

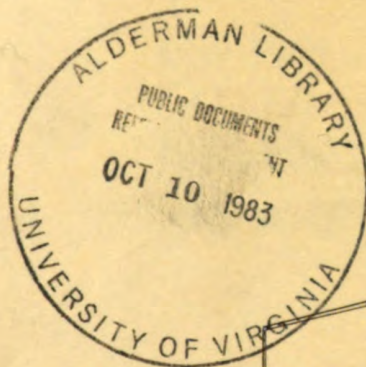
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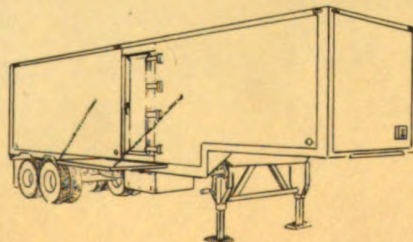
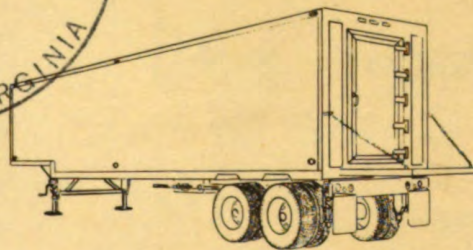
DEPARTMENT OF THE ARMY TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND  
GENERAL SUPPORT MAINTENANCE MANUAL  
(INCLUDING REPAIR PARTS AND  
SPECIAL TOOLS LIST)**

**SEMITRAILER, VAN: ELECTRONIC,  
NBC HARDENED, TACTICAL,  
4.5 TON, 4 WHEEL, XM1006  
(2330-01-110-9281)**



MILLER TRAILERS, INC.  
CONTRACT DAAE07-80-C-5965



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PAGE 2-2**

**LUBRICATION  
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**ORGANIZATIONAL PMCS  
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**ORGANIZATIONAL  
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PAGE 4-27**

**DS/GS MAINTENANCE  
PAGE 5-1**

HEADQUARTERS, DEPARTMENT OF THE ARMY

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JULY 1983

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---

**WARNING**

---

**HIGH VOLTAGE**

is used in the operation of this equipment.

**DEATH ON CONTACT**

may result if personnel fail to observe safety precautions.

---

Be careful not to contact high-voltage connections of 115 and 208-volt ac input connections when working on this equipment.

Before working inside the equipment, turn power off and ground points of high potential before touching them.

**EXTREMELY DANGEROUS POTENTIALS**

exist in the following units:

Air Conditioner

Circuit Breaker

110-volt Receptacles

For artificial respiration, refer to TM 21-11.

---

**WARNING**

---

AIR UNDER PRESSURE

---

100 PSI AIR PRESSURE

is used in the operation of this equipment.

---

**DEATH**

---

or severe injury may result if personnel fail to observe safety precautions.

---

**WARNING**

---

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138° F (58.8° C).

---

**WARNING**

---

Do not use gasoline, dry cleaning solvent or mineral spirits paint thinner to remove oil or grease from canvas. Use only water and a scrubbing brush.

---

**WARNING**

---

Overheated brake drums and hubs can cause severe burns to personnel when touched.

WARNING

Personnel must get under spare wheel carrier to remove nut. Exercise care to prevent injury.

WARNING

Hold wrench firmly when spare wheel carrier pawl is released; wheel can drop fast and cause injury.

WARNING

Be sure all personnel stand clear of towing vehicle and semitrailer during coupling operations.

WARNING

With quick release pins removed, upper part of rear platform will be loose. Person on ground must exercise care to support platform throughout the removal procedure.

WARNING

Rear platform must be supported in upright position during removal procedure.

---

**WARNING**

---

Weight of semitrailer must be supported by leveling jacks or by blocking or support stands placed under rear corners of frame throughout operations to remove axle assembly.

---

**WARNING**

---

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

TECHNICAL MANUAL

DEPARTMENT OF THE ARMY

No. TM 9-2330-364-14 & P

Washington, D.C. 29 July 1983

OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT  
AND GENERAL SUPPORT MAINTENANCE MANUAL  
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

SEMITRAILER, VAN: ELECTRONIC, NBC HARDENED,  
TACTICAL, 4.5 TON, 4 WHEEL, XM1006  
(2330-01-110-9281)

Current as of 6 June 1983

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you 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, U.S. Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090. A reply will be furnished to you.

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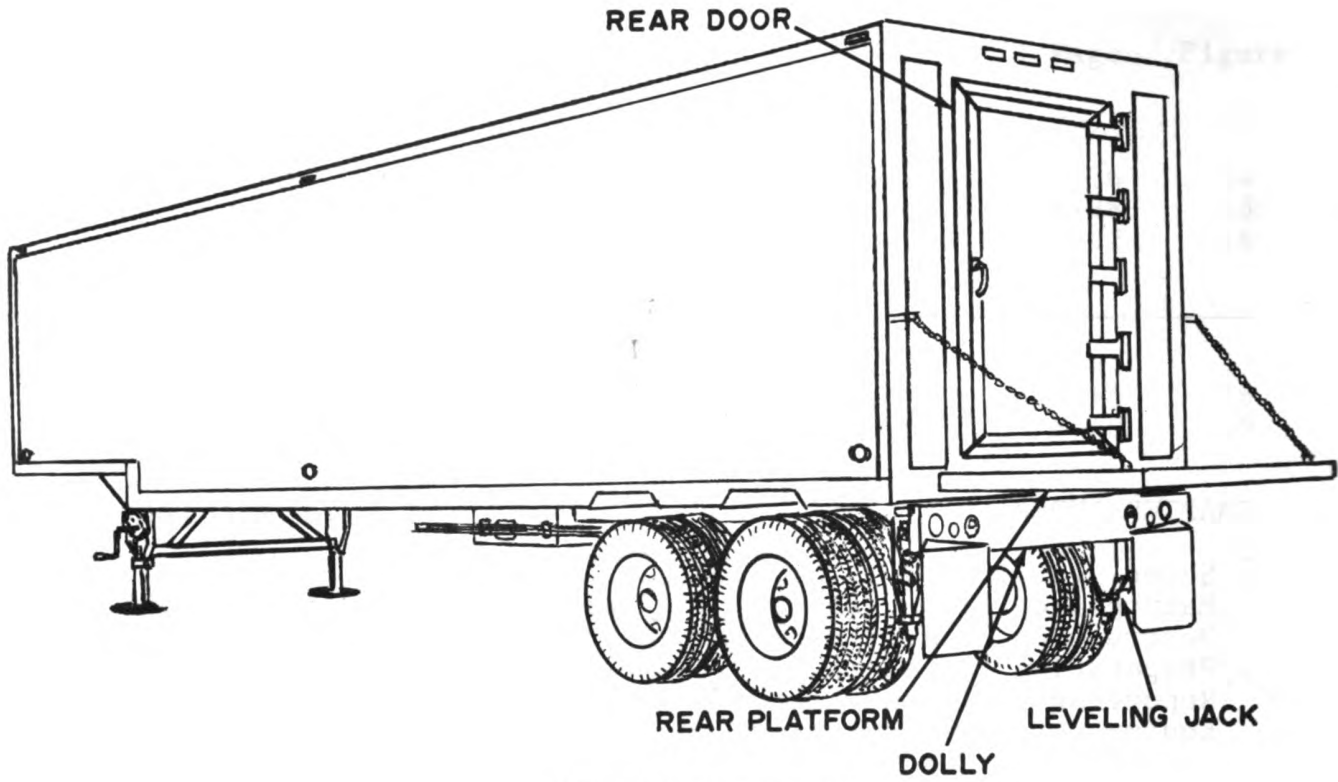
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CHAPTER 1

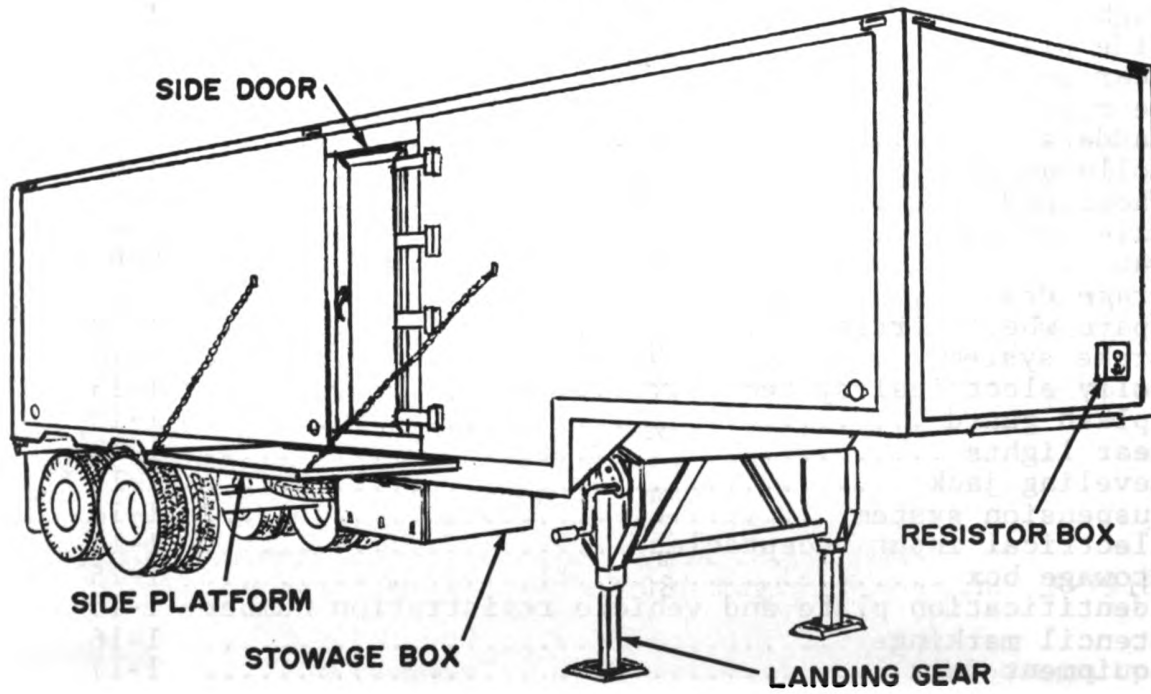
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LEFT REAR VIEW



RIGHT FRONT VIEW

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**1-1. SCOPE**

**Type of Manual:**

Operator's, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists).

**Model Number and Equipment Name:**

Semitrailer, Van, Electronic, Nuclear, Biological, Chemical (NBC) Hardened, Tactical, 4-Wheel, XM1006.

**Purpose of Equipment:**

Houses and transports sensitive electronic equipment.

**1-2. MAINTENANCE FORMS, RECORDS AND REPORTS**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management system.

**1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE**

For destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

**1-4. PREPARATION FOR STORAGE**

For information on administrative storage, refer to TM 740-90-1.

**1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)**

If your semitrailer needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on SF368 (Quality Deficiency Report). Mail it to U.S. Army Tank-Automotive Command, ATTN: DRSTA-MP, Warren, Michigan 48090. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

**1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES**

a. Characteristics.

- (1) Serves as housing for electronic equipment.
- (2) Serves to transport the electronic equipment in operating condition.
- (3) Provides quick set-up in operating mode.

b. Capabilities and Features.

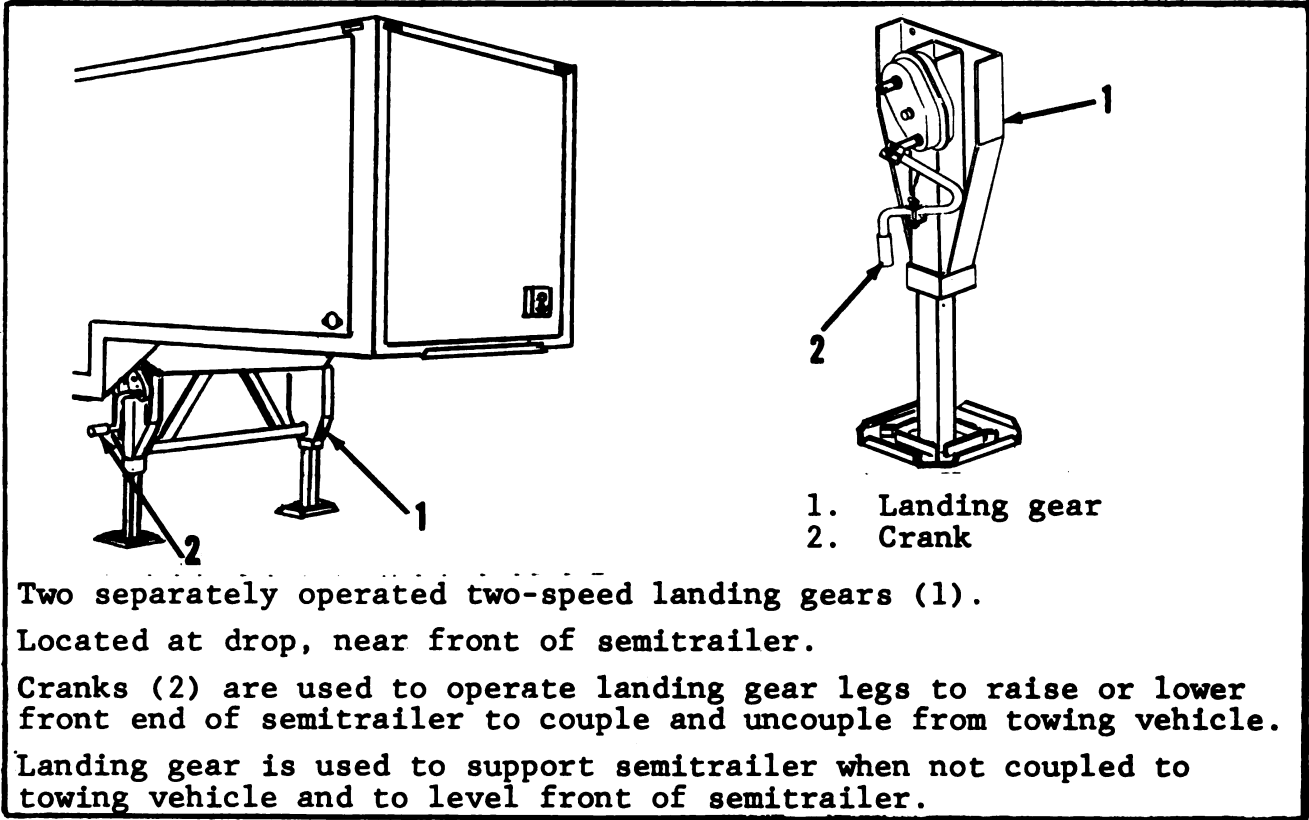
- (1) Transports delicate equipment with a minimum of vibration.
- (2) Provides level attitude needed for operation of delicate equipment accomplished through use of leveling jacks and landing gears.
- (3) Can be towed at speeds up to 50 mph (80.5 kph) on highway, 20 mph (32.2 kph) on secondary roads, and 10 mph (16.1 kph) over rough terrain when fully loaded.
- (4) Air-over-hydraulic brake system provides positive stopping action of semitrailer.
- (5) It is Radio Frequency Interference (RFI) shielded.
- (6) It is weather insulated and water tight.
- (7) It has storage facilities for tools, TMDE, BII, crew equipment and supplies.
- (8) Has a removable dolly assembly.
- (9) The towing vehicle used is the M52, M52A1, M52A2, M818, or M915 tractor.

**1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS**

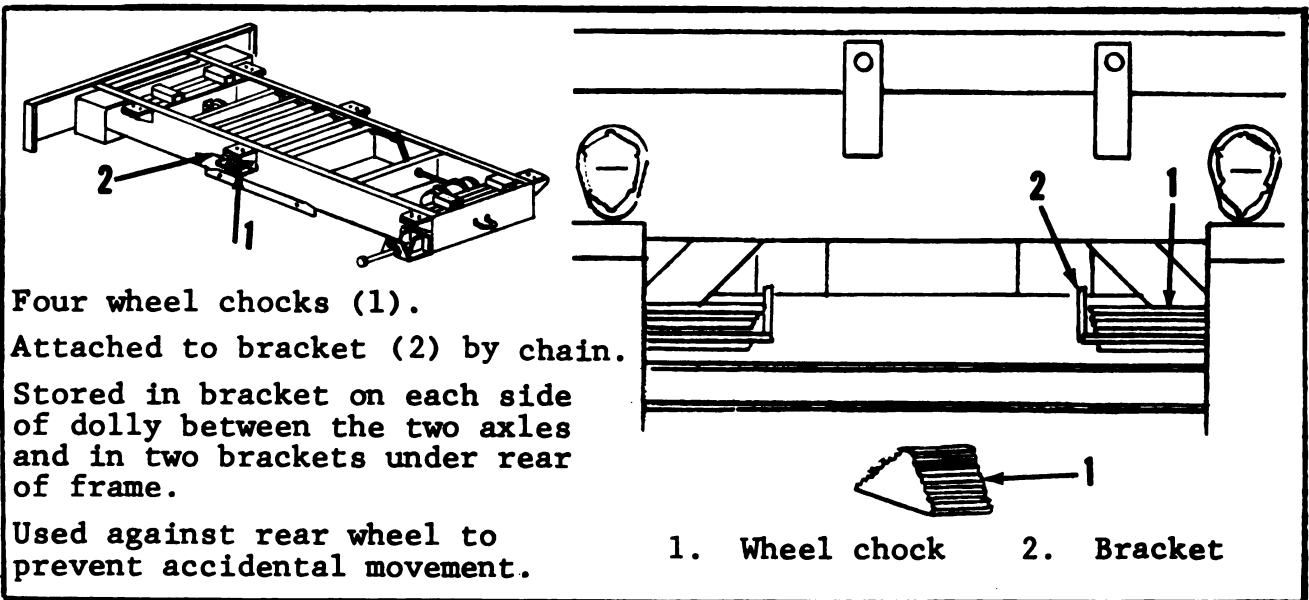
The front, rear, right, and left designations used in the manual designate the general areas or sides of the semitrailer as viewed from the rear of the semitrailer, facing toward the front.

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

a. LANDING GEAR



b. WHEEL CHOCK



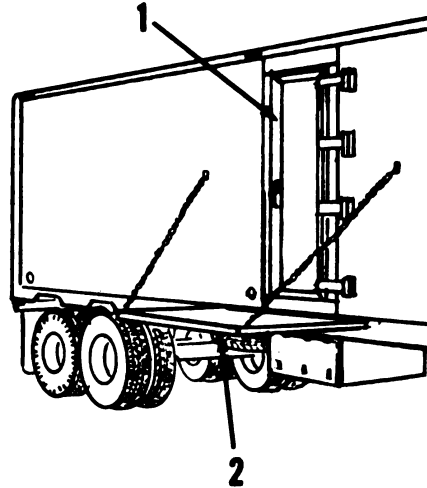
TA 245378

1-5

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

c. RIGHT SIDE DOOR (1)

Located to rear of drop.  
Provides access to interior of semitrailer.



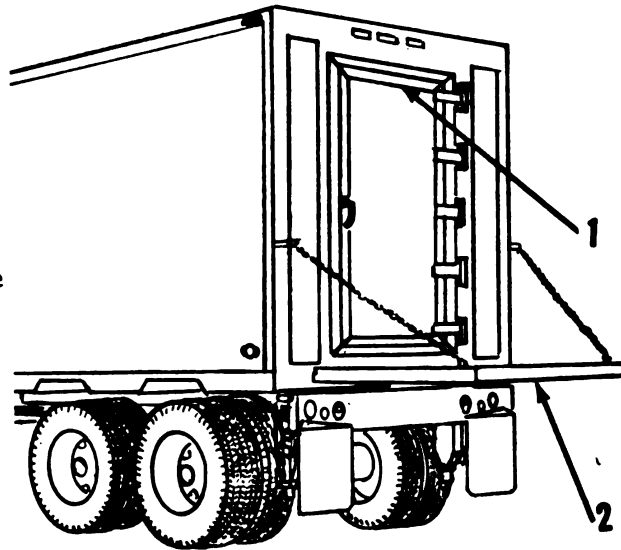
- 1. Right side door
- 2. Side platform

d. SIDE PLATFORM (2)

Located at right side door.  
Provides step-up access to side door.  
Detachable and is stowed in storage box underneath van body when not in use.

e. REAR DOOR (1)

Rear door is located in center of rear of van body.  
It is used to gain access to the interior of the semitrailer.



- 1. Rear door
- 2. Rear platform

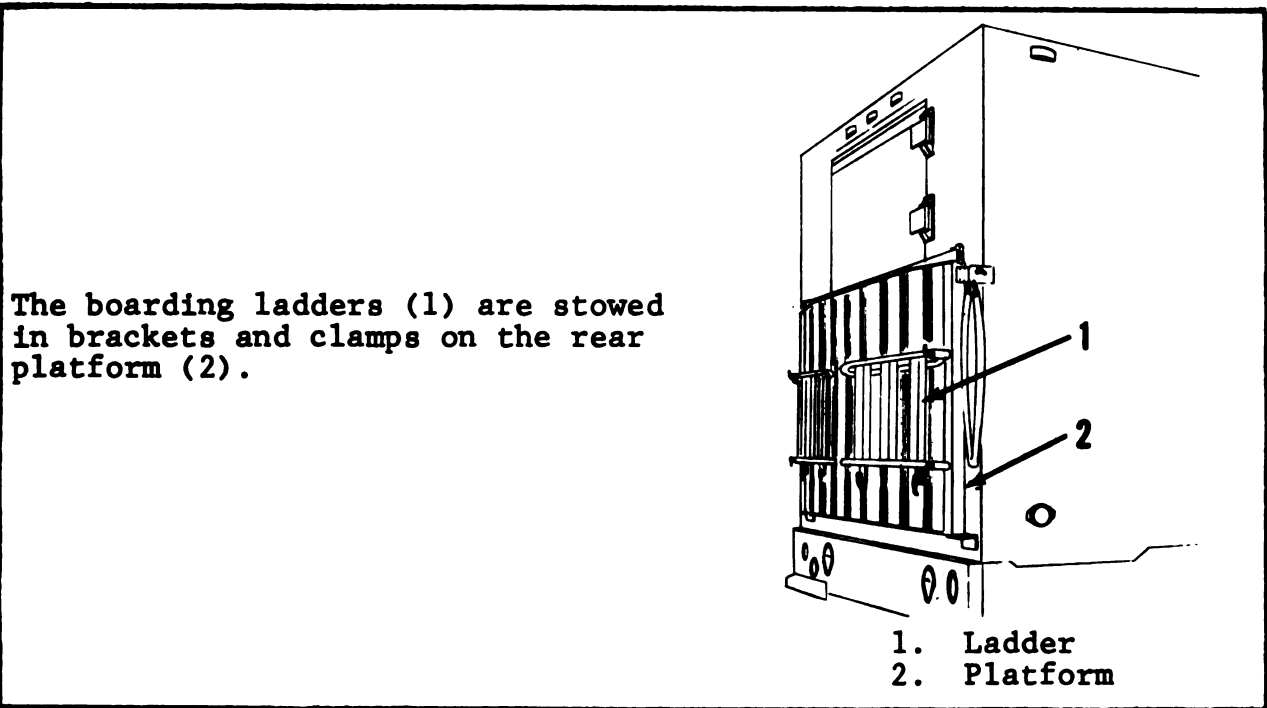
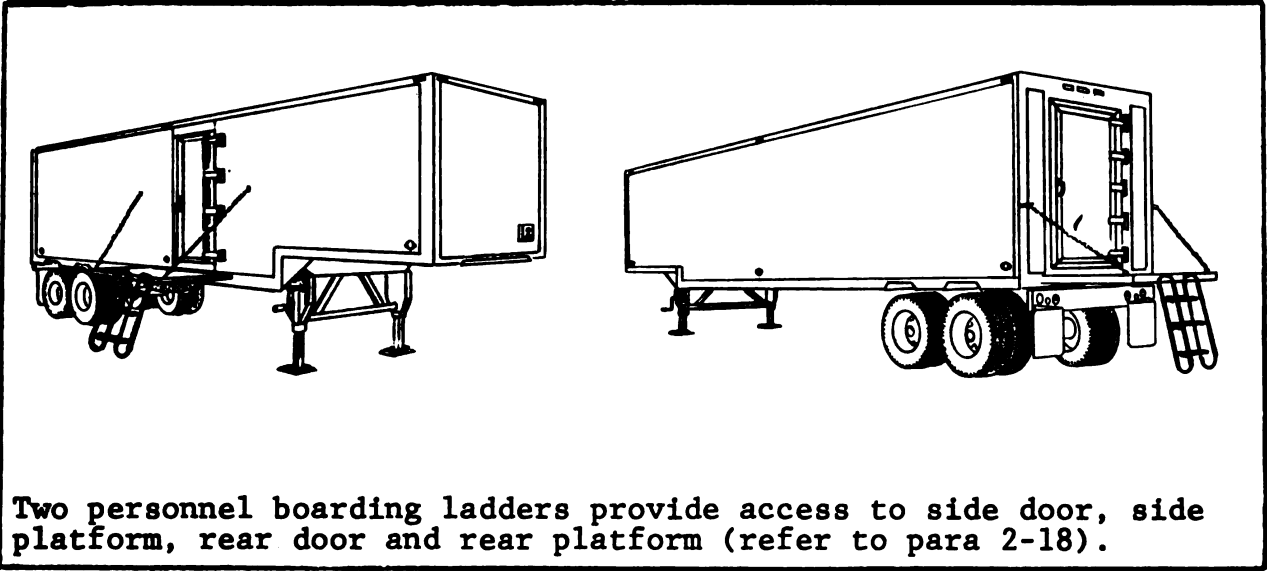
f. REAR PLATFORM (2)

Used as a loading platform.  
Is attached to body by hinges and raised and lowered manually.  
Can be stowed upright against rear van body.

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1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

g. LADDERS



A 12-foot folding ladder provides access to semitrailer roof (refer to para 2-18).

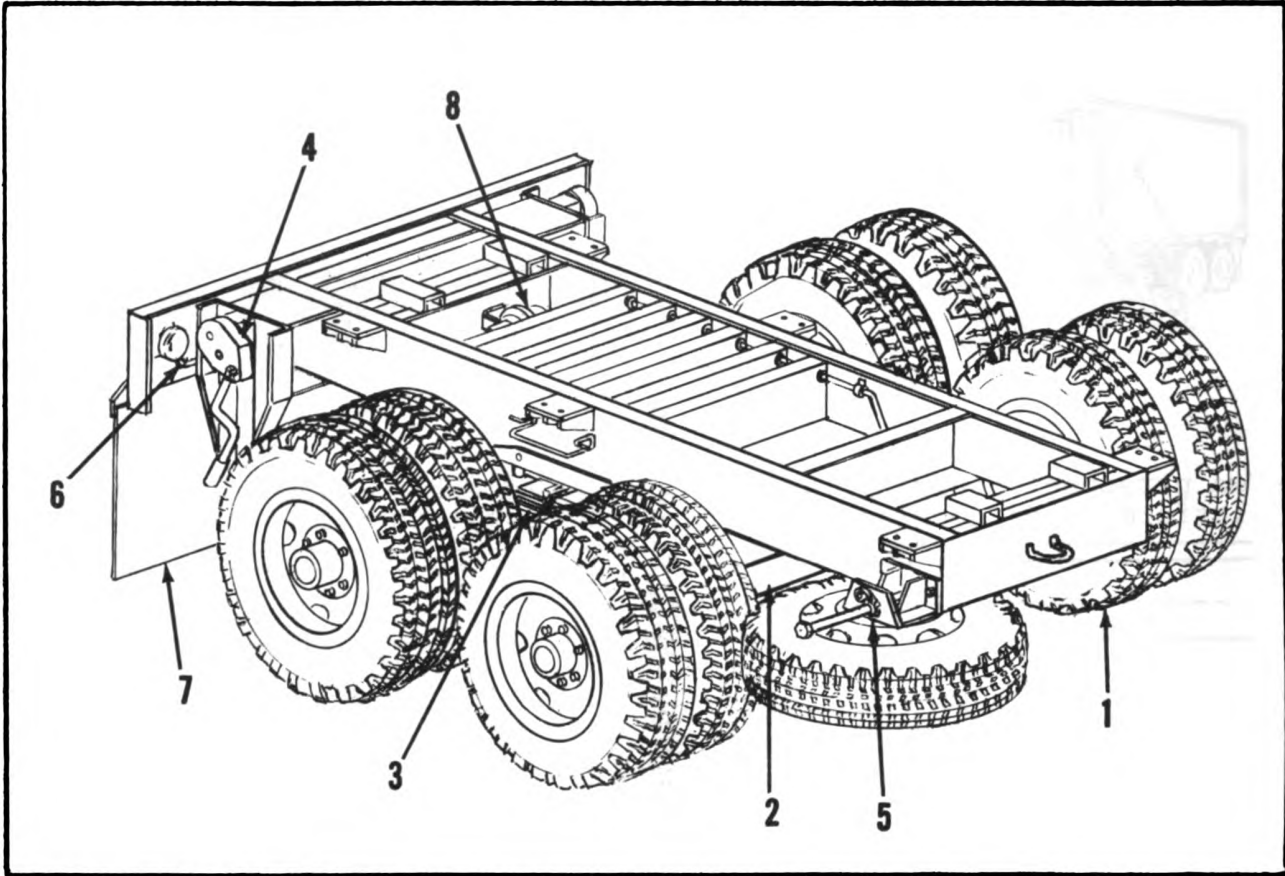
Folding ladder is stowed in brackets and clamps on rear of storage box located underneath semitrailer body.

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1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

h. DOLLY ASSEMBLY



The dolly assembly, which can be removed, consists of:

1. Dual wheels and tires
2. Axle assembly
3. Suspension system
4. Leveling jacks
5. Spare wheel carrier
6. Electrical system
7. Splash guards
8. Air-over-hydraulic brake system

TA 245381

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

**i. WHEEL AND TIRE**

The eight wheels (2) are offset disk-type rims with split-type retaining rings.

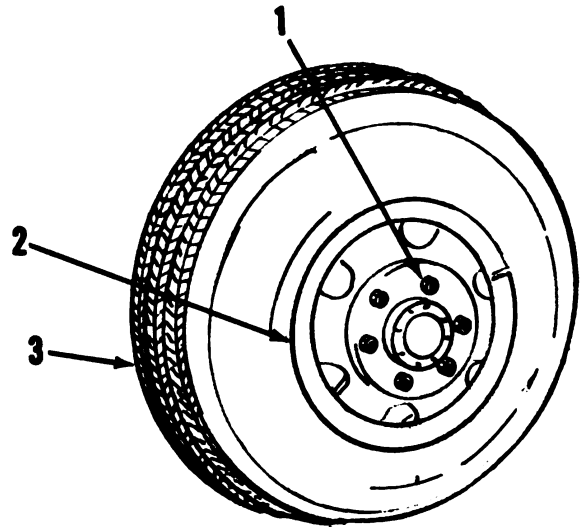
Nuts (1) for right wheels (marked R) have right hand threads.

Nuts (1) for left wheels (marked L) have left hand threads.

The studs are similarly marked.

Nuts (1) must be turned in opposite direction of forward rotation of wheel to be loosened or removed.

Tires (3) are pneumatic type, highway, commercial tread design, size 9.00 by 20, 10 ply rating.



- 1. Cap nut
- 2. Wheel
- 3. Tire

**j. AXLE ASSEMBLY**

Two axle assemblies are located at center and rear of dolly assembly.

Each axle assembly has brake drum, hub, brake assemblies, and associated parts.

**k. HUB (1)**

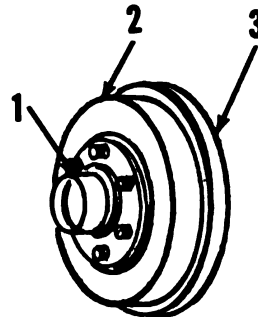
Each hub is mounted on axle spindle on two tapered roller bearings.

Brake drums are mounted on hubs.

**1. BRAKE DRUM (2)**

Each brake drum is secured to hub through a dished adapter (3).

A hub cap and gasket, secured to hub, keeps out moisture and dirt.



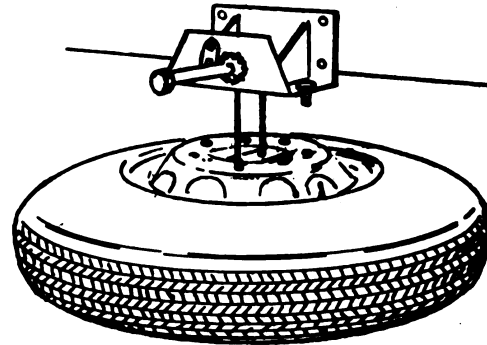
- 1. Hub
- 2. Brake drum
- 3. Adapter

TA 245382

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

**m. SPARE WHEEL CARRIER**

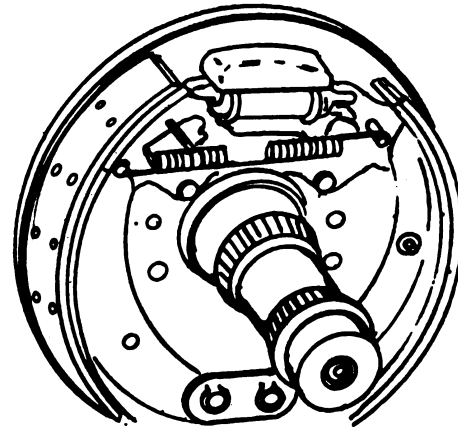
Is mounted at right side front of dolly assembly.  
 Has a wire rope and ratchet to help raise and lower spare wheel and tire.



**n. BRAKE SYSTEM**

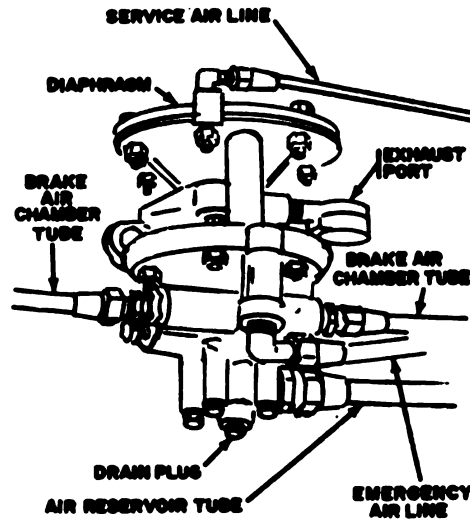
**(1) SERVICE BRAKES**

Are air-over-hydraulic type.  
 Air pressure operates hydraulic portion of braking system.  
 Brakes operate automatically when pressure is applied at tractor.



**(2) RELAY VALVE**

Located at rear of dolly, just forward of rear axle.  
 It directly controls service brakes by controlling flow of air to and from air reservoir.  
 Is connected to emergency and service air lines, air reservoir, and brake air chambers.  
 Automatically applies brakes if semitrailer breaks away from towing vehicle. Brakes also apply automatically if there is a serious leak in the emergency air line.



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**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

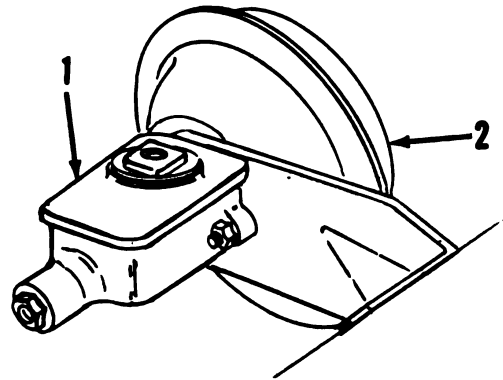
**(3) HYDRAULIC MASTER CYLINDER**

A hydraulic master cylinder (1) is attached to each brake air chamber (2).

One assembly is mounted at the front and one is mounted at the rear of the dolly.

Master cylinder converts movement of brake air chamber push rod into hydraulic pressure to apply brakes.

1. Hydraulic master cylinder
2. Brake air chamber



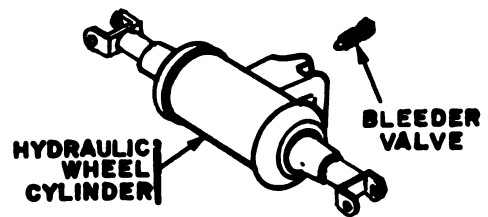
**(4) HYDRAULIC WHEEL CYLINDER**

One is mounted on each brake backing plate.

It actuates brake shoes outward to force brake linings against brake drums.

Each wheel cylinder is connected to hydraulic master cylinder with tubing.

A bleeder valve on each wheel cylinder is used to bleed air from the system.

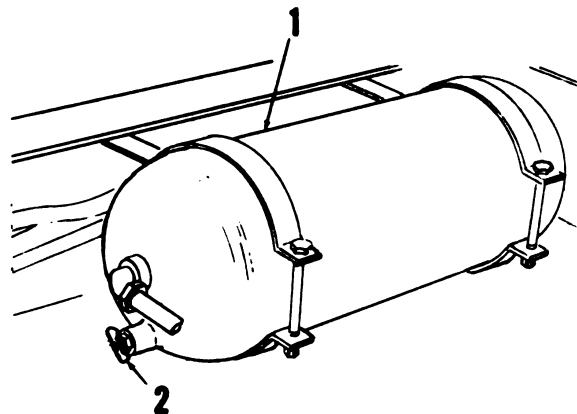


**(5) AIR RESERVOIR**

A metal tank located at center of dolly, near the front.

Stores compressed air for use in the semitrailer braking system.

Reservoir (1) is equipped with a drain cock (2) for draining moisture and releasing air pressure if brakes are locked.



1. Air reservoir
2. Drain cock

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1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

(6) SERVICE AIR LINE

Extends from gladhand (air half-coupling) (marked SERVICE) along left side rail into top of relay valve.

It transmits changes in air pressure which cause relay valve to function.

These changes result from brake being applied in towing vehicle.

(7) EMERGENCY AIR LINE

Extends from gladhand (air half-coupling) (marked EMERGENCY) along left side rail into bottom of relay valve.

It transmits compressed air to fill air reservoir and to maintain proper air pressure under control of the relay valve.

(8) GLADHAND (AIR HALF-COUPLING)

Two gladhands (1) are located at front end of semitrailer.

Two additional gladhands are located on left side of dolly frame.

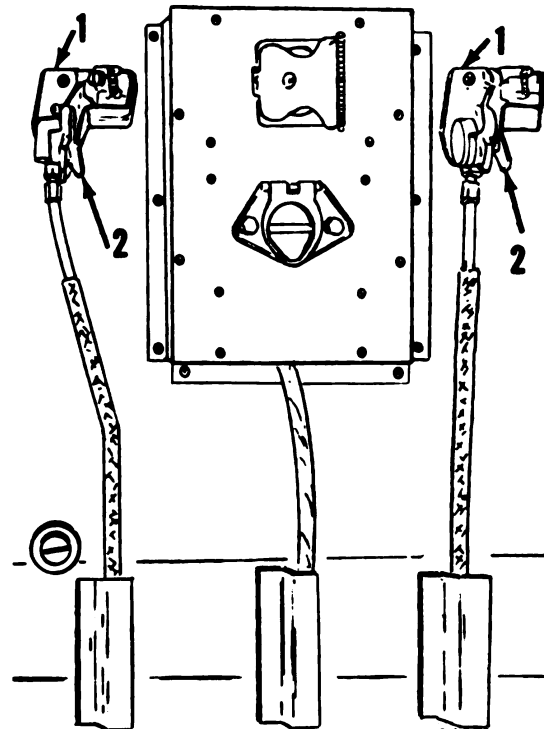
They provide the connections to the brake air system.

The emergency air connection on the dolly is located slightly to the rear of the service air connection.

(9) GLADHAND COVER (2)

Are located on front gladhands.

Are spring loaded to keep dirt from entering when system is not connected.



1. Gladhand  
2. Gladhand cover

TA 245385

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

**(10) INTERNAL BRAKE MECHANISM**

Each brake mechanism is located within the brake drum and is supported by a backing plate.

Each one has two brake shoes fitted with brake linings.

Two hydraulic wheel cylinders are mounted between the ends of the brake shoes.

**o. DOLLY ELECTRICAL SYSTEM**

Wiring harness is located along inside left rail of dolly frame. It extends from electrical inlet receptacle at front of dolly to left rear stoplight taillights and across to right.

**p. SPLASH GUARD**

A splash guard (4) is installed to the rear of each rear wheel.

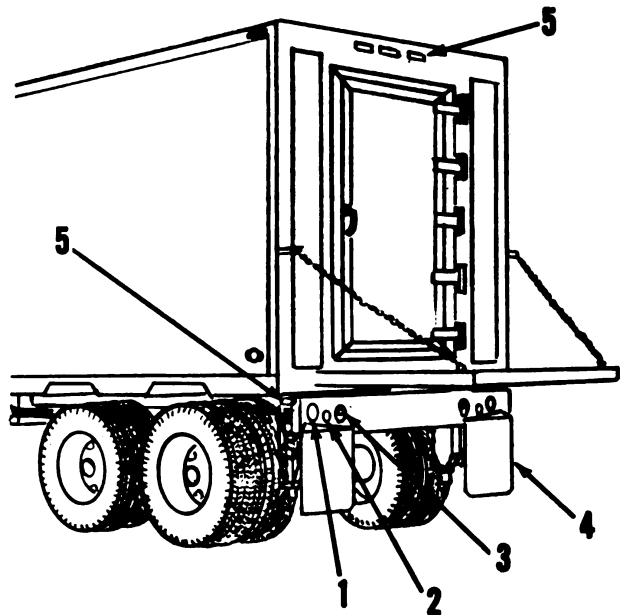
**q. REAR LIGHTS**

A composite stoplight taillight (3) is installed at each side of rear of dolly.

A stop, marker light (1) is installed at each side of rear of dolly, to the outside of each composite stoplight taillight (3).

A red reflector (2) is located at each side of rear of dolly, between each set of rear lights.

A red clearance light (5) is located at bottom rear corner of each side of semitrailer.



- 1. Stop, marker light
- 2. Red reflector
- 3. Composite stoplight taillight
- 4. Splash guard
- 5. Red clearance light

TA 245386

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)

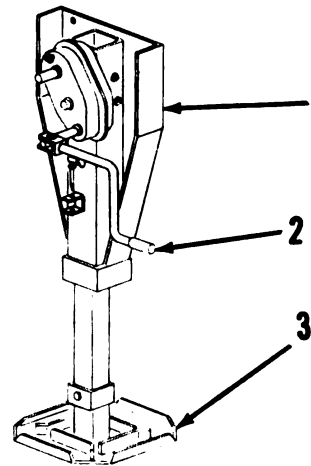
r. LEVELING JACK

A leveling jack (1) and shoe (3) are provided at each rear corner of dolly.

Crank handle (2) is stowed on jack.

Leveling jack is used to level and help stabilize semitrailer.

- 1. Leveling jack
- 2. Crank handle
- 3. Shoe



s. SUSPENSION SYSTEM

Consists of a single point, two-spring tandem axle suspension.

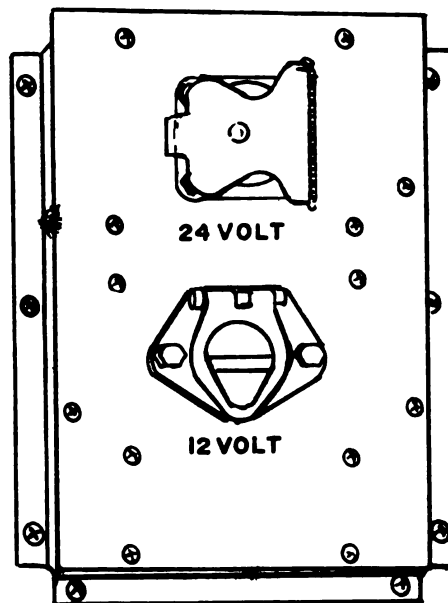
Each spring contains five leaves.

Each end of spring rests on rubber pads in spring box.

t. ELECTRICAL INPUT RECEPTACLES

Two electrical input receptacles are located on lower left side of front wall.

The 24-volt 12-pin receptacle is located above the 12-volt 7-pin receptacle.



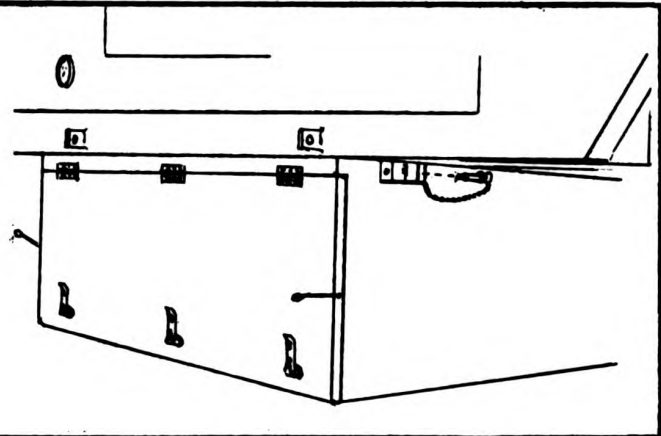
TA 245387

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (cont)**

**u. STOWAGE BOX**

Stowage box is located underneath semitrailer body. It is used to stow side platform and folding ladder.

It is removable for aircraft shipment of semitrailer.



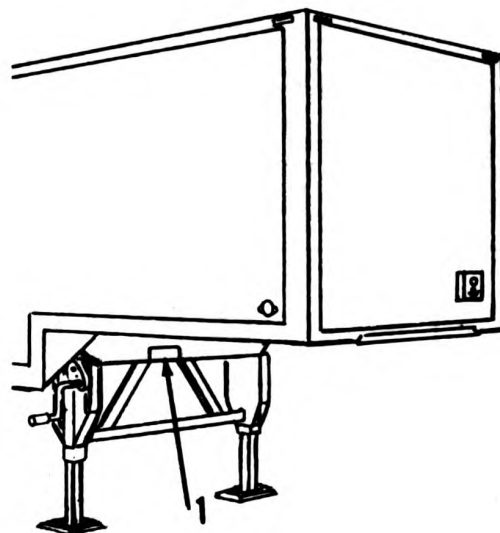
**1-8. IDENTIFICATION PLATE**

<p><b>SEMITRAILER, VAN : ELECTRONIC, NBC HARDENED, TACTICAL, 4.5 TON, 4 WHL, XM 1006</b></p> <p>MFD. BY: <input type="text"/></p> <p>VEH. IDENT. NO.: <input type="text"/></p> <p>CONTRACT NO.: <input type="text"/></p>		<p><b>WEIGHT AND DIMENSION DATA (TRAILER EMPTY)</b></p> <p>Dimensions: 395 (total length), 377 (wheelbase), 292 (front overhang), 67 (rear overhang), 96 (height), 140 (height), 96 (width), 47 (width), 93 (width), 55 (height), 18 (height), 54 (height), 44 (height), 39 (height), 22 (height).</p>																
<p>NATIONAL STOCK NUMBER <b>2330-01-110-9281</b></p>		<p>TECHNICAL MANUAL <b>TM9-2330-364-14&amp;P</b></p>																
<p>INSPECTION &amp; DELIVERY DATE: <input type="text"/></p>		<table border="1"> <thead> <tr> <th>WEIGHTS</th> <th>EMPTY</th> <th>CROSSCOUNTRY</th> </tr> </thead> <tbody> <tr> <td>PAYLOAD</td> <td></td> <td><b>9,000</b></td> </tr> <tr> <td>WHEELS</td> <td><b>19,250</b></td> <td><b>25,280</b></td> </tr> <tr> <td>KINGPIN</td> <td><b>9,460</b></td> <td><b>12,430</b></td> </tr> <tr> <td>TOTAL</td> <td><b>28,710</b></td> <td><b>37,710</b></td> </tr> </tbody> </table>		WEIGHTS	EMPTY	CROSSCOUNTRY	PAYLOAD		<b>9,000</b>	WHEELS	<b>19,250</b>	<b>25,280</b>	KINGPIN	<b>9,460</b>	<b>12,430</b>	TOTAL	<b>28,710</b>	<b>37,710</b>
WEIGHTS	EMPTY	CROSSCOUNTRY																
PAYLOAD		<b>9,000</b>																
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KINGPIN	<b>9,460</b>	<b>12,430</b>																
TOTAL	<b>28,710</b>	<b>37,710</b>																
<p>SHIPPING CUBAGE 3089 CU FT</p>																		

The name and data identification plate (1) is located on front side of semitrailer drop.

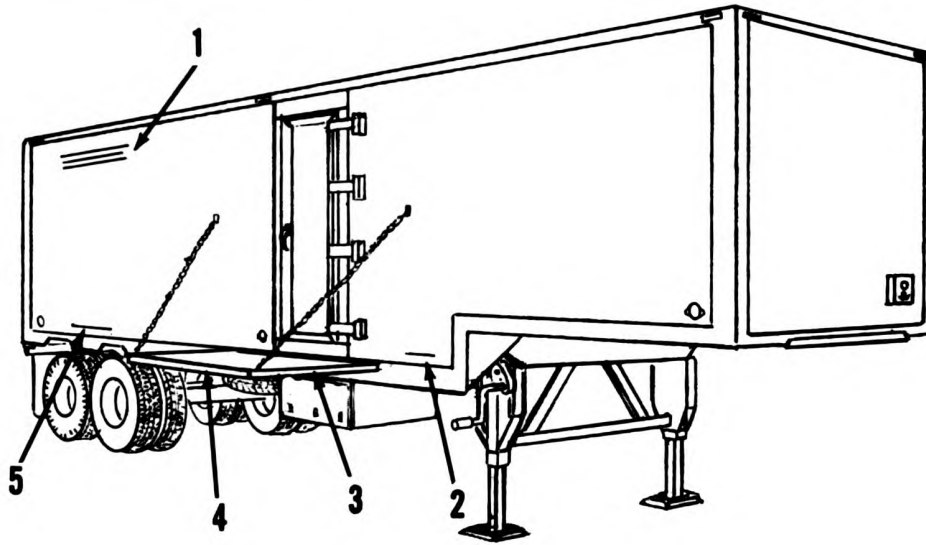
It lists name of vehicle, national stock number, manufacturer's serial number, contract number, publications concerning the vehicle, delivery and inspection dates, weight and dimension data, and shipping cubage.

The Army registration number for the vehicle is located on the inside of the side door.



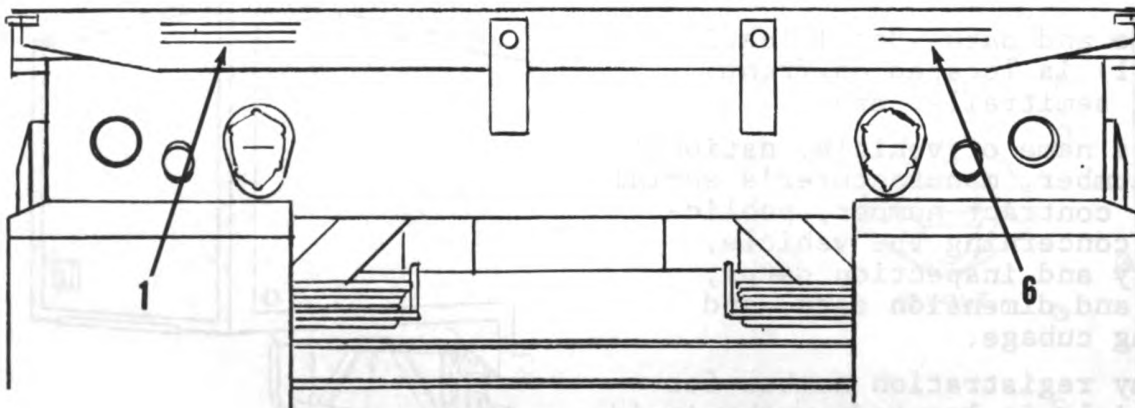


1-9. STENCIL MARKINGS



The following list shows the location and wording of the stencil markings used on the semitrailer (see para 3-5 for instructions):

1. PLATFORM WEIGHT 250 LBS. 2 PERSONS REQUIRED TO RAISE OR LOWER PLATFORM
2. FOR LIFT ONLY
3. 2 PERSONS REQUIRED TO REMOVE OR INSTALL
4. LOAD CAPACITY 600 LBS.
5. TP70
6. PLATFORM LOAD CAPACITY 1500 LBS.



Rear view of dolly

TA 245389

**1-10. EQUIPMENT DATA**

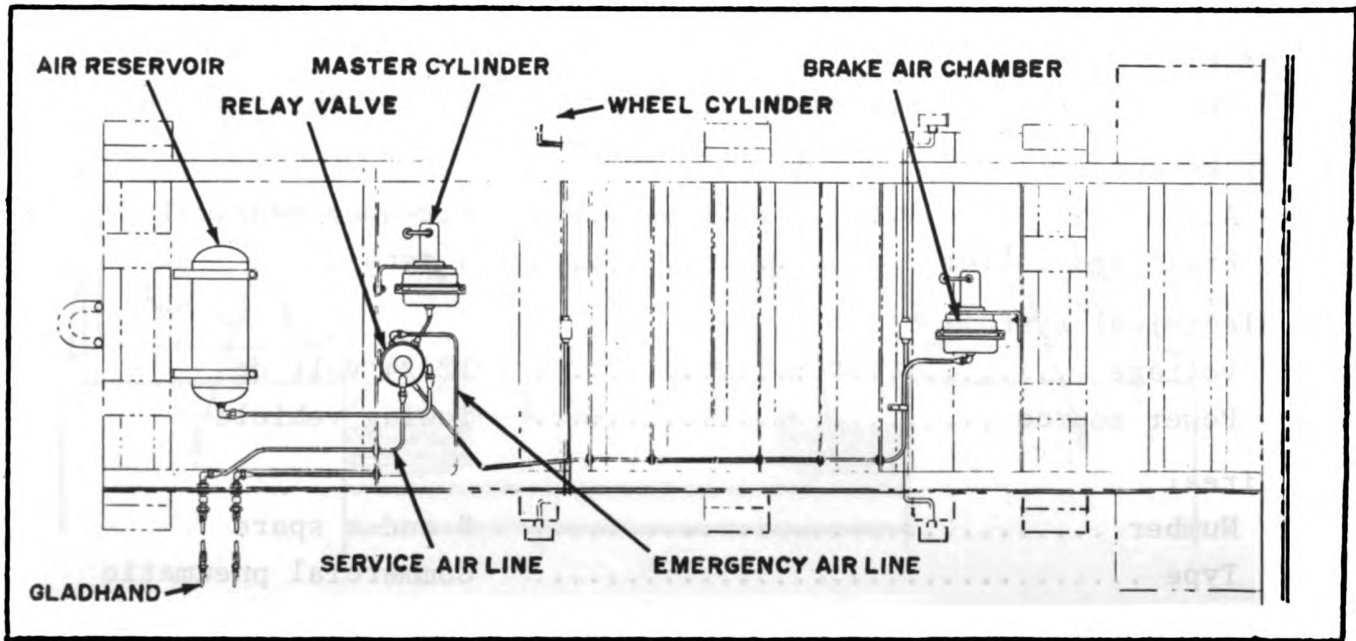
Towing facility .....	kingpin	2 in.
<b>Dimensions:</b>		
Overall length (over corner posts) ...	395 in.	(1 003.3 cm)
Overall length (with platforms stowed)	377 in.	(957.6 cm)
Overall width (without side platform).	96 in.	(243.8 cm)
Kingpin to front .....	18 in.	(45.7 cm)
Kingpin to center of axle .....	292 in.	(741.7 cm)
Overall height (operational) .....	140 in.	(355.6 cm)
Overall height (without dolly) .....	96 in.	(243.8 cm)
<b>Weight:</b>		
Weight (empty) .....	28,710 lbs.	(13 034.3 kg)
Weight on kingpin (empty) .....	9,460 lbs.	(4 294.8 kg)
Weight on wheels (empty) .....	19,250 lbs.	(8 739.5 kg)
Weight (loaded) .....	37,710 lbs.	(17 120.3 kg)
Weight on kingpin (loaded) .....	12,430 lbs.	(5 643.2 kg)
Weight on wheels (loaded) .....	25,280 lbs.	(11 477.1 kg)
Weight of dolly .....	5,620 lbs.	(2 551.5 kg)
Cubage (shipping) .....	3,089 cu.ft.	(86.5 m <sup>3</sup> )
<b>Axle:</b>		
Tubular ordnance standard .....	14,000 lbs.	(6 356.0 kg)
<b>Brake system:</b>		
Actuation .....	Air-over-hydraulic	
Brake assemblies .....	4 sets	
<b>Electrical system:</b>		
Voltage .....	12/24 volt dc	
Power source .....	Towing vehicle	
<b>Tires:</b>		
Number .....	8 and a spare	
Type .....	Commercial pneumatic	
Design .....	Highway tread	

**1-10. EQUIPMENT DATA (cont)**

Tires (cont)		
Number of plies .....	10	
Tire inflation:		
Highway .....	70 psi	(482.65 k pa)
Cross-country .....	45 psi	(310.28 k pa)
Sand, mud, snow .....	45 psi	(310.28 k pa)
Landing gear .....	Separately operated, two-speed	
Suspension .....	Single point, five-leaf spring tandem suspension system	
Fording depth .....	60 in.	(152.4 cm)

Section III. TECHNICAL PRINCIPLES OF OPERATION

**1-11. BRAKE SYSTEM**



Dolly brake system

TA 245390

1-11. BRAKE SYSTEM (cont)
---------------------------

When the air couplings are connected between the towing vehicle and the semitrailer, air shutoff valves on the towing vehicle are opened. Air flows through the air lines and the relay valve into the air reservoir on the semitrailer. The air pressure is built up to equal the air pressure on the towing vehicle.

When pressure is applied to the brake pedal on the towing vehicle, air pressure is directed to the relay valve.

The relay valve releases compressed air from the reservoir to the brake air chamber attached to the hydraulic master cylinder.

The brake air chamber push rod extends to contact a piston inside the master cylinder. The piston is actuated by pressure from the push rod to create hydraulic pressure in proportion to the pressure applied by the push rod.

The hydraulic pressure moves the wheel cylinder piston in the wheel brake mechanism. These pistons force the lining of the brake shoe against the brake drum.

When the brake pedal is released, a drop in pressure causes the relay valve to release the compressed air from the semitrailer brake system.

With the air released, the brake return springs pull the brake shoes away from the drums.

The extent of brake release is in direct proportion to the brake pedal movement.

1-19 (1-20 blank)

CHAPTER 2

OPERATING INSTRUCTIONS

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Section I. DESCRIPTION AND USE OF THE OPERATOR'S  
CONTROLS AND INDICATORS

- 2-1. LANDING GEAR CRANK Refer to para 1-7a.
- 2-2. GLADHAND (AIR HALF-COUPLING) Refer to para 1-7n(8),(9).
- 2-3. AIR RESERVOIR DRAIN COCK Refer to para 1-7n(5).
- 2-4. SPARE WHEEL CARRIER Refer to para 1-7m.
- 2-5. LEVELING JACK Refer to para 1-7r.
- 2-6. LADDERS Refer to para 1-7g.

CHAPTER 2

OPERATING INSTRUCTIONS

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- 2-6. LADDERS Refer to para 1-7g.

Section II. PREVENTIVE MAINTENANCE CHECKS  
AND SERVICES (PMCS)

2-7. MAINTENANCE FORMS AND RECORDS

Every mission begins and ends with paper work. There isn't much of it, but you have to keep it up. The forms and records you fill out have several uses. They are a permanent record of the services, repairs, and modifications made on your vehicle. They are reports to organizational maintenance and to your Commander, and they are a checklist for you when you want to know what is wrong with the vehicle after its last use, and whether those faults have been fixed. For the information you need on forms and records, see TM 38-750.

2-8. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

- a. Do your before (B) PREVENTIVE MAINTENANCE just before you operate the vehicle. Pay attention to the CAUTIONS and WARNINGS.
- b. During checks and services (D) of PREVENTIVE MAINTENANCE will be performed while the equipment and/or its component systems are in operation.
- c. Do your after (A) PREVENTIVE MAINTENANCE right after operating the vehicle. Pay attention to the CAUTIONS and WARNINGS.
- d. Do your weekly (W) PREVENTIVE MAINTENANCE weekly.
- e. Do your monthly (M) PREVENTIVE MAINTENANCE once a month.
- f. If something doesn't work, troubleshoot it with the instructions in this manual or notify your supervisor.
- g. Always do your PREVENTIVE MAINTENANCE in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.
- h. If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, report it to organizational maintenance RIGHT NOW.
- i. When you do your PREVENTIVE MAINTENANCE, take along the tools you need to make all the checks. You always need a rag or two.

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point is 138°F (58.8°C).

2-8. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)
--

(1) Keep it clean: Dirt, grease, oil and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use cleaning solvent (item 3, appendix E) on all metal surfaces. Use soap and water when you clean rubber or plastic material.

(2) Bolts, nuts and screws: Check them all for obvious looseness, missing, bent or broken condition. You can't try them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it, or report it to organizational maintenance if you can't tighten it.

(3) Welds: Look for loose or chipped paint, rust, or gap where parts are welded together. If you find a bad weld, report it to organizational maintenance.

(4) Electric wires and connectors: Look for cracked, frayed or broken insulation, bare wires, and loose connectors. Tighten all loose wires and connectors as required.

(5) Hoses and fluid lines: Look for wear, damage and leaks. Make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to organizational maintenance.

j. It is necessary for you to know how fluid leakage affects the status of your vehicle. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your vehicle. Learn, then be familiar with them and **REMEMBER - WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR.**

Leakage Definition for Crew/Operator PMCS

- CLASS I:** Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
- CLASS II:** Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.
- CLASS III:** Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

CAUTION

Equipment operation is allowable with minor leakages (Class I or II). Of course, consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor.

When operating with Class I or Class II leaks, continue to check fluid levels as required in your PMCS. Class III leaks should be reported to your supervisor or organizational maintenance.



**Operator/Crew Preventive Maintenance Checks and Services**

**NOTE**

Within designated interval, these checks are to be performed in the order listed.

**B—Before                      D—During                      A—After                      W—Weekly                      M—Month**

Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
1	●					<p><b>NOTE</b></p> <p>Perform weekly as well as before PMCS if:</p> <p>a. You are the assigned operator but have not operated the vehicle since the last weekly.</p> <p>b. You are operating the vehicle for the first time.</p> <p><b>MAKE THE FOLLOWING WALK-AROUND CHECKS:</b></p> <p><b>EXTERIOR OF VEHICLE</b></p> <p>a. Check tires for unusual or extreme wear, cuts, cracks, and improper inflation. Remove any stones from between the treads.</p> <p>b. Visually check for loose, missing or damaged parts.</p> <p>c. Check for evidence of leakage (oil or brake fluid) on or under semitrailer.</p> <p>d. Gage tires for correct pressure (70 psi, 482.65k pa).</p>	<p>Tires have cuts or abrasions which would result in tire failure during operation.</p> <p>Class III leakage is evident.</p>

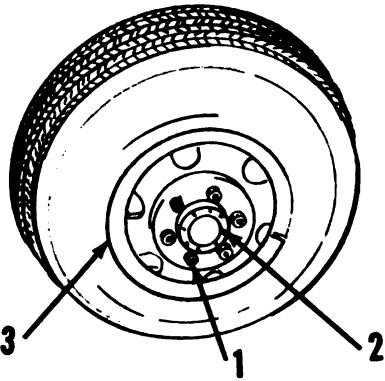
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Operator/Crew Preventive Maintenance Checks and Services (cont)

NOTE

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B—Before                      D—During                      A—After                      W—Weekly                      M—Monthly

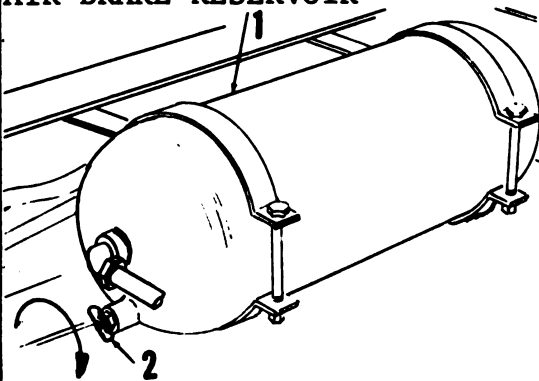
Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
2						<p>WHEELS</p>  <p>NOTE</p> <p>Left wheel nuts are turned counterclockwise to tighten and clockwise to loosen. Right wheel nuts are turned clockwise to tighten and counterclockwise to loosen.</p> <p>500 a. Inspect wheel nuts (1) every 500 miles for tightness. Tighten if necessary and have organizational maintenance torque nuts to 450-500 lb-ft (610.2-678 Nm).</p> <p>500 b. Inspect hub cap bolts (2) every 500 miles for tightness. Tighten if necessary.</p> <p>500 c. Inspect wheel (3) for damage every 500 miles.</p>	Two or more wheel nuts missing from any one wheel.

**Operator/Crew Preventive Maintenance Checks and Services (cont)**

**NOTE**

Within designated interval, these checks are to be performed in the order listed.

**B—Before                      D—During                      A—After                      W—Weekly                      M—Monthly**

Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
3	●					<b>BRAKE AIR HOSES</b> Check air lines/hoses for obvious damage.	Air line/hose(s) broken or missing.
4	●					<b>ELECTRICAL WIRING</b> Visually inspect electrical wiring for cuts, breaks or other damage.	
5	●				●	<b>LIGHTS AND REFLECTORS</b> a. Operate lights (if tactical situation permits). b. Visually inspect reflectors for presence or damage.	
6						<b>AIR BRAKE RESERVOIR</b>  <p style="text-align: center;"><b>WARNING</b></p> Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.	

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**Operator/Crew Preventive Maintenance Checks and Services (cont)**

**NOTE**

Within designated interval, these checks are to be performed in the order listed.

**B—Before                      D—During                      A—After                      W—Weekly                      M—Monthly**

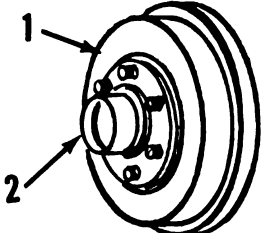
Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
6			●			AIR BRAKE RESERVOIR (cont)  a. Open drain cock to drain accumulated moisture. b. Close drain cock.	
7	●					SPRINGS  Visually inspect springs for abnormal sag, broken or shifted leaves, loose or missing U-bolts, nuts or screws.	Spring damaged or missing parts.
8		●				GENERAL OPERATIONS  Be alert for unusual noises or abnormal conditions that might indicate load shifting or defective performance.	
9		●				BRAKES  During operation, apply semitrailer brakes several times and check for any unusual conditions or unsatisfactory performance (grabbing, pulling or slow brakes).	Brakes fail to operate.
10		●				TRACKING  Pull semitrailer straight ahead and check for any side pull, wander, shimmy, or slack between kingpin and fifth wheel lock.	

**Operator/Crew Preventive Maintenance Checks and Services (cont)**

**NOTE**

Within designated interval, these checks are to be performed in the order listed.

**B—Before                      D—During                      A—After                      W—Weekly                      M—Monthly**

Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
11						<p><b>BRAKE DRUM AND HUB (TEMPERATURES)</b></p>  <p><b>WARNING</b></p> <p>Overheated brake drums and hubs can cause severe burns to personnel when touched.</p> <p>After operations, cautiously touch brake drums (1) and hubs (2) for excessive heat.</p> <p><b>NOTE</b></p> <p>Overheated brake drums indicate improperly adjusted, defective or dry wheel bearings or dragging brakes.</p>	
12	●					<p><b>LANDING GEAR</b></p> <p>Couple semitrailer to towing vehicle and check landing gear for obvious damage.</p>	Landing gear does not work.

**Operator/Crew Preventive Maintenance Checks and Services (cont)**

**NOTE**

Within designated interval, these checks are to be performed in the order listed.

**B—Before                      D—During                      A—After                      W—Weekly                      M—Monthly**

Item No.	Interval					ITEM TO BE INSPECTED Procedures: Check For and Have Repaired, Filled, or Adjusted as Needed	Equipment Is Not Ready/Available If:
	B	D	A	W	M		
13		●				AIR PRESSURE Inspect for leaks in the air brake system by stopping engine of towing vehicle when air pressure is at a maximum and noting any large drop on the air pressure gage within about one minute.	Leaks are present.
14	●				●	BODY AND FRAME a. Visually inspect body parts, such as doors and spare wheel carrier, for damage. b. Make general inspection of body, ladders and landing gear and leveling jack shoes. c. Visually inspect rear and side platforms. Make certain lock pins are present and in good order.	
15					●	RADIO FREQUENCY INTERFERENCE (RFI) SHIELDING  NOTE Radio Frequency Interference shielding in the door jambs must be kept clean at all times.  Make certain door jambs and thresholds are free of dirt, dust and grime. Wash with cleaning solvent (item 3, appendix E) and wipe clean.	

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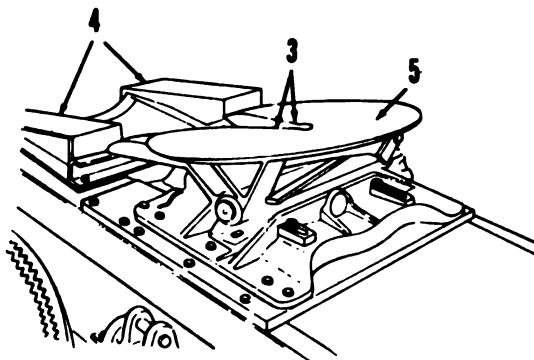
Section III. OPERATION UNDER USUAL CONDITIONS

2-9. COUPLING SEMITRAILER TO TOWING VEHICLE

WARNING

Be sure all personnel stand clear of towing vehicle and semitrailer during coupling operations, or serious injury may result.

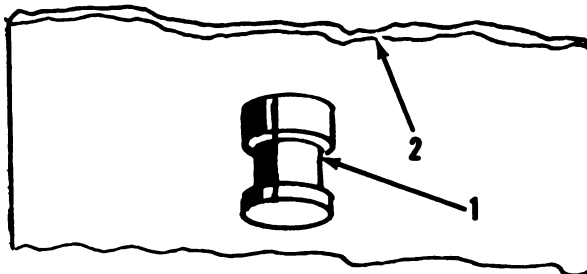
1. Aline towing vehicle with semitrailer.
2. Slowly back towing vehicle into position. Be sure kingpin (1) is in line with fifth wheel coupler jaws (3).
3. Before kingpin plate (2) starts to ride the approach ramps (4), check that kingpin plate (2) is above approach ramps (4).



NOTE

Ground guide will assist in raising and lowering landing gear legs as required.

4. Adjust height as needed by using landing gear. Make sure coupler jaws (3) are open.
5. Slowly back towing vehicle until coupler jaws (3) engage kingpin.



CAUTION

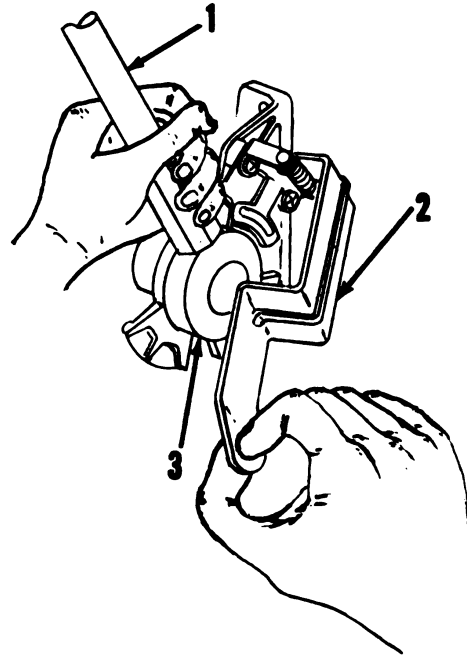
Visually check coupling. You should not be able to see daylight between fifth wheel and kingpin plate. If light shows, realine towing vehicle.

6. Make sure coupling is secure by inching forward. If coupling is not locked, rock back and forth slowly until kingpin (1) is locked in fifth wheel (5).

1. Kingpin
2. Kingpin plate
3. Coupler jaws
4. Ramps
5. Fifth wheel

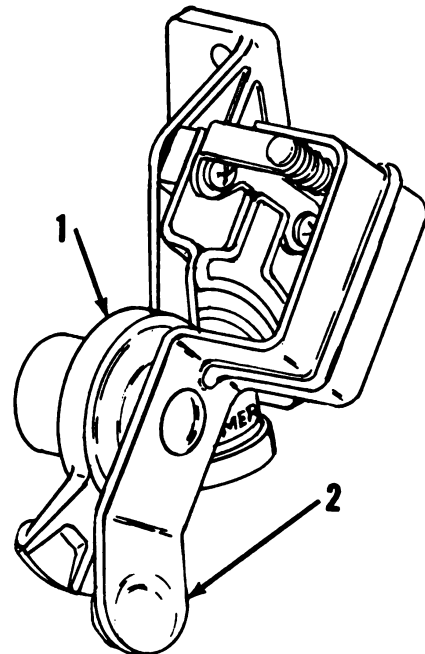
**2-9. COUPLING SEMITRAILER TO TOWING VEHICLE (cont)**

7. Raise spring loaded covers (2) on gladhands on front of semi-trailer.
8. Connect coupling marked SERVICE on towing vehicle air hose (1) to gladhand marked SERVICE (3) on semitrailer.



1. Towing vehicle air hose
2. Gladhand cover
3. Service gladhand

9. Connect coupling marked EMERGENCY on towing vehicle air hose to gladhand marked EMERGENCY (1) on semitrailer.



1. Emergency gladhand
2. Gladhand cover

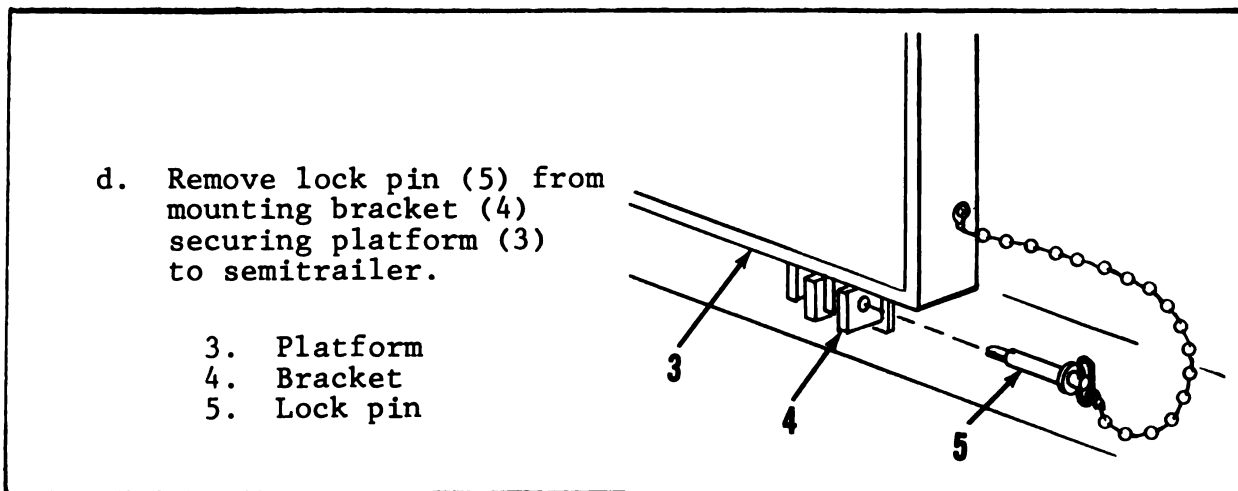
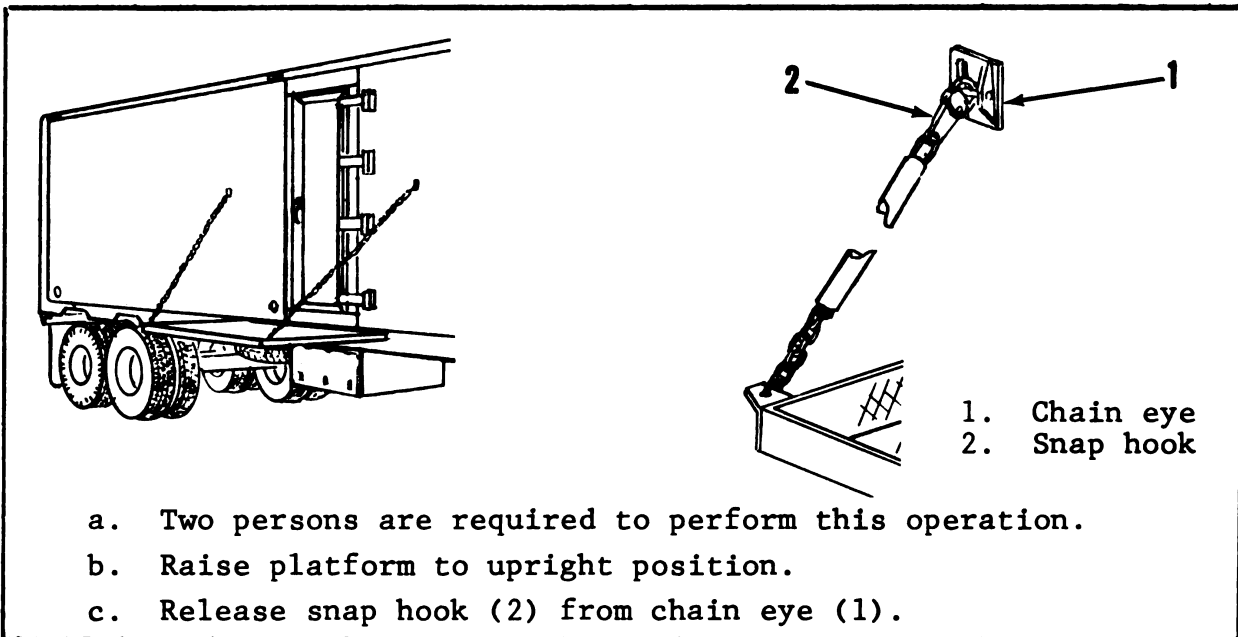
TA 245396

2-11



2-9. COUPLING SEMITRAILER TO TOWING VEHICLE (cont)

10. Make certain air reservoir drain cock is closed.
11. Open two shutoff valves on towing vehicle to pressurize semitrailer air system.
12. Unlatch both boarding ladders from platforms (para 2-18). and set aside.
13. Raise and secure rear platform (para 2-17).
14. Stow boarding ladders on rear platform.
15. Remove side platform from side of semitrailer as follows:

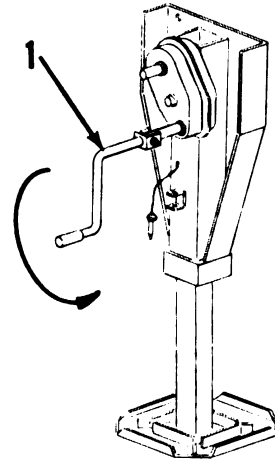


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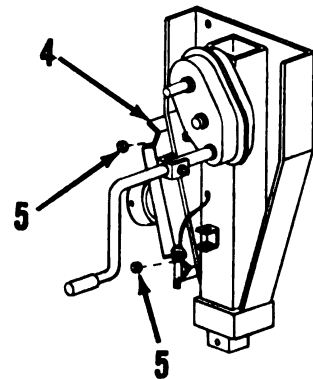
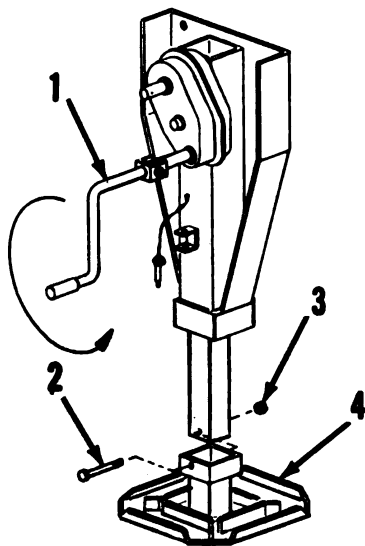
2-9. COUPLING SEMITRAILER TO TOWING VEHICLE (cont)

e. Place side platform in stowage box underneath semitrailer.

16. Lift and position crank (1) so that slot in crank engages pin in landing gear shaft and locks in place (para 2-13). Turn crank counterclockwise to raise leg.



1. Crank



1. Crank  
2. Screw  
3. Nut  
4. Shoe  
5. Nut

17. Using crank (1), raise leveling jack legs slightly. Remove nut (3) and screw (2) securing shoe (4) to leg. Reinsert screw (2) and nut (3) in shoe for safekeeping.

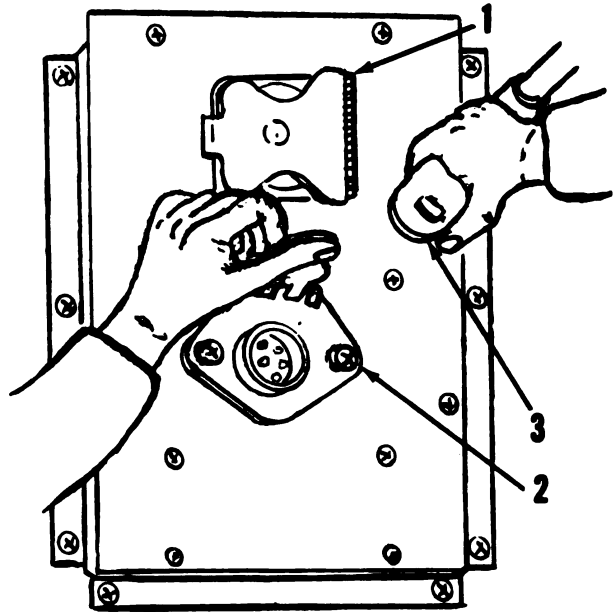
18. Stow shoe (4) on rear side of leveling jack (para 2-14). Secure shoe (4) with two nuts (5).

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2-9. COUPLING SEMITRAILER TO TOWING VEHICLE (cont)

19. Plug towing vehicle intervehicular cable (3) into receptacle on front of semitrailer.
20. Make sure to use the proper receptacle, either 12-volt (2) or 24-volt (1), depending on the electrical system of the towing vehicle.
21. Check to see that all lights are in working order.

1. 24-volt receptacle
2. 12-volt receptacle
3. Intervehicular cable



2-10. TOWING THE SEMITRAILER

DRIVING

1. When driving towing vehicle and semitrailer, the overall length of the unit must be kept in mind when passing other vehicles and when turning.
2. Because the unit is hinged in the middle, turning and backing are also affected.
3. The semitrailer's payload will affect stopping and off road maneuverability.

TURNING

1. When turning corners, allow for the fact that the semitrailer wheels turn inside the turning radius of the towing vehicle.
2. To make a right turn at a road intersection, drive towing vehicle about half way into the intersection and then cut sharply to the right.
3. This will allow for the shorter turning radius of the semitrailer and will keep it off the curb.

**2-10. TOWING THE SEMITRAILER (cont)****STOPPING**

1. In normal operation, the brakes of towing vehicle and semitrailer are applied at the same time when the driver steps on brake pedal.
2. Brake pressure must be applied gradually and smoothly.
3. Semitrailer brakes may be applied separately by using brake control lever on towing vehicle steering column.
4. On steep down grades or slippery surfaces, semitrailer brakes must be applied before towing vehicle brakes. This will reduce the possibility of jack-knifing the semitrailer.

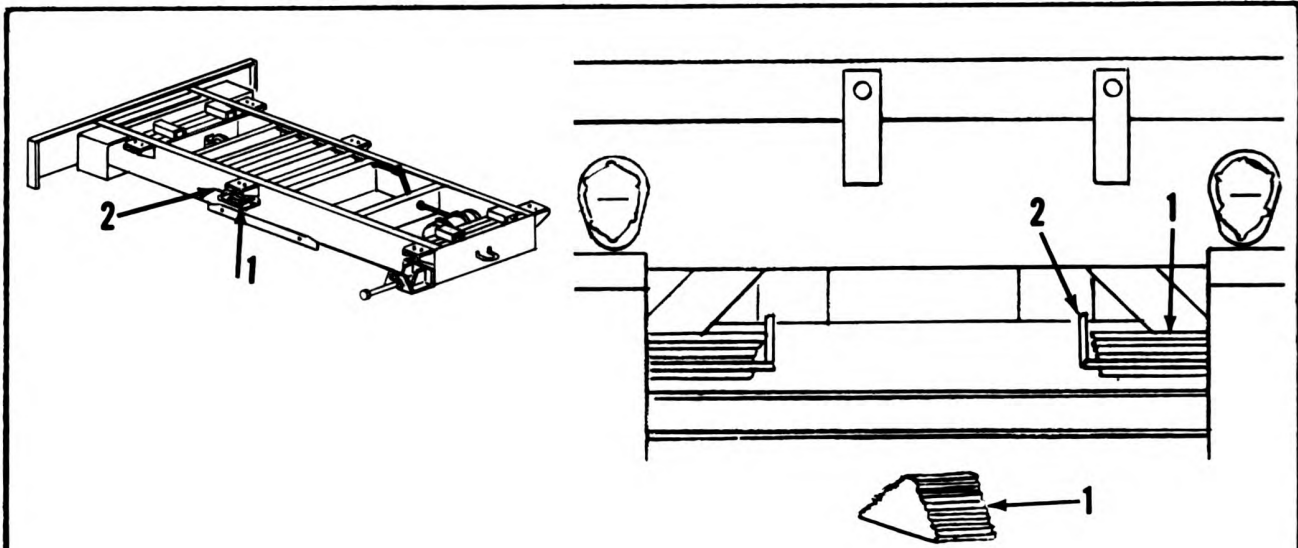
**PARKING**

1. When towing vehicle and semitrailer are to be parked and left unattended, set parking brake on towing vehicle and apply brakes on semitrailer.
2. Turn off towing vehicle engine before leaving cab.
3. Block semitrailer wheels with wheel chocks.

**BACKING**

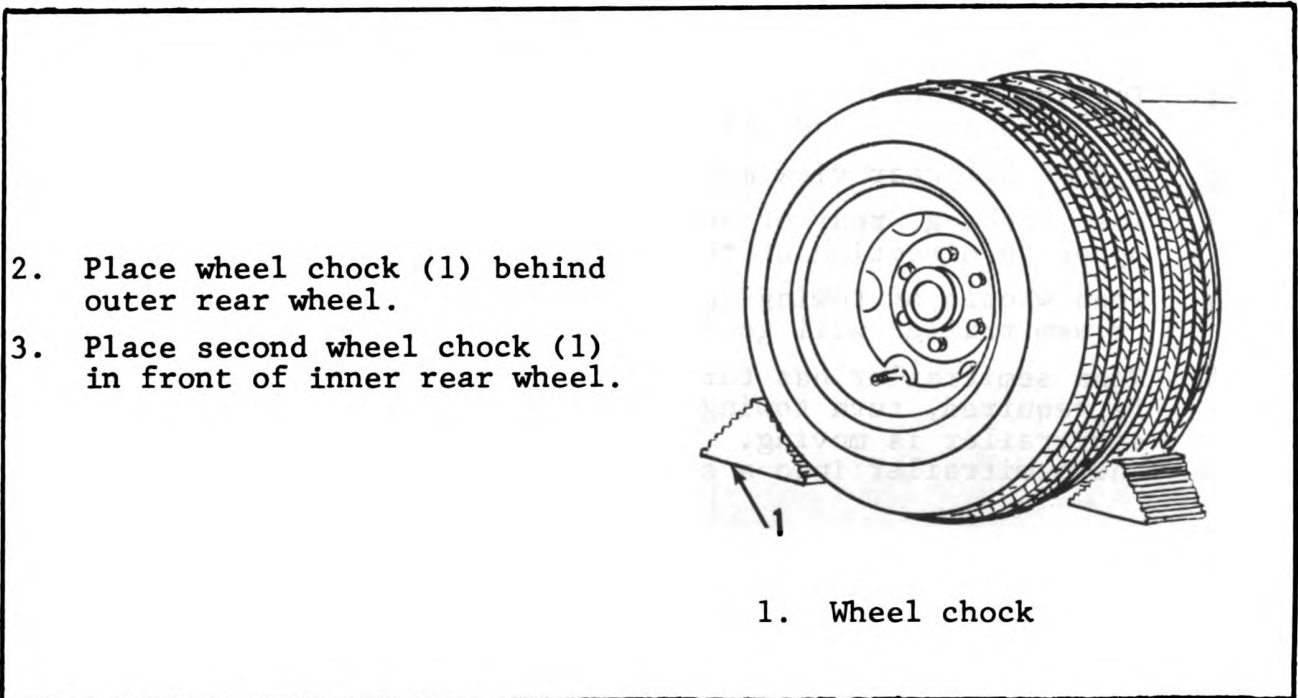
1. The assistant driver or another person will act as ground guide to assist and direct driver.
2. Adjust all rear view mirrors before backing.
3. When backing, rear of semitrailer will always move to opposite direction of that in which front wheels are turned.
4. When wheels of towing vehicle are turned to the right, rear of semitrailer will go to the left.
5. When semitrailer has turned and backing in a straight line is required, turn towing vehicle wheels in the direction semitrailer is moving. This will slowly bring towing vehicle and semitrailer into a straight line.

2-11. UNCOUPLING SEMITRAILER FROM TOWING VEHICLE



- 1. Wheel chock
- 2. Bracket

1. Remove wheel chock (1) from stowage bracket (2) and unwind chain.



- 2. Place wheel chock (1) behind outer rear wheel.
- 3. Place second wheel chock (1) in front of inner rear wheel.

1. Wheel chock

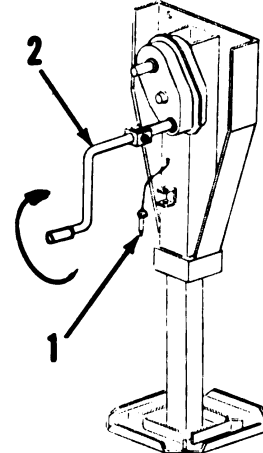
TA 245401

2-11. UNCOUPLING SEMITRAILER FROM TOWING VEHICLE (cont)

NOTE

Make sure there is firm footing under landing gear and leveling jack shoes before lowering landing gears or leveling jacks.

4. Remove pin (1) from crank holder and move crank (2) to cranking position.
5. Turn crank (2) clockwise to lower landing gear legs until they support front of van.
6. Pull out crank (2) for high speed lowering. Push in crank for slower speed and leveling.

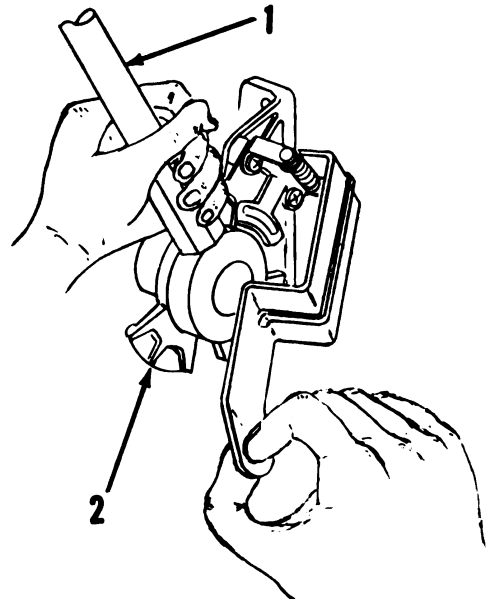


1. Pin
2. Crank

WARNING

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

7. Close shutoff valves on towing vehicle air lines.
8. Open air reservoir drain cock (see para 2-19).
9. Disconnect intervehicular air hoses (1) from semitrailer gladhands (2).



1. Intervehicular air hose
2. Gladhand

TA 245402

2-17

2-11. UNCOUPLING SEMITRAILER FROM TOWING VEHICLE (cont)

10. Disconnect intervehicular electrical cable.
11. Release kingpin lock on the fifth wheel and drive towing vehicle away from semitrailer.

2-12. PREPARING SEMITRAILER FOR OPERATION

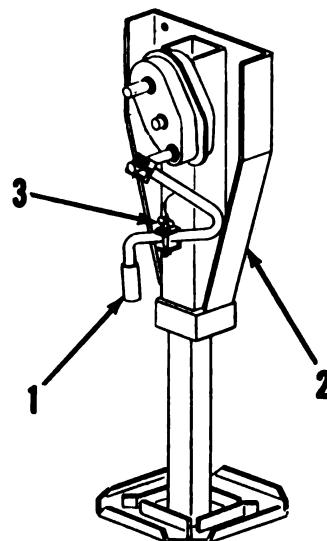
PRELIMINARY STEPS

1. Uncouple semitrailer from towing vehicle (para 2-11).
2. Lower landing gear legs (para 2-13).
3. Level van body (para 2-15).
4. Install side platform and lower rear platform (para 2-16,2-17).
5. Install ladders (para 2-18).

2-13. LANDING GEAR

OPERATION

1. Make certain landing gears are in normal operating position, with legs contacting ground.
2. Landing gear crank (1) is stowed on landing gear (2).
3. It is held in place on top of landing gear with screw, nut and washer through the slot in landing gear shaft.
4. Other end of crank is retained by lock pin (3).



1. Crank
2. Landing gear
3. Lock pin

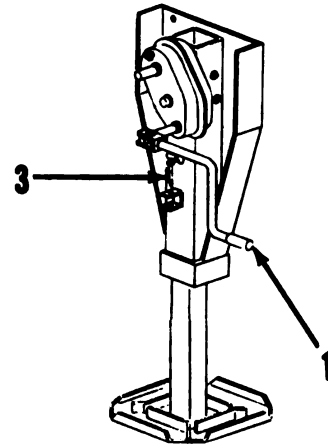
TA 245403

**2-13. LANDING GEAR (cont)**

**OPERATION (cont)**

5. Remove lock pin (3). Crank (1) will remain suspended on landing gear shaft, held in place by screw, washer and nut.

- 1. Crank
- 3. Lock pin



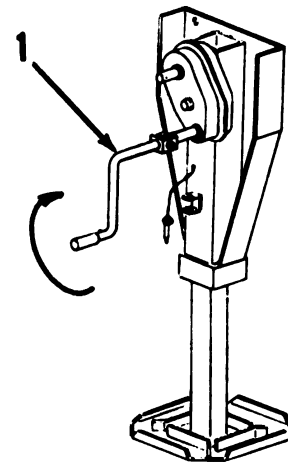
6. Lift and position crank (1) so that slot in crank engages pin in landing gear shaft and locks in place.

7. Landing gears are two speed, separately operated landing legs.

8. Pull out shaft for high speed travel. Push in shaft for low speed travel.

9. Use crank (1) to raise or lower semitrailer. Clockwise rotation raises van. Counter-clockwise rotation lowers van.

- 1. Crank

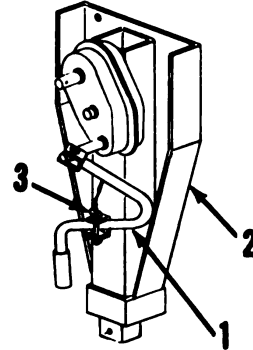




2-14. LEVELING JACK

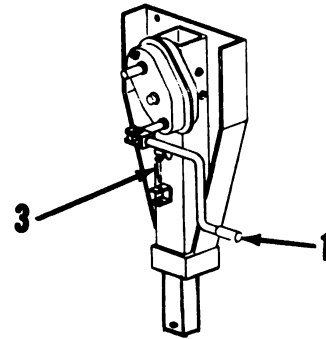
OPERATION

1. Leveling jack crank (1) is stowed on jack (2).
2. It is held in place on top of leveling jack with screw, washer and nut through the slot in leveling jack shaft.
3. Other end of crank is retained by lock pin (3).



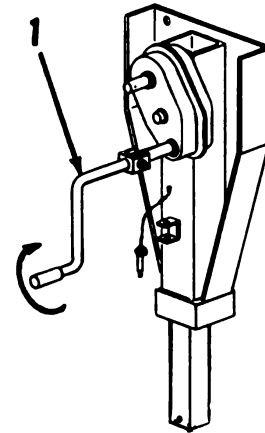
1. Crank
2. Leveling jack
3. Lock pin

4. Remove lock pin (3). Crank (1) will remain suspended on leveling jack shaft, held in place by screw, washer and nut.



1. Crank
3. Lock pin

5. Lift and position crank (1) so that slot in crank engages pin in leveling jack shaft and locks in place.
6. Leveling jacks are two speed separately operated legs.
7. Pull out shaft for high speed travel. Push in shaft for low speed travel.

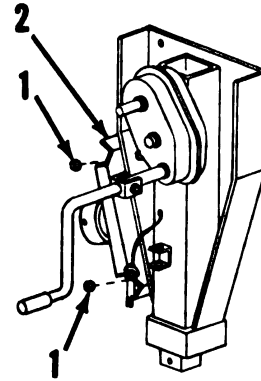


1. Crank

2-14. LEVELING JACK (cont)

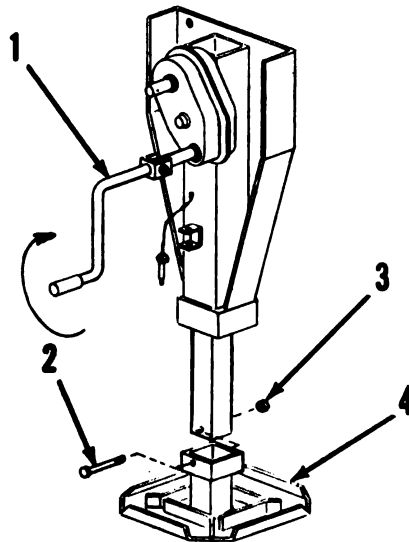
OPERATION (cont)

8. Remove nuts (1) securing leveling jack shoe (2) to rear side of leveling jack. Remove shoe (2).



1. Nut  
2. Shoe

9. Place shoe (4) on firm ground in alignment with leveling jack. Lower leg until it fits into shoe.
10. Line up mating holes and secure shoe to leveling jack with screw (2) and nut (3).
11. Use crank (1) to raise or lower rear of semitrailer. Clockwise rotation raises rear of van. Counterclockwise rotation lowers rear of van.



1. Crank  
2. Screw  
3. Nut  
4. Shoe

TA 245406

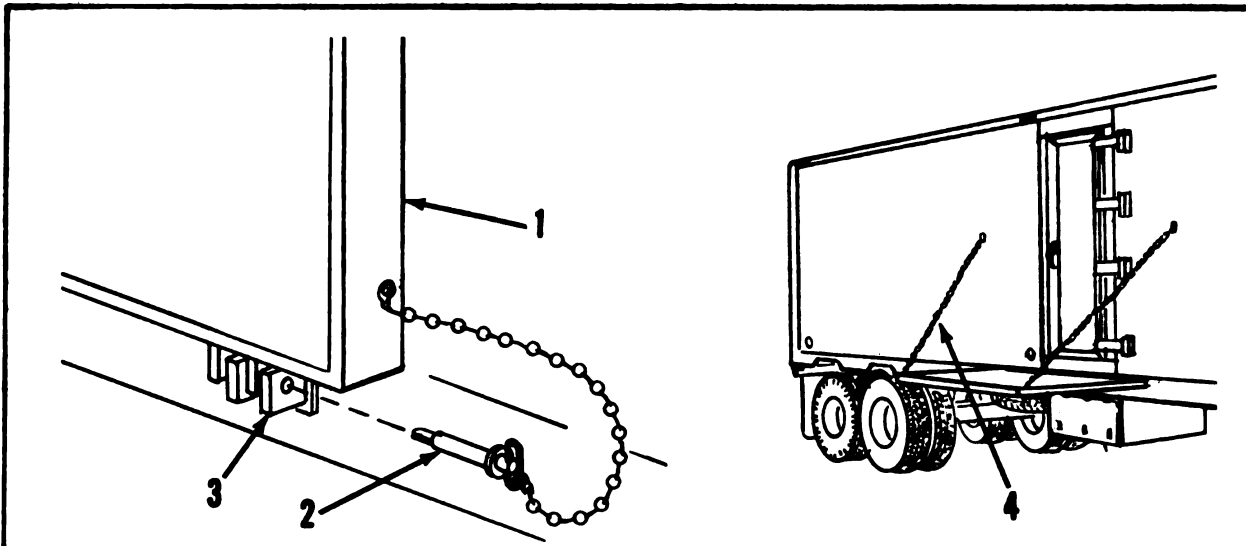
2-21

**2-15. LEVELING VAN BODY**

1. Two persons are required for this procedure, one in interior of van with a level and another to operate landing gears and leveling jacks.
2. Follow procedure of paragraph 2-14 to set leveling jacks in operating position.
3. Raise or lower landing gear legs or leveling jacks in turn as required (para 2-13, 2-14).

**2-16. INSTALLING AND REMOVING SIDE PLATFORM**

**INSTALLING SIDE PLATFORM**



1. Side platform
2. Lock pin

3. Mounting bracket
4. Chain

1. Two persons required.
2. Remove platform (1) from its stowed location in stowage box underneath van body.
3. Both persons place platform in upright position on mounting brackets (3) and lock in place with lock pins (2).
4. One person supports platform (1) in upright position while other installs chains (4).
5. Lower platform until it comes to rest on chains (4).

**2-16. INSTALLING AND REMOVING SIDE PLATFORM (cont)**

**REMOVING SIDE PLATFORM**

1. Two persons required.
2. One person supports platform in upright position.
3. Other person removes chains and lock pins.
4. Both persons stow platform in stowage box underneath van body.

**2-17. RAISING AND LOWERING REAR PLATFORM**

**RAISING REAR PLATFORM**

**WARNING**

With lock pins removed, upper part of platform will be loose. In both raising and lowering operations, person supporting platform must exercise care to prevent injury.

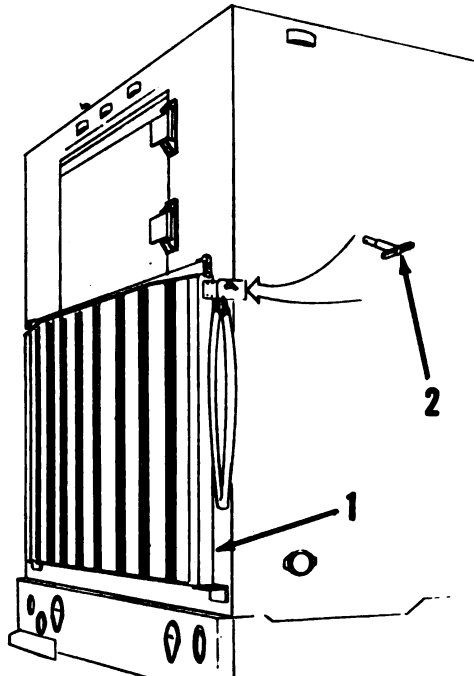
1. Two persons are required.
2. Both persons raise platform (1) to upright position, resting against van body.
3. One person supports platform in upright position.

**NOTE**

Ladder may be required for next step.

4. Second person inserts a lock pin (2) on each side to secure platform (1) in position.

1. Platform
2. Lock pin



TA 245408  
2-23

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2-17. RAISING AND LOWERING REAR PLATFORM (cont)

LOWERING REAR PLATFORM

1. Two persons are required for this operation.
2. One person supports platform in upright position.

NOTE

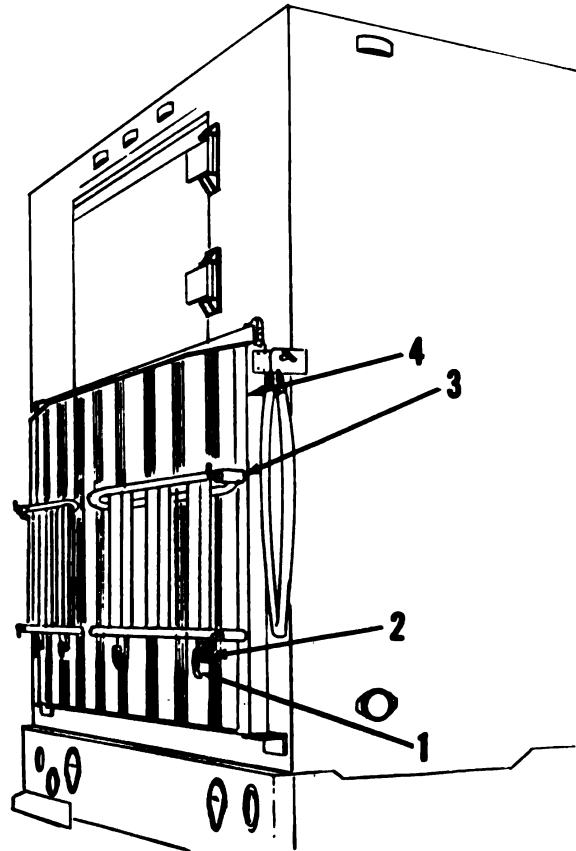
Ladder may be required for next step.

3. Second person removes lock pins from each side.
4. Both persons lower platform until it comes to rest on chains.

2-18. INSTALLING LADDERS

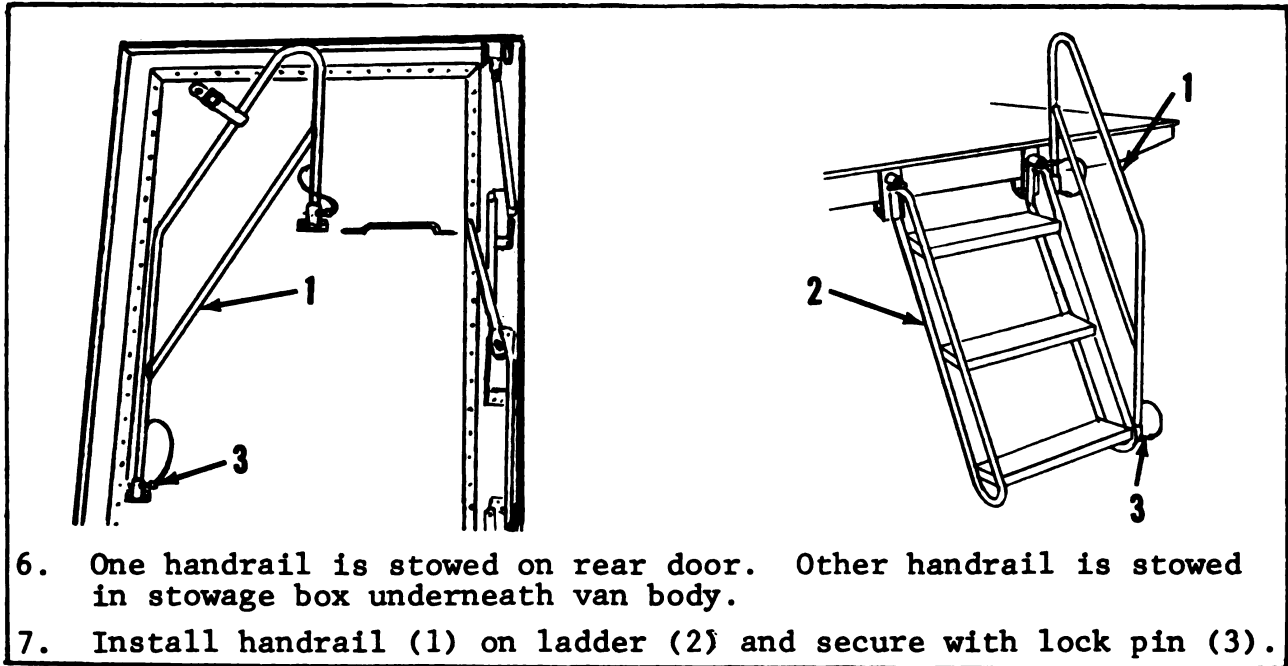
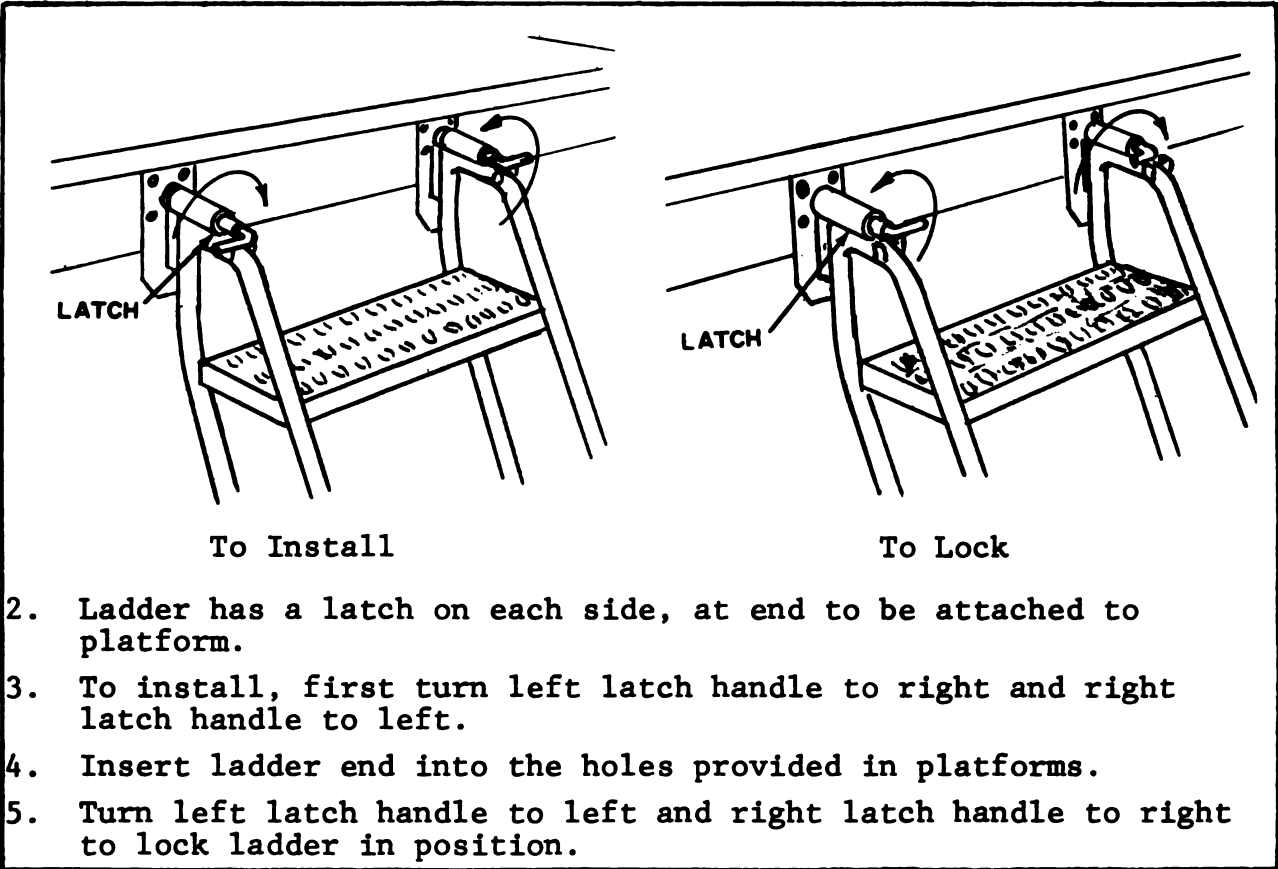
1. Loosen lever nut (1), release clamp (2) and remove ladder (3) from stowage on rear platform (4)

1. Lever nut
2. Clamp
3. Ladder
4. Rear platform



TA 245409

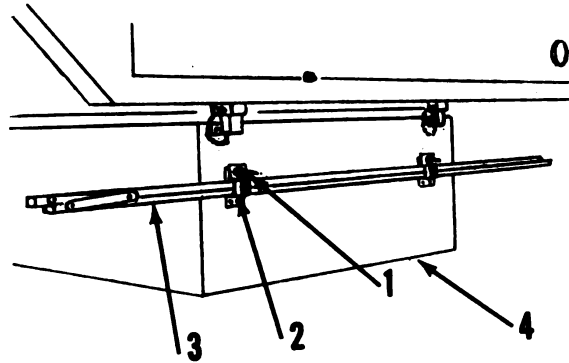
2-18. INSTALLING LADDERS (cont)



TA 245410  
2-25

2-18. INSTALLING LADDERS (cont)

8. Twelve foot folding ladder is stowed on rear of van body storage box.
9. Loosen lever nuts (1), release clamps (2) and remove ladder (3) from rear of storage box (4).



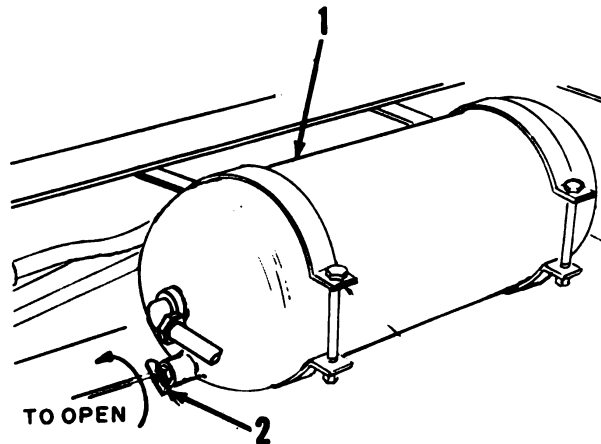
1. Lever nut
2. Clamp
3. Ladder
4. Storage box

2-19. AIR RESERVOIR DRAIN COCK

WARNING

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

1. The hand operated drain cock (2) is located at end and bottom of air reservoir (1).
2. Turn counterclockwise to open to drain moisture and to permit release of air pressure if brakes lock. Turn clockwise to close drain cock.
3. Open drain cock at end of each operating day.



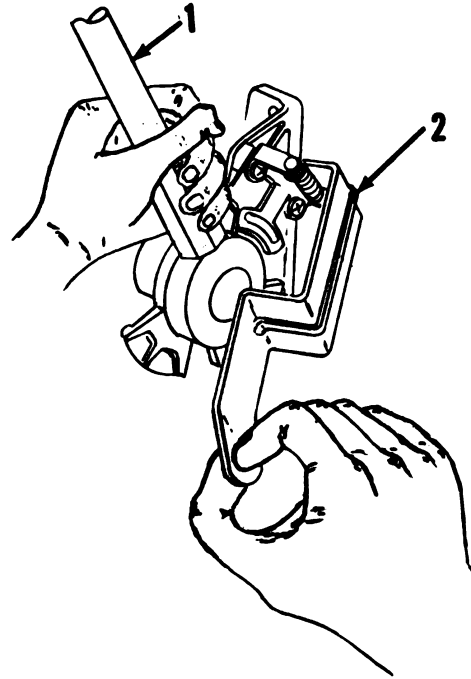
1. Air reservoir
2. Drain cock

TA 245411

**2-20. GLADHAND**

1. Lift gladhand cover (2).
2. Raise towing vehicle intervehicular air hose (1) coupling to a vertical position and aline outlet holes.
3. Rotate coupling to the horizontal locked position.

1. Intervehicular air hose
2. Gladhand cover



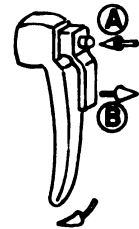
**2-21. EMERGENCY ESCAPE MECHANISM**

1. Both doors have an emergency escape mechanism to allow personnel to open the door, even though it is locked.
2. To disengage exterior handle, depress button (A) and pull lock pin (B) out completely.
3. Turn interior door handle clockwise and open door.

**IN EMERGENCY**

**TO OPEN DOOR WHEN EXTERIOR HANDLE IS LOCKED**

- 1) **(A) DEPRESS BUTTON AND (B) PULL LOCK PIN OUT COMPLETELY**



- 2) EXTERIOR HANDLE IS NOW DISENGAGED
- 3) OPERATE DOOR HANDLE IN NORMAL MANNER TURN CLOCKWISE

TA 245412

2-27

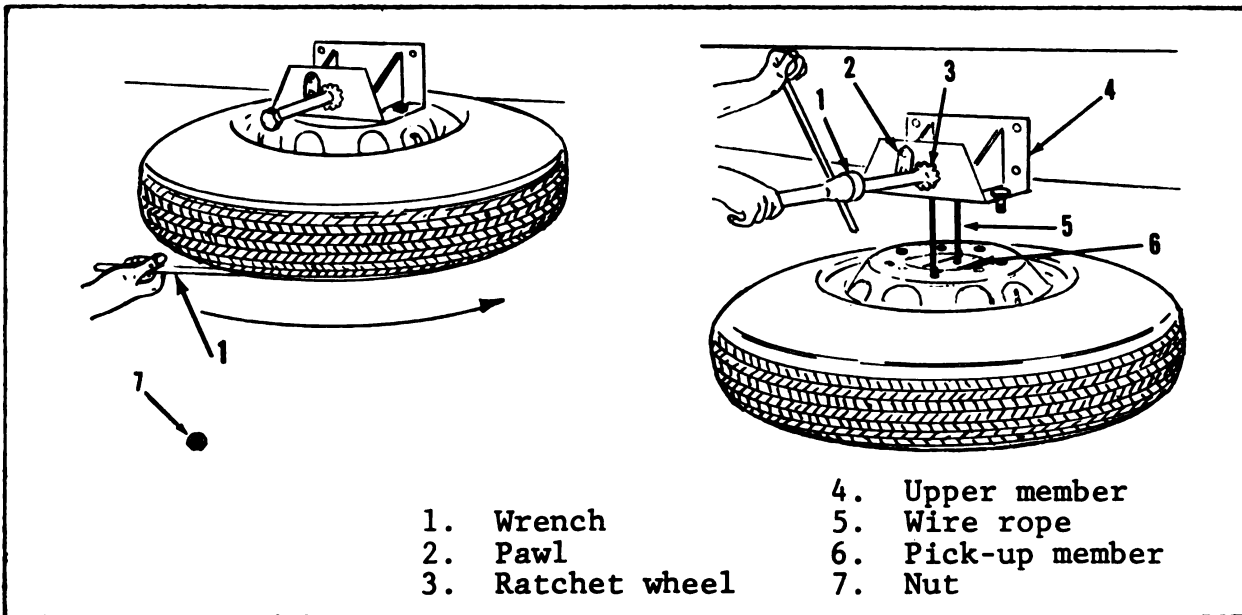


2-22. REMOVAL AND INSTALLATION OF SPARE WHEEL AND TIRE

REMOVAL

WARNING

Personnel must get under tire to remove nuts. Make certain pawl (2) is engaged in ratchet wheel (3). Exercise care to prevent injury.



1. Working from curbside of semitrailer, use wheel nut wrench (1) and remove two special wheel nuts (7) which secure wheel to upper member (4).
2. Wheel and lower pick-up member (6) are held in place by wire rope (5).
3. Position wheel nut wrench (1) on the nut at outer end of ratchet wheel (3) on which wire rope is wound.

WARNING

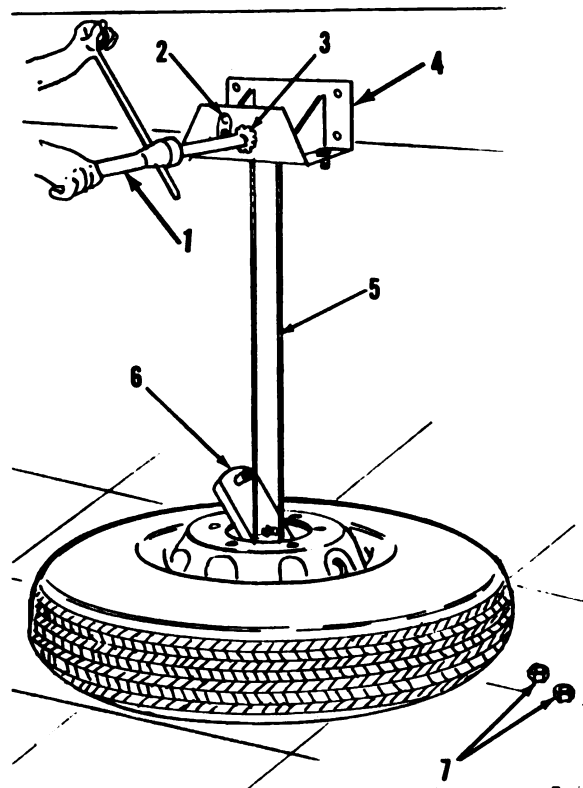
Hold wrench firmly when pawl is released; wheel can drop fast and cause injury.

4. Release pawl (2) from ratchet and turn wrench counterclockwise, thus lowering wheel.
5. Continue turning counterclockwise until wheel rests on ground.
6. Slip pick-up member (6) out of wheel hole.

**2-22. REMOVAL AND INSTALLATION OF SPARE WHEEL AND TIRE (cont)**

**INSTALLATION**

1. Lower pick-up member (6) to ground (steps (1) through (6) of removal procedure).
2. Insert pick-up member (6) through large hole in wheel. Rotate pick-up member so that it is at right angles to wire rope (5).
3. Set pawl (2) in contact with ratchet wheel (3) and turn wheel nut wrench (1) on ratchet wheel clockwise, raising wheel.
4. As wheel moves up to upper member (4), align securing bolts with any two holes in wheel.
5. After wheel is tight against upper member (4), install and tighten special nuts (7), using wheel nut wrench (1).



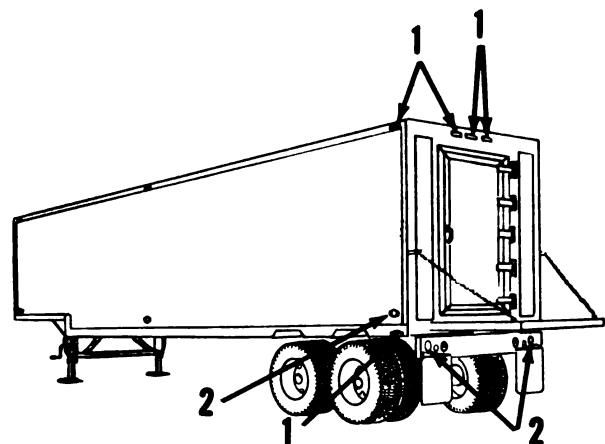
**2-23. CLEARANCE LIGHTS AND REFLECTORS**

**RED CLEARANCE LIGHT (1)**

Clearance lights are controlled by the switch on the towing vehicle. Turn towing vehicle light switch on to turn on clearance lights.

Three lights are located at top center of rear of van body.

One is located at each top corner of rear van body and one is at bottom rear corner of each side.



**RED REFLECTOR (2)**

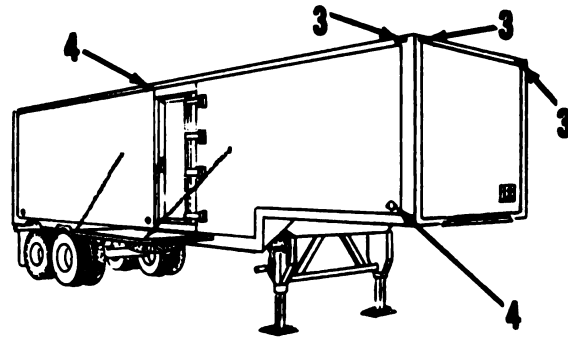
One at bottom left side, toward rear.

One at bottom right side, toward rear.

Two on rear, near taillights.

**AMBER CLEARANCE LIGHT (3)**

One at top center of each side.  
One at top front corner of each side.  
One at each top front corner of front side.



**AMBER REFLECTOR (4)**

Two on each side, one near front and one at center.

**Section IV. OPERATION UNDER UNUSUAL CONDITIONS**

**2-24. GENERAL INFORMATION**

a. In addition to the normal preventive maintenance service, special care in cleaning and lubrication must be observed where extremes of temperature, humidity, and terrain conditions are present or anticipated. Proper cleaning, lubrication, and storage and handling of fuels and lubricants not only insure proper operation and functioning, but also guard against excessive wear of the working parts and deterioration of the materials.

b. FM 55-30 contains instructions on driver selection, training, and supervision, and FM 21-305 prescribes special driving instructions for operating wheeled vehicles under unusual conditions. A detailed study of FM 55-30 and FM 21-305 is essential for use of this material under unusual conditions.

c. Refer to paragraphs 2-25 through 2-31 for operating procedures under unusual conditions. For lubrication procedures under operation in dusty and sandy conditions and after fording operations, refer to paragraphs 2-27 and 2-31.

d. When chronic failure of materiel results from subjection to extreme conditions, report the condition on SF Form 368.

TA 245415

## 2-25. OPERATION IN EXTREME COLD

### a. General.

(1) Extensive preparation of materiel scheduled for operation in extreme cold weather is necessary. Generally, extreme cold causes lubricants to thicken or congeal, cracks insulation, causes electrical short circuits and various construction materials to become hard, brittle, and easily damaged or broken.

(2) You, the operator, must always be on the alert for indications of the effect of cold weather on the semitrailer.

(3) You, the operator, must be very cautious when placing the vehicle in motion after a shutdown. Congealed lubricants may cause failure of parts. Tires frozen to the ground or frozen to the shape of the flat spot while under-inflated must be considered. One or more brake shoes may be frozen fast and require preheating to avoid damage to the towing vehicle clutch surfaces.

(4) Refer to FM 9-207 for description of operation in extreme cold.

### b. At Halt or Parking.

(1) When halted for short shutdown periods, park semi-trailer in a sheltered spot out of the wind. If no shelter is available, park so that its rear faces into the wind. For long shutdown periods, if high and dry ground is not available, prepare a footing of planks or brush.

(2) Clean all parts of the semitrailer of snow, ice and mud as soon as possible after operation. See PMCS, chapter 2, for after-operation procedures.

(3) Gage tires for correct pressure, 70 psi (432.65 k pa) highway, 30 psi (206.85 k pa) cross-country, 20 psi (137.9 k pa) soft sand.

## 2-26. OPERATION IN EXTREME HEAT

a. If possible, park semitrailer under cover to protect it from sun, sand and dust.

b. Cover inactive semitrailer with tarpaulins, if they are available and if there is no other available shelter. Shake out and air for several hours weekly canvas covers or other items subject to deterioration from mildew or attacks by insects or vermin.

c. Semitrailers, inactive for long periods in hot, humid weather are subject to rapid rusting and accumulation of fungi growth. Frequently inspect, clean and lubricate to prevent excessive deterioration.

**2-27. OPERATION IN DUSTY OR SANDY AREAS**

a. For emergency operations in beach and desert sands, correct tire inflation is 20 psi (137.9 k pa). For continued operation in sand, oversize balloon sand tires may be necessary. The tread should be of plain rib and the tire of round cross section.

b. Operation under extremely sandy or dusty conditions requires frequent inspection, cleaning and lubrication of all working parts in accordance with lubrication instructions.

**2-28. OPERATION IN MUD AND SNOW**

a. Reduce tire inflation to 20 psi (137.9 k pa).

b. After each operation, remove ice, snow and mud from underneath semitrailer and from hoses, lines, tubes, and electrical connections.

**2-29. OPERATION UNDER RAINY OR HUMID CONDITIONS**

a. Protect semitrailer from direct rainfall whenever possible. During dry periods open doors to speed drying process.

b. Dampness increases corrosive action. Inspect painted surfaces and electrical connections more frequently for damage.

**2-30. OPERATION IN SALT WATER AREAS**

Wash salt deposits from all equipment with fresh water. Observe the precautions in paragraph 2-29.

**2-31. FORDING OPERATIONS**

a. Instructions for fording operations for the towing vehicle apply also to the semitrailer.

b. Reduce tire pressure to 20 psi (137.9 k pa) to aid in amphibious landings.

c. After fording operations, lubricate semitrailer in accordance with lubrication instructions.

d. Notify Organizational Maintenance to clean wheel bearings and hand pack with lubricant specified in lubrication chart after each submersion.

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CHAPTER 3

OPERATOR MAINTENANCE INSTRUCTIONS

CHAPTER INDEX	Page
Lubrication chart .....	3-2
Detailed lubrication information .....	3-4
Cleaning .....	3-4
Service intervals .....	3-4
Painting and identification marking .....	3-5
Troubleshooting .....	3-6
Removal of wheel and tire assembly from hub .....	3-14

Section I. LUBRICATION INSTRUCTIONS

CAUTION

Do not mix hydraulic brake fluid with silicon based fluid. Mixing these fluids may cause brake failure.

**3-1. GENERAL**

This section contains the lubrication instructions, showing location, intervals and proper materials for lubricating the semitrailer. These instructions are mandatory.

# LUBRICATION CHART

## SEMITRAILER, VAN: ELECTRONIC, NBC HARDENED, XM1006

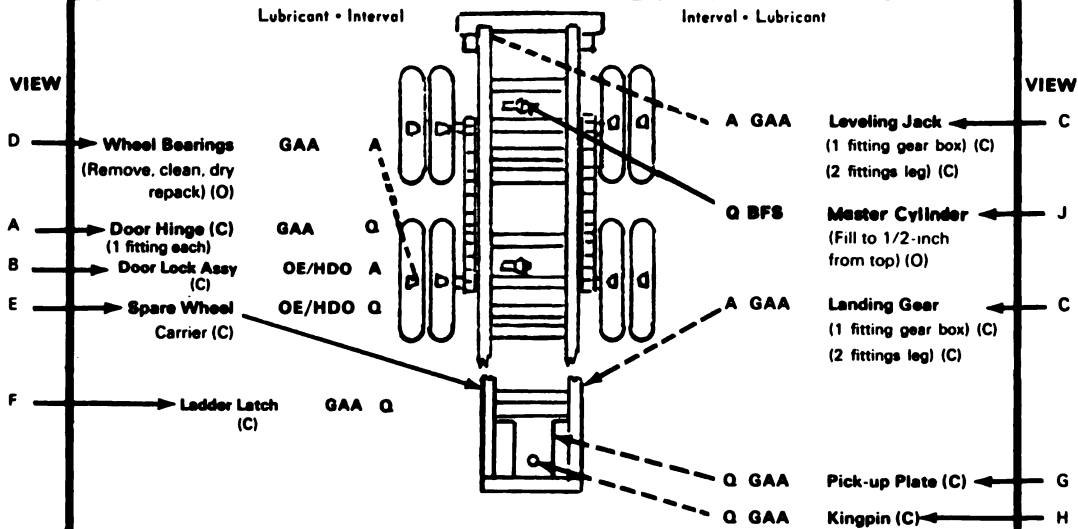
Intervals are based on normal operation. Adjust to compensate for abnormal and severe conditions or contaminated lubricants. During inactive periods intervals may be extended commensurate with adequate preservation.

Clean fittings before lubrication using dry cleaning solvent PD-680 (SD-II). Dry before lubricating.

Lubricate points indicated by DOTTED ARROW SHAFTS on both sides of equipment. A DOTTED CIRCLE indicates a drain below.

Relubricate after washing or fording as necessary.

In the Table indicating lubrication Man-Hours required per interval, the time specified is the time required to perform all services at the particular interval.



— TIME REQUIRED —

TOTAL MAN-HOURS		TOTAL MAN-HOURS	
Interval	Man-Hr	Interval	Man-Hr
Q	4	A	12

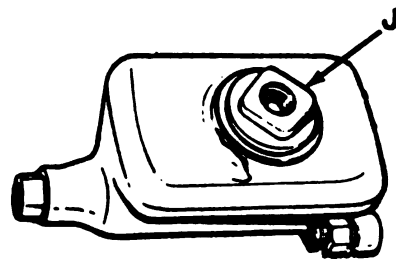
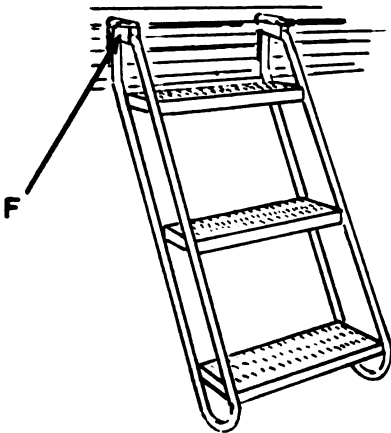
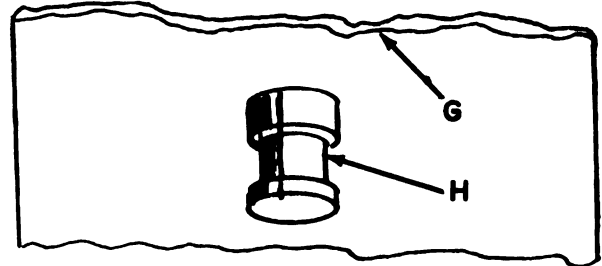
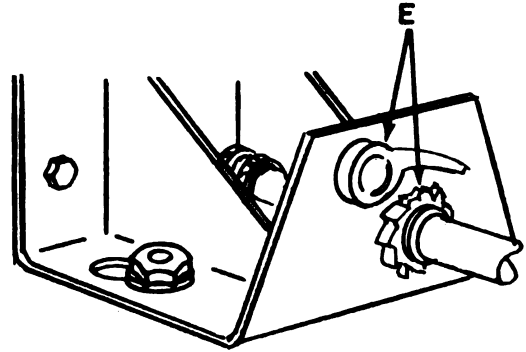
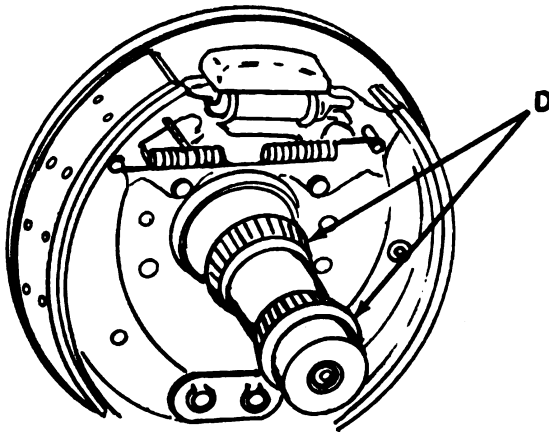
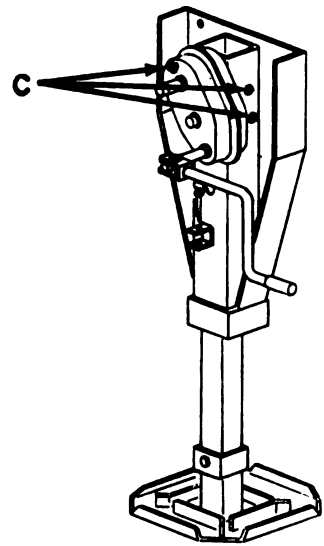
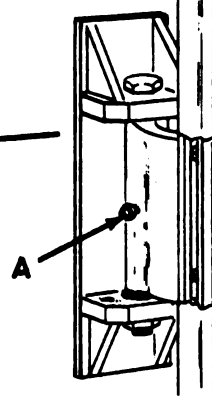
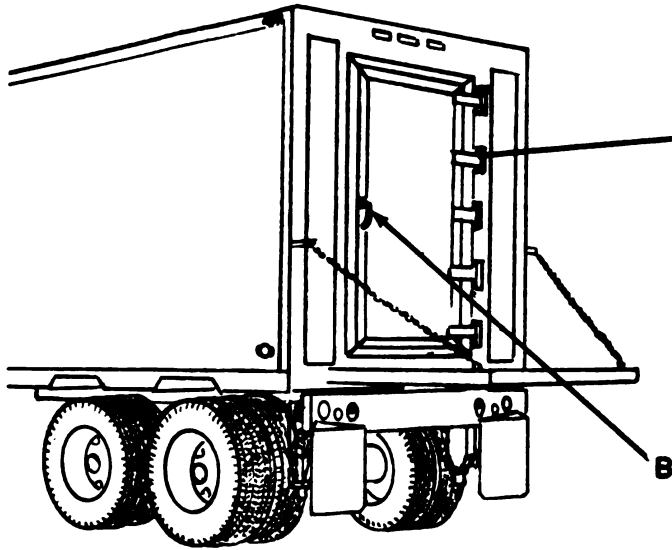
— KEY —

LUBRICANTS	EXPECTED TEMPERATURES			FOR ARCTIC OPERATION Refer to FM 9-207	INTERVALS
	above +32°F	+40°F to -10°F	0°F to -65°F		
OE/HDO OIL, lubr. engine, MIL-L-2014C	OE 30 HDO	OE 10 HDO			Q - Quarterly (3 months)  A - Annually every second semi-annual "S" P.M. Service.
OEA-OIL, engine, internal MIL-L-48107 (sub-zero)			OEA		
GAA-GREASE, lub. automotive (MIL-G-10924) and artillery	GAA	GAA	GAA		
BFS-FLUID, hydraulic brake arctic			BFS		
BFS-FLUID, hydraulic brake MIL-B-48176	BFS	BFS			

— NOTES —

- OIL CAN POINTS**  
Quarterly lubricate hinges and spare wheel carrier pawl and ratchet with OE/HDO.
- DO NOT LUBRICATE — Springs**
- LUBRICATION INTERVAL**  
Intervals marked "Q" may be lubricated by the operator if supervised by a mechanic.
- Use hydraulic brake fluid (BFS) base only. Mixing it with petroleum base hydraulic fluid will render brakes inoperative.
- LANDING GEAR AND LEVELING JACK LEGS**  
Quarterly fully extend legs, wipe clean and apply GAA to unpainted surface.
- INTERVALS**  
Lubrication intervals will be scheduled and performed during regular scheduled P.M. Services wherever possible.

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### 3-2. DETAILED LUBRICATION INFORMATION

- a. Service intervals specified in the lubrication instructions are for normal operation and where moderate temperature, humidity and atmosphere conditions prevail.
- b. Clean lubrication points, grease fittings and surrounding areas before applying lubricant.
- c. Clean all lubrication points after lubricating to prevent accumulation of foreign matter.
- d. Clean and lubricate bearings as specified in TM 9-214.
- e. Maintain a record of vehicle lubrication and report any discrepancies noted during lubrication. Refer to TM 38-750 for maintenance forms and procedures to record and report any findings.

### 3-3. CLEANING

- a. Keep all external parts not requiring lubrication clean of lubricants.
- b. Use a cleaning solvent (item 3, appendix E) to clean or wash grease or oil from metal parts.
- c. After parts are cleaned, rinse and dry them thoroughly. Apply a light grade of oil to all polished metal surfaces to prevent rusting.
- d. When authorized to install new parts, remove any preservative materials, such as rust preventive compound or protective grease, prior to installation. Apply lubricant prescribed in lubrication instructions if required.

### 3-4. SERVICE INTERVALS

- a. The service intervals specified are for conditions where normal operation, temperature and humidity prevail.
- b. Refer to FM 9-207 for instructions on necessary preliminary lubrication of the vehicle in cold weather areas.
- c. After operation under dusty or sandy conditions, clean and inspect all points of lubrication for fouled lubricants. Lubricate as necessary in accordance with lubrication instructions.
- d. After fording operation, lubricate vehicle in accordance with lubrication instructions.

**3-5. PAINTING AND IDENTIFICATION MARKING**

a. Painting. Instructions for preparation of the material for painting, methods of painting, and materials to be used are contained in TM 43-0139.

b. Identification Marking. Re-stencil the semitrailer chassis or body if the markings are not legible. Instructions for marking are contained in TB 746-93-1. The numerals and letters are of simple block type (1-1/2 inches high), with curved lines where applicable, and painted with black enamel to specification MIL-E-52798. Proceed as follows:

---

**WARNING**

---

To prevent injury to personnel, avoid excessive inhalation of vapors. All cleaning and stenciling procedures must be performed in a well-ventilated room, or outdoors. A fire extinguisher must be positioned adjacent to the work area.

- (1) Remove oil and grease from equipment.
- (2) Apply paint to stencil with dabbing motion.
- (3) Remove stencil and fill in spaces to provide for continuous lines in the letters and numerals.
- (4) Allow paint to dry for 24 hours.

Section II. TROUBLESHOOTING PROCEDURES

**3-6. INTRODUCTION**

Table 3-1 lists the common malfunctions which you find during the operation or maintenance of the semitrailer, van, or its components. You should perform the tests/inspections and corrective actions in the order listed.

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective action, notify your supervisor.

SYMPTOM INDEX

	Troubleshooting Chart Item No.	Page
<b>BRAKE SYSTEM</b>		
Brakes will not release .....	5	3-9
Grabbing brakes .....	8	3-11
No brakes or weak brakes .....	6	3-10
Slow brake application or slow release .....	7	3-11
<b>ELECTRICAL SYSTEM</b>		
All lamps fail to light .....	1	3-7
All chassis lights are on and clearance lights are off .....	3	3-9
Directional signals inoperative .....	4	3-9
One or more lamps will not light .....	2	3-8
<b>LEVELING JACK AND LANDING GEAR</b>		
Erratic operation .....	14	3-13
<b>SUSPENSION SYSTEM</b>		
Semitrailer sags to one side .....	9	3-12
<b>WHEELS, HUBS, BEARINGS, AND TIRES</b>		
Air leakage from tires .....	13	3-13
Excessively worn, scuffed or cupped tires .....	12	3-13
Noisy wheels .....	10	3-12
Wobbly wheels .....	11	3-12

Table 3-1. Troubleshooting

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**ELECTRICAL SYSTEM**

**WARNING**

Make sure all electrical power is disconnected before performing any maintenance on the electrical system.

**1. ALL LAMPS FAIL TO LIGHT.**

**Step 1. Check light switch on towing vehicle.**

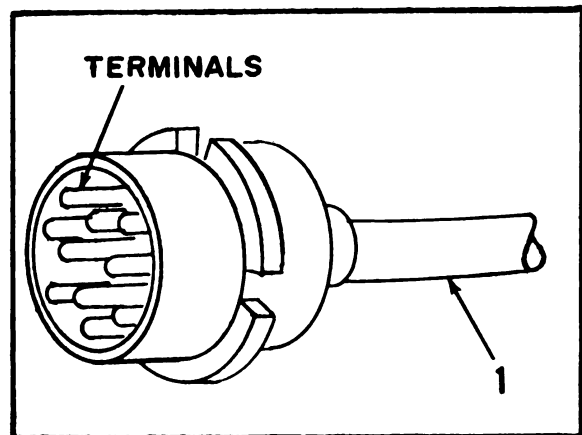
Place light switch on towing vehicle in proper mode of operation. If towing vehicle lamps light, but semitrailer lights do not, proceed to Step 2.

**Step 2. Check to see that intervehicular cable (1) is properly plugged into receptacle.**

Pull intervehicular cable plug out of receptacle and insert properly.

**Step 3. Inspect for dirty or corroded terminals on intervehicular cable (1).**

Clean connectors, receptacles and plug.



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Table 3-1. Troubleshooting (cont)

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MALFUNCTION

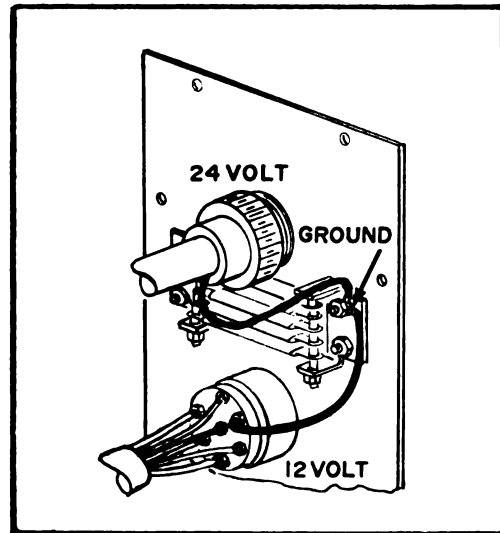
TEST OR INSPECTION

CORRECTIVE ACTION

---

ELECTRICAL SYSTEM (cont)

- Step 4. Check for good ground connection at inter-vehicular cable receptacle (para 4-12).  
Tighten ground connection.



- Step 5. Check lights again.  
If they still don't light, notify organizational maintenance.

2. ONE OR MORE LAMPS WILL NOT LIGHT.

Step 1. Have organizational maintenance inspect and replace defective lamps.

Step 2. Inspect for dirty or corroded terminals on inter-vehicular cable.

Clean connections, receptacle and plug.

Step 3. Check for loose or corroded light connectors.

If they still do not light, notify organizational maintenance.

Table 3-1. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM (cont)**

**3. ALL CHASSIS LIGHTS ARE ON AND CLEARANCE LIGHTS ARE OFF.**

Step 1. Check to see if 12-volt or 24-volt light receptacle connector is loose.

Pull out intervehicular cable plug, clean and insert. Make certain that a good connection is made.

Step 2. Inspect for dirty or corroded contacts in 12-volt or 24-volt receptacle.

Clean contacts.

If lights don't work, notify organizational maintenance.

**4. DIRECTIONAL SIGNALS INOPERATIVE.**

Step 1. Inspect turn signal lamp.

If lamp is defective, notify organizational maintenance.

Step 2. Inspect for dirty or corroded connectors at composite light, cable socket and contacts.

Clean connectors and reconnect.

If they don't work, notify organizational maintenance.

**BRAKE SYSTEM**

**5. BRAKES WILL NOT RELEASE.**

Step 1. Inspect intervehicular air hose connections.

Connect hoses properly - SERVICE to SERVICE, EMERGENCY to EMERGENCY.

Table 3-1. Troubleshooting (cont)

**MALFUNCTION**

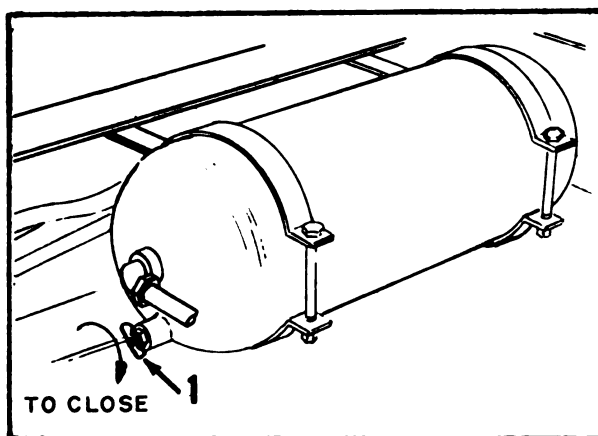
**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**BRAKE SYSTEM (cont)**

Step 2. Check air reservoir drain cock.

Close air reservoir drain cock (1).

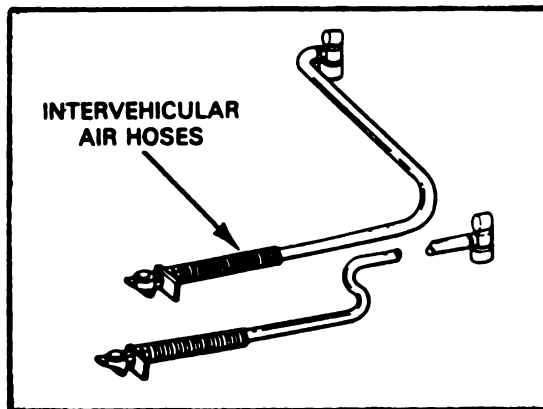


Step 3. Check to see if shutoff valves on towing vehicle are closed.

Close shutoff valves on towing vehicle.

Step 4. Inspect intervehicular hoses for restrictions.

Check intervehicular hoses for kinks, bends, or restrictions, and straighten.



6. NO BRAKES OR WEAK BRAKES.

Step 1. Check to see if intervehicular air hoses are properly connected.

Connect air hoses properly.

Step 2. Check for low air pressure.

Inspect air supply lines for leaks. Tighten connections where necessary.

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Table 3-1. Troubleshooting (cont)

**MALFUNCTION**

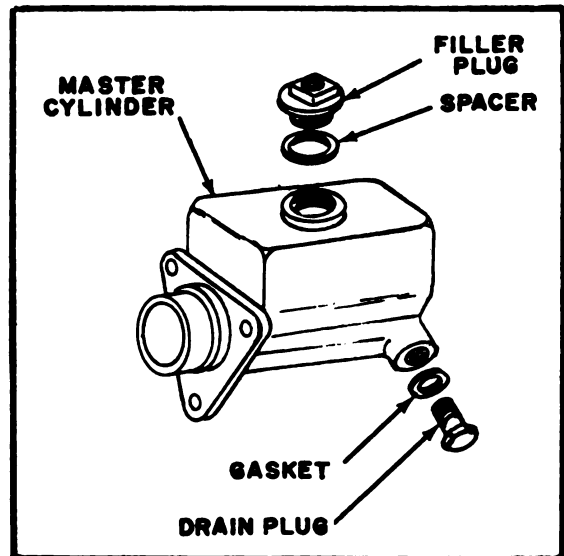
**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**BRAKE SYSTEM (cont)**

**7. SLOW BRAKE APPLICATION OR SLOW RELEASE.**

Have organizational maintenance check master cylinder for sufficient brake fluid, 1/2-inch to 3/8-inch from top of reservoir.



**8. GRABBING BRAKES.**

**WARNING**

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

Check air system for moisture.

Open drain cock on air reservoir and drain moisture from system.

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Table 3-1. Troubleshooting (cont)

---

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

SUSPENSION SYSTEM

9. SEMITRAILER SAGS TO ONE SIDE.

Step 1. Check tires to see if air pressure is low or uneven.

Inflate tires to correct pressure, highway, 70 psi (482.65 k pa), cross-country, 30 psi (206.85 k pa), soft sand, 20 psi (137.9 k pa).

Step 2. Check to see if load in semitrailer is evenly distributed.

Distribute load evenly.

Step 3. Check for broken spring leaves.

If broken, notify direct support.

WHEELS, HUBS, BEARINGS, AND TIRES

10. NOISY WHEELS.

Inspect wheels (1) for looseness.

Tighten wheel stud nuts (2) (para 3-7). If still noisy, notify organizational maintenance.

11. WOBBLY WHEELS.

Inspect wheels (1) for looseness.

Tighten wheel stud nuts (2) (para 3-7). If still wobbly, notify organizational maintenance.

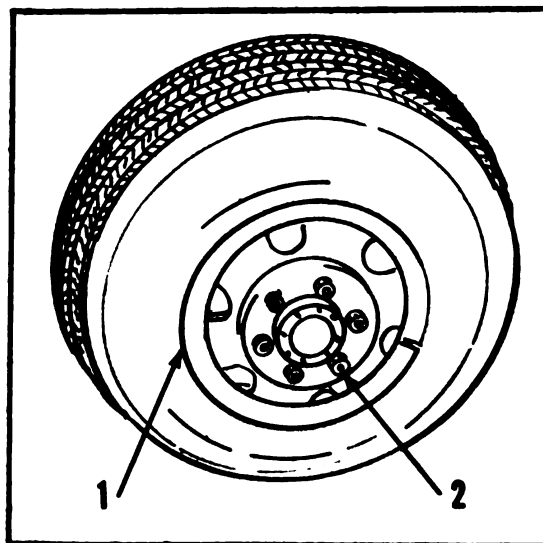


Table 3-1. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**WHEELS, HUBS, BEARINGS, AND TIRES (cont)**

**12. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRE(S).**

Step 1. Check for improper tire pressure.

Inflate to correct pressure: highway, 70 psi (482.65 k pa), cross-country, 45 psi (310.28 k pa), soft sand, 45 psi (310.28 k pa).

Step 2. Inspect wheels for looseness.

Tighten wheel stud nuts.

**13. AIR LEAKAGE FROM TIRES.**

Step 1. Inspect valve core for damage or looseness.

Tighten or replace valve core.

Step 2. Check tire for puncture.

Replace wheel and punctured tire with spare (paras 2-21 and 3-7).

**LEVELING JACK AND LANDING GEAR**

**14. ERRATIC OPERATION OR BINDING.**

Step 1. Check for adequate lubrication.

Lubricate in accordance with lubrication instructions.

Step 2. Visually check for apparent damage to leveling jack and gear box.

If damaged, notify organizational maintenance.

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Section III. MAINTENANCE

3-7. WHEEL AND TIRE

REMOVAL OF WHEEL AND TIRE ASSEMBLY FROM HUB

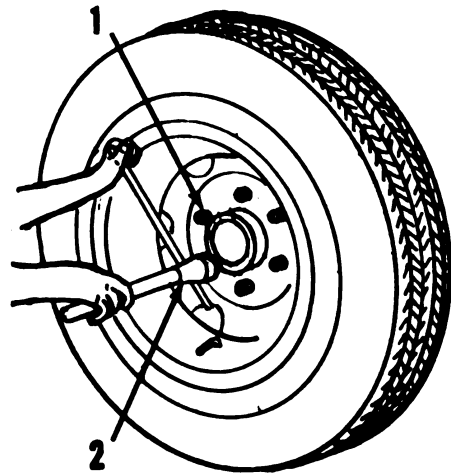
1. Apply brakes to semitrailer. If semitrailer is attached to towing vehicle, wheels may be locked by disconnecting the emergency air connections.
2. Chock wheels on opposite end of axle from which wheel is to be removed.

NOTE

Outer cap nuts on right side (marked R) have right hand threads and those on left side (marked L) have left hand threads. Nuts must be turned in opposite direction to normal forward rotation of wheel to be loosened or removed.

3. Loosen six outer wheel nuts (1), using wheel nut wrench (2).
4. Jack up semitrailer until wheel clears the ground.
5. Remove wheel nuts and remove wheel.
6. If inner wheel is to be removed, remove inner six cap nuts and inner wheel in same manner.

1. Outer wheel nuts
2. Wrench



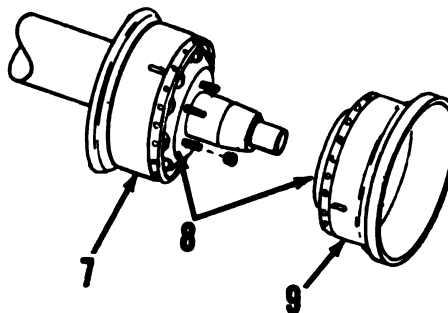
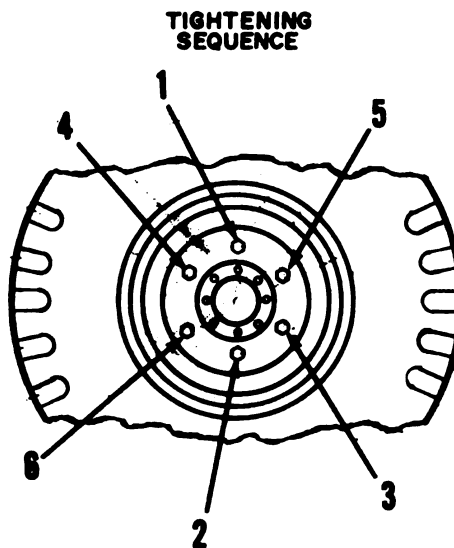
INSTALLATION OF WHEEL AND TIRE ASSEMBLY ON HUB

1. Make certain mounting faces of hub, ball seats and flat mounting surfaces of wheel are clean and free of foreign matter or excess paint.
2. Check to see that threads of studs are clean and not damaged.

3-7. WHEEL AND TIRE (cont)

INSTALLATION OF WHEEL AND TIRE ASSEMBLY ON HUB (cont)

3. If removed, mount inner wheel (7) on hub with convex side (8) of wheel facing out. Install inner wheel cap nuts.
4. Tighten nuts securely in the tightening sequence shown.
5. Mount outer wheel (9) on hub, with convex side (8) of wheel facing in and against inner wheel.
6. Make certain valve stem for outer wheel is not alined with valve stem of inner wheel.
7. Install outer wheel nuts, following same procedure and tightening sequence used with inner wheel nuts.
8. As soon as possible, check with organizational maintenance for a torque of 450-500 lb-ft (610.2-678.0 Nm).
9. Inflate tires to 70 psi (482.65 k pa) for highway driving, 45 psi (310.28 k pa) for cross-country driving, and 45 psi (310.28 k pa) for driving in soft sand.
10. Lower semitrailer and stow wheel chocks.



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CHAPTER 4

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

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Common tools and equipment .....	4-2
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Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND  
SUPPORT EQUIPMENT

4-1. COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

Special tools are not required for this equipment.

4-3. REPAIR PARTS

Repair parts are listed and illustrated in Appendix F of this manual.

Section II. SERVICE UPON RECEIPT

4-4. GENERAL

When new, used or reconditioned materiel is first received, it is the responsibility of the officer in charge to determine whether the materiel has been properly prepared for service by the supplying organization and to be sure it is in condition to perform its function. Inspect all assemblies, subassemblies, and accessories to be sure they are properly assembled, secure, clean, and correctly adjusted and/or lubricated. Check all tools and equipment to be sure every item is present, in good condition, clean, and properly mounted or stowed.

4-5. INSPECTING AND SERVICING EQUIPMENT

a. Preliminary Services.

(1) General procedures.

If exterior surface is coated with rust preventive compound, remove it with cleaning solvent (item 3, appendix E).

(2) Special procedures.

(a) Perform the preventive maintenance checks and services (table 4-1).

(b) Lubricate all lubrication points illustrated in the lubrication chart, regardless of interval.

(c) Schedule "S" semiannual preventive maintenance service on DD Form 314 (Preventive Maintenance Schedule and Record).

(d) Deficiencies, which appear to involve unsatisfactory design, will be reported in accordance with TM 38-750.

(e) Perform a "break in" of 25 miles (40.23 km) at a maximum speed of 30 mph (48.27 kph).

b. Before-Operation Service. This is a brief service to ascertain that the semitrailer is ready for operation; it is mainly a check to see if conditions affecting the vehicle's readiness have changed since the last after-operating service. Refer to Operator/Crew Preventive Maintenance Checks and Services in chapter 2.

Section III. PREVENTIVE MAINTENANCE CHECKS  
AND SERVICES (PMCS)

**4-6. GENERAL**

To insure that the semitrailer is ready for operation at all times, it must be inspected within designated intervals so that defects may be discovered and corrected before they result in serious damage or failure. Table 4-1 contains a tabulated listing of preventive maintenance checks and services to be performed by organizational maintenance personnel. All deficiencies and shortcomings will be recorded as well as the corrective action taken on DA Form 2404 at the earliest possible opportunity.

**4-7. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

a. The item numbers of table 4-1 indicate the sequence of the PMCS. Perform at the intervals shown below:

(1) Do your Quarterly (Q) PREVENTIVE MAINTENANCE once each three months.

(2) Do your Semiannual (S) PREVENTIVE MAINTENANCE once each six months.

(3) Do your Annual (A) PREVENTIVE MAINTENANCE once each year.

(4) Do your Miles (MI) PREVENTIVE MAINTENANCE when the mileage of the semitrailer reaches the amount listed.

b. If something doesn't work, troubleshoot it with the instructions in this manual, or notify your supervisor.

c. Always do your preventive maintenance in the same order, so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

d. If anything looks wrong and you can't fix it, write it down on your DA Form 2404. If you find something seriously wrong, report it to direct support as soon as possible.

---

WARNING

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Cleaning solvent used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138° F (58.8° C).

(1) Keep it clean: Dirt, grease, oil and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use cleaning solvent (item 3, appendix E) to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

(2) Bolts, nuts and screws: Check that they are not loose, missing, bent, or broken. You can't try them all with a tool, of course, but look for chipped paint, bare metal or rust around bolt heads. Tighten any that you find loose.

(3) Welds: Look for loose or chipped paint, rust or gaps where parts are welded together. If you find a bad weld, report it to direct support.

(4) Electric wires and connectors: Look for cracked, frayed or broken insulation, bare wires, and loose or broken connections and connectors. Tighten all loose wires and connectors. Replace or repair as required.

(5) Hoses and fluid lines: Look for wear, damage and leaks. Make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either correct it or report it to direct support (refer to MAC Chart).



e. It is necessary for you to know how fluid leaks affect the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them and REMEMBER - WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR.

Leakage definition for Organizational PMCS

- CLASS I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
- CLASS II Leakage of fluid great enough to form drops but not enough to cause drops to drip from the item being checked/inspected.
- CLASS III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

CAUTION

Equipment operation is allowable with minor leakages (Class I or II). Of course, consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor.

When operating with Class I or Class II leaks, continue to check fluid levels as required in your PMCS. Class III leaks should be reported to your supervisor or direct support.

**4-8. SPECIFIC PROCEDURES**

Specific procedures for performance of preventive maintenance checks and services are given in table 4-1.

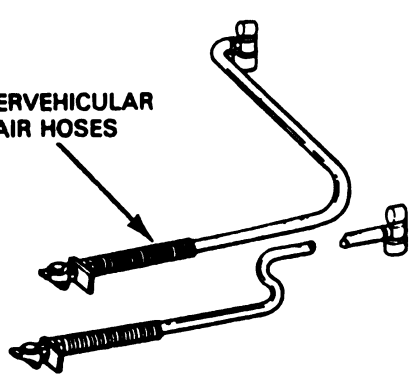
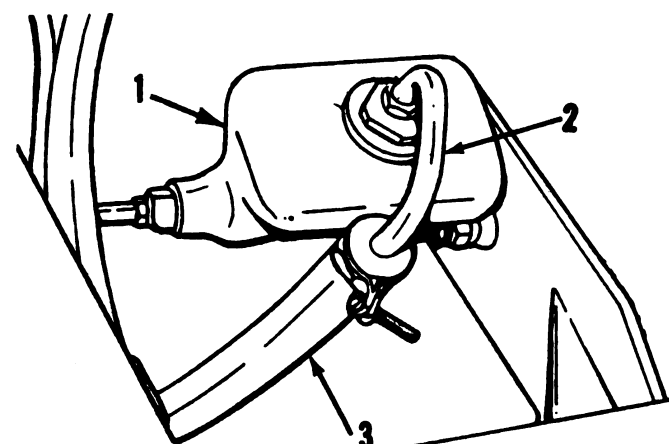
**Table 4-1. Organizational Preventive Maintenance Checks and Services**

**Q—Quarterly    S—Semiannually    A—Annually    B—Biennially    H—Hours    MI—Miles**

Item No.	Interval						ITEM TO BE INSPECTED Procedures: Check for and have repaired, filled, or adjusted as needed.
	Q	S	A	B	H	MI	
							<p style="text-align: center;">NOTE</p> <p>Perform operator/crew PMCS prior to or in conjunction with organizational PMCS if:</p> <p style="margin-left: 40px;">a. There is a delay between the daily operation of the equipment and the organizational PMCS.</p> <p style="margin-left: 40px;">b. Regular operator is not assisting/participating.</p>
1							<p><u>TIRES</u></p> <p>1000    a. Rotate and match tires every 1,000 miles to tread design and degree of wear to ensure safety and extended tire life.</p> <p>1000    b. Torque lug nuts to 450-500 lb.-ft. (610-678 Nm).</p>
2	●						<p><u>VEHICLE EQUIPMENT</u></p> <p>Visually inspect towing/air hose couplings for damaged or loose connections. Repair or replace as required.</p>
3		●					<p><u>AIR-HYDRAULIC SYSTEM</u></p> <p>a. Check all hydraulic lines for leaks, kinks, bends, cracks, and presence of mounting clamps. Replace as required.</p>

**Table 4-1. Organizational Preventive Maintenance Checks and Services (cont)**

**Q—Quarterly S—Semiannually A—Annually B—Biennially H—Hours MI—Miles**

Item No.	Interval						ITEM TO BE INSPECTED Procedures: Check for and have repaired, filled, or adjusted as needed.
	Q	S	A	B	H	MI	
3		●					<p><u>AIR-HYDRAULIC SYSTEM (cont)</u></p>  <p>b. Check intervehicular air hoses for cuts, breaks and damaged connectors. Replace if defective.</p>  <p>c. Check master cylinder (1) for security of mounting, serviceable vent tube (2), vent hose (3) and leaks.</p>

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**Table 4-1. Organizational Preventive Maintenance Checks and Services (cont)**

**Q—Quarterly    S—Semiannually    A—Annually    B—Biennially    H—Hours    MI—Miles**

Item No.	Interval						ITEM TO BE INSPECTED Procedures: Check for and have repaired, filled, or adjusted as needed.
	Q	S	A	B	H	MI	
4		● ●					<p><u>SPRINGS</u></p> <p>Inspect springs and suspension for loose or broken components.</p> <p>Tighten U-bolt nuts to following torques:</p> <p>Axle U-bolt nuts - 300 lb-ft (406.8 Nm) dry, 220 lb-ft (298.3 Nm) lube.</p> <p>Trunnion U-bolt nuts - 880 lb-ft (1193.3 Nm) dry, 660 lb-ft (895 Nm) lube.</p>
5			●				<p><u>WHEEL BEARINGS</u></p> <p>Clean wheel bearings and repack in accordance with lubrication chart and paragraph 4-30).</p>
6	● ●						<p><u>BRAKES</u></p> <p>a. Adjust brakes (para 4-17).</p> <p>b. If possible, perform a road test of semitrailer. At all times during test be alert for unusual or excessive noises that may indicate damage, looseness, defects and deficient lubrication.</p>
7							<p><u>BRAKE DRUMS AND HUBS</u></p> <p style="text-align: center;"><u>WARNING</u></p> <p>Overheated brake drums and hubs can cause severe burns to personnel when touched.</p>

**Table 4-1. Organizational Preventive Maintenance Checks and Services (cont)**

**Q—Quarterly    S—Semiannually    A—Annually    B—Biennially    H—Hours    MI—Miles**

Item No.	Interval						ITEM TO BE INSPECTED Procedures: Check for and have repaired, filled, or adjusted as needed.
	Q	S	A	B	H	MI	
7	●						<p><u>BRAKE DRUMS AND HUBS (cont)</u></p> <p>Immediately after road test, cautiously touch brake drums and hubs.</p> <p style="text-align: center;">NOTE</p> <p>An overheated hub and brake drum indicates an improperly adjusted, defective or dry wheel bearing, or dragging brake.</p> <p>An abnormally cool condition indicates an inoperative brake.</p>

Section IV. TROUBLESHOOTING PROCEDURES

**4-9. INTRODUCTION**

a. Table 4-2 lists the common malfunctions which you may find during the operation or maintenance of the semitrailer, van, or its components. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

SYMPTOM INDEX

	Troubleshooting Chart Item No.	Page
<b>BRAKE SYSTEM</b>		
Brake drum running hot .....	9	4-21
Brakes will not release .....	5	4-16
Grabbing brakes .....	8	4-21
No brakes or weak brakes .....	6	4-18
Noisy brakes .....	11	4-22
Slow brake application or slow release .....	7	4-20
Uneven braking .....	10	4-22
<b>DOORS</b>		
Difficulty in locking or unlocking doors .....	20	4-25
Door hinges do not operate properly .....	21	4-26
<b>ELECTRICAL SYSTEM</b>		
All lights fail to operate .....	1	4-12
Dim or flickering lights .....	3	4-15
Directional signals inoperative .....	4	4-16
One or more lamps will not light .....	2	4-14

SYMPTOM INDEX (cont)

	Troubleshooting Chart Item No.	Page
<b>LANDING GEAR</b>		
Erratic operation .....	15	4-24
<b>LEVELING JACK</b>		
Jack is hard to operate .....	16	4-24
Jack shoe will not set on base .....	17	4-24
<b>SUSPENSION SYSTEM</b>		
Pulling to left or right .....	18	4-25
Semitrailer leans to one side .....	19	4-25
<b>WHEELS AND HUBS</b>		
Wheel noise .....	12	4-22
Wheel wobble .....	13	4-23
Excessively worn, scuffed, or cupped tires ..	14	4-23

Table 4-2. Troubleshooting

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

ELECTRICAL SYSTEM

WARNING

Make sure all electrical power is disconnected before performing any maintenance on the electrical system. Serious injury or death may result if proper precautions are not taken.

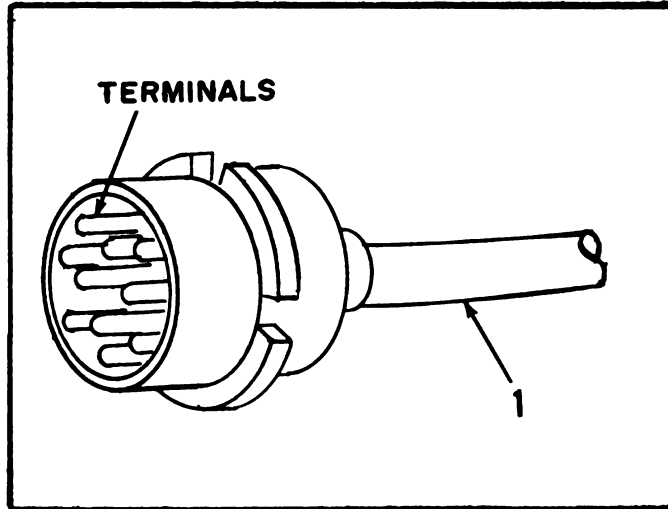
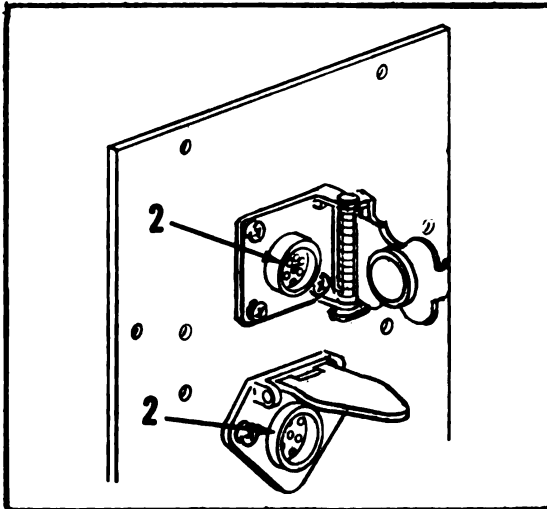
NOTE

The following procedures are applicable to the 12-volt and 24-volt electrical systems.

1. ALL LIGHTS FAIL TO OPERATE.

Step 1. Check to see that light switch on towing vehicle is in desired position.

Place towing vehicle light switch in proper mode of operation.



Step 2. Inspect for dirty or corroded terminals in intervehicular cable plug (1).

Clean terminals in plug and receptacle (2).



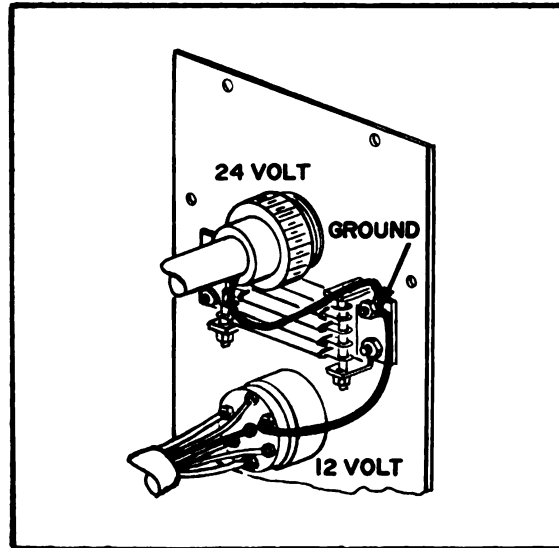
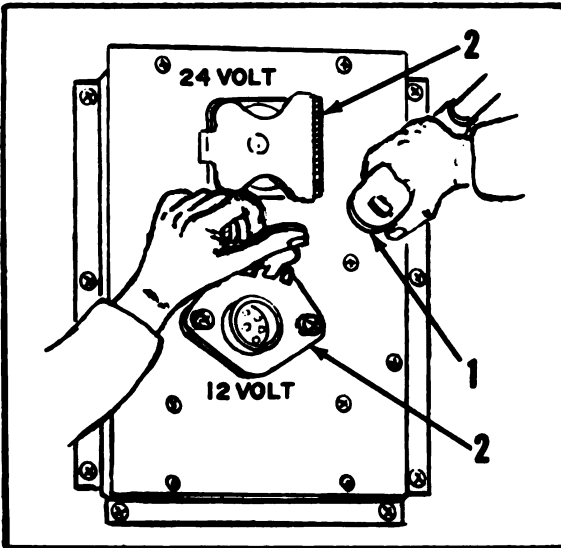
Table 4-2. Troubleshooting (cont)

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**ELECTRICAL SYSTEM (cont)**

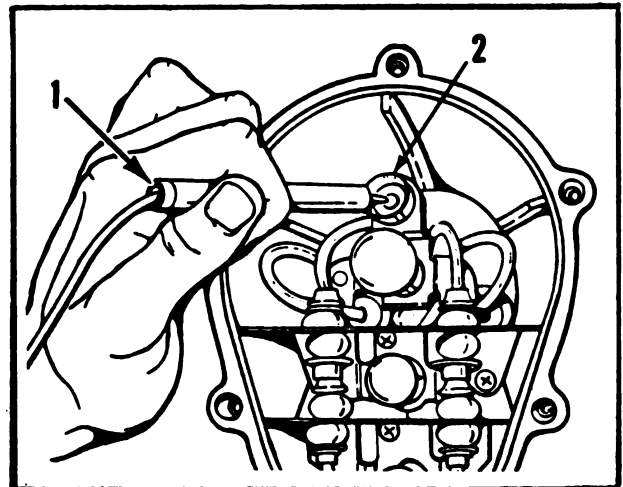


Step 3. Inspect intervehicular cable (1) for proper connection to receptacle (2). In all steps, check for good ground connection.

Connect cable properly. Tighten ground.

Step 4. Check to see that current is flowing from towing vehicle.

Use multimeter for voltage check. Place red lead (1) in lamp socket (2), with black lead to ground. Check for proper voltage (12 volts for all lamps except for the 24-volt blackout lamps).



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Table 4-2. Troubleshooting (cont)

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**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM (cont)**

**WARNING**

Make sure power is disconnected.

Step 5. Check wiring harness for short circuit.

Check cable for bare spots. Notify Direct Support if repair is necessary. Make a continuity test of all circuits with a multimeter (refer to wiring diagrams, pages 4-28, 4-29).

Step 6. Check light switch on towing vehicle.

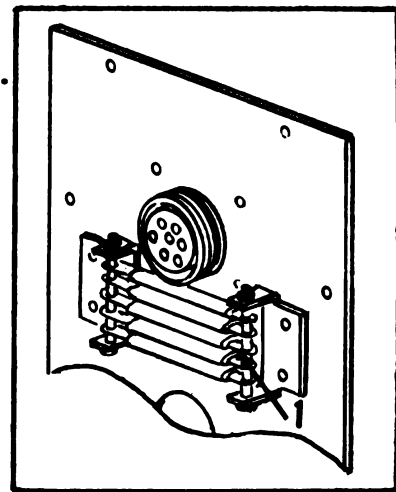
Replace light switch on towing vehicle if defective.

Step 7. Check resistor contact points (1).

Clean contact points.

Step 8. Use multimeter and check resistors for rated ohms marked on resistors (refer to resistor box wiring diagram page 4-29).

Replace cracked, chipped or defective resistor (para 4-11).



2. ONE OR MORE LAMPS WILL NOT LIGHT.

Step 1. Inspect lamps and check for broken or loose wires.

Replace defective lamp. Repair wire breaks at light assembly and tighten all connections (paras 4-13, 4-14, 4-15).

Step 2. Inspect for dirty or corroded cable contacts in sleeves or lamp sockets.

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Table 4-2. Troubleshooting (cont)

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**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM (cont)**

Remove lamps and clean contacts (paras 4-13, 4-15).

Step 3. Check for broken or loose connections.

Tighten, repair, or replace as necessary.

Step 4. Check to see if light assembly is defective.

Replace defective light assembly (paras 4-13, 4-14, 4-15).

Step 5. Inspect intervehicular cable for dirty or corroded terminals.

Clean receptacle and plug.

**3. DIM OR FLICKERING LIGHTS.**

Step 1. Check to see if lamp is defective.

Replace defective lamp (paras 4-13, 4-15).

Step 2. Inspect for poor or loose ground connections.

Clean ground cable terminal and tighten connections.

Step 3. Inspect for loose, dirty, or corroded terminals.

Clean and tighten terminals.

Step 4. Check for dirty or corroded lamp sockets, cable connectors or harness contacts.

Clean as necessary.

Step 5. Check resistor contact points (para 4-11).

Clean contact points.

Step 6. Use multimeter and check resistors for rated ohms marked on resistors (refer to resistor box wiring diagram, page 4-29).

Replace cracked, chipped or defective resistor (para 4-11).

Table 4-2. Troubleshooting (cont)

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**MALFUNCTION**

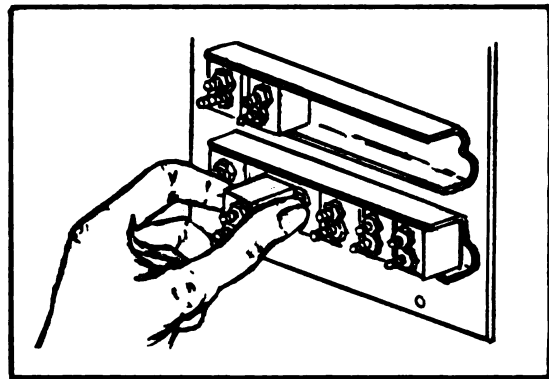
**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM (cont)**

- Step 7. Check to see if self-setting circuit breakers do not reset.  
Replace defective circuit breaker (para 4-11).



**4. DIRECTIONAL SIGNALS INOPERATIVE.**

- Step 1. Check for defective flasher or switch in towing vehicle.  
Replace defective part. See towing vehicle maintenance manual.
- Step 2. Check for defective lamp.  
Replace defective lamp (para 4-15).
- Step 3. Check composite light assembly.  
Replace defective light assembly (para 4-15).
- Step 4. Inspect for dirty or corroded lamp sockets or contacts.  
Remove lamp (para 4-15) and clean sockets and contacts.

**BRAKE SYSTEM**

**5. BRAKES WILL NOT RELEASE.**

- Step 1. Check to see if brake on towing vehicle is in applied position.  
Release towing vehicle brake.

Table 4-2. Troubleshooting (cont)

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**BRAKE SYSTEM (cont)**

Step 2. Check to see if shutoff valves on towing vehicle are in closed position.

Open towing vehicle shutoff valves.

Step 3. Check to see if air reservoir drain cock is open.

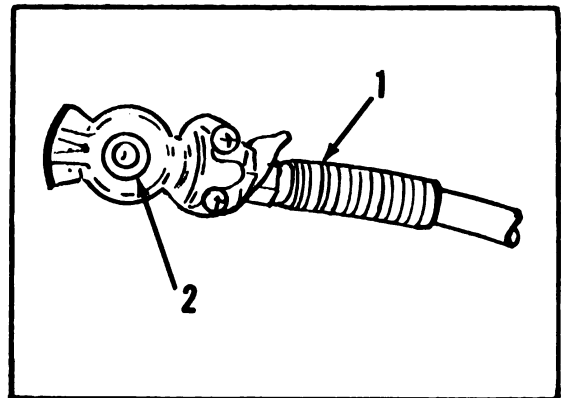
Close air reservoir drain cock.

Step 4. Check for restrictions in service and emergency air lines, or intervehicular hoses.

Straighten kinks and bends in lines or hoses.

Step 5. Inspect intervehicular air hoses (1) for proper connection and damaged or missing preformed packing (2).

- a. Connect hoses (1) properly.
- b. Replace missing or damaged preformed packing (see towing vehicle manual).



Step 6. Apply towing vehicle brakes and release. Emergency relay valve should vent brake chamber air through exhaust port when towing vehicle brakes are released.

If brake chamber air is not vented when towing vehicle brakes are released, replace the emergency relay valve (para 4-25).

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4-17

Table 4-2. Troubleshooting (cont)

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**MALFUNCTION**

**TEST OR INSPECTION**

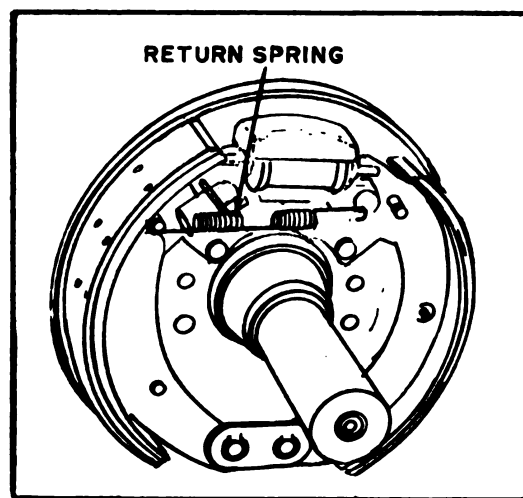
**CORRECTIVE ACTION**

---

**BRAKE SYSTEM (cont)**

Step 7. Inspect brake shoe return spring to see if spring is weak or broken.

Replace brake shoe return spring (para 4-19).



**6. NO BRAKES OR WEAK BRAKES**

Step 1. Check to see if shut off valves on towing vehicle are closed.

Open shut off valves

Step 2. Inspect intervehicular air hose for proper connection. Connect air hose properly.

Step 3. Check to see if semitrailer air reservoir drain cock is open.

Close air reservoir drain cock.

Step 4. Check to see if air pressure is low.

Check air pressure gage on towing vehicle. Remove any restrictions in air lines. Make leakage test. With air hose couplings connected and brake applied, coat couplings, connectors and fittings with soap and water solution. No leaks are permissible.

Table 4-2. Troubleshooting (cont)

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**BRAKE SYSTEM (cont)**

Step 5. Check to see if brake fluid is low in master cylinder.

Fill master cylinder with brake fluid to one-half inch to three-eighths of an inch below top of reservoir.

Step 6. Check for air in hydraulic brake system.

Bleed hydraulic brake system (para 4-18).

Step 7. Check relay valve for defect.

Perform operating test (para 4-25). Replace relay valve if necessary.

Step 8. Check for leaks in hydraulic system.

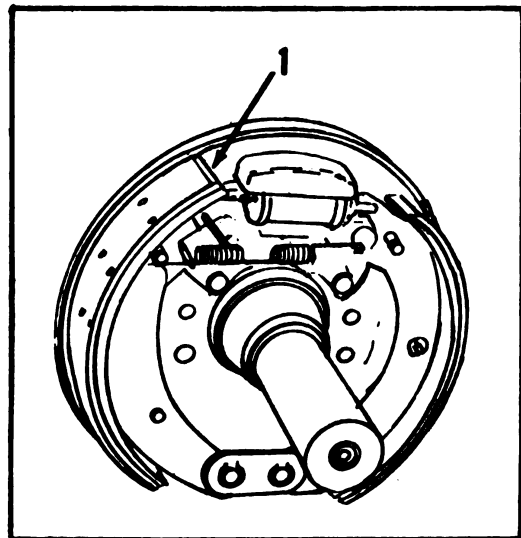
Tighten or replace connections.

Step 9. Check to see if brakes are out of adjustment.

Adjust brakes (para 4-17).

Step 10. Inspect for grease or brake fluid on brake lining (1).

Replace brake shoe if lining has grease or brake fluid (para 4-20). Check and replace wheel cylinder, if necessary (para 4-21).



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4-19

Table 4-2. Troubleshooting (cont)

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MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

BRAKE SYSTEM (cont)

Step 11. Check for worn brake linings.

Replace brake shoe if lining is worn to within 1/16 in. of rivet heads (para 4-20).

Step 12. Check for wheel cylinder leaks.

Replace defective wheel cylinder (para 4-21).

Step 13. Check for master cylinder leaks.

Replace defective master cylinder (para 4-23).

7. SLOW BRAKE APPLICATION OR SLOW RELEASE.

Step 1. Check to see if air pressure is low.

Check air supply. Make leakage test (paras 4-24, 4-25, 4-26, 4-28).

Step 2. Check relay valve.

Perform operating test (para 4-25) and replace if necessary.

Step 3. Check for insufficient brake fluid in master cylinder.

Fill master cylinder with brake fluid until fluid level is one-half to three-eighths of an inch below top of reservoir (para 4-23).

Step 4. Check for air in hydraulic brake system.

Bleed hydraulic brake system (para 4-18).

Step 5. Check for weak or broken brake shoe return spring.

Replace spring (para 4-19).

Step 6. Check for wheel cylinder leaks.

Replace defective wheel cylinder (para 4-21).

Step 7. Check for master cylinder leaks.

Replace defective master cylinder (para 4-23).



Table 4-2. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**BRAKE SYSTEM (cont)**

**8. GRABBING BRAKES.**

Step 1. Check relay valve.

Perform operating test (para 4-25). Replace relay valve if necessary.

Step 2. Check to see if brakes are out of adjustment.

Adjust brakes (para 4-17).

Step 3. Check for loose or worn wheel bearings.

Adjust wheel bearings (para 4-30). If they cannot be adjusted properly, replace wheel bearings (para 4-30).

Step 4. Check for air in hydraulic brake system.

Bleed hydraulic brake system (para 4-18).

Step 5. Check for grease on brake lining.

Replace brake shoe (para 4-20). Replace oil seal if necessary (para 4-30).

Step 6. Check for cracked, scored, or deformed brake drum.

Replace defective brake drum (para 4-30).

Step 7. Check for loose or worn brake lining.

Replace brake shoe (para 4-20).

**9. BRAKE DRUM RUNNING HOT.**

Step 1. Check to see if brakes are adjusted too tightly.

Adjust brakes (para 4-17).

Step 2. Check for weak or worn brake shoe return spring.

Replace defective spring (para 4-19).

Step 3. Check for deformed brake drum.

Replace deformed brake drum (para 4-30).

Table 4-2. Troubleshooting (cont)

---

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

BRAKE SYSTEM (cont)

10. UNEVEN BRAKING.

Step 1. Check to see if brakes are out of adjustment.

Adjust brakes (para 4-17).

Step 2. Check for grease on brake lining.

Replace brake shoe (para 4-20). Replace oil seal if necessary (para 4-30).

Step 3. Check for wheel cylinder leaks.

Replace defective wheel cylinder (para 4-21).

11. NOISY BRAKES.

Step 1. Check for loose rivets or loose lining.

Replace brake shoe (para 4-20).

Step 2. Check for grit, rust or metal particles in brake drum.

Clean brake drum and brake components.

Step 3. Check for scored or deformed brake drum.

Replace defective brake drum (para 4-30).

WHEELS AND HUBS

12. WHEEL NOISE.

Step 1. Check to see if wheel bearings are too tight.

Adjust wheel bearings (para 4-30).

Step 2. Check for worn wheel bearings.

Replace worn wheel bearings (para 4-30).

Table 4-2. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**WHEELS AND HUBS (cont)**

Step 3. Check for worn brake lining or lining that is too tight against drum.

Adjust brakes or replace brake shoes (para 4-20).

**13. WHEEL WOBBLE.**

Step 1. Check wheel bearings for wear or damage.

Replace worn or damaged wheel bearings (para 4-30).

Step 2. Check to see if wheel bearings are too loose.

Adjust or replace loose wheel bearings (para 4-30).

Step 3. Check for bent or damaged wheel.

Replace bent or damaged wheel (para 3-7).

**14. EXCESSIVELY WORN, SCUFFED OR CUPPED TIRES.**

Step 1. Check for improper tire pressure.

Inflate to correct pressure: highway, 70 psi (482.65 k pa), cross-country, 45 psi (310.28 k pa), soft sand, 45 psi (310.28 k pa).

Step 2. Check for loose wheels.

Tighten wheel nuts. Torque to 450-500 lb-ft (610-678 Nm).

Step 3. Check for loose wheel bearings.

Adjust wheel bearings (para 4-30).

Step 4. Check for deformed wheel or rim.

Replace defective wheel (para 3-7).

Step 5. Check for deformed brake drum.

Replace deformed brake drum (para 4-30).

Table 4-2. Troubleshooting (cont)

**MALFUNCTION**

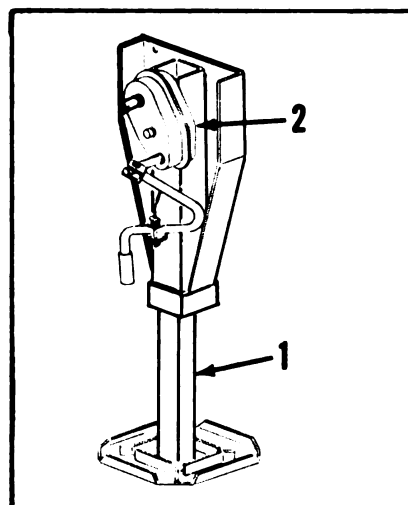
**TEST OR INSPECTION**

**CORRECTIVE ACTION**

**LANDING GEAR**

**15. ERRATIC OPERATION (BINDING AND GRINDING).**

- Step 1. Check for grit and dirt on leg (1).  
 Clean and lubricate leg (1) and gear box (2) in accordance with lubrication chart.
- Step 2. Check for damaged leg.  
 Replace landing gear if damaged (para 4-33).



**LEVELING JACK**

- 16. JACK IS HARD TO OPERATE.**  
 Step 1. Check for grit and dirt on leg (1).  
 Clean and lubricate leg (1) and gear box (2) in accordance with lubrication chart.
- Step 2. Check for damaged leg.  
 Replace leveling jack if damaged (para 4-32).
- 17. JACK SHOE WILL NOT SET ON BASE.**  
 Check jack shoe (3).  
 Replace defective jack shoe.

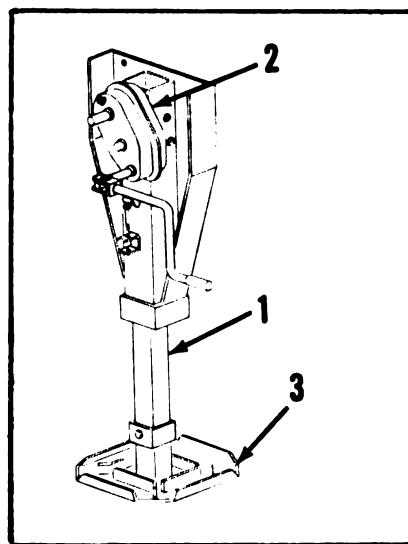


Table 4-2. Troubleshooting (cont)

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**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**SUSPENSION SYSTEM**

**18. PULLING TO LEFT OR RIGHT.**

Step 1. Check for dragging brakes.

Adjust brakes (para 4-17).

Step 2. Check for improper wheel bearing adjustment.

Adjust bearings (para 4-30).

Step 3. Check for loose suspension spring.

Tighten U-bolt nuts. Torque to 880 lb-ft (1193.3 Nm)  
dry or 660 lb-ft (895 Nm) lube.

**19. SEMITRAILER LEANS TO ONE SIDE.**

Check for broken spring leaves.

Notify direct support.

**DOORS**

**20. DIFFICULTY IN LOCKING OR UNLOCKING DOORS.**

Step 1. Check center lock, slide bolts and striker plates  
for rust and corrosion (para 4-38).

Clean and lubricate.

Step 2. Check if door is hard to lock.

Add shim stock as required under center lock and/or slide  
bolt guides (para 4-38).

Step 3. Check for good weather tight seal when door is in  
closed and locked position.

Add shim stock as required under striker plate of flush  
bolts.

Replace defective lock assembly (para 4-38).

Table 4-2. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**DOORS (cont)**

**21. DOOR HINGES DO NOT OPERATE PROPERLY.**

Step 1. Check for rust on hinge bolt.

Remove rust and lubricate.

Step 2. Check for cracked or broken hinge.

Replace defective hinge (para 4-38).

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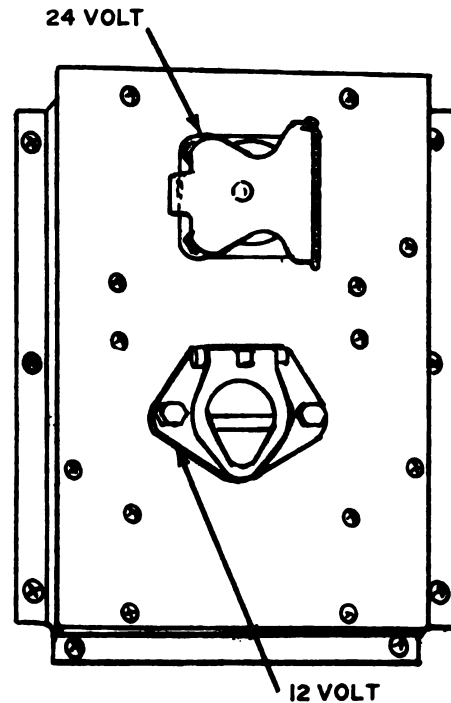
Section V. ELECTRICAL SYSTEM MAINTENANCE PROCEDURES

**WARNING**

Make sure all electrical power is disconnected before performing any maintenance on the electrical system. Serious injury or death may result if proper precautions are not taken.

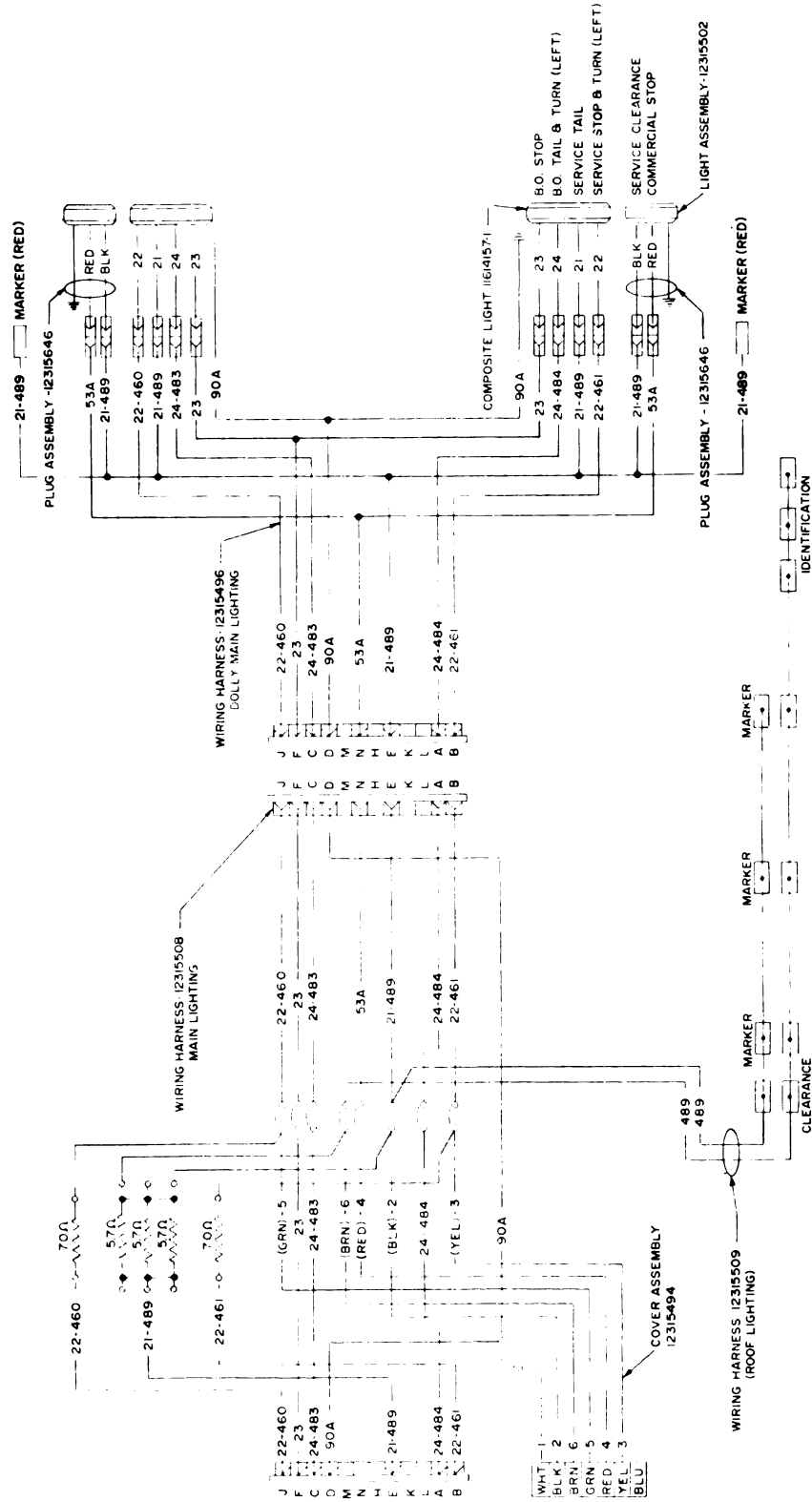
4-10. GENERAL

1. The XM1006 semitrailer is equipped with two intervehicular cable receptacles, located at lower left corner of front of vehicle.
2. The 12-pin, 24-volt receptacle is located above the 7-pin, 12-volt receptacle.
3. A system of resistors and circuit breakers makes it possible to use a towing vehicle with either a 12-volt or a 24-volt electrical system.
4. Refer to semitrailer wiring diagrams (pages 4-28 and 4-29) before connecting any disconnected wires.

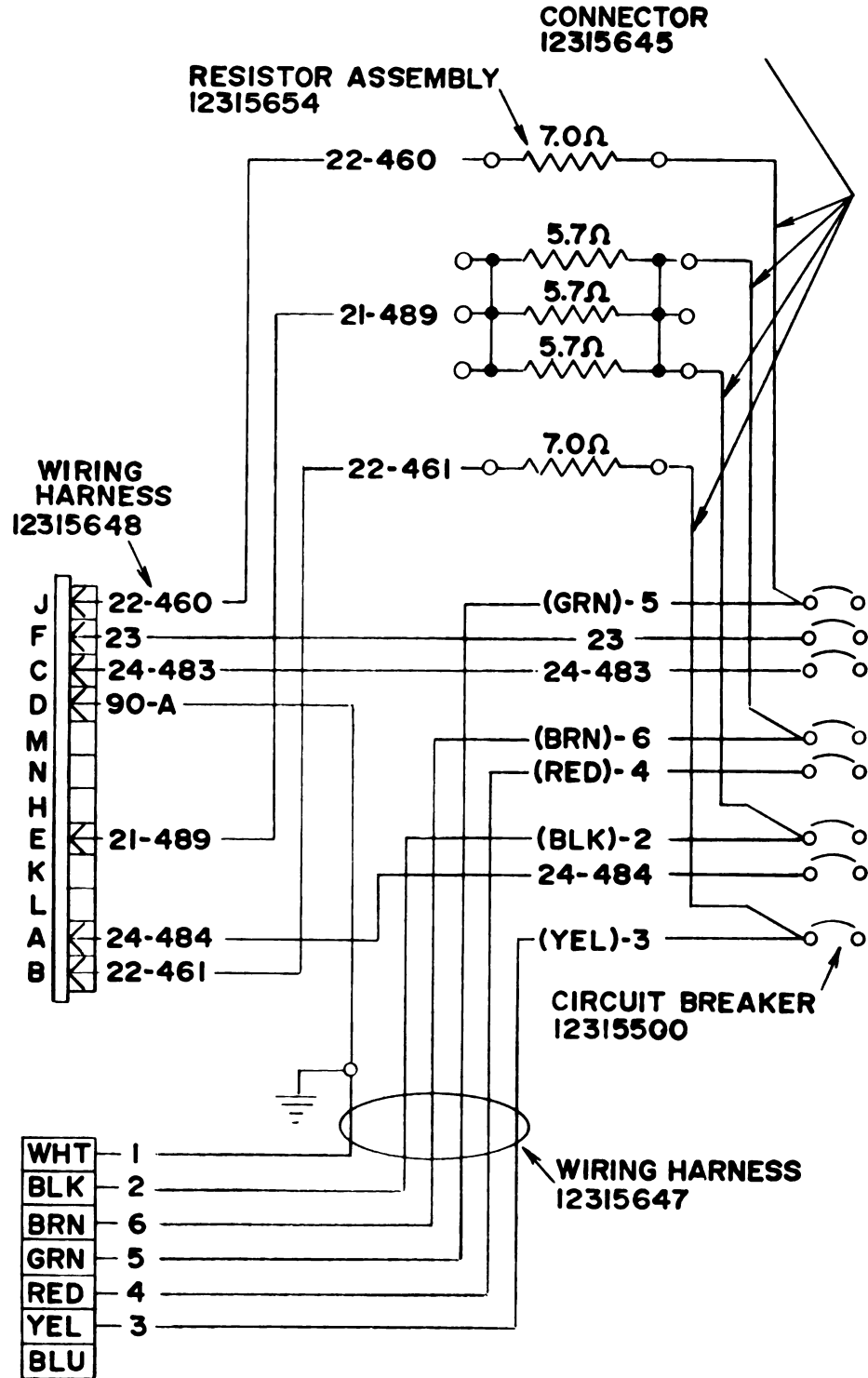


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4-27







Wiring diagram, resistor box

TA 245437

**4-11. RESISTOR BOX**

**THIS TASK COVERS**

- a. Removal of resistor
- b. Inspection of resistor
- c. Installation of resistor
- d. Testing circuit breaker
- e. Removal of circuit breaker
- f. Installation of circuit breaker

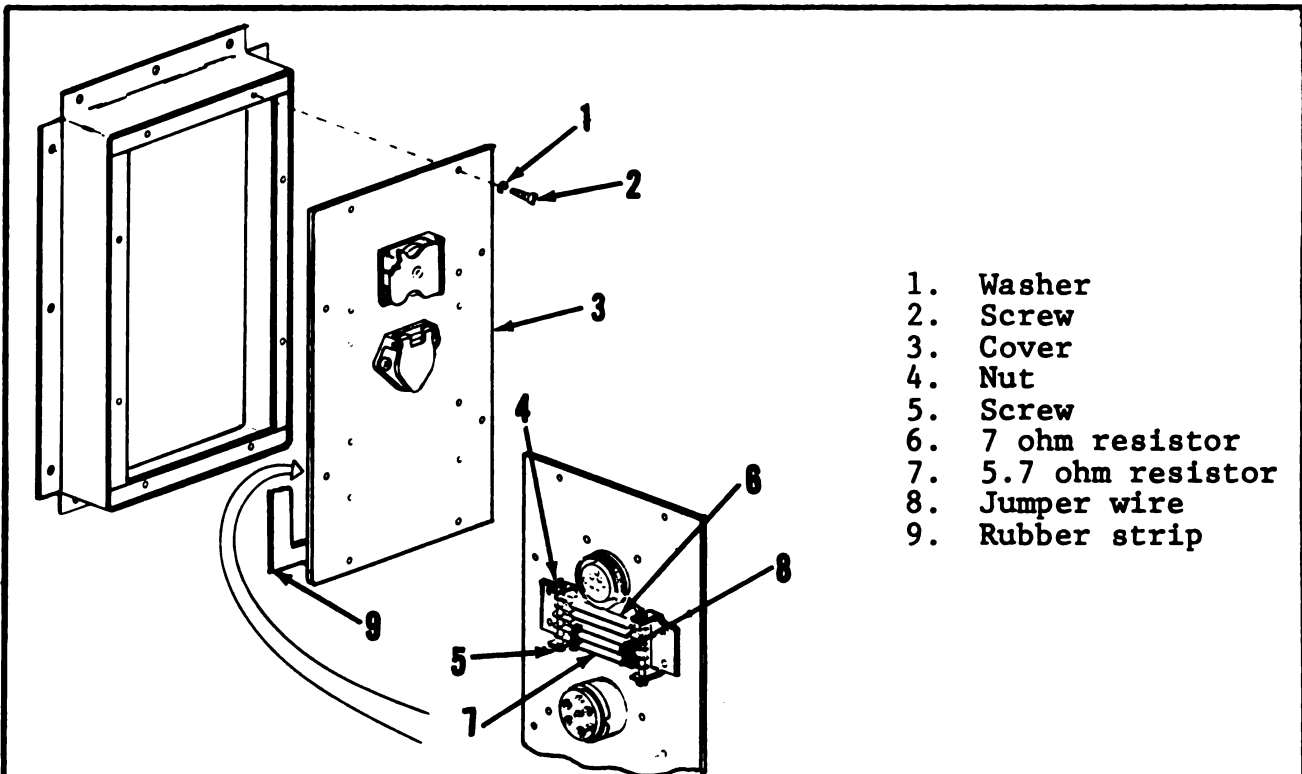
**Troubleshooting Reference  
Item No.**

- 1. All lights fail to operate
- 3. Dim or flickering lights

**Test Equipment: Multimeter**

**Personnel Required: 1**

**REMOVAL OF RESISTOR**



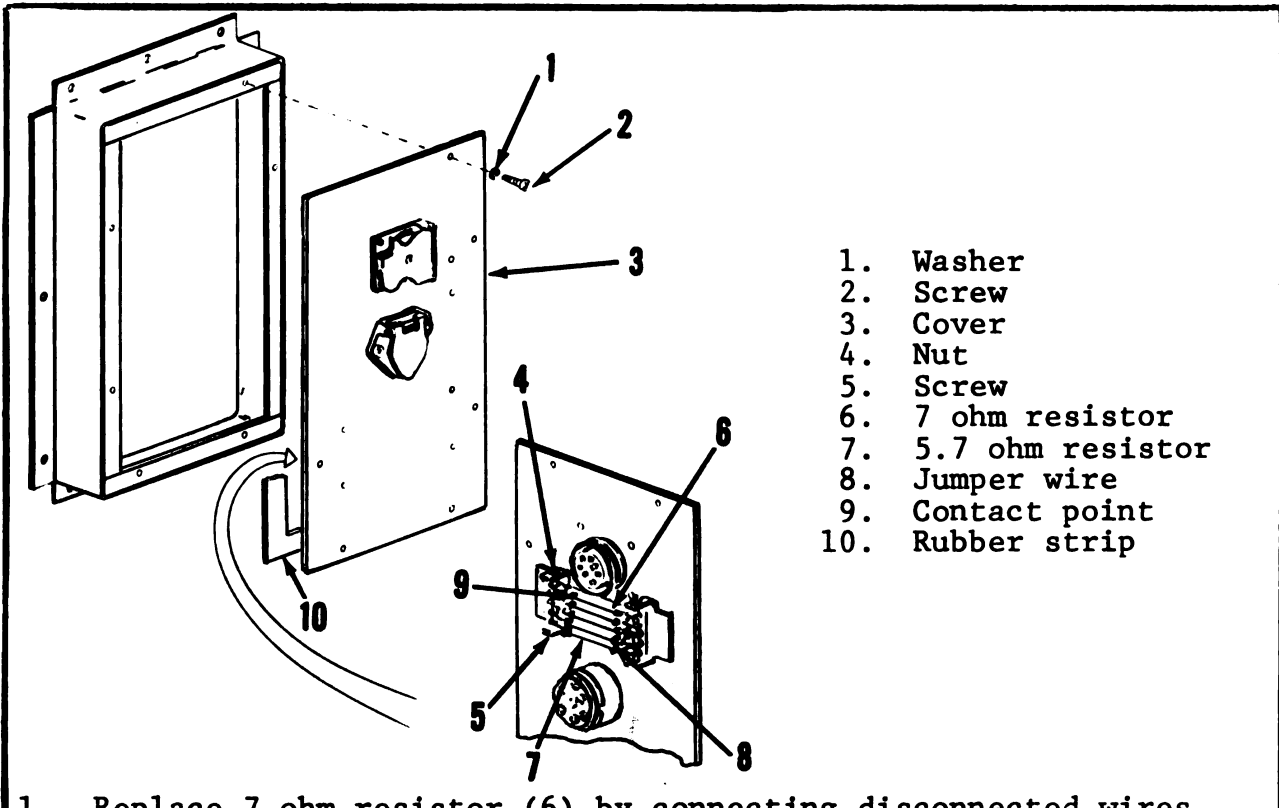
- 1. Disconnect power source.
- 2. Remove eight screws (2) and washers (1) securing resistor box cover (3) and remove cover and rubber strip (9).
- 3. Remove two nuts (4) and screws (5) securing resistors.
- 4. The two 7 ohm resistors (6) may be removed individually. Disconnect and tag wires and remove 7 ohm resistors.
- 5. The three 5.7 ohm resistors (7) are inter-connected by jumper wires (8). To remove 5.7 ohm resistor, unsolder jumper wires. Tag and disconnect wires and remove resistors (7).

**4-11. RESISTOR BOX (cont)**

**INSPECTION**

1. Check resistor contact points (9). Clean as required.
2. Using multimeter, check resistors for rated ohms (refer to resistor box wiring diagram, page 4-29).
3. Replace cracked, chipped or defective resistor.

**INSTALLATION OF RESISTOR**



1. Replace 7 ohm resistor (6) by connecting disconnected wires and securing with screws (5) and nuts (4).
2. Position 5.7 ohm resistors (7) and solder all jumper wire (8) connections.
3. Connect all disconnected wires and secure in place with screws (5) and nuts (4).
4. Using multimeter, check resistors for rated ohms marked on resistors (refer to resistor box wiring diagram, page 4-29).
5. Position cover (3) and rubber strip (10) and secure with eight screws (2) and washers (1).
6. Connect power source.

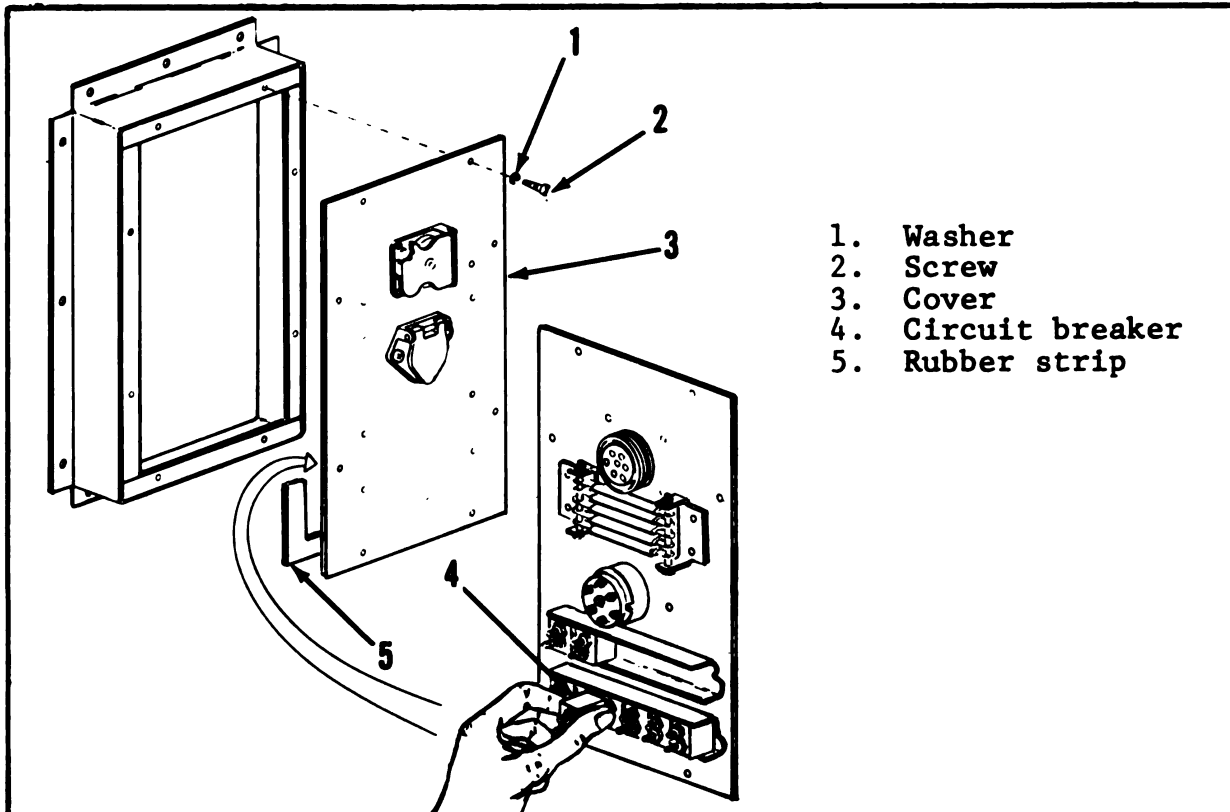
TA 245439  
4-31

**4-11. RESISTOR BOX (cont)**

**TESTING CIRCUIT BREAKER**

1. Connect two terminals of circuit breaker to a fused variable current source of 12-volt dc.
2. Increase current to 5% above rating shown on circuit breaker. The breaker should open the circuit in not less than two nor more than five minutes.

**REMOVAL OF CIRCUIT BREAKER**



1. Washer
2. Screw
3. Cover
4. Circuit breaker
5. Rubber strip

1. Disconnect power source.
2. Remove eight screws (2) and washers (1) securing resistor box cover (3) and remove cover and rubber strip (5).
3. Tag and disconnect wires and remove circuit breaker (4).

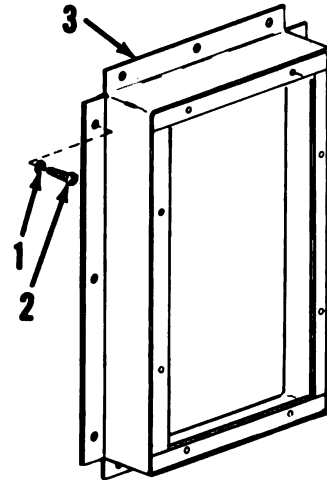
**INSTALLATION OF CIRCUIT BREAKER**

1. Connect wires to circuit breaker terminals.
2. Insert circuit breaker in position by pushing inward.
3. Position resistor box cover (3) and secure with eight screws (2) and washers (1) and connect power source.

**4-11. RESISTOR BOX (cont)**

**REMOVAL OF RESISTOR BOX**

1. Remove cover (para 4-11). Disconnect and remove harness.
2. Remove 12 screws (2) and washers (1) securing resistor box (3).
3. Remove resistor box.



1. Washer
2. Screw
3. Resistor box

**INSTALLATION OF RESISTOR BOX**

1. Position resistor box (3) on front of semitrailer body.
2. Secure box (3) with 12 screws (2) and washers (1).
3. Insert and connect harness and install cover (para 4-11).

**4-12. INTERVEHICULAR CABLE RECEPTACLE**

**THIS TASK COVERS**

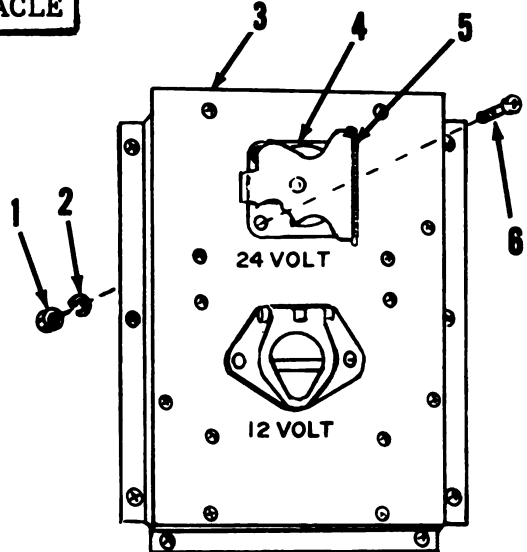
- a. Removal
- b. Cleaning and inspection
- c. Installation

**Test Equipment:** Multimeter

**Personnel Required:** 1

**REMOVAL OF RESISTOR BOX 24-VOLT RECEPTACLE**

1. Remove resistor box cover (3) (para 4-11).
2. Remove four nuts (1), washers (2) and screws (6) securing cover (5) and receptacle (4). Remove cover and receptacle.



1. Nut
2. Washer
3. Resistor box cover
4. Receptacle
5. Receptacle cover
6. Screw

TA 245441

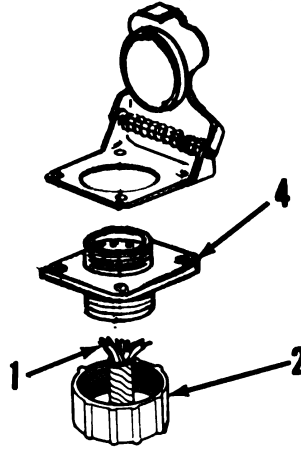
4-33

4-12. INTERVEHICULAR CABLE RECEPTACLE (cont)

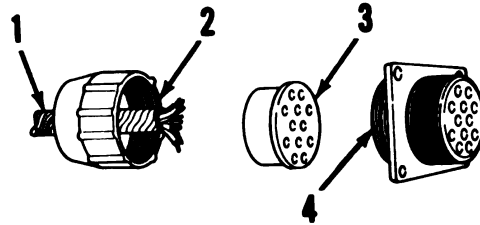
REMOVAL OF RESISTOR BOX 24-VOLT RECEPTACLE (cont)

3. Remove nut (2) from rear of receptacle (4) and slide nut back over the wires (1).

1. Wires
2. Nut
4. Receptacle



4. Mark and unsolder wires at rear of receptacle (4).
5. Remove rubber bushing (3) from receptacle (4) and slide bushing back over wires (1).
6. Remove ground lug from resistor mounting stud.



1. Wires
2. Nut
3. Rubber bushing
4. Receptacle

CLEANING AND INSPECTION

WARNING

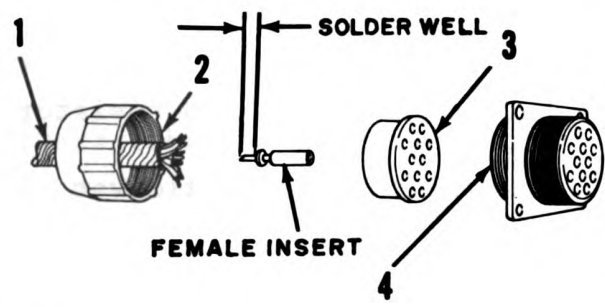
Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

1. Clean all parts with cleaning solvent (item 3, appendix E).
2. Inspect for cracks, breaks or other damage.  
Replace defective parts.

**4-12. INTERVEHICULAR CABLE RECEPTACLE (cont)**

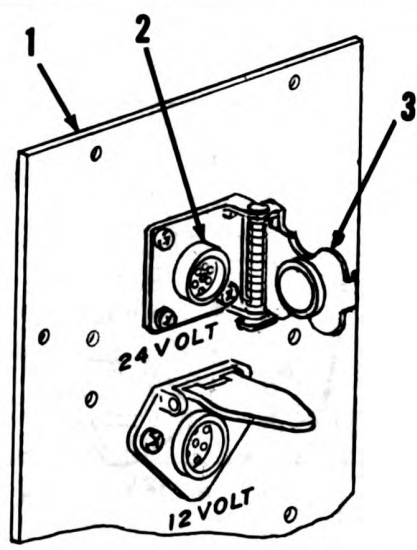
**INSTALLATION OF RESISTOR BOX 24-VOLT RECEPTACLE**

1. Insert bushing (3) over wires (1).
2. Solder wires (1) to terminals at rear of receptacle (refer to wiring diagrams, pages 4-28 and 4-29).
3. Slide nut (2) over wires (1) and bushing (3) to rear of receptacle (4). Tighten nut.



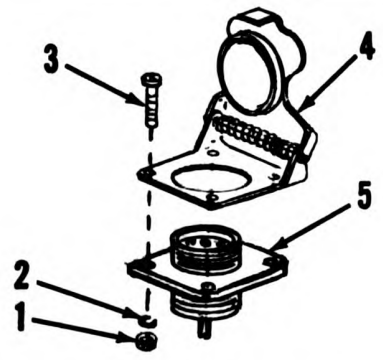
- |          |               |
|----------|---------------|
| 1. Wires | 3. Bushing    |
| 2. Nut   | 4. Receptacle |

4. Make sure power source is disconnected. Make a continuity check of all circuits throughout semitrailer, using a multimeter.
5. Insert ground wire and receptacle (2) into hole in resistor box cover (1) and place receptacle cover (3) over receptacle plate, with center line of cover hinge 90° from center line of semitrailer.



- |                       |
|-----------------------|
| 1. Resistor box cover |
| 2. Receptacle         |
| 3. Receptacle cover   |

6. Aline holes in cover (4) and receptacle (5) with holes in resistor box cover.
7. Secure with four screws (3), washers (2) and nuts (1).



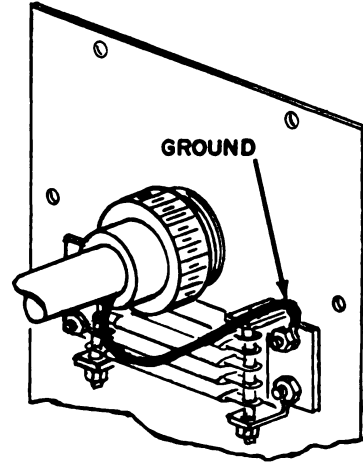
- |           |               |
|-----------|---------------|
| 1. Nut    | 4. Cover      |
| 2. Washer | 5. Receptacle |
| 3. Screw  |               |

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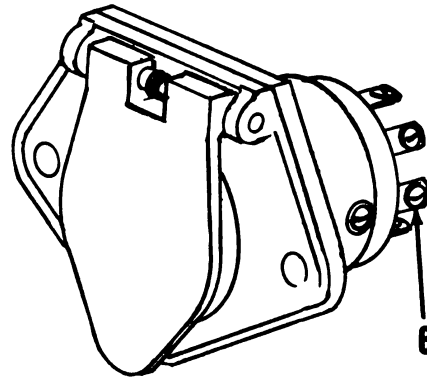
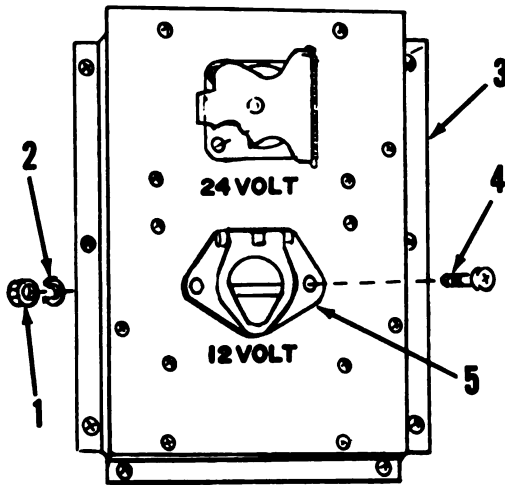
4-12. INTERVEHICULAR CABLE RECEPTACLE (cont)

INSTALLATION OF RESISTOR BOX 24-VOLT RECEPTACLE (cont)

8. Secure ground lug to resistor mounting stud with nut.
9. Install resistor box cover (para 4-11).



REMOVAL OF RESISTOR BOX 12-VOLT RECEPTACLE



- |                       |               |
|-----------------------|---------------|
| 1. Nut                | 4. Screw      |
| 2. Washer             | 5. Receptacle |
| 3. Resistor box cover | 6. Screw      |

1. Remove resistor box cover (3) (para 4-11).
2. Loosen screws (6) securing each wire. Tag and remove wires from rear of receptacle.
3. Remove ground lug from resistor mounting stud.
4. Remove two nuts (1), washers (2) and screws (4) securing receptacle (5) and remove receptacle.

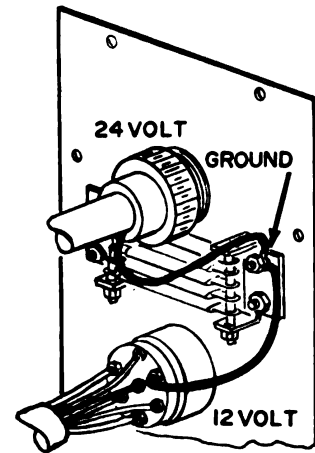


**4-12. INTERVEHICULAR CABLE RECEPTACLE (cont)**

**INSTALLATION OF RESISTOR BOX 12-VOLT RECEPTACLE**

1. Clean and inspect receptacle in accordance with the procedure for the 24-volt receptacle (page 4-34).
2. Aline holes in resistor box cover (3) with holes in receptacle (5).
3. Secure with two screws (4), washers (2) and nuts (1).
4. Insert each wire into its proper position at rear of receptacle (refer to wiring diagrams, pages 4-28 and 4-29) and secure with screws (6).

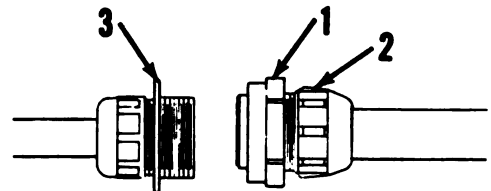
5. Make sure ground lug is secured to resistor mounting stud.
6. Install resistor box cover (para 4-11).



**MAIN HARNESS RECEPTACLE**

**REMOVAL**

1. Loosen nut (1) securing dolly harness receptacle (2) to main harness receptacle (3).
2. Pull dolly harness receptacle (2) outward and away from main harness receptacle (3) to separate the two receptacles.

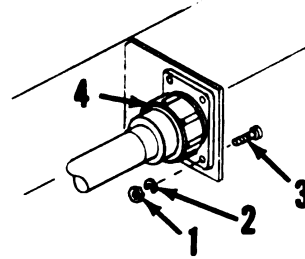


1. Nut
2. Dolly harness receptacle
3. Main harness receptacle

**MAIN HARNESS RECEPTACLE (cont)**

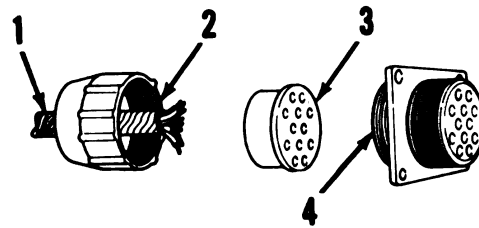
**REMOVAL (cont)**

3. Remove four nuts (1), washers (2) and screws (3) securing main harness receptacle (4) to chassis.



- |           |                            |
|-----------|----------------------------|
| 1. Nut    | 3. Screw                   |
| 2. Washer | 4. Main harness receptacle |

4. Remove all tape at rear of receptacle (4) to expose wires and bushing retainer nut (2).
5. Remove nut (2) from receptacle (4) and slide nut back over wiring harness (1).
6. Remove rubber bushing (3) from receptacle (4) and slide bushing back over harness (1) to expose solder connections.
7. Mark and unsolder wires at rear of receptacle (4).



- |               |
|---------------|
| 1. Harness    |
| 2. Nut        |
| 3. Bushing    |
| 4. Receptacle |

**CLEANING AND INSPECTION**

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 158°F (58.8°C).

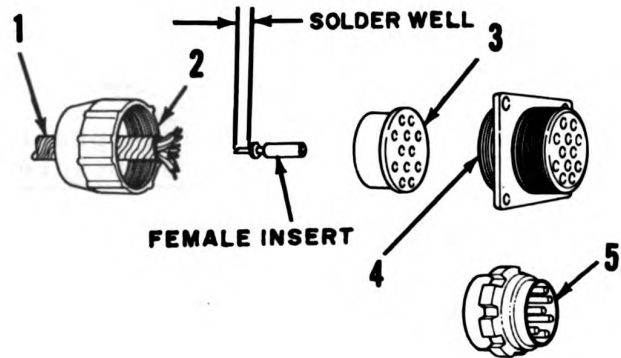
1. Clean all parts with cleaning solvent (item 3, appendix E).
2. Inspect for cracks, breaks or other damage.
3. Replace defective parts.

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**MAIN HARNESS RECEPTACLE (cont)**

**INSTALLATION**

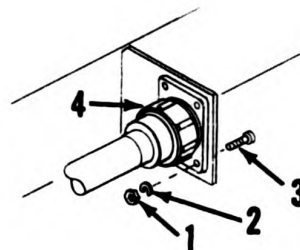
1. Slide rubber bushing (3) over wires (1).
2. Solder wires to terminals at rear of receptacle (refer to wiring diagram, page 4-28).
3. Slide nut (2) over wires (1) and bushing (3) to rear of receptacle (4). Tighten nut (2).



1. Wires
2. Nut
3. Bushing
4. Receptacle
5. Plug

4. Make certain power source is disconnected and make a continuity check of all circuits throughout semitrailer, using multimeter.
5. Wrap exposed wire and nut with tape.
6. Insert receptacle into hole in chassis.

7. Aline holes in receptacle plate (4) with holes in chassis.
8. Secure receptacle (4) with four screws (3), washers (2) and nuts (1).



1. Nut
2. Washer
3. Screw
4. Main harness receptacle

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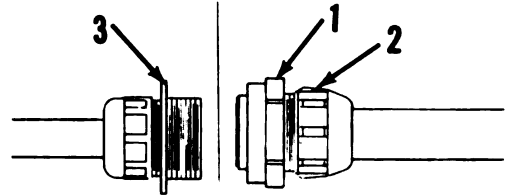
4-39

**MAIN HARNESS RECEPTACLE (cont)**

**INSTALLATION (cont)**

9. Connect dolly harness receptacle (2) to main harness receptacle (3) and secure with nut (1).

- 1. Nut
- 2. Dolly harness receptacle
- 3. Main harness receptacle



**4-13. MARKER CLEARANCE LIGHT**

**THIS TASK COVERS**

- a. Lamp replacement
- b. Removal
- c. Cleaning and inspection
- d. Installation

**Troubleshooting Reference**

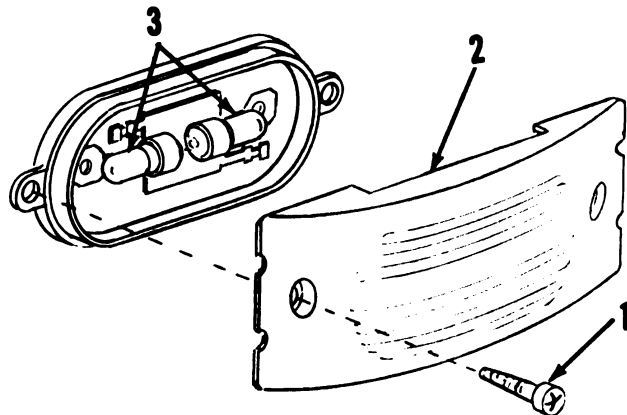
- Item No.
- 3. Dim or flickering lights

**LAMP REPLACEMENT**

**NOTE**

All semitrailer running lights are controlled by the electrical system of the towing vehicle. A master switch on the towing vehicle controls the service and blackout modes of operation of the lights. Place this switch in the proper position prior to testing the lamps after installation. Lamps will not light if towing vehicle switch is in the OFF position.

- 1. Remove two screws (1) securing lens (2). Remove lens.
- 2. Push in on lamp (3), turning counterclockwise to remove from socket.
- 3. Insert new lamp (3) into socket. Press in and turn clockwise.
- 4. Test lamp by turning on switch in towing vehicle.
- 5. Position lens (2) on light and secure with two screws (1).

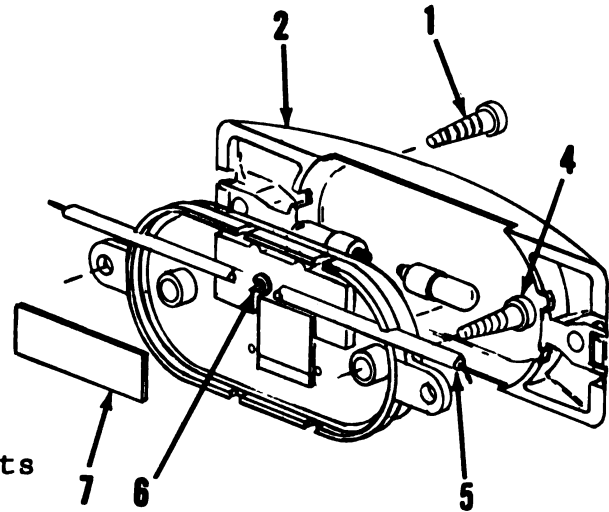


**4-13. MARKER CLEARANCE LIGHT (cont)**

**REMOVAL**

1. Remove two screws (1) and remove lens (2).
2. Remove two screws (4) securing light.
3. Remove insert (7) from rear of light body.
4. Pull wire (5) away from contact points (6) and remove light.

- |          |                   |
|----------|-------------------|
| 1. Screw | 5. Wire           |
| 2. Lens  | 6. Contact points |
| 4. Screw | 7. Insert         |



**CLEANING AND INSPECTION**

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

1. Clean all parts, except rubber items or gaskets, with cleaning solvent (item 3, appendix E).
2. Inspect body for cracks, warpage, cracked or broken lens, or evidence of leakage.
3. Make sure all parts are in good condition and will make good electrical contact and watertight connections.

**INSTALLATION**

1. Place wire (5) over two contact points (6) on rear of light.
2. Position insert (7) and press down to compress wire against contact points and provide electrical contact.
3. Secure light with two screws (4).
4. Position lens (2) and secure with two screws (1).

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**4-14. STOP AND MARKER LIGHT**

**THIS TASK COVERS**

- a. Removal
- b. Installation

**Troubleshooting Reference**

**Item No.**

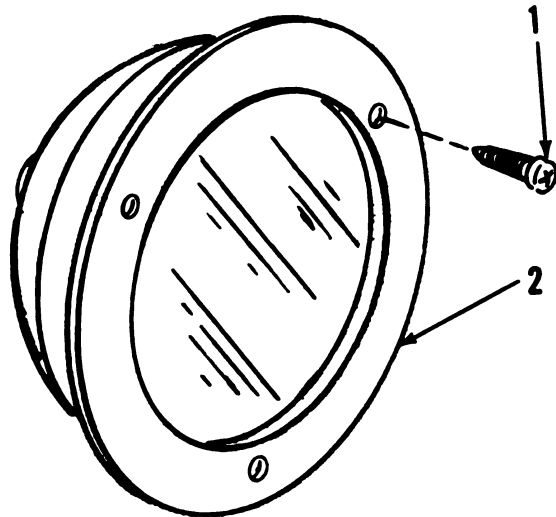
- 1. All lights fail to operate
- 2. Dim or flickering lights
- 3. Directional signals inoperative

**REMOVAL**

- 1. Disconnect electrical connector at rear of light.
- 2. Remove three screws (1) securing light (2). Replace defective light (2).

**INSTALLATION**

- 1. Position light (2) and secure with three screws (1).
- 2. Connect electrical connector.
- 3. Test light by turning on switch in towing vehicle and depressing brake pedal.



- 1. Screw
- 2. Light

**4-15. COMPOSITE STOPLIGHT TAILLIGHT**

**THIS TASK COVERS**

- a. Removal
- b. Lamp replacement
- c. Cleaning
- d. Inspection
- e. Assembly
- d. Installation

**Troubleshooting Reference**

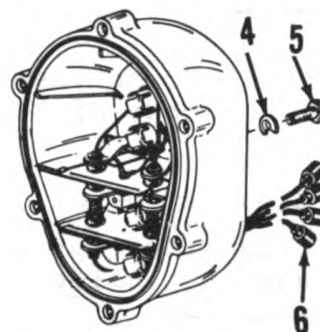
**Item No.**

- 1. All lights fail to operate
- 2. One or more lamps will not light
- 3. Dim or flickering lights
- 4. Directional signals inoperative

4-15. COMPOSITE STOPLIGHT TAILLIGHT (cont)

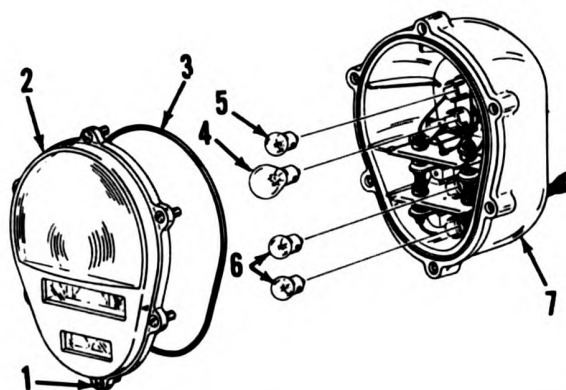
REMOVAL

1. Tag and disconnect four electrical stoplight connectors (6) from chassis harness connectors.
2. Reach behind dolly frame and remove two screws (5) and lock washers (4) securing light assembly to mounting channel in dolly crossmember. Remove light.

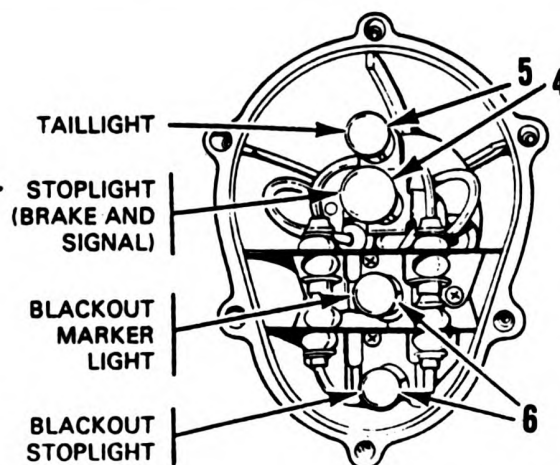


LAMP REPLACEMENT

1. Loosen six retaining screws (1) on lens assembly (2).
2. Remove lens assembly (2) with attached preformed packing (3).
3. Push in on lamp (4, 5, or 6) and turn counterclockwise to remove.
4. Insert lamp (4, 5, or 6) in socket, push in and turn clockwise.



5. Test lamps as follows: Turn service switch on towing vehicle to ON position to test service tail lamp (5).
6. Operate brake pedal on towing vehicle to test stoplight lamp (4).
7. Operate turn signal lever in towing vehicle to test operation of turn signal lamp (4).
8. Test blackout lamp (6) by placing towing vehicle switch in BLACKOUT mode of operation and then operating the proper switch, brake pedal, or turn signal lever.



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4-15. COMPOSITE STOPLIGHT TAILLIGHT (cont)

CLEANING

CAUTION

Do not use cleaning solvent. It will damage the body of the light.

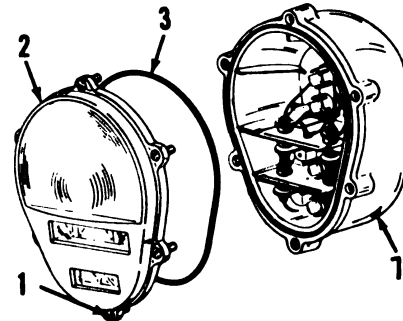
1. Clean exterior of light, using clean water and soap solution.
2. Clean interior of body and lens assembly, using clean water and soap solution. Dry thoroughly.

INSPECTION

1. Inspect preformed packing and replace if damaged.
2. Inspect lens assembly for cracks, warpage, or broken lens. Replace lens assembly if defective.
3. Inspect wiring and sockets. Replace light assembly if defective.

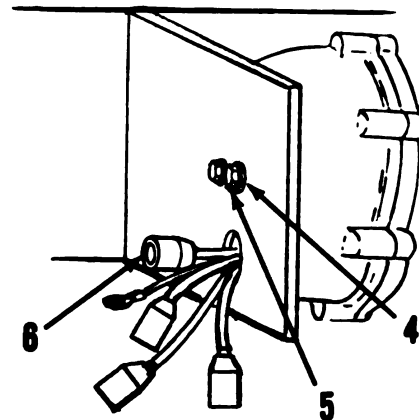
ASSEMBLY

1. Position preformed packing (3) and lens assembly (2) on body (7).
2. Secure with six captive screws (1).



INSTALLATION

1. Position light assembly on mounting channel and secure with two screws (5) and lock washers (4).
2. Connect the four connectors (6) to the chassis harness connectors.
3. Test operation of light. Operate turn signal lever in towing vehicle to test operation of turn signal lamp.
4. Test blackout lamp by placing towing vehicle switch in BLACKOUT mode and then operating the proper switch, brake pedal and turn signal lever.





Section VI. BRAKE SYSTEM MAINTENANCE PROCEDURES

**4-16. GENERAL**

The following paragraphs cover procedures for removal, disassembly, assembly and installation of brake shoe assembly, wheel cylinder assembly, master cylinder assembly, brake air chamber assembly, relay valve, hydraulic lines and air lines. These paragraphs also cover brake adjustment, bleeding the hydraulic brake system, cleaning, inspection and repair of hydraulic lines and air lines.

The service brakes are air-over-hydraulic type with automatic break-away protection. When the semitrailer brake system is properly connected to the service brake system of the towing vehicle, the towing vehicle brake pedal operates the brakes on both vehicles.

**4-17. BRAKE ADJUSTMENT**

**THIS TASK COVERS**

- a. Minor adjustment
- b. Major adjustment

**Troubleshooting Reference  
Item No.**

- 6. No brakes or weak brakes
- 8. Grabbing brakes
- 9. Brake drum running hot
- 10. Uneven braking

**Test Equipment Required: None Personnel Required: 1**

1. Release pressure from braking system by opening drain cock on air reservoir.
2. Place jack under axle and raise rear of semitrailer until tires clear ground.

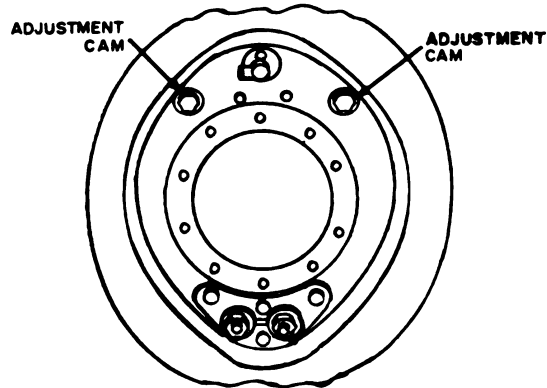
**NOTE**

Try to laterally rock wheel, hub and brake drum assembly on axle spindle. If rocking condition exists, adjust wheel bearings (para 4-30) before making brake adjustment.

4-17. BRAKE ADJUSTMENT (cont)

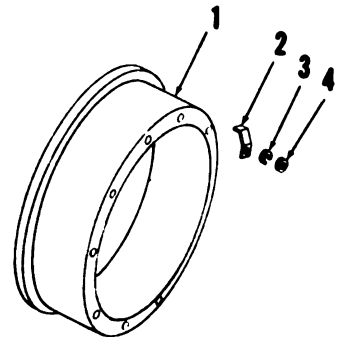
MINOR ADJUSTMENT

3. Minor adjustment is adjustment of brake shoes to correct for normal lining wear.
4. Turn rear adjustment cam on back side of backing plate counterclockwise until brake drags slightly when wheel is turned by hand.
5. Turn adjustment cam clockwise just enough to allow wheel to turn freely.
6. Turn forward adjustment cam clockwise until brake drags slightly when wheel is turned by hand.
7. Turn adjustment cam counterclockwise just enough to allow wheel to turn freely.
8. Repeat above procedures on remaining wheels.
9. When adjustments are completed, close air reservoir drain cock.



MAJOR ADJUSTMENT

1. Major adjustment is brake shoe adjustment following removal and installation of brake shoes.
2. With wheels removed, remove nut (4) and washer (3) securing inspection hole cover (2) to brake drum (1). Remove cover.



1. Brake drum
2. Cover
3. Washer
4. Nut

3. Rotate brake drum until inspection hole is 1-½ inches above lower end of rear brake shoe.

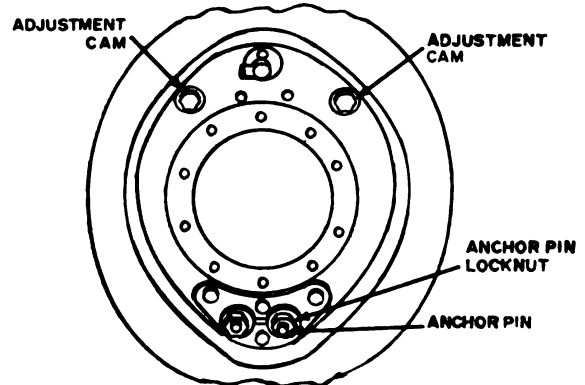
TA 245453

**4-17. BRAKE ADJUSTMENT (cont)**

**MAJOR ADJUSTMENT (cont)**

4. Insert feeler gage in inspection hole to determine clearance between brake shoe and drum.
5. Clearance should be 0.010 inch at this point. If this clearance is obtained, no further adjustment is required. If clearance is not 0.010 inch, proceed with the following steps:

6. Loosen rear anchor pin lock nut on back side of backing plate to adjust clearance between brake shoe and drum.
7. Holding lock nut, turn anchor pin until 0.010 inch clearance is obtained.
8. Turn anchor pin clockwise to reduce clearance. Turn anchor pin counterclockwise to increase clearance.



9. Rotate brake drum until inspection hole is 1-½ inches below upper end of brake shoe.
10. Insert feeler gage in inspection hole to determine clearance between brake shoe and drum.
11. Clearance should be 0.020 inch at this point.
12. Turn rear adjustment cam until clearance between brake shoe and drum, measured by feeler gage, is 0.020 inch.
13. Turn cam counterclockwise to reduce clearance. Turn cam clockwise to increase clearance.
14. Recheck to be sure that 0.010 inch clearance is maintained at lower end of rear shoe.
15. Adjust clearance between lower and upper ends of front brake shoe and drum as described above.
16. Clearance between upper end of front brake shoe and drum is increased by turning front shoe adjustment cam counterclockwise and decreased by turning cam clockwise.
17. Clearance between lower end of front brake shoe and drum is decreased by turning front anchor pin counterclockwise, and increased by turning anchor pin clockwise.
18. Hold anchor pins to prevent them from turning and tighten anchor pin lock nuts. Check brake shoe clearance again.
19. Position inspection hole cover (2) on brake drum (1) and secure with nut (4) and washer (3).

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**4-18. BLEEDING HYDRAULIC BRAKE SYSTEM**

**GENERAL**

Proper operation of brake system requires a solid column of fluid (without air bubbles).

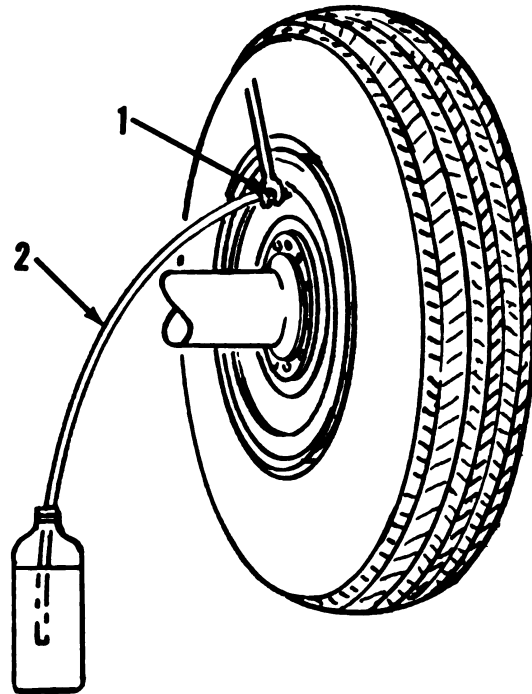
Bleed the system to expel any air which may have entered. Need for bleeding is generally indicated by soft brake action.

Bleeding can be done manually or with pressure feed filler. Towing vehicle must be coupled to semitrailer for manual bleeding operation.

Front axle wheels and rear axle wheels should be bled individually and each applicable master cylinder used (see hydraulic system schematic, page 4-70).

**MANUAL BLEEDING**

1. Connect the towing vehicle SERVICE and EMERGENCY brake line air couplings to their proper semitrailer glad-hands and open shut off valves on towing vehicle air supply lines.
2. Clean the bleeder valve (1) in hydraulic wheel cylinder and attach tube (2) to bleeder valve. Submerge opposite tube end in bottle or jar partially filled with hydraulic brake fluid.



**CAUTION**

Do not reuse brake fluid when refilling master cylinder. Use clean fluid as required on lubrication chart.

3. Fill the hydraulic master cylinder with brake fluid until fluid level is 1/2-inch to 3/8-inch below top of reservoir.

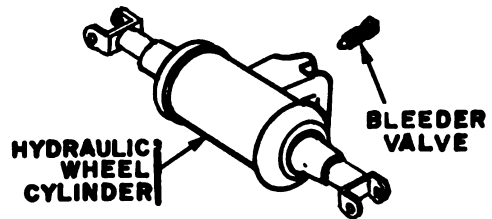
1. Bleeder valve
2. Bleeder tube

TA 245455

4-18. BLEEDING HYDRAULIC BRAKE SYSTEM (cont)

MANUAL BLEEDING (cont)

4. Rotate bleeder valve three-quarters of a turn counter-clockwise.
5. Depress towing vehicle brake pedal to expel air.
6. Close bleeder valve before releasing brake pedal.



CAUTION

Do not pump master cylinder dry. Damage may result to the braking system.

7. Expelled air will show as bubbles coming out of tube. Continue step 5 above until air bubbles cease.
8. Remove bleeder tube.
9. Repeat steps 1 through 5 on remaining wheel cylinders, replenishing fluid in master cylinder reservoir as necessary.
10. Close towing vehicle shutoff valves, open air reservoir drain cock and disconnect towing vehicle SERVICE and EMERGENCY air line couplings from semitrailer couplings.
11. Install filler plug and vent tube in top of master cylinder reservoir.
12. Close air reservoir drain cock.

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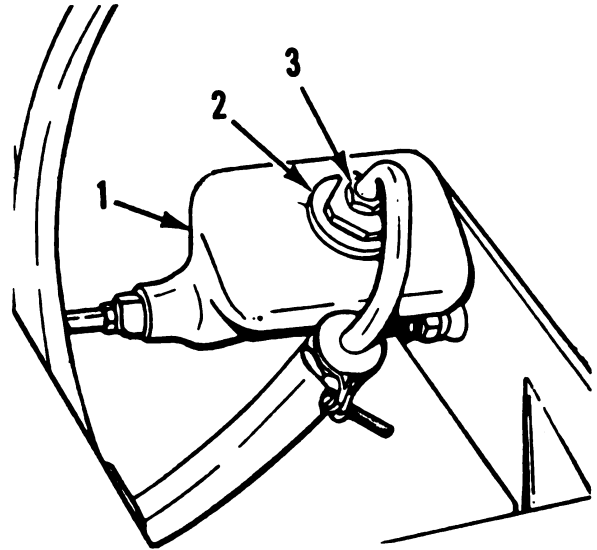
4-18. BLEEDING HYDRAULIC BRAKE SYSTEM (cont)

PRESSURE FEED FILLER BLEEDING

1. Remove filler plug (2) and vent tube assembly (3), install pressure feed adapter in master cylinder filler hole, and connect pressure feed filler hose to pressure feed adapter.

NOTE

Master cylinder reservoir should contain from 10 to 20 psi (68.95 to 137.90 k pa) air pressure and sufficient fluid to maintain a constant level in master cylinder assembly.



2. Bleed system as in manual bleeding (steps 2, 4, 6 and 9 above), except that replenishing of brake fluid and manual operation of vehicle brake pedal are not required.
3. Remove pressure feed filler hose and pressure feed adapter from master cylinder (1) and install filler plug (2) and vent tube assembly (3).

1. Master cylinder
2. Filler plug
3. Vent tube assembly

4-19. BRAKE RETURN SPRING

THIS TASK COVERS

- a. Removal
- b. Inspection
- c. Installation

Troubleshooting Reference

- |          |  |
|----------|--|
| Item No. |  |
| 5.       | Brakes will not release                |
| 7.       | Slow brake application or slow release |
| 9        | Brake drum running hot                 |

TA 245457

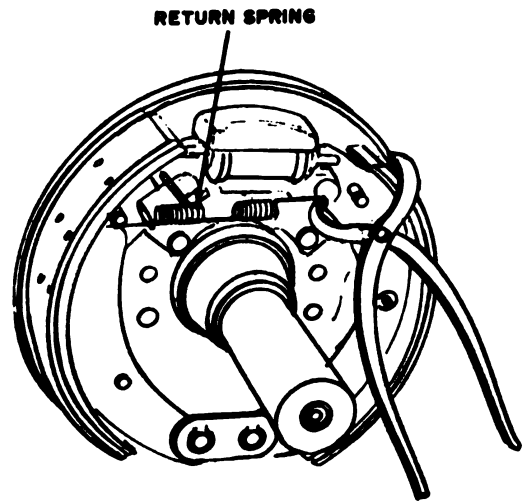
**4-19. BRAKE RETURN SPRING (cont)**

**REMOVAL**

**WARNING**

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

1. Open air reservoir drain cock.
2. Remove wheel from hub (para 3-7).
3. Remove hub and brake drum from axle (para 4-30).
4. Unhook each end of spring and remove spring.



**INSPECTION**

1. Inspect spring for rust, distortion and excessive wear.
2. Replace worn or defective spring.

**INSTALLATION**

1. Place spring in position.
2. Install hub and brake drum on axle (para 4-30).
3. Install wheel on hub (para 3-7).
4. Bleed and adjust brakes (para 4-18, 4-17).

**4-20. BRAKE SHOE**

**THIS TASK COVERS**

- a. General
- b. Inspection
- c. Removal
- d. Installation

**Troubleshooting Reference**

- |          |                          |
|----------|--------------------------|
| Item No. |                          |
| 6        | No brakes or weak brakes |
| 8        | Grabbing brakes          |
| 10       | Uneven braking           |
| 11       | Noisy brakes             |
| 12       | Wheel noise              |

Test Equipment Required: None

Personnel Required: 1

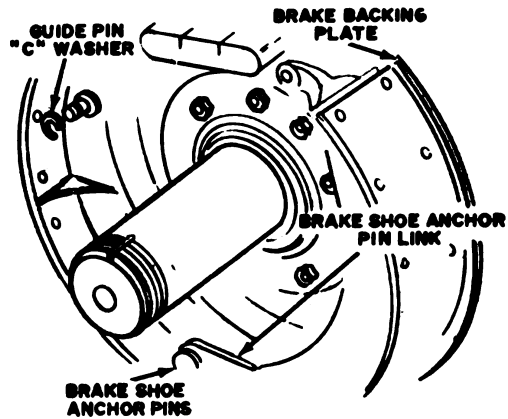
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4-20. BRAKE SHOE (cont)

GENERAL

Two brake shoes are mounted on each backing plate. Lower ends of shoes are secured to backing plate by anchor pins and lock nuts. Upper ends of shoes are retained by slotted C-type washers installed on guide pins attached to backing plate. Each shoe pivots on its anchor pin.



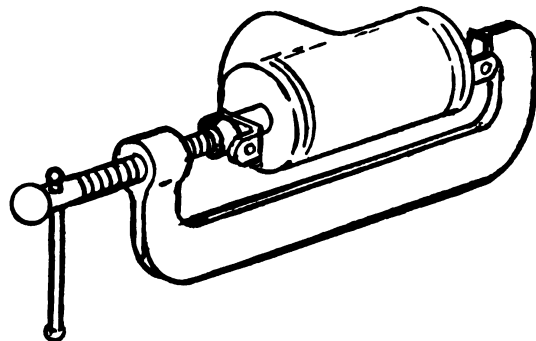
INSPECTION

1. Inspect brake shoe lining for wear.
2. If braking surface is within 3/16 inch of rivet head or grease or hydraulic fluid is present, replace brake shoe.

REMOVAL

1. Open air reservoir drain cock (para 2-19).
2. Remove wheel from hub (para 3-7).
3. Remove hub and drum assembly (para 4-30).

4. Install clamps over ends of wheel cylinder to hold wheel cylinder pistons in position.



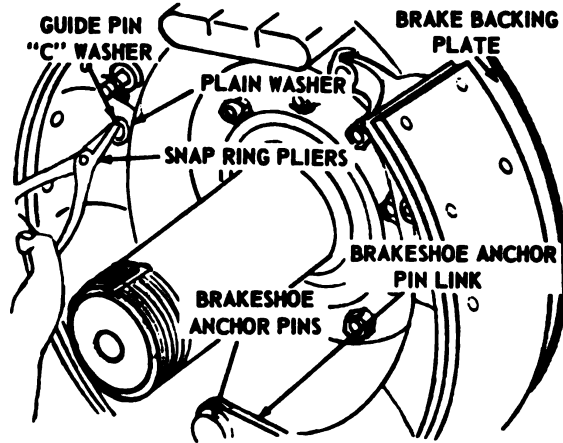
5. Unhook return spring from both brake shoes.



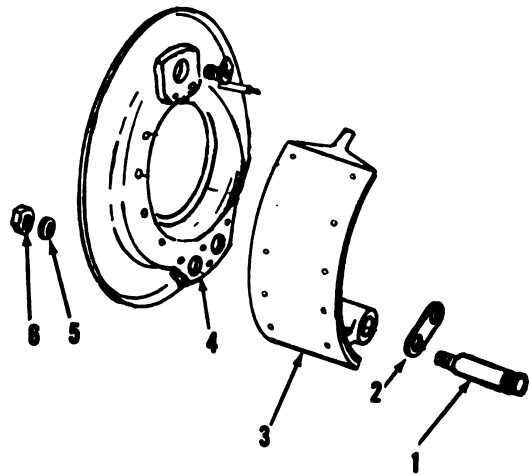
4-20. BRAKE SHOE (cont)

REMOVAL (cont)

6. Remove slotted C-type washer securing front brake shoe to guide pin, using pliers.
7. Repeat this operation at rear brake shoe.



8. Remove nuts (6) and washers (5) at back side of backing plate (4).
9. Pull brake shoe (3) and anchor pin (1) from front side of backing plate.
10. Pull anchor pins (1) with link (2) from bore at lower end of brake shoe.



INSTALLATION

1. Install anchor pins (1) with link (2) in bore at lower end of brake shoe (3).
2. Turn anchor pins so that punch marks, which show high side of anchor pin cams, are toward each other.

1. Anchor pin
2. Link
3. Brake shoe
4. Backing plate
5. Washer
6. Nut

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**4-20. BRAKE SHOE (cont)**

**INSTALLATION (cont)**

3. Install plain washers on both guide pins.
4. Position brake shoes on guide pins with anchor pins inserted in holes at bottom of backing plate.
5. Make sure wheel cylinder push rods engage slots in upper ends of brake shoes.
6. Install slotted C-washers on guide pins.
7. Install hub and brake drum assembly (para 4-30).
8. Install wheel on hub (para 3-7).
9. Bleed and adjust brakes (paras 4-18, 4-17).

**4-21. HYDRAULIC WHEEL CYLINDER**

**THIS TASK COVERS**

<ol style="list-style-type: none"> <li>a. Removal</li> <li>b. Installation</li> </ol>	<p><b>Troubleshooting Reference</b></p> <p>Item No.</p> <p>6 No brakes or weak brakes</p> <p>7 Slow brake application or slow release</p> <p>10 Uneven braking</p>
---	--

**Test Equipment Required: None**

**Personnel Required: 1**

**REMOVAL**

1. Remove wheel (para 3-7).
2. Remove hub and brake drum (para 4-30).
3. Unscrew connector securing hydraulic brake line to wheel cylinder at back side of backing plate.
4. Remove line from cylinder.
5. Unhook return spring from one of brake shoes.

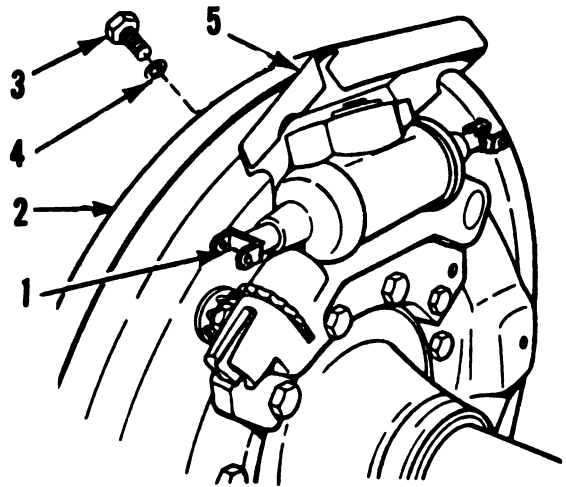
4-21. HYDRAULIC WHEEL CYLINDER (cont)

REMOVAL (cont)

- From rear of backing plate (2), remove two screws (3) and lock washers (4) securing wheel cylinder (1) and cover (5) to brake backing plate (2).

CAUTION

Prevent brake fluid from coming in contact with brake lining. Contaminated linings require brake shoe replacement.

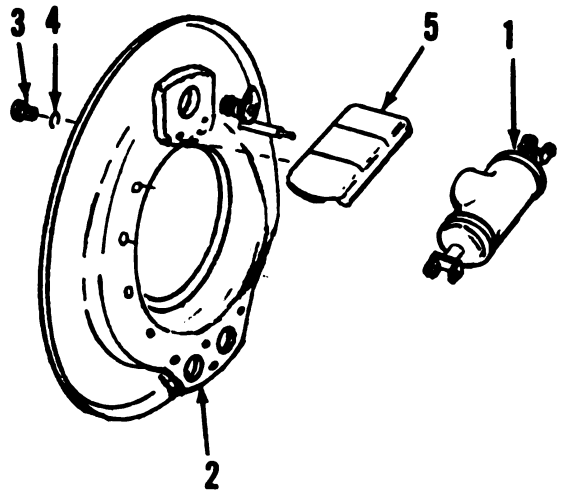


- Slide brake shoes away from wheel cylinder piston rod.
- Remove wheel cylinder (1) and cover (5).

- Wheel cylinder
- Backing plate
- Screw
- Washer
- Cover

INSTALLATION

- Position cover (5) over rear of wheel cylinder (1).
- Place wheel cylinder between ends of brake shoe and through brake backing plate (2).
- Install washers (4) and screws (3) from rear of backing plate (2) to secure cylinder and cover to backing plate.



- Wheel cylinder
- Backing plate
- Screw
- Washer
- Cover

4-21. HYDRAULIC WHEEL CYLINDER (cont)

INSTALLATION (cont)

4. Install return spring between brake shoes.
5. Position hydraulic brake line at wheel cylinder inlet, rear of backing plate, and tighten connector.
6. Install hub and drum assembly (para 4-30).
7. Install wheel (para 3-7).
8. Bleed wheel cylinder.
9. Adjust brakes, using minor adjustment procedure (para 4-17).

4-22. BRAKE BACKING PLATE

THIS TASK COVERS

- a. Removal
- b. Inspection
- c. Installation

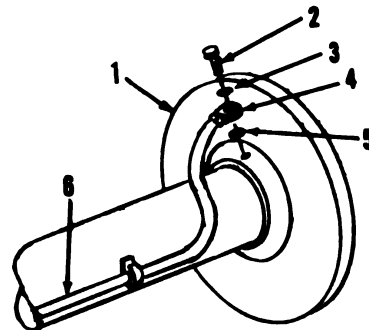
Test Equipment Required: None

Personnel Required: 1

REMOVAL

1. Remove wheel (para 3-7).
2. Remove hub and brake drum (para 4-30).

3. Remove fluid passage bolt (2), spacer (3) and washer (5) securing connector (4) and hydraulic brake line (6) to rear of backing plate (1).

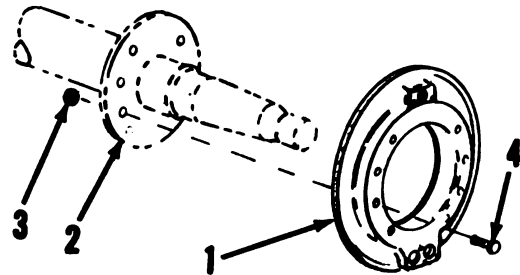


1. Backing plate
2. Bolt
3. Spacer
4. Connector
5. Washer
6. Hydraulic line

**4-22. BRAKE BACKING PLATE (cont)**

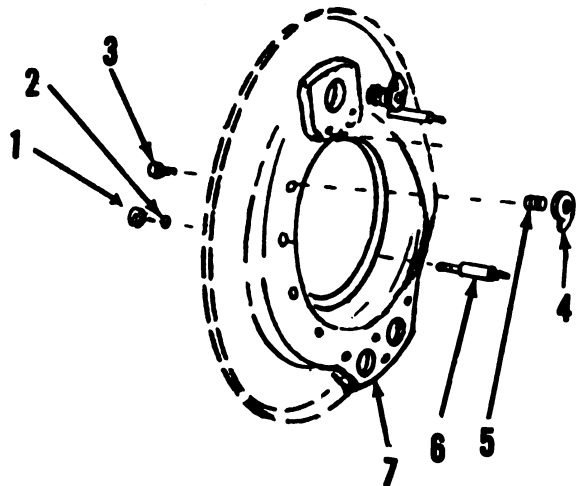
**REMOVAL (cont)**

4. Remove nuts (3) and screws (4) securing backing plate (1) to axle flange (2).
5. Slide backing plate off axle flange.



1. Backing plate
2. Axle flange
3. Nut
4. Screw

6. Remove nut (1) and washer (2) securing brake mounting guide pin (6) to backing plate (7).
7. Remove pin and washer assembly (3) securing adjusting spring (5) and adjusting cam (4). Remove spring and cam.



1. Nut
2. Washer
3. Pin and washer assembly
4. Adjusting cam
5. Adjusting spring
6. Guide pin
7. Backing plate

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4-57

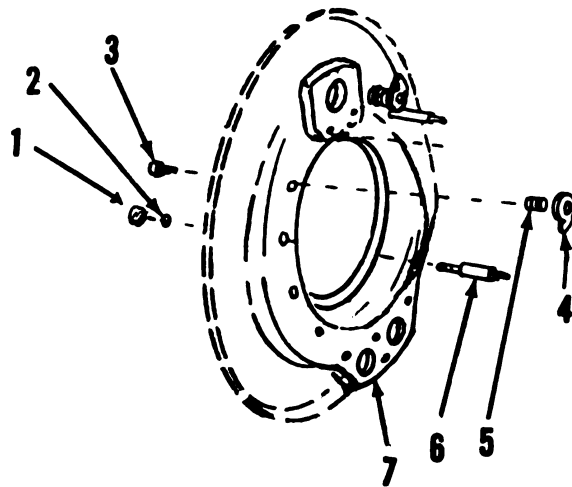
4-22. BRAKE BACKING PLATE (cont)

INSPECTION

1. Inspect adjusting cam. Replace if defective.
2. Inspect adjusting spring for rust, tension and excessive wear. Replace worn or defective spring.
3. Inspect brake mounting guide pin for damaged threads. Replace defective guide pin.
4. Inspect backing plate. Straighten and paint as required. Replace if cannot be made serviceable.

INSTALLATION

1. Position adjusting spring (5) and adjusting cam (4) on backing plate (7) and secure with pin and washer assembly (3).
2. Position brake mounting guide pin (6) on backing plate (7) and secure with nut (1) and washer (2).



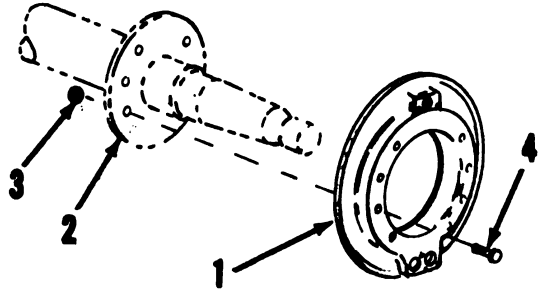
1. Nut
2. Washer
3. Pin and washer assy
4. Adjusting cam
5. Adjusting spring
6. Guide pin
7. Backing plate

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**4-22. BRAKE BACKING PLATE (cont)**

**INSTALLATION (cont)**

3. Slide backing plate (1) on axle spindle.
4. Secure backing plate to axle flange (2) with screws (4) and nuts (3).



1. Backing plate
2. Axle flange
3. Nut
4. Screw

5. Connect hydraulic line to rear of backing plate.
6. Install hub and drum (para 4-30).
7. Install wheel (para 3-7).
8. Bleed and adjust brakes (para 4-18, 4-17).

**4-23. HYDRAULIC MASTER CYLINDER**

**THIS TASK COVERS**

- a. Servicing
- b. Removal
- c. Installation

**Troubleshooting Reference  
Item No.**

6. No brakes or weak brakes
7. Slow brake application or slow release
8. Grabbing brakes

**Test Equipment Required: None**

**Personnel Required: 1**

**SERVICING**

**NOTE**

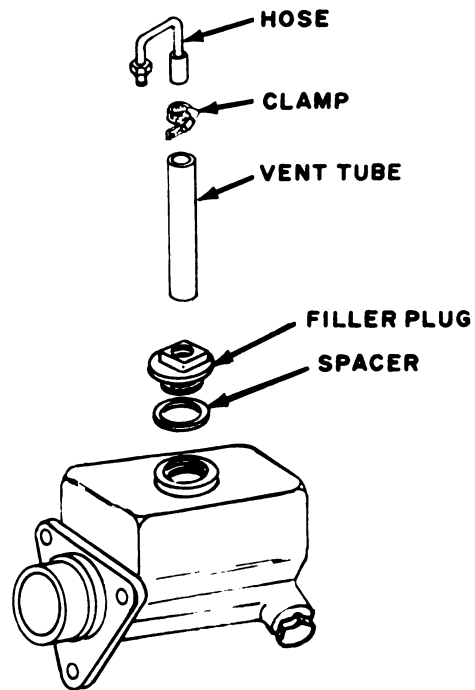
Master cylinder service includes only flushing and refilling hydraulic system (refer to hydraulic system schematic, page 4-70 for location of master cylinders).

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4-59

4-23. HYDRAULIC MASTER CYLINDER (cont)

SERVICING (cont)

1. Loosen vent tube nut and remove vent tube assembly.
2. Remove filler plug and spacer from top of master cylinder.
3. Fill with brake fluid (item 8, appendix E) to 1/2 to 3/8-in. of top of master cylinder reservoir.
4. Install spacer and filler plug; tighten filler plug.
5. Install and tighten vent tube assembly.



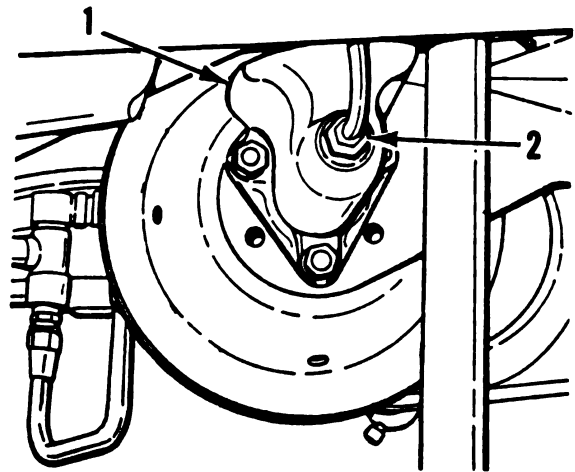
REMOVAL

WARNING

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

1. Release air pressure from system by opening drain cock on air reservoir.
2. Place a can or a bucket below the flexible hose (2) at rear of master cylinder (1) to catch any fluid spilled during removal.

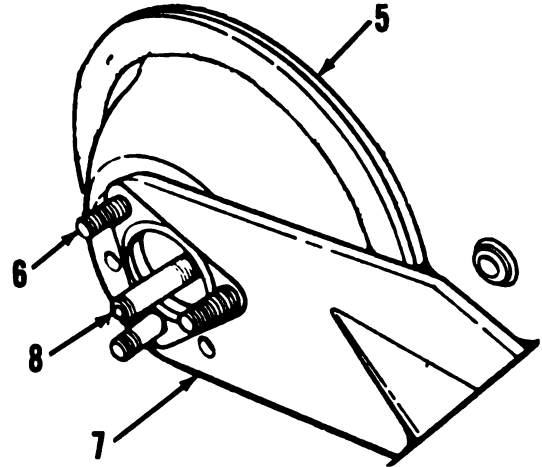
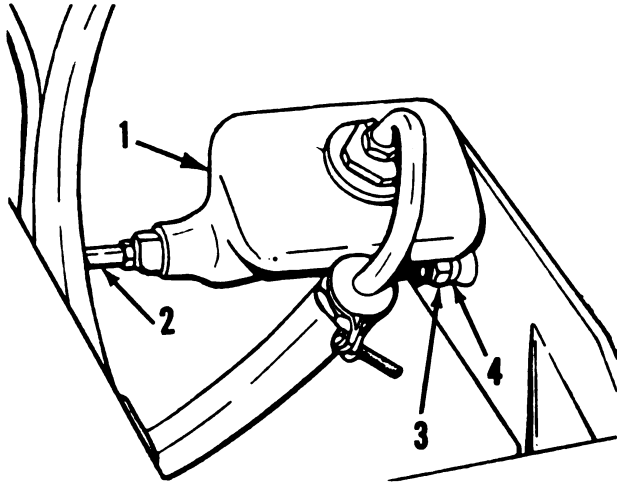
1. Master cylinder
2. Flexible hose





4-23. HYDRAULIC MASTER CYLINDER (cont)

REMOVAL (cont)



- 1. Master cylinder
- 2. Hose
- 3. Nut
- 4. Washer

- 5. Brake air chamber
- 6. Stud
- 7. Bracket
- 8. Push rod

3. Disconnect flexible hose (2) from rear of master cylinder (1).
4. Remove three nuts (3) and lock washers (4) which attach master cylinder to bracket (7) and brake air chamber (5).
5. Move master cylinder to one side enough to detach rubber bellows. Remove master cylinder.

INSTALLATION

1. Position master cylinder (1) over the three studs (6) and against bracket (7). Make sure that brake air chamber push rod (8) is properly seated in master cylinder piston.
2. Install rubber bellows over lip on master cylinder.
3. Secure cylinder (1) in place with three nuts (3) and lock washers (4).
4. Connect flexible hose (2) to rear of master cylinder.
5. Close drain cock on air reservoir.
6. Fill master cylinder and bleed system.

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4-61

**4-24. BRAKE AIR CHAMBER**

**THIS TASK COVERS**

- a. Leakage test
- b. Push rod travel test
- c. Removal
- d. Installation

Test Equipment Required: None

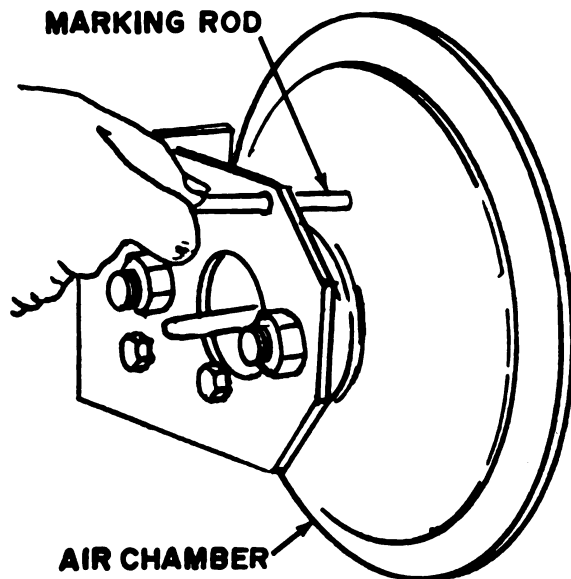
Personnel Required: 2

**LEAKAGE TEST**

- 1. With brakes applied, coat air chamber flange with soap and water solution and inspect for leaks.
- 2. If leakage is detected, tighten securing hardware sufficiently to stop any leaks. No leakage is permissible.
- 3. Check non-pressure side of air chamber for leaks by applying soap and water solution to holes in chamber body. If leakage exists, replace air chamber.

**PUSH ROD TRAVEL TEST**

- 1. Connect intervehicular air hose couplings.
- 2. With the brakes released, insert a small rod through one of two inspection holes in left side of brake air chamber. Mark rod, indicating distance traveled to contact push rod.
- 3. Apply the brakes and again mark rod at surface of mounting bracket with rod in contact with push rod.
- 4. Withdraw the rod and measure distance between marks. This indicates amount of piston travel.
- 5. Adjust the brakes (para 4-17), if necessary, to permit a minimum of one-half inch to a maximum of seven-eighths of an inch travel.



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**4-24. BRAKE AIR CHAMBER (cont)**

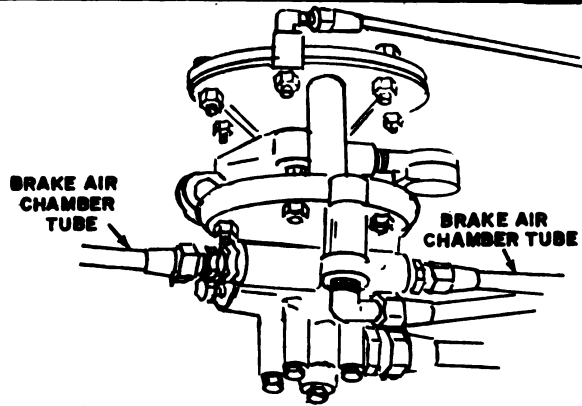
**REMOVAL**

**WARNING**

Air under 100 psi air pressure is used in the operation of the brake air system. Serious injury or death can result unless proper precautions are taken.

1. Release air pressure from system by opening drain cock on the air reservoir. (See illustration in para 4-26).

2. Disconnect air chamber-to-relay valve tubes.



3. Remove two nuts and lock washers attaching air chamber to bracket.
4. Remove air chamber, being careful not to damage rubber bellows.

**INSTALLATION**

1. Position air chamber mounting studs through bracket. Secure with two nuts and lock washers.
2. Connect air chamber-to-relay valve tubes.
3. Close drain cock on air reservoir.
4. Add hydraulic fluid to master cylinder (para 4-21).
5. Bleed and adjust brakes (para 4-18, 4-17).

**4-25. RELAY VALVE**

**THIS TASK COVERS**

- a. Drainage of moisture
- b. Operating test
- c. Leakage test
- d. Removal
- e. Installation

**Troubleshooting Reference**  
Item No.

5. Brakes will not release
6. No brakes or weak brakes
7. Slow brake application or slow release
8. Grabbing brakes

Test Equipment Required: None

Personnel Required: 2

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4-63

4-25. RELAY VALVE (cont)

DRAINAGE OF MOISTURE

1. Remove drain plug from bottom of relay valve by turning it counterclockwise.
2. Allow moisture to drain. Insert drain plug in position and turn clockwise to tighten.

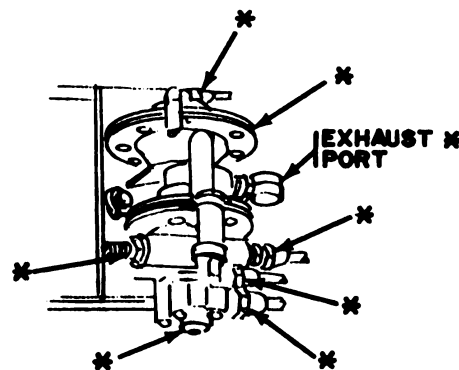
OPERATING TEST

1. With brake air system of semitrailer connected and charged, check if brakes apply properly.
2. Release brakes and check whether air pressure is being exhausted promptly.
3. With semitrailer brake system fully charged, close shutoff valve in emergency line tube on towing vehicle and disconnect brake air hose coupling tagged EMERGENCY. Check whether semitrailer brakes apply automatically.
4. Connect brake air hose to coupling tagged EMERGENCY. Open shut-off valve on towing vehicle and check for automatic semitrailer release of brakes.

LEAKAGE TEST

1. With brake air system of semi-trailer connected and charged, apply soap and water solution to cover flanges which hold diaphragms and to brake air hose coupling tagged SERVICE. No leakage should be present. If leaks are detected, tighten attaching hardware and tighten coupling as required.
2. Coat exhaust port with soap and water solution. Apply brakes and check for leaks.
3. Release brakes and apply soap and water solution to exhaust port and check for leakage.
4. Disconnect EMERGENCY coupling, (step 3, operating test), coat exhaust port with soap and water solution and check for leaks.

\* LEAKAGE TEST AREAS



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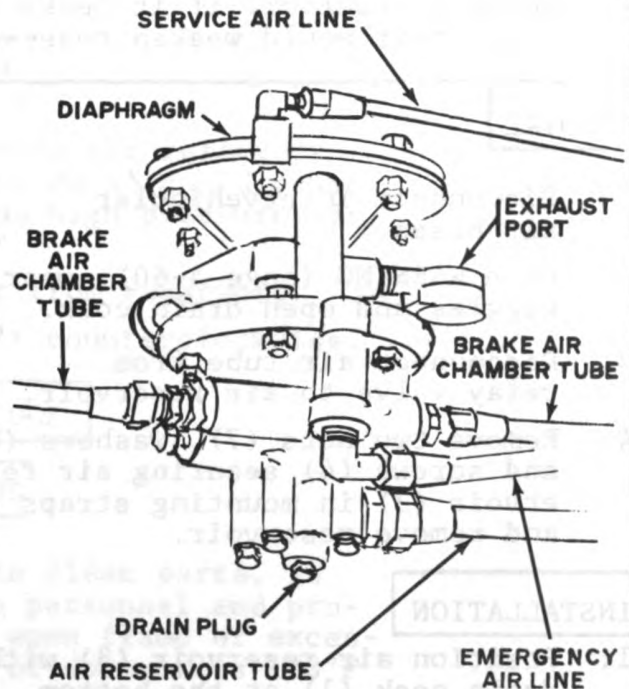
**4-25. RELAY VALVE (cont)**

**LEAKAGE TEST (cont)**

5. Leakage in steps 2, 3, and 5 above must not exceed one inch bubble in two seconds. If excess leakage is found, replace relay valve.

**REMOVAL**

1. Heed WARNING (page 4-60), wear goggles and open air reservoir drain cock.
2. Disconnect service and emergency air lines, air reservoir air tube, and brake air chamber air tubes.
3. Remove three nuts, washers and screws securing relay valve to mounting bracket. Remove relay valve.



**INSTALLATION**

1. Position relay valve on mounting bracket and secure with three screws, washers and nuts.
2. Connect brake air chamber air tubes, air reservoir air tube, and service and emergency air lines to relay valve.
3. Make operating and leakage tests.

**4-26. AIR RESERVOIR**

**THIS TASK COVERS**

- a. Leakage test
- b. Removal
- c. Installation
- d. Drain cock leakage test
- e. Removal of drain cock
- f. Cleaning and inspection of drain cock
- g. Installation of drain cock

Test Equipment Required: None

Personnel Required: 1

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4-65

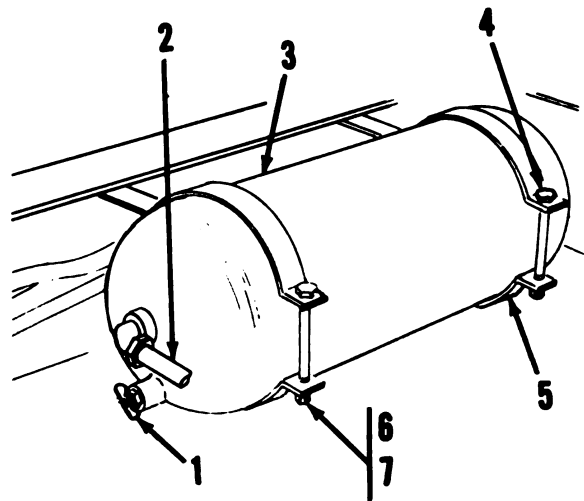
4-26. AIR RESERVOIR (cont)

LEAKAGE TEST

1. With brake system charged, coat drain cock, air connections and outside of air reservoir with soap and water solution and check for air leaks. No leakage is permissible.
2. Tighten any leaking connections.
3. Inspect for damage or corrosion.
4. Replace reservoir if it leaks or if any damage or corrosion is found that would weaken reservoir.

REMOVAL

1. Disconnect intervehicular air hoses.
2. Heed WARNING (page 4-60), wear goggles and open drain cock.
3. Disconnect air tube from relay valve to air reservoir.
4. Remove two nuts (7), washers (6) and screws (4) securing air reservoir (3) in mounting straps (5) and remove reservoir.



INSTALLATION

1. Position air reservoir (3) with drain cock (1) at the bottom.
2. Secure air reservoir in straps (5) with two screws (4), washers (6) and nuts (7).
3. Connect air tube (2) from relay valve to air reservoir (3).
4. Make leakage test.

1. Drain cock
2. Air tube
3. Air reservoir
4. Screw
5. Strap
6. Washer
7. Nut

DRAIN COCK LEAKAGE TEST

1. With brake system charged, coat drain cock with soap and water solution.
2. Leaks in excess of a three-inch bubble in three seconds are not permissible.

**4-26. AIR RESERVOIR (cont)**

**DRAIN COCK LEAKAGE TEST (cont)**

3. Leakage due to dirt accumulation can be corrected by cleaning and applying a coat of Artillery and Automotive Grease (GAA) on the drain cock threads before assembly.
4. Leakage due to a damaged part requires replacement of the drain cock.

**REMOVAL OF DRAIN COCK**

**WARNING**

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

1. Open drain cock to release air from reservoir.
2. Remove drain cock by turning it counterclockwise.

**CLEANING AND INSPECTION OF DRAIN COCK**

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

1. Clean with cleaning solvent (item 3, appendix E).
2. Inspect for damage or excessive wear.
3. Replace defective drain cock.

**INSTALLATION OF DRAIN COCK**

1. Apply sealer tape to drain cock threads.
2. Take care not to damage drain cock during installation. Insert in position and secure by turning in a clockwise direction.

4-27. GLADHAND (AIR HALF-COUPLING)

THIS TASK COVERS

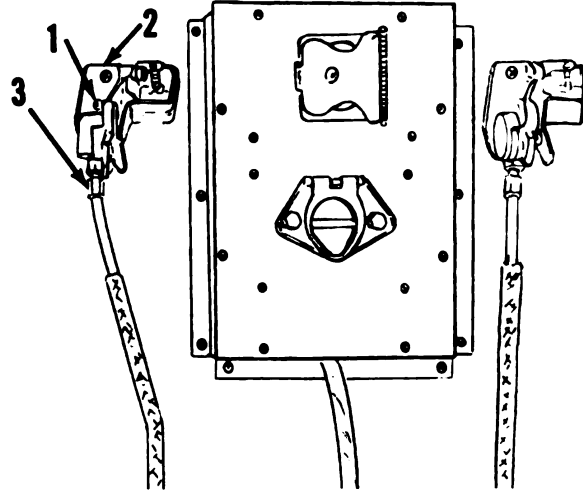
- a. Removal
- b. Cleaning
- c. Inspection and replacement
- d. Installation of packing ring
- e. Installation

Test Equipment Required: None

Personnel Required: 1

REMOVAL

1. Unscrew air line nut (3).
2. Remove two screws (1) securing gladhand to body and remove gladhand (2).



1. Screw
2. Gladhand
3. Nut

CLEANING

1. Clean mud and dirt from all exposed surfaces with water and a stiff brush.

WARNING

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

2. Remove grease with cleaning solvent (item 3, appendix E).

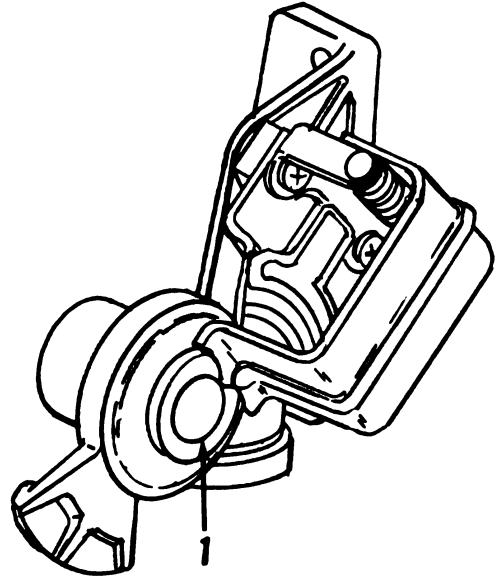
TA 245473



**4-27. GLADHAND (cont)**

**INSPECTION AND REPLACEMENT**

1. Inspect gladhand body for damaged threads or cracks. Replace gladhand if damaged.
2. Check packing ring for wear and deterioration.
3. Replace defective packing ring(1).



1. Packing ring

**INSTALLATION OF PACKING RING**

1. Clean groove in gladhand from which packing ring was removed.
2. Partially collapse ring with fingers and insert one side of ring flange in groove.
3. Push ring into place. Face of ring must lie flat, with no twist or bulge.

**INSTALLATION**

1. Position gladhand and secure to body with two screws.
2. Secure air line to gladhand with air line nut.

**4-28. HOSE, TUBING AND FITTINGS (AIR AND HYDRAULIC)**

**THIS TASK COVERS**

<ol style="list-style-type: none"> <li>a. General</li> <li>b. Serviceability test</li> <li>c. Removal of hydraulic hose</li> <li>d. Installation of hydraulic hose</li> <li>e. Removal of tube fitting</li> <li>f. Installation of tube fitting</li> </ol>	<p>Troubleshooting Reference Item No</p> <ol style="list-style-type: none"> <li>5. Brakes will not release</li> <li>6. No brakes or weak brakes</li> </ol>
--	--

Test Equipment Required: None

Personnel Required: 1

**GENERAL**

Hydraulic and air tubing and fittings are not ordinarily removed except for replacement. Refer to pages 4-70 and 4-71 for air and hydraulic systems schematics.

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4-28. HOSE, TUBING AND FITTINGS (cont)

GENERAL (cont)

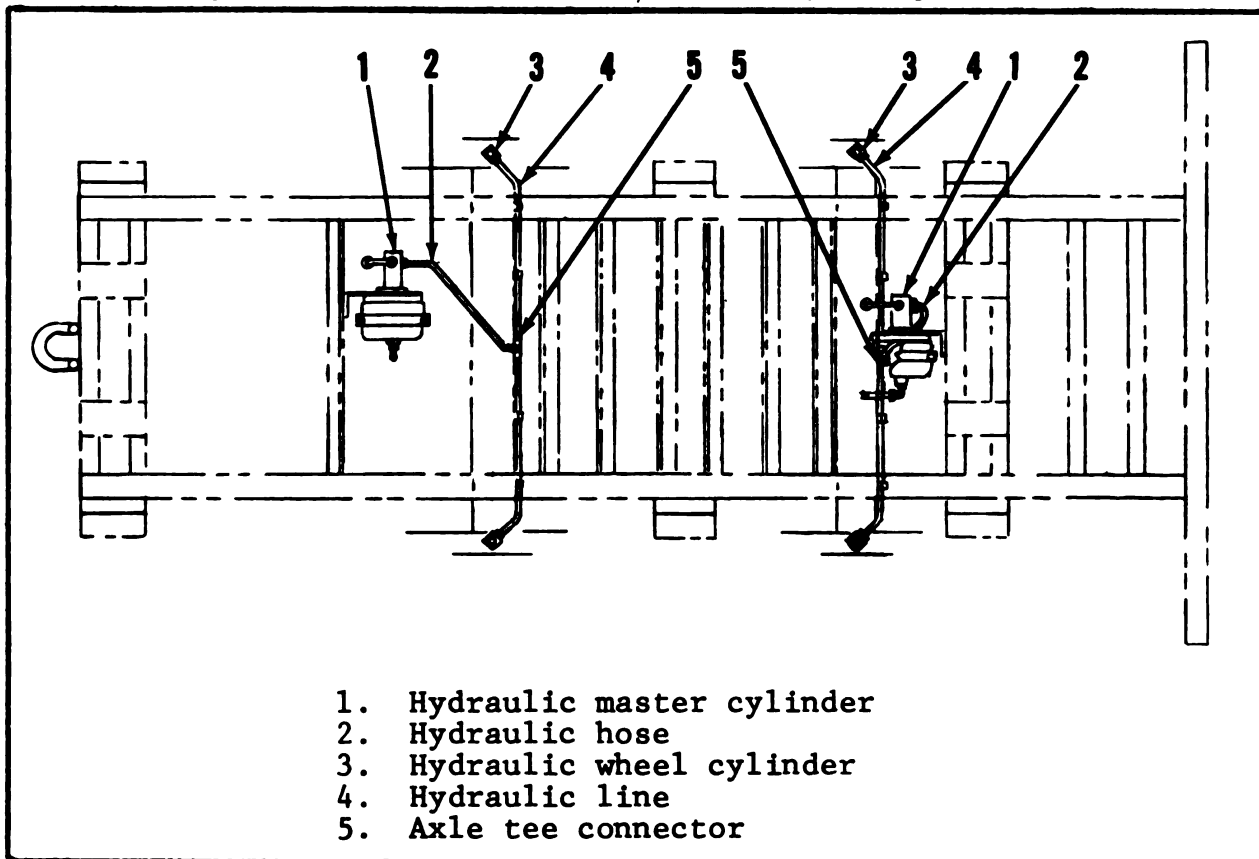
Replace bent, kinked, or damaged lines and fittings.

Keep all lines tightly attached.

Any disconnection or replacement of hydraulic tubing or fitting will require bleeding of the brake system (para 4-18).

SERVICEABILITY TEST

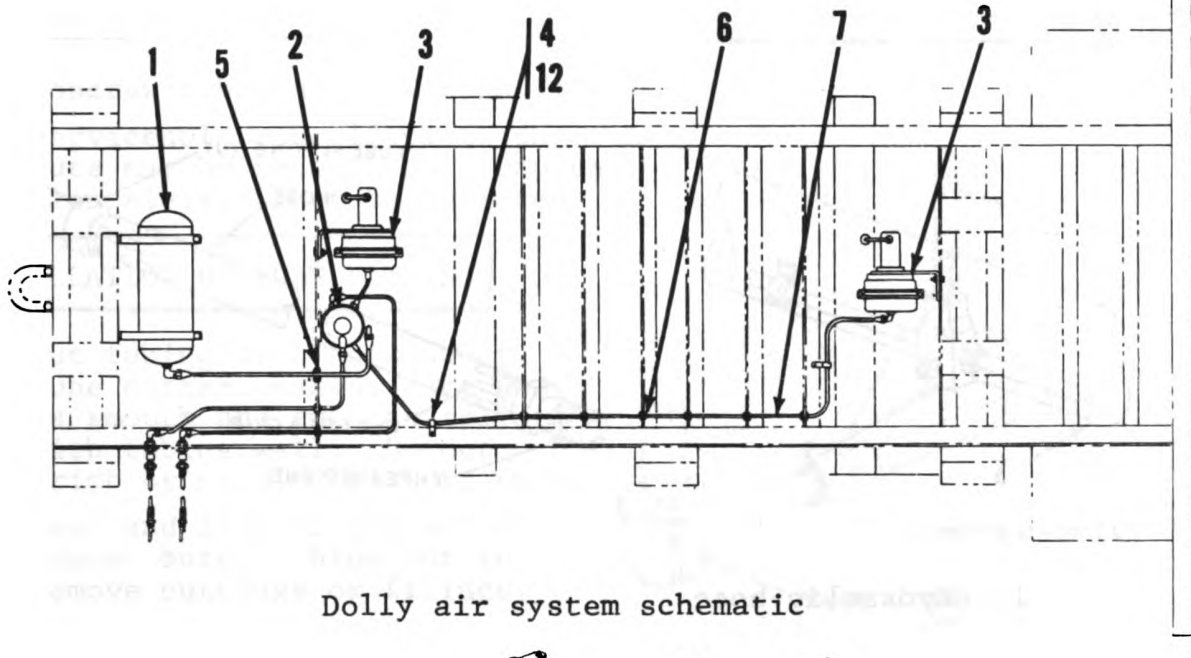
1. With brake air hose couplings of intervehicular air hose connected and brakes applied, coat hose couplings and connectors of air hose, fittings of emergency and service air line tubes, and air tubes with soap and water solution. No leakage is permissible.
2. Examine hydraulic lines, flexible line and fittings. Tighten fittings if leaks are found. No leakage is permissible.



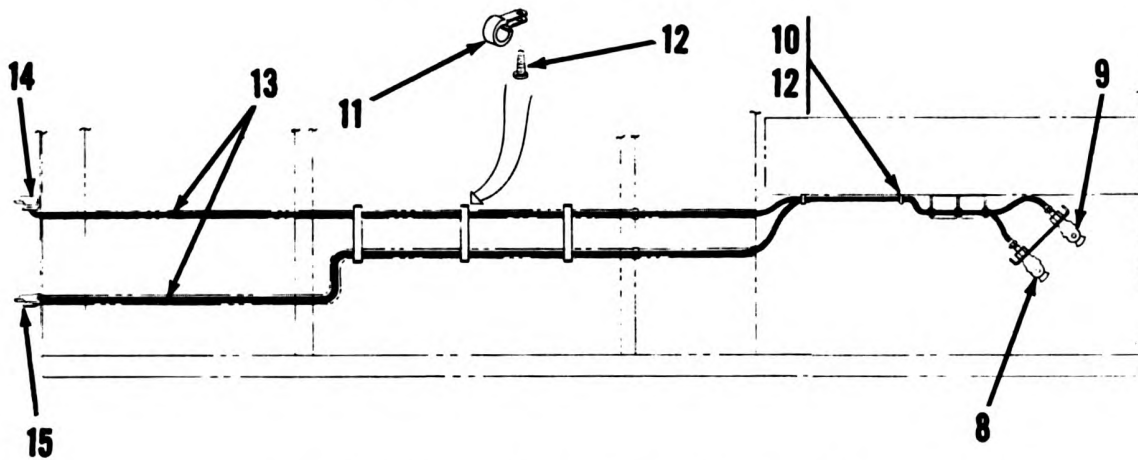
Brake hydraulic system schematic

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4-28. HOSE, TUBING AND FITTINGS (AIR AND HYDRAULIC) (cont)



Dolly air system schematic



Undercarriage air system schematic

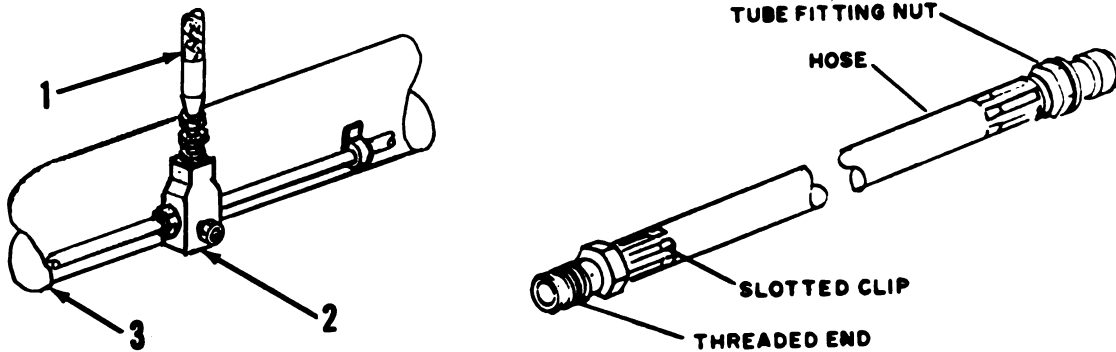
- |                        |                         |
|------------------------|-------------------------|
| 1. Air reservoir       | 9. Gladhand, service    |
| 2. Relay valve         | 10. Clamp               |
| 3. Air chamber         | 11. Clamp               |
| 4. Clamp               | 12. Screw               |
| 5. Grommet             | 13. Air tube            |
| 6. Grommet             | 14. Gladhand, service   |
| 7. Air tube            | 15. Gladhand, emergency |
| 8. Gladhand, emergency |                         |

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4-28. HOSE, TUBING AND FITTINGS (AIR AND HYDRAULIC) (cont)

REMOVAL OF HYDRAULIC HOSE



1. Hydraulic hose
2. Tee
3. Axle

1. Remove hydraulic hose (1) from wheel cylinder line connecting tee (2) on front of rear axle (3)
2. Unscrew tube fitting nut from hose.
3. Pry slotted clip off hose.
4. Unseat externally threaded end of hose in tee (2) of axle assembly and unscrew hose from fittings at both ends.

INSTALLATION OF HYDRAULIC HOSE

1. Insert externally threaded end of hose (1) in tee (2) on axle and tighten until snug. Do not cross thread.
2. Place slotted clip in groove on hose end and press downward until clip stops.
3. Insert tube in hose and screw tube fitting nut into hose until snug.
4. With brakes applied, wipe all connections clean and check for leaks.

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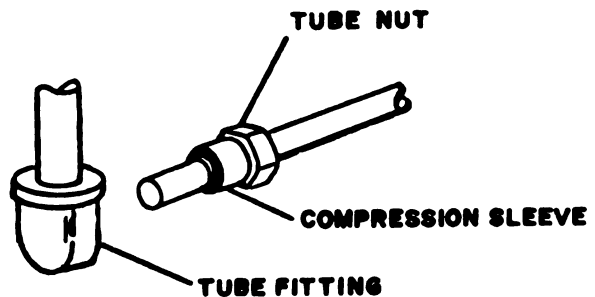
**4-28. HOSE, TUBING AND FITTINGS (AIR AND HYDRAULIC) (cont)**

**REMOVAL OF TUBE FITTING**

1. Unscrew tube nut from tube fitting.
2. Serviceable tube fittings and tube nuts may be reused, but compression sleeves must be replaced.

**INSTALLATION OF TUBE FITTING**

1. Cut tubing with hacksaw or tube cutter, making sure end is smooth and cut squarely with tubing wall. Do not crimp or partially close ends.
2. Ream and file tubing end to remove burrs. Blow out to remove cuttings or filings.
3. Place nut and new sleeve on tube and insert end of tube into recess in fitting body.
4. Hold tube at bottom of recess and tighten tube nut until sufficient pressure is placed on sleeve to prevent leakage. Do not cross thread.



**Section VII. WHEEL, HUB AND BRAKE DRUM MAINTENANCE PROCEDURES**

**4-29. WHEEL, HUB AND BRAKE DRUM**

**WHEELS**

Refer to paragraph 3-7.

**TIRES**

Refer to TM 9-2610-200-20 for removal, servicing and installation of tires.

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**4-30. HUB AND BRAKE DRUM**

**THIS TASK COVERS**

- a. Removal of hub and brake drum assembly from axle
- b. Removal of brake drum from hub
- c. Cleaning
- d. Inspection and replacement
- e. Installation of brake drum on hub
- f. Installation of hub and brake drum assembly on axle

**Troubleshooting Reference Item No.**

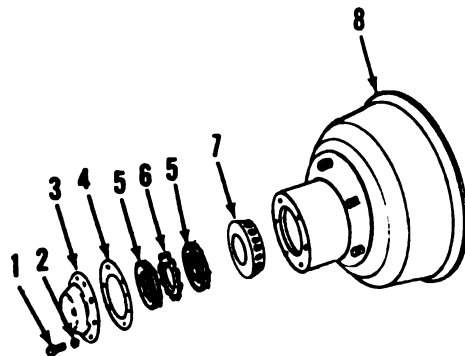
- 8. Grabbing brakes
- 9. Brake drum running hot
- 11. Noisy brakes
- 12. Wheel noise
- 13. Wheel wobble

Test Equipment Required: None

Personnel Required: 1

**REMOVAL OF HUB AND BRAKE DRUM FROM AXLE**

- 1. Remove six screws (1) and washers (2) securing hub cap (3) and gasket (4) to hub.
- 2. Remove hub cap and gasket.
- 3. Using a screw driver, lift bent-over lock tabs of key washer (6) to release outer bearing adjusting nut (5).
- 4. Remove outer bearing adjusting nut (5), using wheel bearing locknut wrench.
- 5. Slide off key washer (6).
- 6. Remove inner bearing adjusting nut (5), using same wrench.
- 7. Move hub and drum assembly (8) slightly on axle spindle to loosen outer tapered roller bearing (7). Remove bearing.



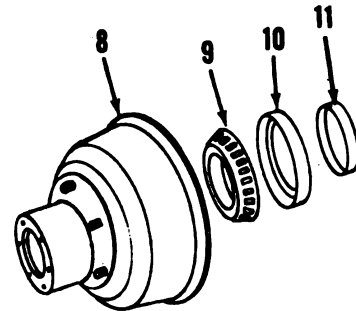
- 1. Screw
- 2. Washer
- 3. Hub cap
- 4. Gasket
- 5. Adjusting nut
- 6. Key washer
- 7. Bearing
- 8. Hub and drum assy

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**4-30. HUB AND BRAKE DRUM (cont)**

**REMOVAL OF HUB AND BRAKE DRUM FROM AXLE (cont)**

8. Pull hub and brake drum assembly (8) from axle.
9. Remove inner tapered roller bearing (9) and oil seal (10).
10. Do not remove wiper ring (11) unless damaged or badly worn.



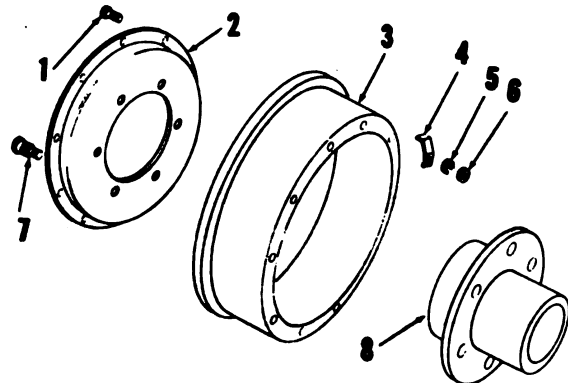
- |                      |                |
|----------------------|----------------|
| 8. Hub and drum assy | 10. Oil seal   |
| 9. Bearing           | 11. Wiper ring |

**REMOVAL OF BRAKE DRUM FROM HUB**

**NOTE**

Use an arbor press if it is necessary to remove and install ribbed neck bolts (1) or ribbed shoulder bolts (7).

1. Remove ribbed neck bolts (1), washers (5) and nuts (6) securing brake drum (3) to adapter (2).
2. Remove brake drum (3) and inspection hole cover (4).
3. Press or drive out ribbed shoulder bolts (7) and separate adapter (2) from hub (8).



- |                     |                         |
|---------------------|-------------------------|
| 1. Ribbed neck bolt | 5. Washer               |
| 2. Adapter          | 6. Nut                  |
| 3. Brake drum       | 7. Ribbed shoulder bolt |
| 4. Cover            | 8. Hub                  |

**CLEANING**

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

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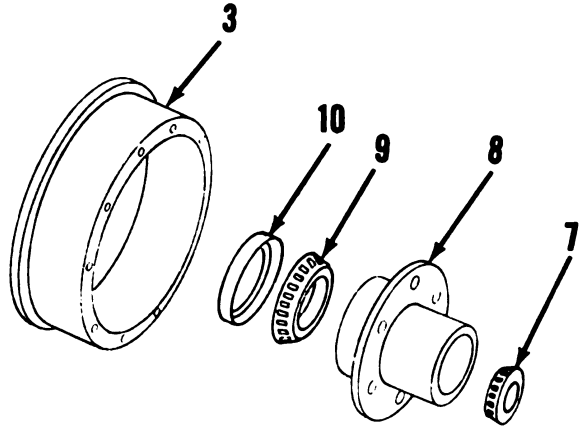
**4-30. HUB AND BRAKE DRUM (cont)**

**CLEANING (cont)**

1. Clean all parts with dry cleaning solvent (item 3, appendix E).
2. Dry all parts thoroughly.

**INSPECTION AND REPLACEMENT**

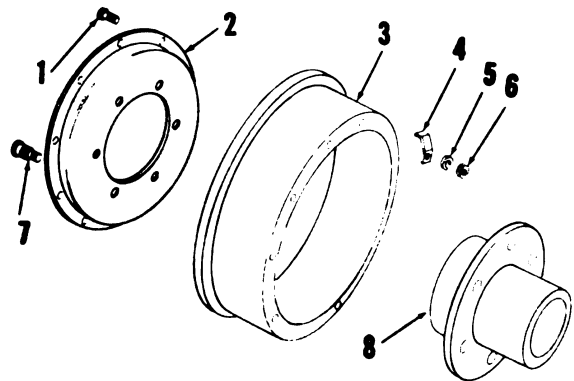
1. Inspect hub (8) for cracks or other indication of damage.
2. Inspect inside diameter of brake drum (3) for out of round or excessive scoring.
3. Lightly oil rollers of tapered roller bearings (7 and 9) and rotate by hand to test for tightness. Replace if there is evidence of scarring, pitting or excessive wear.
4. Inspect oil seal (10) to make sure contact material is intact and soft.
5. Inspect threads on wheel studs in hub, in bearing adjusting nuts, and wheel cap nuts. Replace if threads are damaged.



- 3. Brake drum
- 7. Bearing
- 8. Hub
- 9. Bearing
- 10. Oil seal

**INSTALLATION OF BRAKE DRUM ON HUB**

1. Position hub (8) on adapter (2) and secure with six ribbed shoulder bolts (7).
2. Position brake drum (3) on adapter (2) and place inspection hole cover (4) on drum. Secure with ten ribbed neck bolts (1), washers (5) and nuts (6).

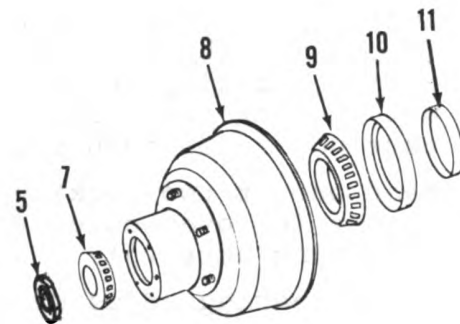




4-30. HUB AND BRAKE DRUM (cont)

INSTALLATION OF HUB AND BRAKE DRUM ON AXLE

1. Press or carefully tap oil seal (10) into place, using a block of wood. Do not hammer directly on seal.
2. If oil seal wiper ring (11) has been removed, install new wiper, using tubular oil seal wiper replacer.
3. Pack inner tapered roller bearing (9) with grease and install on axle spindle, adjacent to oil seal (10), with large outside diameter of bearing toward oil seal. Tap bearing gently with a brass drift, if necessary.
4. Slide hub and drum assembly (8) on axle spindle, being careful not to damage seal (10).
5. Pack outer tapered roller bearing (7) with grease and insert with small outside diameter of bearing over spindle and into hub.
6. Install inner adjusting nut (5), but do not tighten.



5. Adjusting nut
7. Bearing
8. Hub and drum assy
9. Bearing
10. Oil seal
11. Wiper ring

INSTALLATION OF HUB AND BRAKE DRUM ASSEMBLY ON AXLE

1. While turning hub slowly, tighten inner bearing adjusting nut, using locknut wrench, until hub binds on spindle. Back off nut about one-eighth turn. Check adjustment by attempting to rock hub on spindle. If bearings are properly adjusted, movement of brake drum in relation to top edge of backing plate will scarcely be visible and brake drum will turn freely. If movement is excessive, repeat procedure.
2. Install nut locking key washer (6) on spindle.

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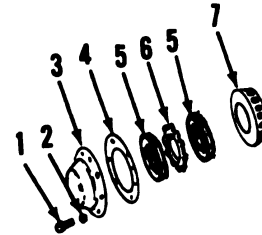
4-30. HUB AND BRAKE DRUM (cont)

INSTALLATION OF HUB AND BRAKE DRUM ASSEMBLY ON AXLE (cont)

NOTE

With a minimum of movement, adjust bearing adjusting nut (5) so that flats of nut will mate with locking lugs on key washer (6).

- 3. Install outer bearing adjusting nut (5), using wheel bearing locknut wrench, drawing it up tightly against nut locking key washer (6). Take care not to disturb bearing adjustment.
- 4. Bend one or two locking lugs of key washer (6) over outer and inner adjusting nuts (5).
- 5. Check bearing adjustment (step 1 above).
- 6. Position hub cap (3) and gasket (4) and secure with six screws (1) and washers (2).
- 7. Adjust brakes (para 4-17).



- 1. Screw
- 2. Washer
- 3. Hub cap
- 4. Gasket
- 5. Adjusting nut
- 6. Key washer
- 7. Bearing

Section VIII. SPARE WHEEL CARRIER, LEVELING JACK AND LANDING GEAR

4-31. SPARE WHEEL CARRIER

THIS TASK COVERS

- a. Removal
- b. Cleaning
- c. Inspection and repair
- d. Replacement of wire rope
- e. Installation

Test Equipment Required: None

Personnel Required: 2

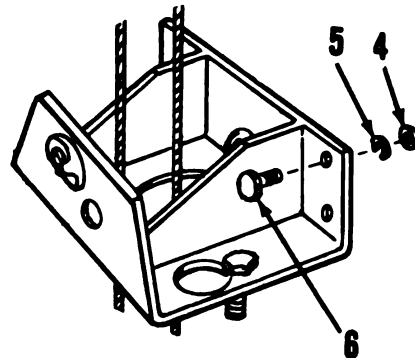
TA 245483

**4-31. SPARE WHEEL CARRIER (cont)**

**REMOVAL**

1. Remove spare wheel and tire from carrier (para 2-22).
2. Remove four nuts (4), lock washers (5) and screws (6) securing spare wheel carrier to dolly.
3. Remove carrier.

4. Nut
5. Washer
6. Screw



**CLEANING**

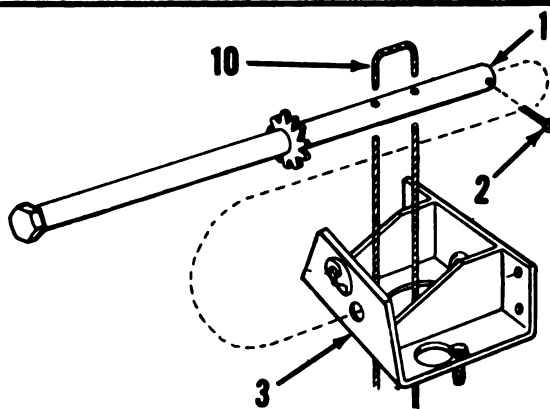
**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

1. Remove accumulated grease with cleaning solvent (item 3, appendix E).
2. Remove all surface dirt with water and stiff brush.

**INSPECTION AND REPAIR**

1. Check upper member (3) for cracks or breaks in welds. Straighten member and weld cracks.
2. Check ratchet wheel (1) for wear and alignment. Check weld of ratchet and nut on shaft for cracks or undue teeth wear. Reweld if necessary.
3. Replace ratchet wheel (1) by removing cotter pin (2) and wire rope (10). Slide worn ratchet wheel out and new one in; then secure with cotter pin (2) and attach wire rope (10).



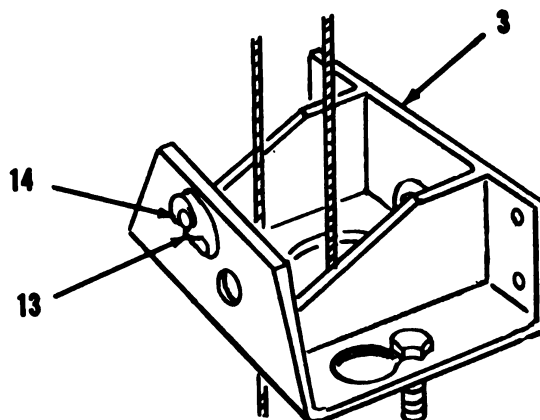
1. Ratchet wheel
2. Cotter pin
3. Upper member
10. Wire rope

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4-31. SPARE WHEEL CARRIER (cont)

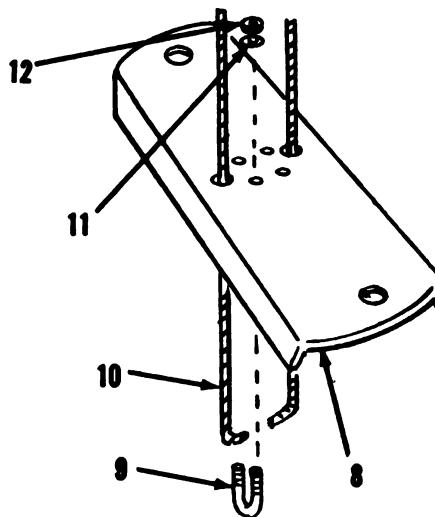
INSPECTION AND REPAIR (cont)

4. Check pawl (13) for wear and looseness of rivet (14) which attaches pawl to upper member (3). Replace pawl and/or replace rivet if necessary.



- 3. Upper member
- 13. Pawl
- 14. Rivet

5. Check lower member (8) for dents or twisted parts.
6. Check U-bolts (9) for tightness. Check nuts (12) for stripped threads and looseness and washers (11) for damage. Replace if necessary.
7. Check wire rope (10) for frayed wire or undue wear. Replace if necessary.
8. Repair and repaint damaged surfaces where paint has been removed, in accordance with instructions in TM 43-0139.



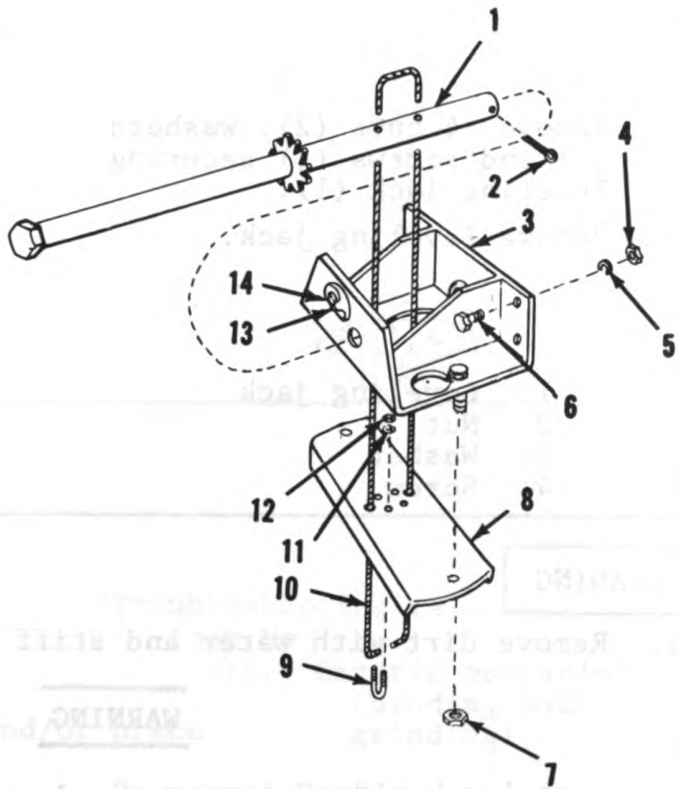
- 8. Lower member
- 9. U-bolt
- 10. Wire rope
- 11. Washer
- 12. Nut

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**4-31. SPARE WHEEL CARRIER (cont)**

**REPLACEMENT OF WIRE ROPE**

1. Release wire rope (10) from lower member (8) by removing four nuts (12) and lock washers (11) from U-bolts (9).
2. Draw wire rope (10) from holes in ratchet wheel (1).
3. Make a wire rope with ferules to prevent raveling, from six feet of 3/16-inch diameter, 7 by 19 aircraft type, preformed wire rope.



**INSTALLATION**

1. Aline four holes in carrier upper member with holes in chassis.
2. Secure carrier with four screws (6), lock washers (5) and nuts (4).
3. Raise spare wheel carrier (para 2-22).

**4-32. LEVELING JACK**

**THIS TASK COVERS**

- a. Removal
- b. Cleaning
- c. Inspection and replacement
- d. Installation

**Troubleshooting Reference**

- |          |                                |
|----------|--------------------------------|
| Item No. |                                |
| 16.      | Jack is hard to operate        |
| 17.      | Jack shoe will not set on base |

**Test Equipment Required:** None

**Personnel Required:** 1

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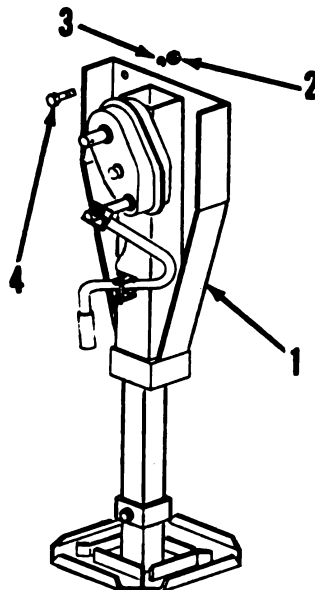
4-81

4-32. LEVELING JACK (cont)

REMOVAL

1. Remove 14 nuts (2), washers (3) and screws (4) securing leveling jack (1).
2. Remove leveling jack.

1. Leveling jack
2. Nut
3. Washer
4. Screw



CLEANING

1. Remove dirt with water and stiff brush.

WARNING

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

2. Remove grease with cleaning solvent (item 3, appendix E).

INSPECTION

1. Inspect housing for damage.
2. Check operation of jack. Lubricate in accordance with lubrication chart.
3. Replace leveling jack if it is defective.
4. Inspect jack shoe for bend. Replace defective shoe.
5. Inspect lock pin and chain for wear and damage. Replace defective parts.

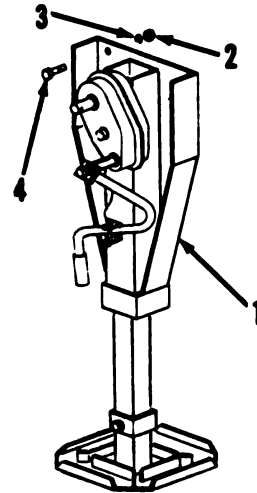
TA 245487

**4-32. LEVELING JACK (cont)**

**INSTALLATION**

1. Position leveling jack (1).
2. Secure with 14 screws (4), washers (3) and nuts (2).  
Torque nuts to 173 lb-ft (234.6Nm) dry or 123 lb-ft (166.8Nm) lube.

1. Leveling jack
2. Nut
3. Washer
4. Screw



**4-33. LANDING GEAR**

**THIS TASK COVERS**

- |  |                           |
|--|---------------------------|
| a. Removal                             | Troubleshooting reference |
| b. Cleaning                            | Item No.                  |
| c. Inspection                          | 15. Erratic operation     |
| d. Installation                        | (binding and grinding)    |
| e. Replacement of support and/or brace |                           |

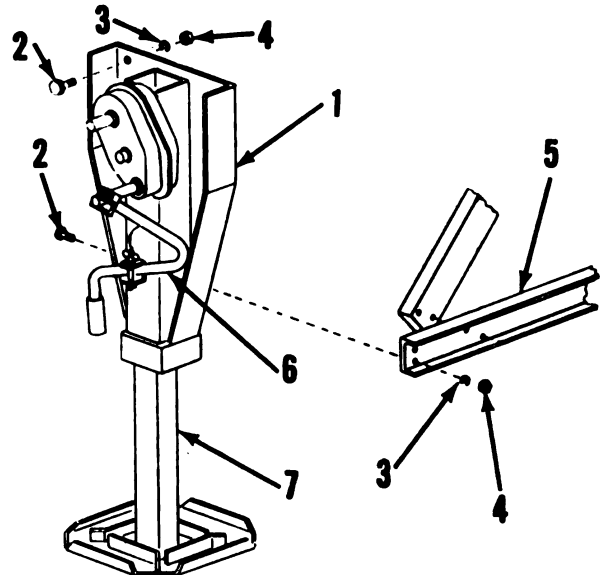
Test Equipment Required: None

Personnel Required: 1

**REMOVAL**

1. Couple semitrailer to towing vehicle or block semitrailer for support.
2. Using crank (6), retract landing gear leg (7) part way.
3. Remove four nuts (4), washers (3) and screws (2) securing landing gear (1) to supports (5).

- |                 |            |
|-----------------|------------|
| 1. Landing gear | 5. Support |
| 2. Screw        | 6. Crank   |
| 3. Washer       | 7. Leg     |
| 4. Nut          |            |



4-33. LANDING GEAR (cont)

REMOVAL (cont)

4. Remove 12 nuts (4), washers (3) and screws (2) securing landing gear (1) to chassis. Remove landing gear.

CLEANING

1. Remove dirt with water and stiff brush.

WARNING

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

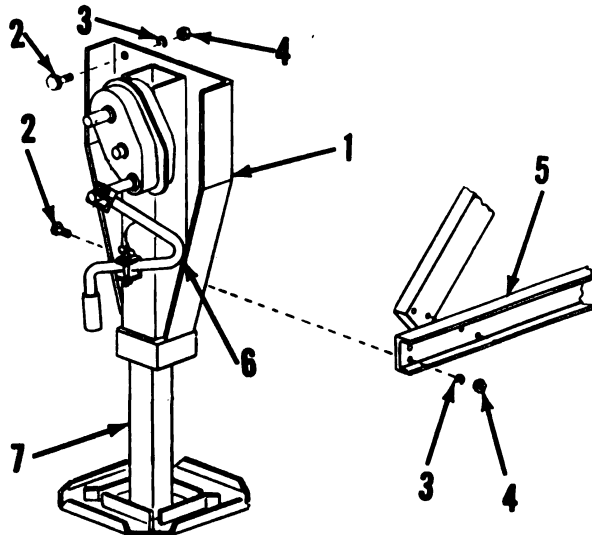
2. Remove grease with dry cleaning solvent (item 3, appendix E).

INSPECTION

1. Inspect housing for damage.
2. Check operation of landing gear. Lubricate in accordance with lubrication chart.
3. Replace landing gear if it is defective.
4. Inspect lock pin and chain for wear and damage. Replace defective parts.

INSTALLATION

1. Position landing gear (1) and secure to chassis with 12 nuts (4), washers (3) and screws (2).
2. Secure landing gear to two supports (5) with four nuts (4), washers (3) and screws (2). Torque nuts to 173 lb-ft (234.6Nm) dry or 123 lb-ft (166.8Nm) lube.



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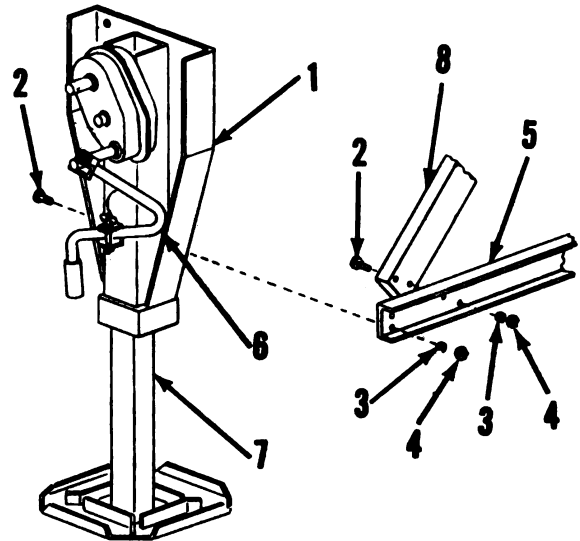
**4-33. LANDING GEAR (cont)**

**INSTALLATION (cont)**

3. Using crank (6), lower landing gear leg (7) to ground.
4. Remove towing vehicle or blocking.

**REPLACEMENT OF SUPPORT AND/OR BRACE**

1. Couple semitrailer to towing vehicle or block semitrailer for support.
2. Using crank (6), retract landing gear leg (7) part way.
3. Remove 16 nuts (4), washers (3) and screws (2) securing four diagonal braces (8). Remove braces.
4. Remove eight nuts (4), washers (3) and screws (2) securing two supports (5). Remove supports.
5. To replace supports and braces, position two supports (5) and secure with eight screws (2), washers (3) and nuts (4).
6. Position four braces (8) and secure with 16 screws (2), washers (3) and nuts (4).
7. Using crank (6), lower landing gear leg (7) to ground.
8. Remove towing vehicle or blocking.

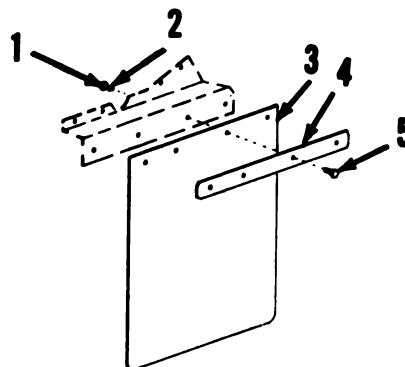


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**4-34. SPLASH GUARD**

**REMOVAL**

1. Remove four nuts (1), washers (2) and screws (5) securing splash guard (3) and support plate (4).
2. Remove splash guard and support plate.



**INSTALLATION**

1. Position splash guard (3) and support plate (4) on mounting bracket.
2. Secure with four screws (5), washers (2) and nuts (1).

**4-35. DOLLY ASSEMBLY**

**REMOVAL**

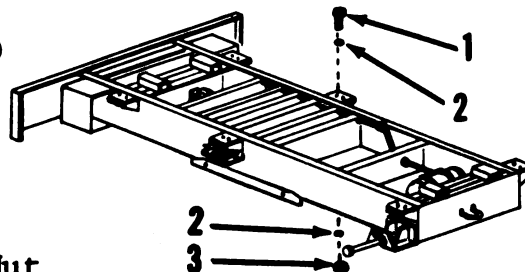
1. Lower landing gear legs to contact ground.
2. Raise leveling jack legs just enough to clear ground, allowing rear wheels to contact ground.
3. Remove leveling jack shoes and stow on rear of leveling jacks (para 2-14).
4. Position fork lift or hoist so that rear of semitrailer body can be raised.

**WARNING**

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

5. Open air reservoir drain cock (para 2-19).
6. Disconnect both air hoses and the electrical connection at side of dolly assembly.

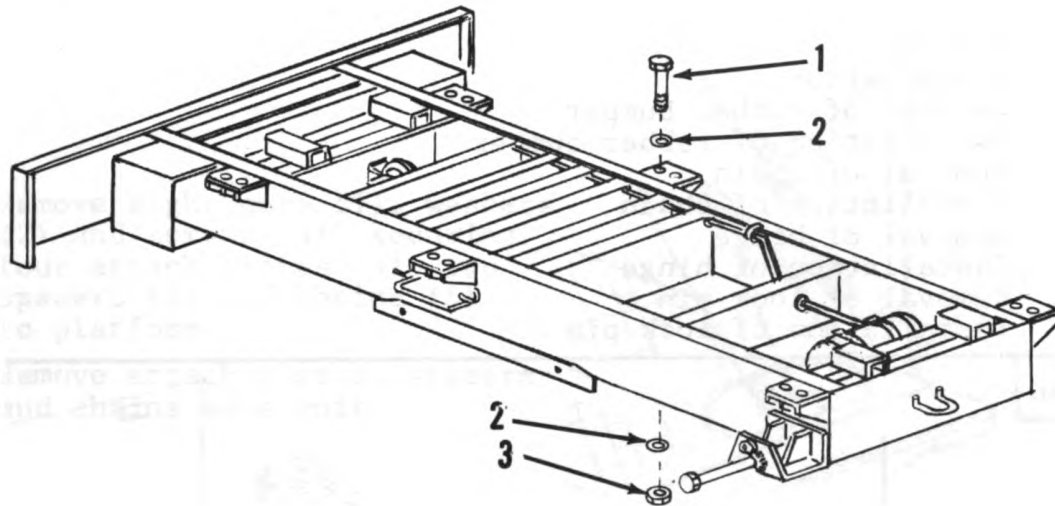
7. Remove 12 nuts (3), 24 washers (2) and 12 screws (1) securing dolly.
8. Raise rear of semitrailer body to a height permitting removal of dolly and pull dolly assembly toward the rear.



1. Screw    2. Washer    3. Nut

## 4-35. DOLLY ASSEMBLY (cont)

## INSTALLATION



1. Screw
2. Washer
3. Nut

1. Position fork lift or hoist and raise rear of semitrailer body to permit installation of dolly.
2. Push dolly assembly into position underneath the semitrailer body and line up mounting holes in dolly with the mating holes in the undercarriage.
3. Secure dolly assembly with 12 screws (1), 24 washers (2), and 12 nuts (3). Tighten nuts to a torque of 200 lb-ft (271.2 Nm).
4. Remove leveling jack shoes from stowage on rear of leveling jacks and attach them to the legs (para 2-14).
5. Lower leveling jack legs until firm contact is made with the ground.
6. Remove hoist or fork lift.
7. Connect both air hoses and the electrical connection.
8. Close air reservoir drain cock.

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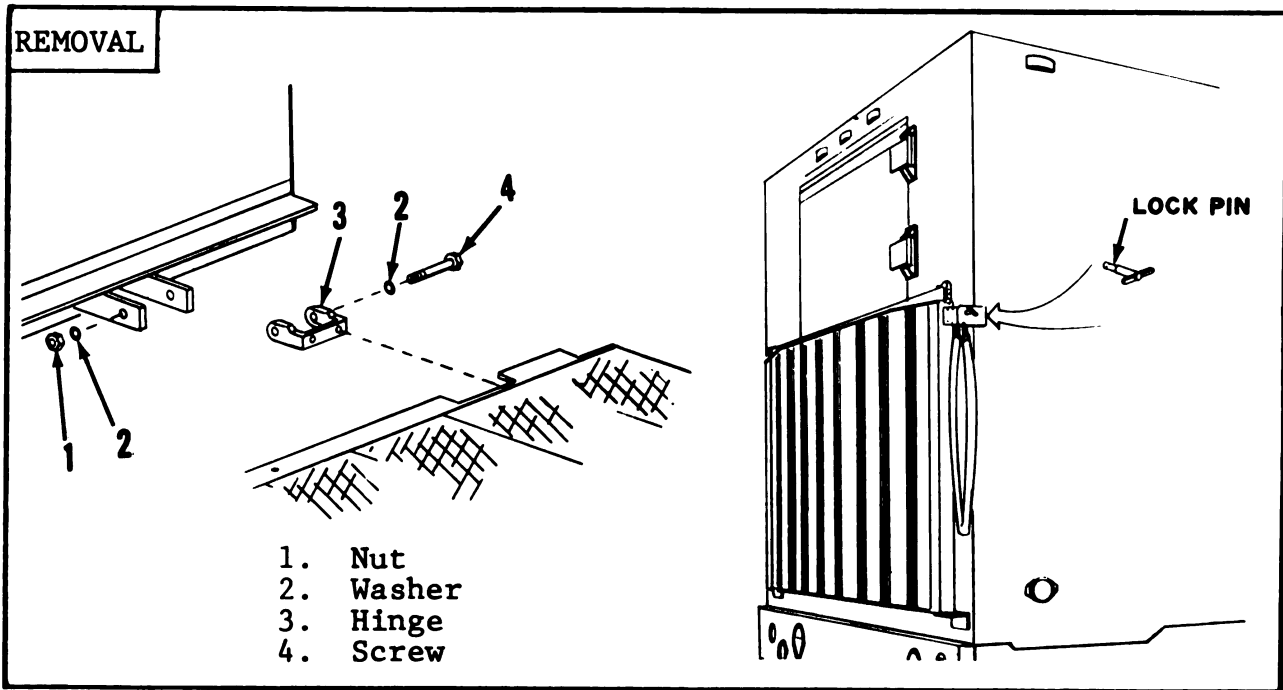
4-87

Section IX. REAR PLATFORM AND SIDE PLATFORM  
MAINTENANCE PROCEDURES

4-36. REAR PLATFORM

THIS TASK COVERS

- a. Removal
- b. Installation
- c. Removal of rubber bumper
- d. Installation of rubber bumper
- e. Removal of chain
- f. Installation of chain
- g. Removal of hinge
- h. Installation of hinge
- i. Removal of lock pin
- j. Installation of lock pin



**WARNING**

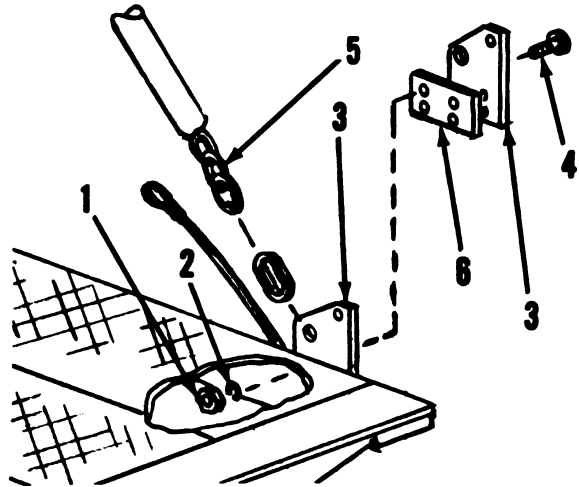
Platform must be supported in upright position during removal procedure. Two persons are required, due to the weight of the platform.

1. Block platform to support it when attaching hardware is removed.
2. With platform in upright position and supported by one of the persons, remove three nuts (1), six washers (2) and three screws (4) securing three hinges (3) to van body.

**4-36. REAR PLATFORM (cont)**

**REMOVAL (cont)**

3. Remove eight nuts (1), washers (2) and screws (4), securing four attach plates (3), two spacers (6) and chains (5) to platform.
4. Remove attach plates, spacers and chains as a unit.



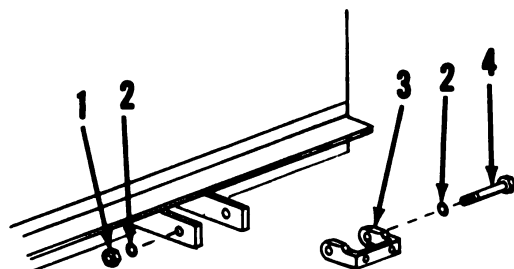
- |                 |           |
|-----------------|-----------|
| 1. Nut          | 4. Screw  |
| 2. Washer       | 5. Chain  |
| 3. Attach plate | 6. Spacer |

5. Remove lock pins securing upper end of platform to van body and lower platform to ground.

**INSTALLATION**

1. Block platform so that holes in hinges are alined with holes in van body.

2. Secure hinges (3) to body with three screws (4), six washers (2) and three nuts (1).



- |           |
|-----------|
| 1. Nut    |
| 2. Washer |
| 3. Hinge  |
| 4. Screw  |

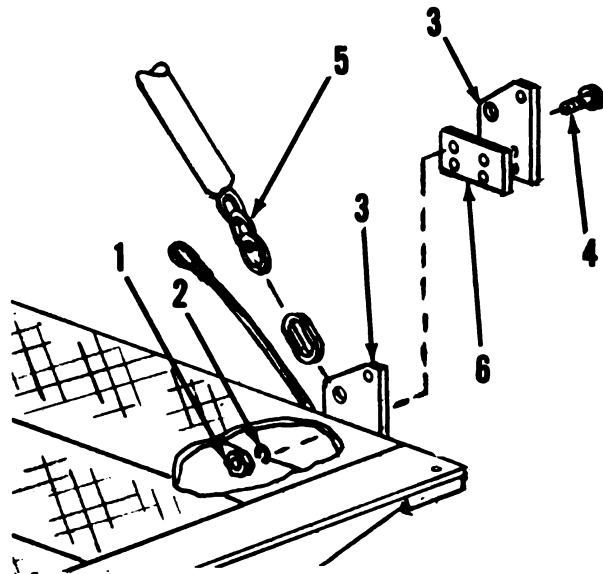
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**4-36. REAR PLATFORM (cont)**

**INSTALLATION (cont)**

3. Position attach plates (3) and spacers (6) with attached chain (5).
4. Secure with eight screws (4), washers (2) and nuts (1).

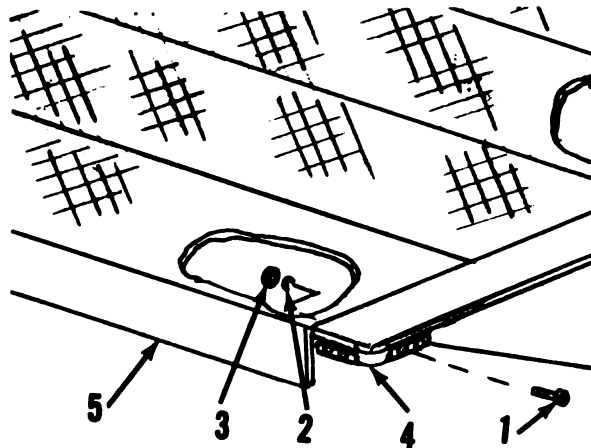


1. Nut
2. Washer
3. Attach plate
4. Screw
5. Chain
6. Spacer

5. Secure platform in position with lock pins and remove block.

**REMOVAL OF RUBBER BUMPER**

1. Remove four nuts (3), washers (2) and screws (1) securing bumper (4) to edge of platform.



**INSTALLATION OF RUBBER BUMPER**

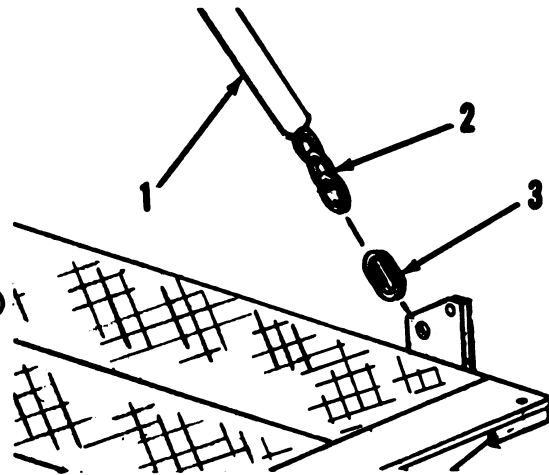
1. Position rubber bumper (4) on edge of platform (5).
2. Secure bumper (4) with four screws (1), washers (2) and nuts (3).

1. Screw
2. Washer
3. Nut
4. Bumper
5. Platform

**4-36. REAR PLATFORM (cont)**

**REMOVAL OF CHAIN**

1. Secure platform in upright position with lock pins.
2. Using bolt cutters, remove link connector (3) at each end of chain (2).
3. Remove chain (2) and tubing (1).



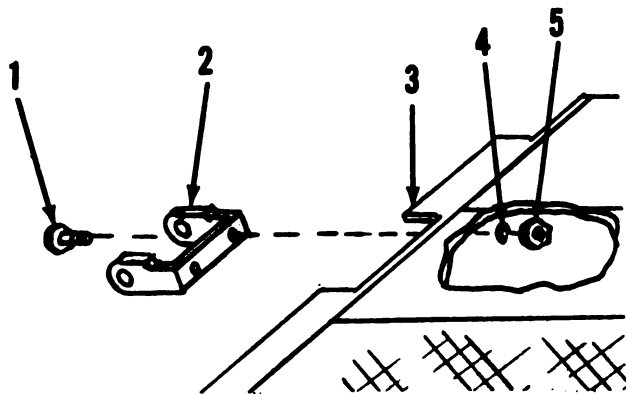
**INSTALLATION OF CHAIN**

1. Install tubing (1) on chain (2).
2. Aline two ends of link connector (3) at each end of chain (2) and peen together.

1. Tubing
2. Chain
3. Link connector

**REMOVAL OF HINGE**

1. Remove platform as described above.
2. Remove two nuts (5), washers (4) and screws (1) securing hinge (2) to platform (3).
3. Remove hinge.



**INSTALLATION OF HINGE**

1. Position hinge (2) on platform (3).
2. Secure hinge with two screws (1), washers (4) and nuts (5).
3. Install platform and secure with lock pins.

1. Screw
2. Hinge
3. Platform
4. Washer
5. Nut

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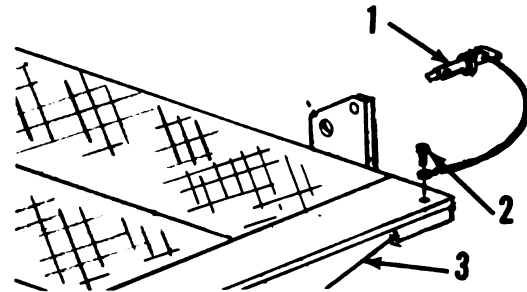
4-36. REAR PLATFORM (cont)

REMOVAL OF LOCK PIN

1. Remove screw (2) securing lock pin (1) to platform (3).
2. Remove lock pin.

INSTALLATION OF LOCK PIN

1. Position lock pin (1) on platform (3).
2. Secure pin (1) with screw (2).



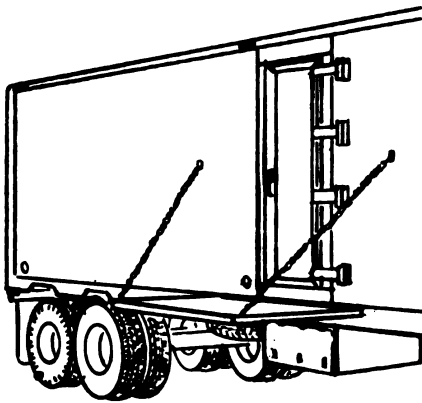
1. Lock pin
2. Screw
3. Platform

4-37. SIDE PLATFORM

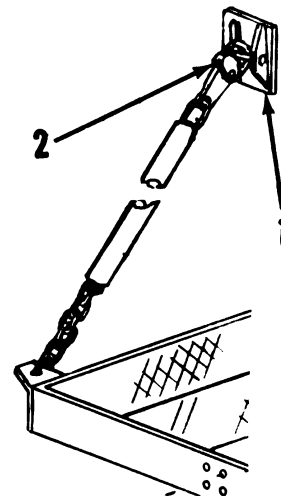
THIS TASK COVERS

- a. Removal
- b. Installation
- c. Removal of chain
- d. Installation of chain
- e. Removal of mounting bracket
- f. Installation of mounting bracket
- g. Stowing side platform

REMOVAL



1. Chain eye
2. Snap hook



1. Two persons are required to perform this operation.
2. Raise platform to upright position.
3. Release snap hook (2) from chain eye (1).



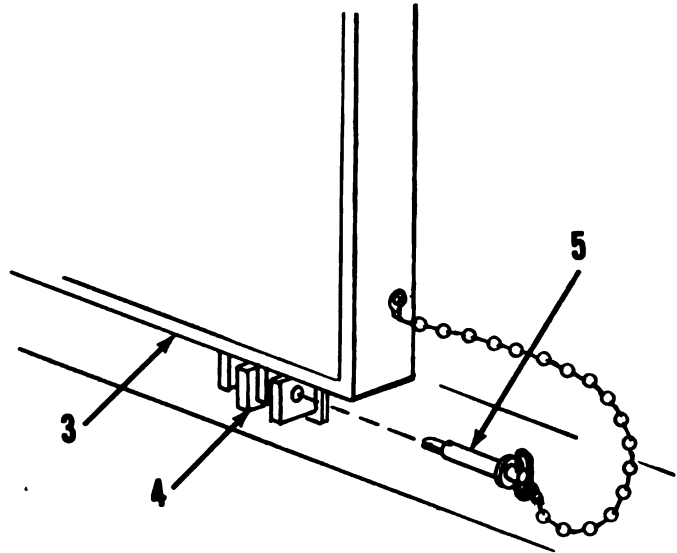
4-37. SIDE PLATFORM (cont)

REMOVAL (cont)

4. Remove lock pin (5) from mounting bracket (4) securing platform (3) to semitrailer.
5. Remove platform.

INSTALLATION

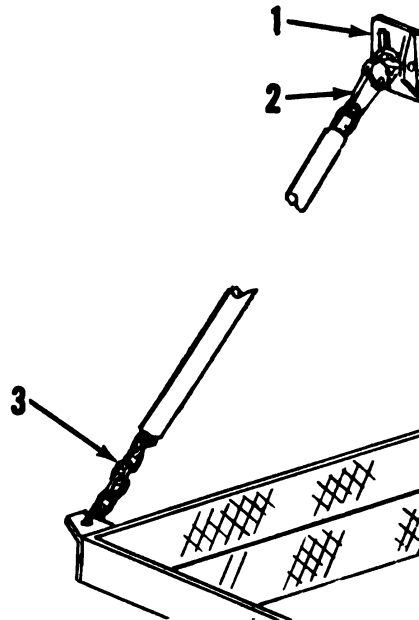
1. Two persons are required for this operation, one at each front end of platform (3).
2. Carry platform (3) upright and position platform mounting brackets (4) to align with mating parts on semitrailer body.
3. Secure platform mounting brackets (4) with lock pins (5).



3. Platform
4. Mounting bracket
5. Lock pin

4. Insert snap hook (2) of chain (3) into chain eye (1).
5. Lower platform until it comes to rest on chains.

1. Chain eye
2. Snap hook
3. Chain



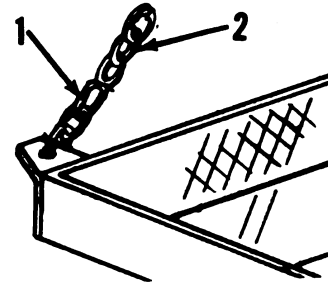
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**4-37. SIDE PLATFORM (cont)**

**REMOVAL OF CHAIN**

1. Remove platform as described above.
2. Using bolt cutters, remove link connector (1) at each end of chain (2).
3. Remove chain (2).



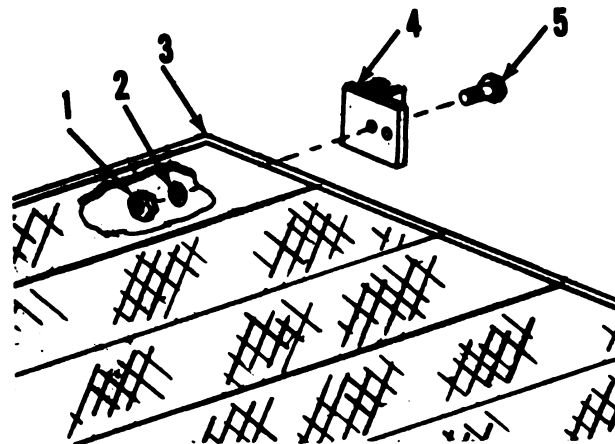
**INSTALLATION OF CHAIN**

1. Aline two ends of link connector (1) at each end of chain (2).
2. Peen ends together.

1. Link connector
2. Chain

**REMOVAL OF MOUNTING BRACKET**

1. Remove platform as described above.
2. Remove two nuts (1), washers (2) and screws (5) securing mounting bracket (4) to platform (3).
3. Remove mounting bracket.



**INSTALLATION OF MOUNTING BRACKET**

1. Position mounting bracket (4) on platform (3).
2. Secure bracket (4) with screws (5), washers (2) and nuts (1).
3. Install platform.

1. Nut
2. Washer
3. Platform
4. Bracket
5. Screw

**STOWING SIDE PLATFORM**

1. Two persons are required for this procedure.
2. Remove platform as described above.
3. Place platform in stowage box underneath van body.

Section X. BODY AND PARTS MAINTENANCE PROCEDURES

**4-38. DOORS**

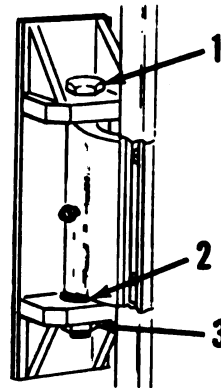
**THIS TASK COVERS**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>a. Removal of door</li> <li>b. Cleaning</li> <li>c. Inspection and repair</li> <li>d. Installation of door</li> <li>e. Removal of lock assembly</li> <li>f. Inspection and repair of lock assembly</li> <li>g. Installation of lock assembly</li> <li>h. Removal of rubber seal</li> <li>i. Installation of rubber seal</li> <li>j. Removal of radio frequency interference shielding</li> <li>k. Installation of radio frequency interference shielding</li> </ul> | <p><b>Troubleshooting Reference Item No.</b></p> <ul style="list-style-type: none"> <li>20 Difficulty in locking or unlocking door</li> <li>21 Door hinges do not operate properly</li> </ul> |
|--|---|

**REMOVAL OF DOOR**

1. Set hoist or jack lift in position at door.
2. Remove hinge bolt nuts (3) and washers (2) securing hinge bolts (1).
3. Remove hinge bolts and remove door.

- 1. Bolt
- 2. Washer
- 3. Nut



**CLEANING**

**WARNING**

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

1. Use cleaning solvent (item 3, appendix E) to remove grease and oil.
2. Use steam or water and a stiff brush to remove dirt.

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4-38. DOORS (cont)

INSPECTION AND REPAIR

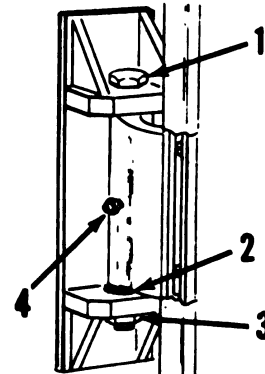
1. Inspect for dents and cracks.
2. Visually check all hardware for defects.
3. Straighten bent parts if feasible.
4. Weld cracked or fractured items.

INSTALLATION OF DOOR

1. Position door in door opening.
2. Insert hinge bolt (1) and secure with nut (3) and washer (2).
3. Grease hinge bolt in accordance with instructions in lubrication chart.

REPLACEMENT OF LUBRICATION FITTING

1. Remove lubrication fitting (4) by turning counterclockwise.
2. Check threads for wear or other damage.
3. Check body of fitting for damage. Replace defective fitting.
4. Insert fitting (4) and turn clockwise to secure in position.

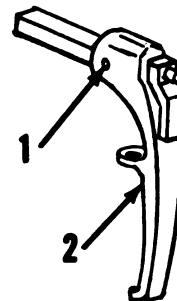


1. Bolt
2. Washer
3. Nut
4. Fitting

REMOVAL OF DOOR LOCK ASSEMBLY

1. Drive out two pins (1) securing interior handle (2).
2. Remove handle.

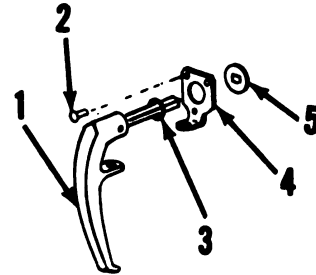
1. Pin
2. Handle



4-38. DOORS (cont)

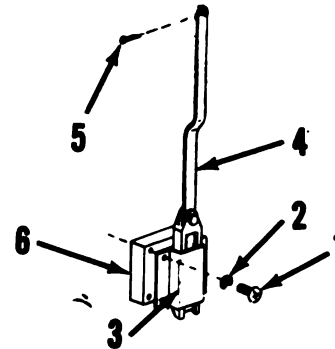
REMOVAL OF DOOR LOCK ASSEMBLY (cont)

3. Remove rivets (2) securing exterior handle (1) and escutcheon plate (4).
4. Remove exterior handle (1), escutcheon plate (4), o-ring (3) and washer (5).



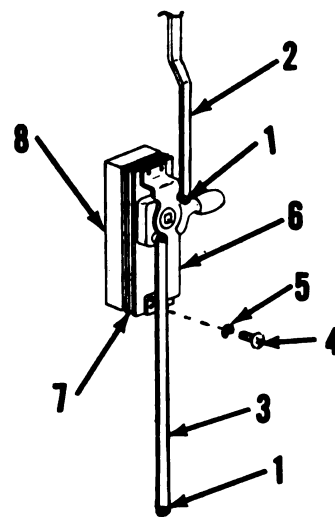
- |           |                     |
|-----------|---------------------|
| 1. Handle | 4. Escutcheon plate |
| 2. Rivet  | 5. Washer           |
| 3. O-ring |                     |

5. Remove cotter pin (5) securing locking rod (4).
6. Remove four screws (1) and washers (2) securing slide bolt (3) and spacer (6).
7. Remove slide bolt (3), spacer (6) and locking rod (4) as a unit.



- |               |                |
|---------------|----------------|
| 1. Screw      | 4. Locking rod |
| 2. Washer     | 5. Cotter pin  |
| 3. Slide bolt | 6. Spacer      |

8. Remove cotter pins (1) securing locking rods (2 and 3).
9. Remove four screws (4) and washers (5) securing roller latch assembly (6), shim (7) and spacer (8).
10. Remove roller latch assembly, shims and spacer.



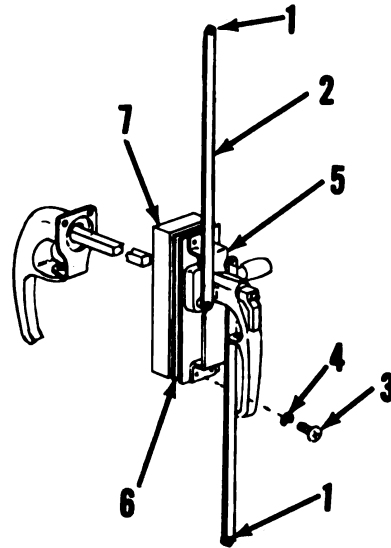
- |                          |
|--------------------------|
| 1. Cotter pin            |
| 2. Locking rod           |
| 3. Locking rod           |
| 4. Screw                 |
| 5. Washer                |
| 6. Roller latch assembly |
| 7. Shim                  |
| 8. Spacer                |

4-38. DOORS (cont)

REMOVAL OF DOOR LOCK ASSEMBLY (cont)

11. Remove cotter pins (1) securing locking rods (2).
12. Remove four screws (3) and washers (4) securing lock assembly (5), shim (6) and spacer (7).
13. Remove lock assembly, shim and spacer.

1. Cotter pin
2. Locking rod
3. Screw
4. Washer
5. Lock assembly
6. Shim
7. Spacer

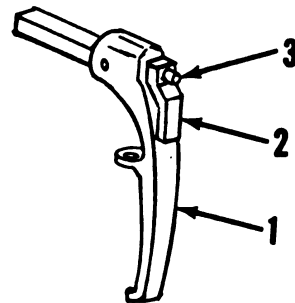


INSPECTION AND REPAIR OF LOCK ASSEMBLY

1. Inspect parts for cracks, bends, excessive wear, and deterioration. Replace defective parts.
2. If necessary, remove screw and washer securing locking rod to slide bolt.
3. Straighten locking rod to assure proper alignment in upper and lower slide bolts.
4. Straighten bends or dents in slide bolts that may cause binding.
5. Check lock for ease of operation. Lubricate as required.

6. Depress button (3) of interior handle (1) and raise lock pin (2) to check for ease of operation.
7. Clean and paint if necessary.
8. Replace defective or damaged parts.

1. Handle
2. Lock pin
3. Button

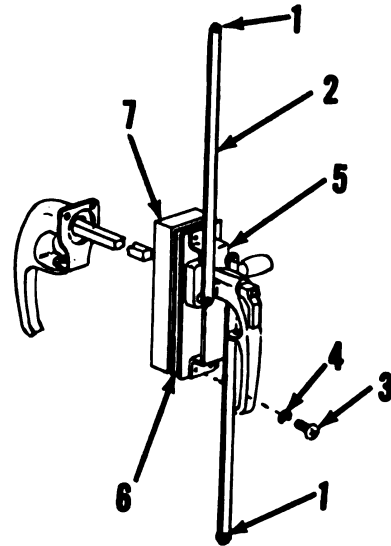


4-38. DOORS (cont)

INSTALLATION OF DOOR LOCK ASSEMBLY

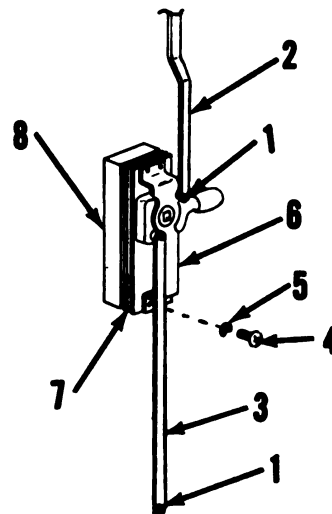
1. Position lock assembly (5), shim (6) and spacer (7).
2. Secure with screws (3) and washers (4).
3. Position locking rods (2) and secure with cotter pins (1).

1. Cotter pin
2. Locking rod
3. Screw
4. Washer
5. Lock assembly
6. Shim
7. Spacer



4. Position roller latch assembly (6), shim (7) and spacer (8).
5. Secure with screws (4) and washers (5).
6. Position locking rods (2 and 3) and secure with cotter pins (1).

1. Cotter pin
2. Locking rod
3. Locking rod
4. Screw
5. Washer
6. Roller latch assembly
7. Shim
8. Spacer



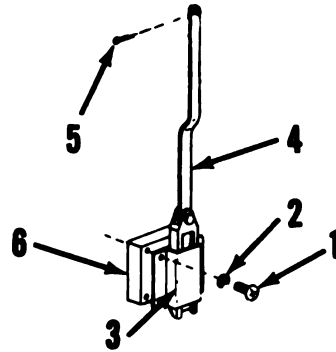
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4-38. DOORS (cont)

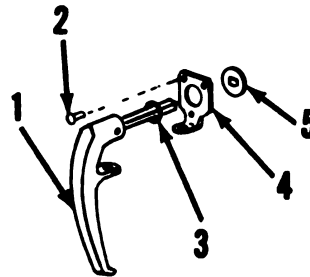
INSTALLATION OF DOOR LOCK ASSEMBLY (cont)

7. Position slide bolt (3), spacer (6) and locking rod (4) as a unit.
8. Secure with screws (1) and washers (2).
9. Secure unattached end of locking rod with cotter pin (5).



1. Screw
2. Washer
3. Slide bolt
4. Locking rod
5. Cotter pin
6. Spacer

10. Assemble o-ring (3), escutcheon plate (4) and washer (5) on exterior handle (1).
11. Position assembled handle and secure with rivets (2).



1. Exterior handle
2. Rivet
3. o-ring
4. Escutcheon plate
5. Washer

12. Position interior handle (2).
13. Secure with two pins (1).



1. Interior handle
2. Pin

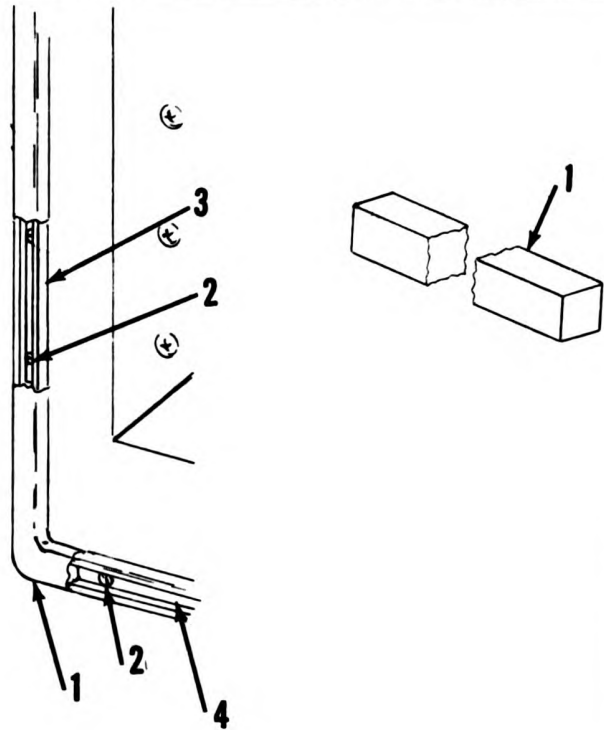
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4-38. DOORS (cont)

REMOVAL OF RUBBER SEAL

1. To remove rubber seal (1) from edge of door frame, open door and pry seal (1) from groove in door frame.
2. Remove screws (2) and remove retainers (3) from sides of door frame and retainers (4) from top and bottom of frame.



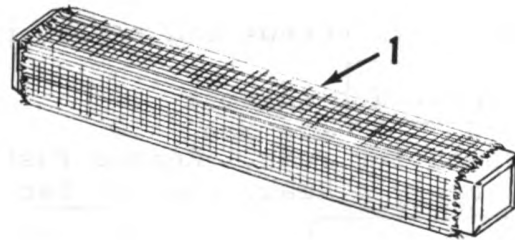
INSTALLATION OF RUBBER SEAL

1. Make certain jambs and thresholds are free of dirt, dust and grime.
2. Use fine steel wool to remove any grease and grime; then wash with cleaning solvent (item 3, appendix E) and wipe clean.
3. Position retainers (3) on sides of door frame. Position retainers (4) on top and bottom of frame. Secure with screws (2).
4. Use bonding cement (item 1, appendix E) and secure seal in groove.

- 1. Seal
- 2. Screw
- 3. Retainer
- 4. Retainer

REMOVAL OF RADIO FREQUENCY INTER-FERENCE (RFI) SHIELDING

1. Radio Frequency Interference (RFI) shielding is located in door jamb.
2. Open door and pry shielding (1) from groove in door jamb.



- 1. RFI shielding

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4-101

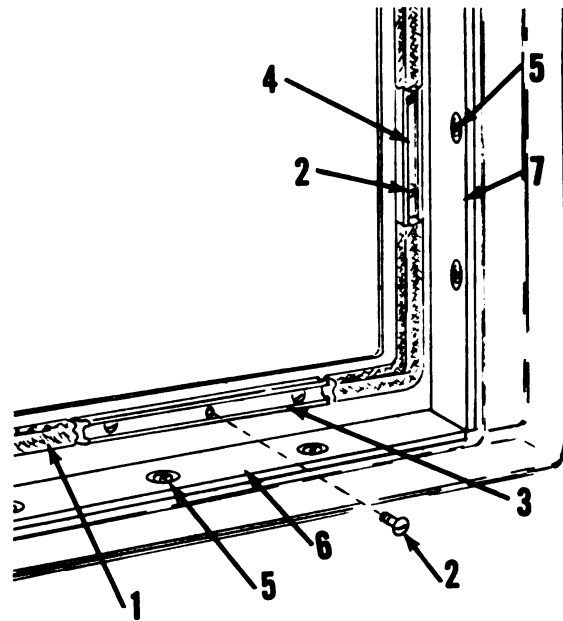
4-38. DOORS (cont)

REMOVAL OF RADIO FREQUENCY INTER-FERENCE (RFI) SHIELDING (cont)

3. Remove screws (2) and remove retainers (4) from sides of door jamb and retainers (3) from top and bottom of jamb.
4. Remove screws (5) and remove retainers (6) from top and bottom of door jamb and retainers (7) from sides of jamb.

INSTALLATION OF RADIO FREQUENCY INTER-FERENCE (RFI) SHIELDING

1. Surface of door jamb has been flame sprayed. Periodically clean these RFI areas.
2. Position retainers (3) on top and bottom of door jamb. Position retainers (4) on sides of door jamb. Secure with screws (2).
3. Position retainers (7) on sides of door jamb and retainers (6) on top and bottom of jamb. Secure with screws (5).
4. Insert RFI shielding (1) in groove in door jamb.



1. Shielding
2. Screw
3. Retainer
4. Retainer
5. Screw
6. Retainer
7. Retainer

4-39. IDENTIFICATION PLATE

REMOVAL

Remove six screws and remove plate (1).

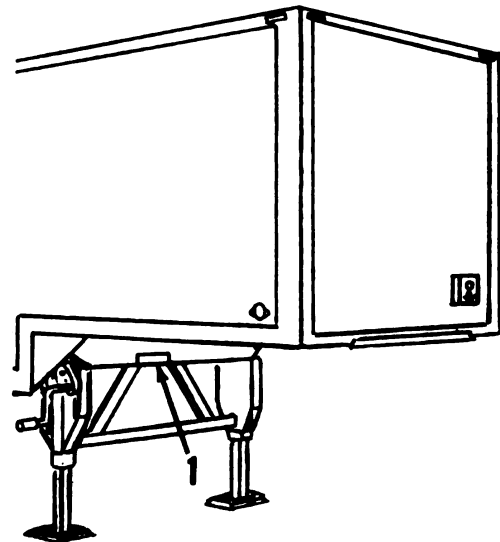
INSPECTION

Inspect for rust. Remove rust, clean and apply a heavy coat of lacquer.

INSTALLATION

Position plate (1) and secure with six screws.

1. Identification plate

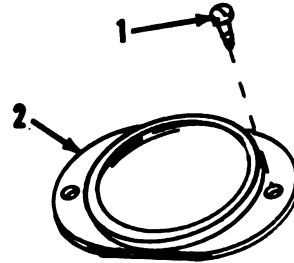


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**4-40. REFLECTOR**

**REMOVAL**

1. Remove two screws (1) securing reflector (2) to van body.
2. Remove reflector.



**INSTALLATION**

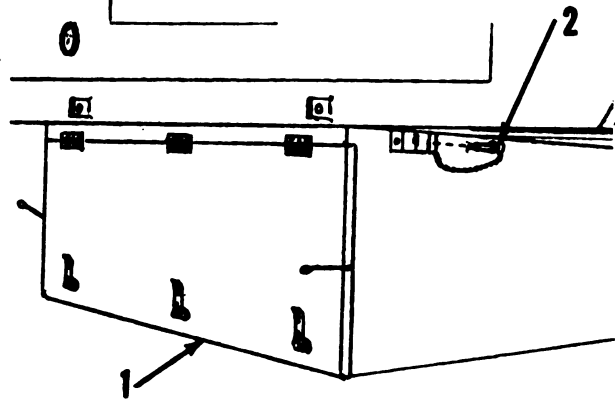
1. Apply sealant (item 19, appendix E) in and around mounting holes in van body.
2. Position reflector (2) on body and align mounting holes.
3. Secure with two screws (1).

1. Screw
2. Reflector

**4-41. STOWAGE BOX**

**REMOVAL**

1. Stowage box (1) will be removed for replacement or aircraft shipment of the semitrailer.
2. Position fork lift under stowage box (1).
3. Remove four lock pins (2) and remove stowage box.



**INSTALLATION**

1. Using a fork lift, position stowage box (1).
2. Secure with four lock pins (2).
3. Remove fork lift.

1. Stowage box
2. Lock pin

**4-42. MAINTENANCE UNDER UNUSUAL CONDITIONS**

**THIS TASK COVERS**

- a. Extreme cold weather maintenance
- b. Extreme hot weather maintenance
- c. Maintenance after fording
- d. Maintenance after operation on unusual terrain

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4-103

4-42. MAINTENANCE UNDER UNUSUAL CONDITIONS (cont)

EXTREME COLD WEATHER MAINTENANCE

For maintenance procedures and practices during extreme cold weather, refer to FM 9-207.

EXTREME HOT WEATHER MAINTENANCE

1. In hot, dry climates, corrosive action will occur on all parts of the materiel and will be accelerated during rainy seasons.
2. Evidence of corrosion will appear in the form of rust, paint blisters, mildew, mold, and fungus growth.
3. Remove corrosion from exterior metal surfaces with abrasive paper or cloth. Apply a protective coating of paint, or touch up the existing paint.
4. Keep a film of engine lubricating oil (OE-20) on unfinished exposed metal surfaces.

MAINTENANCE AFTER FORDING

Refer to TM 9-238 for maintenance procedures after fording.

MAINTENANCE AFTER OPERATION ON UNUSUAL TERRAIN

1. Thorough cleaning and lubrication of all parts affected must be accomplished as soon as possible after operation in mud.
2. Clean all suspension components. Repack wheel bearings as necessary.
3. After operation in sand or dust, touch up all painted surfaces damaged by sandblasting.
4. Lubricate completely to force out lubricants contaminated by sand or dust.

CHAPTER 5

DIRECT SUPPORT AND GENERAL SUPPORT  
MAINTENANCE INSTRUCTIONS

CHAPTER INDEX	Page
Troubleshooting .....	5-1
Wiring harness connector and receptacle .....	5-4
Wiring harness .....	5-4
Axle assembly .....	5-7
Repair standards .....	5-10
Suspension system .....	5-15
Brake drum .....	5-19

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND  
SUPPORT EQUIPMENT

**5-1. COMMON TOOLS AND EQUIPMENT**

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

**5-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT**

Special tools are not required for this equipment.

**5-3. REPAIR PARTS**

Repair parts are listed and illustrated in appendix F of this manual.

Section II. TROUBLESHOOTING PROCEDURES

**5-4. INTRODUCTION**

Refer to table 5-1 for troubleshooting procedures.

Table 5-1. Troubleshooting

---

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

ELECTRICAL SYSTEM

WARNING

Make sure all electrical power is disconnected before performing any maintenance on the electrical system. Serious injury or death may result if proper precautions are not taken.

1. ALL LIGHTS FAIL TO OPERATE.

Step 1. Inspect intervehicular cable for proper connection. In all steps, check for good ground connection.

Connect cable properly. Tighten ground.

Step 2. Inspect for dirty or corroded terminals in intervehicular cable.

Clean terminals in plug and receptacle.

Step 3. Check to see that light switch in towing vehicle is in desired position.

Place towing vehicle light switch in proper mode of operation.

Step 4. Check to see that current is flowing from towing vehicle.

Check towing vehicle cables and circuit breakers.

Step 5. Check wiring harness for short circuit.

Check cable for bare spots. Repair if necessary. Make a continuity check of all circuits, using a multimeter. Replace defective single wire or replace wiring harness as required.

Step 6. Check light switch on towing vehicle.

Replace light switch on towing vehicle if it is defective.

Step 7. Check resistor contact points.

Clean contact points.

Table 5-1. Troubleshooting (cont)

---

**MALFUNCTION**

**TEST OR INSPECTION**

**CORRECTIVE ACTION**

---

**ELECTRICAL SYSTEM (cont)**

Step 8. Use ohm meter and check resistors (refer to wiring diagram).  
 Replace cracked, chipped or defective resistor (para 4-11).

**SUSPENSION SYSTEM**

**2. SEMITRAILER LEANS TO ONE SIDE.**

Check for broken spring leaves.

Replace spring (para 5-8).

**3. EXCESSIVELY WORN, SCUFFED OR CUPPED TIRES.**

Step 1. Check rubber trunnion bushing for wear and deterioration.

Replace defective bushing (para 5-8).

Step 2. Check rubber pads for wear and deterioration.

Replace defective pads (para 5-8).

**4. WHEEL HOP OR DIMINISHED HANDLING STABILITY.**

Step 1. Check rubber trunnion bushing for wear and deterioration.

Replace defective bushing (para 5-8).

Step 2. Check rubber pads for wear and deterioration.

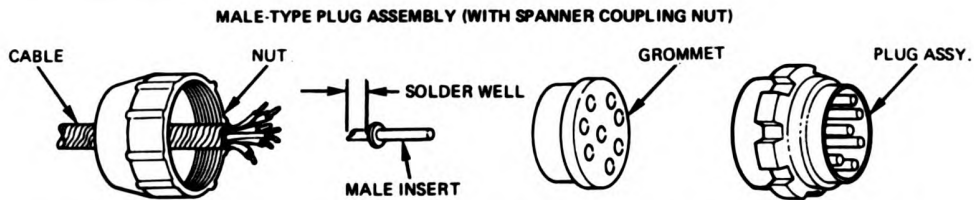
Replace defective pads (para 5-8).

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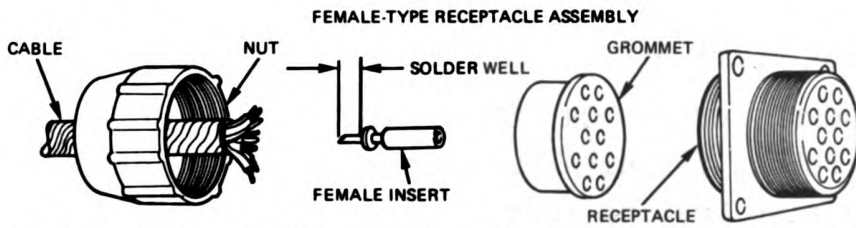
Section III. WIRING HARNESS MAINTENANCE PROCEDURES

5-5. WIRING HARNESS CONNECTOR AND RECEPTACLE

REPLACEMENT OF CONNECTORS AND RECEPTACLES



- 1-STRIP CABLE INSULATION EQUAL TO DEPTH OF SOLDER WELLS OF INSERTS.
- 2-REMOVE GROMMET RETAINING NUT FROM PLUG ASSEMBLY AND REMOVE DAMAGED CABLE.
- 3-SLIDE GROMMET BACK FROM PLUG ASSEMBLY AND REMOVE DAMAGED CABLE.
- 4-PASS REPLACEMENT CABLE THROUGH GROMMET RETAINING NUT AND GROMMET. INSERT INTO SOLDER WELLS OF INSERTS, AND SOLDER.\*
- 5-SLIDE GROMMET OVER INSERTS AND PRESS INTO PLUG ASSEMBLY UNTIL SEATED.
- 6-THREAD GROMMET RETAINING NUT TO PLUG ASSEMBLY.



- 1-STRIP CABLE INSULATION EQUAL TO DEPTH OF SOLDER WELLS OF INSERTS.
- 2-REMOVE GROMMET RETAINING NUT FROM PLUG ASSEMBLY AND SLIDE BACK OVER CABLE.
- 3-SLIDE GROMMET BACK FROM RECEPTACLE ASSEMBLY AND REMOVE DAMAGED CABLE.
- 4-PASS REPLACEMENT CABLE ENDS THROUGH GROMMET RETAINING NUT AND GROMMET, INSERT INTO SOLDER WELLS OF INSERTS, AND SOLDER.
- 5-SLIDE GROMMET OVER INSERTS AND PRESS INTO RECEPTACLE ASSEMBLY UNTIL SEATED.
- 6-THREAD GROMMET RETAINING NUT TO RECEPTACLE ASSEMBLY.

\*NOTE: CONTACT SIZES 8, 4 AND 0 MAY BE REMOVED FROM CONNECTOR TO SIMPLIFY REPAIR.

5-6. WIRING HARNESS

THIS TASK COVERS

- a. Removal
- b. Installation
- c. Replacement of single wire

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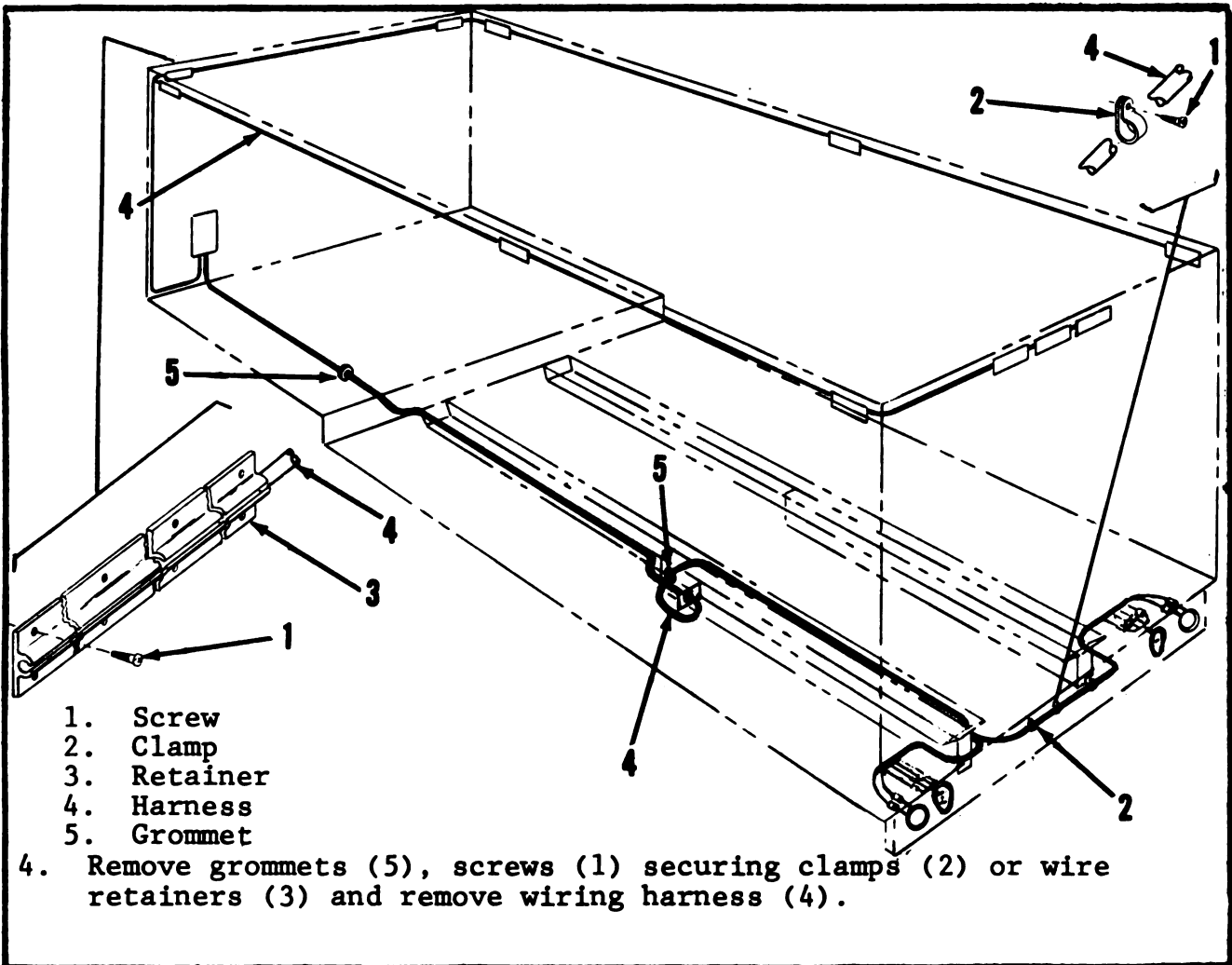
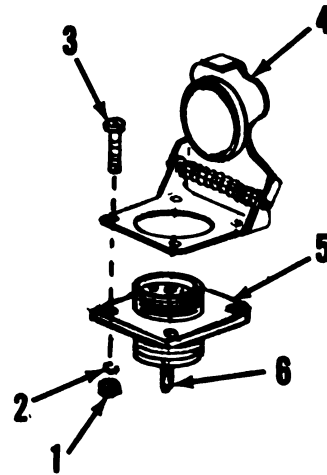


**5-6. WIRING HARNESS (cont)**

**REMOVAL**

1. Disconnect receptacle (5) from harness and cable connectors.
2. Remove four nuts (1), washers (2) and screws (3) securing receptacle (5) and cover (4). Remove receptacle and cover.
3. Unsolder harness wires (6) from connector (para 4-12).

- |           |               |
|-----------|---------------|
| 1. Nut    | 4. Cover      |
| 2. Washer | 5. Receptacle |
| 3. Screw  | 6. Harness    |



4. Remove grommets (5), screws (1) securing clamps (2) or wire retainers (3) and remove wiring harness (4).

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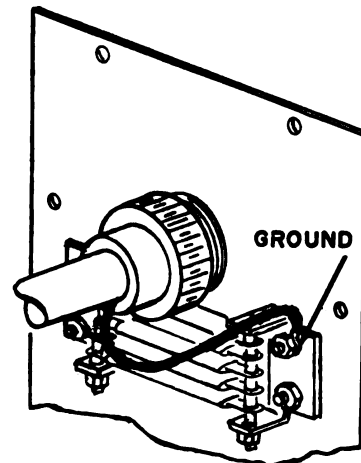
5-5

**5-6. WIRING HARNESS (cont)**

**INSTALLATION**

1. Position harness, threading through cutouts where required and secure with grommets, screws, clamps and wire retainers.
2. Connect harness to receptacle and all cable connectors.

3. Secure ground wire lug on the resistor box receptacle with nut on resistor mounting stud.



4. Position receptacle and cover and secure with four screws, washers and nuts.

**REPLACEMENT OF SINGLE WIRES**

1. Remove and discard electrical insulating tape binding wires of defective branch.
2. Cut defective wire from branch, leaving enough wire for splicing.
3. Cut new piece of wire to same length (plus splice) as defective wire and splice to harness. Tape splice with insulating tape.
4. Assemble new terminals, washers, sleeves and electrical shells to ends of new wire as required. Install marker band.

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Section IV. AXLE ASSEMBLY MAINTENANCE PROCEDURES

**5-7. AXLE ASSEMBLY**

- a. General
- b. Removal
- c. Cleaning
- d. Inspection and repair
- e. Repair standards
- f. Assembly of new axle
- g. Alinement procedure
- h. Installation

Test Equipment Required: None

Personnel Required: 2

**GENERAL**

Generally, axle assemblies will not be removed unless inspection shows a need for repair or replacement.

For inspection purposes, remove wheels (para 3-7) and hubs and brake drums (para 4-30).

**REMOVAL**

**WARNING**

Weight of semitrailer must be supported by leveling jacks or by blocking or support stands placed under rear corners of frame throughout operation.

1. Position semitrailer on level surface with front end resting on landing gear legs.
2. Extend leveling jacks enough to relieve each tire of ground contact and provide support during removal and installation operations.

**WARNING**

Wear goggles when opening air reservoir drain cock. Failure to do so could cause serious eye injury from high pressure air.

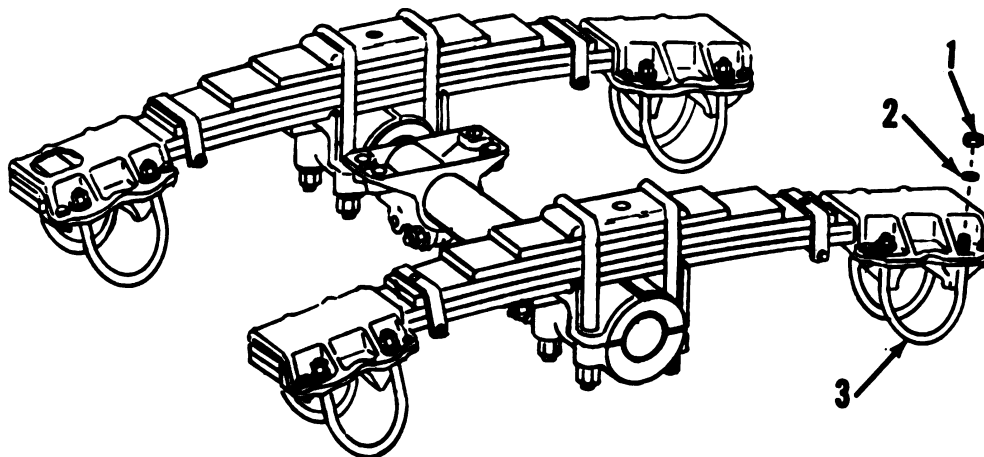
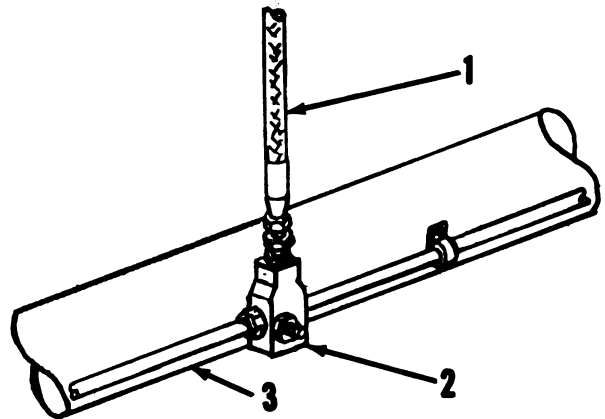
5-7. AXLE ASSEMBLY (cont)

REMOVAL (cont)

3. Open air reservoir drain cock to relieve air pressure.
4. Remove wheels (para 3-7).
5. Remove hubs and brake drums (para 4-30).

6. Disconnect hydraulic brake hose (1) at tee (2) on rear center of axle (3).
7. Support axle with jack.

1. Hydraulic hose
2. Tee
3. Axle



8. Remove two nuts (1) and washers (2) from each spring U-bolt (3) and remove U-bolts.
9. Lower axle assembly and remove from under semitrailer.
10. Spring seats are welded to axle. If necessary to remove spring seat, break weld and remove seat.

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5-7. AXLE ASSEMBLY (cont)

CLEANING

1. Clean mud and dirt from all exposed surfaces with water and a stiff brush.

WARNING

Cleaning solvent, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

2. Remove grease from spindle of axle and wheel retaining parts with cleaning solvent (item 3, appendix E).

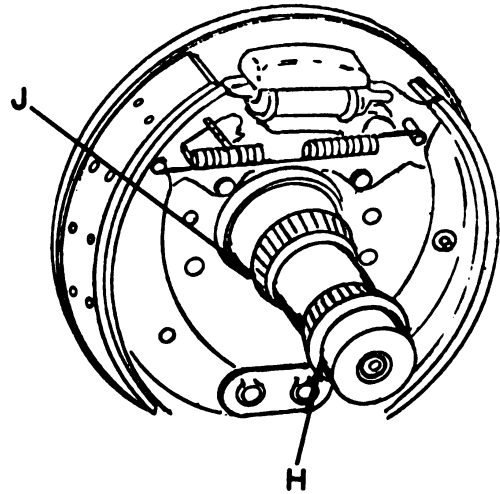
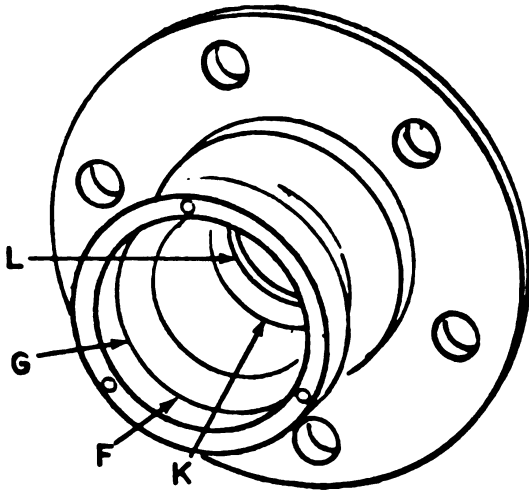
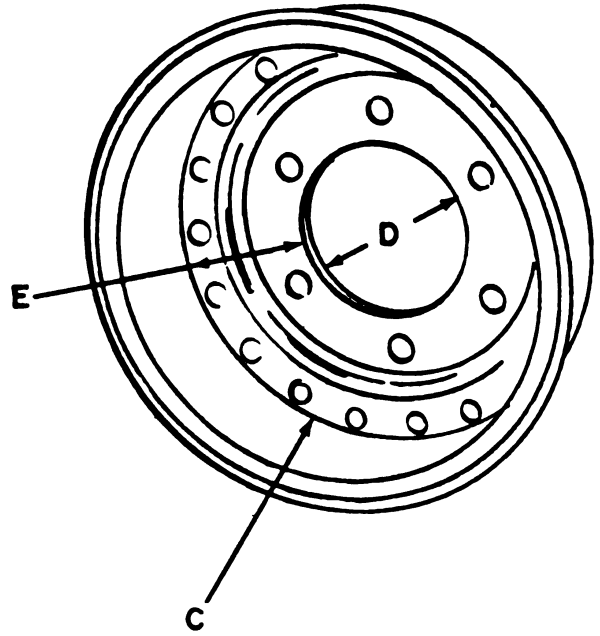
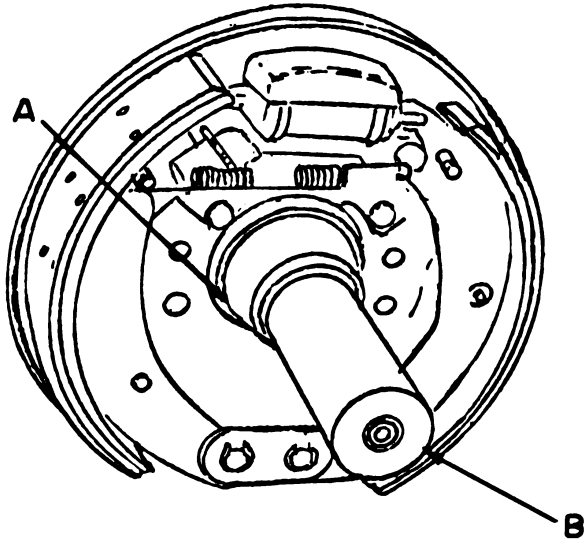
INSPECTION AND REPAIR

1. Check threads of axle spindle for wear, crossed threads, or other damage.
2. Using fine file, remove burrs, or hand chase threads if necessary.
3. Check axle spindle for bend. Indications of a bent axle spindle are binding bearings which cannot be adjusted properly, and extremely uneven wear of brake linings. Replace defective axle spindle.
4. Check for damaged paint and repaint where necessary.
5. Check that axle meets requirements of repair standards listed in Repair Standards, table 5-2.
6. The repair and rebuild standards included herein give the minimum, maximum, and key clearance of new or rebuilt parts. They also give wear limits which indicate that point to which a part or parts may be worn before replacement, in order to give maximum service with minimum replacement.
7. Normally, all parts which have not been worn beyond the dimensions shown under wear limits in table 5-2, or damaged from corrosion, will be approved for service. Points of measurement for repair standards are shown in the accompanying illustration, page 5-11.

Table 5-2. Repair Standards

Item and point of measurement	Illustration letter ref.	Size and fit of new parts		Wear limits
		Min.	Max.	
a. Axle				
Diameter of inner bearing surface	A	3.4988	3.4998	3.4983
Diameter of outer bearing surface	B	2.6238	2.6248	2.6233
b. Brake drum				
Inside diameter	C	16.495	16.505	16.625
c. Drum adapter				
Inside diameter of hub location hole	D	7.250	7.254	*
Concentricity of inside diameter with outside diameter	E	Total reading	Indicator 0.004	*
d. Wheel hub				
Inside diameter of inner bearing surface	F	5.996	5.998	*
Outside diameter of inner bearing surface	G	6.0000	6.0010	*
Inside inner bearing fit		0.0015T	0.0045T	*
Inside diameter of inner bearing	L	3.5000	3.5010	3.5015
Inside diameter of outer bearing surface	K	4.434	4.436	*
Outer diameter of outer bearing	J	4.4375	4.4385	*
Inside outer bearing fit		0.0015T	0.0045T	*
Inside diameter of outer bearing	H	2.6250	2.6260	2.6265

\*Indicates that part should be replaced when worn beyond the limits given in "size and fit of new parts" column.



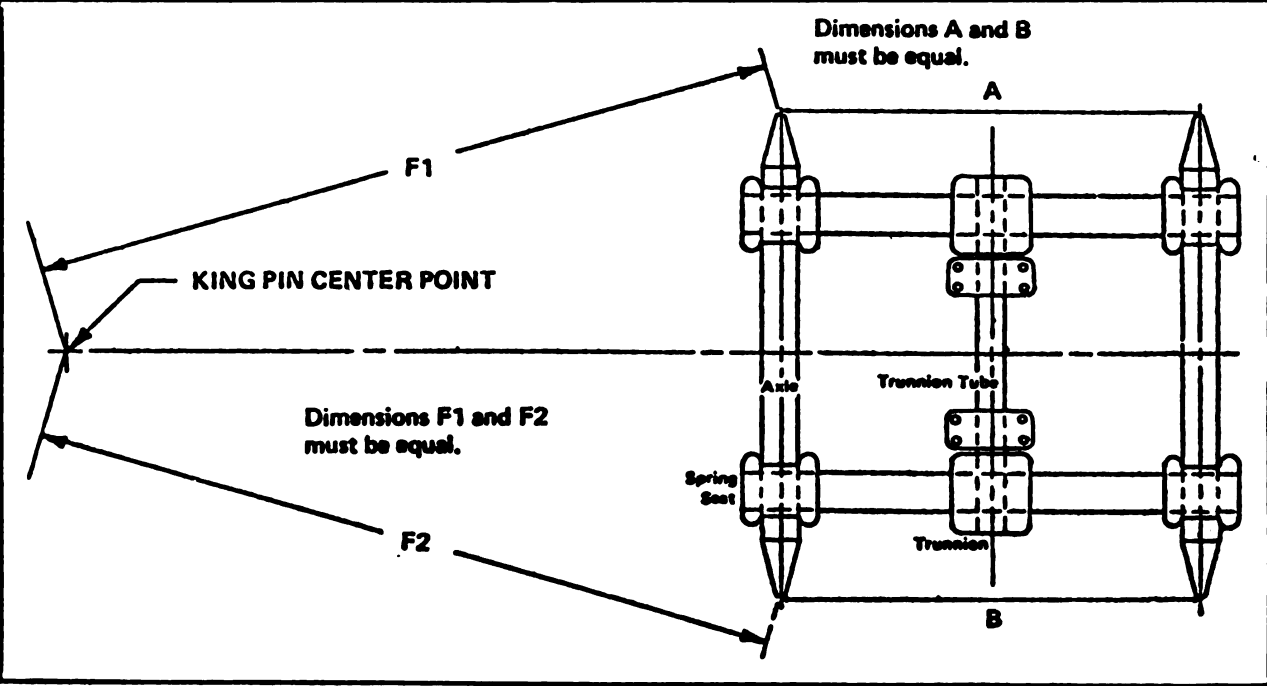
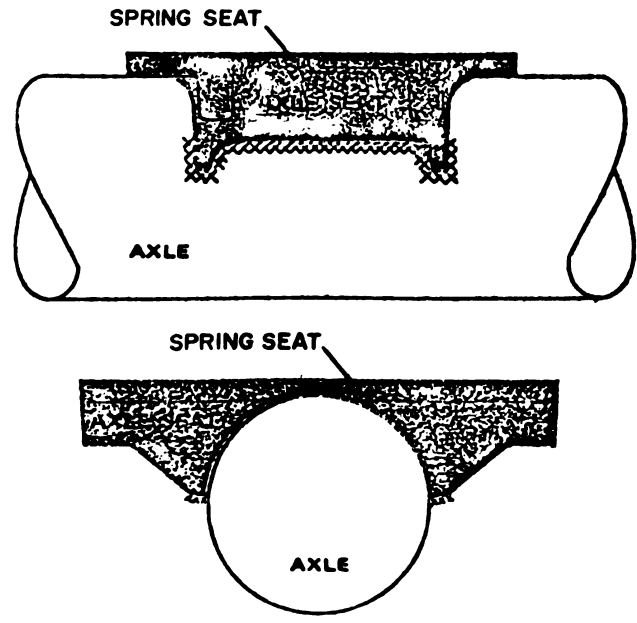
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5-11

5-7. AXLE ASSEMBLY (cont)

ASSEMBLY OF NEW AXLE

1. If the spring seat has been removed, position seat in exact location it occupied before removal.
2. Be certain spring seats fit axle properly. If necessary, grind seats to insure that both seats fit properly and are horizontal and parallel.
3. Make sure that spring seats are level, parallel, an equal distance from center of axle and the same distance from the brake flanges.
4. Tack weld seats in place and recheck.



5. After installation of new spring (para 5-8), axle should be alined in relation to semitrailer kingpin.

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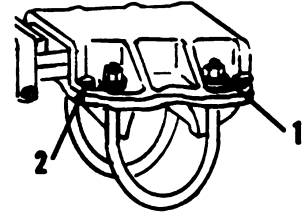


5-7. AXLE ASSEMBLY (cont)

ASSEMBLY OF NEW AXLE (cont)

6. Measure distance from kingpin to centerline of the spindles on front axle, as shown on page 5-12.

7. After alining front axle, tighten U-bolt nuts (1) and end cap nuts (2) on that axle only.



- 1. U-bolt nuts
- 2. End cap nuts

8. Aline rear axle with front axle by measuring between spindles.

9. Tighten rear axle U-bolt nuts and end cap nuts.

10. Recheck alinement of front axle with kingpin. Recheck alinement of rear axle with front axle.

11. Tighten U-bolt nuts to a torque of 300 lb-ft (406.8 Nm) dry or 220 lb-ft (298.3 Nm) lube.

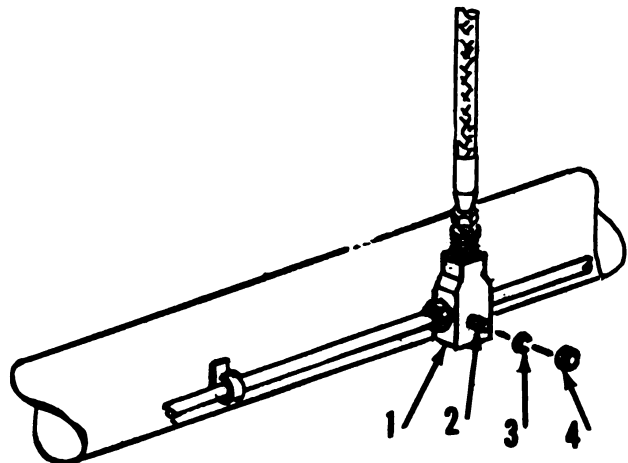
CAUTION

Adjustment plates must be welded before trailer is operated.

12. Weld the unwelded adjustment plate after completion of above.

13. Position tee (1) on new axle in same location as the original axle and secure with screw (2), washer (3) and nut (4). Weld screw (2) in place.

- 1. Tee
- 2. Screw
- 3. Washer
- 4. Nut



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5-13

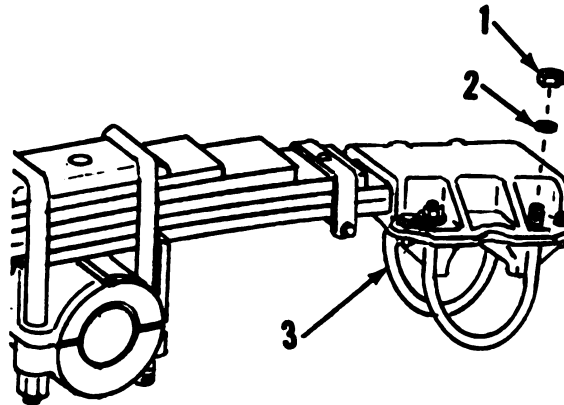
**5-7. AXLE ASSEMBLY (cont)**

**INSTALLATION**

1. Position axle on dolly.
2. Place support under axle.

3. Insert two U-bolts (3) and secure with nuts (1) and washers (2).

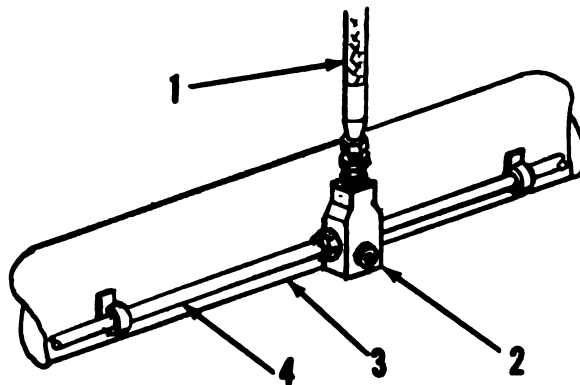
1. Nut
2. Washer
3. U-bolt



4. Install hub and brake drum (para 4-30).

5. Connect hydraulic hose (1) and hydraulic lines (4) to tee (2) at center of axle (3).

1. Hydraulic hose
2. Tee
3. Axle
4. Hydraulic line



6. Install wheels (para 3-7).
7. Close air reservoir drain cock (para 2-19).
8. Remove blocking and support equipment.

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Section V. SUSPENSION SYSTEM MAINTENANCE PROCEDURES

**5-8. SUSPENSION**

**THIS TASK COVERS**

- a. Removal of spring
- b. Inspection of spring
- c. Installation of spring
- d. Removal of rubber bushing
- e. Installation of rubber bushing
- f. Removal of rubber pad
- g. Installation of rubber pad

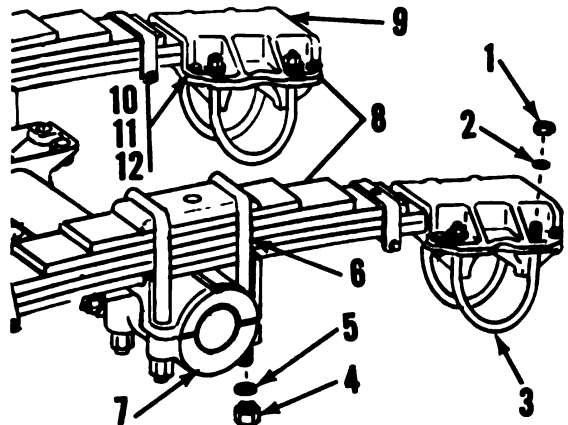
**Troubleshooting Reference Item No.**

- 2. Semitrailer leans to one side
- 3. Excessively worn, scuffed or capped tires
- 4. Wheel hop or diminished handling stability

**REMOVAL OF SPRING**

- 1. Position semitrailer on level surface with front end resting on landing gear legs.
- 2. Extend leveling jacks enough to relieve each tire of ground contact and provide support during removal and installation procedures.
- 3. Place jack under chassis and raise van body just enough to take weight off spring.
- 4. Support semitrailer with support stands or blocking equipment.

- 5. Remove two nuts (1) and washers (2) from each axle U-bolt (3). Remove axle U-bolts.
- 6. Remove eight nuts (12), washers (11) and screws (10) and remove two end caps (9).
- 7. Remove two nuts (4) and washers (5) from each trunnion U-bolt (6). Remove trunnion U-bolts with lower hub (7).
- 8. Remove spring (8).



- |                |                    |            |
|----------------|--------------------|------------|
| 1. Nut         | 5. Washer          | 9. End cap |
| 2. Washer      | 6. Trunnion U-bolt | 10. Screw  |
| 3. Axle U-bolt | 7. Lower hub       | 11. Washer |
| 4. Nut         | 8. Spring          | 12. Nut    |

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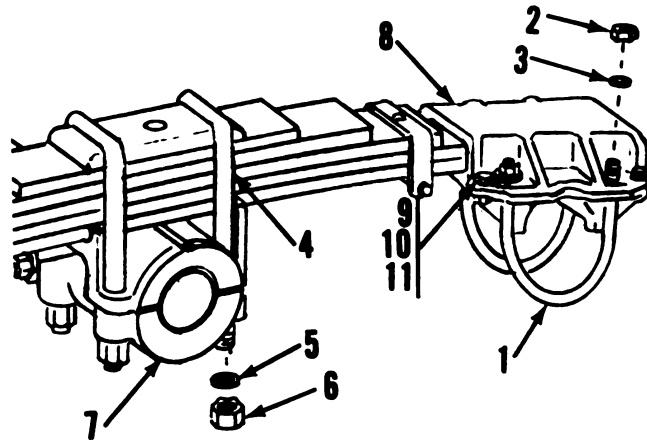
**5-8. SUSPENSION SYSTEM (cont)**

**INSPECTION OF SPRING**

1. Inspect spring for cracks, breaks and excessive wear.
2. Replace spring if defective or excessive wear is apparent.

**INSTALLATION OF SPRING**

1. Position spring on axles.
2. Install axle U-bolts (1) and secure with nuts (2) and washers (3). Tighten nuts to a torque of 300 lb-ft (406.8 Nm) dry or 220 lb-ft (298.3 Nm) lube.
3. Install trunnion U-bolts (4), insert lower hub (7) in position and secure with nuts (6) and washers (5). Tighten nuts to a torque of 880 lb-ft (1193.3 Nm) dry or 660 lb-ft (895 Nm) lube.
4. Position end caps (8) and secure with eight screws (9), washers (10) and nuts (11). Tighten nuts to a torque of 180 lb-ft (244 Nm) dry or 130 lb-ft (176.3 Nm) lube.
5. Remove blocking and support equipment.



- |                    |              |
|--------------------|--------------|
| 1. Axle U-bolt     | 6. Nut       |
| 2. Nut             | 7. Lower hub |
| 3. Washer          | 8. End cap   |
| 4. Trunnion U-bolt | 9. Screw     |
| 5. Washer          | 10. Washer   |
|                    | 11. Nut      |

**REMOVAL OF RUBBER BUSHING**

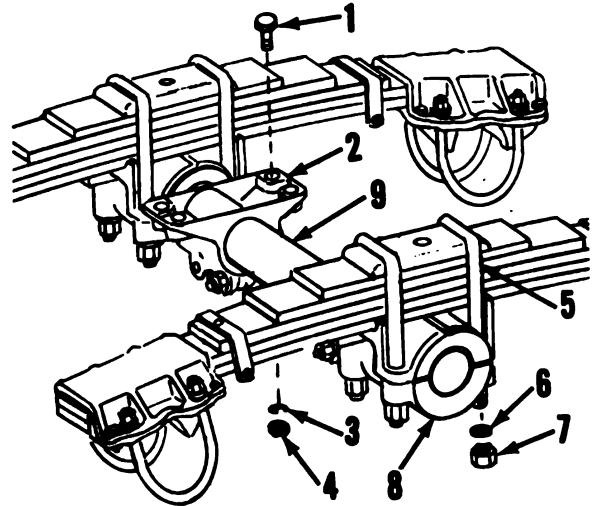
1. Position semitrailer on level surface with front end resting on landing gear legs.
2. Extend leveling jacks enough to relieve each tire of ground contact and provide support during removal and installation procedures.
3. Place jack under axle and raise van body just enough to take weight off spring.
4. Block or support semitrailer.

**5-8. SUSPENSION SYSTEM (cont)**

**REMOVAL OF RUBBER BUSHING (cont)**

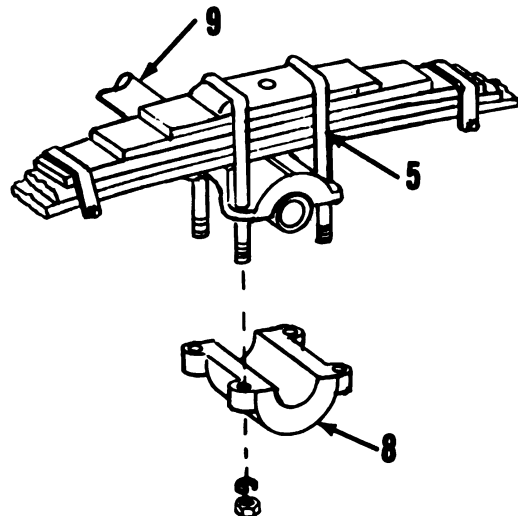
5. Remove eight nuts (4), washers (3) and screws (1) securing trunnion hangers (2) to mounting bracket.
6. Remove eight nuts (7) and washers (6) securing trunnion U-bolts (5).
7. Support trunnion tube (9) and remove trunnion tube U-bolts (5) and lower hub (8).

1. Screw
2. Trunnion hanger
3. Washer
4. Nut
5. U-bolt
6. Washer
7. Nut
8. Lower hub
9. Trunnion tube



8. Trunnion tube (9) will drop down when U-bolts (5) and lower hub (8) are removed.

5. U-bolt
8. Lower hub
9. Trunnion tube



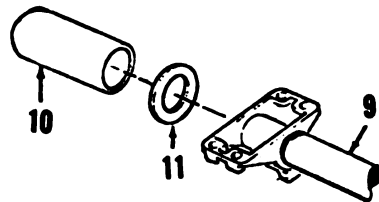
**5-8. SUSPENSION SYSTEM (cont)**

**REMOVAL OF RUBBER BUSHING (cont)**

9. Check bushing for wear and deterioration. Replace defective bushing.
10. Mark position of bushing on trunnion tube by placing scribe marks on trunnion tube to mark inner edge of rubber bushing.

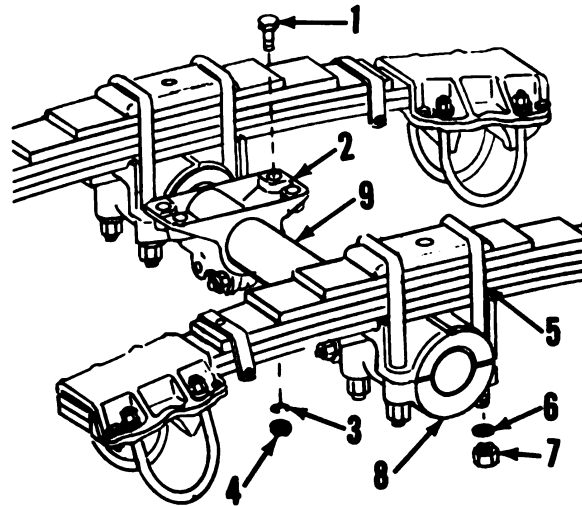
**INSTALLATION OF RUBBER BUSHING**

1. Lubricate trunnion tube (9) with rubber lubricant to ease installation of rubber bushing (10).
2. Slide washer (11) and new rubber bushing (10) on trunnion tube (9). Make certain inner edge of bushing is located on the scribe marks.



9. Trunnion tube
10. Rubber bushing
11. Washer

3. Position trunnion tube (9) on suspension. Install lower trunnion hub (8) and trunnion U-bolts (5).
4. Secure U-bolts with nuts (7) and washers (6). Tighten nuts to a torque of 880 lb-ft (1193.3 Nm) dry or 660 lb-ft (895 Nm) lube.
5. Secure trunnion hangers (2) to mounting bracket with nuts (4), washers (3) and screws (1).
6. Remove support and blocking equipment.

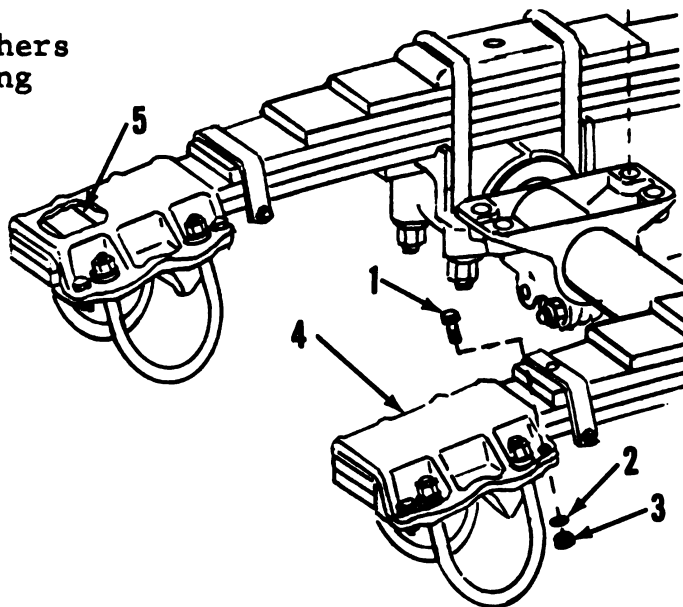


- |                    |                  |
|--------------------|------------------|
| 1. Screw           | 6. Washer        |
| 2. Trunnion hanger | 7. Nut           |
| 3. Washer          | 8. Lower hub     |
| 4. Nut             | 9. Trunnion tube |
| 5. Trunnion U-bolt |                  |

**5-8. SUSPENSION SYSTEM (cont)**

**REMOVAL OF RUBBER PAD**

1. Remove four nuts (3), washers (2) and screws (1) securing end cap (4).
2. Remove end cap and remove rubber pads (5).



**INSPECTION**

1. Inspect rubber pads for excessive wear and deterioration.
2. Replace defective pads.

**INSTALLATION**

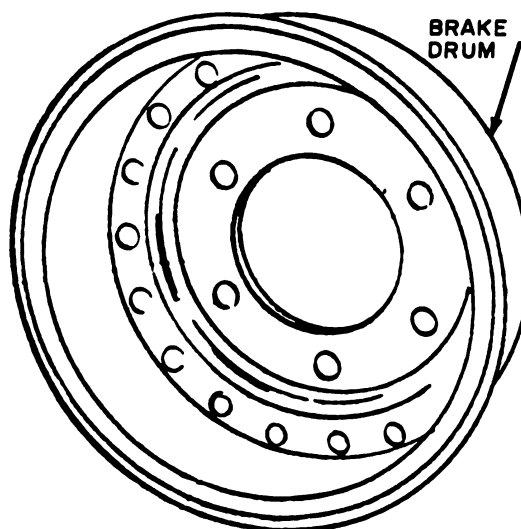
1. Position end cap (4).
2. Secure end cap with screws (1), washers (2) and nuts (3). Tighten nuts to a torque of 180 lb-ft (244 Nm) dry or 130 lb-ft (176.3 Nm) lube.

1. Screw
2. Washer
3. Nut
4. End cap
5. Rubber pad

**5-9. BRAKE DRUM**

**REPAIR**

1. If inspection (para 4-30) shows brake drum to be out of round or excessively scored, rebores, removing as little metal as necessary to true friction surface.
2. After boring, check that brake drum meets requirements of repair standards listed in table 5-2.
3. If refinishing requires removal of more than 1/16 inch of material (1/8 inch in diameter), replace brake drum.



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APPENDIX A

REFERENCES

**A-1. Publication Indexes**

The following indexes should be consulted frequently for latest changes or revisions and for new publications relating to materiel covered in this technical manual:

- Index of Army Motion Pictures and  
Related Audio-Visual Aids ..... DA Pam 108-1
- Consolidated Index of Army Publications  
and Forms ..... DA Pam 310-1

**A-2. Forms**

Refer to TM 38-750, The Army Maintenance Management System (TAMMS) for instructions on the use of maintenance forms pertaining to the materiel.

**A-3. Field Manuals, Supply Bulletins, Technical Bulletins, and Technical Manuals**

- Color and Marking of Military Vehicles ..... TB 43-0209
- Wheeled Vehicles: Inspection, Care, and  
Preservation During Storage ..... SB 740-98-1
- Camouflage Materials and Field  
Manufacturing Techniques ..... TM 5-200
- Operation and Maintenance of Ordnance  
Materiel in Cold Weather ..... FM 9-207
- Painting Instructions for Field Use ..... TM 43-0139
- Inspection, Care and Maintenance of  
Antifriction Bearings ..... TM 9-214
- Organizational Care, Maintenance, and Repair  
of Pneumatic Tires and Inner Tubes ..... TM 9-2610-200-20
- Administrative Storage of Equipment ..... TM 740-90-1
- Procedures for Destruction of Equipment  
to Prevent Enemy Use ..... TM 750-244-6



Deep Water Fording of Ordnance Materiel .....	TM 9-238
The Army Maintenance Management System .....	TM 38-750
Army Motor Transport Units and Operations .....	FM 55-30
Manual for the Wheeled Vehicle Driver .....	FM 21-305

## APPENDIX B

## MAINTENANCE ALLOCATION CHART

## Section I. INTRODUCTION

**B-1. General**

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

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 lists the special tools and test equipment required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

**B-2. Maintenance Functions. Maintenance functions will be limited to and defined as follows:**

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 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 (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids or gases.

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 equipment 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 un-serviceable counterpart. Replace is authorized by the MAC and is shown as the third position code of the SMR code.

i. Repair. The application of maintenance services or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item or system.

j. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards in appropriate technical publications (i.e. DMWR). 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.

**B-3. Explanation of Columns in the MAC, Section II**

a. Column 1, Group Number. Column 1 lists functional group code 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 names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the items listed in column 2. (For detailed explanation of these functions, see paragraph B-2).

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time re-

quired to perform that 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 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 categories are as follows:

- C . . . . . Operator or crew
- O . . . . . Organizational 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, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetical order, which shall be keyed to the remarks contained in section IV.

**B-4. Explanation of Columns In Tool and Test Equipment Requirements, Section III.**

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tools or test equipment.

c. Column 3, Nomenclature. Name or identification of tool or test equipment.

d. Column 4, National Stock Number. The national stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

**B-5. Explanation of Columns in Remarks, Section IV.**

a. Column 1, Reference Code. The code recorded in Column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II

MAINTENANCE ALLOCATION CHART FOR  
SEMITRAILER, VAN: ELECTRONIC, XM1006

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS & EQUIPT	REMARKS
			C	O	F	H	D		
06	ELECTRICAL SYSTEM								
0608	COVER ASSEMBLY	Replace		0.2					
	CIRCUIT BREAKER	Inspect Replace		0.1 0.1					
	RESISTOR	Inspect Replace		0.1 0.2					
0609	LAMP	Replace		0.2					
	LIGHT	Replace		0.2					
0613	WIRING HARNESS, MAIN	Inspect Test Replace Repair		0.1 0.3		2.0 3.0			
	WIRING HARNESS	Inspect Test Replace Repair		0.1 0.3		1.5 3.0			
	WIRING HARNESS, DOLLY TAILLIGHTS	Inspect Test Replace Repair		0.1 0.3		2.0 3.5			
11	AXLE								
1100	AXLE ASSEMBLY	Inspect Replace		0.5		8.0			

Section II

MAINTENANCE ALLOCATION CHART FOR  
SEMITRAILER, VAN: ELECTRONIC, XM1006

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS & EQUIPT	REMARKS
			C	O	F	H	D		
12	BRAKES								
1202	SHOE ASSEMBLY	Inspect		0.5					
		Adjust		0.5					
		Replace		1.0					
1204	CYLINDER, MASTER	Service		0.2					
		Replace		0.2					
	CYLINDER, WHEEL	Replace		1.5					
	TUBE ASSEMBLY, CYLINDER	Test		0.1					
		Replace		0.2					
1208	CHAMBER, AIR	Test		0.5					
		Replace		0.3					
	VALVE, RELAY	Test		0.5					
		Replace		0.2					
	TUBE, AIR	Test		0.2					
		Replace		2.0					
	RESERVOIR, AIR	Replace		0.2					
	COCK, DRAIN	Test		0.1					
		Replace		0.1					
	GLADHAND	Replace		0.1					
13	WHEELS								
1311	BEARING, HUB	Adjust		0.2					
		Replace		0.2					

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Section II

MAINTENANCE ALLOCATION CHART FOR  
SEMITRAILER, VAN: ELECTRONIC, XM1006

(1)	(2)	(3)	(4)					(5)	(6)	
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS & EQUIPT	REMARKS	
			C	O	F	H	D			
1313	SEAL, OIL	Replace		0.3						
	BRAKE DRUM	Inspect		0.5						
		Replace		0.3						
	WHEEL	Replace	0.5							
	TIRE	Inspect			0.2					
		Replace			1.0					
Repair					1.0					
15	TUBE	Inspect		0.5						
		Replace		0.7						
		Repair		1.0						
1504	FRAME & TOWING ATTACHMENTS									
1504	CARRIER, SPARE TIRE/WHEEL	Replace		0.3						
		Repair		0.5						
1507	LANDING GEAR	Replace		0.5						
	LEVELING JACK	Replace		0.3						
16	SPRINGS & SHOCK ABSORBERS									
1601	BUSHING, RUBBER	Inspect			0.2					
		Replace			2.0					
	HUB, TRUNNION	Inspect				0.2				
Replace					1.0					
PAD, RUBBER	Inspect				0.2					
	Replace				0.5					

Section II

MAINTENANCE ALLOCATION CHART FOR  
SEMITRAILER, VAN: ELECTRONIC, XM1006

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS & EQUIPT	REMARKS
			C	O	F	H	D		
18	SEAT, SPRING	Inspect			0.2				
		Replace			3.0				
1810	SPRING	Inspect			0.2				
		Replace			3.0				
1810	HINGE, DOOR	Inspect		0.1					
		Replace		0.2					
22	LOCK ASSEMBLY	Inspect		0.2					
		Replace		0.2					
2202	SEAL, DOOR	Inspect		0.2					
		Replace		2.0					
2202	BODY, CHASSIS ACCESSORY ITEMS	Inspect		0.1					
		Replace		0.2					
2210	CONTAINER, MANUAL BOX, STOWAGE	Inspect		0.1					
		Replace		0.2					
2210	DATA PLATE	Replace		0.5					
		Inspect		0.1					
		Replace		0.2					



Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

SEMITRAILER, VAN: ELECTRONIC, XM1006

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool No.
		None		

Section IV. REMARKS

SEMITRAILER, VAN: ELECTRONIC, XM1006

Reference Code	Remarks/Notes
	None

## APPENDIX C

## COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

## Section I. INTRODUCTION

**C-1. SCOPE**

This appendix lists components of end item and basic issue items for semitrailer, van: electronic, XM1006 to help you inventory items required for safe and efficient operation.

**C-2. GENERAL**

The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the semitrailer in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the semitrailer during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

**C-3. EXPLANATION OF COLUMNS**

The following provides an explanation of columns found in the tabular listings:

a. Column (J) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number. If item needed differs for different models, the model is shown under the "Usable On" in this column. Usable On codes are not included in this manual, since only the XM1006 semitrailer is covered.

d. Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character abbreviation (e.g. ea, in,pr).

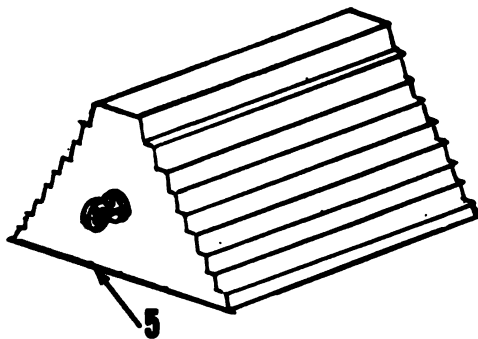
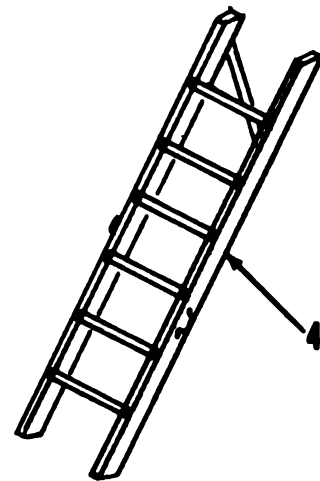
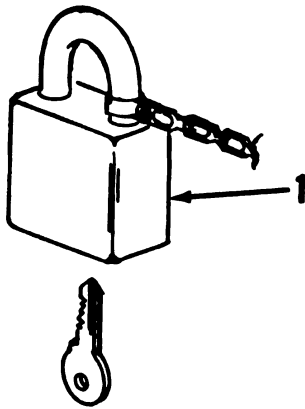
e. Column (5) - Quantity Required (Qty reqr). Indicates the quantity of the item authorized to be used with/on the equipment.

## Section II. COMPONENTS OF END ITEM

NONE

Section III. BASIC ISSUE ITEMS

(1) Illus number	(2) National stock number	(3) Description FSCM and Part Number	(4) U/M	(5) Qty rqr
1	5340-00-682-1505	PADLOCK SET (5 locks, keys; one on each door, 3 on stowage box (96906)MS21313-52	EA	1
2	2540-01-049-6350	LADDER: vehicle boarding (in brackets on rear platform) (19207)11681466	EA	2
3	2540-01-049-5162	HANDRAIL (one on inside of rear door, one in stowage box) (19207)11646386	EA	2
4	2540-01-092-4056	LADDER: folding (in brackets on rear of stowage box) (19207)11684409	EA	1
5	2540-01-052-6234	CHOCK, WHEEL (two in brackets on sides of dolly between axles, two on rear, underneath body (96906)MS52127-2	EA	4



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APPENDIX D

ADDITIONAL AUTHORIZATION LIST

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No additional items are authorized for the support of this equipment.

## APPENDIX E

## EXPENDABLE SUPPLIES AND MATERIALS LIST

## Section I. INTRODUCTION

**E-1. SCOPE**

This appendix lists expendable supplies and materials you will need to operate and maintain the semitrailer. These items are authorized to you by CTA 50-970, Expendable items (except Medical, Class V, Repair Parts, and Heraldic Items).

**E-2. EXPLANATION OF COLUMNS**

a. Column 1 - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning solvent, item 3, appendix E").

b. Column 2 - Level. This column identifies the lowest level of maintenance that requires the listed item.

- C - Operator/Crew
- O - Organizational Maintenance
- F - Direct Support Maintenance
- H - General Support Maintenance

c. Column 3 - National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

d. Column 4 - Description. Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturers (FSCM) in parentheses, followed by the part number.

e. Column 5 - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g. ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NO.	(4) DESCRIPTION	(5) U/M
1	O	8040-00-290-4301	Cement, Bonding, MMM-A-1617, Type 2 1 Qt Can	EA
2	O	8040-00-062-6953	5 Oz Tube	EA
3	C,O	6850-00-664-5685	Cleaning Solvent, PD-680 (SD-II) 1 Gal Can	EA
4	C,O	9150-00-190-0904	Grease, Automotive and Art- illery (GAA), MIL-G-10924 1 Lb Can	EA
5	C,O	9150-00-190-0905	5 Lb Can	EA
6	C,O	9150-00-190-0907	35 Lb Can	EA
7	O	8010-00-111-8336	Enamel, Black, MIL-E-52798	EA
8	O	9150-01-059-2586	Hydraulic Fluid, Silicone, Automotive MIL-B-46176 5 Gal Can	EA
9	O	9150-00-186-6681	Lubricating Oil, Spec MIL-C- 2104C, OE/HDO-30 1 Qt Can	EA
10	O	9150-00-188-9859	5 Gal Can	EA
11	O	9150-00-188-9859	55 Gal Drum (16 Ga)	EA
12	O	9150-00-189-6759	55 Gal Drum (18 Ga)	EA
13	O	9150-00-189-6727	Lubricating Oil, Sub-zero, Spec MIL-L-2104C (Temp above -20°F), OE/HDO-10 1 Qt Can, Type 1	EA
14	O	9150-00-191-2772	55 Gal Drum	EA
15	O	9150-00-185-0629	Lubricating Oil, General Purpose (PL-Special), MIL-L-644A 2 Oz (Oblong screw top can)	EA

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (cont)

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NO.	(4) DESCRIPTION	(5) U/M
16	O	9150-00-257-5436	Lubricating Oil, General Purpose (PL-Special), MIL-L-644A 4 Oz (Oblong can with spout)	EA
17	O	9150-00-231-6689	1 Qt	EA
18	C,O	9150-00-231-9064	Preservative, Lubricating, Light Oil 1 Qt Can	EA
19	C,O	8030-00-515-2488	Waterproofing Sealant, MIL-C-21067 1 Cartridge	EA
20	O	7930-00-282-9699	Detergent, GP, Liquid, WS, A, MIL-D-16791 1 Gal Can	EA

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## APPENDIX F

## REPAIR PARTS AND SPECIAL TOOLS LIST

## Section I. INTRODUCTION

**1. Scope**

This manual lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, direct support, and general support maintenance of the Semitrailer, Van: Electronic, XM1006. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

**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 and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts list are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.

c. Section IV, National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric 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.

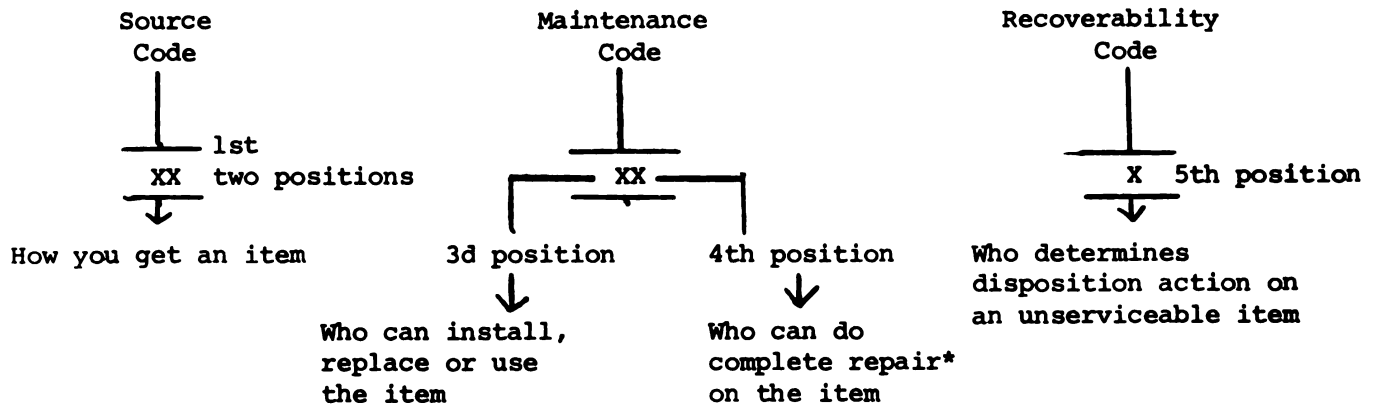
**3. Explanation of Columns**

a. Illustration (Column (1)). This column is divided as follows:

(1) ((a) FIG NO.) Figure Number. Indicates the figure number illustrating an exploded view of a functional group.

(2) ((b) ITEM NO.). Indicates the number used to identify items called out in the illustration.

b. SMR CODE (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:



\*Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Source codes are always the first two positions of the SMR code. Explanations of source codes follows:

Code	Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code.

KD  
KF  
KB

Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.

MO-(Made at org/AVUM Category)  
MF-(Made at DS/AVIM Category)  
MH-(Made at GS Category)  
MD-(Made at Depot)

Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material group in the repair parts list in this manual. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.

AO-(Assembled by org/AVUM Category)  
AF-(Assembled by DS/AVIM Category)  
AH-(Assembled by GS Category)  
AD-(Assembled by Depot)

Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.

- XA- Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
- XB- If an "XB" item is not available from salvage, order it using the FSCM and part number given.
- XC- Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD- Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code	Application/Explanation
C	- Crew or operator maintenance done within organizational or aviation unit maintenance.
O	- Organizational or aviation unit category can remove, replace, and use the item.
F	- Direct support or aviation intermediate category can remove, replace, and use the item.
H	- General support category can remove, replace, and use the item.
L	- Specialized repair activity can remove, replace, and use the item.
D	- Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	- Organizational or aviation unit is the lowest category that can do complete repair of the item.
F	- Direct support or aviation intermediate is the lowest category that can do complete repair of the item.
H	- General support is the lowest category that can do complete repair of the item.
L	- Specialized repair activity is the lowest category that can do complete repair of the item.
D	- Depot is the lowest category that can do complete repair of the item.
Z	- Nonreparable. No repair is authorized.
B	- No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

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

Recoverability Code	Definition
Z	- Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in 3d position of SMR Code.
O	- Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit category.
F	- Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate category.

Recoverability  
Code

Definition

- H - Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support category.
- D - Reparable item. When beyond lower category repair capability, return to depot. Condemnation and disposal of item not authorized below depot category.
- L - Reparable item. Condemnation and disposal not authorized below specialized repair activity.
- A - Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. National Stock Number (Column (3)). Lists the National stock number (NSN) assigned to the item. Use the NSN for requests/requisitions.

d. FSCM (Column (4)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. Part Number (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, 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 you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

f. Description (Column (6)). This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The physical security classification of the item is indicated by the parenthetical entry of the applicable physical security classification abbreviation (e.g. Phy Sec CI (C) - Confidential, Phy Sec CI Secret, Phy Sec CI (T) - Top Secret).

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) NSN's for bulk materials are referenced in the description column in the line item entry for the item to be manufactured/fabricated.

(6) 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.

(7) The USABLE ON CODE, when applicable (see paragraph 4, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

g. U/M (Column (7)). The Unit of Measure (U/M) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (U/I) code listed in the Army Master Data File (AMDF), request the lowest U/I that will satisfy your needs.

h. QTY INC IN UNIT (Column (8)). The Quantity Incorporated in Unit (QTY INC 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 this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

#### 4. Special Information

a. Usable on Codes are not used, since only one model is covered in this manual.

b. Bulk materials required to manufacture items are listed in the Bulk Material Group of this manual. NSNs for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed manufacturing instructions for items source coded to be manufactured or fabricated are found in this manual.

c. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in this manual. Items that make up the assembly are listed immediately following the assembled item entry.

**5. How to Locate Repair Parts**

a. When National Stock Number or Part Number is Not Known:

(1) First. Using the table of contents, determine the functional group or subfunctional group to which the item belongs. This is necessary since figures are prepared for functional groups and subfunctional groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the functional group or subfunctional group to which the item belongs.

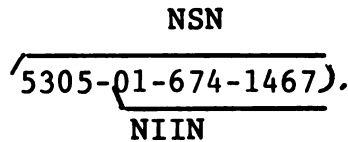
(3) Third. Identify the item on the figure and note the item number of the item.

(4) Fourth. Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

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. The NSN index is in National Item Identification Number (NIIN)\* sequence. The part numbers in the Part Number index are listed in ascending alphanumeric sequence. Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

\* The NIIN consists of the last 9 digits of the NSN (i.e.



(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

**6. Abbreviations**

Abbreviations are not used in this manual.

F-8/(F-9 blank)



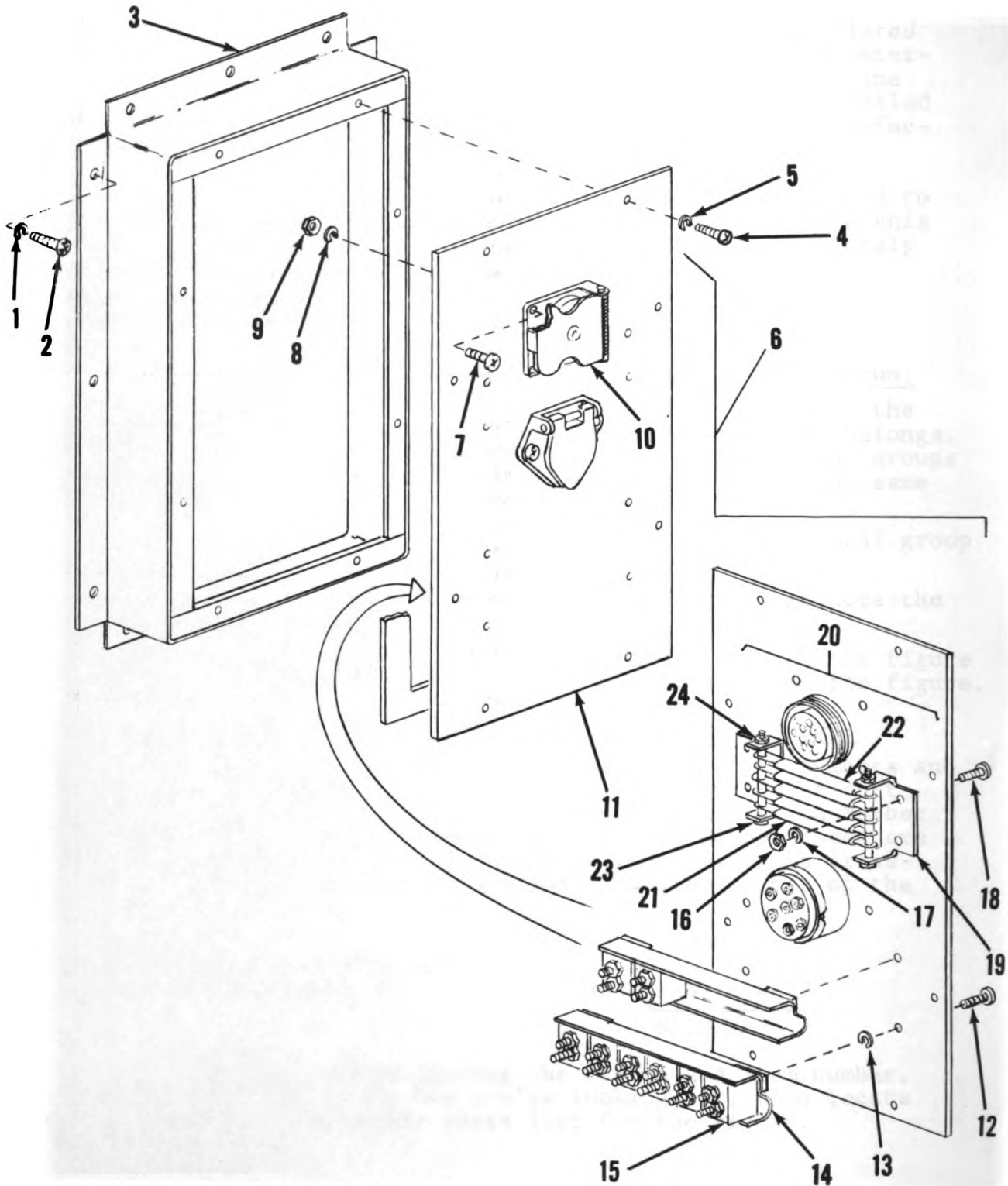


Figure 1. Resistor box

TA 245524

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FROM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 06 ELECTRICAL SYSTEM GROUP 0608 RESISTOR BOX		
1	1	PAQZZ	5310-00-209-0706	96906	NS39335-33	WASHER, LOCK.....	EA	12
1	2	PAQZZ	5305-00-052-6921	96906	NS24629-57	SCREW, TAPPING, THREA.....	EA	12
1	3	XBOZZ		19207	12315498	BOX, RESISTER.....	EA	1
1	4	PAQZZ	5305-00-055-0960	96906	NS24629-36	SCREW, TAPPING, THREA.....	EA	8
1	5	PAQZZ	5310-00-596-7693	96906	NS39335-31	WASHER, LOCK.....	EA	4
1	6	PBOZZ	6110-01-130-3869	19207	12315494	COVER ASSEMBLY.....	EA	1
1	7	PAQZZ	5305-00-900-1727	96906	NS35206-203	SCREW, MACHINE.....	EA	6
1	8	PAQZZ	5310-00-582-5965	96906	NS35330-44	WASHER, LOCK.....	EA	6
1	9	PAQZZ	5310-00-997-1800	96906	NS35649-2252	NUT, PLAIN, HEXAGON.....	EA	6
1	10	PAQZZ	5935-00-773-1420	19207	7731420	COVER, ELECTRICAL CO.....	EA	1
1	11	XBOZZ		19207	12315497	PLATE, COVER.....	EA	1
1	12	PAQZZ	5305-00-904-6191	96906	NS35206-243	SCREW, MACHINE.....	EA	4
1	13	PAQZZ	5310-00-559-0070	96906	NS35333-30	WASHER, LOCK.....	EA	4
1	14	XBOZZ		98343	1512-0-04	BRACKET, MOUNTING.....	EA	2
1	15	PAQZZ	5925-00-900-1903	13445	30056-15	CIRCUIT BREAKER 12 VOLT, 20 AMP.....	EA	8
1	16	PAQZZ	5310-00-934-9757	96906	NS35649-202	NUT, PLAIN, HEXAGON.....	EA	4
1	17	PAQZZ	5310-00-045-3299	96906	NS35330-42	WASHER, LOCK.....	EA	8
1	18	PAQZZ	5305-00-904-6195	96906	NS35206-247	SCREW, MACHINE.....	EA	4
1	19	XBOZZ		19207	12315505	BRACKET, MOUNTING.....	EA	2
1	20	PAQZZ	5905-01-143-5161	19207	12315654	RESISTOR ASSEMBLY.....	EA	1
1	21	XAOZZ		81349	RW22V7R0	RESISTOR, FIXED, WIRE 7 OHMS.....	EA	2
1	22	XAOZZ		81349	RW22V5R7	RESISTOR, FIXED, WIRE 5.7 OHMS.....	EA	3
1	23	PAQZZ	5305-00-950-0671	96906	NS35207-274	SCREW, MACHINE.....	EA	2
1	24	PAQZZ	5310-00-877-5797	96906	NS21044N3	NUT, SELF-LOCKING, HE.....	EA	2

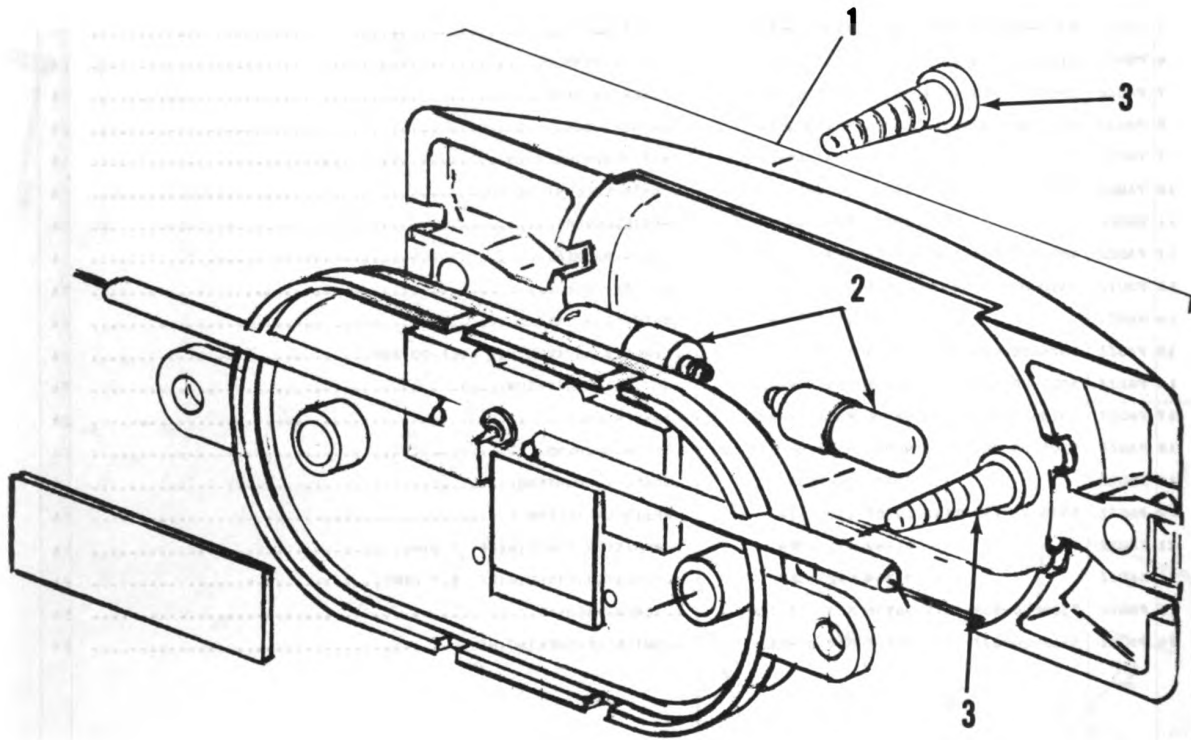


Figure 2. Marker clearance light

TA 245525

SECTION II

14 9-2330-364-148P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
<b>GROUP 0609 MARKER CLEARANCE LIGHT</b>								
2	1	PA0ZZ	6220-01-140-8248	81834	01-4663-23	LIGHT,MARKER,CLEA RED.....	EA	7
2	1	PA0ZZ	6220-01-140-8247	81834	01-4663-33	LIGHT,MARKER,CLEA AMBER.....	EA	6
2	2	PA0ZZ	6240-00-155-7854	21450	193065	LAMP,INCANDESCEN.....	EA	7
3	PA0ZZ	5305-00-855-0964	96906	HS24629-48	SCREW,TAPPING,THREA.....	EA	52	

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REPAIR PARTS LIST

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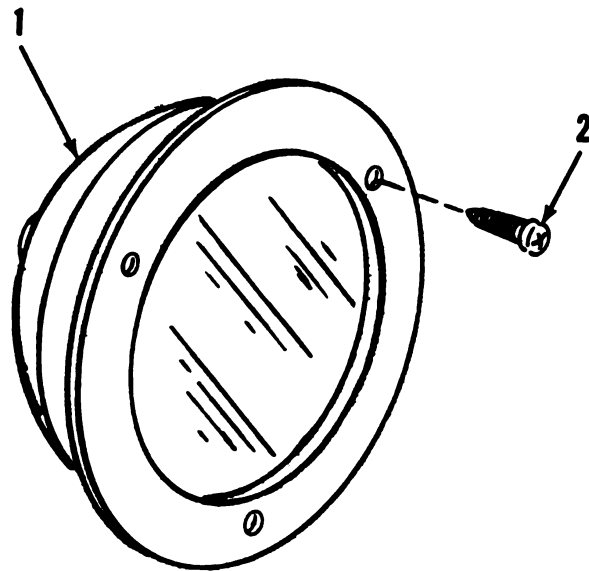


Figure 3. Stop, marker light

SECTION II

TN 9-2330-344-144P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FBCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0609 STOP, MARKER LIGHT		
3	1	PAQZZ	6220-01-141-0908	13548	40222R	LIGHT, STOP, MARKER.....	EA	2
3	2	PAQZZ	5305-00-855-0964	96906	NS24629-68	SCREEN, TAPPING, THREA.....	EA	6

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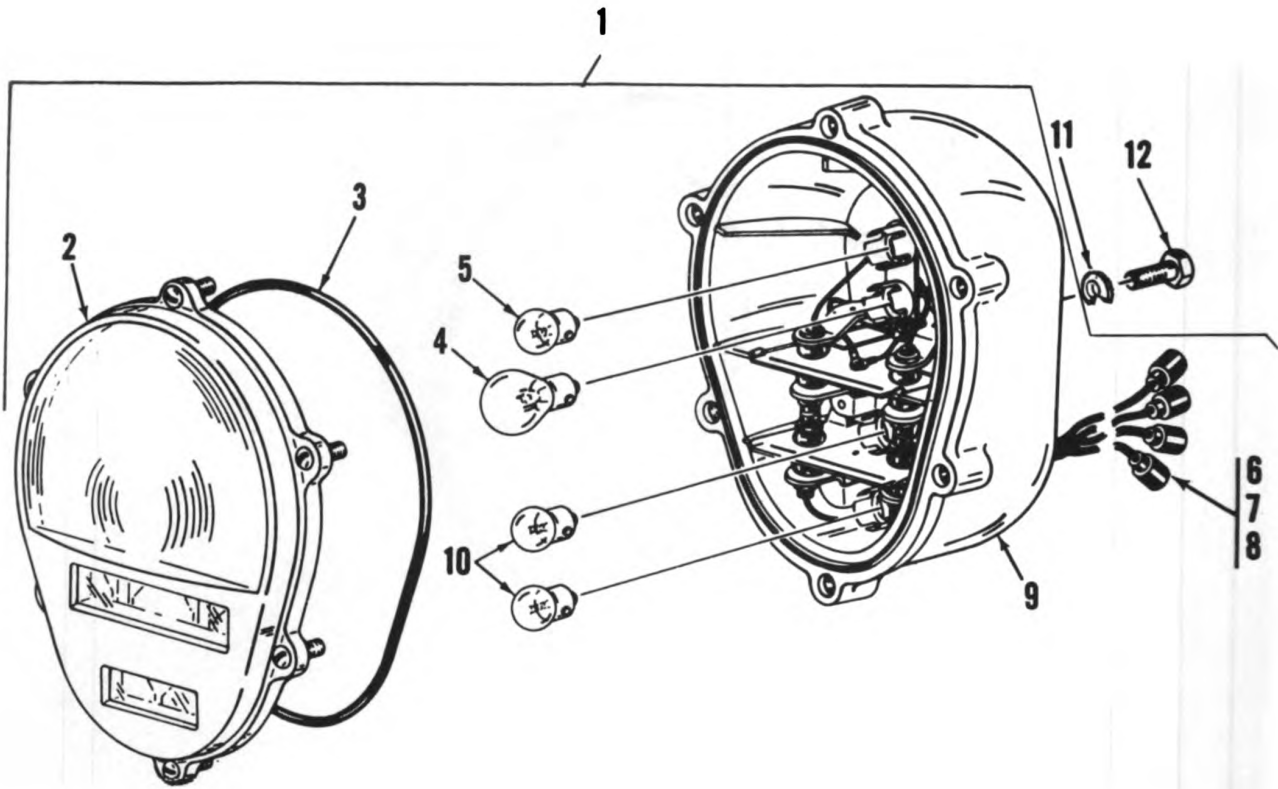


Figure 4. Composite stoplight taillight

TA 245527

SECTION II

TM 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 0609 COMPOSITE STOPLIGHT TAILLIGHT</b>		
4	1	PAQZZ	6220-00-134-9098	96906	MS52125-1	STOP LIGHT-TAILLIGH.....	EA	2
4	2	PAQZZ	6220-00-179-4324	19207	11639535	.LENS,LIGHT.....	EA	1
4	3	PAQZZ	5330-00-442-0987	19207	11639519-2	.PACKING,PREFORMED.....	EA	1
4	4	PAQZZ	6240-00-617-0991	96906	MS35478-1073	.LAMP,INCANDESCENT.....	EA	1
4	5	PAQZZ	6240-00-143-3159	96906	MS15570-89	.LAMP,INCANDESCENT.....	EA	1
4	6	PAQZZ	5935-00-572-9180	19207	8338566	.SHELL,ELECTRICAL CO.....	EA	4
4	7	PAQZZ	5310-00-833-8567	19207	8338567	.WASHER,SLOTTED.....	EA	4
4	8	PAQZZ	5999-00-057-2929	96906	MS27148-2	.CONTACT,ELECTRICAL.....	EA	4
4	9	XADZZ		19207	11639520	.BODY ASSEMBLY.....	EA	1
4	10	PAQZZ	6240-00-019-0877	96906	MS15570-1251	.LAMP,INCANDESCENT.....	EA	2
4	11	PAQZZ	5310-00-637-9541	96906	MS35338-46	WASHER,LOCK.....	EA	4
4	12	PAQZZ	5305-00-115-9526	96906	MS18154-38	SCREW,CAP,HEXAGON H.....	EA	4

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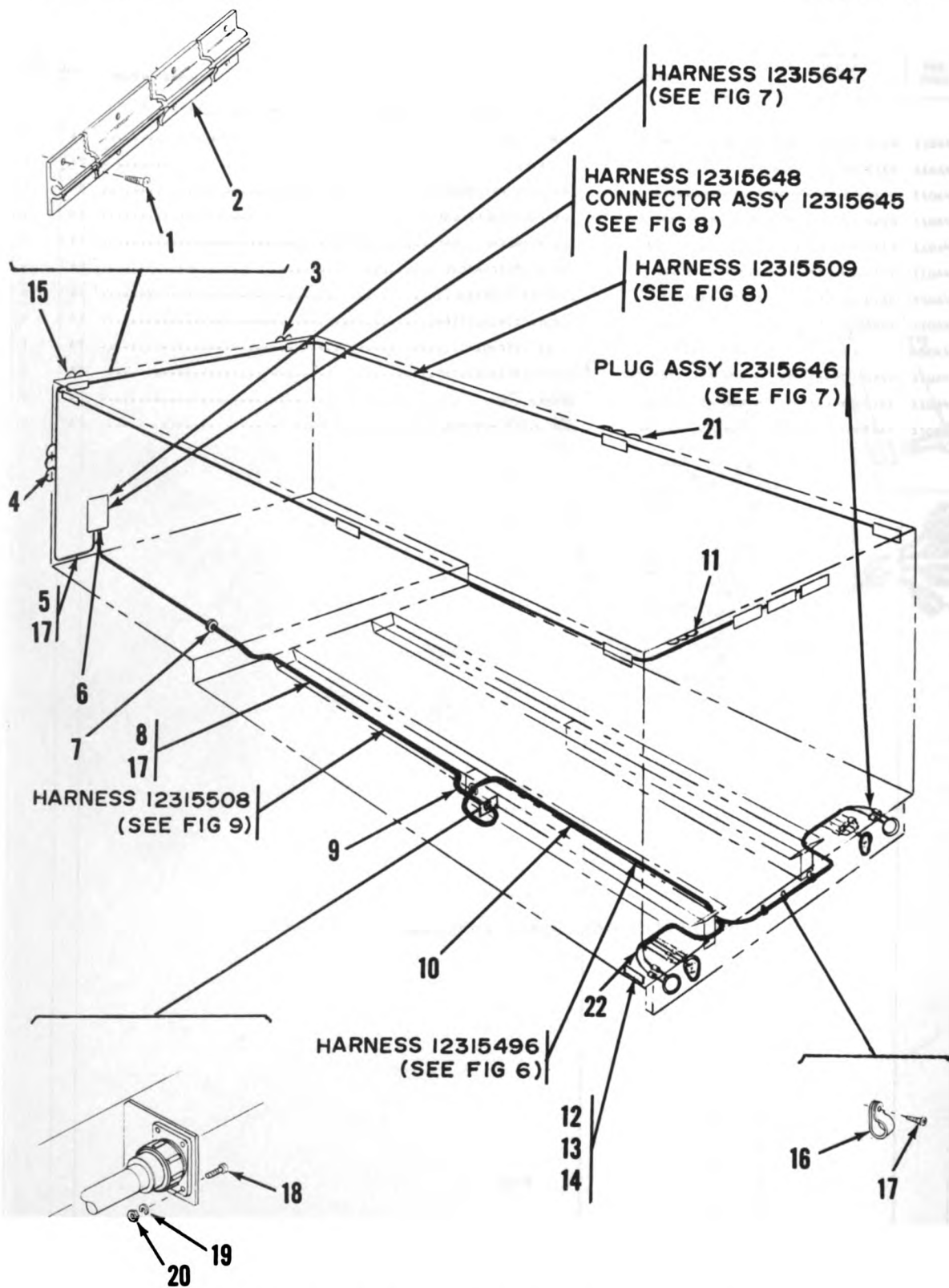


Figure 5. Wiring harness attaching parts

SECTION II

TN 9-2330-364-146P

(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PDCM	(5) PART NUMBER	(6) DESCRIPTION  USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG NO	(b) ITEM NO.							
GROUP 0613 FIRING HARNESS ATTACHING PARTS								
5		PAQZZ		19207	12307932-7	RETAINER WIRE.....	EA	2
5	1	PAQZZ	5305-00-055-0964	96904	MS24629-48	SCREW,TAPPING,THREA.....	EA	216
5	2	PAQZZ	5975-01-147-2429	19207	12307932-7	RETAINER,WIRE.....	EA	1
5	3	PAQZZ	5975-01-147-2430	19207	12307932-3	RETAINER,WIRE.....	EA	1
5	4	PAQZZ	5975-01-147-2431	19207	12307932-6	RETAINER,WIRE.....	EA	2
5	5	PAQZZ	5340-00-725-5268	96904	MS21334-24	CLAMP,LOOP.....	EA	3
5	6	PAQZZ	5325-00-174-9361	88044	AN931A16-22	GROMMET,NONMETALLIC.....	EA	1
5	7	PAQZZ	5325-00-579-6134	96904	MS35409-80	GROMMET,NONMETALLIC.....	EA	1
5	8	PAQZZ	5340-00-724-7030	96904	MS21333-76	CLAMP,LOOP.....	EA	11
5	9	PAQZZ	5340-00-664-9175	96904	MS35140-10	STRAP,RETAINING.....	EA	3
5	10	PAQZZ	5325-00-290-0074	96904	MS35409-109	GROMMET,NONMETALLIC.....	EA	16
5	11	PAQZZ	5975-01-147-1452	19207	12307932-4	RETAINER,WIRE.....	EA	2
5	12	PAQZZ	5310-00-934-9758	96904	MS35649-202	NUT,PLAIN,HEXAGON.....	EA	2
5	13	PAQZZ	5310-00-576-5752	96904	MS35333-39	WASHER,LOCK.....	EA	2
5	14	PAQZZ	5305-00-984-6212	96904	MS35206-265	SCREW,MACHINE.....	EA	2
5	15	PAQZZ	5975-01-148-4706	19207	12307932-2	RETAINER,WIRE.....	EA	1
5	16	PAQZZ	5340-00-050-2740	96904	MS21333-75	CLAMP,LOOP.....	EA	3
5	17	PAQZZ	5305-00-055-0964	96904	MS24629-48	SCREW,TAPPING,THREA.....	EA	17
5	18	PAQZZ	5305-00-984-6194	96904	MS35206-246	SCREW,MACHINE.....	EA	4
5	19	PAQZZ	5310-00-045-3299	96904	MS35330-42	WASHER,LOCK.....	EA	4
5	20	PAQZZ	5310-00-934-9757	96904	MS35649-282	NUT,PLAIN,HEXAGON.....	EA	4
5	21	PAQZZ	5975-01-147-1453	19207	12307932-1	RETAINER,WIRE.....	EA	4
5	22	PAQZZ	5325-00-754-1153	96904	MS35409-91	GROMMET,NONMETALLIC.....	EA	2

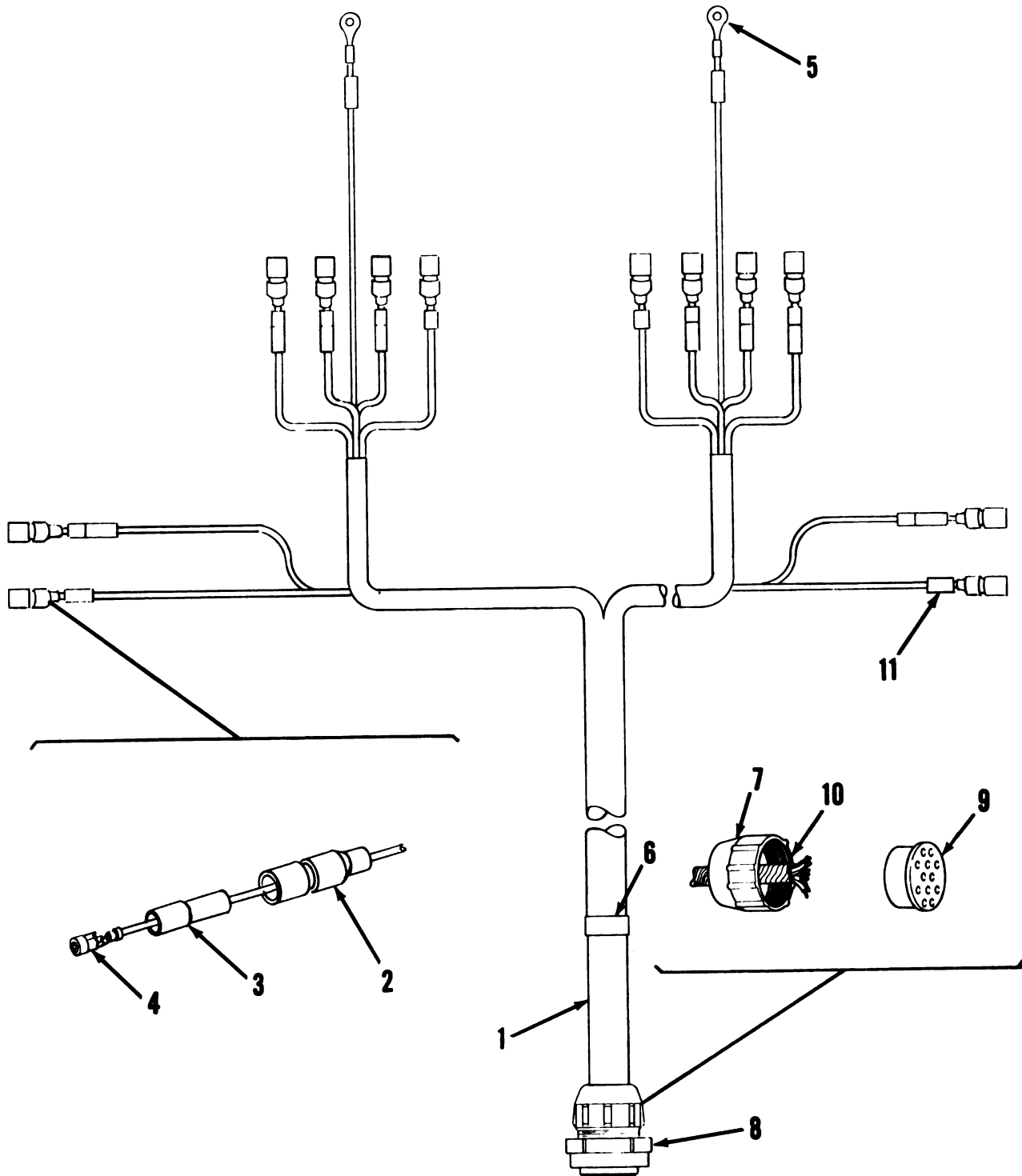


Figure 6. Wiring harness, dolly taillights

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0513 WIRING HARNESS, DOLLY TAIL LIGHTS		
6	1	MFFZZ		19207	12315496	WIRING HARNESS MFD FROM NSM 6145-00-705-6678 (140 FT).....	EA	1
6	2	PAQZZ	2590-00-695-9076	19207	8338569	.SMELL, HEAD LIGHT CI.....	EA	12
6	3	PAQZZ	5310-00-298-8903	19207	8338570	.WASHER, FLAT.....	EA	12
6	4	PAQZZ	5940-00-399-6676	19207	8338566	.TERMINAL ASSEMBLY.....	EA	12
6	5	PAQZZ	5940-00-557-2343	96906	MS39436-11	.TERMINAL, LUG.....	EA	2
6	6	PAQZZ	9905-00-893-3570	81348	M43436/1-3	.BAND, MARKER.....	EA	1
6	7	PAQZZ	5935-00-686-2599	19207	8724258	.CONNECTOR, PLUG, ELEC.....	EA	1
6	8	PAQZZ	5975-00-771-6634	19207	7716634	.NUT, COUPLING, ELECTR.....	EA	1
6	9	PAQZZ	5365-00-090-5426	19207	7722333	.BUSHING, RUBBER.....	EA	1
6	10	PAQZZ	5310-00-393-6685	19207	7723309	.NUT, PLAIN, KNURLED.....	EA	1
6	11	PAQZZ	9905-00-752-6649	81348	M43436/1-1	.BAND, MARKER.....	EA	22

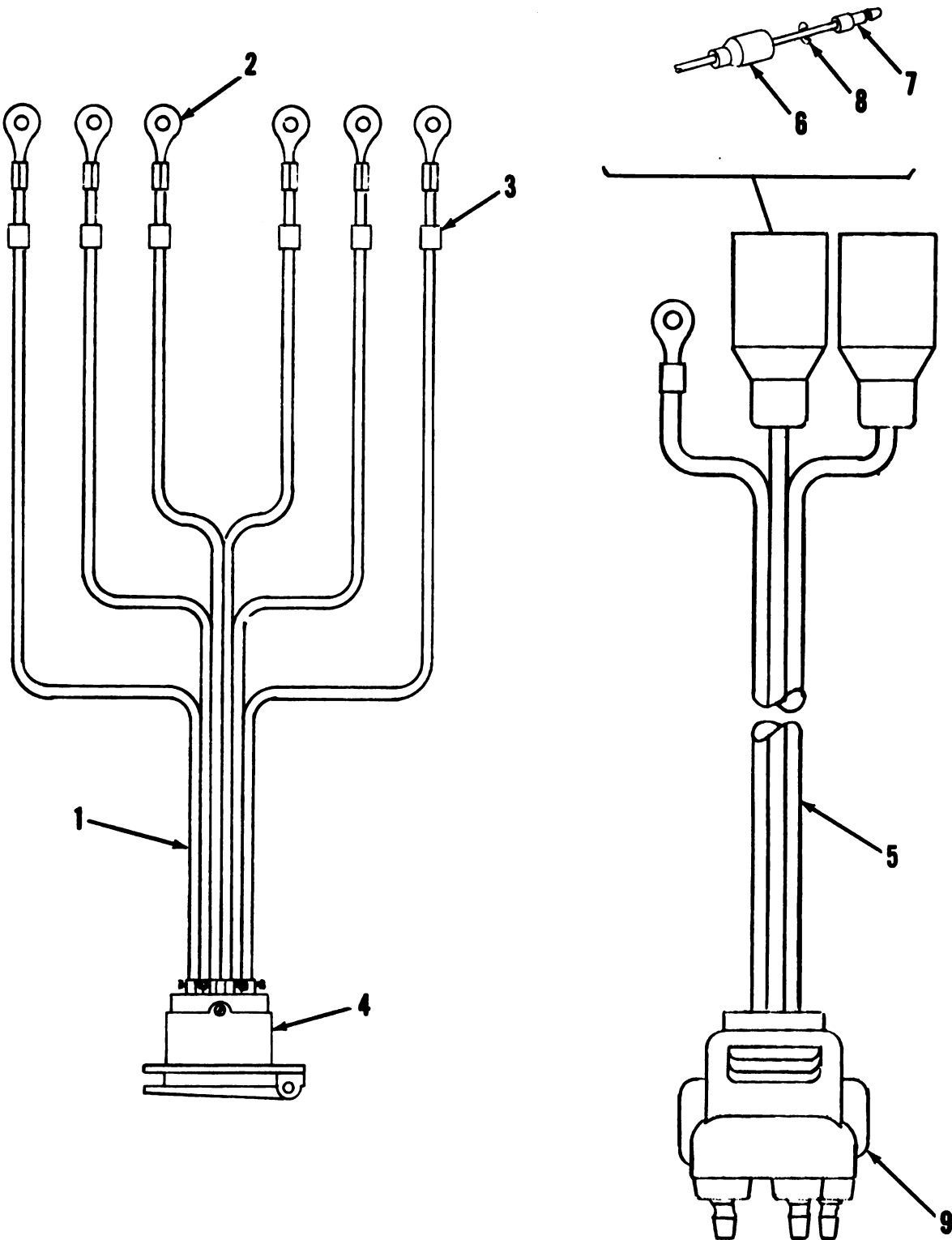


Figure 7. Wiring harness and plug assembly

SECTION II

TN 9-2330-364-146P

(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION  USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG NO	(b) ITEM NO							
						<b>GROUP 0613 WIRING HARNESS &amp; PLUG ASSEMBLY</b>		
7	1	NFFZZ		19207	12315647	WIRING HARNESS MFD FROM NSN 6145-00-705-6678.....	EA	1
7	2	PAQZZ	5940-00-557-2343	96906	MS35436-11	. TERMINAL, LUG.....	EA	6
7	3	PAQZZ	9905-00-752-4649	81348	M43436/1-1	. BAND, MARKER.....	EA	6
7	4	PAQZZ	5935-01-141-0877	98343	782	. CONNECTOR, PLUG, ELEC.....	EA	1
7	5	PBQZZ	2590-01-141-0876	19207	12315646	PLUG ASSEMBLY.....	EA	2
7	6	PAQZZ	5935-00-691-5591	19207	8724495	. SHELL, ELECTRICAL CO.....	EA	1
7	7	PAQZZ	5999-00-926-3144	96906	MS27148-3	. CONTACT, ELECTRICAL.....	EA	1
7	8	PAQZZ	5310-00-656-0067	19207	8724497	. WASHER, SLOTTED.....	EA	1
7	9	PAQZZ	2540-01-068-4766	13548	94926	. PLUG, ELECTRICAL.....	EA	1

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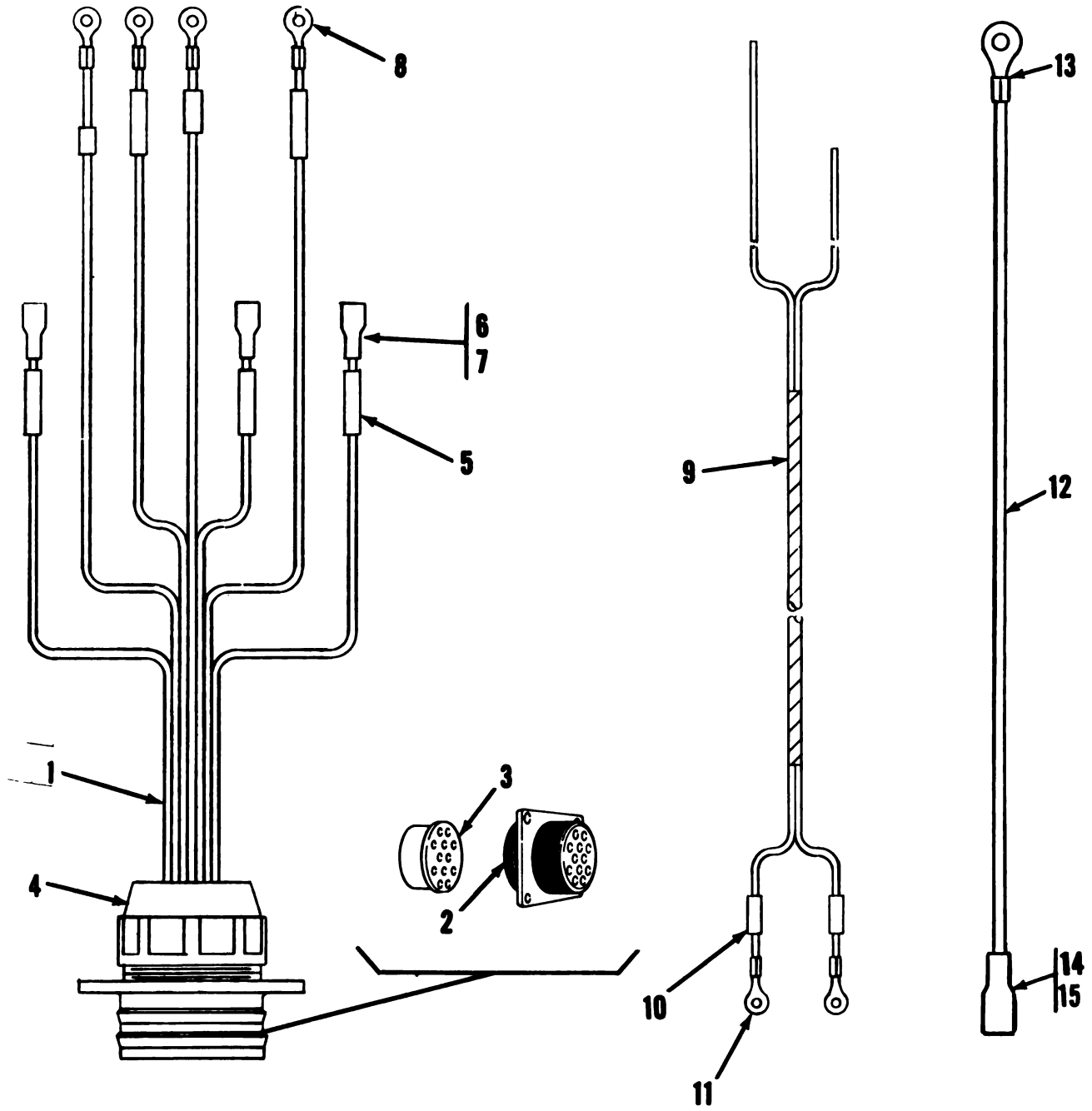


Figure 8. Wiring harness and connector assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 0613 WIRING HARNESS AND CONNECTOR ASSEMBLY</b>		
8	1	HFFZZ		19207	12315648	WIRING HARNESS MFD FROM NSN 6145-00-705-6678.....	EA	1
8	2	PAQZZ	5935-00-846-3883	19207	8376200	.CONNECTOR, RECEPTACLE.....	EA	1
8	3	PAQZZ	5365-00-090-5426	19207	7722333	.BUSHING, RUBBER.....	EA	1
8	4	PAQZZ	5310-00-393-6689	19207	7723309	.NUT, PLAIN, KNURLED.....	EA	1
8	5	PAQZZ	9905-00-752-6649	81348	H43436/1-1	.BAND, MARKER.....	EA	12
8	6	PAQZZ	5940-01-147-3415	98410	B-175	.TERM., QUICK DISCON.....	EA	3
8	7	PAQZZ	5970-00-063-1495	81349	H23053/1-103-0	.INSULATION SLEEVING.....	EA	3
8	8	PAQZZ	5940-00-557-2343	96906	H535436-11	.TERMINAL, LUG.....	EA	4
8	9	HFFZZ		19207	12315509	WIRING HARNESS MFD FROM NSN 6145-00-705-6678.....	EA	1
8	10	PAQZZ	9905-00-752-6649	81348	H43436/1-1	.BAND, MARKER.....	EA	2
8	11	PAQZZ	5940-00-557-2343	96906	H535436-11	.TERMINAL, LUG.....	EA	2
8	12	PAQZZ	2990-01-141-0881	19207	12315645	LEAD, ELECTRICAL.....	EA	4
8	13	PAQZZ	5940-00-557-2343	96906	H535436-11	.TERMINAL, LUG.....	EA	1
8	14	PAQZZ	5940-01-147-3415	98410	B-175	.TERM., QUICK DISCON.....	EA	1
8	15	PAQZZ	5970-00-063-1495	81349	H23053/1-103-0	.INSULATION SLEEVING.....	EA	1



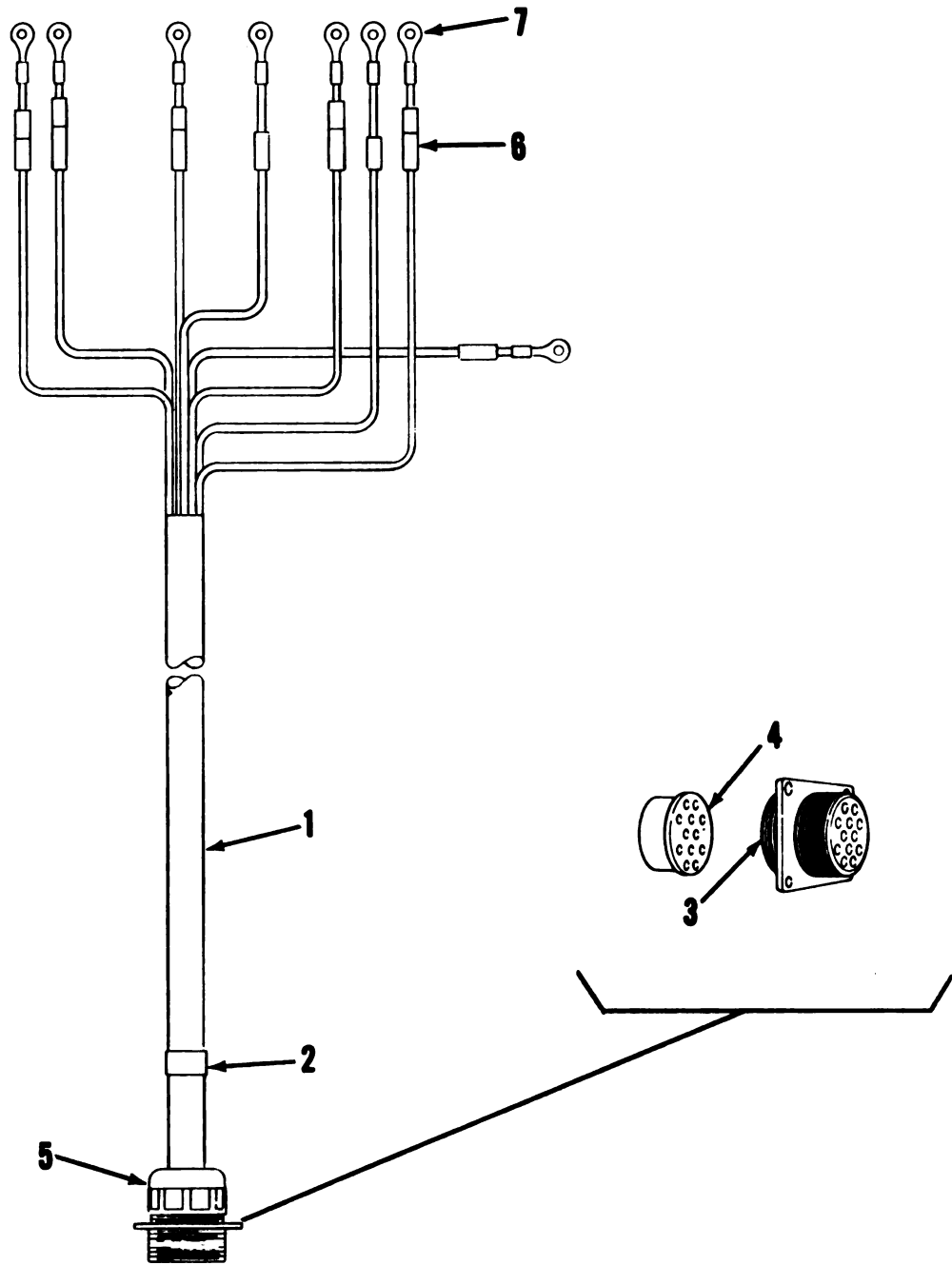


Figure 9. Wiring harness, main

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO.	(B) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PCSN	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0613 FIRING HARNESS, MAIN		
9	1	HFF1Z		19207	12315908	FIRING HARNESS MFD FROM NSN 6145-00-705-6678.....	EA	1
9	2	PAQZZ	9905-00-093-3578	81348	H43436/1-3	.BAND, MARKER.....	EA	1
9	3	PAQZZ	9935-00-771-6793	19207	7716793	.CONNECTOR, RECEPTAC.....	EA	1
9	4	PAQZZ	5365-00-098-5426	19207	7722333	.BUSHING, RUBBER.....	EA	1
9	5	PAQZZ	5310-00-393-6685	19207	7723309	.NUT, PLAIN, KNURLED.....	EA	1
9	6	PAQZZ	9905-00-752-4649	81348	H43436/1-1	.BAND, MARKER.....	EA	13
9	7	PAQZZ	9948-00-957-2343	96906	H535436-11	.TERMINAL, LUG.....	EA	9

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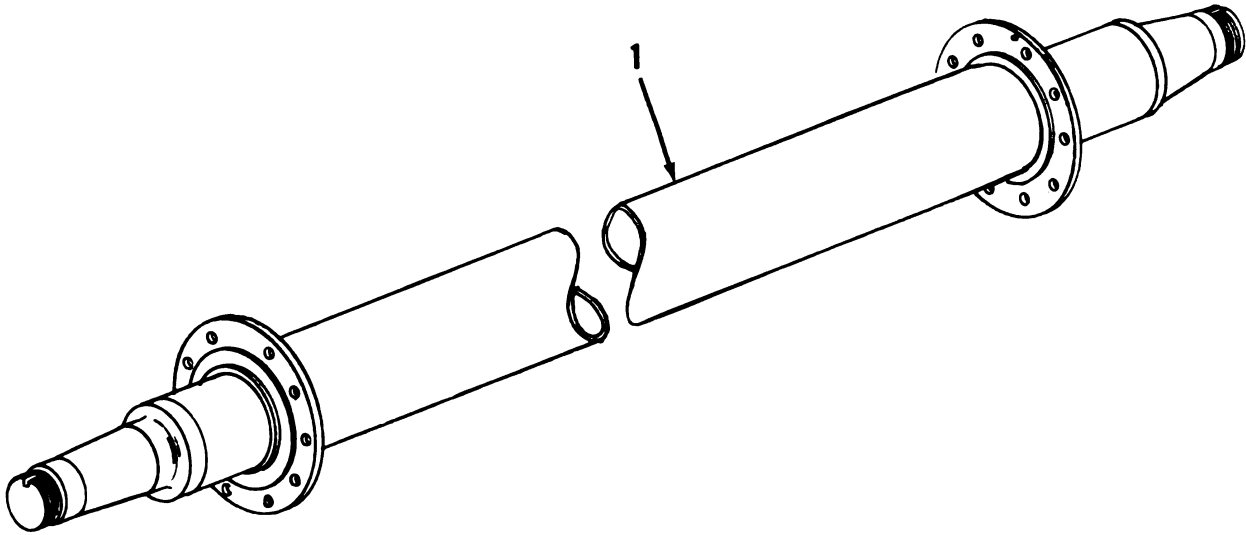


Figure 10. Axle assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(B) FIG NO	(D) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	UOM	QTY INC IN UNIT
10	1	PBFZZ	2530-00-624-0254	19207	8710746	GROUP 11 REAR AXLE ASSEMBLY GROUP 1100 AXLE ASSEMBLY AXLE, VEHICULAR, NOND.....	EA	2

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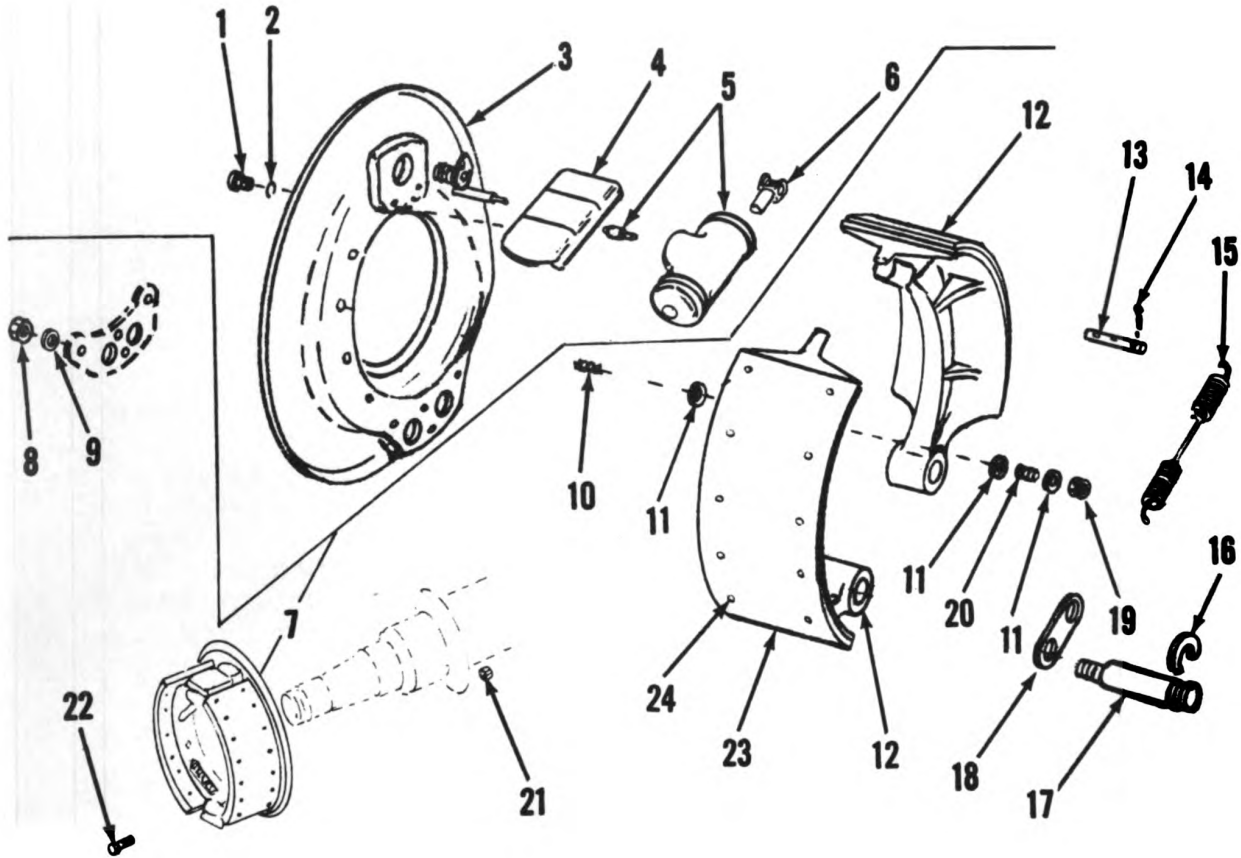


Figure 11. Brake assembly

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FPCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 12 BRAKES GROUP 1202 BRAKE ASSEMBLY		
11	1	PAQZZ	5305-01-010-2362	96906	MS10154-99	SCREW,CAP,HEXAGON H.....	EA	4
11	2	PAQZZ	5310-00-637-9541	96906	MS39330-46	WASHER,LOCK.....	EA	4
11	3	PAQZZ	2530-00-232-6020	19207	8750357	DEFLECTOR,DIRT AND.....	EA	4
11	4	PAQZZ	2530-00-656-4895	19207	7409323	COVER,ACCESS.....	EA	4
11	5	PAQZZ	2530-00-920-7568	19207	8750259	CYLINDER ASSEMBLY,H.....	EA	4
11	6	PAQZZ	2530-00-272-8106	19207	7413486	LINK,WHEEL CYLINDER.....	EA	4
11	7	PAQZZ	2530-01-054-9929	19207	8376667	BRAKE ASSEMBLY,VEHI.....	EA	4
11	8	PACZZ	5310-00-275-9460	19207	7207919	NUT,PLAIN,HEXAGON.....	EA	7
11	9	PAQZZ	5310-00-584-7888	96906	MS39330-51	WASHER,LOCK.....	EA	7
11	10	PAQZZ	5360-01-036-8596	19207	11663025	SPRING,HELICAL,COMP.....	EA	7
11	11	PAQZZ	5310-01-040-7469	19207	11663232	WASHER,RECESSED.....	EA	6
11	12	PAQZZ	2530-00-162-1966	19207	11665741	BRAKE SHOE.....	EA	2
11	13	PAQZZ	5315-00-740-9379	19207	7979330	PIN,GROOVED,HEADLES.....	EA	7
11	14	PAQZZ	5315-00-842-3044	96906	MS24665-203	PIN,COTTER.....	EA	4
11	15	PAQZZ	5360-00-797-9339	19207	7979339	SPRING,HELICAL,EXTE.....	EA	1
11	16	PAQZZ	5310-00-797-9332	19207	7979332	WASHER,SLOTTED.....	EA	7
11	17	PAQZZ	5315-00-461-3835	78500	1750E5	PIN,SHOULDER,HEADLE.....	EA	2
11	18	PAQZZ	2530-00-204-3622	19207	7979340	LINK,ANCHOR,BRAKE S.....	EA	1
11	19	PAQZZ	5310-01-110-4242	19207	11663236	NUT,SELF-LOCKING,ME.....	EA	7
11	20	PAQZZ	5360-01-037-1083	19207	11663233	SPRING,HELICAL,COMP.....	EA	2
11	21	PAQZZ	5310-00-897-5940	96906	MS51922-45	NUT,SELF-LOCKING,ME.....	EA	40
11	22	PAQZZ	5305-00-724-6772	96906	MS90726-139	SCREW,CAP,HEXAGON H.....	EA	40
11	23	PAQZZ	2530-01-092-6445	19207	11662033	LINING,FRICITION.....	EA	9
11	24	PAQZZ	5320-00-443-5065	19207	10896748	RIVET,TUBULAR.....	EA	124

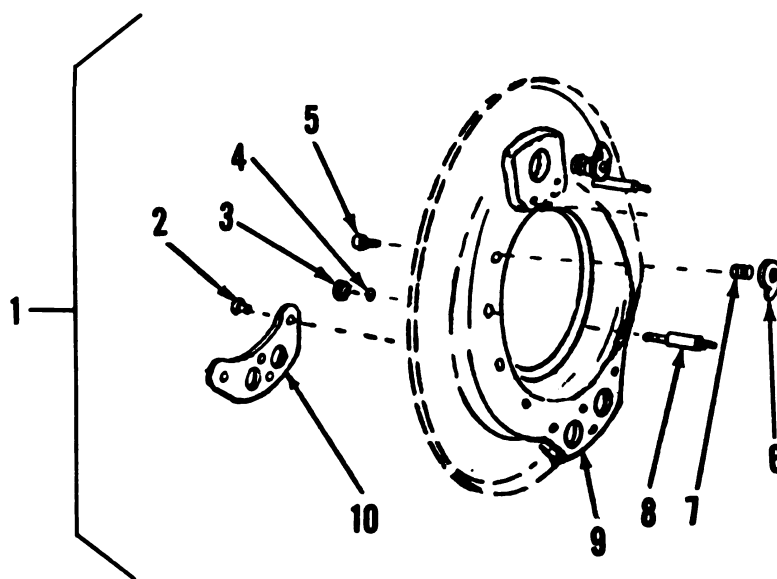


Figure 12. Backing plate assembly

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SECTION II

TM 9-2330-364-144P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1202 BACKING PLATE ASSEMBLY</b>		
12	1	PBOZZ	2530-00-692-6133	19207	8332557	PLATE, BACKING, BRAKE.....	EA	4
12	2	PAOZZ	5320-01-049-8261	96904	MS35743-76	. RIVET, SOLID.....	EA	4
12	3	PAOZZ	5310-00-732-0559	96904	MS51968-8	. NUT, PLAIN, HEXAGON.....	EA	2
12	4	PAOZZ	5310-00-595-7237	96904	MS35333-42	. WASHER, LOCK.....	EA	2
12	5	PAOZZ	5315-00-760-9376	19207	7409376	. PIN, SHOULDER, HEADED.....	EA	2
12	6	PAOZZ	2530-00-457-1676	19207	5282725	. CAM, ADJUSTING, BRAKE.....	EA	2
12	7	PAOZZ	5360-00-740-9382	63477	FC 14764	. SPRING, HELICAL, COMP.....	EA	2
12	8	PAOZZ	2530-01-031-4458	19207	11663231	. PIN, BRAKE, MOUNTING.....	EA	2
12	9	PACZZ	2530-00-493-8809	19207	8758316	. PLATE, BACKING, BRAKE.....	EA	1
12	10	XAOZZ		19207	7979334	. BRACKET.....	EA	1

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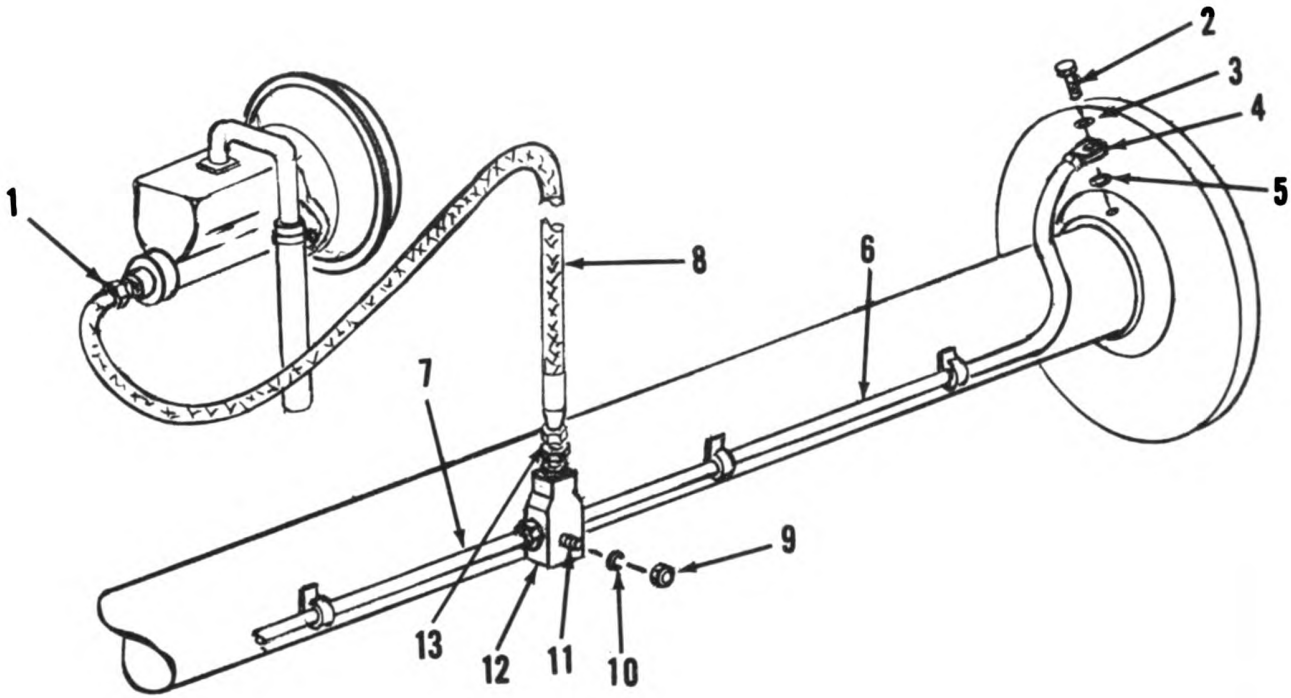


Figure 13. Hydraulic brake system

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FBCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1204 HYDRAULIC BRAKE SYSTEM</b>		
13	1	PAQZZ	4730-00-854-6931	63477	5196653	ADAPTER, STRAIGHT, TU.....	EA	4
13	2	PAQZZ	4730-00-729-6437	19207	7412079	BOLT, FLUID PASSAGE.....	EA	4
13	3	PAQZZ	5365-00-274-4544	19207	5298653	SPACER, RING.....	EA	4
13	4	PAQZZ	4730-00-419-9425	19207	7745444	CONNECTOR, AIR BRAKE.....	EA	4
13	5	PAQZZ	5310-00-359-0458	19207	5214930	WASHER, FLAT.....	EA	4
13	6	PAQZZ	4710-01-049-8922	19207	8742717	TUBE ASSEMBLY, METAL RH.....	EA	2
13	7	PAQZZ	4710-01-049-8921	19207	8742716	TUBE ASSEMBLY, METAL LH.....	EA	2
13	8	PAQZZ	4720-01-143-6992	19207	11684636	HOSE ASSEMBLY, BRAKE.....	EA	2
13	9	PAQZZ	5310-00-880-8189	96906	M551967-11	NUT, PLAIN, HEXAGON.....	EA	2
13	10	PAQZZ	5310-00-209-0965	96906	M535338-47	WASHER, LOCK.....	EA	2
13	11	PAQZZ	5305-00-071-1788	96906	M590728-87	SCREW, CAP, HEXAGON WELDED.....	EA	2
13	12	PAQZZ	4730-00-876-7387	19207	5168136	CONNECTOR, MULTIPLE.....	EA	2
13	13	PAQZZ		19207	12315741	BOLT, INTERNALLY REL.....	EA	2

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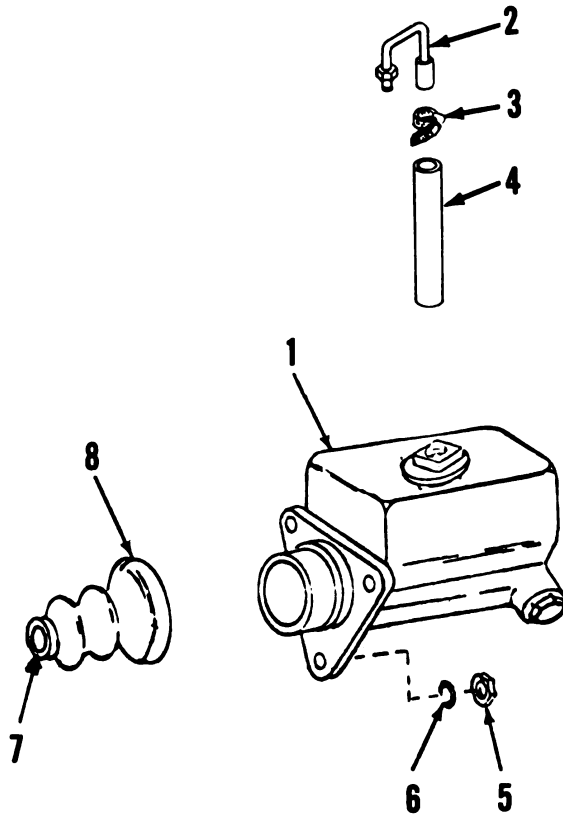


Figure 14. Hydraulic master cylinder

TA 245537

SECTION II

TR 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1204 HYDRAULIC MASTER CYLINDER</b>		
14	1	PAQZZ	2530-00-278-2243	19207	8332086	CYLINDER ASSEMBLY, H.....	EA	2
14	2	PAQZZ	4710-00-511-1692	19207	8365426	TUBE ASSEMBLY, METAL.....	EA	2
14	3	PAQZZ	4730-00-908-3193	96906	MS35842-12	CLAMP, HOSE.....	EA	2
14	4	PAQZZ	4720-00-809-2750	96906	MS521301A20412	HOSE, PREFORMED.....	EA	2
14	5	PAQZZ	5310-00-732-0559	96906	MS51960-8	NUT, PLAIN, HEXAGON.....	EA	6
14	6	PAQZZ	5310-00-637-9541	96906	MS35330-46	WASHER, LOCK.....	EA	6
14	7	PAQZZ	5365-00-516-7878	19207	5167878	RING, RETAINING.....	EA	2
14	8	PAQZZ	2530-00-753-9308	19207	7539308	BELLOWS, PROTECTION.....	EA	2

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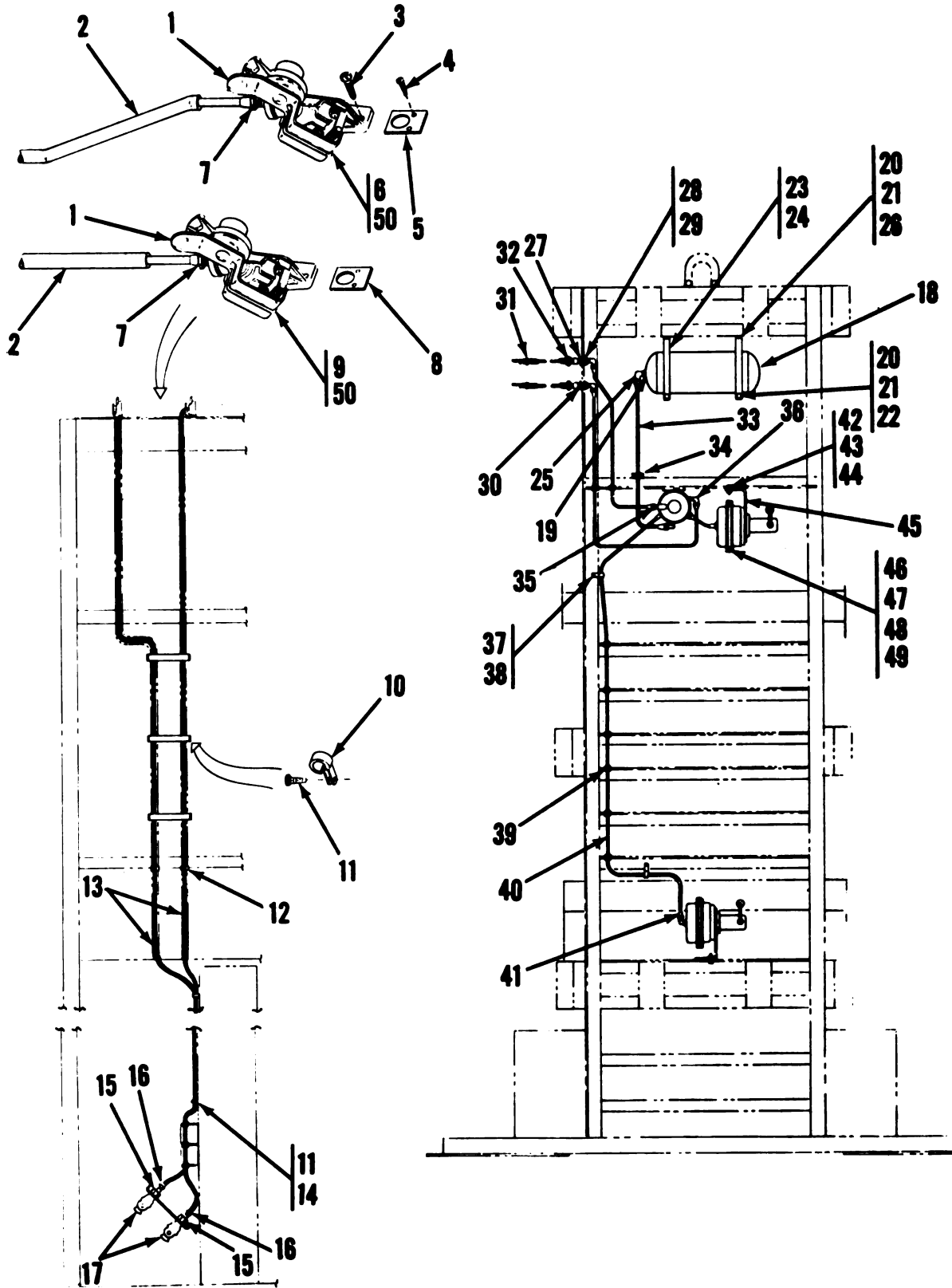


Figure 15. Air brake system

SECTION 11

TN 9-2330-364-14CP

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1208 AIR BRAKE SYSTEM</b>		
15	1	PAQZZ	2990-01-140-8208	98343	10419	COVER, GLADHAND.....	EA	2
15	2	MOZZ		19207	8376129	LOOM, INSULATING.....	FT	V
15	3	PAQZZ	5305-00-052-7492	96904	MS24629-61	SCREW, TAPPING, THREA.....	EA	4
15	4	PAQZZ	5305-00-055-0970	96906	MS24629-12	SCREW, TAPPING, THREA.....	EA	4
15	5	PAQZZ	9905-00-999-7370	96904	MS53007-1	PLATE, IDENTIFICATIO SERVICE.....	EA	1
15	6	PAQZZ	4730-01-141-9268	98343	10462605	GLADHAND, SERVICE.....	EA	1
15	7	PAQZZ	4730-00-270-4616	96906	MS39179-6	ADAPTER, STRAIGHT, PI.....	EA	2
15	8	PAQZZ	9905-00-999-7369	96904	MS53007-2	PLATE, IDENTIFICATIO EMERGENCY.....	EA	1
15	9	PAQZZ	4730-01-130-0907	98343	1046260E	GLADHAND, EMERGENCY.....	EA	1
15	10	PAQZZ	5340-00-901-8132	96906	MS21334-26	CLAMP, LOOP.....	EA	7
15	11	PAQZZ	5305-00-055-0964	96906	MS24629-48	SCREW, TAPPING, THREA.....	EA	24
15	12	PAQZZ	5325-00-276-6040	96906	MS35490-80	GROMMET, NONMETALLIC.....	EA	8
15	13	MOZZ		19207	8609208	TUBE, METALLIC MFD FROM NSN 4710-00-203-3172 (51 FT).....	FT	V
15	14	PAQZZ	5340-00-764-7051	96906	MS21333-09	CLAMP, LOOP.....	EA	6
15	15	PAQZZ	4730-00-069-1186	96904	MS39179-5	ADAPTER, STRAIGHT, PI.....	EA	2
15	16	PAQZZ	4730-00-244-9848	19207	5228623	NIPPLE, TANK.....	EA	2
15	17	PAQZZ	4730-00-595-0083	96906	MS35746-1	COUPLING HALF, QUICK.....	EA	2
15	18	PBQZZ	2530-00-741-1078	19207	7411078	RESERVOIR AIR.....	EA	1
15	19	PAQZZ	4820-00-849-1220	96906	MS35782-5	COCK, DRAIN.....	EA	1
15	20	PAQZZ	5310-00-732-0559	96906	MS51968-8	NUT, PLAIN, HEXAGON.....	EA	6
15	21	PAQZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK.....	EA	6
15	22	PAQZZ	5305-00-269-3250	96906	MS90727-74	SCREW, CAP, HEXAGON H.....	EA	2
15	23	PBQZZ	5340-00-977-0819	19207	7411080	STRAP, RETAINING.....	EA	2
15	24	PBQZZ	5340-01-083-5527	19207	7411079	STRAP, RETAINING.....	EA	2
15	25	PAQZZ	4730-00-209-0051	96906	MS39182-6	ELBOW, PIPE TO TUBE.....	EA	2
15	26	PAQZZ	5305-00-269-2003	96906	MS90726-60	SCREW, CAP, HEXAGON H.....	EA	4
15	27	PAQZZ	9905-00-999-7370	96904	MS53007-1	PLATE, IDENTIFICATIO SERVICE.....	EA	1
15	28	PAQZZ	4730-00-069-1187	96904	MS39182-3	ELBOW, PIPE TO TUBE.....	EA	2
15	29	PAQZZ	4730-00-244-9848	19207	5228623	NIPPLE, TANK.....	EA	2
15	30	PAQZZ	9905-00-999-7369	96904	MS53007-2	PLATE, IDENTIFICATIO EMERGENCY.....	EA	1
15	31	PAQZZ	4720-00-678-6125	19207	8747263	HOSE ASSEMBLY, NONME.....	EA	1
15	32	PAQZZ	4730-00-187-7612	96906	MS39233-4	COUPLING, PIPE.....	EA	2
15	33	MOZZ		19207	8609210	TUBE, METALLIC MFD FROM NSN 4710-00-277-5529 (4FT).....	FT	V
15	34	PAQZZ	5325-00-276-6051	96906	MS35489-101	GROMMET, NONMETALLIC.....	EA	1
15	35	PAQZZ	4730-00-069-1186	96904	MS39179-5	ADAPTER, STRAIGHT, PI.....	EA	1
15	36	PAQZZ	4730-00-069-1187	96904	MS39182-3	ELBOW, PIPE TO TUBE.....	EA	4
15	37	PAQZZ	5305-00-055-0964	96906	MS24629-48	SCREW, TAPPING, THREA.....	EA	2
15	38	PAQZZ	5340-00-809-1492	96906	MS21333-100	CLAMP, LOOP.....	EA	2
15	39	PAQZZ	5325-00-276-6040	96906	MS35490-80	GROMMET, NONMETALLIC.....	EA	8

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FDCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	UOM	QTY INC IN UNIT
15	40	MOZZ		19207	0689200	TUBE,METALLIC MPD FROM NSN 4710-00-209-3172 (21 FT).....	PI	1
15	41	PAZZ	4730-00-069-1107	96900	NS39182-3	ELBOW,PIPE TO TUBE.....	EA	1
15	42	PAZZ	5310-00-732-0554	96900	NS51960-8	NUT,PLAIN,HEXAGON.....	EA	6
15	43	PAZZ	5310-00-637-9541	96900	NS35330-46	WASHER,LOCK.....	EA	6
15	44	PAZZ	5305-00-269-2803	96900	NS90720-60	SCREW,CAP,HEXAGON H.....	EA	6
15	45	PAZZ	2530-00-157-1390	19207	8730456	BRACKET, MOUNTING.....	EA	2
15	46	XDZZ		19207	8742616	AIR CHAMBER ASSY.....	EA	2
15	47	PAZZ	5310-00-763-8905	96900	NS51960-20	NUT,PLAIN,HEXAGON.....	EA	2
15	48	PAZZ	5310-00-820-6653	12603	23E10	WASHER,LOCK.....	EA	2
15	49	PAZZ	2530-00-142-6045	19207	11668361	CHAMBER,AIR BRAKE.....	EA	1
15	50	PAZZ	5330-00-090-2120	96900	NS35740-1	PACKING,PREFORMED.....	EA	4

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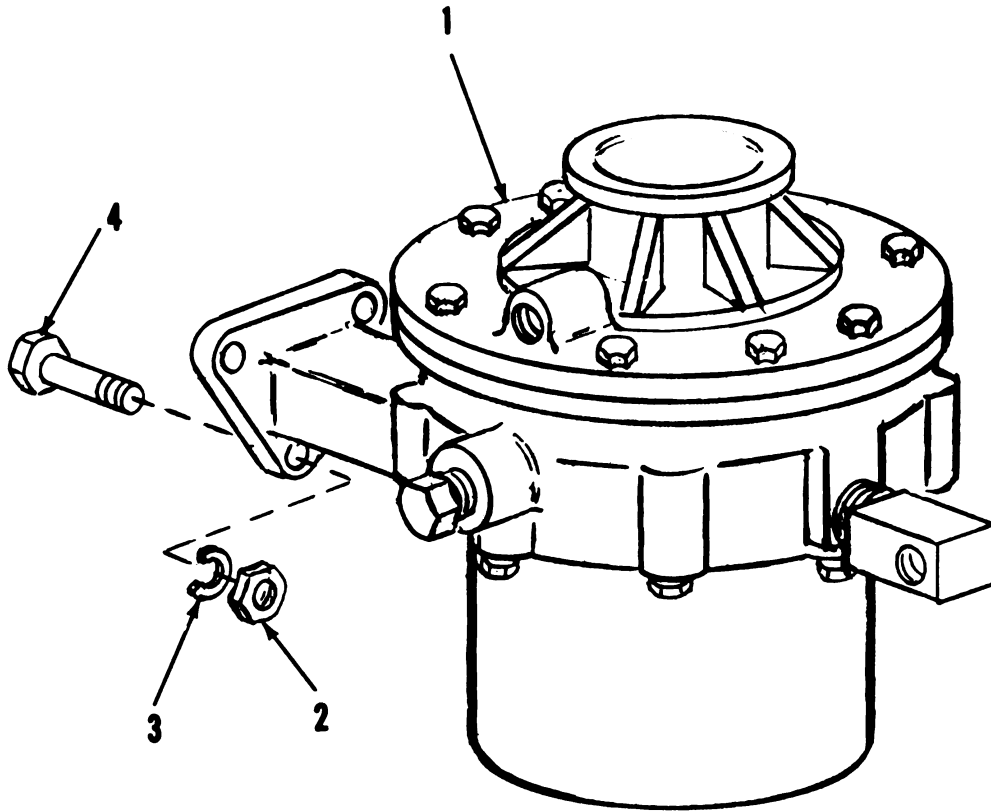


Figure 16. Relay valve

TA 245539



SECTION II

TR 9-2330-364-14EP

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO.	(B) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FBCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 1208 RELAY VALVE		
16	1	PAQZZ	2598-00-021-2364	96906	MS33004-2	PARTS KIT, MECHANICA.....	EA	1
16	2	PAQZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON.....	EA	3
16	3	PAQZZ	5310-00-637-9541	96906	MS35330-46	WASHER, LOCK.....	EA	3
16	4	PAQZZ	5905-00-269-2803	96906	MS98720-60	SCREW, CAP, HEXAGON H.....	EA	3
						F-43		

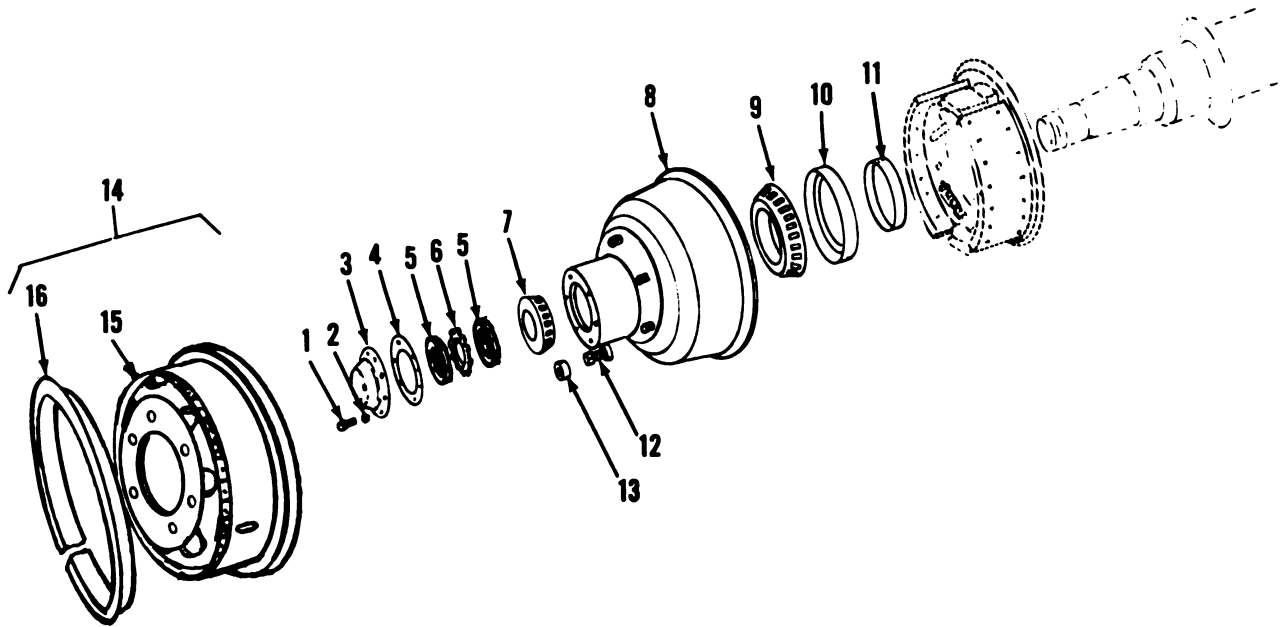


Figure 17. Wheel assembly

SECTION II

TN 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 13 WHEELS</b>		
						<b>GROUP 1311 WHEEL ASSEMBLY</b>		
17	1	PAQZZ	5306-00-225-8496	96906	MS90725-31	BOLT, MACHINE.....	EA	24
17	2	PAQZZ	5310-00-407-9566	96906	MS35330-45	WASHER, LOCK.....	EA	24
17	3	PAQZZ	2530-00-562-1948	19207	8710744	COVER, ACCESS.....	EA	4
17	4	PAQZZ	5330-00-562-1947	19207	8710743	GASKET.....	EA	4
17	5	PAQZZ	5310-00-220-2665	19207	10896720	NUT, PLAIN, HEXAGON.....	EA	8
17	6	PAQZZ	5310-00-752-1650	19207	10896695	WASHER, KEY.....	EA	8
17	7	PAQZZ	3110-00-100-5951	96906	MS19081-112	BEARING, ROLLER, TAPE.....	EA	4
17	8	PBQZZ	2530-01-145-6819	19207	8710740	HUB AND DRUM ASSY LH.....	EA	2
17	8	PBQZZ	2530-01-119-1038	19207	8710741	HUB AND DRUM ASSY RH.....	EA	2
17	9	PAQZZ	3110-00-689-8250	60038	593A992A	BEARING, ROLLER, TAPE.....	EA	4
17	10	PAQZZ	5330-00-740-9550	19207	7979349	SEAL, PLAIN ENCASED.....	EA	4
17	11	PAQZZ	2530-00-740-9553	19207	7409553	RING, WIPER.....	EA	4
17	12	PAQZZ	2530-00-693-1029	96906	MS53060-1	NUT, CAP, DUAL WHEEL.....	EA	12
17	12	PAQZZ	2530-00-359-1162	96906	MS53060-2	NUT, CAP, DUAL WHEEL.....	EA	12
17	13	PAQZZ	5310-00-880-2004	96906	MS51983-3	NUT, PLAIN, SINGLE BA.....	EA	12
17	13	PAQZZ	5310-00-880-2005	96906	MS51983-4	NUT, PLAIN, SINGLE BA.....	EA	12
17	14	PAQZZ	2530-00-026-0265	19207	7389621	WHEEL, PNEUMATIC TIR.....	EA	8
17	15	PAQZZ	2530-00-738-9620	19207	7389620	WHEEL, PNEUMATIC TIR.....	EA	8
17	16	PAQZZ	2530-00-738-9061	19207	7389061	RING, SIDE, AUTOMOTIV.....	EA	8

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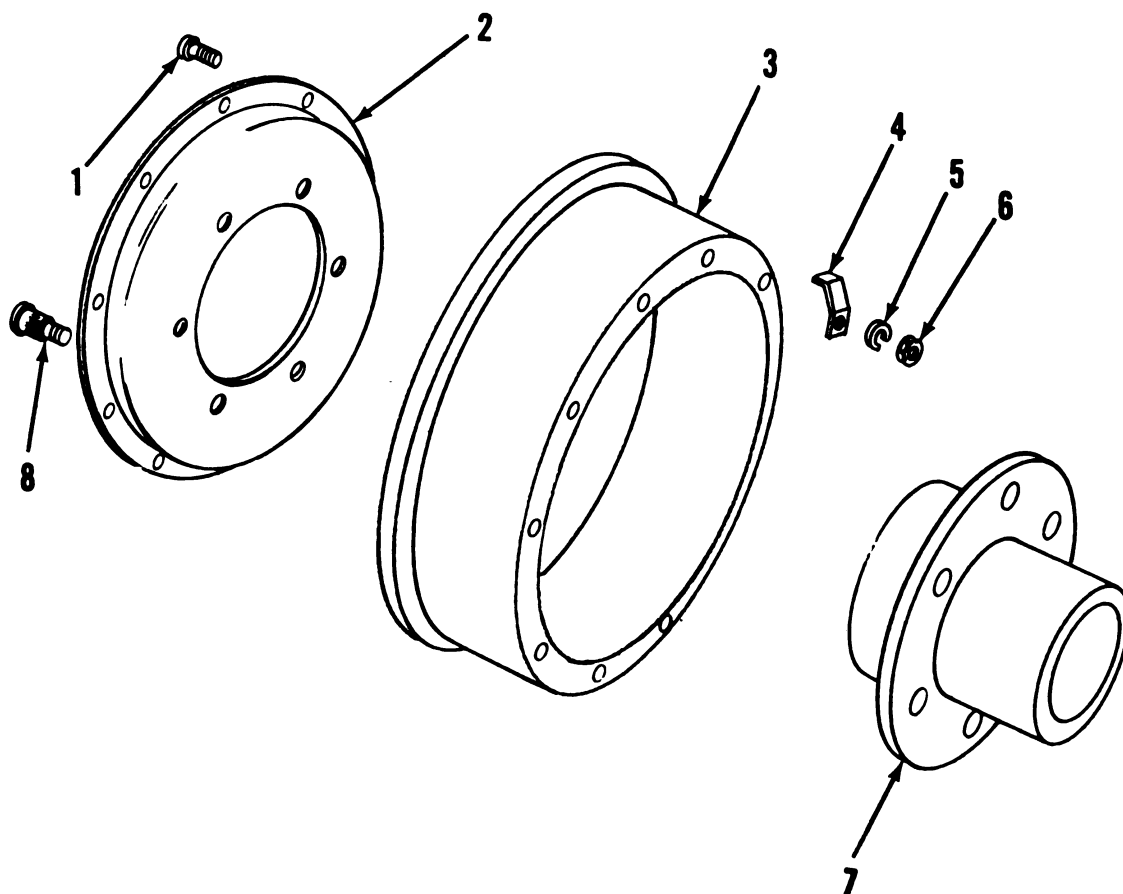


Figure 18. Brake drum and hub

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SECTION II

TM 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FBCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1311 BRAKE DRUM AND HUB</b>		
18	1	PAQZZ	5306-01-062-2334	19207	7979179	BOLT, RIBBED SHOULDE.....	EA	40
18	2	PAQZZ	2530-01-110-4321	19207	8710742	ADAPTER, BRAKE DRUM.....	EA	4
18	3	PAOFF	2530-00-093-5597	19207	7409394	BRAKE DRUM.....	EA	4
18	4	PBQZZ	2530-00-211-6129	19207	7979315	COVER, ACCESS.....	EA	4
18	5	PAQZZ	5310-00-209-0965	96906	MS35330-47	WASHER, LOCK.....	EA	40
18	6	PAQZZ	5310-00-880-7745	96906	MS51960-11	NUT, PLAIN, HEXAGON.....	EA	40
18	7	PBQZZ	2530-00-757-1718	19207	8710736	HUB, WHEEL, VEHICULAR.....	EA	4
18	8	PAQZZ	5306-00-733-9239	96906	MS51946-1	BOLT, RIBBED SHOULDE.....	EA	12
18	8	PAQZZ	5306-00-383-4957	96906	MS51946-2	BOLT, RIBBED SHOULDE.....	EA	12

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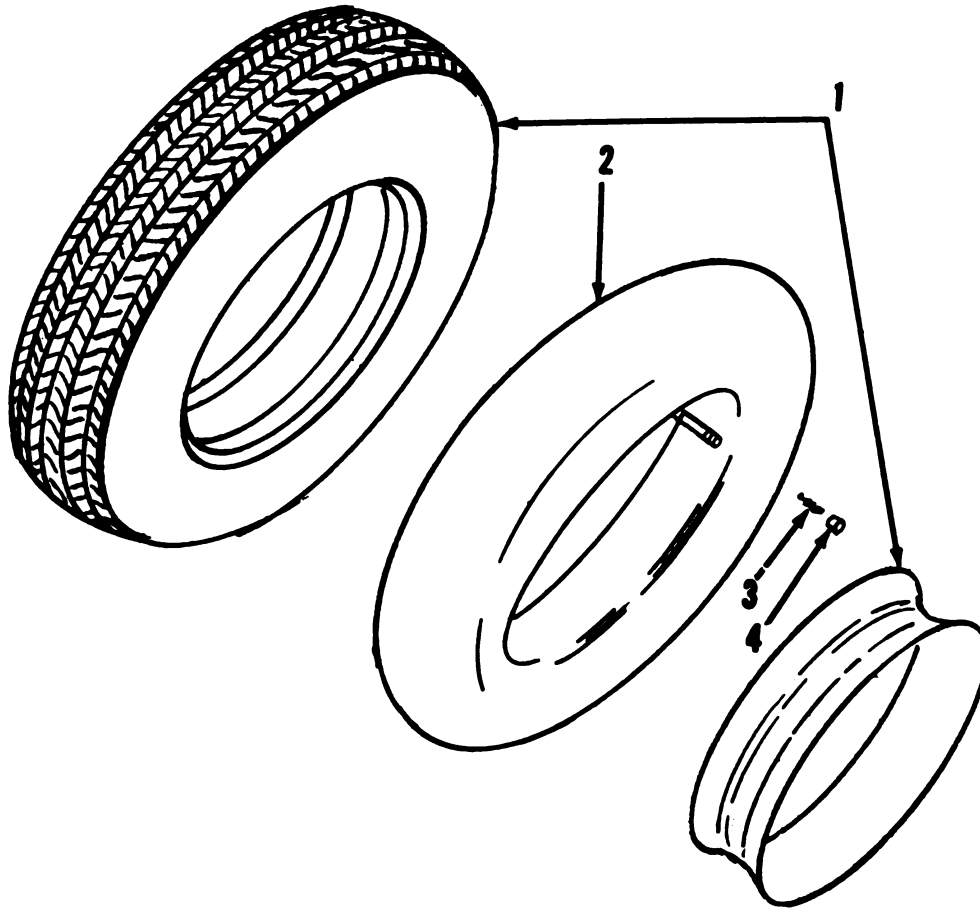


Figure 19. Tire and tube

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 1313 TIRE AND TUBE		
19	1	PAOFF	2610-00-275-7995	81348	ZZ-T-381N/GP3/9.00-20/E/TBHR	TIRE,PNEUMATIC.....	EA	8
19	2	PAOZZ	2610-00-269-7383	81348	ZZ-1-550/GP2/9.00-20/TR1SCW/DNCE	INNER TUBE,PNEUMATI.....	EA	8
19	3	PAOZZ	2640-00-810-5861	96906	MS51377-1	VALVE CORE.....	EA	8
19	4	PAOZZ	2640-00-060-3550	96906	MS51375-1	CAP,PNEUMATIC VALVE.....	EA	8

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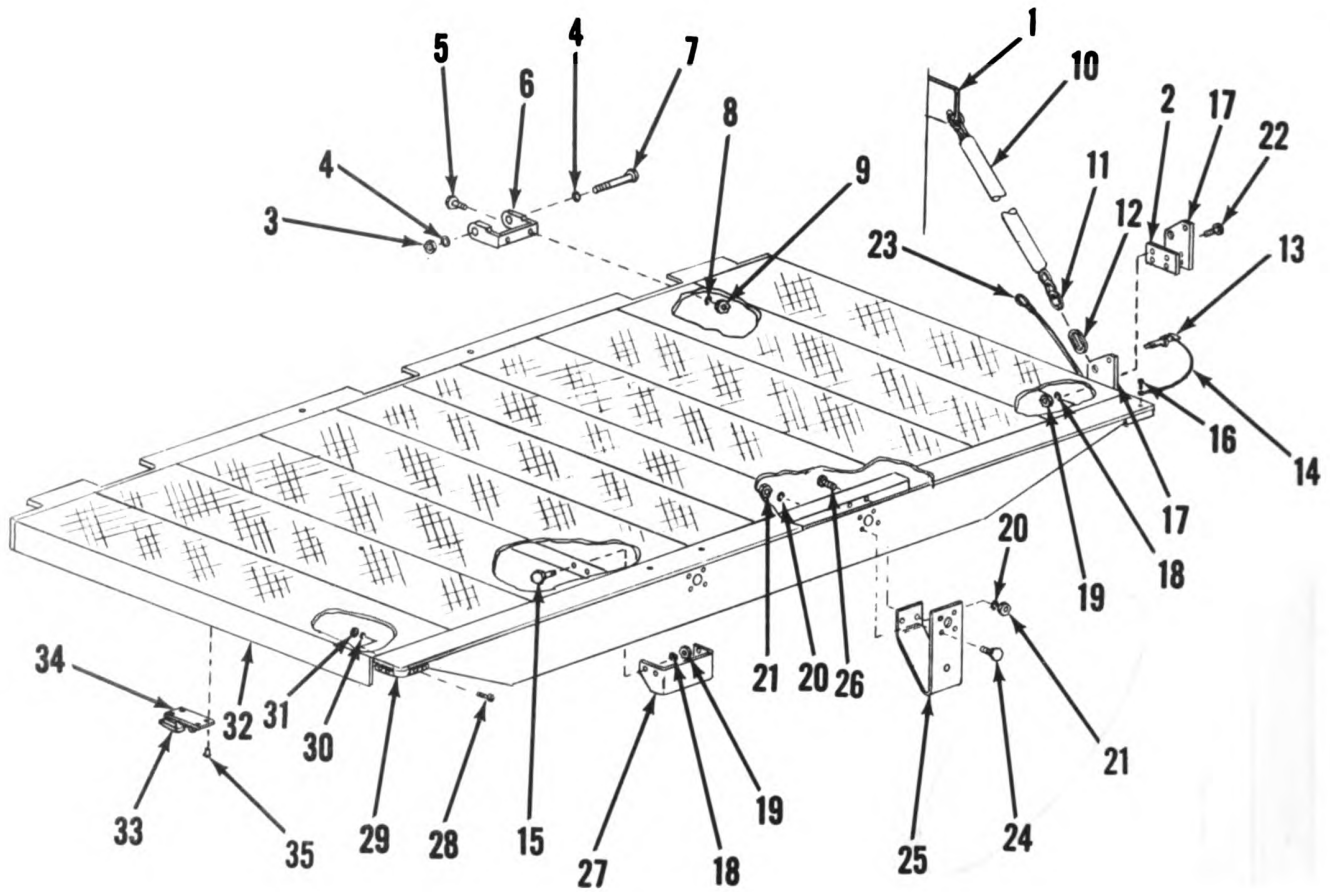


Figure 20. Rear platform



(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PDCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 15 FRAME AND TOWING ATTACHMENTS		
						GROUP 1501 REAR PLATFORM		
20	1	PAQZZ	5340-01-152-4717	19207	12315420	BRACKET, MOUNTING.....	EA	2
20	2	XBOZZ		19207	12315441	SPACER.....	EA	2
20	3	PAQZZ	5310-00-225-4993	96906	M551922-33	NUT, SELF-LOCKING, HE.....	EA	3
20	4	PAQZZ	5310-00-809-9998	96906	M527183-18	WASHER, FLAT.....	EA	6
20	5	PAQZZ	5305-00-225-9081	96906	M590725-36	SCREW, CAP, HEXAGON H.....	EA	6
20	6	PAQZZ	5340-01-087-4921	19207	11604422	HINGE, REAR PLATFORM.....	EA	6
20	7	PAQZZ	5305-00-071-1781	96906	M590725-120	SCREW, CAP, HEXAGON H.....	EA	3
20	8	PAQZZ	5310-00-081-4219	96906	M527183-12	WASHER, FLAT.....	EA	6
20	9	PAQZZ	5310-00-984-3804	96906	M551922-9	NUT, SELF-LOCKING, HE.....	EA	6
20	10	MOZZZ		81349	MIL 1631, TYF, GRC, CL 1, FORMU, CV1	TUBING MFD FROM NSN.....	FT	6
20	11	MOZZZ		81348	MRC 271, TV1, GRC, C L4, O. 25	CHAIN MFD FROM NSN.....	FT	6
20	12	PAQZZ	4010-01-032-2207	19207	7364429	LINK, CHAIN, CONNECTI MFD FROM NSN.....	EA	4
20	13	PAQZZ	5340-01-137-3818	19207	12315611-1	PIN, QUICK RELEASE.....	EA	2
20	14	MOZZZ		81348	MRC 271 TY2, CL7, O .135	CHAIN MFD FROM NSN.....	FT	2
20	15	PAQZZ	5305-00-071-2241	96906	M590725-10	SCREW, CAP, HEXAGON H.....	EA	8
20	16	PAQZZ	5305-00-432-4203	96906	M551061-47	SCREW, TAPPING, THREA.....	EA	2
20	17	XBOZZ		19207	12315640	PLATE, ATTACHING.....	EA	4
20	18	PAQZZ	5310-00-809-4056	96906	M527183-10	WASHER, FLAT.....	EA	16
20	19	PAQZZ	5310-00-088-1251	96906	M551922-1	NUT, SELF-LOCKING, HE.....	EA	16
20	20	PAQZZ	5310-00-809-4056	96906	M527183-10	WASHER, FLAT.....	EA	12
20	21	PAQZZ	5310-00-088-1251	96906	M551922-1	NUT, SELF-LOCKING, HE.....	EA	12
20	22	PAQZZ	5305-00-071-2510	96906	M590720-13	SCREW, CAP, HEXAGON H.....	EA	8
20	23	PAQZZ		19207	12315704-2	WIRE ROPE ASSEMBLY.....	EA	1
20	24	PAQZZ	5305-00-071-2241	96906	M590725-10	SCREW, CAP, HEXAGON H.....	EA	8
20	25	XBOZZ		19207	12315434	BRACKET, LADDER.....	EA	2
20	26	PAQZZ	5305-00-225-3839	96906	M590725-8	BOLT, MACHINE.....	EA	4
20	27	XBOZZ		19207	12315541	SPACER.....	EA	2
20	28	PAQZZ	5305-00-984-4214	96906	M535204-267	SCREW, MACHINE.....	EA	8
20	29	PAQZZ	5340-01-145-4829	19207	12307790	BUMPER, RUBBER.....	EA	2
20	30	PAQZZ	5310-00-823-8804	96906	M527183-9	WASHER, FLAT.....	EA	8
20	31	PAQZZ	5310-00-934-9756	96906	M535449-202	NUT, PLAIN, HEXAGON.....	EA	9
20	32	XBOZZ		19207	12315443	PLATFORM ASSY, REAR.....	EA	1
20	33	PAQZZ	2540-01-152-8806	19207	11604305	HANDLE ASSEMBLY.....	EA	4
20	34	XBOZZ		19207	10891309	BRACKET.....	EA	4
20	35	PAQZZ		19207	12308151-24	RIVET, BLIND.....	EA	16

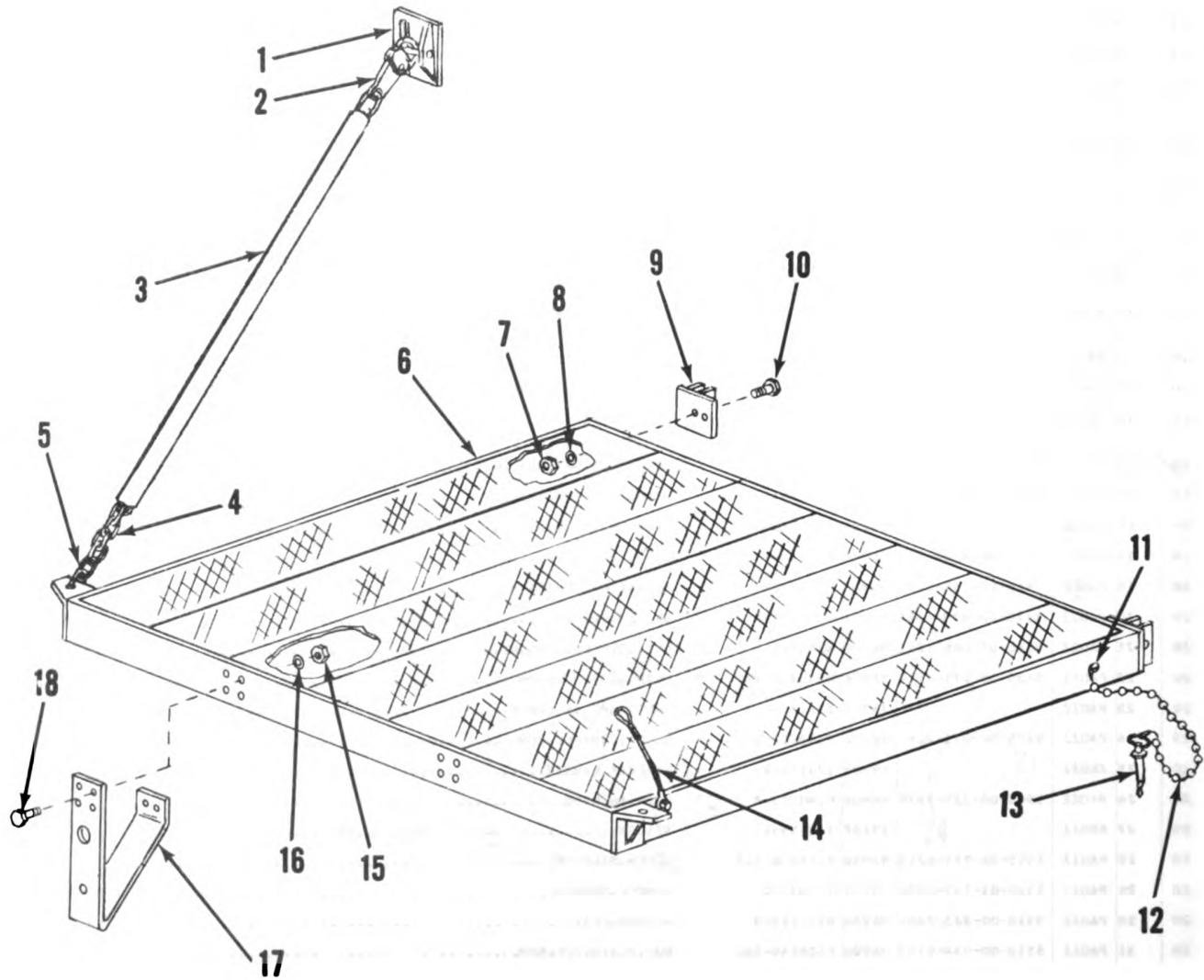


Figure 21. Side platform

TA 245544

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						<b>GROUP 1501 SIDE PLATFORM</b>		
21	1	PAOZZ	5340-01-144-9020	19207	12315512	BRACKET, ANGLE.....	EA	1
21	1	PAOZZ	5340-01-150-1027	19207	12315396	BRACKET, MOUNTING, EY.....	EA	1
21	2	PAOZZ	1670-00-020-4075	96906	NS27756	SNAP HOOK ASSY.....	EA	2
21	3	PAOZZ				TUBING.....	FT	4
				81349	NIL-1-631 TYPF, GR C, CL1, FORMU, CV1			
21	4	MOOZZ		81348	RRC271, TY1, GRC, CL4, 0.25	CHAIN MFD FROM NSN	FT	5.3
21	5	PAOZZ	4010-01-032-2207	19207	7360629	LINK, CHAIN, CONNECT I MFD FROM NSN.....	EA	6
21	6	XOOZZ		19207	12315344	SIDE PLATFORM ASSY.....	EA	1
21	7	PAOZZ	5310-00-007-4452	96906	NS51922-17	NUT, SELF-LOCKING, ME.....	EA	4
21	8	PAOZZ	5310-00-000-6006	96906	NS27183-14	WASHER, FLAT.....	EA	4
21	9	XBOZZ		19207	12300149	BRACKET, MOUNTING.....	EA	2
21	10	PAOZZ	5305-00-942-2196	96906	NS18154-60	SCREW, CAP, HEXAGON H.....	EA	4
21	11	PAOZZ	5305-00-855-0973	96906	NS24629-24	SCREW, TAPPING, THREA.....	EA	2
21	12	MOOZZ				CHAIN MFD FROM NSN.....	FT	1
				81348	RRC271, TY2, CL7, 0 .135			
21	13	PAOZZ	5340-01-137-3818	19207	12315611-1	PIN, QUICK RELEASE.....	EA	2
21	14	PAOZZ		19207	12315706-2	WIRE ROPE ASSEMBLY.....	EA	1
21	15	PAOZZ	5310-00-000-1251	96906	NS51922-1	NUT, SELF-LOCKING, ME.....	EA	16
21	16	PAOZZ	5310-00-009-4058	96906	NS27183-10	WASHER, FLAT.....	EA	16
21	17	PAOZZ	2540-01-145-8253	19207	12300102	BRACKET, LADDER.....	EA	2
21	18	PAOZZ	5305-00-225-3839	96906	NS90725-8	BOLT, MACHINE.....	EA	16

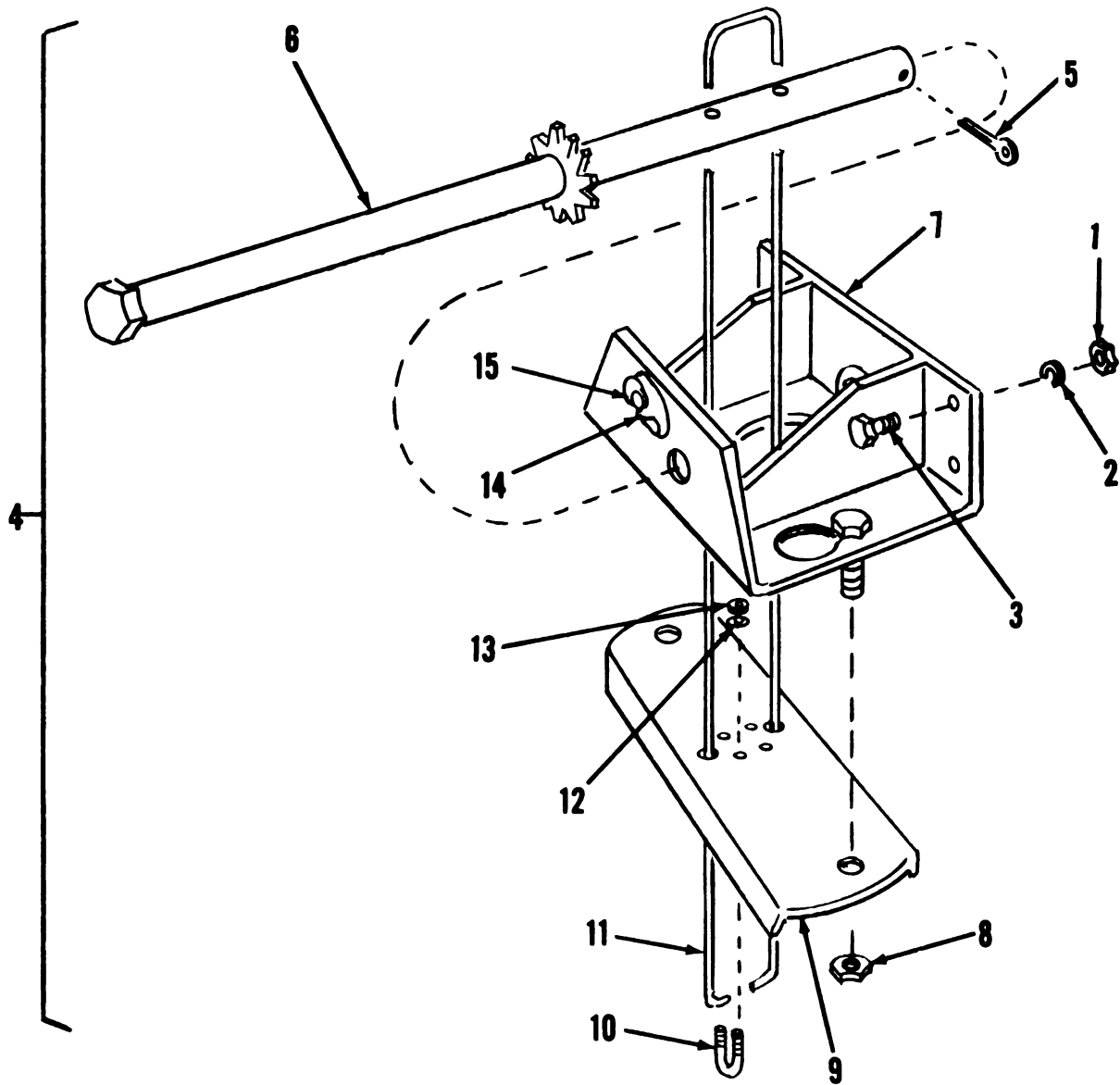


Figure 22. Spare wheel carrier

TA 245545

(1) ILLUSTRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION  USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG NO.	(b) ITEM NO.							
<b>GROUP 1504 SPARE WHEEL CARRIER</b>								
22	1	PAQZZ	5310-00-768-0310	96906	MS51967-14	NUT, PLAIN, HEXAGON.....	EA	4
22	2	PAQZZ	5310-00-584-5272	96906	MS35330-48	WASHER, LOCK.....	EA	4
22	3	PAQZZ	5305-00-915-8007	96906	MS18154-113	SCREW, CAP, HEXAGON H.....	EA	4
22	4	PAQZZ	2510-00-752-1160	19207	7521160	CARRIER.....	EA	1
22	5	PAQZZ	5315-00-234-1664	96906	MS24665-495	.PIN, COTTER.....	EA	1
22	6	PAQZZ	2510-00-752-1157	19207	7521157	.RATCHET WHEEL.....	EA	1
22	7	PAQZZ	2510-00-752-1163	19207	7521163	.FRAME ASSEMBLY.....	EA	1
22	8	PAQZZ	5310-00-017-9721	19207	7418092	.NUT, PLAIN, HEXAGON.....	EA	2
22	9	PAQZZ	2510-01-140-8207	19207	8352662	.MEMBER, PICK UP.....	EA	1
22	10	PAQZZ	5306-00-017-9722	19207	7739666	.BOLT, U.....	EA	2
22	11	PAQZZ	4010-01-074-5029	19207	7521159	.ROPE, WIRE.....	EA	1
22	12	PAQZZ	5310-00-582-5965	96906	MS35330-44	.WASHER, LOCK.....	EA	4
22	13	PAQZZ	5310-00-761-6882	96906	MS51967-2	.NUT, PLAIN, HEXAGON.....	EA	4
22	14	PAQZZ	5320-00-285-1025	19207	8327759	.RIVET, SOLID.....	EA	1
22	15	PAQZZ	3040-00-752-1156	19207	7521156	.PAWL.....	EA	1

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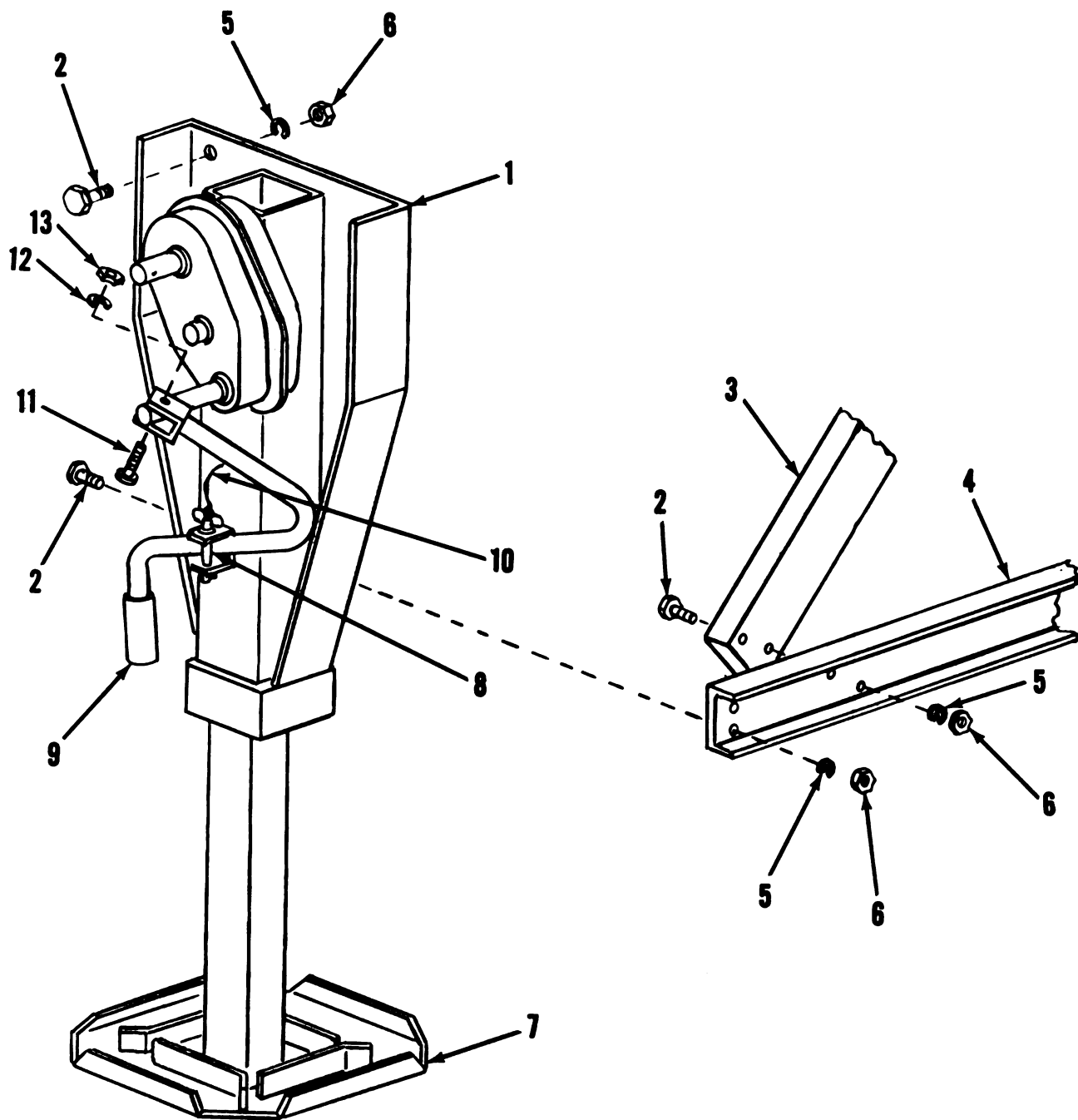


Figure 23. Landing gear

SECTION 11

TR 9-2330-364-144P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG NO	(b) ITEM NO.	SNR CODE	NATIONAL STOCK NUMBER	FORM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 1507 LANDING GEAR		
23	1	PAQZZ	2990-01-130-1065	74410	JS-5-0008	LANDING GEAR, RETRAC.....	EA	2
23	2	PAQZZ	5305-00-724-5910	96900	NS90729-162	SCREW, CAP, HEXAGON H.....	EA	68
23	3	PBQZZ	2990-01-130-3073	19207	12315307	BRACE, DIAGONAL.....	EA	4
23	4	PBQZZ	2990-01-130-3994	19207	12315306	SUPPORT.....	EA	2
23	5	PAQZZ	5310-00-820-6653	12603	23E10	WASHER, LOCK.....	EA	48
23	6	PAQZZ	5310-00-763-0920	96900	NS51967-20	NUT, PLAIN, HEXAGON.....	EA	48
23	7	XDQZZ		74410	HY-1900-4-0	SHOE.....	EA	2
23	8	PAQZZ	5340-01-137-3019	19207	12315611-2	PIN, QUICK RELEASE.....	EA	2
23	9	PAQZZ	5120-01-130-7195	74410	V-90-3	HANDLE, MECHANICAL J.....	EA	2
23	10	MOQZZ		81340	RR-C-271, TY 2, CL 7, 0.135	CHAIN WFO FROM NSN.....	FT	V
23	11	PAQZZ	5305-00-269-3217	96900	NS90729-67	SCREW, CAP, HEXAGON H.....	EA	2
23	12	PAQZZ	5310-00-000-6004	96900	NS27183-14	WASHER, FLAT.....	EA	6
23	13	PAQZZ	5310-00-007-4652	96900	NS51922-17	NUT, SELF-LOCKING, HE.....	EA	2

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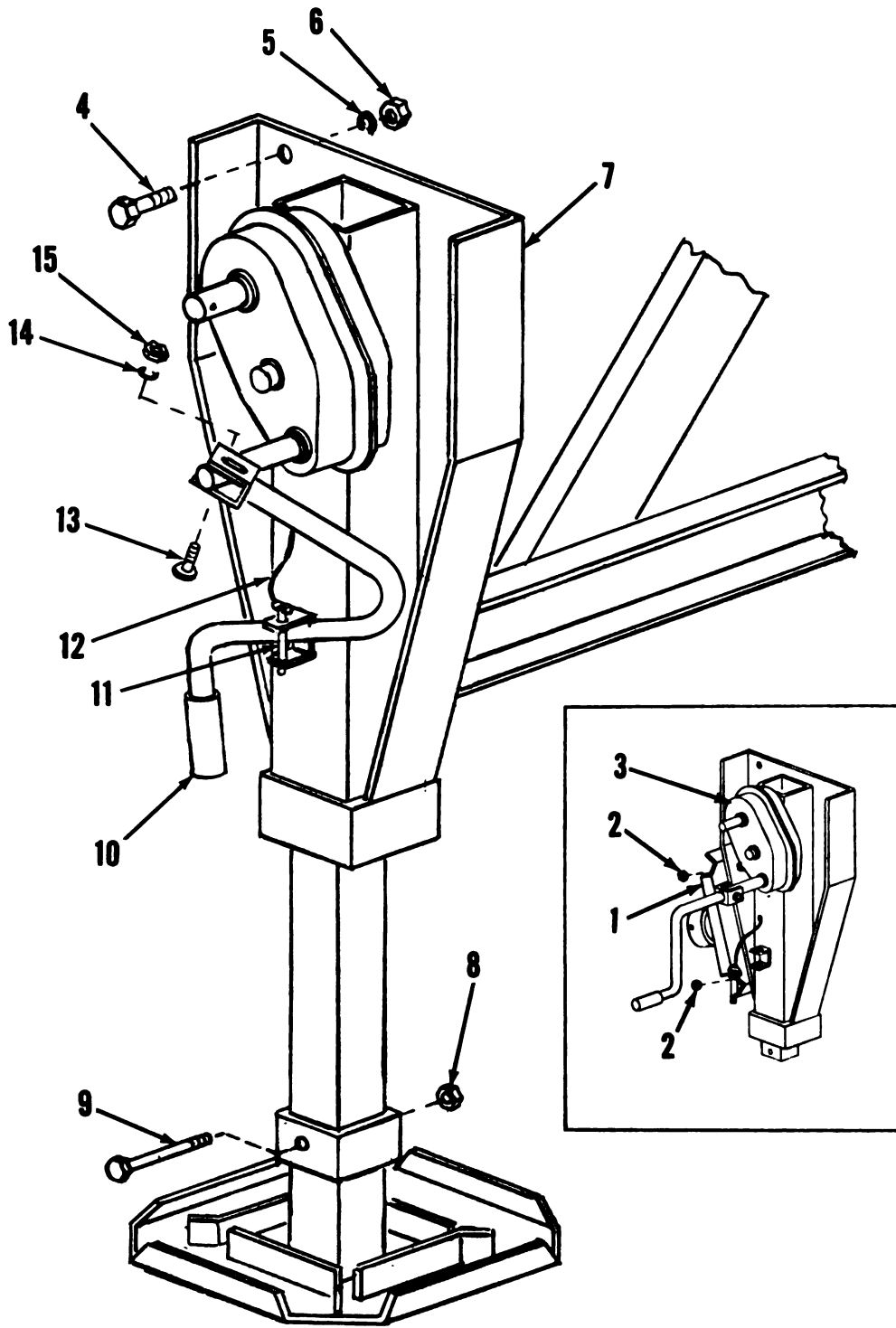


Figure 24. Leveling jack



(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SNR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
<b>GROUP 1507 LEVELING JACK</b>								
24	1	PBCZZ	2990-01-130-4003	19207	12315305	SHOE, VEHICLE SUPPOR.....	EA	2
24	2	PACZZ	5310-00-087-4652	96906	MS51922-17	NUT, SELF-LOCKING, HE.....	EA	4
24	3	PACZZ	5305-00-269-3214	96906	MS90725-64	SCREW, CAP, HEXAGON H.....	EA	4
24	4	PAQZZ	5305-00-724-5910	96906	MS90725-162	SCREW, CAP, HEXAGON H.....	EA	24
24	5	PAQZZ	5310-00-820-6653	12603	23E10	WASHER, LOCK.....	EA	28
24	6	PAQZZ	5310-00-763-0920	96906	MS51967-20	NUT, PLAIN, HEXAGON.....	EA	28
24	7	PAQZZ	2990-01-130-4002	19207	12315277	LEG, SEMITRAILER RET.....	EA	2
24	8	PACZZ	5310-00-732-0950	96906	MS51967-8	NUT, PLAIN, HEXAGON.....	EA	2
24	9	PACZZ	5305-01-144-7306	19207	12315510	BOLT, HEX HEAD.....	EA	2
24	10	PAQZZ	5120-01-130-7195	74410	V-90-3	HANDLE, MECHANICAL J.....	EA	2
24	11	PAQZZ	5340-01-137-3019	19207	12315611-2	PIN, QUICK RELEASE.....	EA	2
24	12	MOZZ		81348	RR-C-271, TYP 2, CL 7, O-135	CHAIN WFO FROM MSN.....	FT	V
24	13	PAQZZ	5305-00-269-3243	96906	MS90727-67	SCREW, CAP, HEXAGON H.....	EA	2
24	14	PAQZZ	5310-00-080-6004	96906	MS27103-14	WASHER, FLAT.....	EA	4
24	15	PAQZZ	5310-00-087-4652	96906	MS51922-17	NUT, SELF-LOCKING, HE.....	EA	2

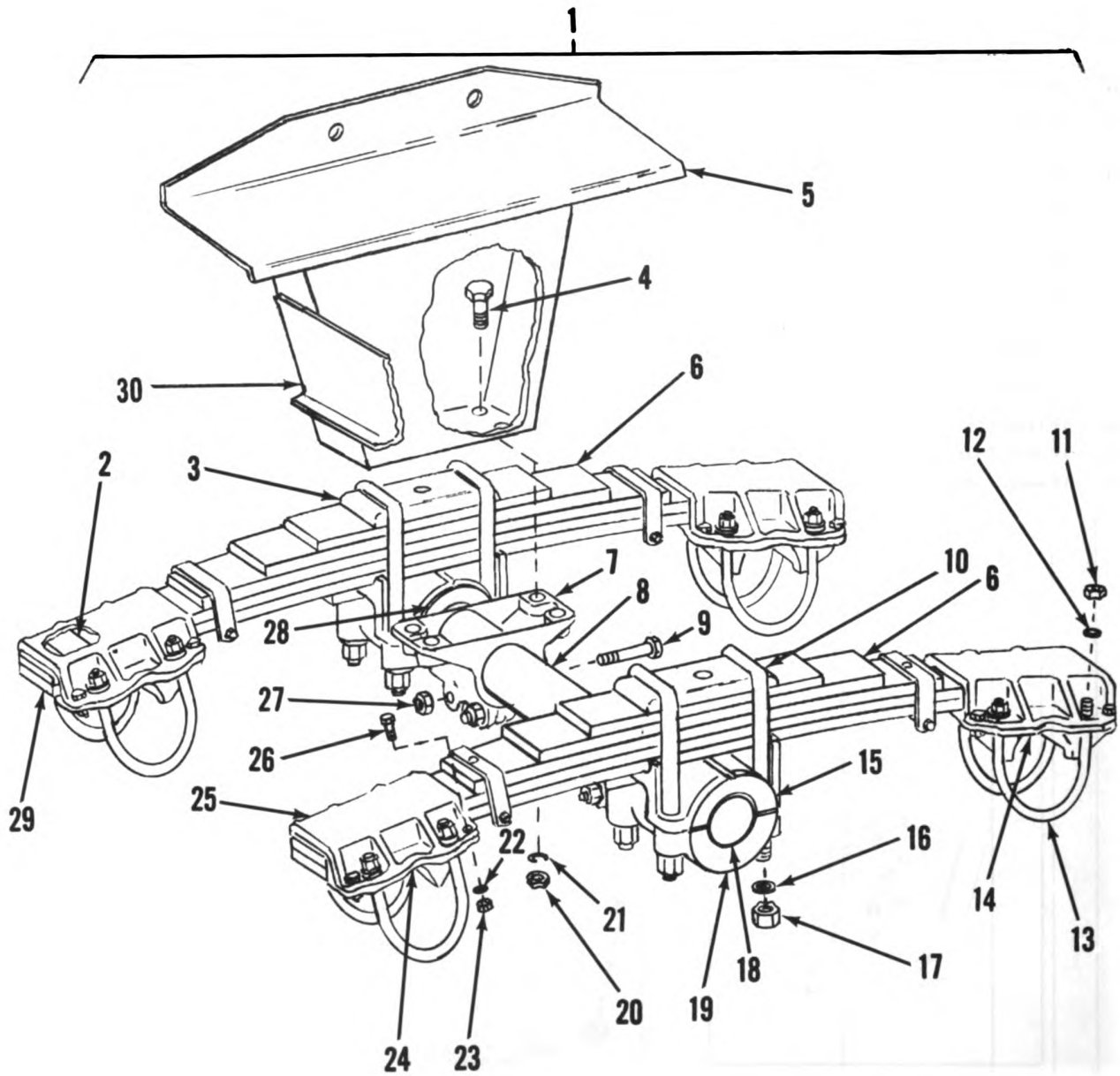


Figure 25. Springs

SECTION II

TR 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						<b>GROUP 16 SPRINGS AND SHOCK ABSORBERS</b>		
						<b>GROUP 1601 SPRINGS</b>		
25	1	PBFZZ	2510-01-139-9678	19207	12315343	SUSPENSION ASSEMBLY.....	EA	1
25	2	PAFZZ	2990-01-100-9001	92967	814-00	.PAD,CUSHIONING.....	EA	8
25	3	PBFZZ	2520-01-101-2559	92967	9640-00	.PLATE,WEAR,LEAF SPR.....	EA	2
25	4	PAFZZ	5305-00-726-2555	96906	MS90727-168	.SCREW,CAP,HEXAGON H.....	EA	8
25	5	XDFZZ		92967	859-00	.PLATE.....	EA	2
25	6	PBFZZ	2510-01-141-5301	92967	10054-00	.SPRING,ASSY,LEAF.....	EA	2
25	7	PBFZZ	2510-01-141-5297	92967	850-01	.HANGER,TRUNION.....	EA	2
25	8	PBFZZ	4730-01-140-6473	92967	893-01	.TUBE,TRUNION.....	EA	1
25	9	PAFZZ	5305-00-940-8069	96906	MS90727-197	.SCREW,CAP,HEXAGON H.....	EA	4
25	10	PAFZZ	5306-01-139-1835	92967	9639-01	.BOLT,U.....	EA	4
25	11	PAFZZ	5310-00-763-8901	96906	MS51968-23	.NUT,PLAIN,HEXAGON.....	EA	16
25	12	PAFZZ	5310-00-809-8533	96906	MS27183-23	.WASHER,FLAT.....	EA	32
25	13	PAFZZ	5306-01-098-7197	92967	10060-01	.BOLT,U.....	EA	8
25	14	PBFZZ	2510-01-100-9270	92967	9934-02	.SEAT,LEAF SPRING.....	EA	2
25	15	PBFZZ	2520-01-101-0935	92967	891-00	.HUB TRUNNION,UPPER.....	EA	2
25	16	PAFZZ	5310-01-098-7246	92967	837-00	.WASHER,FLAT.....	EA	8
25	17	PAFZZ	5310-01-098-7236	92967	836-00	.NUT,PLAIN,HEXAGON.....	EA	8
25	18	PAFZZ	5365-01-150-6277	92967	890-00	.BUSHING,RUBBER.....	EA	2
25	19	PBFZZ	2520-01-101-2551	92967	898-00	.TRUNNION,HUB,LOWER.....	EA	2
25	20	PAFZZ	5310-00-763-8904	96906	MS51968-21	.NUT,PLAIN,HEXAGON.....	EA	8
25	21	PAFZZ	5310-00-820-6653	12603	23E10	.WASHER,LOCK.....	EA	8
25	22	PAFZZ	5310-00-823-8803	96906	MS27183-21	.WASHER,FLAT.....	EA	16
25	23	PAFZZ	5310-00-225-6408	96906	MS51922-53	.NUT,SELF-LOCKING,ME.....	EA	16
25	24	PBFZZ	2510-01-100-9271	92967	10712-00	.SPRING SEAT.....	EA	2
25	25	PAFZZ	2510-01-138-9158	92967	10049-00	.CAP,END SPRING.....	EA	4
25	26	PAFZZ	5305-00-726-2551	96906	MS90727-164	.SCREW,CAP,HEXAGON H.....	EA	16
25	27	PAFZZ	5310-00-763-8901	96906	MS51968-23	.NUT,PLAIN,HEXAGON.....	EA	4
25	28	PAFZZ	5310-01-098-7247	92967	895-00	.WASHER,FLAT.....	EA	2
25	29	PBFZZ	2510-01-101-2890	92967	10608-00	.PLATE,ALIGNMENT,LEA.....	EA	2
25	30	XB0ZZ		19207	12315559	ANGLE.....	EA	2

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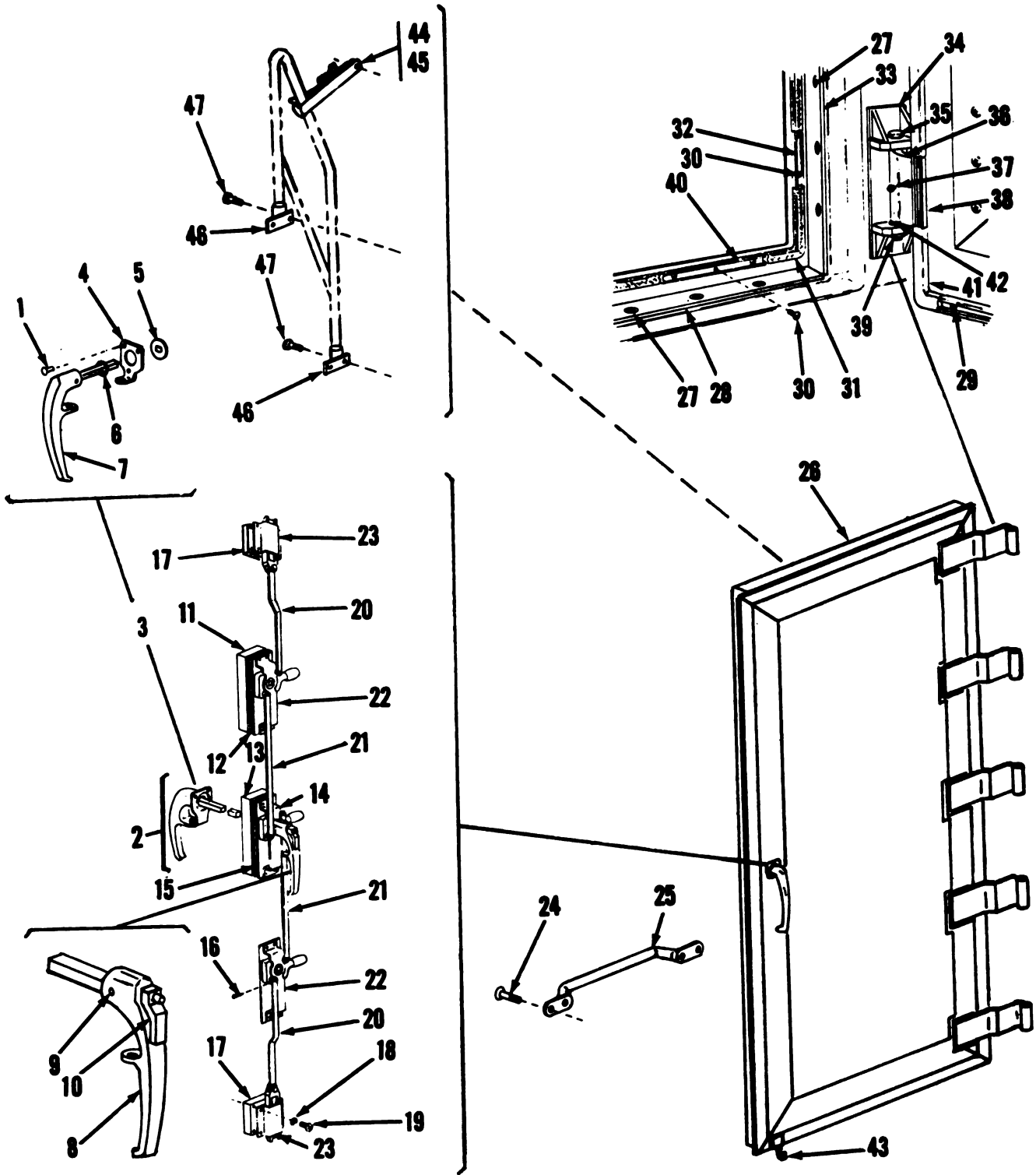


Figure 26. Rear door

TA 245549

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 18 BODY GROUP 1801 REAR DOOR		
26	1	PAQZZ	5320-01-139-9774	11815	SSPV-86	RIVET,BLIND.....	EA	3
26	2	PBQZZ	2540-01-142-2636	19207	12315567	HANDLE & LOCK ASSY.....	EA	1
26	3	PBQZZ	2540-01-142-2829	19207	12315569	HANDLE DOOR.....	EA	1
26	4	PBQZZ	5340-01-138-7153	19220	5624-8	ESCUTCHEON PLATE.....	EA	1
26	5	PAQZZ	5310-01-138-7040	19220	5631-18	WASHER,SQUARE HOLE.....	EA	1
26	6	PAQZZ	5330-01-137-9578	07700	84-TBA	O-RING.....	EA	1
26	7	PFQZZ	2540-01-152-1056	19207	12307731	HANDLE DOOR.....	EA	1
26	8	PBQZZ	2540-01-152-8882	19207	12315674	HANDLE,DOOR.....	EA	1
26	9	PAQZZ	5315-00-018-6507	96906	MS35671-52	PIN,GROOVED,HEADLES.....	EA	2
26	10	PBQZZ	5340-01-141-0884	19220	2525-55	PIN,QUICK RELEASE.....	EA	1
26	11	PAQZZ	5365-01-137-3886	19207	12315478-2	SPACER,PLATE.....	EA	2
26	12	PAQZZ	5365-01-137-3887	19207	12315466-2	SPACER,PLATE.....	EA	2
26	13	PAQZZ	5365-01-137-3888	19207	12315478-1	SPACER,PLATE.....	EA	1
26	14	PBQZZ	2540-01-139-9679	19220	1-2525-50R	LOCK,DOOR,VEH.....	EA	1
26	15	PAQZZ	5365-01-137-3889	19207	12315466-1	SPACER,PLATE.....	EA	1
26	16	PAQZZ	5315-00-236-8353	96906	MS24665-306	PIN,COTTER.....	EA	6
26	17	PAQZZ	5340-01-145-1650	19207	12315477	SPACER,PLATE.....	EA	2
26	18	PAQZZ	5310-00-582-5965	96906	MS35330-44	WASHER,LOCK.....	EA	20
26	19	PAQZZ	5305-00-225-3839	96906	MS90725-8	BOLT,MACHINE.....	EA	20
26	20	PBQZZ	2510-01-145-6824	19207	12315404-2	ROD,LOCKING.....	EA	2
26	21	PBQZZ	3040-01-141-0912	19207	12315485	LOCK ROD,BOLT.....	EA	2
26	22	PBQZZ	5340-01-137-9367	19220	M4790-50	ROLLER LATCH ASSY.....	EA	2
26	23	PBQZZ	5325-01-152-2378	19220	1-2525-52	BOLT,SLIDE.....	EA	2
26	24	PAQZZ	5305-00-052-6878	96906	MS24627-54	SCREW,TAPPING,THREA.....	EA	4
26	25	PAQZZ	5340-00-665-2212	19220	4300	HANDLE,BON.....	EA	1
26	26	PBQZZ	2510-01-137-6265	19207	12315565	REAR DOOR ASSY.....	EA	1
26	27	PAQZZ	5305-00-855-0965	96906	MS24629-30	SCREW,TAPPING,THREA.....	EA	76
26	28	PBQZZ	2510-01-137-3359	19207	12315656-3	RETAINER,DOOR STRIP.....	EA	2
26	29	PBQZZ	2510-01-137-3360	19207	12315630-6	RETAINER,SEAL.....	EA	2
26	30	PAQZZ	5305-00-562-2742	96906	MS24628-36	SCREW,TAPPING,THREA.....	EA	134
26	31	MOQZZ		07700	21-00009	SEAL,RUBBER CHANNEL MFD FROM NSN 5330-01-140-2424 (22 FT)...	EA	2
26	32	PBQZZ	2510-01-137-3341	19207	12315630-7	RETAINER,SEAL.....	EA	2
26	33	PBQZZ	2510-01-137-3342	19207	12315656-1	RETAINER,DOOR,STRIP.....	EA	2
26	34	PBQZZ		19207	12315634	HINGE,BUTT.....	EA	5
26	35	PAQZZ	5305-00-719-5279	96906	MS90727-129	SCREW,CAP,HEXAGON H.....	EA	5
26	36	PAQZZ	5340-01-139-1836	19220	5985-50	STRAP,HINGE.....	EA	5
26	37	PAQZZ	4730-00-050-4203	96906	MS15001-1	FITTING,LUBRICATION.....	EA	5
26	38	PBQZZ	2510-01-137-3363	19207	12315630-5	RETAINER,SEAL.....	EA	2

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SECTION II

TM 9-2330-364-146P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
26	39	PAOZZ	5310-00-732-0560	96906	MS2190-14	NUT, PLAIN, HEXAGON.....	EA	5
26	40	PBOZZ	2510-01-137-3364	19207	12315630-8	RETAINER, SEAL.....	EA	2
26	41	MOZZ		19207	12315650	SEAL, RUBBER MPD FROM NSN.....	FT	V
26	42	PAOZZ	5310-00-809-5990	96906	MS27183-10	WASHER, FLAT.....	EA	2.0
26	43	PBOZZ		19207	11646220	HOOK, SLIP.....	EA	1
26	44	PAOZZ	2540-00-586-7579	19207	0690464	STRAP, WEBBING.....	EA	1
26	45	PAOZZ	5310-00-809-4050	96906	MS27183-10	WASHER, FLAT.....	EA	1
26	46	XBOZZ		19207	11646309	BRACKET.....	EA	2
26	47	PAOZZ		96906	MS24629-78	SCREW, TAPPING, THREA.....	EA	4

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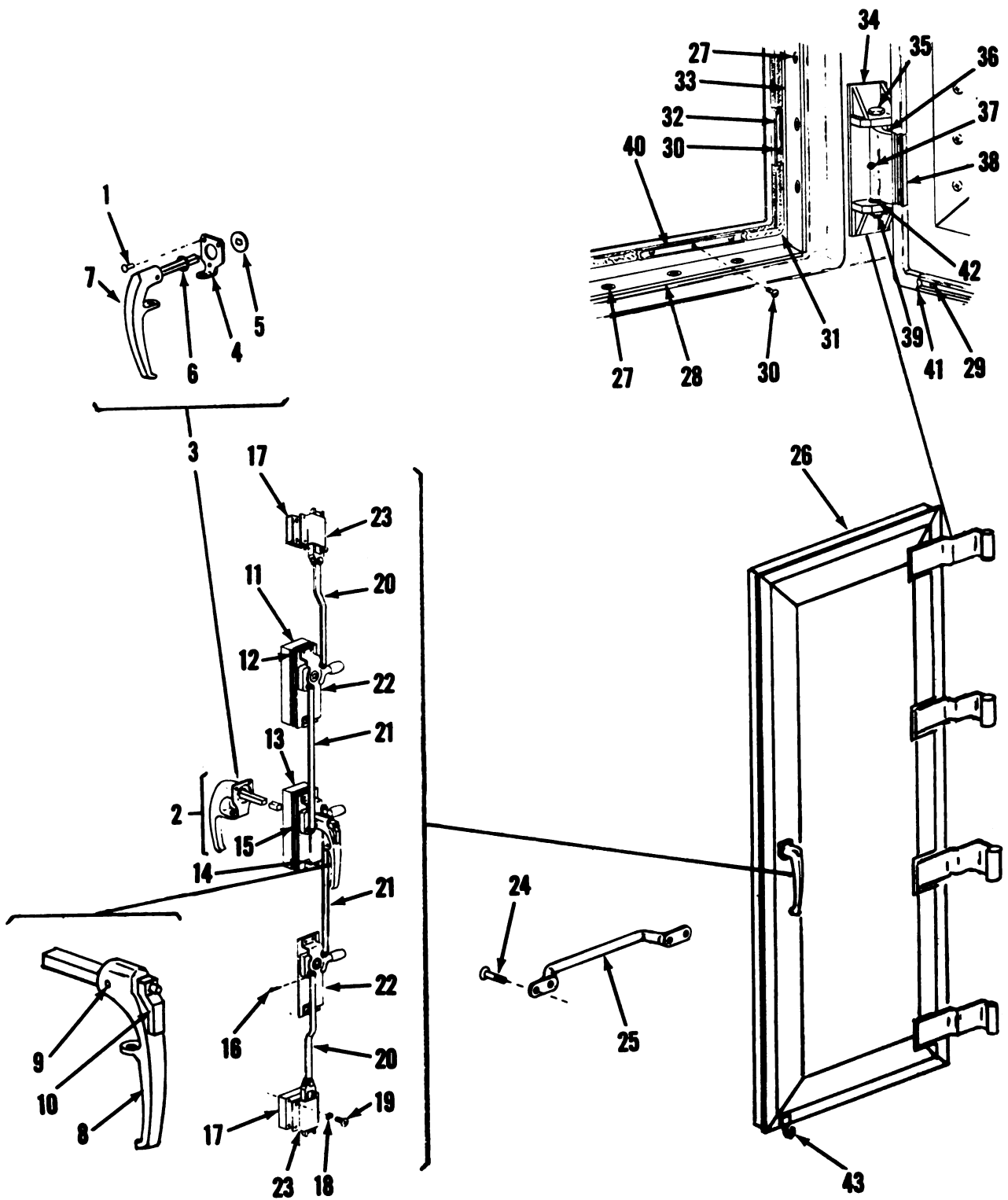


Figure 27. Side door

SECTION 11

TM 9-2330-364-14EP

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION	(7)	(8)
(B) FIG NO	(D) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE	U/M	QTY INC IN UNIT
<b>GROUP 1801 SIDE DOOR</b>								
27	1	PAQZZ	5320-01-139-9774	11019	SSPV-86	RIVET,BLIND.....	EA	3
27	2	PBQZZ	2540-01-142-2636	19207	12315567	HANDLE & LOCK ASSY.....	EA	1
27	3	PBQZZ	2540-01-142-2029	19207	12315569	HANDLE DOOR.....	EA	1
27	4	PBQZZ	5340-01-138-7153	19220	5624-8	ESCUTCHEON PLATE.....	EA	1
27	5	PAQZZ	5310-01-138-7040	19220	5631-10	WASHER,SQUARE HOLE.....	EA	1
27	6	PAQZZ	5330-01-137-9578	07700	84-TBA	O-RING.....	EA	1
27	7	PBQZZ	2540-01-152-1056	19207	12307731	HANDLE DOOR.....	EA	1
27	8	PBQZZ	2540-01-152-8882	19207	12315674	HANDLE,DOOR.....	EA	1
27	9	PAQZZ	5315-00-018-6507	96906	MS35671-52	PIN,GROOVED,HEADLES.....	EA	2
27	10	PBQZZ	5340-01-141-0884	19220	2525-55	PIN,QUICK RELEASE.....	EA	1
27	11	PAQZZ	5365-01-137-3886	19207	12315478-2	SPACER,PLATE.....	EA	2
27	12	PAQZZ	5365-01-137-3887	19207	12315466-2	SPACER,PLATE.....	EA	2
27	13	PAQZZ	5365-01-137-3888	19207	12315478-1	SPACER,PLATE.....	EA	1
27	14	PBQZZ	2540-01-139-9679	19220	1-2525-50R	LOCK,DOOR,VEH.....	EA	1
27	15	PAQZZ	5365-01-137-3889	19207	12315466-1	SPACER,PLATE.....	EA	1
27	16	PAQZZ	5315-00-236-8353	96906	MS24665-306	PIN,COTTER.....	EA	6
27	17	PAQZZ	5340-01-145-1650	19207	12315477	SPACER,PLATE.....	EA	2
27	18	PAQZZ	5310-00-582-5965	96906	MS35338-44	WASHER,LOCK.....	EA	20
27	19	PAQZZ	5305-00-225-3839	96906	MS90725-8	BOLT,MACHINE.....	EA	20
27	20	PBQZZ	2510-01-145-6823	19207	12315484-1	ROD,LOCKING.....	EA	2
27	21	PBQZZ	3040-01-141-0912	19207	12315485	LOCK ROD,BOLT.....	EA	2
27	22	PBQZZ	5340-01-137-9367	19220	M4790-50	ROLLER LATCH ASSY.....	EA	2
27	23	PBQZZ	5325-01-152-2378	19220	1-2525-52	BOLT,SLIDE.....	EA	2
27	24	PAQZZ	5305-00-052-6878	96906	MS24627-54	SCREW,TAPPING,THREA.....	EA	4
27	25	PAQZZ	5340-00-645-2212	19220	4300	HANDLE,BOW.....	EA	1
27	26	PBQZZ	2510-01-137-6266	19207	12315281	SIDE DOOR ASSY.....	EA	1
27	27	PAQZZ	5305-00-855-0965	96906	MS24629-38	SCREW,TAPPING,THREA.....	EA	56
27	28	PBQZZ	2510-01-137-3365	19207	12315656-4	RETAINER,DOOR,STRIP.....	EA	2
27	29	PBQZZ	2510-01-137-3366	19207	12315630-2	RETAINER,SEAL.....	EA	2
27	30	PAQZZ	5305-00-562-2742	96906	MS24628-36	SCREW,TAPPING,THREA.....	EA	104
27	31	MOZZ		07700	21-00089	SEAL MFD FROM NSN 5330-01-140-2424 (17 FT).....	FT	V
27	32	PBQZZ	2510-01-137-3367	19207	12315630-3	RETAINER,SEAL.....	EA	2
27	33	PBQZZ	2510-01-137-3368	19207	12315656-2	RETAINER,DOOR,STRIP.....	EA	2
27	34	PBQZZ		19207	12315634	HINGE,BUTT.....	EA	4
27	35	PAQZZ	5305-00-719-5279	96906	MS90727-129	SCREW,CAP,HEXAGON H.....	EA	4
27	36	PAQZZ	5340-01-139-1836	19220	5985-50	STRAP,HINGE.....	EA	4
27	37	PAQZZ	4730-00-050-4203	96906	MS15001-1	FITTING,LUBRICATION.....	EA	4
27	38	PBQZZ	2510-01-137-3369	19207	12315630-1	RETAINER,SEAL.....	EA	2
27	39	PAQZZ	5310-00-732-0560	96906	MS51968-14	NUT,PLAIN,HEXAGON.....	EA	4

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
27	40	PBOZZ	2910-01-137-3370	19207	12315630-4	RETAINER, SEAL.....	EA	2
27	41	MOZZ		19207	12315658	SEAL, RUBBER MPD FROM NSN.....	PT	V
27	42	PAOZZ	5310-00-809-5998	96906	MS27183-18	WASHER, FLAT.....	EA	16
27	43	PBOZZ		19207	11644228	HOOK, SLIP.....	EA	1

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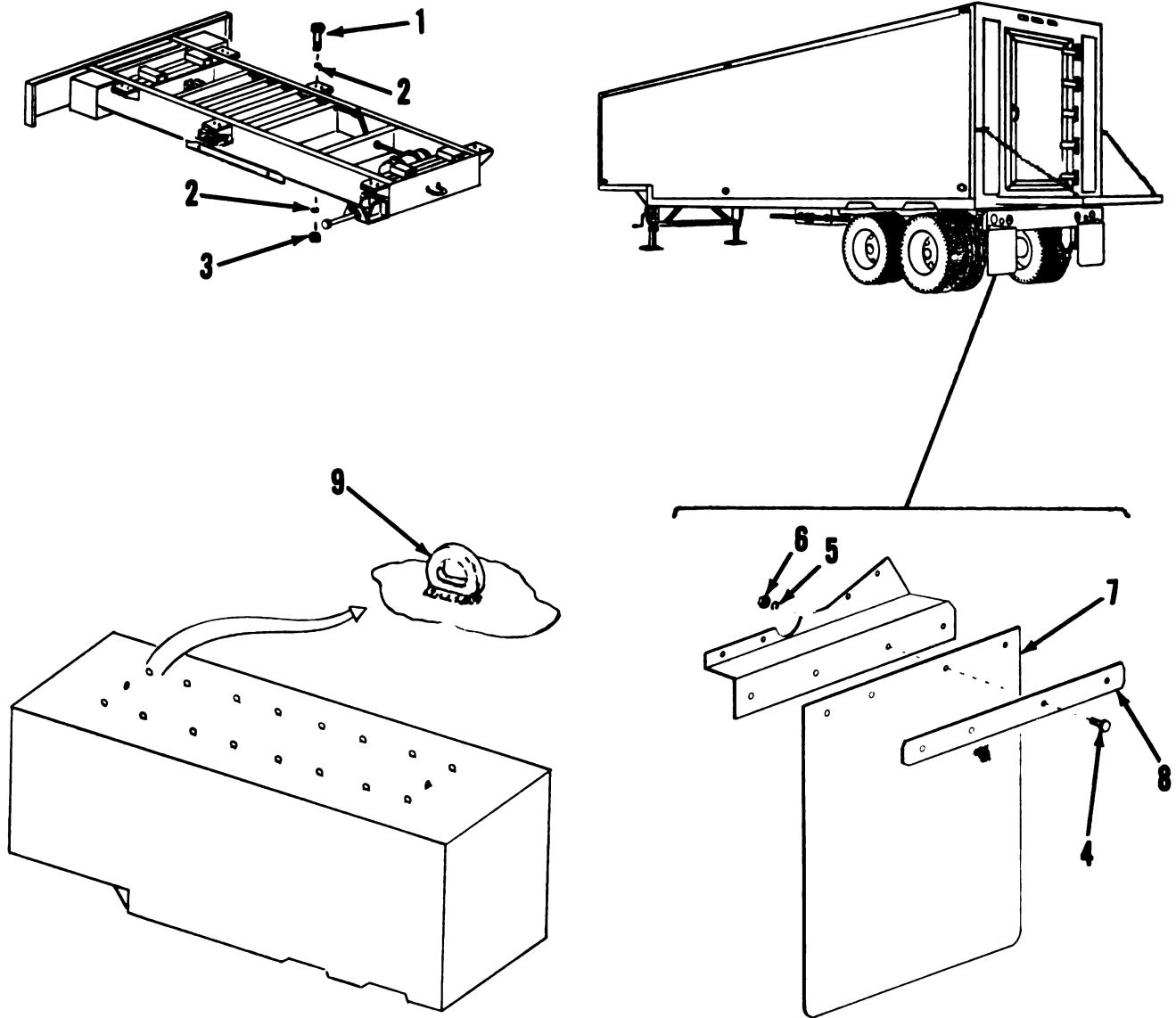


Figure 28. Miscellaneous body items

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1801 MISCELLANEOUS BODY ITEMS</b>		
28	1	PAQZZ	5309-00-082-6821	96906	MS98727-186	SCREW,CAP,HEXAGON H.....	EA	12
28	2	PAQZZ	5310-00-809-8533	96906	MS27183-23	WASHER,FLAT.....	EA	12
28	3	PAQZZ	5310-00-982-6818	96906	MS21044M12	NUT,SELF-LOCKING,HE.....	EA	12
28	4	PAQZZ	5309-00-942-2196	96906	MS18154-60	SCREW,CAP,HEXAGON H.....	EA	8
28	5	PAQZZ	5310-00-637-9541	96906	MS35338-46	WASHER,LOCK.....	EA	8
28	6	PAQZZ	5310-00-732-8558	96906	MS51967-8	NUT,PLAIN,HEXAGON.....	EA	8
28	7	PAQZZ	2548-00-897-5917	19207	10882200	GUARD,SPLASH,VEHICU.....	EA	2
28	8	PAQZZ	5365-00-717-5617	19207	10944341	SPACER,PLATE.....	EA	2
28	9	PAQZZ	5365-00-823-4836	96906	MS51925-6	RING,DEE.....	EA	18

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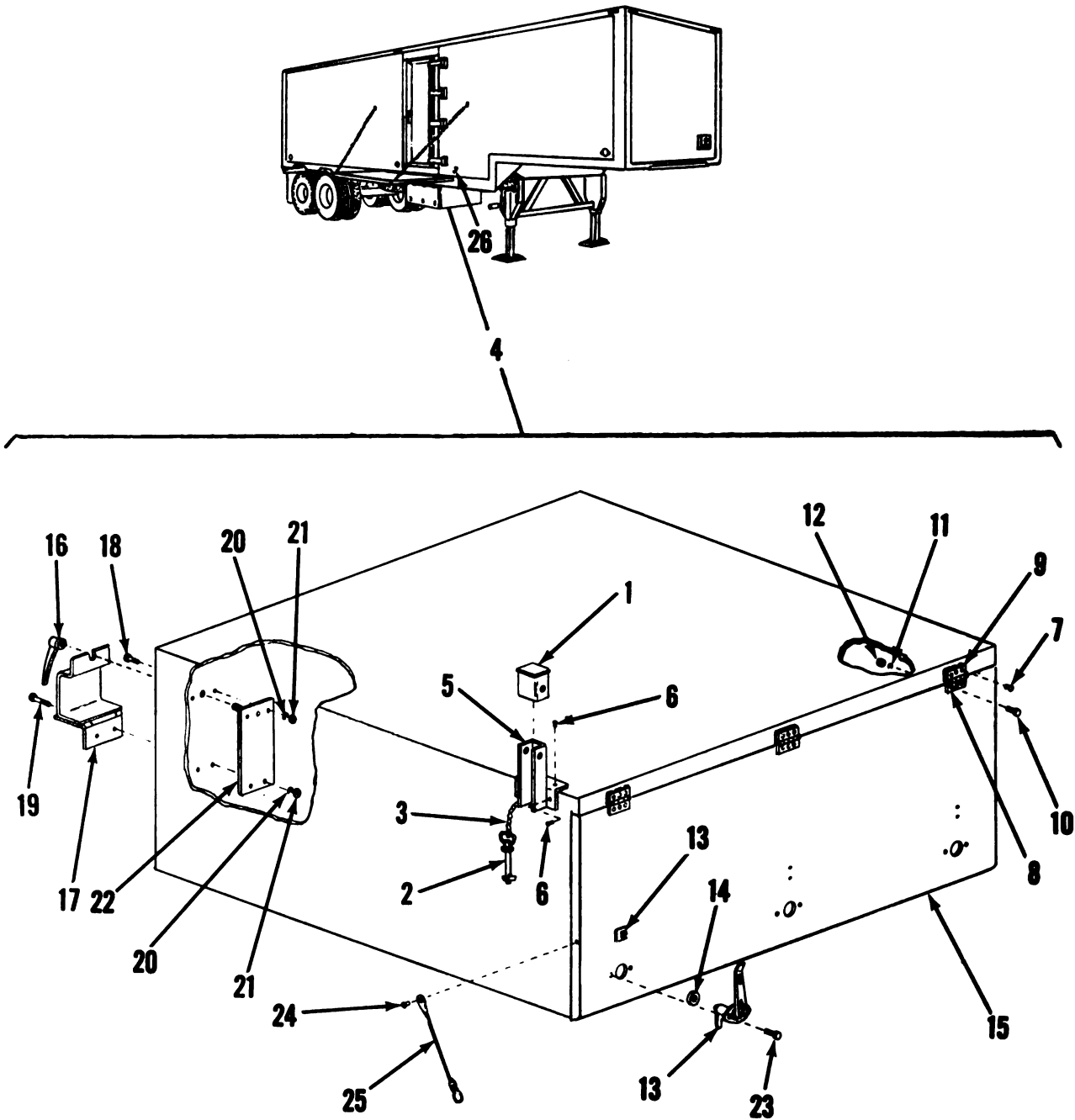


Figure 29. Stowage box

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 1801 STORAGE BOX</b>		
29	1	XBOZZ		19207	12315729	BRACKET.....	EA	4
29	2	PAOZZ	2590-01-124-9288	19207	11684673-1	PI N, LOCK TENSION.....	EA	4
29	3	HOOZZ		81348	RRC271, TY2, CL7, 0.135	CHAIN MPD FROM NSM	IN	8
29	4	XBOZZ		19207	12315721	STORAGE BOX.....	EA	1
29	5	XBOZZ		19207	12315709	HANGER.....	EA	4
29	6	PAOZZ	5320-01-150-9681	19207	12315644-3	RIVET, BLIND.....	EA	16
29	7	PAOZZ	5320-01-150-9681	19207	12315644-3	RIVET, BLIND.....	EA	9
29	8	PAOZZ		19207	12315710	HINGE, BUTT.....	EA	3
29	9	XBOZZ		19207	12315688	SPACER.....	EA	3
29	10	PAOZZ	5305-00-225-3838	96906	MS90725-4	SCREW, CAP, HEXAGON H.....	EA	9
29	11	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK.....	EA	9
29	12	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON.....	EA	9
29	13	PAOZZ		19207	8328726	CATCH, CLAMPING.....	EA	3
29	14	XBOZZ		19207	12315740	SPACER.....	EA	3
29	15	XBOZZ		19207	12315723	COVER.....	EA	1
29	16	PBOZZ		19207	11684306	LEVER ASSEMBLY.....	EA	2
29	17	PBOZZ	2590-01-150-8355	19207	12308059	BRACKET AND HINGE.....	EA	2
29	18	PAOZZ	5305-00-068-0502	96906	MS90725-6	SCREW, CAP, HEXAGON H.....	EA	4
29	19	PAOZZ	5305-00-225-3839	96906	MS90725-8	BOLT, MACHINE.....	EA	4
29	20	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK.....	EA	8
29	21	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON.....	EA	8
29	22	XBOZZ		19207	12315731	PLATE.....	EA	2
29	23	PAOZZ		19207	12308151-56	RIVET, BLIND.....	EA	6
29	24	PAOZZ		19207	12308151-23	RIVET, BLIND.....	EA	2
29	25	PAOZZ		19207	12315706-1	WIRE ROPE ASSEMBLY.....	EA	2
29	26	PBOZZ		19207	11646228	HOOK, SLIP.....	EA	2

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GROUP PARTS LIST

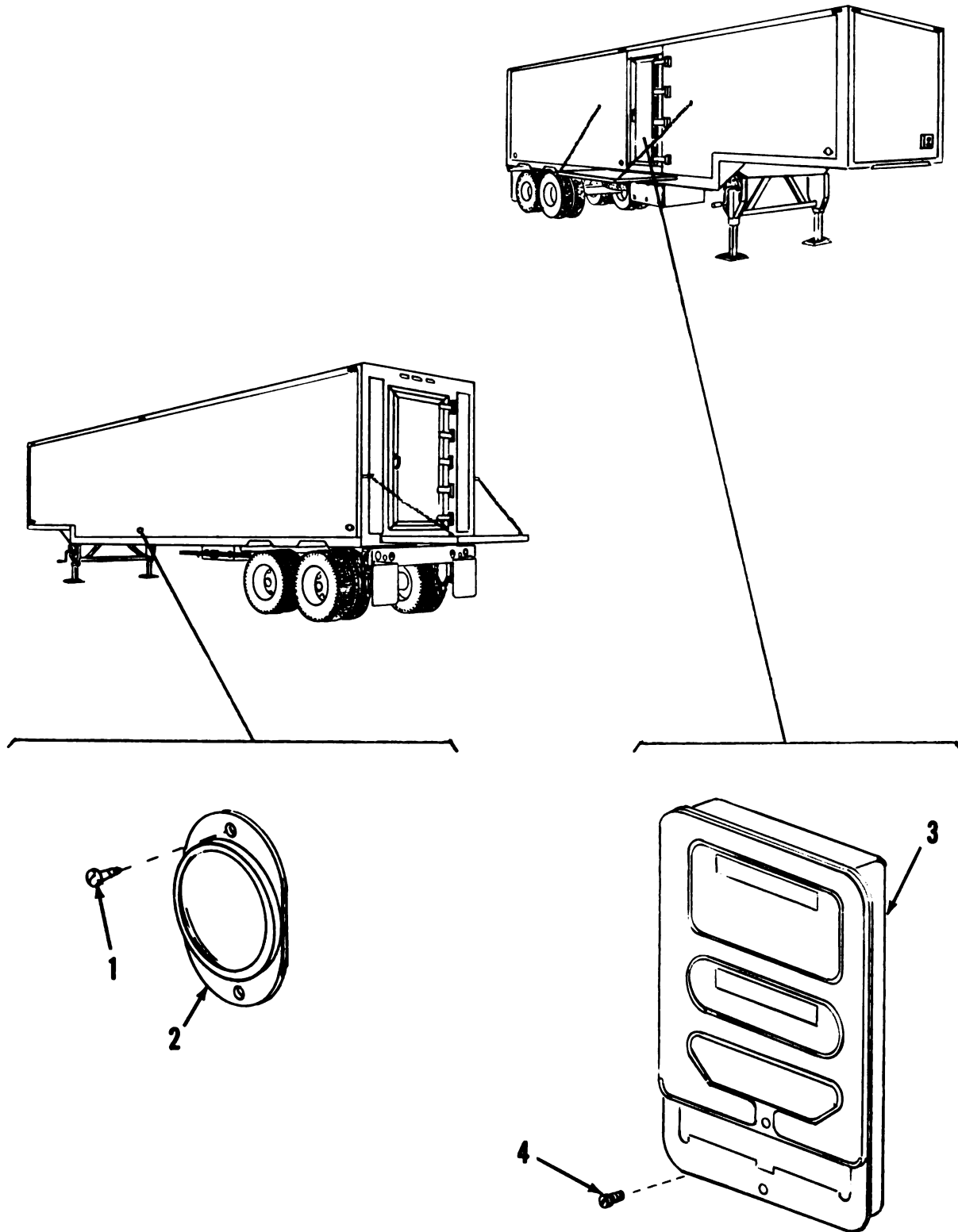


Figure 30. Reflector and manual container

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6) DESCRIPTION
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	USABLE ON CODE
<b>GROUP 22 ACCESSORY ITEMS</b>						
<b>GROUP 2202 REFLECTOR AND MANUAL CONTAINER</b>						
30	1	PA0ZZ	5305-00-432-4252	96904	MS51861-66	SCREW,TAPPING,THREA.....
30	2	PA0ZZ	9905-00-205-2795	96904	MS35387-1	REFLECTOR,INDICATIN.....
30	2	PA0ZZ	9905-00-202-3639	96904	MS35387-2	REFLECTOR,INDICATIN.....
30	3	PB0ZZ	2990-01-136-4809	19207	12307738	STOWAGE CONTAINER,M.....
30	4	PA0ZZ	5305-00-432-4254	96904	MS51861-69	SCREW,TAPPING,THREA.....

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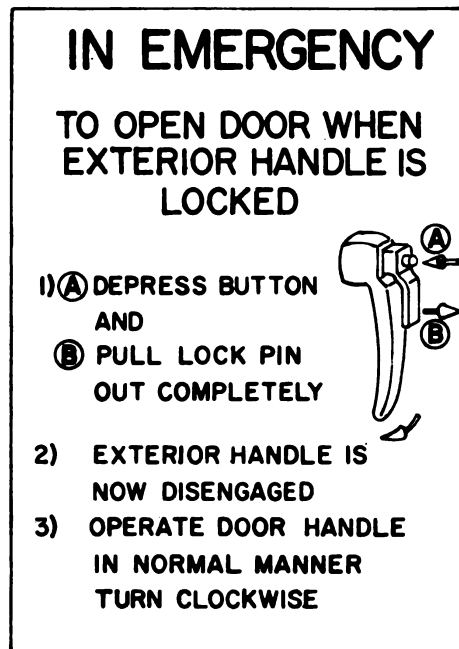
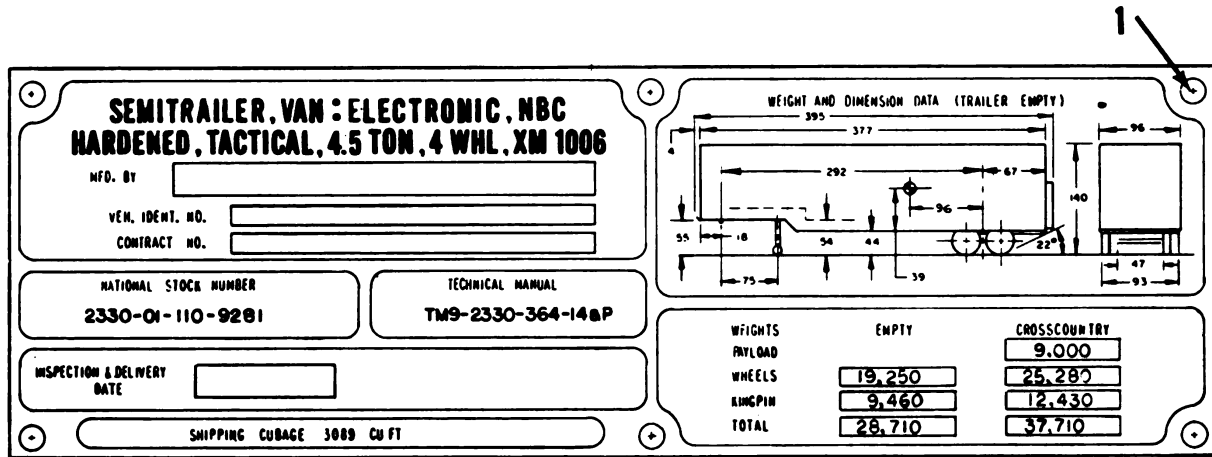


Figure 31. Identification plates



(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
IN FIG NO	IN ITEM NO	SNR CODE	NATIONAL STOCK NUMBER	FSCN	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
<b>GROUP 2210 IDENTIFICATION PLATES</b>								
31	1	PAGZZ	9905-00-432-4201	96904	MS51061-45	SCREEN,TAPPING,THREA.....	EA	6
31	2	PAGZZ	9905-01-137-6260	19207	12307000	PLATE,IDENTIFICATIO.....	EA	1
31	3	PAGZZ	9905-01-137-3753	19207	12315550	PLATE,INSTRUCTION.....	EA	2

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						<b>GROUP 9501 BULK ITEMS</b>		
BULK		PAFZZ	6145-00-705-6670	81349	M13486-1-7	WIRE,ELECTRICAL.....	FT	1
BULK		PAOZZ	5975-01-142-3145	19207	8376129	LOOM,INSULATING.....	FT	
BULK		PAOZZ	4710-00-203-3172	19207	8689200	TUBE,METALLIC.....	FT	
BULK		PAOZZ	4710-00-277-5529	19207	8689210	TUBE,METALLIC.....	FT	
BULK		PAOZZ		81349	M111631,TYF,GRC, CL1,FORMU,CY1	INSULATION,ELECTRIC.....	FT	
BULK		PAOZZ	5330-01-140-2424	07700	21-00009	SEAL,RUBBER CHANNEL.....	FT	
BULK		PAOZZ		19207	12315650	SEAL,RUBBER,DOOR.....	FT	
BULK		PAOZZ		81348	RRC271, TY1, GRC, CL4, 0.25	CHAIN	FT	
BULK		PAOZZ		81348	RRC271, TY2, CL7, 0.135	CHAIN	FT	
						SECTION III. SPECIAL TOOLS		
						This section is not applicable.		
						F-78		

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-017-9721	22	8	5315-00-234-1664	22	5
5306-00-017-9722	22	10	5315-00-236-8353	26	16
5315-00-018-6507	26	9	5315-00-236-8353	27	16
5315-00-018-6507	27	9	4730-00-244-9848	15	16
6240-00-019-0877	4	10	4730-00-244-9848	15	29
1670-00-020-4075	21	2	5305-00-269-2803	15	26
2530-00-021-2366	16	1	5305-00-269-2803	15	44
2530-00-026-0265	17	14	5305-00-269-2803	16	4
5310-00-045-3299	1	17	5305-00-269-3214	24	3
5310-00-045-3299	5	19	5305-00-269-3217	23	11
5340-00-050-2740	5	16	5305-00-269-3243	24	13
4730-00-050-4203	26	37	5305-00-269-3250	15	22
4730-00-050-4203	27	37	2610-00-269-7383	19	2
5305-00-052-6878	26	24	4730-00-270-4616	15	7
5305-00-052-6878	27	24	2530-00-272-8106	11	6
5305-00-052-6921	1	2	5365-00-274-4544	13	3
5305-00-052-7492	15	3	2610-00-275-7995	19	1
5999-00-057-2929	4	8	5310-00-275-9460	11	8
2640-00-060-3550	19	4	5325-00-276-6040	15	12
5970-00-063-1495	8	7	5325-00-276-6040	15	39
5970-00-063-1495	8	15	5325-00-276-6051	15	34
5305-00-068-0502	29	18	4710-00-277-5529	BJLK	
4730-00-069-1186	15	15	2530-00-278-2243	14	1
4730-00-069-1186	15	35	5320-00-285-1025	22	14
4730-00-069-1187	15	28	4730-00-289-0051	15	25
4730-00-069-1187	15	36	5325-00-290-0074	5	10
4730-00-069-1187	15	41	5310-00-298-8903	6	3
5305-00-071-1781	20	7	5310-00-359-0458	13	5
5305-00-071-1788	13	11	2530-00-359-1162	17	12
5305-00-071-2241	20	15	5306-00-383-4957	18	8
5305-00-071-2241	20	24	5310-00-393-6685	6	10
5305-00-071-2510	20	22	5310-00-393-6685	8	4
5310-00-080-6004	21	8	5310-00-393-6685	9	5
5310-00-080-6004	23	12	5940-00-399-6676	6	4
5310-00-080-6004	24	14	5310-00-407-9566	17	2
5310-00-081-4219	20	8	4730-00-419-9425	13	4
5305-00-082-6821	28	1	5305-00-432-4201	31	1
5310-00-087-4652	21	7	5305-00-432-4203	20	16
5310-00-087-4652	23	13	5305-00-432-4252	30	1
5310-00-087-4652	24	2	5305-00-432-4254	30	4
5310-00-087-4652	24	15	5320-00-443-5065	11	24
5310-00-088-1251	20	19	2530-00-457-1676	12	6
5310-00-088-1251	20	21	5315-00-461-3835	11	17
5310-00-088-1251	21	15	5330-00-462-0907	4	3
5330-00-090-2128	15	50	2530-00-493-8809	12	9
5365-00-090-5426	6	9	4710-00-511-1692	14	2
5365-00-090-5426	8	3	5365-00-516-7878	14	7
5365-00-090-5426	9	4	5940-00-557-2343	6	5
2530-00-093-5597	18	3	5940-00-557-2343	7	2
3110-00-100-5951	17	7	5940-00-557-2343	8	8
5305-00-115-9526	4	12	5940-00-557-2343	8	11
6220-00-134-9098	4	1	5940-00-557-2343	8	13
2530-00-142-6045	15	49	5940-00-557-2343	9	7
6240-00-143-3159	4	5	5310-00-559-0070	1	13
6240-00-155-7859	2	2	5330-00-562-1947	17	4
2530-00-157-1396	15	45	2530-00-562-1948	17	3
2530-00-162-1986	11	12	5305-00-562-2742	26	30
5325-00-174-9341	5	6	5305-00-562-2742	27	30
6220-00-179-4324	4	2	5935-00-572-9180	4	6
4730-00-187-7612	15	32	5310-00-576-5752	5	13
9905-00-202-3639	30	2	5325-00-579-6134	5	7
4710-00-203-3172	BJLK		5310-00-582-5965	1	8
2530-00-204-3622	11	18	5310-00-582-5965	22	12
9905-00-205-2795	30	2	5310-00-582-5965	26	18
5310-00-209-0786	1	1	5310-00-582-5965	27	18
5310-00-209-0965	13	10	5310-00-582-5965	29	11
5310-00-209-0965	18	5	5310-00-582-5965	29	20
2530-00-211-6129	18	4	5310-00-584-5272	22	2
5310-00-220-2665	17	5	5310-00-584-7888	11	9
5305-00-225-3838	29	10	2540-00-586-7579	26	44
5305-00-225-3839	20	26	4730-00-595-0083	15	17
5305-00-225-3839	21	18	5310-00-595-7237	12	4
5305-00-225-3839	26	19	5310-00-596-7693	1	5
5305-00-225-3839	27	19	6240-00-617-0991	4	4
5305-00-225-3839	29	19	2530-00-624-0256	10	1
5310-00-225-6408	25	23	5310-00-637-9541	4	11
5310-00-225-6993	20	3	5310-00-637-9541	11	2
5306-00-225-8496	17	1	5310-00-637-9541	14	6
5305-00-225-9081	20	5	5310-00-637-9541	15	21
2530-00-232-6020	11	3	5310-00-637-9541	15	43

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-637-9541	16	3	5310-00-809-5998	26	42
5310-00-637-9541	28	5	5310-00-809-5998	27	42
5310-00-656-0067	7	8	5310-00-809-8533	25	12
2530-00-656-4895	11	4	5310-00-809-8533	28	2
5340-00-664-9175	5	9	2640-00-810-5861	19	3
5340-00-665-2212	26	25	5310-00-820-6653	15	48
5340-00-665-2212	27	25	5310-00-820-6653	23	5
4720-00-678-6125	15	31	5310-00-820-6653	24	5
5935-00-686-2599	6	7	5310-00-820-6653	25	21
3110-00-689-8250	17	9	5365-00-823-4836	28	9
5935-00-691-5591	7	6	5310-00-823-8803	25	22
2530-00-692-6133	12	1	5310-00-823-8804	20	30
2530-00-693-1029	17	12	5310-00-833-8567	4	7
2590-00-695-9076	6	2	5315-00-842-3044	11	14
6145-00-705-6678			5935-00-846-3883	8	2
5365-00-717-5617	28	8	4820-00-849-1220	15	19
5305-00-719-5279	26	35	4730-00-854-6931	13	1
5305-00-719-5279	27	35	5305-00-855-0960	1	4
5305-00-724-5910	23	2	5305-00-855-0964	2	3
5305-00-724-5910	24	4	5305-00-855-0964	3	2
5305-00-724-6772	11	22	5305-00-855-0964	5	1
5340-00-724-7038	5	8	5305-00-855-0964	5	17
5340-00-725-5268	5	5	5305-00-855-0964	15	11
5305-00-726-2551	25	26	5305-00-855-0964	15	37
5305-00-726-2555	25	4	5305-00-855-0965	26	27
4730-00-729-6437	13	2	5305-00-855-0965	27	27
5310-00-732-0558	16	2	5305-00-855-0970	15	4
5310-00-732-0558	24	8	5305-00-855-0973	21	11
5310-00-732-0558	28	6	4730-00-876-7387	13	12
5310-00-732-0559	12	3	5310-00-877-5797	1	24
5310-00-732-0559	14	5	5310-00-880-2004	17	13
5310-00-732-0559	15	20	5310-00-880-2005	17	13
5310-00-732-0559	15	42	5310-00-880-7745	18	6
5310-00-732-0560	26	39	5310-00-880-8189	13	9
5310-00-732-0560	27	39	9905-00-893-3570	6	6
5306-00-733-9239	18	8	9905-00-893-3570	9	2
2530-00-738-9061	17	16	2540-00-897-5917	28	7
2530-00-738-9620	17	15	5310-00-897-5940	11	21
5315-00-740-9376	12	5	5925-00-900-1903	1	15
5315-00-740-9379	11	13	5340-00-901-8132	15	10
5360-00-740-9382	12	7	4730-00-908-3193	14	3
5330-00-740-9550	17	10	5305-00-915-8087	22	3
2530-00-740-9553	17	11	2530-00-920-7568	11	5
2530-00-741-1078	15	18	5999-00-926-3144	7	7
3040-00-752-1156	22	15	5310-00-934-9757	1	16
2510-00-752-1157	22	6	5310-00-934-9757	5	20
2510-00-752-1160	22	4	5310-00-934-9758	5	12
2510-00-752-1163	22	7	5310-00-934-9758	20	31
5310-00-752-1650	17	6	5305-00-940-8069	25	9
9905-00-752-4649	6	11	5305-00-942-2196	21	10
9905-00-752-4649	7	3	5305-00-942-2196	28	4
9905-00-752-4649	8	5	5305-00-958-0671	1	23
9905-00-752-4649	8	10	5340-00-977-0815	15	23
9905-00-752-4649	9	6	5310-00-982-6810	28	3
2530-00-753-9308	14	8	5310-00-984-3806	20	9
5325-00-754-1153	5	22	5305-00-984-6191	1	12
2530-00-757-1718	18	7	5305-00-984-6194	5	18
5310-00-761-6882	22	13	5305-00-984-6195	1	18
5310-00-761-6882	29	12	5305-00-984-6212	5	14
5310-00-761-6882	29	21	5305-00-984-6214	20	28
5310-00-763-8901	25	11	5305-00-988-1727	1	7
5310-00-763-8901	25	27	5310-00-997-1888	1	9
5310-00-763-8904	25	20	9905-00-999-7369	15	8
5310-00-763-8905	15	47	9905-00-999-7369	15	30
5310-00-763-8920	23	6	9905-00-999-7370	15	5
5310-00-763-8920	24	6	9905-00-999-7370	15	27
5340-00-764-7051	15	14	5305-01-010-2362	11	1
5310-00-768-0318	22	1	2530-01-031-4458	12	8
5975-00-771-6634	6	8	4010-01-032-2207	20	12
5935-00-771-6793	9	3	4010-01-032-2207	21	5
5935-00-773-1428	1	10	5360-01-036-8596	11	10
5310-00-797-9332	11	16	5360-01-037-1083	11	20
5360-00-797-9339	11	15	5310-01-040-7465	11	11
5340-00-809-1492	15	38	5320-01-049-8261	12	2
4720-00-809-2750	14	4	4710-01-049-8921	13	7
5310-00-809-4058	20	18	4710-01-049-8922	13	6
5310-00-809-4058	20	20	2530-01-054-9929	11	7
5310-00-809-4058	21	16	5306-01-062-2334	18	1
5310-00-809-4058	26	45	2540-01-068-4746	7	9
5310-00-809-5998	20	4	4010-01-074-5029	22	11

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5340-01-083-5527	15	24	5306-01-139-1835	25	10
5340-01-087-6921	20	6	5340-01-139-1836	26	36
2530-01-092-6445	11	23	5340-01-139-1836	27	36
5304-01-098-7197	25	13	2590-01-139-1865	23	1
5310-01-098-7236	25	17	2510-01-139-9678	25	1
5310-01-098-7246	25	16	2540-01-139-9679	26	14
5310-01-098-7247	25	28	2540-01-139-9679	27	14
2590-01-100-9001	25	2	5320-01-139-9774	26	1
2510-01-100-9270	25	14	5320-01-139-9774	27	1
2510-01-100-9271	25	24	5330-01-140-2424	BULK	
2520-01-101-0935	25	15	4730-01-140-6473	25	8
2520-01-101-2551	25	19	2510-01-140-8207	22	9
2520-01-101-2559	25	3	2590-01-140-8208	15	1
2510-01-101-2890	25	29	6220-01-140-8247	2	1
5310-01-110-6242	11	19	6220-01-140-8248	2	1
2530-01-110-4321	18	2	2590-01-141-0876	7	5
2530-01-119-1838	17	8	5935-01-141-0877	7	4
2590-01-124-9288	29	2	2590-01-141-0881	8	12
2590-01-136-4809	30	3	5340-01-141-0884	26	10
2510-01-137-3359	26	28	5340-01-141-0884	27	10
2510-01-137-3360	26	29	5220-01-141-0908	3	1
2510-01-137-3361	26	32	3040-01-141-0912	26	21
2510-01-137-3362	26	33	3040-01-141-0912	27	21
2510-01-137-3363	26	38	2510-01-141-5297	25	7
2510-01-137-3364	26	40	2510-01-141-5301	25	6
2510-01-137-3365	27	28	4730-01-141-9268	15	6
2510-01-137-3366	27	29	2540-01-142-2636	26	2
2510-01-137-3367	27	32	2540-01-142-2636	27	2
2510-01-137-3368	27	33	2540-01-142-2829	26	3
2510-01-137-3369	27	38	2540-01-142-2829	27	3
2510-01-137-3370	27	40	5975-01-142-3145	BULK	
9905-01-137-3753	31	3	5905-01-143-5161	1	20
5340-01-137-3818	20	13	4720-01-143-6992	13	8
5340-01-137-3818	21	13	5305-01-144-7386	24	9
5340-01-137-3819	23	8	5340-01-144-9020	21	1
5340-01-137-3819	24	11	5340-01-145-1650	26	17
5365-01-137-3886	26	11	5340-01-145-1650	27	17
5365-01-137-3886	27	11	2530-01-145-6819	17	8
5365-01-137-3887	26	12	2510-01-145-6823	27	20
5365-01-137-3887	27	12	2510-01-145-6824	26	20
5365-01-137-3888	26	13	5340-01-145-6829	20	29
5365-01-137-3888	27	13	2540-01-145-8253	21	17
5365-01-137-3889	26	15	5975-01-147-1452	5	11
5365-01-137-3889	27	15	5975-01-147-1453	5	21
2510-01-137-6265	26	26	5975-01-147-2429	5	2
2510-01-137-6266	27	26	5975-01-147-2430	5	3
9905-01-137-6268	31	2	5975-01-147-2431	5	4
5340-01-137-9367	26	22	5940-01-147-3415	8	6
5340-01-137-9367	27	22	5940-01-147-3415	8	14
5330-01-137-9578	26	6	5975-01-148-4706	5	15
5330-01-137-9578	27	6	5340-01-150-1027	21	1
4730-01-138-0907	15	9	5365-01-150-6277	25	18
6110-01-138-3869	1	6	2590-01-150-8355	29	17
2590-01-138-3873	23	3	5320-01-150-9681	29	6
2590-01-138-3994	23	4	5320-01-150-9681	29	7
2590-01-138-4002	24	7	2540-01-152-1056	26	7
2590-01-138-4003	24	1	2540-01-152-1056	27	7
5310-01-138-7040	26	5	5325-01-152-2378	26	23
5310-01-138-7040	27	5	5325-01-152-2378	27	23
5340-01-138-7153	26	4	5340-01-152-4717	20	1
5340-01-138-7153	27	4	2540-01-152-8800	20	33
5120-01-138-7195	23	9	2540-01-152-8882	26	8
5120-01-138-7195	24	10	2540-01-152-8882	27	8
2510-01-138-9158	25	25			

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
88044	AN931A16-22	5	6	96906	MS15570-1251	4	10
98410	B-175	8	6	96906	MS15570-89	4	5
98410	B-175	8	14	96906	MS18154-113	22	3
63477	FC14764	12	7	96906	MS18154-58	4	12
74410	HW-1980-4-0	23	7	96906	MS18154-59	11	1
74410	JS-S-0098	23	1	96906	MS18154-60	21	10
81349	MIL-I-631TYPF, GRC, CL 1, FORMU, CY1	21	3	96906	MS18154-60	28	4
81349	MIL I 631, TYF, GRC, CL 1, FORMU, CY1	BULK		96906	MS19081-112	17	7
81349	MIL I 631, TYF, GRC, CL 1, FORMU, CY1	20	10	96906	MS21044M12	28	3
96906	MS15001-1	26	37	96906	MS21044M3	1	24
96906	MS15001-1	27	37	96906	MS21333-100	15	38

FSCM	PART NUMBER	FIGURE ITEM		FSCM	PART NUMBER	FIGURE ITEM	
		NO.	NO.			NO.	NO.
96906	MS 21333-69	15	14	96906	MS35436-11	6	5
96906	MS 21333-75	5	16	96906	MS35436-11	7	2
96906	MS 21333-76	5	8	96906	MS35436-11	8	8
96906	MS 21334-24	5	5	96906	MS35436-11	8	11
96906	MS 21334-26	15	10	96906	MS35436-11	8	13
96906	MS 24627-54	26	24	96906	MS35436-11	9	7
96906	MS 24627-54	27	24	96906	MS35478-1073	4	4
96906	MS 24628-36	26	30	96906	MS35489-101	15	34
96906	MS 24628-36	27	30	96906	MS35489-109	5	10
96906	MS 24629-12	15	4	96906	MS35489-80	5	7
96906	MS 24629-24	21	11	96906	MS35489-91	5	22
96906	MS 24629-36	1	4	96906	MS35490-80	15	12
96906	MS 24629-38	26	27	96906	MS35490-80	15	39
96906	MS 24629-38	27	27	96906	MS35649-202	5	12
96906	MS 24629-48	2	3	96906	MS35649-202	20	31
96906	MS 24629-48	3	2	96906	MS35649-2252	1	9
96906	MS 24629-48	5	1	96906	MS35649-282	1	16
96906	MS 24629-48	5	17	96906	MS35649-282	5	20
96906	MS 24629-48	15	11	96906	MS35671-52	26	9
96906	MS 24629-48	15	37	96906	MS35671-52	27	9
96906	MS 24629-57	1	2	96906	MS35743-76	12	2
96906	MS 24629-61	15	3	96906	MS35746-1	15	17
96906	MS 24629-78	26	47	96906	MS35748-1	15	50
96906	MS 24665-283	11	14	96906	MS35782-5	15	19
96906	MS 24665-306	26	16	96906	MS35842-12	14	3
96906	MS 24665-306	27	16	96906	MS39179-5	15	15
96906	MS 24665-495	22	5	96906	MS39179-5	15	35
96906	MS 27148-2	4	8	96906	MS39179-6	15	7
96906	MS 27148-3	7	7	96906	MS39182-3	15	28
96906	MS 27183-10	20	18	96906	MS39182-3	15	36
96906	MS 27183-10	20	20	96906	MS39182-3	15	41
96906	MS 27183-10	21	16	96906	MS39182-6	15	25
96906	MS 27183-10	26	45	96906	MS39233-4	15	32
96906	MS 27183-12	20	8	96906	MS51375-1	19	4
96906	MS 27183-14	21	8	96906	MS51377-1	19	3
96906	MS 27183-14	23	12	96906	MS51861-45	31	1
96906	MS 27183-14	24	14	96906	MS51861-47	20	16
96906	MS 27183-18	20	4	96906	MS51861-86	30	1
96906	MS 27183-18	26	42	96906	MS51861-69	30	4
96906	MS 27183-18	27	42	96906	MS51922-1	20	19
96906	MS 27183-21	25	22	96906	MS51922-1	20	21
96906	MS 27183-23	25	12	96906	MS51922-1	21	15
96906	MS 27183-23	28	2	96906	MS51922-17	21	7
96906	MS 27183-9	20	30	96906	MS51922-17	23	13
96906	MS 27756	21	2	96906	MS51922-17	24	2
96906	MS 35140-10	5	9	96906	MS51922-17	24	15
96906	MS 35206-243	1	12	96906	MS51922-33	20	3
96906	MS 35206-246	5	18	96906	MS51922-45	11	21
96906	MS 35206-247	1	18	96906	MS51922-53	25	23
96906	MS 35206-265	5	14	96906	MS51922-9	20	9
96906	MS 35206-267	20	28	96906	MS51925-6	28	9
96906	MS 35206-283	1	7	96906	MS51946-1	18	8
96906	MS 35207-274	1	23	96906	MS51946-2	18	8
96906	MS 35333-38	1	13	96906	MS51967-11	13	9
96906	MS 35333-39	5	13	96906	MS51967-14	22	1
96906	MS 35333-42	12	4	96906	MS51967-2	22	13
96906	MS 35333-31	1	5	96906	MS51967-2	29	12
96906	MS 35333-33	1	1	96906	MS51967-2	29	21
96906	MS 35338-42	1	17	96906	MS51967-20	23	6
96906	MS 35338-42	5	19	96906	MS51967-20	24	6
96906	MS 35338-44	1	8	96906	MS51967-8	16	2
96906	MS 35338-44	22	12	96906	MS51967-8	24	8
96906	MS 35338-44	26	18	96906	MS51967-8	28	6
96906	MS 35338-44	27	18	96906	MS51968-11	18	6
96906	MS 35338-44	29	11	96906	MS51968-14	26	39
96906	MS 35338-44	29	20	96906	MS51968-14	27	39
96906	MS 35338-45	17	2	96906	MS51968-20	15	47
96906	MS 35338-46	4	11	96906	MS51968-21	25	20
96906	MS 35338-46	11	2	96906	MS51968-23	25	11
96906	MS 35338-46	14	6	96906	MS51968-23	25	27
96906	MS 35338-46	15	21	96906	MS51968-8	12	3
96906	MS 35338-46	15	43	96906	MS51968-8	14	5
96906	MS 35338-46	16	3	96906	MS51968-8	15	20
96906	MS 35338-46	28	5	96906	MS51968-8	15	42
96906	MS 35338-47	13	10	96906	MS51983-3	17	13
96906	MS 35338-47	18	5	96906	MS51983-4	17	13
96906	MS 35338-48	22	2	96906	MS52125-1	4	1
96906	MS 35338-51	11	9	96906	MS52130 1A20412	14	4
96906	MS 35387-1	30	2	96906	MS53004-2	16	1
96906	MS 35387-2	30	2	96906	MS53007-1	15	5

FSCM	PART NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	FIGURE NO.	ITEM NO.
96906	MS53007-1	15	27	19207	11639519-2	4	5
96906	MS53007-2	15	8	19207	11639520	4	9
96906	MS53007-2	15	30	19207	11639535	4	2
96906	MS53060-1	17	12	19207	11646228	26	43
96906	MS53060-2	17	12	19207	11646228	27	43
96906	MS90725-10	20	15	19207	11646228	29	26
96906	MS90725-10	20	24	19207	11646389	26	46
96906	MS90725-128	20	7	19207	11662833	11	23
96906	MS90725-162	23	2	19207	11663025	11	10
96906	MS90725-162	24	4	19207	11663231	12	8
96906	MS90725-31	17	1	19207	11663232	11	11
96906	MS90725-36	20	5	19207	11663233	11	20
96906	MS90725-4	29	10	19207	11663236	11	19
96906	MS90725-6	29	18	19207	11665741	11	12
96906	MS90725-64	24	3	19207	11668361	15	49
96906	MS90725-67	23	11	19207	11684305	20	33
96906	MS90725-8	20	26	19207	11684306	29	16
96906	MS90725-8	21	18	19207	11684622	20	6
96906	MS90725-8	26	19	19207	11684636	13	8
96906	MS90725-8	27	19	19207	11684673-1	29	2
96906	MS90725-8	29	19	19207	12307731	26	7
96906	MS90726-139	11	22	19207	12307731	27	7
96906	MS90726-60	15	26	19207	12307738	30	3
96906	MS90726-60	15	44	19207	12307790	20	29
96906	MS90726-60	16	4	19207	12307880	31	2
96906	MS90727-129	26	35	19207	12307932-1	5	21
96906	MS90727-129	27	35	19207	12307932-2	5	15
96906	MS90727-164	25	26	19207	12307932-3	5	3
96906	MS90727-168	25	4	19207	12307932-4	5	11
96906	MS90727-186	28	1	19207	12307932-6	5	4
96906	MS90727-197	25	9	19207	12307932-7	5	
96906	MS90727-67	24	13	19207	12307932-7	5	2
96906	MS90727-74	15	22	19207	12308059	29	17
96906	MS90728-13	20	22	19207	12308102	21	17
96906	MS90728-87	13	11	19207	12308149	21	9
81349	M13486-1-7			19207	12308151-23	29	24
81349	M23053/1-103-0	8	7	19207	12308151-24	20	35
81349	M23053/1-103-0	8	15	19207	12308151-56	29	23
81348	M43436/1-1	6	11	19207	12315277	24	7
81348	M43436/1-1	7	3	19207	12315281	27	26
81348	M43436/1-1	8	5	19207	12315303	24	1
81348	M43436/1-1	8	10	19207	12315306	23	4
81348	M43436/1-1	9	6	19207	12315307	23	3
81348	M43436/1-3	6	6	19207	12315343	25	1
81348	M43436/1-3	9	2	19207	12315344	21	6
19220	M4790-50	26	22	19207	12315396	21	1
19220	M4790-50	27	22	19207	12315420	20	1
81348	RR-C-271, TY02, CL 7, 0.135	23	10	19207	12315434	20	25
81348	RR-C-271, YYP2, CL 7, 0.135	24	12	19207	12315463	20	32
81348	RRC 271, TY1, GRC, CL 4, 0.135	20	11	19207	12315466-1	26	15
81348	RRC 271, TY2, CL 7, 0.135	21	12	19207	12315466-1	27	15
81348	RRC 271, TY2, CL 7, 0.135	20	14	19207	12315466-2	26	12
81349	RW 22V5R7	1	22	19207	12315466-2	27	12
81349	RW 22V 7R0	1	21	19207	12315477	26	17
11815	SSPV-86	26	1	19207	12315477	27	17
11815	SSPV-86	27	1	19207	12315478-1	26	13
74410	V-90-3	23	9	19207	12315478-1	27	13
74410	V-90-3	24	10	19207	12315478-2	26	11
81348	ZZ-1-550/GP 2/9.00-20/TR 19C W/DNCE	19	2	19207	12315478-2	27	11
81348	ZZ-T-381M/GP 3/9.00-20/E/TBHR	19	1	19207	12315484-1	27	20
81834	01-4663-23	2	1	19207	12315484-2	26	20
81834	01-4663-33	2	1	19207	12315485	26	21
19220	1-2525-50R	26	14	19207	12315485	27	21
19220	1-2525-50R	27	14	19207	12315493	1	3
19220	1-2525-52	26	23	19207	12315494	1	6
19220	1-2525-52	27	23	19207	12315496	6	1
92967	10049-00	25	25	19207	12315497	1	11
92967	10054-00	25	6	19207	12315505	1	19
92967	10060-01	25	13	19207	12315508	9	1
98343	10419	15	1	19207	12315509	8	9
98343	1046260E	15	9	19207	12315510	24	9
98343	1046260S	15	6	19207	12315512	21	1
92967	10608-00	25	29	19207	12315541	20	27
92967	10712-00	25	24	19207	12315558	31	3
19207	10882200	28	7	19207	12315559	25	30
19207	10891389	20	34	19207	12315565	26	26
19207	10896695	17	6	19207	12315567	26	2
19207	10896720	17	5	19207	12315567	27	2
19207	10896748	11	24	19207	12315569	26	3
19207	10944341	28	8	19207	12315569	27	3

FSCM	PART NUMBER	FIGURE ITEM		FSCM	PART NUMBER	FIGURE ITEM	
		NO.	NO.			NO.	NO.
19207	12315611-1	20	13	19207	7389621	17	14
19207	12315611-1	21	13	19207	7409323	11	4
19207	12315611-2	23	8	19207	7409376	12	5
19207	12315611-2	24	11	19207	7409394	18	3
19207	12315630-1	27	38	19207	7409553	17	11
19207	12315630-2	27	29	19207	7411078	15	18
19207	12315630-3	27	32	19207	7411079	15	24
19207	12315630-4	27	40	19207	7411080	15	23
19207	12315630-5	26	38	19207	7412079	13	2
19207	12315630-6	26	29	19207	7413486	11	6
19207	12315630-7	26	32	19207	7418892	22	8
19207	12315630-8	26	40	19207	7521156	22	15
19207	12315634	26	34	19207	7521157	22	6
19207	12315634	27	34	19207	7521159	22	11
19207	12315644-3	29	6	19207	7521160	22	4
19207	12315644-3	29	7	19207	7521163	22	7
19207	12315645	8	12	19207	7539308	14	8
19207	12315646	7	5	19207	7716634	6	8
19207	12315647	7	1	19207	7716793	9	3
19207	12315648	8	1	19207	7722333	6	9
19207	12315654	1	20	19207	7722333	8	3
19207	12315656-1	26	33	19207	7722333	9	4
19207	12315656-2	27	33	19207	7723309	6	10
19207	12315656-3	26	28	19207	7723309	8	4
19207	12315656-4	27	28	19207	7723309	9	5
19207	12315658	BULK		19207	7731428	1	10
19207	12315658	26	41	19207	7739666	22	10
19207	12315658	27	41	19207	7745464	13	4
19207	12315660	20	17	98343	782	7	4
19207	12315661	20	2	19207	7979179	18	1
19207	12315674	26	8	19207	7979315	18	4
19207	12315674	27	8	19207	7979330	11	13
19207	12315688	29	9	19207	7979332	11	16
19207	12315706-1	29	25	19207	7979334	12	10
19207	12315706-2	20	23	19207	7979339	11	15
19207	12315706-2	21	14	19207	7979340	11	18
19207	12315709	2929	5	19207	7979349	17	10
19207	12315710	29	8	92967	814-00	25	2
19207	12315721	29	4	19207	8327759	22	14
19207	12315723	29	15	19207	8328726	29	13
19207	12315729	29	1	19207	8332086	14	1
19207	12315731	29	22	19207	8332557	12	1
19207	12315740	29	14	19207	8338564	6	4
19207	12315741	13	13	19207	8338566	4	6
98343	1512-0-6W	1	14	19207	8338567	4	7
78500	1759E5	11	17	19207	8338569	6	2
21450	193065	2	2	19207	8338570	6	3
07700	21-00089	BULK		19207	8352662	22	9
07700	21-00089	26	31	92967	836-00	25	17
07700	21-00089	27	31	19207	8365426	14	2
12603	23E10	15	48	92967	837-00	25	16
12603	23E10	23	5	19207	8376129	BULK	
12603	23E10	24	5	19207	8376129	15	2
12603	23E10	25	21	19207	8376208	8	2
19220	2525-55	26	10	19207	8376667	11	7
19220	2525-55	27	10	07700	84-T8A	26	6
13445	30056-15	1	15	07700	84-T8A	27	6
13548	40222R	3	1	92967	850-01	25	7
19220	4300	26	25	92967	859-00	25	5
19220	4300	27	25	19207	8689208	BULK	
63477	5156653	13	1	19207	8689208	15	13
19207	5167878	14	7	19207	8689208	15	40
19207	5168136	13	12	19207	8689210	BULK	
19207	5214930	13	5	19207	8689210	15	33
19207	5228623	15	16	19207	8690464	26	44
19207	5228623	15	29	19207	8710736	18	7
19207	5282725	12	6	19207	8710740	17	8
19207	5298653	13	3	19207	8710741	17	8
19220	5624-8	26	4	19207	8710742	18	2
19220	5624-8	27	4	19207	8710743	17	4
19220	5631-18	26	5	19207	8710744	17	3
19220	5631-18	27	5	19207	8710746	10	1
60038	593A592A	17	9	19207	8724258	6	7
19220	5985-50	26	36	19207	8724495	7	6
19220	5985-50	27	36	19207	8724497	7	8
19207	7207919	11	8	19207	8730456	15	45
19207	7360629	20	12	19207	8742616	15	46
19207	7360629	21	5	19207	8742716	13	7
19207	7389061	17	16	19207	8742717	13	6
19207	7389620	17	15	19207	8747263	15	31



## SECTION IV

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

TM 9-2330-364-14&amp;P

FSCM	PART NUMBER	FIGURE ITEM		FSCM	PART NUMBER	FIGURE ITEM	
		NO.	NO.			NO.	NO.
19207	8750259	11	5	92967	895-00	25	28
19207	8750316	12	9	92967	898-00	25	19
19207	8750357	11	3	13548	94926	7	9
92967	890-00	25	18	92967	9639-01	25	10
92967	891-00	25	15	92967	9640-00	25	3
92967	893-01	25	8	92967	9934-02	25	14

F-85/(F-86 blank)

APPENDIX G

ILLUSTRATED LIST OF MANUFACTURED ITEMS

**INTRODUCTION**

This appendix includes complete instructions for making items authorized to be manufactured or fabricated.

A part number index in numerical order is provided for cross-referencing the part number of the item to be fabricated to the figure which covers fabrication criteria.

Bulk materials needed for the manufacture of an item are listed by part number in the following tabular listing.

Part number of item	Part number and NSN of bulk material	Figure no.	Required number of feet
12315496	M13486-1-7 6145-00-705-6678	G-3	140
12315508	M13486-1-7 6145-00-705-6678	G-4	207
12315509	M13486-1-7 6145-00-705-6678	G-2	96
12315647	M13486-1-7 6145-00-705-6678	G-1	4
12315648	M13486-1-7 6145-00-705-6678	G-5	7
12315658	12315658		39
21-00089	21-00089 5330-01-140-2424		39
8376129	8376129		20
8689208	8689208 4710-00-203-3172		72
8689210	8689210 4710-00-277-5529		4

TM 9-2330-364-14 & P

WHT	1
BLA	2
BRN	3
GRN	4
RED	5
YEL	6
BLU	7

WIRING DIAGRAM

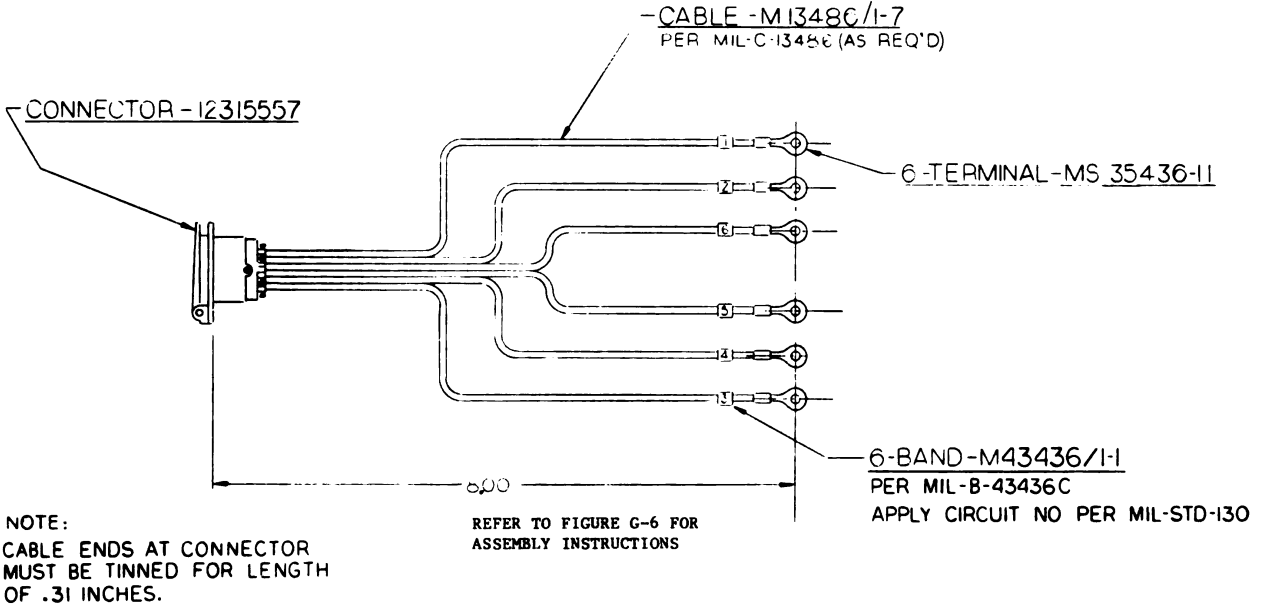
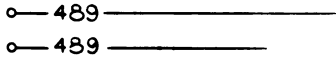


Figure G-1. Wiring harness 12315647.



WIRING DIAGRAM

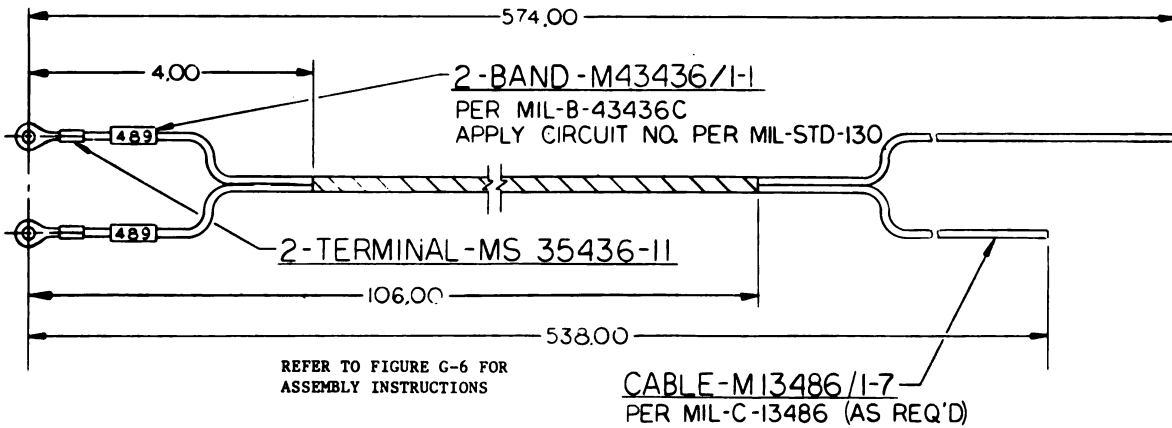


Figure G-2. Wiring harness 12315509.

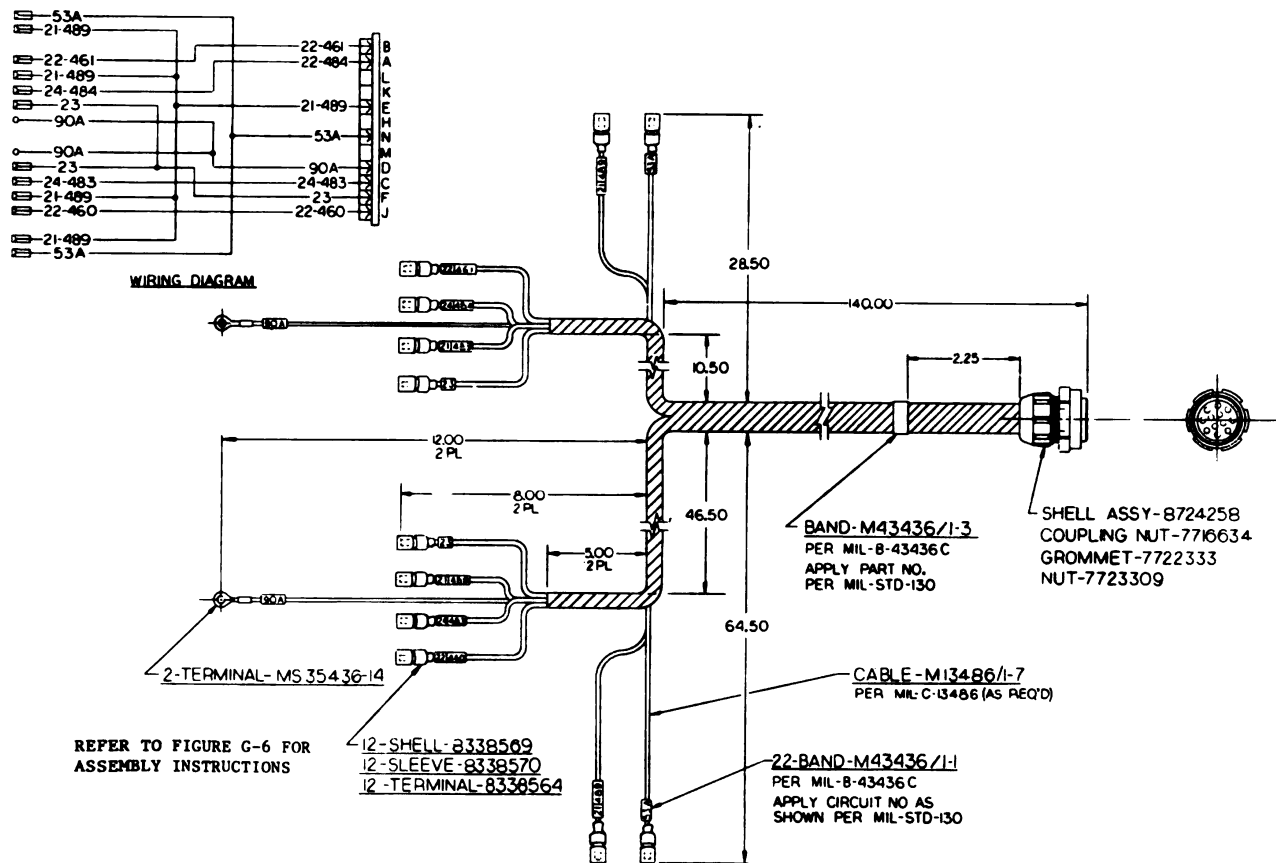


Figure G-3. Wiring harness 12315496.

TA 245556

G-3

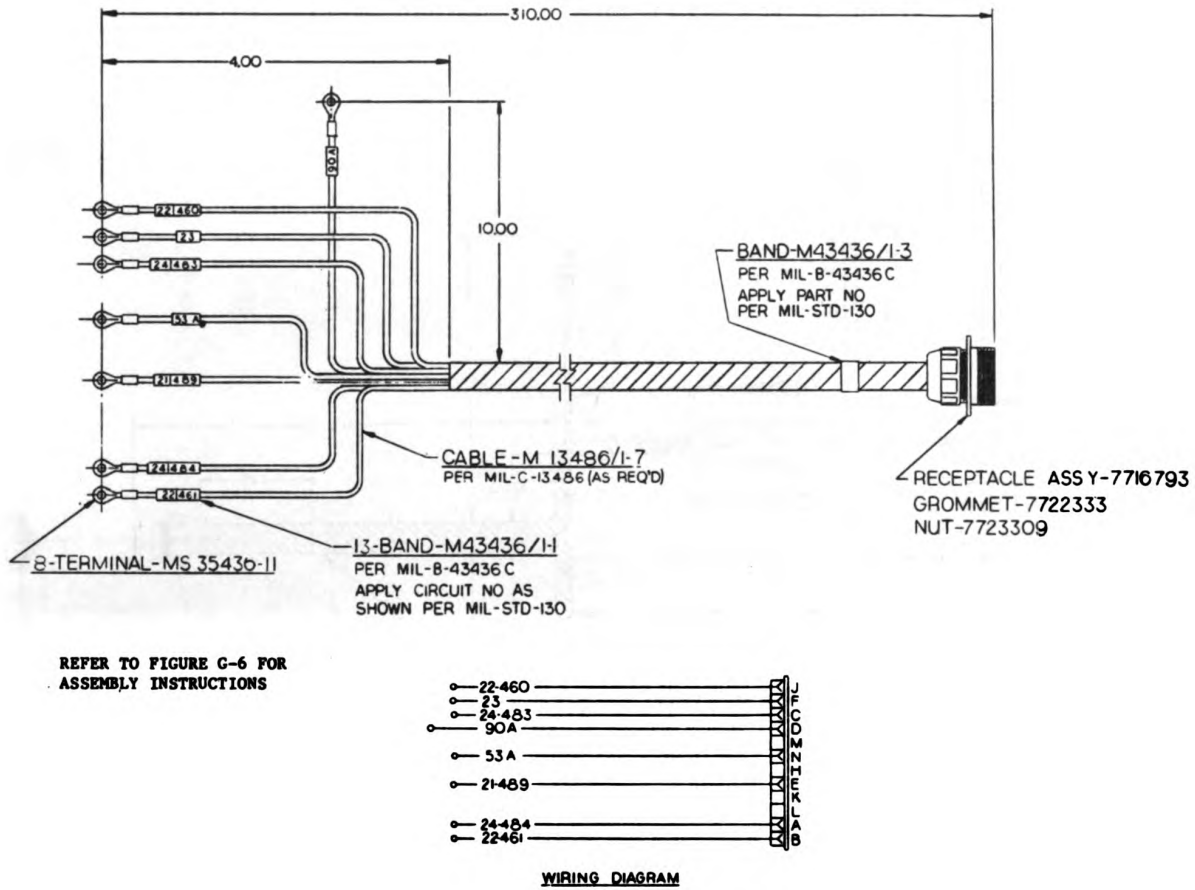


Figure G-4. Wiring harness 12315508.

TA 245557

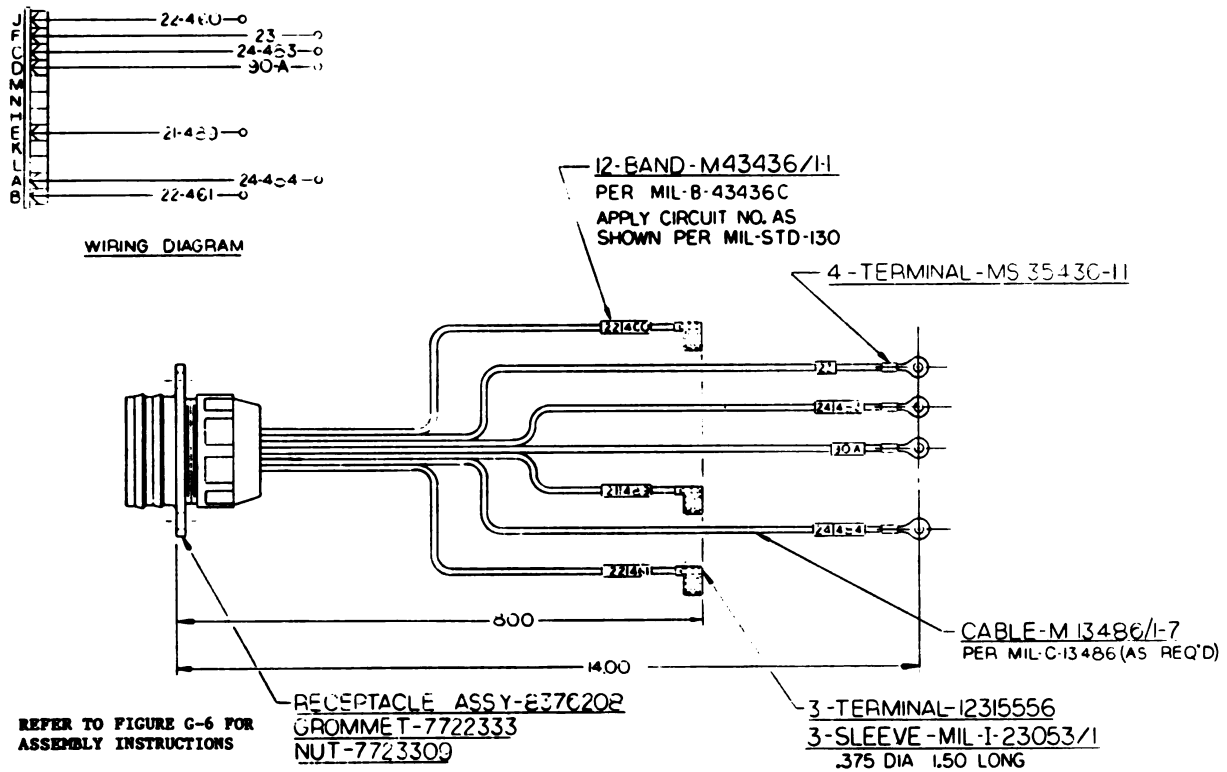


Figure G-5. Wiring harness 12315648.

1. **BINDING: (USE A OR B)**
  - A. CABLES SHALL BE BOUND TOGETHER WITH ONE HALF OVERLAPPING TURNS OF TAPE, THICKNESS .010, WIDTH  $3/4 \pm 1/4$ , COLOR BLACK, SPEC HH-1-595, OR TAPE, TYPE EF-9, WIDTH  $3/4 \pm 1/4$ , COLOR BLACK, SPEC MIL-I-15126, OR
  - B. CABLES SHALL BE BOUND TOGETHER WITH ONE-HALF OVERLAPPING TURNS OF INSULATION, TYPE A OR TYPE F, FORM TS, GRADE A, CLASS 1, THICKNESS .008, WIDTH  $3/4 \pm 1/4$ , COLOR BLACK, SPEC MIL-I-631. INSULATION MUST BE WRAPPED IN ACCORDANCE WITH BEST COMMERCIAL PRACTICE AND ENDS MUST BE SECURED TO PREVENT UNRAVELING.
2. **CRIMP:**

CRIMP PIN CONTACTS (FERRULES), TERMINALS AND SPLICING CONNECTORS TO CABLES (CONDUCTORS AND/OR INSULATION) TO MEET PERFORMANCE REQUIREMENTS OF SPEC MIL-T-13513.

NOTE: DO NOT DISTORT SKIRTS OF PIN CONTACTS (MS27148) WHEN CRIMPING TO CONDUCTORS.
3. **SOLDER:**

SOLDER CONDUCTORS TO PIN AND SOCKET CONTACTS AND (SOLDER-TYPE) TERMINALS AND TERMINAL ASSEMBLIES IN ACCORDANCE WITH REQUIREMENT 5 OF SPEC MIL-STD-454.
4. **SPLICE:**

SPLICED CONDUCTORS MUST MEET REQUIREMENTS OF SPEC MIL-T-13513 FOR PERFORMANCE.

SPLICED CONDUCTORS MUST BE ADEQUATELY INSULATED AND THE INSULATION MUST BE SEALED TO EACH CABLE'S INSULATION.

COMPLETED SPLICES MUST MEET THE REQUIREMENTS OF SPEC MIL-C-13486 FOR THE FOLLOWING PHYSICAL PROPERTIES: HIGH VOLTAGE TO GROUND (HIGH POTENTIAL), FUNGUS RESISTANCE, RESISTANCE TO OIL ABSORPTION, RESISTANCE TO IMMERSION IN LIQUIDS, FLAMMABILITY, RESISTANCE TO OZONE, HIGH TEMPERATURE RESISTANCE.

THE FOLLOWING SUGGESTED METHODS FOR INSULATING SPLICED CONDUCTORS HAVE DEMONSTRATED THEIR ABILITY TO MEET THE ABOVE REQUIREMENTS:

METHOD 1. — VULCANIZE, USING RUBBER, SYNTHETIC, GRADE SC 515 OR SC 615, A1, B1, C1, F1, SPEC MIL-R-3065. THICKNESS OF RUBBER OVER EXPOSED CONDUCTORS SHALL BE  $1/8$  TO  $5/32$  AND IS TO OVERLAP ADJACENT INSULATION FOR A DISTANCE OF AT LEAST  $3/16$  AND A MINIMUM THICKNESS OF  $1/32$  OR AS SPECIFIED ON DRAWING.

METHOD 2. — INSULATE, USING HEAT-SHRINKABLE, PREMOLDED SPLICE COVERS, TRANSITIONS AND BOOT CONFIGURATIONS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

APPROVED SOURCE: RAYCLAD TUBES, INC, REDWOOD CITY, CALIF.

ALL SOURCES MUST COMPLY WITH THE PHYSICAL AND FUNCTIONAL REQUIREMENTS OF THE MANUFACTURER'S ITEM INDICATED. ARMY ENGINEERING APPROVAL IS REQUIRED.
5. **PLUG ALL SPARE GROMMET HOLES WITH ROD OF DIAMETER AND LENGTH AS REQUIRED.**

Figure G-6. Wiring harness assembly instructions.

APPENDIX H

TORQUE LIMITS

**H-1. General**

This appendix lists the torque limits used on Semitrailer, Van: Electronic, XM1006.

**H-2. Torque Limits**

The applicable torque limits are listed in table H-1.

Table H-1. Torque limits

	Maximum Torque Dry	Maximum Torque Lube
<b>Suspension System</b>		
Trunnion U-bolt nuts	880 lb-ft (1193.3 Nm)	660 lb-ft (895 Nm)
Axle U-bolt nuts	300 lb-ft (406.8 Nm)	220 lb-ft (298.3 Nm)
End cap nuts	180 lb-ft 244 Nm)	130 lb-ft (176.3 Nm)
<b>Landing Gear Leveling Jack</b>		
Attaching nuts	173 lb-ft (234.6 Nm)	123 lb-ft (166.8 Nm)
Wheel nuts	450-500 lb-ft (610.2-678 Nm)	

H-1 (H-2 blank)



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BE EXACT. PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
400		183	
512		191	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Change illustration Reason: Tube end shown assembled on wrong side of lever cam.

Figure 191, item 3 has the wrong NSN. Supply rejects orders for this item. The NSN shown here is not listed in the AMDF or the MCRL.

Please give us the correct NSN and P/N.

SAMPLE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

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## THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches  
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches  
 1 Kilometer = 1000 Meters = 0.621 Miles

### WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces  
 1 Kilogram = 1000 Grams = 2.2 Lb  
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

### LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces  
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

### SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches  
 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet  
 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

### CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches  
 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

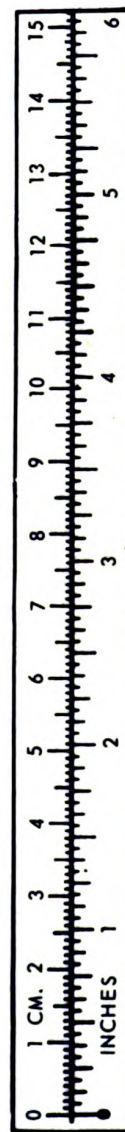
### TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$   
 212<sup>o</sup> Fahrenheit is equivalent to 100<sup>o</sup> Celsius  
 90<sup>o</sup> Fahrenheit is equivalent to 32.2<sup>o</sup> Celsius  
 32<sup>o</sup> Fahrenheit is equivalent to 0<sup>o</sup> Celsius  
 $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

### APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Inches . . . . .	Centimeters . . . . .	2.540
Feet . . . . .	Meters . . . . .	0.305
Yards . . . . .	Meters . . . . .	0.914
Miles . . . . .	Kilometers . . . . .	1.609
Square Inches . . . . .	Square Centimeters . . . . .	6.451
Square Feet . . . . .	Square Meters . . . . .	0.093
Square Yards . . . . .	Square Meters . . . . .	0.836
Square Miles . . . . .	Square Kilometers . . . . .	2.590
Acres . . . . .	Square Hectometers . . . . .	0.405
Cubic Feet . . . . .	Cubic Meters . . . . .	0.028
Cubic Yards . . . . .	Cubic Meters . . . . .	0.765
Fluid Ounces . . . . .	Milliliters . . . . .	29.573
Pints . . . . .	Liters . . . . .	0.473
Quarts . . . . .	Liters . . . . .	0.946
Gallons . . . . .	Liters . . . . .	3.785
Ounces . . . . .	Grams . . . . .	28.349
Pounds . . . . .	Kilograms . . . . .	0.454
Short Tons . . . . .	Metric Tons . . . . .	0.907
Pound-Feet . . . . .	Newton-Meters . . . . .	1.356
Pounds per Square Inch . . . . .	Kilopascals . . . . .	6.895
Miles per Gallon . . . . .	Kilometers per Liter . . . . .	0.425
Miles per Hour . . . . .	Kilometers per Hour . . . . .	1.609

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Centimeters . . . . .	Inches . . . . .	0.394
Meters . . . . .	Feet . . . . .	3.280
Meters . . . . .	Yards . . . . .	1.094
Kilometers . . . . .	Miles . . . . .	0.621
Square Centimeters . . . . .	Square Inches . . . . .	0.155
Square Meters . . . . .	Square Feet . . . . .	10.764
Square Meters . . . . .	Square Yards . . . . .	1.196
Square Kilometers . . . . .	Square Miles . . . . .	0.386
Square Hectometers . . . . .	Acres . . . . .	2.471
Cubic Meters . . . . .	Cubic Feet . . . . .	35.315
Cubic Meters . . . . .	Cubic Yards . . . . .	1.308
Milliliters . . . . .	Fluid Ounces . . . . .	0.034
Liters . . . . .	Pints . . . . .	2.113
Liters . . . . .	Quarts . . . . .	1.057
Liters . . . . .	Gallons . . . . .	0.264
Grams . . . . .	Ounces . . . . .	0.035
Kilograms . . . . .	Pounds . . . . .	2.205
Metric Tons . . . . .	Short Tons . . . . .	1.102
Newton-Meters . . . . .	Pound-Feet . . . . .	0.738
Kilopascals . . . . .	Pounds per Square Inch . . . . .	0.145
Kilometers per Liter . . . . .	Miles per Gallon . . . . .	2.354
Kilometers per Hour . . . . .	Miles per Hour . . . . .	0.621



TA089991