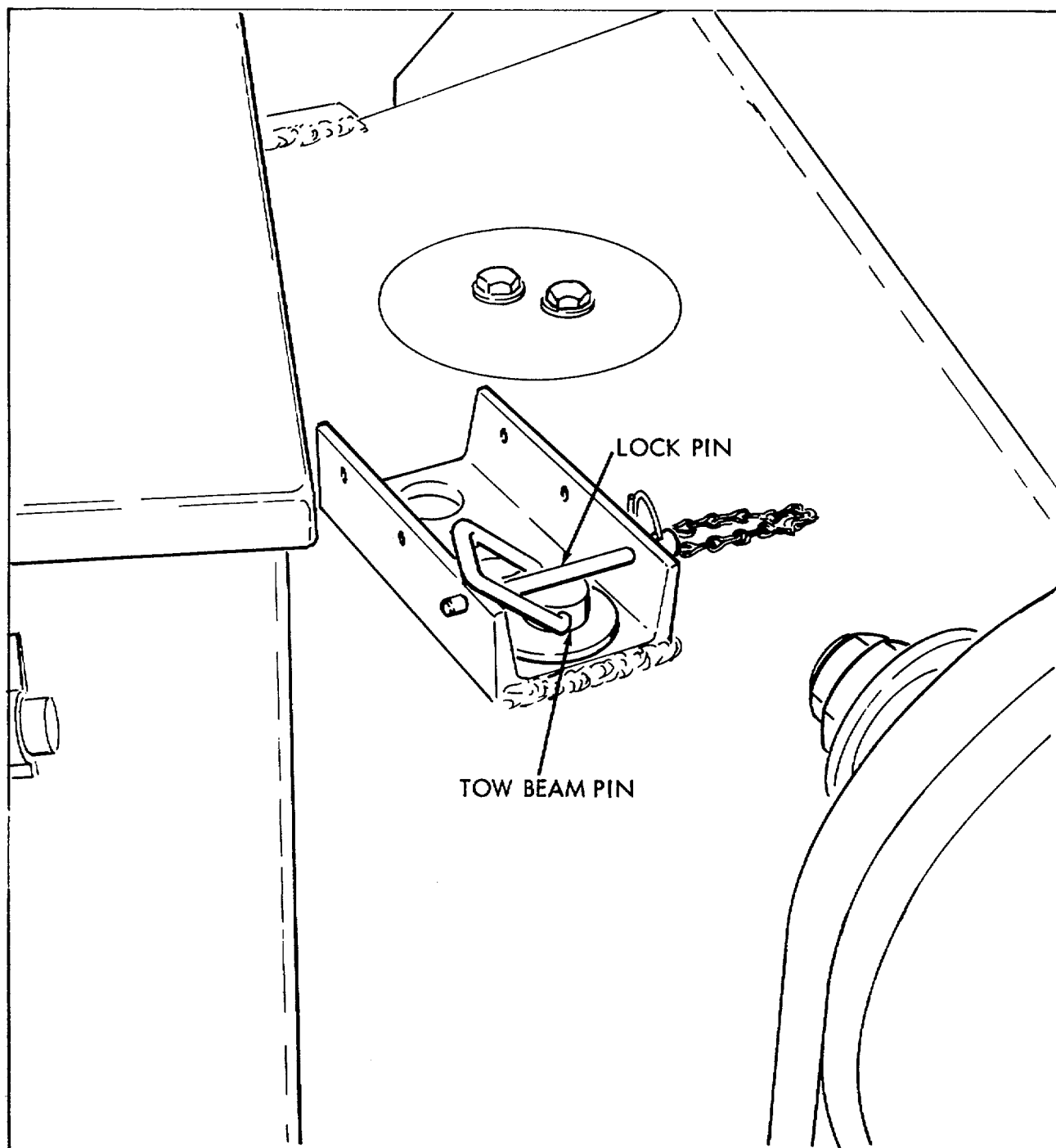
NOTE

For any mode of transport except trucks, the conveyor assemblies and mine containers should be disassembled and banded. Cargo tie-down straps may be used for banding purposes if available. The overall dimensions are given in paragraph 1-5 (identification and tabulated data).

(5) *Rail and ship transport.* Dismantle all equipment to the level "as issued" and repackage on original skids when possible.

2-4. Reinstallation after Movement

Refer to paragraph 2-2 for installation instructions.



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Figure 2-2. Tow beam lateral adjustment.

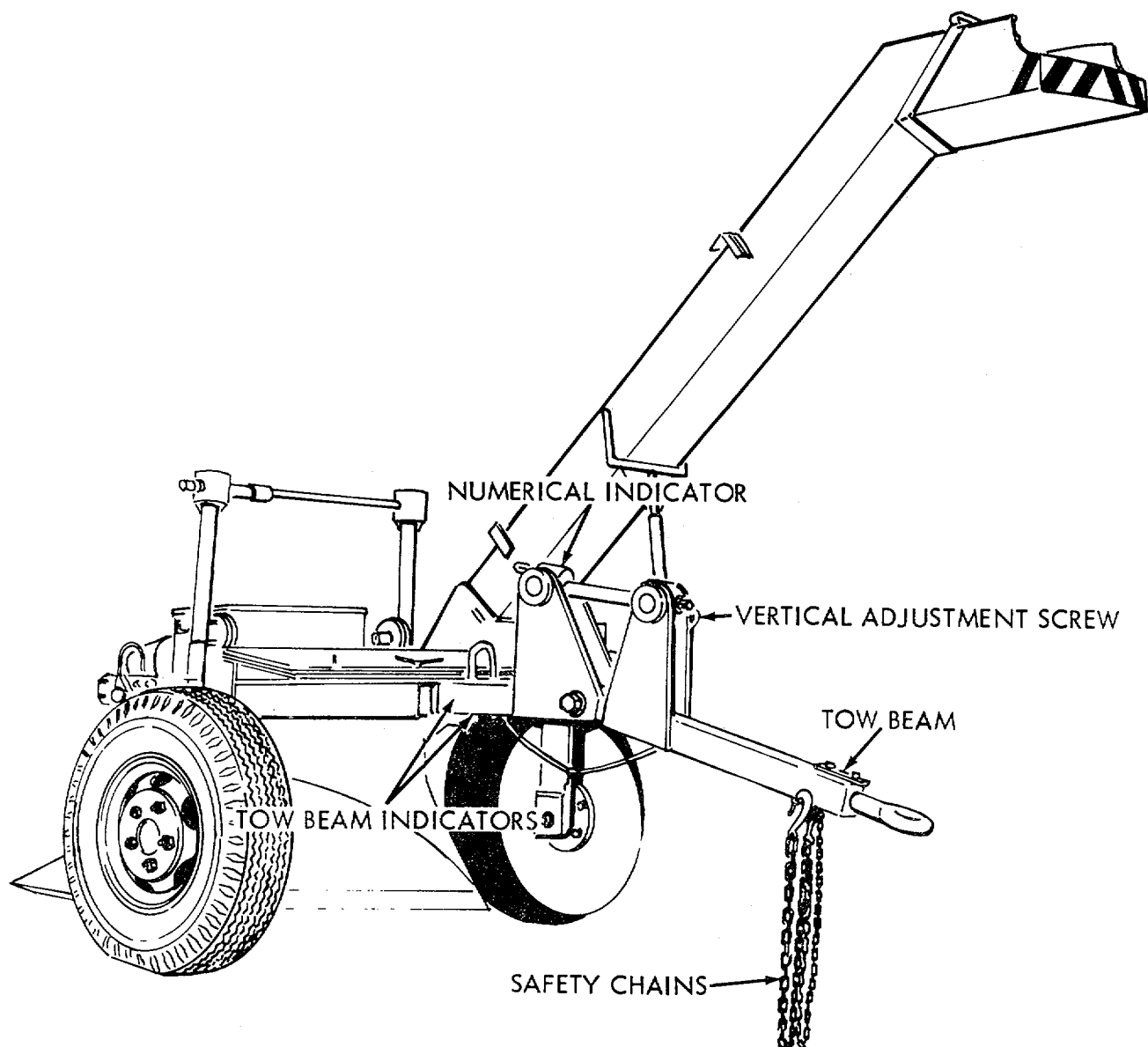
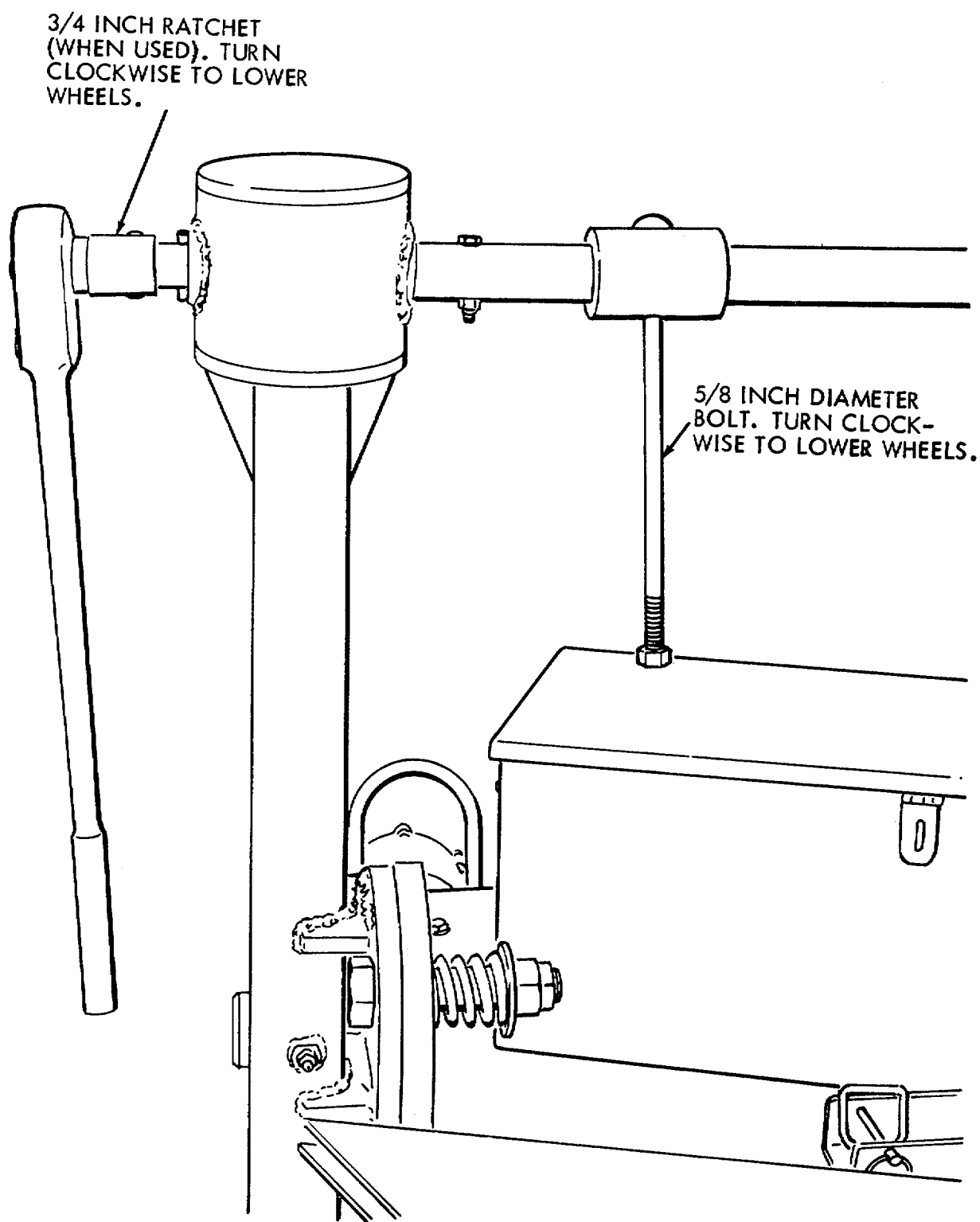


Figure 2-3. Tow beam vertical adjustment.



AR102192

Figure 2-4. Leveling jack adjustment.

Section III. CONTROLS AND INSTRUMENTS

2-5. General

This section describes the various controls and instruments and provides the operator/crew information to in-sure proper operation of the ATMDS.

2-6. Controls and Instruments-Service

LIGHT SWITCH

This two-position (ON/OFF) switch is located inside the front of the dispenser service light housing (fig. 4-4) and controls the service light only. Towing vehicle headlights must be ON for service light to operate.

Section IV. OPERATION UNDER USUAL CONDITIONS

2-7. General

a. The instructions in this section are for the information and guidance of personnel responsible for operation of the ATMDS.

b. The operator/crew must be aware of all the capabilities and limitations of the dispenser, as well as mine cache operation required to support the intended mission. The instructions in this section utilize maximum capability of a single system for illustrative purposes, with reduced or variable operation noted where applicable. Since environment, soil and tactical situations cannot be predefined, the operator/crew may have to vary given procedures to fit the situation within the limits of available resources and conditions and appropriate safety procedures.

2-8. Starting System Operation

Employment of the ATMDS should be based on predetermined plans for tactical situations. Tactical situations are beyond the scope of this manual, since each mission is considered unique. Initial considerations for any mission must include:

- Condition of the soil.
- Mine supply location.
- Prime mover availability.
- Support equipment availability (forklift, wrecker).
- Mine containerizing requirements.
- Minefield trace planning and documentation.

NOTE

The following start-up procedures assume sustained mine-laying over a period of 6 hours at an average dispenser speed of 2 mph. These

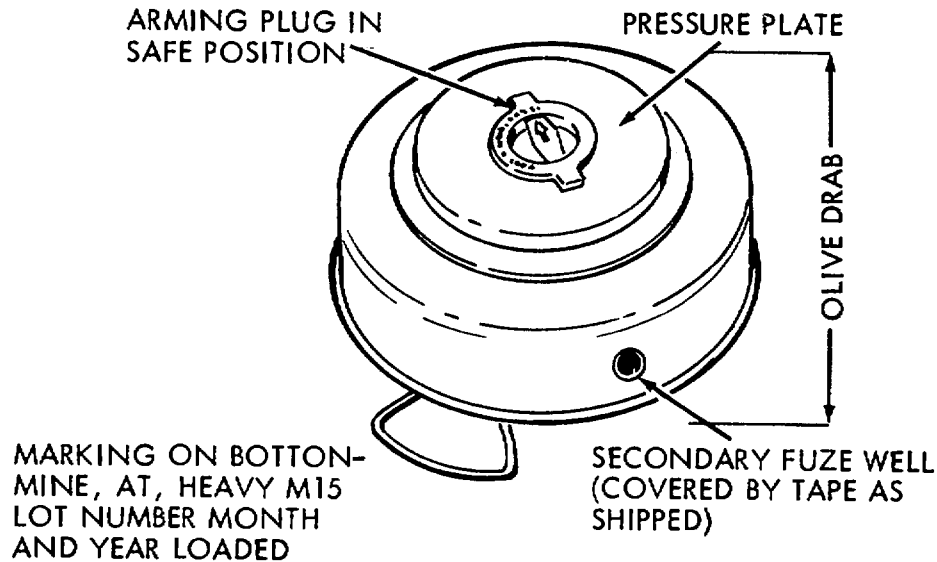
assumptions thus include dispensing of an approximate 2300 mines in the 6-hour period, using rates established during Engineering design testing of the ATMDS.

2-9. Mine Containerizing

a. *Mine Details.* The mine, antitank, HE, heavy (see figs. 2-5 and 2-6) is a high-capacity mine intended for use against heavy tanks.

Description.

Model number.....	M15
Weight, unfuzed	30 pounds
Weight of explosive charge (comp B)	22 pounds
Dimensions.....	Height, 47/8 inches, Diameter 131/8 inches
Material.....	Steel
Fuze well	Main (primary) fuze well located in center of mine.
Fuze arming mechanism	Arming plug M4 or M4B1. This plug is placed over main fuze well of mine as shipped. This plug (fig. 2-11) has a steel shutter which moves from a side position as the setting knob is moved from SAFE through DANGER to ARMED position. CAUTION: The setting knob should always be left pointing to SAFE prior to actual dispensing of mine.
Booster	Booster M120 in bottom of well; no other boosters required.
Painting.	Olive drab
Marking.....	Nomenclature, lot number, month and year loaded, and loaders initials, on bottom in yellow.



AR102193

Figure 2-5. Mine, antitank, HE heavy, M15.

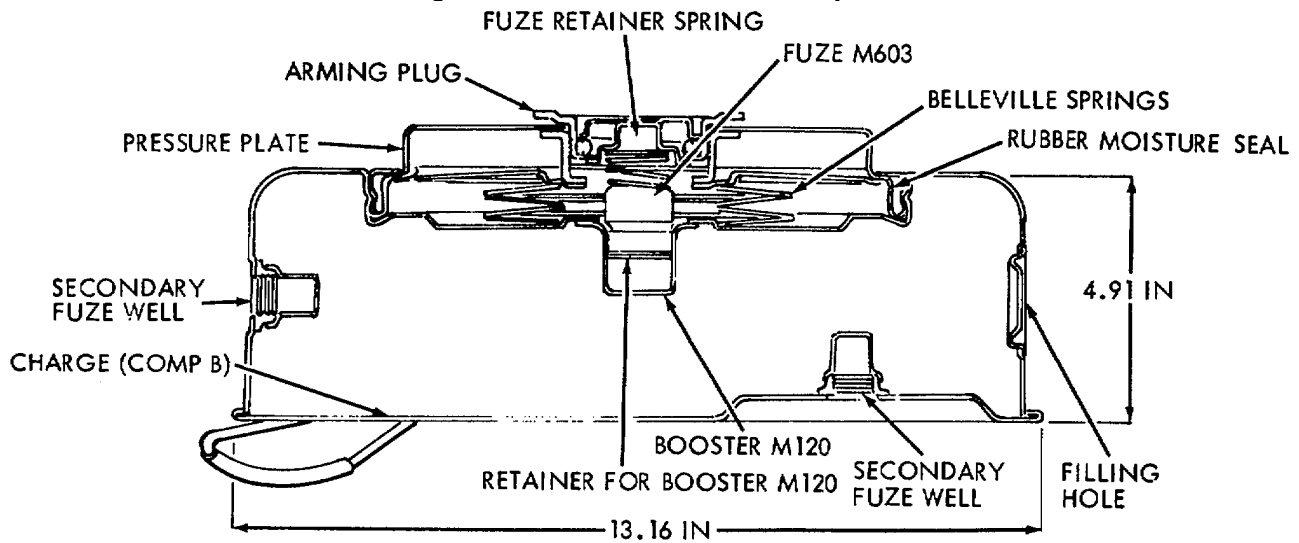


Figure 2-6. Mine, M15 (T27) cross section with fuze attached.

b. *Fuze Details.* Fuze, mine, AT, M603 is packed with the M15 mine (fig. 2-7). The M603 is an instantaneous mechanical-pressure type fuze, shown in figures 2-6, 2-8, and 2-9.

(1) *Description.* The fuze consists of an aluminum body 1 1/8 inches in diameter and 13/16 inches high. The body contains a firing pin assembly, a cover assembly, a safety fork (clip), and a detonator. The firing pin assembly consists of a firing pin and two steel belleville springs held together by a retainer which is crimped to the firing pin. The cover assembly consists of a metal cover for the top of

the fuze body and a pressure plate that is attached to the cover in such a manner to allow the insertion of a safety fork between the fuze body and the pressure plate. The detonator well contains a detonator crimped to the body of the fuze. A projection at the bottom of the fuze body permits the detonator (bottom end identified by dark color) to come into close proximity with the booster charge. All mines using fuze M603 have a booster M120 in the bottom of the fuze well.

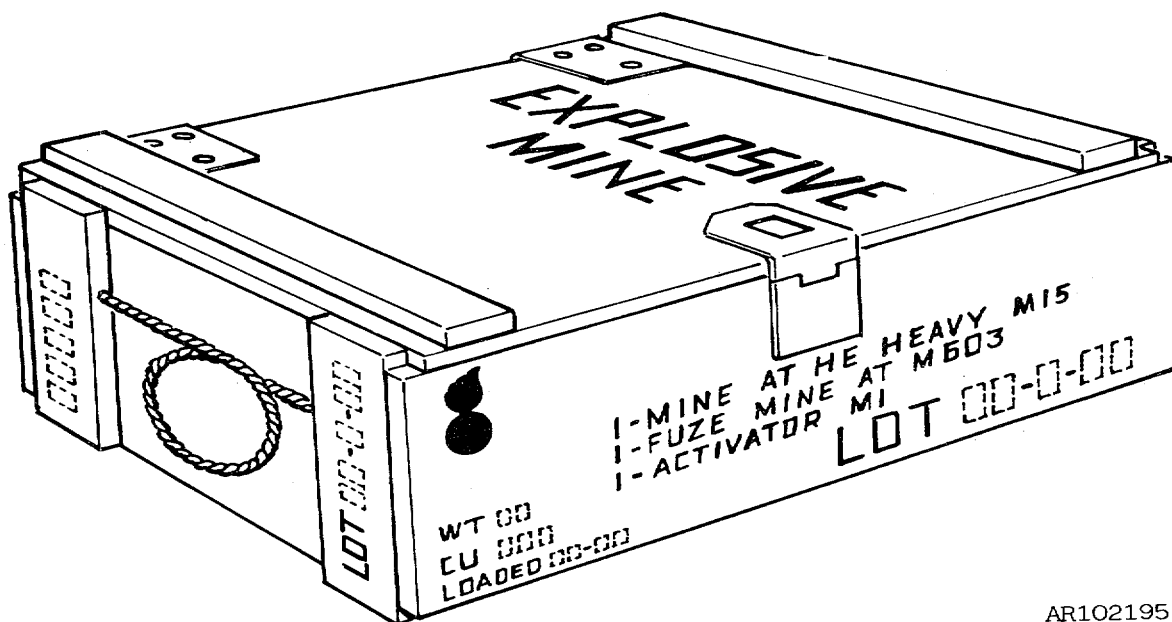
(2) *Functioning.* This fuze will function when a load of 140 to 240 pounds depresses its belleville spring, caus-

ing it to snap into reverse and drive the firing pin into the detonator. When this fuze is used in heavy antitank mine M15, a minimum load of 565 i 174 pounds is needed on the mine pressure plate to overcome belleville spring resistance and actuate the mine.

(3) *Precautions in use.* As the fuze contains a detonator, all precautions prescribed for handling high ex-plosives should be observed. When used with the M15 mine, the safety fork (clip) should not be removed from the fuze until immediately before the mine is fuzed. The setting knob of the arming plug on the M15 mine should not be turned to the armed position, until the mine is placed on the chute arming table.

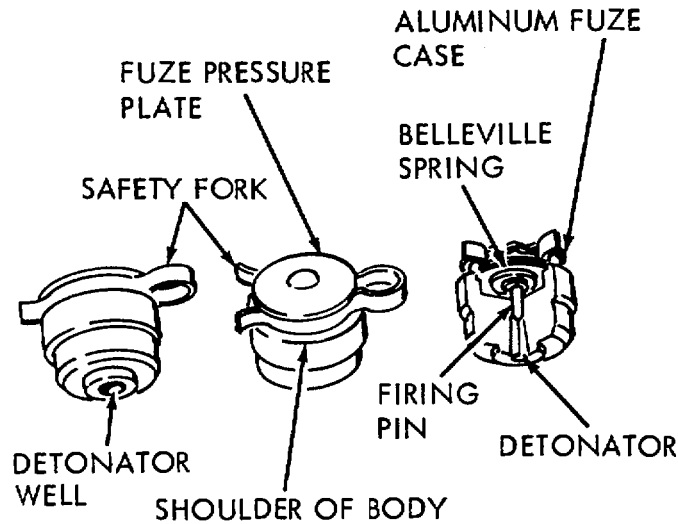
c. *Fuzing M15 Mines.*

- (1) Remove the mine carrying handles.
- (2) Unscrew the arming plug from the mine, as shown in figure 2-10.
- (3) Inspect the fuze well and arming plug, insuring that the plug is not in the armed position, and that no foreign matter is in the fuze well.
- (4) Inspect the M603 fuze for serviceability. The dark end of the detonator must show at the bottom of the fuze body.
- (5) Just before insertion of the fuze into the mine, remove the safety fork from the cover assembly of the fuze, as shown in figure 2-10. Save the safety fork (clip) for use in disarming the fuze and in making a mine count check.



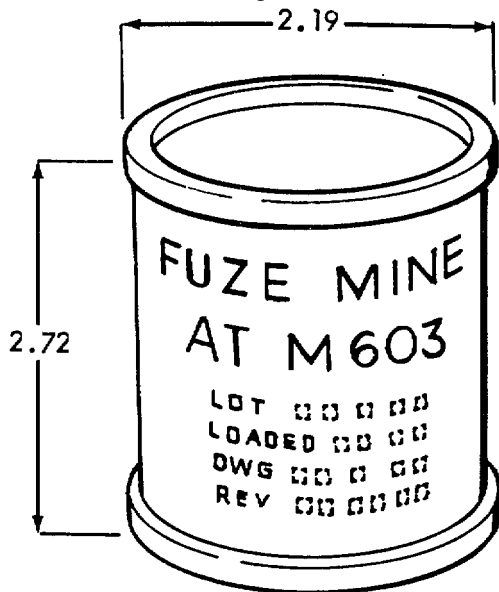
AR102195

Figure 2-7. Packing box for mines, antitank, HE heavy, M15.



AR102196

Figure 2-8. Fuze, mine, AT, M603, bottom, top and cross section.



AR102197

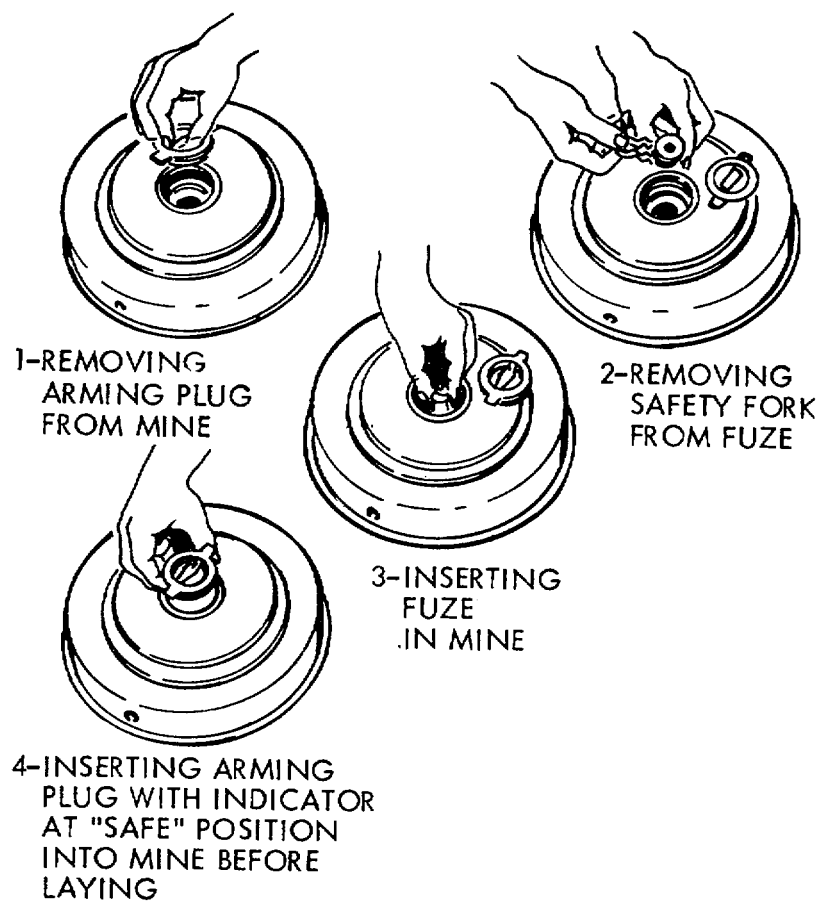
Figure 2-9. Metal ammunition container for mine fuze, AT, M603.

CAUTION

No pressure must be put on the pressure plate of the fuze when inserting it into the well. To assure proper clearance between the fuze plate button and the shutter of the arming plug (fig. 2-11), it is essential that the fuze be fully seated on the internal shoulder of the mine fuze well. If the fuze is not fully seated, the button on the fuze pressure plate will interfere with the arming shutter, and create a hazard during arming of the mine.

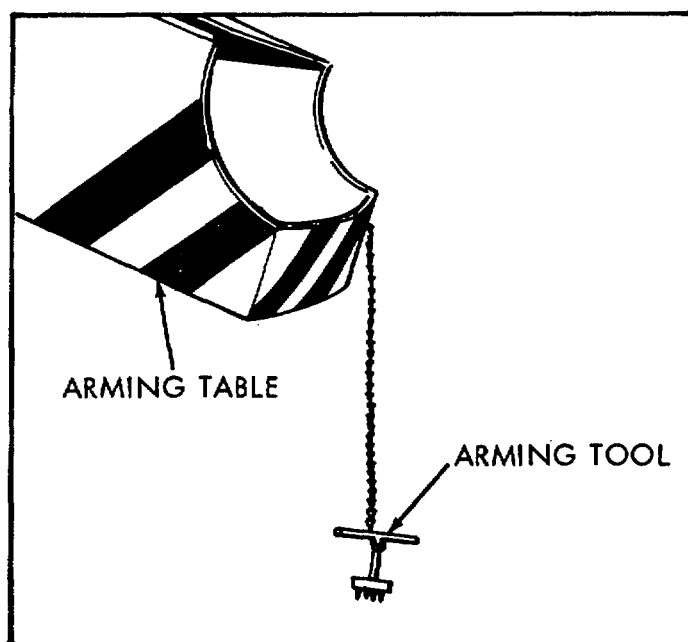
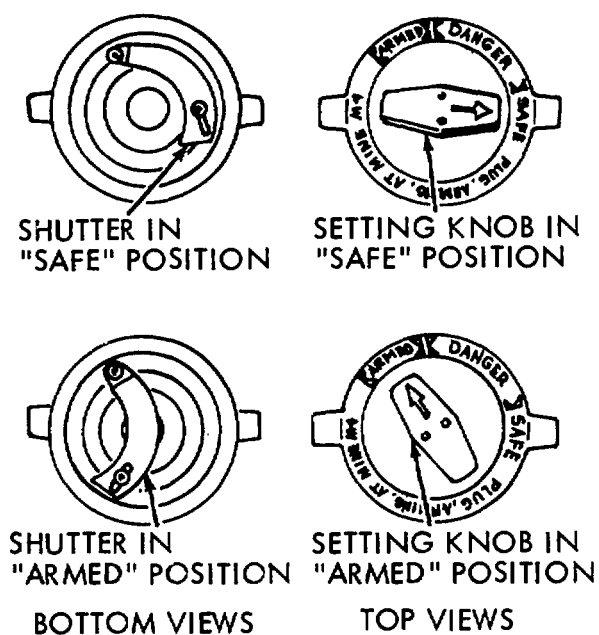
(6) Insert the fuze into the fuze well of the mine, as shown in figure 2-10, pushing it down gently until its seats.

(7) Make sure that the setting knob and shutter are in the SAFE position, and screw the arming plug with helical spring fuze retainer into the mine securely. Use the fuzing wrench to tighten the fuze plug (see fig. 2-12). If fuze plug is not tight, it will tend to unscrew during arming, and will not be waterproof.



AR102198

Figure 2-10. Four steps in method of fuzing mine M15 with fuze, mine, AT, M603.



AR102199

Figure 2-11. Arming plug M4 or M4B1, for antitank mine MIS, and arming tool.
2-15

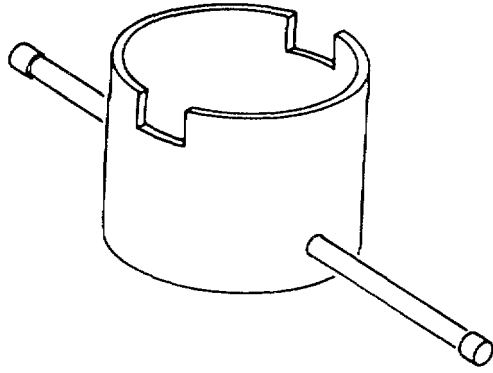


Figure 2-12. Fuzing wrench.

d. *Containerizing Procedure.*

WARNING

Containerizing line personnel must insure that no mines are armed, and that fuze plugs are tight. If not tight, they may loosen during the arming operation in the field. Two mine containerizing lines, set up as shown in figure 2-13, can produce more than 600 mines per hour to sustain a continuous dispensing operation over a 6-hour period.

NOTE

When possible, and mechanical handling equipment (forklift or wrecker) exist, the mine con

tainers should be filled prior to the initiation of a mission, however, empty mine containers can be placed on the vehicle and loaded with fuzed mines.

2-10. Operation of Equipment

a. *Conveyor Line Operation.* Refer to figure 2-13 and perform the functions as described as mines are being conveyed from cache to containers.

b. *Rope Support.* Remove wooden racks from side of truck. Refer to figure 2-14 and install support post and rope.

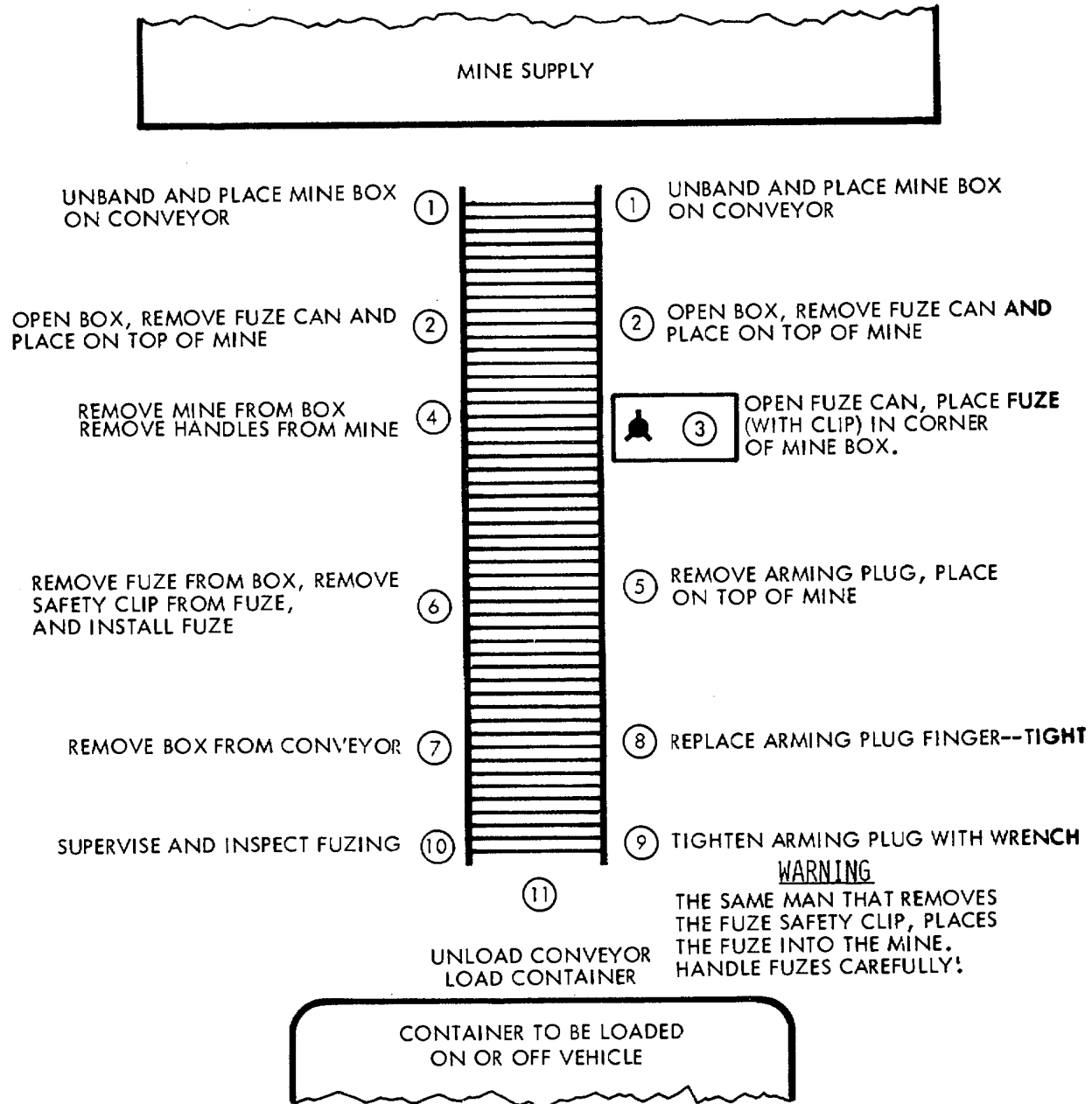
NOTE

2 1/2-ton truck-string rope from top hole of post.
5-ton truck-string rope from third hole down.

c. *Mine Container Transporting.* Use a suitable vehicle and transport loaded containers to mine laying area. Refer to figure 2-15. The lifting fork (fig. 2-16) should have the restraining straps and tag lines secured around the mine container components (fig. 2-17) before raising and lowering to or from the transporting vehicle. See figure 2-18 for the left-hand corner brackets, figure 2-19 right-hand corner bracket, figure 2-20 and 2-21 for the rear brace tiedown and restraint strap installation. See figure 2-22 for mine container spacer installation and figure 2-23 for the restraint rod installation.

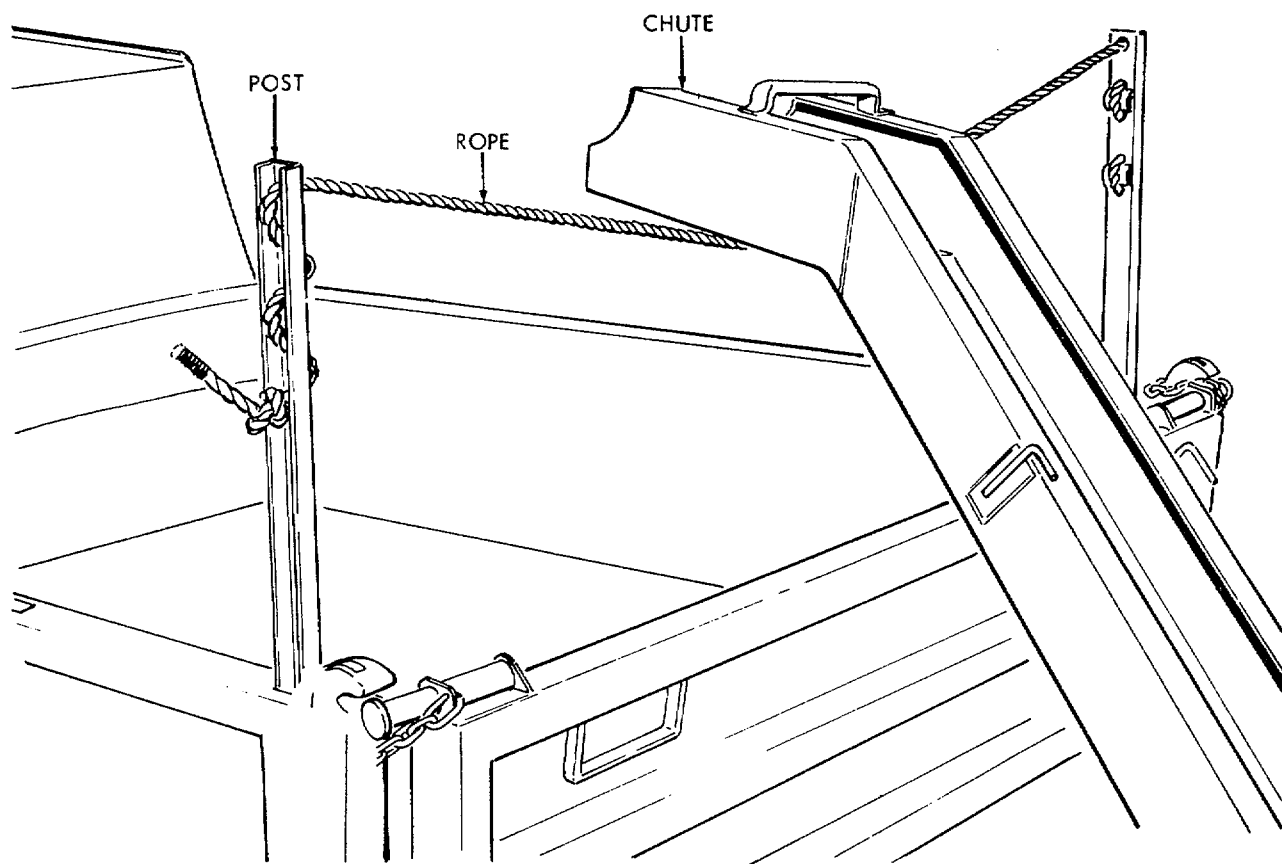
NOTE

The mine containers in the tow vehicle should be positioned and restrained as far forward to the cargo area as the tiedown straps will allow.



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Figure 2-13. Containerization (conveyor) line operation (typical of two lines).



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Figure 2-14. Rope support forming table.
2-18

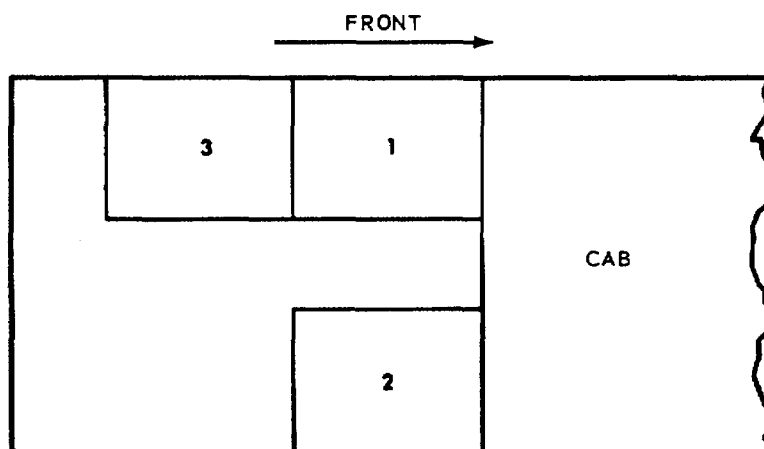
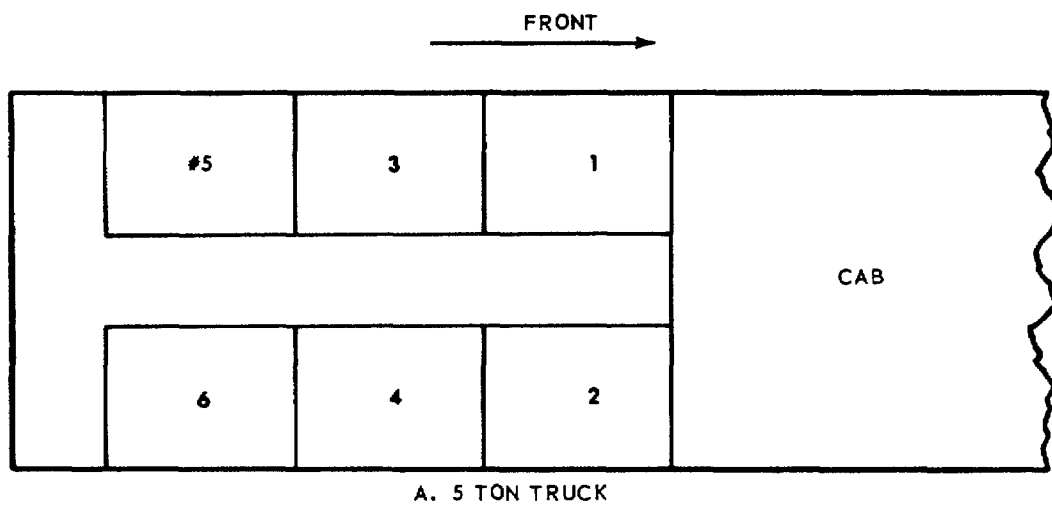


Figure 2-15. Typical mine container loads.

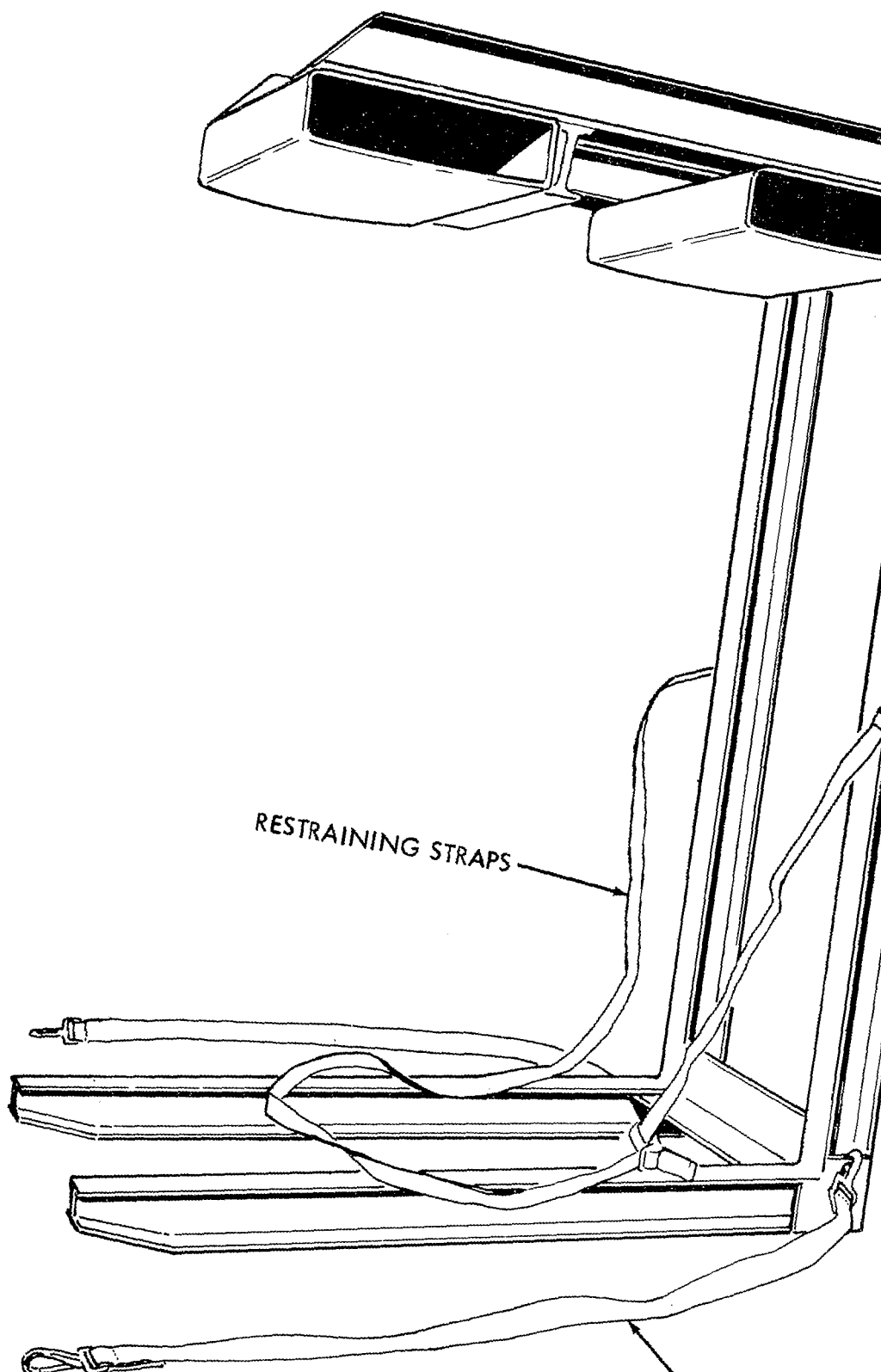


Figure 2-16. Lifting fork.

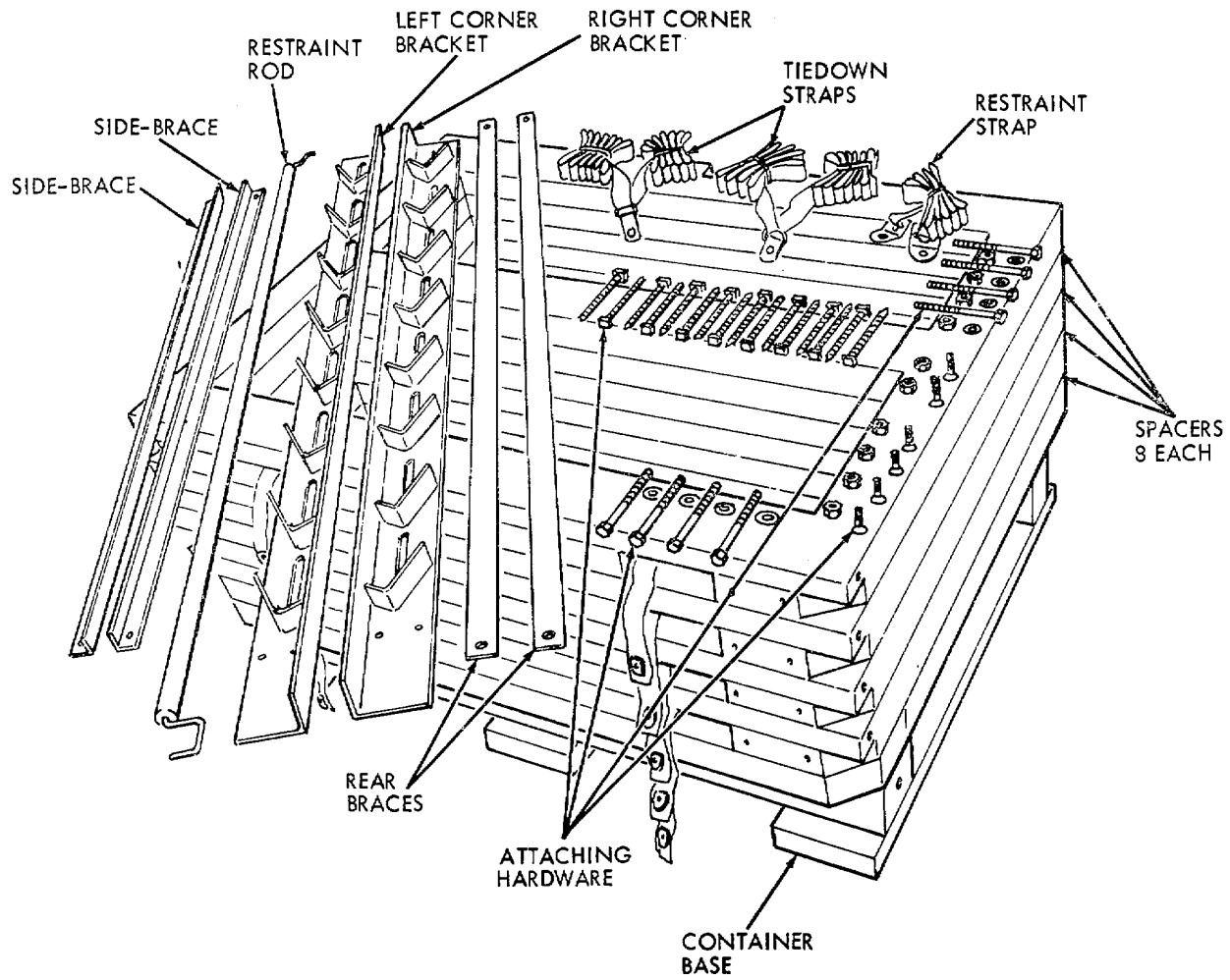


Figure 2-17. Mine container components.
2-21

AR102135

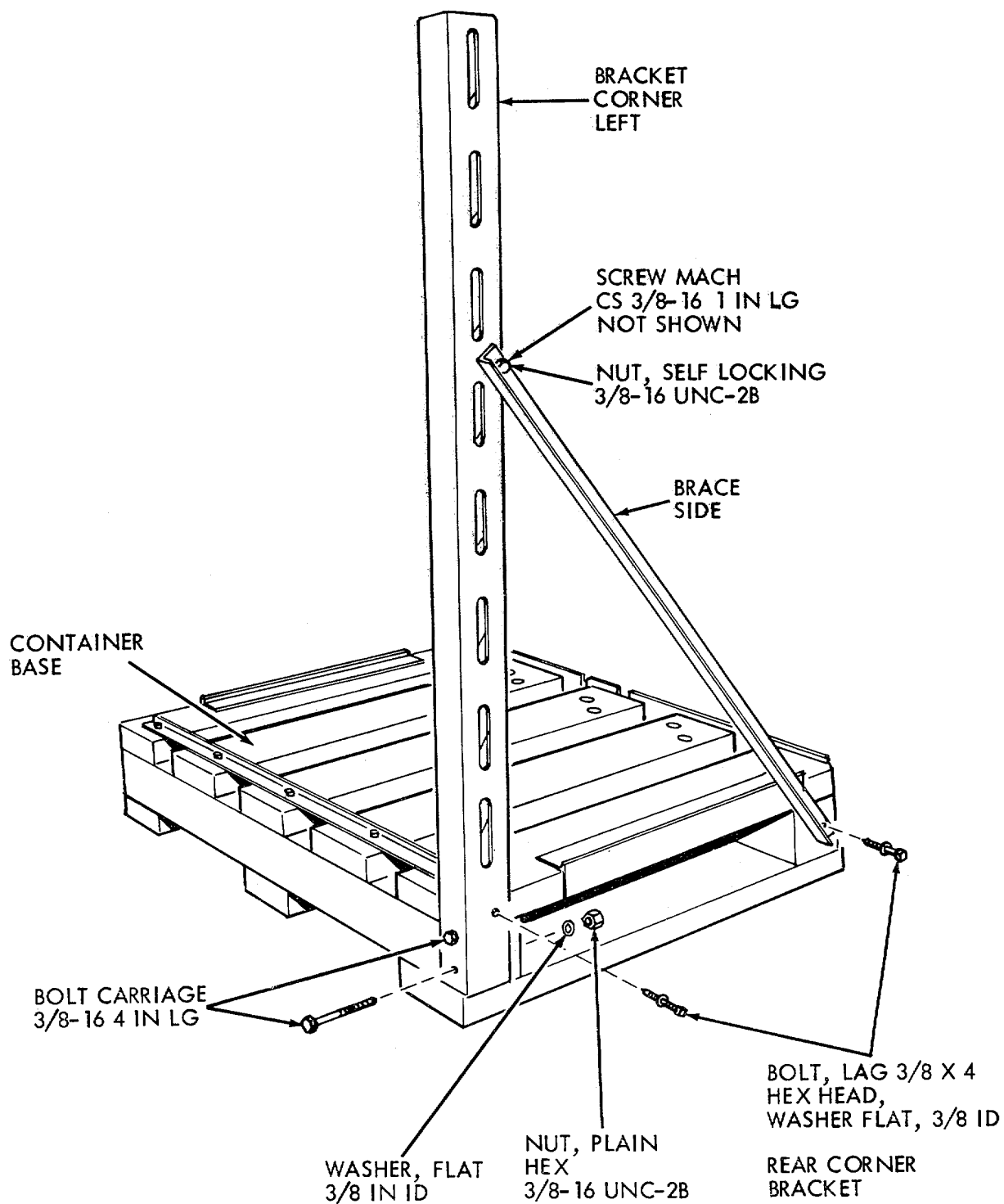


Figure 2-18. Left corner bracket and brace installation.

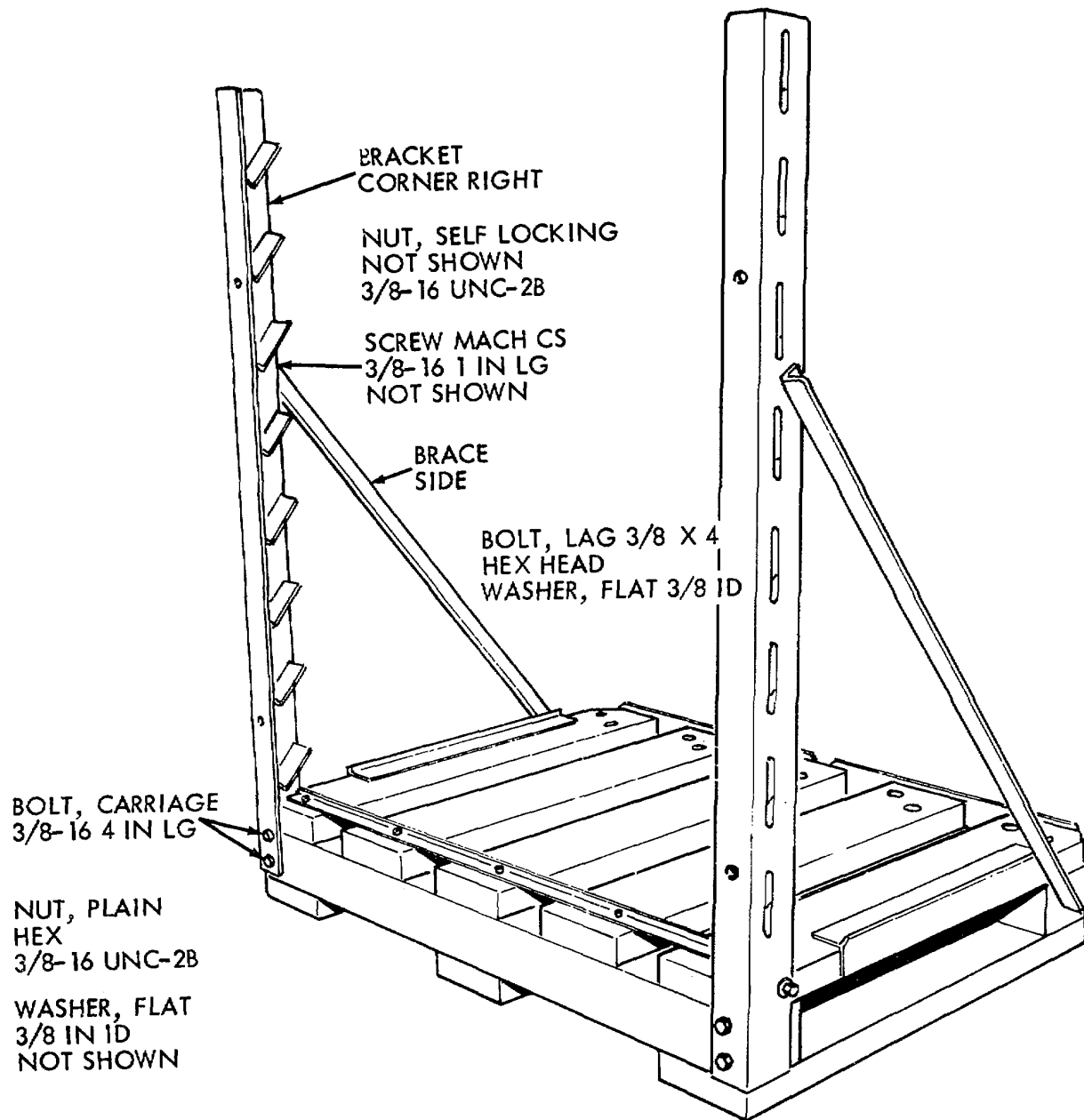


Figure 2-19. Right corner bracket and brace installation
2-23

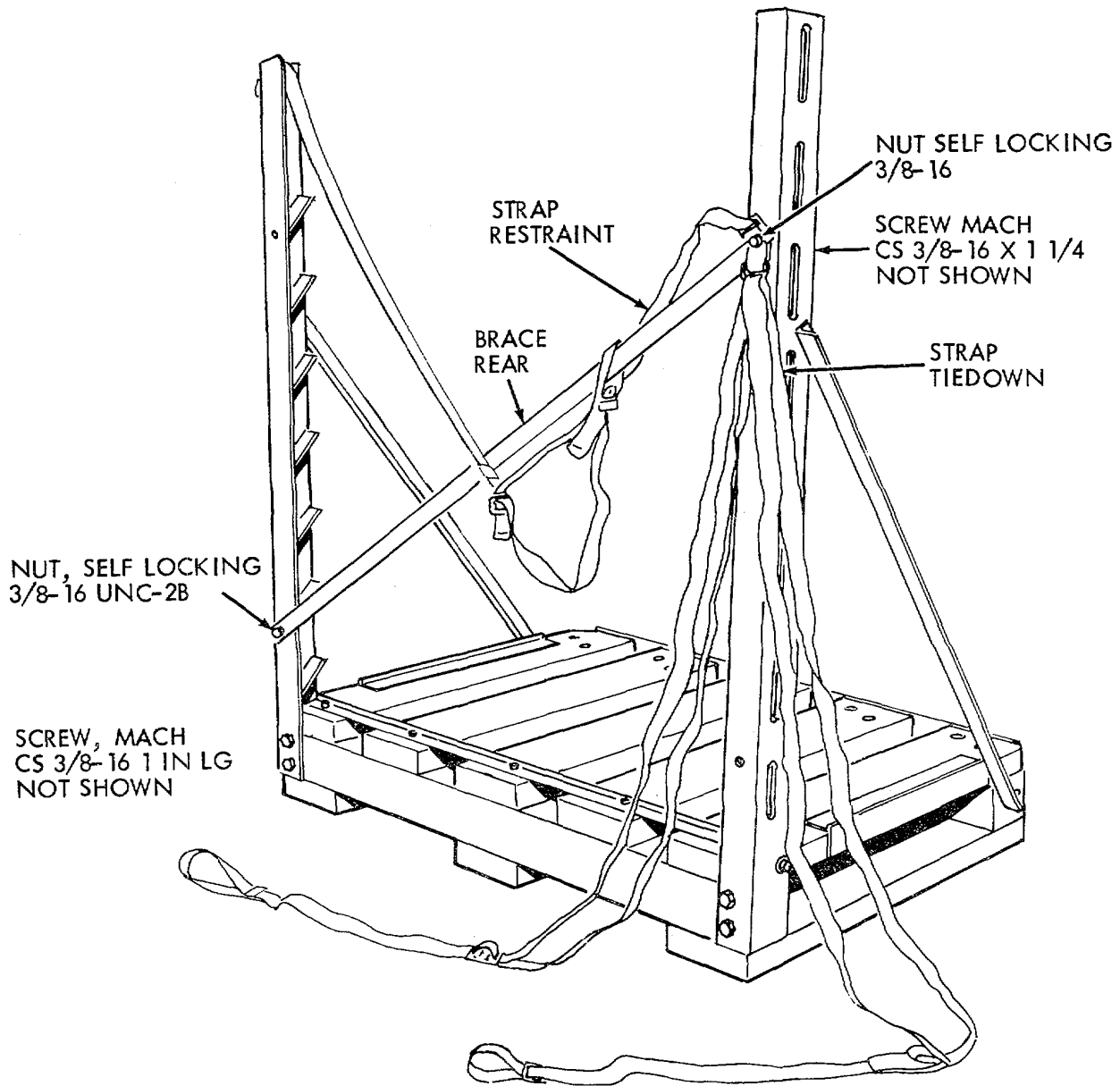


Figure 2-20. Rear brace, tiedown and restraint strap installation.

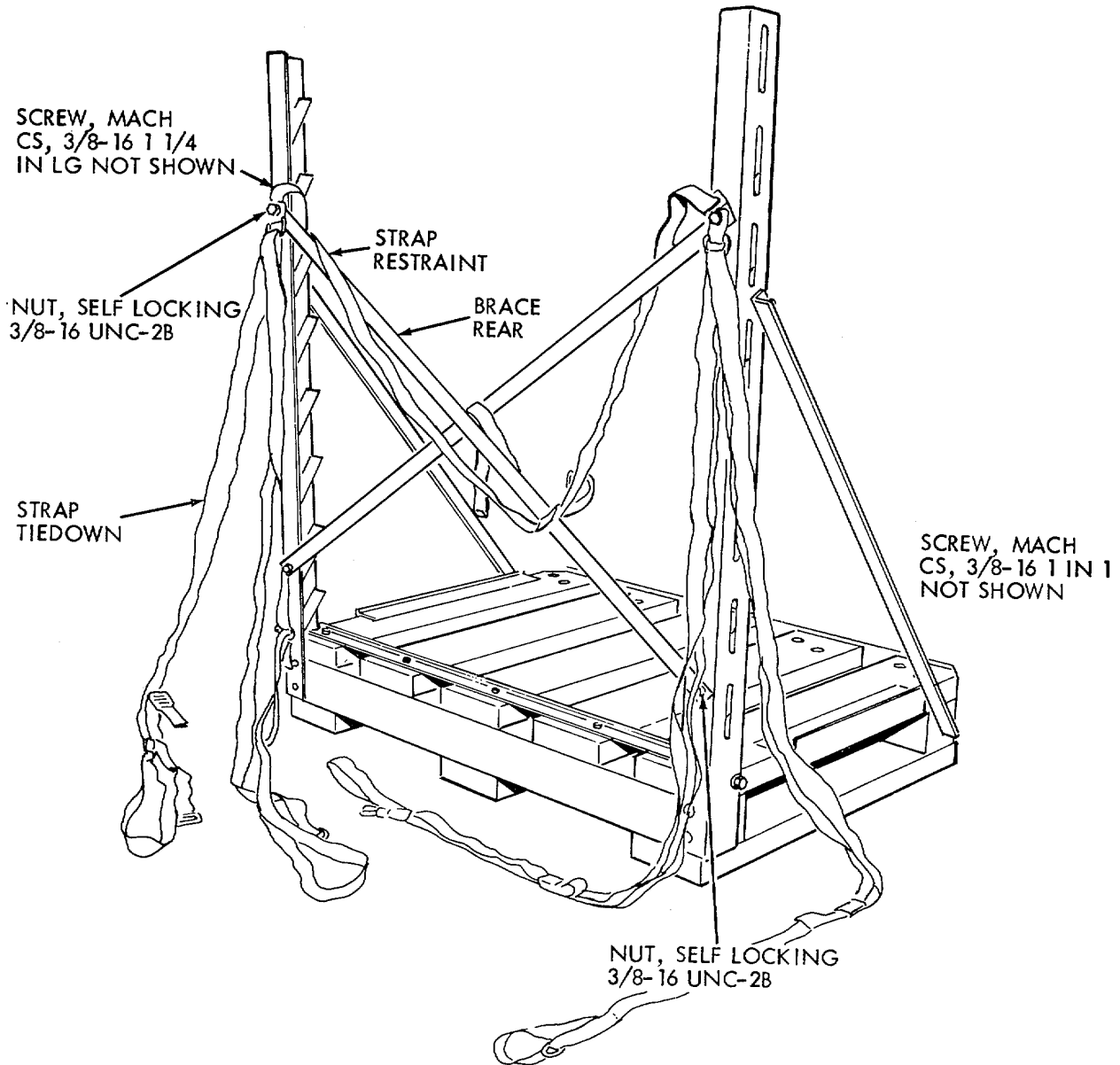


Figure 2-21. Rear brace, tiedown and restraint strap installation.

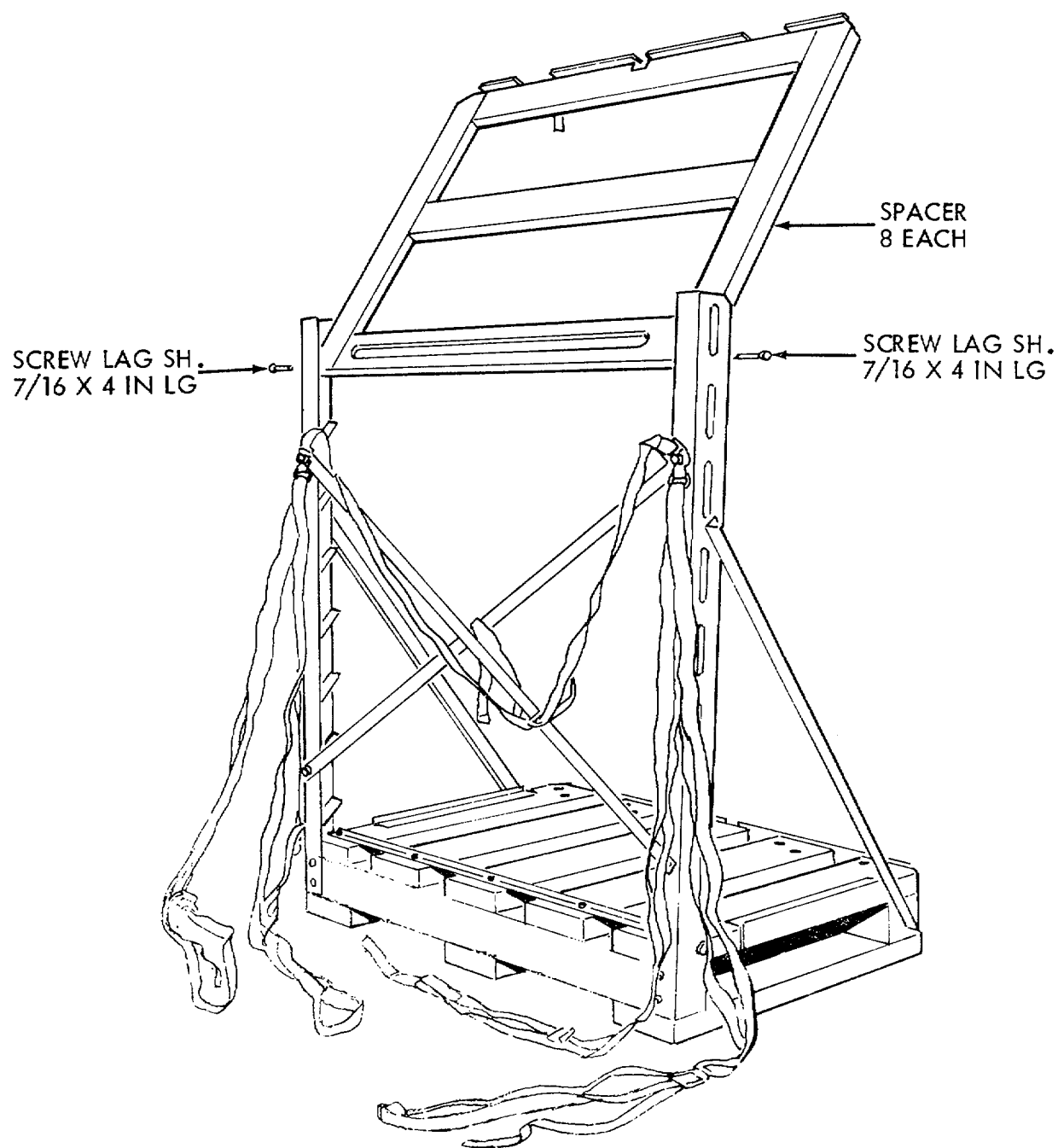


Figure 2-22. Mine container spacer installation.

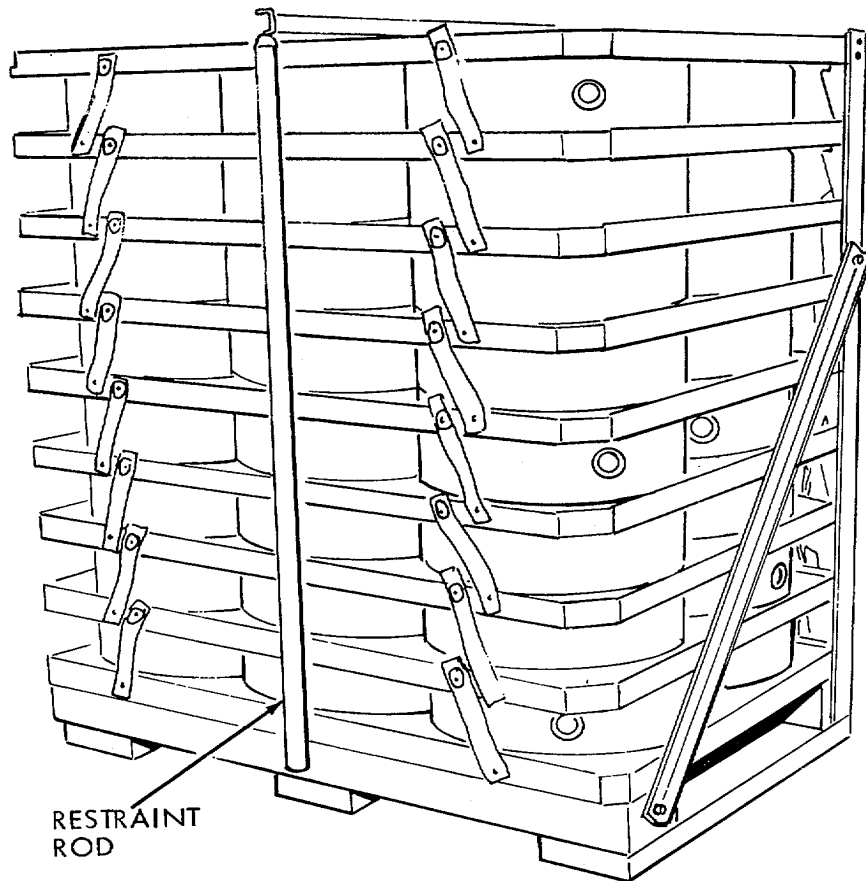


Figure 2-23. Restraint rod installation.

d. Operation of Dispenser.

(1) Subsurface mine laying.

CAUTION

Safety chains must not be connected to towing vehicle during subsurface mine laying. Do not use rubber stabilizing flap during subsurface dispensing of mines.

- (a) Install the tow beam in the left-hand towing position. Refer to figure 2-2. Position the tow beam lunette to a position slightly above the height of pintle hook on towing vehicle. Refer to paragraph 2-3. Raise the locking tongue of the pintle hook and slowly back the towing vehicle until the pintle is positioned below the center of the lunette. Lower the lunette to engage the pintle hook, close the locking tongue of the pintle hook. Install locking tongue cotter pin. Refer to paragraph 2-3 for tow beam adjustment.

- (b) Attached electrical cable to the towing vehicle.

- (c) Raise the wheels to a position approximately 2 feet

to 3 inches above the ground. Refer to paragraph 2-3.

- (d) Adjust vertical position of the tow beam until adjusting screw coincides with the 3 inch mark on attached scale. Refer to figure 2-3.
- (e) Make vertical adjustment of counter to its lowest position. Refer to paragraph 3-21. Make lateral adjustment by positioning the 3/8 inch spacers to locate coultter edge 3/8 inch to the left of the leading edge of the moldboard vertical plate assembly.
- (f) Make short trial run until dispenser plow enters the ground and seeks a constant operating level. Check furrow depth by measuring the left side of the furrow immediately behind the moldboard. Adjust the vertical position of the tow beam and adjust wheels to maintain ground contact, to obtain a minimum depth of cover that provides adequate camouflage of the mines.
- (g) Use a minefield marking set in accordance with FM 20-32 to temporarily mark mine locations to guide dispenser for subsequent parallel furrows. Remove

markers when no longer required. The camouflage man, who is behind and to the left of the dispenser, will sound a loud burst with the whistle and employ the use of the appropriate hand signals for "halt" or "stop" in accordance with FM 21-60.

CAUTION

Do not stand on left or right side of arming table while dispensing mines down the dispenser chute.

Operator arming mines must watch for violent movement of the arming table when towing vehicle crosses a deep depression or trench as the table will have a tendency to enter the truck.

Assure that mine has cleared chute before dispensing another mine. Camouflage man must insure that soil does not accumulate at chute exit. If a mine is stopped in the chute, the towing vehicle must be stopped immediately, and the armed mine cleared before operations are resumed.

- (h) Remove restraining rod strap and rod from mine containers. Remove one mine from container and place on arming table of upper chute. Using the mine arming tool, arm the mine (fig. 2-11) and vigorously push mine down the chute. Do not leave an armed mine on the arming table. Arm mine immediately prior to pushing it down the chute. Refer to table 2-3 for proper spacing of mines.

Table 2-3. Mine Spacing (Using Pacing Method)

A	B	C	D	E	F
Miles per hour (mph)	Feet per second	Feet per 2 second (dispensing)	Feet per 3 second (arming and dispensing)	Mine Paces 2.5 ft ea(feet)	spacing
3.0	4.41	8.8	13.2	2	18.2
2.5	3.67	7.3	11.0	2	16.0
2.0	2.94	5.9	8.9	3	16.4
1.5	2.20	4.4	6.6	4	16.6
1.0	1.47	2.9	4.4	5	16.9
0.5	0.73	1.5	2.2	6	17.2

- a.Paces averaging 2.5 feet.
- b.Pacing begins when previous mine contacts ground.
- c.Time for signal to mine contacting ground is 3 seconds (column D).
- d.Pacer maintains same speed of travel as dispenser.

- (2) Surface mine laying.

CAUTION

Safety chains must be attached to the towing vehicle during surface mine laying.

- (a) Attach dispenser to towing vehicle, placing tow beam in the right-hand position.
- (b) Adjust wheels until center of moldboard is 4 inches off the ground.

- (c) Adjust position of tow beam until rear of moldboard is approximately 2 inches off the ground and front of moldboard is approximately 6 inches off the ground.

- (d) Using dimensions in above paragraph as a guide, change attitude of moldboard to suit local surface conditions.

- (e) Install stabilizing flap (para 2-2).
- (f)Dispense mines as described in (1) (h) above.

Section V. OPERATION UNDER UNUSUAL CONDITIONS

2-11. Dispensing Under Unusual Conditions

a. General. The following instructions apply to types of terrain, soil, ground cover, or climatic conditions considered unusual. Unusual conditions are further defined as those which present less than ideal operating situations for the ATMDS, requiring unique procedures.

CAUTION

For extremely wet and wet-freezing conditions, refer to the special instructions of FM 20-32 or TM 9-1345-203-12&P regarding waterproofing of fuze wells.

NOTE

When operating in extreme dust or sand conditions, periodic cleaning and hand lubrication of the leveling jack inner tube will assure more efficient operation.

b.Subsurface Dispensing.

- (1) Vegetation covered terrain.
- (a) Highly irregular terrain surface.

CAUTION

The weight of a large area of sod with good root structure can be supported by the pressure plate of a subsurface emplaced mine. In this type of sod, plowing must be restricted to an average

depth of 6 inches. Sod cover of greater than 9 inches will approach the detonation pressure of the M1 5 mine. The coulter blade is to be located in its lowest position for operating in highly irregular terrain surface.

In highly irregular surface conditions, the amount of cover deposited over the mines may vary widely. The flow of soil over the moldboard will be interrupted as often as the cutting edge of the plow blade is exposed above the surface of the terrain. Under these conditions the camouflage man must assist the soil flow over the moldboard by providing a more even continuous flow. Any rake like tool or object can be employed to pull the soil over the moldboard and to spread the soil to reduce heavy deposits over the emplaced mines. Due to the cohesive nature of vegetation covered soil the depth of plowing must be set for approximately 3 to 4 inches to keep thickness of cover from going above 9 inches.

(b) Wet or muddy terrain. The dispenser may not operate properly in wet or muddy terrain. As the moisture content of the soil increases, the frictional resistance increases until the soil will not flow over the moldboard. This condition becomes more critical as the depth of plowing decreases (3 inches or less). As the plowing depth is increased, the flow of soil over the moldboard will tend to improve but the tow vehicle traction may become a problem. A tracked vehicle or the installation of tire chains to a wheeled tow vehicle will improve traction for plowing. However, the settings for the tow beam attitude and the wheel positions for acceptable plowing performance appear to fall in a very narrow range. Insure that moldboard is set in level position to provide minimum resistance to soil flow over the moldboard. Surface emplacement should be substituted for unacceptable subsurface emplacement. Should the plow become stuck and the towing vehicle loses traction in wet heavy clay, alternate three actions, listed below, several times for easiest removal.

1. Crank the wheels down until operator obtains about 60 ft-lb on the ratchet wrench (about one normal man effort without strain). Excess force will shear the weak link pin installed to protect the gears.
2. Crank the tow beam adjustment screw to raise the plow point one increment.
3. Tow the dispenser forward a few feet. Repeat steps 1, 2, and 3 until the towing vehicle regains traction and the moldboard is free to continue plowing.

(c) Rocky or stony terrain. The dispenser may not operate properly in rocky or stony terrain. Scattered small stones will tend to decrease the depth of plowing due to the dispenser plow blade experiencing resistance forces on the underside which are greater than those on the top side. Buried rocks or other obstacles may cause the dispenser to experience tow forces sufficient to break the weak link of the tow beam or to ride up out of ground. The coulter blade must be located in its lowest position to protect the dispenser and tow vehicle from damage. When operating in a stony area canting the moldboard forward so that the tip of the blade is lower than the rear of the moldboard will tend to keep the plow in the ground.

If the plow cannot be kept in the ground, revert to surface dispensing of mines. Refer to paragraph 2-10c.

(d) Frozen or hard compact soil. In frozen or hard compact soil, plow blade penetration to an appreciable depth below the surface of the soil is particularly difficult. If the attitude of the dispenser plow is exaggerated in a blade down position, it may be possible to penetrate to a softer soil in which the plow might operate. Generally, the moldboard should be as horizontal as possible to facilitate the flow of soil over the moldboard. When successfully operating in the subject hard soils, care must be exercised to insure that the large rigid chunks of soil do not fall from the rear of the moldboard onto the pressure plate of the implanted mines. The coulter blade should be raised to its uppermost position to reduce the forces resisting the entrance of the plow blade into the ground.

(2) Bare soil or sand.

(a) Highly irregular terrain surface. Loose soil or sand will inherently exert significantly less force on a mine pressure plate than sod with good root structure. Compared to the sod a relatively small area of soil is actually supported by the pressure plate. The camouflage man can readily redistribute any uneven soil flow over the moldboard and spread the soil over the mine to increase the uniformity of cover in a terrain with a highly irregular surface. If a grader or other means of improving the terrain surface is available it should be operated immediately in front of the dispenser to produce a more consistent terrain surface for improved and subsurface dispensing operation.

(b) Rocky or stony terrain. The presence or absence of vegetation cover on the terrain has a minimal effect on the performance of the dispenser compared to the effect of rocks or stones.

(c) Frozen or hard compact terrain. Refer to (1)(a) above.

c. Surface Dispensing.

CAUTION

The uncontrolled sideward movement of the dispenser can be hazardous while dispensing a row of mines parallel to a previously emplaced row of mines. When traction of the dispenser wheels cannot be maintained, stop tow vehicle and dispenser, turn tow beam vertical adjustment screw and the wheel jacks as required to maintain the moldboard altitude and allow the aft end of the moldboard to drag lightly on the ground. The operation of the dispenser in wet, muddy or ice covered terrain presents a unique problem. Under these conditions the dispenser has a pronounced tendency to slide from side to side on its wheels.

CHAPTER 3

OPERATOR/CREW MAINTENANCE INSTRUCTIONS

Section I. LUBRICATION INSTRUCTIONS

3-1. Detailed Lubrication Instructions

a.General. Keep all lubricants in closed containers and store in a clean, dry place away from external heat. Allow no dust, dirt, or other foreign material to mix with the lubricants. Keep all lubrication equipment clean and ready for use.

b.Cleaning. Keep all external parts not requiring lubrication free of lubricants. Before lubricating the equipment, wipe all lubrication points free of dirt and grease.

Clean all lubrication points after lubrication to prevent accumulation of foreign matter.

c.Points of Lubrication. Service the lubrication points at the proper intervals as illustrated in figure 3-1.

d.OE Oil. Bare, polished metal areas of the moldboard, plow blade, and coulter blade must be cleaned and coated with OE-50 oil after each use to prevent rusting. Reapplication intervals are specified under preventive maintenance.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-2. General

To insure that the ATMDS is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and services are listed in table 3-1. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the system will be noted for future correction to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted during operation which

would damage the equipment if operation is continued. All deficiencies and shortcomings will be recorded together with the corrective action taken on the ATMDS at the earliest opportunity.

3-3. Preventive Maintenance Checks and Services

Table 3-1 lists preventive maintenance actions to be performed by the operator/crew. Maintenance beyond the tabulated items shall be referred to organizational or direct support crews as applicable.

LUBRICATION CHART LC 5-1095-254-lp

ANTI-TANK MINE DISPENSING SYSTEM XM-57

Reference: C9100IL

Intervals are based on normal hours of operation. Reduce to compensate for abnormal operation and severe conditions. During inactive periods, inefficient lubrication must be performed for adequate preservation.

Relubricate after washing.

Clean fittings before lubricating.

Clean parts with SOLVENT, dry-cleaning, Fed Spec P-D-680, or with OIL, fuel, Diesel. Dry before lubricating.

LUBRICANT - INTERVAL

INTERVAL - LUBRICANT

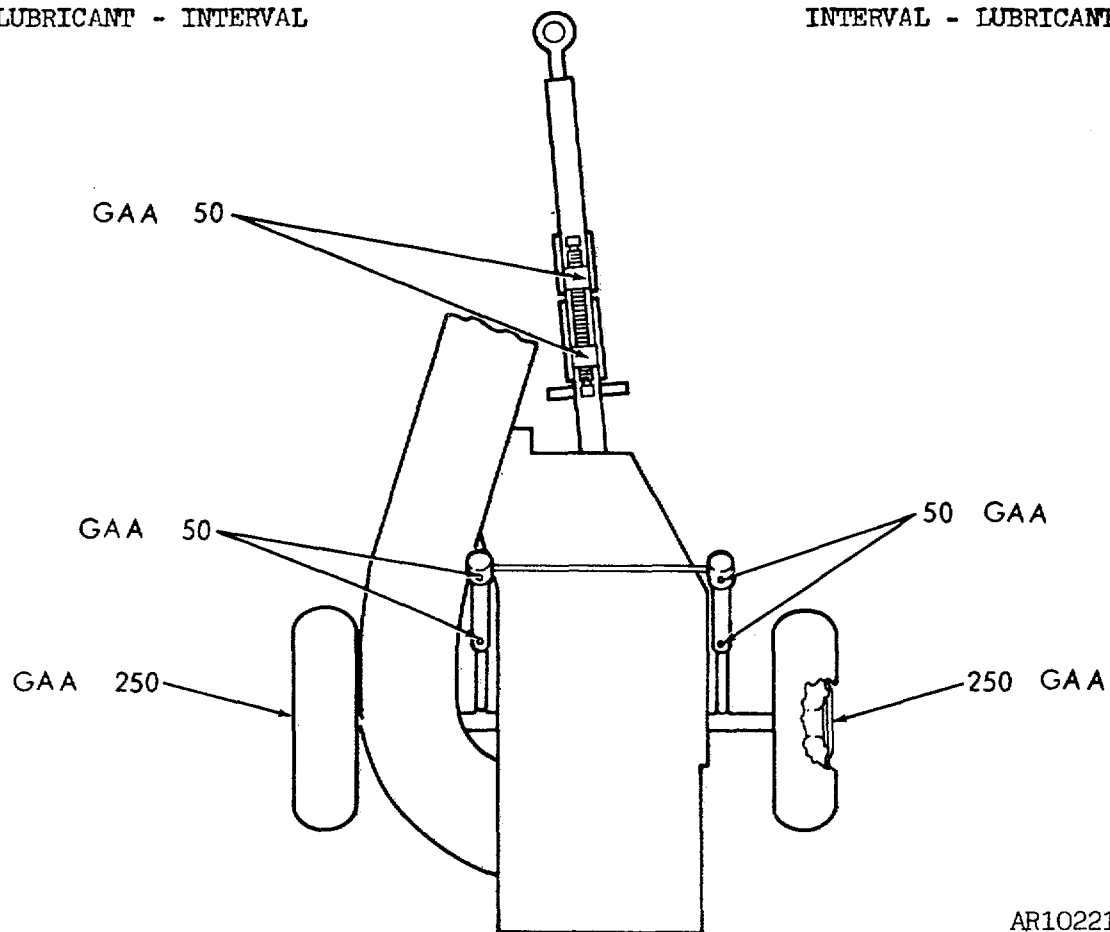


Figure 3-1. Lubrication chart (1 of 3)

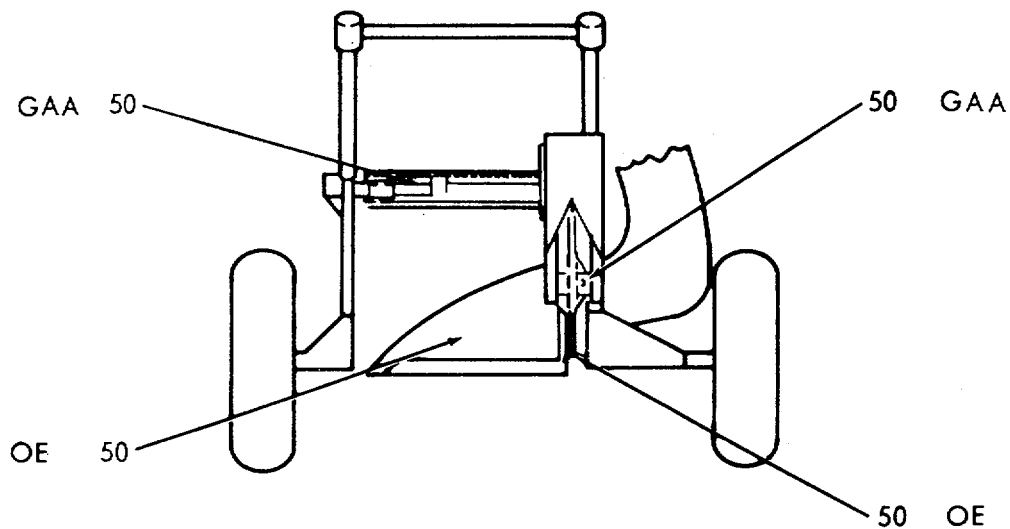


Figure 3-1. Lubrication chart (2 of 3).

-KEY-			
LUBRICANTS	CAPACITY	ALL TEMPERATURES	INTERVALS
		Above +32° F	
OE-LUBRICATING OIL, Internal combustion engine		OE 50	Intervals given are in hours of normal operation
GAA-GREASE, Automotive and Artillery		ALL TEMPERATURES	

- Notes:
- 1.OIL CAN POT14TS. Every 50 hours, clean and lightly coat all linkages, hinges and latches with OE.
 - 2.Lubricate wheel jacks and tow beam adjustment screw at regular intervals and after every use.
 - 3.Lubricate exposed areas of upper axle at regular intervals to prevent rust.

AR102213

Figure 3-1. Lubrication chart (3 of 3).

Table 3-1. Operator and Crew Preventive Maintenance Checks and Services

Before operation Time requires				D-During operation W-Weekly	A-After operation Time required-
Interval and sequence no.					
B	D	A	W	ITEM TO BE INSPECTED Procedure	
1	6			PLOW BLADE Inspect for excessive wear and blunting on leading edge (para 3-8 NOTE)	0.1
2				MOLDBOARD Remove oil from top of moldboard (para 3-7)	0.2
		8		Apply oil to top of moldboard pra 3-7)	0.1
			11	TIRES Inspect tires for damage. Assure that tire pressure is 20 psi (para 3-15)	0.1
3				SERVICE LIGHT & TAIL LIGHT Inspect for proper operation	0.1
4		9		TOOLS Inspect for damaged or missing toots Replace damaged or missing tools by requisition (tables 2-1 and 2-2)	0.3
5	7	10		STRAPS Inspect and replace as required	

Section III. TROUBLESHOOTING

3-4. General

This section contains information useful in diagnosing and correcting problems unsatisfactory operation or failure of the mine dispenser. Refer to table 3-2. Each trouble symptom listed is followed by a list probable causes and remedies. All

problems beyond the scope of operator/crew maintenance shall be referred to organizational of direct support maintenance, as applicable

Table 3-2. Troubleshooting

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION
1.DISPENSER TRACKS TOWING VEHICLE IMPROPERLY Tow lateral adjust is incorrect. Adjust rear of tow beam to left, center or right anchor pin hole (right, road; center, light plowing; left for heavy pulls) para 2-3.
2.PLOW WILL NOT ENTER GROUND OR WILL NOT STAY IN GROUND Step 1. Dull plow blade. Replace plow blade (para 3-8). Step 2. Coulter too low. Raise coulter blade (para 3-21). Step 3. Plow attitude misadjusted. Adjust depth on tow beam Sara 2-3). Step 4. Ground too hard. Adjust tow beam and jacks for maximum depth for initial entry. Raise coulter para 2-3).
3.ROOTS PULL OUT ON FRONT OF PLOW Coulter too high. Lower coulter to bottom of plow.
4.VINES CATCH ON COULTER Coulter too low. Raise coulter so that center of blade is above vines (para 3-21).

Section IV. MAINTENANCE OF TOW BEAM WEAK LINK

3-5. General

The tow beam weak link is an aluminum link atop the front part of the tow beam. This weak link should be replaced only with the correct weak link replacement part when failed or failure is imminent (center hole is stretched).

3-6. Tow Beam Weak Link

- Removal Remove spring lock pins and weak link (fig. 3-2).
- Installation.

CAUTION

Replacement of the weak link with a steel link

could cause severe damage to the dispenser or tow vehicle when underground obstacles are encountered by the plow. Install the weak link and lock pins as follows.

- (1) Remove spring lock pin.
- (2) Remove weak link.
- (3) Install new weak link.
- (4) Install spring lock pin.

Section V. MAINTENANCE OF MOLDBOARD

3-7. General

The moldboard upper surface must be maintained in a smooth condition and kept from rusting by frequent application of OE-50 oil. If heavy rust should appear on any area of the moldboard, sand away all rust and recoat with oil. Report any excess wear or apparent discrepancies to organizational maintenance.

NOTE

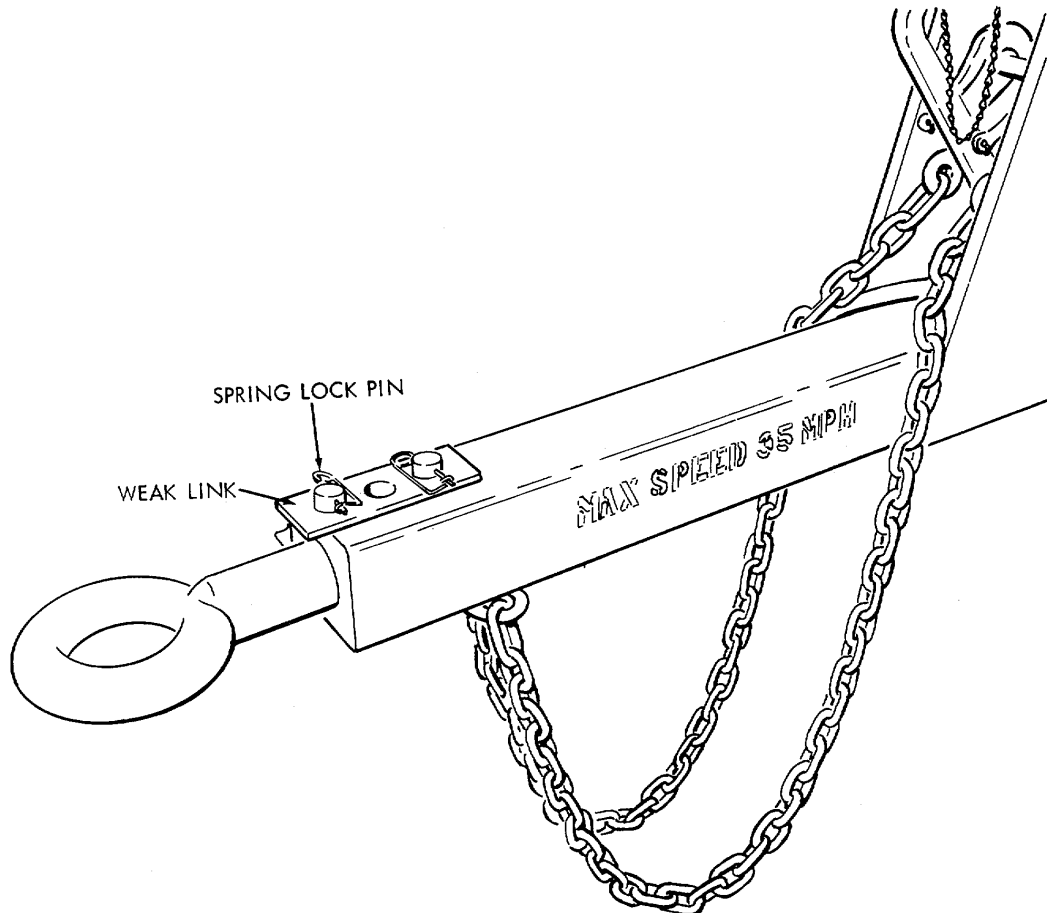
Replace plow blade when width measured from the rear edge of the blade to the cutting edge

equals 81/2 inches or less and/or thickness of tips measure 5/16 inch or greater over 1/3 length of blade tip.

3-8. Plow Blade-Removal and Installation

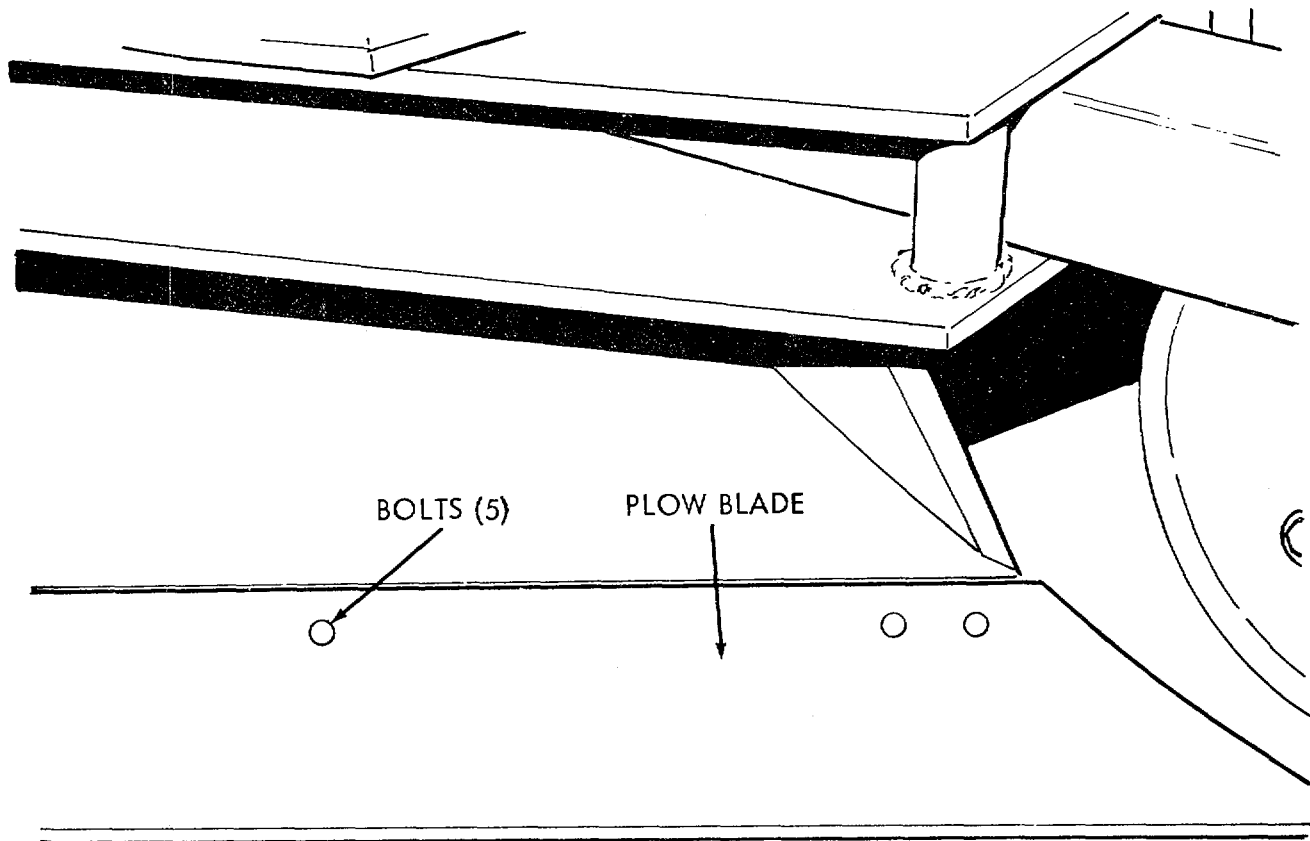
Refer to figure 3-3 for instructions on removal and installation of the plow blade.

- a. Remove bolts and nuts.
- b. Remove blade.
- c. Install new blade.
- d. Install bolt from top and secure self locking nuts.



AR102214

Figure 3-2. Weak link, removal and installation



AR102215

Figure 3-3. Plow blade, removal and installation.

Section VI. MAINTENANCE OF CHUTE ASSEMBLY

3-9. General

The chute assembly has two removable sections; (1) the upper chute, and (2) the mid-chute. The upper chute is easily detached (for transport) when a locking pin and the chute pin are removed. This chute section should be inspected for dents and paint condition. Remove any dents that would hinder mine passage through the chute, and refer any damage to organizational maintenance as soon as possible. If damage is extensive, replace the chute. The mid-chute is bolted to the dispenser and is removed only for maintenance of the leveling jacks or replacement if extensively damaged.

3-10. Upper Chute Assemblies

Reference paragraph 2-2 for instructions on replacing upper chute assembly.

3-11. Mid-Chute Assembly

a. Removal.

- (1) Remove upper chute (para 2-3).
- (2) Refer to figure 3-4 and remove mid-chute.
 - (a) Remove upper chute (para 2-3).
 - (b) Remove nuts and bolts.
 - (c) Remove mid-chute.

b. Installation. Install in reverse order.

Section VII. MAINTENANC OF CHUTE SUPPORT

3-12. General

The chute support controls the height of the arming table above the bed of the towing vehicle. Readjustment of the support height must be made to adapt arming table to different tow vehicles, dispensing modes, and plowing depths.

3-13. Upper Chute Support Adjustment

- a. Remove the adjusting pin from the support and support bracket (fig. 4-1).
- b. Raise or lower the chute support to place upper chute in the desired position.
- c. Replace adjusting pin.
- d. Adjust rope support (fig. 2-14, para 2-10).

Section VIII. MAINTENANCE OF CAN OPENER ASSEMBLY

3-14. Can Opener

a. Removal. Lift the can opener (2, fig. B-12) from the can opener assembly.

b. Inspection. Replace a can opener that is damaged or defective.

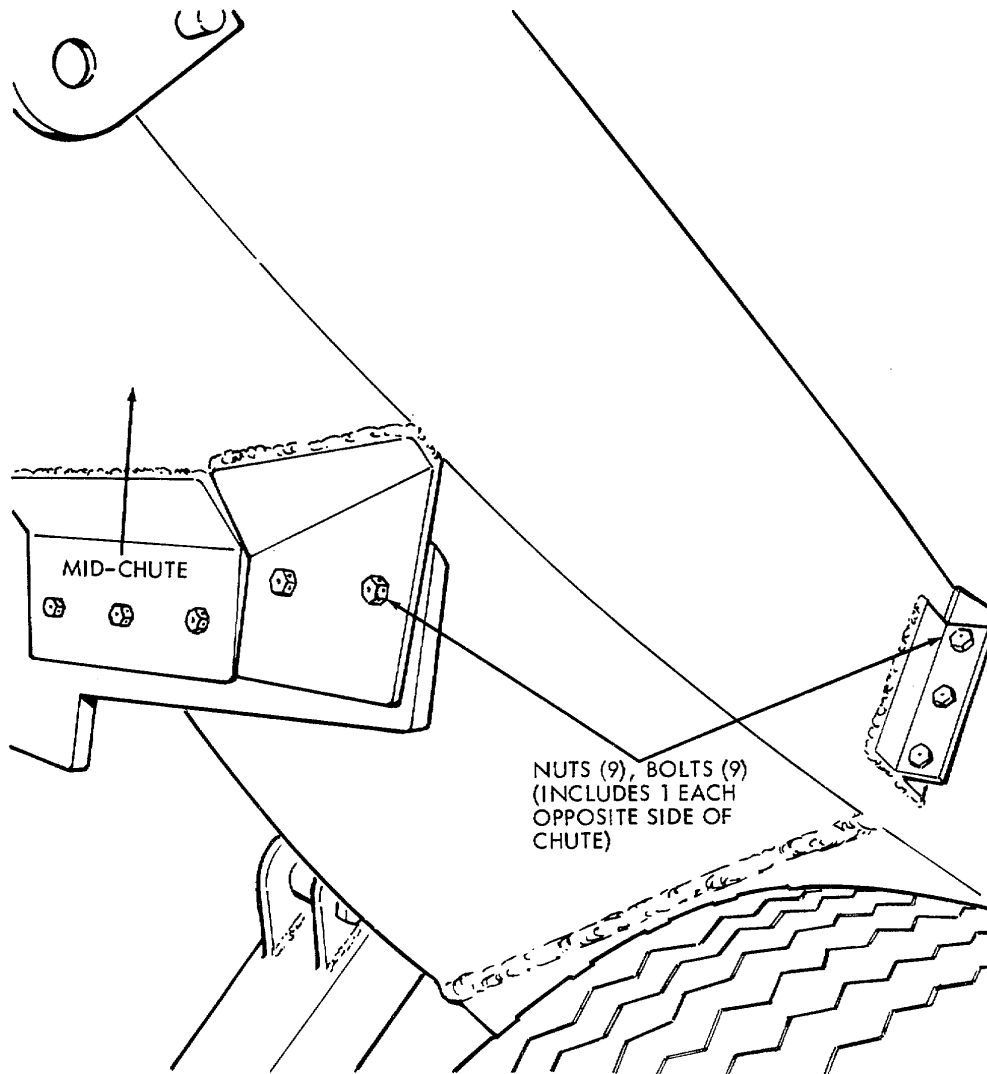
c. Installation. Install in the reverse order of removal.

Section IX. MAINTENANCE OF WHEEL ASSEMBLIES

3-15. General

Inspect the tires and wheels for cuts, cracks or other in

dictation of failure. Report all discrepancies to organizational maintenance.



AR102216

Figure 3-4. Mid-chute, removal and installation.

Section X. MAINTENANCE OF CONVEYOR ASSEMBLY**3-16. General**

inspect the roller assemblies and stands for general

damage as well as free operation of rollers. Insure that all assembly hardware is attached. Report all discrepancies.

Section XI. MAINTENANCE OF MINE CONTAINER ASSEMBLIES**3-17. Unassembled Containers**

Inspect banded packages for completeness; including the base, eight spacers, and assembly hardware in an attached bag. Be sure that the containers are stored in a dry place.

3-18. Assembled Containers

Inspect for loose or missing hardware and missing spacers. Be sure that hold-down straps are not frayed or otherwise weakened. Tighten any loose hardware and report all other discrepancies.

Section XII. MAINTENANCE OF ELELCTRICAL SYSTEM**3-19. General**

Inspect the wiring harness for frayed or broken wires, in

spect the taillights and service lamp for damage and operation, and report any discrepancies.

Section XIII. MAINTENANCE OF STABILIZING**3-20. Stabilizing Flap, Removal and Installation**

Refer to figure 3-5 for removal and installation instructions.

NOTE

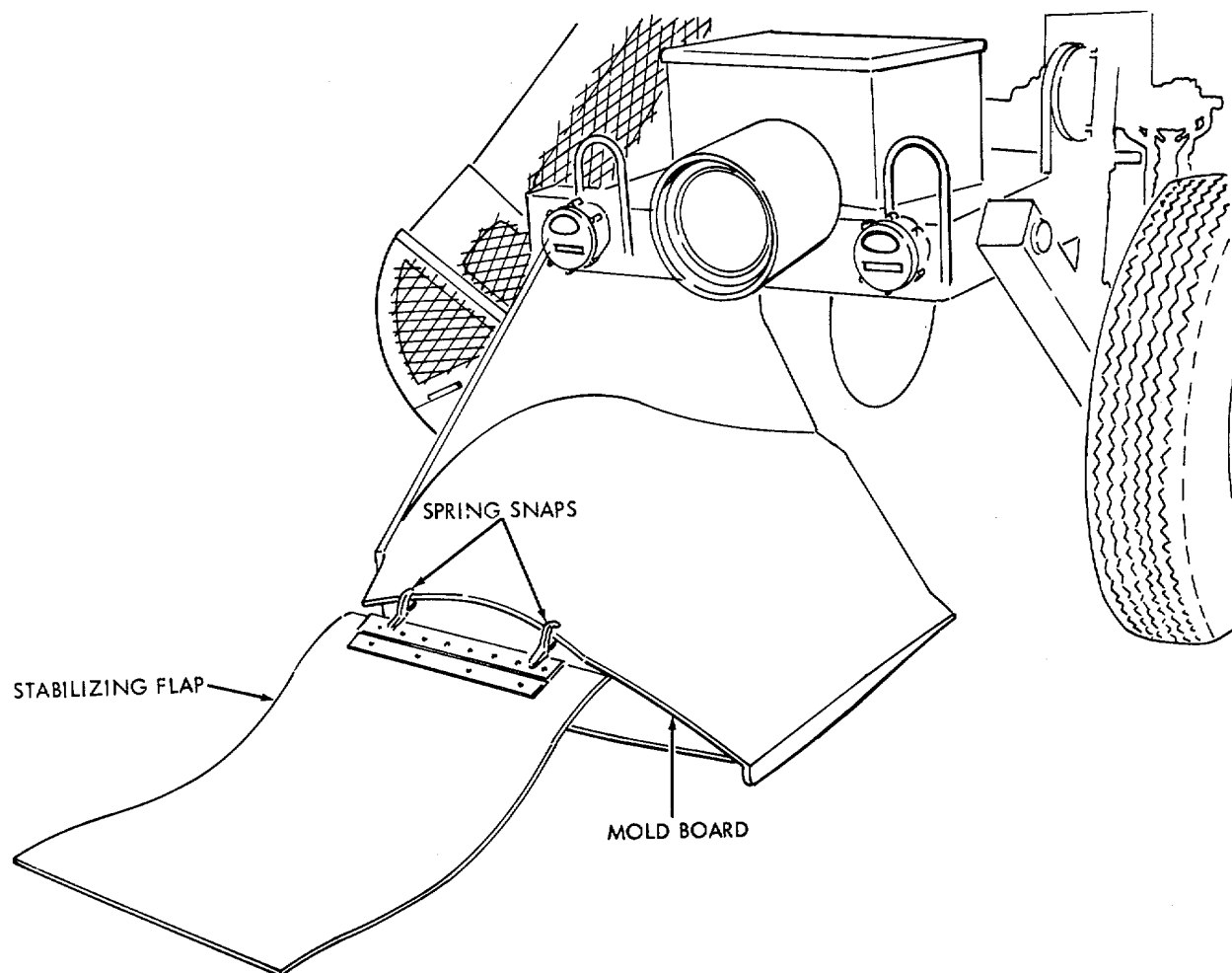
Install stabilizing flap by inserting spring snaps in holes in moldboard.

Section XIV. MAINTENCE OF STABLIZING FLAP**3-21. Coulter Assembly Adjustment**

(refer to fig. B-4)

- a. Remove lock pin (1); pin (2); spacer (3); and adjust fork (19) to the desired vertical position.

- b. Make lateral adjustment by positioning the 3/s-inch spacers to locate the coulter edge to a position 3/8 inch to the left of the moldboard assembly plate.



AR102217

Figure 3-5. Stabilizing flap, removal and installation
3-9

CHAPTER 4 ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIAL

4-1. General

chapter 2, section I.

Inspect and service the ATMDS in accordance with

Section II. MOVEMENT TO A NEW WORKSITE

4-2. General

Refer to chapter 2, section IH, for movement instructions.

Section III. REPAIR PARTS, SPECIAL TOOLS, AND EQUIPMENT

4-3. Special Tools and Equipment

No special tools are required for organization maintenance of the ATMDS.

4-4. Maintenance Repair Parts

Repair parts and equipment are listed and illustrated in the repair parts list in appendix B.

Section IV. LUBRICATION INSTRUCTIONS

4-5. General

This section contains lubrication instructions which are supplemental to and not included in the lubrication chart.

4-6. Wheel Bearing Lubrication

a. Refer to paragraph 4-13 and 4-14 and remove the wheel and wheel bearings.

b. Lubricate in accordance with the lubrication chart.

Section V. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

4-7. General

This section contains detailed instructions for preventive

maintenance checks and services to be performed on an organizational level, as prescribed by table 4-1.

Table 4-1. Organizational Preventive Maintenance Checks and Services

Q-Quarterly		M-Monthly		
Sequence No.	Item to be inspected	procedure	Work	
		Time		
	M	Q	Procedure (M/H)	
1			COULTER HUB Inspect for smooth rotation of coultter, bearing adjustment Replace faulty parts as required Adjust bearings when excessive side play is noted in coultter blade (para 4-10).	0.4
2			LEVELING JACKS Inspect for smooth operation of jack through entire length of extension Replace jack when required (para 4-12).	2.8
3			TIRES AND TUBES Inspect and repair or replace as required Sara 4-13).	0.6
	9		WHEEL BEARINGS AND GREASE SEALS Remove wheels and inspect bearings and seals for scoring or other damage Replace parts as necessary and repack with grease (para 4-14).	0.5
4			LOWER AXLES Inspect for looseness or other damage Replace pans as required (para 4-20).	4.0
5			DISPENSER FRAME Inspect for damaged and missing parts (para 2-1).	0.4
6			ELECTRICAL SYSTEM Inspect connector, harness and lights for general condition and operation Repair or replace, as required.	1.4
7			CONVEYORS Replace unserviceable roller sections, stops and stands as required to maintain complete system (para 3-16).	0.6
8			CAN-OPENER STAND Inspect and replace as required Use 3/4 exterior plywood for replacement of base (dimensions are not critical) (para 3-14).	0.4

Section VI. TROUBLESHOOTING

4-8. General

At organizational level, only the electrical system requires

troubleshooting techniques. Check the system and correct as shown in table 4-2 (with system connected to vehicle):

Table 4-2. Troubleshooting

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ALL LAMPS INOPERATIVE		Step 1. Vehicle lights OFF. Turn on vehicle lights. Step 2. Defective or broken ground connection on dispenser. Check and repair ground connection. Step 3. Broken wire in harness. Repair or replace wiring harness.
2. SERVICE LAMP INOPERATIVE		Step 1. Vehicle lights OFF. Turn on vehicle lights. Step 2. Defective lamp in service light. Replace lamp. Step 3. Faulty lamp switch. Replace switch on light unit. Step 4. Faulty wiring. Check and repair or replace wiring.
3. TAU-LAMP INOPERATIVE		Step 1. Vehicle lights OFF. Turn on vehicle lights. Step 2. Taillamp failed. Replace taillamp. Step 3. Faulty wiring. Check and replace wiring.
4. BRAKE LAMP INOPERATIVE		Step 1. Failed brake lamp. Replace brake lamp. Step 2. Faulty wiring. Check & replace wiring. Step 3. Truck wiring faulty. Check truck system.

Section VII. MAINTENANCE OF COULTER BLADE ASSEMBLY

4-9. General

The coultter blade has two main functions. In terrain with vegetation cover it provides even, uniform edge at the furrow opening that aids in providing a maximum camouflage. When assembled in its lower position it provides protection for the plow blade. It breaks the ground ahead of the tip of the blade, thus reducing the wear on the plow point, and it contacts buried obstacles and causes the blade to rise up to avoid many potentially damaging contacts.

4-10. Coultter Assembly

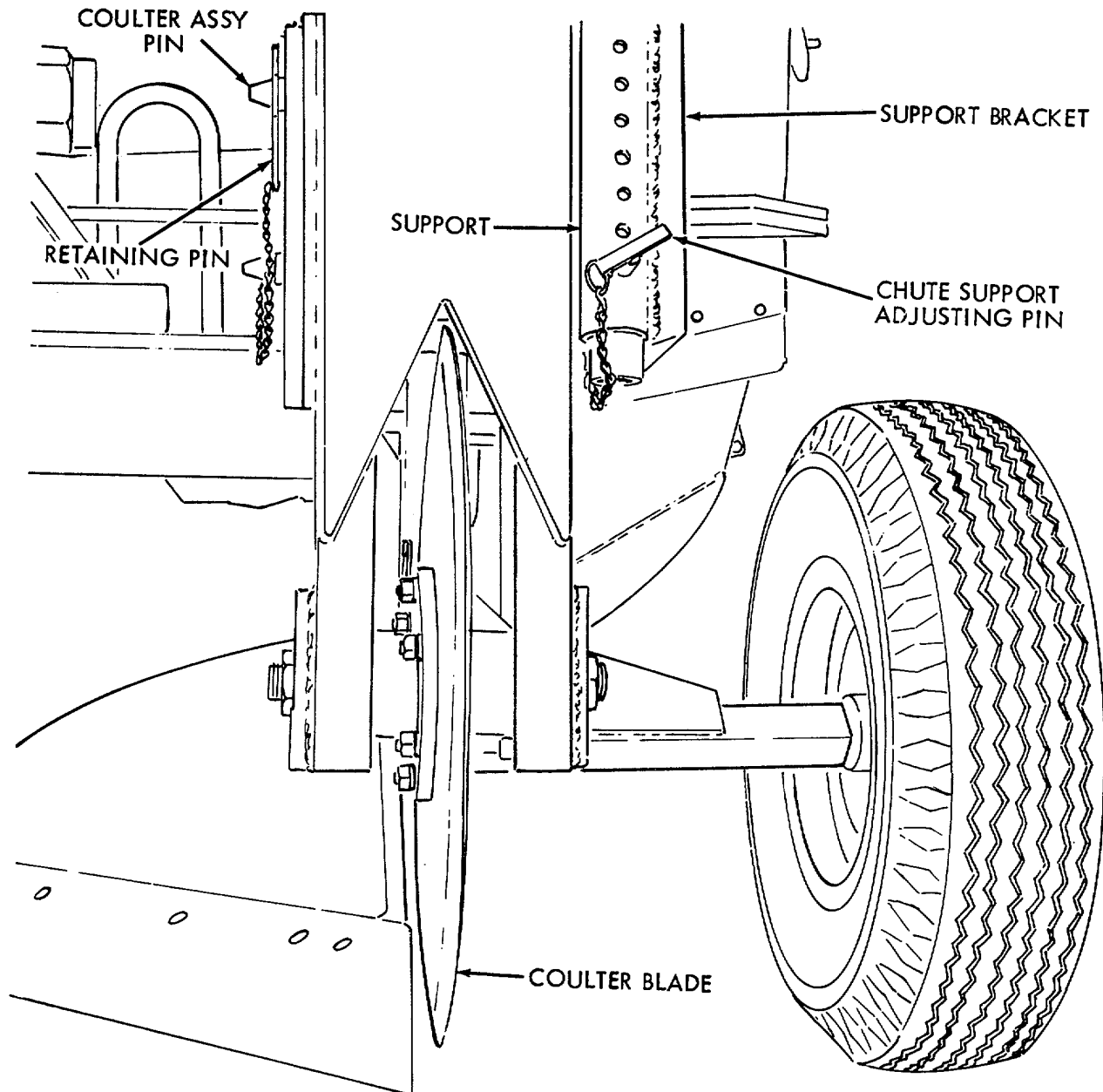
- a. Removal. Refer to figure 4-1 and remove coultter blade assembly.

- (1) Raise coultter blade 6 inches off ground (para 2-3).
- (2) Remove coultter assembly retaining and lock pins.
- b. Disassembly. Refer to figure B-4 and disassemble in numerical sequence.
- c. Cleaning, Inspection and Repair.
 - (1) Clean all metal parts, seals and bearings in cleaning solvent, P-D-680, and dry thoroughly.
 - (2) Inspect each cup and cone for pits, scores or rust.
 - (3) Inspect axle for cracks, wear and other defects.
 - (4) Repair by replacing worn or defective parts.
- d. Reassemble. Refer to figure B-4 and reassemble in reverse order.

- e. Installation. Install in reverse order.
 f. Lubricate. Refer to lubrication chart (fig. 3-1).

NOTE

Tighten the inner axle nuts to a nominal 30 ft-lb one-quarter turn (tighten setscrews in nearest keyway on shaft). Reinstall coulter hub assembly and tighten outer axle nuts to 100 ft-lb of torque. Tighten set screws on axle shaft.



AR102218

Figure 4-1. Coulter assembly, removal and installation.

Section VIII. MAINTENANE OF LEVELING JACKS

4-11. General

The dispensers dual leveling jacks provide the means for positioning the dispenser in the road towing, surface dispensing or subsurface dispensing configuration.

4-12. Leveling Jack Assembly

NOTE

Using leveling jacks, adjust wheels until no pressure is exerted on jacks.

a.Removing Leveling Jack.

CAUTION

During removal of both jacks, wheels will be free to drop when second jack is disconnected from its lower axle.

- (1) When removing the left leveling jack, remove the mid-chute (para 3-11) and tool box.
- (2) Refer to figure 4-2 and remove leveling jack in indicated sequence.
- (3) Removal of right leveling jack follows above

procedure except that removal of the mid-chute is not necessary.

- b.Removing Depth Indicator Rod. Remove depth indicator rod by removing nut on bottom.

NOTE

When installing new rod, screw top nut approximately 1 inch up on threads.

c.Installation.

- (1) Install leveling jack assembly in reverse order of removal.
- (2) Install mid-chute.
- (3) Install tool box.
- (4) Lubricate in accordance with lubrication chart (fig. 3-1).

NOTE

Occasional hand application of grease on extended lower portion of jack will assure smooth operation.

Section IX. MAINTENCE OF WHELL ASSEMBLY

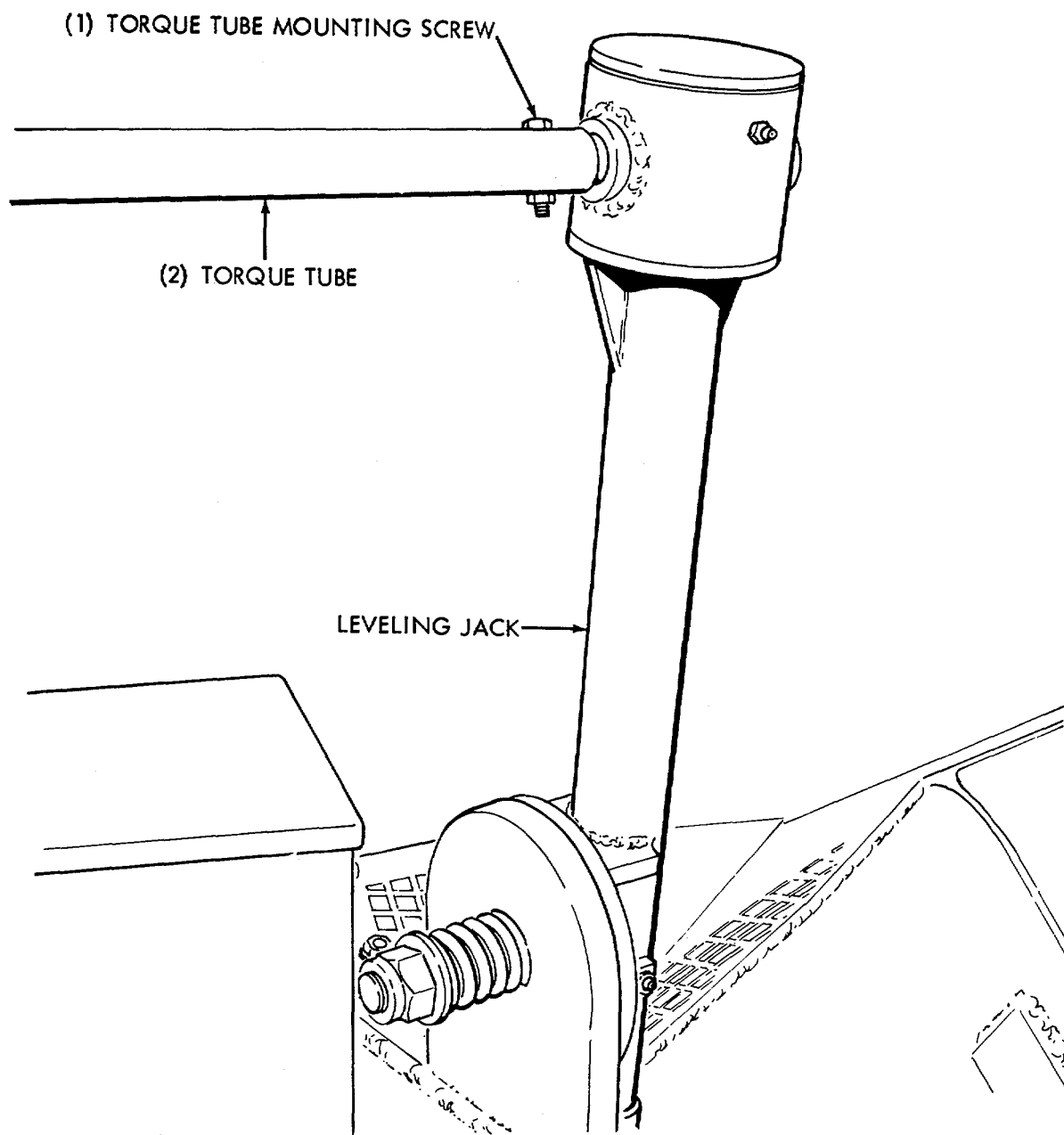
4-13. Wheel Assembly

a.Removal.

- (1) Loosen stud nuts on wheel.
- (2) Raise wheels off the ground by using the leveling

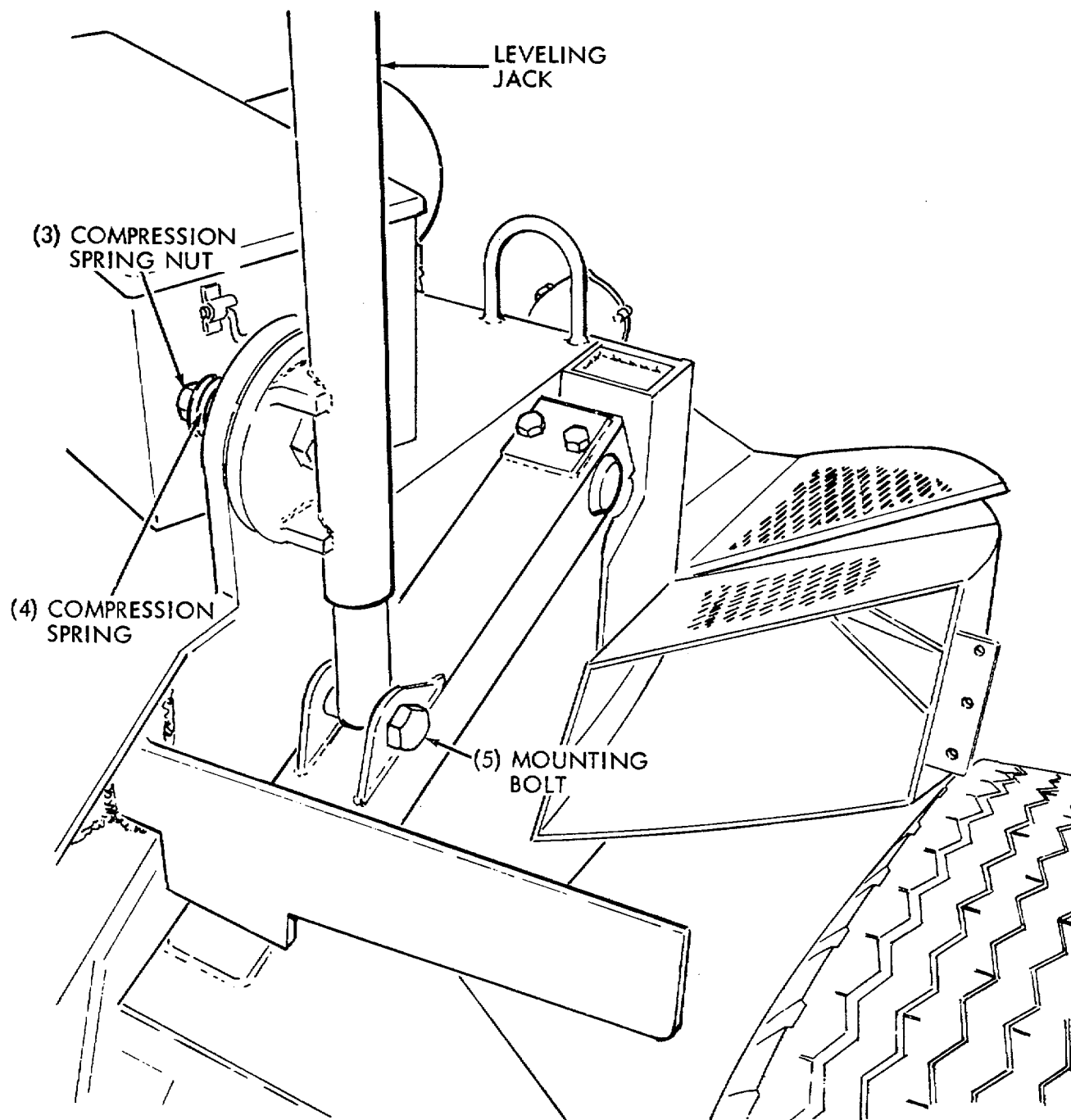
jack (para 2-3).

- (3) Refer to figure 4-3 and remove nuts (5) and the wheel and tire.



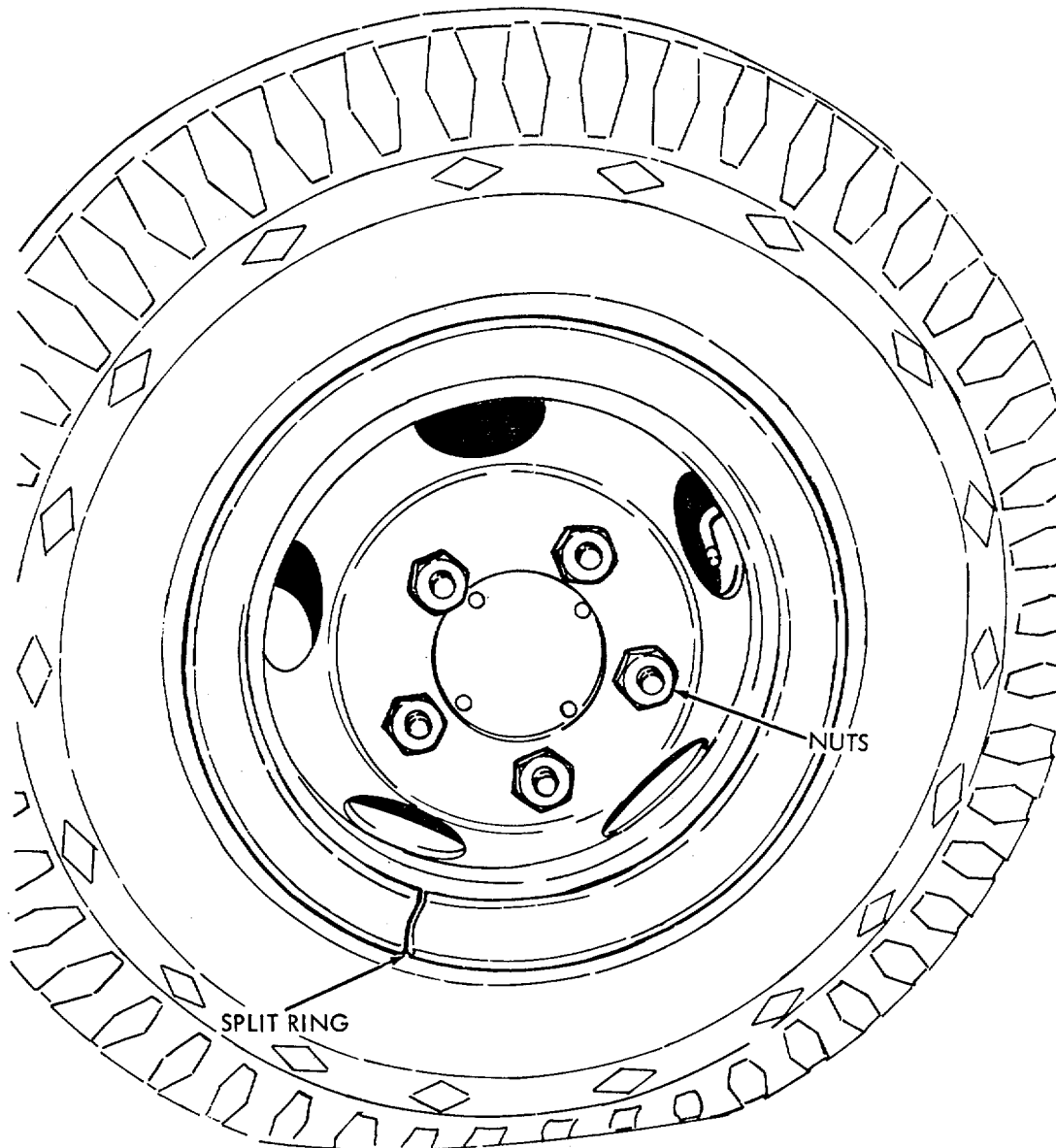
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Figure 4-2. Leveling jack, removal and installation (1 of 2).



AR102220

Fire 4-2. Leveling jack, removal and installation (2 of 2).
4-6



AR102221

Figure 4-3. Wheel assembly removal and installation

bDisassembly

- (1) Position wheel and tire assembly on floor with split ring up
- (2) Remove valve cap and core from valve stem to release tire pressure
- (3) Press bead of tire away (down) from split ring

CAUTION

Be careful and avoid bending ring

- (4) pry bar to lift one end of split ring up and out of slot in wheel
- (5) Position valve stem through wheel to inside of tire and lift tire and tube from wheel.
- (6) Remove tube from tire.

cTube Repairs Refer to TM 9-2610-200-20 for instructions covering repair of tubes.
 inspection and Replace Inspect the wheel for dents

or cracks and other defects. Inspect inside and outside of the tire for breaks, wear and other damage. Inspect inner tube for holes, cuts or abrasions. Replace a defective wheel, tire, or tube.

e.Reassemble. Reassemble in reverse order of disassembly. Inflate tire to a pressure of 20 psi.

f:Installation. Install wheel assembly on hub with wheel nuts (5). Lower wheels to ground using leveling jacks.

Section X. MAINTENANCE OF WHEEL HUB

4-14. Wheel Hub

a.Removal

- (1) Remove wheel assembly (para 4-13a).
- (2) Remove plate, gasket, cotter pin, nut and washer and then remove hub assembly.

b.Disassembly. Refer to figure B-9 and disassemble in numerical sequence.

c. Cleaning, Inspection and Repair. Clean all parts in cleaning solvent, P-D-680. Inspect hub for cracks, breaks or other defects. Inspect bearings for pits, scores or rust.

Repair by replacing defective or damaged parts.

d.Reassemble. Reassemble in reverse order of disassembly.

e.Installation. Install in reverse order.

NOTE

Lubricate wheel bearings in accordance with lubrication chart. When installing wheel hub and bearings, tighten the spindle nut until tight then back off one-fourth turn. be attached to the mounting bracket is no longer used.

Section XI. MAINTENANCE OF ELECTRICAL SYSTEM

4-15. Service Light Switch

a.Removal. Refer to figure 4-4.

- (1) Remove nut holding switch to bracket.
 - (2) Tag and disconnect leads and remove switch.
- b. Installation. Connect leads and place switch in bracket and secure with nut.

4-16. Stop/Taillight

a.Removal. Refer to figure 4-5. Remove bolts (2) securing light to bracket. Tag and disconnect electrical leads.

b.Install. Connect electrical leads. Secure light to bracket.

c.Bulb Replacement.

NOTE

Lamp for blackout window is not connected.

- (1) Loosen screw (6), remove door, and packing.
- (2) Push in one lamp and turn counterclockwise to remove.
- (3) Insert new lamp, push in, and turn clockwise to install.
- (4) Reinstall packing, door, and secure with screws (6).

NOTE

The drag blade assembly mounting bracket as shown in fig. 4-5 is found only on early production models of the mine dispenser assembly. This mounting bracket serves no function since the drag blade assembly which would normally

WARNING

Early production models of the M57 antitank mine dispensing system included a drag blade assembly for the purpose of smoothing or leveling the ground behind the plow blade as it passes over the plowed ground. This drag blade assembly must be removed and not used because the weight of this assembly could cause the mines that have been laid to explode.

4-17. Service Light

a.Removal. Refer to figure 4-6.

- (1) Tag and disconnect external leads.
- (2) Remove locking pins securing service light to deck plate.
- (3) Remove nuts (3) securing service light to housing.
- (4) Remove screws (3) and remove rim from service light housing.
- (5) Disconnect internal quick-disconnect leads and remove the seal beam light.

b.Inspection. Inspect for visible damage to ring and housing. Inspect mounting hardware for damaged threads.

c.Installation. Install seal beam and service light in reverse order.

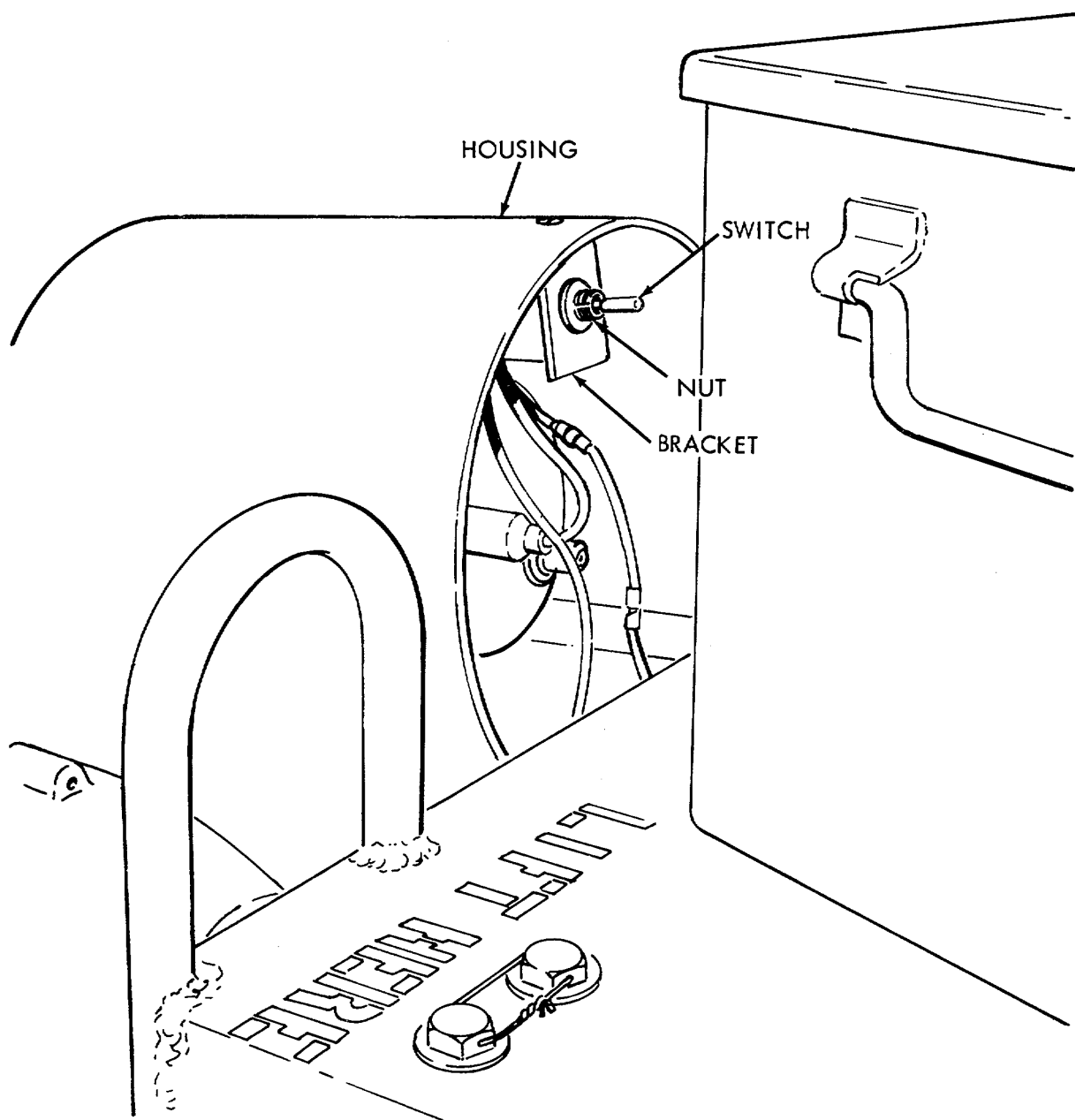


Figure 4-4. Light switch, removal and installation

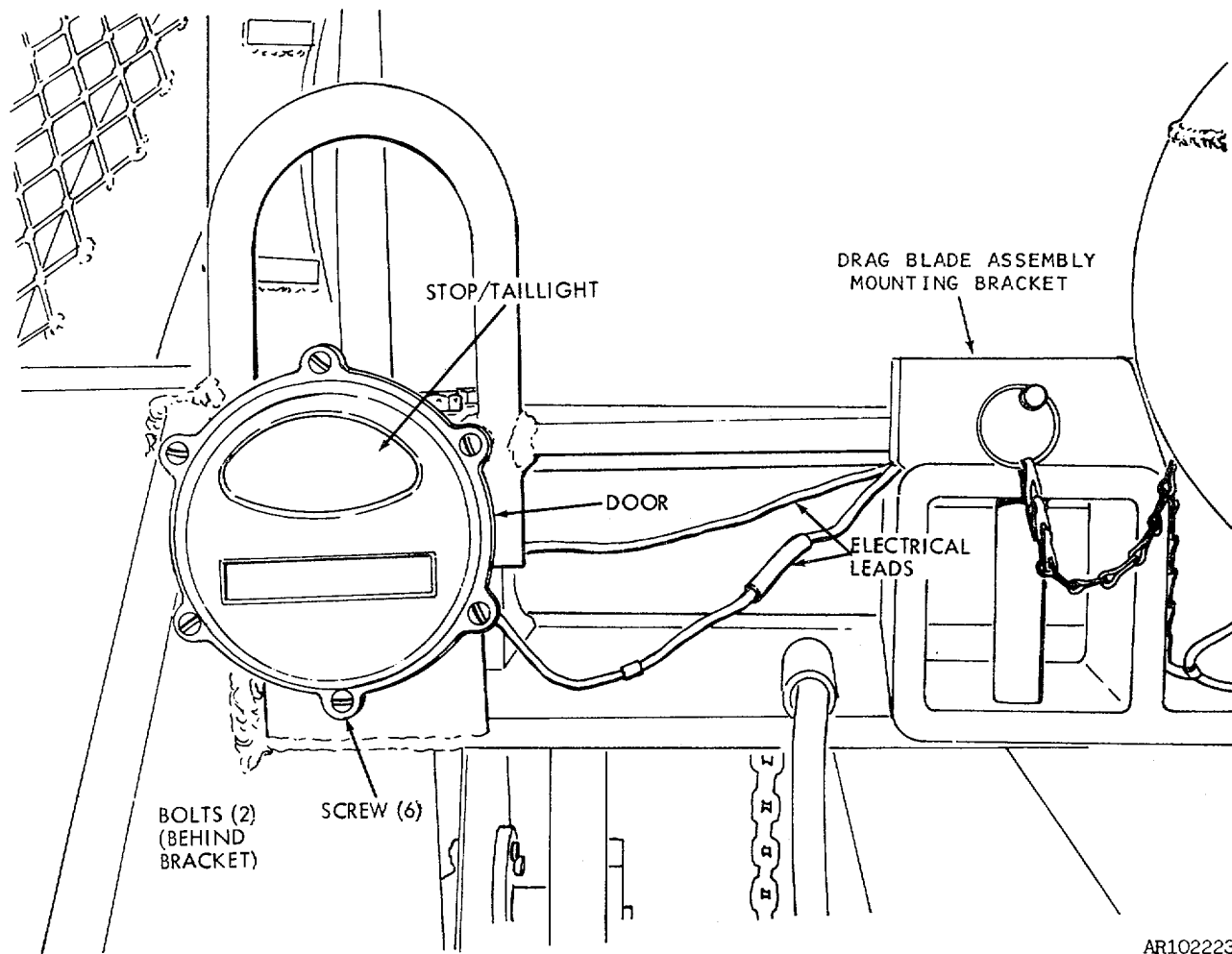
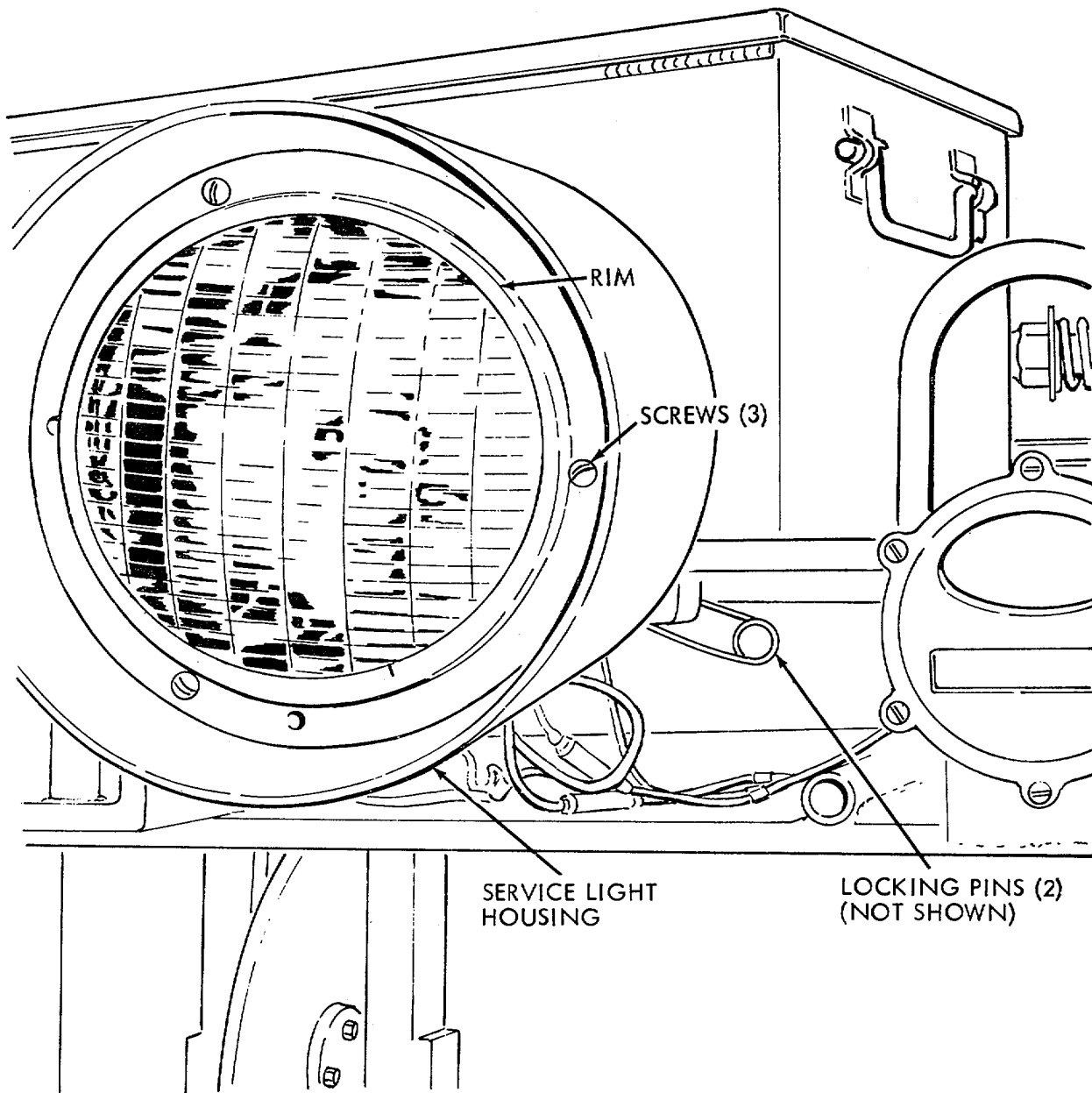


Figure 4-5. Stop/taillight, removal and Installation.
4-10



AR102224

Figure 4-6. Service light removal and installation.

Section XII. MAINTENANCE OF CAN OPENER ASSEMBLY

4-18. General grinding wheel. Adjust knife for can penetration of no more than 1/4 inch. The can opener blade is easily adjustable by means of a set screw, and the blade can be resharpened with a file or

Section XIII. MAINTENANCE OF MINE CONTAINERS

4-19. General stock. Replace broken mine separators as necessary.
Replace worn or cut restraint straps with new straps from

Section XIV. MAINTENANCE OF AXLE ASSEMBLIES

4-20. Lower Axle

a. Removal

- (1) Remove mid-chute (para 3-11).
- (2) Adjust leveling jacks to raise wheels off the ground.
- (3) Remove wheel and hub (para 4-13 and 4-14).
- (4) Refer to figure 4-7 and remove axle.

NOTE

With both wheels off remove bolts securing the leveling jack to the lower axle. This will allow axles to drop down and permit access to the two upper bolts.

Mid-chute removal necessary only when replacing lower left axle.

b. Cleaning and Inspection.

- (1) Clean all parts in cleaning solvent, P-D-680.

- (2) Inspect all parts for damage, cracks, worn threads.

- c. Installation. Install in reverse order of removal.

4-21. Upper Axle and Pillow Block

a. Removal.

- (1) Refer to paragraph 4-20 and remove both right and left lower axles.

- (2) Refer to figure 4-6 and remove service light.

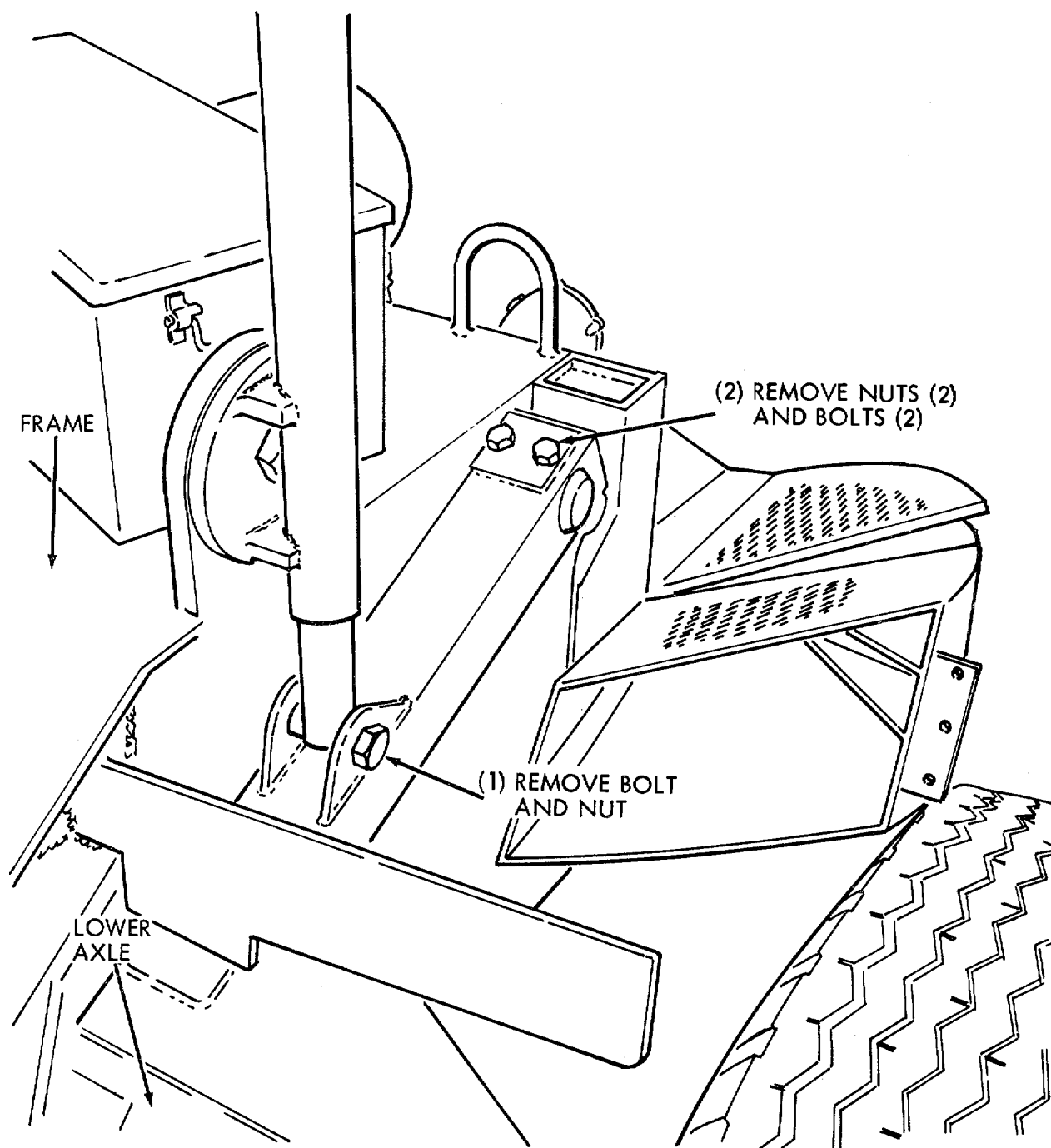
- (3) Slide upper axle out right side.

- (4) Remove safety wire and bolts (4) and washers (4) on top of deck plate. Refer to figure 4-8.

NOTE

Slide upper axle out right side.

- (5) Remove pillow block through opening at rear of deck plate.



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Figure 4-7. Lower axle, removal and Installation.

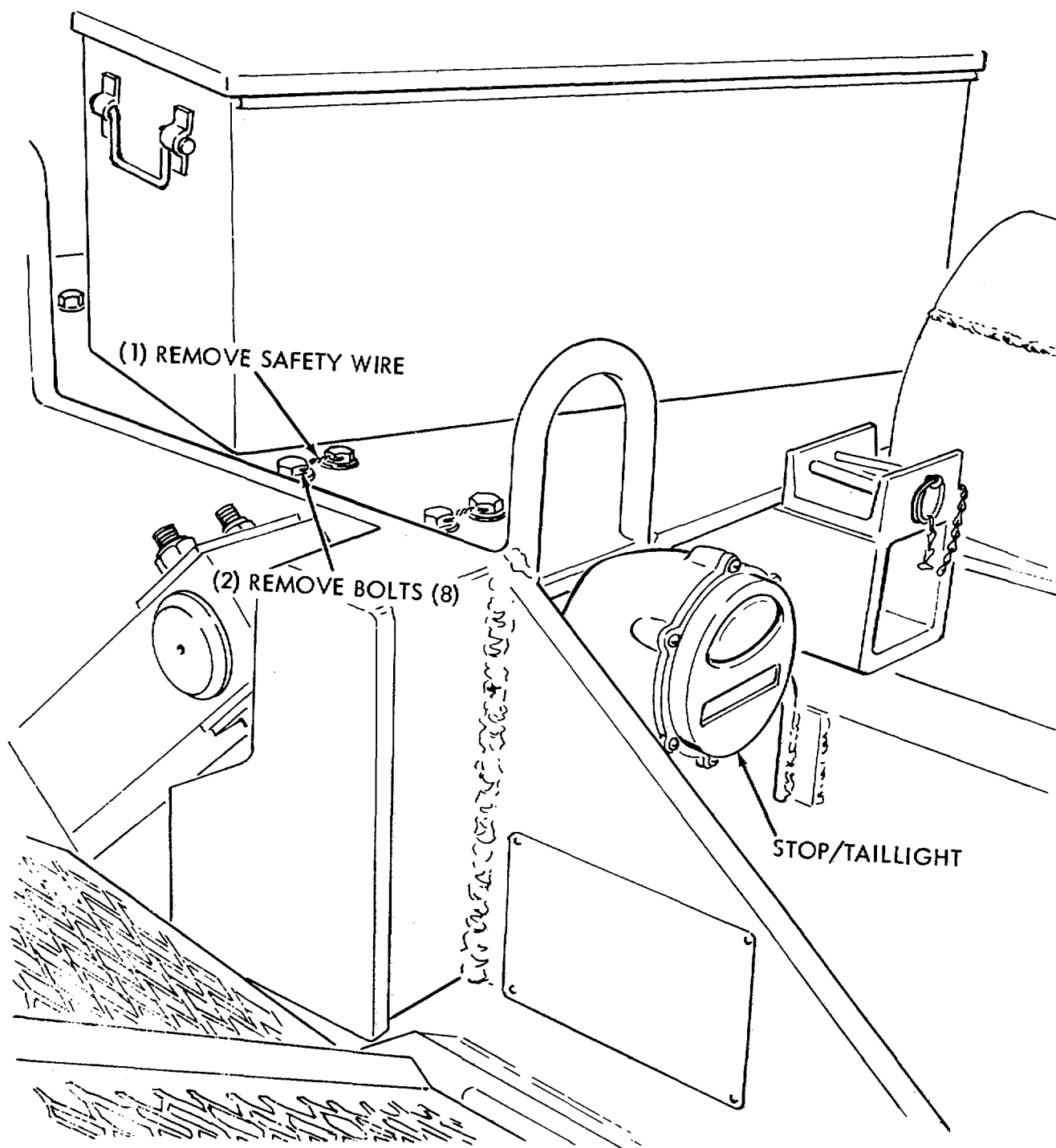


Figure 4-8. Upper axle and pillow block, removal and installation

b. *Installation.* Install in reverse order of removal.

NOTE

When installing pillow block, the threaded por-

tion of holes is on top, and the protrusion to the outside.

CHAPTER 5
DIRECT SUPPORT MAINTENANCE INSTRUCTIONS
Section I. REPAIR PARTS, SPECIAL TOOLS AND EQUIPMENT

5-1. Repair Parts

All repair parts for the ATMDS are listed in appendix B

5-2. Special Tools and Equipment

No special tools and equipment are required for direct support maintenance of the ATMDS.

Section II. TROUBLESHOOTING**5-3. General**

This section contains tabulated information regarding equipment malfunction, causes, and corrective actions for

both electrical and mechanical areas of the dispenser.
Refer to table 5-1.

Table 5-1. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	
1. MINES TEND TO STICK IN CHUTE	
Step 1. Dents in chute.	Straighten with hammer and backup block.
Step 2. Chute deformed.	Straighten or replace deformed section.
2. ARMING TABLE (ON UPPER CHUTE) NOT LEVEL	
Step 1. Upper chute deformed.	Straighten by bending or replace.
Step 2. Chute support bent.	Straighten to level the arming table.
3. LEVELING JACK INOPERATIVE	
Step 1. Shaft key sheared.	Replace shaft key (para 6-5).
Step 2. Gears jammed.	Replace gears as required (para 6-5).
Step 3. Acme screw threads jammed.	Replace entire jack (refer to para 4-12).
4. JACK BINDS AT REGULAR INTERVALS	
Gears damaged.	Replace parts as required (refer to para 6-5).
5. DISPENSER TRACKS TOW VEHICLE IMPROPERLY	
Step 1. Wrong lateral hold position.	Reposition tow beam.
Step 2. Tow beam bent.	Straighten or replace tow beam.
6. DISPENSER LAMPS LOOSE ON DISPENSER	
Brackets broken from frame or service light mounting tube.	Re-weld brackets to frame as required (refer to para 5-5).
7. CONVEYOR ROLLER SECTION UNSTABLE	
Broken cross-braces on section.	Re-weld braces as required and repaint (refer to paras 5-4 and 5-5).
8. CAN OPENER STAND UNSTABLE	
Step 1. Wooden base is broken.	Replace can opener base with 3/4-inch thick plywood and repaint as required (refer to para 5-4).
Step 2. Stand weld broken.	Re-weld stand and repaint (refer to para 5-4 and 5-5).

Section III. GENERAL MAINTENANCE

5-4. Painting

Maintain all painted surfaces in accordance with TM 9-213, Painting Instructions for Field Use.

accordance with TM 5-237. Replace nonreparable steel items.

5-5. Welding

Weld all fractured, punctured or cracked steel parts in

5-6. Tires

Maintain the tires in accordance with TM 9-1870-1.

Section IV. REMOVAL AND INSTALLATION OF MAJOR COMPONENTS AND AUXILIARIES

5-7. Moldboard and Frame Assembly

The moldboard frame assembly and lower chute are a

single welded unit. Removal not necessary. Repair by welding only.

CHAPTER 6 DIRECT SUPPORT REPAIR INSTRUCTIONS

Section I. GENERAL

6-1. Painting

Both touch-up and overall repainting of the ATMDS equipment will be accomplished in accordance with TM 9-213.

6-2. Welding

AB repair welding shall be in accordance with MIL-T-5021.

Section II. CHUTE ASSEMBLY REPAIR

WARNING

Verify that chute dimensions are not reduced by repair, especially in top-to-bottom mine clearance. Do not release any chute for use without determining that intended mines will clear the chute.

top-to-bottom clearance is greater than 61/2 inches. Weld all cracks and ruptures. Grind repaired areas smooth, sand and repaint per paragraph 6-1.

6-3. Chute Assembly

Straighten bent chute sections as necessary. Be sure that

6-4. Chute Support

Straighten chute support as necessary, and weld if cracked or broken. Use the upper chute and towing vehicle with dispenser to determine proper support angle, when bent. Repaint as necessary.

Section III. LEVELING JACK REPAIR

6-5. Leveling Jack

a. Removal. Refer to paragraph 4-12 and remove leveling jacks.

b. Disassembly. Refer to figure 6-1 and disassemble the leveling jacks in numerical sequence.

NOTE

To prevent pin (8, fig. 6-1) from becoming lodged in teeth of gear (14) turn shaft (11) a few degrees from the perpendicular before driving pin from shaft.

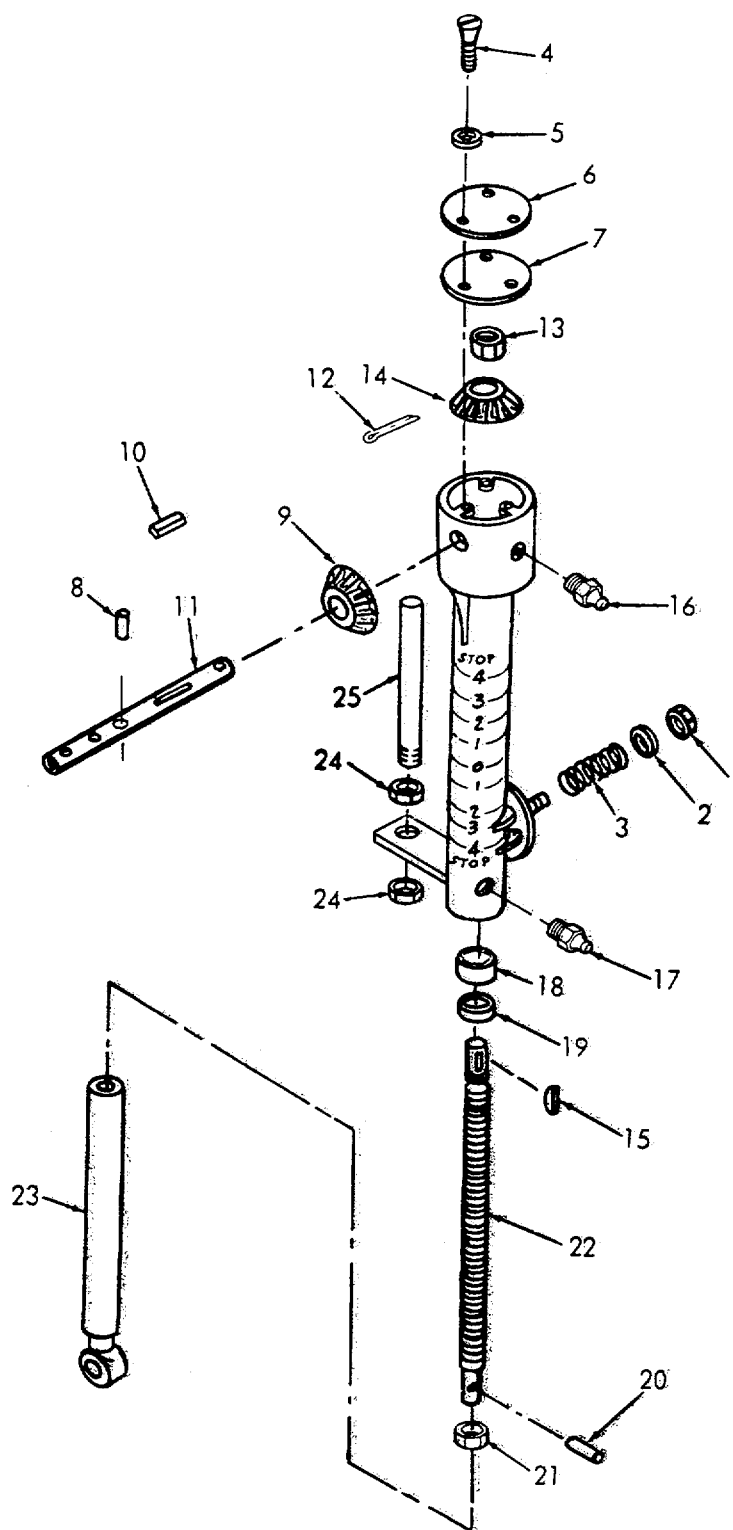


Figure 6-1. Leveling jack, exploded view.

c. Cleaning and Inspection.

(1) Clean all parts in cleaning solvent, P-D-680.

(2) Inspect gears for broken teeth, cracks or breaks.

Inspect acme screw for nicks, burrs and cracks. Inspect hardware for damaged threads. Replace defective parts.

d.Reassemble. Reassemble leveling jacks in reverse order of disassembly.

e.Installation. Install in reverse order of removal.

f.Lubrication. Lubricate in accordance with lubrication chart (fig. 3-1).

CHAPTER 7
ADMINISTRATIVE STORAGE AND
DEMOLITION INSTRUCTIONS

Section I. ADMINISTRATIVE STORAGE

7-1. General

ment, for administrative storage of the ATMDS.

Refer to TM 740-90-1, Administrative Storage of Equip-

Section II. DEMOLITION INSTRUCTIONS

7-2. General

When required to prevent enemy use, destroy the ATMDS equipment in accordance with the instruction of TM 750-244-3, Destruction of Material to Prevent Enemy Use. When time does not permit compliance with TM 750-244-3, destroy the ATMDS as instructed below:

a. Destroy the upper chute by backing the towing vehicle over it.

b. Destroy the dispenser by placing an M15 or other mine, Antitank, HE, Heavy, under the plow (moldboard) with virtually no clearance, withdrawing to a safe distance, and shooting the dispenser tires to drop the plow onto the mine.

APPENDIX A REFERENCES

A-1. Fire Prevention

FM 20-32 Mine-Countermining Operations at the Company Level.
TB 5-4200-200-10 Hand Portable Fire Extinguishers for Army Users.

A-2. Lubrication

C91001L Fuels, Lubricants, Oils and Waxes.

A-3. Painting

TM 9-213 Painting Instructions for Field Use.

A-4. Cleaning

C68001L Chemicals and Chemical Products.
SB 708-42 Federal Supply Code for Manufacturers-United States and Canada-Code to Name (Cataloging Handbook H4-2).
SB 725-7930-1 Issue of Supplies and Equipment Engineering Practices Study of CONUS and Overseas Installation for Hard and Soft Water Cleaning Compounds.
TB SIG-327 Harmful Effects of Carbon Tetrachloride on the Human Body.

A-5. Maintenance

TM 5-237 Surveying Computer's Manual.
TM 5-331A Earthmoving, Compaction, Grading and Ditching Equipment.
TM 5-331B Utilization of Engineer Construction Equipment: Volume, Lifting, Loading, and Hauling Equipment.
TM 9-1300-206 Ammunition and Explosives Standards.
TM 9-2610-200-20 Organizational care, maintenance and repair of pneumatic tires and innertubes.
TM 38-750 The Army Maintenance Management.

A-6. Shipment and Storage

TB 740-93-2 Preservation of USAMEC Mechanical Equipment for Shipment and Storage.
TM 38-230-1 Preservation, Packaging and Packing of Military Supplies and Equipment.
TM 740-90-1 Administrative Storage of Equipment.
TM 750-244-3 Procedures for Destruction of Equipment to Prevent Enemy Use.

A-7. Operation

TM 5-330 Planning and Design of Roads, Airbases and Heliports in the Theater of Operations.
TM 9-1345-203-12&P Land Mines (Technical).

A-8. Safety

AR 385 Series Ammunition and Explosives Series.
AR 75-1 Malfunction Reports.

APPENDIX B

ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists spares and repair parts; special tools; special tests, measurement, and diagnostic equipment (TMDE); and other support equipment required for organizational and direct support maintenance of the M57 antitank mine dispensing system.

B-2. General

This repair parts and special tools list is divided into the following sections:

a. Section II. Repair Parts List. A list of spares or repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in numeric sequence, with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. National Stock Number (NSN) and Part Number Index. A list, in National Item Identification Number (NIIN) sequence of all National stock numbers appearing in the listings, followed by a list, in alphameric sequence, of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. This index is followed by a cross-reference list of reference designations to figure and item numbers when applicable.

B-3. Explanation of Columns

a. Illustration. This column is divided as follows:

(1) Figure number. Indicates the figure number of the illustration in which the item is shown.

(2) Item number. The number used to identify each item called out in the illustration.

b. Source, Maintenance, and Recoverability Codes (SMR).

(1) Source code. Source codes indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code Definition

PA. Item procured and stocked for anticipated or known usage.

MO Item to be manufactured or fabricated at organizational level.

AO Item to be assembled at organizational level.

XA. Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.

XB Item is not procured or stocked If not available through salvage, requisition.

NOTE

Cannibalization or salvage may be used as a source of supply for any item source coded above, except those coded XA, XD, and aircraft support items as restricted by AR 700-42.

(2) Maintenance code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code Application/explanation

C Crew or operator maintenance performed within organizational maintenance.

O Support item is removed, replaced, used at the organizational level.

F Support item is removed, replaced, used at the direct support level.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code Application/explanation

O The lowest maintenance level capable of complete repair of the support item is the organizational level.

F The lowest maintenance level capable of complete repair of the support item is the direct support level.

Z Nonrepairable. No repair is authorized.

(3) Recoverability code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability code Definition

Z Nonrepairable item. When unserviceable, condemn and dispose at the level indicated in position 3.

O Repairable item. When uneconomically repairable, condemn and dispose at organizational level.

F Repairable item. When uneconomically repairable, condemn and dispose at the direct support level.

c. National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

d. Part Number. Indicates the primary number used by the manufacturer (Individual, company, firm, corpora-

tion, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements, to identify an item or range of items.

NOTE

When a stock numbered item is requisitioned, the repair part received may have a different part number than the part being replaced.

e. Federal Supply Code for Manufacturer (FSCM). The FSCM is a five-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

f. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. Items that are included in kits and sets are listed below the name of the kit or set with the quantity of each item in the kit or set indicated in the quantity incorporated in unit column. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description.

g. Unit of Measure (U/M). Indicates the standard or the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in the column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shimms, spacers, etc.).

B-4. Special Information

a. Detailed manufacturing instructions for items source coded to be manufactured or fabricated are found in chapter 5. Bulk materials required to manufacture items are listed in the Bulk Material Group in section II of this appendix.

b. Detailed assembly instructions for items source coded to be assembled are found in chapters 3, 4, and 5.

c. Usable on codes are shown in the description column. Uncoded items are applicable to all models.

B-5. How to Locate Repair Parts

a. When National Stock Number or Part Number is Unknown:

(1) First. Using the table of contents, determine the functional group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Fourth. Using the repair parts listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known:

(1) First. Using the index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers in alphameric sequence, cross-referenced to the illustration figure number and item number.

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

SECTION II.

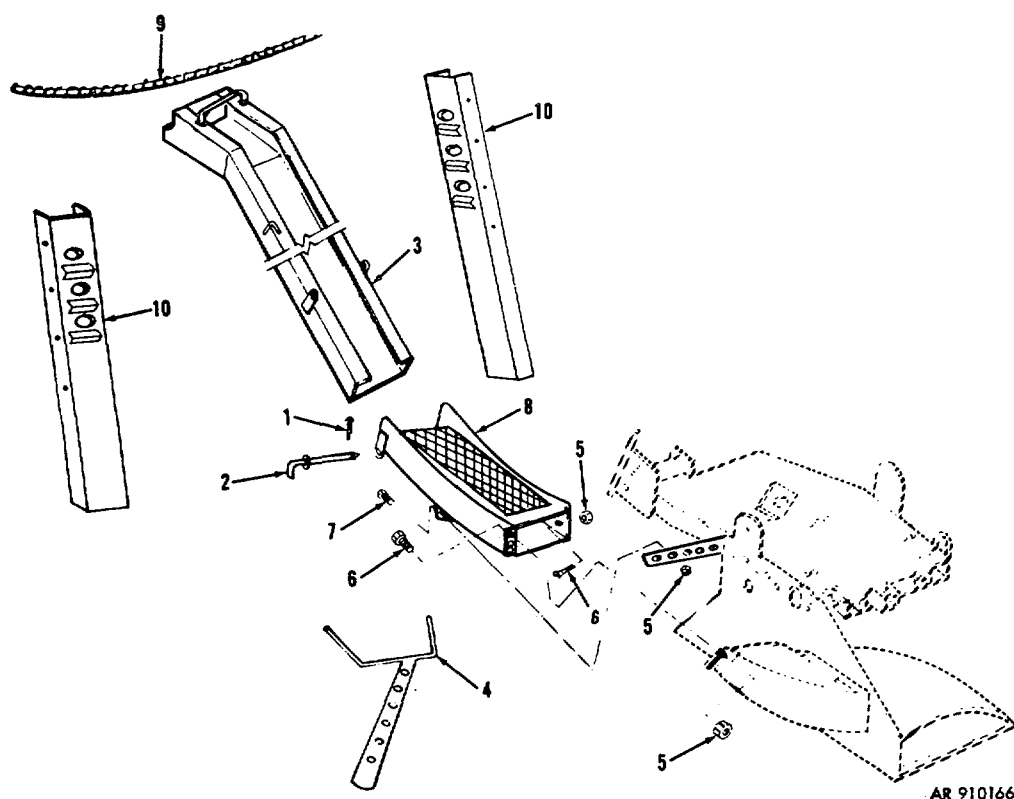
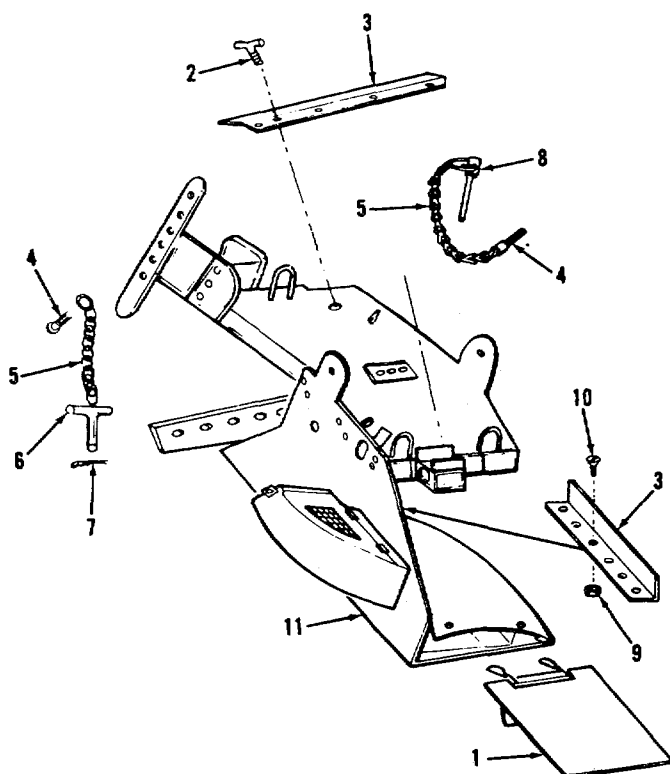


Figure B1. Chute and chute support.

(1) ILLUSTRATION (a)	(2) (b)		(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
FIG NO.	ITEM NO.	SMR CODE				GROUP 01 CHUTE AND CHUTE SUPPORT		
B1	1	FAOZZ	5420-00-060-7030	MILR52243	81349	RETAINER, BRIDGE	EA	1
B1	2	XBOZZ		1321EE7049	97403	PIN, CHUTE:	EA	1
B1	3	XBOZZ		1321BE7006	97403	CHUTE, UPPER:	EA	1
B1	4	XJOZZ		1321BE7005	97403	SUPPORT, CHUTE: UPPER	EA	1
B1	5	FAOZZ	5310-00-087-4652	MS51922-17	96906	NUT, . SELF-LOCKING, HEXAGON: 3/8-16 UNC-23	EA	9
B1	6	FAOZZ	5305-00-269-3211	M590725-60	96906	SCREW, CAP, HEXAGON HEAD: 3/16 UNC-3A. 1 IN. LO	EA	5
B1	7	FAOZZ	5305-00-269-3213	M590725-62	96906	SCREW, CAP. HEXAGONAL HEAD. 3/16 UNC-2A 1.25 IN LG. CHUTE MOUNTING	EA	5
B1	8	XBOZZ		1321SE2852	97403	CHUTE, MIDDLE	EA	1
B1	9	MOOZZ		1321SE6986-93	97403	ROPE, FIBROUS: CUT 14 FT FROM NSN	EA	1
B1	10	FAOZZ	109S-01-032-6710	13219E2857	97403	4020-00- 238- 7734..... POST, ROPE MOUNTING:	EA	2
					B-3			



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Figure B2. Moldboard.

(1) (2) ILLUSTRATION (a) (b)		(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) U/M	(8) QTY
FIG NO.	ITEM NO.						INC UNIT
					USABLE CODE		
					GROUP 02 MOLDBOARD		
B2	1	PAOZZ	1095-01-016-8229	1321BE7013	97403 FLAP STABILIZING:	EA	1
B2	2	XBOZZ		13218E7051	97403 BOLT "T": PLOW BLADE	EA	1
B2	3	PAOZZ	1095-01-022-3951	13219EOS16	97403 BLADE PLOW	EA	4-
B2	4	PAOZZ	5305-00-253-5625	M521318-46	96906 SCREW DRIVE:	EA	3
B2	5	PAOZZ	4010-00-1B6-9415	RRC271	81348 CHAIN, WELDLESS:	EA	6
B2	6	PAOZZ	5340-01-023-2665	MS17987-432	96906 PIN:CHUTE SUPPORT. 1/4 NOM DIA.X3.200	EA	1
					GRIP LG ALY STL		
B2	7	PAOZZ	5420-00-060-7030	M1LR52243	81349 RETAINER BRIDGE:.....	EA	3
B2	8	PADZZ	5340-00-1B2-9857	MS17985C723	96906 PIN. QUICK RELEASE:7/16X2.3 IN.....	EA	2
					GRIP LENGTH		
B2	9	PADZZ	5310-00-768-0318	MS51967-14	96906 NUT PLAIN.HEXAGON: 1/2-13-NC-2B.....	EA	5
B2	10	PAOZZ	5306-00-021-B150	MS35754-34	96906 BOLT. SQUARE NECK: 1/2-13UNC-2A1-1/2 IN.	EA	5
					LG. NO.3		
B2	11	XAOZZ		13219E2B50	97403 FRAME AND MOLDBOARD ASSEMBLY	EA	1
				B-4			

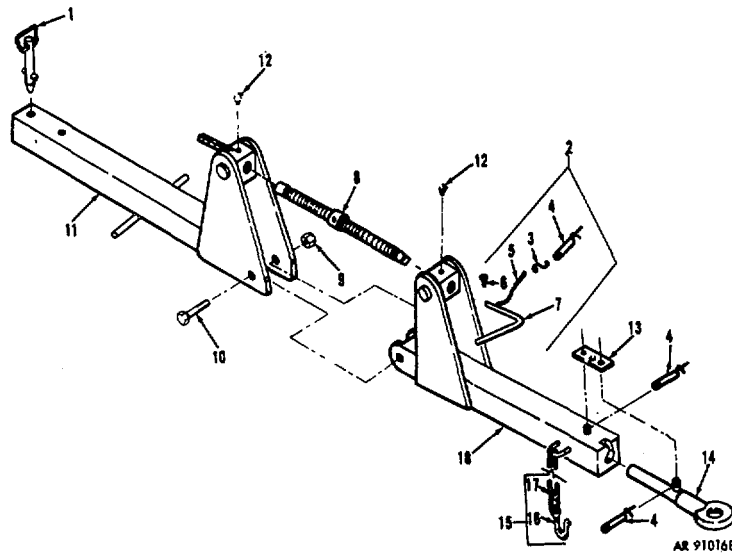
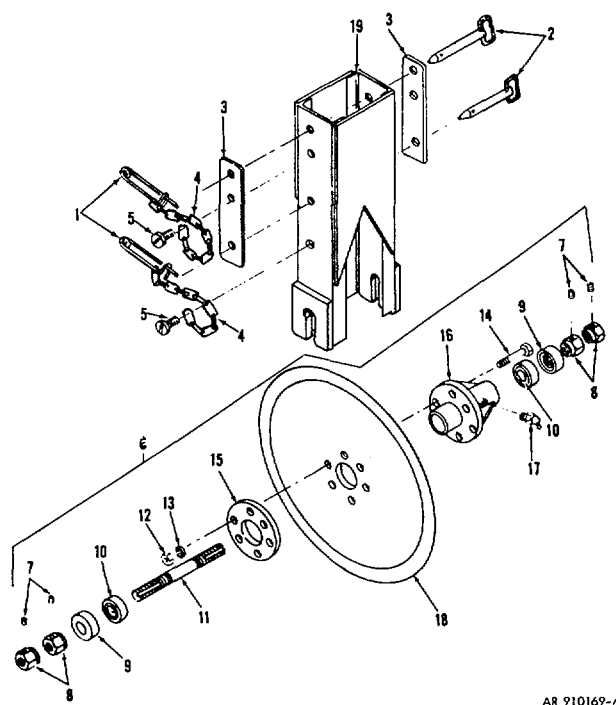


Figure B3. Tow beam.

(1) ILLUSTRATION		(2)		(3)	(4)	(5)	(6)	(7)	(8)
FIG	ITEM	SMR	FEDERAL	PART			DESCRIPTION		QTY
NO.	NO.	CODE	STOCK	NUMBER	FSCM		USABLE CODE	U/M	UNIT
							GROUP 03 TOW BEAM		
B3	1	PACZZ	1095-01-021-9810	13218E7000	97403	PIN, TOW BEAM:		EA	1
B3	2	PAOZZ	1095-01-021-9B61	13219E2860	97403	CRANK ASSEMBLY:		EA	1
B3	3	PAOZZ	4030-00-948-7315	MS87006-33	96906	HOOK: CHAIN S		EA	1
B3	4	PAOZZ	5420-00-060-7030	MILR52243	81349	RETAINER, BRIDGE:		EA	1
B3	5	PAOZZ	4010-01-025-7245	NAS1455-0-120	80205	CHAIN: WELDLESS		EA	1
B3	6	PAOZZ	5305-00-253-5625	MS21318-46	96906	SCREW, DRIVE:		EA	1
B3	7	XBOZZ		AISI1018	00000	CRANK: 3/4 IN BAR STOCK AISI 1018		EA	1
B3	8	XBOZZ		13218E6999	97403	SCREW ADJUSTING TOW BEAM:		EA	1
B3	9	PAOZZ	5310-01-017-0694	M551922-86	96906	NUTSELF-LOCKING:TOW BEAM 1 1/2-12 UNF-2B		EA	1
B3	10	PAOZZ	5306-01-018-8065	13220E0619	97403	BOLT,SELF-LOCKING, HEXAGON: 1-1/2-12UNJ, 8 IN. LG		EA	1
B3	11	XBOZZ		13218E6997	97403	TOW BEAM: AFT SECTION		EA	1
B3	12	PAOZZ	4730-00-050-4203	M515003-1	96906	FITTING, LUBRICATION: 1/8 NPT		EA	1
B3	13	PACZZ	1095-01-029-8298	13218E7004	97403	LINK,WEAK:RIGID		EA	1
B3	14	XBOZZ		13218E7002	97403	DRAW BAR		EA	1
B3	15	PAFZZ	2540-00-733-9458	7339458	19207	CHAIN TOWING ATTACHMENT:		EA	2
63	16	XAFZZ		7339460	19207	HOOK, SAFETY CHAIN:		EA	1
B3	17	XAFZZ		7339459	19207	CHAIN:		EA	1
B3	18	XBOZZ		1321BE6998	97403	TOW BEAM, FORWARD SECTION:		EA	1
					B-5				



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Figure B4. Coulters assembly and coulters fork

(1)	(2)	SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7)	(8)	
ILLUSTRATION								QTY	
(a) FIG NO.	(b) ITEM NO.					INC UNIT			
						USABLE CODE	U/M		
						GROUP 04 COULTER ASSEMBLY AND COULTER FORK			
B4	1	PAOZZ	5420-00-060-7030	MILR52243	81349	RETAINER.BRIDGE:.....	EA	2	
B4	2	XAOZZ		13218E7009-1	97403	PIN COULTER FORK ATTACHING.....	EA	2	
B4	3	XBOZZ		13218E6989	97403	SPACER, PLATE:COULTER FORK.....	EA	2	
B4	4	PAOZZ		4010-01-025-7245	NA51455-0-120	80205	CHAIN, WELDLESS: TYPE II, CLASS 2.....	EA	2
B4	5	PAOZZ		5305-00-253-5625	M521318-46	96906	SCREW,DRIVE:	EA	2
B4	6	PAOZZ		1095-01-016-8228	1321BE7010	97403	COULTER ASSEMBLY:	EA	1
B4	7	PAOZZ		5305-00-5s4-8774	AN565E1032H7	98044	SETSCREW:	EA	4
B4	6	PAOZZ		5310-01-020-4317	13219E0604	97403	NUT, COULTER AXLE: I 1/4-12UNF-2A.....	EA	4
94	9	PAOZZ		5330-01-023-9117	M551917-1	96906	SEAL, PLAIN ENCASED:.....	EA	2
B4	10	PAOZZ		3110-01-023-4874	M5190B1-31	96906	BEARING ROLLER, TAPERED:.....	EA	2
B4	11	PAOZZ		1095-01-021-9812	13219E0803	97403	AXLE, COULTER:	EA	1
B4	12	PAOZZ		5310-00-880-8189	M551967-11	96906	NUT, PLAIN,HEXAGON: 1/2-13UNC-2B.....	EA	6
B4	13	PAOZZ		5310-00-584-5272	M535338-48	96906	WASHER, LOCK: 1/2 DIA	EA	6
B4	14	PAOZZ		5305-00-071-1770	M590725-116	96906	SCREW,CAP,HEXAGONAL HEAD1/2-13 UNC-2A .2 1/4 IN LG	EA	6
B4	15	XBOZZ	4730-00-050-4208	13219E0802	97403	PLATE BACKING COULTER BLADE	EA	1	
B4	16	XBOZZ		13219E0501	97403	HUB,COULTER:	EA	1	
B4	17	PAOZZ		M515003-1	96906	FITTING,LUBRICATION: 1/8 NPT.....	EA	1	
94	18	PAOZZ		13219EOB00	97403	BLADE, COULTER:.....	EA	1	
B4	19	XBOZZ		13216E7006	97403	COULTER FORK ASSEMBLY:	EA	1	

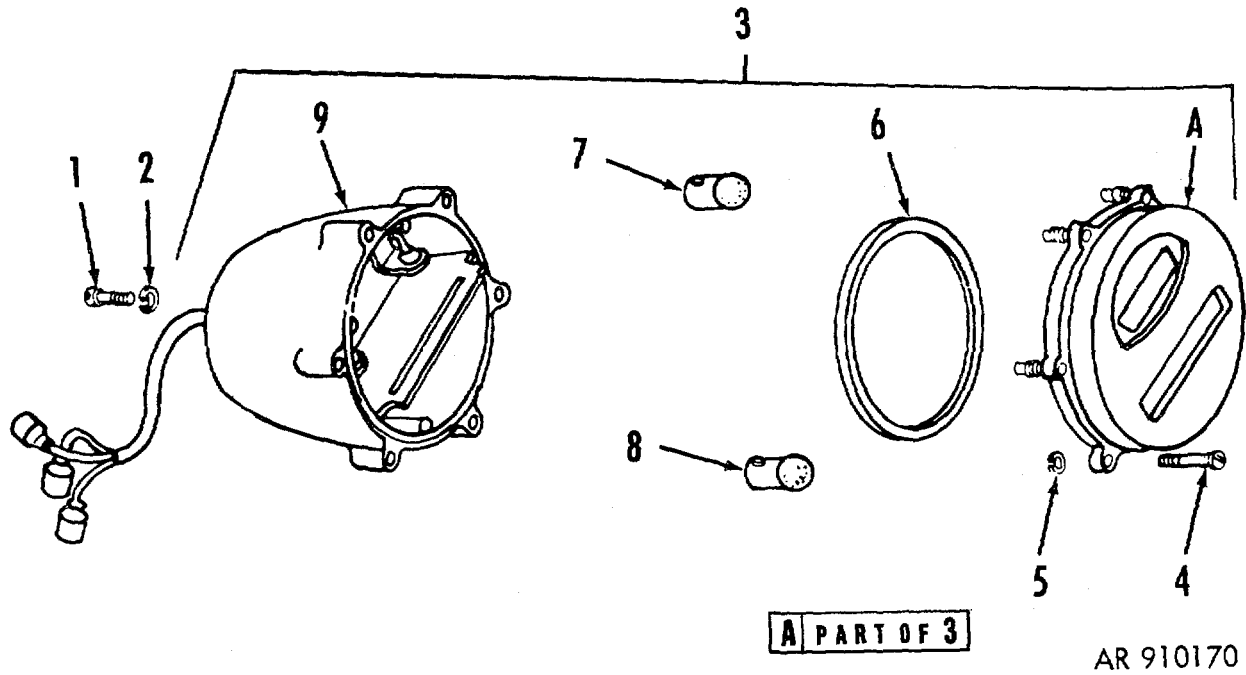


Figure B5. Electrical system - light assembly, stop and tail.

(1) ILLUSTRATION (a) FIG NO.	(2) ITEM (b) NO.	(3) SMR CODE	(4) FEDERAL STOCK NUMBER	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC UNIT
					USABLE CODE		
B5 2	1	PAOZZ	5305-00-269-3209	MS90725-5B	GROUP 05 ELECTRICAL SYSTE21 - LICIT ASSEKLY, STOP AND TAIL SCREWCAP.HEXAGON HEAD: 3/8-16 UNF-2A,3/4 IN LO	EA	4
B5	2	PAOZZ	5310-00-637-9541	M535335-46	96906 WASHER. LOCK:.....	EA	2
B5	3	PAOZZ	6220-00-669-5623	MS51329-1	96906 STOP LIGHT TAILLIGHT, VEHICULAR:.....	EA	6
B5	4	PAOZZ	5305-00-737-5694	7320641	73331 SCREW. MACHINE:.....	EA	6
B5	5	PAOZZ	5365-00-732-0642	5936190	73331 RING. RETAINING:.....	EA	1
B5	6	PAOZZ	5330-00-297-7106	7320658	19207 PACKING PREFORMED.....	EA	2
B5	7	PAOZZ	6240-00-019-0877	MS15570-1251	96906 LAMP, INCANDESCENT.....	EA	1
B5	8	PAOZZ	6240-00-044-6914	M535478-16Q3	96906 LAMP, INCANDESCENT.....	EA	1
B5	9	XAOZZ		7525997	19207 HOUSING TAIL AND STOP LIGHT:.....	EA	1

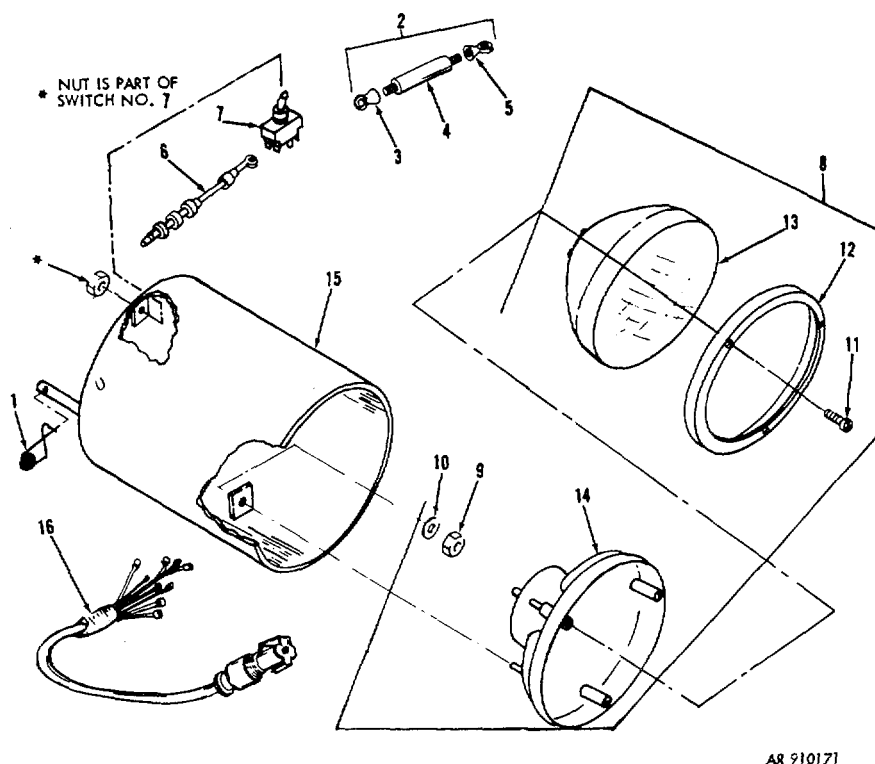
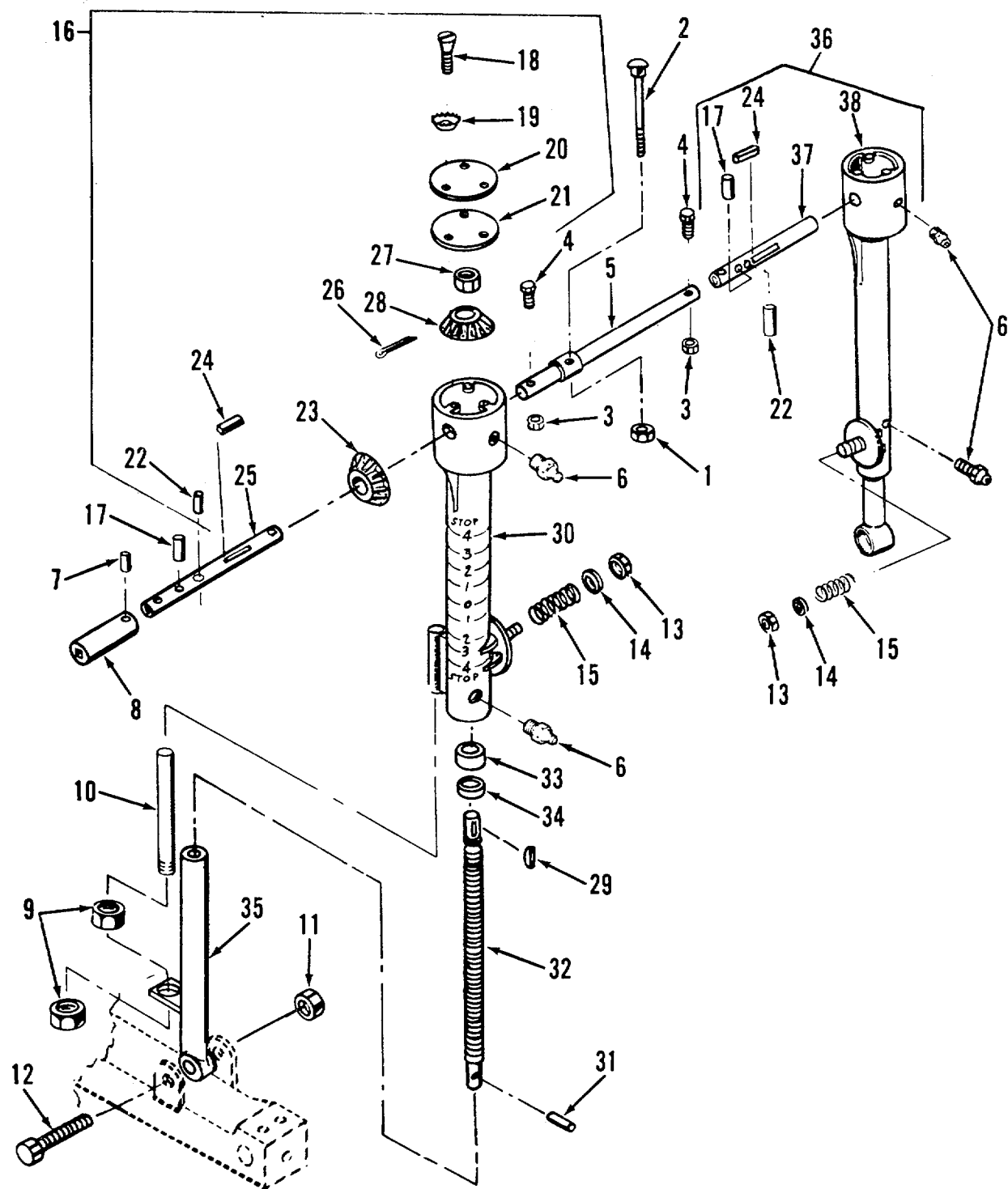


Figure B6. Electrical system - service light and switch.

(1) ILLUSTRATION (a) FIG NO.	(2) (b) ITEM NO.	SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
B6	1	PAOZZ	5315-00-194-2455	AN415-2	88044	GROUP 05 ELECTRICAL SYSTEM - SERVICE LIGHT AND SWITCH		
B6	2	AOOZZ		13218E7048	97403	PIN, LOCK.....	EA	2
B6	3	PAOZZ	5940-00-204-8990	M525036-111	96906	CABLE,GROUND:.....	EA	1
B6	4	MOOZZ		M13486-1-7	61349	TERMINAL LUG:.....	EA	1
						WIRE,ELECTRICAL: CVT 11 IN. FROM NSN 6145-00-705-6678	EA	1
B6	5	PAOZZ	5940-00-143-4794	M525036-112	96906	TERMINAL, LUG:.....	EA	1
B6	6	PAOZZ	1095-01-021-0822	13218E7056	97403	WIRE SERVICE LIGHT	EA	1
B6	7	PAOZZ	5930-00-683-1628	M524523-22	96906	SWITCH, TOGGLE:	EA	1
B6	8	PAOZZ	6220-00-678-9045	8741462	19207	HEADLIGHT:	EA	1
B6	9	PAOZZ	5310-00-732-055B	M551967-8	96906	NUT, PLAIN,HEXAGON: 3/ B-16UNF-2A.....	EA,	3
B6	10	PAOZZ	5310-00-637-9541	M535336-46	96906	WASHER,LOCK:	EA	3
B6	11	PAOZZ	5305-00-832-5743	8741437	19207	SCREW, EXTERNALLY RELIEVED BODY: ...	EA	3
B6	12	XAOZZ		8741446	19207	RIM,SEAL BEAM RETAINING	EA	1
B6	13	PAOZZ	6240-00-696-4168	8741491	19207	LAMP, SEAL BEAM UNIT:	EA	1
B6	14	XAOZZ		B741447	19207	HOUSING ASSEMBLY, SEAL BEAM UNIT	EA	1
B6	15	XBOZZ		1321SE7039	97403	HOUSING, SERVICE LIGHT	EA;	1
B6	16	PAOZZ	1095-01-021-9800	13218E7033	97403	HARNESS WIRING:	EA	1



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Figure B7. Leveling jack assembly.

(1) (2) ILLUSTRATION		(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
(a) FIG NO.	(b) ITEM NO.						
					GROUP 06 LEVELING JACK ASSEMBLY		
B7	1	PAOZZ	5310-00-732-0560	M851968-14	96906 NUT PLAIN HEXAGON:.....	EA	1
B7	2	PAOZZ	5306-00-012-917B	12917B	24617 BOLT, SQUARE NECK:1/2-13 THD SIZE;10 IN LG	EA	1
B7	3	PAOZZ	5310-00-0B8-0553	MS21044N5	96906 NUT SELF-LOCKING,HEXAGON: 5/16-24UNF-3B	EA	2
B7	4	PAOZZ	5306-00-151-1283	AN5-15A	88044 BOLT,MACHINE: 5/16-24UNF-3A. 1-3/4 IN. L	EA	2
B7	5	XBOZZ		1321BE6996	97403 TUBE, TORQUE:.....	EA	1
B7	6	PAOZZ	4730-00-050-420B	M515003-1	96906 FITTING, LUBRICATION. 1/B NPT	EA	2
B7	7	PAOZZ	5315-00-010-4666	M590713-14	96906 NAIL: 40D,PIN ADAPTER TO SHAFT.SMOOTH SHANK.0.226 DIA	EA	1
B7	8	PAOZZ	5120-00-237-0989	GGGW641	81348 SOCKET, SOCKET WRENCH ADAPTER:	EA	1
B7	9	PAOZZ	5310-00-723-2737	M535690-524	96906 NUT,HEXAGONAL: DEPTH POINTER LOCK,5/16-24	EA	2
B7		PAOZZ	1095-01-021-0021	13218E7059	97403 POINTER,DEPTH:.....	EA	1
B7	11	PAOZZ	5310-00-776-1963	MS210B3N16	96906 NUT, SELF-LOCKING,HEXAGON: 1-12UNJF-2B	EA	1
B7	12	PAOZZ	5306-00-079-3483	AN17-37	18044 BOLT, MACHINE: 1-12 UNC 2A;5 IN LG	EA	1
B7	13	PAOZZ	5310-00-595-7473	MS20364-1614	96906 NUT,SELF-LOCKING:	EA	1
B7	14	PAOZZ	5310-00-809-8541	M527183-27	96906 WASHER FLAT	EA	1
B7	15	XBOZZ		9624N53	394211 SPRING, COMPRESSION:1 IN ID1 IN ID X 110 LH.RATE,TYPE GRADE B.	EA	1
B7	16	PAOZZ	1095-01-024-9045	13218E6995	97403 JACK, RIGHT	EA	1
B7	17	PAOZZ	5315-00-042-4B53	13218E6995-9	97403 PIN, STRAIGHT, HEADLESS:	EA	1
B7	18	XBOZZ		MSR14C3B	74410 SCREW, MACHINE. 1/4-20 UNC-2A)3/4 IN L 1	EA	3
B7	19	PAOZZ	5310-00-194-9211	M535336-27	96906 WASHER,LOCK:	EA	3
B7	20	XBOZZ		V354	74410 PLATE, COVER:	EA	1
B7	21	PAOZZ	5330-00-736-5115	H37	74410 GASKET:.....	EA	1
B7	22	PAFZZ	5315-00-042-4853	13218E6995-9	97403 PIN, STRAIGHT. HEADLESS:	EA	1
B7	23	PAFZZ	3020-00-408-7917	V641-2	74410 GEAR BEVEL.....	EA	1
B7	24	XBFZZ		V517	74410 KEY, MACHINE:GEAR TO SHAFT, 1/2 X3/16 IN SQUARE	EA	2
B7	25	XBFZZ		V516RM	74410 SHAFT GEAR: RIGHT HAND JACK	EA	1
B7	26	PAFZZ	5315-00-013-7214	MS24665-359	96906 PIN, COTTER: 0.12 IN DIA,I 3/4 IN L.....	EA	1
B7	27	XBFZZ		412	74410 NUT,SLOTTED,CASTELLATED:	EA	1
B7	28	PAFZZ	3020-00-408-7917	V641-2	74410 GEAR, BEVEL:.....	EA	1
B7	29	XBFZZ		H32-1	74410 KEY.ACME SCREW SHAFT	EA	1
B7	30	XAOZZ		VS13RM	74410 TUBE, OUTER JACK:	EA	1
B7	31	PAFZZ	5315-00-413-9590	GP-38-138-5	74410 PIN, GROOVE:.....	EA	1
B7	32	XAOZZ		V352	74410 SCREW. ACME :	EA	1
97	33	PAFZZ	3110-00-161-1074	V648	74410 BEARING ROLLER, THRUST:.....	EA	1
B7	34	PAFZZ	5310-00-780-4096	V337	74410 WASHER FLAT:.....	EA	1
B7	35	XAOZZ		V302M	74410 TUBE. INNER JACK.....	EA	1
B7	36	PAOFF	1095-01-021-9809	13218E6994	97403 JACK ASSEMBLY LEVELING LEFT HAND....	EA	1
B7	37	XAOZZ		V513LM	74410 TUBE,OUTER JACK,LEFT HAND:.....	EA	1
B7	38	XBFZZ		V516LM	74410 SHAFT,GEAR: LEFT HAND JACK.....	EA	1
				B-10			

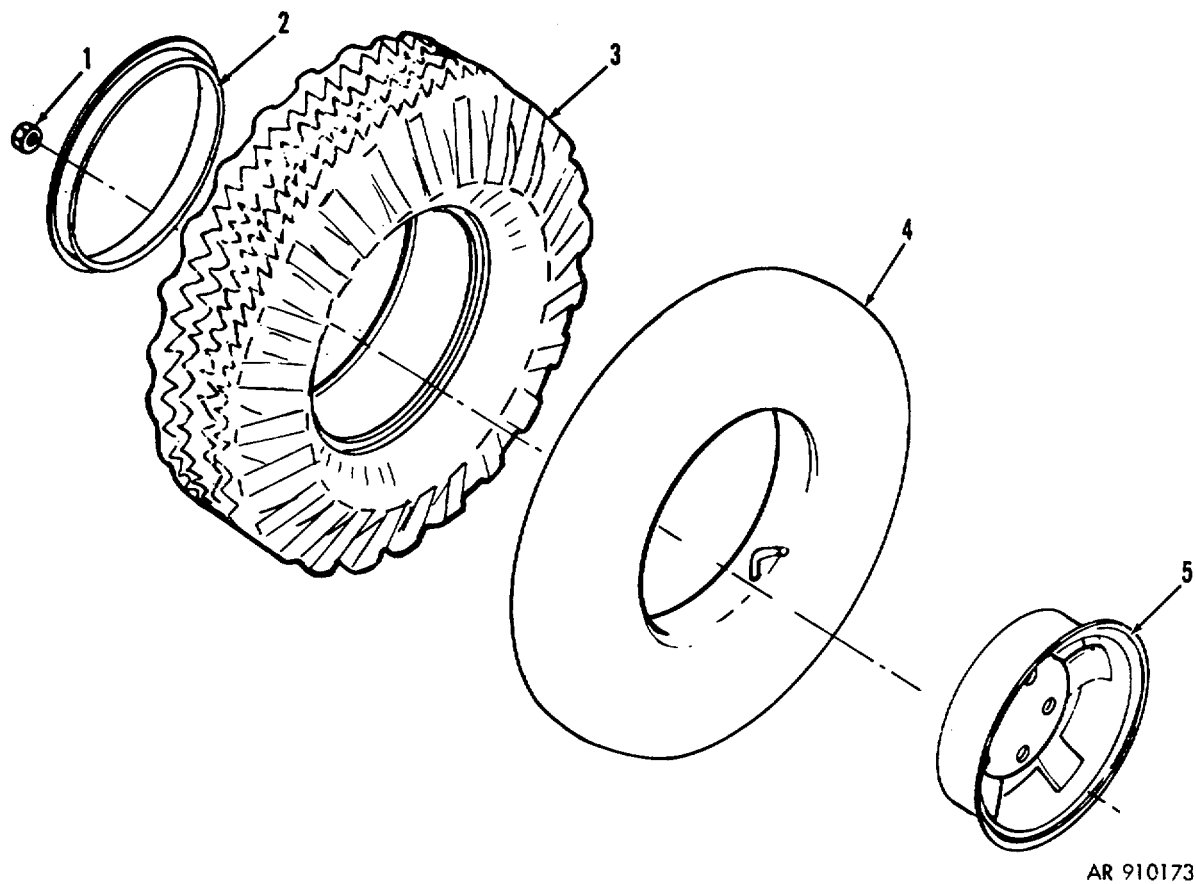
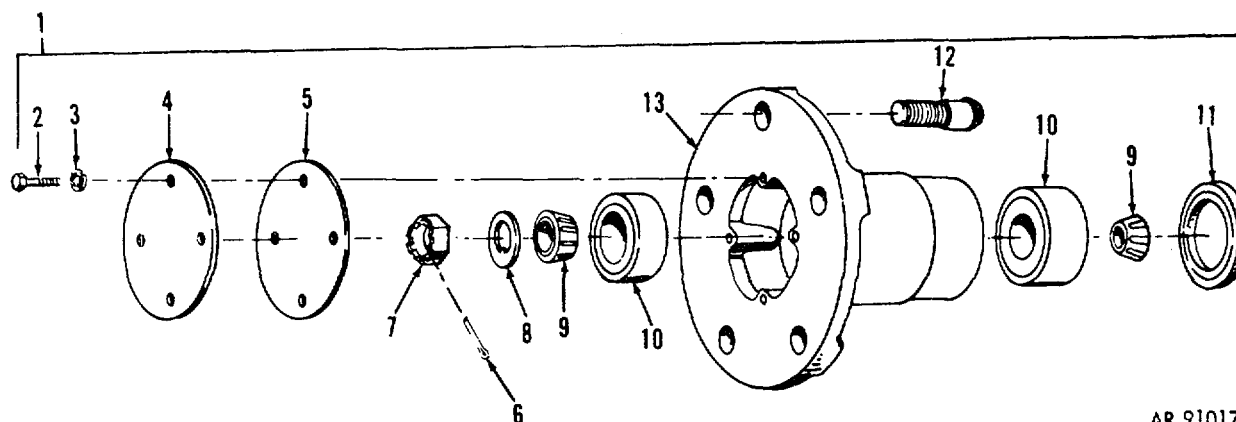


Figure B8. Wheel, tire, and tube.

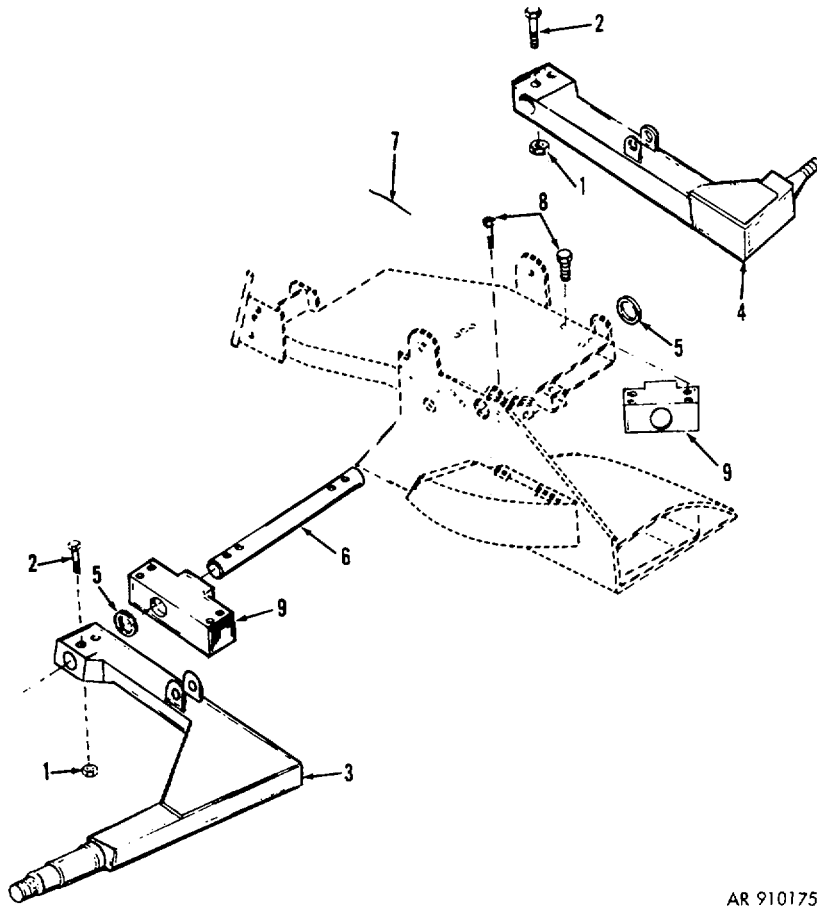
(1) ILLUSTRATION		(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
(a) FIG NO.	(b) ITEM NO.							
B8	1	PACZZ	5310-00-594-803B	MS519B3-2	96906	GROUP 07 WHEEL, TIRE, AND TUBE		
B8	2	XBOZZ		MS53045-2	96906	NUT, PLAIN, SINGLE BALL SEAT,HEXAGON:	EA	10
B8	3	PAOZZ	2610-00-540-4719	MILT12459	96906	RIM, SPLIT TYPE:.....	EA	2
B8	4	PAOZZ	2610-00-051-9266	M535392-10	81349	TIRE, PNEUMATIC: 9.00 X 16. 8 PLY	EA	2
B8	5	XBOZZ		738B452	96906	INNER TUBE,PNEUMATIC TIRE.....	EA	2
					19207	WHEELSTEEL	EA	1
					B-11			



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Figure B9. Hub assembly.

(1) (2) ILLUSTRATION			(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	FEDERAL STOCK NUMBER	PART NUMBER	FSCM	USABLE CODE	U/M	QTY INC UNIT
						GROUP 08 HUB ASSEMBLY		
B9	1	PAOZZ	1095-01-028-4153	1321BE7019	97403	HUB ASSEMBLY :.....	EA	2
B9	2	PAOZZ	5305-00-068-0500	MS90725-3	96906	SCREW, CAP, HEXAGON HEAD:	EA	4
B9	3	PAOZZ	5310-00-582-5965	MS35338-44	96906	WASHER, LOCK: 1/4 IN ID	EA	4
B9	4	XBOZZ		27-1000	95026	CAP,GREASE:	EA	1
B9	5	XBGZZ		8-1004	95026	GASKET, GREASE CAP	EA	1
B9	6	PAOZZ	5315-00-285-7161	M524665-377	96906	PIN, COTTER 1/8X2 IN	EA	1
B9	7	PAOZZ	5310-00-911-5467	2-906	95026	NUT PLAIN, SLOTTED, HEXAGON.....	EA	1
B9	B	PAOZZ	5310-00-911-5468	7-914	95026	WASHER.....	EA	1
B9	9	PAOZZ	3110-00-100-0730	2582	6003B	CONE,AND ROLLERS, ...TAPERED ROLLER BEARING	EA	1
B9	10	PAOZZ	3110-00-100-0355	2523	60030	CUP, TAPERED, ROLLER BEARING:.....	EA	1
B9	11	XBOZZ		25-1000	95026	SEAL, GREASE	EA	1
B9	12	PAOZZ	5306-00-383-4957	2140131	24617	BOLT, RIBBED SHOULDER	EA	5
B9	13	XAOZZ		57-632	95026	HUB, WHEEL	EA	1
						B-12		



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Figure B10. Axles and pillow blocks.

(1) ILLUSTRATION		(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) U/M	(8) QTY INC UNIT
(a) FIG NO.	(b) ITEM NO.							
						USABLE CODE		
B10	1	PAOZZ	5310-00-269-4040	M5B1922-49	96906	GROUP 09 AXILS AND PILLOW BLOCKS	EA	2
B10	2	PAOZZ	5305-00-724-6760	M590725-174	96906	NUT, SELF-LOCKING,HEXAGON: 5/8-11UNC-2B	EA	2
B10	3	XBOZZ		13219E2B44	97403	SCREWCAP.HEXAGON HEAD: 5/8-IIUNC-2A,		
B10	4	XBOZZ		1321BE2845	97403	4 1/2 LG	EA	1
B10	5	PAOZZ	5310-01-020-4315	13219E2B51	97403	AXLE ASSEMBLY, LEFT HAND:	EA	1
B10	6	XBOZZ		13219E2843	97403	AXLE ASSEMBLY RIGHT HAND:.....	EA	1
B10	7	PAOZZ	9505-00-846-0941	M520995F91	96906	WASHER:.....	EA	1
B10	8	PAOZZ	5305-00-914-3789	M518154-115	96906	AXLE UPPER:	EA	1
B10	9	XBOZZ		13219E2B46	97403	WIRE, NON ELECTRICAL:	EA	2
						SCREW CAP HEXAGON.....HEAD: 1/2-13	EA	8
						UNC-2A.1-3/4IN LG		
						PILLOW BLOCK:.....	EA	2
					B-13			

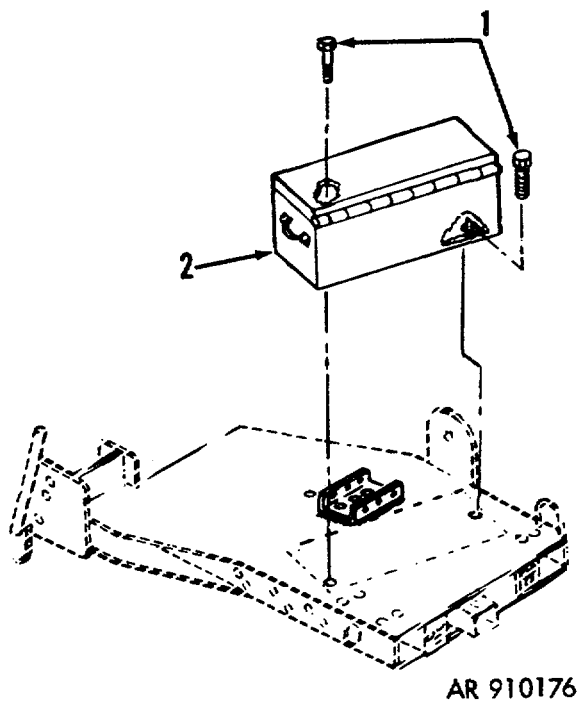


Figure B11. Frame and tool box.

(1) (2) ILLUSTRATION (a) (b) FIG ITEM NO. NO.		SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
B11	1	PAOZZ	5305-00-269-3211	M990725-60	96906	GROUP 10 FRAME AND TOOL BOX	EA	2
B11	2	XBOZZ		1321SE7040	97403	SCREW,CAP, HEXAGON HEAD: 3/B-16UNC-3A, 1 IN L TOOL BOX:	EA	1
					B-14			

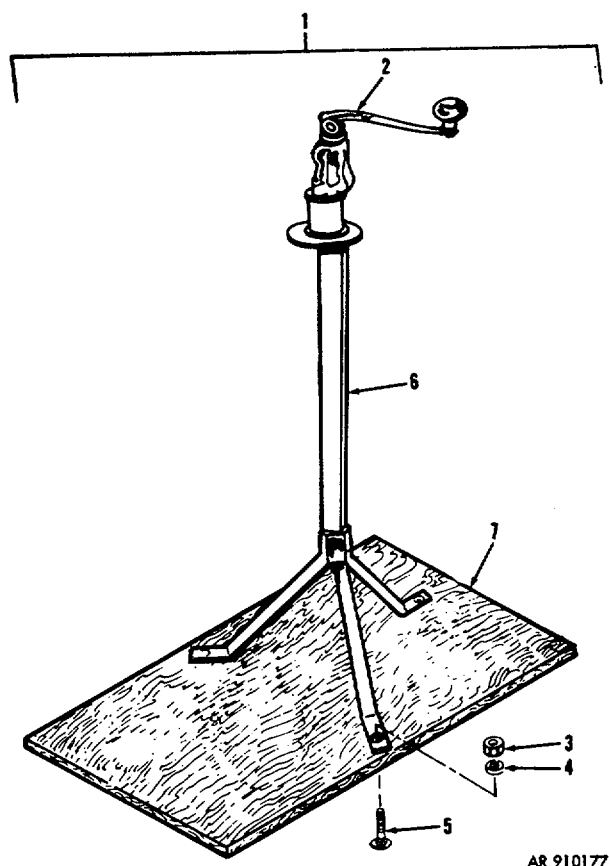
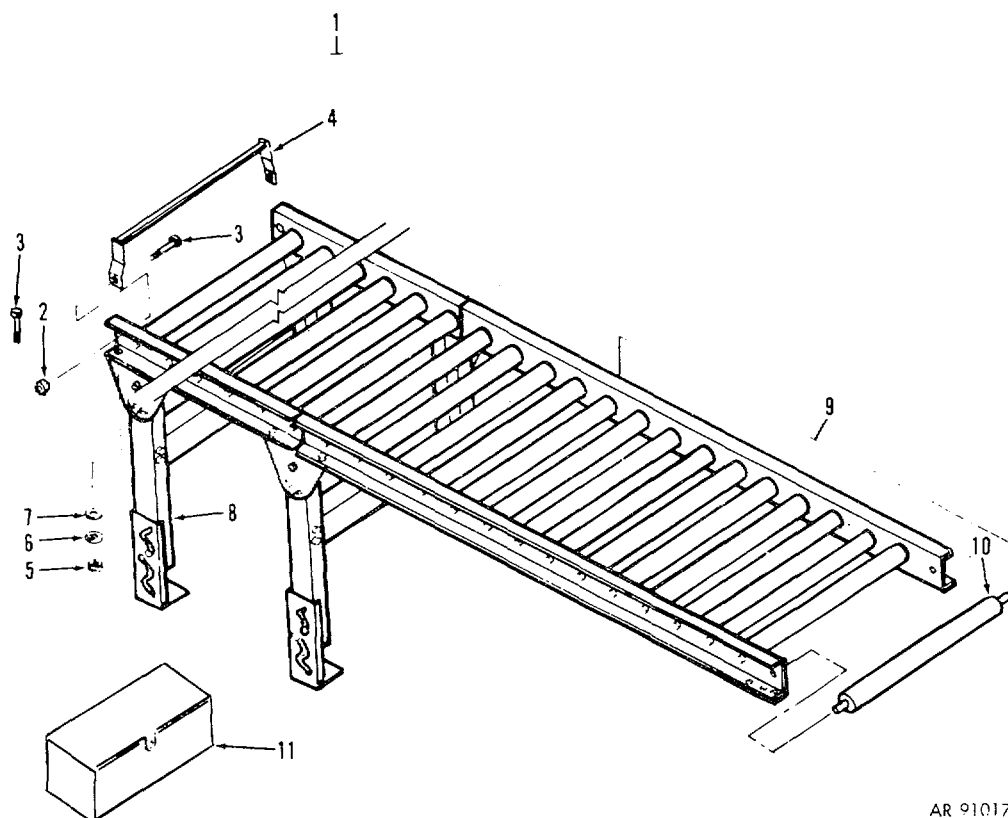


Figure B12. Can opener assembly.

(1) ILLUSTRATION (a) FIG NO.	(2) ITEM (b) NO.	SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
						GROUP 11 CAN OPENER ASSEMBLY		
B12	1	AOCFZ		13218E7054	97403	CAN OPENER ASSEMBLY:.....	EA	2
B12	2	PAC0Z	7330-01-024-7963	13220E0616	97403	OPENER, CAN, MOUNTED:.....	EA	1
B12	3	PACZZ	5310-00-880-7744	M551967-5	96906	NUT, PLAIN HEXAGON:.....	EA	3
B12	4	PACZZ	5310-00-407-9566	MS35338-45	96906	WASHER, LOCK: 5/16 IN ID	EA	3
B12	5	PACZZ	5306-00-753-6996	MS35751-43	96906	BOLT, SQUARE NECK:.....	EA	3
B12	6	PACFZ	7330-01-019-7115	13215E7052	97403	STAND CAN OPENER:.....	EA	1
B12	7	PAC0Z	1095-01-016-8227	13218E7053	97403	PLATFORM. CAN OPENER:.....	EA	1
					B-15			

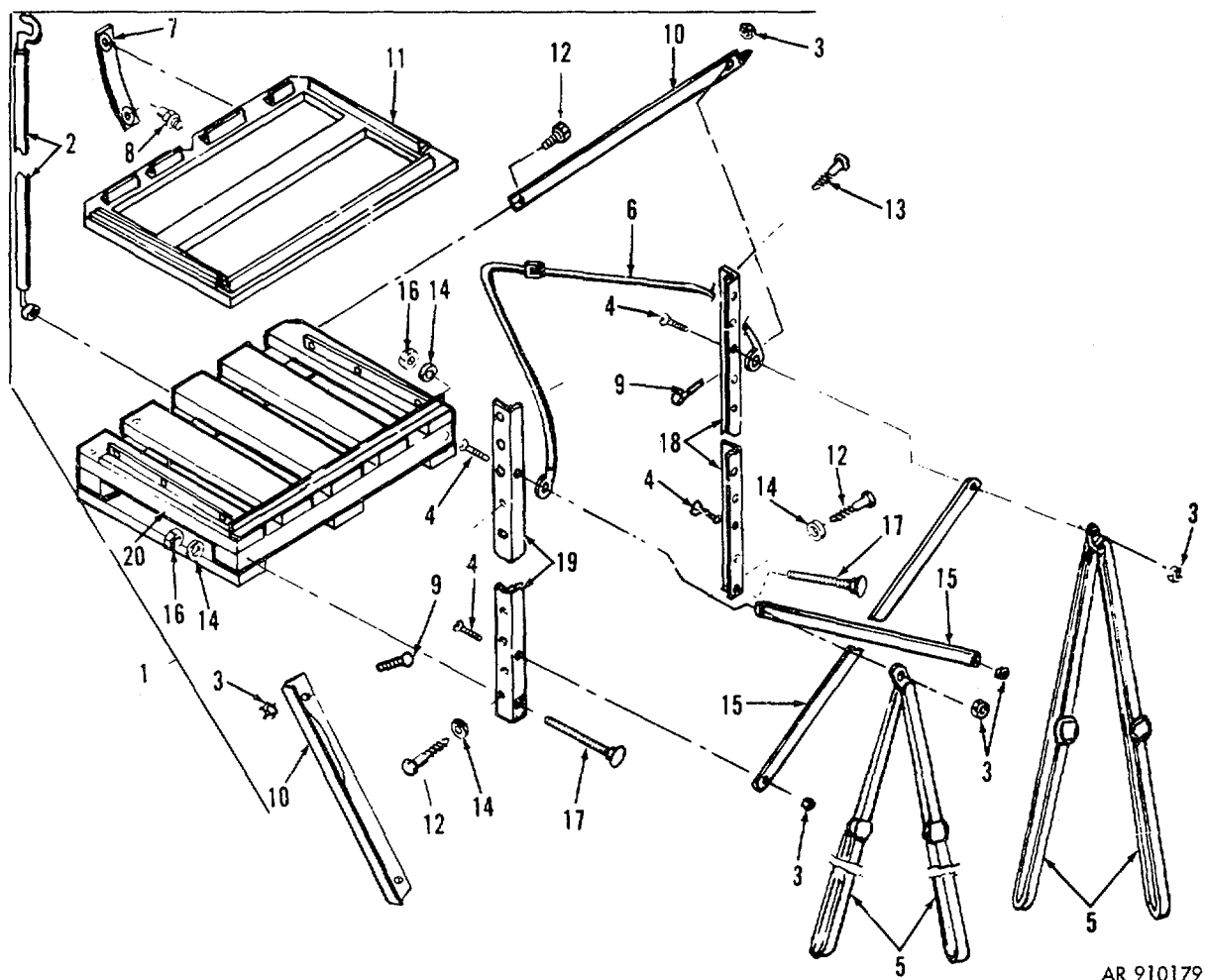


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Figure B13. Conveyor assembly.

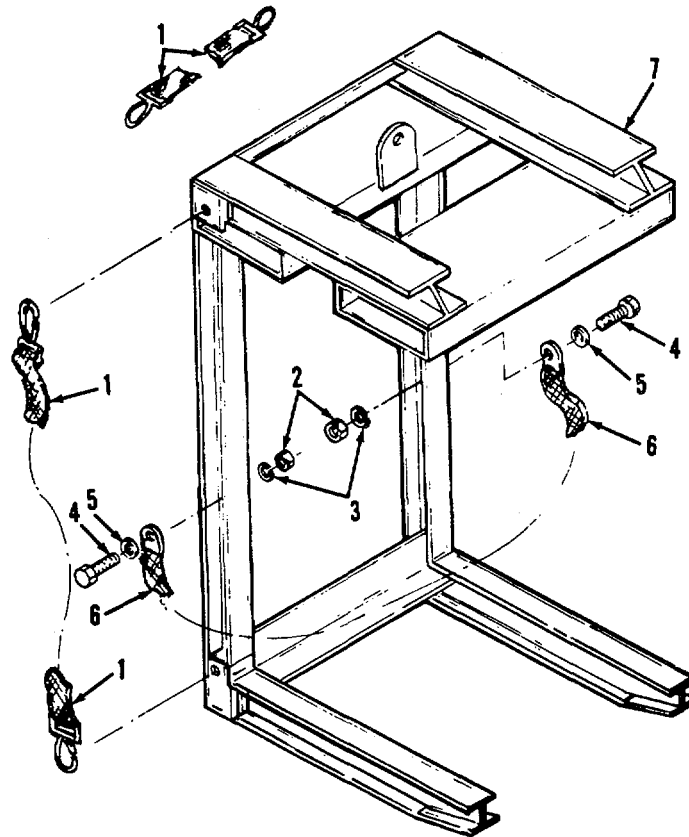
(1) ILLUSTRATION (a) FIG NO.		(2) (b) ITEM NO.	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
		SMR CODE						
GROUP 12 CONVEYOR ASSEMBLY								
B13	1	AOCFZ		13218E7034	97403	CONVEYOR ASSEMBLY:.....	EA	2
B13	2	PACZZ	5310-00-087-4652	MS51922-17	96906	NUT,SELF-LOCKING. HEXAGON: 3/8-16UNC-2B	EA	2
B13	3	PACZZ	5305-00-269-3211	MS90725-60	96906	SCREW, CAP, HEXAGON HEAD: 3/8-16UNC-3A 1 IN L.....	EA	26
B13	4	PACZZ	1095-01-022-5302	13215E7037	97403	STOP, CONVEYOR ROLLER:EAI	EA	1
B13	5	PACZZ	5310-00-732-0558	MS51967-S	96906	NUT, PLAIN HEXAGON: 3/8-16UNC-2B	EA	24
B13	6	PACZZ	5310-00-637-9541	M35338-46	96906	WASHER,LOCK:	EA	24
B13	7	PACZZ	5310-00-809-4061	M527183-15	96906	WASHER, FLAT: 3/8 IN ID	EA	24
B13	8	PACZZ	1095-01-016-3226	13218E7035	97403	STAND,ROLLER CONVEYOR:.....	EA	6
B13	9	PACZZ	3910-01-028-5560	13218E7036	97403	CONVEYOR, ROLLER GRAVITY	EA	5
B13	10	PACZZ	1095-01-021-0798	1916-50-20-25	36745	ROLLER CONVEYOR.....	EA	15
B13	11	XBOZZ		1321BE7001	97403	TOOL BOX:	EA	1
					B-16			

(1) (2) ILLUSTRATION		(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT
(a) FIG NO.	(b) ITEM NO.						
					GROUP 13 CONTAINER. A T MINES		
B14	1	AOCZZ	1321BE7020	97403	CONTAINER ASSEMBLY: A.T. MINE	EA	18
B14	2	PACZZ	1095-01-016-8224	97403	ROD, RESTRAINT:	EA	1
B14	3	PACZZ	5310-00-087-4652	96906	NUT, SELF-LOCKING, 1 HEXAGON: 3/8-16UNC-2B	EA	6
B14	4	PACZZ	5305-00-269-3213	96906	SCREW, CAP, HEXAGON HEAD: 3/8-16UNC-2A, 1-1/4 IN. LC	EA	4
B14	5	PACZZ	1095-01-021-9804	97403	STRAP, TIE-DOWN ASSEMBLY:	EA	2
B14	6	PACZZ	1095-01-23-5173	97403	STRAP RESTRAINT:	EA	1
B14	7	XBCZZ	1321EE7032-11	97403	STRAP, SPACER: 7 3/4 IN LO, 1 IN WIDE, WITH GROMETS NO 0 TYPE 1. CLASS 1. MIL-G-16491 BRASS. 1 1/2 IN FROM EACH END.	EA	32
B14	8	PACZZ	5325-00-276-5679	88044	STUD. SNAP FASTENER:	EA	18
B14	9	PACZZ	5305-00-269-3211	96906	SCREW, CAP, HEXAGON HEAD: 3/8-16UNC-3A 1 IN. LG	EA	3
B14	10	PACZZ	1095-01-021-9802	97403	BRACE. POST:	EA	2
B14	11	PACZZ	1095-01-034-2079	97403	SPACER ASSEMBLY: EA	EA	8
114	12	PACZZ	S306-00-177-5428	96906	BOLT. LAG	EA	4
B14	13	PACZZ	5306-00-406-5199	96906	BOLT ... LAG: SQUARE HEAD. 7/16X4 IN LG	EA	16
B14	14	PACZZ	5310-00-080-6004	96906	WASHER FLAT:	EA	6
B14	15	PACZZ	1095-01-022-5301	97403	BRACE	EA	2
B14	16	PACZZ	5310-00-056-3395	96906	NUT, PLAIN HEXAGON: 3/8 - 16UNC-2B	EA	4
B14	17	PACZZ	5306-00-951-5699	96906	BOLT, SQUARE NECK: 3/8-16UNC-2A, 4 IN LC	EA	4
914	18	XBCZZ	13215E7021	97403	CORNERPOST RIGHT:	EA	1
B14	19	XBCZZ	5310-00-087-4652	97403	CORNERPOST LEFT:	EA	1
B14	20	XBCZZ	13218E7020	97403	BASE CONTAINER:	EA	1
				B-17			



AR 910179

Figure B14. Container, A T mines.



AR 910180

(1) (2) ILLUSTRATION		(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE CODE	(7) U/M	(8) QTY INC UNIT	
(a) FIG NO.	(b) ITEM NO.							SMR CODE
GROUP 14 LIFTING FORK								
B15	1	PACZZ	1095-01-022-5320	1322050618	97403	STRAP, SNAP HOOK:	EA 2	
B15	2	PACZZ	5310-00-732-0558	MS51967-8	96906	NUT, PLAIN HEXAGON: 3/8-16UNC-2B.....	EA 2	
B15	3	PACZZ	5310-00-637-9541	MS35338-46	96906	WASHER, LOCK:	EA 2	
B15	4	PACZZ	530S-00-269-3213	M590725-62	96906	SCREW CAP, HEXAON HEAD: 3/8-16 UNC-2A.1 1/4 IN LG	EA 2	
B15	5	PACZZ	5310-00-080-6004	M527183-14	96906	WASHER FLAT:3/8 IN I. D.	EA 2	
B15	6	PACZZ	5340-01-042-3540	13218E7029-1	97403	STRAP, WEBBING:.....	EA 1	
B15	7	XBOZZ		13218E7055	97403	FORK, LIFTING ASSEMBLY:.....	EA 1	

SECTION III. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE	ITEM	STOCK NUMBER	FIGURE	ITEM
5315-00-010-4666	B7	7	6220-00-669-5623	B5	3
5306-00-012-9178	B7	2	6220-00-678-9045	B6	8
5315-00-013-7214	B7	26	5930-00-683-1628	B6	7
6240-00-019-0877	B5	8	6240-00-686-4168	B6	13
5306-00-021-8150	B2	10	5310-00-723-2737	B7	9
5315-00-042-4853	B7	17	5305-00-724-6760	B10	2
5315-00-042-4853	B7	22	5310-00-732-0558	B13	5
6240-00-044-6914	B5	9	5310-00-732-0558	B15	2
4730-00-050-4208	B3	12	5310-00-732-0558	B6	9
4730-00-050-4208	B4	17	5310-00-732-0560	B7	1
4730-00-050-4208	B7	6	5365-00-732-0642	B5	5
2610-00-051-9266	B8	4	2540-00-733-9458	B3	15
5310-00-056-3395	B14	16	5330-00-736-5815	B7	21
5420-00-060-7030	B2	1	5305-00-737-5694	B5	4
5420-00-060-7030	B2	7	5306-00-753-6996	B12	5
5420-00-060-7030	B3	4	5310-00-768-0318	B2	9
5420-00-060-7030	B4	1	5310-00-776-1963	B7	11
5305-00-068-0500	B9	2	5310-00-780-4096	B7	34
5305-00-071-1770	B4	14	5310-00-809-4061	B13	7
5306-00-079-3483	B7	12	5310-00-809-8541	B7	14
5310-00-080-6004	B14	14	5305-00-832-5743	B6	11
5310-00-080-6004	B15	5	9505-00-846-0941	B10	7
5310-00-087-4652	B1	5	5310-00-880-7744	B12	3
5310-00-087-4652	B13	2	5310-00-880-8189	B4	12
5310-00-087-4652	B14	3	5310-00-911-5467	B9	7
5310-00-087-4652	B14	19	5310-00-911-5468	B9	8
5310-00-088-05S3	B7	3	5305-00-914-3789	B10	8
3110-00-100-0355	B9	10	4030-00-948-7315	B3	3
3110-00-100-0730	B9	9	5306-00-951-5699	B14	17
5940-00-143-4794	B6	5	1095-01-016-8224	B14	2
5306-00-151-1283	B7	4	1095-01-016-8226	B13	10
3110-00-161-1074	B7	33	1095-01-016-8227	B12	7
5306-00-177-5428	B14	12	1095-01-016-8228	B4	6
5340-00-182-9857	B2	8	1095-01-016-8229	B2	1
4010-00-186-9415	B2	5	5310-01-017-0694	B3	9
5315-00-194-2455	B6	1	5306-01-018-8066	B3	10
5310-00-194-9211	B7	19	7330-01-019-7115	B12	6
5940-00-204-8990	B6	3	5310-01-020-4315	B10	5
5120-00-237-0989	B7	8	5310-01-020-4317	B4	8
5305-00-253-5625	B2	4	1095-01-021-0798	B13	10
5305-00-253-5625	B3	6	1095-01-021-0821	B7	10
5305-00-253-5625	B4	5	1095-01-021-0822	B6	6
5305-00-269-3209	B5	1	1095-01-021-0823	B4	18
5305-00-269-3211	B1	6	1095-01-021-9800	B6	16
5305-00-269-3211	B1	1	1095-01-021-9802	B14	1D
5305-00-269-3211	B13	3	1095-01-021-9B04	B14	5
5305-00-269-3211	B14	9	1095-01-021-9809	B7	36
5305-00-269-3213	B1	7	1095-01-021-9B10	B3	1
5305-00-269-3213	B3	14	1095-01-021-9812	B4	11
5305-00-269-3213	B15	4	1095-01-021-9818	B3	2
5310-00-269-4040	B10	1	1095-01-022-3951	B2	3
5325-00-276-5679	B14	8	1095-01-022-5301	B14	15
5315-00-285-7161	B9	6	1095-01-022-5302	B13	4
5330-00-297-7106	B5	7	1095-01-022-5320	B15	1
5306-00-383-4957	B9	12	5340-01-023-2665	B2	6
5306-00-406-5199	B14	13	3110-01-023-4874	B4	10
5310-00-407-9566	B12	4	1095-01-023-5173	B14	6
3020-00-408-7917	B7	23	5330-01-023-9117	B4	9
3020-00-408-7917	B7	28	7330-01-024-7963	B12	2
5315-00-413-9590	B7	31	1095-01-024-9045	B7	16
2610-00-540-4719	B8	3	4010-01-025-7245	B3	5
5310-00-582-5965	B9	3	4010-01-025-7245	B4	4
5310-00-584-5272	B4	13	1095-01-028-4153	B9	1
5305-00-584-8774	B4	7	3910-01-028-5560	B13	9
5310-00-594-8038	B8	1	1095-01-029-8298	B3	13
5310-00-595-7473	B7	13	1095-01-032-6710	B1	10
5310-00-637-9541	B13	6	1095-01-034-2079	B14	11
5310-00-637-9541	B15	3	5340-01-042-3540	B15	6
5310-00-637-9541	B5	2			
5310-00-637-9541	B6	10			

PART NUMBER	FIG. FSCM	ITEM NO.	PART NUMBER	FIG. FSCM	ITEM NO.			
AlSl101			00000	B3	7	GGGW641	81348	B7 8
AN17-37			88044	B7	12	GP-38-138-5	74410	87 31
AN227-29B5			88044	B14	8	H32-1	74410	87 29
AN415-2			88044	B6	1	H37	74410	B7 21
AN5-15A			88044	B7	4	MILR52243	81349	B1 1
AN565E1032H7			88044	B4	7	MILR52243	81349	B2
			7					

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MILR52243		81349	B4	1	V354	74410	B7	20
MILT12459		81349	B8	3	V513LM	74410	B7	37
MSR14C38		74410	B7	1s	V513RM	74410	B7	30
MS15003-1		96906	B3	12	V516LM	74410	B7	38
MS15003-1		96906	B4	17	V516RM	74410	B7	25
MS15003-1		96906	B7	6	V517	74410	B7	24
MS15570-1251		96906	B5	7	V641-2	74410	B7	23
MS16992-547		96906	B14	12	V641-2	74410	B7	26
MS16992-566		96906	B14	13	V648	74410	B7	33
MS17935C723		96906	B2	a	129178	24617	B7	2
MS17987-432		96906	B2	6	13218E2845	97403	B10	4
MS18154-115		96906	B10	a	13218E2652	97403	B1	9
MS19081-31		96906	B4	10	13218E6986-93	97403	B1	9
MS20364-1614		96906	B7	13	13218E6989	97403	B4	3
MS20995F91		96906	B10	7	13218E6994	97403	B7	36
MS21044N5		96906	B7	3	13218E6995	97403	B7	16
MS21083N16		96906	B7	11	13218E6995-9	97403	B7	17
MS21316-46		96906	B2	4	13218E6995-9	97403	B7	22
MS2131B-46		96906	B3	6	13218E6996	97403	B7	5
MS21318-46		96906	B4	5	13218E6997	97403	B3	11
MS24523-22		96906	B6	7	13218E6998	97403	B3	18
MS24665-359		96906	B7	26	13218E6999	97403	B3	6
MS24665-377		96906	B9	6	13218E7000	97403	B3	1
MS25036-1 11		96906	B6	3	13218E7001	97403	B13	11
MS25036-112		96906	B6	5	13218E7002	97403	B3	14
MS27183-14		96906	B14	14	13218E7004	97403	B3	13
MS27183-14		96906	B15	5	13218E7005	97403	B1	4
MS27183-15		96906	B13	7	13218E7006	97403	B1	3
MS27183-27		96906	B7	14	13218E7008	97403	B4	19
MS35336-27		96906	B7	19	13218E7009-1	97403	B4	2
M35336-44		96906	B9	3	13218E7010	97403	B4	6
M3533B3-45		96906	B12	4	13218E7013	97403	B2	1
MS35338-46		96906	B13	6	13218E7019	97403	B9	1
MS35338-46		96906	B15	3	13218E7020	97403	B14	20
MS3533B-46		96906	B5	2	13218E7020	97403	B14	1
MS35338-46		96906	B6	10	13218E7021	97403	B14	1s
MS35338-46		96906	B4	13	13218E7022	97403	B14	19
MS35392-10		96906	B5	4	13218E7029-1	97403	B15	6
MS35478-1683		96906	B5	8	13218E7029-2	97403	B14	6
MS35649-2382		96906	B14	16	13218E7030	97403	B14	15
MS35690-524		96906	B7	9	13218E7031	97403	B14	2
MS35751-43		96906	B12	5	13218E7032	97403	B14	11
MS35751-81		96906	B14	17	13218E7032-11	97403	B14	7
MS35754-34		96906	B2	10	13218E7033	97403	B6	16
MS51329-1		96906	B5	3	13218E7034	97403	B13	1
MS51917-1		96906	B4	9	13218E7035	97403	B13	8
MS51917-1		96906	B13	2	13218E7036	97403	B13	9
MS51922-17		96906	B14	3	13218E7037	97403	B13	4
MS51922-17		96906	B1	5	13218E7039	97403	B6	15
MS51922-49		96906	B10	1	13218E7040	97403	B11	2
MS51922-86		96906	B3	9	13218E7046	97403	B6	2
MS51967-11		96906	B4	12	13218E7049	97403	B1	2
MS51967-14		96906	B2	9	13218E7051	97403	B2	2
MS51967-5		96906	B12	3	13218E7052	407403	B12	6
MS51967-8		96906	B13	5	13218E7053	97403	B12	7
MS51967-6		96906	B15	2	13218E7054	97403	B12	1
MS51967-8		96906	B6	9	13218E7055	97403	B15	7
MS51968-14		96906	B7	1	13218E7056	97403	B6	6
MS51963-2		96906	B8	1	13218E7059	97403	B7	10
MS53045-2		96906	B8	2	13219E0800	97403	B4	18
MS87006-33		96906	B3	3	13219E0801	97403	B4	16
MS90713-14		96906	B7	7	13219E0802	97403	B4	15
MS90725-116		96906	B4	14	13219E0803	97403	B4	11
MS90725-174		96906	B10	2	13219E0804	97403	B4	8
MS90725-3		96906	B9	2	13219E0816	97403	B2	3
MS90725-58		96'906	B5	1	13219E2843	97403	B10	6
MS90725-60		96906	B11	1	13219E2844	97403	B10	3
MS90725-60		96906	B13	3	13219E2846	97403	B10	9
MS90725-60		96906	B14	9	13219E2850	97403	B2	11
MS90725-60		96906	B1	6	13219E2851	97403	B10	5
MS90725-62		96906	B14	4	13219E2857	97403	B1	10
MS90725-62		96906	B15	4	13219E2858	97403	B14	5
MS90725-62		96906	B1	7	13219E2660	97403	B3	2
M13486-1-7		61349	B6	4	13220E0616	97403	B12	2
NA61455-0-120		60205	B3	5	13220E0616	97403	B15	1
NAS1455-0-120		60205	B4	4	13220E0619	97403	B3	10
RRC271		81346	B2	5	13220E0621	97403	B14	10
V302M		74410	B7	37	1916-50-20-25	36745	B13	10
V337		74410	B7	34	2-906	95026	B9	7

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PART NUMBER	FIG. ITEM FSCM	PART NO.NO.NUMBER	FIG. FSCM	NO.	ITEM NO.			
2140131		24617	B9	12	7339460	19207	B3	16
25-1000		95026	B9	11	7388452	19207	B8	5
2523		60038	B9	10	7525997	73331	B5	9
2582		60038	B9	9	8-1004	95026	B9	5
27-1000		95026	B9	4	8741437	19207	B6	11
412		74410	B7	27	8741446	19207	B6	12
57-632		95026	B9	13	8741447	19207	B6	14
5936190		73331	B5	5	8741462	19207	B6	8
7-914		95026	B9	8	8741491	19207	B6	13
7320641		73331	B5	4	624N53	39428	B7	15
7320658		19207	B5	6				
7339458		19207	63	15				
7339459		19207	B3	17				

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. Introduction

C-1. General

- a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.
- b. The Maintenance Allocation Chart (MAC) in section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.
- c. Section III contains supplemental instructions on explanatory notes for a particular maintenance function.

C-2. Maintenance Functions

- a. *Inspect.* To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.
- b. *Test.* To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. *Service.* Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.
- d. *Adjust.* To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.
- e. *Align.* To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. *Calibrate.* To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
- g. *Install.* The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. *Replace.* The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.
- i. *Repair.* The application of maintenance services¹ or other maintenance actions² to restore serviceability to an item by correcting specific damage, fault, malfunction, or

¹Services-inspect, test, service, adjust, align, calibrate, or replace.

²Actions-welding, grinding, riveting, straightening, facing, remarching, or resurfacing.

failure in a part, subassembly, module (component or assembly), end item, or system.

j. *Overhaul.* That maintenance effort (service/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. *Rebuild.* Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc) considered in classifying Army equipments/components.

C-3. Column Entries Used in the MAC

- a. *Column 1, Group Number.* Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.
- b. *Column 2, Component Assembly.* Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. *Column 3, Maintenance Functions.* Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see para C-2.)
- d. *Column 4, Maintenance Category.* Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated category of maintenance. If the number or, complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "work time" figures will be shown for each category. The number of man-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C Operator or crew
 O Organization maintenance
 F Direct support maintenance
 H General support maintenance.
 D Depot maintenance
 e Column 5, Tools and Equipment Column 5
 specifies, by code, those common tool sets (not individual
 tools) and special tools, test, and support equipment

required to perform the designated function.
C-4 Explanation of Columns in Section III

a *Reference Code* The code scheme recorded in column 5, section II.

b *Remarks* This column lists information pertinent to the maintenance function being performed as indicated on the MAC, section II.

SECTION II. MAINTENANCE ALLOCATION CHART

(1) Group Number	(2) Component/assembly	(3) Maintenance function	(4) Maintenance category					(5) Tools and equipment
			C	O	F	H	D	
01	0101	CHUTE AND CHUTE SUPPORT						
		Chute, Upper	Inspect Adjust Replace					
			0.1 0.2 0.5					
	0102	Chute, Middle	Repair Inspect Replace		4.5			
			0.1	0.9				
					3.9			
	0103	Support, Upper Chute	Repair Inspect Adjust Replace					
			0.1 0.2 0.5					
					1.1			
02	0201	MOLDBOARD						
		Moldboard	Inspect Repair		1.8			
			0.1					
	0202	Plow Blade	Inspect Install Replace					
			0.1 0.2 0.3					
			0.1					
	0203	Flap, Stabilizer	Inspect Install Replace					
			0.1 0.1 0.1					
03	0301	TOW BEAM						
		Tow Beam	Inspect Adjust Replace		0.6			
			0.1 0.6					
	0302	Weak, Link	Repair Inspect Replace		4.0			
			0.1 0.1					
			0.1					
	0303	Adjusting Screw	Inspect Service Replace		0.4			
			0.1 0.1 0.4					
04	0401	COULTER ASSEMBLY & COULTER FORK						
		Fork, Coulter	Inspect Service Adjust Replace		0.4			
			0.1 0.1 0.4 0.4					
	0501	ELECTRICAL SYSTEM LIGHTS, SERVICE & TAIL STOP	Repair Inspect Replace		0.5			
			0.1					
					0.3			
	0502	Brackets	Repair Inspect Replace		0.5			
			0.1					
					1.0			
05	0501	Switch, Service Light	Test Replace		0.1 0.1			
	0502	Wiring, Harness	Inspect Replace		0.2 0.2			
			0.2					
	0503	LEVELING JACK ASSEMBLY	Inspect Service Adjust Replace		0.2 0.2 2.7			
			0.1 0.3					
					5.2			

(1) Group Number	(2) Component/assembly	(3) Maintenance function	(4) Maintenance category					(5) Tools and equipment
			C	O	F	H	D	
07	0601 Tube, Torque	Inspect	0.1					
		Replace		0.5				
08	WHEEL, TIRE, TUBE	Inspect	0.1					
		Service	0.1					
09	HUB ASSEMBLY	Replace		0.2				
		Repair		0.5				
10	AXLES AND PILLOW BLOCKS	Inspect		0.1				
		Service		0.6				
11	FRAME AND TOOL BOX	Replace		0.9				
		Repair		1.0				
12	Frame	Inspect		0.1				
		Replace		3.7				
13	Tool Box	Inspect	0.1		8.0			
		Repair						
14	CAN OPENER ASSEMBLY	Inspect	0.1					
		Replace		0.2				
15	Stand/Platform	Inspect	0.1					
		Replace						
16	Can Opener	Inspect			0.5			
		Replace						
17	CONVEYOR ASSEMBLY	Inspect	0.1					
		Install	0.4					
18	Roller	Replace	0.4					
		Replace	0.1					
19	Stand	Replace	0.3					
		Repair			2.0			
20	Frame	Repair			4.0			
		Inspect	0.2					
21	CONTAINER, AT MINES	Assemble	1.0					
		Repair		2.0				
22	LIFTING FORK	Inspect	0.1					
		Test			1.0			
23		Repair			4.0			
								Load Test

Section III. REMARKS

Reference code	Remarks
A-1	Repair consists of replacement of lamps.
B-1	Repair consists of repair to tire and/or tube.

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