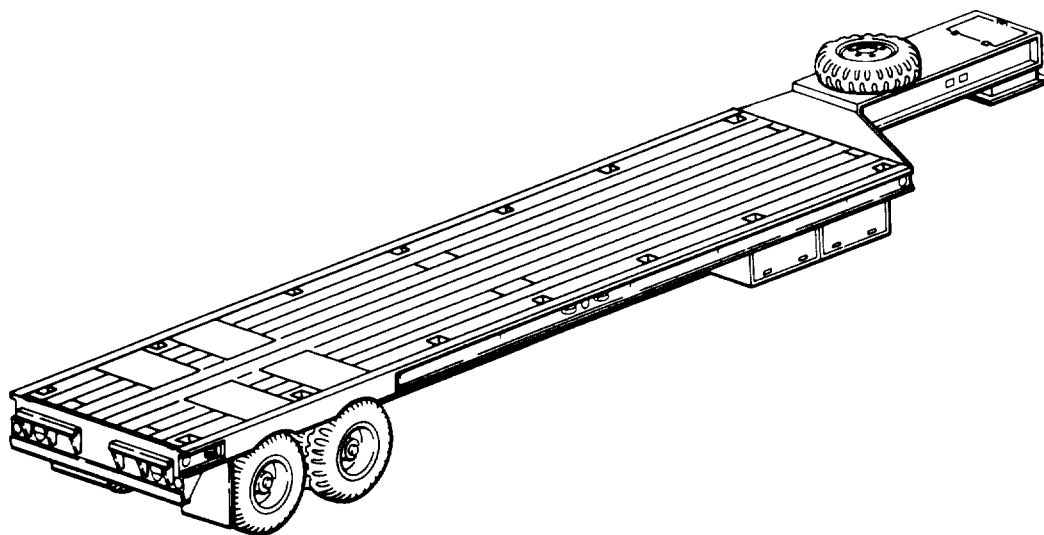


TECHNICAL MANUAL

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



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REPAIR PARTS AND
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PAGE F-1

SEMITRAILER, LOWBED: 12-TON,
M270A1
(NSN 2330-00-289-7515)

HEADQUARTERS, DEPARTMENT OF THE ARMY
DECEMBER 1984

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D. C., 13 February 1992

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

SEMITRAILER, LOWBED: 12-TON,
M270A1

(NSN 2330-00-289-7515)

Current as of 18 October 1991

TM 9-2330-371-14&P, 17 December 1984, is changed as follows:

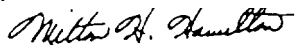
1. Remove old pages and insert new pages as indicated below.
2. New or changed information is indicated by a vertical bar in the margin of the page

Remove Pages	insert Pages	Remove Pages	Insert Pages
iii and iv (blank)	iii and iv (blank)	4-1 7 and 4-18	4-1 7 and 4-18
1-3and 1-4	1-3and 1-4	none	4-20, 1 thru 4-20.6 (blank)
1 -7 and 1 -8	1-7and 1-8	B-3 and B-4	B-3 and B-4
3-5 and 3-6	3-5 and 3-6	F-1 thru F-76	F-1 thru 1-22
4-7 and 4-8	4-7 and 4-8		

File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

Official:



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

00621

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

Distribution:

To be distributed in accordance with DA Form 12-39-E (Block 0828), Operator's, Organizational, Direct and General Support maintenance requirements for TM 9-2330-371-14&P.

Approved for public release; distribution is unlimited.

WARNING

USING DRYCLEANING SOLVENT

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors, and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

WARNING

COUPLING

All persons not involved in coupling operation must stand clear of tractor and semitrailer to prevent serious injury.

WARNING

NONOPERATIONAL LIGHTS

Do not operate semitrailer with burned out or missing running, stop, or turn lights. Not being seen could result in damage to equipment and injury to personnel.

WARNING

DRAINING HIGH PRESSURE AIR

Failure to wear goggles when opening air reservoir draincock could cause serious eye injury.

WARNING

COMPRESSED AIR

Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personnel protective equipment (goggles/shield/gloves, etc.).

WARNING

AIR CHAMBER

Air chamber contains a spring under compression. Remove chamber screws carefully. Failure to do so could result in injury.

WARNING

BRAKE LININGS

Brake linings contain asbestos fibers. Protective mask must be worn while performing this task. Failure to do so could result in serious injury to personnel.

When brake linings are worn to within 0.030 inch (0.762 mm) of the rivets, they must be replaced. Failure to do so could result in injury or death to personnel.

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 17 December 1984

NO. 9-2330-371-14&P

Operator's, Organizational,
Direct Support, and General Support
Maintenance Manual
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

SEMITRAILER, LOWBED:
12-TON, M270A1
(NSN 2330-00-289-7515)

Current as of 14 June 1984

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes 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, US Army Tank-Automotive Command, ATTN:AMSTA-MB, Warren, MI 48090. A reply will be sent to you.

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* This manual supersedes part of TM 9-8240, as pertains to the M270A1 semitrailer, 23 August 1957, including all changes; part of TM 9-2330-220-24P, 20 August 1973.

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CHAPTER 1

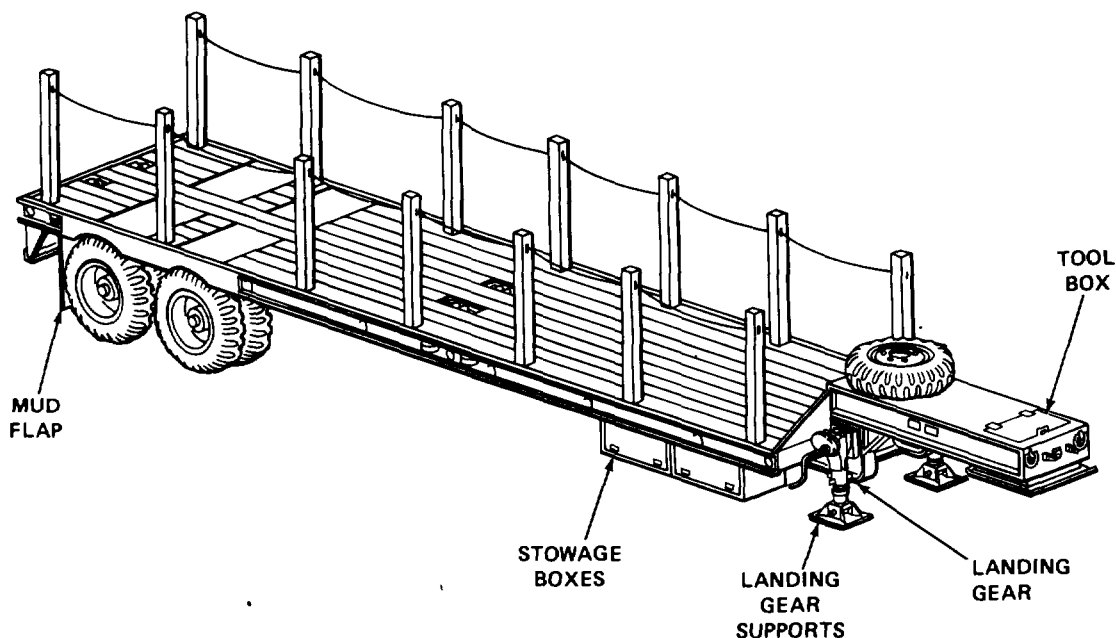
INTRODUCTION

OVERVIEW

The purpose of this chapter is to acquaint you with the M270A1 semitrailer equipment, size, shape, and how the semitrailer systems work.

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Section I. GENERAL INFORMATION



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TA224174

SCOPE

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

Model Number and Equipment Name: M270A1 12-Ton Lowbed Semitrailer.

Purpose of Equipment: Transport new or salvaged aircraft and general purpose hauling.

MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (US Army Tank-Automotive Command).

PREPARATION FOR STORAGE OR SHIPMENT

Requirements for packaging and administrative storage are contained in chapter 4.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

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. Put it on an SF 368 (Quality Deficiency Report). Mail it to: Commander, US Army Tank-Automotive Command, Attn: DRSTA-MP, WARREN, MI 48090. We will send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

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EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

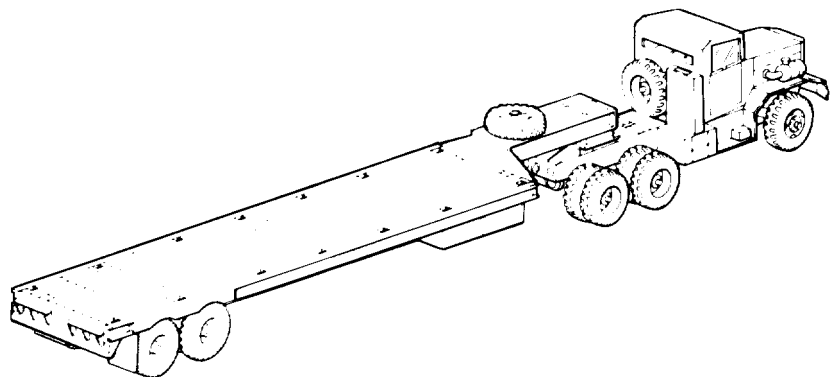
The M270A1 semitrailer is designed to be pulled by a M818 series truck tractor equipped with a fifth wheel and to transport new or salvaged aircraft and general purpose hauling.

WARNING

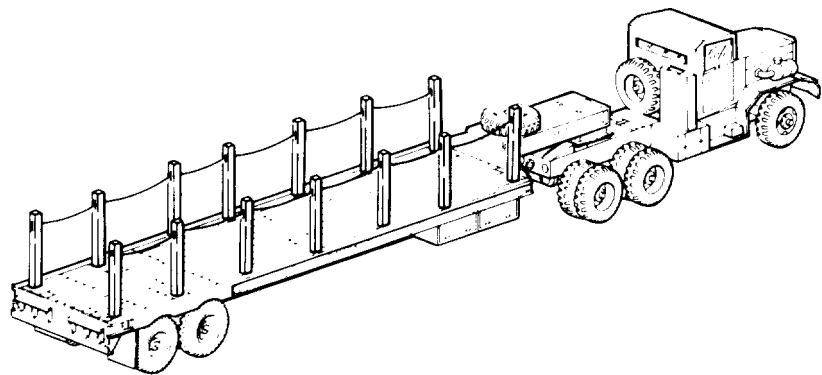
Do not tow the M270A1 with the M52, M52A1, or M52A2 truck tractor. The M52 five ton truck tractor's inherent design capabilities are not compatible with the semitrailer, and if used would result in serious compromise to the safety of personnel and equipment.

When towing the semitrailer with the M818, M931, M931A1, M932, M932A1 the fifth wheel wedges must be engaged during highway and secondary road operation and disengaged during cross-country operation.

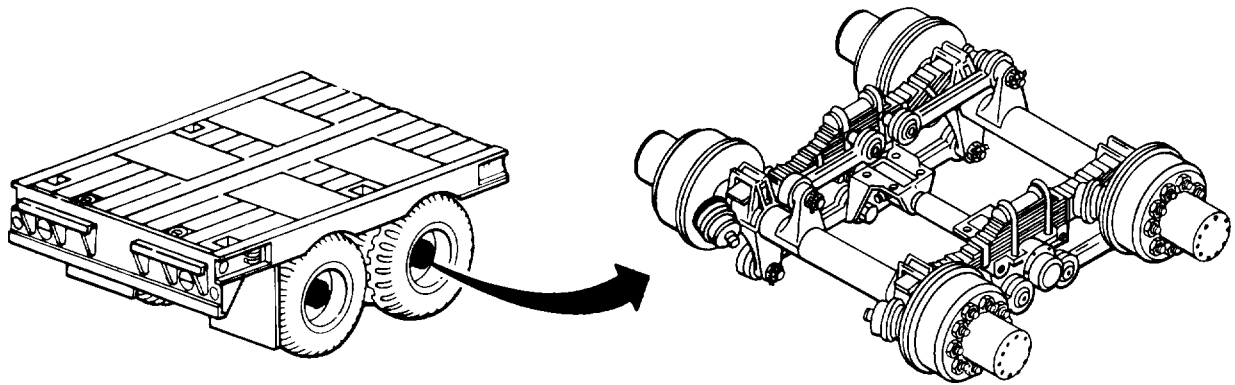
Can be towed by the M931, M931A1, M932, and the M932A1 for either highway or off



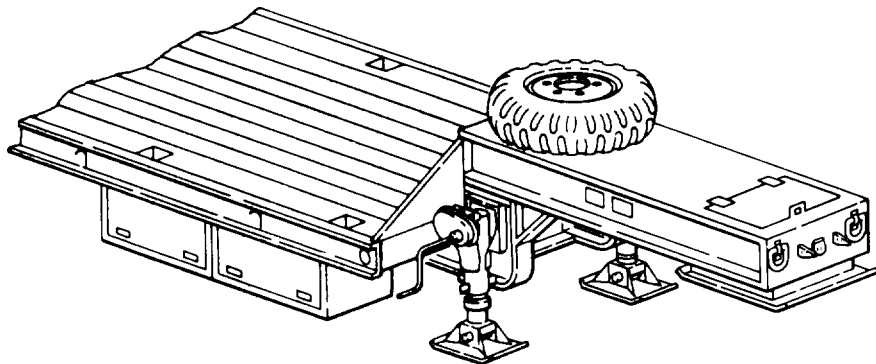
Side stakes can be added to reconfigure for other types of cargo.



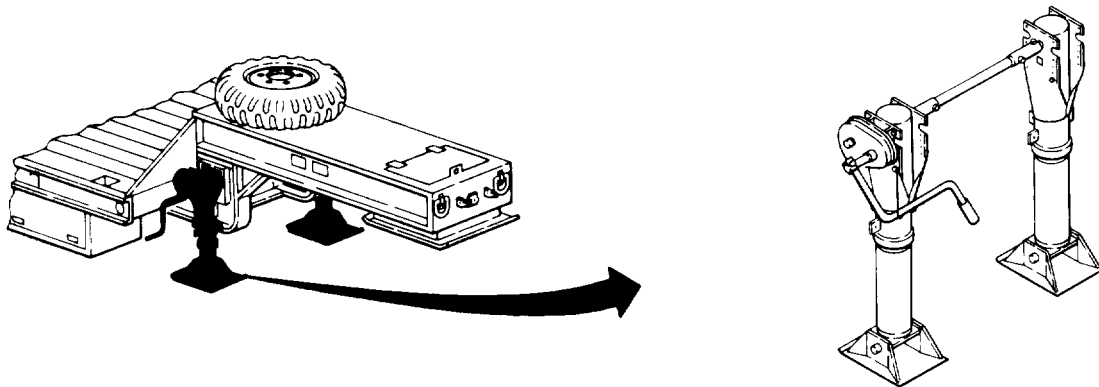
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



The M270A1 semitrailer suspension has two rear mounted axles, an axle trunnion, torque rods, and leaf springs.

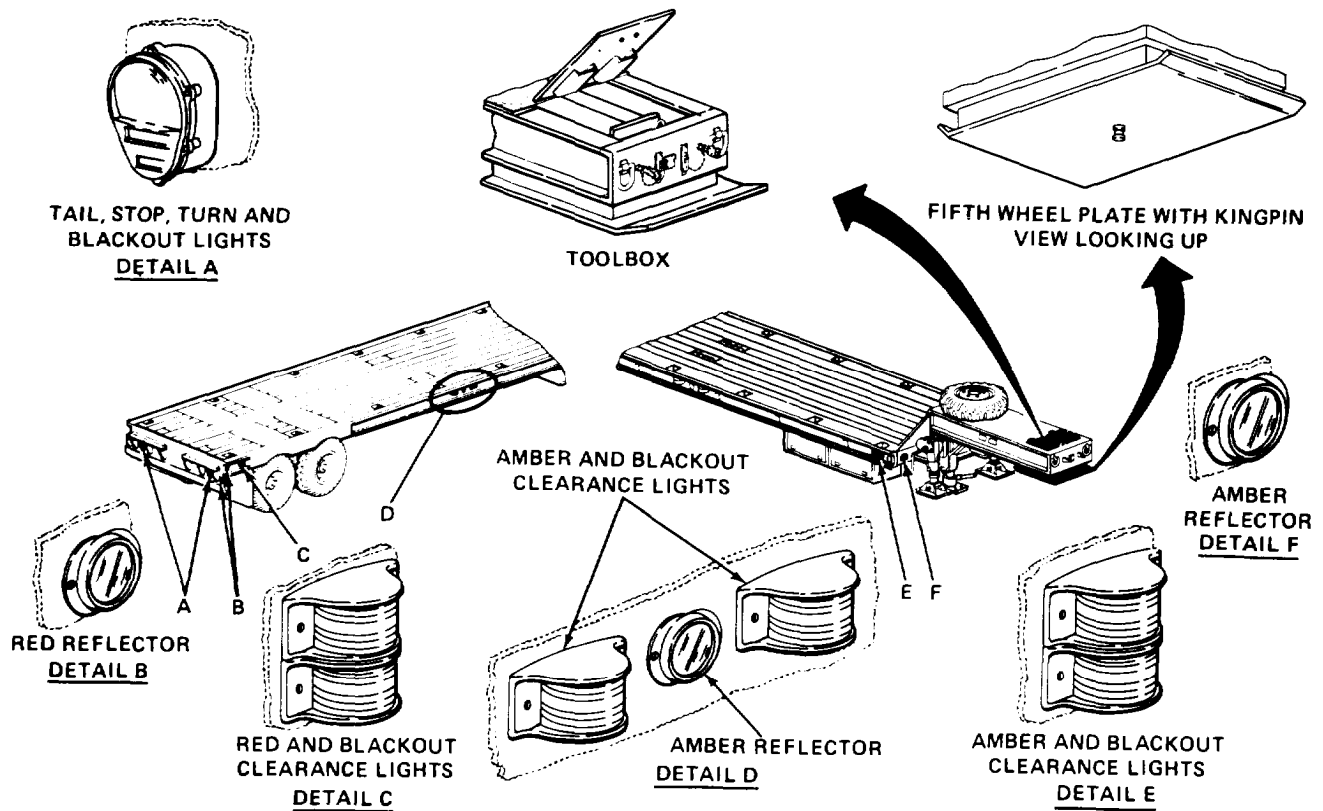


The spare tire is mounted on top of the gooseneck, behind the toolbox and is secured by two stud nuts.



A manually operated two-speed landing gear supports the front of semitrailer when not coupled.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



A kingpin extends below a fifth wheel upper plate that will fit into the towing vehicle fifth wheel for towing the semitrailer.

There is a toolbox (nose box) on the top forward portion of gooseneck that can be locked with a padlock.

Two composite service tail, stop, turn signal, and blackout lights are at left and right rear of semitrailer.

A red blackout clearance light is mounted on both sides at rear of semitrailer.

A red service clearance light is mounted below both red blackout clearance lights.

An amber blackout clearance light is mounted on both right and left sides near the front of the semitrailer and at center of side rail.

An amber service clearance light is mounted below both amber blackout clearance lights near the front of the semitrailer and also next to the amber blackout clearance light at the center of the side rail.

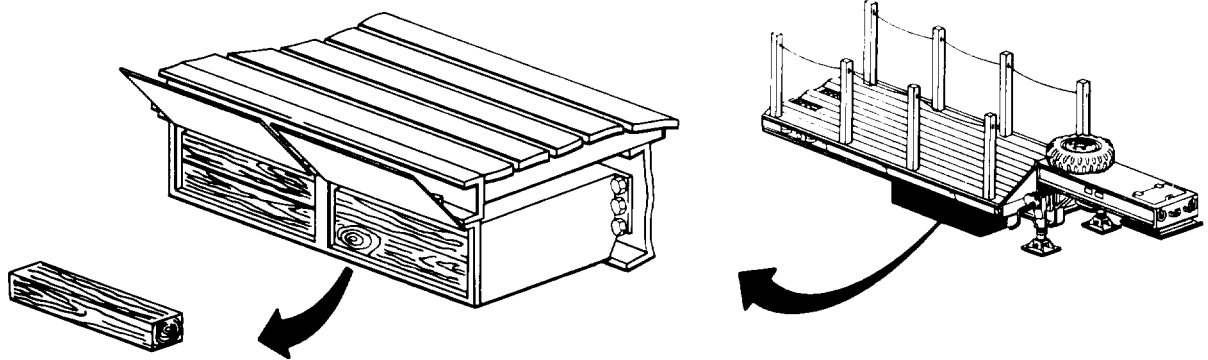
There are two red reflectors at each rear corner of the semitrailer.

There are two amber reflectors at each front corner of the semitrailer and one on each side in the center.

The hardwood deck is made of 1 3/4-inch (4.4-cm) thick planks fastened directly to the frame, with metal strips and carriage bolts.

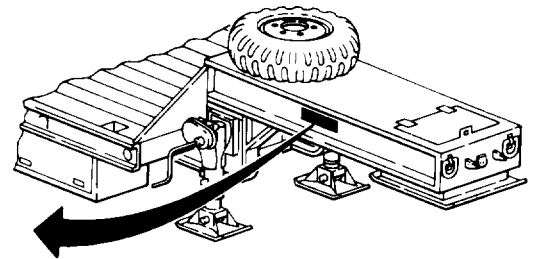
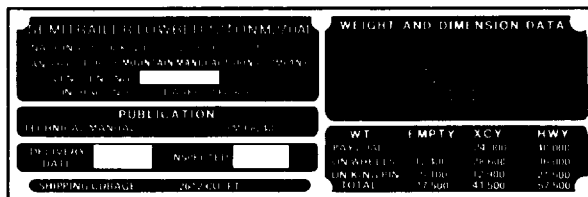
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LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



A two-door stowage compartment is mounted under right front side of deck. The stowage compartment is where the fourteen side stakes are stored.

LOCATION OF DATA PLATES



One data plate is located at the right side of the frame above the fifth wheel upper plate on the gooseneck.

EQUIPMENT DATA

Dimensions Overall

Height (to top of deck)	4.25 ft (1.3 m)
(to top of gooseneck)	5.95 ft (1.815 m)
Length	49.2 ft (15.006 m)
Width (body frame)	8 ft (2.44 m)
(gooseneck)	2.83 ft (86.3 cm)
(to outside of tires)	97.75 in. (2.48 m)
Weight (empty)	17.500 lb (7945 kg)
(maximum loaded)	40.000 lb (18,160 kg)

Tire Pressures

Cross country and sand	40 psi (276 kPa)
Highway	75 psi (517 kPa)

Axles

Type	Full floating tandem / Tubular
Manufacturer	Rockwell / Dana Co.
Model	SCD-5-3279 (rear), SCD-5-32791-A (front)
Capacity	18,000 lb (8172 kg)

Brakes

Actuation	Hydraulic wheel cylinder / Failsafe
Type of mechanism	Air over hydraulics / Total air
Operating pressure	75-95 psi (510-650 kPa)

Frame (body frame and chassis combined)

Type	Welded pressed and structural steel
Length	49.2 ft (15.006 m)
Width	8 ft (2.44 m)
Main beam depth	16 in. (40.6 cm)
Side rail body frame depth	6 in. (15.2 cm)

Landing Gear (supports)

Type	Vertical, two legs with shoes
Manufacturer	Austin Trailer Equipment
Operation	Handcrank – two speed
Width at feet (on center)	3.42 ft (1.04 m)
Travel distance (full-up to full-down)	18.88 in. (47.96 cm)

Electrical System

Type	24 Volt
------	---------

EQUIPMENT DATA - CONTINUED

Tires

Number (including spare)	9
Size	11.00x20
Type	Nondirectional and cross-country military
Number of ply	12
Tubes	Yes

Wheels

Type	Dual military disc
Manufacturer	Budd Co.
Rim size	20 x 7.5
Tire retention and removed	Split lockring
Number of studs	10

Wheel Bearings

Type	Tapered roller
Outer cup	Timken 592A
Outer cone (includes rollers)	Timken 596
Inner cup	Timken 592A
Inner cone (includes rollers)	Timken 593A

Springs	Semi-elliptic multi-leaf
---------	--------------------------

Spring Seat Bearings

Type	Tapered roller
Outer cup	Timken 592A
Outer cone (includes rollers)	Timken 596
Inner cone	Timken 592A
Inner cup (includes rollers)	Timken 593A

Section III. PRINCIPLES OF OPERATION

Page

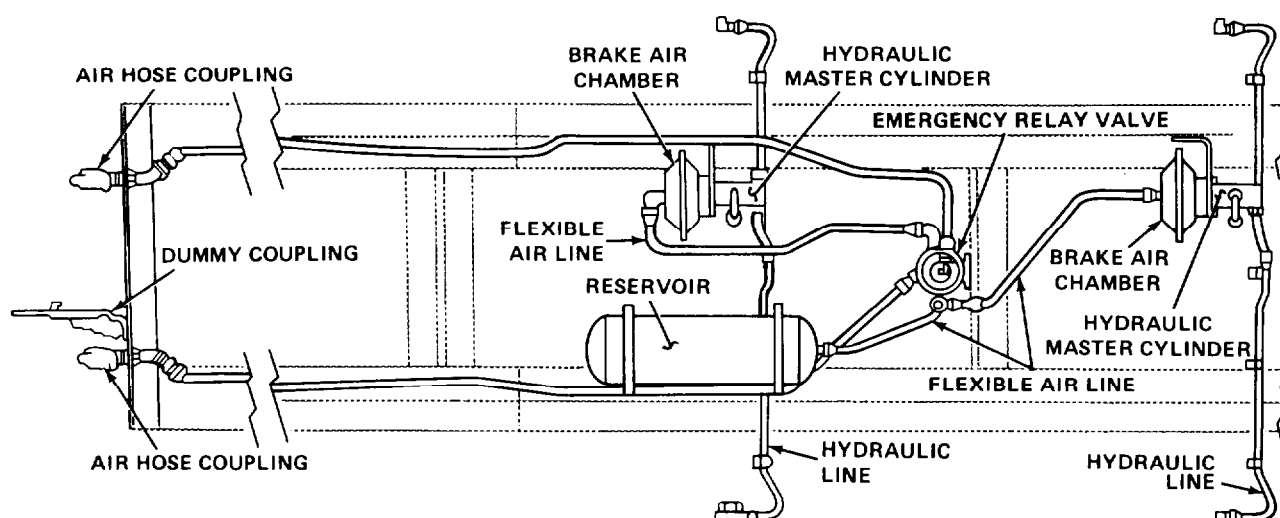
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Airbrake System 1-9

Lighting System 1-11

AIRBRAKE SYSTEM

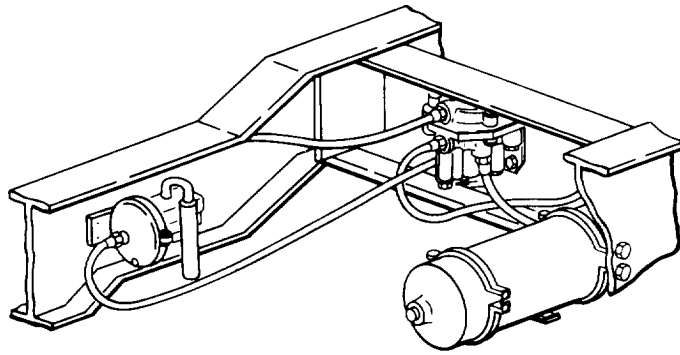
Towing vehicle air pressure is sent through the emergency air line to the emergency relay valve and then to the air reservoir. When towing vehicle brakes are applied, air is sent through the service air line to the emergency relay valve. The relay valve then releases air from the reservoir to the air chambers. Air pressure behind the chamber diaphragm pushes the piston in the master cylinder which forces hydraulic fluid through the hoses to the brake cylinder. The cylinder forces the brakeshoes against the brakedrum. Brakeshoe and drum friction slows, stops, and holds the semitrailer until the brake pedal is released, allowing applied air to vent.



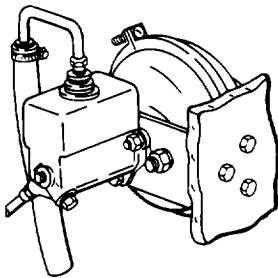
Emergency Relay Valve – The emergency relay valve is located on the crossmember of the frame between the axles. It speeds brake application by releasing air from the reservoir on the semitrailer directly to the brake air chambers, eliminating the loss of time that would result if air to operate the brakes had to travel from the towing vehicle to the semitrailer brake chambers. In addition, this valve controls the flow of air to and from the semitrailer air reservoir and automatically applies the brakes if the semitrailer breaks away from the towing vehicle or if there is a serious leak in the emergency air line.

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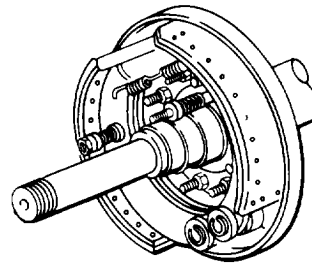
AIRBRAKE SYSTEM - CONTINUED



AIR CHAMBER, RELAY VALVE AND AIR RESERVOIR



MASTER CYLINDER

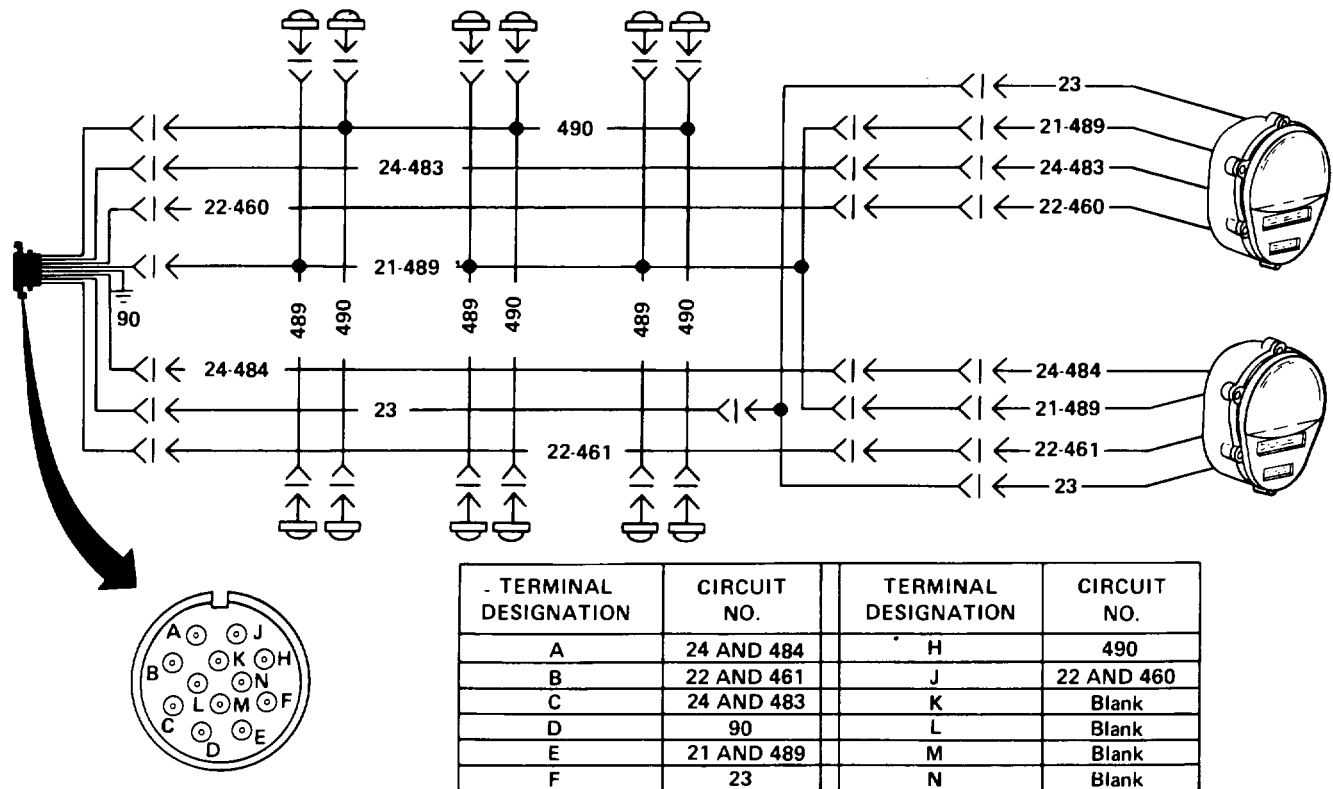


WHEEL BRAKE

Wheel Brake Mechanism – The brakes are air-over-hydraulic type. Two brake hydraulic master cylinders, with air chambers attached, provide the means for converting the energy of compressed air into hydraulic pressure necessary to operate the hydraulic semitrailer wheel brakes. The wheel brake mechanism, located within the brake drums, is of the self-centering type. This type brake assembly has two identical brakeshoes and one wheel cylinder assembly. When the brakes are applied, the wheel cylinder pistons apply equal force against the tow of each shoe. As the shoe linings come into contact with the drum, self-energization develops. The rotation of the drum pulls the shoes against the drum surface to add to the hydraulic force acting on the shoes and to produce additional braking action.

LIGHTING SYSTEM

The intervehicular receptacle on the nose of the semitrailer receives lighting power from the towing vehicle. The power is sent through a single wiring harness to the clearance lights and taillights.



Clearance Service Lights – There are clearance service lights at front, center, and rear of both sides. They go on when either the towing vehicle clearance lights or the service lights are turned ON. They go off automatically when the blackout lights are turned on.

Clearance Blackout Lights – The clearance blackout lights are located at the front, center, and rear of both sides. They go on only when the blackout light switch in towing vehicle is turned ON.

Tail, Turn, Stop, and Blackout Lights – The tail, turn, stop, and blackout lights, located on left and right rear of semitrailer, have four bulbs in each. One bulb functions as a taillight when the service lights are turned on, and one bulb functions as both turn and stoplight. The third and fourth bulbs function as blackout light and blackout stoplight when the blackout light switch is turned ON. The blackout lights automatically turn off the tail, stop, turn, and clearance lights if both switches are on at the same time.

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CHAPTER 2

OPERATING INSTRUCTIONS

OVERVIEW

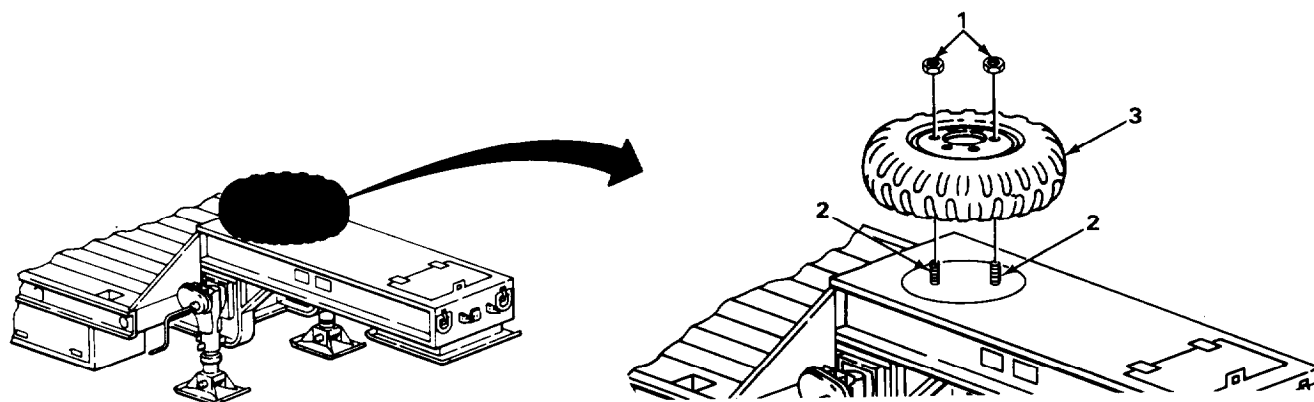
This chapter shows and describes the semitrailer controls and contains operator/crew level preventive maintenance procedures. There are instructions for coupling, driving, stopping, and backing in both usual and unusual conditions, and other information to help you understand and better operate the semitrailer.

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Section II. Operator/Crew Preventive Maintenance Checks and Services (PMCS)	2-5
Section III. Operation Under Usual Conditions	2-13
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Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS

	Page		Page
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Chock Blocks	2-4	Stowage Box	2-3
Landing Gear	2-2	Tractor-to-Trailer Connectors	2-2

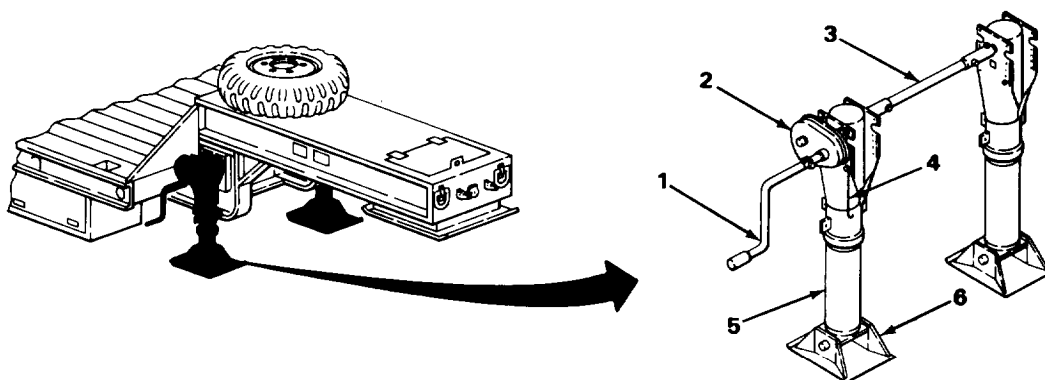
SPARE WHEEL AND TIRE



KEY	CONTROL OR INDICATOR	FUNCTION
1	Lug nuts (1) and studs (2)	Secures spare tire and wheel assembly (3) to goose-neck for storage.

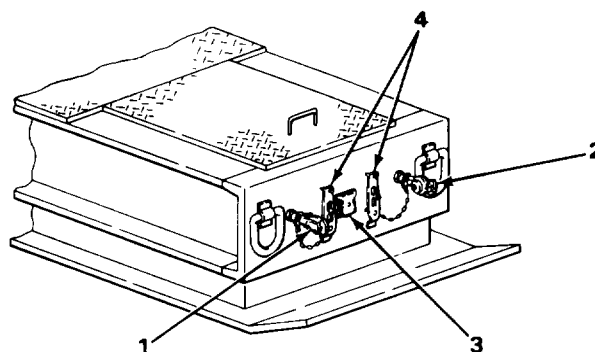
TA224182

LANDING GEAR



KEY	CONTROL OR INDICATOR	FUNCTION
1	Crank	Operates the landing gear. Turning the crank clockwise lowers the landing gear; counterclockwise raises the landing gear. Pull out crank for high speed, and push in for low speed.
2	Gearbox	Operated by the crank. Moves legs up or down.
3	Shaft	When turned by gearbox, moves the left leg.
4	Crank stow bracket	Stows crank when crank is not in use.
5	Leg	Two legs support weight of semitrailer when extended.
6	Landing gearshoe	Keeps legs from sinking into the ground.

TRACTOR-TO-TRAILER CONNECTORS

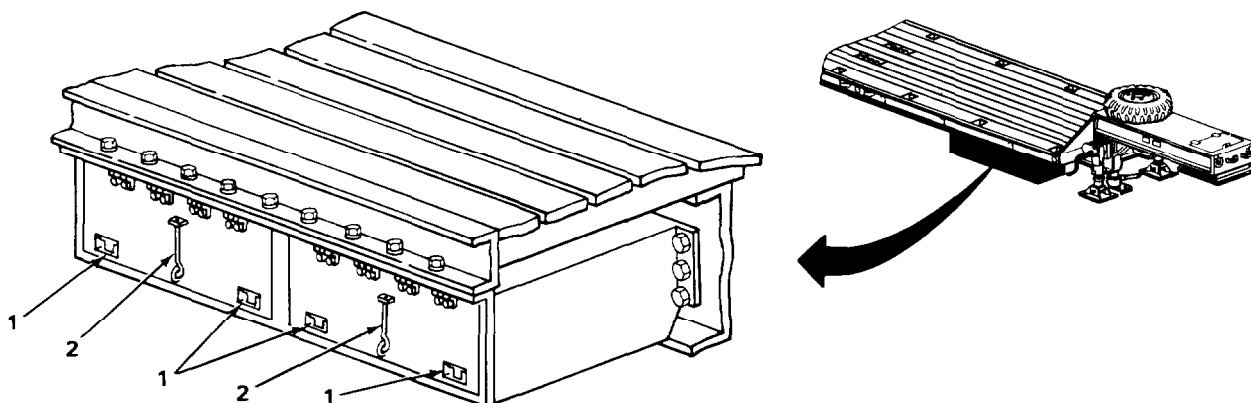


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TRACTOR - TO - TRAILER CONNECTORS - CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION
1	Service gladhand coupling	Provides the connection between the semitrailer service brake system and the truck tractor air supply system.
2	Emergency gladhand coupling	Provides the connection between the semitrailer emergency brake system and the truck tractor air supply system.
3	Electrical connector	Provides connection between the semitrailer lights and the truck tractor electrical system. A cover keeps foreign matter out when the cable is disconnected.
4	Dummy couplings	Two cover gladhands when not coupled to tow vehicle. Keep foreign matter out of semitrailer air lines.

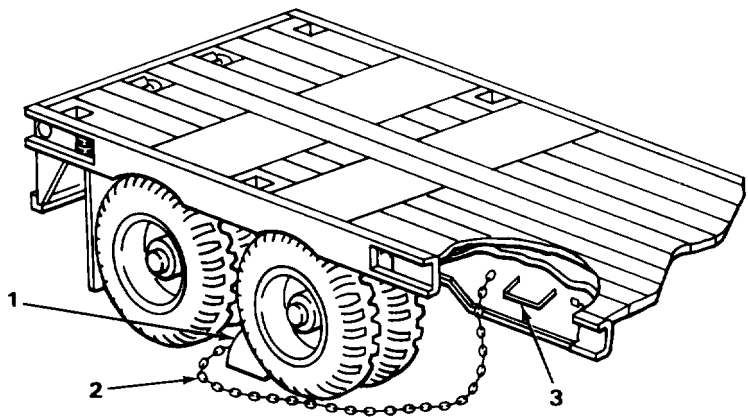
STOWAGE BOX



KEY	CONTROL OR INDICATOR	FUNCTION
1	Door handles	Two T-type on each of two doors rotate clockwise to open. Fold into recesses in the doors.
2	Hold-open hooks	One on each door hooks into top of side rail to hold door in up position. They hook onto a catch in center of door when not in use.

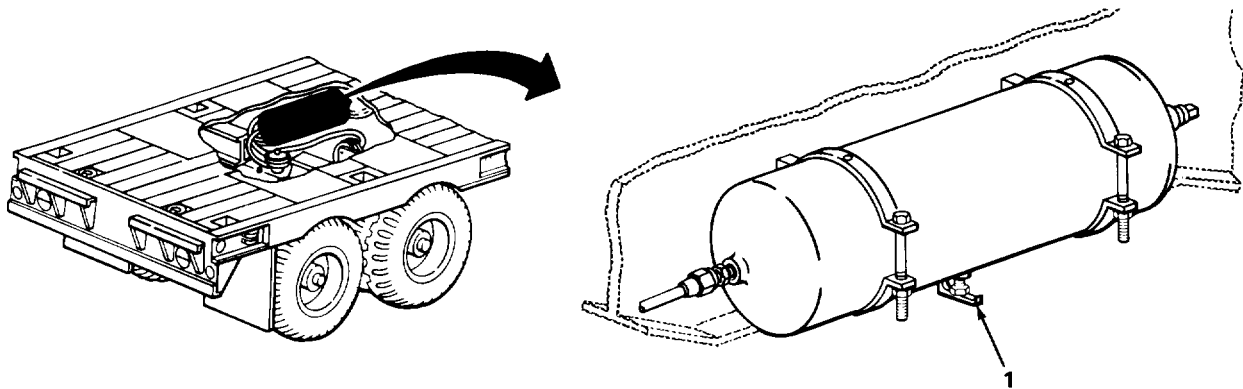
TA224184

CHOCK BLOCKS



KEY	CONTROL OR INDICATOR	FUNCTION
1	Chock blocks	One placed between front and rear outside tire and wheel assembly on each side of semitrailer to keep it from moving.
2	Chains	Fasten the chock blocks to semitrailer to keep them from being misplaced.
3	Stowage brackets	Stow the chock blocks when not in use. There is one on each side of semitrailer.

AIR RESERVOIR



KEY	CONTROL OR INDICATOR	FUNCTION
1	Reservoir draincock	Used to drain moisture and/or air from semitrailer brake system.

Section II. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Page	Page
General.....2-5	Operator/Crew Preventive Main- tenance Checks and Services (PMCS) 2-7
Leakage Definitions For Operator/ Crew PMCS.....2-6	PMCS Column Description 2-6
	Special Instructions 2-5

GENERAL

Every mission begins and ends with the paperwork. 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 DA PAM-738-750.

Do your before (B) PMCS just before You operate the vehicle. Pay attention to the CAUTIONS and WARNINGS.

Do your during (D) PMCS during operation. During operation means to monitor the vehicles and its related components while they are actually being operated.

Do your after (A) PMCS right after operating the vehicle. Pay attention to the CAUTIONS and WARNINGS.

Do your weekly (W) PMCS weekly.

SPECIAL INSTRUCTIONS

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

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.

When you do your PREVENTIVE MAINTENANCE, take along a rag or two.

While performing PMCS observe caution, notes and warning paragraphs preceding those operations that could endanger safety or result in damage to the equipment.

If anything looks wrong and you can't fix it, write it on your DA Form 2404. The number column is the source for the numbers used on the TM Number Column on DA Form 2404. If you find something seriously wrong, report it to Organizational Maintenance RIGHT AWAY.

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

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 drycleaning solvent PD-680 to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

SPECIAL INSTRUCTIONS - CONTINUED

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. Have organizational maintenance tighten.

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

Electric Wires and Connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Have loose connectors tightened and make sure the wires are in good condition.

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 organizational maintenance (refer to Maintenance Allocation Chart).

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 DEFINITIONS FOR OPERATOR/CREW 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 operating with Class I or II leaks, continue to check fluid levels as required on your PMCS. Class III leaks should be reported to your supervisor or organizational maintenance.

PMCS COLUMN DESCRIPTION

Item No. – The order that PMCS should be performed, and also used as a source of item numbers for the TM number column on DA Form 2404 Equipment Inspection and Maintenance worksheet when recording results of PMCS.

Interval – Tells when each check is to be performed.

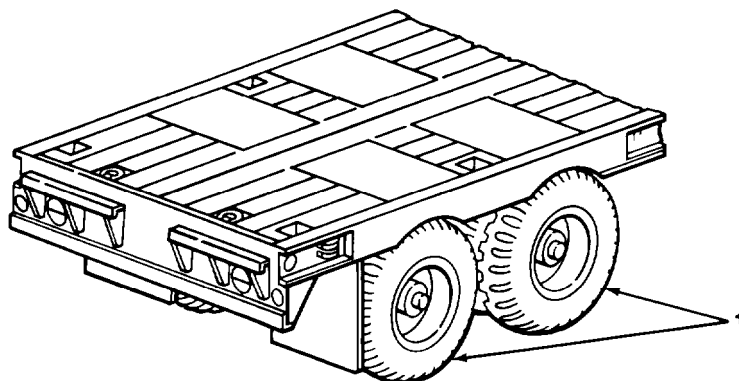
Item to be Inspected - Lists the checks to be performed.

Equipment is Not Ready/Available If - Has an entry only when the semitrailer should not be operated or accepted with that problem.

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

B-BEFORE D-DURING A-AFTER W-WEEKLY

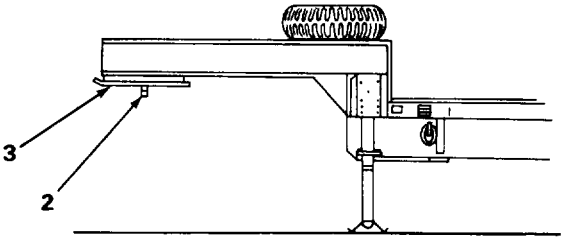
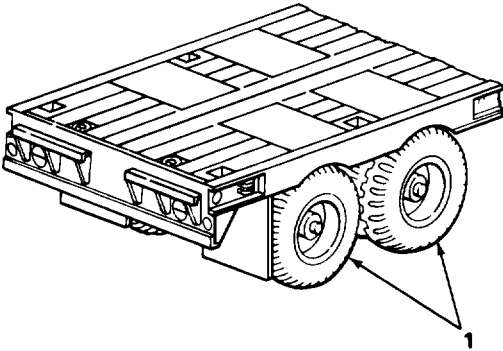
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A	W		
1.	•				<p>NOTE</p> <p>Perform weekly (W) as well as before (B) PMCS if:</p> <p>You are the assigned operator but have not operated the vehicle since the last weekly inspection.</p> <p>You are operating the vehicle for the first time.</p> <p>TIRES</p> <p>a. Check tires (1) for correct air pressure. Highway 75 psi (517 kPa) Off road 40 psi (276 kPa) Sand 40 psi (276 kPa)</p> <p>b. Check tires (1) for deep cuts, foreign objects, or unusual tread wear. Remove stones from between duals and treads.</p>	<p>Two or more tires (1) have cuts or abrasions that would result in tire failure during operation.</p> <p>Two or more tires (1) missing or unserviceable.</p>



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OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B-BEFORE D-DURING A-AFTER W-WEEKLY

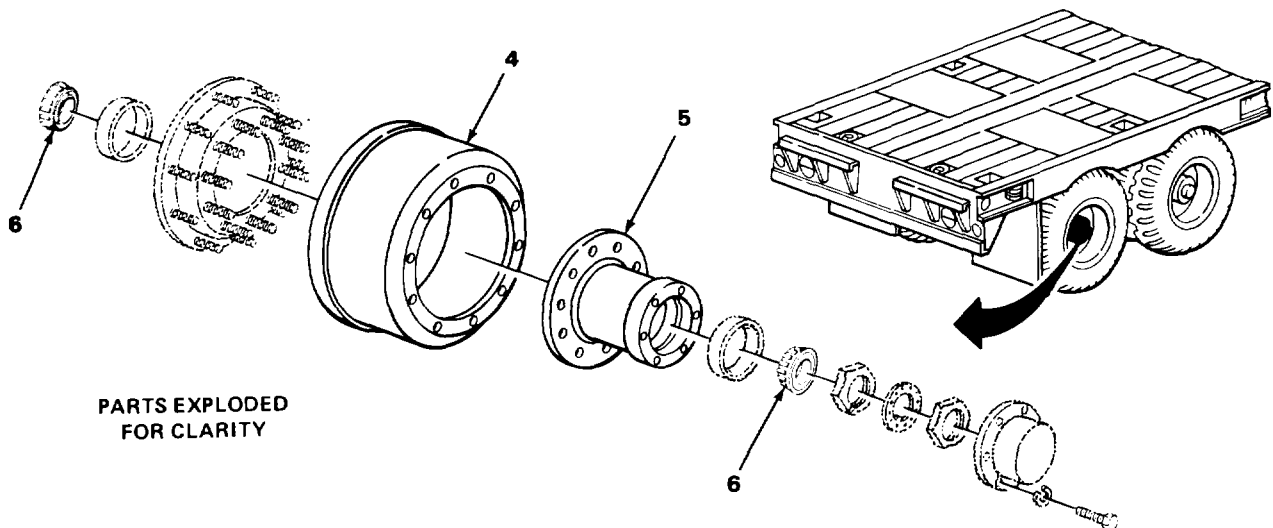
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A	W		
2.					WHEELS	
					<ul style="list-style-type: none">● a. Check wheels (1) for damage and wheel nuts for loose condition and presence.	Missing.
					<ul style="list-style-type: none">● b. Check for missing chock blocks and chains.	
					<ul style="list-style-type: none">● c. Check for missing side stakes.	
3.					KINGPIN	
					<ul style="list-style-type: none">● a. Inspect kingpin (2) for cracks or obvious damage.	Kingpin missing, cracked, or broken.
					<ul style="list-style-type: none">● b. Inspect kingpin plate (3) for cracks.	
<div></div>						
4.					BRAKE SYSTEM	
					<ul style="list-style-type: none">● a. Check for evidence of leakage of brake fluid on or under semitrailer.	Class III leakage is evident.
					<ul style="list-style-type: none">● b. Check airhose and connections for obvious damage.	Airhose(s) broken or missing.

TA224187

OPERATOR/CREW Preventive Maintenance CHECKS AND SERVICES (PMCS) - CONTINUED

B-BEFORE D-DURING A-AFTER W-WEEKLY

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		
			•		<p>c. Watch for unusual brake reaction during operation, such as one or more wheels grabbing before others. Listen for air leaks.</p> <p>WARNING</p> <p>When touched, overheated brake-drums (4) and hubs (5) can cause severe burns to personnel.</p> <p>d. After operations, cautiously feel brakedrums (4) and hubs (5) for excess heat.</p> <p>NOTE</p> <p>Overheated brakedrums (4) or hubs (5) indicate improperly adjusted, defective, or dry wheel bearings (6), or dragging brakes.</p>	<p>Service brakes fail to operate.</p> <p>Overheated brakedrum (4) is evident.</p>

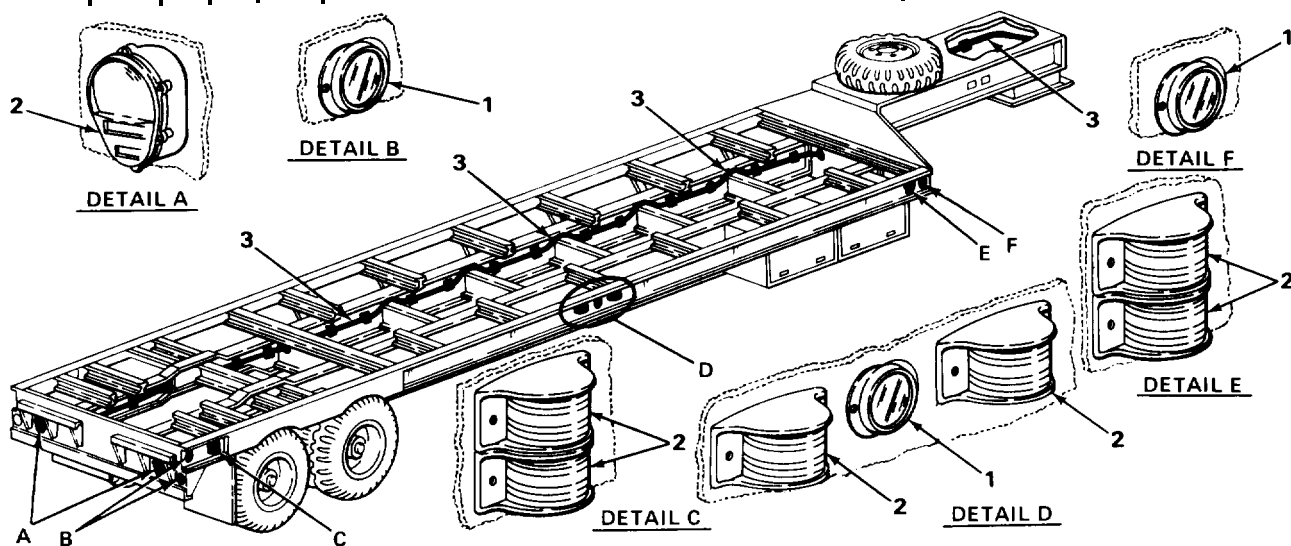


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OPERATOR/CREW Preventive Maintenance CHECKS AND SERVICES (PMCS) - CONTINUED

B-BEFORE D-DURING A-AFTER W-WEEKLY

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		
5.					<p>LIGHTS AND REFLECTORS</p> <p>NOTE</p> <p>An assistant is required while checking the brake lights.</p> <p>a. If the tactical situation permits, connect the tractor electrical cable to the semitrailer and operate the light switches to check lights.</p> <p>• b. Check for damaged or missing reflectors (1) and light assemblies (2).</p> <p>• c. Visually inspect electrical wiring (3) for cuts, breaks, or other damage.</p>	

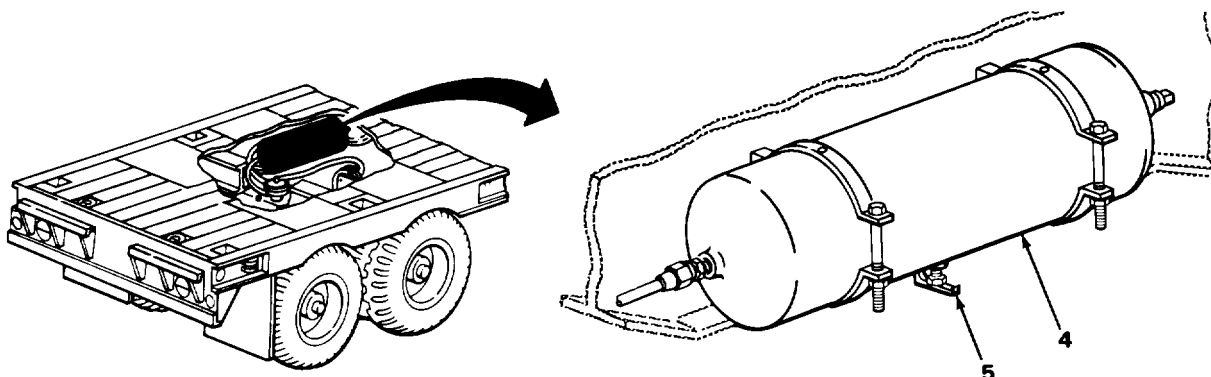


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OPERATOR/CREW Preventive Maintenance CHECKS AND SERVICES (PMCS) - CONTINUED

B-BEFORE D-DURING A-AFTER W-WEEKLY

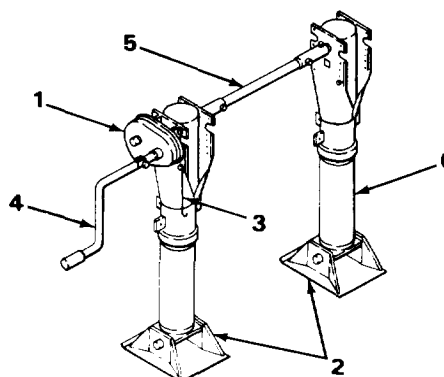
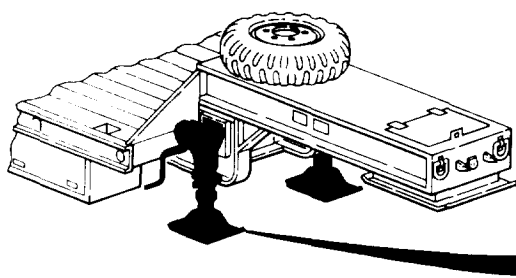
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A	W		
6.					<p>AIR RESERVOIR</p> <ol style="list-style-type: none"> Visually inspect air reservoir (4) for damage or leaks. Close draincock (5) before operation. Open draincock (5) to drain accumulated moisture. 	Air reservoir leaking or damaged.



OPERATOR/CREW preventive Maintenance CHECKS AND SERVICES (PMCS) - CONTINUED

B-BEFORE D-DURING A-AFTER W-WEEKLY

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		
7.	•	•	•		LANDING GEAR <ol style="list-style-type: none"> Couple semitrailer to towing vehicle and inspect crank gear-box (1) and shoes (2) for secure mounting or damage. Check that crank stow bracket (3) holds crank (4) securely. When cranking landing gear, check that shaft (5) turns and that other leg (6) moves. Check at both high and low speed cranking. Pull out for high speed and push in for low speed. 	<p>Damage is evident that would affect safe operation.</p> <p>Landing gear does not operate.</p>



8.

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GENERAL OPERATIONS

Be alert for unusual noises or abnormal conditions that might indicate load shifting or defective performance.

Any unusual noises or abnormal operations.

TA224191

Section III. OPERATION UNDER USUAL CONDITIONS

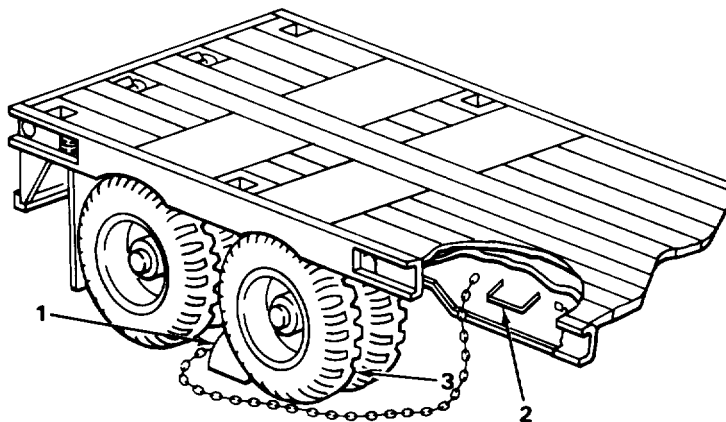
	Page		Page
After Use	2-20	Preparation for Use	2-13
Operation	2-18		

PREPARATION FOR USE

Perform the operator/crew preventive maintenance checks and services in the Before (B) column before doing the procedures below.

Positioning Chock Blocks

1. Take chock block (1) out of stowage bracket (2).
2. Place chock block (1) behind outside wheel and tire assembly (3) of front axle.
3. Repeat steps 1 and 2 for other side of semitrailer.



Coupling Truck Tractor and Semitrailer

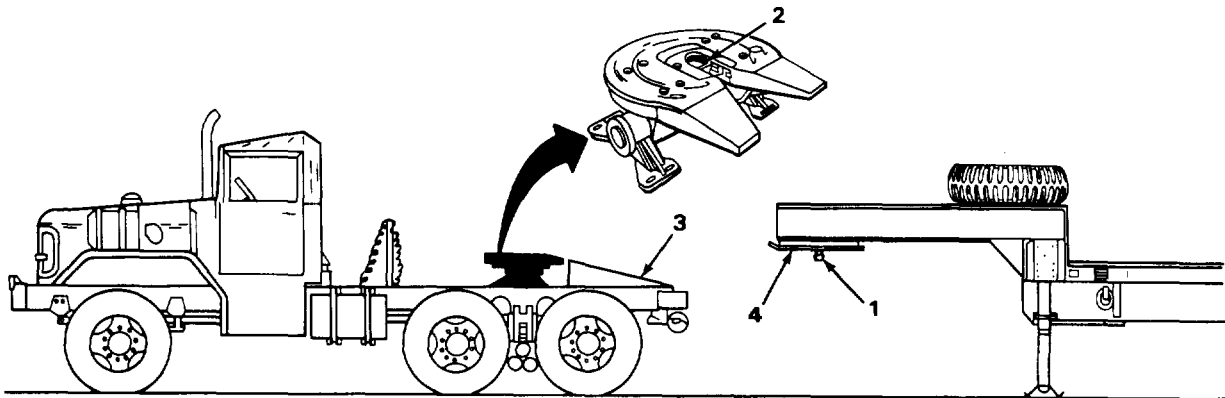
WARNING

All persons not involved in coupling operation must stand clear of truck tractor and semitrailer to prevent possible injury.

PREPARATION FOR USE - CONTINUED

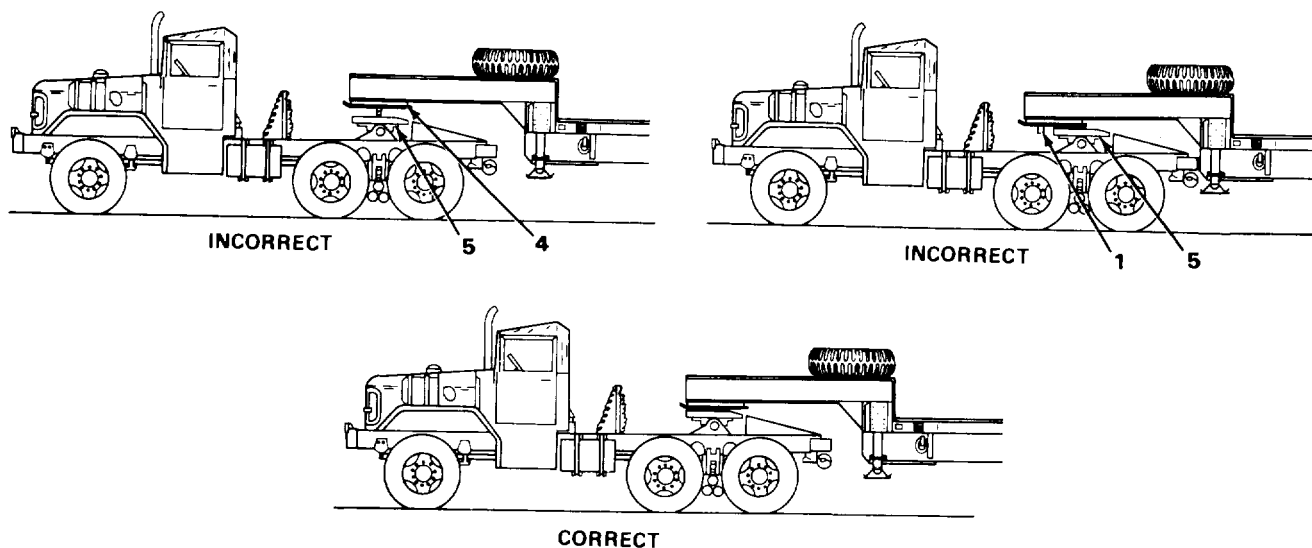
Coupling Truck Tractor and Semitrailer – Continued

1. Aline truck tractor with semitrailer.
2. Review and perform truck tractor operating procedures to prepare truck tractor for coupling.
3. Slowly back truck tractor into position. Be sure kingpin (1) is on line with fifth wheel jaws (2).
4. Before fifth wheel approach ramps (3) make contact with kingpin plate, do the following:
 - a. Check that kingpin plate (4) is above approach ramps (3).
 - b. Adjust kingpin (1) height as needed by raising or lowering landing gear.
 - c. Make sure fifth wheel jaws (2) are open.
5. Slowly back truck tractor until fifth wheel jaws (2) engage kingpin (1).

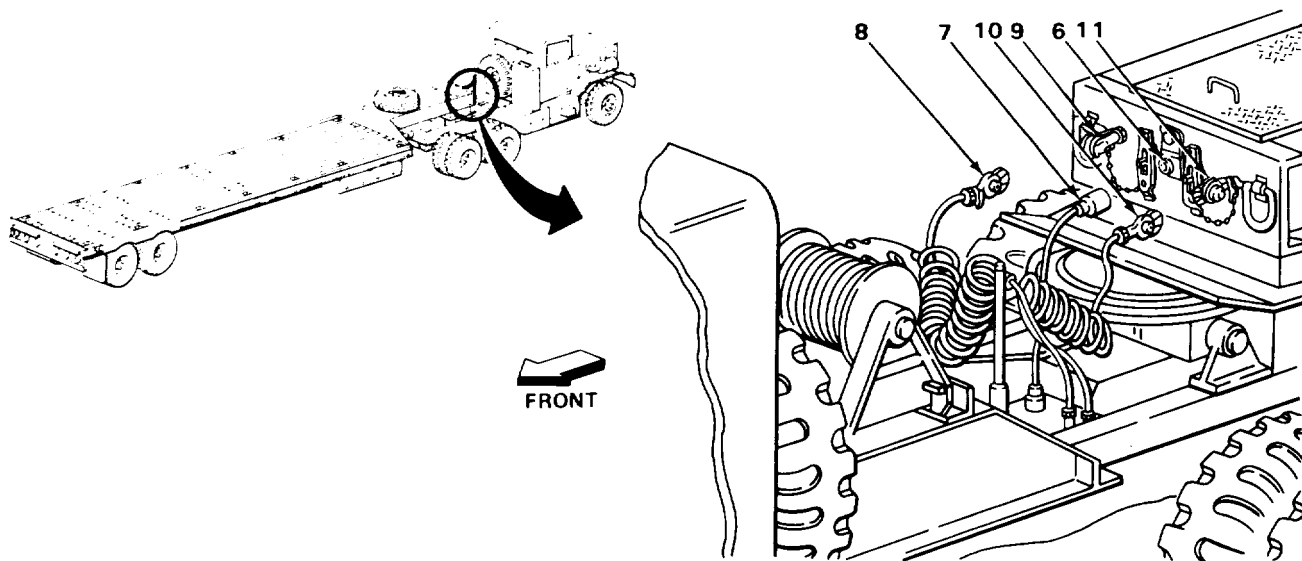


6. Visually check coupling.
 - a. There must be no daylight between kingpin plate (4) and fifth wheel (5).
 - b. Kingpin (1) must not be hooked over front of fifth wheel (5).

PREPARATION FOR USE – CONTINUED



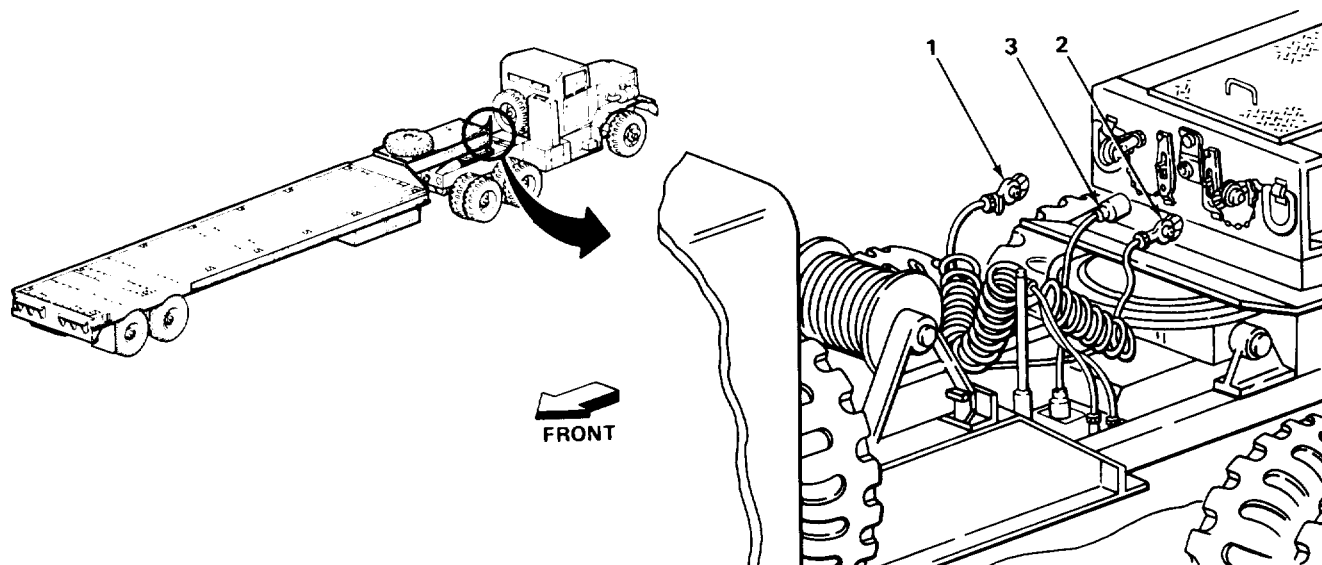
7. Ease truck tractor forward to check coupling. If coupling is not locked, rock truck tractor back and forth slowly until kingpin (1, above) is locked.
8. If hook-up failed, repeat steps 2 thru 7.
9. Raise cover on tractor-to-trailer electrical socket (6) and push cable (7) straight in.
10. Connect service air line (8) to right semitrailer gladhand (9).
11. Connect emergency air line (10) to left semitrailer gladhand (11).



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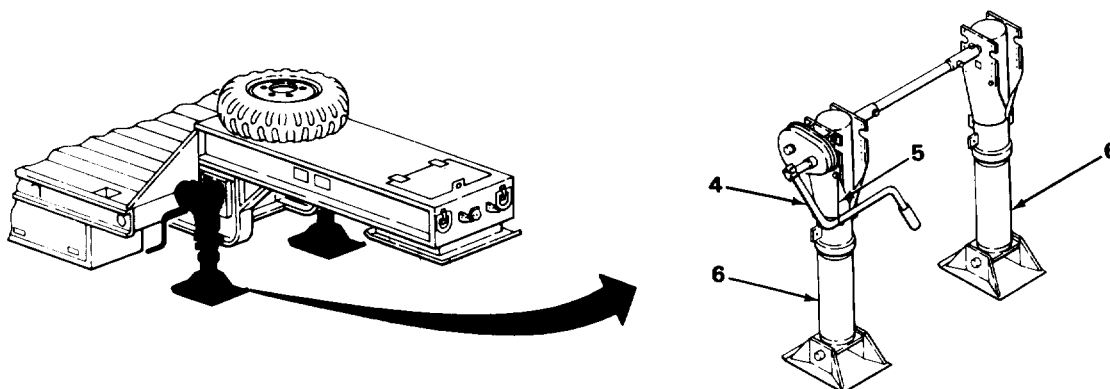
PREPARATION FOR USE - CONTINUED

12. Check air lines (1) and (2), and electrical cable (3) to be sure they are supported, and will not catch or chafe.
13. Check air reservoir to make sure draincock is closed.
14. Turn on truck tractor air supply, and apply truck tractor brakes to pressurize air-brake system.



Raising Landing Gear

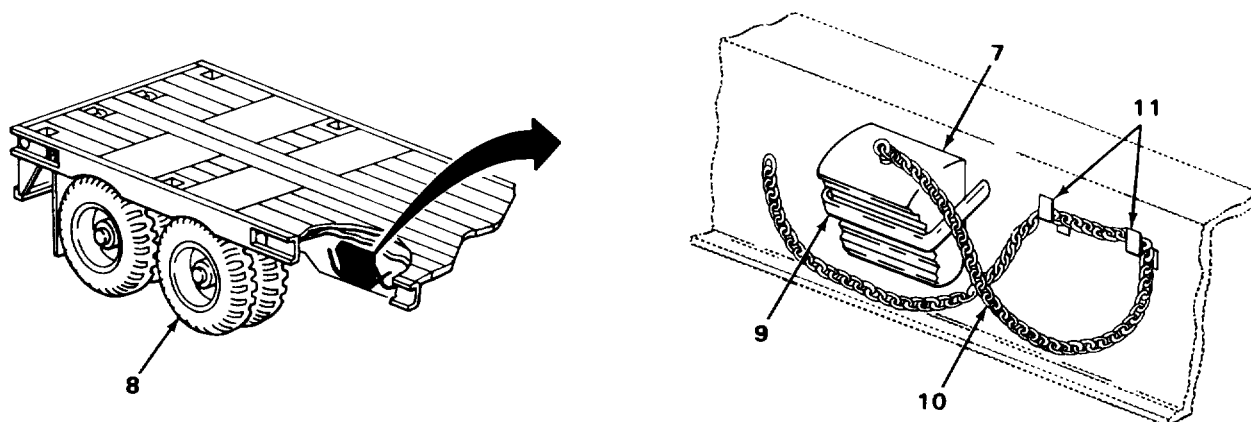
1. Recheck coupling lock by trying to ease truck tractor and semitrailer forward. If properly coupled, go to step 2. If not properly coupled, repeat coupling procedure above.
2. Unhook landing gear crank (4) from stow bracket (5).
3. Pull crank outward approximately 2 inches (50 mm) for high speed and turn it counter clockwise until legs (6) are up all the way.
4. Lower crank (4) and put in stow bracket (5).



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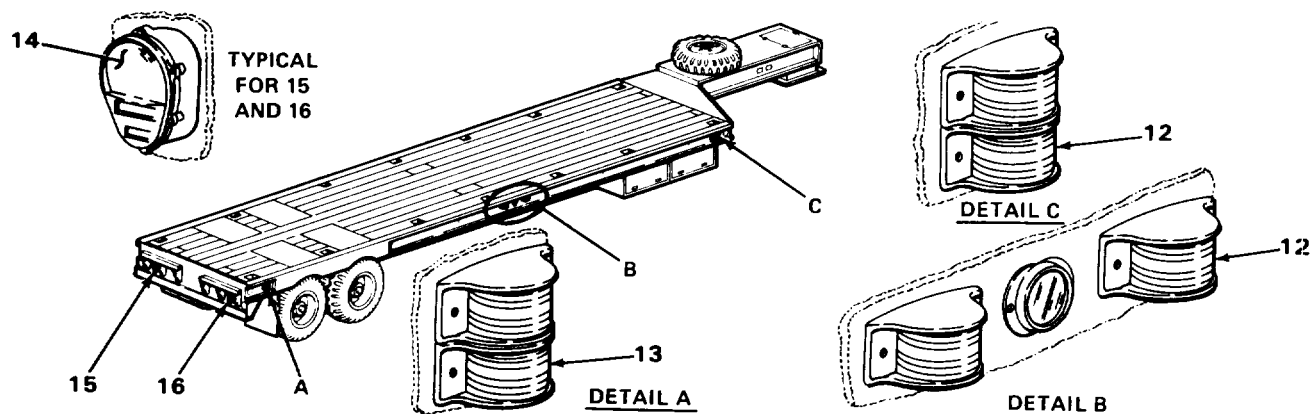
PREPARATION FOR USE- CONTINUED

5. Remove chock blocks (7) from behind front tire and wheel assembly (8). Put chock blocks (7) in stowage bracket (9) on both sides of semitrailer and loop chain (10) onto chain brackets (11).

**Checking Lights****WARNING**

Do not operate semitrailer with burned out or missing running, stop, or turn lights. Not being seen could result in injury to personnel and damage to equipment.

1. Turn on service drive lights in towing vehicle and check that amber and red clearance lights (12) and (13) are lit.
2. Have an assistant apply service brakes while you check that both brake lights (14) are lit. Check that both brake lights (14) go off when brakes are released.
3. Operate left turn signal and check that left turn signal light (15) flashes. Operate right turn signal and check that right turn signal light (16) flashes.

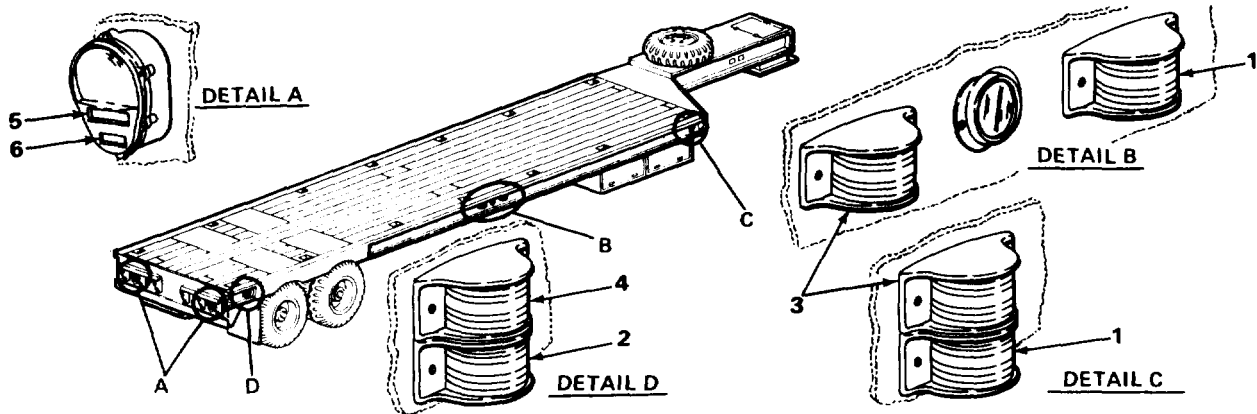


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PREPARATION FOR USE- CONTINUED

Checking Lights- Continued

4. Select blackout lights in towing vehicle. Check that amber and red clearance lights (1) and (2) go out and blackout marker lights (3), (4), and (5) go on.
5. Have assistant apply service brakes while you check that blackout stop lights (6) become lit, and that they go out when brake pedal is released.



Checking Brakes

1. Apply towing vehicle semitrailer handbrake control.
2. Have assistant watch semitrailer wheels as you move semitrailer forward. Semitrailer wheels should not move. If they move, recheck tractor-to-trailer airhose connections.

OPERATION

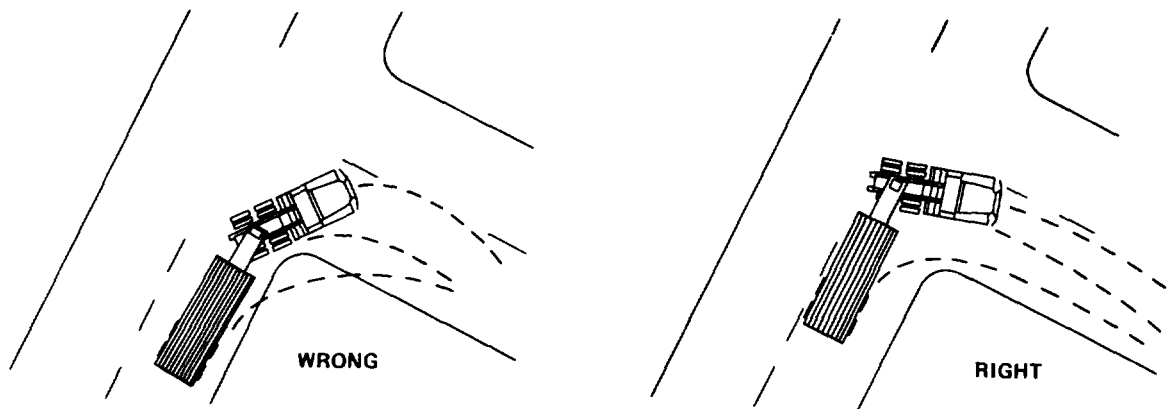
Driving

When driving the truck tractor and semitrailer, the overall length of the unit must be kept in mind when passing other vehicles and when turning. Because the unit is hinged in the middle, backing is also affected.

Turning

When turning corners, allow for the fact that the semitrailer wheels turn inside the turning radius of the truck tractor. Make a right turn at a road intersection and then cut sharply to the right. This will keep the semitrailer off the curb.

OPERATION - CONTINUED

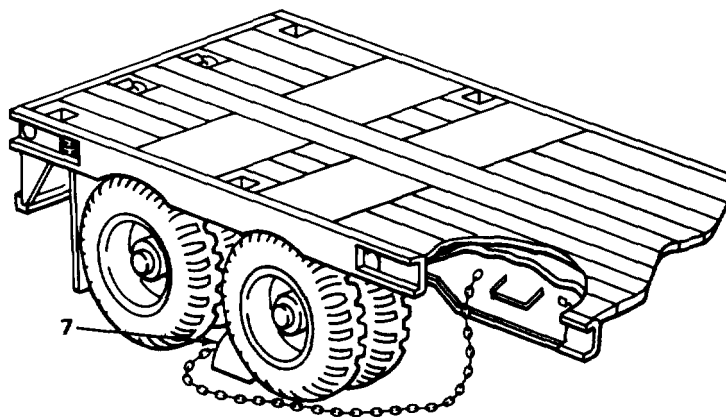


Stopping

The brakes of the truck tractor and the semitrailer are applied at the same time in normal operation when the driver steps on the brake pedal. Brake pressure must be applied gradually and smoothly. The semitrailer brakes may be applied separately by using the trailer handbrake control lever on the steering column. On steep downgrades or slippery surfaces, the semitrailer brakes must be applied before the tractor brakes. This will reduce the possibility of jackknifing the semitrailer.

Parking

When parking the truck tractor and semitrailer to leave unattended, set the parking brake on the truck tractor, apply the trailer handbrake control, and turn off the engine before leaving the cab. Block the semitrailer wheels with chock blocks (7). Block behind front wheels on uphill grade, in front of back wheels on downhill grade.

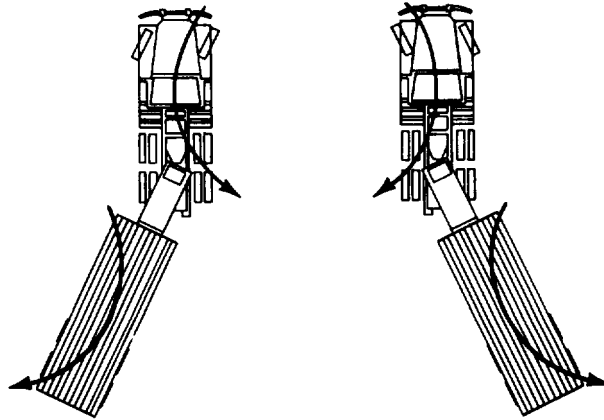


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OPERATION - CONTINUED

Backing

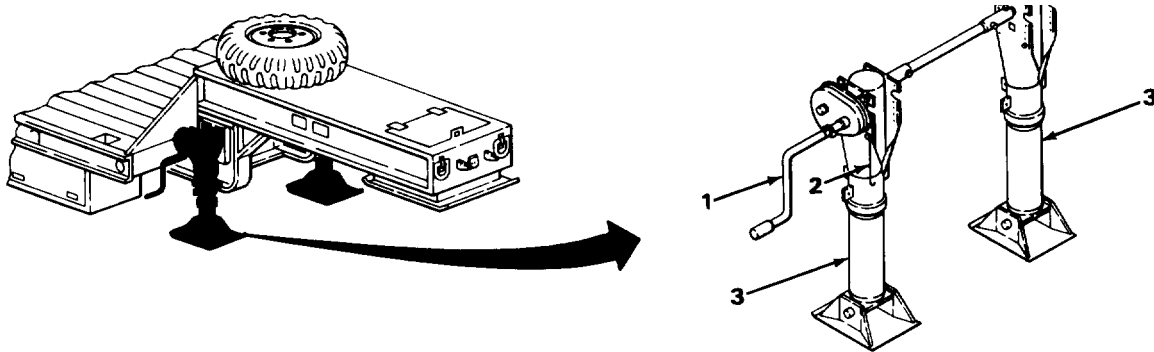
When possible, use an assistant as a ground guide to direct you while backing. Adjust rearview mirrors before backing. When backing, the rear of the semitrailer will move in the opposite direction from which the front truck tractor wheels are turned. If the wheels are turned to the right, the trailer will go left. If the wheels are turned to the left, the trailer will go right.



AFTER USE

Lowering Landing Gear

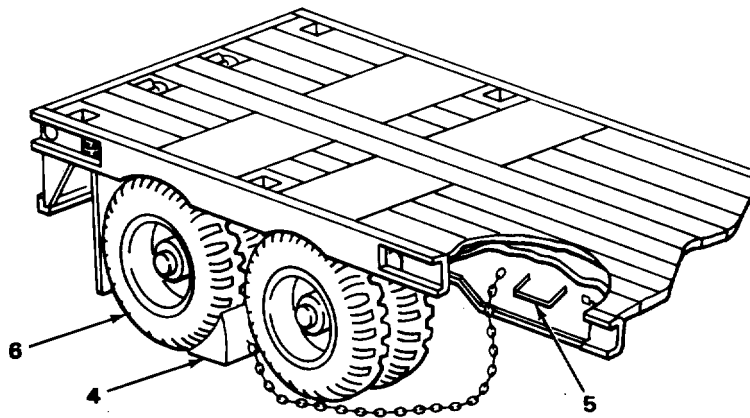
1. Unhook crank (1) from stow bracket (2).
2. Turn crank (1) clockwise until legs (3) are extended.



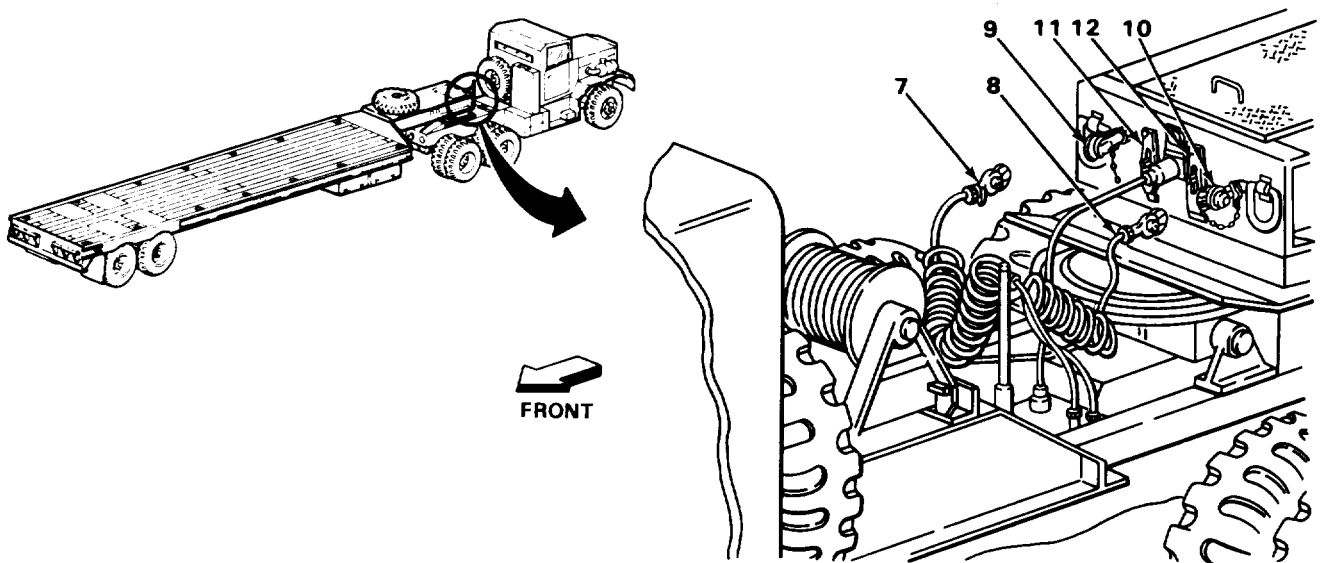
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AFTER USE - CONTINUED**Positioning Chock Blocks**

1. Take chock block (4) out of stowage bracket (5).
2. Place chock block (4) in front of rear axle outside tire and wheel assembly (6).
3. Repeat steps 1 and 2 for other side of semitrailer.

**Uncoupling**

1. Shut off tractor-to-trailer air supply.
2. Disconnect service air line (7) and emergency air line (8) from gladhands (9) and (10).
3. Place dummy couplings (11) and (12) on semitrailer gladhands (9) and (10) for protection.

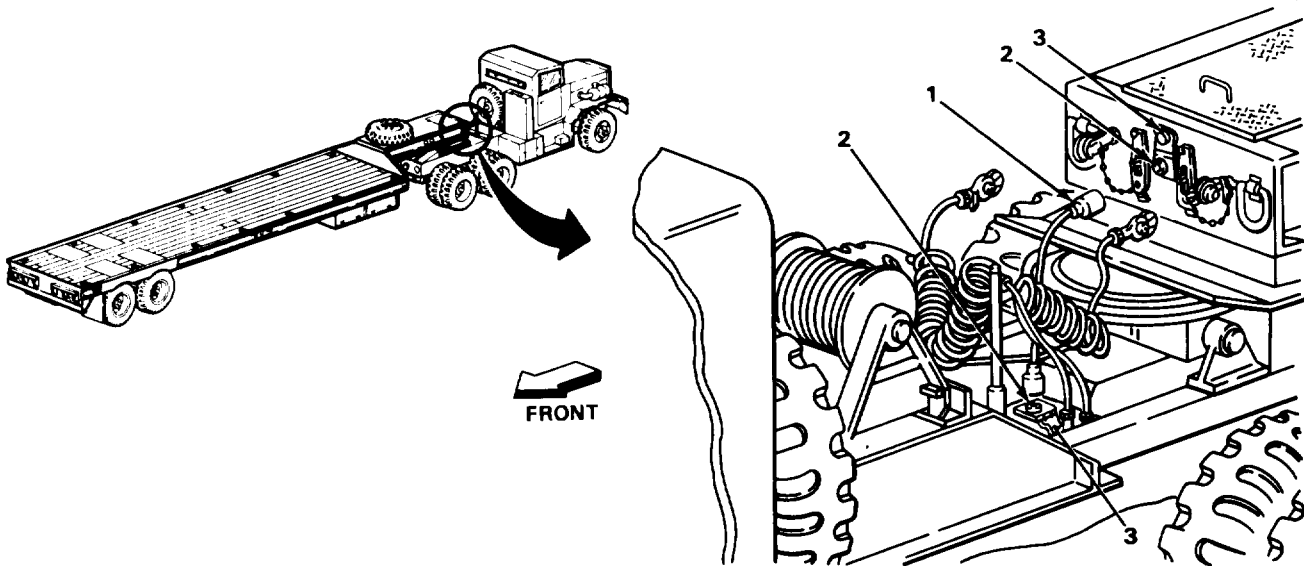


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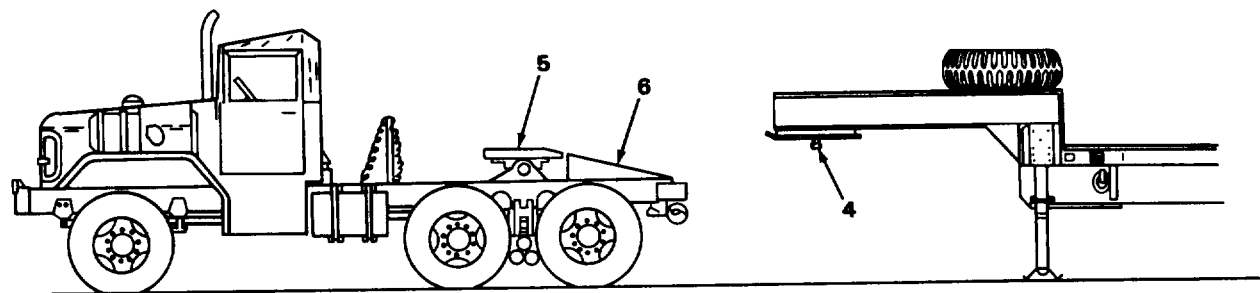
AFTER USE - CONTINUED

Uncoupling – Continued

4. Disconnect electrical cable (1) from semitrailer and tractor by pulling straight out from socket (2).
5. Be sure socket cover(3) is closed.
6. Stow cable (1).



7. Release semitrailer kingpin (4) from truck tractor fifth wheel (5). See truck tractor operators manual for instructions.
8. Slowly move truck tractor forward until semitrailer is clear of approach ramps (6).



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Section IV. OPERATION UNDER UNUSUAL CONDITIONS

	Page		Page
Fording	2-24	Operation on Rocky Terrain	2-24
Operation in Extreme Cold	2-23	Operation in Saltwater Areas	2-24
Operation in Extreme Heat	2-23	Operation in Sandy or Dusty Areas	2-23
Operation in Mud	2-24	Operation in Snow	2-24
Operation in Rainy or Humid Conditions	2-23		

OPERATION IN EXTREME HEAT

Do not park the semitrailer in sunlight for long periods of time because effects of heat and sunlight shorten the life of tires. If possible, shelter or cover semitrailer.

OPERATION IN EXTREME COLD

1. Extreme cold can cause lubricants to thicken or congeal, insulation to crack and cause electrical short circuits, and construction materials to become hard, brittle, and easily damaged or broken.
2. Tires may freeze to the ground or have a flat spot if underinflated.
3. Brakeshoes may freeze to the brakedrums and need to be heated to prevent damage to mating surfaces.
4. Refer to FM 9-207 and FM 21-305 for special instructions on driving hazards in extreme cold.
5. When parking short term, park in a sheltered area out of the wind.
6. For parking long term, if high, dry ground is not available, place a footing of planks or brush under semitrailer wheels and landing gear.
7. Remove all built-up ice, snow, and mud as soon as possible after shutdown.
8. Cover and shield the semitrailer with canvas covers if available. Keep ends of covers off of the ground to keep them from freezing to the ground.

OPERATION IN RAINY OR HUMID CONDITIONS

Inspect, clean, and lubricate inactive equipment often to stop rust and fungus from getting on it.

OPERATION IN SANDY OR DUSTY AREAS

CAUTION

Do not tow, pull, or push semitrailer by the rear bumper. Damage may be caused.

1. Clean, inspect, and lubricate more often in dusty or sandy areas.
2. Reduce tire inflation to 40 psi (276 kPa) for operation in beach and desert sand.
3. Be sure to return tire air pressure to normal after sand operation (75 psi/517 kPa).

OPERATION IN SNOW

See FM 21-305 for special instructions on operations in snow.

OPERATION IN MUD

CAUTION

Do not tow, pull, or push semitrailer by the rear bumper. Damage may be caused.

Be sure to put planking or matting under wheels to prevent freezing in mud or ice.

1. Reduce tire inflation to 40 psi (276 kPa) while operating in soft mud, if practical.
2. If one or more wheels sink into the mud, you may need to jack up the mired wheel and put planking or matting under it.
3. Clean off all mud after operation.

OPERATION IN SALTWATER AREAS

Saltwater will cause early rust and corrosion. Clean, inspect, and lubricate often.

OPERATION ON ROCKY TERRAIN

1. Tires must be inflated to 75 psi (517 kPa) when moving on rough or rocky terrain. Underinflated tires will cause internal ruptures of the tires and damage to the tubes.
2. Before driving over stumps or rocks, make sure the semitrailer can clear them. Such objects can damage components on the underside of the semitrailer.
3. Be sure you have a serviceable spare tire and wheel assembly because there is a greater chance of tire puncture.

FORDING

Before Fording

1. Before entering water, check the bottom surface condition. If bottom surface is too soft, do not ford.

After Fording

2. After coming out of water, apply the brakes intermittently at low speeds for a few minutes to help dry out the brake linings. Make sure that the semitrailer brakes are working properly before driving at normal speeds.
3. Drain or dry all areas where water is lying.
4. Lubricate all unpainted surfaces. See lubrication chart, page 4-5.
5. Dry all lubricating points and lubricate them. See lubrication chart, page 4-5.

CHAPTER 3

OPERATOR MAINTENANCE

OVERVIEW

This chapter contains the lubrication and troubleshooting maintenance instructions and procedures authorized at operator level.

		Page
Section I.	Lubrication instructions	3-1
Section II.	Operator Troubleshooting Procedures	3-1
Section III.	Operator Maintenance Procedures	3-6

Section I. LUBRICATION INSTRUCTIONS

Lubrication under usual and unusual conditions and the M270A1 semitrailer lubrication chart are contained in organizational maintenance, chapter 4.

Section II. OPERATOR TROUBLESHOOTING PROCEDURES

	Page		Page
Explanation of Columns	3-1	Operator Troubleshooting	3-2
introduction	3-1	Symptom Index	3-2

INTRODUCTION

This section lists the common malfunctions that you may find during operation of the semitrailer or its components. Perform the tests/inspections and corrective maintenance 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 it is not corrected by the listed corrective actions, notify your supervisor.

EXPLANATION OF COLUMNS

MALFUNCTION	Visual or operational indication that something is wrong with the semitrailer.
TEST/inspection	Procedure to isolate the problem to a component or system.
CORRECTIVE ACTION	Procedure to correct problem.

SYMPTOM INDEX

This symptom index is provided as a quick way to get you to the part of the troubleshooting table that will help you solve the problem you are having. It lists all of the malfunctions covered in the operator troubleshooting table.

	Page
BRAKES	
Brakes will not release	3-3
Brakes grab	3-4
Brakes do not apply or apply slowly	3-4
ELECTRICAL SYSTEM	
All lamps do not light	3-2
One or more (but not all) lamps will not light	3-3
LANDING GEAR	
Landing gear is difficult to lower or raise	3-5
TIRES	
Excessively worn, scuffed, or cupped tires	3-6

OPERATOR TROUBLESHOOTING

The following provides procedures that the operator can use to find and fix semitrailer malfunctions.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS DO NOT LIGHT.

Step 1. Turn on truck tractor lights and check their operation. See truck tractor operator's manual.

If truck tractor lamps do not light, notify organizational maintenance.

Step 2. Check tractor-to-trailer electrical cable for proper connection.

If cable is not properly connected, reconnect.

Step 3. Check truck tractor, semitrailer, and cable connectors for bent and broken pins, and dirty and corroded pins and sockets.

OPERATOR TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. ALL LAMPS DO NOT LIGHT - CONTINUED

- a. If pins or sockets are dirty or corroded, clean them.
- b. If pins are broken, notify organizational maintenance.
- c. If all lamps still do not light, notify organizational maintenance.

2. ONE OR MORE (BUT NOT ALL) LAMPS WILL NOT LIGHT.

Step 1. Check for burned out or defective bulbs.

If bulbs are burned out or defective, notify organizational maintenance.

Step 2. Check for broken lead wires or loose connections.

If connections are loose, or if lead wires are broken, notify organizational maintenance.

Step 3. Check lens and light assembly for damage.

a. If lens or light assembly is damaged, notify organizational maintenance.

b. If lamps still will not light, notify organizational maintenance.

BRAKES

3. BRAKES WILL NOT RELEASE.

Step 1. Check that tractor-to-semitrailer air supply is turned on.

If air is shut off, turn on air supply.

Step 2. Check air pressure of truck tractor.

If pressure is low, build up air pressure to normal level.

Step 3. Check connections of air lines to gladhands.

If air lines are not properly connected (emergency to emergency, and service to service) connect air lines.

OPERATOR TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. BRAKES WILL NOT RELEASE – CONTINUED

Step 4. Check for dirty or leaking gladhand connection.

- a. If gladhand is dirty, clean.
- b. If gladhand is leaking, notify organizational maintenance.

Step 5. Inspect brake air and hydraulic hoses, tubes, and connectors for leaks.

If hoses, tubes, or connectors are leaking, notify organizational maintenance.

WARNING

Airstream from open draincock could cause eye injury. Wear eye protection when working with air under pressure. Failure to do so could result in eye injury.

Step 6. Check semitrailer air reservoir for open draincock.

- a. If draincock is open, close it.
- b. If draincock is closed and brakes still will not release, notify organizational maintenance.

4. BRAKES GRAB.

Check for moisture in air reservoir by opening draincock.

- a. If moisture is in air reservoir, allow to drain and close draincock.
- b. If air reservoir is dry and brakes still grab, notify organizational maintenance.

5. BRAKES DO NOT APPLY OR APPLY SLOWLY.

Step 1. Check that air supply from tractor is turned on.

If air is turned off, turn on air.

Step 2. Check air pressure in truck tractor.

OPERATOR TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5. BRAKES DO NOT APPLY OR APPLY SLOWLY – CONTINUED

If pressure is low, build up pressure.

Step 3. Check connections of gladhands to air lines.

If air lines are not properly connected (emergency to emergency, and service to service) connect air lines.

Step 4. Check for dirty or leaking gladhands.

a. If gladhand is dirty, clean.

b. If gladhands are leaking, notify organizational maintenance.

Step 5. Check brake hoses and connectors for damage or leaks by listening for hissing sound while system is under pressure.

If hoses or connectors are damaged or leaking, notify organizational maintenance.

WARNING

Wear eye protection when working with air under pressure. Failure to do so could result in eye injury.

Step 6. Check semitrailer air reservoir for open draincock.

If draincock is open, close it.

Step 7. Check for leakage of brake fluid by looking for hydraulic fluid on tires or rims.

a. If brake cylinder is leaking, notify organizational maintenance.

b. If no leakage is found and brakes still will not apply, notify organizational maintenance.

LANDING GEAR

6. LANDING GEAR IS DIFFICULT TO LOWER OR RAISE.

Step 1. Check for misaligned or broken crank handle.

OPERATOR TROUBLESHOOTING - CONTINUED

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
-------------	--------------------	-------------------

6. LANDING GEAR IS DIFFICULT TO LOWER OR RAISE - CONTINUED

If crank handle is misaligned or broken, notify organizational maintenance.

Step 2. Check for dirt on lower landing gear leg.

If lower landing gear leg is dirty, clean landing gear leg.

Step 3. Check for misaligned, damaged, or bent landing gear legs.

TIRES

7. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES.

- Step 1. Check tire pressure.
If tire pressure is not 60 psi, inflate tires to 60 psi.
If tire pressure is 60 psi, go to step 2.

Step 2. Check for loose, cracked or broken wheels.
If wheels are loose, tighten nuts.
If wheel is cracked or broken, notify Organizational Maintenance.
If wheel is secure and not cracked or broken, go to step 3.

Step 3. Check suspension system for damaged springs and loose or missing bolts and nuts.
If suspension is damaged or has loose or missing bolts and nuts, notify Organizational Maintenance.
If suspension system is not damaged and all hardware is complete and secure, go to step 4.

Step 4. Check tracking for indication of axle misalignment.
If axle appears to be misaligned, notify Organizational Maintenance.
If the above steps do not correct the malfunction, notify Organizational Maintenance.

Section III. OPERATOR MAINTENANCE PROCEDURES

	Page		Page
Air Reservoir	3-9	Landing Gear Legs,	3-16
Electrical Connectors	3-7	Spare Tire and Wheel Assembly	3-15
Gladhands	3-8	Tire and Wheel Assembly	3-11

AIR RESERVOIR

This task covers:

Servicing (page 3-9)

INITIAL SETUP

Tools

Protective goggles

Personnel Required

One

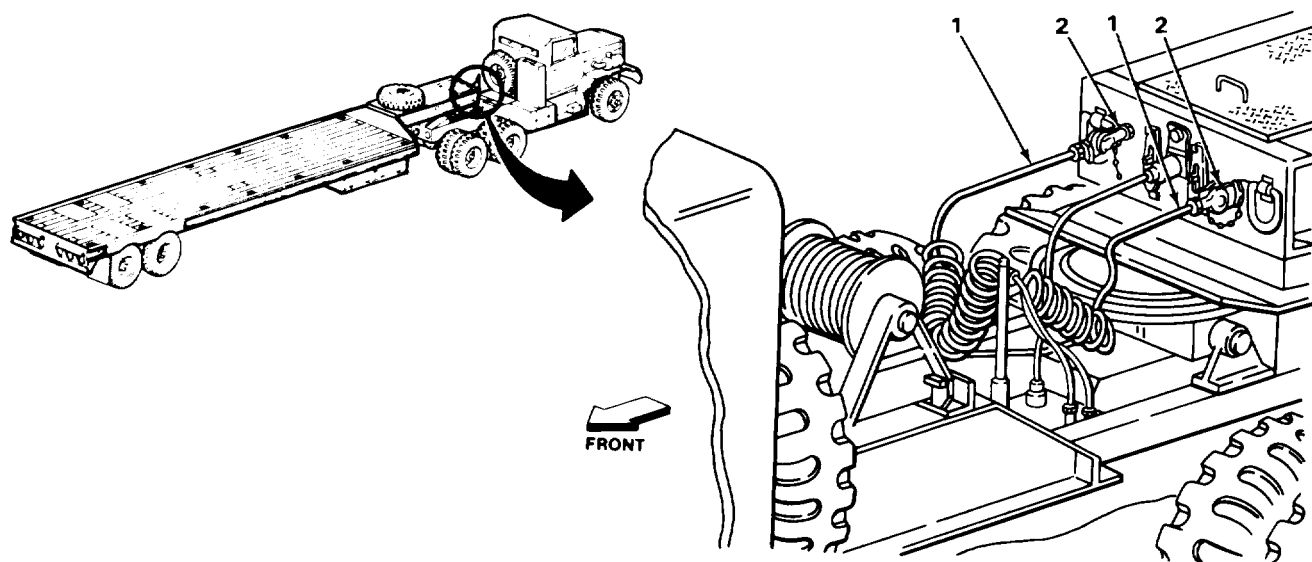
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

SERVICING

- | | | | |
|----|----------------------|----------------------------------|--------------------------------|
| 1. | Truck tractor | Trailer air supply | Turn off. |
| 2. | Front of semitrailer | Tractor-to-trailer air lines (1) | Disconnect from gladhands (2). |

WARNING

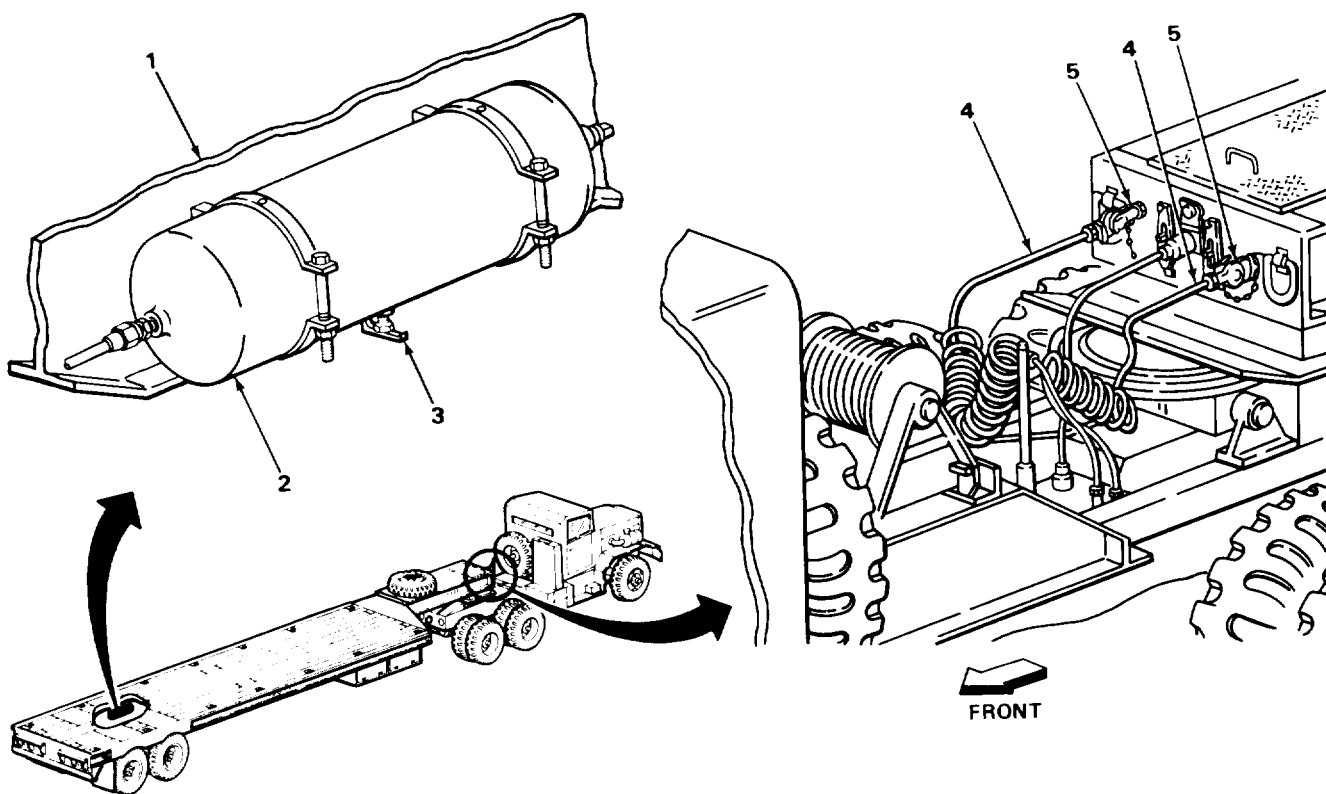
Failure to wear protective goggles when opening air reservoir draincock could cause serious eye injury.



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AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
SERVICING-CONTINUED		
3. Left main frame (1) and air reservoir (2)	Air reservoir draincock (3)	a. Open and allow to drain fully. b. Close.
4. Front of semitrailer	Tractor-to-trailer air lines (4)	Connect to semitrailer gladhands (5).
5. Truck tractor	Trailer air supply	Turn on.
6. Rear of semitrailer	Air reservoir draincock (3)	Check for leaks.



TASK ENDS HERE

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TIRE AND WHEEL ASSEMBLY

This task covers:

- a. Removal (page 3-11)
- b. Installation (page 3-12)

INITIAL SETUP

Tools

Jack, hydraulic
Wrench, lug stud-nut

Personnel Required

Two

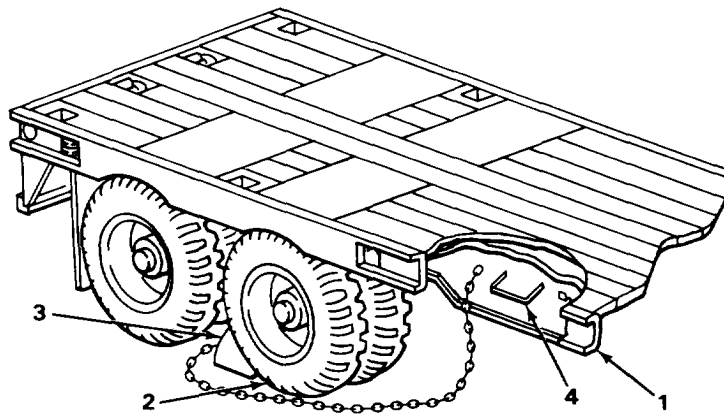
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1. Chassis frame (1) in front of tires (2)

Wheel chocks (3)

Take out of stowage bracket (4) and block tires (2) not being removed.



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TIRE AND WHEEL ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL-CONTINUED

NOTE

Check lug nut (1) stamping to determine direction of rotation for removal before starting to loosen lug nuts (1).

- | | | | |
|----|--|-----------------------------------|---|
| 2. | Outer tire and wheel assembly (2) | 10 lug nuts (1) | Using lug wrench, loosen until free, but do not remove. |
| 3. | End of axle (3) holding tire being removed | Hydraulic jack (4) | a. Place under axle (3) inboard of torque rod (5).
b. Raise tire and wheel assemblies (2) and (6) until clear of ground. |
| 4. | Stud nuts (7) | 10 lug nuts (1) | Unscrew and take out. |
| 5. | | Outer tire and wheel assembly (2) | With the aid of an assistant, take off of stud nuts (7). |

NOTE

If inner tire and wheel assembly does not need to be removed, skip steps 6 thru 9.

- | | | | |
|----|-----------------------------------|-----------------------------------|--|
| 6. | Inner tire and wheel assembly (6) | 10 stud nuts (7) | a. Lower axle (3) until tire and wheel assembly (6) touches ground.
b. Using stud-nut wrench, loosen until free, but do not remove.
c. Raise axle (3) until tire and wheel assembly (6) is free from ground.
d. Unscrew and take off stud nuts (7). |
| 7. | Lug bolts (8) | Inner tire and wheel assembly (6) | With aid of an assistant, take off of lug bolts (8). |

INSTALLATION

- | | | | |
|----|--|-----------------------------------|---|
| 8. | | Inner tire and wheel assembly (6) | With the aid of an assistant, place on lug bolts (8). |
|----|--|-----------------------------------|---|

TIRE AND WHEEL ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION - CONTINUED

NOTE

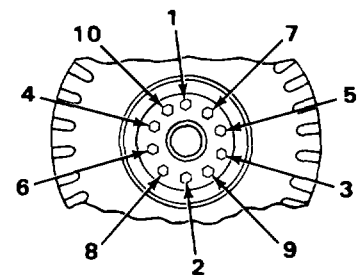
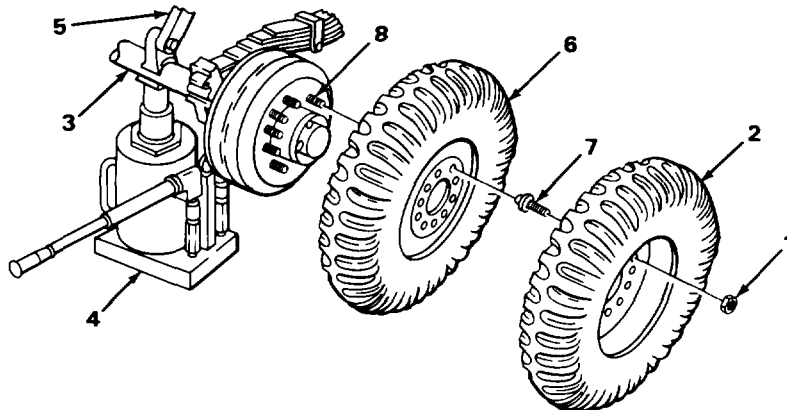
Lug bolts (8) are threaded right or left hand in direction of forward wheel rotation. To tighten stud nuts (7) on right side, turn clockwise. To tighten stud nuts (7) on left side, turn counterclockwise.

- | | | | |
|-----|---|-----------------------------------|--|
| 9. | Lug bolts (8) and inner tire and wheel assembly (6) | 10 stud nuts (7) | a. Screw onto lug bolts (8).
b. Lower inner tire and wheel assembly (6) until tire touches ground.
c. Tighten stud nuts (7) in the sequence shown using stud-nut wrench. |
| 10. | 10 stud nuts (7) | Outer tire and wheel assembly (2) | a. Raise axle (3) until tire and wheel assembly (6) is free from ground.
b. With the aid of an assistant place outer tire and wheel assembly (2) on stud nuts (7). |

NOTE

Stud nuts (7) are threaded right or left hand in direction of forward wheel rotation. To tighten lug nuts (1) on right side, turn clockwise. To tighten lug nuts (1) on left side, turn counterclockwise.

- | | | | |
|-----|---|-----------------|--|
| 11. | Stud nuts (7) and outer tire and wheel assembly (2) | 10 lug nuts (1) | a. Screw onto stud nuts (7).
b. Lower outer tire and wheel assembly (2) until tire touches ground.
c. Tighten lug nuts (1) in the sequence shown using lug wrench. |
|-----|---|-----------------|--|



**TIGHTENING SEQUENCE
FOR WHEEL NUTS**

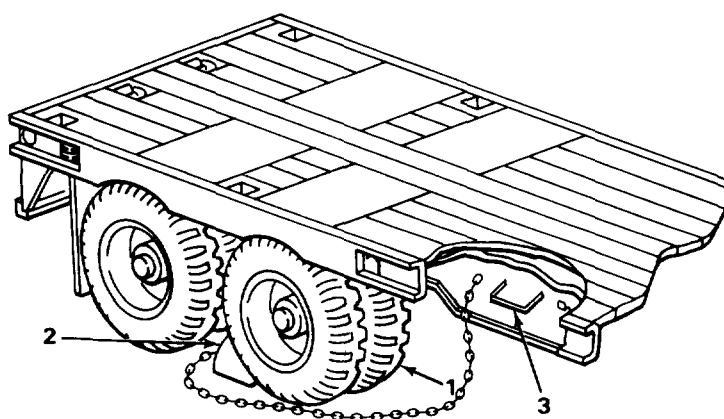
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TIRE AND WHEEL ASSEMBLY – CONTINUED

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

INSTALLATION – CONTINUED

- | | | | |
|-----|-----------|------------------|--|
| 12. | Tires (1) | Wheel chocks (2) | Take away from tires (1) and stow in stowage brackets (3). |
|-----|-----------|------------------|--|



NOTE

As soon as possible have organizational maintenance torque lug nuts to 400 – 425 foot pounds (540 – 560 N•m).

TASK ENDS HERE

SPARE TIRE AND WHEEL ASSEMBLY

This task covers:

- a. Removal (page 3-15)
- b. Installation (page 3-15)

INITIAL SETUP

Tools

Wrench, lug

Personnel Required

Two

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

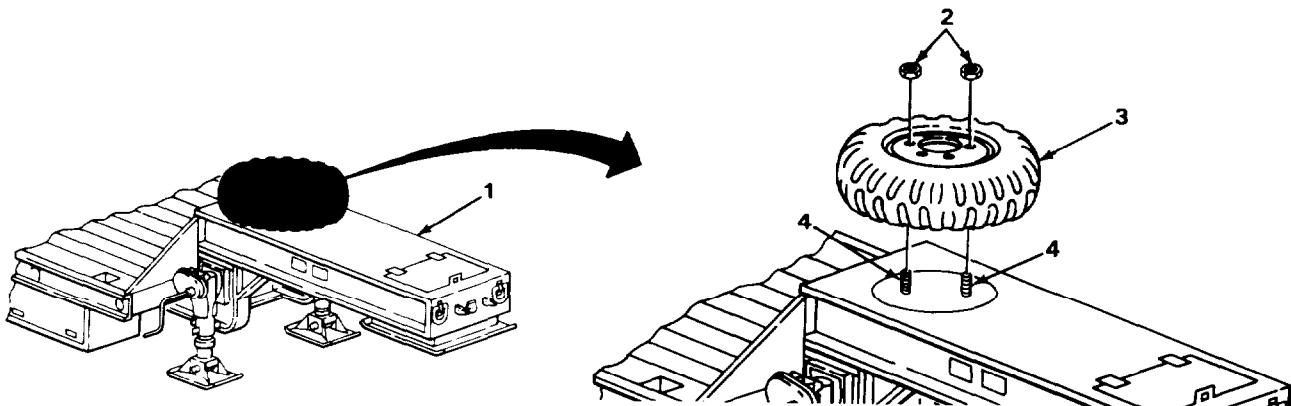
1. Gooseneck (1) Two lug nuts (2) Using lug wrench, unscrew and take off.
2. Spare tire and wheel assembly (3) With assistant, lift to clear lugs (4).

INSTALLATION

3. Gooseneck (1) Spare tire and wheel assembly (3) With assistant, put tire and wheel assembly (3) on lugs (4).
4. Two lugs (4) Two lug nuts (2) Put on and tighten using lug wrench.

NOTE

As soon as possible, notify organizational maintenance of tire change. Have organizational maintenance repair bad tire.



TASK ENDS HERE

LANDING GEAR LEGS

This task covers:

Cleaning (page 3-16)

INITIAL SETUP

Materials/Parts	Personnel Required
Brush (item 3, appendix E) Solvent, drycleaning PD-680 (item 16, appendix E) Rags (item 14, appendix E)	One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING

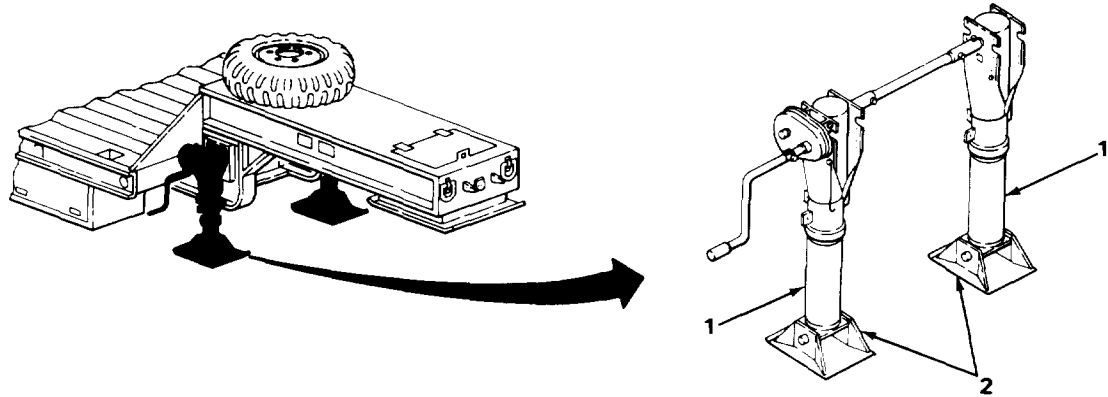
WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138 °F (59°C).

Lower portion of
landing gear leg
(1) above shoe (2)

Landing gear leg (1)

- a. Using rags, wipe off any buildup of grease and dirt.
- b. Using brush and drycleaning solvent PD-680, clean.
- c. Allow to dry.
- d. Lubricate in accordance with lubrication chart (page 4-5).



TASK ENDS HERE

CHAPTER 4**ORGANIZATIONAL MAINTENANCE****OVERVIEW**

This chapter contains all of the maintenance authorized to be performed by organizational maintenance. Included are lubrication instructions, service upon receipt, preventive maintenance checks and services, troubleshooting, and maintenance procedures.

	Page
Section I. General Maintenance Instructions	4-1
Section II. Lubrication Instructions	4-5
Section III. Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment	4-8
Section IV. Service Upon Receipt	4-8
Section V. Organizational Preventive Maintenance Checks and Services (PMCS)	4-9
Section VI. Organizational Troubleshooting Procedures	4-17
Section VII. Electrical System Maintenance	4-25
Section VIII. Brake System Maintenance	4-63
Section IX. Wheel, Hub, and Drum Maintenance	4-113
Section X. Tire and Tube Maintenance	4-118
Section XI. Frame and Towing Attachments Maintenance	4-118
Section XII. Body Maintenance	4-129
Section XIII. Accessory Item Maintenance	4-140
Section XIV. Preparation for Storage or Shipment.	4-144

Section I. GENERAL MAINTENANCE INSTRUCTIONS

	Page		Page
Cleaning Instructions	4-2	Repair Instructions	4-4
General Information	4-2	Scope	4-1
Inspection Instructions	4-3	Work Safety	4-1

SCOPE

These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly maintain the semitrailer. You should read and understand these practices and methods before starting organizational tasks on the semitrailer.

WORK SAFETY

Before starting a task, think about the risks and hazards to your safety as well as others. Wear protective gear such as safety goggles or lenses, safety shoes, rubber apron, or gloves. Protect yourself against injury.

When lifting heavy parts, have someone help you. Make sure that lifting/jacking equipment is working properly, that it is suitable for the task assigned, and is secured against slipping.

WORK SAFETY - CONTINUED

Always use power tools carefully.

Observe all warnings and cautions.

GENERAL INFORMATION

Before beginning a task, find out how much repair, modification, or replacement is needed to fix the equipment as described in this manual. Sometimes the reason for equipment failure can be seen right away and complete teardown is not necessary. Disassemble equipment only as far as necessary to repair or replace damaged or broken parts.

All tags and forms attached to the equipment must be checked to learn the reason for removal from service. Also, check all Modification Work Orders (MWO) and Technical Bulletins (TB) for equipment changes and updates.

In some cases a part may be damaged by removal. If the part appears to be good, and other parts behind it are not defective, leave it on and continue the procedure.

1. Don't take out dowel pins or studs unless loose, bent, broken, or otherwise damaged.
2. Don't pull out bearings or bushings unless damaged. If you must get at parts behind them, pull out bearings or bushings carefully.
3. Replace all gaskets, seals, and O-rings.

CLEANING INSTRUCTIONS

GENERAL

- a. The cleaning instructions will be the same for the majority of parts and components which make up the semitrailer.
- b. The importance of cleaning must be thoroughly understood by maintenance personnel. Great care and effort are required in cleaning. Dirt and foreign material are a constant threat to satisfactory maintenance. The following should apply to all cleaning, inspection, repair, and assembly operations.
 1. Clean all parts before inspection, after repair, and before assembly.
 2. Hands should be kept free of any accumulation of grease, which can collect dust, dirt, or grit.
 3. After cleaning, all parts should be covered or wrapped to protect them from dust and dirt. Parts which are subject to rust should be lightly oiled.

STEAM CLEANING

- a. Protect all electrical equipment which could be damaged by the steam or moisture before steam cleaning the exterior of the M270A1 semitrailer.
- b. Place disassembled parts in a suitable container to steam clean.

CLEANING INSTRUCTIONS - CONTINUED

- c. After cleaning, dry and cover (or lightly oil all parts subject to rust).

WARNING

Particles blown by compressed air are hazardous. Make certain the airstream is directed away from user and other personnel in the area. To prevent injury, user must wear safety eye goggles or face shield when using compressed air.

- d. Blow out tapped (threaded) holes with compressed air to remove dirt and cleaning fluids.

CAUTION

Washing oil seals, electrical cables, and flexible hoses with drycleaning solvents or mineral spirits will cause serious damage or destroy the material.

NOTE

Wash electrical cables and flexible hose with water and mild soap solution, and wipe dry. Oil seals are generally damaged during removal, so cleaning will not be necessary since new seals will be used in assembly.

BEARINGS

Refer to TM 9-214 for instructions and procedures covering care and maintenance of bearings.

INSPECTION INSTRUCTIONS

All components and parts must be carefully checked to determine:

- a. If they are serviceable to reuse.
- b. If they can be repaired.
- c. If they must be scrapped.

DRILLED AND TAPPED (THREADED) HOLES

- a. Inspect for wear, distortion, cracks, or any other damage in or around holes.
- b. Inspect threaded areas for wear, distortion (stretched), or evidence of cross-threading.
- c. Mark all damaged areas for repair or replacement.

METAL LINES, FLEXIBLE LINES (HOSES), AND METAL FITTINGS

- a. Inspect metal lines for sharp kinks, cracks, bad bends, or dents.
- b. Inspect flexible lines for fraying, evidence of leakage, or loose metal fittings or connectors.

INSPECTION INSTRUCTIONS – CONTINUED

- c. Check all metal fittings and connectors for thread damage, and check for hex heads that are worn or “rounded” by poorly fitting wrenches.
- d. Mark all damaged material for repair or replacement.

CASTINGS, FORGINGS, AND MACHINED METAL PARTS

- a. Inspect machined surfaces for nicks, burrs, raised metal, wear, or any other damage.
- b. Check all inner and outer surfaces for breaks or cracks.
- c. Mark all damaged material for repair or replacement.

BEARINGS

Refer to TM 9-214 for inspection instructions and defect analysis.

AIR LINES, FITTINGS, AND CONNECTIONS

Check for leaking fittings and connections by coating fittings and connections with soap solution. No leakage is permissible.

REPAIR INSTRUCTIONS

NOTE

For accuracy, refer to the Source, Maintenance, and Recoverability codes (SMR) assigned to support items listed in the maintenance Repair Parts and Special Tools Lists (RPSTL) appendix F contained in this manual.

Any repair procedure peculiar to a specific part or component is covered in the section or paragraph relating to that item. After repair, clean all parts thoroughly to prevent dirt, metal chips, or other foreign material from entering any working parts.

CASTINGS, FORGINGS, AND MACHINED METAL PARTS

- a. Minor cracked castings or forgings may possibly be repaired. See your supervisor and refer to TM 9-237.
- b. Repair minor damage to machined surfaces with a fine mill file or crocus cloth dipped in drycleaning solvent.
- c. Machined surface deeply nicked which could affect the assembly operation should be replaced. See your supervisor.
- d. Minor damage to threaded capscrew holes should be repaired with thread tap of same size, to prevent cutting oversize. See your supervisor.

METAL LINES, FLEXIBLE LINES (HOSES), AND METAL FITTINGS

Refer to brake system maintenance procedures (page 4-63).

Section II. LUBRICATION INSTRUCTIONS

	Page		Page
Lubrication Chart	4-5	Lubrication Instructions	4-5

LUBRICATION INSTRUCTIONS

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

CLEANING. Keep all external parts not requiring lubrication free of lubricants. Before lubricating the equipment, wipe all lubrication points free of dirt and grease. Clean all lubrication points after servicing to prevent accumulation of foreign matter.

LUBRICATION INTERVAL. Service the lubrication points at the proper intervals as specified in the lubrication chart. The intervals specified are based on operation under normal conditions. Modification of the recommended intervals may be required under unusual operating conditions.

LUBRICATION CHART

- a. For lubrication under normal conditions, see lubrication chart on the following page.
- b. For instructions on lubrication in weather below 0°F (-18°C), refer to TM 9-207.
- c. For lubrication before and after fording, refer to TM 9-238.
- d. After operating in mud, dust, sand, or other unusual conditions, clean and inspect all lubrication points. Lubricate semitrailer in accordance with the lubrication chart.

LUBRICATION CHART

SEMITRAILER, LOWBED 12-TON M270A1 (NSN 2330-00-289-7515)

Hard-time intervals and the related man-hour times are based on normal operation. The man-hour time specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer-than-usual operating hours. The interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

*The time specified is the time required to perform all services at the particular interval.

Clean fittings before lubricating. Lubrication points are indicated by dotted arrow shafts on both sides of equipment.

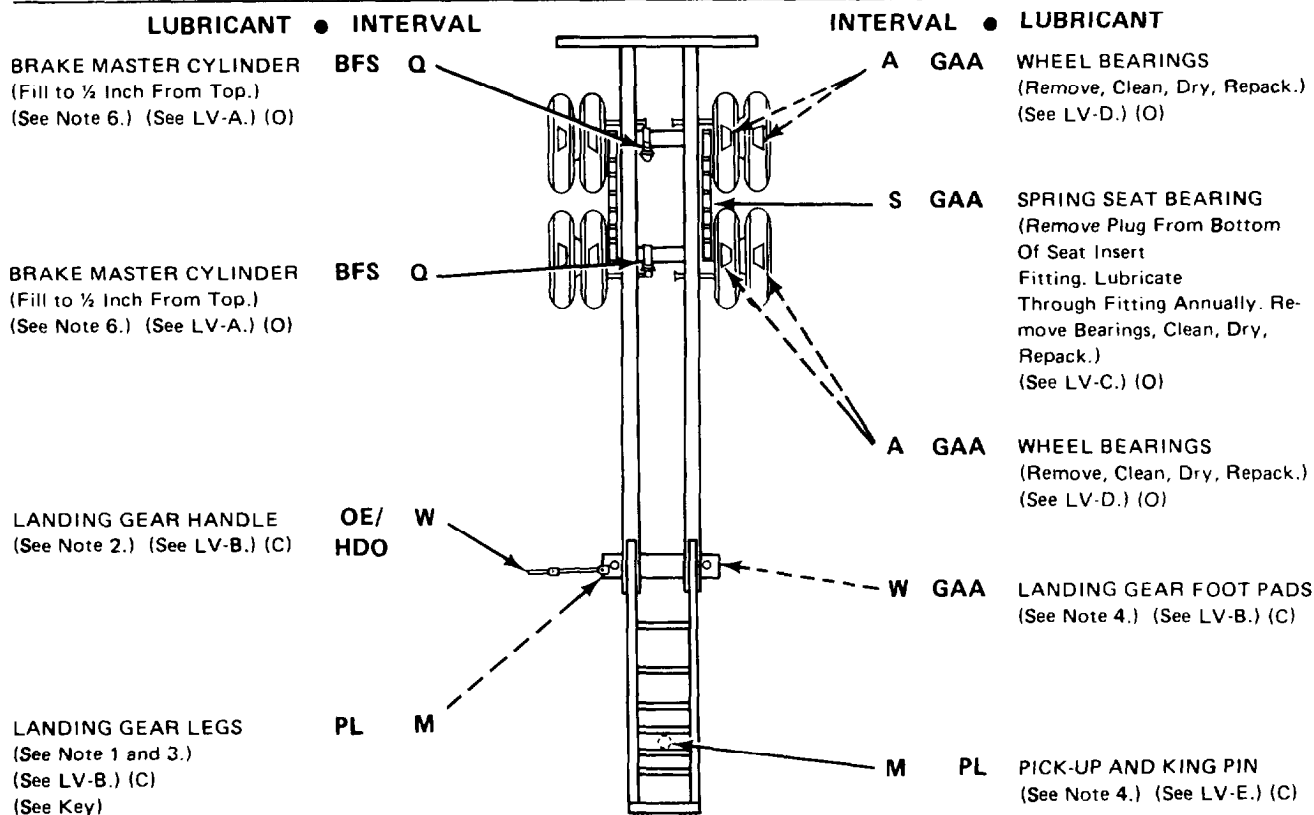
Clean parts with drycleaning solvent (SD), type 11; PD-680. Dry before lubricating. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following: (C) Operator/crew or (O) Organizational maintenance.

WARNING

Drycleaning solvent is extremely flammable. Do not use near open flame. Use only in a well-ventilated area and do not breathe vapors.

NOTE

LV is Localized View.



*TOTAL MAN-HR		*TOTAL MAN-HR	
INTERVAL	MAN-HR	INTERVAL	MAN-HR
W	0.5	S	0.2
M	0.5	A	0.3
Q	0.5		

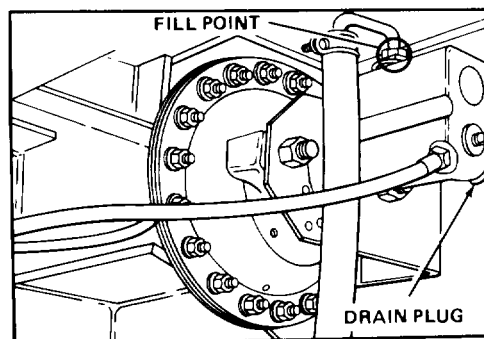
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- KEY -

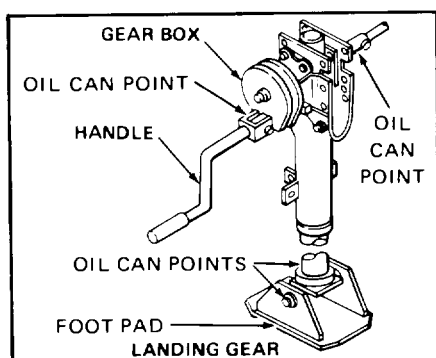
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM9-207	INTERVALS
		ABOVE -32 F (ABOVE 0 C)	-40 TO -10 F (-5 C TO -23 C)	0 F TO -65 F (-18 C TO -50 C)		
OE/HDO Lubricating Oil		OE/HDO 30	OE/HDO 10	OE/AG-PD-1	For arctic operation refer to FM9-207	Intervals given in weekly, monthly, quarterly, semi- annually, and annually.
PL Lubricating Oil Preservative		PL Medium	PL Special	PL Special		
GAA Grease Lubr. automotive and artillery		GAA	GAA	GAA		
BFS Hydraulic Cylinder Fluid		BFS	BFS	BFS		

Notes:

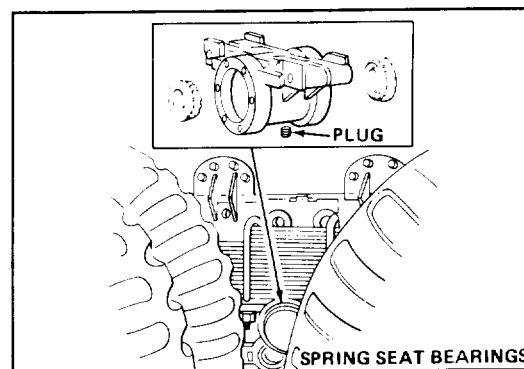
- For operation of semitrailer in protracted cold temperatures below -10 F (-23 C). Remove lubricants prescribed in the key for temperatures above -10 F (-23 C). Clean parts with dry-cleaning SOLVENT. Relubricate with lubricants specified in the key for temperature 0 F to -65 F (-18 C to -50 C).
- OIL CAN POINTS.** Every 1000 miles (1600 km) or monthly, lubricate door hinges and latches, wheel lug threads, gear box shaft couplings.
- LANDING GEAR LEGS.** Extend, clean and coat with appropriate PL oil.
- In sandy areas, halve lubrication interval.
- SPRING SEAT BEARINGS.** Remove plug and insert lubrication fitting. Replace plug after lubricating. Leave fitting in place after lubricating.
- For information on converting brake system to silicon brake fluid (BFS), see TM43-0002-87.



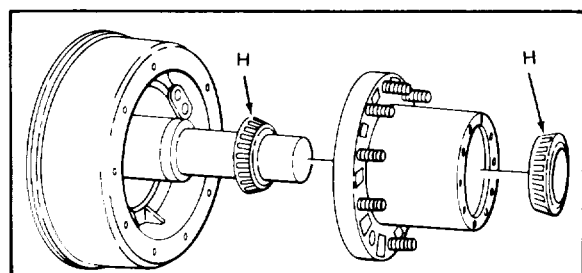
LV-A



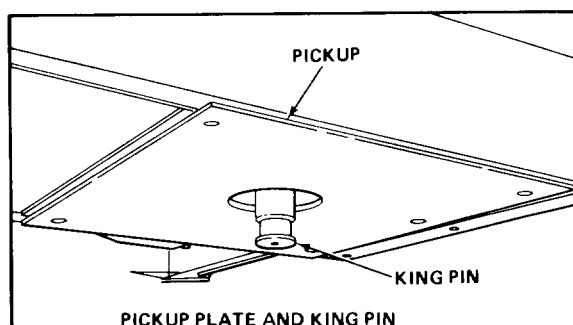
LV-B



LV-C



LV-D



LV-E

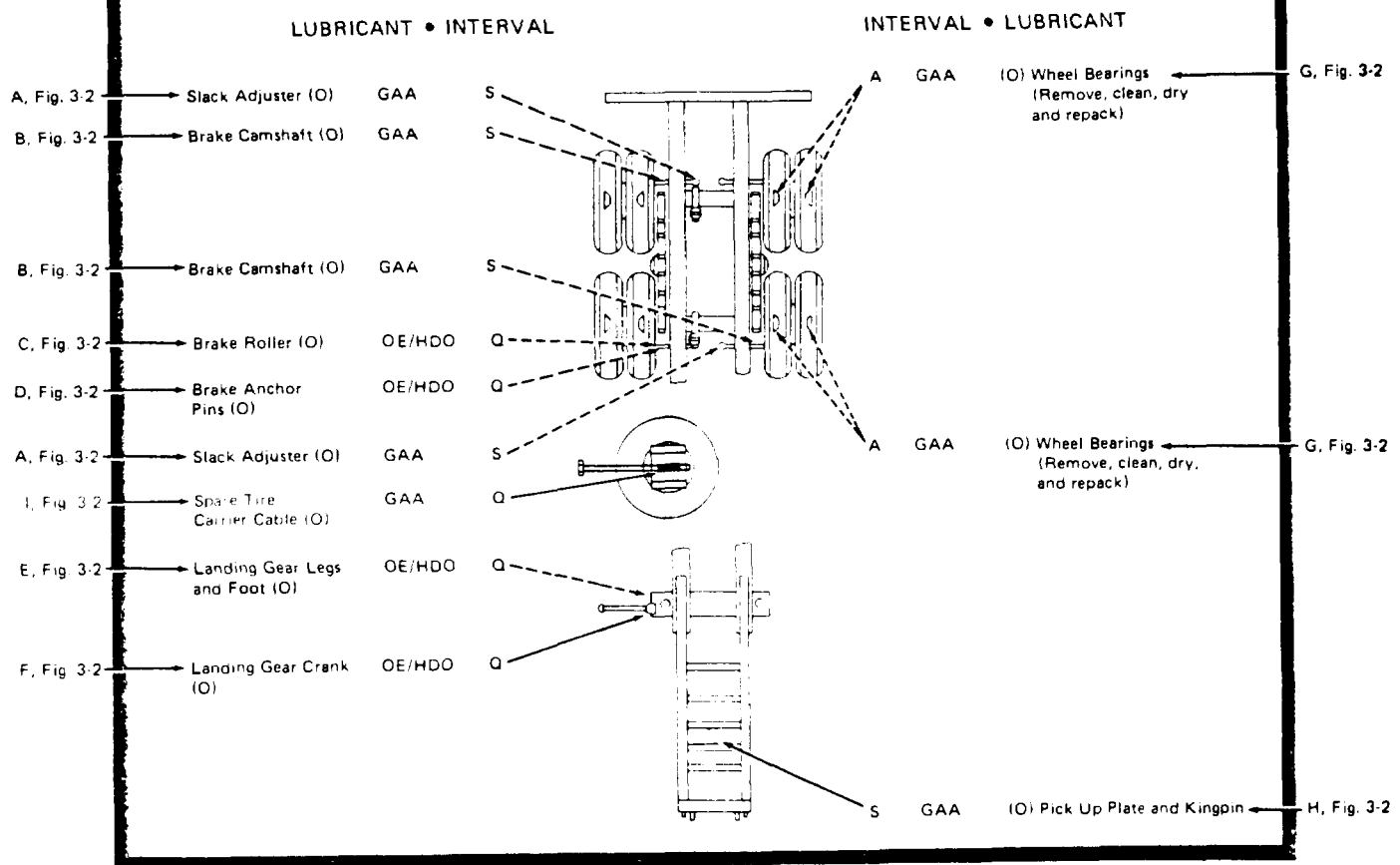
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LUBRICATION CHART

SEMITRAILER, LOWBED: 12 TON, M270A1

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

Clean fittings before lubricating. Clean parts with PD-680, SD-2 SOLVENT, dry cleaning. Dry before lubricating. Lubricate dotted arrow points on both sides of the equipment.



LUBRICATION CHART (SHEET 1 OF 2)
(USE ON USA PA01UX THRU PA021W)

-KEY-

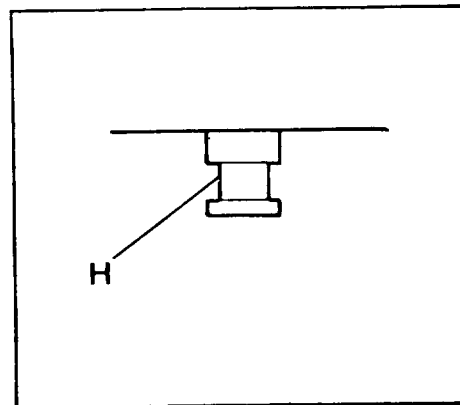
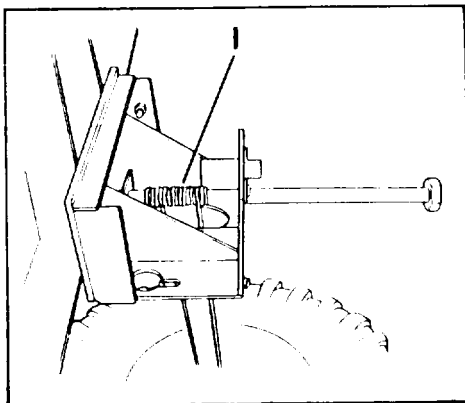
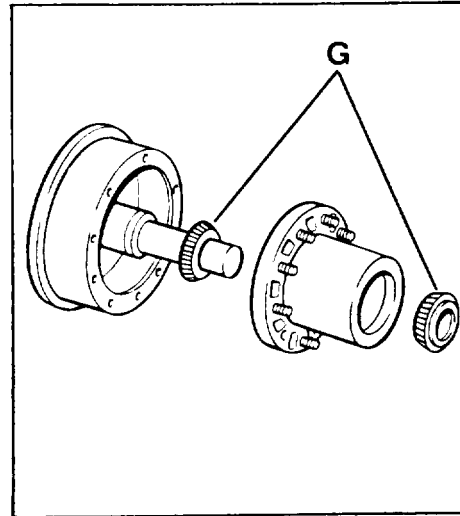
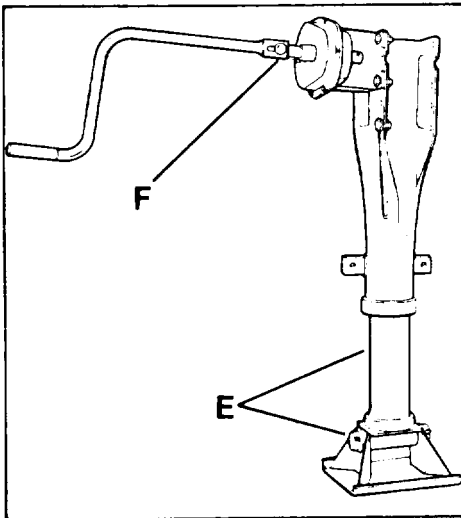
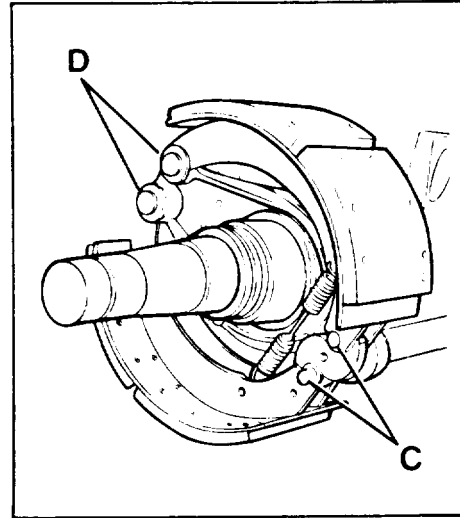
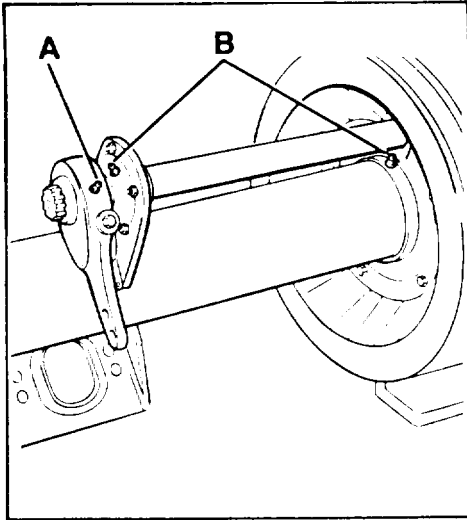
LUBRICANT	CAPACITIES	EXPECTED TEMPERATURE			INTERVALS
		Above +15F (Above -9C)	+40F to -15F (+4C to -26C)	+40F to -65F (+4C to -54C)	
OE/HDO Lubricating Oil, ICE, Tactical (MIL-L-2104)					FOR ARCTIC OPERATION REFER TO FM 9-207 Q-Quarterly S-Semiannually A-Annual (Every 2nd "S" P.M. service)
OE/Lubricating Oil, ICE, Arctic (MIL-L-46167)					
Brake Roller	As Req	OE/HDO-15/40 OR OE/HDO-30	OE/HDO-15/40 OR OE/HDO-10	OE/L	
Brake Anchor	As Req	(0-238) SEE NOTE 1	(0-237) SEE NOTE 1&2	(0-183)	
Landing Gear Legs	As Req				
Landing Gear Crank	As Req				
GAA Grease, Automotive and (MIL-L-10924) Artillery		GAA (G-403) ALL TEMPERATURES			
Slack Adjuster	As Req				
Brake Camshaft	As Req				
Spare Tire Carrier Cable	As Req				
Wheel Bearings	As Req				
Pick Up Plate and Kingpin	As Req				

FOR ARCTIC OPERATION REFER TO FM 9-207

NOTES:

- Grade 15W-40 (OE/HDO-15/40) is the preferred lubricant when temperatures are above +5°F (-15°C).
- If OEA lubricant is required to meet the low expected-temperature range, OEA lubricant is to be used in lieu of OE/HDO-10 lubricant for all expected-temperature ranges where OE/HDO-10 is specified in the KEY.
- OIL CAN POINTS**
Quarterly lubricate door hinges and latches, landing gear foot and crank assembly, spare wheel and tire carrier with OE HDO-30.
- LUBRICATION INTERVALS**
Points requiring lubrication at 6 months will be lubricated at time of the "S" P.M. service.
- DO NOT LUBRICATE**
Springs.

LUBRICATION CHART (SHEET 2 OF 2)
 (USE ON USA PAOIUX THRU PAO21W)



LOCALIZED LUBRICATION POINTS (A THRU I)
(USE ON USA PAO1UX THRU PAO21W)

Section III. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND
DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

	Page		Page
Common Tools and Equipment	4-8	Special Tools, TMDE, and Support	
Repair Parts	4-8	Equipment	4-8

COMMON TOOLS AND EQUIPMENT

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

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools or test, measurement, and diagnostic equipment (TMDE) are required to maintain the semitrailer.

REPAIR PARTS

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

Section IV. SERVICE UPON RECEIPT

	Page		Page
Preliminary Servicing and Adjust- ment of Equipment	4-9	Service Upon Receipt of Materiel	4-8

SERVICE UPON RECEIPT OF MATERIEL

LOCATION		ITEM	ACTION REMARKS
1.	Attached to con- spicuous part of semitrailer	DD Form 1397	Read and follow all instructions
2.		Metal strapping, plywood, tapes, seals, and wrappings	Remove.

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

SERVICE UPON RECEIPT OF MATERIEL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3.	Coated exterior parts	Remove rust preventive compound with dry-cleaning solvent.
4.	Semitrailer	a. Inspect for damage received during shipping. b. If damage is found, submit DD Form 6, Package Improvement Report.
5.	Equipment packing slip	a. Check against equipment to see if shipment is complete. b. Report all discrepancies in accordance with instructions in DA PAM-738-750.

PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT

Perform the operator and organizational preventive maintenance checks and services contained in chapters 3 and 4.

Lubricate all points as shown in the Lubrication Chart (page 4-5) regardless of interval.

Schedule the next preventive maintenance checks and services on DD Form 314, Preventive Maintenance Schedule and Record.

Report all deficiencies on DA Form 2407 if the deficiencies appear to involve unsatisfactory design.

Perform a break-in road test of 25 miles (40 km) at a maximum speed of 55 miles per hour (68.5 kph).

**Section V. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS)**

	Page		Page
General	4-9	PMCS Column Description.	4-11
Leakage Definitions	4-11	Special Instructions	4-10
Organizational PMCS Table	4-12		

GENERAL

To make sure that your vehicle is ready for operation at all times, inspect it systematically so you can discover any defects and have them corrected before they result in serious damage or failure. The charts on the next few pages contain your organizational PMCS. The item numbers indicated the sequence of minimum inspection requirements. If you're operating the vehicle and notice something wrong that could damage the equipment if you continue operation, stop operation immediately.

GENERAL-CONTINUED

Record all deficiencies and shortcomings, along with the corrective action taken, on DA Form 2404. The Item Number column is the source for the numbers used on the TM Number column on DA Form 2404.

- (1) Do your (Q) PMCS once each 3 months.
- (2) Do your (S) PMCS once each 6 months.

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

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.

SPECIAL INSTRUCTIONS

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

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

WARNING

Compressed air, used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personnel protective equipment (goggles/shield/gloves, etc.).

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 drycleaning solvent (PD-680) to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

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 boltheads. Tighten any that you find loose.

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

Electric wires and connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connections and make sure the wires are in good condition.

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 (see MAC, appendix B).

SPECIAL INSTRUCTIONS - CONTINUED

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 DEFINITIONS

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.

PMCS COLUMN DESCRIPTION

Item – the order that PMCS should be performed, and also used as a source of item numbers for the TM number column on DA Form 2404 Equipment Inspection and Maintenance Worksheet when recording results of PMCS.

Interval – tells when each check should be performed.

Item to be Inspected – lists the checks to be performed.

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Q-QUARTERLY

S-SEMIANNUALLY

ITEM NO.	INTERVAL	
	Q	S
1.	●	●

ITEM TO BE INSPECTED

PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED. PERFORM ALL OPERATOR PMCS FIRST.

NOTE

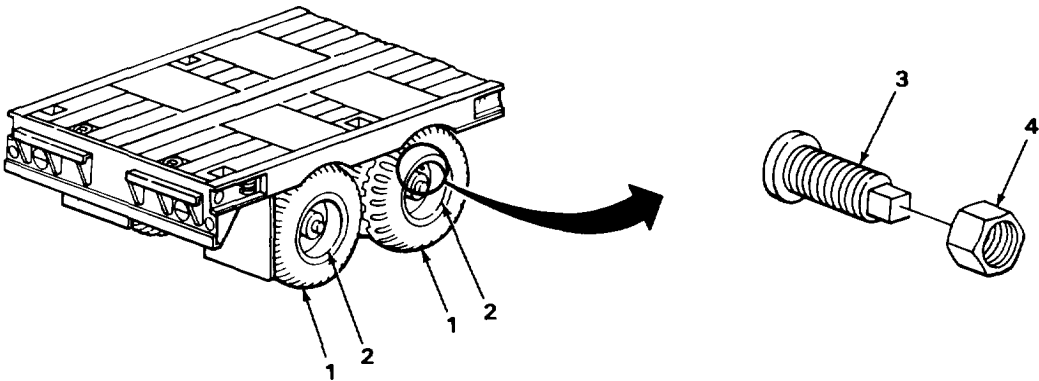
Perform operator/crew PMCS prior to or in conjunction with organizational PMCS if:

There is a delay between the daily operation of the equipment and the organizational PMCS.

Regular operator is not assisting or participating.

WHEELS AND TIRES

- a. Inspect tires (1) for signs of uneven wear.
- b. Rotate and match tires (1) according to tread design and degree of wear to ensure safety and extended tire life.
- c. Inspect wheels (2) for worn studs (3) and nuts (4), and for breaks and corrosion.



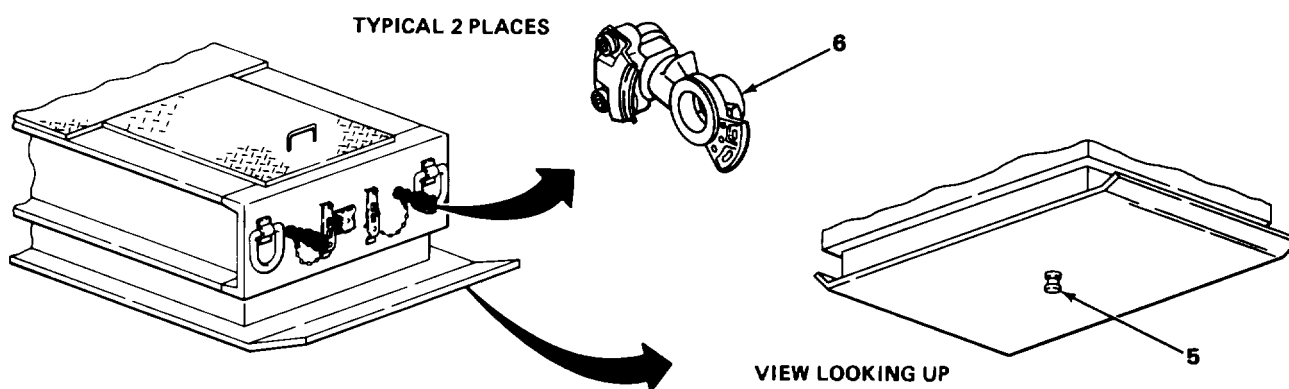
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ORGANIZATIONAL Preventive Maintenance CHECKS AND SERVICES(PMCS) - CONTINUED

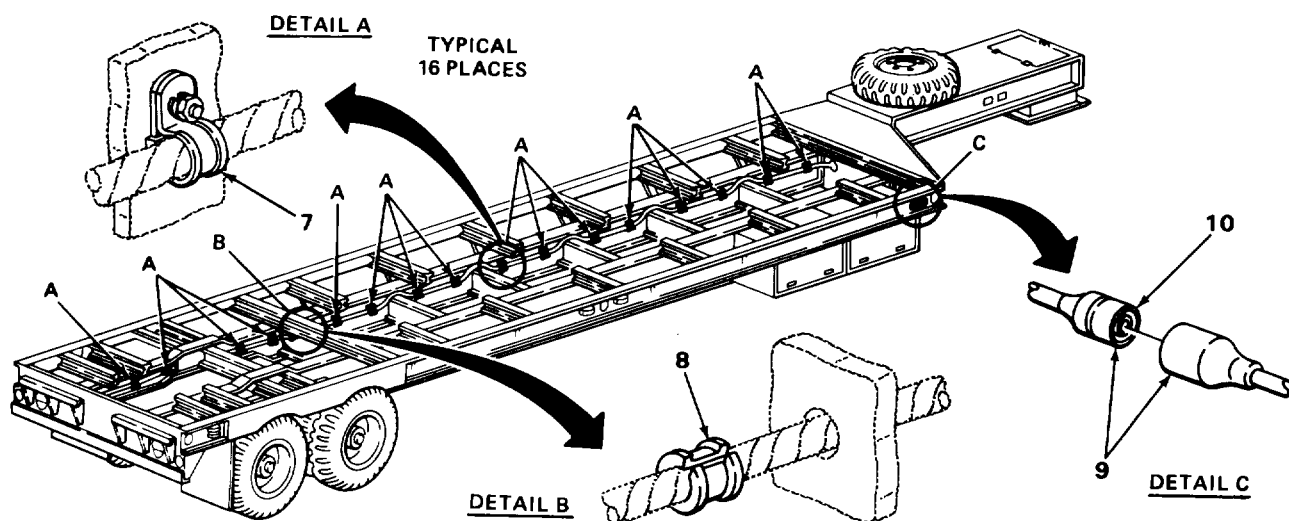
Q-QUARTERLY

S-SEMIANNUALLY

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED. PERFORM ALL OPERATOR PMCS FIRST.
	Q	S	
2.	•		VEHICLE EQUIPMENT Visually inspect kingpin (5) and airhose couplings (6) for secure connections.



3.	•	ELECTRICAL WIRING Check wiring harness clamps (7), grommets (8), shells (9), electrical connectors (10), and grounds for correct assembly and serviceable condition.
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ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

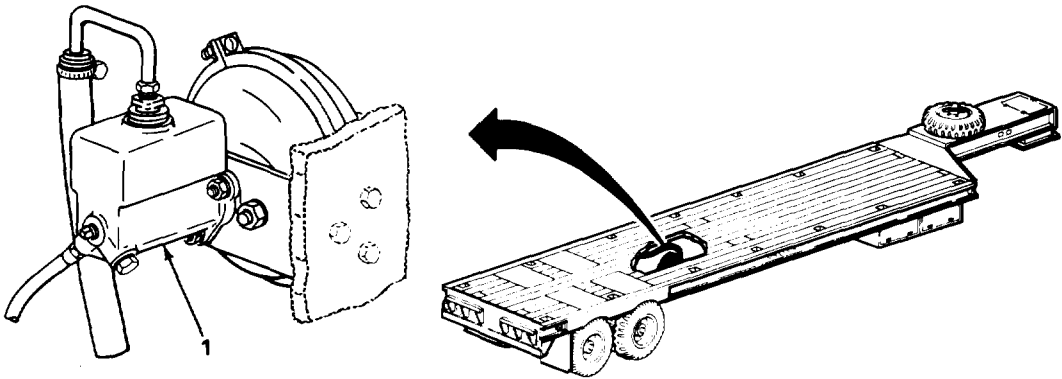
Q-QUARTERLY

S-SEMIANNUALLY

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED. PERFORM ALL OPERATOR PMCS FIRST.
	Q	S	
4.		<ul style="list-style-type: none">•••	<p>AIR/HYDRAULIC SYSTEM</p> <p>a. Check all lines for leaks, kinks, cracks, and presence of mounting clamps.</p> <p>b. Check master cylinder (1) for secure mounting, serviceability, and leaks.</p> <p>c. Service air filters (page 4-108).</p>

NOTE

Master cylinder (1) must be filled to within 1/2-inch of top.



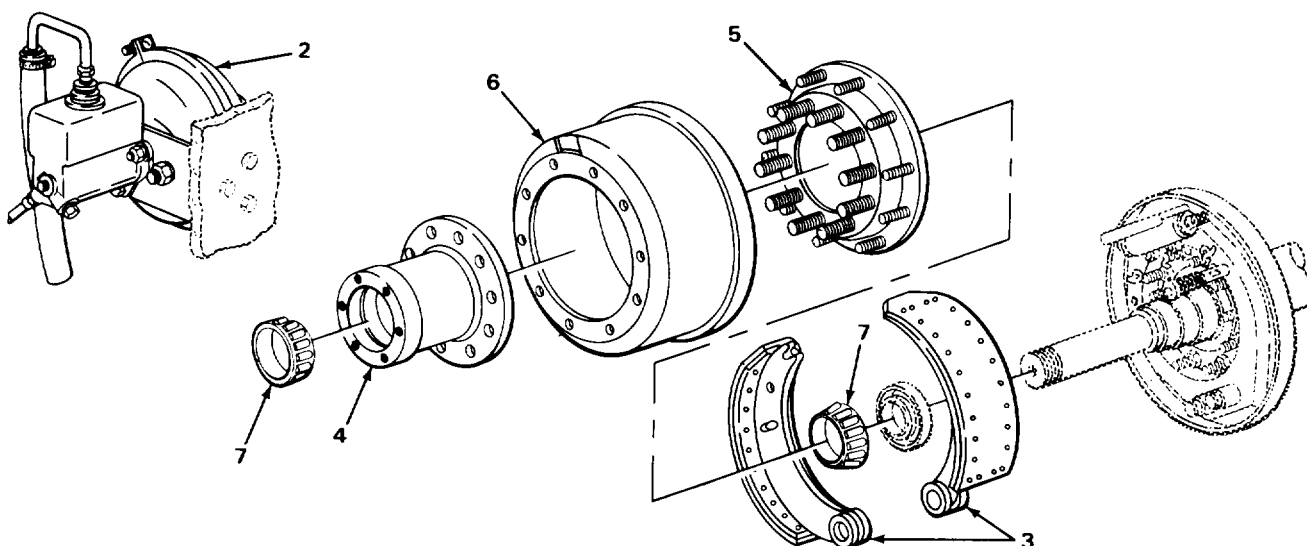
5.	<ul style="list-style-type: none">••	<p>BRAKES</p> <p>a. Check chambers (2) and lines for dents, cracks, leaks, and corrosion.</p> <p>b. Inspect brake lining (3) thickness, Replace if lining is within 0.030 inch (0.762 mm) of rivet heads. Check drum for evidence of overheating.</p>
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ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)-CONTINUED

Q-QUARTERLY

S-SEMIANNUALLY

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED PROCEDURE:CHECK FOR AND HAVE REPAIRED, FILLED,REPLACED, OR ADJUSTED AS NEEDED.PERFORM ALL OPERATOR PMCS FIRST.
	Q	S	
		<ul style="list-style-type: none"> • • 	<p>c. Check for cracked hubs (4) and missing or loose wheel studs (5).</p> <p>d. Disassemble hub (4) and drum (6). Clean and repack wheel bearings (7).</p>

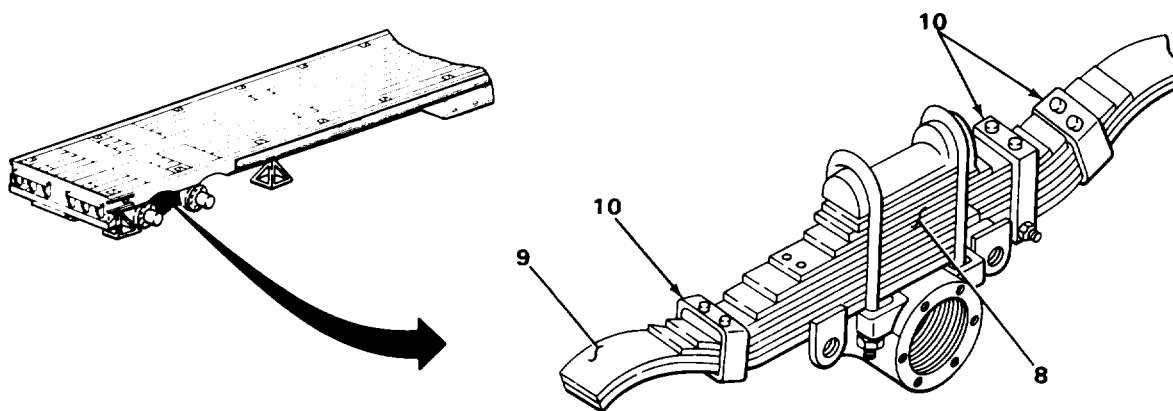


6.

SPRINGS AND SUSPENSION

-
-

- a. Check for sagging springs (8) and broken leaves (9).
- b. Check for loose clips (10) or shifted leaves (9).



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ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES(PMCS) - CONTINUED

Q-QUARTERLY

S-SEMIANNUALLY

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED. PERFORM ALL OPERATOR PMCS FIRST.
	Q	s	
7.	●		GENERAL OPERATION
	●		<p>a. Perform a road test of semitrailer. Be alert at all times during the test for unusual or excessive noises that may indicate damage, looseness, defects, or deficient lubrication. Give special attention to items that were repaired or adjusted. Make several stops, noting side pull, noise, chatter, or any other unusual conditions.</p> <p>b. Disconnect airhoses from towing vehicle and note if semitrailer brakes apply.</p>

Section VI. ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

	Page		Page
Explanation of Columns.	4-17	Organizational Troubleshooting	4-18
Introduction	4-17	Symptom Index	4-17

INTRODUCTION

The table in this section lists the common malfunctions that may be found during the operation or maintenance of the semitrailer or components. You should perform the test/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 it is not corrected by the listed corrective actions, notify your supervisor.

EXPLANATION OF COLUMNS

MALFUNCTION	Visual or operational indication that something is wrong with the semitrailer.
TEST/INSPECTION	Procedure to isolate the problem to a component or system.
CORRECTIVE ACTION	Procedure to correct problem.

SYMPTOM INDEX

This symptom index is provided as a quick way to get you to the part of the troubleshooting table that will help you solve the problem you are having. It lists all the malfunctions covered in the organizational troubleshooting table.

	Page
AIR OVER HYDRAULIC BRAKE SYSTEM AND TOTAL AIR	
Brakes will not release or release slowly	4-21
Brakes will not apply or apply slowly	4-22
Brakes grab	4-23
Caging Failsafes	4-20.2
Parking Brake	4-20.1
ELECTRICAL SYSTEM	
All lamps do not work.	4-18
One or more clearance lights or service taillights do not work	4-19
Stop lights do not work	4-19
Turn signals do not work	4-20
Dim or flickering lights	4-20
TIRES	
Excessively worn, scuffed, or cupped tires	4-24
LANDING GEAR	
Landing gear is difficult to raise or lower	4-24

ORGANIZATIONAL TROUBLESHOOTING

The following provides procedures that the organizational mechanic can use to locate and correct M270A1 semitrailer malfunctions. Semitrailer must be hooked up with tractor when performing electrical or airbrake system tests.

ORGANIZATIONAL TROUBLESHOOTING

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS DO NOT WORK.

Step 1. Check for open circuit in wiring.

- a. With towing vehicle lights turned on, check tractor-to-trailer connector by measuring voltage between ground contact and other contacts.

If measurement is not approximately 24 vdc, perform towing vehicle troubleshooting.

- b. Check lead assembly (receptacle) by measuring continuity between ground contact and other bare metal on semitrailer.

If measurement is not zero, remove, clean, and install ground wire 90 (page 4-34).

If measurement is still not zero, replace lead assembly (receptacle) (page 4-34).

- c. With semitrailer lights turned on, disconnect wiring harness connector and measure voltage between wiring harness connector and other bare metal on semitrailer.

If measurement is not approximately 24 volts, replace wire harness (page 4-39).

Step 2. Check all connectors, lamp sockets, and lamps for corrosion and damage.

If connectors, sockets, or lamps are corroded, scrape and clean off corrosion (page 4-25).

If connectors, sockets, or lamps are damaged, replace them (page 4-25).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. ONE OR MORE CLEARANCE LIGHTS OR SERVICE TAILLIGHT LAMPS DO NOT WORK.

Step 1. Check for burned out lamp and loose connectors.

If lamp is burned out, replace lamp (page 4-25).

If connector is loose, tighten connector.

Step 2. Check for loose, broken or corroded light assembly.

If light assembly is loose, tighten.

If light assembly is broken or corroded, clean or replace (page 4-25).

Step 3. Check for broken wire harness.

a. Disconnect harness connector at inoperative lamp.

b. Turn on semitrailer lights.

c. Using multimeter set to read voltage, put red probe on harness connector and black probe to good ground.

If multimeter reads zero, replace wire harness (page 4-39).

If meter does not read zero, replace light assembly (page 4-25).

3. STOP LIGHTS DO NOT WORK.

Step 1. Check for burned out lamp and loose connectors.

If lamp is burned out, replace lamp (page 4-25).

If connector is loose, tighten connector.

Step 2. Check for loose, broken, or corroded light assembly.

If light assembly is loose, tighten.

If light assembly is broken or corroded, replace (page 4-25).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. STOP LIGHTS DO NOT WORK- CONTINUED.

Step 3. Disconnect wire harness from adapter wire harness. Turn on semitrailer lights. Using multimeter set for reading voltage, put red probe on wire harness connector and black probe on good ground.

If meter reads zero, replace wire harness (page 4-39).

If meter does not read zero, replace adapter wire harness (page 4-55).

4. TURN SIGNALS DO NOT WORK.

Step 1. Check if tractor turn signals work.

If tractor turn signals do not work, troubleshoot tractor.

Step 2. Check for burned out lamp and loose connectors.

If lamp is burned out, replace lamp (page 4-25).

If connector is loose, tighten connector.

Step 3. Check for loose, broken, or corroded light assembly.

If light assembly is loose, tighten.

If light assembly is broken or corroded, replace (page 4-25).

Step 4. Disconnect wire harness from adapter wire harness. Turn on semitrailer lights. Using multimeter set for reading voltage, put red probe on wire harness connector and black probe on good ground.

If meter reads zero, replace wire harness (page 4-39).

If meter does not read zero, replace adapter wire harness (page 4-55).

5. DIM OR FLICKERING LIGHTS.

Check for loose ground in gooseneck.

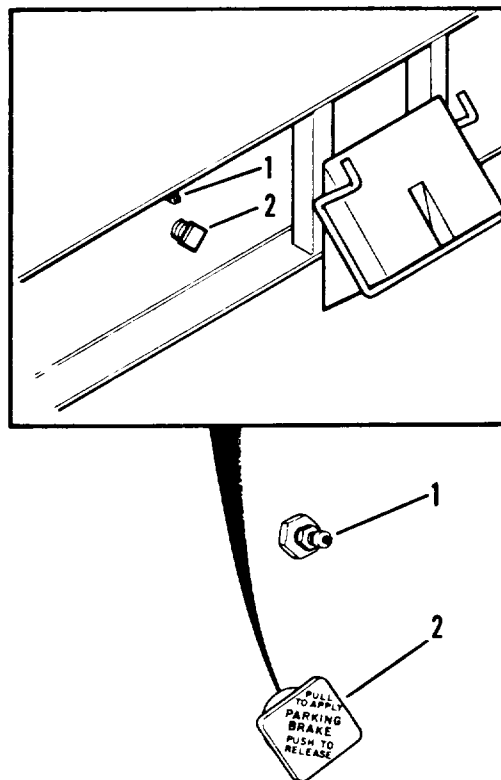
If ground is loose, clean and tighten.

5A. PARKING BRAKE (use on USA PAO1UX thru PAO21W)

NOTE

The parking brake is used to release air from the air reservoirs to engage the brake system.

- a. Pull parking brake handle (2), located on left side of semitrailer under the air charging valve (1), to apply brake system.
- b. To release parking brake, push handle (2) in.



Parking brake

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5B. CAGING FAILSAFES (use on USA PAO1UX thru PAO21W)

NOTE

This procedure is used to move semitrailer when a brake line or other parts fail.

a. Block semitrailer with chock blocks to prevent movement.

b. Remove plug (3, figure 3-7). from air brake chamber.

c. Remove nut (5) and washer (6). Remove release tool (1) from mounting hole (2) in spring brake.

d. Insert release tool (1) through opening (4) in brake chamber. Turn release tool (1) 1/4 turn clockwise to lock in manual release position.

e. Install washer (6) and nut (5) on release tool (1). Tighten until 2 1/2 to 2 3/4 inches of release tool (1) is exposed.

f. Repeat steps b. through e. for remaining brake chambers.

g. Remove and stow chock blocks. Move semitrailer.

h. Re-chock wheels to prevent semitrailer movement.

i. Notify Organizational Maintenance.

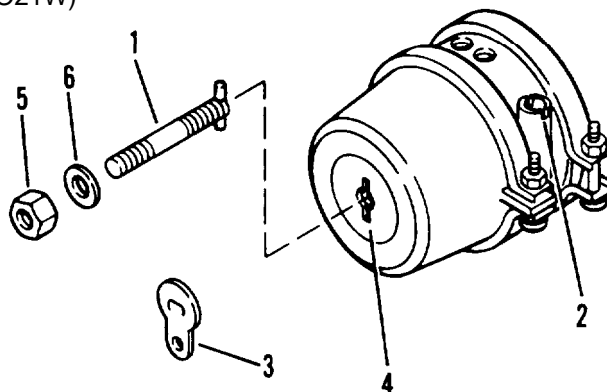


Figure 3-7. Caging failsafe

5C. BRAKE SYSTEM (use on USA PAO1UX thru PAO21W)

1. BRAKES WILL NOT RELEASE.

Step 1. Check for defective emergency relay valve.

Build up pressure in semitrailer brake system if semitrailer is coupled. Open drain cock on semitrailer air reservoir if semitrailer is uncoupled.

Replace defective relay valve (para. 4-38).

If emergency relay valve operating, go to step 2.

Step 2. Check intervehicular air hose connections to towing vehicle.

Connect intervehicular air hoses properly.

If air hoses are connected properly, go to step 3.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

- Step 3. Check position of brake valve on towing vehicle.
Move brake valve to release position.
If brake valve is correctly positioned, go to step 4.
- Step 4. Check for restriction in service air and emergency air lines.
If air lines or hoses are restricted, replace or repair as required (para. 4-33).
If air lines or hoses are free of restriction, go to step 5.
- Step 5. Check for closed shutoff valves on towing vehicle.
Open valves if closed.
If valves are open, go to step 6.
- Step 6. Check for weak or broken brake shoe tension spring.
If brake shoe tension spring is broken, replace (para. 4-40).

2. NO BRAKES OR WEAK BRAKES.

- Step 1. Check for closed shutoff valves on towing vehicle.
Open valves if closed.
If valves are open, go to step 2.
- Step 2. Check intervehicular air hoses for proper connection to towing vehicle.
Connect hoses properly.
If hoses are properly connected, go to step 3.
- Step 3. Check for open drain cocks in semitrailer air reservoirs.
Close drain cocks if open.
If drain cocks are closed, go to step 4.
- Step 4. Check air pressure gage on towing vehicle for low air pressure indication. Check air lines/connectors for restrictions.
Tighten connections; remove any restrictions from hoses. Repair or replace as necessary.
If air pressure gage indicates normal, go to step 5.
- Step 5. Check for defective emergency relay valve.
If emergency relay valve is defective, replace (para. 4-38).
If emergency relay valve is not defective, go to step 6.
- Step 6. Check for grease on brake lining.
If brake lining has grease on it, replace brake shoes (para 4-40).
If brake lining shows no grease, go to Step 7.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

Step 7. Check for worn/worn out brake lining.
 If brake lining is worn, adjust brakes (para. 4-30).
 If brake lining is worn out, replace brake shoes (para. 4-40).
 If brake lining is not worn, go to step 8.

Step 8. Check for air leakage in air chamber (para. 4-30).
 If air chamber is leaking, tighten connections.
 If air chamber is not defective, go to step 9.

Step 9. Visually check for broken or frozen camshaft roller.
 If camshaft roller is broken or frozen, replace (para. 4-40).

3. SLOW BRAKE APPLICATION OR RELEASE.

Step 1. Check for low air pressure indication on air pressure gage in towing vehicle. Check air lines/connectors for restrictions.
 Tighten connections; remove any restrictions from hoses and repair or replace as necessary.
 If air pressure gage indicates normal, go to step 2.

Step 2. Check operation of emergency relay valve (para. 4-30).
 If emergency relay valve is defective, replace valve (para. 4-38).
 If emergency relay valve is not defective, go to step 3.

Step 3. Check for weak or broken brake shoe tension spring.
 If spring is weak or broken, replace (para. 4-40).
 If spring is not defective, go to step 4.

Step 4. Check for defective air chamber.
 If air chamber is defective, replace air chamber (para. 4-37).
 If air chamber is not defective, go to step 5.

Step 5. Visually check for broken or frozen camshaft roller.
 If camshaft roller is broken or frozen, replace (para. 4-40).

4. GRABBING BRAKES.

Step 1. Check for moisture in air reservoirs.
 Open drain cocks for drainage of moisture from air reservoirs.
 If no moisture is present, go to step 2.

Step 2. Check brake adjustment (para. 4-30).
 If brakes are out of adjustment, adjust brakes (para. 4-30).
 If brakes are not out of adjustment, go to step 3.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

- Step 3. Check for grease on brake lining.
 If grease is present, replace brake shoes (para. 4-40).
 If grease is not present, go to step 4.
- Step 4. Check for loose or worn wheel bearings (para. 4-45).
 If wheel bearings are loose, adjust bearings (Para. 4-45).
 If wheel bearings cannot be adjusted, replace bearings (para. 4-45).
 If wheel bearings are not loose or worn, go to step 5.
- Step 5. Check for cracked, scored, or deformed brake drum (para. 4-45).
 If brake drum is cracked or deformed, replace drum (para. 4-45).
 If brake drum is scored, notify Direct Support/General Support Maintenance.
 If brake drum is not defective, go to step 6.
- Step 6. Check for loose or worn brake lining.
 If brake lining is loose or worn, replace brake shoes (para. 4-40).
 If brake lining is not loose or worn, go to step 7.
- Step 7. Visually check for broken or frozen camshaft roller.
 If camshaft roller is broken or frozen, replace (para. 4-40).

5. BRAKES DRAG AND ONE OR MORE BRAKE DRUMS RUNNING HOT.

- Step 1. Check brake adjustment (para. 4-30).
 If brakes are out of adjustment or adjusted too tightly, correctly adjust brakes (para. 4-30).
 If brakes are not out of adjustment, go to step 2.
- Step 2. Check for weak or broken brake shoe tension spring.
 If tension spring is defective, replace (para. 4-40).
 If tension spring is not defective, go to step 3.
- Step 3. Visually check for broken or frozen camshaft roller.
 If camshaft roller is broken or frozen, replace (para. 4-40).
 If camshaft roller is not defective, go to step 4.
- Step 4. Check for cracked, scored or deformed brake drum.
 If brake drum is cracked or deformed, replace brake drum (para. 4-45).
 If brake drum is scored, notify Direct Support/General Support Maintenance.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

BRAKES

6. BRAKES WILL NOT RELEASE OR RELEASE SLOWLY.

Step 1. Check for restrictions in air and hydraulic lines and hoses.

If air or hydraulic lines or hoses have a restriction, replace or repair (page 4-63).

Step 2. Check for leaking air chambers by coating connections and seams with soap solution. No leakage is permissible.

If air chamber is leaking, replace chamber (page 4-84).

Step 3. Check for leaking air filter or air filter splice by coating connections and seams with soap solution. No leakage is permissible.

If air filter or splice is leaking, replace (page 4-108).

Step 4. Apply tractor brakes and release. Emergency relay valve should vent brake chamber air through exhaust port when tractor brakes are released.

If brake chamber air is not vented when tractor brakes are released, replace emergency relay valve (page 4-110).

Step 5. Check master cylinder for damage or leaking.

If master cylinder is damaged or leaking, replace master cylinder (page 4-72).

Step 6. Remove wheel and drum and check for weak or broken brakeshoe return spring (page 4-113).

If return spring is weak or broken, replace spring (page 4-113).

Step 7. Check brake cylinder for damage or leaking.

If wheel cylinder is damaged or leaking, replace (page 4-75).

If brakes still will not release or release slowly, notify Direct Support Maintenance.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

7. BRAKES WILL NOT APPLY OR APPLY SLOWLY.

Step 1. Check for restricted and leaking air pressure in service air line.

If air line is restricted or damaged, replace or repair air line (page 4-63).

Step 2. Disconnect service air line at emergency relay valve, apply and release service brakes. Air should escape when brakes are applied, and stop when brakes are released.

If airflow does not react as stated above, air line is clogged. Replace or repair air line (page 4-63).

Step 3. Visually inspect air line between semitrailer reservoir and emergency relay valve for dents, cracks, and breaks.

If air line is dented, cracked, or broken, replace or repair air line (page 4-63).

Step 4. Cautiously loosen air reservoir line fitting at relay valve. Air should escape, no air means a clogged air line.

If air line is clogged, replace or repair air line (page 4-63).

Step 5. Cautiously loosen air line fitting at emergency relay valve that supplies air to brake chambers. Have assistant apply brakes and note airflow to brake chambers.

If no airflow to brake chambers, relay valve is defective. Replace emergency relay valve (page 4-110).

Step 6. Check for dented, cracked, and leaking brake chamber.

If brake chamber is dented, cracked, or leaking, replace brake chamber (page 4-84).

Step 7. Check hydraulic hoses and lines for leaking or restriction.

If hoses or lines are leaking or restricted, repair or replace lines (page 4-63).

Step 8. Check master cylinder for damage or leaking.

If master cylinder is damaged or leaking, replace master cylinder (page 4-72).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

7. BRAKES WILL NOT APPLY OR APPLY SLOWLY - CONTINUED.

Step 9. Check hydraulic fluid level in master cylinder (page 4-5).

If fluid level is low, fill to proper level (page 4-5).

Step 10. Check for leakage of brake cylinder by looking for hydraulic fluid on tires or rim.

If brake cylinder is leaking, replace wheel cylinder (page 4-75).

Step 11. Adjust brakes at backing plate (page 4-63).

If brakes will not adjust, remove wheels, drum, and hub, and replace broken and worn brake components (page 4-113).

8. BRAKES GRAB.

Step 1. Check brake adjustment (page 4-63).

If brakes are out of adjustment, adjust brakes (page 4-63).

Step 2. Remove tire and wheel assembly and brakedrum and check for grease on brake linings (page 4-113).

If grease is present, replace brakeshoes (page 4-66).

Step 3. Check for worn or loose brake linings.

If linings are worn to within 0.030 inch (0.762 mm) above the rivets, or linings are loose, replace brakeshoes (page 4-66).

Step 4. Check for cracked, scored, and deformed brakedrum.

If brakedrum is cracked, scored, or deformed, replace drum (page 4-113).

Step 5. Check for loose and worn wheel bearings (page 4-113).

If wheel bearings are loose, adjust (page 4-113).

If wheel bearings are worn, replace (page 4-113).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

TIRES

9. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES.

Step 1. Check tire pressure.

If pressure is low, inflate to proper pressure.

Step 2. Check if wheel lugs are tight.

If wheel lugs are loose, tighten (page 3-11).

Step 3. Check for loose wheel bearings.

If wheel bearings are loose, tighten (page 4-113).

Step 4. Check for broken torque rods or bent axle.

If torque rods are broken or axle is bent, notify direct support maintenance.

LANDING GEAR

10. LANDING GEAR IS DIFFICULT TO RAISE OR LOWER.

Step 1. Check for misaligned or damaged landing gear leg.

If landing gear leg is misaligned or damaged, replace leg (page 4-119).

Step 2. Check for bent rod or sheared rod coupling bolt.

If rod is bent, straighten rod (page 4-118).

If rod coupling bolt is sheared, replace bolt (page 4-118).

Step 3. Check gearbox for binding and broken gear teeth.

If gearbox is binding or sounds like it has broken gear teeth, replace gearbox (page 4-118).

Section VII. ELECTRICAL SYSTEM MAINTENANCE

	Page		Page
Clearance Light Assemblies	4-29	Lead Assembly (Receptacle)	4-34
Composite Light Adapter		Wire Connector	4-59
Harness	4-55	Wire Harness.	4-39
Composite Light Assemblies	4-25		

COMPOSITE LIGHT ASSEMBLIES

This task covers:

- a. Removal (page 4-25)
- b. Lamps, lens, and door assembly replacement (page 4-26)
- c. Installation (page 4-28)

INITIAL SETUP

Tools	Materials/Parts
Handle, ratchet, 1/2-inch drive	Lamps (if required)
Screwdriver, flat-tip	Preformed packing
Socket, 9/6-inch, 1/2-inch drive	
Wrench, 9/16-inch, open-end	Personnel Required
	One

LOCATION	ITEM	ACTION	REMARKS
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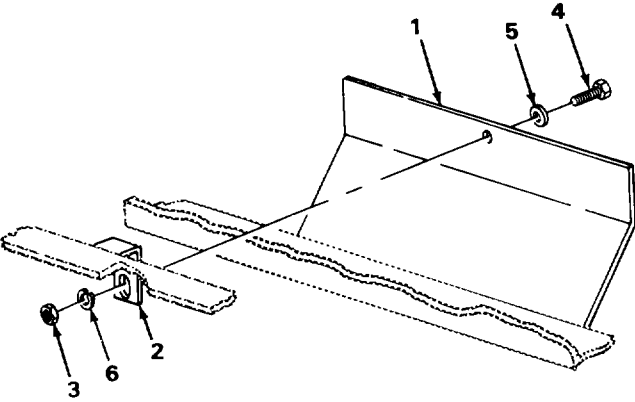
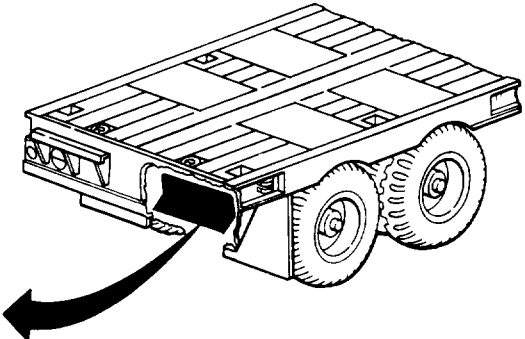
REMOVAL

NOTE

Removal is not necessary for lamp, lens, or door assembly replacement. If replacing lamp, lens, or door assembly only, go to step 6. If wire identification tags are missing or not readable, wires should be tagged to aid assembly.

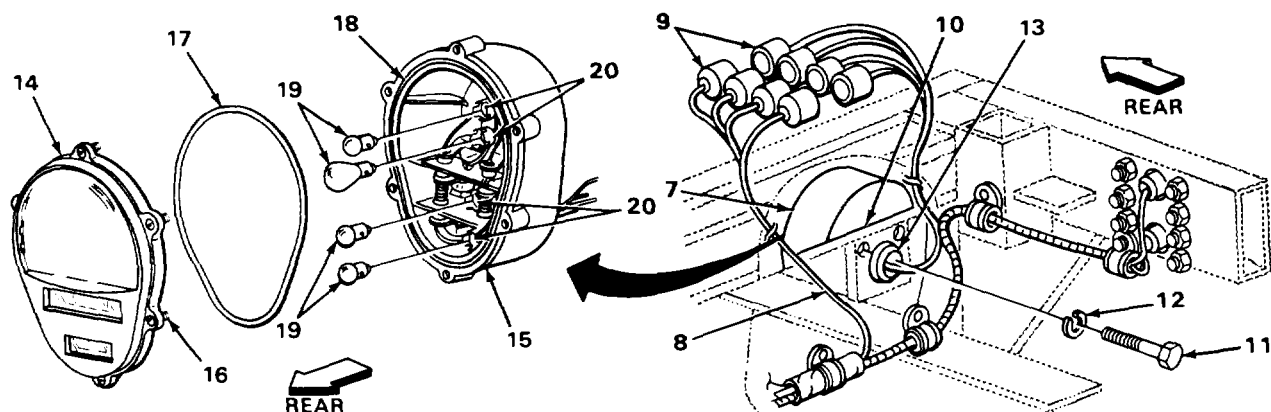
If wire connectors are to be repaired or replaced, go to wire connector procedure (page 4-59).

COMPOSITE LIGHT ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
1. Door (1) and bracket (2)	Nut (3), screw (4), washer (5), and lockwasher (6)	a. Using socket, handle, and open-end wrench, unscrew and take out. b. Pull down door.
		
2. Composite light assembly (7) to wire harness (8)	Four electrical connectors (9)	Separate.
3. Composite light assembly (7) and bracket (10)	Two bolts (11) and lockwashers (12)	Using socket and handle, unscrew and take out.
4.	Composite light assembly (7)	Carefully feed connector halves (9) through grommet (13) and take off.
5.	Grommet (13)	Take out.
LAMPS, LENS, AND DOOR ASSEMBLY REPLACEMENT		
6. Door and lens assembly (14) to composite light body (15)	Six captive screws (16)	Using screwdriver, unscrew. Screws (16) will stay in door and lens assembly (14).
7. Composite light assembly (7)	Door and lens assembly (14) and composite light body (15)	Separate.
		

COMPOSITE LIGHT ASSEMBLIES - CONTINUED

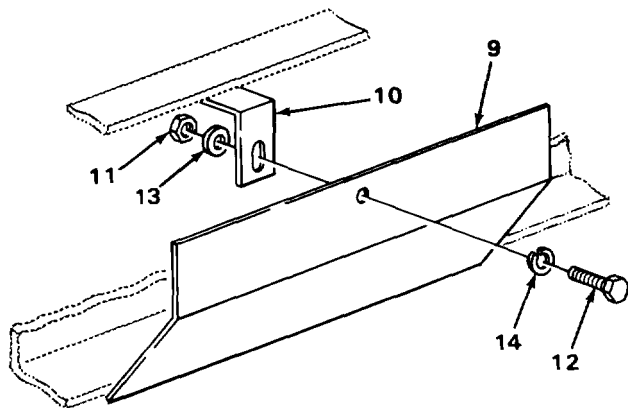
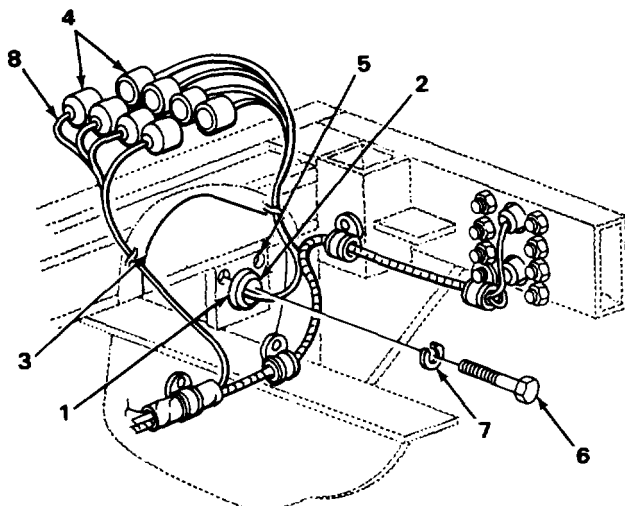
LOCATION	ITEM	ACTION	REMARKS
LAMPS, LENS, AND DOOR ASSEMBLY REPLACEMENT- CONTINUED			
8.	Door and lens assembly (14)	Preformed packing (17)	Take out of groove (18) and discard.
9.		Four lamps (19)	a. Push in, turn one-quarter turn counter-clockwise and take out. b. Inspect for corrosion. If corroded, clean.
NOTE Top lamp in light assembly is taillight, second lamp is stop-turn lamp, third down is blackout taillight, and bottom lamp is blackout stoplight.			
10.	Composite light body (15)	Four lamps (19)	Place in proper socket (20), push in and turn one-quarter clockwise.
11.		Preformed packing (17)	Place in groove (18).
12.		Door and lens assembly (14)	Place in position on composite light body (15).
13.		Six screws (16)	Screw in, using screwdriver. If replacing lamp, lens, or door assembly only, go to follow-on maintenance (page 4-28).



TA224219

COMPOSITE LIGHT ASSEMBLIES- CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION				
14.	Bracket (1)	Grommet (2)	Put in.	
15.		Composite light assembly (3)	a. Feed lead connector halves (4) into grommet (2). b. Place in position and aline with boltholes (5).	
16.	Composite light assembly (3) and bracket (1)	Two bolts (6) and lockwashers (7)	Screw into back of light assembly and tighten using socket and handle.	
17.		Four connector halves (4)	Match and fasten to four wiring harness connector halves (8) with the same numbers.	
18.	Door (9) and bracket (10)	Nut (11), screw (12), washer (13), and lockwasher (14)	a. Push door shut. b. Put in and tighten using socket, handle, and open-end wrench.	



NOTE

FOLLOW-ON MAINTENANCE: Test operation of lights. (page 2-17).

TASK ENDS HERE

TA224220

CLEARANCE LIGHT ASSEMBLIES

This task covers:

- a. Removal (page 4-29)
- b. Installation (page 4-32)

INITIAL SETUP

Tools

Screwdriver, cross-tip
Screwdriver, flat-tip
Wrench, 3/8-inch, open-end

Materials/Parts

Crocus cloth (item 4, appendix E)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

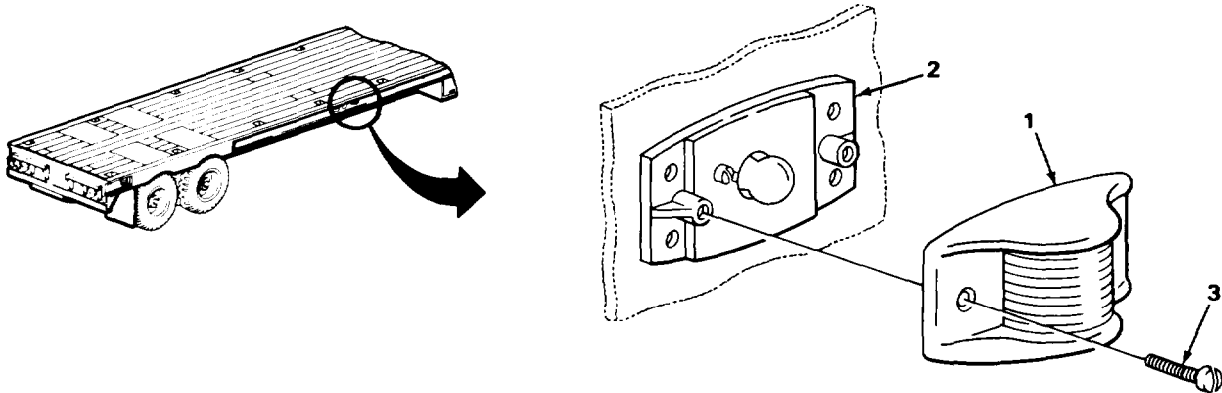
All clearance and blackout lights are replaced the same way. Repeat this procedure for all blackout lights.

If wire connectors are to be replaced or repaired, go to wire connector procedure (page 4-59).

- | | | | |
|----|--|------------------|---|
| 1. | Lens housing (1)
and light body (2) | Two screws (3) | Using flat-tip screwdriver, unscrew and take out. |
| 2. | Light body (2) | Lens housing (1) | Take off. |

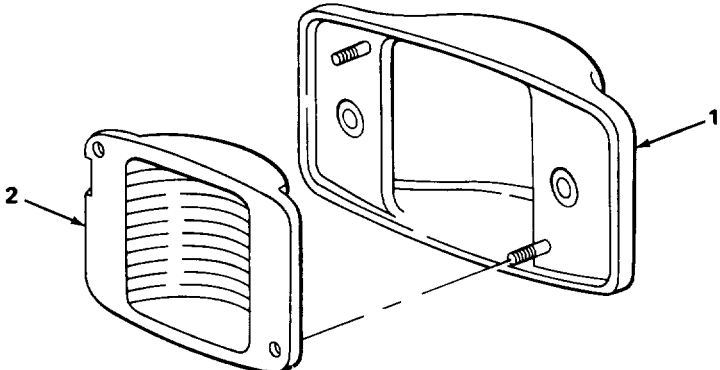
NOTE

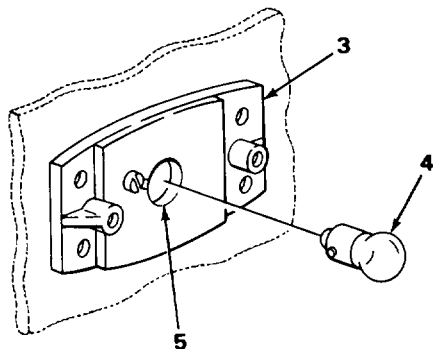
If replacing lens housing only, go to step 22.



TA224221

CLEARANCE LIGHT ASSEMBLIES- CONTINUED

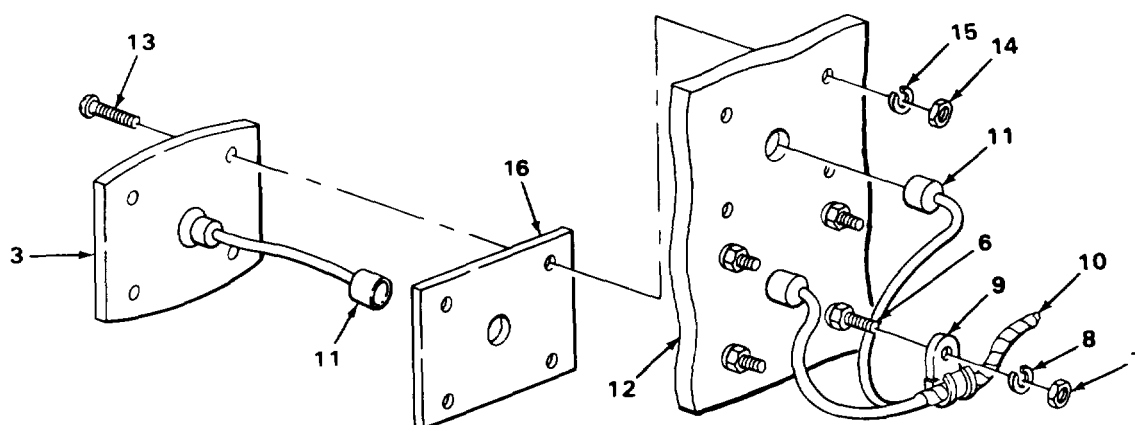
LOCATION		ITEM	ACTION	REMARKS
REMOVAL - CONTINUED				
3.	Lens housing (1)	Lens (2)	Using fingers, pull out.	If replacing lens only, go to step 21.
				
4.	Light body (3)	Lamp (4)	a. Push in, turn one-quarter turn Counter clockwise and take out. b. Inspect for broken filament and corrosion.	If corroded, clean with crocus cloth.
5.		Lamp socket (5)	Check for corrosion.	If corroded, clean with crocus cloth.



TA224222

CLEARANCE LIGHT ASSEMBLIES - CONTINUED

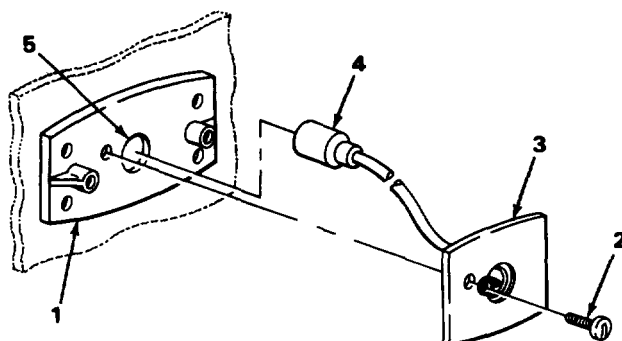
LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">If replacing lamp only, go to step 20.</p> <p style="text-align: center;">If clearance light has wire harness mounted on back, do steps 6 and 7.</p>		
6.	Screw (6)	Nut (7) and lockwasher (8) Using wrench, unscrew and take off.
7.	Wire harness clip (9)	a. Take off. b. Spread apart and remove from wire harness (10).
8.	Wire harness (10)	Connector halves (11) Take apart. If removing both clearance lights, tag wires for installation.
9.	Light body (3) and frame (12)	Four screws (13), nuts (14), and lockwashers (15) Using cross-tip screwdriver and wrench, unscrew and take out.
10.	Frame (12)	Light body (3) and gasket (16) Guide connector half (11) through hole and take out.



TA224223

CLEARANCE LIGHT ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL- CONTINUED		
11.	Light body (1)	Screw (2)
		Using flat-tip screwdriver, unscrew and take out.
12.	Socket (3)	Pull from light body.
INSTALLATION		
13.	Socket (3)	Feed connector half (4) through hole (5) and put in place.
14.	Screw (2)	Put in and tighten using flat-tip screwdriver.

**NOTE**

If wire harness clip was not mounted to back of clearance light, go to step 20.

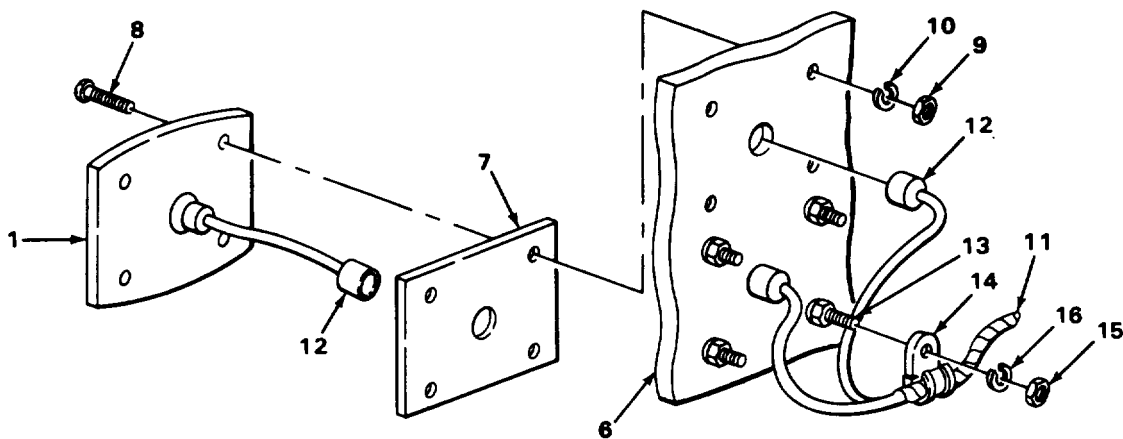
TA224224

CLEARANCE LIGHT ASSEMBLIES - Continued

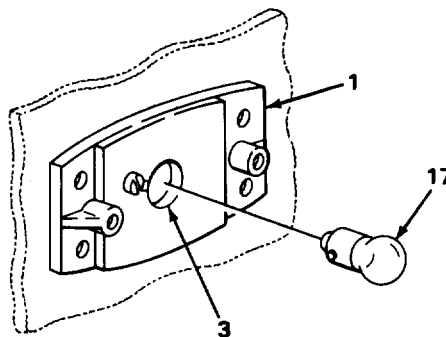
LOCATION	ITEM	ACTION REMARKS
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INSTALLATION - CONTINUED

- | | | | |
|-----|------------|------------------------------|--|
| 18. | Screw (13) | Wire harness clip (14) | <p>a. Put around wire harness and squeeze together.</p> <p>b. Put clip (14) on screw (13).</p> |
| 19. | | Nut (15) and lockwasher (16) | Put on and tighten using wrench. |



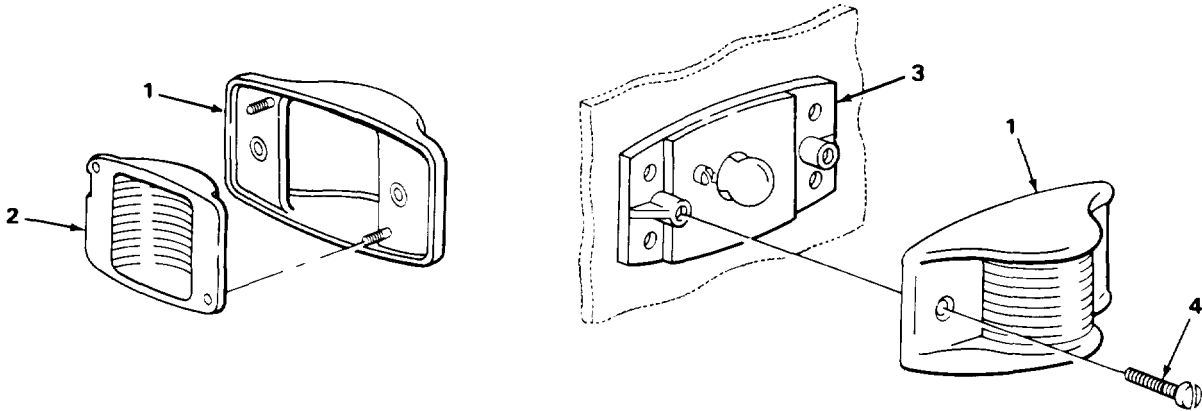
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|-----|----------------|-----------|--|
| 20. | Light body (1) | Lamp (17) | <p>a. Place lamp (17) in socket (3).</p> <p>b. Press in and turn one-quarter turn clockwise.</p> |
|-----|----------------|-----------|--|



TA224225

CLEARANCE LIGHT ASSEMBLIES- CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION – CONTINUED				
21.	Lens housing (1)	Lens (2)	Put in place.	
22.	Light body (3)	Lens housing (1)	Put in place and line up holes.	
23.		Two screws (4)	Put in and tighten using flat-tip screwdriver.	



TASK ENDS HERE

LEAD ASSEMBLY (RECEPTACLE)

This task covers:

- a. Removal (page 4-35)
- b. Disassembly (page 4-36)
- c. Assembly (page 4-37)
- d. Installation (page 4-38)

INITIAL SETUP

Tools

- Handle, ratchet, 1/2-inch drive
- Pliers, cutting
- Pliers, slip-joint
- Pliers, stripping
- Screwdriver, flat-tip, 1/4-inch
- Socket, 7/16-inch, 1/2-inch drive
- Soldering gun, piston grip handle, 115 volt
- Wrench, 7/16-inch

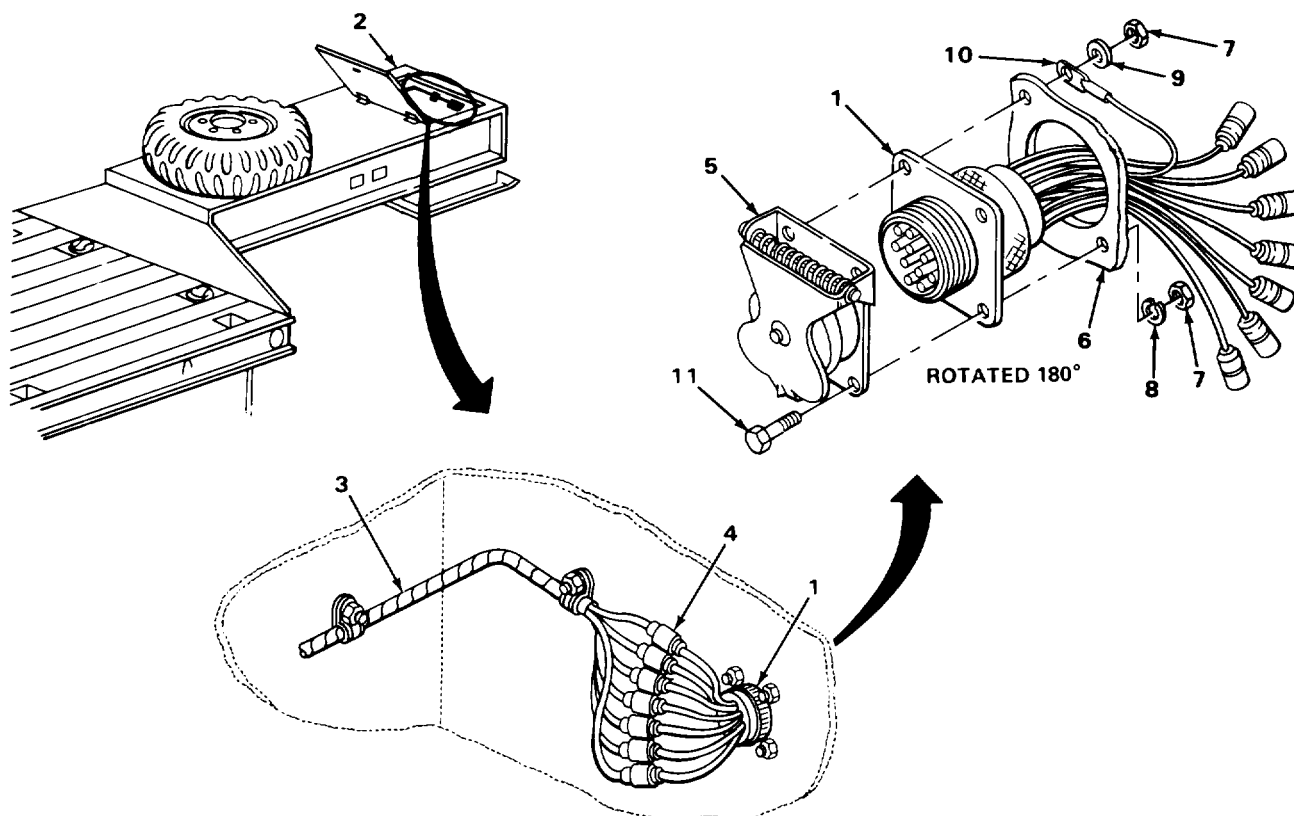
Materials/Parts

- Solder (item 15, appendix E)
- Tags, marker (item 17, appendix E)

TA224226

LEAD ASSEMBLY (RECEPTACLE) - CONTINUED

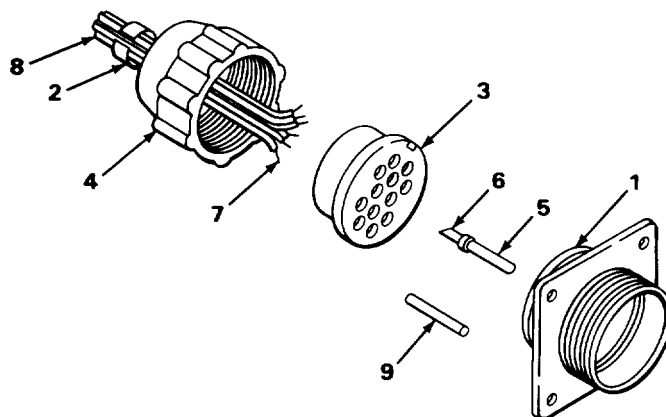
LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Lead assembly (1), inside nose box (2), to wire harness (3)	Seven wire connectors (4)	a. Open nose box door and check band markers on both sides of connectors for readability. b. If not readable, tag connector halves. c. Pull apart halves.
2. Receptacle cover (5) and lead assembly (1) to semitrailer (6)	Four nuts (7), three lockwashers (8), one washer (9), lead ground wire (10), and four bolts (11)	Using wrench, socket, and handle, unscrew and take out.
3. Front of semitrailer (6)	Cover (5) and lead assembly (1)	Remove cover (5). Guide leads out of hole and remove lead assembly (1).



TA224352

LEAD ASSEMBLY (RECEPTACLE) - CONTINUED

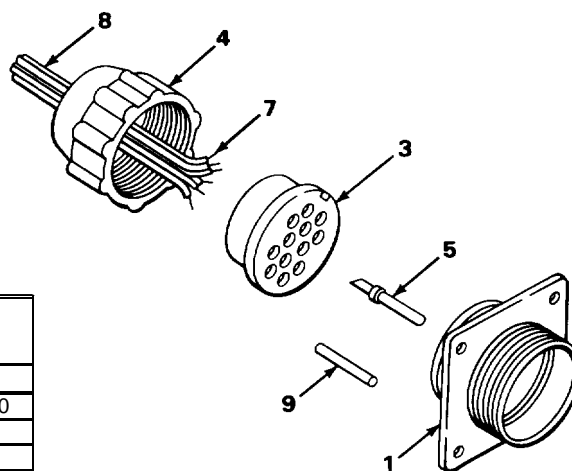
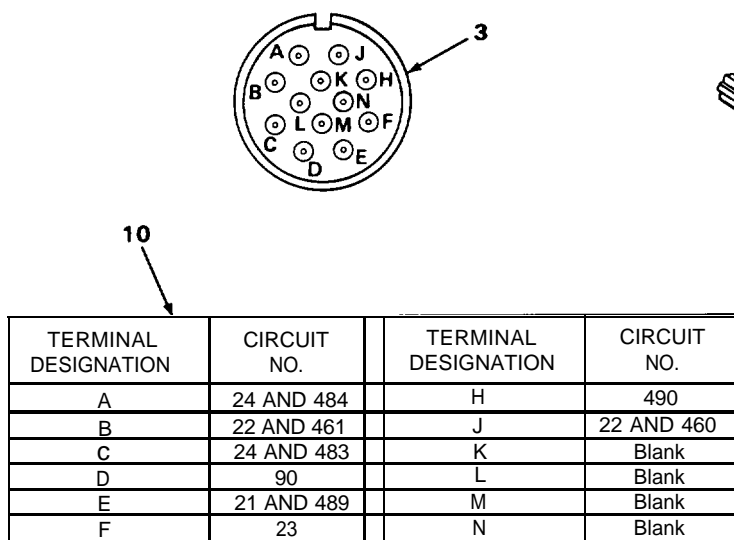
	LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY			
4.	Lead assembly (1)	Band (2)	Using cutting pliers, cut off. Discard band (2).
5.	Grommet (3) to lead assembly (1)	Grommet retaining nut (4)	Unscrew and pull back from lead assembly.
6.	Grommet (3)	Lead assembly (1)	Using screwdriver, pull off of grommet (3).
7.		Eight inserts (5)	a. Using pliers, pull forward out of grommet (3). b. Using soldering gun, heat solder (6) well and remove from wire end (7).
8.		Wire (8)	Pull out of grommet (3) and nut (4).
9.		Four nonmetallic rods (9)	Push out of blank holes in grommet (3).



TA224227

LEAD ASSEMBLY (RECEPTACLE) - CONTINUED

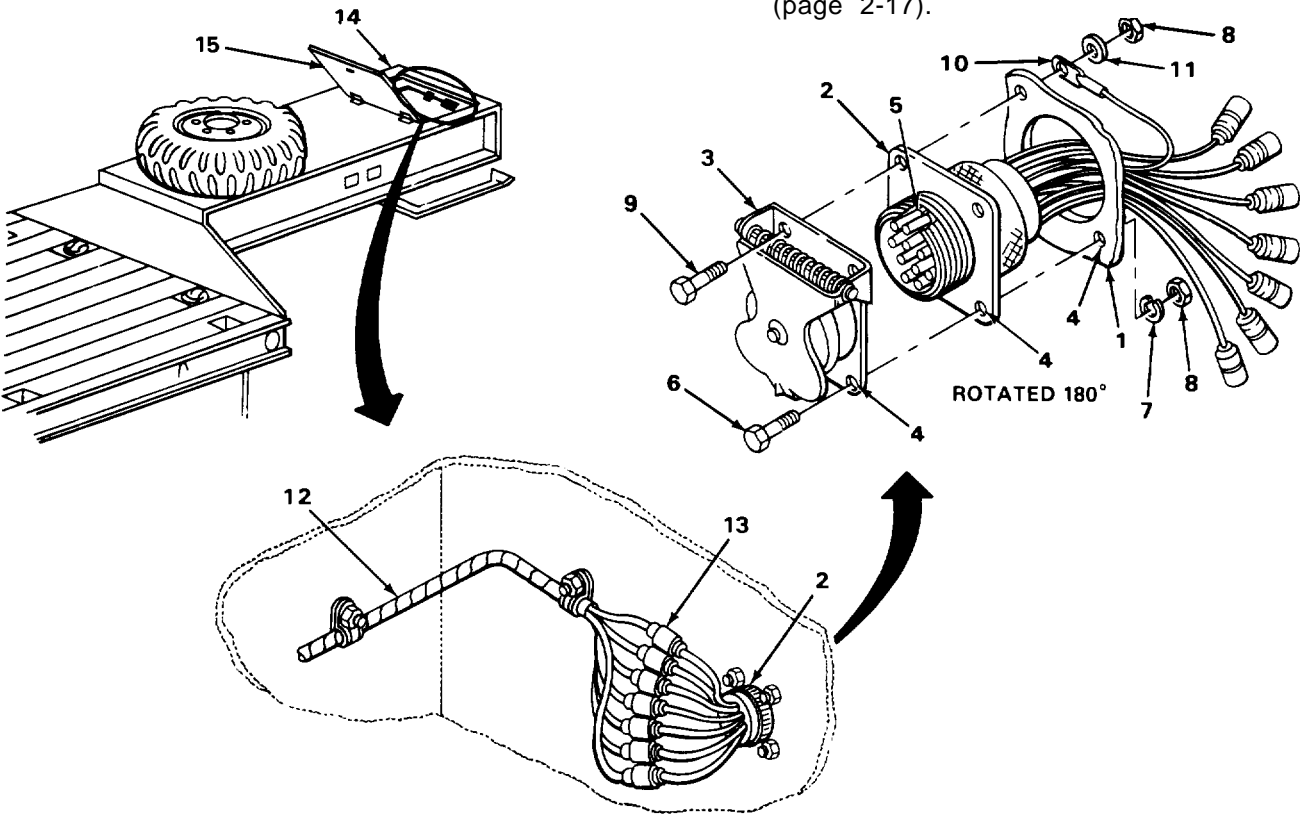
	LOCATION	ITEM	ACTION REMARKS
ASSEMBLY			
10.	Grommet (3)	Four nonmetallic rods (9)	Push into grommet (3) terminal holes K, L, M, and N.
11.		Retaining nut (4)	Slide on wire (8) threads facing outward.
12.		Eight wire ends (7)	Put into back of grommet (3) in the order shown on chart (10) and pull through front of grommet (3).
13.		Eight wire ends (7)	Using stripping pliers, strip insulation equal to depth of solder well in insert (5).
14.		Eight inserts (5)	a. Place solder well onto wire ends (7) and solder using soldering tool. b. Push solder wells into grommet (3) until seated.
15.		Grommet (3)	Push into lead assembly (1).
16.		Retaining nut (4)	Screw onto lead assembly (1) and tighten.



TA224228

LEAD ASSEMBLY (RECEPTACLE) – CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION				
17,	Semitrailer(1)	Lead assembly (2) and cover (3)	Put leads into center hole on front of semitrailer (1) and aline boltholes (4).	Make sure notch (5) is at top.
18.	Cover (3) and lead assembly (2) to semitrailer (1)	Three bolts (6), lockwashers (7), and nuts (8)	Screw in and tighten using wrench, socket, and handle.	
19.		Bolt (9), ground wire (10), washer (1 1), and nut (8)	Screw in and tighten using wrench, socket, and handle.	
20,	Lead assembly (2) to wire harness (12)	Seven wire connectors (13)	Match wire numbers, and push together until seated.	
21.	Nose box (14)	Door (15)	a. Close. b. Turn on and check operation of lights (page 2-17).	



TASK ENDS HERE

TA224229

WIRE HARNESS

This task covers:

- a. Removal (page 4-39)
- b. Installation (page 4-46)

INITIAL SETUP

Tools

Handle, socket, 3/8-inch drive
Screwdriver, flat tip, 1/4-inch tip
Socket, 7/16-inch, 3/8-inch drive
Socket, 3/8-inch, 3/8-inch drive
Socket, 9/16-inch, 3/8-inch drive
Tape measure
Wrench, 9/16-inch, open-end

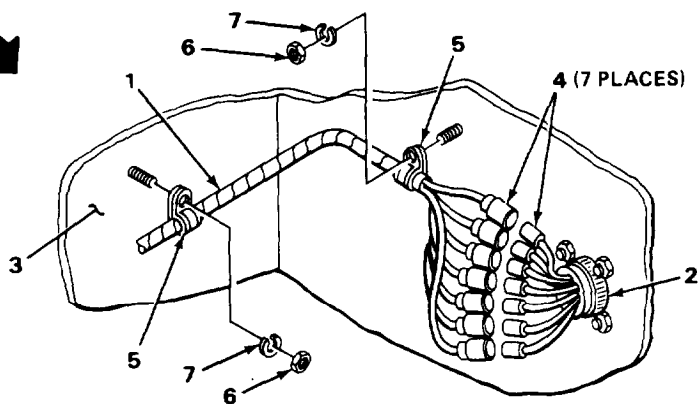
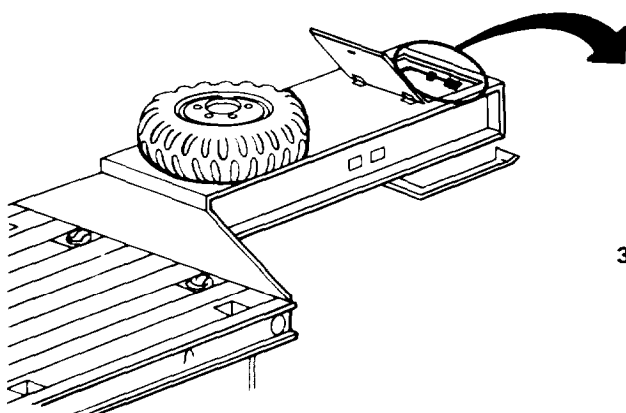
Materials/Parts

Antichafing material
Tape, electric, plastic
Tags, marker (item 17, appendix E)
Wire, 5 feet

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Harness (1) to receptacle lead assembly (2) in nose box (3)	Seven connectors (4)	a. Open nose box door and check band markers for readability at assembly. If not readable, tag connector halves. b. Pull apart halves.	
2. Two harness clamps (5) to nose box (3)	Two nuts (6) and lockwashers (7)	Using 7/16-inch socket and handle, unscrew and take out.	
3. Semitrailer nose box (3) and wire harness (1)	Two clamps (5)	Using screwdriver, spread and take off.	



TA224230

WIRE HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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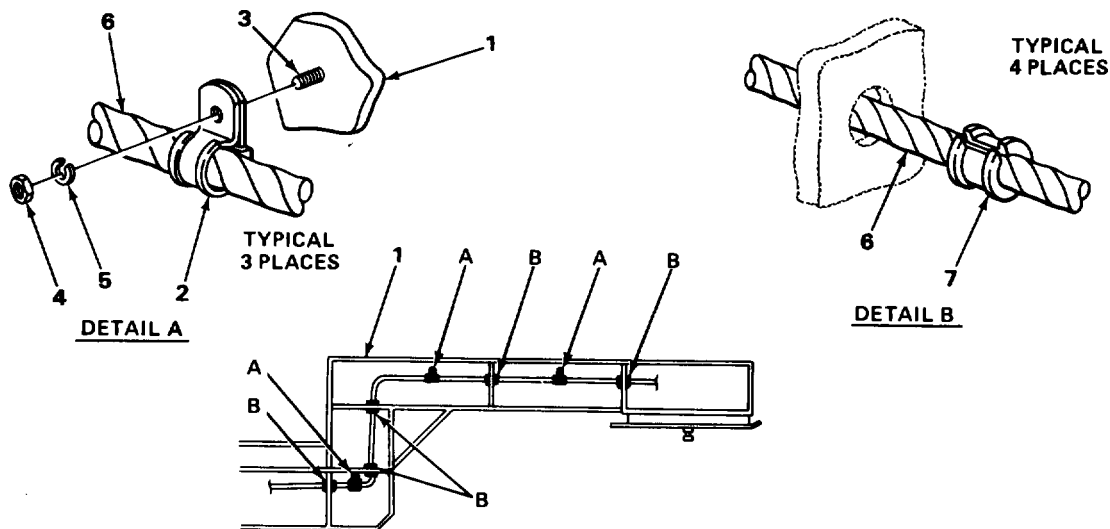
REMOVAL - CONTINUED

- | | | | |
|----|--|------------------------------------|--|
| 4. | Under left side of gooseneck (1) three clamps (2) to three studs (3) | Three nuts (4) and lockwashers (5) | Using 7/16-inch socket and ratchet handle, unscrew and take off. |
| 5. | Three studs (3) and wire harness (6) | Three clamps (2) | Spread and take off. |

NOTE

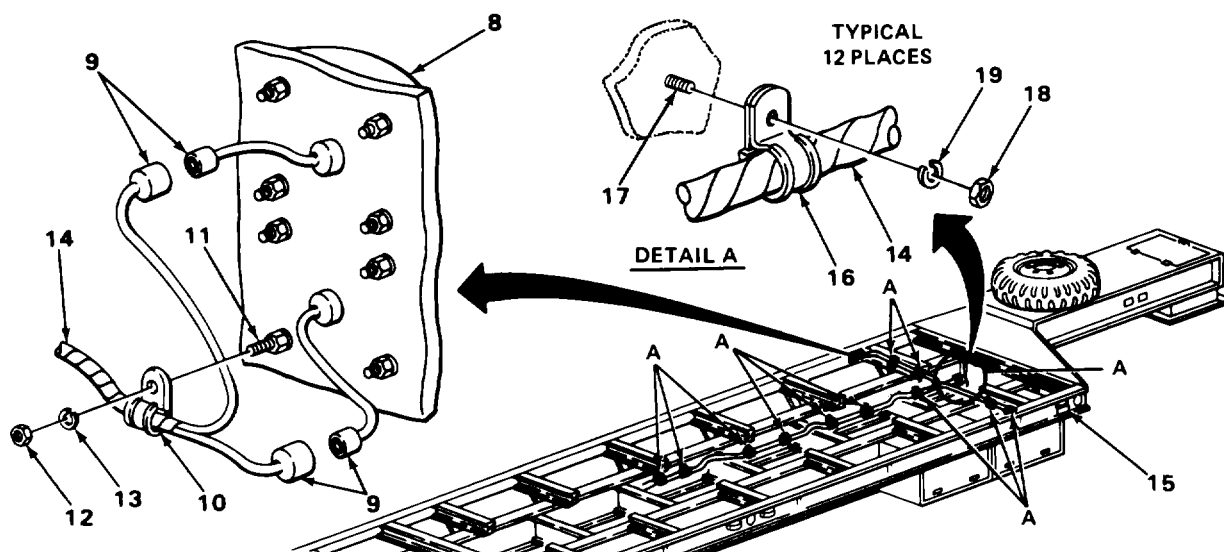
Grommets may or may not be split. If a grommet is not split, push out only.

- | | | | |
|----|------------------|-------------------|------------------------|
| 6. | Wire harness (6) | Five grommets (7) | Push out and take off. |
|----|------------------|-------------------|------------------------|



WIRE HARNESS - CONTINUED

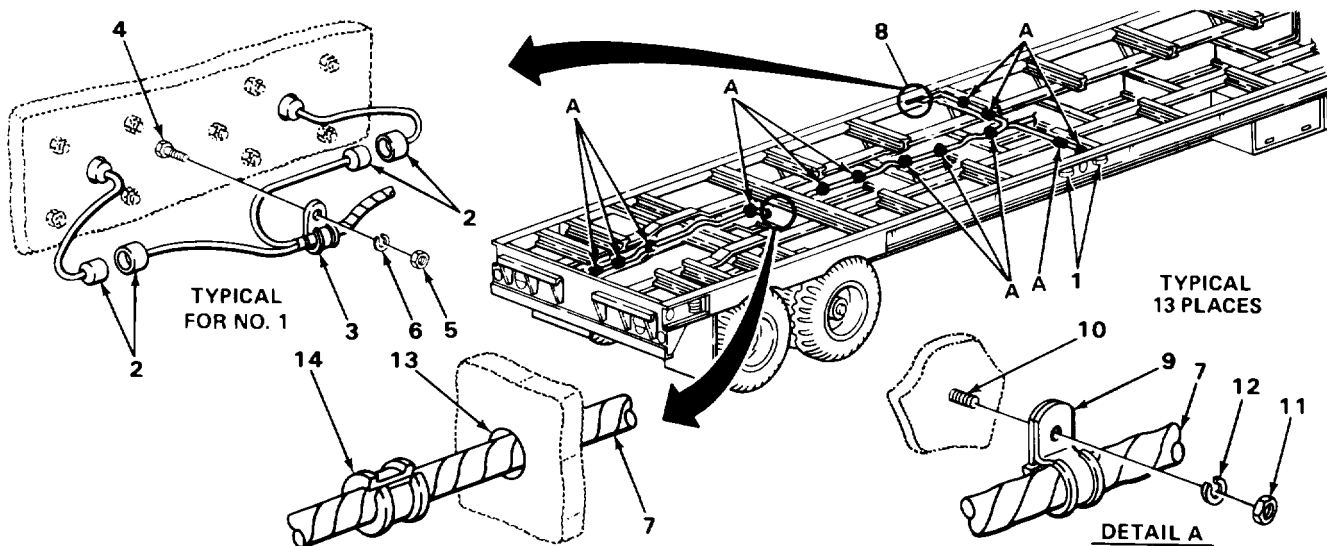
	LOCATION	ITEM	ACTION REMARKS
REMOVAL- CONTINUED			
7.	Behind left front clearance lights (8)	Four connectors (9)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart halves.
8.	Harness clamp (10) and clearance light bolt (11)	Nut (12) and lockwasher (13)	Using 3/8-inch socket and handle, unscrew and take off.
9.	Clearnace light bolt (11) and wire harness (14)	Clamp (10)	Using screwdriver, spread and take off. Repeat steps 7,8, and 9 for right front clearance lights (15).
10.	12 harness clamps (16) and 12 studs (17)	12 nuts (18) and lockwashers (19)	Using 7/16-inch socket and handle, unscrew and take off.
11.	12 studs (17) and wire harness (14)	12 clamps (16)	Using screwdriver, spread and take off.



TA224232

WIRE HARNESS - CONTINUED

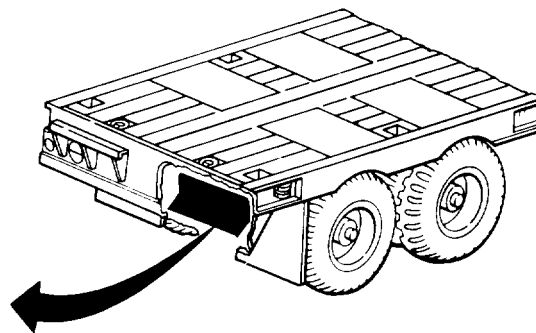
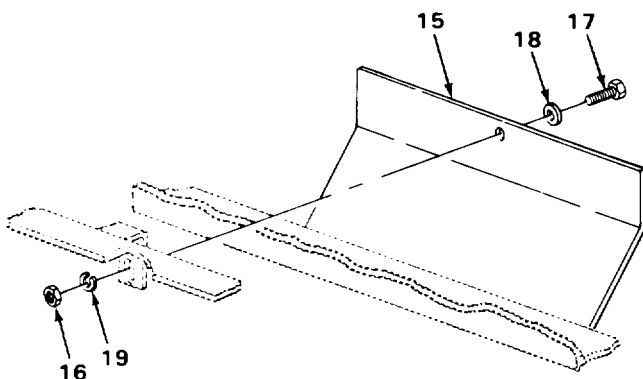
LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
12. Behind right middle clearance lights (1)	Four connectors (2)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart halves.
13. Harness clamp (3) and reflector bolt (4)	Nut (5) and lockwasher (6)	Using 3/8-inch socket and handle, unscrew and take off.
14. Reflector bolt (4) and wire harness (7)	Clamp (3)	Using screwdriver, spread and take off. Repeat steps 12, 13, and 14 for left middle clearance lights (8).
15. 13 harness clamps (9) and 13 studs (10)	13 nuts (11) and lockwashers (12)	Using 7/16-inch socket and handle, unscrew and take off.
16. 13 studs (10) and wire harness (7)	13 clamps (9)	Using screwdriver, spread and take off.
17. Grommet hole (13) and wire harness (7)	Grommet (14)	Pull out and take off.



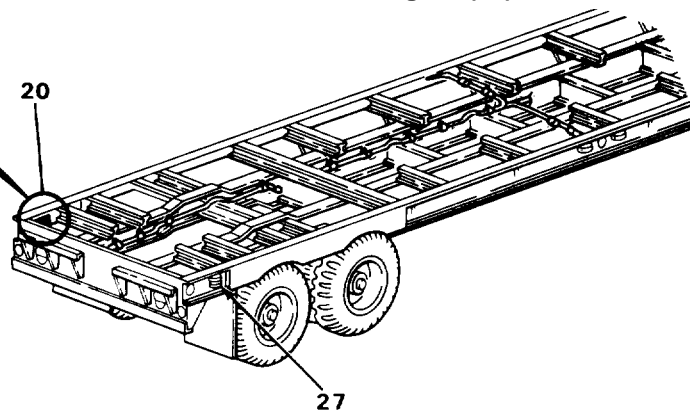
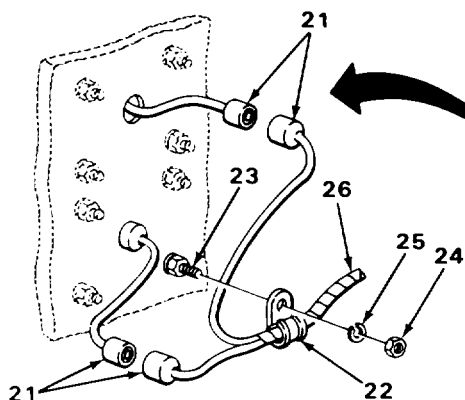
TA224233

WIRE HARNESS - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED			
18.	Right splash shield (15)	Nut (16), bolt (17), washer (18), and lockwasher (19)	Using 9/16-inch wrench, and 9/16-inch socket and handle, unscrew, take out, and open shield. Repeat for left side.



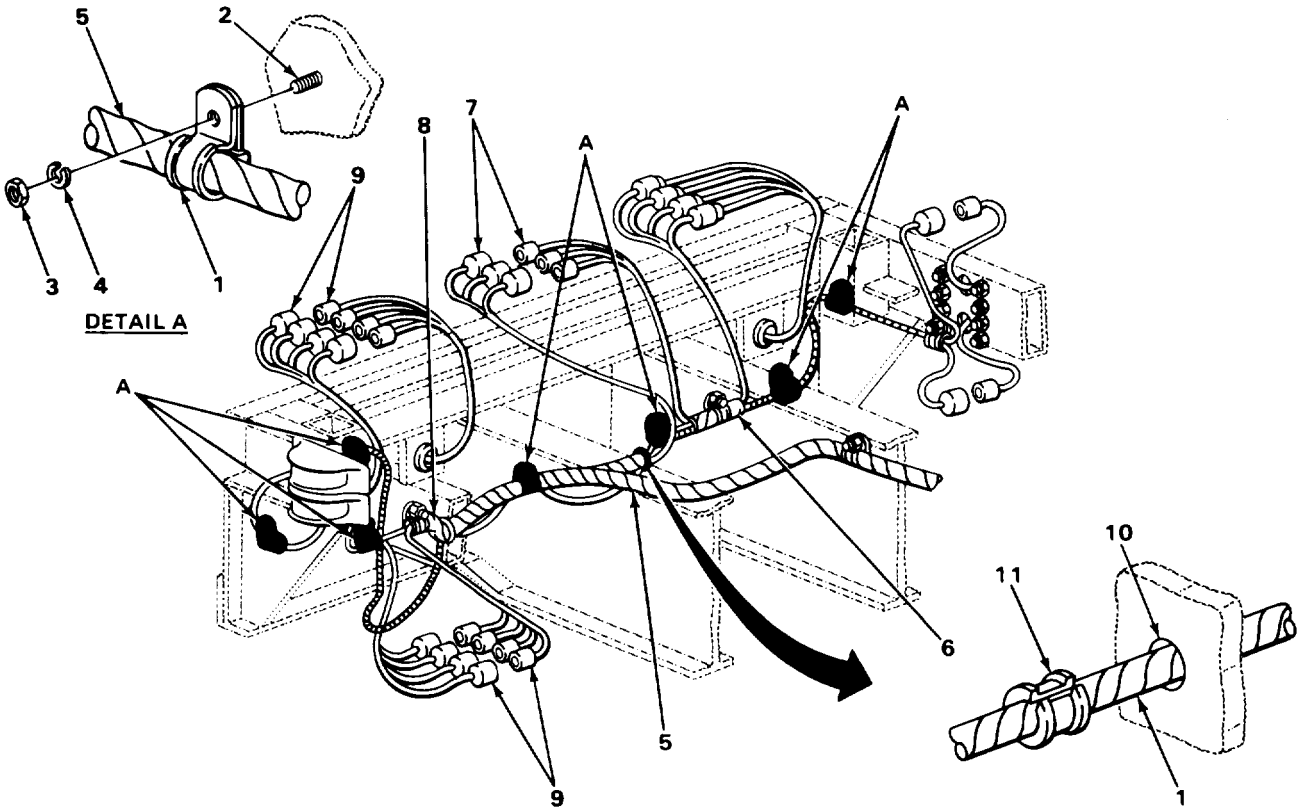
- | | | | |
|-----|--|------------------------------|---|
| 19. | Behind left rear clearance lights (20) | Four connectors (21) | a. Check wire markers for readability.
If not readable, tag for assembly.
b. Pull apart halves. |
| 20. | Harness clamp (22) and clearance light bolt (23) | Nut (24) and lockwasher (25) | Using 3/8-inch socket and handle, unscrew and take off. |
| 21. | Clearance light bolt (23) and wire harness (26) | Clamp (22) | Using screwdriver, spread and take off.
Repeat steps 19, 20, and 21 for right rear clearance lights (27). |



TA224234

WIRE HARNESS - CONTINUED

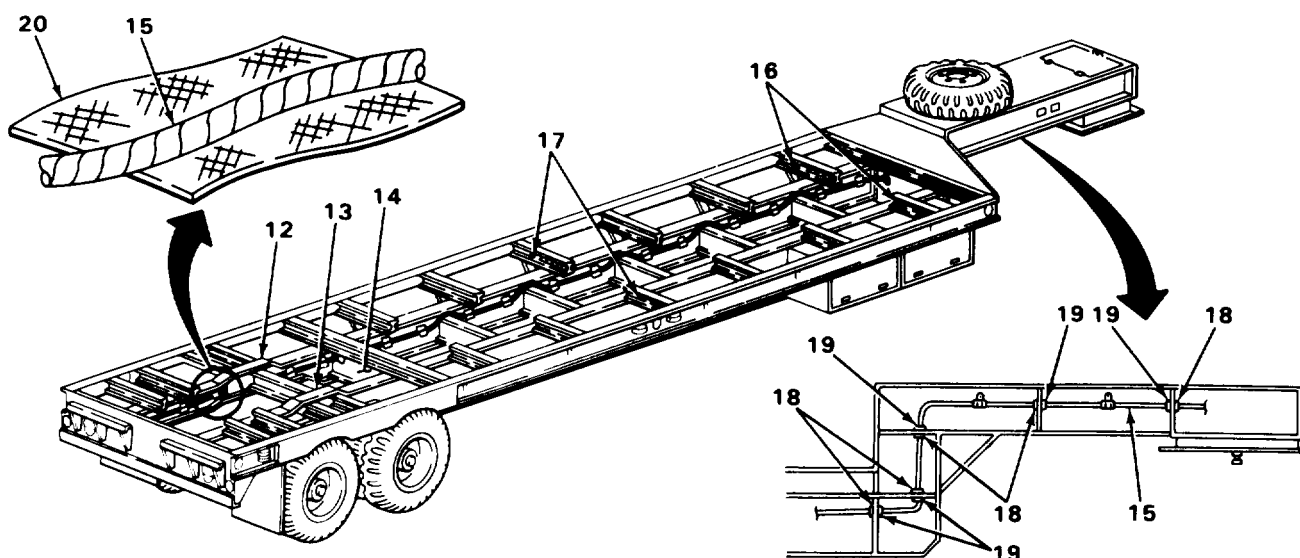
LOCATION		ITEM	ACTION REMARKS
REMOVAL – CONTINUED			
22.	Seven harness clamps (1) at rear of semitrailer and seven studs (2)	Seven nuts (3) and lockwashers (4)	Using 7/16-inch socket and handle, unscrew and take off.
23.	Seven studs (2) and wire harness (5)	Seven clamps (1)	Using screwdriver, spread and take off.
24.	Wire harness (5) and left composite adapter harness (6)	Six connector halves (7)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart halves.
25.	Wire harness (5) and right composite adapter harness (8)	16 connector halves (9)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart.
26.	Grommet hole (10)	Grommet (11)	Pull out and take off wire harness (5).



TA224235

WIRE HARNESS - CONTINUED

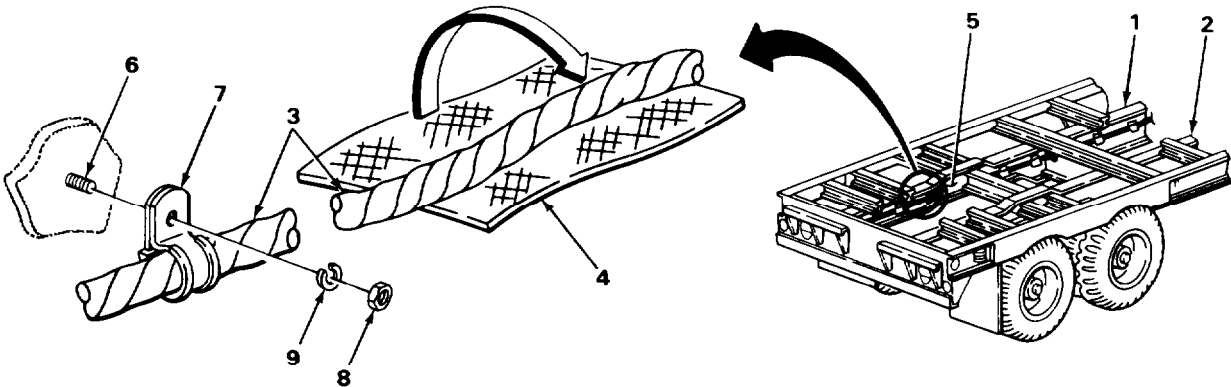
	LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED			
27.	Rear of left and right main beams (12) and (13) and grommet hole at axle cross beam (14)	Rear of wire harness (15)	Feed through holes and pull out.
28.	Left and right main beams (12) and (13)	Front and center clearance light harness (16) and (17)	Pull to between main beams (12) and (13).
29.	Grommet holes (18)	Front of wire harness (15)	a. Feed through holes, toward rear of trailer. b. If unsplit grommets (19) are still on harness, slide off as harness is removed.
30.		Wire harness (15)	Take out.
31.	Wire harness (15)	Antichafing cover (20)	Using tape measure note location for application to new harness.



TA224236

WIRE HARNESS - CONTINUED

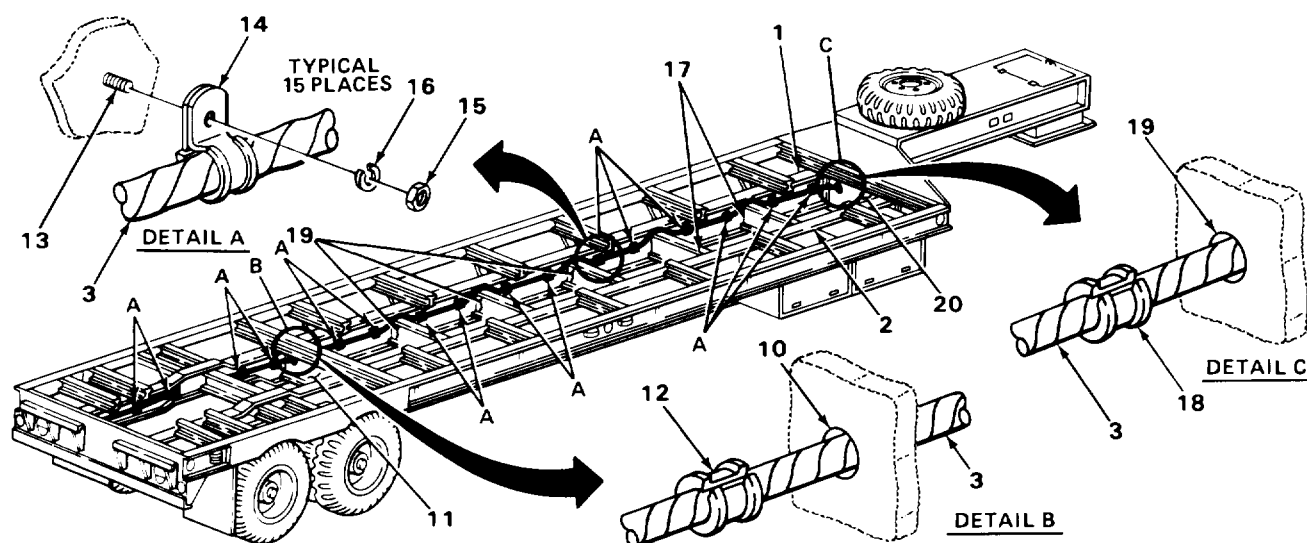
LOCATION		ITEM	ACTION REMARKS
INSTALLATION			
32.	Main beams (1) and (2)	Wire harness (3)	Lay out under semitrailer between main beams (1) and (2).
33.	Wire harness (3)	Antichafing material (4)	<div>a. Mark location on harness (3) with measurements taken from old harness.</div> <div>b. Cut antichafing material to size required.</div> <div>c. Wrap around wire harness (3) in marked location.</div> <div>d. Fasten by wrapping with three turns plastic tape every 4 inches.</div>
34.	Left main beam box (5) over bogies	Wire harness (3)	<div>a. Run 5-foot long piece of stiff, soft wire through boxed part of frame (5) from rear to front.</div> <div>b. Attach wire to rear end of wire harness (3) and pull through until rear of anti-chafing material (4) is lined up with harness clamp stud (6).</div> <div>c. Remove wire from wire harness (3).</div>
35.	Wire harness (3) and harness clamp stud (6)	Clamp (7)	Put on.
36.	Harness clamp stud (6) and harness clamp (7)	Nut (8) and lockwasher (9)	Put on and tighten using 7/16-inch socket and handle.



TA224237

WIRE HARNESS - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
37.	Grommet hole (10) in front bogie crossmember (11)	Wire harness (3)	Feed through until slack is gone.
38.	Wire harness (3)	Grommet (12)	Put on harness and push into place.
39.	Wire harness (3) and stud (13)	Clamp (14)	Put on at front end of antichafing material.
40.	Stud (13) and harness clamp (14)	Nut (15) and lockwasher (16)	Put on and tighten using 7/16-inch socket and handle.
41.	Two main beams (1) and (2)	Wire harness (3)	Feed front of harness forward (17) over five main frame crossmembers until slack is gone and push to left main frame (1).
42.	Front of wire harness (3)	Grommet (18)	Put on.
43.	Grommet hole (19) in front cross- member (20)	Wire harness (3)	Feed through until slack is gone.
44.		Grommet (18)	Push into place.

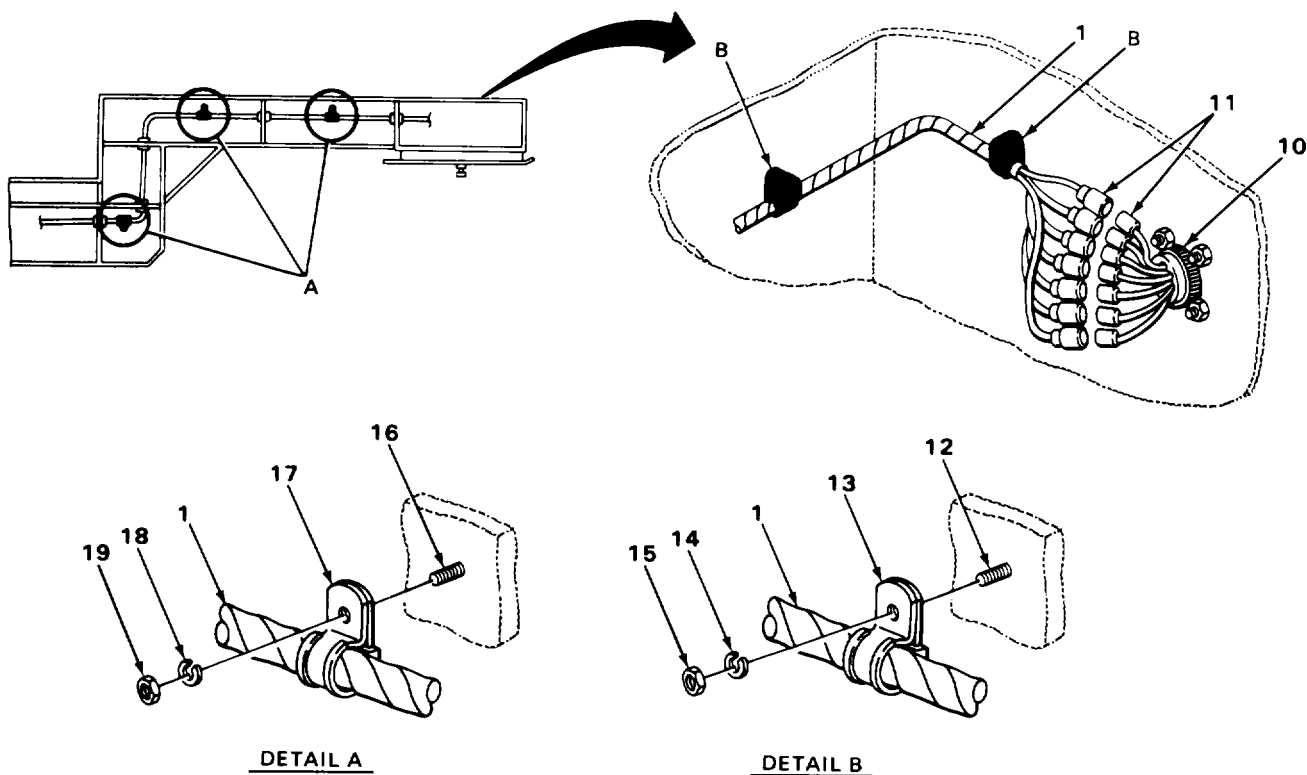


WIRE HARNESS - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
45.	Front of wire harness (1)	Grommet (2)	Put on.
46.	Grommet hole (3)	Wire harness (1)	Feed through until slack is gone.
47.		Grommet (2)	Push into place.
48.	Front of wire harness (1)	Grommet (4)	Put on.
49.	Grommet hole (5)	Wire harness (1)	Feed through until slack is gone.
50.		Grommet (4)	Push into place.
51.	Front of wire harness (1)	Grommet (6)	Put on.
52.	Grommet hole (7)	Wire harness (1)	Feed through until slack is gone.
53.		Grommet (6)	Push into place.
54.	Front of wire harness (1)	Grommet (8)	Put on.
55.	Grommet hole (9)	Wire harness (1)	Feed through until slack is gone.
56.		Grommet (8)	Push into place.

WIRE HARNESS - CONTINUED

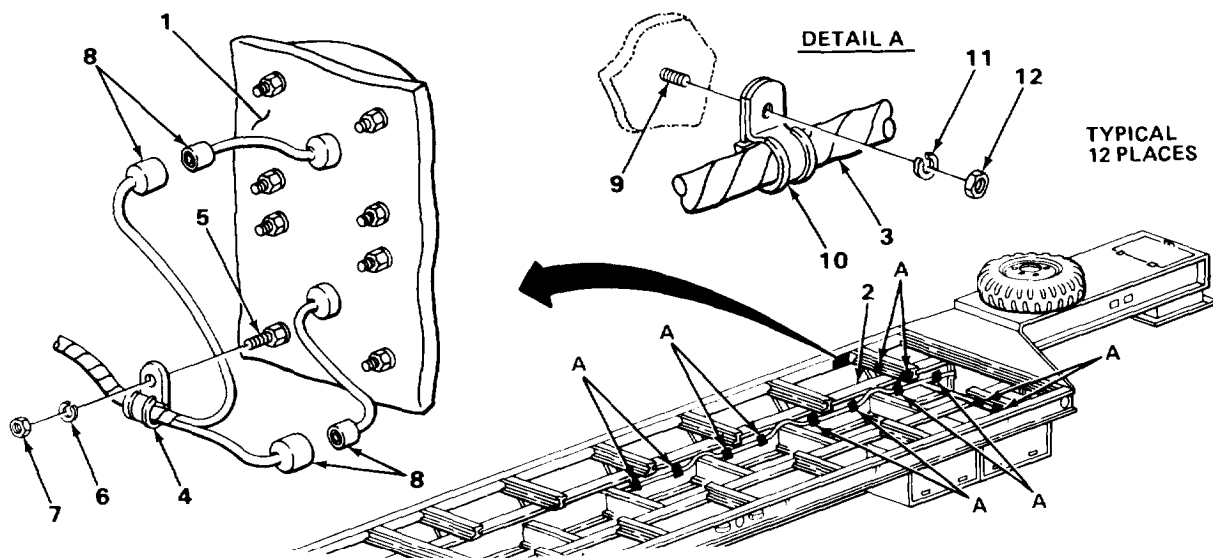
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
57. Front of wire harness (1) and receptacle lead assembly (10)	14 connector halves (11)	Match wire numbers and connect together.	If unsure, check wiring diagram (page FO-1).
58. Wire harness (1) and two studs (12)	Two clamps (13)	Put on.	
59. Two studs (12) and two harness clamps (13)	Lockwashers (14) and two nuts (15)	Put on and tighten using 7/16-inch socket and handle. Close nose box door.	
60. Wire harness (1) and three studs (16)	Three clamps (17)	Put on.	
61. Three studs (16)	Lockwashers (18) and three nuts (19)	Put on and tighten using 7/16-inch socket and handle.	



TA224240

WIRE HARNESS - CONTINUED

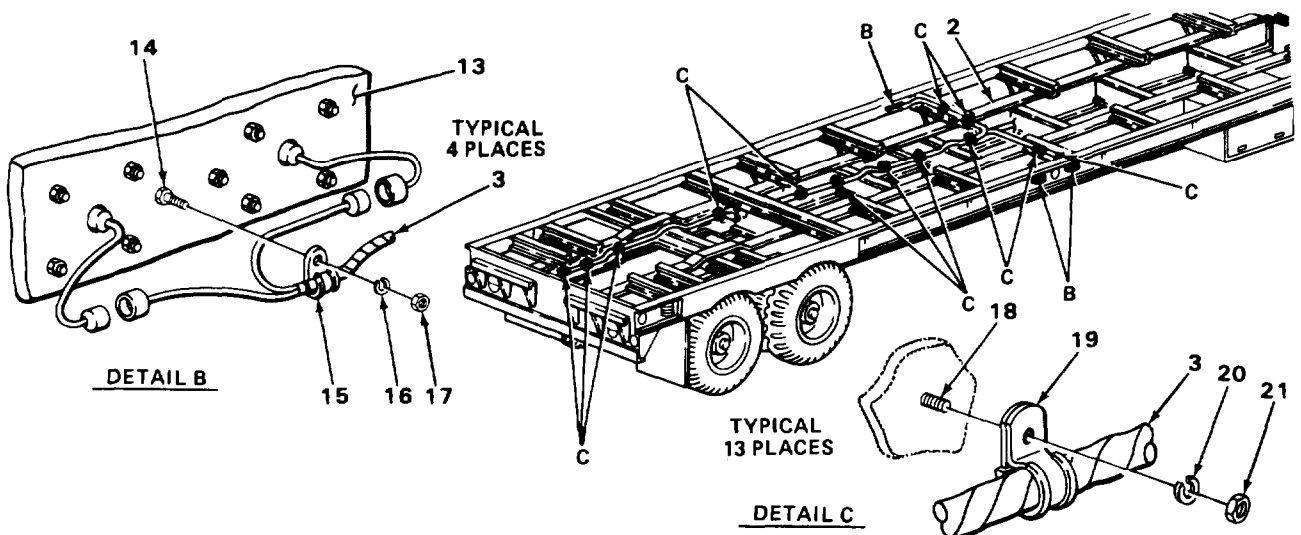
LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
62. Back of left front clearance lights (1) and main beam (2)	Wire harness (3)	Pull over main beam (2) to clearance lights (1) and allow enough slack for both connections. Short harness lead goes to left side.
63.	Clamp (4)	Put on wire harness (3) and clearance light bolt (5).
64. Clearance light bolt (5)	Lockwasher (6) and nut (7)	Put on and tighten using 3/8-inch socket and handle.
65. Left front clearance lights (1) and wire harness (3)	Four connector halves (8)	Match wire markers and push together. Repeat steps 62,63,64, and 65 for right front clearance lights.
66. Wire harness (3) and twelve studs (9)	12 clamps (10)	Put on.
67. Twelve studs (9) and twelve harness clamps (10)	Twelve lockwashers (11) and nuts (12)	Put on and tighten using 7/16-inch socket and handle.



TA224241

WIRE HARNESS - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
68.	Back of left middle clearance light (13) and mainbeam (2)	Wire harness (3)	Pull over main beam (2) to clearance lights (13) and allow enough slack for both connections. Short harness lead goes to left side.
69.	Wire harness (3) and reflector bolt (14)	Clamp (15)	Put on.
70.	Reflector bolt (14) and harness clamp (15)	Lockwasher (16) and nut (17)	Put on and tighten using 3/8-inch socket and handle. Repeat steps for right middle clearance light.
71.	Wire harness (3) and 11 studs (18)	11 clamps (19)	Put on.
72.	11 studs (18) and 11 harness clamps (19)	11 lockwashers (20) and nuts (21)	Put on and tighten using 7/16-inch socket and handle.



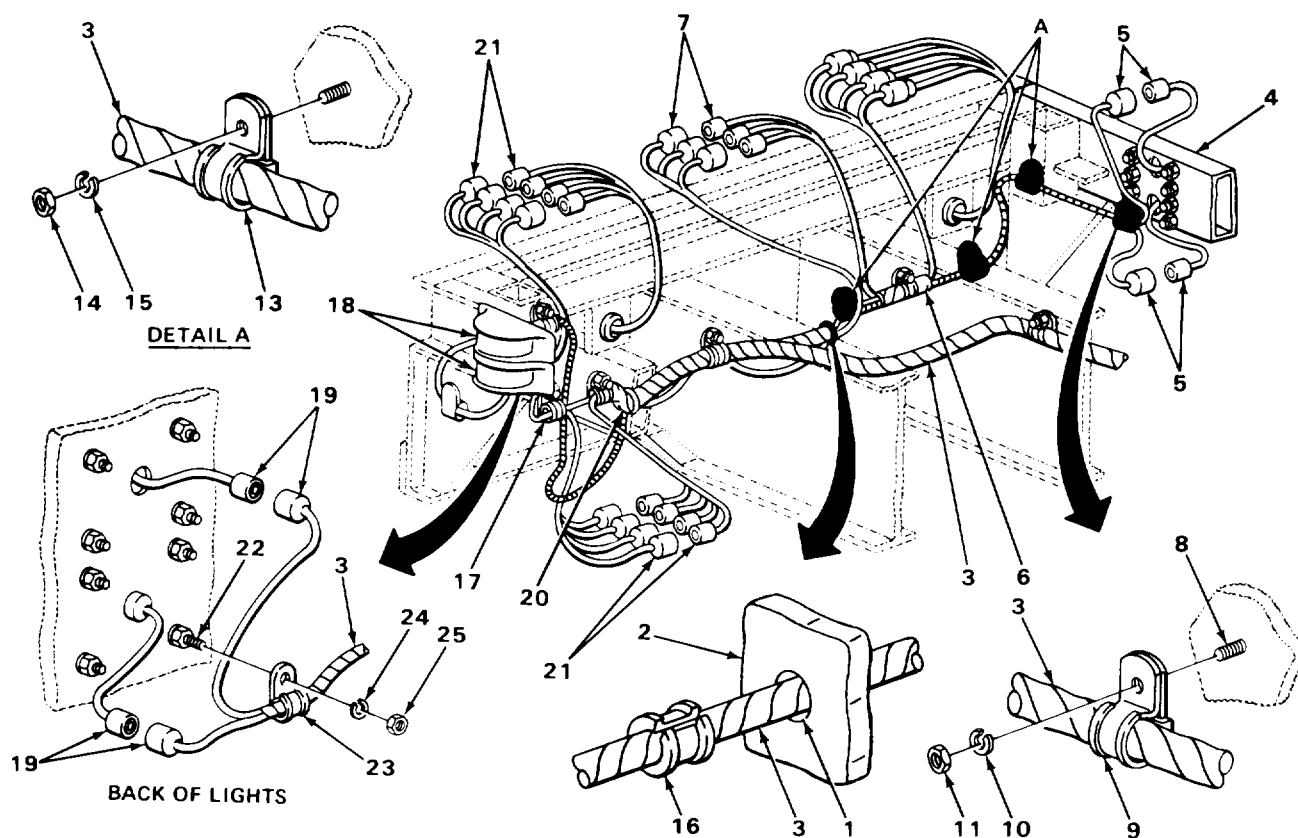
TA224242

WIRE HARNESS - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
73.	Grommet hole (1) in rear of left main beam (2)	Wire harness (3)	Pull through. Be certain that correct wires are pulled by checking marker tags. If unsure, check wiring diagram (page FO-1).
74.	Left rear clearance lights (4)	Four connector halves (5)	Match wire numbers and connect together.
75.	Wire harness (3) and composite light adapter harness (6)	Six connector halves (7)	Match wire numbers and connect together.
76.	Wire harness (3) and left clearance light bolt (8)	Clamp (9)	Put on.
77.	Clearance light bolt (8) and harness clamp (9)	Lockwasher (10) and nut (11)	Put on and tighten using 3/8-inch socket and handle.
78.	Wire harness (3) and three studs (12)	Three clamps (13)	Put on.
79.	Three studs (12) and three harness clamps (13)	Three nuts (14) and lockwashers (15)	Put on and tighten using 7/16-inch socket and handle.
80.	Grommet hole (1) and wire harness (3)	Grommet (16)	Put on and push into place.
81.	Right rear main beam hole (17)	Wire harness (3)	Pull through.
82.	Right rear clearance lights (18)	Four connector halves (19)	Match wire numbers and connect together.

WIRE HARNESS - CONTINUED

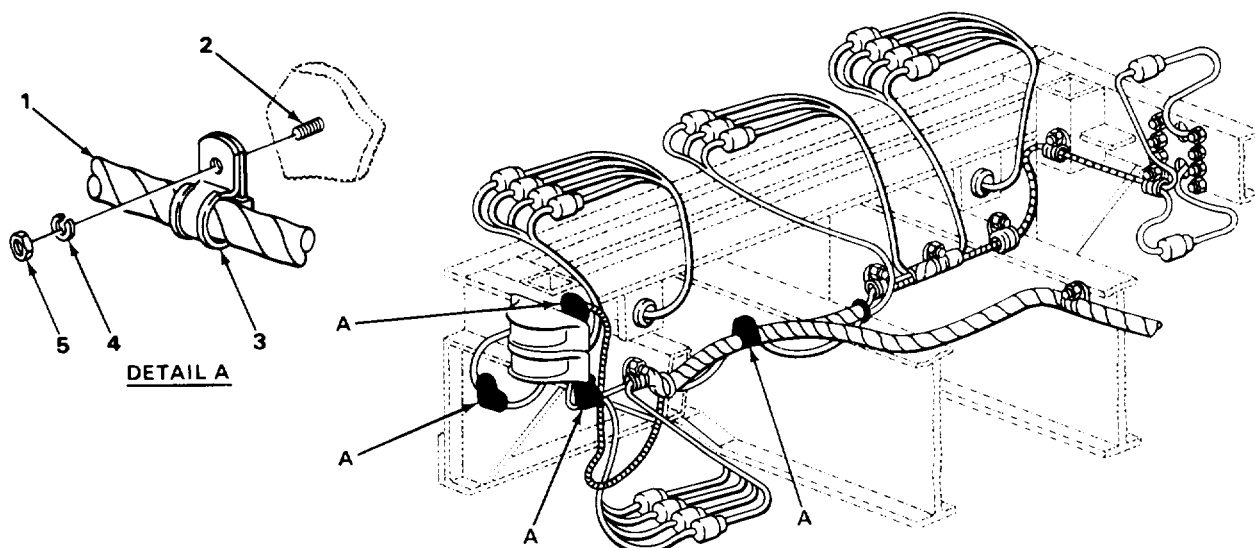
LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
83. Wire harness (3) and composite light adapter harness (20)	16 connector halves (21)	Match wire numbers and connect together.
84. Wire harness (3) and right clearance light bolt (22)	Clamp (23)	Put on.
85. Clearance light bolt (22) and harness clamp (23)	Lockwasher (24) and nut (25)	Put on and tighten using 3/8-inch socket and handle.



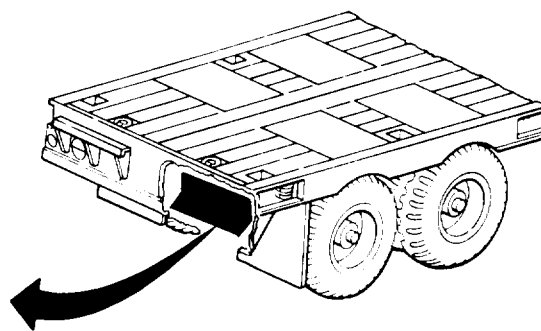
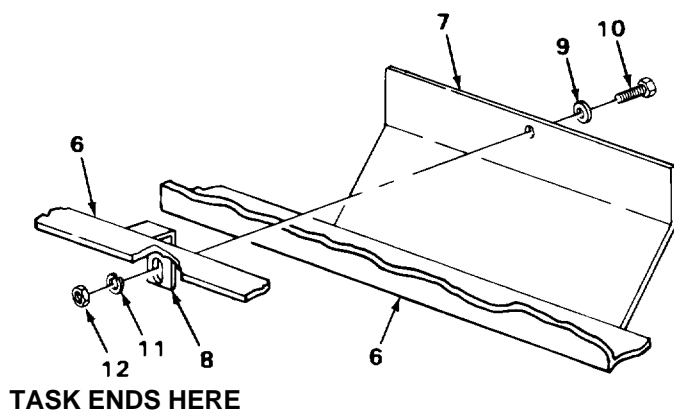
TA224243

WIRE HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
86. Wire harness (1) and four studs (2)	Four clamps (3)	Put on.
87. Four studs (2) and four harness clamps (3)	Four lockwashers (4) and nuts (5)	Put on and tighten using 7/16-inch socket and handle.



88. Frame (6) Left shield door (7) Close.
89. Left shield door (7) and door bracket (8) Washer (9), screw (10), lockwasher (11) and nut (12) Put in and tighten using 9/16-inch wrench, 9/16-inch socket and handle.
Repeat steps 88 and 89 for right side.



TA224244

COMPOSITE LIGHT ADAPTER HARNESS

This task covers:

- a. Removal (page 4-55)
- b. Installation (page 4-56)

INITIAL SETUP

Tools	Materials/Parts
Handle, socket, 3/8-inch drive	Tags, marker (item 17, appendix E)
Socket, 7/16-inch, 3/8-inch drive	
Socket, 9/16-inch, 3/8-inch drive	Personnel Required
Wrench, 9/16-inch, open end	One

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

The new composite light adapter harness is manufactured to required lengths from bulk items. For information on manufacturing a new adapter harness, go to appendix G.

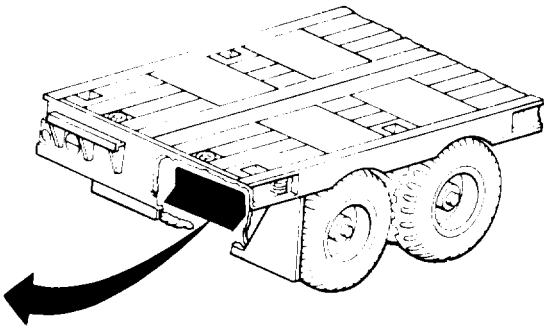
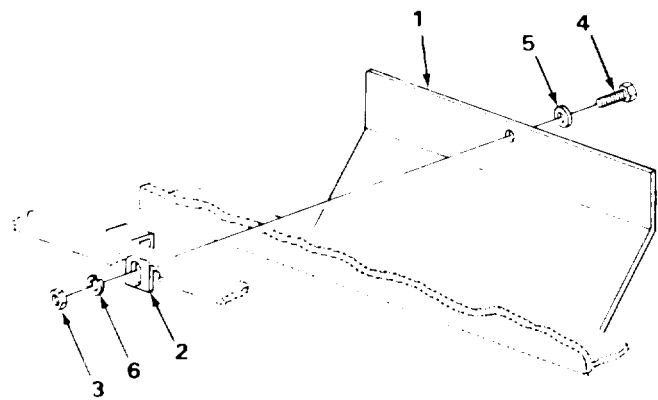
1. Right splash shield (1) and bracket (2)

Nut (3), Screw (4), washer (5), and lockwasher (6)

a. Using 9/16-inch wrench, 9/16-inch socket and handle, unscrew and take out.

b. Swing splash shield down.

Repeat for left splash shield.



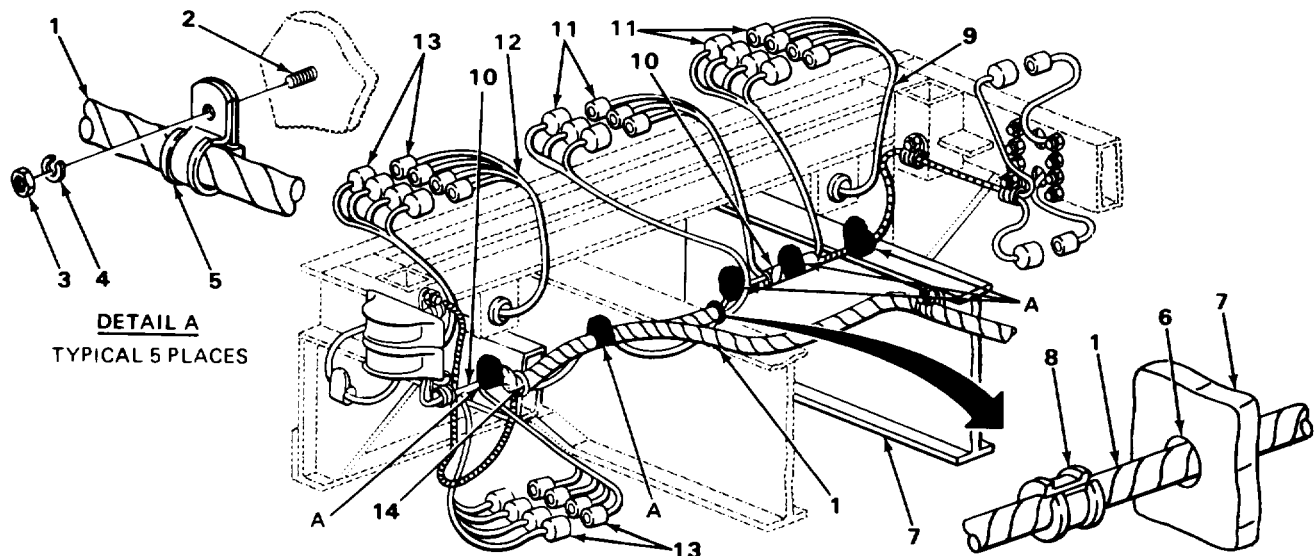
TA224245

COMPOSITE LIGHT ADAPTER HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Some harness clamps hold both the composite light adapter harness and the main wire harness. Record locations for installation.			
2.	Wire harness (1) and five studs (2)	Five nuts (3) and lockwashers (4)	Using 7/16-inch socket and handle, unscrew and take off.
3.	Wire harness (1)	Five harness clamps (5)	Spread and take off.
4.	Grommet hole (6) in left main frame (7)	Grommet (8)	Pull out and take off harness (1).
5.	Left composite light leads (9), main wire harness (1), and adapter harness (10)	14 connector halves (11)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart halves.
6.	Right composite light leads (12), main wire harness (1) and adapter harness (10)	16 connector halves (13)	a. Check wire markers for readability. If not readable, tag for assembly. b. Pull apart halves.
7.	Two grommet holes (6) and (14)	Adapter harness (10)	Feed through holes to center of semi-trailer between main frames, and take out. It may be necessary to pull main wire harness connector halves through left main frame to remove adapter harness.
INSTALLATION			
8.	Two grommet holes (6) and (14)	Adapter harness (10)	a. From center of semitrailer feed to left and right side. Adapter harness end with eight connector halves goes to right side. b. Feed main wire harness connector halves through left main frame.

COMPOSITE LIGHT ADAPTER HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
9. Right composite light leads (12), main wire harness (1), and adapter harness (10)	16 connector halves (13)	Match wire markers and push together.
10. Left composite light leads (9), main wire harness (1), and adapter harness (10)	14 connector halves (11)	Match wire markers and push together.
11. Grommet hole (6) in left main beam (7)	Grommet (8)	Put on harness and push into place.
12. Main wire harness (1), adapter harness (10), and five studs (2)	Five harness clamps (5)	Noting installation marks, put on.
13. Five studs (2)	Five nuts (3) and lockwashers (4)	Put on and tighten using 7/16-inch socket and handle.



TA224246

COMPOSITE LIGHT ADAPTER HARNESS - CONTINUED

LOCATION	ITEM	ACTION	
		REMARKS	

INSTALLATION – CONTINUED

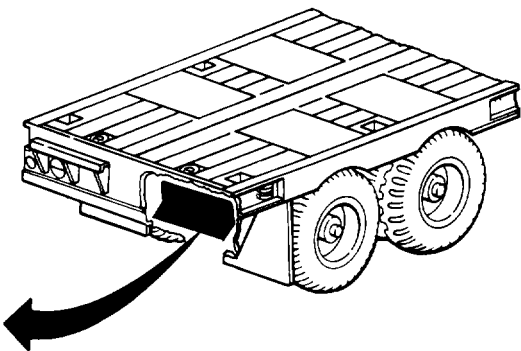
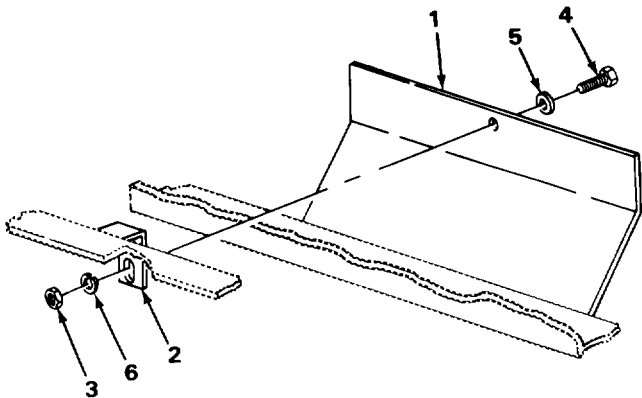
14.

Right splash shield (1) and bracket (2)

Nut (3), bolt (4), washer (5), and lockwasher (6)
- a.

Swing splash shield up to bracket.
- b.

Put in and tighten using 9/16-inch wrench, 9/16-inch socket and handle.
- Repeat for left splash shield.



TASK ENDS HERE

WIRE CONNECTOR

This task covers:

- a. Male connector repair (page 4-59)
- b. Female connector repair (page 4-61)
- c. Circuit marker band replacement (page 4-62)

INITIAL SETUP

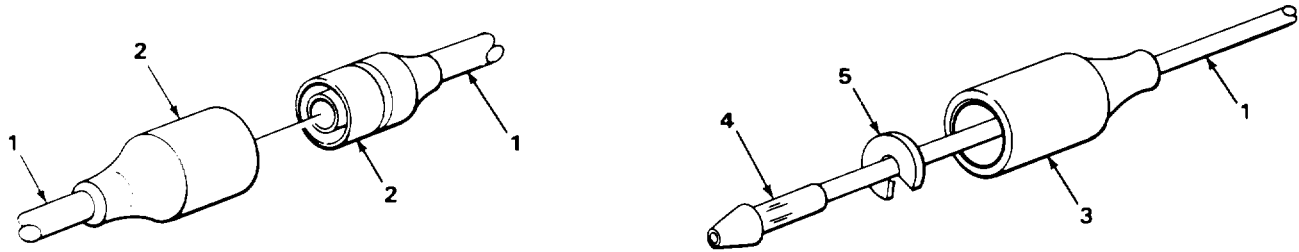
Tools

Etcher, electric arc, 110V
Tool, crimping
Pliers, cutting
Screwdriver, flat-tip
Wire stripper, hand

Materials/Parts

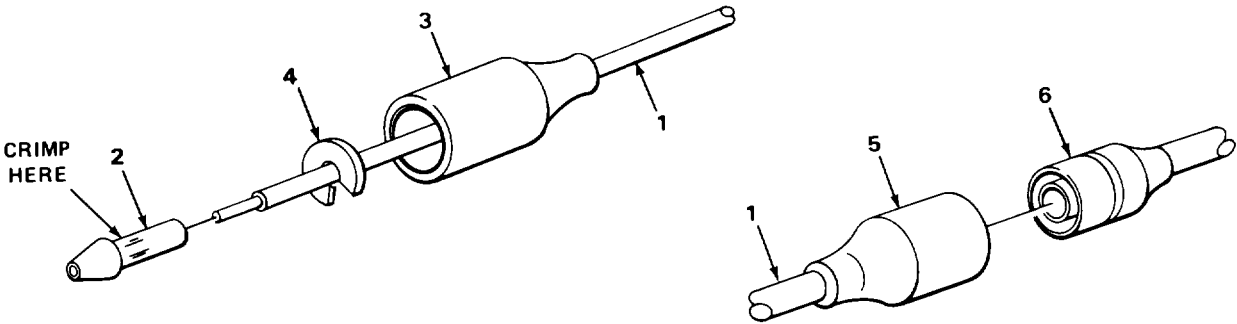
Band, marker (as required)
Compound, insulating (item 5, appendix E)
Contacts (as required)
Terminals (as required)

LOCATION		ITEM	ACTION	REMARKS
MALE CONNECTOR REPAIR				
1.	Wire lead (1)	Connector (2)	Separate	halves.
2.	Connector to be repaired	Shell (3)	Slide up wire lead (1) until clear of contact (4) and retaining washer (5).	
3.		Retaining washer (5)	Take off.	
4.	Wire lead (1)	Shell (3)	Slide off over contact (4). Discard shell (3).	



WIRE CONNECTOR - CONTINUED

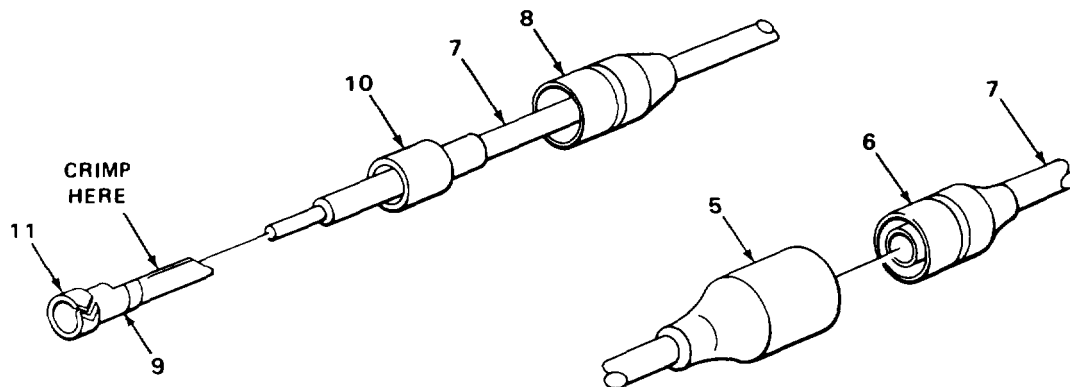
LOCATION		ITEM	ACTION	REMARKS
MALE CONNECTOR REPAIR – CONTINUED				
NOTE				
If replacing only shell (3), skip steps 5, 6a, and 6c.				
5.	Wire lead (1)	Contact (2)	Cut off lead (1) using cutting pliers.	Be sure enough wire remains to make connection after repair. Discard contact (2).
6.		Wire lead (1), new contact (2), and new shell (3)	a. Using wire stripper, strip insulation at end equal to depth of new contact (2). b. Slide on new shell, and apply insulating compound to wire lead (1). c. Slide end into new contact (2) and crimp using crimping tool.	
7.		Retaining washer (4)	Place on lead (1) at contact (2).	
8.		Shell (3)	Slide down wire lead (1) until washer (3) seats.	
9.		Connector halves (5 and 6)	Apply compound to outside of female connector half (6) and push together until seated.	
10.		Semitrailer lights	Apply power, turn on, and check operation (page 2-17).	



TA224249

WIRE CONNECTOR - CONTINUED

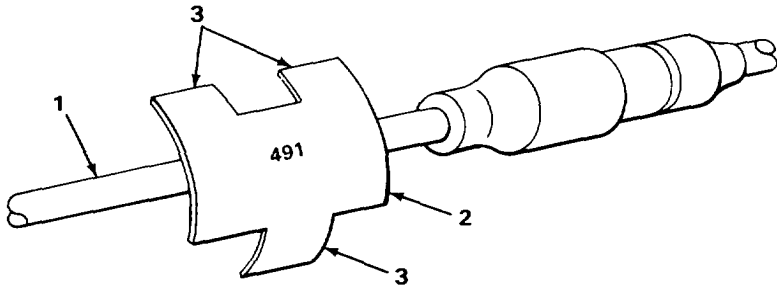
	LOCATION	ITEM	ACTION REMARKS
FEMALE CONNECTOR REPAIR			
11.	Wire lead (7)	Connector halves (5 and 6)	Separate halves.
12.	Connector half (6)	Shell (8)	Slide up wire lead (7) until clear of terminal (9) .
13.		Wire lead (7)	Using cutting pliers, cut off terminal (9). Be sure to leave enough lead for connection after repair.
14.	Wire lead (7)	Shell (8) and sleeve (10)	Slide off wire lead (7). Discard shell (8) and sleeve (10).
15.		Wire lead (7), shell (8) and sleeve (10)	a. Using wire stripper, strip insulation 1/8-inch (3.18 mm) from end. b. Slide on new shell (8) and sleeve (10), and apply insulating compound to wire end lead (7).
16.		New terminal (9)	Slide onto wire lead (7) and crimp end using crimping tool.
17.		Shell (8) and sleeve (10)	Slide down over terminal (9) until seated. Be careful not to dislodge spring (11).
18.		Connector halves (5 and 6)	Apply insulating compound to outside of female connector half (6) and push together until seated.
19.		Semitrailer lights	Apply power, turn on, and check operation (page 2-17).



TA224250

WIRE CONNECTOR - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
CIRCUIT MARKER BAND REPLACEMENT				
20.	Wire lead (1)	Marker band (2)	Using flat-tip screwdriver, open tab ends (3) and take off. Note number on band (2) and discard band (2).	
21.		New marker band (2)	a. Using electric etcher, etch proper number. See schematic on page FO-1. b. Place on wire lead (1) and bend tab ends (3) over wire using crimping tool.	



TASK ENDS HERE

Section VIII. BRAKE SYSTEM MAINTENANCE

	Page		Page
Air Chamber	4-84	Brakes - Hydraulic, Filling/	
Air Filter	4-108	Bleeding	4-70
Air Lines and Fittings (Emergency		Brakeshoes	4-66
Relay Valve to Air Chambers and		Couplings and Gladhands	4-101
Reservoir)	4-92	Draincock	4-104
Air Lines and Fittings (Gladhand		Hydraulic Tubes and Fittings	4-79
to Emergency Relay Valve)	4-87	Master Cylinder,	4-72
Air Line Repair	4-99	Relay Valve	4-110
Air Reservoir	4-105	Service Brakes.,	4-63
Backing Plate	4-77	Wheel Cylinder	4-75

SERVICE BRAKES

This task covers:

Adjustment (page 4-64)

INITIAL SETUP**Tools**

Gage, feeler, 0.005-inch
 Gage, feeler, 0.010-inch
 Handle, socket, 1/2-inch drive
 Socket, 11/16-inch, 1/2-inch drive
 Wrench, 1/2-inch, open-end
 Wrench, 1 1/8-inch, open-end
 Wrench, 1 1/16-inch, open-end

Personnel Required

One

Equipment Condition

Wheels and tires, for brakes to
 be worked on, removed (page 3-11).

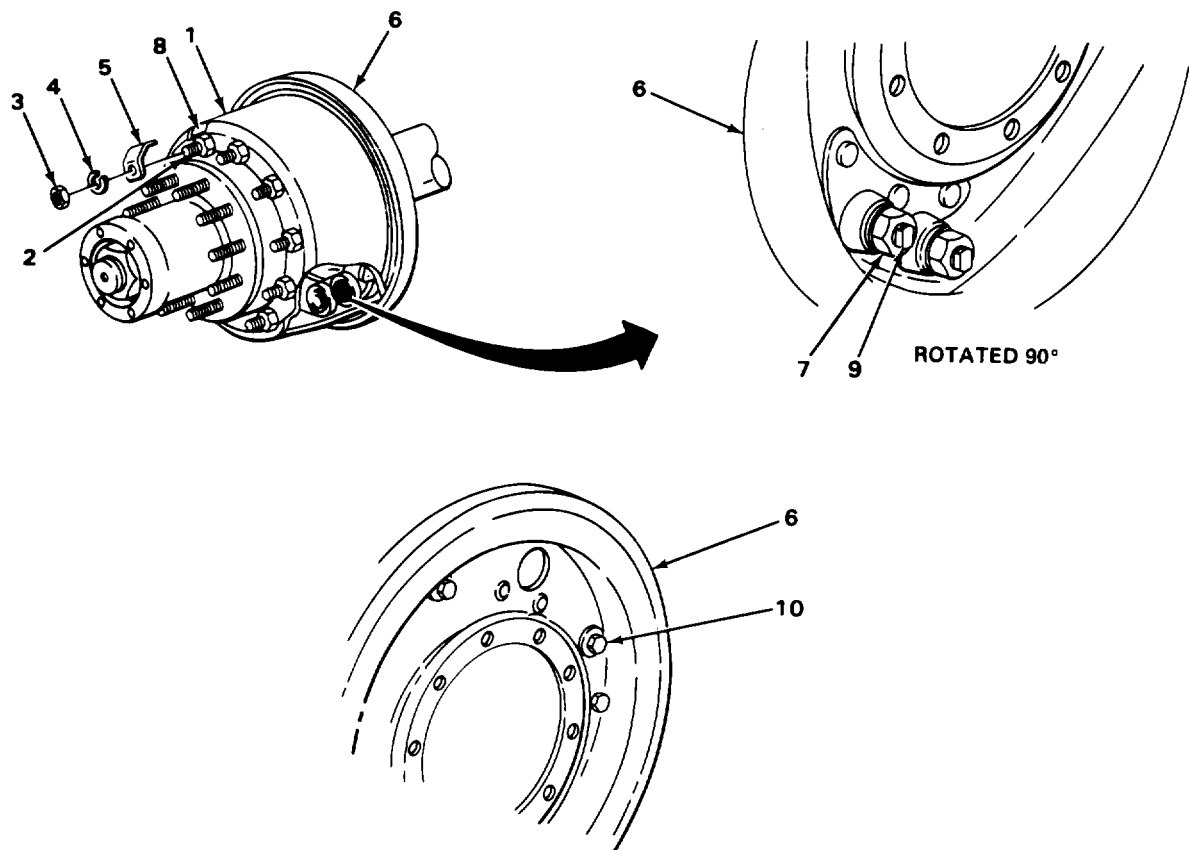
SERVICE BRAKES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ADJUSTMENT		
<p style="text-align: center;">NOTE</p> <p>There are eight brakeshoes on this vehicle. This task is for the adjustment of one. All brakeshoes are adjusted the same way. Repeat this task as necessary for other brakeshoes.</p>		
1.	Brakedrum (1) and bolt (2)	Nut (3), lockwasher (4), and inspection hole cover (5)
Using 11/16-inch socket and handle, unscrew and take off.		
2.	Backing plate (6)	Locknut (7)
Using 1 1/16-inch wrench, loosen.		
3.	Brakedrum (1)	Inspection hole (8)
<p>a. Rotate brakedrum (1) until inspection hole (8) is approximately 1 1/2-inches from end of one brake lining nearest anchor pin (9).</p> <p>b. Insert 0.005-inch feeler gage between surface of drum and brake lining.</p>		
4.	Backing plate (6)	Anchor pin (9) and locknut (7)
<p>a. Using 1/2-inch wrench, turn anchor pin until 0.005-inch clearance is obtained.</p> <p>b. Using 1/2-inch wrench, hold anchor pin and using 1 1/8-inch wrench, tighten locknut.</p>		
5.	Brakedrum (1)	Inspection hole (8)
<p>a. Rotate brakedrum until inspection hole is 1 1/2 inches from other end of same brakeshoe.</p> <p>b. Insert 0.010-inch feeler gage between surface of drum and brake lining.</p>		
6.	Backing plate (6)	Cam nut (10)
<p>Using 11/16-inch wrench, turn until 0.010-inch clearance is obtained.</p> <p>Repeat steps 2 thru 6 for other brakeshoe.</p>		
7.	Brakedrum (1) and bolt (2)	Nut (3), lockwasher (4), and inspection-hole cover (5)
Put on and tighten using 11/16-inch socket and handle.		

SERVICE BRAKES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ADJUSTMENT - CONTINUED



REAR VIEW OF BACKING PLATE

NOTE

FOLLOW-ON MAINTENANCE:

- 1. Install wheels and tires (page 3-11).
- 2. Test brakes (page 2-18).

TASK ENDS HERE

BRAKESHOES

This task covers:

- a. Removal (page 4-66)
- b. Inspection and cleaning (page 4-67)
- c. Installation (page 4-68)

INITIAL SETUP

Tools	Personnel Required
Hammer, hand	One
Handle, socket, 3/8-inch drive	
Pliers, brake spring	Equipment Condition
Pliers, slip-joint	
Pliers, straight-jaw	Hub and drum removed (page 4-1 13).
Screwdriver, flat-tip	Air reservoir drained (page 3-9).
Socket, 7/16-inch, deep well	
Materials/Parts	
Brush (item 3, appendix E)	
Solvent ,drycleaning PD-680 (item 16, appendix E)	

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

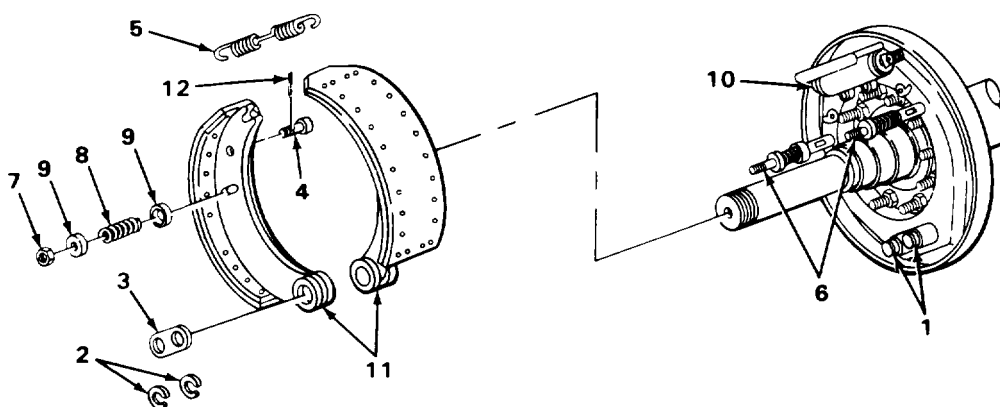
WARNING

Brake linings contain asbestos fibers. Protective mask must be worn while performing this task, Failure to do so could result in serious injury to personnel.

- | | | | |
|----|-----------------------------|---|--|
| 1. | Two anchor pins (1) | Two C-washers (2) and strap (3) | a. Using screwdriver and hammer, take off washers (2).
b. Take off strap (3). |
| 2. | Two retract spring pins (4) | Brake retract spring (5) | Using brake spring pliers, take off. |
| 3. | Two brake guide pins (6) | Two nuts (7), two springs (8), and four cap washers (9) | Using 7/16-inch deep well socket and handle, unscrew and take off. |

BRAKESHOES – CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL– CONTINUED		
4. Brake cylinder (10) and two anchor pins (1)	Two brakeshoes (11)	Pull apart and slide off.
5. Two retract spring pins (4)	Two cotter keys (12)	a. Using straight-jaw pliers, take out. b. Take out pins (4).



INSPECTION AND CLEANING

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

Be sure to wear safety goggles or lenses when using compressed air. Compressed air and particles moved by compressed air can cause damage to your eyes.

When brake linings are worn to within 0.030 inch (0.762 mm) of the rivets, they must be replaced. Failure to do so could result in injury or death to personnel.

CAUTION

Do not get grease, oil, solvent, or fingerprints on lining surfaces. This will cause glazed linings and uneven braking and can result in having to replace otherwise good linings.

BRAKESHOES - CONTINUED

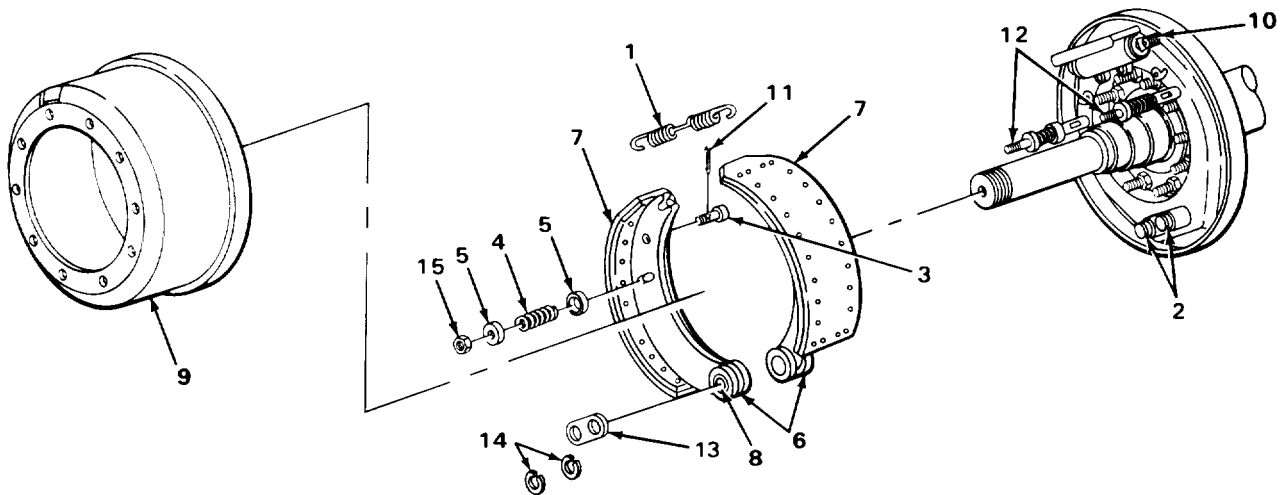
LOCATION		ITEM	ACTION REMARKS
INSPECTION AND CLEANING - CONTINUED			
6.		Retract spring (1), anchor pins (2), retract spring pins (3), guide pin springs (4), and cap washers (5)	a. Clean using drycleaning solvent PD-680 and brush. b. Dry using low-pressure air. c. Inspect for damage or wear. If damaged or worn, replace.
7.	Brakeshoes (6)	Brake linings (7)	Inspect for damage or wear. If damaged or worn, notify Direct Support Maintenance.
8.		Anchor pin bushings (8)	Inspect for damage or excessive wear. If damaged or worn, notify Direct Support Maintenance.
9.		Brakedrum (9)	Inspect for cracks, wear, scoring, warpage, and leaking. Replace as required. If any of these conditions exist, both drums on an axle must be replaced. Notify Direct Support Maintenance.
10.		Brake cylinder (10)	Inspect for cracks and leakage. Replace if required.
INSTALLATION			
11.	Two brakeshoes (6)	Two retract spring pins (3)	Put in.
12.	Two retract spring pins (3)	Two cotter keys (11)	Put in and spread using straight jaw pliers.
13.	Two anchor pins (2) and brake guide pins (12)	Two brakeshoes (6)	Put on and slide into place. Be sure brakeshoes and brake cylinder line-up properly.
14.	Two anchor pins (2)	Strap (13) and two C-washers (14)	Put on using slip-joint pliers and hammer.
15.	Two brake guide pins (12)	Two springs (4), four cap washers (5), and two nuts (15)	Put on and tighten using 7/16-inch deep well socket and handle.

BRAKESHOES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

- | | | | |
|-----|-----------------------------|--------------------------|----------------------------------|
| 16. | Two retract spring pins (3) | Brake retract spring (1) | Put on using brake spring pliers |
|-----|-----------------------------|--------------------------|----------------------------------|



NOTE

FOLLOW-ON MAINTENANCE:

1. Install hub and drum (page 4-113).
2. Install wheels and tires (page 3-11).
3. Adjust brakes (page 4-63).
4. Test brakes (page 2-18).

TASK ENDS HERE

BRAKES - HYDRAULIC, FILLING/BLEEDING

This task covers:

Filling/Bleeding (page 4-70)

INITIAL SETUP

Tools	Personnel Required
Pan, drain	Two
Wrench, 7/16-inch, open-end	Equipment Condition
Wrench, 15/16-inch, open-end	Semitrailer hooked to towing vehicle.
Wrench, 5/8-inch, open-end	
Materials/Parts	
Brake fluid, silicone (item 2, appendix E)	

LOCATION	ITEM	ACTION	REMARKS
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FILLING/BLEEDING**NOTE**

Silicone brake fluid should be checked when brakes are adjusted or when new brakeshoe linings are installed. If the fluid is off color, watery, or lacks a thin lubricating film when rubbed between the fingers, the brake system should be drained and refilled with new fluid.

This procedure is for one wheel. Repeat this procedure for the other wheels.

- | | | | |
|----|--|------------------------|--|
| 1. | Brake master cylinder (1) and filler cap (2) | Vent tube assembly (3) | Using 5/8-inch and 15/16-inch wrenches, unscrew and take out. |
| 2. | Brake master cylinder (1) | Filler cap (2) | Using 15/16-inch wrench, unscrew and take out.
If filling only, go to step 4. |
| 3. | Back of backing plate (4) | Bleeder screw (5) | a. Clean.
b. Place drain pan under bleeder screw (5) to catch brake fluid. |

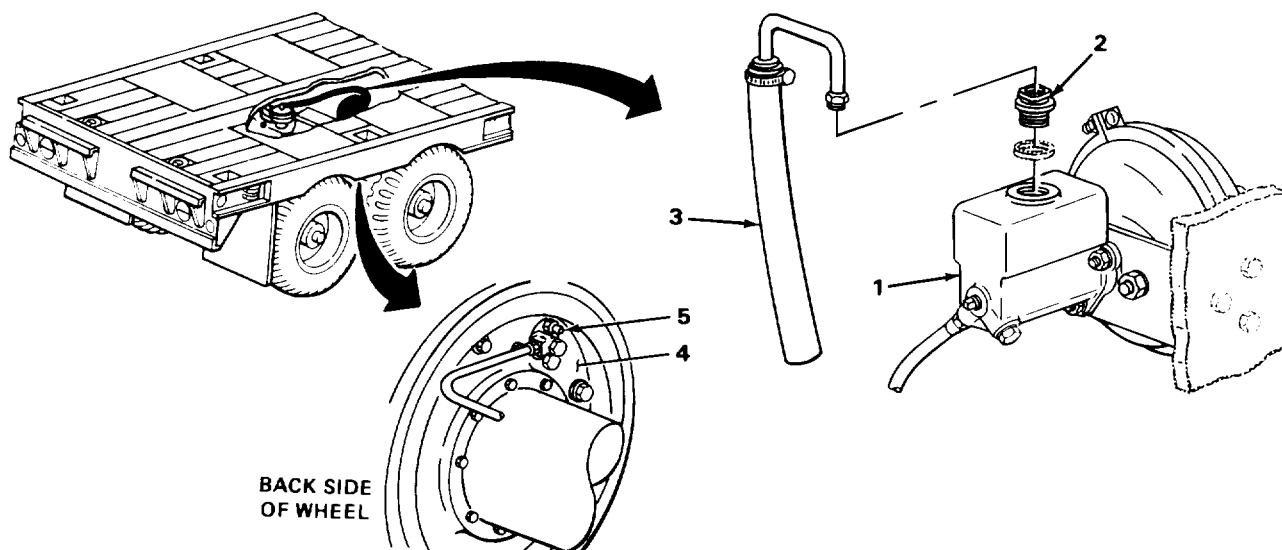
BRAKES - HYDRAULIC, FILLING/BLEEDING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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FILLING/BLEEDING - CONTINUED

3. (Cont.)
 - c. Have assistant pump brake pedal approximately 10 times, then hold pedal down. Using 7/16-inch wrench, open bleeder screw. When fluid stops, close screw. Repeat until bubbles stop. Be sure to keep master cylinder full of fluid.
Repeat step 3 for other brakes.
4. Brake master cylinder (1) Filler cap (2)
 - a. Fill master cylinder to 1/2-inch from top with fluid.
 - b. Put in and tighten using 15/16-inch wrench.
5. Filler cap (2) Vent tube assembly (3)

Put in and tighten using 5/8-inch wrench.



NOTE

FOLLOW-ON MAINTENANCE: Test brakes (page 2-18).

TASK ENDS HERE

TA224255

MASTER CYLINDER

This task covers:

- a. Removal (page 4-72)
- b. Repair (page 4-73)
- c. Installation (page 4-74)

INITIAL SETUP

Tools	Personnel Required
Extension, 5-inch	One
Handle, ratchet, 3/8-inch drive	Equipment Condition
Pan, drain	Air chamber removed (page 4-84).
Screwdriver, flat-tip, 1/4-inch	
Socket, 9/16-inch,3/8-inch drive	
Wrench, 9/16-inch, open-end	
Wrench, 5/8-inch, open-end	
Wrench, 3/4-inch, open-end	
Wrench, 1-inch, open-end	

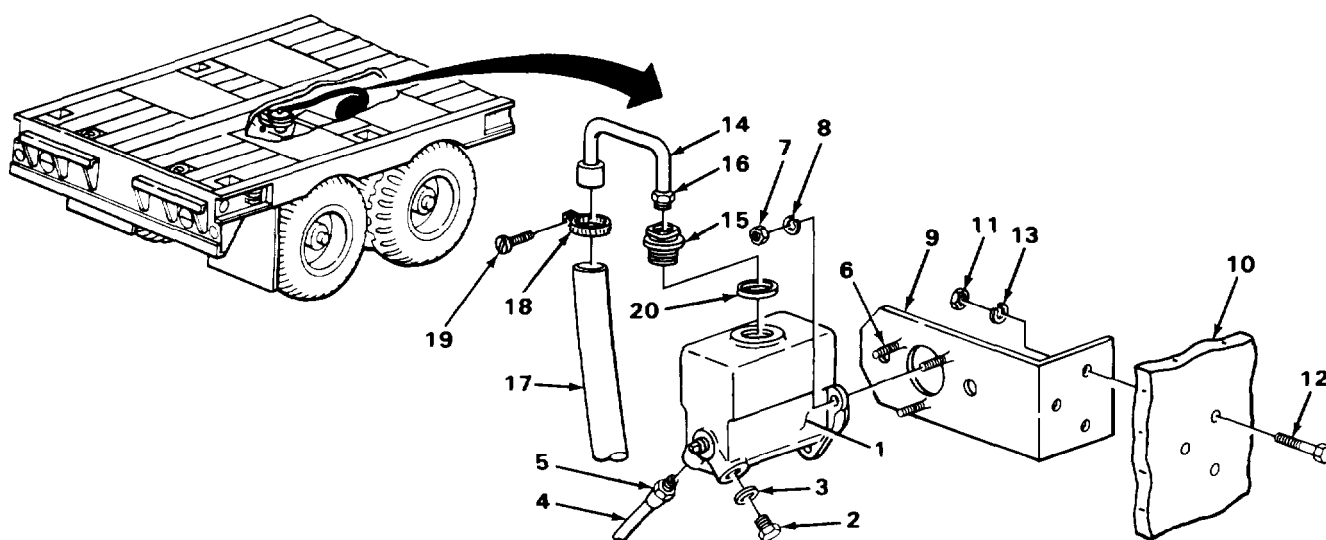
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1.	Master cylinder body (1)	Drainplug (2) and gasket (3)	a. Place container under drainplug (2). b. Using 3/4-inch wrench, unscrew, take out, and let drain.
2.		Hydraulic hose (4) and fitting (5)	Using 5/8-inch wrench, unscrew and take off.
3.	Master cylinder body (1) and bracket studs (6)	Three nuts (7) and lockwashers (8)	Using 9/16-inch socket, extension and handle, unscrew and take off.
4.	Bracket studs (6)	Master cylinder body (1)	Take off.
5.	Bracket (9) and frame (10)	Three nuts (11), bolts (12), and lockwashers (13)	Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take out.

MASTER CYLINDER - CONTINUED

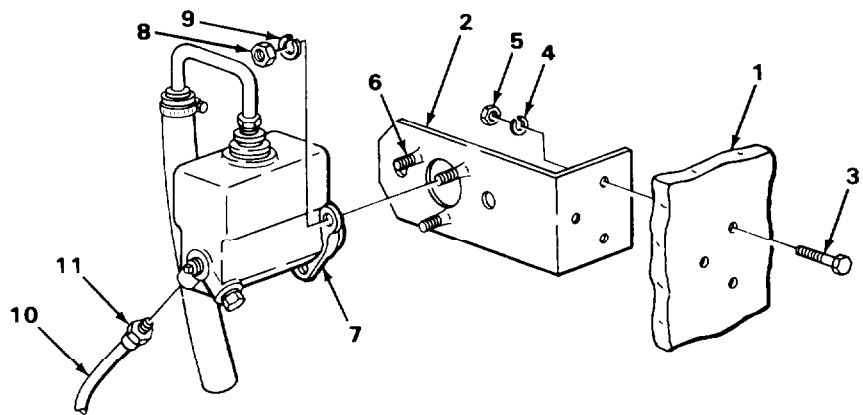
	LOCATION	ITEM	ACTION REMARKS
REPAIR			
6.	Vent tube (14) and filler cap (15)	Fitting (16)	Using 5/8-inch and 1-inch wrenches, unscrew and take off.
7.	Vent hose (17)	Clamp loop (18) and screw (19)	Using screwdriver, unscrew and loosen.
8.	Vent tube (14)	Vent hose (17)	Take off.
9.	Master cylinder body (1)	Filler cap (15) and spacer ring (20)	Using 1-inch wrench, unscrew and take out.
10.		Drainplug (2) and gasket (3)	Put in and tighten using 3/4-inch wrench.
11.	Vent tube (14)	Vent hose (17), clamp loop (18), and screw (19)	a. Put clamp loop (18) and screw (19) on vent hose (17). b. Put vent hose (17) on vent tube (14). c. Position and tighten clamp loop (18) and screw (19) using screwdriver.
12.	Master cylinder body (1)	Filler cap (15) and spacer ring (20)	Put in and tighten using 1-inch wrench.
13.	Filler cap (15) to vent tube (14)	Fitting (16)	Put in and tighten using 5/8-inch wrench.



TA224256

MASTER CYLINDER - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION				
14.	Frame (1)	Bracket (2)	Place in position.	
15.	Bracket (2) to frame (1)	Three bolts (3), lockwashers (4), and nuts (5)	Screw on and tighten using 9/16-inch socket, handle, and 9/16-inch wrench.	
16.	Bracket studs (6)	Master cylinder body (7), three nuts (8), and lockwashers (9)	Put on and tighten using 9/16-inch socket, extension, and handle.	
17.	Master cylinder body (7)	Hydraulic hose (10) and fitting (11)	Put in and tighten using 5/8-inch wrench.	



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Install air chamber (page 4-84).
- 2. Fill and bleed brake system (page 4-70).
- 3. Test brakes (page 2-18).

TASK ENDS HERE

WHEEL CYLINDER

This task covers:

- a. Removal (page 4-75)
- b. Installation (page 4-76)

INITIAL SETUP

Tools

Extension, 5-inch
 Handle, ratchet, 3/8-inch drive
 Socket, 9/16-inch, 3/8-inch drive
 Wrench, 7/16-inch, open-end
 Wrench, 3/4-inch, open-end

Personnel Required

One

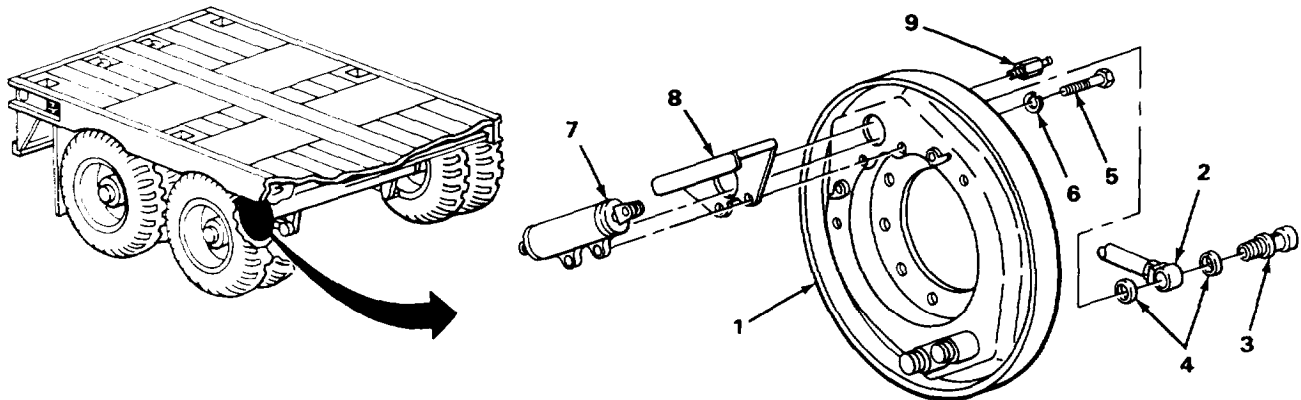
Equipment Condition

Brakeshoes removed (page 4-66).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

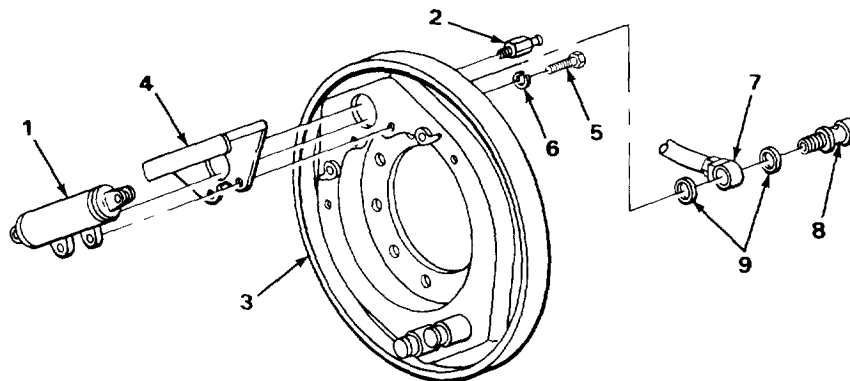
1. Back of backing plate (1) and connecting fitting (2)
 Fluid passage bolt (3) and two flat washers (4)
 Using 3/4-inch wrench, unscrew and take out.
2. Back of backing plate (1)
 Two bolts (5) and lockwashers (6)
 Using 9/16-inch socket, extension, and handle, unscrew and take out.
3. Front of backing plate (1)
 Wheel cylinder (7) and shield (8)
 Take out.
4. Wheel cylinder (7)
 Bleed screw (9)
 Using 7/16-inch wrench, unscrew and take out.



TA224258

WHEEL CYLINDER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
5.	Wheel cylinder (1)	Bleed screw (2)
		Put in and tighten using 7/16-inch wrench.
6.	Front of backing plate (3)	Wheel cylinder (1) and shield (4)
		Place in position.
7.	Back of backing plate (3) and wheel cylinder (1)	Two bolts (5) and lockwashers (6)
		Screw in and tighten using 9/16-inch socket, extension and handle.
8.	Connecting fitting (7), fluid passage bolt (8), and two flat washers (9)	a. Put in position and line up holes. b. Screw in and tighten using 3/4-inch wrench.

**NOTE****FOLLOW-ON MAINTENANCE:**

1. Fill and bleed brake system (page 4-70).
2. Install brakeshoes (page 4-66).
3. Adjust brakes (page 4-63).
4. Test brakes (page 2-18).

TASK ENDS HERE

TA224259

BACKING PLATE

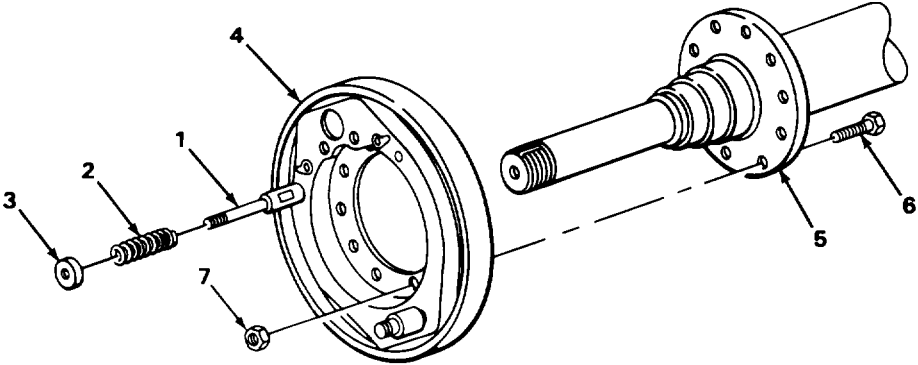
This task covers:

- a. Removal (page 4-77)
b. Disassembly (page 4-78)
- c. Assembly (page 4-78)
d. Installation (page 4-78)

INITIAL SETUP

Tools	Personnel Required
Extension, 5-inch	One
Handle, ratchet, 1/2-inch drive	
Socket, 7/8-inch, 1/2-inch drive	Equipment Condition
Wrench, 3/8-inch, open-end	
Wrench, 1/2-inch, open-end	
Wrench, 9/16-inch, open-end	Wheel cylinder removed (page 4-75).
Wrench, 13/16-inch, box-end	
Wrench, 1 1/16-inch, open-end	

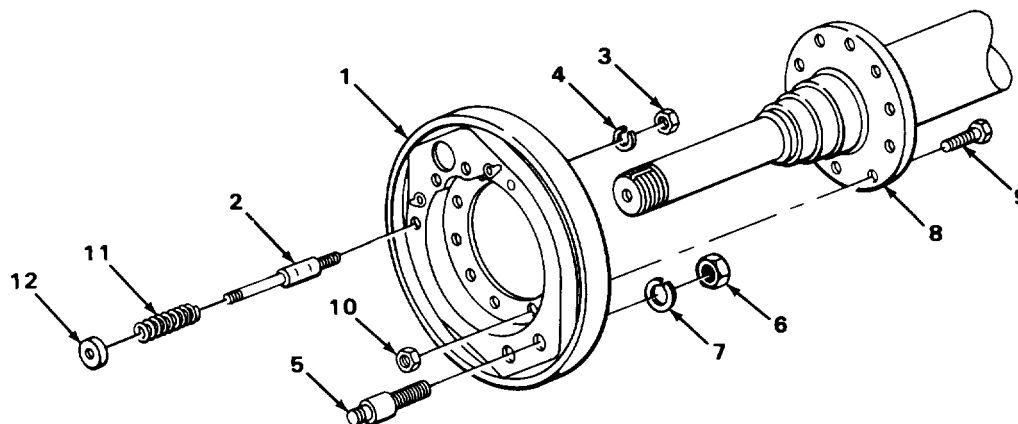
LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Brake guide pin (1)	Spring (2) and cap washer (3)	Take off. Repeat for other guide pin.
2.	Backing plate (4) and axle flange (5)	10 bolts (6) and locknuts (7)	Using a 13/16-inch box-end wrench, 7/8-inch socket, extension, and handle, unscrew and take off. It may be necessary to use an extension on handle to break locknuts loose.
3.	Axle flange (5)	Backing plate (4)	Take off.



TA224260

BACKING PLATE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
4. Backing plate (1)	Brake guide pin (2), nut (3), and lockwasher (4)	Using 3/8-inch wrench and 9/16-inch wrench, unscrew and take off. Repeat for other brake guide pin.
5.	Anchor pin (5), nut (6), and lockwasher (7)	Using 1/2-inch wrench and 1 1/16-inch wrench, unscrew and take off. Repeat for other anchor pin.
ASSEMBLY		
6.	Anchor pin (5), nut (6), and lockwasher (7)	Put on and tighten using 1/2-inch wrench and 1 1/16-inch wrench. Repeat for other anchor pin.
7.	Brake guide pin (2), nut (3), and lockwasher (4)	Put on and tighten using 3/8-inch wrench and 9/16-inch wrench. Repeat for other guide pin.
INSTALLATION		
8. Axle flange (8)	Backing plate (1), 10 bolts (9), and locknuts (10)	a. Put backing plate (1) on axle (8) and line up holes. Be sure anchor pins are on bottom. b. Put in bolts and locknuts and tighten using 13/16-inch box-end wrench, 7/8-inch socket, and handle.
9. Brake guide pin (2)	Spring (11) and cap washer (12)	Put on. Repeat for other guide pin.



TA224261

BACKING PLATE - CONTINUED

INSTALLATION – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install wheel cylinder (page 4-75).
2. Adjust brakes (page 4-63).
3. Test brakes (page 2-18).

TASK ENDS HERE

HYDRAULIC TUBES AND FITTINGS

This task covers:

- a. Removal (page 4-79)
- b. Installation (page 4-81)

INITIAL SETUP

Tools

Container, 1-quart
Wrench, 7/16-inch, open-end
Wrench, 1/2-inch, open-end
Wrench, 9/16-inch, open-end
Wrench, 5/8-inch, open-end

Materials/Parts

Rags, wiping (item 14, appendix E)

Materials/Parts – Continued

Tape, teflon (item 18, appendix E)

Personnel Required

One

Equipment Condition

Hydraulic fluid drained (page 4-72).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

NOTE

Each axle has the same hydraulic tube and fitting arrangement. This procedure is for one. Repeat this procedure for the other.

When lines and fittings are being removed, some hydraulic fluid will spill out. Use a container to catch fluid as the lines and fittings are removed, and shop rags to wipe up spillage.

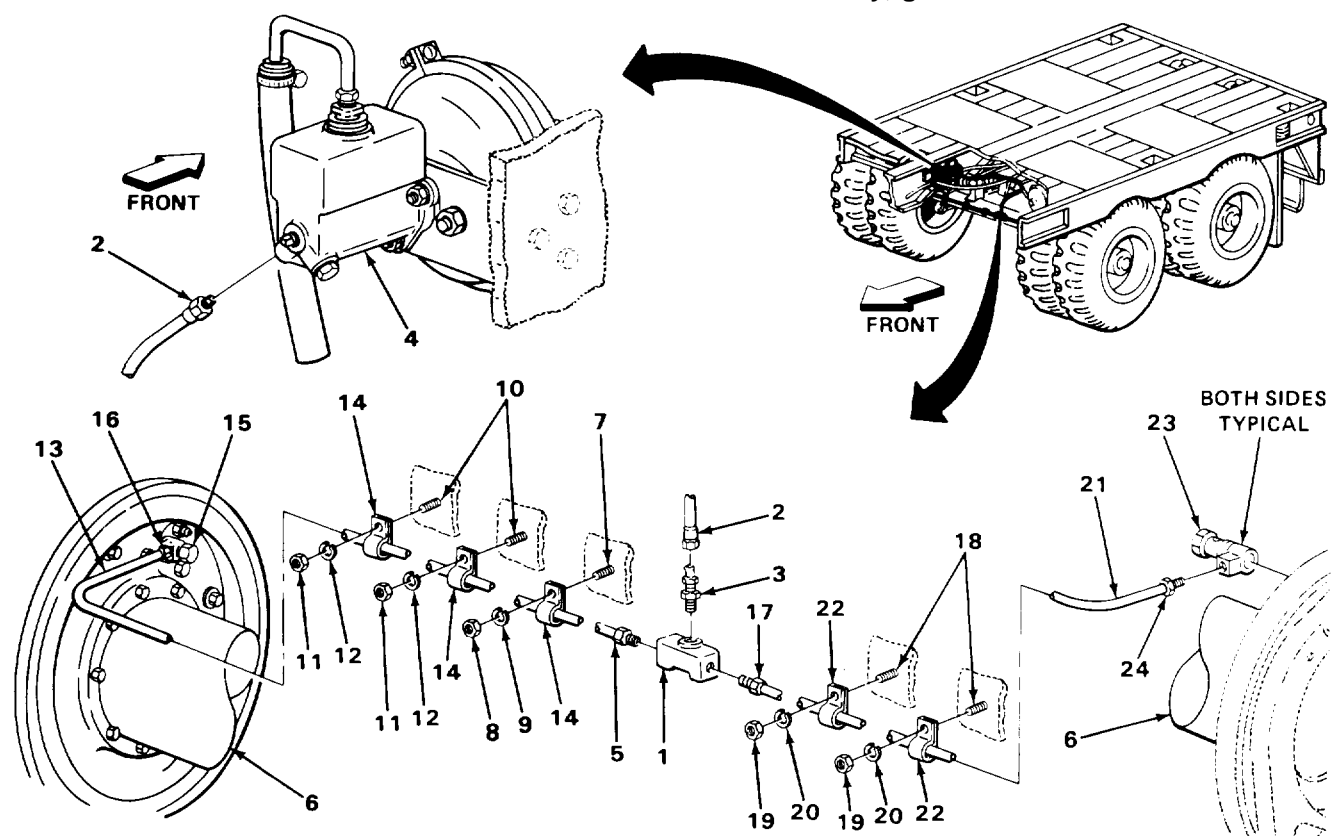
If replacing the right hydraulic tube only, go to step 3.
If replacing left hydraulic tube only, go to step 8.

HYDRAULIC TUBES AND FITTINGS - CONTINUED

LOCATION		ITEM	ACTION REMARKS
REMOVAL – CONTINUED			
1.	T-fitting (1) and hose (2)	Swivel connector (3)	Using 5/8-inch wrench and 1/2-inch wrench, unscrew and take out. If replacing T- fitting only, go to step 3.
2.	Master cylinder (4)	Hose (2)	Using 5/8-inch wrench, unscrew and take out. If replacing hose only, go to step 21.
3.	T-fitting (1)	Right tube fitting (5)	Using 7/16-inch wrench, unscrew and take out. If replacing T-fitting only, go to step 8.
4.	Axle (6) and stud (7)	Nut (8) and lockwasher (9)	Using 9/16-inch wrench, unscrew and take off.
5.	Axle (6) and two studs (10)	Two nuts (11) and lockwashers (12)	Using 7/16-inch wrench, unscrew and take off.
6.	Right tube (13)	Three tube clamps (14)	Spread and take off.
7.	Right connecting fitting (15)	Tube (13) and fitting (16)	Using 7/16-inch wrench, unscrew and take out. Take out tube. If replacing right hydraulic tube only, go to step 16.
8.	T-fitting (1)	Left tube fitting (17)	Using 7/16-inch wrench, unscrew and take out. If replacing T-fitting only, go to step 15.
9.	Axle (6) and two studs (18)	Two nuts (19) and lockwashers (20)	Using 7/16-inch wrench, unscrew and take off.
10.	Left tube (21)	Two tube clamps (22)	Spread and take off.
11.	Left connecting fitting (23)	Tube (21) and fitting (24)	Using 7/16-inch wrench, unscrew and take out. Take out tube.

HYDRAULIC TUBES AND FITTINGS – CONTINUED

	LOCATION	ITEM	ACTION	REMARKS
INSTALLATION				
12.	Left connecting fitting (23)	Tube (21) and fitting (24)	a. Wrap fitting two turns counterclockwise with teflon tape. b. Put in and tighten using 7/16-inch wrench.	
13.	Left tube (21)	Two tube clamps (22)	Put on and squeeze together.	
14.	Axle (6) and two studs (18)	Two nuts (19), lock-washers (20), and tube clamps (22)	Put on and tighten using 7/16-inch wrench.	
15.	T-fitting (1)	Left tube fitting (17)	a. Wrap fitting two turns counterclockwise with teflon tape. b. Put in and tighten using 7/16-inch wrench.	If replacing left hydraulic tube only, go to follow-on maintenance.



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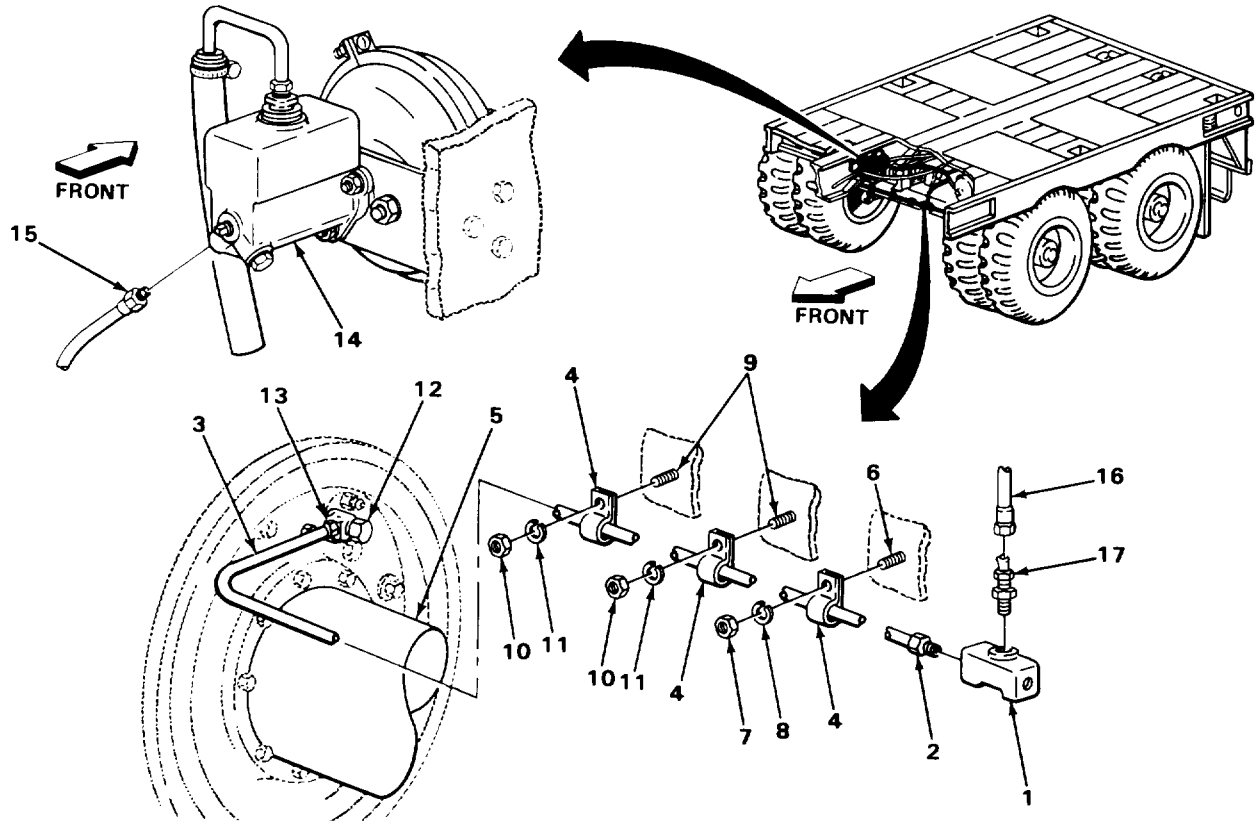
HYDRAULIC TUBES AND FITTINGS - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
16.	T-fitting (1)	Right tube fitting (2)	a. Wrap fitting two turns counterclockwise with teflon tape. b. Put in and tighten using 7/16-inch wrench. If replacing T-fitting only, go to step 22.
17.	Tube (3)	Three tube clamps (4)	Put on and squeeze together.
18.	Axle (5) and stud (6)	Nut (7) and lockwasher (8)	Put on and tighten using 9/16-inch wrench.
19.	Axle (5) and two studs (9)	Two nuts (10) and lockwashers (11)	Put on and tighten using 7/16-inch wrench.
20.	Right connecting fitting (12)	Tube (3) and fitting (13)	a. Wrap fitting two turns counterclockwise with teflon tape. b. Put in and tighten using 7/16-inch wrench. If replacing right hydraulic tube only, go to follow-on maintenance.
21.	Master cylinder (14)	Hose fitting (15)	a. Wrap hose fitting two turns counterclockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench.
22.	T-fitting (1) and hose (16)	Swivel connector (17)	a. Wrap connector two turns counterclockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench and 1/2-inch wrench.

HYDRAULIC TUBES AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Fill and bleed hydraulic brakes (page 4-70).
2. Check for leaks (page 4-4).
3. Test brakes (page 2-18).

TASK ENDS HERE

AIR CHAMBER

This task covers:

- | | |
|------------------------|-----------------------------|
| a. Removal (page 4-84) | c. Installation (page 4-85) |
| b. Repair (page 4-85) | |
-

INITIAL SETUP**Tools**

Extension, 5-inch
 Handle, ratchet, 1/2-inch drive
 Socket, 15/16-inch, 1/2-inch drive
 Socket, 9/16-inch, 1/2-inch drive
 Wrench, 9/16-inch, open-end
 Wrench, 5/8-inch, open-end

Personnel Required

Two

Equipment Condition

Air reservoir drained (page 3-9).

Materials/Parts

Tape, teflon (item 18, appendix E)

LOCATION	ITEM	ACTION REMARKS
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NOTE

There were two different types of air chambers made for these trailers. Your trailer will have one of two types. Both are removed and installed the same way. Only the type which has the bolt together halves will be repaired.

REMOVAL

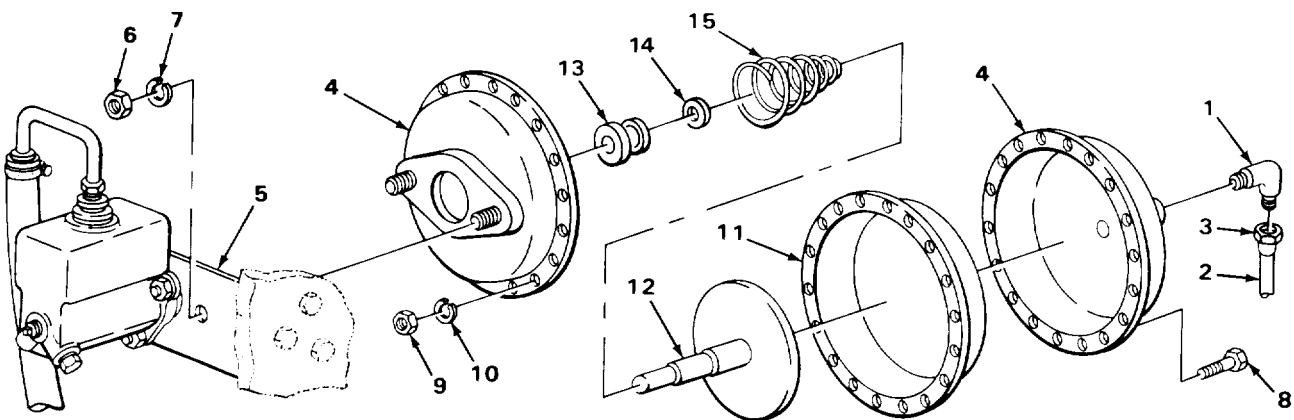
- | | | | |
|----|---------------------------------|----------------------------------|---|
| 1. | Elbow (1) | Air line (2) and fitting (3) | Using 5/8-inch wrench, unscrew and take off. |
| 2. | Air chamber (4) | Elbow (1) | Using 5/8-inch wrench, unscrew and take out. |
| 3. | Air chamber (4) and bracket (5) | Two nuts (6) and lockwashers (7) | a. Using 15/16-inch socket, extension, and handle, unscrew and take off.
b. Take air chamber (4) off bracket (5).
If removing and installing only, go to step 7. |

AIR CHAMBER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
<p style="text-align: center;"><u>WARNING</u></p> <p>Air chamber contains a spring under compression. Have assistant hold air chamber halves together while removing chamber screws carefully. Have assistant gently release pressure. Failure to do so could result in injury.</p>			
4.	Air chamber (4)	18 screws (8), nuts (9), and lockwashers (10)	a. Using 9/16-inch socket and wrench, unscrew and take out. b. Separate air chamber halves.
5.	Air chamber (4)	Diaphragm (11), push rod (12), push rod collar (13), pre-formed packing (14), and spring (15)	a. Take out and replace as required. b. Put in place and have assistant squeeze chamber halves together.
6.	Air chamber (4)	18 screws (8), lockwashers (10), and nuts (9)	Screw in and tighten using 9/16-inch socket, handle, and wrench.

INSTALLATION

- | | | | |
|----|-----------------|----------------------------------|--|
| 7. | Bracket (5) | Air chamber(4) | Put studs in holes and push into place. |
| 8. | Air chamber (4) | Two nuts (6) and lockwashers (7) | Put on and tighten using 15/16-inch socket, extension, and handle. |



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AIR CHAMBER - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION-CONTINUED			
9.	Air chamber (1)	Elbow (2)	a. Wrap two turns counterclockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench.
10.	Elbow (2)	Air line (3) and fitting (4)	a. Wrap elbow (2) two turns counterclockwise with teflon tape. b. Put on and tighten using 5/8-inch wrench.

NOTE

FOLLOW-ON MAINTENANCE:

- 1. Test brakes (page 2-1 8).
- 2. Check for leaks (page 4-4).

TASK ENDS HERE

AIR LINES AND FITTINGS (GLADHAND TO EMERGENCY RELAY VALVE)

This task covers:

- a. Removal (page 4-87)
- b. Installation (page 4-89)

INITIAL SETUP

Tools

Handle, ratchet, 1/2-inch drive
Pliers, cutting
Screwdriver, flat tip, 1/4-inch
Socket, 7/16-inch, 1/2-inch drive
Wrench, 5/8-inch, open-end

Personnel Required

One

Equipment Condition

Air reservoir drained (page 3-9).

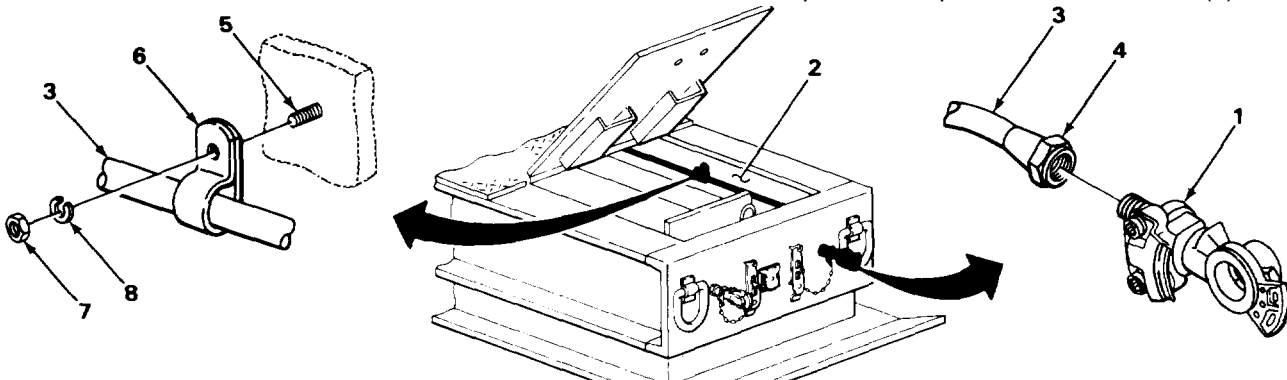
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

This procedure covers removal and installation of the emergency air line. Use this procedure for replacement of the service air line.

1. Back of gladhand (1) in nose box (2)
Airhose (3) and fitting (4)
a. Open nose box door.
b. Using 5/8-inch wrench, unscrew and take off.
2. Airhose (3)
Fitting (4)
Using cutting pliers, cut off.
3. Stud (5)
Hose clamp (6), nut (7), and lockwasher (8)
a. Using 7/16-inch socket and handle, unscrew and take off.
b. Spread clamp and take off hose (3).



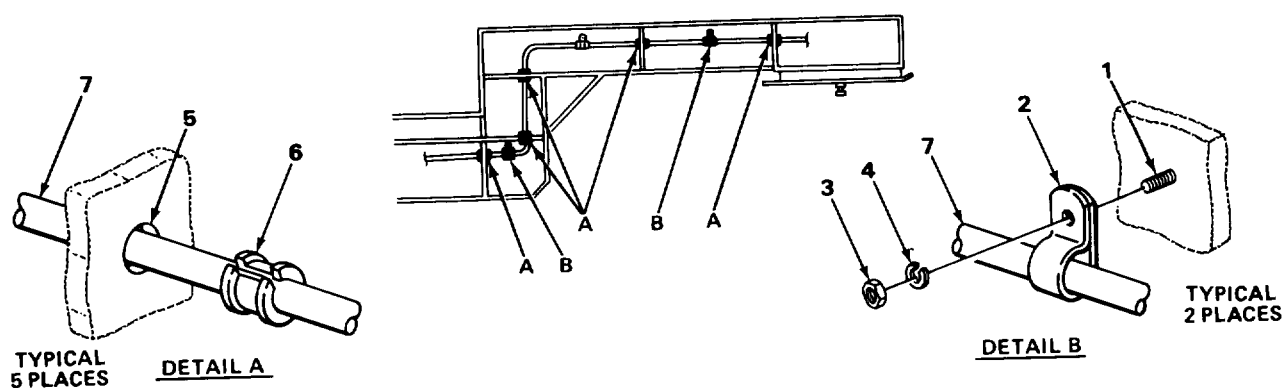
TA224266

AIR LINES AND FIITINGS (GLADHAND TO EMERGENCY RELAY VALVE) - CONTINUED

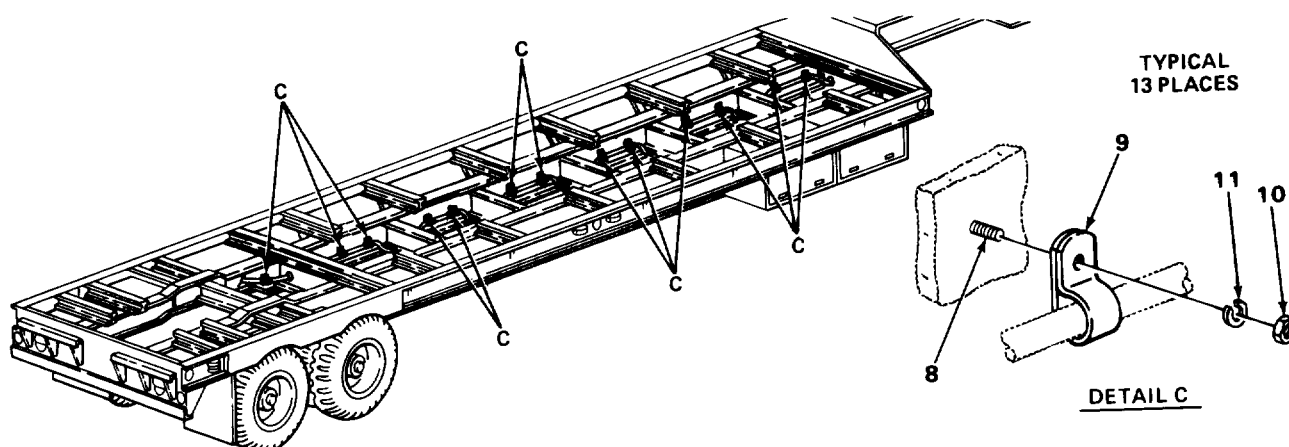
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

- | | | | |
|----|------------------------|--|--|
| 4. | Three studs (1) | Three hose clamps (2), nuts (3), and lockwashers (4) | a. Using 7/16-inch socket and handle, unscrew and take off.
b. Spread clamps and take off hose (7). |
| 5. | Five grommet holes (5) | Five grommets (6) and hose (7) | Using screwdriver, take out. |



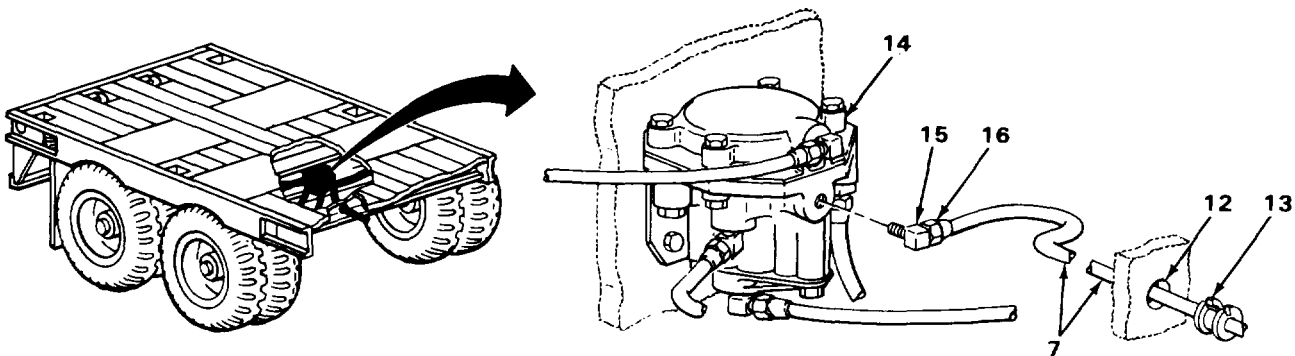
- | | | | |
|----|--------------|---|--|
| 6. | 13 studs (8) | 13 hose clamps (9), nuts (10), and lockwashers (11) | a. Using 7/16-inch socket and handle, unscrew and take off.
b. Spread clamps and take off hose. |
|----|--------------|---|--|



TA224267

AIR LINES AND FITTINGS (GLADHAND TO EMERGENCY RELAY VALVE) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL-CONTINUED			
7.	Grommet hole (12)	Grommet (13)	Using screwdriver, take out.
8.	Emergency relay valve (14) and elbow (15)	Hose (7) and fitting (16)	a. Using 5/8-inch wrench, unscrew and take off. b. Pull hose out.

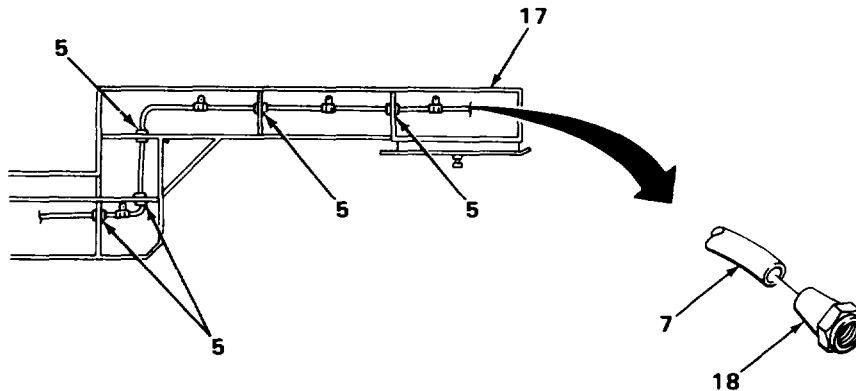


INSTALLATION

NOTE

New airhose is manufactured to required length from bulk items. For information on manufacturing new hose, go to appendix G (page G-1) and page 4-99.

- | | | | |
|----|---|------------------------------|--|
| 9. | Gooseneck (17) and five grommet holes (5) | Airhose (7) and fitting (18) | a. Pull airhose (7) through grommet holes in gooseneck.
b. Put fitting (18) on airhose (7). |
|----|---|------------------------------|--|



TA224268

AIR LINES AND FITTINGS (GLADHAND TO EMERGENCY RELAY VALVE) - CONTINUED

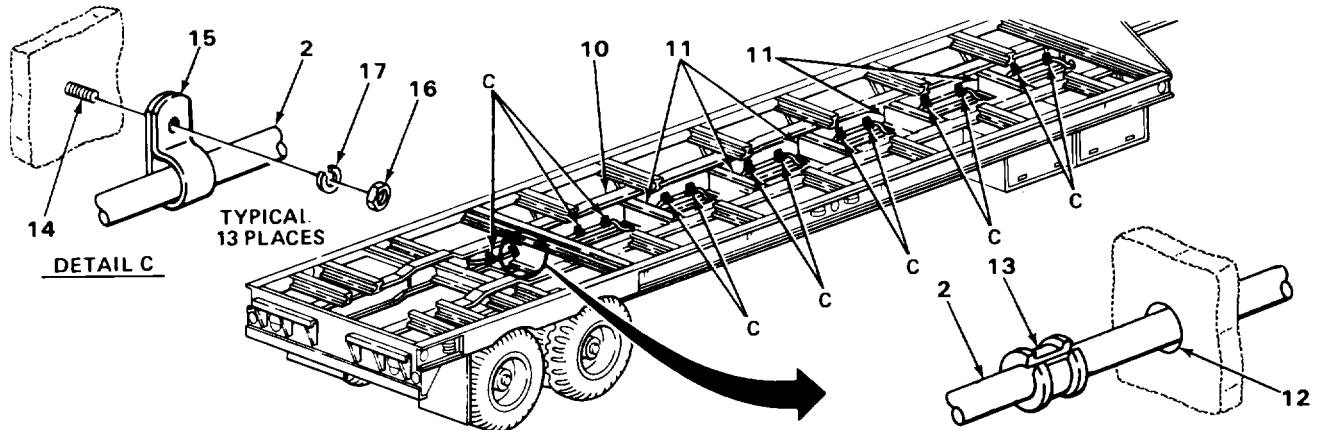
	LOCATION	ITEM	ACTION REMARKS
INSTALLATION – CONTINUED			
10.	Back of gladhand (1)	Airhose (2) and fitting (3)	a. Wrap threads with two turns teflon tape. b. Put on and tighten using 5/8-inch wrench.
11.	Four studs (4) and hose (2)	Four hose clamps (5), nuts (6), and lockwashers (7)	a. Put clamps (5) on hose (2) and squeeze shut. b. Put clamps (5) on studs (4). Put on nuts (6) and lockwashers (7) and tighten using 7/16-inch socket and handle.
12.	Five grommet holes (8) and hose (2)	Five grommets (9)	Put around hose (2) and press into hole (2).
13.	Left main frame (10), five cross-members (11), and grommet hole (12)	Hose (2) and grommet (13)	a. Lay hose (2) in place along main frame (10) under crossmembers (11). b. Feed through grommet hole (12) and put grommet (13) in place.
14.	13 studs (14) and hose (2)	13 hose clamps (15), nuts (16), and lockwashers (17)	a. Put clamps (15) on hose (2) and squeeze shut. b. Put clamps (15) on studs (14). c. Put on nuts (16) and lockwashers (17) and tighten using 7/16-inch socket and handle.

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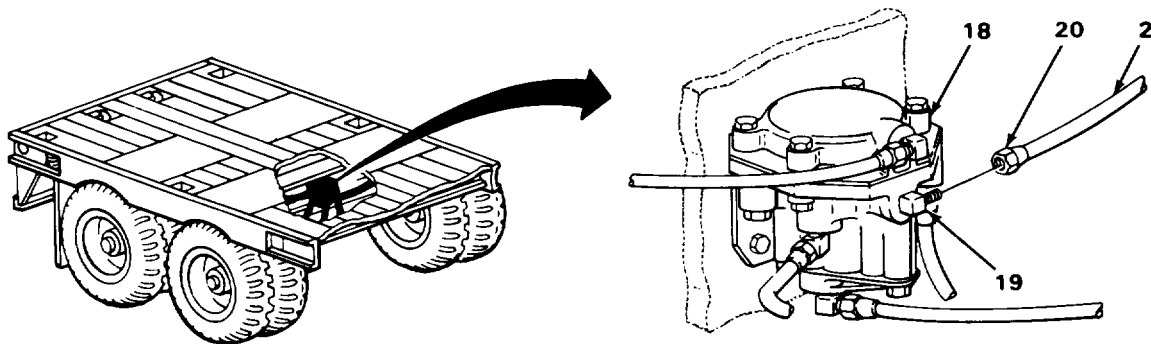
AIR LINES AND FITTINGS (GLADHAND TO EMERGENCY RELAY VALVE) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION – CONTINUED



- | | | | |
|-----|---|---------------------------|--|
| 15. | Emergency relay valve (18) and elbow (19) | Hose (2) and fitting (20) | <p>a. Wrap threads with two turns teflon tape.</p> <p>b. Put on and tighten using 5/8-inch wrench.</p> |
|-----|---|---------------------------|--|



NOTE

FOLLOW-ON MAINTENANCE:

1. Test brakes (page 2-18).
2. Check for leaks (page 4-4).

TASK ENDS HERE

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR)

This task covers:

- a. Removal (page 4-92)
- b. Installation (page 4-95)

INITIAL SETUP

Tools	Personnel Required
Wrench, 9/16-inch, open-end	One
Wrench, 13/16-inch, open-end	
Wrench, 1 1/16-inch, open-end	Equipment Condition
Wrench, 5/8-inch, open-end	Air reservoir drained (page 3-9).
Materials/Parts	
Tape, teflon (item 18, appendix E)	

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL**NOTE**

New airhose is manufactured to required length from bulk items. For information on manufacturing new hose, go to appendix G.

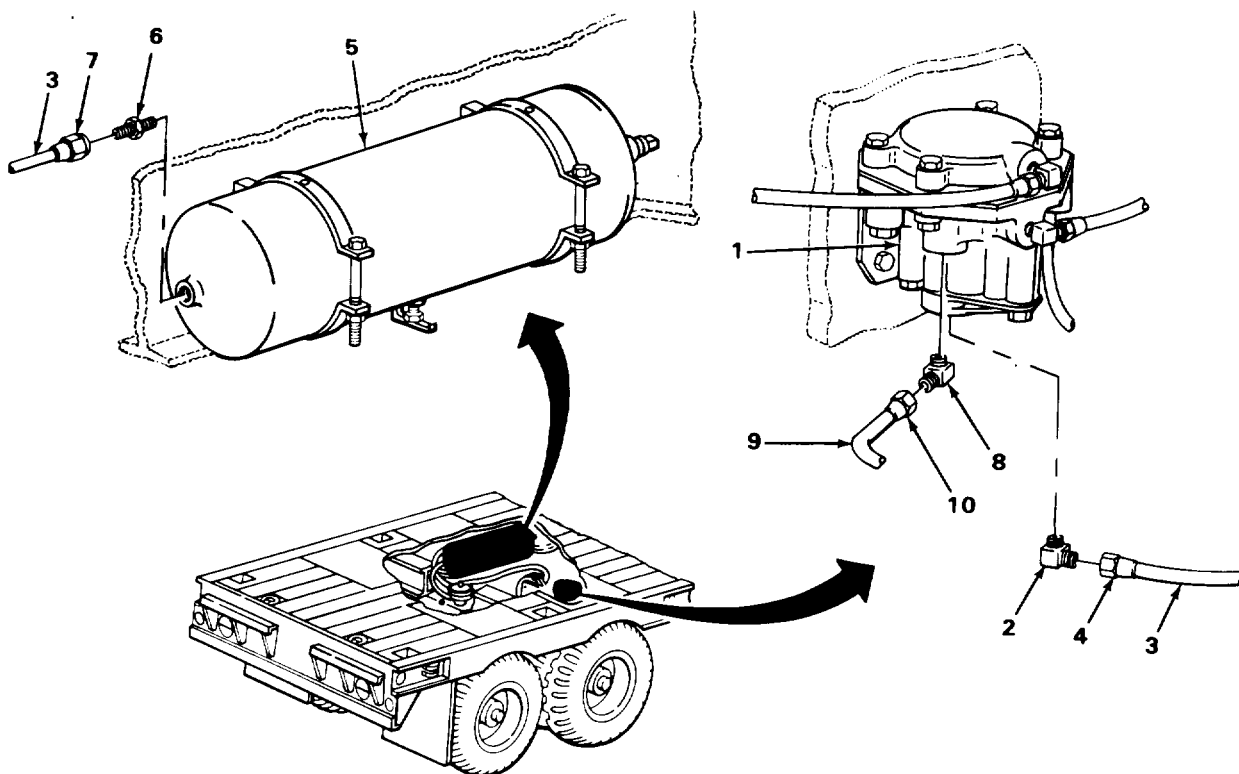
If removing only hose from emergency relay valve to front air chamber, go to step 5.

If removing only hose from emergency relay valve to rear air chamber, go to step 9.

- | | | | |
|----|-------------------------------|--------------------------|---|
| 1. | Relay valve (1) and elbow (2) | Hose (3) and fitting (4) | Using 13/16-inch wrench, unscrew and take off. |
| 2. | Relay valve (1) | Elbow (2) | Using 5/8-inch wrench, unscrew and take out. |
| 3. | Reservoir (5) and nipple (6) | Hose (3) and fitting (7) | Using 13/16-inch wrench and 11/16-inch wrench, unscrew and take out. |
| 4. | Reservoir (5) | Nipple (6) | Using 11/16-inch wrench, unscrew and take out.
If removing hose and fittings from relay valve to reservoir only, go to step 24. |

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
5. Relay valve (1) and elbow (8)	Hose (9) and fitting (10)	Using 5/8-inch wrench, unscrew and take off.
6. Relay valve (1)	Elbow (8)	Using 5/8-inch wrench, unscrew and take out.



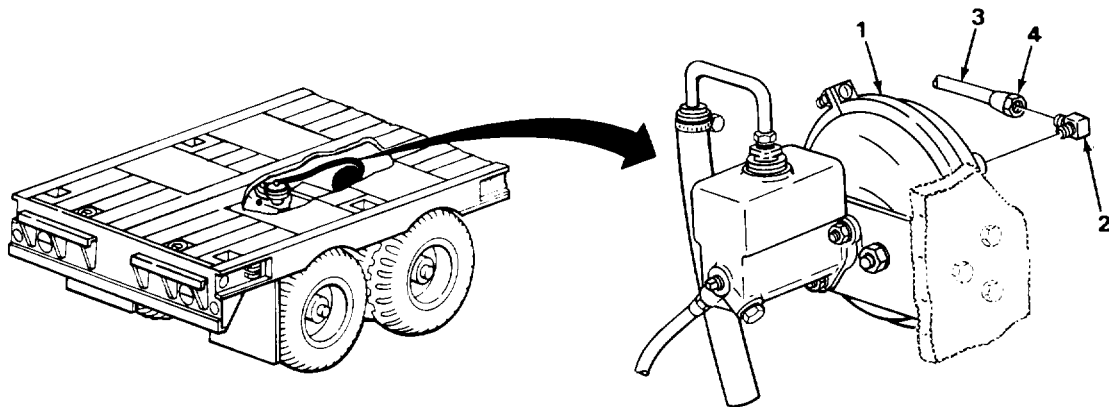
TA224271

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

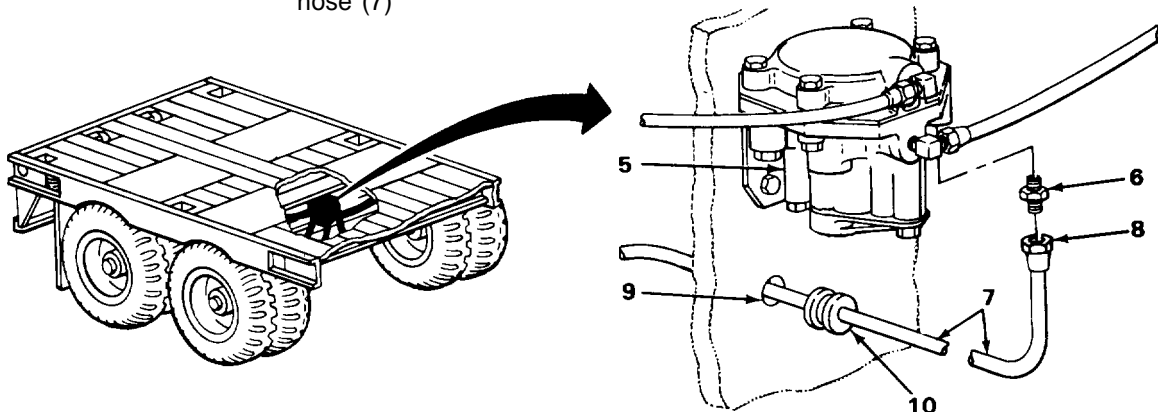
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL – CONTINUED

- | | | | |
|----|----------------------------------|-----------------------------|--|
| 7. | Air chamber (1)
and elbow (2) | Hose (3) and
fitting (4) | Using 5/8-inch wrench, unscrew and take out. |
| 8. | Air chamber (1) | Elbow (2) | Using 5/8-inch wrench, unscrew and take out. |
- If removing hose and fittings from relay valve to front air chamber only, go to step 20.**



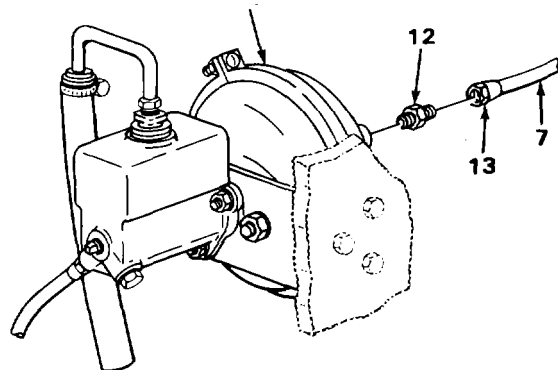
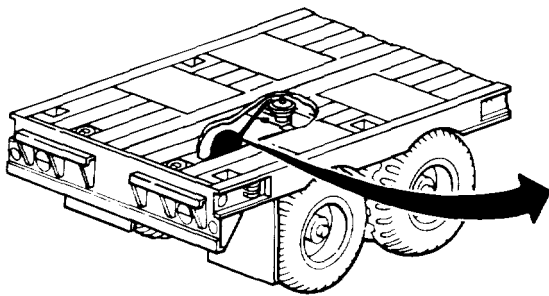
- | | | | |
|-----|-----------------------------------|-----------------------------|---|
| 9. | Relay valve (5)
and nipple (6) | Hose (7) and
fitting (8) | Using 5/8-inch wrench and 9/16-inch wrench, unscrew and take out. |
| 10. | Relay valve (5) | Nipple (6) | Using 9/16-inch wrench, unscrew and take out. |
| 11. | Grommet hole (9) | Gasket (10) and
hose (7) | Take out and pull hose through. |



TA224272

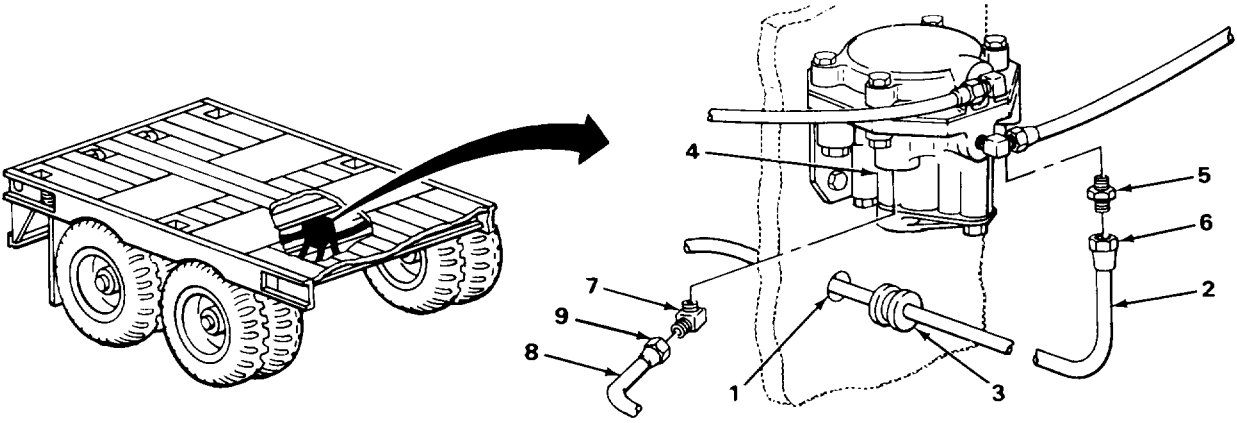
AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED			
12.	Air chamber(n) and nipple (12)	Hose (7) and fitting (13)	Using 5/8-inch wrench and 9/16-inch wrench, unscrew and take out.
13.	Air chamber(n)	Nipple (12)	Using 9/16-inch wrench, unscrew and take out.
INSTALLATION			
14.	Air chamber (11)	Nipple (12)	a. Wrap both threads two turns counter- clockwise with teflon tape. b. Put in and tighten using 9/16-inch wrench.
15.	Air chamber (11) and nipple (12)	Hose (7) and fitting (13)	Put on and tighten using 5/8-inch wrench.



TA224273

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION – CONTINUED				
16.	Grommet hole (1)	Hose (2)	Put through.	
17.		Grommet (3)	Push into hole.	
18.	Relay valve (4)	Nipple (5)	a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 9/16-inch wrench.	
19.	Relay valve (4) and nipple (5)	Hose (2) and fitting (6)	Put on and tighten using 5/8-inch wrench. If installing hose and fittings from rear air chamber to relay valve only, go to follow-on maintenance.	
20.	Relay valve (4)	Elbow (7)	a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench.	
21	Relay valve (4) and elbow (7)	Hose (8) and fitting (9)	Put on and tighten using 5/8-inch wrench.	
				
22.	Air chamber (10)	Elbow(n)	a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench.	

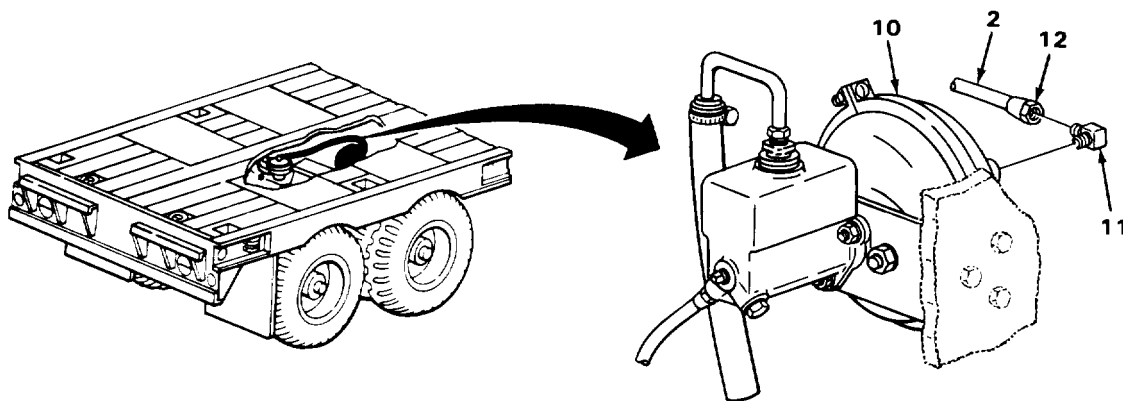
TA224274

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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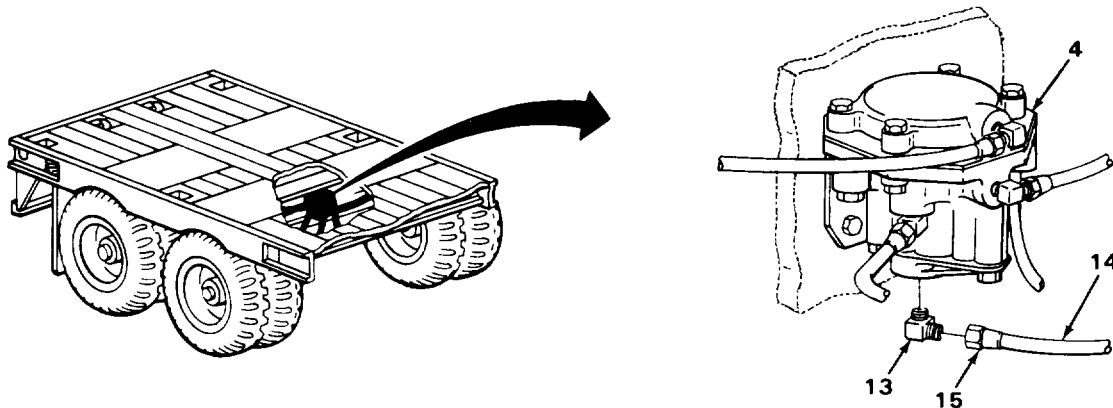
INSTALLATION – CONTINUED

23. Air chamber (10) and elbow (11) Hose (2) and fitting (12) Put in and tighten using 5/8-inch wrench.
If installing hose and fittings from relay valve to front air chamber only, go to follow-on maintenance.



24. Relay valve (4) Elbow (13) a. Wrap both threads two turns counter-clockwise with teflon tape.
b. Put in and tighten using 5/8-inch wrench.

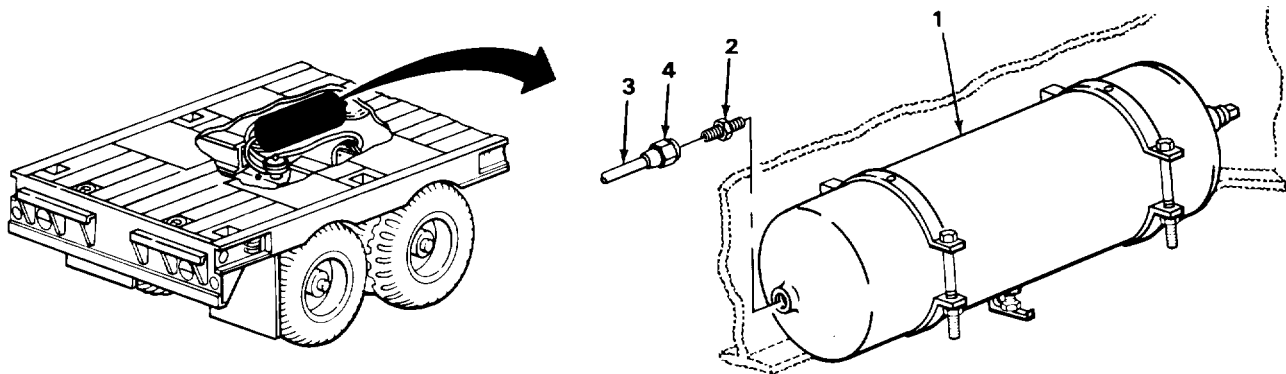
25. Relay valve (4) and elbow (13) Hose (14) and fitting (15) Put on and tighten using 13/16-inch wrench.



TA224275

AIR LINES AND FITTINGS (EMERGENCY RELAY VALVE TO AIR CHAMBERS AND RESERVOIR) - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION – CONTINUED				
26.	Air reservoir (1)	Nipple (2)	a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 11/16-inch wrench.	
27.	Air reservoir (1) and nipple (2)	Hose (3) and fitting (4)	Put on and tighten using 13/16-inch wrench and 11/16-inch wrench.	



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Test brakes (page 2-1 8).
- 2. Check for leaks (page 4-4).

TASK ENDS HERE

AIR LINE REPAIR

This task covers:

Repair (page 4-99)

INITIAL SETUP

Tools	Personnel Required
Tape, measuring	One
Cutter, tubing	Equipment Condition
Wrench, 5/8-inch, open-end	Air reservoir drained (page 3-9).
Wrench, 9/16-inch, open-end	
Materials/Parts	
Air line tubing (as required)	
Slip nut assemblies (as required)	
Air line connectors (as required)	
Tape, teflon (item 18, appendix E)	

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

NOTE

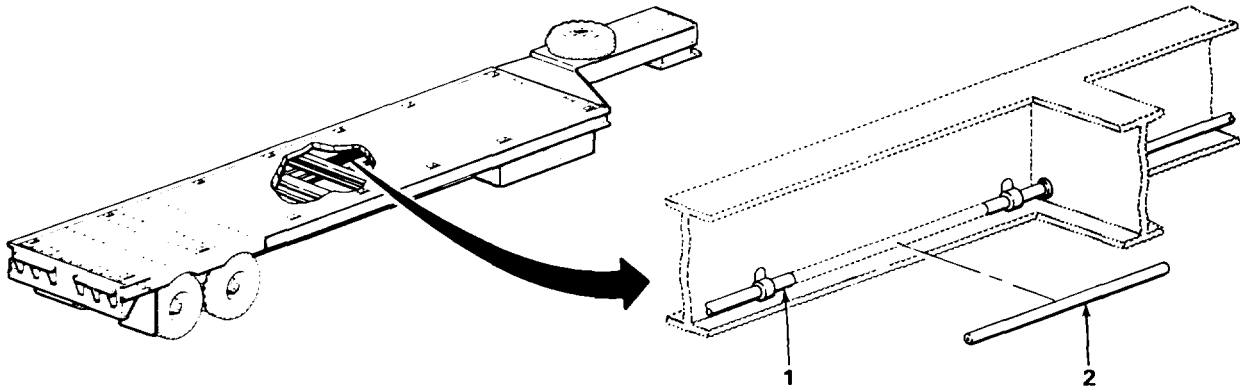
Air line tubing can be replaced or repaired depending on the length of the damaged section, If the damaged section is short, replace. If the damaged section is long, repair.

1. Tubing (1)

Damaged section (2)

a. Using tubing cutter, cut out.

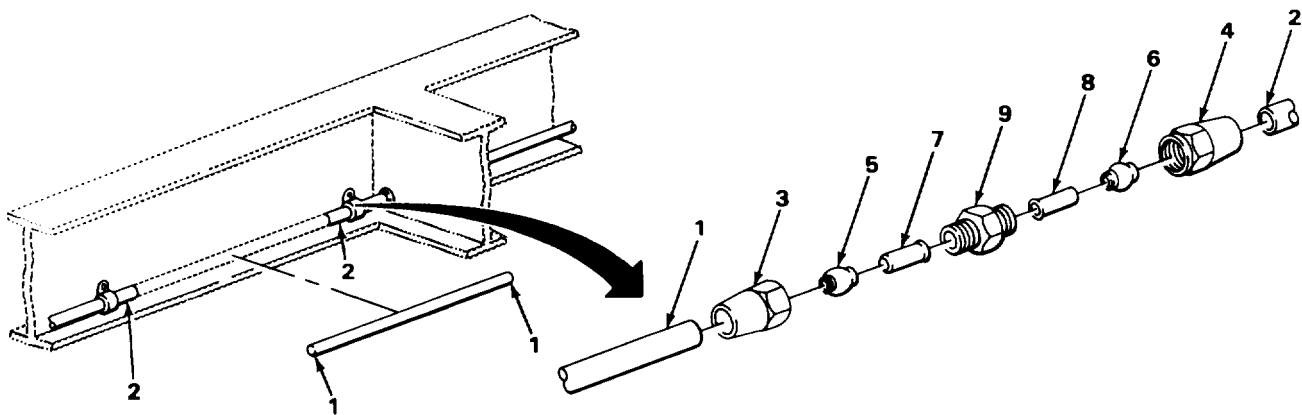
b. Measure cut out piece of tubing and using tubing cutter, cut new piece 1/2 inch shorter.



TA224277

AIR LINE REPAIR - CONTINUED

LOCATION		ITEM	ACTION REMARKS
REPAIR – CONTINUED			
2.	Two hose ends (1) and (2)	Two slip nuts (3) and (4) and farrels (5) and (6)	Put on 1/4 inch (0.635 cm) from hose ends.
3.		Two tubing inserts (7) and (8)	Push into hose ends until flush. Repeat steps 2 and 3 for other hose ends.
4.	Slip nut (3)	Air line connector (9)	a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 5/8-inch wrench and 9/16-inch wrench.
5.	Slip nut (4)	Air line connector (9)	Put in and tighten using 5/8-inch wrench and 9/16-inch wrench. Repeat steps 4 and 5 for other two hose ends.



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Test brakes (page 2-18).
- 2. Check for leaks (page 4-4).

TASK ENDS HERE

COUPLINGS AND GLADHANDS

This task covers:

- a. Removal (page 4-101)
- b. Repair (page 4-102)
- c. Installation (page 4-102)

INITIAL SETUP

Tools	Materials/Parts
Pliers, straight-nose	Tape, teflon (item 18, appendix E)
Screwdriver, flat-tip	Personnel Required
Wrench, 9/16-inch, open-end	One
Wrench, 5/8-inch, open-end	Equipment Condition
Wrench, 1 1/8-inch, open-end	Air reservoir drained (page 3-9).
Wrench, 1 1/4-inch, open-end	
Wrench, 1 1/2-inch, open-end	

LOCATION	ITEM	ACTION	REMARKS
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NOTE

There are two gladhands and couplings on this trailer, both are maintained the same way. This procedure covers the left side, repeat for right side.

REMOVAL

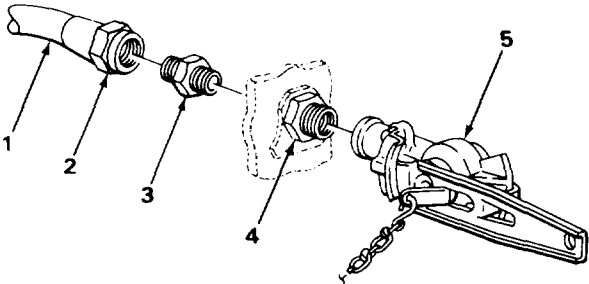
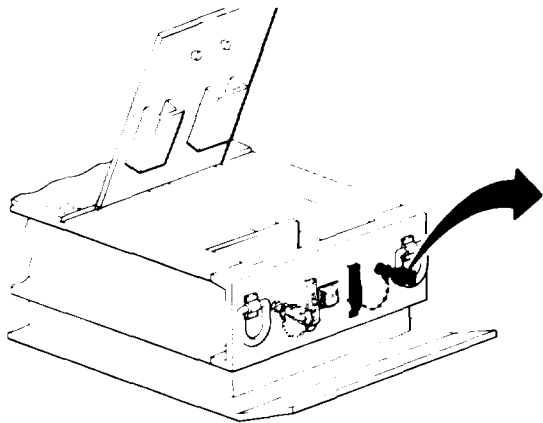
1. Hose(1) and slip nut (2)

Nipple (3)

a. Open nose box door.
b. Using 5/8-inch wrench and 9/16-inch wrench. unscrew and take off.
2. Fitting (4)

Gladhand (5)

Using 1 1/8-inch and 1 1/4 inch wrenches, unscrew and take off.



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COUPLINGS AND GLADHANDS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL— CONTINUED		
3.	Fitting (1)	Nipple (2)
		Using 9/16-inch and 1 1/4-inch wrenches, unscrew and take out.
4.		Nut (3), lockwasher (4) and tag (5)
		a. Using 1 1/4-inch wrench and 1 1/2-inch wrench, unscrew and take apart. b. Remove fitting and tag from gooseneck.
5.	Chain (6)	Dummy coupling (7)
		If replacement is required, use pliers to open one end of S-link (8) and remove.
REPAIR		
NOTE		
Gladhand repair may be done with gladhand removed or installed.		
6.	Gladhand (9)	Packing ring (10)
		a. Pry out with screwdriver. b. Wipe packing-ring groove (11) clean.
7.		Packing ring (10)
		a. Squeeze with fingers to partially collapse, and insert one end into groove (11) on gladhand (9). b. Using screwdriver, push packing ring flat into groove. Packing ring must lay flat and free of twists or bulges.
INSTALLATION		
8.	Gooseneck (12)	Fitting (1), tag (5), nut (3) and lockwasher (4)
		a. Place tag (5) on fitting (1) and place inside gooseneck (12). b. Screw on nut (3) with lockwasher (4) and tighten using 1 1/2-inch and 1 1/4-inch wrenches.
9.	Fitting (1)	Nipple (2)
		a. Wrap both threads two turns counter-clockwise with teflon tape. b. Put in and tighten using 9/16-inch wrench and 1 1/4-inch wrench.
10.	Nipple (2)	Slip nut (13) and hose (14)
		Put on and tighten using 5/8-inch wrench.

COUPLINGS AND GLADHANDS – CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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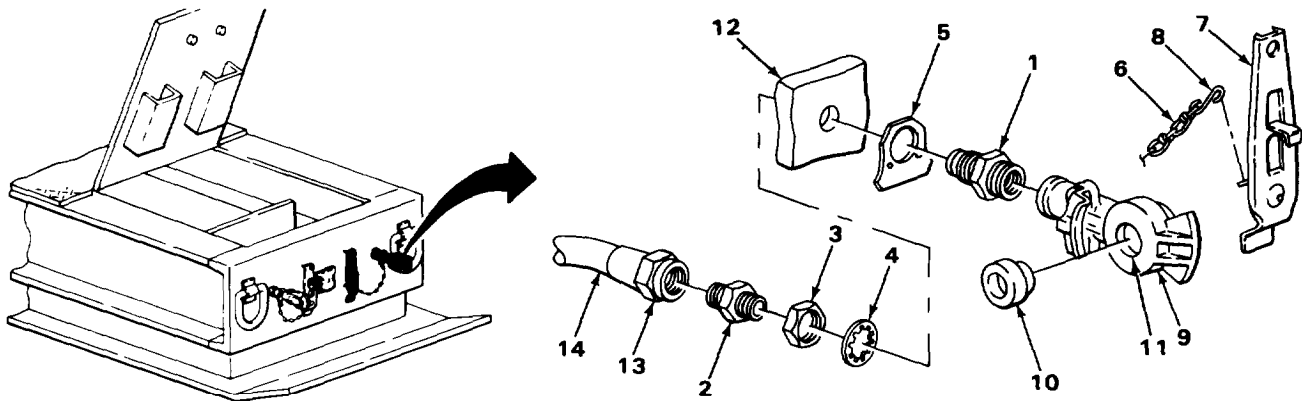
INSTALLATION – CONTINUED

- | | | | |
|-----|-------------|--------------|--|
| 11. | Fitting (1) | Gladhand (9) | <ul style="list-style-type: none"> a. Wrap threads two turns counterclockwise with teflon tape. b. Put on and tighten using 1 1/8-inch wrench and 1 1/4-inch wrench. |
|-----|-------------|--------------|--|

NOTE

Do step 12 only if dummy coupling was removed.

- | | | | |
|-----|-----------|--------------------------------------|---|
| 12. | Chain (6) | Dummy coupling (7)
and S-link (8) | <ul style="list-style-type: none"> a. Hook onto S-link (8) through hole in coupling (7). b. Close S-link with pliers. |
|-----|-----------|--------------------------------------|---|



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Test brakes (page 2-18).
- 2. Check for leaks (page 4-4).

TASK ENDS HERE

DRAINCOCK

This task covers:

- a. Removal (page 4-104)
 - b. Installation (page 4-104)
-

INITIAL SETUP

Tools	Personnel Required
Wrench, 9/16-inch, open-end	One
Materials/Parts	Equipment Condition
Tape, teflon (item 18, appendix E)	Air reservoir drained (page 3-9).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

1.	Reservoir (1)	Draincock (2)	Using 9/16-inch wrench, unscrew and take out.
----	---------------	---------------	---

INSTALLATION

2.		Draincock (2)	a. Wrap threads two turns counterclockwise with teflon tape. b. Put in and tighten using 9/16-inch wrench.
----	--	---------------	---

NOTE

FOLLOW-ON MAINTENANCE: Test brakes
(page 2-18)

TASK ENDS HERE

TA224281

AIR RESERVOIR

This task covers:

- a. Removal (page 4-105)
- b. Installation (page 4-106)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 9/16-inch, deep-well, 3/8-inch drive
 Wrench, 9/16-inch, open-end
 Wrench, 11/16-inch, open-end
 Wrench, 13/16-inch, open-end

Personnel Required

Two

Equipment Condition

Air reservoir drained (page 3-9),

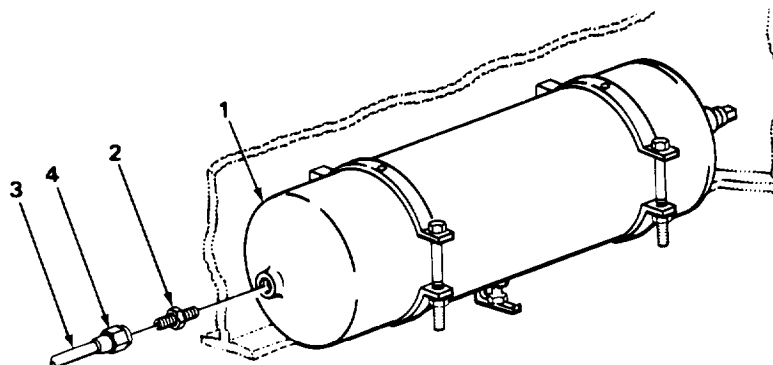
Materials/Parts

Tape, teflon (item 18, appendix E)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

1. Reservoir (1) and nipple (2) Hose (3) and fitting (4) Using 13/16-inch and 11/16-inch wrenches, unscrew and take off.
2. Reservoir (1) Nipple (2) Using 11/16-inch wrench, unscrew and take out.



TA224282

AIR RESERVOIR - CONTINUED

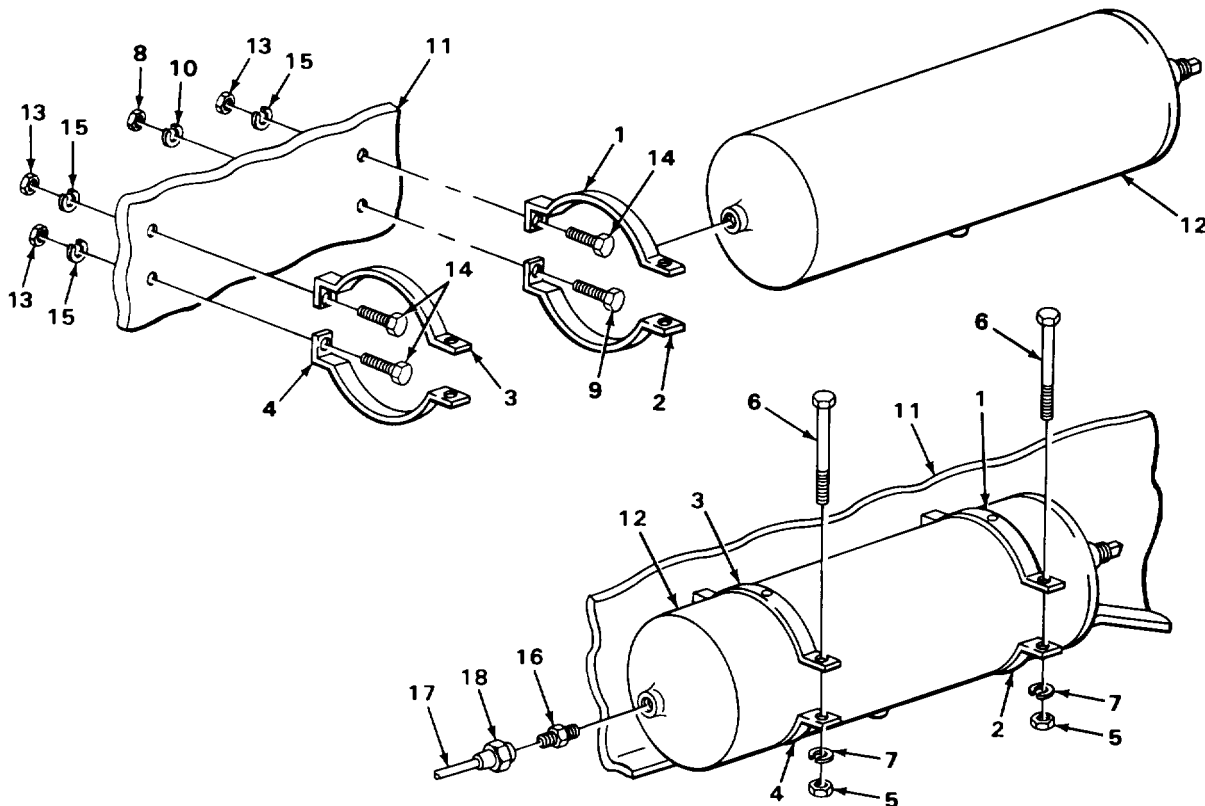
	LOCATION	ITEM	ACTION REMARKS
REMOVAL-CONTINUED			
3.	Upper and lower front brackets (1), (2), (3), and (4)	Two nuts (5), bolts (6), and lockwashers (7)	Using 9/16-inch wrench, 9/16-inch deep-well socket, and handle, unscrew and take out.
4.	Lower front bracket (2)	Nut (8), bolt (9), and lockwasher (10)	Using 9/16-inch wrench, 9/16-inch socket and handle, unscrew and take out.
5.	Frame (11) and reservoir (12)	Lower front bracket (2)	While holding reservoir (12) in place, take out bracket (2).
6.	Three brackets (1), (3), and (4)	Reservoir (12)	Slide forward and take out.
7.		Three nuts (13), bolts (14), and lockwashers (15)	Using 9/16-inch wrench, 9/16-inch socket, and handle, unscrew and take out.
8.	Frame (11)	Three brackets (1), (3), and (4)	Take off.
INSTALLATION			
9.	Frame (11)	Upper front bracket (1), nut (13), bolt (14), and lockwasher(15)	a. Line up hole in frame and hole in bracket. b. Put in and tighten using 9/16-inch wrench, 9/16-inch socket and handle. Repeat for upper and lower rear brackets (3) and (4).
10.	Brackets (1), (3), and (4)	Reservoir (12)	Slide into place and push back as far as possible. Be sure nipple hole points toward rear of semitrailer.
11.	Frame (11)	Lower front bracket (2), bolt (9), nut (8), and lockwasher (10)	a. Place bolt (9) through hole in bracket (2). b. Lineup hole in frame and bolt (9) in bracket. c. Put in and tighten using 9/16-inch socket and handle.
12.	Brackets (1), (2), (3), and (4)	Reservoir	Slide forward until centered. Be sure draincock hole points down.

AIR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION – CONTINUED

- | | | | |
|-----|--------------------------------|--|---|
| 13. | | Two nuts (5), bolts (6), and lockwashers (7) | Put in and tighten using 9/16-inch wrench, 9/16-inch deep-well socket and handle. |
| 14. | Reservoir | Nipple (16) | a. Wrap both threads two turns counter-clockwise with teflon tape.
b. Put in and tighten using 1 1/16-inch wrench. |
| 15. | Reservoir (12) and nipple (16) | Hose (17) and fitting (18) | Put on and tighten using 13/16-inch wrench and 1 1/16-inch wrench. |



NOTE

FOLLOW-ON MAINTENANCE:

1. Test brakes (page 2-18).
2. Check for leaks (page 4-4).

TASK ENDS HERE

TA224283

AIR FILTER

This task covers:

- a. Removal (page 4-108)
 - b. Splicing (page 4-109)
-

INITIAL SETUP

Tools

Cutter, tubing
 Handle, ratchet, 3/8-inch drive
 Socket, 7/16-inch, 3/8-inch drive
 Tape, measure
 Wrench, 5/8-inch, open-end
 Wrench, 9/16-inch, open-end

Materials/Parts

Tubing, nylon (as required)
 Union assembly
 Insert

Personnel Required

One

Equipment Condition

Air reservoir drained (page 3-9).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

NOTE

There are two air filters on the semitrailer. This procedure is for one. Repeat this procedure for the other.

- | | | | |
|----|-----------------------------------|-------------------------------------|---|
| 1. | Air filter (1)
and adapter (2) | Air line (3) and
slip nut (4) | Using 5/8-inch and 9/16-inch wrenches,
unscrew and take off.
Repeat for other air line. |
| 2. | Air filter (1) | Two adapters (2) | Using 9/16-inch wrench, unscrew and take
out.
The adapters (2) will be used in the
splicing procedure. |
| 3. | Frame (5) and
U-bolt (6) | Two nuts (7)
and lockwashers (8) | Using 7/16-inch socket and handle,
unscrew and take off. |
| 4. | Frame (5) | Air filter(1)
and U-bolt (6) | Take off. |

AIR FILTER - CONTINUED

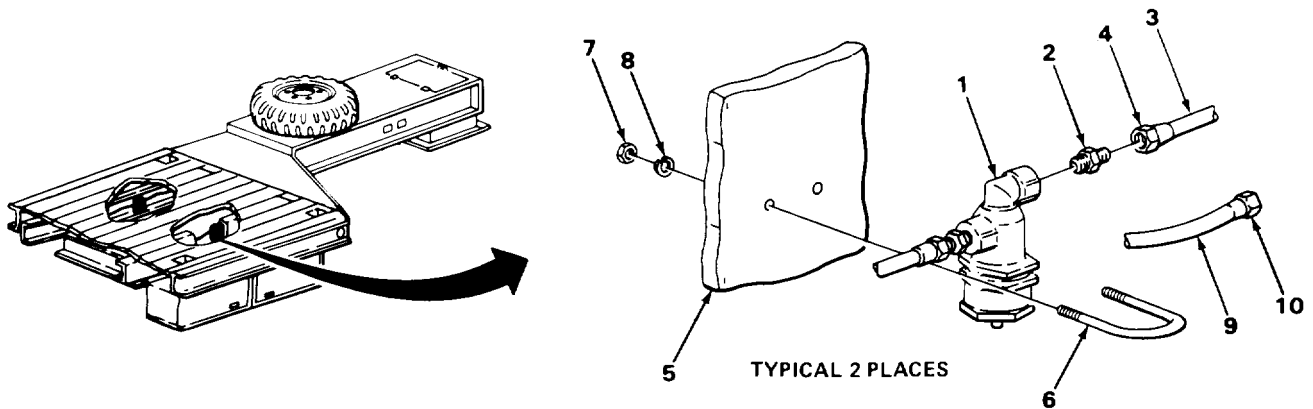
LOCATION	ITEM	ACTION	REMARKS
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SPLICING

NOTE

The air filter alone will not be replaced. The air filter and the 3/8-inch metal lines will be replaced by this splicing procedure. The splice will be made of nylon tube (item 4, appendix G).

- | | | | |
|----|-------------------|--|---|
| 5. | Two slip nuts (4) | Two adapters (2) | <ul style="list-style-type: none"> a. Wrap threads with two turns teflon tape. b. Screw in and tighten using 9/16-inch and 5/8-inch wrenches. |
| 6. | Two adapters (2) | Air line splice (9) and two slip nuts (10) | <ul style="list-style-type: none"> a. Place in position, b. Screw on nuts (10) and tighten using 9/16-inch and 5/8-inch wrenches. |



NOTE

FOLLOW-ON MAINTENANCE:

1. Test brakes (page 2-18).
2. Check for leaks (page 4-4).

TASK ENDS HERE

RELAY VALVE

This task covers:

- a. Removal (page 4-110)
- b. Installation (page 4-111)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Socket, 9/16-inch, 3/8-inch drive
Wrench, 9/16-inch, open-end
Wrench, 5/8-inch, open-end
Wrench, 13/16-inch, open-end
Wrench, adjustable

Materials/Parts

Tape, teflon (item 18, appendix E)
Tags, marker (item 17, appendix E)

Personnel Required

One

Equipment Condition

Air reservoir drained (3-9).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

NOTE

Tag each line to aid in reassembly.

- | | | | |
|----|--------------------------------|---|---|
| 1. | Relay valve (1) | Emergency (2) and service (3) air lines and slip nuts (4 and 5) | Using 5/8-inch wrench, unscrew and take off. |
| 2. | | Two output lines (6) and slip nuts(7) | Using 5/8-inch wrench, unscrew and take off. |
| 3. | | Reservoir air line (8) and slip nut (9) | Using 13/16-inch wrench, unscrew and take off. |
| 4. | Relay valve (1) and frame (10) | Two nuts (11), lockwashers (12), and bolts (13) | Using 9/16-inch wrench, 9/16-inch socket and handle, unscrew and take out.
Do not drop relay valve. |

NOTE

Record location and position of elbows and fittings for installation.

RELAY VALVE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL – CONTINUED			
5. Relay valve (1)	Three elbows (14)	Using 5/8-inch wrench, unscrew and take out.	
6.	Nipple (15)	Using 9/16-inch wrench, unscrew and take out.	
7.	Elbow (16)	Using adjustable wrench, unscrew and take out.	

INSTALLATION

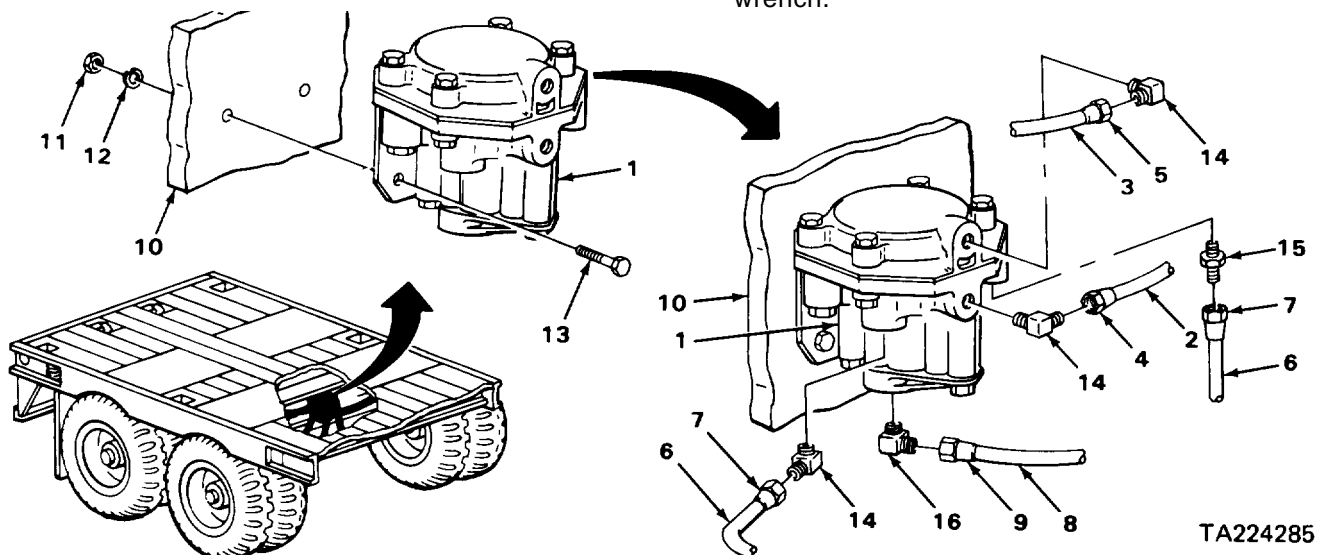
CAUTION

Always screw in and hand tighten all air line fittings, adapters, and connectors before putting a wrench on them. Failure to do so could cause cross-threading damage to material.

NOTE

Before installing air fittings and adapters, wrap all male threads two turns counterclockwise with teflon tape.

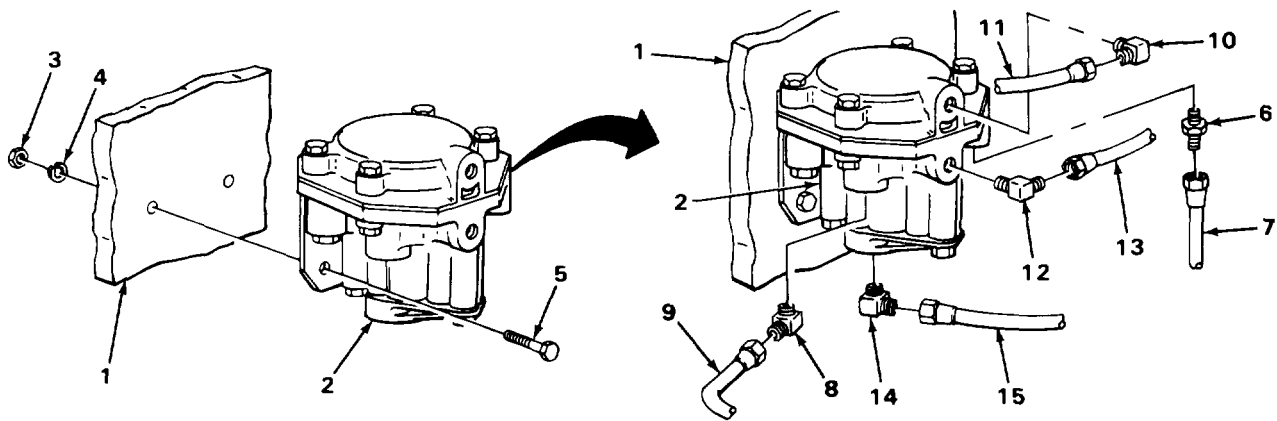
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|---------------------|-------------------|--|
| 8. | Elbow (16) | Put in and tighten using adjustable wrench. |
| 9. | Three elbows (14) | Put in and tighten using 5/8-inch wrench. |
| 10. Relay valve (1) | Nipple (15) | Screw in and tighten using 9/16-inch wrench. |



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RELAY VALVE - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION -CONTINUED			
11.	Frame(1)	Relay valve (2), two nuts (3), lockwashers (4), and bolts (5)	a. Line up holes in frame with holes in relay valve. b. Put bolts in place. c. Put on nuts and lockwashers and tighten using 9/16-inch wrench and 9/16-inch socket and handle.
12.	Relay valve (2) and nipple (6)	Rear axle output line (7)	Put on and tighten using 5/8-inch wrench.
13.	Relay valve (2) and elbow (8)	Front axle output line (9)	Put on and tighten using 5/8-inch wrench.
14.	Relay valve (2) and top elbow (10)	Service air line(11)	Put on and tighten using 5/8-inch wrench.
15.	Relay valve (2) and elbow (12)	Emergency air line (13)	Put on and tighten using 5/8-inch wrench.
16.	Relay valve (2) and elbow (14)	Reservoir air line (15)	Put on and tighten using 13/16-inch wrench.



NOTE

FOLLOW-ON MAINTENANCE:

1. Test brakes (page 2-18).
2. Check for leaks (page 4-4).

TASK ENDS HERE

TA224286

Section IX. WHEEL, HUB, AND DRUM MAINTENANCE

	Page		Page
Hub and Drum.....	4-113	Wheel.....	4-117

HUB AND DRUM

This task covers:

- a. Removal (page 4-113)
- b. Installation (page 4-115)

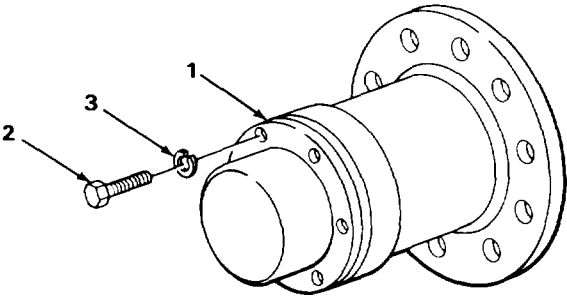
INITIAL SETUP

Tools	Personnel Required
Block, wood, as required	Two
Extension	
Hammer, hand	Equipment Condition
Handle, ratchet, 1/2-inch drive	Wheels and tires removed (page 3-11).
Socket, 11/16-inch, 1/2-inch drive	
Socket, 12-inch , 1/2-inch drive	
Press, arbor	
Puller, replacer, cup	
Puller, seal	
Screwdriver, flat-tip	
Wrench, hub-nut, with handle	

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | | |
|----|------------|------------------------------------|---|
| 1. | Hubcap (1) | Six screws (2) and lockwashers (3) | Using 1/2-inch socket and handle, unscrew and take out. |
|----|------------|------------------------------------|---|



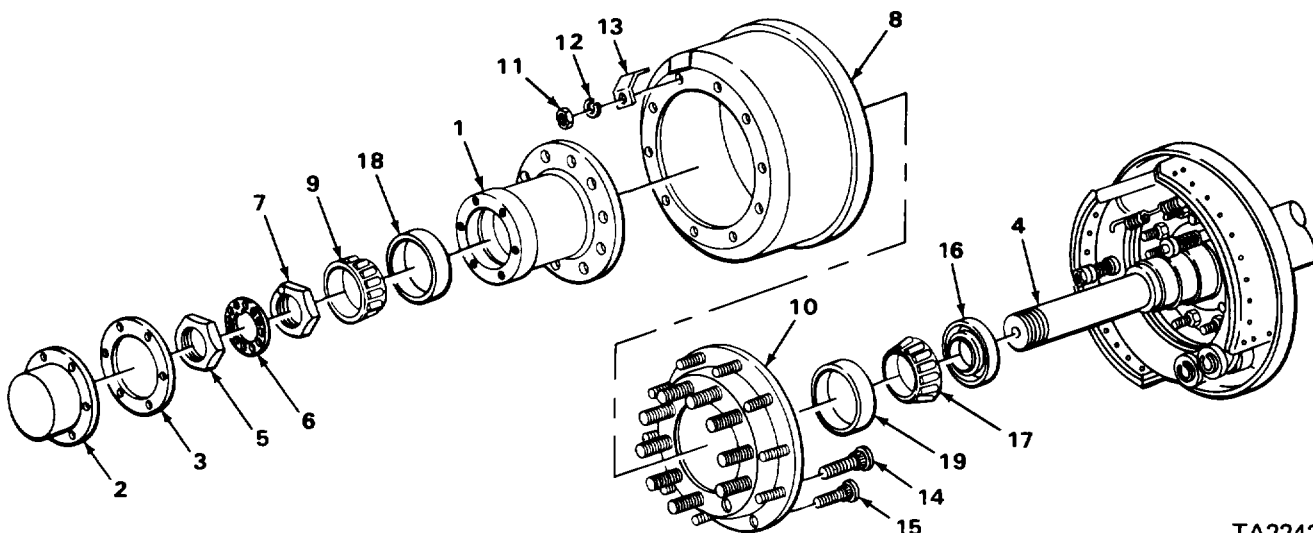
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HUB AND DUM-CONTINUED

LOCATION		ITEM	ACTION REMARKS
REMOVAL-CONTINUED			
2.	Hub (1)	Hubcap (2) and gasket (3)	Take off. It may be necessary to scrape gasket off.
3.	Spindle (4)	Jamnut (5)	Using hub-nut wrench, unscrew and take off.
4.		Key lockwasher (6)	Slide off. It may be necessary to pry off with flat-tip screwdriver.
5.		Bearing adjusting nut (7)	Using hub-nut wrench, unscrew and take off.
6.		Hub (1) and drum assembly (8)	Pull out and push back to separate bearing.
7.		Bearing (9)	Slide off.
8.		Hub (1) and drum assembly (8)	With help of assistant, slide off.
9.	Adapter plate (10) and drum assembly (8)	10 nuts (11), lockwashers (12) and inspection hole cover (13)	Using 11/16-inch socket, extension and handle, unscrew and take off.
10.	Adapter plate (10) and hub (1)	Drum assembly (8)	Separate. it may be necessary to use a hammer and wood block to aid in separation.
NOTE			
If removing hub and drum only, go to step 20.			
11.	Hub (1) and adapter plate (10)	10 bolts (14)	a. Using arbor press, push out. b. Separate hub (1) and adapter plate (10).
12.	Adapter plate (10)	10 bolts (15)	Using arbor press, push out.
13.	Hub (1)	Seal (16)	a. Using seal puller, take out. b. Get rid of.
14.		Inner bearing (17)	Take out.

HUB AND DRUM - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
15.	Two bearing cups (18) and (19)	Using cup puller/replacer, take out.
INSTALLATION		
16.	Two bearing cups (18) and (19)	Put in place and seat using cup puller/replacer.
17.	Inner bearing (17)	a. Lubricate (page 4-5). b. Put in place.
18.	New seal (16)	Put in place and seat using hammer and woodblock. Do not hit seal directly with hammer. Be certain seal is firmly seated all the way around.
19.	Adapter plate (10) 10 bolts (15)	Line up serrations and tap into place using hammer.
20.	Drum assembly (8)	Put together with bolts (15) through drum assembly (8).
21.	10 nuts (11), lockwashers (12) and inspection hole cover (13)	Put on and tighten using 11/16-inch socket, extension, and handle. If installing drum only, go to step 24.



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HUB AND DRUM - CONTINUED

LOCATION		ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
22.	Adapter plate (1)	Hub (2) and bolts (3)	Put on with bolts (3) through holes in hub (2).
23.	Hub (2) and adapter plate (1)	Bolts (3)	Drive in using hammer until hub (2) and adapter plate (1) are seated to each other.
24.	Spindle (4)	Hub (2) and drum (5) assembly	With help of assistant, slide into place.
25.		Bearing (6)	a. Lubricate (page 4-5). b. Put on.
26.		Adjusting nut (7)	a. Put on and tighten using hub-nut wrench until hub (2) binds on spindle (4) when rotated. b. Back off one-eighth turn using hub-nut wrench.
NOTE			
Check adjustment by grasping drum and attempting to rock it on spindle. If bearings are properly adjusted, movement of brakedrum will scarcely be felt or seen, with drum turning freely.			
27.		Key lockwasher (8)	a. Slide on. b. Turn adjusting nut (7) clockwise using hub-nut wrench until pin (9) drops into nearest hole.
28.		Jamnut (10)	Put on and tighten using hub-nut wrench.
29.	Hub (2)	Hubcap (11) and gasket (12)	Put in place and line up holes.
30.	Hub (2) and hubcap(n)	Six screws (13) and lock washers	Put in and tighten using 1/2-inch socket and handle.

Section X. TIRE AND TUBE MAINTENANCE

TIRE AND TUBE REPLACEMENT

NOTE

For information on tire and tube removal and installation, see TM-9-261 0-200-24.

TIRE AND TUBE REPAIR

NOTE

For information on tire and tube repair, see TM 9-2610-200-24.

Section XI. FRAME AND TOWING ATTACHMENTS MAINTENANCE

	Page		Page
Landing Gear Crank and Crank Holder	4-127	Landing Gear Leg, Gearbox and Couplings	4-118
		Landing Gearshoe	4-125

LANDING GEAR LEG, GEARBOX, AND COUPLINGS

This task covers:

- a. Removal (page 4-119)
- b. Installation (page 4-122)

INITIAL SETUP

Tools	Personnel Required
Handle, ratchet, 1/2-inch drive	Two
Socket, 9/16-inch, 1/2-inch drive	
Socket, 15/16-inch, 1/2-inch drive	Equipment Condition
Wrench, 9/16 inch, open-end	
Wrench, 7/8-inch, open-end	Semitrailer kingpin coupled to towing vehicle.
Wrench, 15/16-inch, open-end	

LANDING GEAR LEG, GEARBOX, AND COUPLINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

If towing vehicle is not available, place secure blocking under front of semitrailer frame. Raise legs until semitrailer front rests on blocking and pressure is off of leg to be removed.

It is not necessary to support front of semitrailer to remove gearbox and couplings only.

If replacing right leg only, go to step 7.

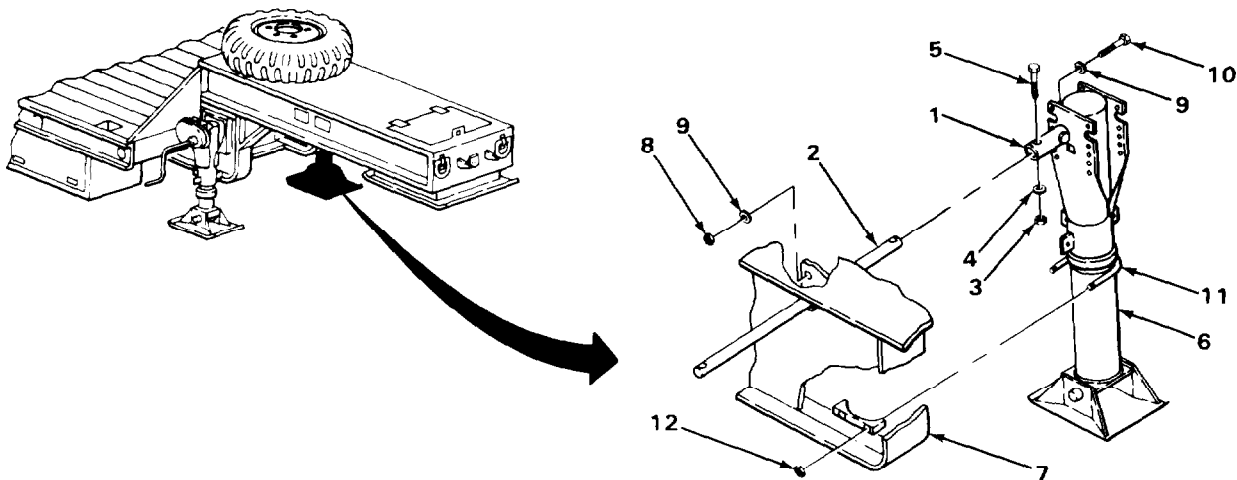
If replacing gearbox only, go to step 9.

- | | | | |
|----|-----------------------------------|------------------------------------|---|
| 1. | Left rod coupling (1) and rod (2) | Nut (3), washer (4), and screw (5) | Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take out. |
|----|-----------------------------------|------------------------------------|---|

NOTE

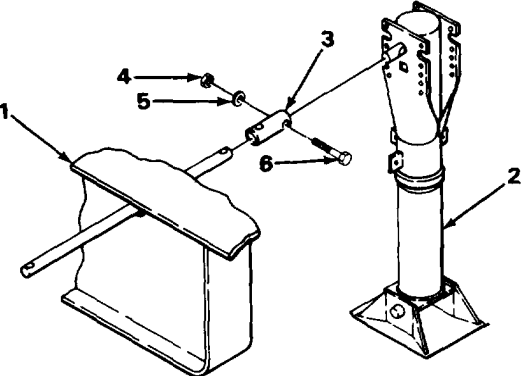
Be sure leg is securely supported before unbolting from frame.

- | | | | |
|----|----------------------------|---|---|
| 2. | Left leg (6) and frame (7) | Eight nuts (8), 16 washers (9), and eight screws (10) | Using 15/16-inch socket, handle, and 15/16-inch wrench, unscrew and take out. |
| 3. | Leg-to-frame U-bolt (11) | Two nuts (12) | Using 7/8-inch wrench, unscrew and take off. |



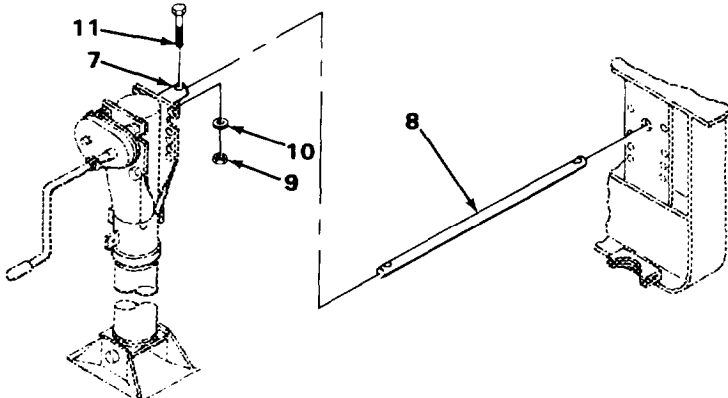
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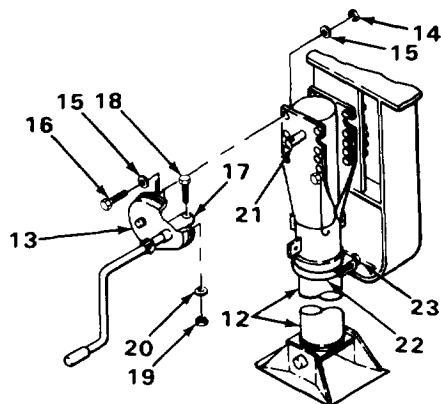
LANDING GEAR LEG, GEARBOX, AND COUPLINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
4. Frame (1)	Leg (2)	With aid of assistant, pull off. Rod coupling (3) will come off with leg (2).
5. Rod coupling (3) and leg (2)	Nut (4), washer (5), and screw (6)	Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take off.
6. Leg (2)	Rod coupling (3)	Pull off. If removing left leg only, go to step 27,
		
7. Right rod coupling (7) and rod (8)	Nut (9), washer (10), and screw (11)	Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take out. If replacing right leg only, go to step 9.
8. Right rod coupling (7)	Rod (8)	Pull out. If replacing rod only, go to step 25.

TA224291

LANDING GEAR LEG, GEARBOX, AND COUPLINGS- CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL- CONTINUED			
			
9.	Right leg (12) and gearbox (13)	Four nuts (14), eight washers (15), and four screws (16)	Using 15/16-inch socket, handle, and 15/16-inch wrench, unscrew and take out.
10.	Coupling (17)	Screw (18), nut (19) and washer (20)	Using 9/16-inch wrench and 9/16-inch socket with ratchet handle, unscrew and take out.
11.	Right leg (12)	Gearbox (13)	Pull off of leg shaft (21). If replacing gearbox only, go to step 22.
12.	Right leg (12) and U-bolt (22)	Two nuts (23)	Using 7/8-inch wrench, unscrew and take off.



TA224292

LANDING GEAR LEG, GEARBOX, AND COUPLINGS - CONTINUED

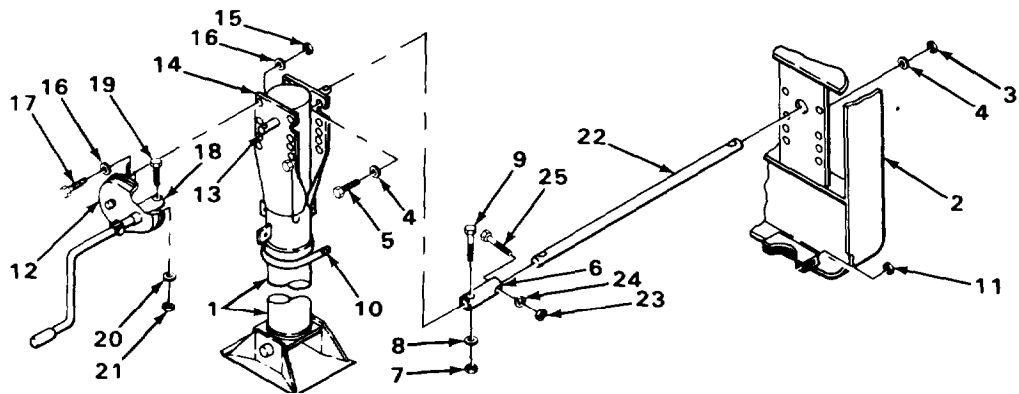
LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Be sure leg is securely supported before unbolting from frame.</p>		
13.	Right leg (1) and frame (2)	Eight nuts (3), 16 washers (4) and eight screws (5)
		Using 15/16-inch socket, handle, and 15/16-inch wrench, unscrew and take out.
14.	Frame (2)	Right leg (1)
		With aid of assistant, pull off.
15.	Right leg (1) and rod coupling (6)	Nut (7), washer (8), and screw (9)
		Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take out.
16.	Right leg (1)	Rod coupling (6)
		Pull off.
INSTALLATION		
17.		Rod coupling (6)
		Push on and line up holes.
18.	Right leg (1) and rod coupling (6)	Nut (7), washer (8), and screw (9)
		Put in and tighten using 9/16-inch socket, handle, and 9/16-inch wrench.
19.	Frame (2)	Right leg (1)
		Put in position and line up holes.
20.	Frame (2) and right leg (1)	Eight nuts (3), 16 washers (4), and eight screws (5)
		Put in and tighten using 15/16-inch socket, handle, and 15/16-inch wrench.
21.	Right leg (1)	U-bolt (10) and two nuts(n)
		Put on and tighten using 7/8-inch wrench.
22.		Gearbox (12)
		Put on shaft (13) and lineup holes (14).
23.	Gearbox (12) and right leg (1)	Four nuts (15), eight washers (16), and four screws (17)
		Put in and tighten using 15/16-inch socket, handle, and 15/16-inch wrench. If replacing gearbox only, task ends here.
24.	Coupling (18)	Screw (19), washer (20) and nut (21)
		a. Line up holes of coupling (18) and shaft (13). b. Put in and tighten screw (19), washer (20) and nut (21) using 9/16-inch wrench and 9/16-inch socket with ratchet handle.

LANDING GEAR LEG, GEARBOX, AND COUPLINGS- CONTINUED

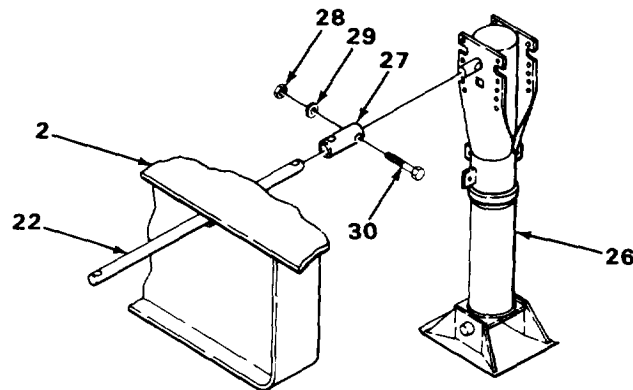
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION – CONTINUED

- | | | | |
|-----|-------------------------------------|---------------------------------------|---|
| 25. | Right rod coupling (6) | Rod (22) | Put in and line up holes, |
| 26. | Right rod coupling (6) and rod (22) | Nut (23), washer (24), and screw (25) | Put in and tighten using 9/16-inch socket, handle, and 9/16-inch wrench.
If replacing right leg only, task ends here. |



- | | | | |
|-----|-------------------------------------|---------------------------------------|--|
| 27. | Left leg (26) | Rod coupling (27) | Put on and line up holes. |
| 28. | Left leg (26) and rod coupling (27) | Nut (28), washer (29), and screw (30) | Put in and tighten using 9/16-inch socket, handle, and 9/16-inch wrench. |
| 29. | Frame (2) and rod (22) | Left leg (26) | Put on and line up holes. |



TA224293

LANDING GEAR LEG, GEARBOX, AND COUPLINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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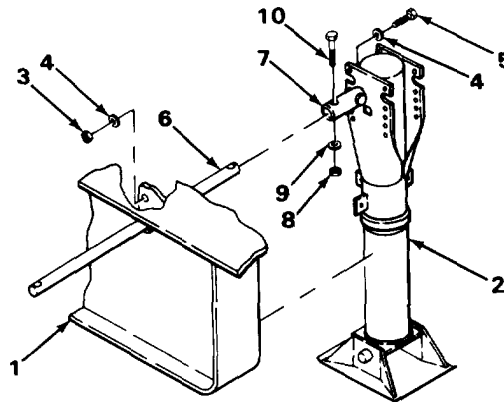
INSTALLATION - CONTINUED

- | | | | |
|-----|----------------------------|--|--|
| 30. | Frame (1) and left leg (2) | Eight nuts (3), 16 washers (4), and eight screws (5) | Put in and tighten using 15/16-inch socket, handle, and 15/16-inch wrench. |
|-----|----------------------------|--|--|

NOTE

Both landing gear legs must be extended the same length before installing rod to coupling screw.

- | | | | |
|-----|------------------------------|------------------------------------|--|
| 31. | Rod (6) and rod coupling (7) | Nut (8), washer (9) and screw (10) | Put in and tighten using 9/16-inch socket, handle, and 9/16-inch wrench. |
|-----|------------------------------|------------------------------------|--|



TASK ENDS HERE

TA224294

LANDING GEARSHOE

This task covers:

- a. Removal (page 4-125)
- b. Installation (page 4-126)

INITIAL SETUP

Tools

Hammer, hand
Pliers, slip-joint
Punch, drive-pin, 1/4-inch
diameter, brass

Personnel Required

One

Equipment Condition

Semitrailer kingpin coupled to towing
vehicle.

Materials/Parts

Spring pin (two required per leg)

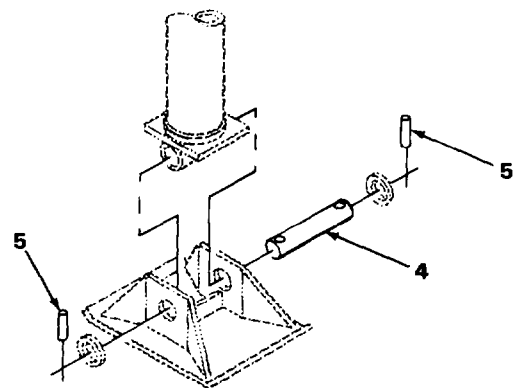
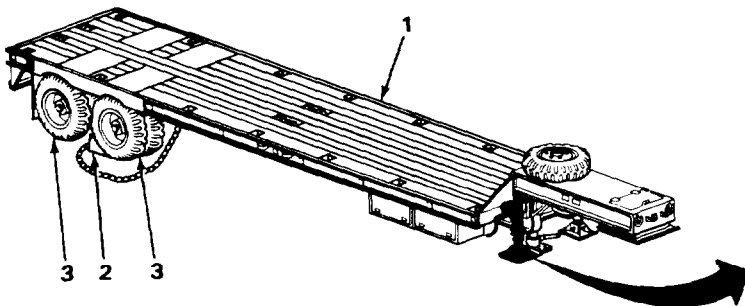
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

If towing vehicle is not available, place secure blocking under front of semitrailer frame. Raise legs until semitrailer front rests on blocking and pressure is off of shoe to be removed.

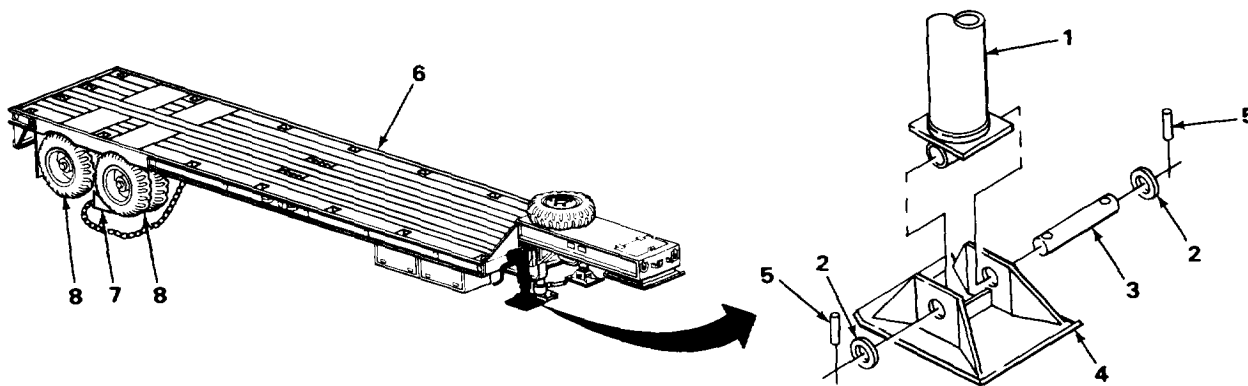
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|----|------------------|---------------------|---|
| 1. | Semitrailer (1) | Wheel chocks (2) | Place between outside tandem wheels (3) on both sides of semitrailer. |
| 2. | Ends of axle (4) | Two spring pins (5) | Using punch and hammer, drive out.
Discard spring pins (5). |



TA224295

LANDING GEARSHOE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL-CONTINUED		
3. Leg (1)	Two flat washers (2), axle (3) and shoe (4)	Pull out and take shoe (4) off. It may be necessary to use a hammer and brass drive pin.
INSTALLATION		
4. Leg (1)	Shoe (4)	Place on bottom of leg (1) and aline holes.
5. Shoe (4) to leg (1)	Axle (3)	Push into place. It may be necessary to use a hammer.
6. Axle (3)	Two washers (2)	Put one on each end of axle (3).
7.	Two new spring pins (5)	Tap one into hole in each end of axle (3) using pliers to squeeze pin, and hammer.
8.	Front of semitrailer (6)	If towing vehicle was used, uncouple towing vehicle. If blocks were used, lower legs until weight is off blocks, then remove blocks.
9.	Wheel chocks (7)	Take out from between wheels (8) and stow.



TASK ENDS HERE

TA224296

LANDING GEAR CRANK AND CRANK HOLDER

This task covers:

- a. Removal (page 4-127)
- b. Installation (page 4-128)

INITIAL SETUP

Tools

- Handle, ratchet, 1/2-inch drive
- Socket, 15/16-inch, 1/2-inch drive
- Socket, 9/16-inch, 1/2-inch drive
- Wrench, 15/16-inch, box-end
- Wrench, 9/16-inch, box-end

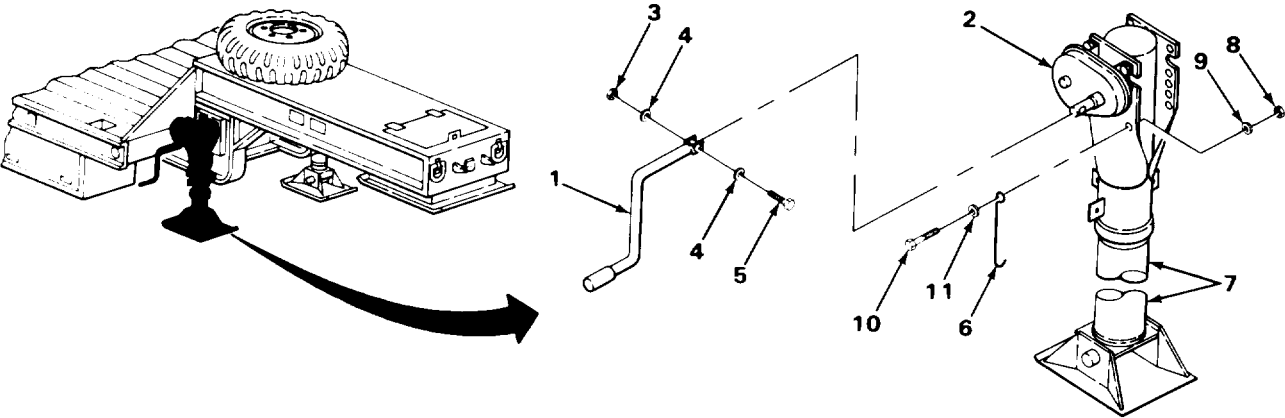
Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

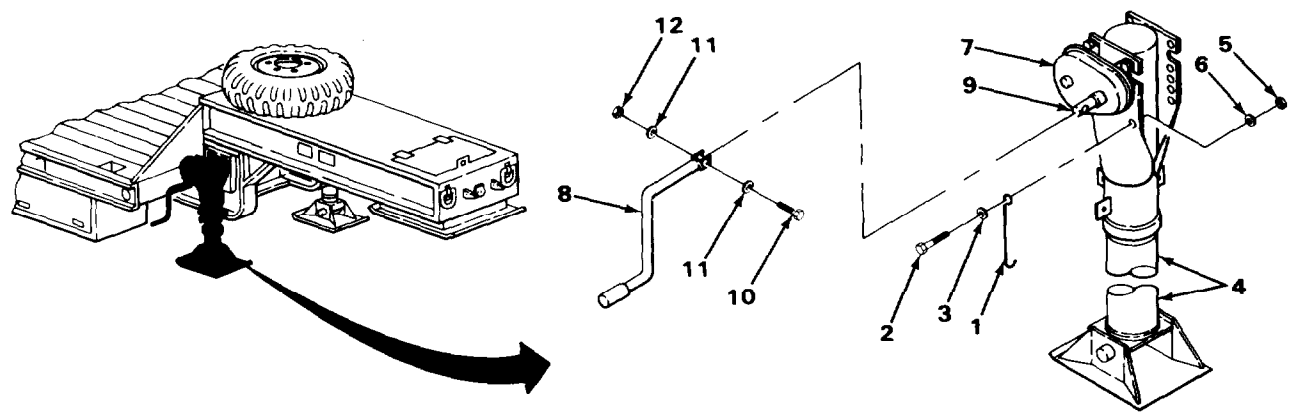
- | | | | |
|----|---|--|---|
| 1. | Handcrank (1) and gearbox (2) | Nut (3), two washers (4), and capscREW (5) | Using 9/16-inch socket, handle, and 9/16-inch wrench, unscrew and take out. |
| 2. | | Handcrank (1) | Take out. |
| 3. | Crank holder (6) and landing gear leg (7) | Nut (8) and washer (9) | Using 15/16-inch socket, handle, and 15/16-inch wrench, unscrew and take out. |
| 4. | Landing gear leg (7) | Capscrew (10), washer (11), and crank holder (6) | Take out. |



TA224297

LANDING GEAR CRANK AND CRANK HOLDER - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION				
5.	Crank holder (1)	Capscrew (2) and washer (3)	Put capscrew (2) through washer (3) and	crank holder (1).
6.	Landing gear leg (4)	Capscrew (2)	Put through hole in leg (4).	
7.	Capscrew (2)	Nut (5) and washer (6)	Put on and tighten using 15/16-inch socket, handle, and 15/16-inch wrench.	
8.	Gearbox (7)	Handcrank (8)	Put on gearbox shaft (9) and line up boltholes.	
9.	Handcrank (8) and gearbox (7)	Capscrew (10), two washers (11), and nut (12)	Put through crank (8) and shaft (9) and tighten using 9/16-inch socket, handle, and 9/16-inch wrench.	One washer goes on each side of crank.



TASK ENDS HERE

Section XII. BODY MAINTENANCE

	Page		Page
Splash Guards	4-129	Stowage Box	4-136
Splash Shields	4-130	Toolbox Cover	4-133

SPLASH GUARDS

This task covers:

- a. Removal (page 4-129)
- b. Installation (page 4-130)

INITIAL SETUP

Tools	Personnel Required
Handle, ratchet, 1/2-inch drive Socket, 9/16-inch, 1/2-inch drive Wrench, 9/16-inch, box-end	Two

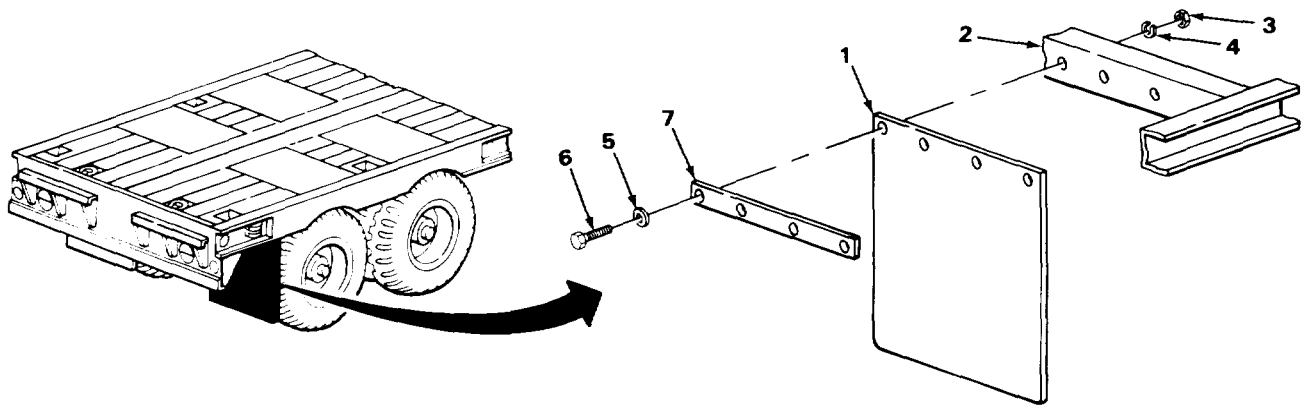
LOCATION	ITEM	ACTION	REMARKS
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NOTE

Both splash guards are removed the same way. This procedure is for one. Repeat the procedure for the other.

REMOVAL

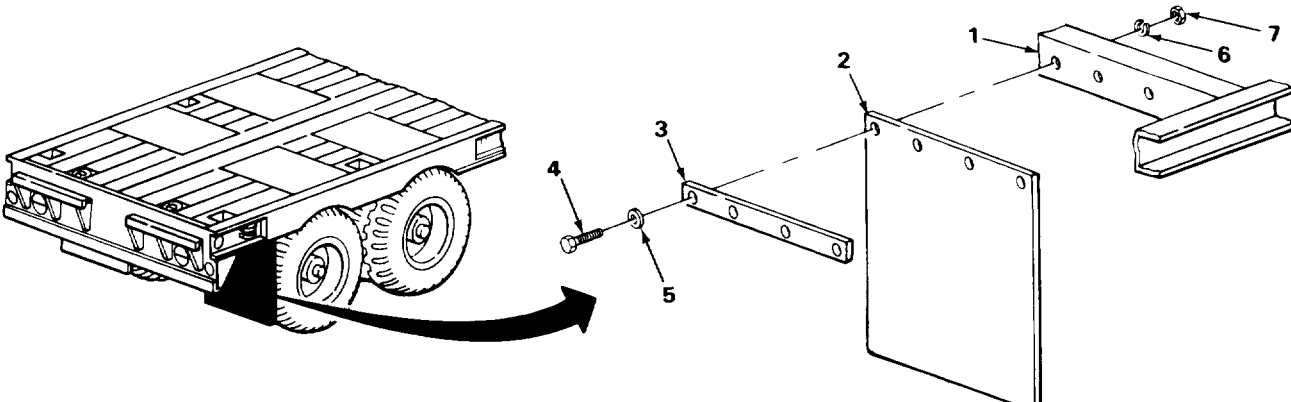
- | | | | |
|----|--|---|---|
| 1. | Splash guard (1) and deck cross-beam (2) | Four nuts (3), lockwashers (4), flat washers (5), and capscrews (6) | Using socket, handle, and wrench, unscrew and take out. |
| 2. | Deck crossbeam (2) | Retainer (7) and splash guard (1) | Take off. |



TA224299

SPLASH GUARDS - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION				
3.	Crossbeam (1)	Splash guard (2) and retainer (3)	Place on rear of deck crossbeam (1) and aline bolt holes.	
4.	Splash guard (2) to deck cross-beam (1)	Four capscrews (4), flat washers (5), lockwashers (6), and nuts (7)	Screw in and tighten using 9/16-inch socket, handle, and wrench.	



TASK ENDS HERE

SPLASH SHIELDS

This task covers:

- a. Removal (page 4-131)
- b. Installation (page 4-131)

INITIAL SETUP

Tools

- C-clamps (2)
- Chisel, cold
- Grinder, portable
- Hammer, hand
- Handle, ratchet, 3/8-inch drive
- Socket, 9/16-inch, 3/8-inch drive
- Welder, arc

Tools – Continued

- Tape, measuring
- Wrench, 9/16-inch, open-end

Personnel Required

Two

SPLASH SHIELDS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

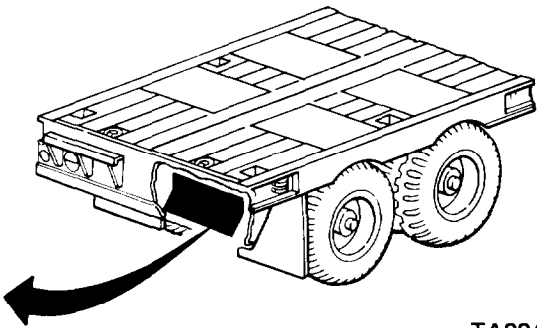
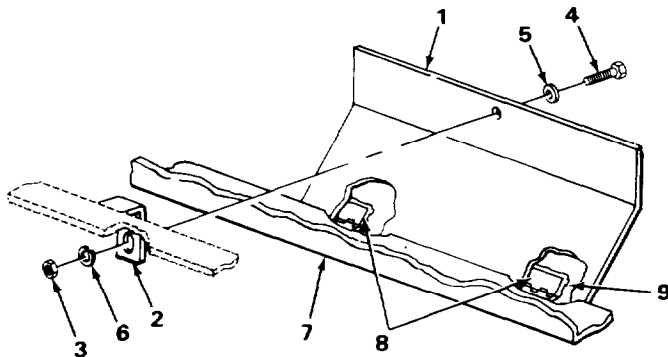
There are two splash shields on the semitrailer. This procedure is for one. Repeat the procedure for the other.

REMOVAL

- | | | | |
|----|-----------------------------------|---|--|
| 1. | Splash shield (1) and bracket (2) | Nut (3), bolt (4), washer (5), and lockwasher (6) | Using 9/16-inch wrench, 9/16-inch socket, and handle, unscrew and take out. |
| 2. | Splash shield (1) and frame (7) | Two hinges (8) and bracket (2) | Using tape measure, note locations for installation. |
| 3. | Two hinges (8) and bracket (2) | Weldments (9) | Using portable grinder, take off.
It may be necessary to use a hammer and chisel to separate parts after grinding off weldments. |
| 4. | Frame (7) | Weldments (9) | Using portable grinder, take off to prepare surfaces for new parts. |

INSTALLATION

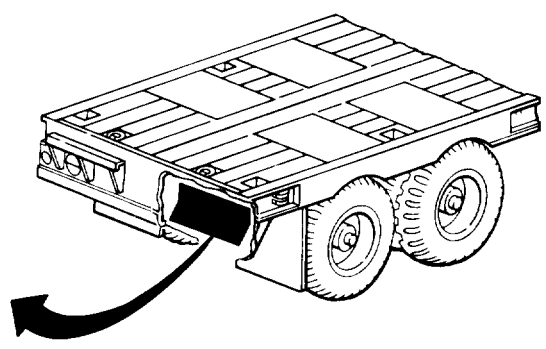
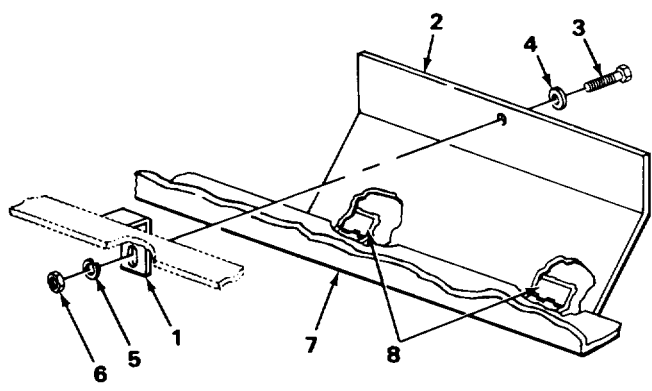
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|----|-----------------------|----------------|---|
| 5. | Frame (7) | Bracket (2) | a. Mark location on frame (7) using measurements taken before removal.
b. Clamp bracket to frame using C-clamp.
c. Weld using arc welder.
See TM 9-237. |
| 6. | New splash shield (1) | Two hinges (8) | a. Mark location on splash shield using measurements taken before removal.
b. Clamp hinges to splash shield using C-clamps, and weld using arc welder.
See TM 9-237. |



TA224301

SPLASH SHIELDS - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED				
7.	Bracket (1)	Splash shield (2), bolt (3), washer (4), lockwasher (5), and nut (6)	a. Put splash shield(2) in place and line up holes. b. Put in bolt (3), washer (4), lockwasher (5) and nut (6) and tighten using 9/16-inch wrench, 9/16-inch socket, and handle.	
8.	Frame (7)	Two hinges (8)	a. Place in position and clamp using C- clamps. It may be necessary to loosen nut (3) to position. b. Weld using arc welder.	



TASK ENDS HERE

TOOLBOX COVER

This task covers:

- a. Handle repair (page 4-133)
b. Latch eye repair (page 4-134)
- c. Hinge repair (page 4-134)
d. Storage bracket repair (page 4-135)

INITIAL SETUP

Tools

C-Clamp
Chisel, cold
Grinder
Hammer, ball-peen, 1 pound
Tape, measure
Torch, acetylene
Welder, arc

Materials/Parts

Chalk, carpenters

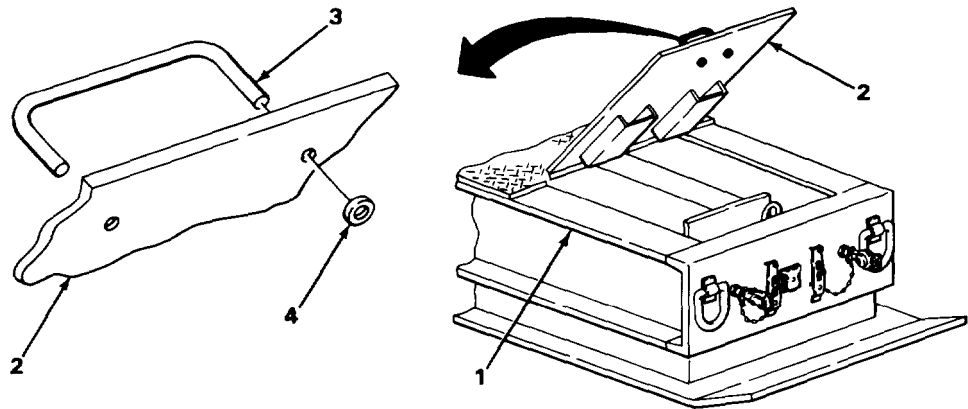
Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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HANDLE REPAIR

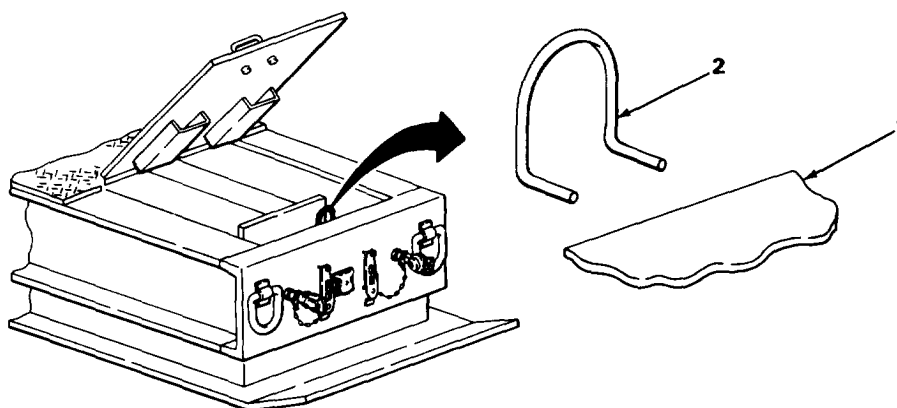
1. Gooseneck (1)Cover (2)Raise.
2. Cover (2) and handle (3)Washers (4)Using acetylene torch, cut off.
3. New handle (3)Put in place through holes in cover.
4. Handle (3)Two new washers (4)Put on ends of handle and weld in place using arc welder.
See TM 9-237.



TA224303

TOOLBOX COVER - CONTINUED

	LOCATION	ITEM	ACTION	REMARKS
LATCH EYE REPAIR				
5.	Front of nose box (1)	Latch eye (2)	a. Mark location for installation. b. Using chisel and hammer, cut off.	
6.		New latch eye (2)	a. Clamp in position using C-clamp. b. Weld to nose box (1) using arc welder. See TM 9-237.	

**HINGE REPAIR**

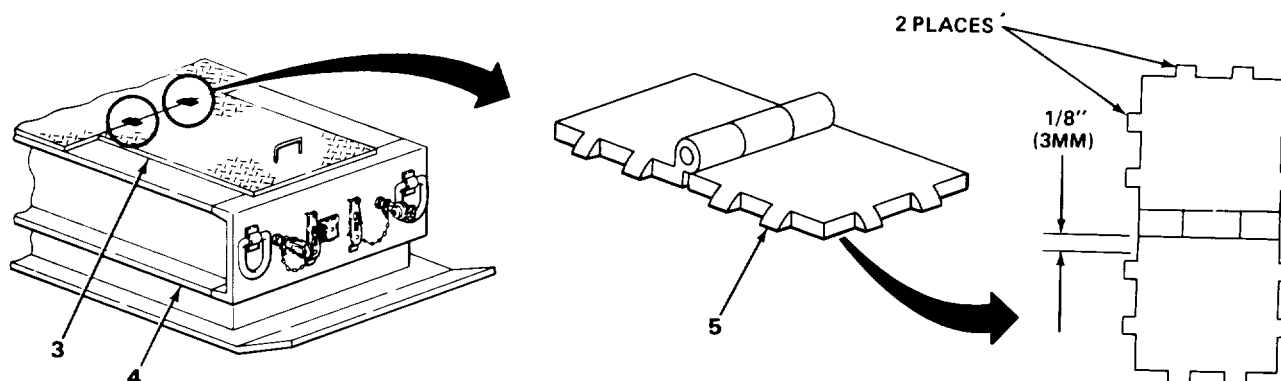
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|----|--------------------------------|----------------|--|
| 7. | Cover (3) and
gooseneck (4) | Two hinges (5) | a. Mark location for installation.
b. Using acetylene torch, cut weld away
from cover and gooseneck. |
| 8. | Cover (3) and
gooseneck (4) | | Using grinder, grind off. |
| 9. | | Two hinges (5) | a. Place on cover (3) according to marks,
with center of hinge pivot 1/8 inch
(3 mm) rearward from cover.
b. Weld to cover (3) and gooseneck (4)
as shown below using arc welder.
See TM 9-237. |

TA224304

TOOLBOX COVER - CONTINUED

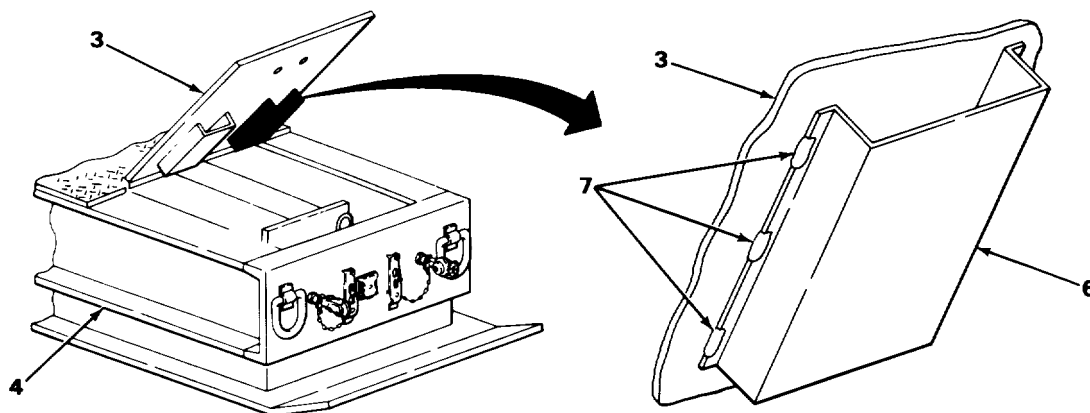
LOCATION	ITEM	ACTION	REMARKS
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HINGE REPAIR - CONTINUED



STORAGE BRACKET REPAIR

- | | | | |
|-----|---------------|-------------------------|--|
| 10. | Gooseneck (4) | Cover (3) | Raise. |
| 11. | Cover (3) | Storage bracket (6) | a. Mark location for installation.
b. Using grinder, grind off weldments (7) and take off.
If replacing both brackets, repeat for other bracket. |
| 12. | | Cover (3) | Using grinder, grind off excess weldment until surface is smooth. |
| 13. | Cover (3) | New storage bracket (6) | a. Place in position according to marks.
b. Weld to cover using arc welder.
See TM 9-237. If replacing both brackets, repeat for other bracket. |



TASK ENDS HERE

TA224305

STOWAGE BOX

This task covers:

- a. Removal (page 4-136)

b. Door Seal Repair (page 4-137)

c. Door Repair (page 4-138)
- d. Hook Clip Repair (page 4-139)

e. Installation (page 4-139)

INITIAL SETUP

Tools	Materials/Parts
Extension, 1/2-inch drive	Adhesive (item 1, appendix E)
Handle, ratchet, 1/2-inch drive	
Putty knife	Personnel Required
Screwdriver, cross-tip	
Socket, 9/16-inch, 1/2-inch drive	Three
Socket, 3/4-inch, 1/2-inch drive	
Truck, lift, wheel	
Wrench, 7/16-inch, open-end	
Wrench, 9/16-inch, open-end	
Wrench, 3/4-inch, open-end	

LOCATION	ITEM	ACTION	REMARKS
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NOTE

If repairing only, go to step 5.

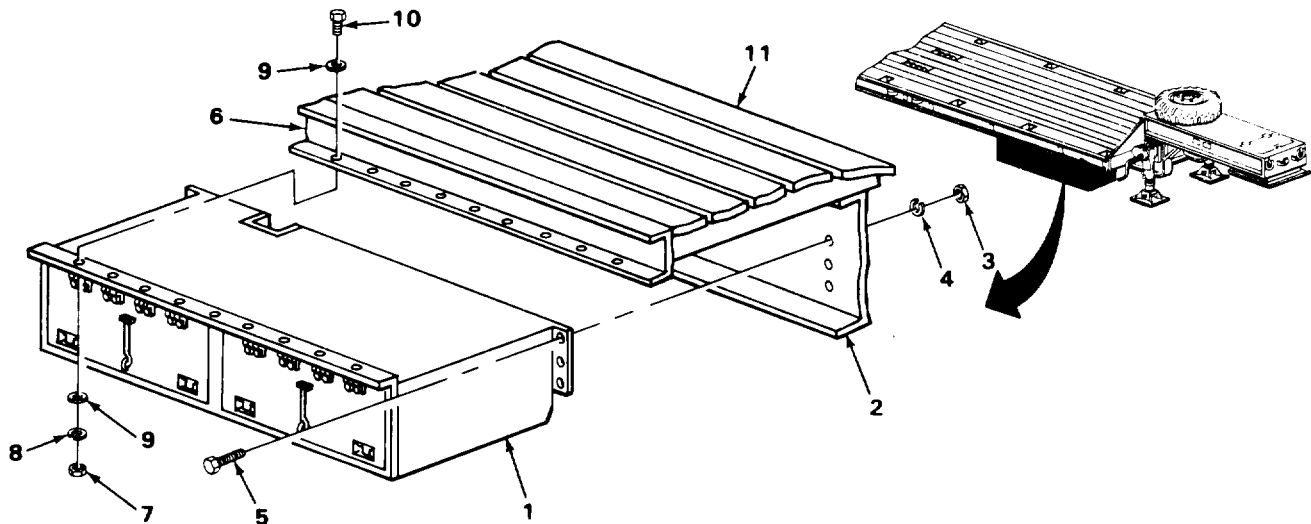
REMOVAL

1.	Forward right side of semitrailer	Stowage box (1)	Using wheel lift truck, support, but do not raise.
2.	Stowage box (1) to semitrailer main beam (2)	Six nuts (3), lockwashers (4), and capscrews (5)	Using 3/4-inch socket, extension, handle, and 3/4-inch wrench, unscrew and take out three from each side of stowage box (1).
3.	Stowage box (1) to deck outer rail (6)	Nine nuts (7), lockwashers (8), 18 washers (9), and nine capscrews (10)	Using 3/4-inch socket, handle, and 3/4-inch wrench, unscrew and take out.
4.	Right side of semitrailer	Stowage box (1)	With aid of assistants, slide out from under deck (11). If replacing box only, go to step 17.

STOWAGE BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

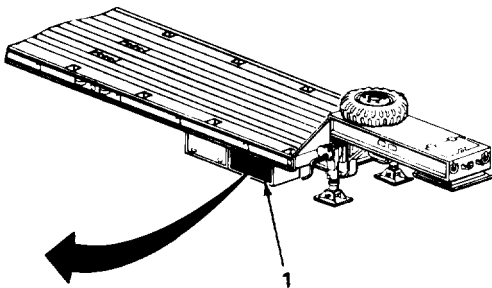
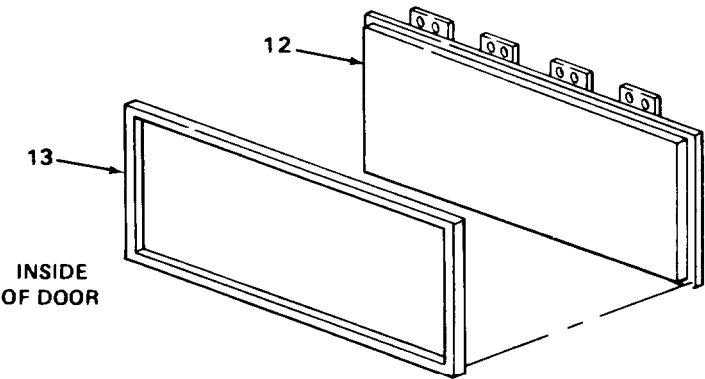


DOOR SEAL REPAIR

NOTE

If repairing door only, go to step 9. If repairing hook clip only, go to step 14.

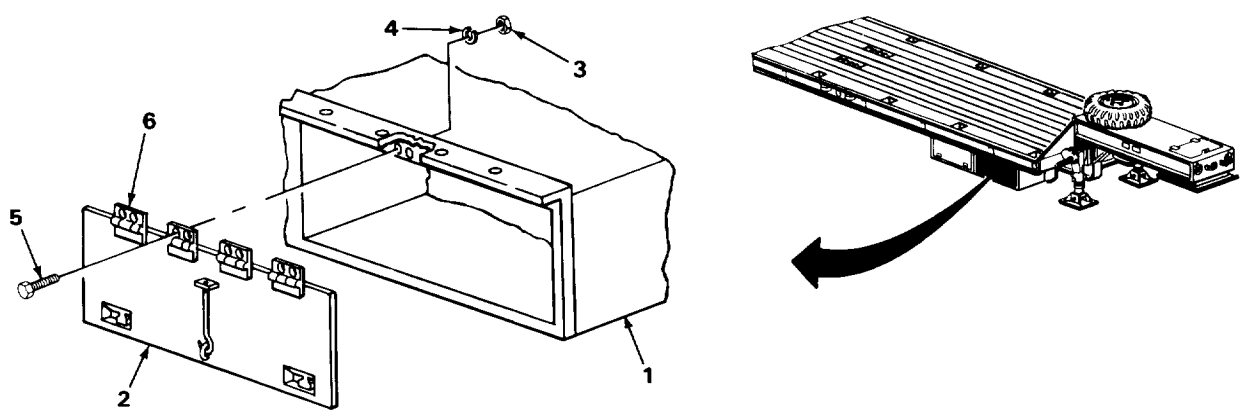
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|----|--------------------------|--------------------------|--|
| 5. | Stowage box (1) | Door (12) | Prop open. |
| 6. | Inside edge of door (12) | Weather-seal (13) | Using putty knife, scrape off.
Be sure all surfaces are clean. |
| 7. | Stowage box (1) | Inside edge of door (12) | Apply adhesive. |
| 8. | Inside of door (12) | New weather-seal (13) | Cut to required length and place on adhesive around inside of door.
Seal joints must be tight against each other to ensure proper seal. |



TA224306

STOWAGE BOX - CONTINUED

LOCATION		ITEM	ACTION REMARKS
DOOR REPAIR			
NOTE			
If replacing door seal only, task ends here.			
Both stowage box door assemblies are removed identically. Only the forward door is covered below. Repeat the procedure for the second door assembly.			
9.	Stowage box (1)	Door assembly (2)	Open far enough to get 9/16-inch wrench inside box (1) to hold nut (3).
10.	Door assembly (2) to stowage box (1)	Eight nuts (3), lockwashers (4), and capscrews (5)	Using handle, 9/16-inch socket, and 9/16-inch wrench, unscrew and take out.
11.	Stowage box (1)	Door assembly (2)	With aid of an assistant, remove.
12.		Door assembly (2)	With aid of an assistant, place against stowage box (1) and aline boltholes.
13.	Door assembly hinges (6) to stowage box (1)	Eight capscrews (5), lockwashers (4), and nuts (3)	Screw in and tighten using 9/16-inch socket, handle, and 9/16-inch wrench.



NOTE

If repairing door only, task ends here.

TA224307

STOWAGE BOX - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
HOOK CLIP REPAIR			
14.	Hook clip (7) and door (2)	Two screws (8), lockwashers (9), and nuts (10)	Using cross-tip screwdriver and 7/16- inch wrench, unscrew and take out.
15.	Door (2)	New hook clip (7)	Line up with holes in door (2).
16.	Door (2) and new hook clip (7)	Two screws (8), lockwashers (9), and nuts (10)	Put in and tighten using cross-tip screw- driver and 7/16 inch wrench.

NOTE

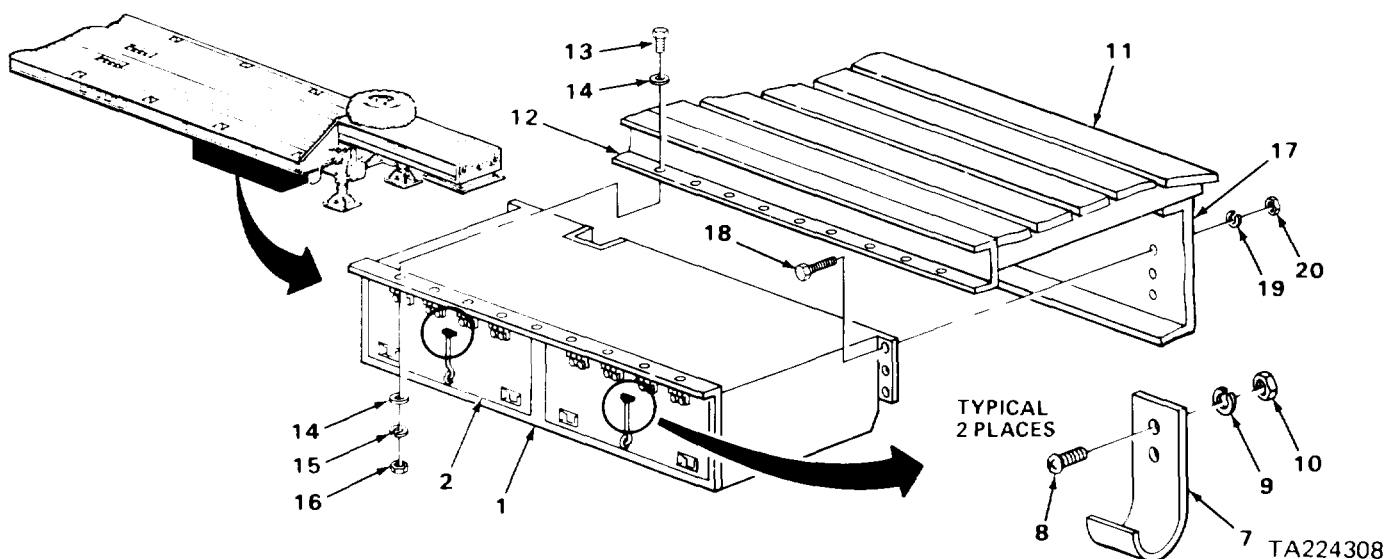
If repairing hook clip only, task ends here.

INSTALLATION

- | | | |
|-----|--|---|
| 17. | Stowage box (1) | a. With aid of assistants, slide under
right forward corner of deck (11).
b. Lift and support using wheel lift truck.
c. Aline bolt holes. |
| 18. | Stowage box (1)
to deck outer-
rail (12) | Two longer capscrows
(13), four washers
(14), two lock-
washers (15), and
nuts (16)

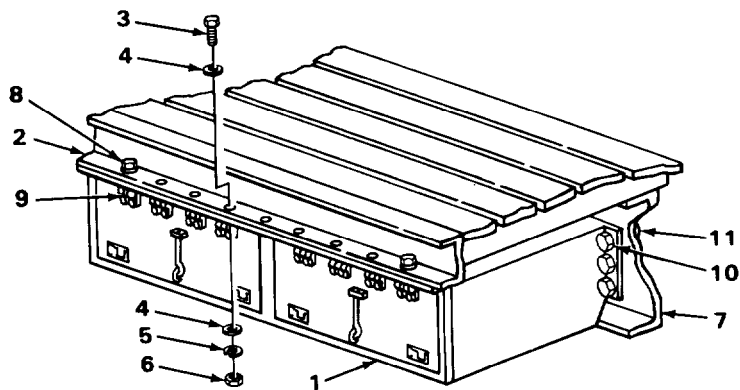
Screw into left and right ends of stowage
box (1) but do not tighten. |
| 19. | Stowage box (1)
to right main
beam (17) | Six shorter cap-
screws (18), lock-
washers (19) and
nuts (20)

Screw in but do not tighten. |



STOWAGE BOX - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
INSTALLATION – COTINUED				
20.	Stowage box (1) to deck outer- rail (2)	Seven longer cap- screws (3), 14 washers (4), seven lockwashers (5), and nuts (6)	Screw in and tighten using 3/4-inch socket, handle, and 3/4-inch wrench.	
21.	Stowage box (1) to main beam (7) and deck outer- rail (2)	Two longer capscrews (8) and nuts (9) and six shorter capscrews (10) and nuts(11)	Tighten using 3/4-inch socket, extension, and 3/4-inch wrench.	
22.		Wheel lift truck	Remove.	



TASK ENDS HERE

Section XIII. ACCESSORY ITEM MAINTENANCE

	Page		Page
Data Plate	4-143	Reflectors	4-141

REFLECTORS

This task covers:

- a. Removal (page 4-141)
- b. Installation (page 4-142)

INITIAL SETUP

Tools	Personnel Required
Extension, socket, 3/8-inch drive Handle, socket, 3/8-inch drive Screwdriver, cross-tip Socket, 3/8-inch, 3/8-inch drive Wrench, 3/8-inch, open-end	One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

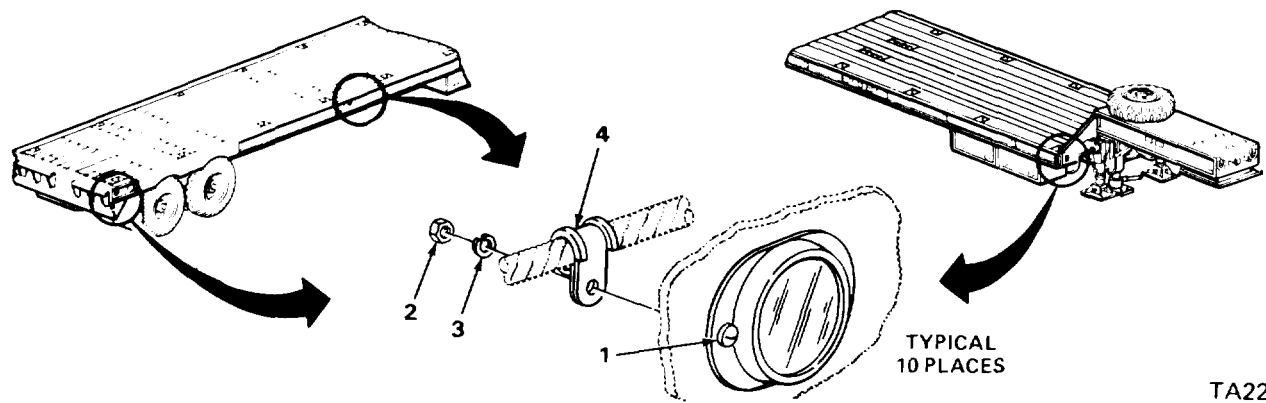
REMOVAL

NOTE

There are 10 reflectors on the semitrailer. This procedure is for one. Repeat the procedure for the others.

If reflector has wire harness clips mounted on the back, do steps 1, 2, 7, and 8.

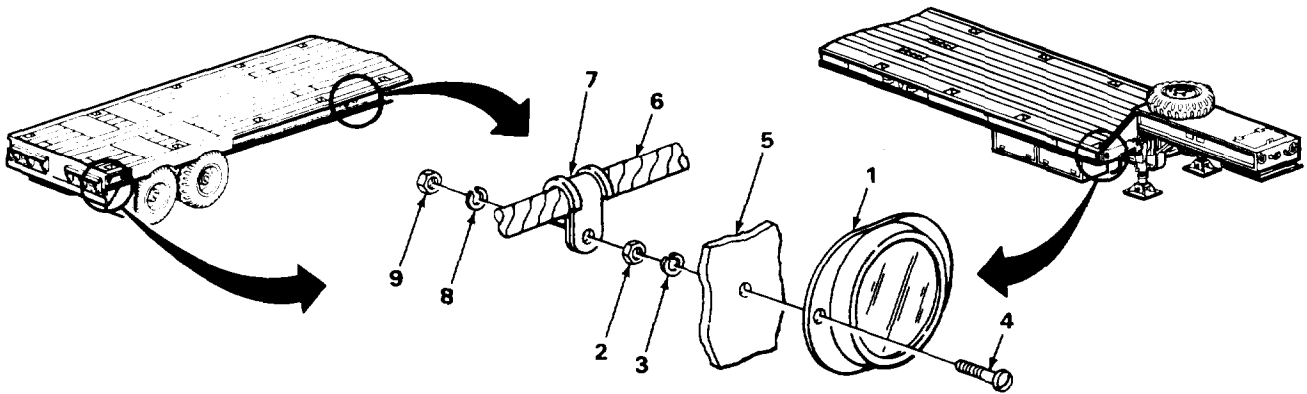
- | | | | |
|----|-----------|----------------------------|---|
| 1. | Screw (1) | Nut (2) and lockwasher (3) | Using wrench, unscrew and take off. |
| 2. | | Wire harness clip (4) | a. Take off and mark location.
b. Spread apart and take off wires. |



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REFLECTORS - CONTINUED

LOCATION		ITEM	ACTION REMARKS
REMOVAL- CONTINUED			
3.	Reflector (1)	Two nuts (2), lockwashers (3), and screws (4)	Using cross-tip screwdriver, socket, handle, and extension if required, un- screw and take off.
4.	Frame(5)	Reflector (1)	Take off.
INSTALLATION			
5.		Reflector (1)	Put on and line up holes.
6.	Frame (5) and reflector (1)	Two screws (4), nuts (2), and lockwashers (3)	Put in and tighten using cross-tip screw- driver, socket, handle, and extension if required.
7.	Wires (6)	Wire harness clip (7)	Put on and squeeze together.
8.	Screw (4)	Wire harness clip (7), lockwasher (8), and nut (9)	Put on and tighten using wrench.



TASK ENDS HERE

TA224311

DATA PLATE

This task covers:

- a. Removal (page 4-143)
- b. Installation (page 4-143)

INITIAL SETUP

Tools	Personnel Required
Screwdriver, cross-tip Wrench, 3/8-inch, open-end	One

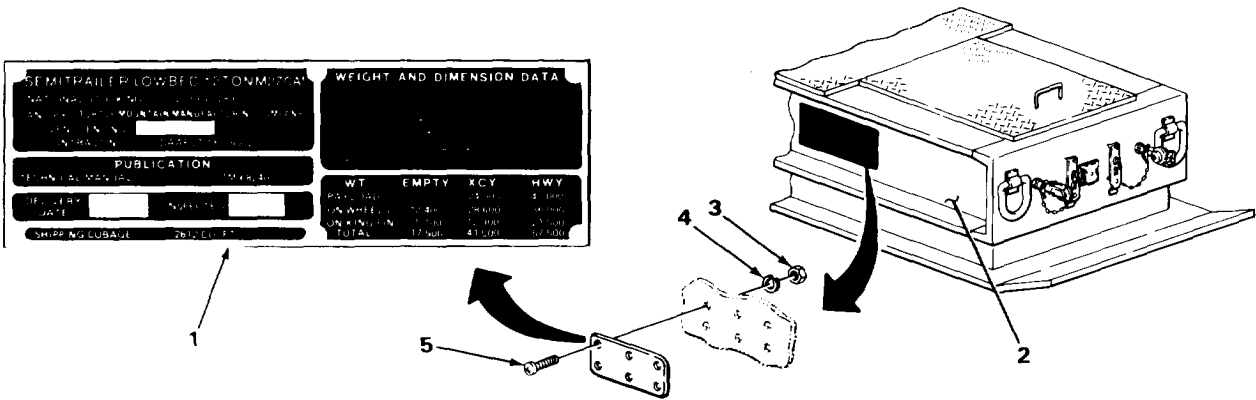
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

- | | | | |
|----|---|---|---|
| 1. | Data plate (1)
to right side of
gooseneck (2) | Six nuts (3), lock-
washers (4), and
screws (5) | Using 3/8-inch wrench and screwdriver,
unscrew and take out. |
| 2. | Gooseneck (2) | Data plate (1) | Remove. |

INSTALLATION

- | | | |
|----|---|---|
| 3. | Data plate (1) | Place on right side of gooseneck frame and
aline screwholes. |
| 4. | Six screws (5),
lockwashers (4),
and nuts (3) | Screw in and tighten using 3/8-inch wrench
and screwdriver. |



TASK ENDS HERE

TA224312

Section XIV. PREPARATION FOR STORAGE OR SHIPMENT

	Page		Page
Army Shipping Documents.....	4-144	Preparation for Shipment.....	4-144
Limited Storage Instructions	4-144	Removal of Preservatives	
		Before Shipment.....	4-144

PREPARATION FOR SHIPMENT

When shipping the 12-ton, lowbed, semitrailer M270A1, the officer in charge of preparing the shipment will be responsible for furnishing the semitrailer, including on-vehicle materiel (ovm), to the carrier in a serviceable condition; properly cleaned, preserved, painted, and lubricated as prescribed in TM9-247.

REMOVAL OF PRESERVATIVES BEFORE SHIPMENT

The removal of preservatives is the responsibility of organizations receiving shipments. Personnel withdrawing semitrailers from storage for domestic shipment must not remove preservatives other than to ensure that material is complete and serviceable. If it has been determined that preservatives have been removed, they must be restored to the prescribed level prior to shipment.

ARMY SHIPPING DOCUMENTS

Prepare all Army shipping documents accompanying the semitrailer in accordance with DA PAM 738-750.

LIMITED STORAGE INSTRUCTIONS

General

Semitrailers received for storage and already processed for domestic shipment must not be reprocessed unless inspection performed on receipt of semitrailers reveals corrosion, deterioration, etc. Completely process semitrailers upon receipt directly from manufacturing facilities, or if the processing data recorded on the tag indicates that preservatives have been rendered ineffective by operation or freight shipping damage. Semitrailers to be prepared for limited storage must be given a limited technical inspection and processed as prescribed in TM9-247.

Receiving Inspections

Report of semitrailers received for storage in a damaged condition or improperly prepared for shipment will be made on DD Form 6 (Report of Damaged or Improper Shipment), in accordance with AR 700-58. When semitrailers are inactivated, they will be processed in accordance with TM9-247. Immediately upon receipt of semitrailers for storage, they must be inspected and serviced. Perform a systematic inspection and replace or repair all missing or broken parts. If repairs are beyond the scope of the unit and the semitrailers will be inactivated for an appreciable length of time, place them in limited storage and attach tags specifying the repairs needed. The reports of these conditions will be submitted by the unit commander for action by any ordnance maintenance unit.

Inspection During Storage

Perform a visual inspection periodically to determine general condition. If corrosion is found on any part, remove it and clean and paint or treat with prescribed preservatives.

Removal from Storage

If the semitrailers are not shipped or issued upon expiration of the limited storage period, proceed as applicable in accordance with TM9-247. If the semitrailers are not shipped or issued upon expiration of the limited storage period, they need not be reprocessed upon removal from storage unless inspection reveals it to be necessary according to anticipated in-transit weather conditions. Deprocess the semitrailers in accordance with TM9-247 when it has been ascertained that they are to be placed in immediate service. Repair or replace all items tagged for such service.

Storage Site

Whenever possible, the preferred type of storage is under cover in open sheds or warehouses. When it is necessary to store the semitrailers outdoors, select the storage site in accordance with AR 700-2300-1 and protect the semitrailers against the elements as prescribed in TB ORD 379.

CHAPTER 5

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

OVERVIEW

This chapter contains all of the maintenance authorized to be performed by direct support and general support maintenance. Included is information covering repair parts; special tools; test, measurement, and diagnostic equipment (TMDE); support equipment; and direct support and general support maintenance instructions for the M270A1, 12-ton lowbed semitrailer.

		Page
Section I.	Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment.....	5-1
Section II.	Axle Maintenance	5-2
Section III.	Brake Maintenance	5-13
Section IV.	Wheel Maintenance	5-16
Section V.	Frame and Towing Attachments Maintenance	5-19
Section VI.	Spring Maintenance	5-24
Section VII.	Deck Maintenance	5-45

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

	Page		Page
Common Tools and Equipment.....	5-1	Special Tools, TMDE, and Support Equipment	5-1
Repair Parts	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.

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools, TMDE, or support equipment are required to maintain the semitrailer.

REPAIR PARTS

Repair parts for the semitrailer are listed in appendix F of this manual. Refer to appendix G, Illustrated List of Manufactured Items, for a description of fabricated parts.

Section II. AXLE MAINTENANCE

	Page		Page
Axles	5-2	Trunnion Cross Tube	5-11
Bogie Assembly	5-6		

AXLES

This task covers:

- | | |
|---|----------------------------|
| a. Removal (page 5-2) | c. Installation (page 5-5) |
| b. Cleaning, inspection, and repair
(page 5-3) | |
-

INITIAL SETUP**Tools**

Brush, wire
Support stands, safety

Personnel Required

Two

Equipment Condition**Materials/Parts**

Rags, wiping (item 14, appendix E)
Solvent, drycleaning PD-680 (item 16,
appendix E)

Bogie assembly removed (page 5-6).

LOCATION	ITEM	ACTION REMARKS
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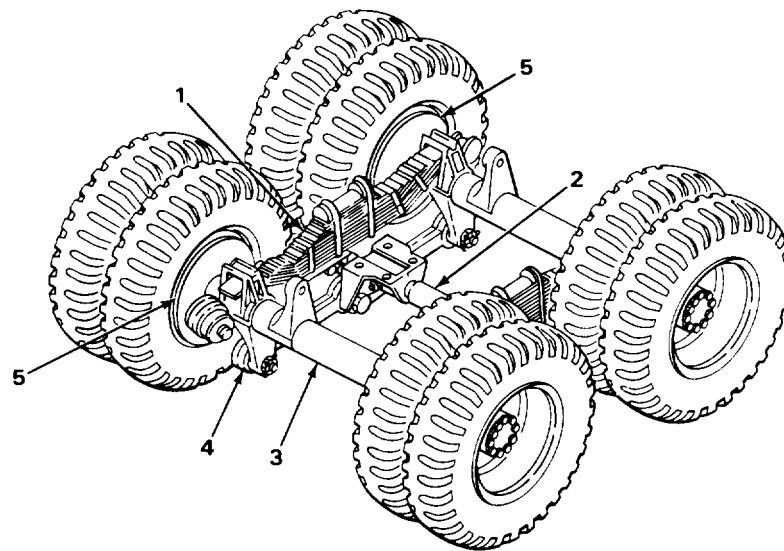
REMOVAL**NOTE**

There are two axles on the semitrailer. This procedure is for one. Repeat this procedure for the other.

- | | | | |
|----|--------------------------------------|-------------------------|--|
| 1. | Two spring assemblies (1) | Trunnion cross tube (2) | Using two support stands, support trunnion cross tube (2). |
| 2. | Trunnion cross tube (2) and axle (3) | Lower torque rods (4) | Remove (page 5-42). |

AXLES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
3. Trunnion cross tube (2)	Axle (3)	Roll away from cross tube (2).	
4. Axle (3)	Backing plates (5)	Remove (page 4-77).	



CLEANING, INSPECTION, REPAIR

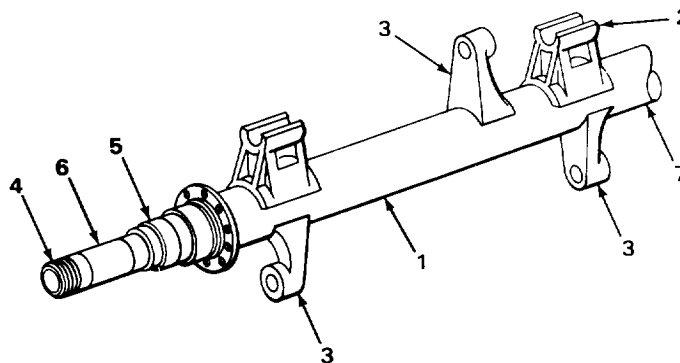
WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

TA224313

AXLES - CONTINUED

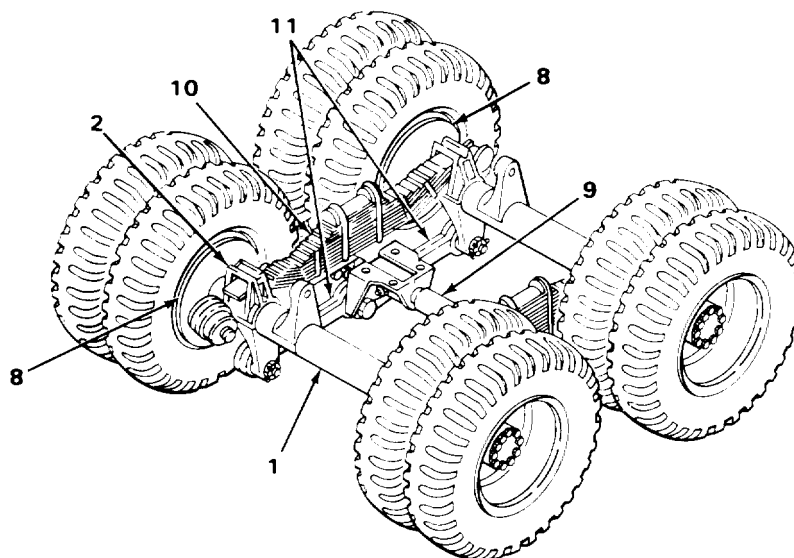
LOCATION	ITEM	ACTION REMARKS
CLEANING, INSPECTION, REPAIR – CONTINUED		
5.	Axle assembly (1)	<p>a. Wash with solvent and wire brush, and dry, using rags.</p> <p>b. Check spring guide brackets (2) for wear, cracks, or breaks. For repair, see page 4-4.</p> <p>c. Check upper and lower torque rod brackets (3) for wear, cracks, or breaks. For repair, see page 4-4.</p> <p>d. Check threaded ends (4) for damage, burrs, distortion, or evidence of cross threading. For repairs, see page 4-4.</p> <p>e. Check bearing seat surfaces (5) for scored, galled heat discoloration caused by improper bearing fit, nicks, or raised metal. If seat surfaces (5) are not repairable, notify your supervisor.</p> <p>f. Check spindles (6), for cracks or bending. If spindles (6) are bent, notify your supervisor.</p> <p>g. Check axle tube (7) for bad dents, cracks, or bends. If defective, notify your supervisor.</p>



TA224314

AXLES - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
6.	Axle (1)	Backing plates (8)	Install (page 4-77)
7.	Trunnion cross tube (9) and spring assemblies (10)	Axle (1)	Roll in position until spring assemblies (10) slide into spring guide brackets (2)
8.	Trunnion cross tube (9) and axle (1)	Lower torque rods (11)	Install (page 5-42)
9.	Two spring assemblies (10)	Trunnion cross tube (9)	Remove two support stands

**NOTE**

FOLLOW-ON MAINTENANCE: Install bogie assembly (page 5-6).

TASK ENDS HERE

TA224315

BOGIE ASSEMBLY

This task covers:

- a. Removal (page 5-6)
- b. Installation (page 5-8)

INITIAL SETUP

Tools

Chain, 20 feet
 Extension, 3/4-inch drive, 5-inch
 Handle, ratchet, 3/4-inch drive
 Hoist, overhead, 10-ton
 Jack, hydraulic, 20-ton,
 (two required)
 Sling, two-leg chain, w/ring
 Socket, 1 7/16-inch, 3/4-inch drive
 Socket, 1 5/8-inch, 3/4-inch drive
 Support stands, safety, 10-ton
 (two required)
 Wrench, 1/2-inch, open-end
 Wrench, 5/8-inch, open-end

Tools – Continued

Wrench, 1 1/2-inch, open-end
 Wrench, torque, 0 to 1000 foot pound capacity

Personnel Required

Two

Equipment Condition

Hydraulic system drained (page 4-72).
 Air reservoir drained (page 3-9).
 Upper torque rods removed (page 5-38).

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

- | | | | |
|----|---|---|--|
| 1. | T-fitting (1)
and hose (2) | Swivel connector (3) | Using 5/8-inch wrench and 1/2-inch wrench, unscrew and take out.
Repeat for other axle. |
| 2. | Spring
assembly (4) | Saddle (5) | Put on spring assembly (4) and under two U-bolts (6). |
| 3. | Two U-bolts (6) | Four nuts (7) | Screw on and tighten using 1 7/16-inch socket and handle. |
| 4. | Two mounting
brackets (8)
and two support
brackets (9) | Eight nuts (10),
lockwashers (11),
and bolts (12) | Using 1 5/8-inch socket, handle, and 1 1/2-inch wrench, unscrew and take out.
It maybe necessary to use an extension on ratchet handle to break nuts loose. |

BOGIE ASSEMBLY - CONTINUED

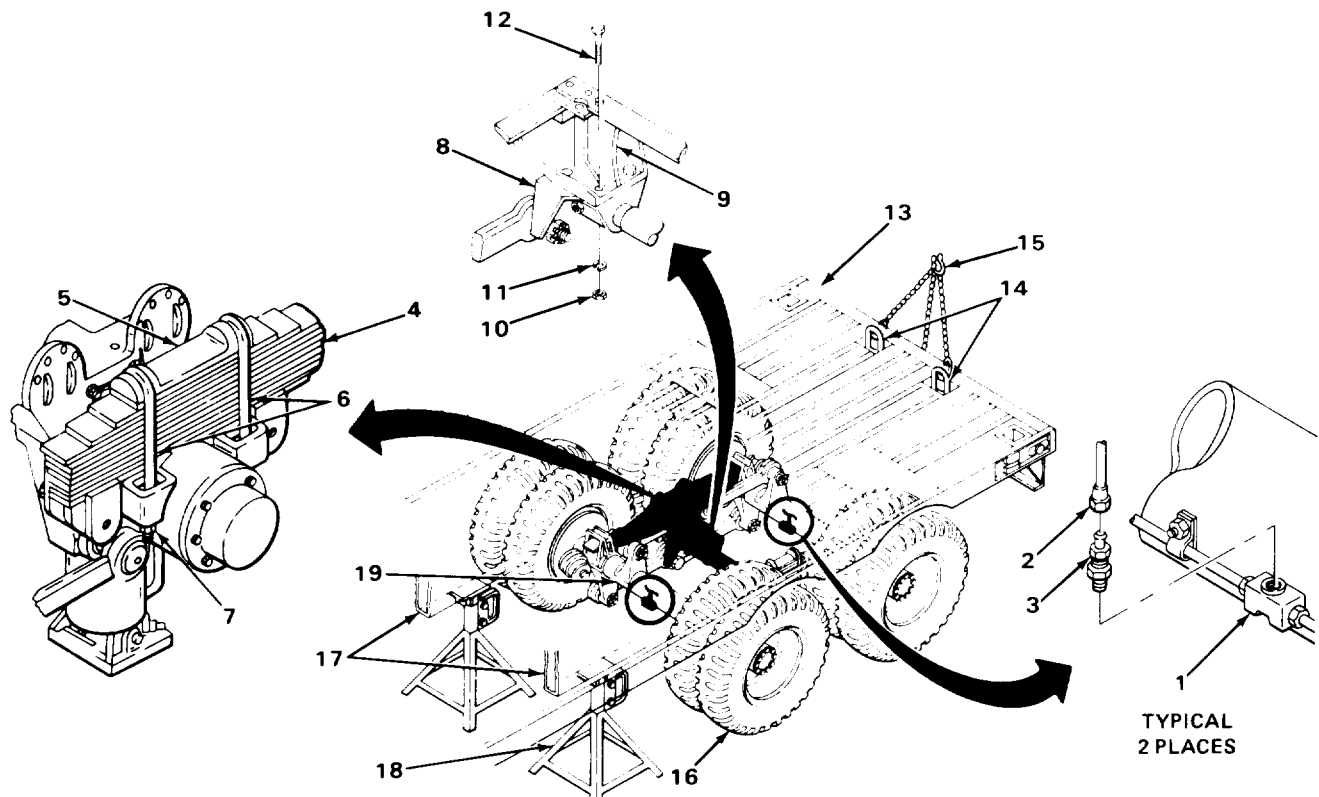
LOCATION	ITEM	ACTION REMARKS
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REMOVAL – CONTINUED

CAUTION

Before raising semitrailer, be sure everything is disconnected. Failure to do so could damage the equipment.

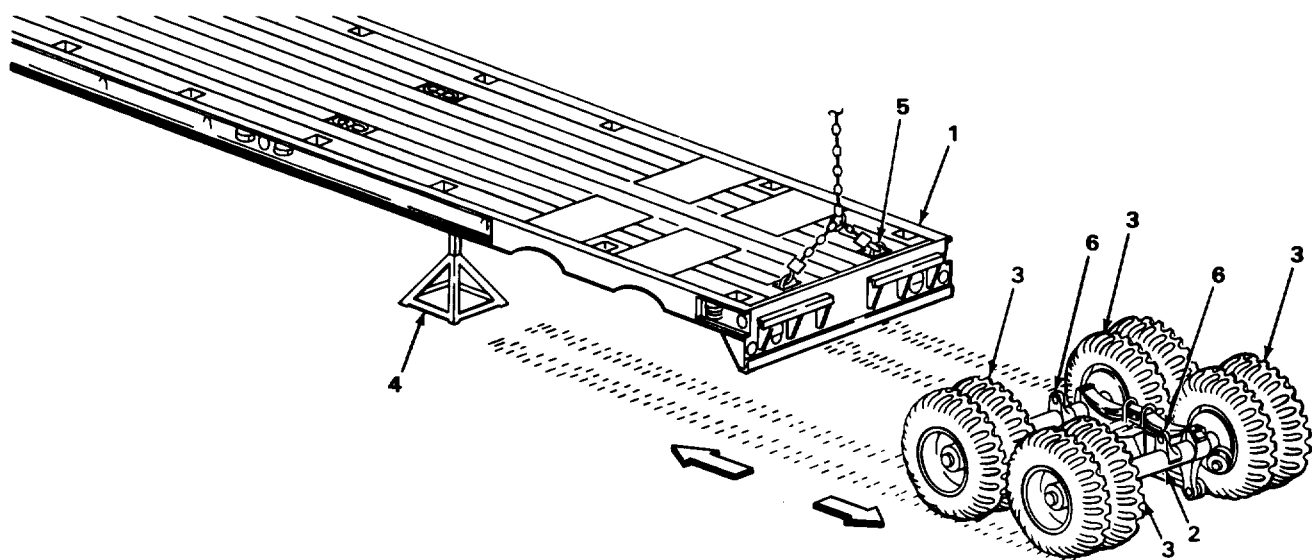
- | | | | |
|----|--------------------------|--------------------------------|---|
| 5. | Rear of semitrailer (13) | Lift rings (14) | a. Attach lifting sling and chain (15).
b. Using hoist, lift until semitrailer is clear of tires (16). |
| 6. | Frame (17) | Two safety support stands (18) | a. Put under two main frame members ahead of forward rear axle (19).
b. Adjust height to support semitrailer securely. |



TA224316

BOGIE ASSEMBLY - CONTINUED

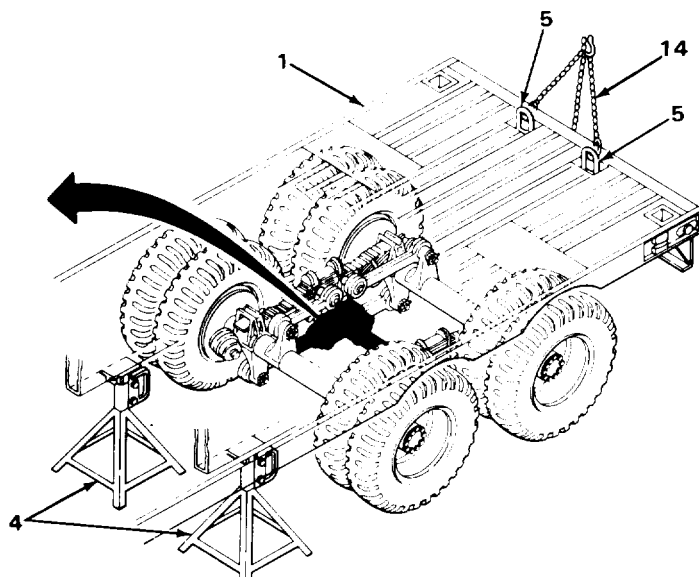
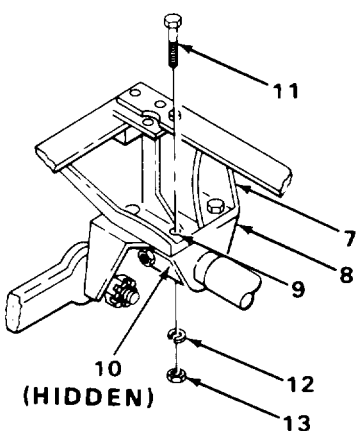
LOCATION		ITEM	ACTION REMARKS
REMOVAL – CONTINUED			
7.	Semitrailer (1)	Bogie assembly (2)	Roll out and block wheels (3).
8.		Rear of semitrailer (1)	Using hoist, lower onto safety stands (4).
INSTALLATION			
9.	Rear of semitrailer (1)	Lifting rings (5)	Raise high enough to clear tires using hoist.
10.	Rear of semitrailer (1)	Bogie assembly (2)	Roll under and position. Be certain upper torque rod brackets (6) are on right side of semitrailer (1).



TA224317

BOGIE ASSEMBLY - CONTINUED

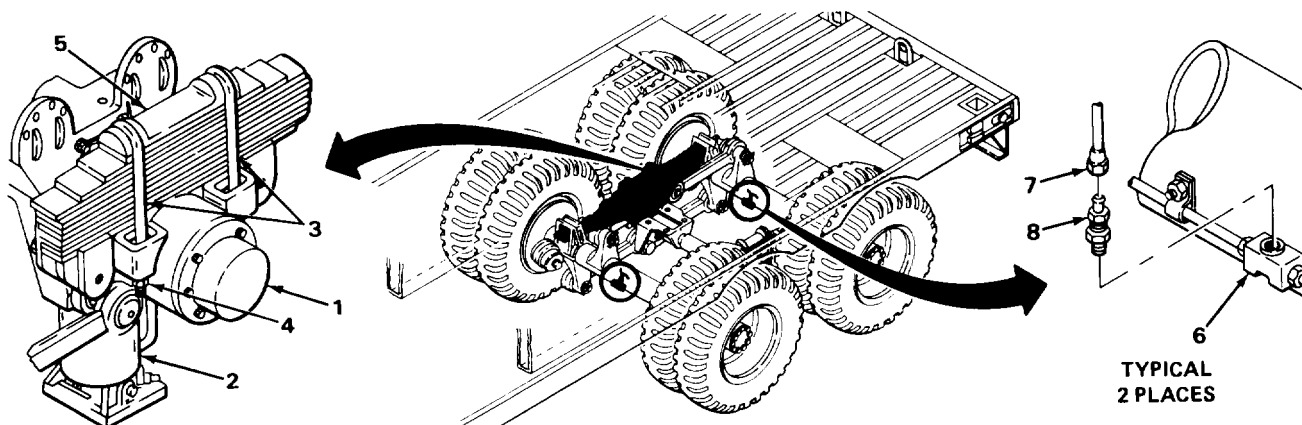
LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
11. Lifting rings (5)	Rear of semi-trailer (1)	a. Using hoist, lower until support brackets (7) are within approximately 1 inch (25 mm) of trunnion cross tube brackets (8). b. Line up boltholes (9) in support brackets (7) with boltholes (10) in trunnion cross tube brackets (8).
12. Support brackets (7) and trunnion cross tube brackets (8)	Eight bolts (11), lockwashers (12), and nuts (13)	a. Screw in and tighten, using 1 5/8-inch socket, handle, and 1 1/2-inch wrench. It maybe necessary to jack up trunnion cross tube brackets (8) to seat support brackets (7). b. Tighten nuts (13) between 450 and 650 ft-lb (610 and 881 Nžm) using torque wrench.
13. Rear of semitrailer (1)	Safety support stands (4)	a. Take out two safety support stands (4) b. Lower semitrailer (1) until sling (14) is loose. c. Take off sling (14).



TA224318

BOGIE ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
14.	Trunnion cross tube (1)	Support with hydraulic jack (2).
15.	Two U-bolts (3)	Four nuts (4) a. Using 1 7/16-inch socket and handle, unscrew until flush with ends of U-bolts. b. Using hammer, drive up.
16.	Saddle (5)	Take out.
17.	T-fitting (6) and hose (7)	Swivel connector (8) Screw in and tighten using 5/8-inch wrench and 1/2-inch wrench. Repeat for other axle.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install upper torque rods (page 5-38).
2. Fill and bleed hydraulic reservoir (page 4-70).

TASK ENDS HERE

TA224319

TRUNNION CROSS TUBE

This task covers:

- a. Removal (page 5-11)
- b. Installation (page 5-12)

INITIAL SETUP

Tools

Hammer, hand
Handle, ratchet, 3/4-inch drive
Socket, 1 1/8-inch, 3/4-inch drive
Wrench, 1 1/8-inch, open-end

Personnel Required

Two

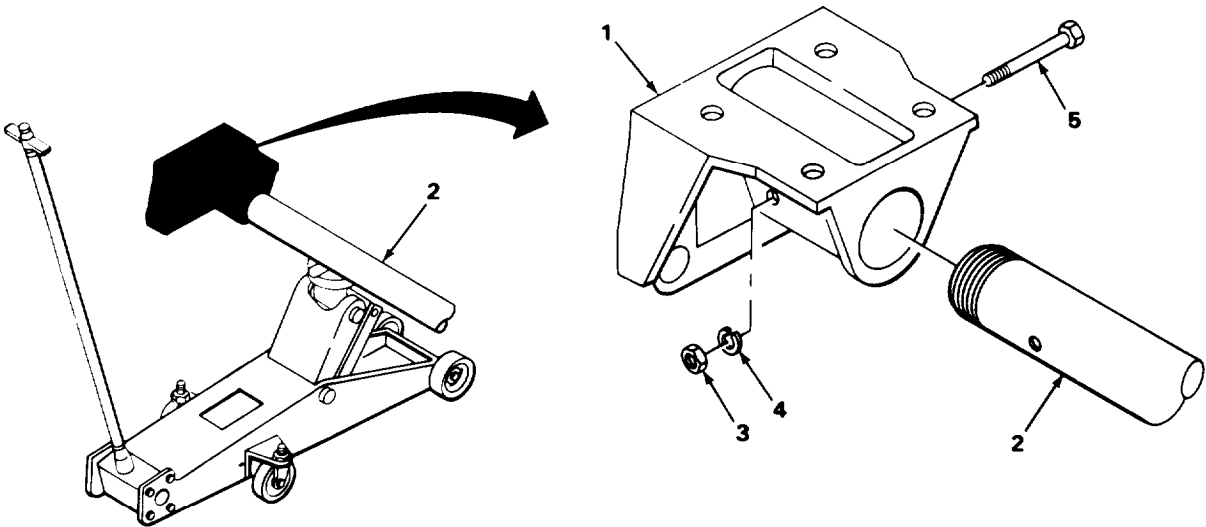
Equipment Condition

Spring seats removed (page 5-29).

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

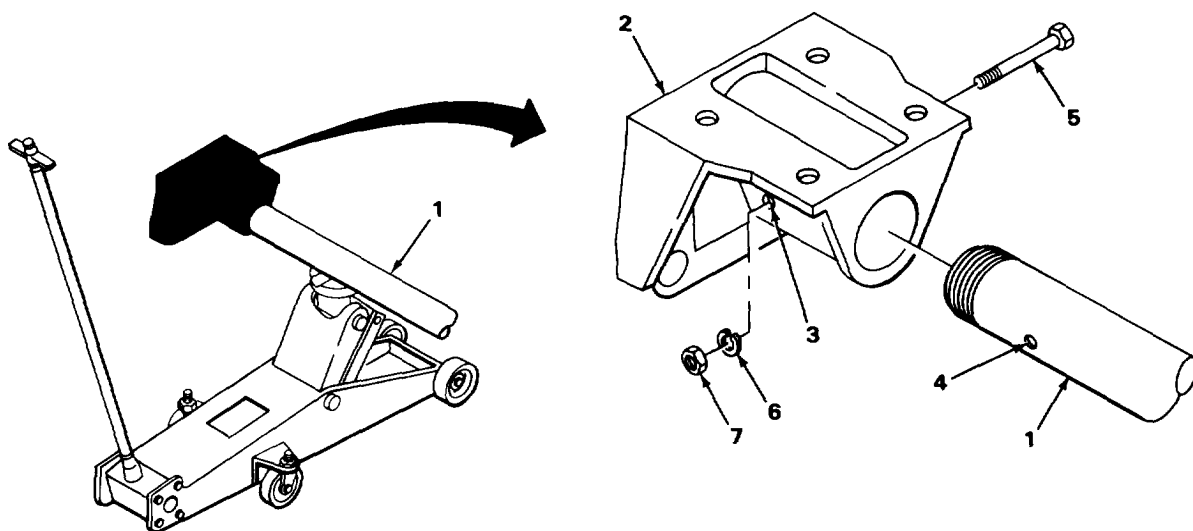
- | | | | |
|----|---|--|---|
| 1. | Two trunnion cross tube brackets (1) and cross tube (2) | Two nuts (3), washers (4), and bolts (5) | Using 1 1/8-inch socket, handle, and 1 1/8-inch wrench, unscrew and take out. |
| 2. | Cross tube (2) | Two trunnion cross tube brackets (1) | With aid of assistant, take off.
Tap with hammer, if necessary. |



TA224320

TRUNNION CROSS TUBE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
3.	Cross tube (1)	Two trunnion cross tube brackets (2)
4.	Cross tube (1) and cross tube brackets (2)	Two bolts (5)
5.	Two washers (6) and nuts (7)	a. Slide onto trunnion cross tube (1). b. Line up bolthole (3) to cross tube bolthole (4). Slide through brackets (2) and cross tube (1). Screw onto bolts (5) and tighten using 1 1/8-inch socket, handle, and 1 1/8-inch wrench.

**NOTE**

FOLLOW-ON MAINTENANCE: Install spring seats (page 5-29).

TASK ENDS HERE

TA224321

Section III. BRAKE MAINTENANCE

Page

Brakeshoe Assembly Repair 5-13

BRAKESHOE ASSEMBLY REPAIR

This task covers:

Repair (page 5-14)

INITIAL SETUP

Tools

Brush, wire
Drift, brass
Drill bit, electric, 13/64-inch
Drill, motor, electric
Gage, feeler, 0.0002-inch
(0.0508 mm)
Press, arbor
Reliner, brake

Personnel Required

One

Equipment Condition

Brakeshoes removed (page 4-66).

Materials/Parts

Rivets, as required
Shim stock, as required
Solvent drycleaning PD-680
(item 16, appendix E)

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

Brake linings contain asbestos fibers. Protective mask must be worn while performing this task. Failure to do so could result in serious injury to personnel.

When brake linings are worn to within 0.030 inch (0.762 mm) of the rivets, they must be replaced. Failure to do so could result in injury or death to personnel.

NOTE

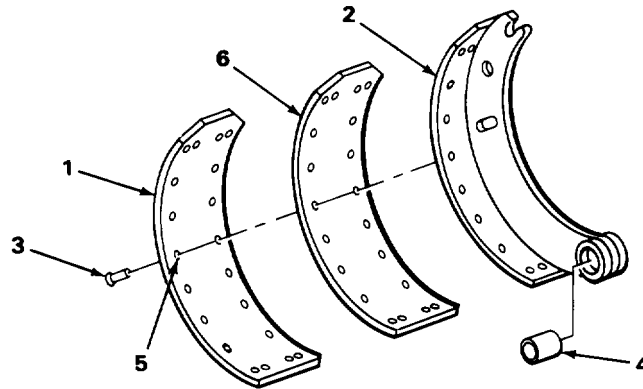
There are eight brakeshoes on the semitrailer. This procedure is for one. Repeat this procedure for the others.

BRAKESHOE ASSEMBLY REPAIR - CONTINUED

LOCATION		ITEM	ACTION REMARKS
REPAIR			
1.	Brake lining (1) and brakeshoe (2)	16 rivets (3)	Using drill motor and bit, drill out.
2.	Brakeshoe (2)	Brake lining (1)	Take off.
3.		Bushing (4)	a. Place brakeshoe (2) in bed of arbor press. b. Using brass drift, placed between bushing (4) and ram of press, drive out. c. Get rid of bushing (4). d. Using wire brush and solvent, clean brakeshoe (2).
4.		Brakeshoe (2)	a. Check for cracks, breaks in welds, distortion, warping, and rivet holes (5). b. If defective, replace.
5.	Brakeshoe (2)	New bushing (4)	a. Place brakeshoe (2), in bed of arbor press. b. Start bushing (4) in anchor pin hole of brakeshoe (2), and drive in until flush with face of brakeshoe (2).
NOTE If drums have been turned, a shim must be used between brakeshoe and lining. Shim must be the same thickness as the total depth of cut made when turning the drum.			
6.	Brakeshoe (2)	New brake lining (1) and shim (6)	a. Line up holes. b. Using brake reliner, put in rivets (3) starting in center and working outward. c. Using 0.0002-inch (0.0508-mm) feeler gage, check fit. Gage should not penetrate past rivets.

BRAKESHOE ASSEMBLY REPAIR - CONTINUED

REPAIR – CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install brakeshoes (page 4-66).
2. Adjust brakes (page 4-63).
3. Test brakes (page 2-18).

TASK ENDS HERE

Section IV. WHEEL MAINTENANCE

Page

Brakedrum Repair 5-16

BRAKEDRUM REPAIR

This task covers:

Repair (page 5-16)

INITIAL SETUP

Tools	Personnel Required
Lathe, brakedrum Micrometer, inside	One
Materials/Parts	Equipment Condition
Cloth, crocus (item 4, appendix E) Solvent, drycleaning PD-680 (item 16, appendix E)	Hub and drum removed (page 4-113).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REPAIR

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat.

- | | | |
|----|--|--|
| 1. | Brakedrum (1) | a. Wash thoroughly with solvent.
b. Allow to air dry. Do not use compressed air. |
| 2. | Brakedrum (1)
Inner braking surface (2) | Check for heat checking, scoring, warpage, or cracks.
Cracked drums must be replaced.
Do not weld. |

NOTE

Slight scoring conditions can be corrected by polishing with crocus cloth. Heavy scoring and out-of-round conditions require turning the brakedrum on a refinishing lathe.

BRAKEDRUM REPAIR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REPAIR - CONTINUED		
3.	Brakedrum (1)	<p>a. Check inside diameter for out-of-round or tapered wear.</p> <p>b. Place drum (1) on a level surface and check as follows:</p> <p>(1). Position micrometer tips at the center of drum braking surfaces (2). Move horizontally and vertically while adjusting until maximum contact is made.</p> <p>(2). Turning drum (1) 45 degrees each time, repeat adjustment to obtain four readings. Record each reading.</p> <p>(3). Check the readings: The maximum difference between the four readings cannot exceed 0.006 inch (0.15 mm.) Drums with out.of.round exceeding limits must have diameter trued on the lathe.</p>

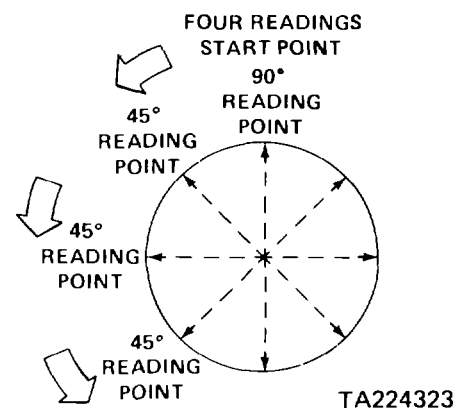
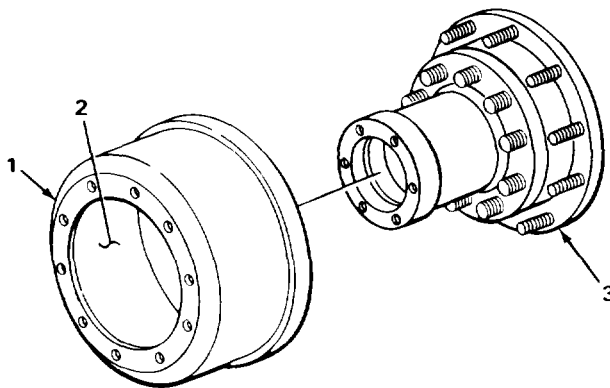
NOTE

Brakedrums must have hub and stud assemblies installed in order to turn brakedrums on refinishing lathe.

- | | | |
|----|---------------------------|--|
| 4. | Hub and stud assembly (3) | <p>Position into brakedrum.</p> <p>Use new wheel and stud assemblies if vehicle assemblies are not available (appendix F).</p> |
|----|---------------------------|--|

NOTE

It is not necessary to torque lug bolts. Just be sure they are tight.



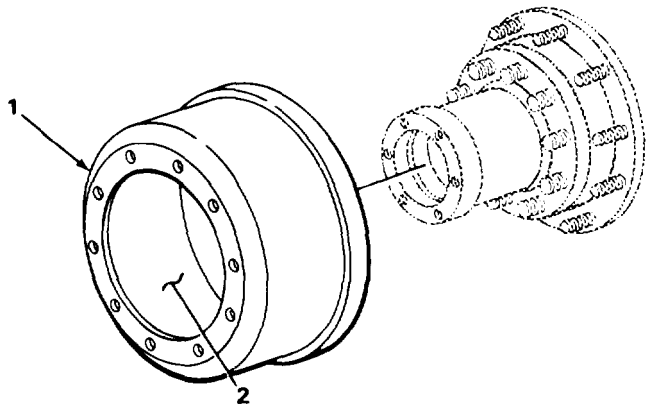
BRAKEDRUM REPAIR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR - CONTINUED			

CAUTION

If turning causes the drum to exceed the original diameter by more than 0.060 inch (1.52 mm), you will have to replace the drum. Whenever the drum on one side of the axle is refinished, the other drum on that axle should be turned to the same specifications.

- | | | | |
|----|---------------|---------------------------|---|
| 5. | Brakedrum (1) | Inner braking surface (2) | <ul style="list-style-type: none">a. Refinish by turning, using refinishing lathe.b. Make several thin cuts until scoring or grooving defects have been removed. Check the drum diameter after each cut, to make sure you have not cut too much metal out. See caution above.c. Refinish mating drum to same specifications as the one above. |
|----|---------------|---------------------------|---|



NOTE

FOLLOW-ON MAINTENANCE:

- 1. Install hub and drum (page 4-1 13).
- 2. Test brake (page 2-18).

TASK ENDS HERE

Section V. FRAME AND TOWING ATTACHMENTS MAINTENANCE

	Page		Page
Bogie Bracket	5-22	Kingpin	5-21
Frame Assembly Repair	5-19	Lashing Rings	5-19

FRAME ASSEMBLY REPAIR

NOTE

For information on frame repair, see TM 9-237.

TASK ENDS HERE

LASHING RINGS

This task covers:

- a. Removal (page 5-19)
- b. Installation (page 5-20)

INITIAL SETUP

Tools	Personnel Required
Grinder, portable Torch, acetylene Welder, arc	One

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

NOTE

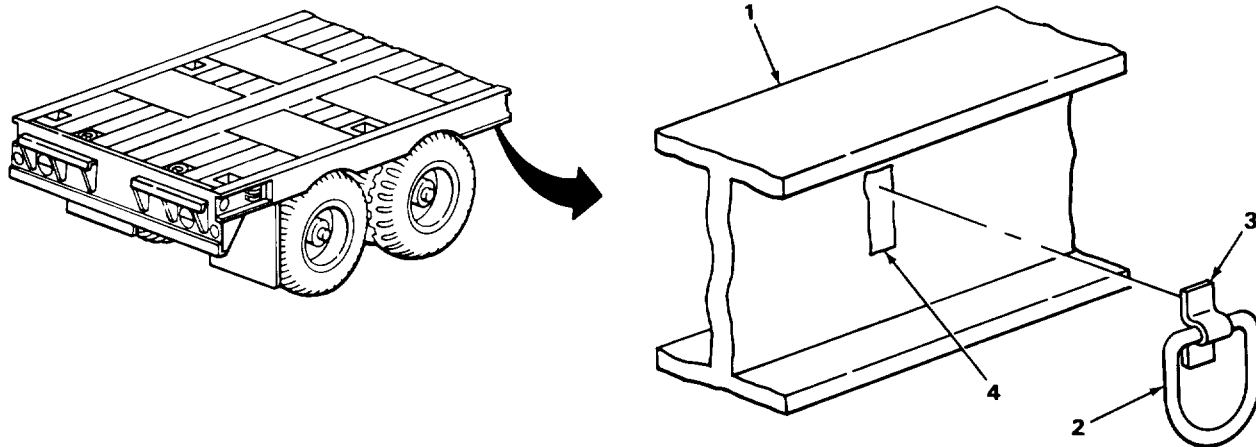
There are 18 lashing rings on the semitrailer. This procedure is for one of them. Repeat the procedure for the others.

LASHING RINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
1. Frame (1) and lashing ring (2)	Bracket (3)	a. Mark location for installation. b. Using cutting torch, cut off.
2.	Lashing ring (2)	Take off.
3. Frame (1)	Weldment (4)	Using grinder, grind until surface is smooth.

INSTALLATION

4. Lashing ring (2) and bracket (3)
- Put bracket around ring.
 - Put in place according to location marks.
 - Weld using arc welder.
See TM 9-237.



TASK ENDS HERE

TA224325

KINGPIN

This task covers:

- a. Removal (page 5-21)
- b. Installation (page 5-21)

INITIAL SETUP

Tools

Grinder, portable
Torch, acetylene
Welder, arc

Personnel Required

One

Equipment Condition

Semitrailer unhooked from towing vehicle.

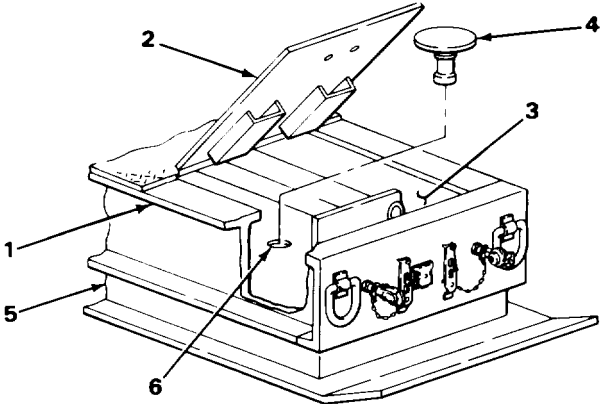
LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

REMOVAL

- | | | | |
|----|-----------------------|-------------------|---|
| 1. | Gooseneck (1) | Toolbox cover (2) | Open. |
| 2. | Toolbox (3) | Kingpin (4) | Using acetylene torch, cut out.
Do not damage fifth wheel plate. |
| 3. | Fifth wheel plate (5) | Weldment (6) | Using portable grinder, grind until surface is smooth. |

INSTALLATION

- | | | | |
|----|---------------|-------------------|---|
| 4. | | New kingpin (4) | a. Put in place and center.
b. Weld to fifth wheel plate (5).
See TM 9-237. |
| 5. | Gooseneck (1) | Toolbox cover (2) | Close. |



TASK ENDS HERE

TA224326

BOGIE BRACKET

This task covers:

- a. Removal (page 5-22)
- b. Installation (page 5-23)

INITIAL SETUP

Tools	Personnel Required
Jack, hydraulic, 10-ton	Two
Handle, ratchet, 1/2-inch drive	Equipment Condition
Socket, 15/16-inch, 1/2-inch drive	Bogie assembly removed (page 5-6).
Wrench, 15/16-inch, open-end	
Materials/Parts	
Anti-squeak insulator	

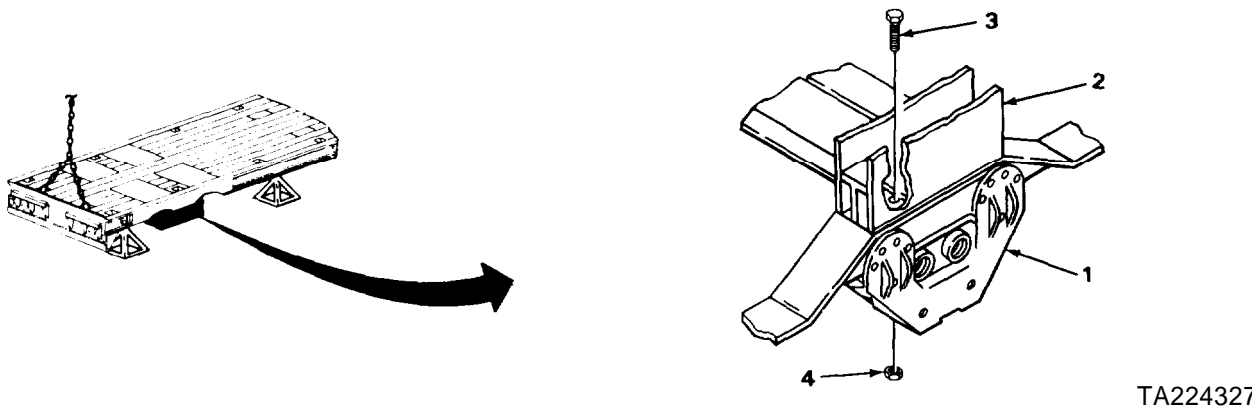
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

Use this procedure to replace either the right side or left side bogie bracket. The left side bogie bracket is shown.

1.	Bogie bracket (1) to frame (2)	Four short screws (3) and nuts (4)	Using socket, handle, and wrench, unscrew and take out.
2.	Frame (2)	Bogie bracket (1)	Support using hydraulic jack.



TA224327

BOGIE BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

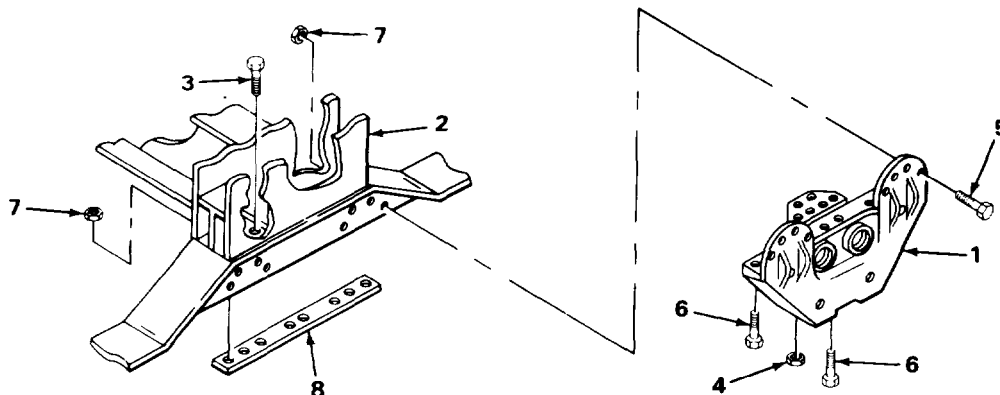
WARNING

Bogie bracket is heavy. Have assistant help remove and install bogie bracket. Failure to do so could cause personal injury.

- | | | | |
|----|-----------------------------------|---|--|
| 3. | Bogie bracket (1)
to frame (2) | Eight short screws
(5), ten long screws
(6), and 18
nuts (7) | Using socket, handle, and wrench,
unscrew and take out. |
| 4. | Frame (2) | Bogie bracket (1)
and anti-squeak
insulator (8) | a. Take off.
b. Get rid of insulator (8). |

INSTALLATION

- | | | |
|----|---|---|
| 5. | Bogie bracket (1)
and new anti-squeak
insulator (8) | Put on frame (2) and hold in place
using hydraulic jack. |
| 6. | Eight short screws
(5), ten long screws
(6) and 18 nuts (7) | a. Screw into bogie bracket (1) and frame
(2), and tighten using socket and
handle.
b. Move hydraulic jack away from bogie
bracket. |
| 7. | Four short screws
(3) and nuts (4) | Screw into bogie bracket (1) and frame (2)
and tighten using socket, handle, and
wrench. |



TA224328

BOGIE BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION – CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install bogie assembly (page 5-6).

TASK ENDS HERE

Section VI. SPRING MAINTENANCE

	Page		Page
Lower Torque Rod	5-42	U-Bolts, Saddle, and Spring	5-24
Spring Seat	5-29	Upper Torque Rod	5-38

U-BOLTS, SADDLE, AND SPRING

- This task covers:
- a. Removal (page 5-25)
 - b. Installation (page 5-26)

INITIAL SETUP

Tools

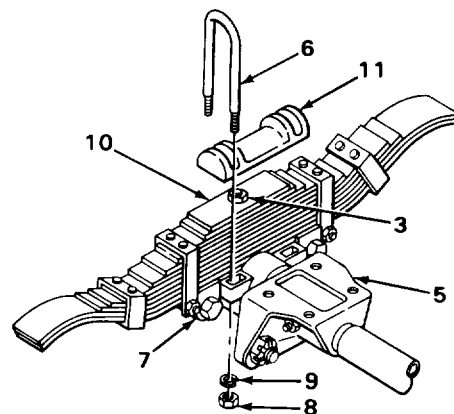
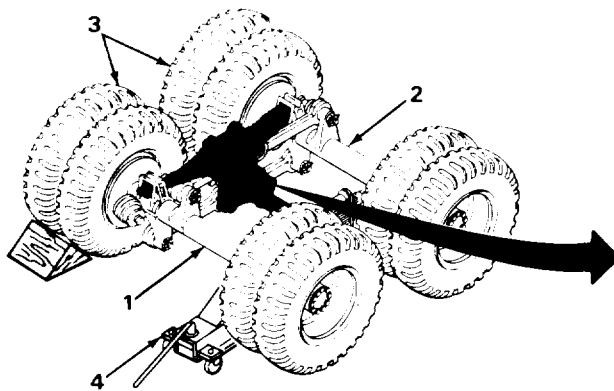
- Chain
- Hammer, soft heavy
- Handle, ratchet, 3/4-inch drive
- Hoist, 10-ton lifting capacity
- Jack, 20-ton, hydraulic, dolly type
- Socket, 1 7/16-inch, 3/4-inch drive
- Socket, 1 3/4-inch, 3/4-inch drive
- Torque multiplier w/folding handle
- Wrench, torque, 600 ft-lb capacity

Materials/Parts

- Blocks assembly
- Grease, GAA (item 8, appendix E)
- Personnel Required
- Two
- Equipment Condition
- Bogie assembly removed (page 5-6).

U-BOLTS, SADDLE, AND SPRING - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
REMOVAL			
1.	Forward rear axle (1) and rear axle (2) assemblies	Dual tire/wheel assemblies (3)	Block in front and behind to prevent movement of bogie assembly.
2.	Bogie assembly	Hydraulic dolly jack (4)	a. Position under center of trunnion cross tube (5). b. Raise until weight of trunnion cross tube (5) is supported. Do not raise wheels (3) off the ground.
3.	Two U-bolts (6) to spring seat (7)	Four hex nuts (8) and washers (9)	Using 1 7/16-inch socket and handle, unscrew and take off.
4.	Spring assembly (10)	Two U-bolts (6) and saddle (11)	Take off. It maybe necessary to free U-bolts (6) by striking them with a soft heavy hammer.
5.	Axles (1) and (2)		a. Chain axles (1) and (2) together so they do not rotate after torque rods are removed. b. Remove lower torque rods (page 5-42).



TA224329

U-BOLTS, SADDLE, AND SPRING - CONTINUED

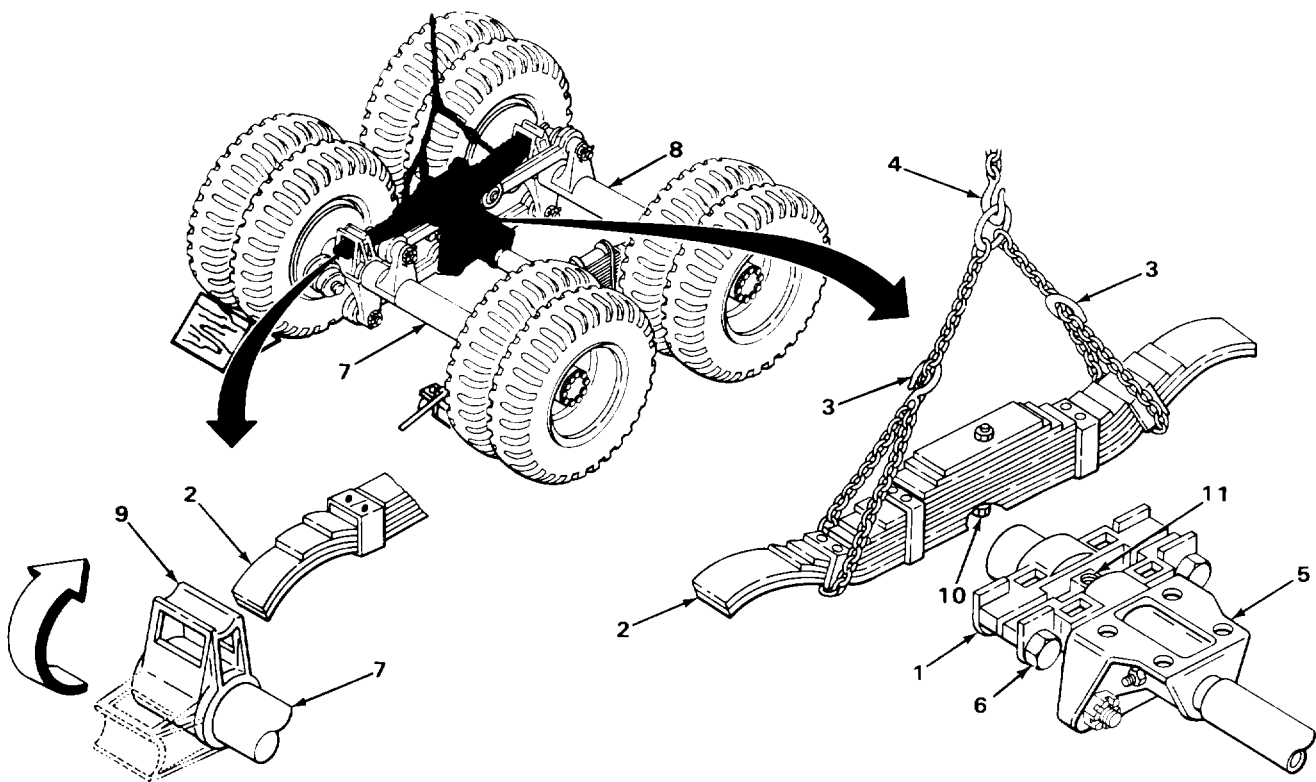
LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
6.	Spring seat (1)	Spring assembly (2) Wrap and hook sling chain (3) around each end of spring assembly (2) and hook to hoist hook (4). Make sure sling chain (3) is secure.
7.	Inside of spring seat (1) to trunnion cross tube (5)	Two spring seat capscrews (6) Using 1 3/4-inch socket and handle, loosen enough to release spring assembly (2).
8.	Two axle assemblies (7) and (8)	a. Loosen chain holding axles together. b. Rotate outward until ends of spring assembly (2) come out of brackets (9).
9.	Spring assembly (2)	a. Using hoist, raise and swing spring assembly (2) clear of trunnion cross tube (5). Have assistant help. b. Lower spring assembly (2) to ground. Remove sling chain (3).
INSTALLATION		
10.	Spring seat assembly (1)	Lubricate with a light coating of GAA grease.
11.	Spring seat assembly (1)	Spring assembly (2) a. Wrap and hook sling chain (3) around each end of spring assembly (2) and hook to hoist hook (4). b. Using hoist, raise spring assembly (2) and lower it into place on spring seat assembly (1). Make sure center bolt (10) on spring assembly (2) is seated in recessed hole (11) of spring seat assembly (1).

U-BOLTS, SADDLE, AND SPRING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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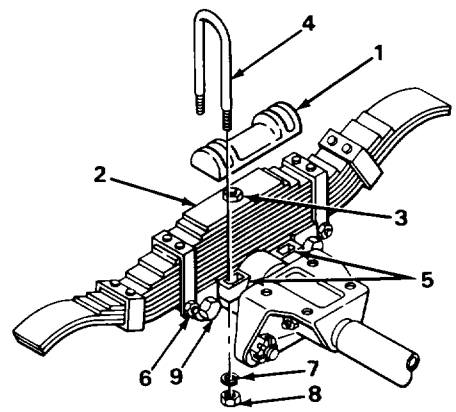
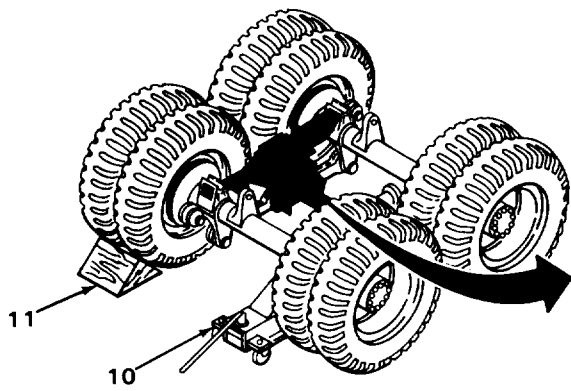
INSTALLATION - CONTINUED

- | | | | |
|-----|---------------------|---------------------------------|--|
| 12. | Spring assembly (2) | Two axle assemblies (7) and (8) | a. Rotate inward and guide spring assembly (2) into brackets (9).
b. Tighten chain holding axles together.
c. Install lower torque rods (page 5-42).
d. Remove chain holding axles together.
Remove sling chain (3) and hoist. |
|-----|---------------------|---------------------------------|--|



U-BOLTS, SADDLE, AND SPRING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION – CONTINUED			
13.	Spring saddle (1)		Position on top of spring assembly (2) making sure spring center bolt nut (3) fits into recess hole of saddle (1).
14.	Two U-bolts (4)		Position over saddle (1) and down through boltholes (5) in spring seat (6).
15.	Four washers (7) and hex nuts (8)		a. Slide washers (7) over U-bolts (4), and screw on hex nuts (8). b. Using torque wrench and 1 7/16-inch socket, tighten hex nuts (8) to 200-320 ft-lb (271-434 Nžm).
16.	Two spring seat capscrews (9)		Using torque wrench, with torque multiplier, and 1 3/4-inch socket, tighten to 650-750 ft-lb (881-1017 Nžm). Remove hydraulic doily jack (10) and blocks (11).



NOTE

FOLLOW-ON MAINTENANCE: Install bogie assembly (page 5-6).

TASK ENDS HERE

SPRING SEAT

This task covers:

- | | |
|---|-----------------------------|
| a. Removal (page 5-30) | c. Repair (page 5-33) |
| b. Cleaning and inspection
(page 5-32) | d. Installation (page 5-33) |
-

INITIAL SETUP**Tools**

Bar, pry
 Block, wood (two required)
 Brush
 Grease packer, bearing
 Hammer
 Punch, brass drift
 Scale, spring, 0 to 50 pounds
 Universal Puller and Driver Kit
 Wrench, 1/2-inch, open-end
 Wrench, 1 3/4-inch, open-end
 Wrench, wheel bearing nut

Materials/Parts

Gasket
 Grease, automotive and artillery,
 GAA (item 8, appendix E)

Materials/Parts – Continued

Solvent, drycleaning, PD-680
 (item 16, appendix E)
 Seals
 Wiper, ring

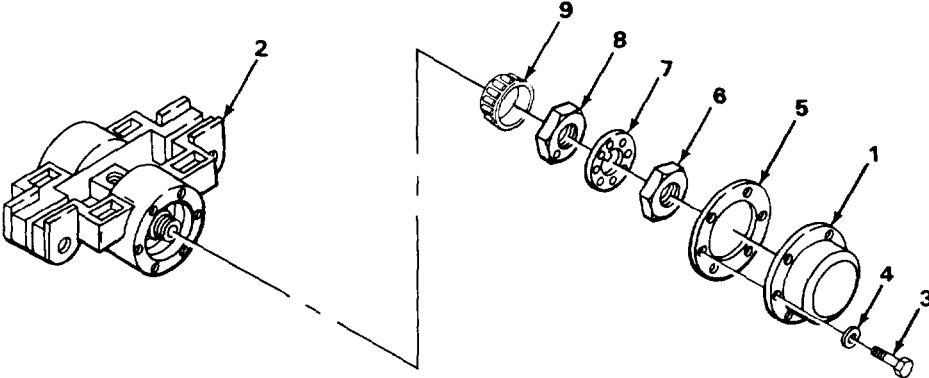
Personnel Required

Two

Equipment Condition

Semitrailer parked on level ground with
 front landing gear down, wheels blocked.
 Wheels/tires removed (page 3-11) – (Only
 side that spring seat is to be removed).
 U-bolts, saddle and spring removed
 (page 5-24).

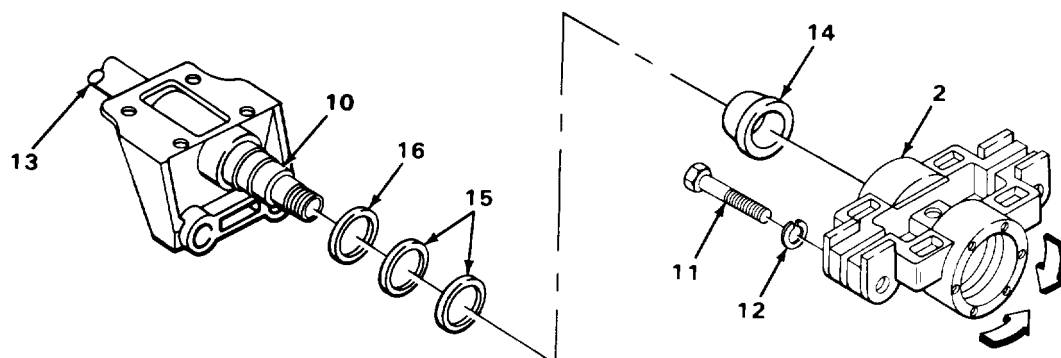
SPRING SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Spring seat cover cap (1) to spring seat assembly (2)	Six capscrews (3) and washers (4)	a. Using 1/2-inch wrench, unscrew and take out. b. Take off cover (1) and gasket (5). Throw away gasket (5).
2. Spring seat assembly (2)	Outer bearing hex nut (6) and washer (7)	Using wheel bearing nut wrench, unscrew and take off.
3.	Inner hex nut (8) and bearing (9)	Using wheel bearing nut wrench, unscrew and take off. Pulling spring seat assembly (2) outward and pushing it back should loosen bearing (9) so you can take it out. Tag bearing (9).
		
4. Bogie trunnion tube shaft (10)	Spring seat assembly (2)	Pull outward and take off. While pulling, rotate spring seat assembly (2) to unseat inner bearing and rear seal.
5. Spring seat assembly (2)	Two long screws (11) and lockwashers (12)	Using 1 3/4-inch wrench, unscrew and take out.
6. Trunnion shaft (10) to trunnion cross tube (13)	Wiper ring (14), two dust seals (15) and washer (16)	Using pry bar, pry off. Throw away wiper ring (14) and dust seals (15).

TA224332

SPRING SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		

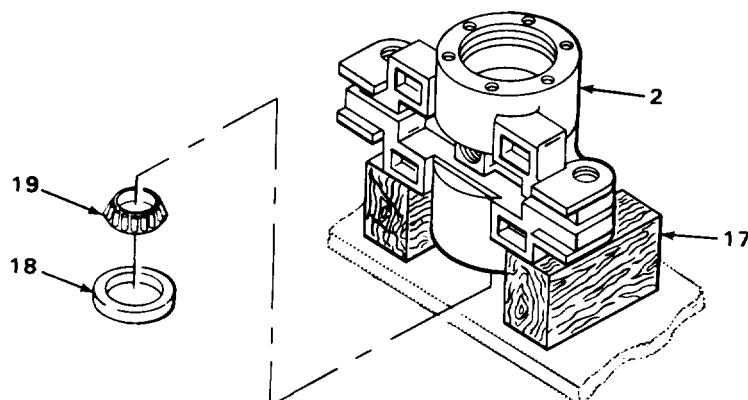
**NOTE**

Support spring seat (2) on two wood blocks (17) when removing seal (18) and inner bearing (19). The wood blocks (17) should be high enough to allow seal (18) and bearing (19) to drop clear of spring seat (2).

7.

Spring seat (2)

- a. Position with oil seal (18) down, on two wood blocks (17).
- b. Insert brass punch down through opening in spring seat (2) and against inner bearing (19).
- c. Tap with hammer, around inner bearing (19), and drive out seal (18).
Inner bearing (19) will drop out with seal (18). Throw away seal (18). Tag bearing (19).



TA224333

SPRING SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING AND INSPECTION		
<p style="text-align: center;"><u>WARNING</u></p> <p>Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).</p>		
8.	Spring seat (1)	Using a stiff bristle brush, wash with solvent, removing all mud and grease. See cleaning instructions (page 4-2).
9.	Spring seat (1)	Two bearing cups (2) <ol style="list-style-type: none"> a. Inspect bearing race area (3) for scoring, scratches, pitting, or heat discoloration from improper bearing fit. <p style="margin-left: 40px;">If replacement of cups (2) is necessary, do steps 9b and 9c.</p> b. Position on wood blocks (4) with bearing bore (5) down. c. Drive each out, from opposite ends, with brass drift punch and hammer.
10.	Spring seat (1)	<ol style="list-style-type: none"> a. Inspect for cracks, breaks, or any other damage. See page 4-3. b. Check bearing cup (2) fit in cup bores (5). Fit must be tight. <p style="margin-left: 40px;">Mark spring seat for replacement if damaged or defective.</p>
<p style="text-align: center;"><u>WARNING</u></p> <p>Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).</p>		
11.	Inner and outer cone bearing (6)	<ol style="list-style-type: none"> a. Wash with solvent. Make sure you remove all old lubricants. b. Allow to air dry. <p style="margin-left: 40px;">Do not use compressed air. Refer to TM 9-214, Inspection, Care, and Maintenance of Antifriction Bearings.</p>

SPRING SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

CAUTION

Replacement bearings and corresponding bearing cups are matched sets. Do not mix bearings and bearing cups. Mixing of bearings can cause early equipment failure.

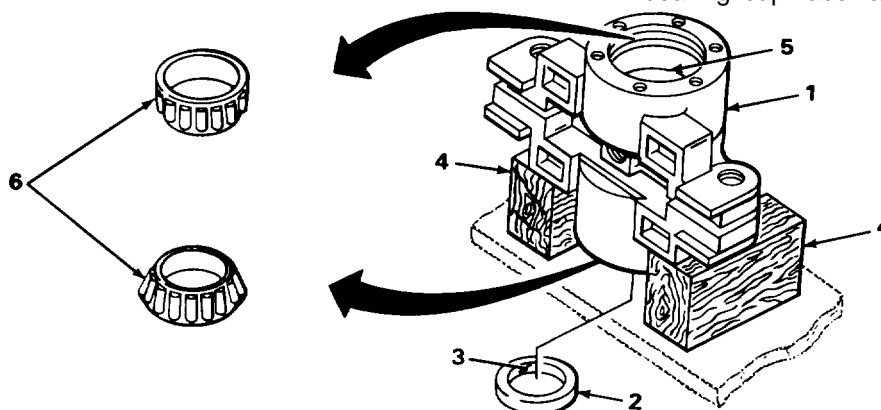
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|-----|--------------------------|----------------------|---|
| 12. | Spring seat assembly (1) | Two bearing cups (2) | <p>a. Position seat (1) on wood block (4) to prevent damage to bore (5) face areas.</p> <p style="padding-left: 20px;">Make sure your hands are clean.</p> <p>b. Place cupped side up on spring seat bearing bore (5). Make sure it is evenly aligned all around.</p> <p>c. Using a bearing cup driver tool and hammer, drive cup (2) down until seated.</p> <p>d. Turn spring seat assembly (1) over and repeat steps a, b, and c.</p> |
|-----|--------------------------|----------------------|---|

INSTALLATION

NOTE

Pack all inner and outer bearings with GAA grease, using a bearing packer. Make sure that grease has filled all bearing spaces before you install.

- | | | |
|-----|--------------------------|---|
| 13. | Spring seat assembly (1) | <p>a. Place on wood blocks (4) rear side up for installation of inner bearing and rear seal.</p> <p>b. Apply a thin coating of GAA grease to bearing cup raceway (3).</p> |
|-----|--------------------------|---|



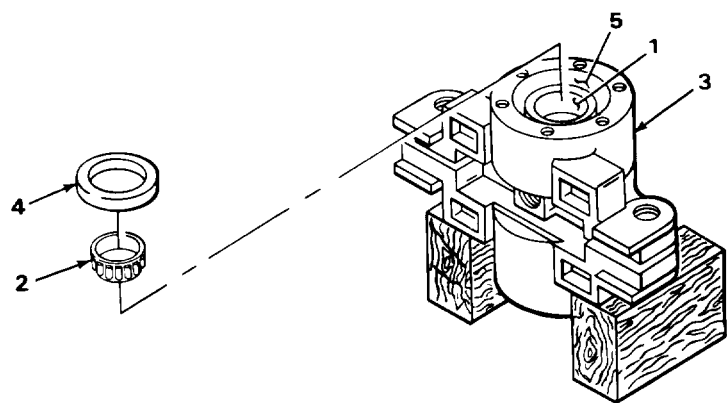
TA224334

SPRING SEAT - CONTINUED

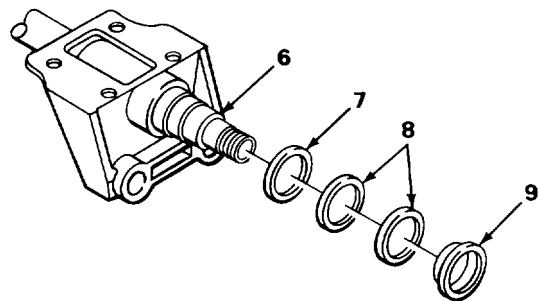
LOCATION	ITEM	ACTION	
		REMARKS	

INSTALLATION – CONTINUED

- | | | | |
|-----|--------------------------|-------------------|---|
| 14. | Bearing cup (1) | Inner bearing (2) | Place into bearing cup (1) with small tapered end first. |
| 15. | Spring seat assembly (3) | Rear oil seal (4) | a. Position into seal bore (5), making sure it is alined all around.
b. Tap into seal seat, using a seal driver tool and hammer. |



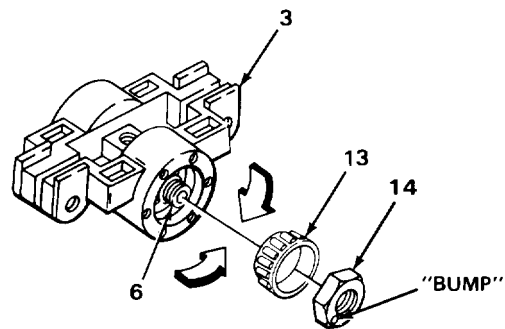
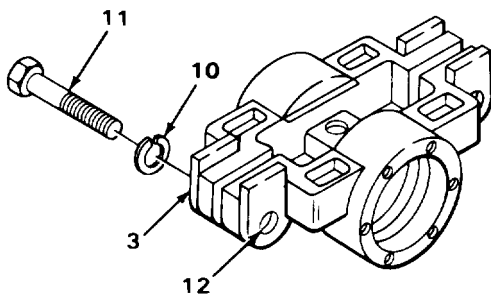
- | | | | |
|-----|-------------------------|--|---|
| 16. | Trunnion tube shaft (6) | Washer (7), two dust seals (8), and wiper ring (9) | a. Put on.
b. Using seal driver tool and hammer, tap wiper ring (9) onto seat. |
|-----|-------------------------|--|---|



TA224335

SPRING SEAT - CONTINUED

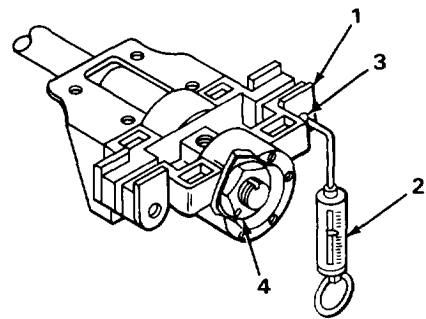
	LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
17.	Spring seat assembly (3)	Two lockwashers (10) and long screws (11)	Place into screw holes (12) in spring seat (3). Screw in loose, leaving room between the end of the screws and the face of the seat.
18.	Trunnion tube shaft (6)	Spring seat (3)	a. Position end with inner bearing over and onto trunnion tube shaft (6). b. With rotating motion, slide it back until seated.
19.	Trunnion tube shaft (6) and spring seat assembly (3)	Outer bearing (13)	a. Check to be sure it is properly grease packed. b. With small tapered end inward, slide it over trunnion tube shaft (6), and seat into spring seat bearing cup.
20.	Trunnion tube shaft (6)	Inner hex nut (14)	Screw on until just contacting bearing (13), but do not tighten. Make sure small bump on face of hex nut (14) is facing outward.



TA224336

SPRING SEAT - CONTINUED

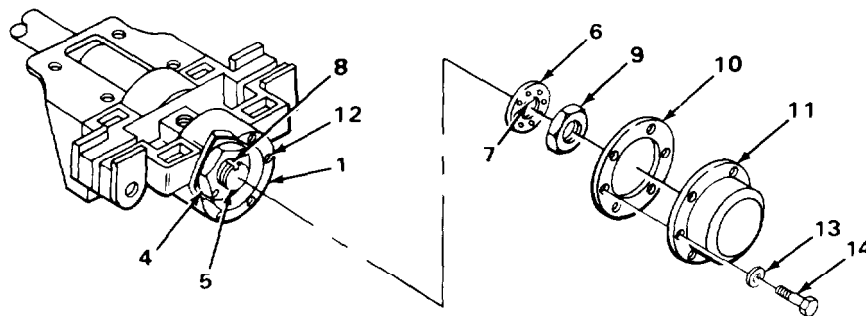
LOCATION		ITEM	ACTION REMARKS
INSTALLATION - CONTINUED			
21.	Spring seat assembly (1)	Spring scale (2)	Hook end into screw hole (3) in spring seat (1).
22.		Inner hex nut (4)	<p>a. Tighten, using wheel bearing nut wrench.</p> <p>b. Pull down on spring scale (2) until spring seat (1) just starts to turn. Read the spring scale (2) at that instant.</p> <p>Scale should read between 24 to 34 pounds (11 to 15.5 kg). This is equal to 12 to 15 pounds (5.5 to 6.8 kg) preload on the bearings.</p> <p>c. If spring scale (2) reads more than 34 pounds (17 kg), loosen hex nut (4) and repeat step b again.</p> <p>d. If reading is less than 24 pounds (12 kg) tighten hex nut (4) and repeat step b again.</p> <p>Repeat steps b, c, and d until spring scale (2) is reading between 24 to 34 pounds(11 to 15.5 kg).</p>



TA224337

SPRING SEAT - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION – CONTINUED			
23.	Trunnion tube shaft (5)	Lockwasher (6)	<p>a. Slide over trunnion tube shaft (5) with tab (7) in keyway (8). Bump on adjusting hex nut (4) should align to hole in lockwasher (6).</p> <p>b. Align bump on adjusting nut (4) to lockwasher (6) hole by turning adjusting nut (4) to the right with wheel nut wrench.</p>
24.		Outer hex nut (9)	Screw on and tighten with wheel nut wrench.
25.	Spring seat assembly (1)	Gasket (10) and cover (11)	<p>a. Place on spring seat (1), and align to capscrew holes (12).</p> <p>b. Secure cover (11) to spring seat (1) with six washers (13) and capscrews (14), and tighten using 1/2-inch wrench.</p>

**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install U-bolts, saddle and spring (page 5-24).
2. Install wheel/tire assemblies (page 3-11).
3. Lubricate spring seat (page 4-5).

TASK ENDS HERE

UPPER TORQUE ROD

This task covers:

- a. Removal (page 5-38)
 - b. Cleaning, inspection, and repair (page 5-39)
 - c. Installation (page 5-40)
-

INITIAL SETUP**Tools**

Hammer, machinist, 3-pound
 Handle, ratchet, 3/4-inch drive
 Jack, hydraulic, 20-ton
 Jack kit, hydraulic hand
 (Porta Power)
 Pliers, diagonal cutting
 Press, arbor
 Socket, 1 7/16-inch, 3/4-inch drive
 Socket, torque rod (item 1,
 appendix G)

Materials/Parts

Brush, soft
 Cloth, crocus (item 4, appendix E)
 Rags, wiping, (item 14, appendix E)
 Solvent, drycleaning, PD-680
 (item 16, appendix E)

Personnel Required

Two

Equipment Condition

Semitrailer parked on level ground with
 landing gear down and wheels blocked.

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

NOTE

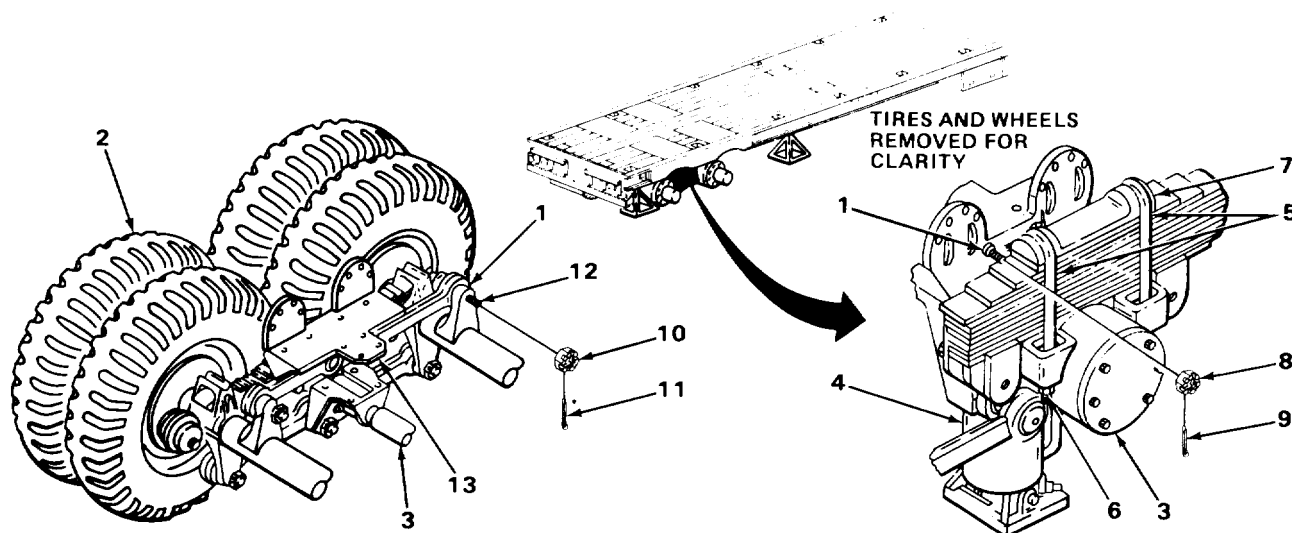
There are two upper torque rods (1) on the semitrailer. This procedure is for one. Repeat this procedure for the other.

REMOVAL

- | | | | |
|----|--------------------|-------------------------|---|
| 1. | Bogie assembly (2) | Trunnion cross tube (3) | Using hydraulic jack (4) support cross tube (3). |
| 2. | Two U-bolts (5) | Four nuts (6) | Using 1 7/16-inch socket and handle unscrew until even with ends of U-bolts (5). |
| 3. | Saddle (7) | Two U-bolts (5) | Using hammer, drive up as far as possible.
It may be necessary to remove the right front lower torque rod (page 5-42). |

UPPER TORQUE ROD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL – CONTINUED		
4. Two U-bolts (5)	Saddle (7)	Take out.
5. Nut (8)	Cotter pin (9)	Using pliers, take out.
6. Torque rod (1)	Nut (8)	Using torque rod socket and handle, unscrew and take off.
7. Nut (10)	Cotter pin (11)	Using pliers, take out.
8. Torque rod (1)	Nut (10)	Using torque rod socket and handle, unscrew and take off.
9. Axle bracket (12) and bogie bracket (13)	Torque rod (1)	Using porta power and chain, take out.



CLEANING, INSPECTION, AND REPAIR

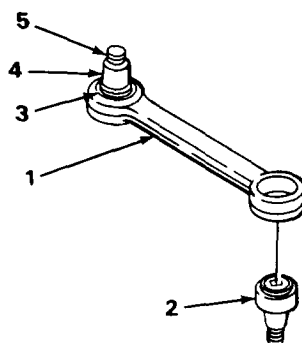
WARNING

Drycleaning solvent, PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (59°C).

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UPPER TORQUE ROD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING, INSPECTION, AND REPAIR – CONTINUED		
10.	Torque rod (1)	Wash with water and soft brush. Clean off grease with rags and solvent, if necessary.
11.	Two ball/studs (2)	<ol style="list-style-type: none"> Inspect rubber mounting (3) for elasticity, breaks, or loose ball mounting. Inspect tapers (4) for nicks, burrs, or raised metal. Smooth with crocus cloth and dry-cleaning solvent. Check stud threads (5) for burrs or any other damage. If damaged, do steps 11d and 11e. Press out damaged ball/studs (2) using arbor press. Press in replacement ball/studs (2) using arbor press.



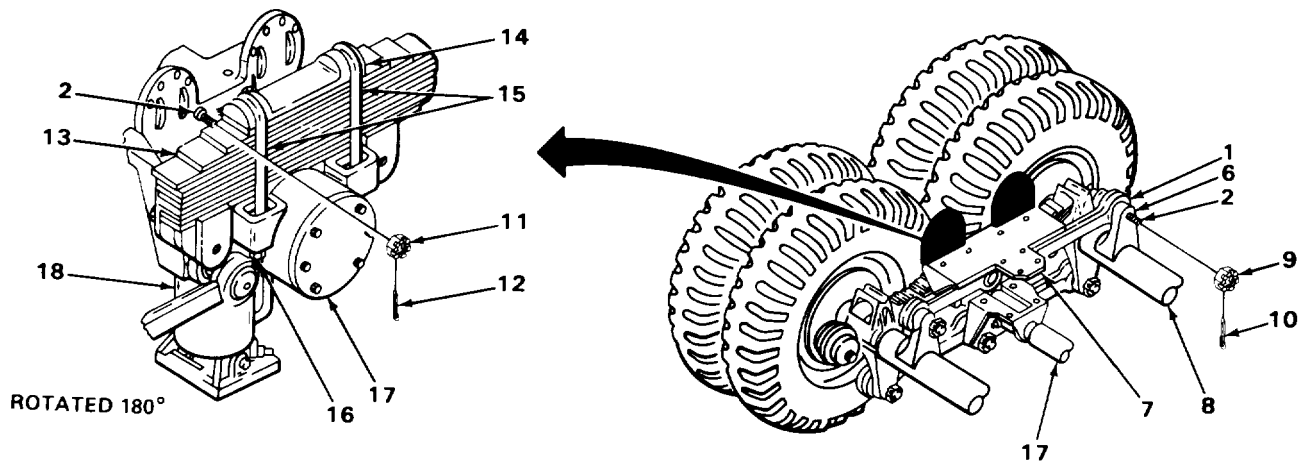
INSTALLATION

12.	Axle bracket (6) and bogie bracket (7)	Torque rod (1)	<p>Using porta power, and assistant push ball/stud ends (2) into axle bracket (6) and bogie bracket (7).</p> <p>If hole in axle bracket (6) does not line up with ball/stud end (2), rotate axle (8) as needed.</p>
13.	Ball/stud end (2)	Nut (9)	Screw onto ball/stud end (2) and tighten, using torque rod socket and handle.
14.	Nut (9)	Cotter pin (10)	Put into nut (9) and ball/stud end (2) and bend down ends using pliers.

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UPPER TORQUE ROD - CONTINUED

	LOCATION	ITEM	ACTION REMARKs
INSTALLATION - CONTINUED			
15.	Ball/stud end (2)	Nut (11)	Screw onto ball/stud end (2) and tighten, using torque rod socket and handle.
16.	Nut(11)	Cotter pin (12)	Put into nut (11) and ball/stud end (2) and bend down ends using pliers.
17.	Spring assembly (13)	Saddle (14)	Put on spring assembly (13) and under U-bolts (15).
18.	TWO U-bolts (15)	Four nuts (16)	Tighten using 1 7/16-inch socket and handle.
19.		Trunnion cross tube (17)	Remove hydraulic jack (18).



TASK ENDS HERE

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LOWER TORQUE ROD

This task covers:

- | | |
|--|-----------------------------|
| a. Removal (page 5-42) | c. Installation (page 5-44) |
| b. Cleaning, inspection, and repair
(page 5-43) | |

INITIAL SETUP**Tools**

Handle, ratchet, 3/4-inch drive
 Jack kit, hydraulic hand
 (ports power)
 Pliers, diagonal
 Press, arbor
 Socket, torque rod (item 1,
 appendix G)
 Wrench, torque rod (item 2,
 appendix G)

Personnel Required

One

Equipment Condition

Semitrailer parked on level ground with
 landing gear down, and wheels blocked.

Materials/Parts

Brush, soft
 Cloth, crocus (item 4, appendix E)
 Rag, wiping (item 14, appendix E)
 Solvent, drycleaning, PD-680
 (item 16, appendix E)

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

NOTE

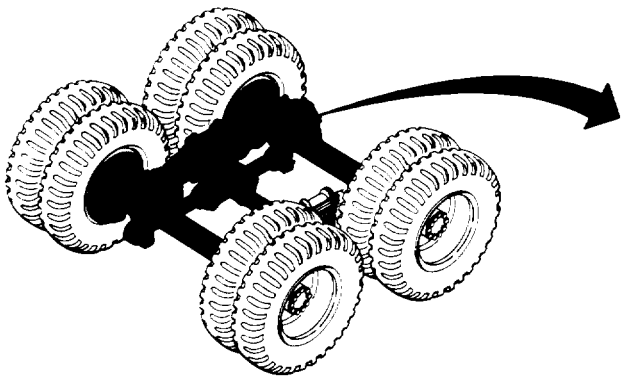
There are four lower torque rods on the semitrailer.
 This procedure is for one. Repeat this procedure for
 the others.

REMOVAL

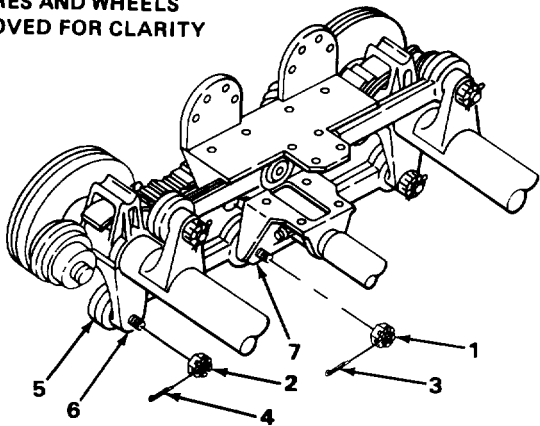
- | | | | |
|----|-------------------------|--------------------------------|--|
| 1. | Two nuts (1)
and (2) | Two cotter pins
(3) and (4) | Using pliers, take out. |
| 2. | Torque rod (5) | Nut (1) | Using torque rod socket and handle, un-
screw and take off. |

LOWER TORQUE ROD - CONTINUED

LOCATION		ITEM	ACTION	REMARKS
REMOVAL - CONTINUED				
3.		Nut (2)	Using torque rod wrench and handle, unscrew and take off.	
4.	Axle bracket (6) and trunnion cross tube bracket (7)	Torque rod (5)	Using porta power and chain, take out.	



TIRES AND WHEELS
REMOVED FOR CLARITY



CLEANING, INSPECTION, AND REPAIR

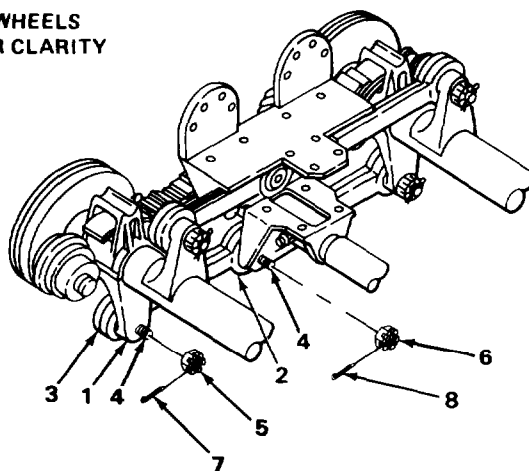
NOTE

Cleaning, inspection and repair of the lower torque rods is the same as cleaning, inspection and repair of the upper torque rods (see page 5-38).

LOWER TORQUE ROD - CONTINUED

	LOCATION	ITEM	ACTION REMARKS
INSTALLATION			
5.	Axle bracket (1) and cross tube bracket (2)	Torque rod (3)	Push ball/stud ends (4) into axle bracket (1) and trunnion cross tube bracket (2) using porta power.
6.	Ball/stud end (4)	Nut (5)	Screw onto ball/stud end (4) and tighten using torque rod wrench and handle.
7.		Nut (6)	Screw onto ball/stud end (4) and tighten using torque rod socket and handle.
8.	Nuts (5) and (6)	Two cotter pins (7) and (8)	Put into nuts (5) and (6) and ball/stud ends (4) and bend down ends, using pliers.

**TIRES AND WHEELS
REMOVED FOR CLARITY**



TASK ENDS HERE

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Section VII. DECK MAINTENANCE

	Page
Deck	5-45

DECK

This task covers:

- a. Removal (page 5-46)
- b. Installation (page 5-46)

INITIAL SETUP

Tools	Personnel Required
Drill, electric, portable	Two
Drill, 5/16-inch, twist	
Extension, 6-inch, 3/8-inch drive	
Hammer, hand	
Handle, ratchet, 3/8-inch drive	
Saw, hand, crosscut	
Socket, 1/2-inch, 3/8-inch drive	

LOCATION

ITEM

ACTION
REMARKS

NOTE

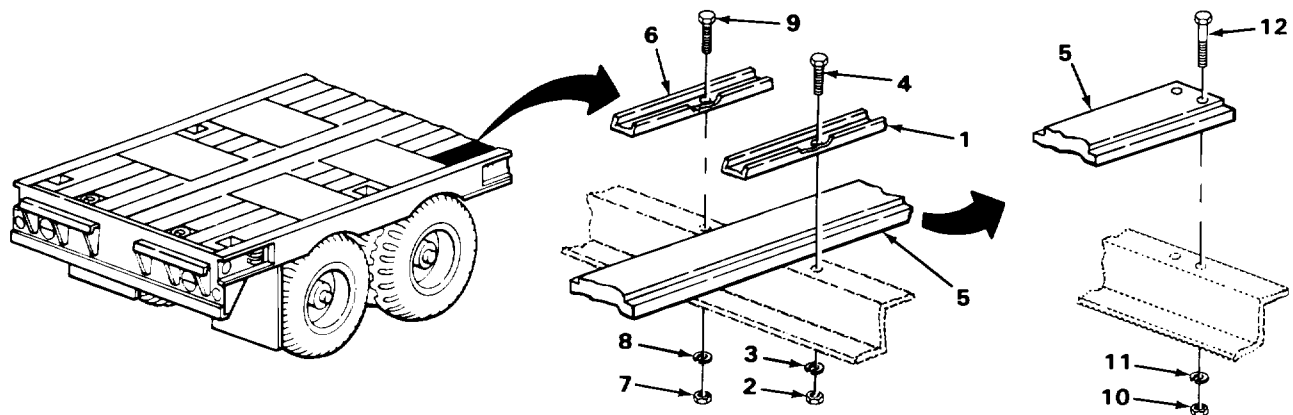
There are many planks and skid strips on the semitrailer. This is a typical procedure for replacement of a skid strip, plank, or both.

DECK - CONTINUED

		LOCATION	ITEM	ACTION REMARKS
REMOVAL				
1.	Right skid strip (1)		10 nuts (2), lock-washers (3), and bolts (4)	s. Using 1/2-inch socket, extension, and handle, unscrew and take off. b. Push each bolt up so assistant can take out.
2.	Plank (5)		Right skid strip (1)	Lift off. If replacing skid strip only, go to step 10.
3.	Left skid strip (6)		Nine nuts (7), lock-washers (8), and bolts (9)	s. Using 1/2-inch socket, extension, and handle, unscrew and take off. b. Push each bolt up so assistant can take out.
4.	Plank (5)		Left skid strip (6)	Lift off.
5.			Three nuts (10), lockwashers (11), and bolts (12)	a. Using 1/2-inch socket, extension, and handle, unscrew and take off. b. Push up each bolt so assistant can take out.
INSTALLATION				
6.			New plank (5)	a. Cut to required size using handsaw. b. While assistant holds in place, drill new holes from underneath using 5/16-inch drill, drill motor, and holes in frame as guide.
7.	New plank (5)		Three nuts (10), lockwashers (11), and bolts (12)	Screw on and tighten using 1/2-inch socket, extension, and handle.
8.	Plank (5)		Left skid strip (6)	a. Cut to required length. b. Mark location for boltholes using holes in frame as guide. c. Drill holes using 5/16-inch drill and drill motor.
9.	Left skid strip (6)		Nine nuts (7), lockwashers (8), and bolts (9)	Screw in and tighten using 1/2-inch socket, extension, and handle. It may be necessary to hit bolthead with hammer to keep bolt from turning.

DECK - CONTINUED

	LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED				
10.	Plank (5)	Right skid strip (1)	a. Cut to required length. b. Mark location for boltholes using holes in frame as guide. c. Drill holes using 5/16-inch drill and drill motor.	
11.	Right skid strip (1)	10 nuts (2), lock-washers (3), and bolts (4)	Screw in, and tighten using 1/2-inch socket, extension, and handle. It may be necessary to hit bolthead with hammer to keep bolt from turning.	



TASK ENDS HERE

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APPENDIX A**REFERENCES****A-1, PUBLICATION INDEXES AN GENERAL REFERENCES.**

Index should be consulted frequently for latest changes, revisions, or references given in this appendix and for new publications relating to material covered in this publication.

a. Military Publication Indexes.

Consolidated Index of Publications and Blank Forms DA PAM 310-1

b. General References.

Techniques of Military Instruction FM 21-6
 Military Symbols FM 21-30

A-2. FORMS.

Refer to DA PAM-738-750, The Army Maintenance Management System (TAMMS), for instructions on the use of maintenance forms pertaining to the material.

A-3. OTHER PUBLICATIONS.

The following publications contain information pertinent to the major item material and associated equipment.

a. Camouflage.

Camouflage FM 5-20
 Color, Marking, and Camouflage Painting of Military Vehicles,
 Construction Equipment, and Materials Handling Equipment TM 43-0209

b. Decontamination.

Chemical, Biological, and Radiological (CBR) Decontamination TM 3-220
 Chemical, Biological, Radiological, and Nuclear Defense FM 21-40

c. General.

Basic Cold Weather Manual FM 31-70
 Manual for Wheeled Vehicle Driver FM 21-305
 Driver Selection and Training (Wheeled Vehicles) FM 55-30
 Northern Operations FM 31-71
 Operation and Maintenance of Ordnance Material in Cold
 Weather (0° to -65°F). FM 9-207
 Procedures for Destruction of Tank Automotive Equipment to
 Prevent Enemy Use TM 750-244-6
 Deep Water Fording of Ordnance Materiel TM 9-238
 The Army Maintenance Management System (TAMMS) DA PAM-738-750

A-3. OTHER PUBLICATIONS - CONTINUED

d. Maintenance and Repair.

Organizational Care, Maintenance, and Repair of Pneumatic Tires
and Inner Tubes TM 9-2610-200-24

Description, Use, Bonding Techniques, and Properties of
Adhesives TM ORD 1032

Inspection, Care, and Maintenance of Antifriction Bearings TM 9-214

Materials Used for Cleaning, Preserving, Abrading, and
Cementing Ordnance Material and Related Materials Including
Chemicals TM 9-247

Welding Theory and Application TM 9-237

e. Administrative Storage.

Administrative Storage of Equipment TM 740-90-1

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 authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) 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 (e.g., by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, 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), preserve, drain, paint, or replenish fuel, lubricants, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position or by setting the operating characteristics to specified parameters.

e. Aline. 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.

B-2. MAINTENANCE FUNCTIONS - CONTINUED.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of a piece of equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. Replace is authorized by the MAC and shown as the third position code of the SMR code.

i. Repair. The application of maintenance services¹, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions² to identify troubles and 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 or action) prescribed to restore an item to completely serviceable/operational condition as required 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 material 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 equipment/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 maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00".

b. Column 2, Components/Assembly. Column 2 contains the name 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 item 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 worktime 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 required 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 worktime figures will be shown for each category. The worktime figure represents the average time required to restore an item

¹Services – inspect, test, service, adjust, align, calibrate, and/or replace.

²Actions – welding, grinding, riveting, straightening, facing, remachining, and/or resurfacing.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II - CONTINUED.

(assembly, subassembly, components, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location, 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, that 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 tools and test equipment reference code correlates with a code used in the MAC, section 11, column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the 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

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
06	ELECTRICAL SYSTEM								
0609	Lights	Replace Repair Test	0.1	0.2 0.2					
0613	Wiring Harness (Main)	Replace		0.2					
	Wiring Harness (Adapter)	Repair		0.2					
		Replace		0.1					
		Repair		0.1					
11	AXLES								
1100	Axle Assembly	Replace Repair			5.0 3.0				A,B
12	BRAKES								
1202	Service Brakes	Adjust		0.5				1,2,3 4&5	A,B
	Shoe Assembly	Replace Repair		0.5	0.5				
1204	Cylinder, Master	Replace Repair		0.2 2.0					
	Cylinder, Wheel	Replace		1.5					
	Tube and Fit- tings, Hyd	Replace		0.1					
1206	Slack Adjuster	Adjust Replace		0.2 1.0					
1208	Chamber, Air	Replace Repair		0.5 1.0					
	Lines and Fit- tings, Air	Replace		1.0					
	Couplings and Gladhands	Repair		0.5					
		Replace		0.2					
	Air Reservoir	Repair		0.2					
		Service	0.1						
		Replace		1.5					
	Draincock	Replace		0.2					
	Filters, Air	Replace		0.5					
	Valve, Relay	Replace		1.0					
13	WHEELS								
1311	Drum Brake	Replace Repair		0.7	1.5				
	Hub	Replace		0.5					
		Repair		1.0					
	Wheel	Replace		0.5					

Section II. MAINTENANCE ALLOCATION CHART - CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
1313	Tires and Tubes Tires Tubes	Service Replace Repair Replace Repair	0.1	0.5 1.5 0.5 0.5					
15	FRAME & TOWING ATTACHMENTS								
1501	Frame Assy	Repair				8.0		1,2,3, 4&5	A,B
1503	Lashing Rings Kingpin	Replace Service	0.2		1.0				
1507	Landing Gear Gearbox Leg, Landing Gear Shoe, Vehicle Support Crank, Hand Holder, Crank	Replace Replace Replace Replace Replace Replace		6.0 3.0 1.0 1.0 0.2 0.5					
16	SPRINGS								
1601	Springs Seat Assembly	Replace Replace Repair			4.0 2.0 1.0			1,2,3	A,B
1605	Saddle Assembly Torque Rod	Replace Replace Repair			2.0 2.0 2.0				
18	BODY								
1801	Splash Guards Splash Shield	Replace Replace		1.0 1.0				1,2,3	A,B
1808	Cover Assy Stowage Box	Repair Replace Repair		1.0 2.0 1.0					
1810	Deck	Repair			2.0				
22	ACCESSORY ITEMS							,2,3	
2202	Reflectors	Replace		0.2					
2210	Data Plates	Replace		0.2					

Section III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

(1) REFERENCE CODE	(2) LEVEL MAINTENANCE	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) TOOL NUMBER
1	O,F,H	COMMON TOOLS: Tool Kit, Mechanics Gen	5180-00-177-7033	
2	O,F,H	Shop Equipment, Common Set No. 1	4910-00-754-0654	
3	O,F,H	Shop Equipment, Supple- mental Set No. 1	4910-00-754-0653	
4	F,H	Shop Equipment, Field Maint, Basic Set	4910-00-754-0705	
5	H	Shop Equipment, Wheeled Field Maint, Post, Camp and Station	4910-00-348-7696	
		SPECIAL TOOLS: None		

Section IV. REMARKS

REFERENCE CODE	REMARKS
A	Direct Support (F) Maintenance includes replacement of repairable assemblies, repair of components of assemblies considered uneconomical to evacuate further. Performs adjustments of systems for which Organizational Maintenance does not possess skills or test equipment.
B	General Support (H) Maintenance includes repair of most replaceable assemblies. Overhaul of assemblies that require extensive work in terms of man-hours, skills, and testing of overhauled assemblies will be accomplished at depots.

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 the semitrailer 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. The 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 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, operate it, and 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 TOEIMTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. Column (1) – 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.

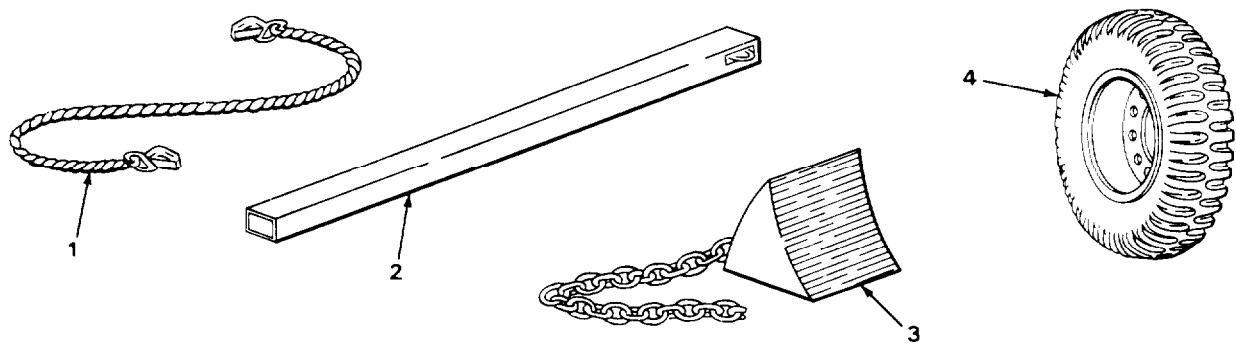
c. Column (3) – Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

d. Column (4) – Useable on Code. Not applicable.

e. Column (5) – Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e. g., ea, in., pr).

f. Column (6) – Quantity required (Qty req'd). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM LIST



(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY REQ'D
1	2510-00-133-9718	Connecting Line		ea	12
2	2510-00-133-9717	Stake		ea	14
3	2540-00-678-3469	Chock Block		ea	2
4	2530-00-603-5768 2530-00-738-9061 2610-00-204-4091 2610.00-051-9450	Wheel and Tire Assembly Wheel, Pneumatic Tire Ring, Side Tire, Pneumatic Tube, Inner, Pneumatic		ea	1

Section III. BASIC ISSUE ITEMS

(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY REQ'D
NONE					

NONE

APPENDIX D
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists additional items that you are authorized for the support of the semitrailer.

D-2. GENERAL.

This list identifies items that do not have to accompany the semitrailer and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

D-3. EXPLANATION OF LISTING.

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorized the item(s) to you.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION FSCM & PART NUMBER USABLE ON CODE	(3) U/M	(4) QTY AUTH
------------------------------------	--	----------------	------------------------

MTOE AUTHORIZED ITEMS

NONE

CTA AUTHORIZED ITEMS

NONE

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 initial setup narrative instructions to identify the material.

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 Manufacturer (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 NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (FSCM)	(5) U/M
1	C	8040-00-273-8717	ADHESIVE MMM-A-121 (81348) 1-PINT (0.473-LITER) CAN	PT
2	O	9150-01-059-2586 9150-01-102-9455	BRAKE FLUID, SILICONE, AUTO- MOTIVE MIL-B-46176 (METAL CONTAINER) (PLASTIC CONTAINER)	GAL. GAL.
3	C	7920-00-514-2417	BRUSH, ACID SWABBING HB-643 (81348) BOX OF 144	EA
4	O	5350-00-221-0872	CLOTH, ABRASIVE (CROCUS) P-C-458 (81348) 50-SHEET PACKAGE	SH
5	O	5970-00-900-3046	COMPOUND, ELECTRICAL INSULATING MIL-C-47200 (81349) QT. 1-QUART (0.946-LITER) CAN	QT
6	O	6580-00-185-0423	COMPOUND, LEAK TEST MIL-L-25567 (81349) 1-GALLON (3.785-LITER) CAN	GAL.
7	O	7930-00-282-9699	DETERGENT, GP, LIQ, WS, A MIL-D-16791 (81349) 1-GALLON (3.785-LITER) CAN	GAL.
8	C	9150-00-190-0904	GREASE, AUTOMOTIVE AND ARTILLERY, GAA MIL-G-10924 (81349) 1-POUND (0.454-KG) CAN	LB
9	C	9151-00-189-6727	OIL, LUBRICATING, OE/HDO 10 MIL-L-2104 (81349) 1-QUART (0.946-LITER) CAN	QT
10	C	9150-00-186-6681	OIL, LUBRICATING, OE/HDO 30 MIL-L-2104 (81349) 1-QUART (0.946-LITER) CAN	QT
11	C	9150-00-402-4478	OIL, LUBRICATING, OEA MIL-L- 46167 (81349) 1-QUART (0.946-LITER) CAN	QT
12	C	9150-00-231-2361	OIL, LUBRICATING, PRESERVATIVE, PL-M-MIL-L-3150 (81349) 1-QUART (0.946-LITER) CAN	QT

EXPENDABLE SUPPLIES AND MATERIALS LIST-CONTINUED

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (FSCM)	(5) U/M
13	C	9150-00-231-6689	OIL, LUBRICATING, PRESERVATIVE, PL-S VV-L-800 (81348) 1-QUART (0.946-LITER) CAN	QT
14	C	7920-00-205-1711	RAG, WIPING A-A-531 (58536) 50-POUND (22.7-KG) BALE	LB
15	O	3439-00-896-8746	SOLDER	LB
16	C	6850-00-664-5685 6850-00-281-1985 6850-00-285-8011	SOLVENT, DRYCLEANING, TYPE II, SD II, PD-680 (81348) 1-QUART (03946-LITER) CAN 1-GALLON (3.785-LITER) CAN 55-GALLON (208-LITER) DRUM	QT GAL. GAL.
17	O	9905-00-537-8954	TAGS, MARKER MIL-T-12755 (81349) BOX OF 50	EA
18	O	8030-00-889-3534	TAPE, ANTISEIZING (TEFLON) MIL-T-27730 (81349) 1/4 INCH WIDE X 260 INCHES LONG ROLL	FT

APPENDIX F

UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS

SECTION I. INTRODUCTION

1. Scope.

This RPSTL 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 Unit, Direct Support and General Support Maintenance of the Semitrailer, Lowbed. 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.

In addition to Section I. Introduction, 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 lists 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 item name sequence. Repair kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in the section. Items listed are shown on the associated illustration(s)/figure(s).

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

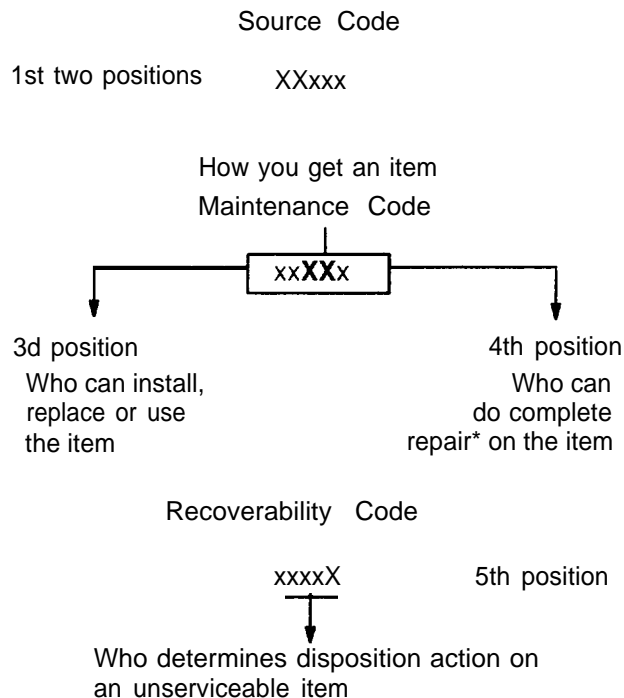
c. Cross-reference Indexes. A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing; in the listings. National stock numbers and part numbers are cross-referenced to each illustration, figure and item number appearance. The

figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, CAGE and part numbers.

3. Explanation of Columns (Sections II and III).

a. ITEM NO. (Column (7)). 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 corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

SECTION I

TM 9-2330-371-14&P C01

(1) Source Code. The source code tells you how to get an item needed for maintenance, repair or overhaul of an end item/equipment. Explanations of source codes follows:

Code	<u>Application/Explanation</u>
PA	Stocked items; use the applicable NSN to request/requisition items with these
PB	source codes. They are authorized to the
PC**	category indicated by the code entered in
PD	3d position of the SMR code.
PE	
PF	
PG	**Items coded PC are subject to deterioration.
KD	Items with these codes are not to be
KF	requested/requisitioned individually. They
KB	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 UM AVUM Level)	Items with these codes are not to be requested/ requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE
MF-(Made at DS/ AVUM Level)	ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this
ML-(Made at Specialized Repair Act (SRA))	RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but if the
MD-(Made at Depot)	source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO-(Assembled by UM/AVUM Level)	Items with these codes are not to be requested/requisitioned individually The parts that
AF-(Assembled by DS/AVIM Level)	make up the assembled item must be requisitioned or fabricated and assembled at the level
AH-(Assembled by GS Category)	of maintenance indicated by the source code. If the 3d position code of the SMR code by
AL-(Assembled by SRA)	authorizes you to replace the item, but the source code indi-

AD-(Assembled by Depot)

cates the item is assembled at a higher level, order the item from the higher level 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 CAGE and part number given
XC-	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by the manufacturer's part number.
XD-	Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as 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 level(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 level authorized to remove, replace and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance:

<u>Code</u>	<u>Application/Explanation</u>
C -	Crew or operator maintenance done within unit or aviation unit maintenance.
O -	Unit maintenance or aviation unit category can remove, replace and use the item.
F -	Direct support or aviation intermediate level can remove, replace and use the item.
H -	General support level can remove, replace and use the item.
L -	Specialized repair activity can remove, replace and use the item.

D – Depot level can remove, replace and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level 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 level 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 - Unit maintenance or Aviation unit is the lowest level that can do complete repair of the item

F - Direct support or aviation intermediate is the lowest level that can do complete repair of the item.

H - General support is the lowest level that can do complete repair of the item.

L - Specialized repair activity is the lowest level that can do complete repair of the item.

D – Depot is the lowest level 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, lubrication, 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:

Code Application/Explanation

Z – Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of the SMR code.

O - Reparable item. When uneconomically reparable, condemn and dispose of the item at unit maintenance or aviation unit level.

F – Reparable item. When uneconomically

reparable, condemn and dispose of the item at the direct support or aviation intermediate level.

H – Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level

D – Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.

L – Reparable item. Condemnation and disposal of item not authorized below specialized repair activity (SRA).

A – Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. CAGEC (Column (3)). The Commercial And Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code which is used to identify the manufacturer, distributor or Government agency, etc., that supplies the item.

d. PART NUMBER (Column (4)). 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 a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)). This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) Physical security classification. Not applicable.

(3) Items that are included in kits and sets are listed below the name of the kit or set on Figure KIT.

(4) Spare/repair parts that make up and assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC). Not applicable.

(7) The usable on code, when applicable (see paragraph 5, 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.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. QTY (Column (6)). The QTY (quantity per figure column) 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 the quantity is variable and the quantity may vary from application to application.

4. Explanation of Columns (Section IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine

NSN

digits of the NSN (i.e., 5305-01-674-1467)

NIIN

When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) FIG. column. This column lists the number of the Figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) ITEM column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. PART NUMBER INDEX. Part numbers in this index are listed by part number in ascending

alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order.)

(1) CAGEC column. The Commercial And Government Entity (CAGE) Code (C) is a 5 digit alphanumeric code used to identify the manufacturer, distributor or Government agency, etc., that supplies the item.

(2) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, 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.

(3) STOCK NUMBER column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

(4) FIG. column. This column lists the number of the figure where the item is identified/located in Section II and III.

(5) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. FIGURE AND ITEM NUMBER INDEX.

(1) FIG. column. This column lists the number of the figure where the item is identified/located in Section II and III.

(2) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) STOCK NUMBER column. This column lists the NSN for the item.

(4) CAGEC column. The Commercial And Government Entity (CAGE) Code (C) is a 5 digit alphanumeric code used to identify the manufacturer, distributor or Government agency, etc., that supplies the item.

(5) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, 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.

5. Special Information.

Use the following subparagraphs as applicable:

a. *USABLE ON CODE*. Not Applicable.

b. *FABRICATION INSTRUCTIONS*. Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of this RPSTL. Part numbers for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in the appropriate appendices of this manual.

c. *ASSEMBLY INSTRUCTION*. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in the appropriate appendices of this manual. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. *KITS*. Line item entries for repair parts kits appear in group 9401 in Section II.

e. *INDEX NUMBERS*. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II.

6. 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 assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the some groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

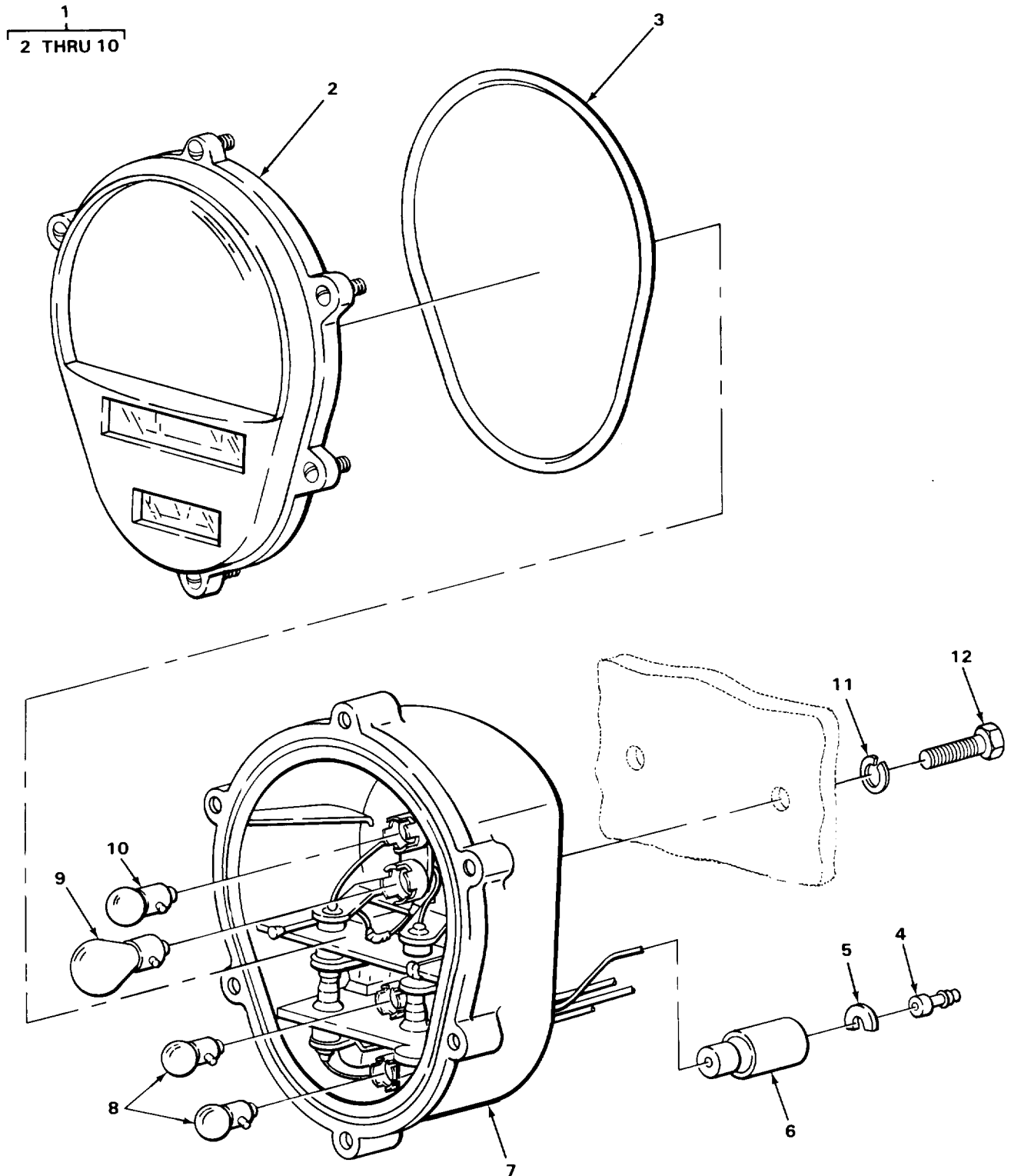
b. *When National Stock Number or Part Number is Known*.

(1) First. Using the National Stock Number or the Part Number Index, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see 4a(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see 4. b). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) Second. Turn to 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.

7. Abbreviations.

For standard abbreviations see MIL-STD-1 2D, Military Standard Abbreviations For Use On Drawings, Specifications, Standards And In Technical Documents.



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FIGURE 1. COMPOSITE LIGHT.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 06 ELECTRICAL SYSTEM					
0609 LIGHTS					
FIG. 1. COMPOSITE LIGHT					
1	PAOOO	96906	MS52125-2	STOP LIGHT-TAILLIGHT TRAILER	2
2	PAOZZ	19207	11639535	.LENS,LIGHT	1
3	PAOZZ	19207	11639519-2	.PACKING,PREFORMED	1
4	PAOZZ	96906	MS27148-2	.CONTACT,ELECTRICAL	4
5	PAOZZ	19207	8338567	.WASHER,SLOTTED	4
6	PAOZZ	19207	8338566	.SHELL,ELECTRICAL CO	4
7	XAOZZ	19207	11639520	.BODY ASSEMBLY	1
8	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT	2
9	PAOZZ	96906	MS35478-1683	.LAMP, INCANDESCENT	1
10	PAOZZ	96906	MS15570-623	.LAMP, INCANDESCENT	1
11	PAOZZ	96906	MS35338-46	WASHER, LOCK	4
12	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H	4

END OF FIGURE

1
2 THRU 4

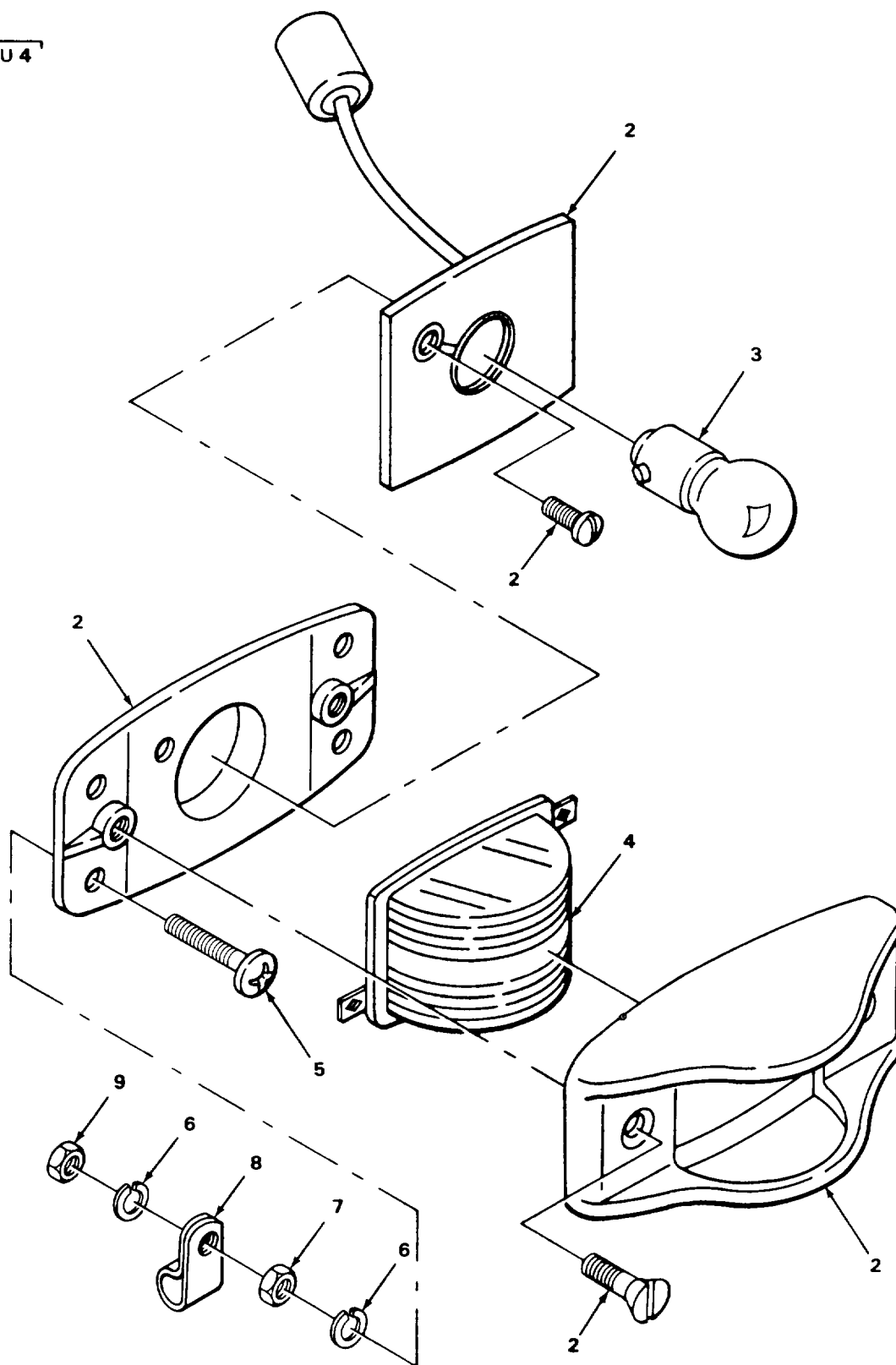


FIGURE 2. CLEARANCE MARKER LIGHT.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
0609 LIGHTS					
FIG.2. CLEARANCE MARKER LIGHT					
1	PAOOO	96906	MS35424-1	LIGHT,MARKER,CLEARA AMBER,B/O	4
1	PAOOO	96906	MS35424-2	LIGHT,MARKER,CLEARA RED B/O	2
1	PAOOO	96906	MS35423-2	LIGHT,MARKER,CLEARA RED	2
1	PAOOO	96906	MS35423-1	LIGHT,MARKER,CLEARA AMBER	4
2	PAOZZ	96906	MS35422-1	.LIGHT,MARKER,CLEARA BODY	1
3	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT	1
4	PAOZZ	96906	MS35420-2	.LENS,LIGHT 0(USE WITH P/N MS35424-2) WITH FILTER	1
4	PAOZZ	96906	MS35421-2	.LENS,LIGHT 0(USE WITH P/N MS35423-2) NO FILTER	1
4	PAOZZ	96906	MS35420-1	.LENS,LIGHT 0(USE WITH P/N MS35424-1) WITH FILTER	1
4	PAOZZ	96906	MS35421-1	.LENS,LIGHT 0(USE WITH P/N MS35423-1) NO FILTER	1
5	PAOZZ	96906	MS35206-267	SCREW,MACHINE	48
6	PAOZZ	96906	MS35338-43	WASHER,LOCK	60
7	PAOZZ	96906	MS35649-202	NUT,PLAIN,HEXAGON	48
8	PAOZZ	96906	MS21333-98	CLAMP,LOOP	12
9	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	12

END OF FIGURE

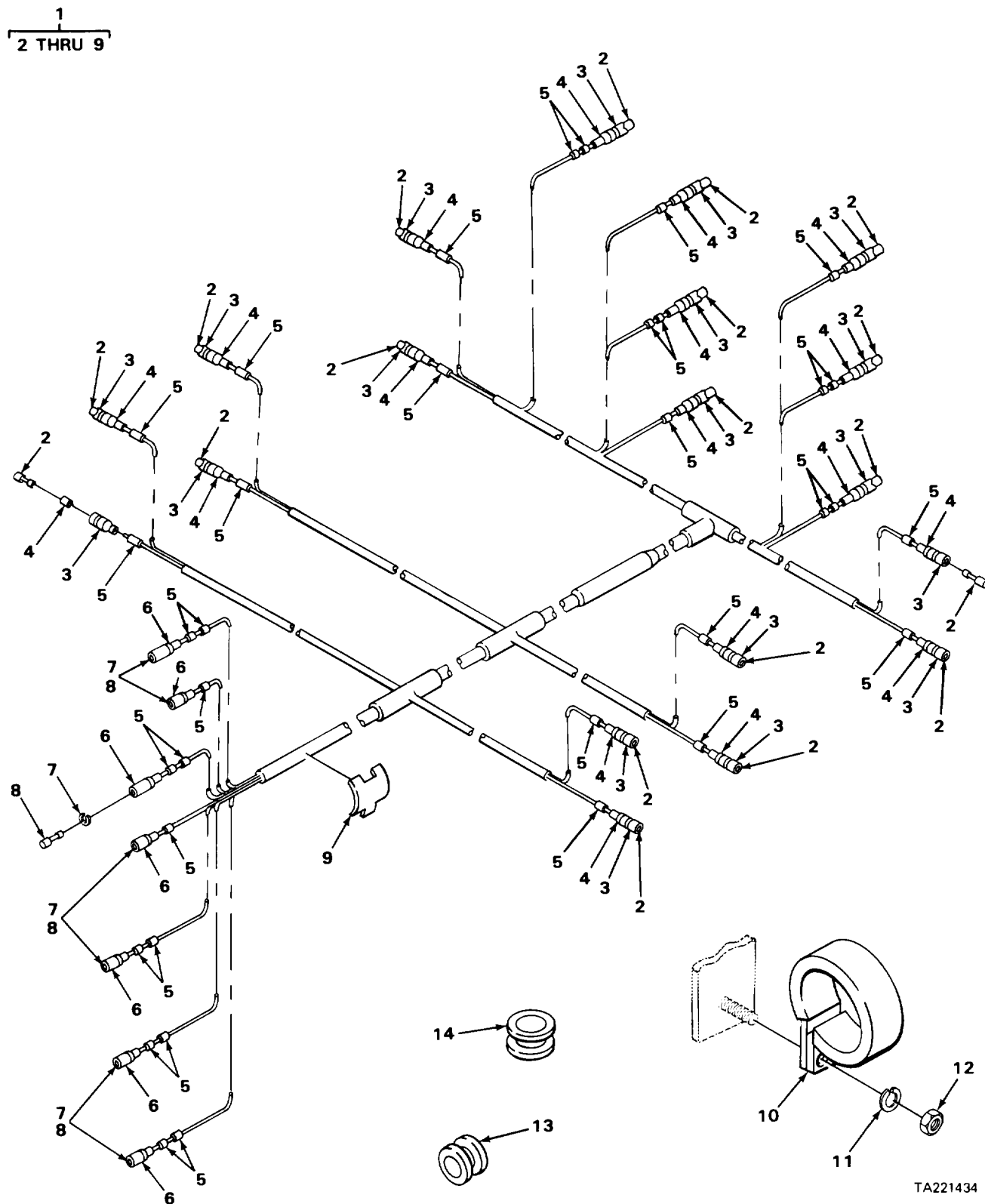


FIGURE 3. WIRING HARNESS.

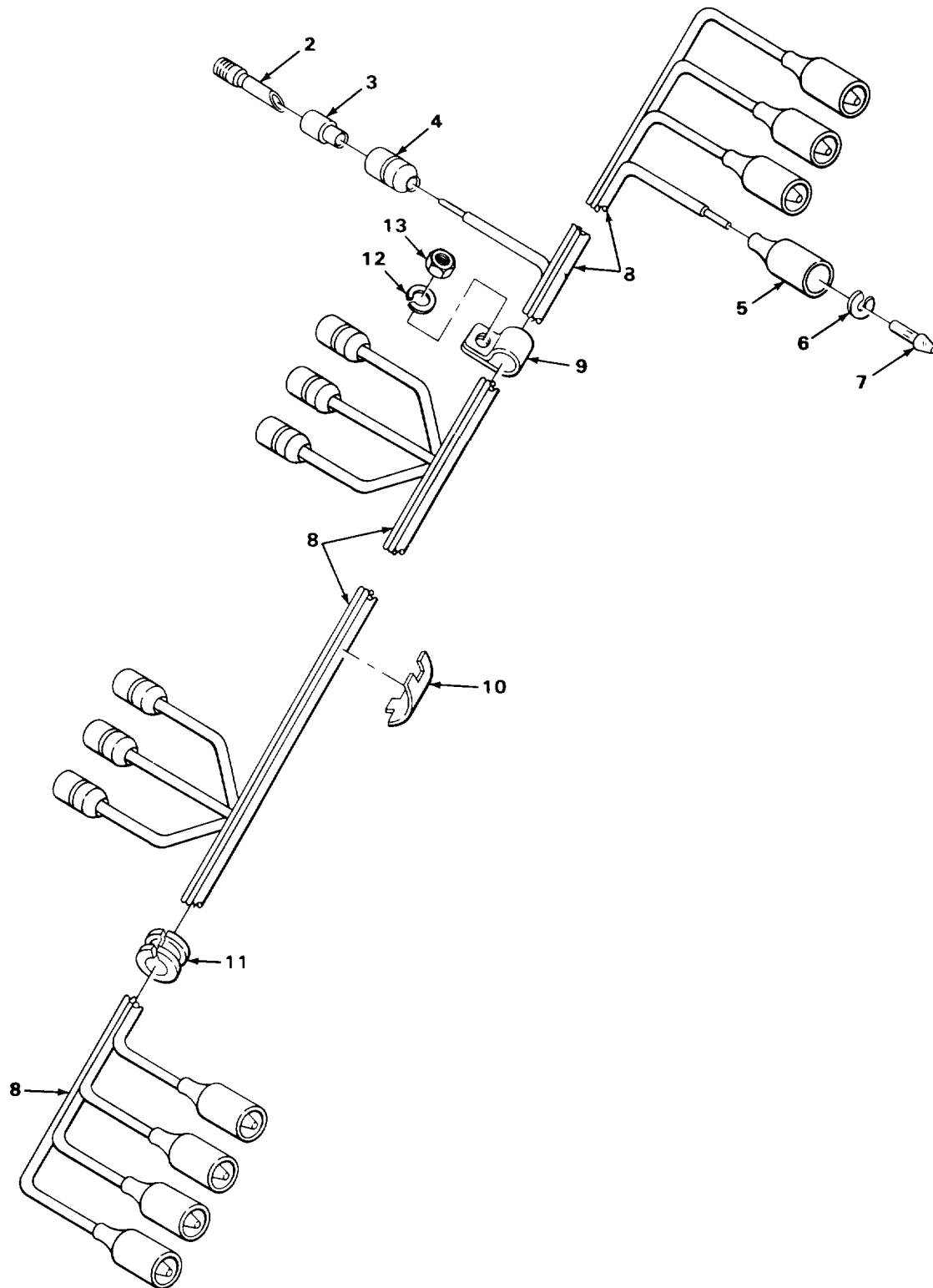
SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
0613 CHASSIS WIRING HARNESS					
FIG.3. WIRING HARNESS					
1	PAOOO	19207	8730428	WIRING HARNESS,BRAN	1
2	PAOZZ	19207	8338564	.TERMINAL ASSEMBLY	19
3	PAOZZ	19207	8338561	.SHELL,ELECTRICAL CO	19
4	PAOZZ	19207	8338562	.INSULATOR,BUSHING	19
5	PAOZZ	81349	M43436/1-1	.BAND,MARKER	36
6	PAOZZ	19207	8338566	.SHELL, ELECTRICAL CO	7
7	PAOZZ	19207	8338567	.WASHER,SLOTTED	7
8	PFOZZ	96906	MS27148-2	.CONTACT,ELECTRICAL	7
9	PAOZZ	83194	1628	.BAND,MARKER	1
10	PAOZZ	96906	MS21333-102	CLAMP,LOOP	27
10	PAOZZ	96906	MS21333-98	CLAMP,LOOP	11
11	PAOZZ	96906	MS35338-44	WASHER,LOCK	38
12	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	38
13	PAOZZ	88044	AN931C10-20	GROMMET,NONMETALLIC	6
14	PFOZZ	19207	8730461	GROMMET,NONMETALLIC	2

END OF FIGURE

1
2 THRU 8

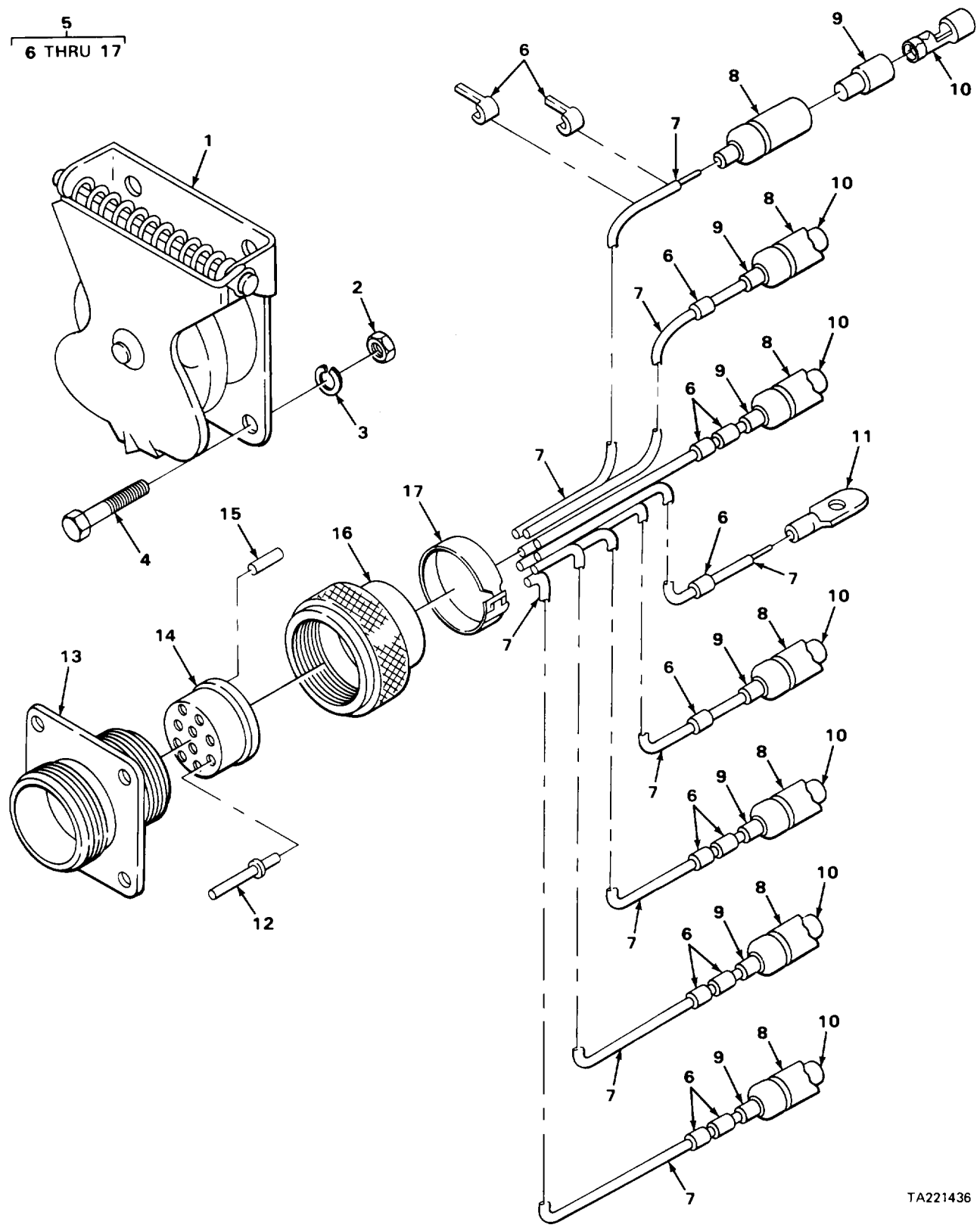


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FIGURE 4. WIRING HARNESS ADAPTER.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
0613 CHASSIS WIRING HARNESS					
FIG.4. WIRING HARNESS ADAPTER					
1	PAOZZ	19207	8730428	WIRING HARNESS,BRAN ADAPTER	1
2	PAOZZ	19207	8338564	.TERMINAL ASSEMBLY	8
3	PAOZZ	19207	8338562	.INSULATOR,BUSHING	8
4	PAOZZ	19207	8338561	.SHELL,ELECTRICAL CO	8
5	PAOZZ	19207	8338566	.SHELL,ELECTRICAL CO	7
6	PAOZZ	19207	8338567	.WASHER,SLOTTED	7
7	PFOZZ	96906	MS27148-2	.CONTACT,ELECTRICAL	7
8	MOOZZ	19207	0623470-1	.CABLE,SPECIAL PURPO MAKE FROM P/N M13486113-1	V
9	PAOZZ	96906	MS21333-98	.CLAMP,LOOP	5
10	PFOZZ	83194	1628	BAND, MARKER	1
11	PFOZZ	19207	8730461	GROMMET, NONMETALLIC	1
12	PAOZZ	96906	MS35338-44	WASHER, LOCK	5
13	PAOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON	5

END OF FIGURE

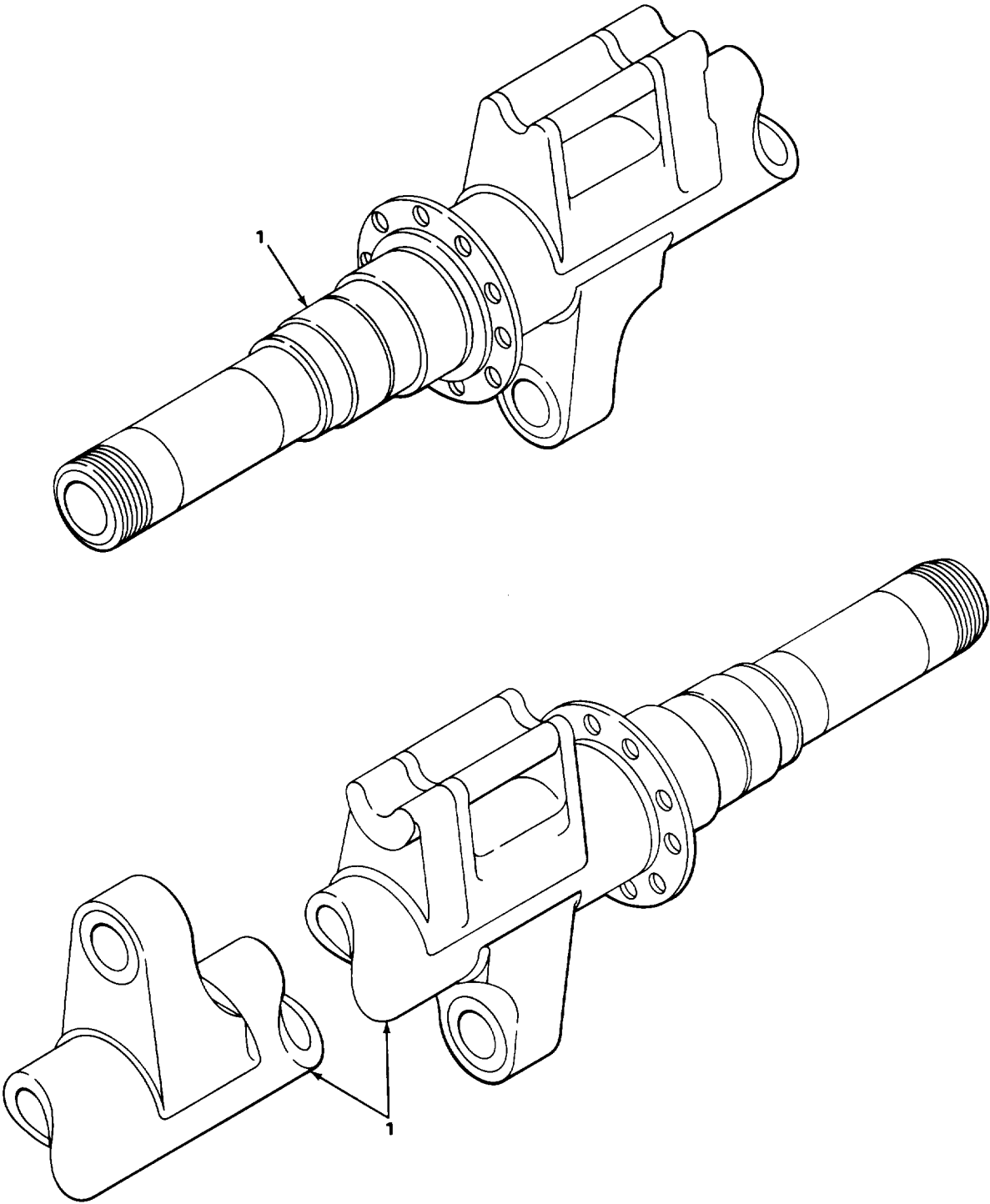


TA221436

FIGURE 5. LEAD ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
0613 CHASSIS WIRING HARNESS					
FIG.5. LEAD ASSEMBLY					
1	PAOZZ	19207	7731428	COVER,ELECTRICAL CO	1
2	PFOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	4
3	PAOZZ	96906	MS35338-44	WASHER,LOCK	4
4	PAOZZ	96906	MS90728-8	SCREW,CAP,HEXAGON H	4
5	PAOZZ	19207	8730420	LEAD ASSEMBLY,ELECT RECEPTACLE	1
6	PAOZZ	81349	M43436/1-1	.BAND,MARKER	13
7	MOOZZ	19207	0623470-2	.CABLE,SPECIAL PURPO MAKE FROM P/N M13486113-1	V
8	PAOZZ	19207	8338561	.SHELL,ELECTRICAL CO	7
9	PAOZZ	19207	8338562	.INSULATOR,BUSHING	7
10	PAOZZ	19207	8338564	.TERMINAL ASSEMBLY (INTERCHANGEABLE WITH P/N 7982997)	7
10	PAOZZ	19207	7982997	.TERMINAL,SOLDERED F (INTERCHANGEABLE WITH P/N 8338564)	7
11	PAOZZ	21450	506209	.TERMINAL,LUG	1
12	PAOZZ	77820	10-33646	.CONTACT,ELECTRICAL	8
13	PAOZZ	96906	MS75021-1	.CONNECTOR,RECEPTACL	1
14	PAOZZ	19207	7722333	.BUSHING,RUBBER TRAILER	1
15	MOOZZ	19207	1807289-1	.NONMETALLIC ROD MAKE FROM P/N 8724763	4
16	PAOZZ	19207	7723309	.NUT,PLAIN,KNURLED TRAILER	1
17	PAOZZ	81349	M43436/1-3	.BAND,MARKER	1

END OF FIGURE



TA221437

FIGURE 6. AXLE ASSEMBLY.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 11 REAR AXLE 1100 REAR AXLE ASSEMBLY FIG.6. AXLE ASSEMBLY	
1	PAFZZ	19207	10950323	AXLE,VEHICULAR,NOND	2
				END OF FIGURE	

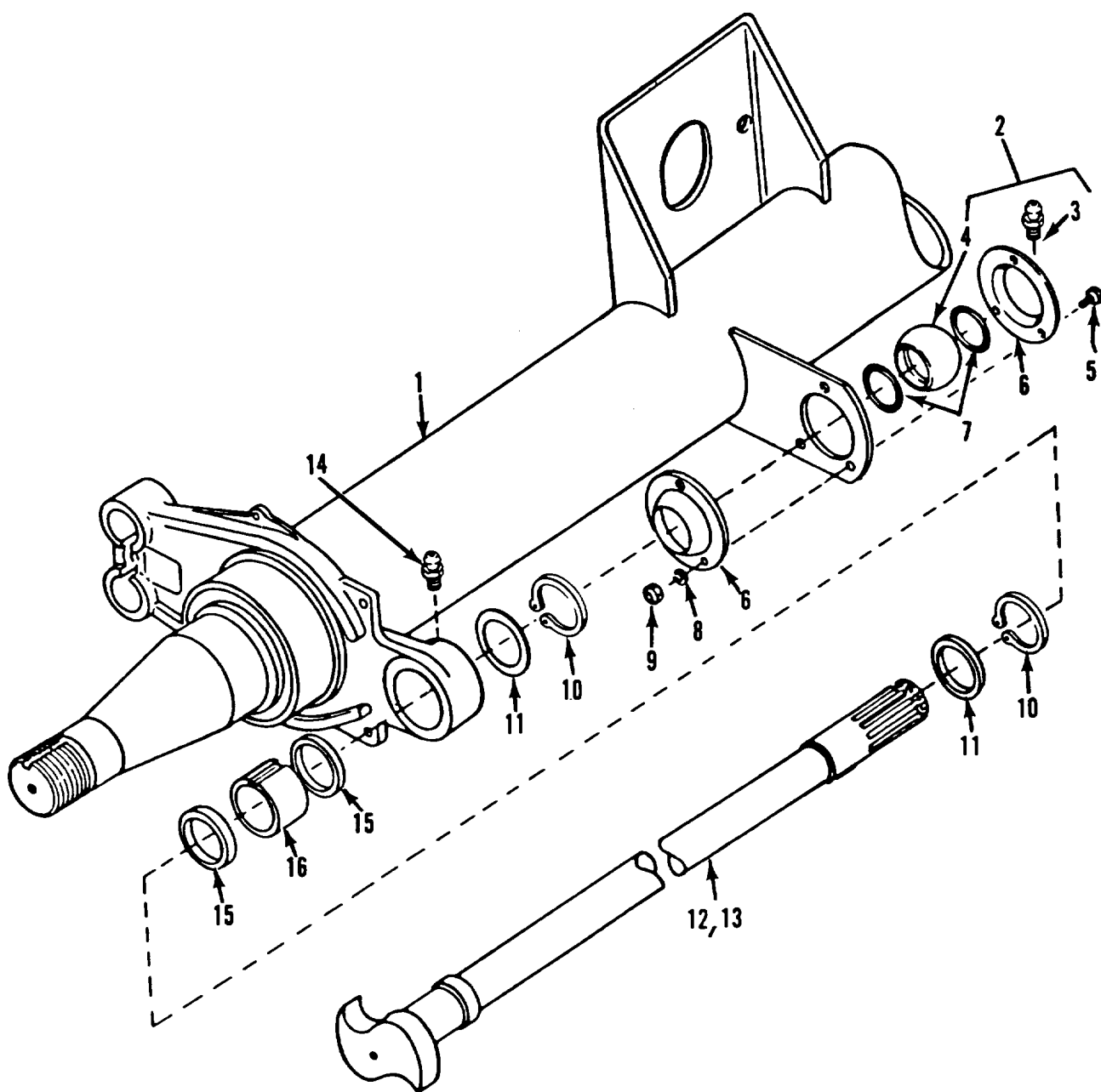
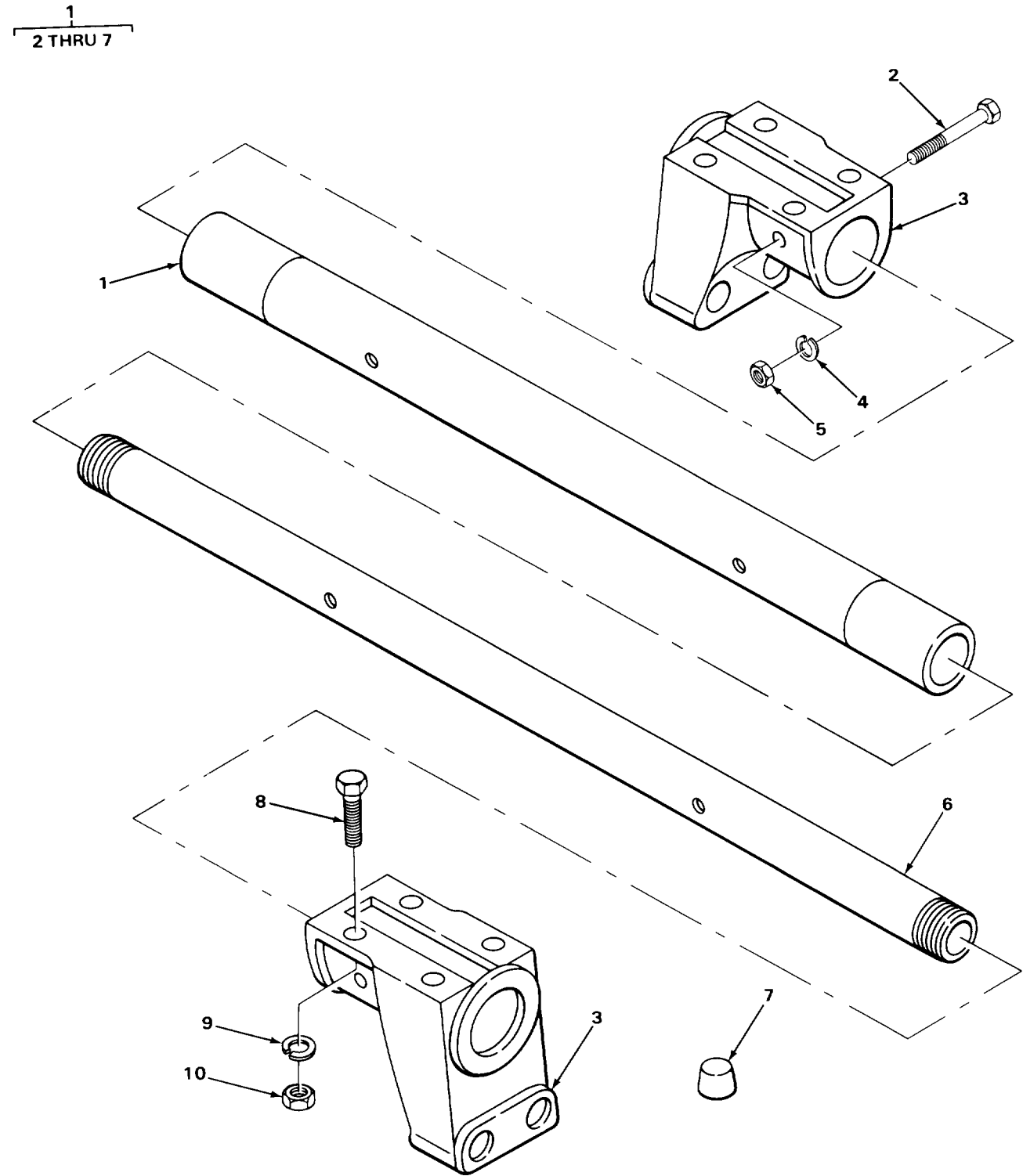


FIGURE 7. AXLE ASSEMBLY (USE ON PAO1UX THRU PAO21W).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1100 REAR AXLE ASSEMBLY FIG. 7. AXLE ASSEMBLY (USE ON USA PAOLUX THRU PAO21W)					
1	XDFZZ	62707	K22-FT-167W	AXLE,TUBE	2
2	PAOZZ	62707	M10WH100-2	PLATE,RETAINING,SHA	4
3	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION	2
4	PAOZZ	62707	M10WJ100	BEARING,PLAIN,SPHER	4
5	PAOZZ	96906	MS90725-33	BOLT,MACHINE	12
6	PFOZZ	62707	M10WH100-1	PLATE,RETAINING,SHA	4
7	PAOZZ	62707	M10HH100	PACKING,PREFORMED	4
8	PAOZZ	96906	MS35338-4S	WASHER,LOCK	12
9	PAOZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON	12
10	PAOZZ	96906	MS16624-1150	RING,RETAINING	4
11	PAOZZ	62707	M10HS113	WASHER,FLAT	4
12	PAOZZ	62707	M16WK103-17	CAMSHAFT RH	1
13	PAOZZ	62707	M16WK102-17	CAMSHAFT,ACTUATING,	1
14	PAOZZ	96906	MS51003-6	LUBRICATION FITTING	2
15	PAOZZ	62707	M16HH100	PACKING,PREFORMED	4
16	PAOZZ	62707	M16HD100	BUSHING,SLEEVE	2

END OF FIGURE

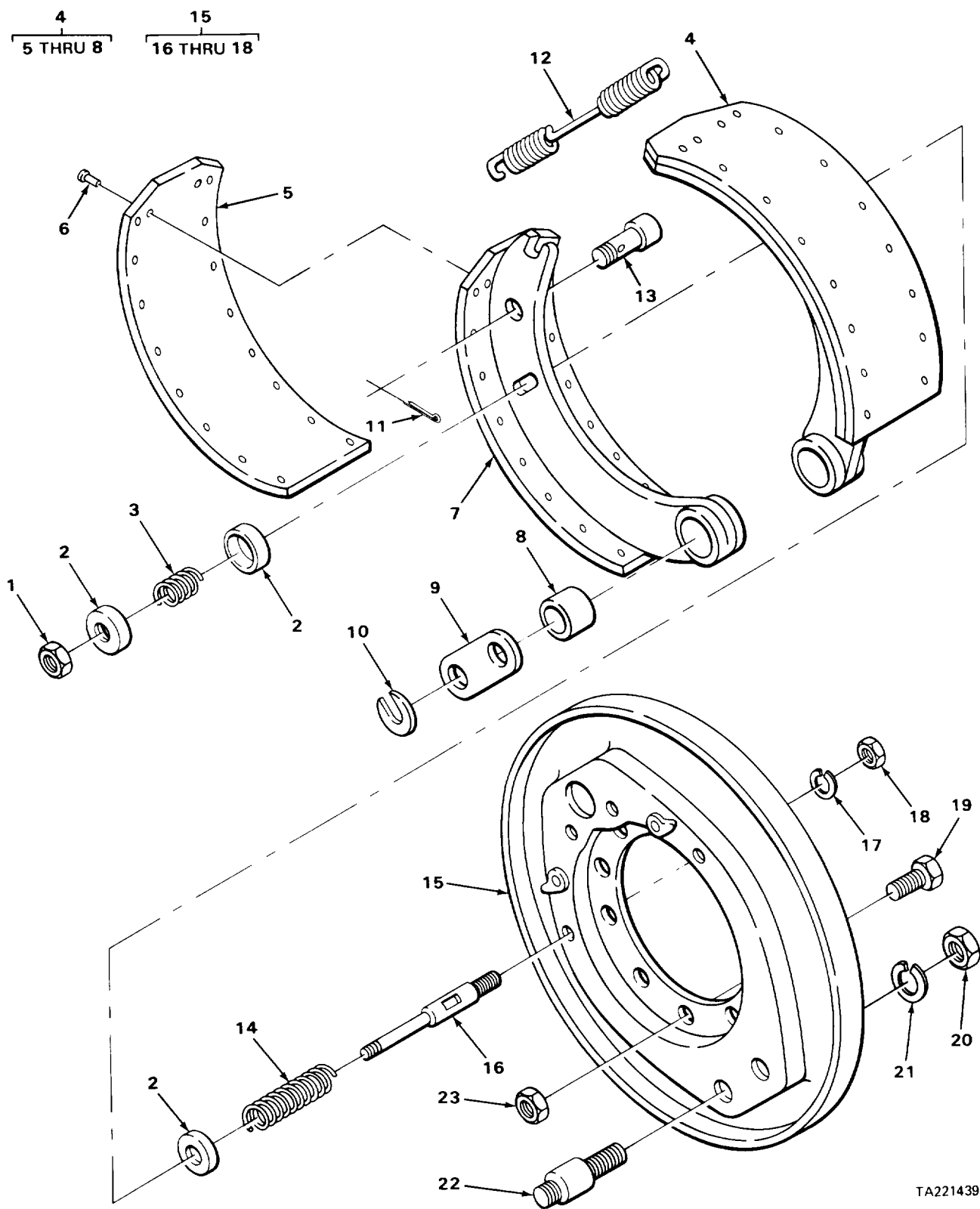


TA221438

FIGURE 8. AXLE TRUNNION.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1100 REAR AXLE ASSEMBLY					
FIG. 8. AXLE TRUNNION					
1	PAFZZ	19207	7409607	TUBE ASSEMBLY,CROSS	1
2	PAFZZ	19207	7346958	.BOLT,MACHINE	2
3	PAFZZ	19207	7979286	.BRACKET,TRUNION TUB	2
4	PAFZZ	96906	MS35338-51	.WASHER,LOCK	2
5	PAFZZ	96906	MS51968-23	.NUT,PLAIN,HEXAGON	2
6	PAFZZ	19207	7979313	.SHAFT,SHOULDERED	1
7	PAFZZ	19207	7979268	.PLUG,TUBE AND BRACK	2
8	PAFZZ	82796	7979377	BOLT,MACHINE	8
9	PAFZZ	96906	MS35338-53	WASHER,LOCK	8
10	PAFZZ	96906	MS51968-32	NUT,PLAIN,HEXAGON	8

END OF FIGURE



TA221439

FIGURE 9. SERVICE BRAKES.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 12 BRAKES					
1202 SERVICES BRAKES					
FIG. 9. SERVICE BRAKES					
1	PAOZZ	19207	11663236	NUT,SELF-LOCKING,HE PART OF KIT P/N 11677781	8
2	PAOZZ	19207	11663232	WASHER,RECESSED PART OF KIT P/N 11677781	24
3	PAOZZ	19207	11663233	SPRING,HELICAL,COMP PART OF KIT P/N 11677781	8
4	PAOZZ	19207	5705700	BRAKE SHOE SET,INTE	4
5	PAFFF	22337	4322GG	.LINING,FRICTION	1
6	PAFZZ	19207	10896748	.RIVET,TUBULAR	16
7	XAFZZ	19207	11665741	.BRAKE SHOE	1
8	PAFZZ	19207	7979280	.BUSHING,SLEEVE	1
9	PAOZZ	78500	1745-E-5	LINK,ANCHOR,BRAKE S	4
10	PAOZZ	19207	7979332	WASHER,SLOTTED	8
11	PAOZZ	96906	MS24665-283	PIN,COTTER	8
12	PAOZZ	19207	7979339	SPRING,HELICAL,EXTE	4
13	PAOZZ	19207	7979330	PIN,GROOVED,HEADLES	8
14	PAOZZ	19207	11663025	SPRING,HELICAL,COMP PART OF KIT P/N 11677781	8
15	PAOOO	78500	A173736H8	PLATE,BACKING,BRAKE	4
16	PAOZZ	19207	11663231	.PIN,BRAKE,MOUNTING PART OF KIT P/N 11677781	2
17	PAOZZ	96906	MS35333-42	.WASHER,LOCK PART OF KIT P/N 11677781	2
18	PAOZZ	96906	MS51968-8	.NUT,PLAIN,HEXAGON PART OF KIT P/N 11677781	2
19	PAOZZ	96906	MS90726-139	SCREW,CAP,HEXAGON H	40
20	PAOZZ	19207	7207919	NUT,PLAIN,HEXAGON	8
21	PAOZZ	96906	MS35338-51	WASHER,LOCK	8
22	PAOZZ	78500	7979271	PIN,SHOULDER,HEADLE	8
23	PFOZZ	96906	MS51922-45	NUT,SELF-LOCKING,HE	40

END OF FIGURE

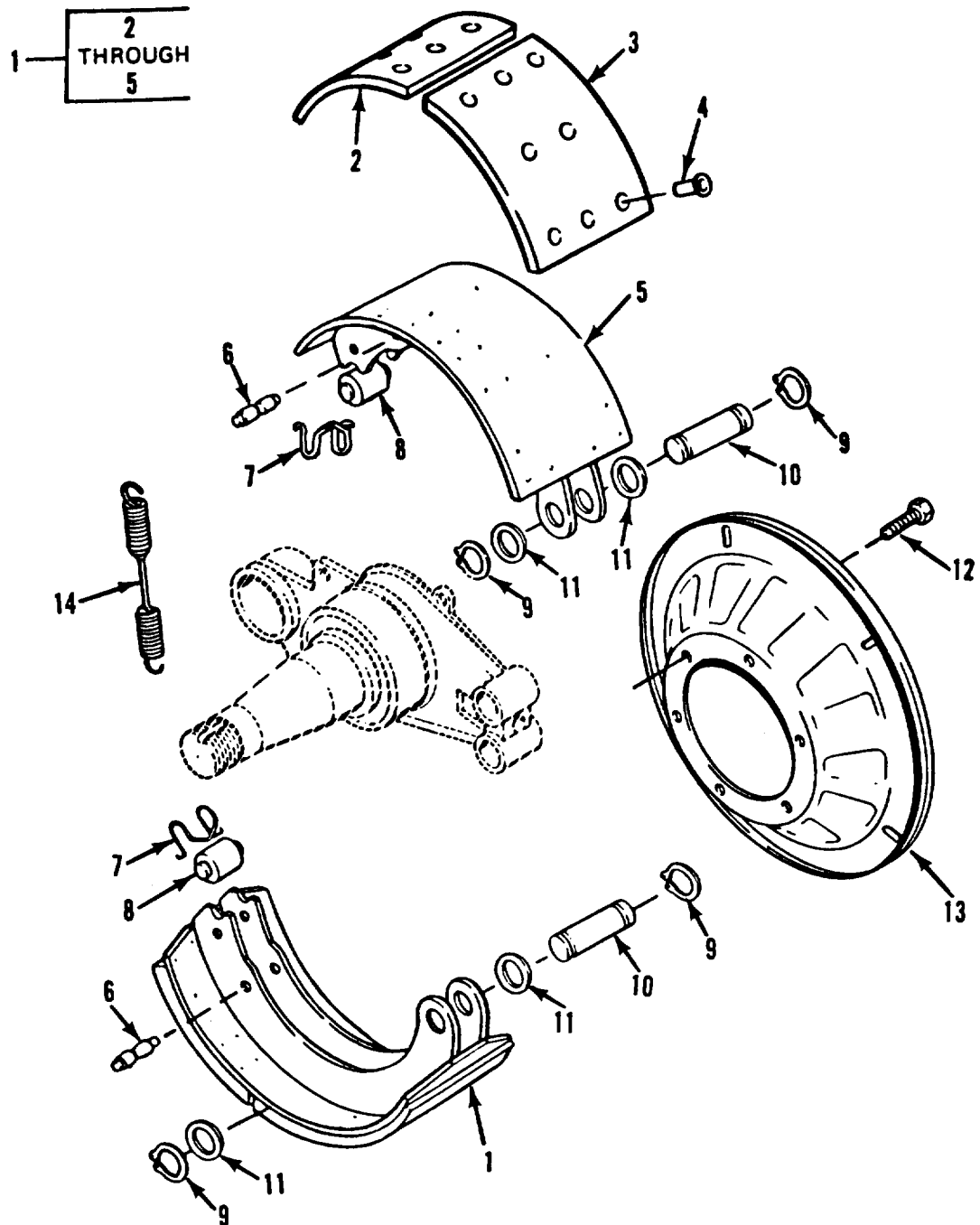
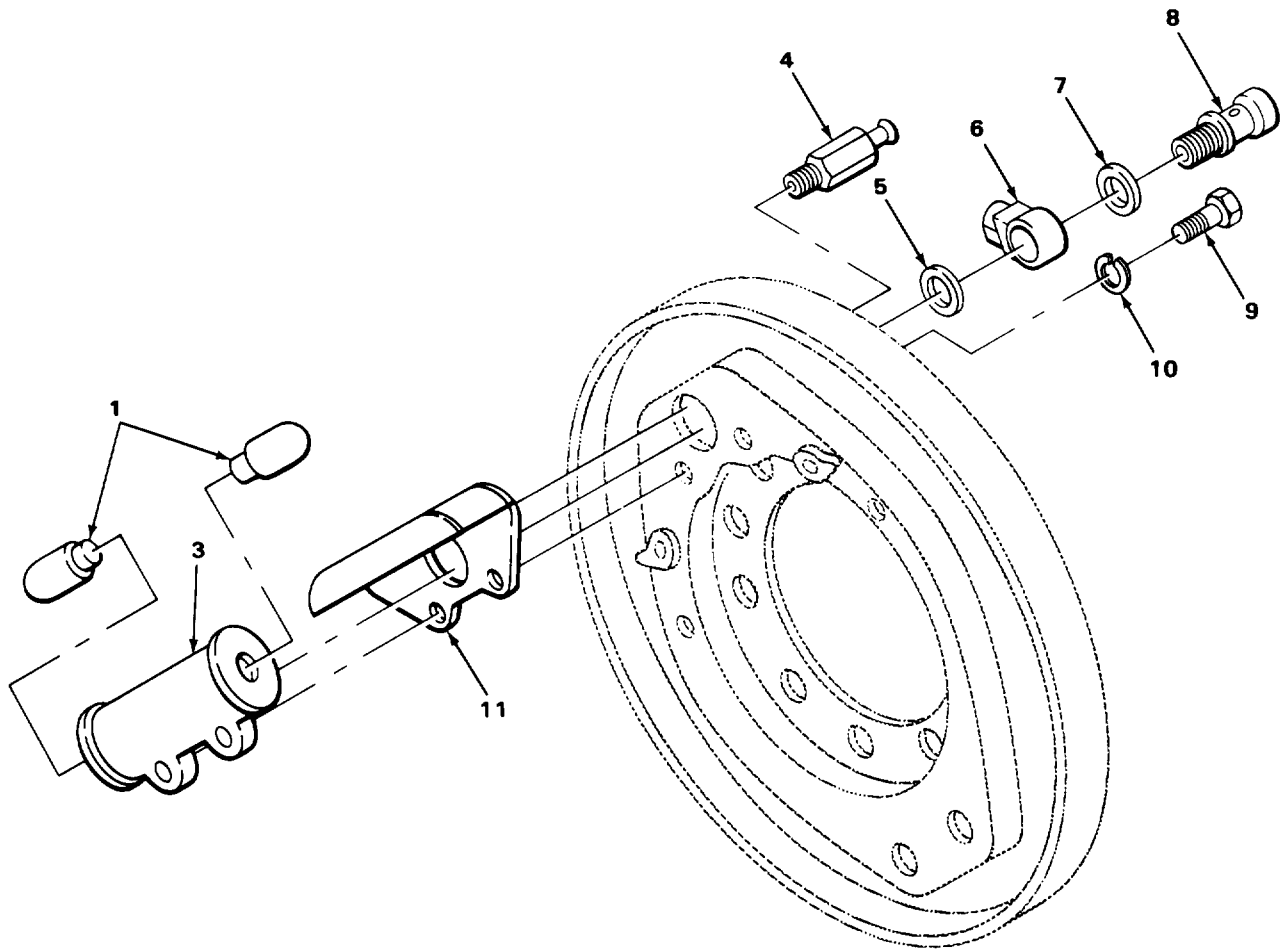


FIGURE10. SERVICE BRAKES (USE ON USA PAO1UX THRU PAO21W)

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1202 SERVICE BRAKES					
FIG. 10. SERVICE BRAKES (USE ON USA					
PA01UX THRU PA021W)					
1	PAOFF	62707	M16WN101X	BRAKE SHOE	2
2	PAFZZ	62707	M16WL100-2	.LINING,FRICTION	4
3	PAFZZ	62707	M16WL100-1	.LINING,FRICTION	2
4	PAFZZ	62707	M10HM100	.RIVET,TUBULAR	12
5	PFFZZ	62707	M16WS104X	.BRAKE SHOE	2
6	PAOFF	22271	16361	PIN,RETURN SPRING	4
7	PFOZZ	62707	M16WJ103	SPRING,HELICAL,TORS	4
8	PFOZZ	62707	M16WJ104	PIN,SHOULDER,HEADLE	4
9	PFOZZ	89549	D30-5100	RING,RETAINING	8
10	PFOZZ	62707	M10HP102	PIN,GROOVED,GEADLES	4
11	PFOZZ	62707	M10HN103	WASHER,FLAT	8
12	PAOZZ	96906	MS51851-106	SCREW,TAPPING,THREA	12
13	PFOZZ	62707	M16WB100	SHIELD,BRAKE DISK	2
14	PFOZZ	62707	M16WJ100	SPRING,HELICAL,EXTE	2

END OF FIGURE

2
3 THRU 8



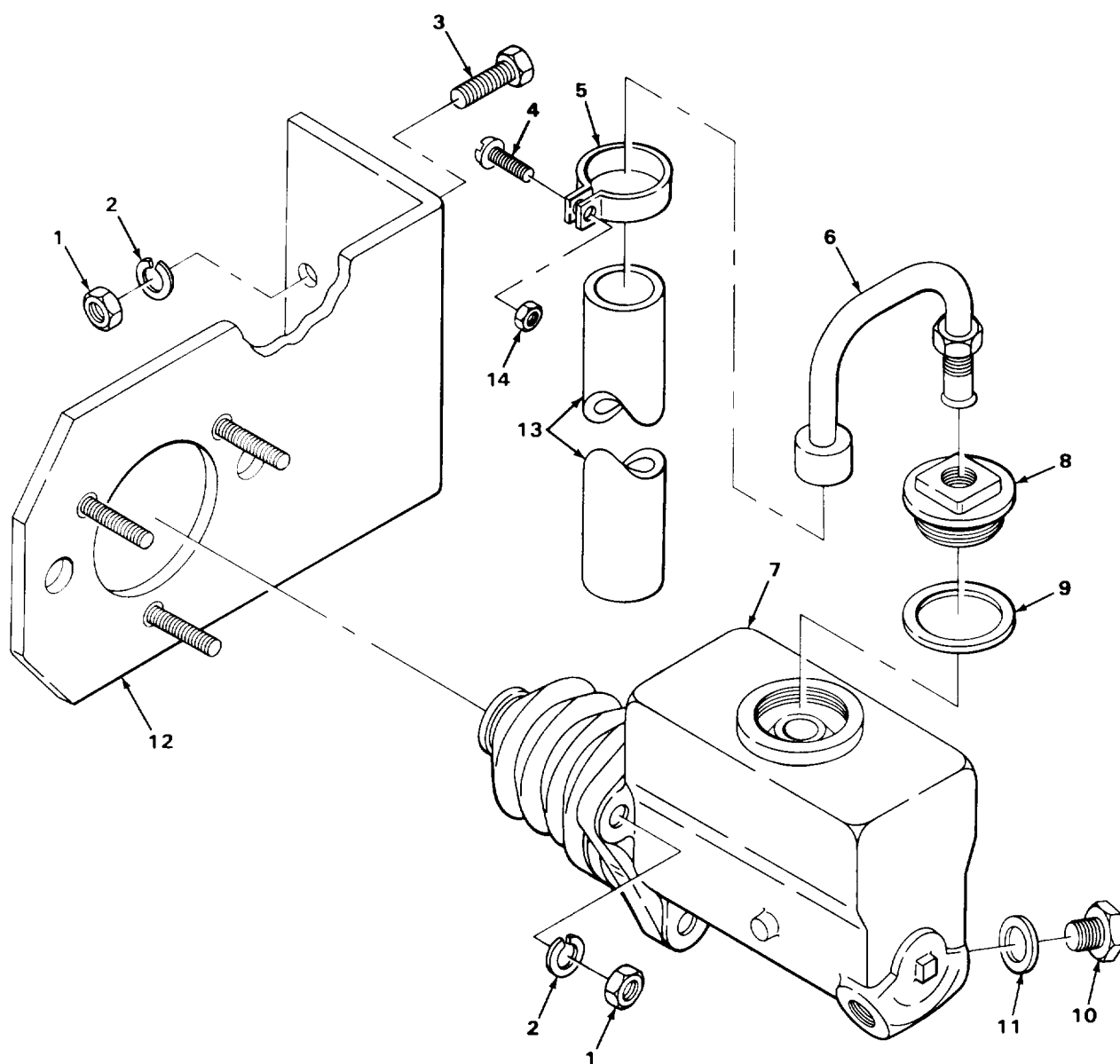
TA221440

FIGURE 11. WHEEL CYLINDER.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1204 HYDRAJLIC BRAKE SYSTEM					
FIG.11. WHEEL CYLINDER					
1	PAOZZ	61361	X10710	LINK,WHEEL CYLINDER	8
2	PAOOO	19207	8758259	CYLINDER ASSEMBLY,H	4
3	PFOZZ	63477	FD-6145	.CYLINDER,HYDRAULIC	1
4	PAOZZ	76005	FC11589	.BLEEDER VALVE,HYDRA	1
5	PAOZZ	19207	5214539	.WASHER,FLAT	1
6	PAOZZ	03776	5282743	.CONNECTOR,MULTIPLE,	1
7	PAOZZ	19207	5160323	.WASHER,FLAT	1
8	PAOZZ	19207	5167419	.BOLT,FLUID PASSAGE	1
9	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H	8
10	PAOZZ	96906	MS35338-46	WASHER,LOCK	8
11	PAOZZ	78500	2797E5	COVER,ACCESS	4

END OF FIGURE

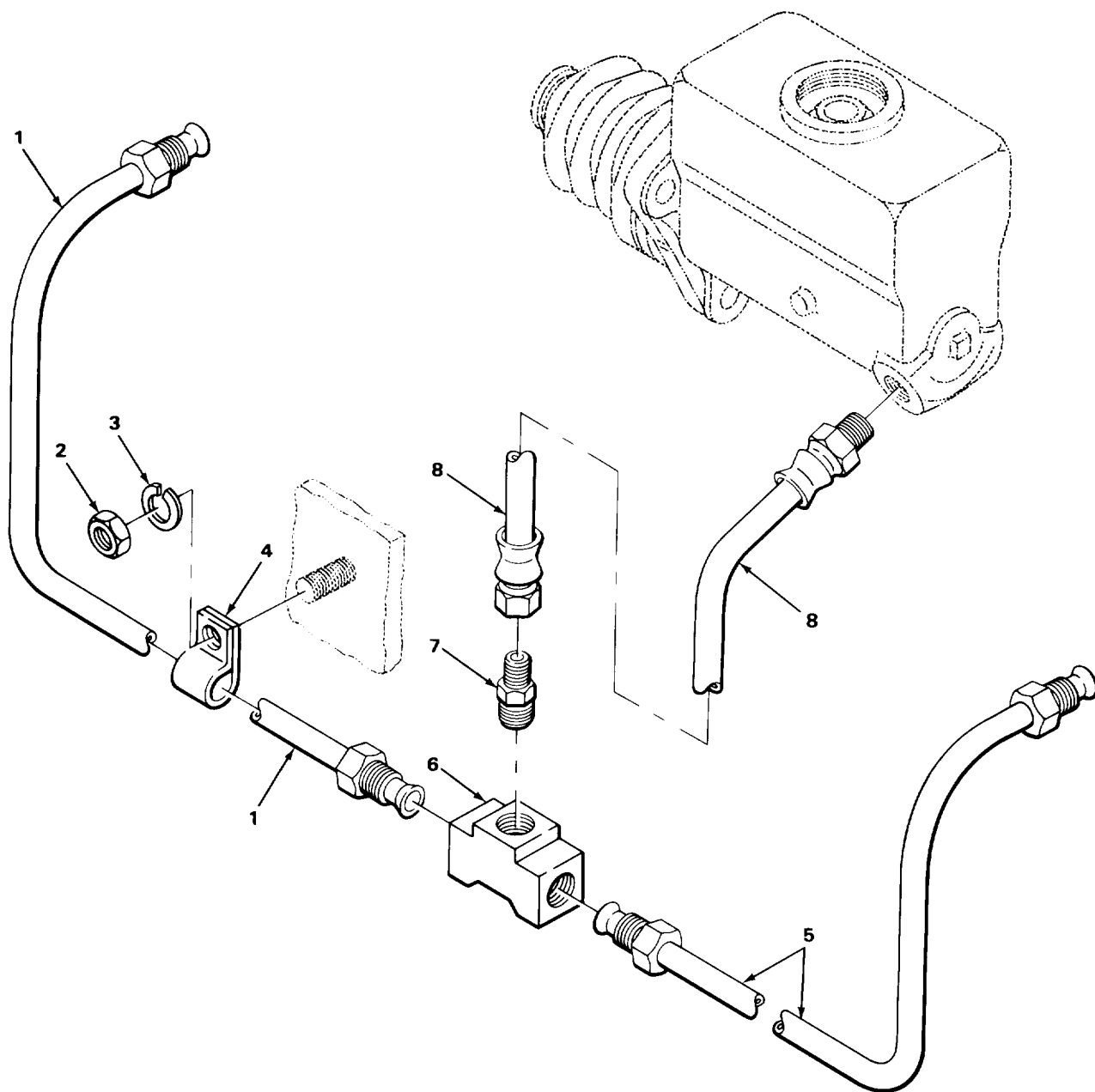
7
8 THRU 11



TA221441

FIGURE 12. MASTER CYLINDER.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1204 HYDRAULIC BRAKE SYSTEM					
FIG. 12. MASTER CYLINDER					
1	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	12
2	PAOZZ	96906	MS35338-46	WASHER,LOCK	12
3	PAOZZ	96906	MS90726-60	SCREW,CAP,HEXAGON H	6
4	PAOZZ	96906	MS35206-268	SCREW,MACHINE	2
5	PAOZZ	96906	MS35842-12	CLAMP,HOSE	2
6	PAOZZ	23705	A298322	TUBE ASSEMBLY,METAL	2
7	PAOOO	19207	8332086	CYLINDER ASSEMBLY,H	2
8	PAOZZ	63477	7979691	.CAP,FILLER OPENING	1
9	PAOZZ	19207	7373354	.SPACER,RING	1
10	PAOZZ	19207	5215673	.PLUG,MACHINE THREAD	1
11	XDOZZ	19207	515663	.GASKET	1
12	XDOZZ	19207	8700985	BRACKET	2
13	PAOZZ	96906	MS521301A204120	HOSE,NONMETALLIC	2
14	PAOZZ	96906	MS35649-202	NUT,PLAIN,HEXAGON	2
END OF FIGURE					



TA221442

FIGURE 13. BRAKE LINES AND FITTINGS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1204 HYDRAULIC BRAKE SYSTEM					
FIG.13. BRAKE LINES AND FITTINGS					
1	PAOZZ	19207	8730440	TUBE ASSEMBLY,METAL	2
2	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	8
3	PAOZZ	96906	MS35338-44	WASHER,LOCK	8
4	PAOZZ	96906	MS21333-98	CLAMP,LOOP	8
5	PAOZZ	19207	8730441	TUBE ASSY, METAL TRAILER	1
6	PAOZZ	79470	112-10321	CONNECTOR,MULTIPLE,	2
7	PAOZZ	19207	5186963	ADAPTER,STRAIGHT,TU	2
8	PAOZZ	81349	MILH13719	HOSE ASSEMBLY NONME	2

END OF FIGURE

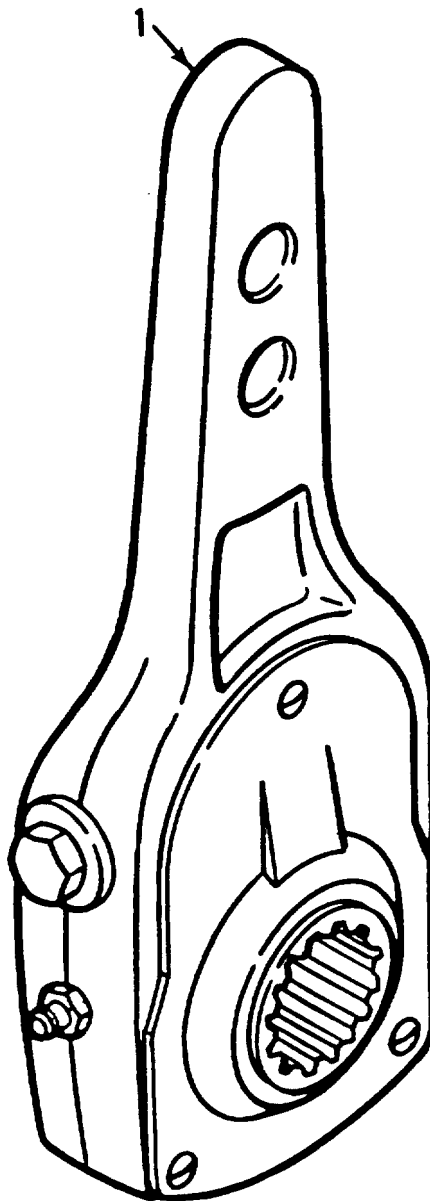
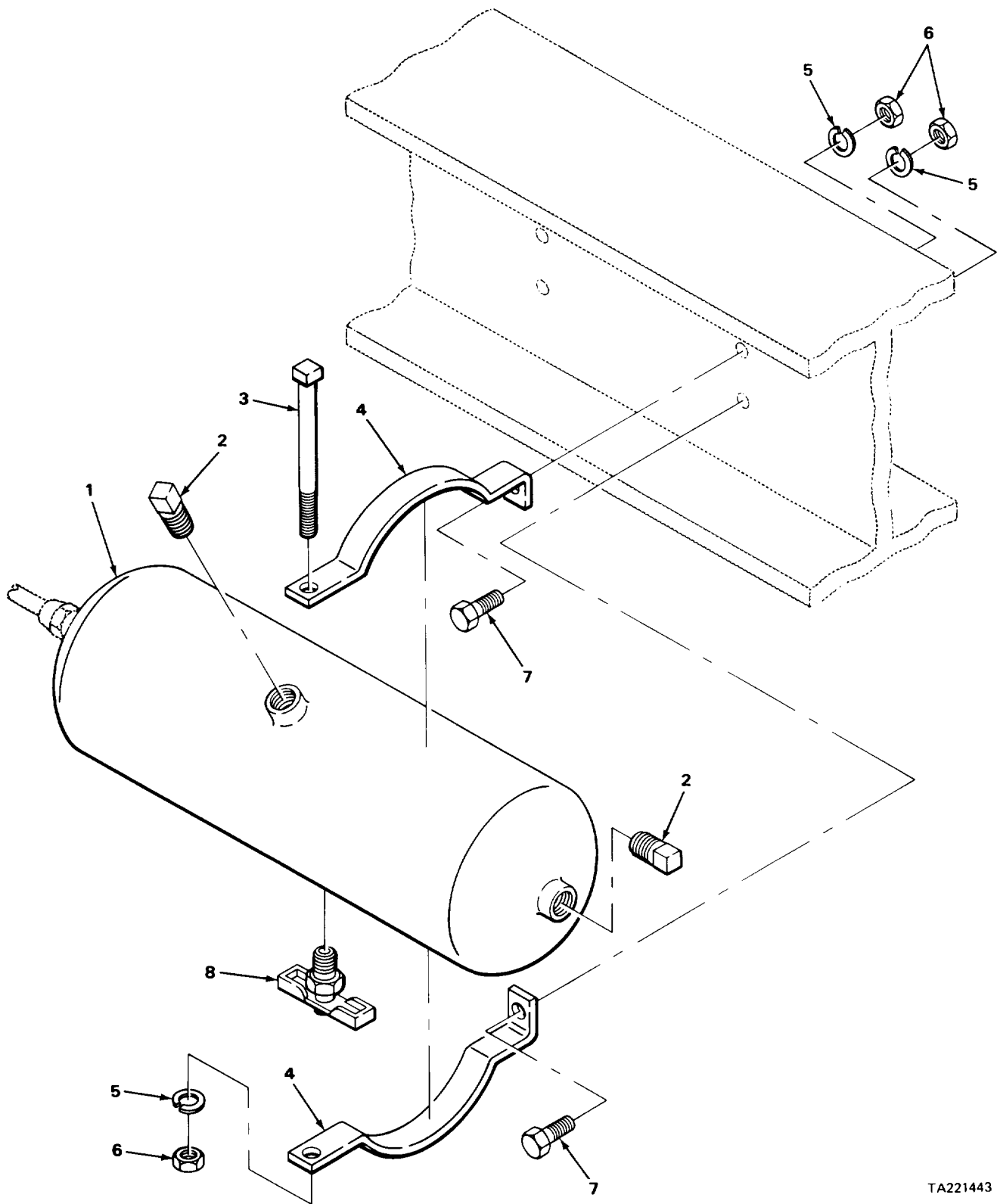


FIGURE 14. SLACK ADJUSTER (USE ON USA PAO1UX THRU PAO21W)

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1206 MECHANICAL BRAKE SYSTEM FIG. 14. SLACK ADJUSTER (USE ON USA PA01UX THRU PA021W)	
1	PAOZZ	62707	M16WR100	ADJUSTER,SLACK,BRAK	2
				END OF FIGURE	



TA221443

FIGURE 15. AIR RESERVOIR.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1208 AIR BRAKE SYSTEM					
FIG. 15. AIR RESERVOIR					
1	PAOZZ	06853	215660	TANK,PRESSURE	1
2	PFOZZ	96906	MS20913-1S	PLUG,PIPE	2
3	PFOZZ	96906	MS35355-74	BOLT,MACHINE	2
4	XDOZZ	19207	7745288	BRACKET	4
5	PAOZZ	96906	MS35338-46	WASHER,LOCK	4
6	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	4
7	PAOZZ	96906	MS90726-60	SCREW,CAP,HEXAGON H	2
8	PAOZZ	96906	MS35782-5	COCK,DRAIN	1
END OF FIGURE					

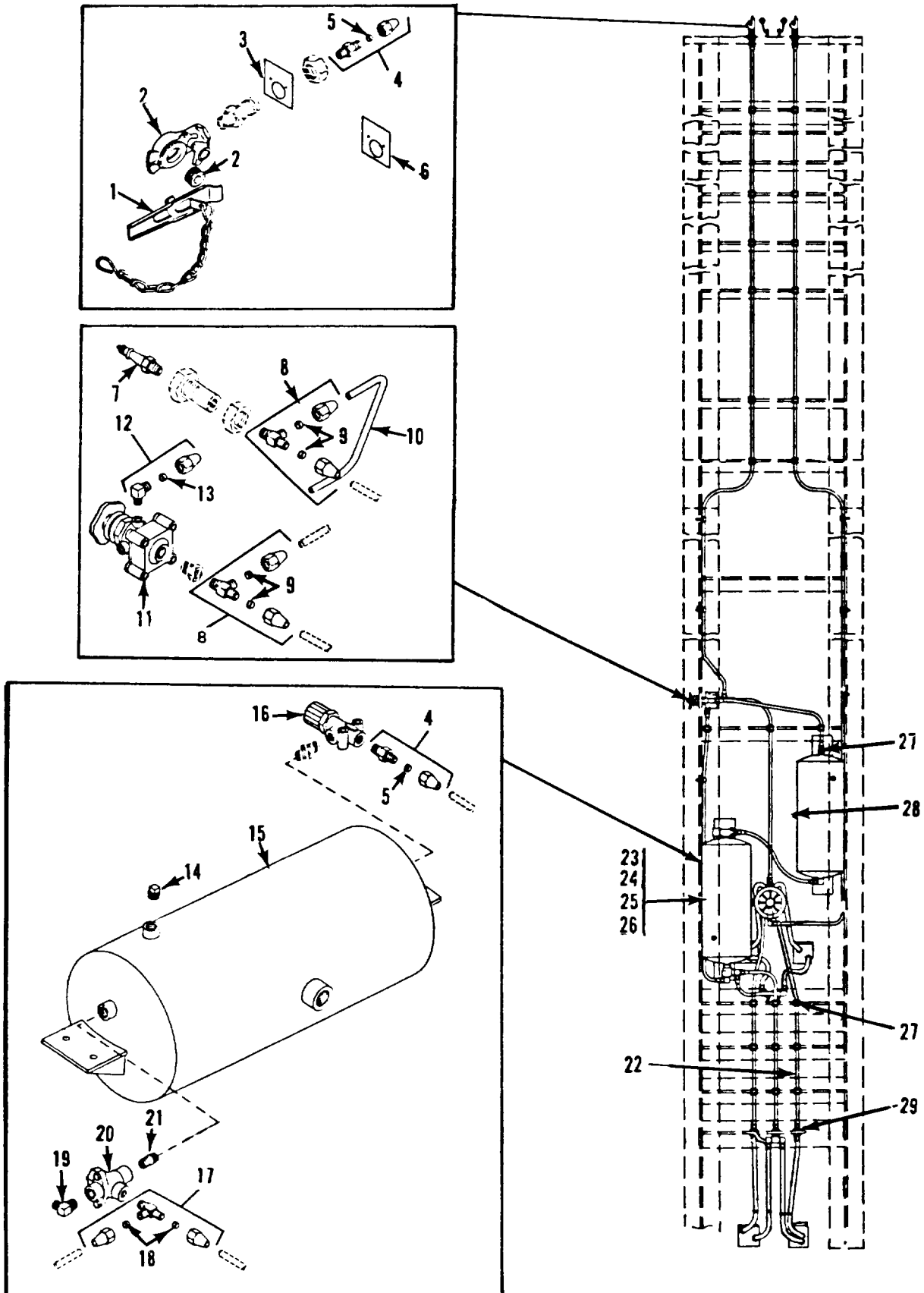
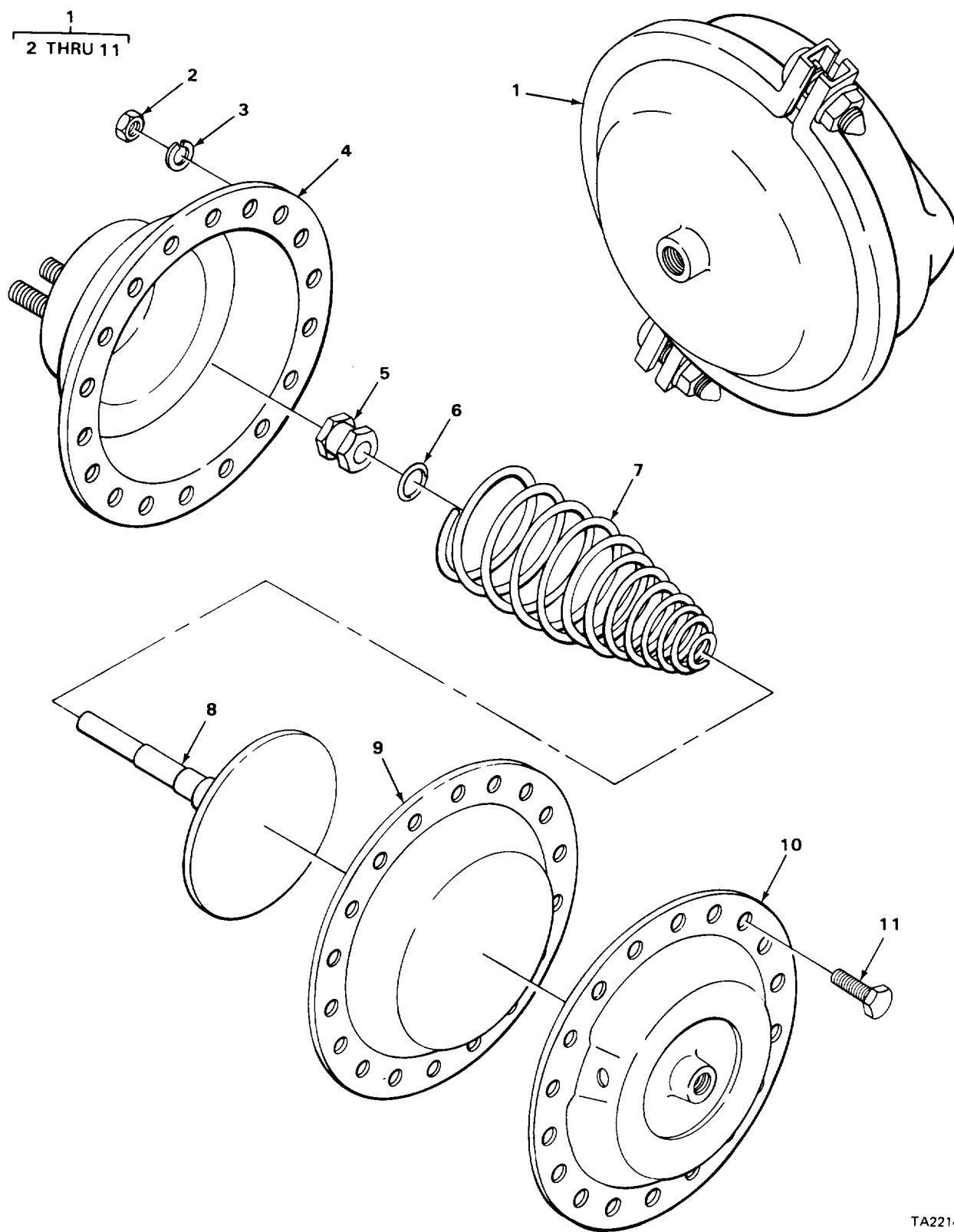


FIGURE 16. BRAKE SYSTEM (USE ON USA PAO1UX THRU PAO21W)

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1208 AIR BRAKE SYSTEM FIG. 16. BRAKE SYSTEM (USE ON USA PA01UX THRU PA021W)					
1	PAOZZ	19207	7411021	DUMMY COUPLING,AUTO	2
2	PAOZZ	96906	MS35746-1	COUPLING HALF,QUICK	2
3	PAOZZ	96906	MS53007-1	PLATE,IDENTIFICATIO	1
4	PAOZZ	16662	AC2569	ADAPTER,STRAIGHT,PI	7
5	PAOZZ	19207	CPR102321-1	.INSERT,TUBE FITTING	2
6	PAOZZ	96906	MS53007-2	PLATE,IDENTIFICATIO	1
7	PAOZZ	19207	8376442	VALVE,PNEUMATIC TAN	1
8	PAOZZ	81343	6-4-6 120424BA	TEE,PIPE TO TUBE	2
9	PFOZZ	19207	CPR102321-1	.INSERT,TUBE FITTING	1
10	MOOZZ	9W125	CPR10442-2-19	TUBE	1
11	PAOZZ	06853	284744	BRAKE,CONTROL,VALVE	1
12	PAOZZ	81343	6-2 120201BA	ELBOW,PIPE TO TUBE	1
13	PAOZZ	19207	CPR102321-1	.INSERT,TUBE FITTING	1
14	PAOZZ	72452	1459-103	COUPLING HALF,QUICK	2
15	PAOZZ	19207	12267070	TANK,PRESSURE	2
16	PAOZZ	19207	11621099	VALVE,SAFETY RELIEF	1
17	PAOZZ	96906	MS39191-3	TEE,PIPE TO TUBE	1
18	PAOZZ	19207	CPR102321-1	.INSERT,TUBE FITTING	1
19	PAOZZ	81343	6-6 120202BA	ELBOW,PIPE TO TUBE	2
20	PAOZZ	06853	278614	VALVE,SHUTTLE	1
21	PAOZZ	96906	MS51846-39	NIPPLE,PIPE	1
22	MOOZZ	19207	CPR104420-2X12.5	TUBE MAKE FROM NSN 4720-01-014-4915	1
23	PAOZZ	16662	103235B	MANIFOLD,EXHAUST	1
24	PAOZZ	96906	MS90728-35	BOLT,MACHINE	2
25	PAOZZ	81495	330 2000	WASHER,FLAT	24
26	PAOZZ	96906	MS51 922-9	NUT,SELF-LOCKING,HE	2
27	PFOZZ	80686	8168-66	ADAPTER,STRAIGHT,PI	3
28	PAOZZ	24617	G1251	PLUG,PIPE	1
29	PAOZZ	96906	MS20913-6S	PLUG,PIPE	1

END OF FIGURE



TA221444

FIGURE 17. AIR CHAMBER.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1208 AIR BRAKE SYSTEM					
FIG. 17. AIR CHAMBER					
1	PAOOO	19207	11668361	CHAMBER,AIR BRAKE	2
1	PAOOO	85336	TYPE30CLAMPBAND	CHAMBER,AIR BRAKE	1
2	PFOZZ	96906	MS51968-8	.NUT,PLAIN,HEXAGON PART OF KIT P/N 8332543	18
3	PFOZZ	96906	MS35338-46	.WASHER,LOCK PART OF KIT P/N 8332543	18
4	XAOZZ	19207	8380801	.BODY ASSEMBLY	1
5	PFOZZ	19207	8380814	.COLLAR,PUSH ROD	1
6	KFOZZ	19207	501212	.GASKET PART OF KIT P/N 8332543	1
7	PAOZZ	40342	N10673A	.SPRING,HELICAL,COMP PART OF KIT P/N 8332543	1
8	XDOZZ	19207	8380816	.ROD ASSEMBLY	1
9	PAOZZ	06853	234101	.DIAPHRAGM,CHAMBER,B PART OF KIT P/N 8332543	1
10	XDOZZ	19207	8380817	.COVER ASSEMBLY	1
11	PFOZZ	96906	MS90726-60	.SCREW,CAP,HEXAGON H PART OF KIT P/N 8332543	18

END OF FIGURE

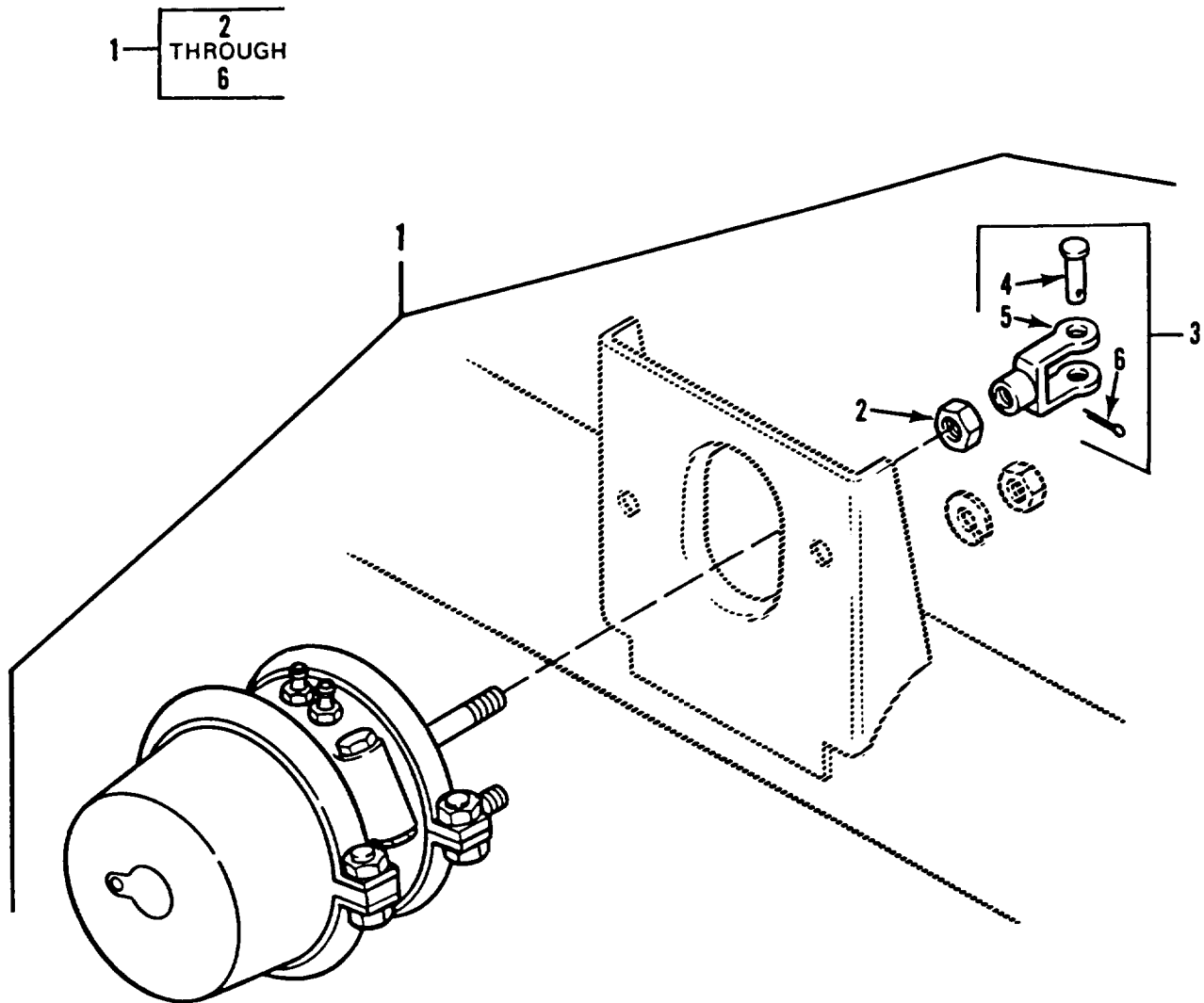
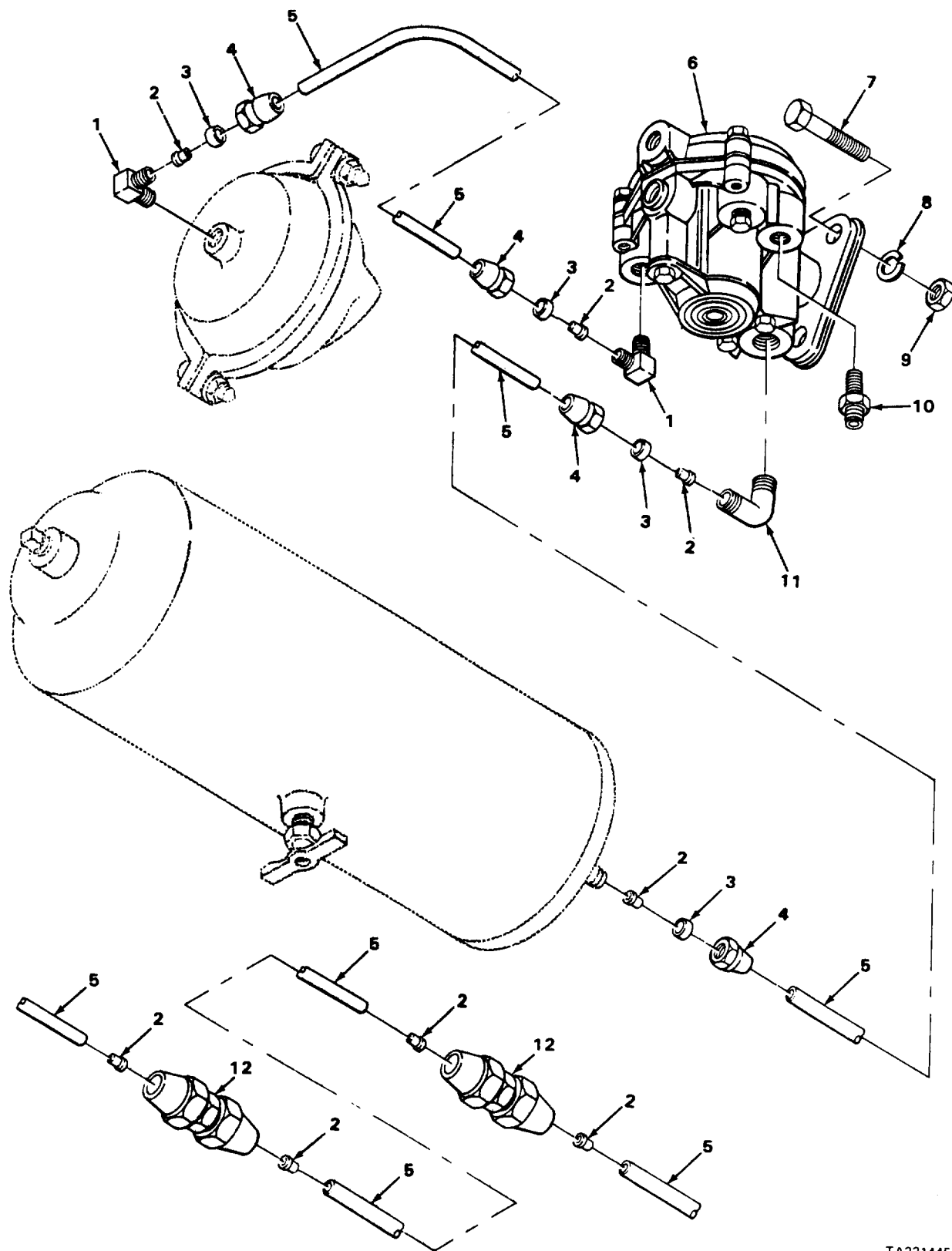


FIGURE 18. AIR BRAKE CHAMBER (USE ON USA PAO1UX THRU PAO21W).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1208 AIR BRAKE SYSTEM FIG. 18. AIR BRAKE CHAMBER (USE ON USA PA01UX THRU PA021W)	
1	PFOOO	50153	162429	CHAMBER,AIR BRAKE	2
2	PAOZZ	96906	MS35691-53	.NUT,PLAIN,HEXAGON	1
3	PAOZZ	50153	11M018-1	.CLEVIS ASSEMBLY	1
4	PAOZZ	50153	11M061	..PIN,STRAIGHT,HEADED	1
5	XAOZZ	50153	11M059	..CLEVIS,RODEND	1
6	PAOZZ	50153	11M063	..PIN,COTTER	1

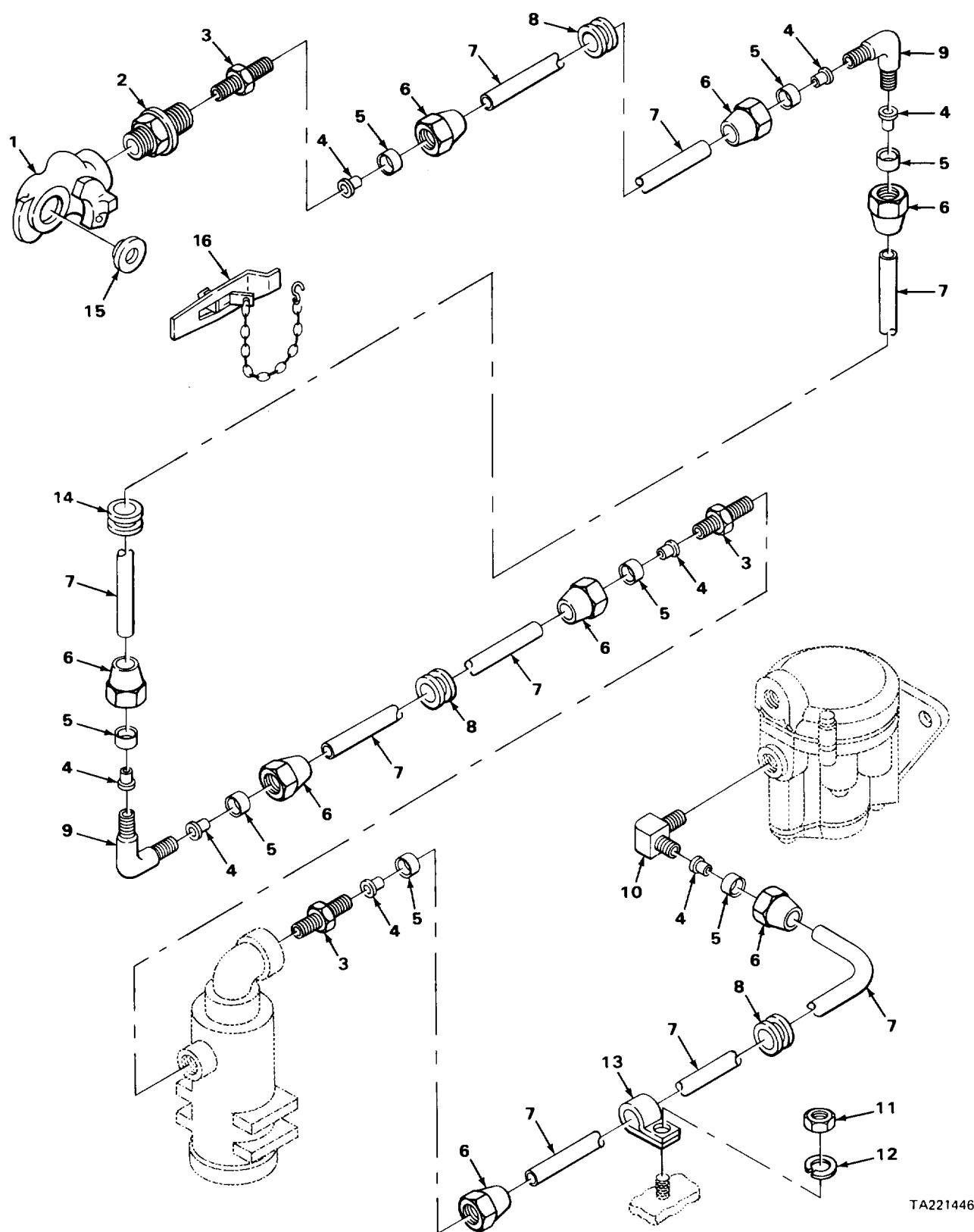
END OF FIGURE



TA221445

FIGURE 19. AIR BRAKE LINES AND FITTINGS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1208 AIR BRAKE SYSTEM					
FIG. 19. AIR BRAKE LINES					
AND FITTINGS					
1	PAOZZ	79146	H0169-6X4	ELBOW,PIPE TO TUBE	2
2	PAOZZ	19207	CPR102321-1	INSERT,TUBE FITTING	6
3	PAOZZ	81343	8 120115B	SLEEVE,COMPRESSION	6
4	PAOZZ	81343	8 120111B	NUT,TUBE COUPLING	6
5	MOOZZ	19207	1770102	HOSE,NONMETALLIC MAKE FROM HOSE P/ N 3250-0610	V
6	XDDZZ	96906	MS53004-1	VALVE,RELAY,EMERGEN	1
7	PAOZZ	96906	MS90727-62	SCREW,CAP,HEXAGON H	3
8	PAOZZ	96906	MS35338-46	WASHER,LOCK	3
9	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON	3
10	PAOZZ	81343	8-6120102BA	ADAPTER,STRAIGHT,PI	1
11	PAOZZ	81343	8-6120202BA	ELBOW,PIPE TO TUBE	1
12	PAOZZ	81343	J246	NIPPLE,TUBE	V
END OF FIGURE					



TA221446

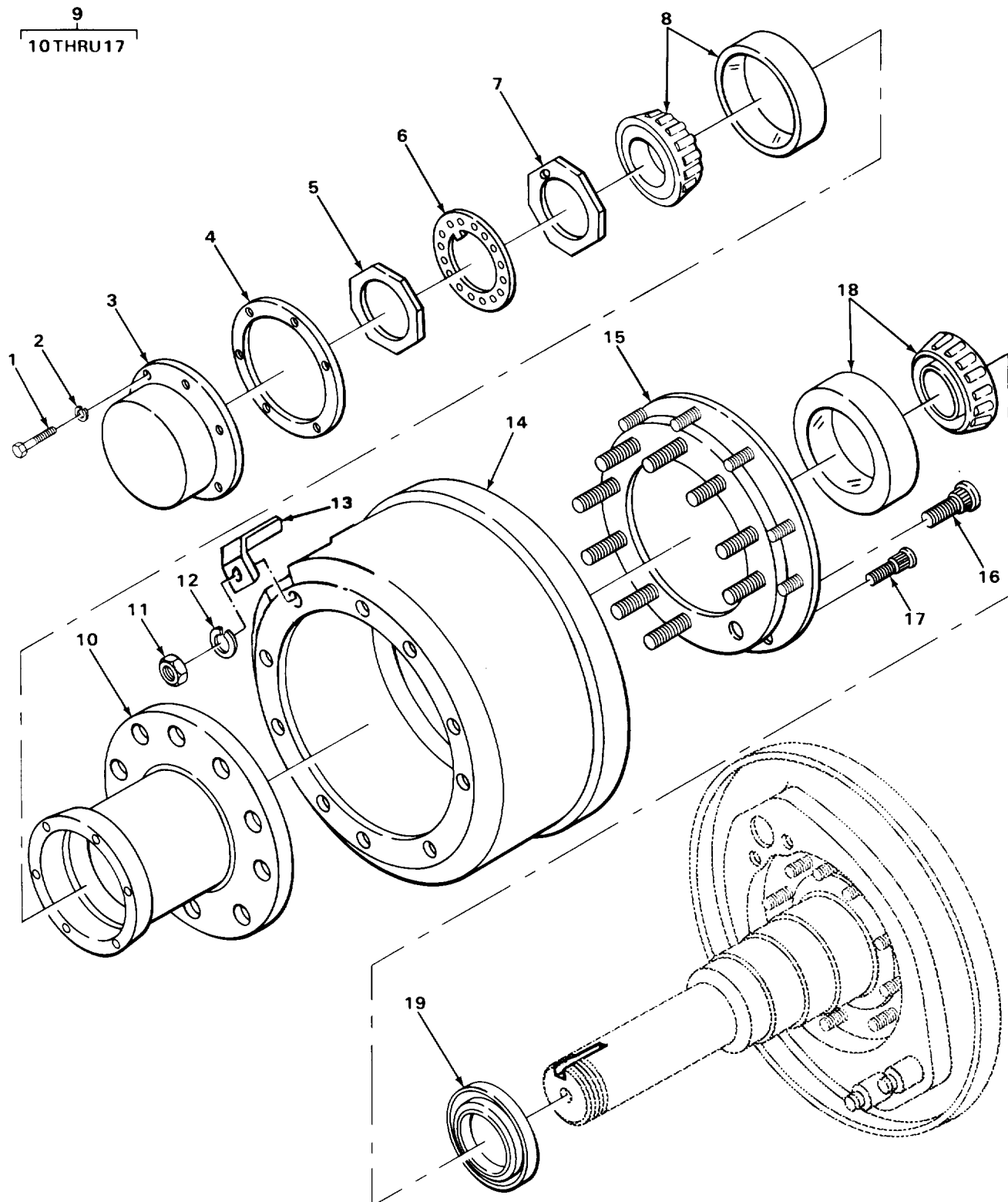
FIGURE 20. AIR BRAKE COUPLINGS.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1211 AIR BRAKE SYSTEM					
FIG. 20 AIR BRAKE COUPLINGS					
1	PAOZZ	96906	MS35746-1	COUPLING HALF, QUICK	2
2	PAOZZ	28548	5228623	NIPPLE, TANK	2
3	PAOZZ	81343	6-4 120102BA	ADAPTER, STRAIGHT, PI	2
4	PAOZZ	19207	CPR102321-1	INSERT, TUBE FITTING	V
5	PAOZZ	08081	W00361	SLEEVE, COMPRESSION	16
6	PAOZZ	76933	200360	NUT, TUBE COUPLING	16
7	MOOZZ	19207	1770102	HOSE, NONMETALLIC MAKE FROM P/N 3250-0610	V
8	PAOZZ	19207	7979287	GROMMET, NONMETALLIC	9
9	PAOZZ	81343	6-6120201BA	ELBOW, TUBE	4
10	PAOZZ	81343	6-6120202BA	ELBOW, PIPE TO TUBE 0 (SERVICE LINE)	1
10	PFOZZ	79146	HD-169-6X4	ELBOW, PIPE TO TUBE 0 (EMERGENCY LINE)	1
11	PAOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON	36
12	PAOZZ	96906	MS35338-44	WASHER, LOCK	36
13	PAOZZ	81348	CMDX2-3PT573036	CLAMP, LOOP	34
14	PAOZZ	19207	8730457	GROMMET, NONMETALLIC	4
15	PAOZZ	06853	213630	PACKING, PREFORMED	2
16	PAOZZ	19207	7411021	DUMMY COUPLING, AUTO	2

END OF FIGURE



TA221447

FIGURE 21. HUB AND DRUM ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 13 WHEELS, HUBS AND DRUMS					
1311 WHEELS, HUBS AND DRUMS					
FIG. 21 HUB AND DRUM ASSEMBLY					
1	PAOZZ	77873	63-PT-349	BOLT,MACHINE	24
2	PAOZZ	96906	MS35338-45	WASHER,LOCK	24
3	PAOZZ	19207	8710725	COVER,ACCESS	4
4	PAOZZ	19207	8710726	GASKET	4
5	PAOZZ	19207	7979263	NUT,PLAIN,OCTAGON	4
6	PAOZZ	19207	5139123	WASHER,KEY	4
7	PAOZZ	78500	A1227S305	NUT,PLAIN,OCTAGON	4
8	PAOZZ	96906	MS19081-181	BEARING,ROLLER,TAPE	4
9	PAOZZ	19207	8710721	HUB AND DRUM ASSEMB LEFT	2
9	XDOOO	19207	8710722	HUB AND DRUM ASSEMB RIGHT	2
10	XDOZZ	82796	8710723	.HUB,TRAILER WHEEL	1
11	PAOZZ	96906	MS51968-11	.NUT,PLAIN,HEXAGON	10
12	PAOZZ	96906	MS35338-47	.WASHER,LOCK	10
13	PAOZZ	78500	1107F84	.COVER,ACCESS	1
14	PAOFF	78500	3219X2052	.BRAKE DRUM	1
15	PAOZZ	19207	8710724	ADAPTER,BRAKE DRUM	1
16	PAOZZ	96906	MS51946-1	.BOLT,RIBBED SHOULD 0(USED WITH P/ N 8710721)	10
16	PAOZZ	96906	MS51946-2	.BOLT,RIBBED SHOULDE 0(USED WITH P/ N 8710722)	10
17	PAOZZ	19207	7979179	.BOLT,RIBBED SHOULDE	10
18	PFOZZ	21450	712288	BEARING,ROLLER,TAPE	4
19	PAOZZ	19207	7979349	SEAL,PLAIN ENCASED	4

END OF FIGURE

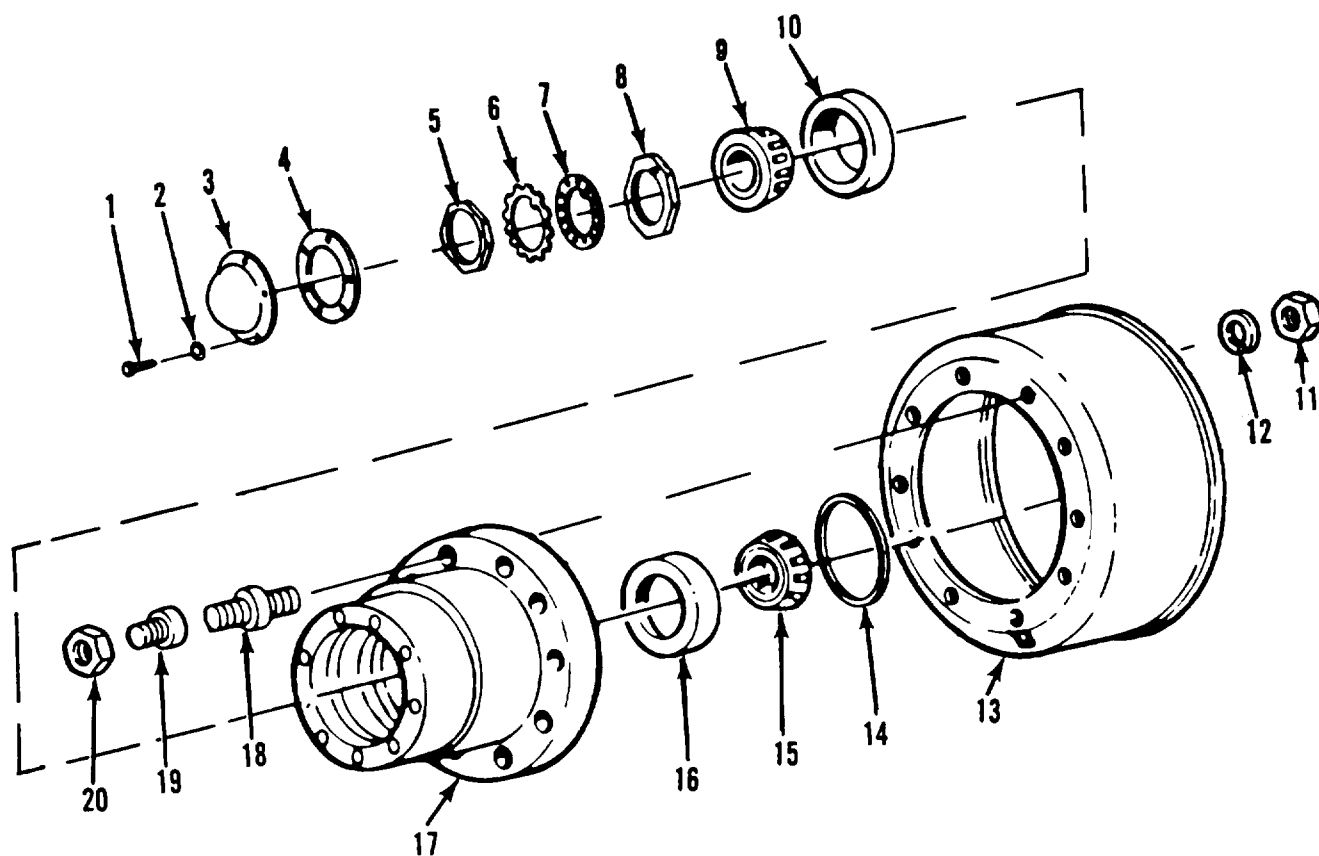
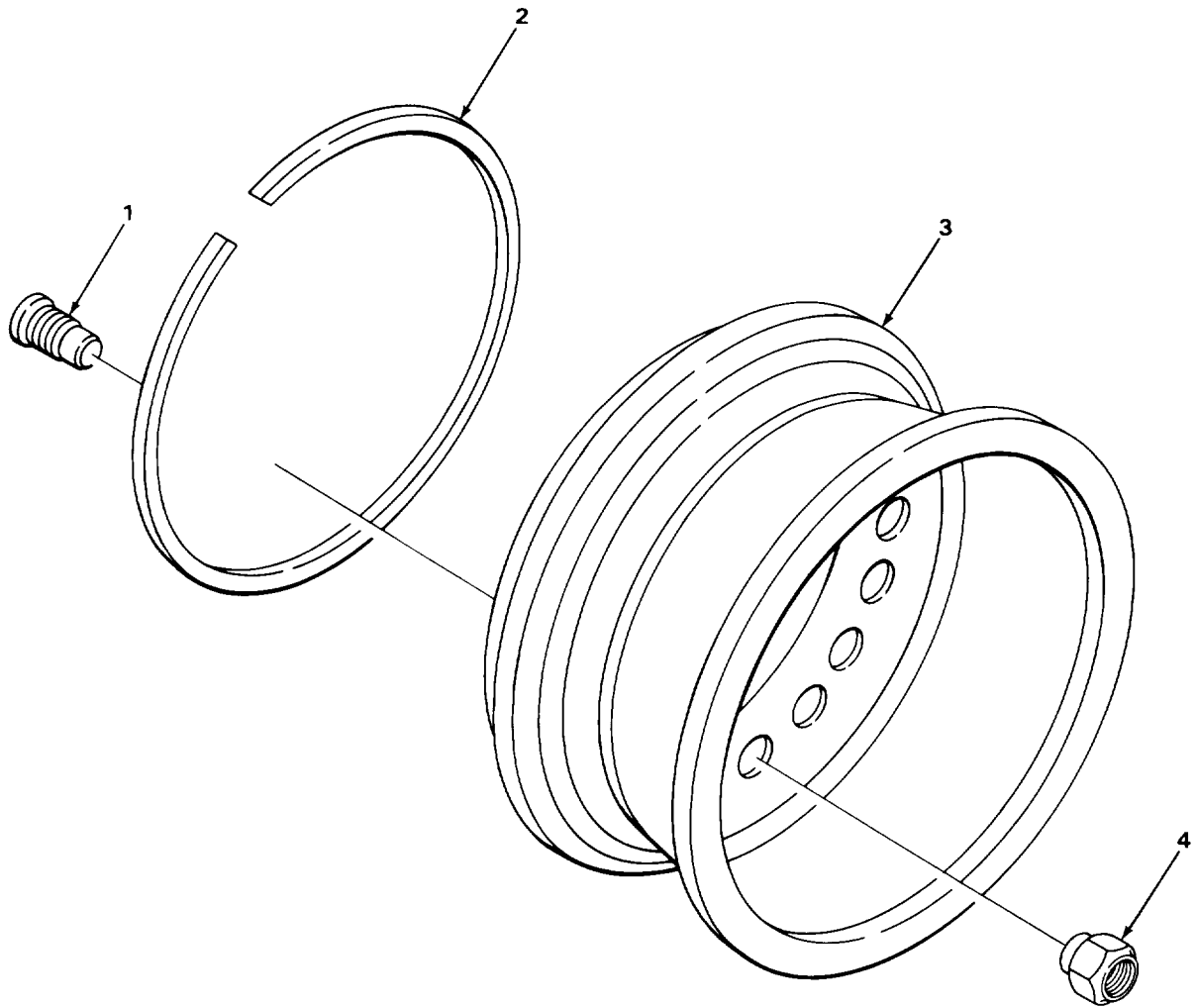


FIGURE 22. HUB AND BRAKE DRUM (USE ON USA PAO1UXTHRU PAO21W).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1311 WHEEL ASSEMBLY					
FIG. 22. HUB AND BRAKE DRUM (USE ON USA PA01UX THRU PA021W)					
1	PAOZZ	96906	MS90728-30	BOLT,MACHINE	24
2	PAOZZ	96906	MS35338-45	WASHER,LOCK	24
3	PFOZZ	62707	M10HK131	COVER,ACCESS	2
4	PAOZZ	26337	305106	PACKING,PREFORMED	2
5	PAOZZ	62707	M10HN101	NUT,PLAIN,OCTAGON	2
6	PAOZZ	62707	M10HN151	WASHER	2
7	PAOZZ	56697	A150034	WASHER,KEY	2
8	PAOZZ	62707	M10HN102	NUT,PLAIN,SLOTTED O	2
9	PAOZZ	60038	643	CONE AND ROLLERS,TA	2
10	PAOZZ	60038	632	CUP,TAPERED ROLLER	2
11	PAOZZ	56697	402109	NUT,PLAIN,HEXAGON	20
12	PAOZZ	62707	500361-8	WASHER,LOCK	20
13	PAOFF	62707	M16WA100	BRAKE DRUM	2
14	PAOZZ	47346	K25HH100	SEAL,PLAIN	2
15	PAOZZ	60038	749	CONE AND ROLLERS,TA	2
16	PAOZZ	61220	742	CUP,TAPERED ROLLER	2
17	XBOZZ	56697	300137-001	HUB,WHEEL	4
18	PAOZZ	09386	13989	STUD,SHOULDERED	10
19	PAOZZ	09386	10709	NUT,CAP	10
20	PAOZZ	96906	MS51983-4	NUT,PLAIN,SINGLE BA RH	10
20	PAOZZ	96906	MS51983-3	NUT,PLAIN,SINGLE BA LH	10

END OF FIGURE



TA221448

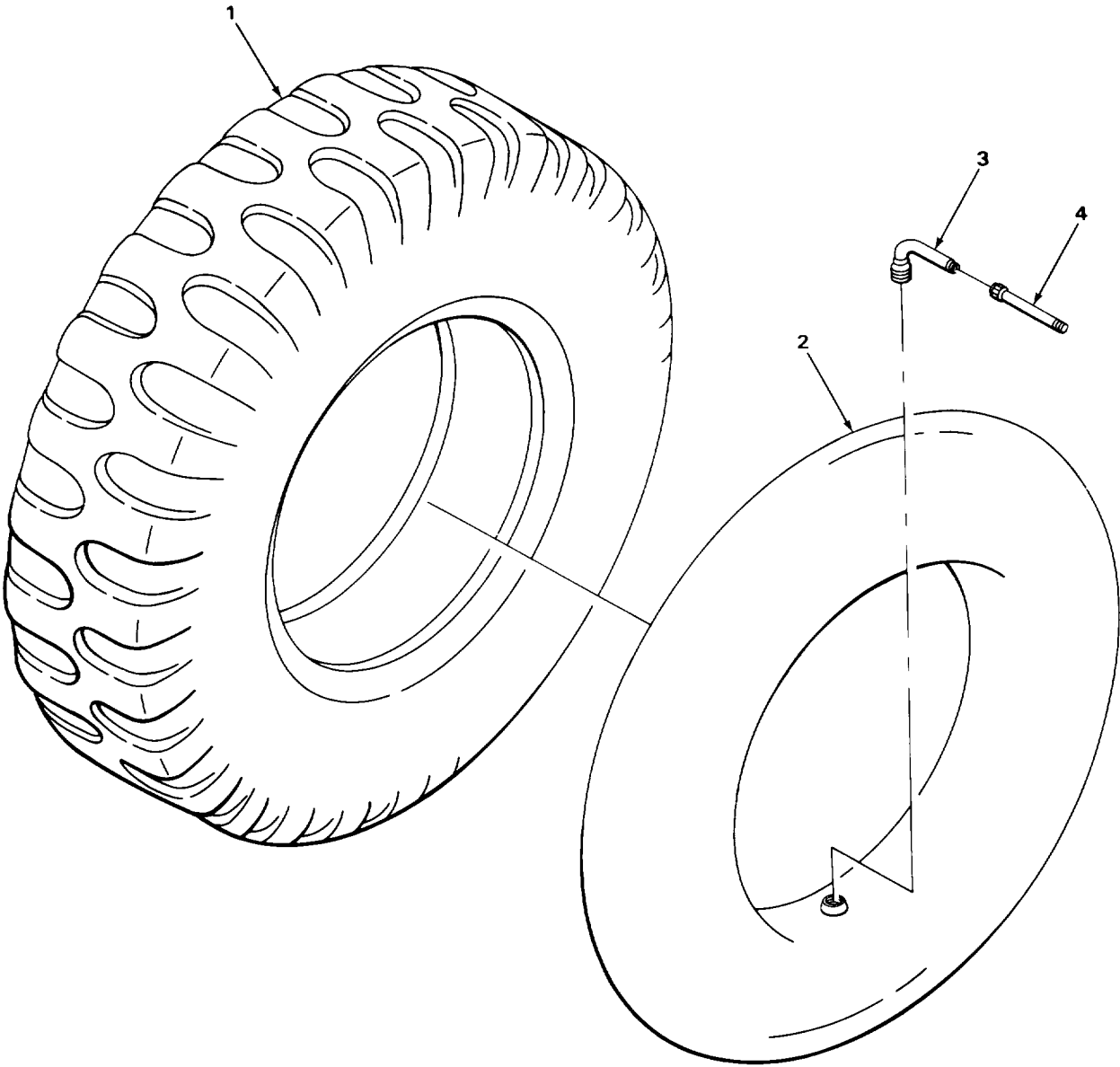
FIGURE 23. WHEELS.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1311 WHEELS, HUBS AND DRUMS					
FIG. 23. WHEELS					
1	PAOZZ	96906	MS53068-2	NUT,CAP,DUAL WHEEL (USE WITH P/N 8710722) RIGHT HAND	40
1	PAOZZ	96906	MS53068-1	NUT,CAP,DUAL WHEEL (USE WITH P/N 8710721) LEFT HAND	40
2	PAOZZ	19207	7389061	RING,SIDE,AUTOMOTIV	8
3	PAOZZ	96906	MS53044-6	WHEEL,PNEUMATIC TIR TRAILER	8
4	PFOZZ	96906	MS51983-3	NUT,PLAIN,SINGLE BA 0(USE WITH P/N 8710721)	40
4	PAOZZ	96906	MS51983-4	NUT,PLAIN,SINGLE BA 0(USE WITH P/N 8710722)	40

END OF FIGURE



TA221449

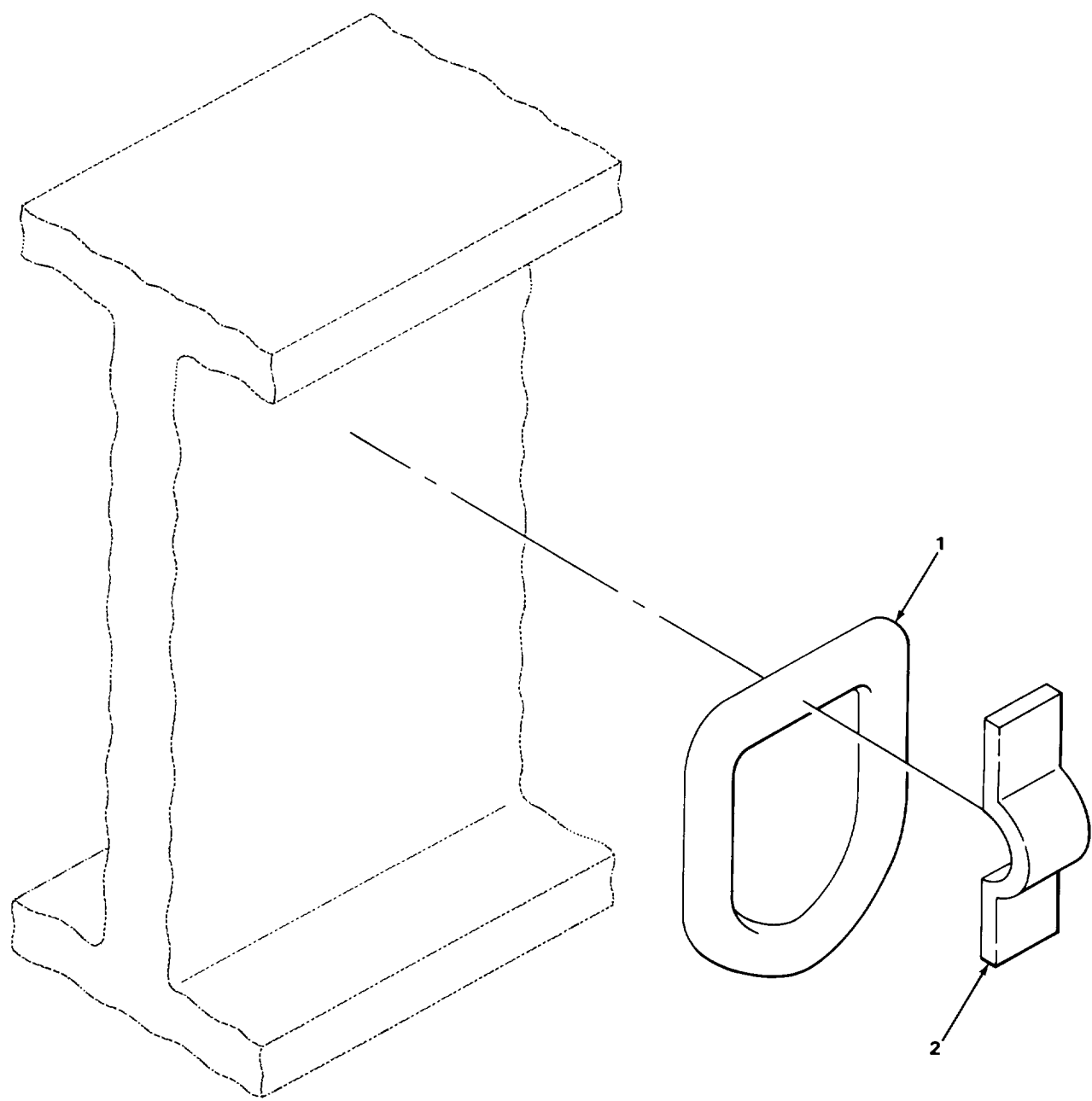
FIGURE 24. TIRES AND TUBES.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1313 TIRES AND TUBES FIG. 24. TIRES AND TUBES	
1	PAOOO	81349	MIL-T-12459/CLCC /SB/1100-20/F/CC	TIRE PNEUMATIC TRUC	8
2	PAOOO	81348	11.00-20/TR78A/O N CENTER	INNER TUBE,PNEUMATI TRAILER	8
3	PFOZZ	79934	TR78A	VALVE,PNEUMATIC TIR	8
4	PAOZZ	19207	8379685	VALVE EXTENSION,TIR EXTENSION	8

END OF FIGURE



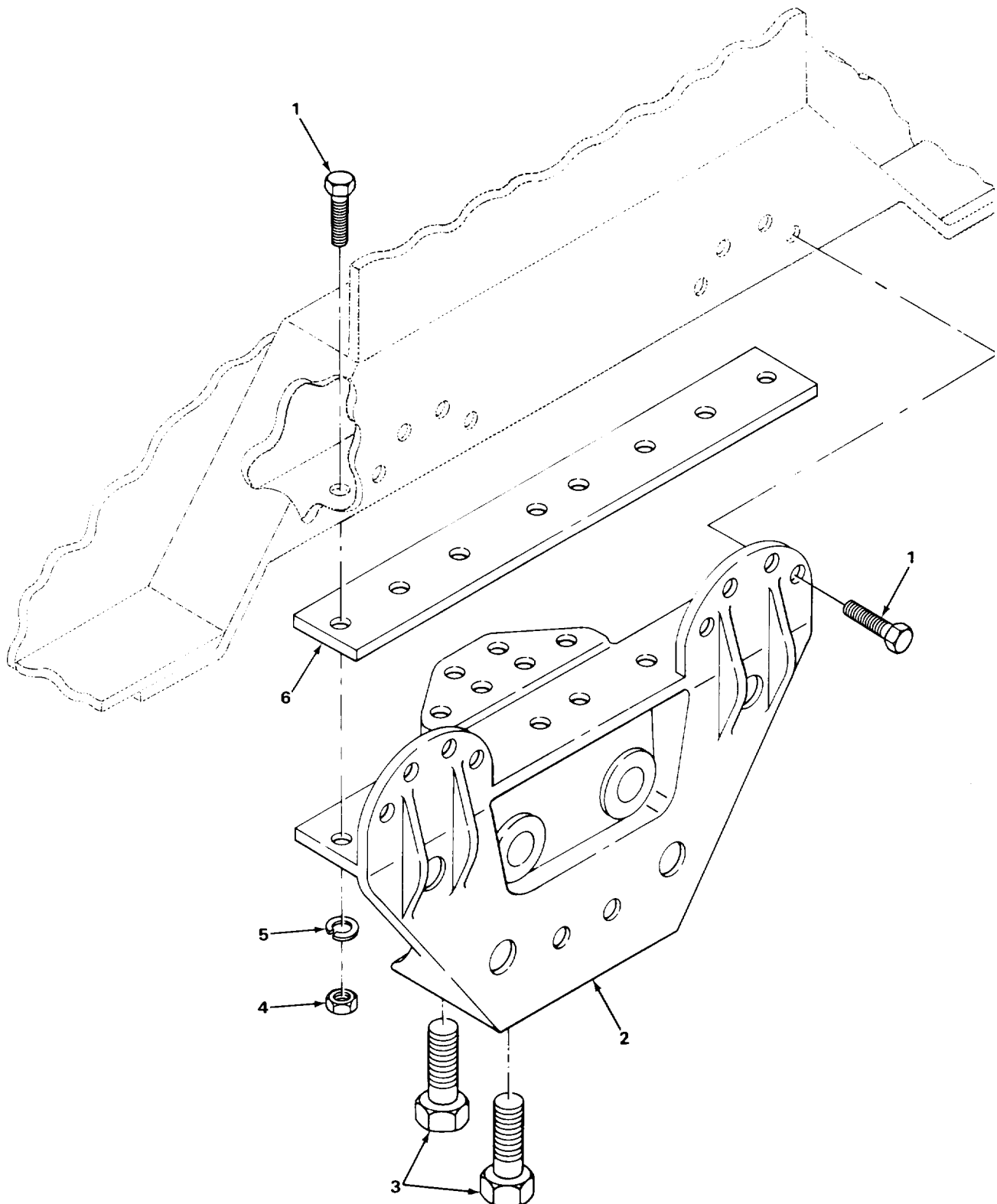
TA221450

FIGURE 25. FRAME.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 15 FRAME AND TOWING ATTACHMENTS 1501 FRAME ASSEMBLY FIG. 25. FRAME	
1	XDFZZ	19207	8701004	RING LASHING	18
2	XDFZZ	19207	8701026	BRACKET	18
				END OF FIGURE	



TA221451

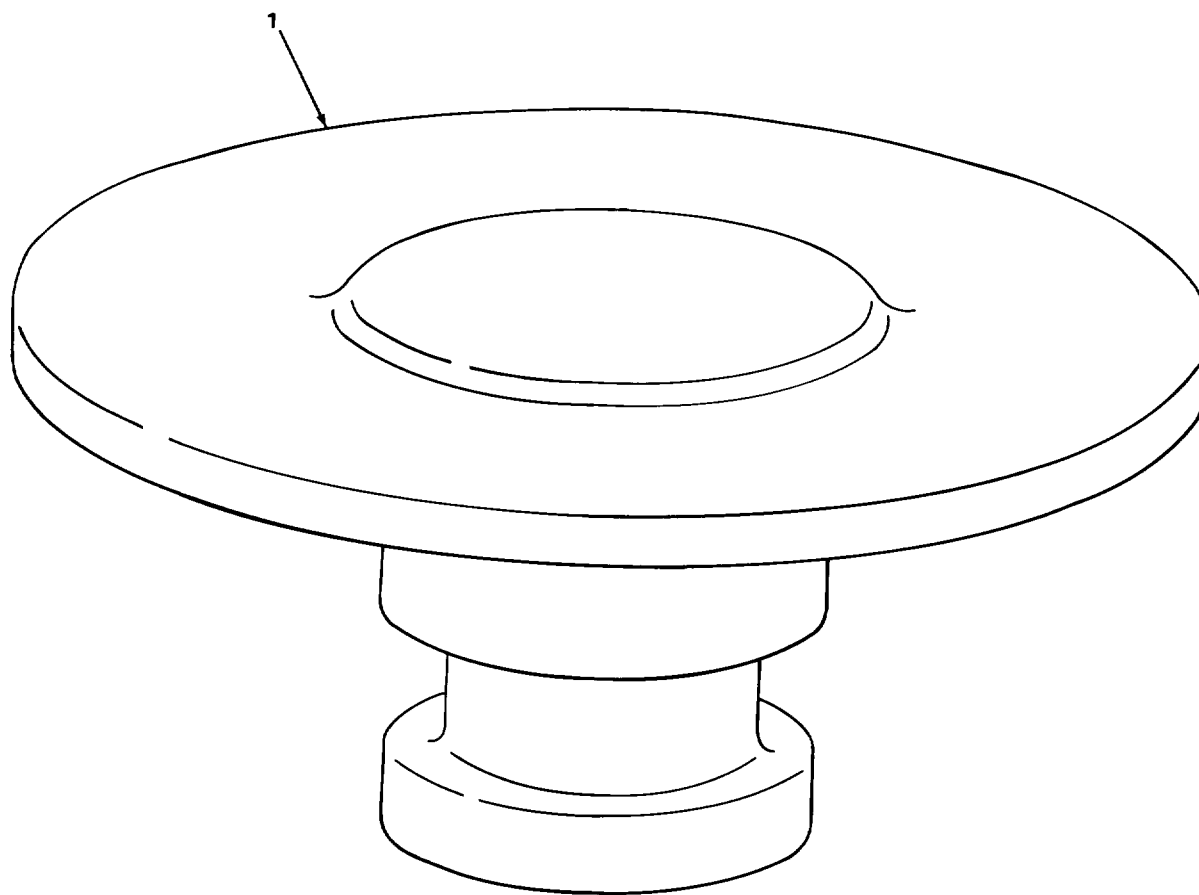
FIGURE 26. BOGIE BRACKET.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1501 FRAME ASSEMBLY FIG. 26. BOGIE BRACKET	
1	PAFZZ	96906	MS90727-165	SCREW,CAP,HEXAGON H	24
2	PFFZZ	19207	7979170	BRACKET SUPPORT	2
3	PAFZZ	96906	MS90727-168	SCREW,CAP,HEXAGON H	20
4	PAFZZ	96906	MS51968-20	NUT,PLAIN,HEXAGON	8
5	PAFZZ	96906	MS35338-50	WASHER,LOCK	8
6	XDFZZ	19207	7979153	PLATE INSULATOR	2

END OF FIGURE



TA221452

FIGURE 27. KING PIN.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1506 FIFTH WHEEL FIG. 27. KING PIN	
1	PAFZZ	19207	7067973	KINGPIN,FIFTH WHEEL	1
				END OF FIGURE	

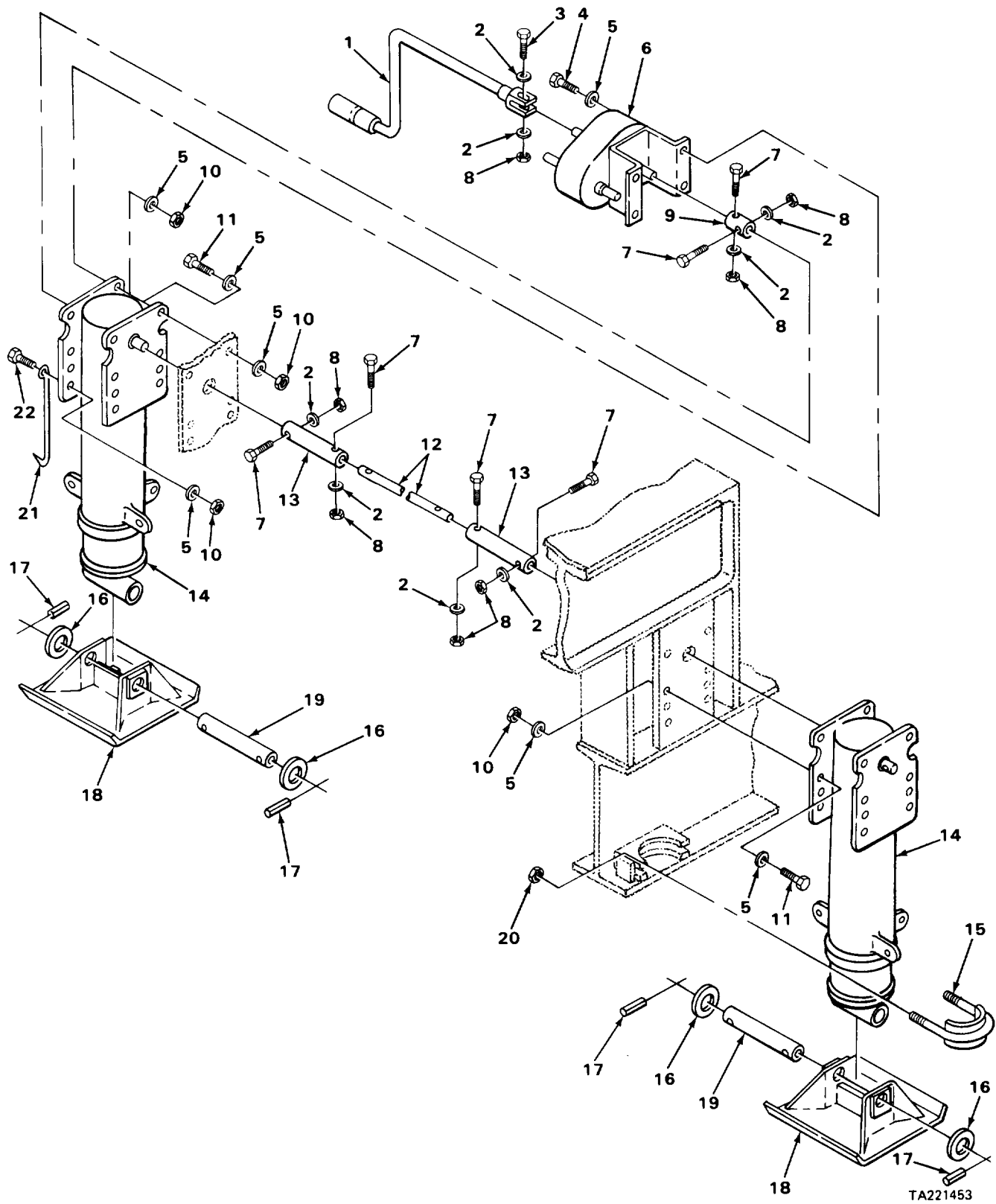


FIGURE 28. LANDING GEAR.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1507 LANDING GEAR					
FIG. 28. LANDING GEAR					
1	PAOZZ	19207	11640134-1	CRANK, HAND	1
2	PAOZZ	96906	MS27183-15	WASHER, FLAT	8
3	PAOZZ	96906	MS90725-68	SCREW, CAP, HEXAGON H	1
4	PAOZZ	96906	MS90725-162	SCREW, CAP, HEXAGON H	4
5	PAOZZ	96906	MS27183-21	WASHER, FLAT	41
6	PAOZZ	19207	11625431	GE•ARBOX, RETRACTABLE	1
7	PAOZZ	96906	MS90725-67	SCREW, CAP, HEXAGON H	6
8	PAOZZ	96906	MS51922-17	NUT, SELF-LOCKING, HE	7
9	PAOZZ	19207	11625128	COUPLING, LANDING LE	1
10	PAOZZ	96906	MS51922-49	NUT, SELF-LOCKING, HE	21
11	PAOZZ	96906	MS90728-164	SCREW, CAP, HEXAGON H	16
12	PFOZZ	19207	11625071-2	SHAFT, STRAIGHT	1
13	PAOZZ	19207	11625125	COUPLING, SHAFT, RIGI	2
14	PAOZZ	19207	11625119	LEG, SEMITRAILER RET	2
15	PAOZZ	19207	8730460-2	BOLT, U	2
16	PAOZZ	19207	11625086	WASHER, FLAT	4
17	PAOZZ	96906	MS17125	PIN SPRING	4
18	PAOZZ	19207	11625084	SHOE, JACK SUPPORT	2
19	PAOZZ	19207	11625085	SHAFT, STRAIGHT	2
20	PAOZZ	96906	MS51922-45	NUT, SELF-LOCKING, HE	4
21	PAOZZ	19207	11625428	HOLDER, CRANK	1
22	PAOZZ	96906	MS90728-160	SCREW, CAP, HEXAGON H	1

END OF FIGURE

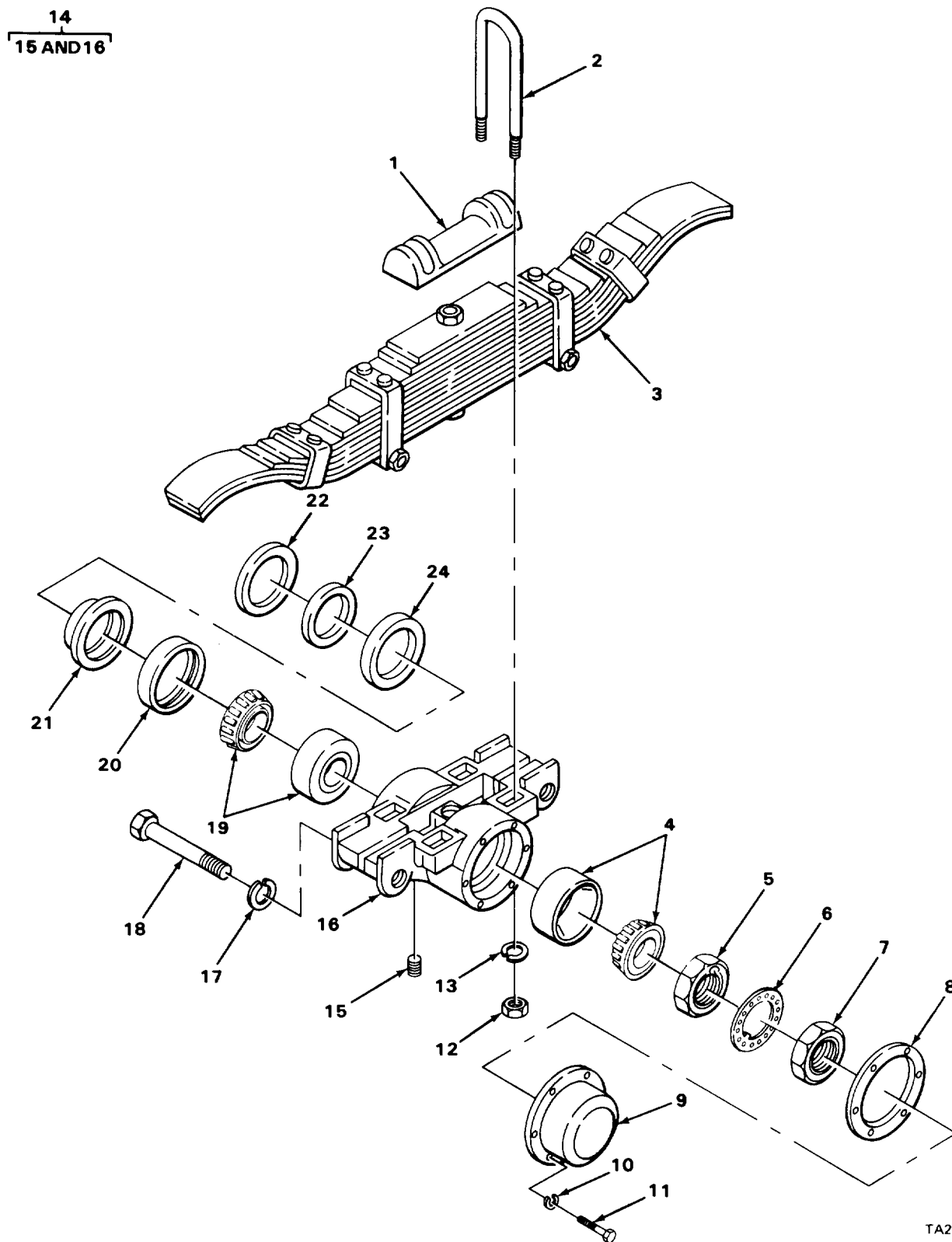
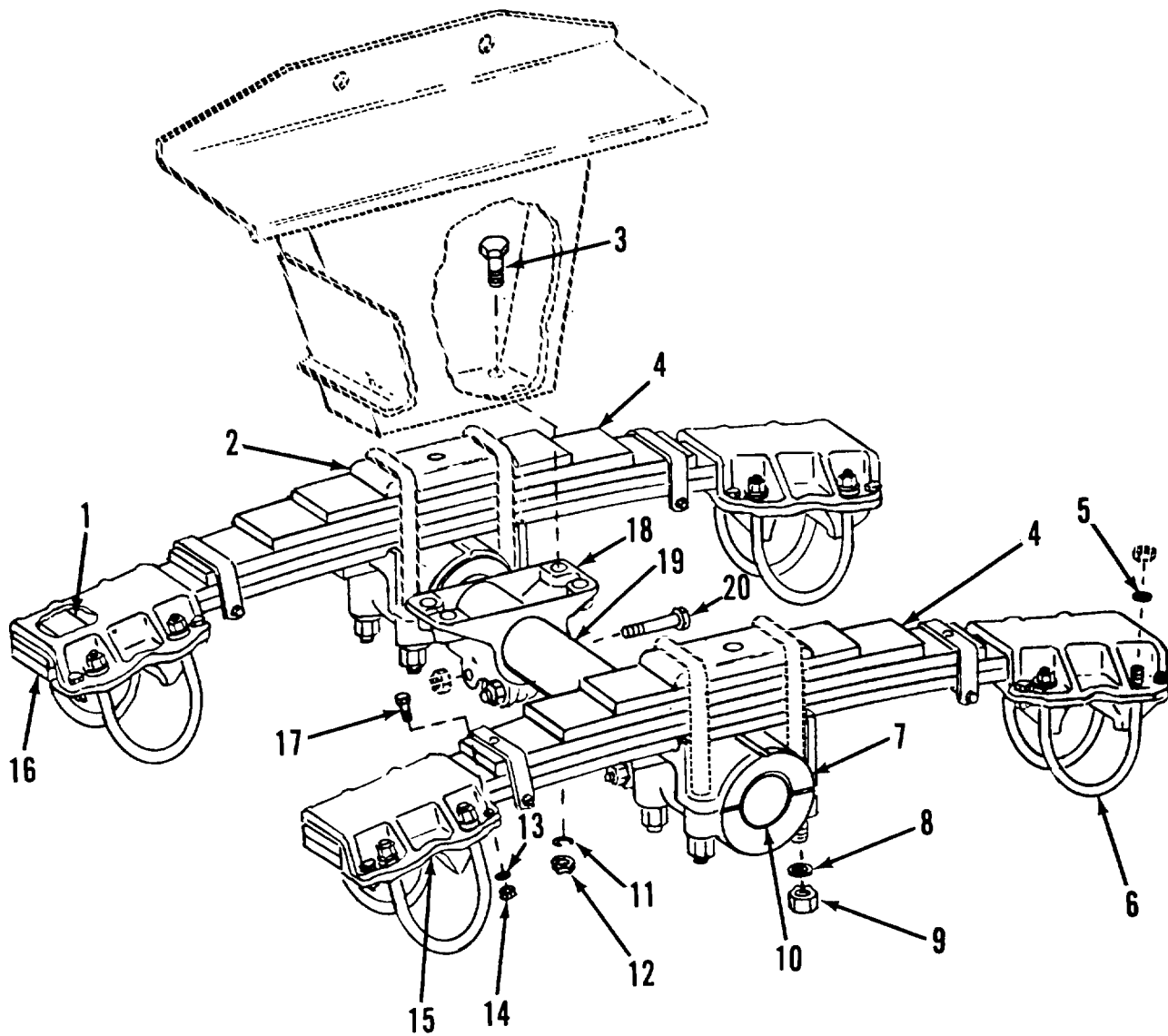


FIGURE 29. SPRING ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 16 SUSPENSION SYSTEM					
1601 SPRINGS					
FIG. 29. SPRING ASSEMBLY					
1	PAFZZ	19207	7979316	SADDLE, LEAF SPRING	2
2	PAFZZ	19207	7979365	BOLT, U	4
3	PAFZZ	82347	15545	SPRING ASSEMBLY, LEA	2
4	PAFZZ	96906	MS19081-181	BEARING, ROLLER, TAPE	2
5	PAFZZ	78500	A1227S305	NUT, PLAIN, OCTAGON	1
6	PAFZZ	19207	5139123	WASHER, KEY	2
7	PAFZZ	19207	7979263	NUT, PLAIN, OCTAGON	1
8	PAFZZ	78500	2208A313	GASKET	2
9	PAFZZ	78500	3262G85	COVER, ACCESS	2
10	PAFZZ	96906	MS35338-45	WASHER, LOCK	12
11	PAFZZ	96906	MS90728-30	BOLT, MACHINE	12
12	PAFZZ	19207	7979366	NUT, PLAIN, HEXAGON	8
13	PAFZZ	96906	MS35338-53	WASHER, LOCK	8
14	PAFZZ	19207	7979312	SEAT, SPRING, AXLE	2
15	PAOZZ	73342	444687	. PLUG, PIPE	1
16	PAFZZ	78500	3277B1016	. SEAT, SPRING, AXLE	1
17	PAFZZ	96906	MS35338-55	WASHER, LOCK	4
18	PAFZZ	19207	7979329	BOLT, MACHINE	4
19	PAFZZ	21450	712288	BEARING, ROLLER, TAPE	2
20	PAFZZ	19207	7979349	SEAL, PLAIN ENCASED	2
21	PAFZZ	19207	7979264	RETAINER, PACKING	2
22	PAFZZ	19207	7979265	WASHER, FLAT	2
23	PAFZZ	78500	5X625	FELT, MECHANICAL, PRE	4
24	PAFZZ	78500	1199F1436	RING, WIPER	2

END OF FIGURE

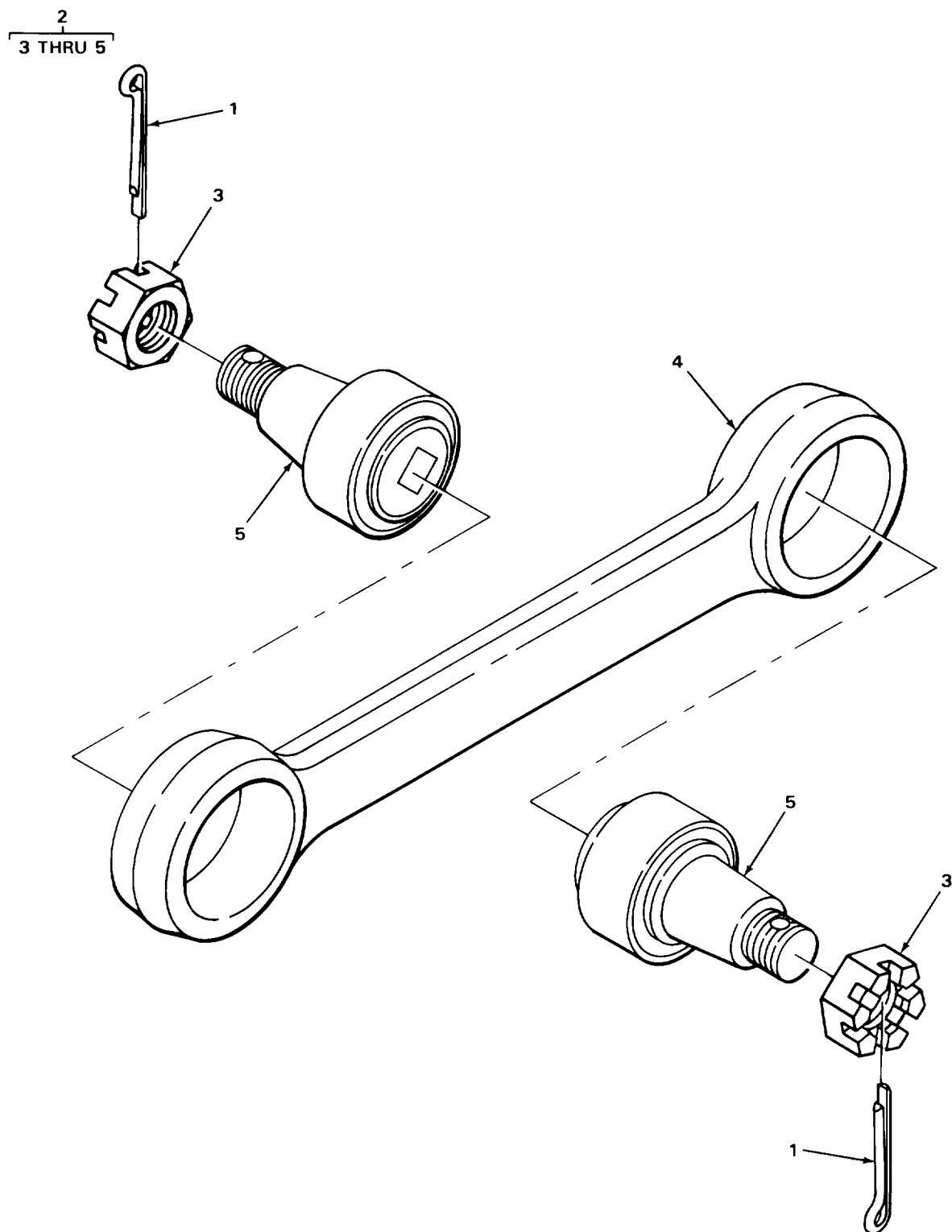


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FIGURE 30. SPRINGS (USE ON USA PAO1UX THRU PAO21W)

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1601 SPRINGS					
FIG. 30. SPRINGS (USE ON USA PA01UX THRU PA021W)					
1	PAFZZ	92967	814-00	PAD,CUSHIONING	8
2	PFFZZ	19207	12315610	PLATE,WEAR,LEAF SPR	2
3	PAFZZ	96906	MS90727-168	SCREW,CAP,HEXAGON H	8
4	PBFZZ	92967	10054-23	SPRING ASSEMBLY LEA	2
5	PAOZZ	96906	MS27183-23	ASHER,FLAT	32
6	PAFZZ	92967	10060-01	BOLT,U	8
7	PFFZZ	92967	891-00	HUB TRUNNION,UPPER	2
8	PAOZZ	92967	837-00	WASHER,FLAT	8
9	PAFZZ	19207	12315614	NUT,PLAIN,HEXAGON	8
10	PAFZZ	19207	12354092	BUSHING,SLEEVE	2
11	PAOZZ	96906	MS35338-50	WASHER,LOCK	3
12	PAOZZ	96906	MS51968-21	NUT,PLAIN,HEXAGON	8
13	PAOZZ	96906	MS27183-21	WASHER,FLAT	16
14	PAOZZ	96906	MS51922-53	NUT,SELF-LOCKING,HE	16
15	PFOZZ	92967	10712-00	SEAT,LEAF SPRING	2
16	PAFZZ	92967	10608-00	PLATE,ALIGNMENT,LEA	2
17	PAOZZ	96906	MS90727-164	SCREW,CAP,HEXAGON H	16
18	PFFZZ	92967	850-01	HANGER,TRUNION	2
19	PBFZZ	92967	893-01	TUBE,METALLIC	1
20	PAOZZ	96906	MS90727-197	SCREW,CAP,HEXAGON H	4

END OF FIGURE



TA221455

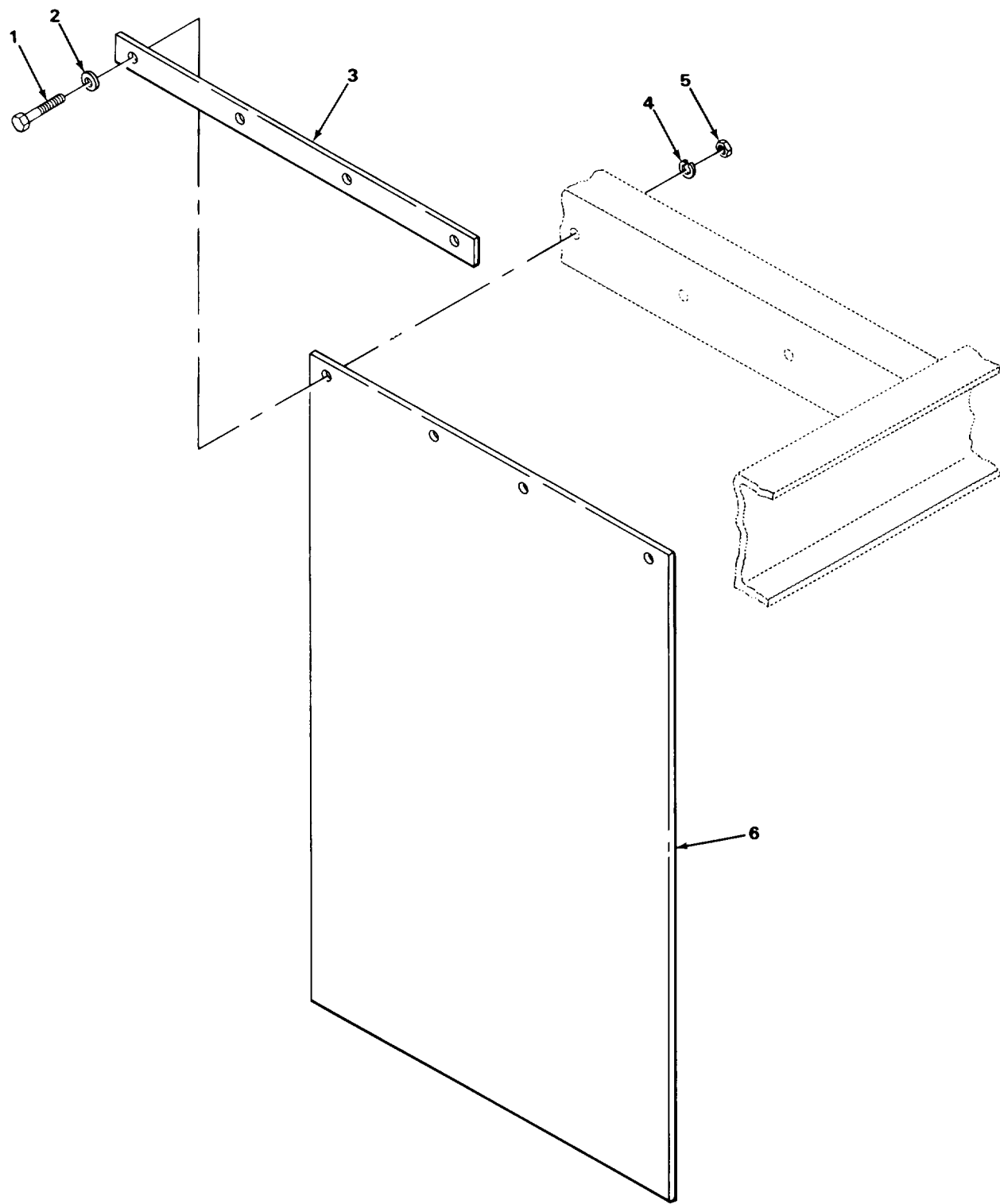
FIGURE 31. TORQUE RODS.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1605 TORQUE RODS	
				FIG. 31. TORQUE RODS	
1	PAFZZ	96906	MS24665-500	PIN,COTTER	12
2	PAFFF	78500	A1-3102B2446	ROD ASSEMBLY,TORQUE	6
3	PAFZZ	19207	7979183	.NUT,PLAIN,SLOTTED,H	2
4	XAFZZ	19207	7979188	.ROD,ALIGNING,VEHICU	1
5	PAFZZ	78500	A2110L116	.BALL ASY X BUSHING	2

END OF FIGURE

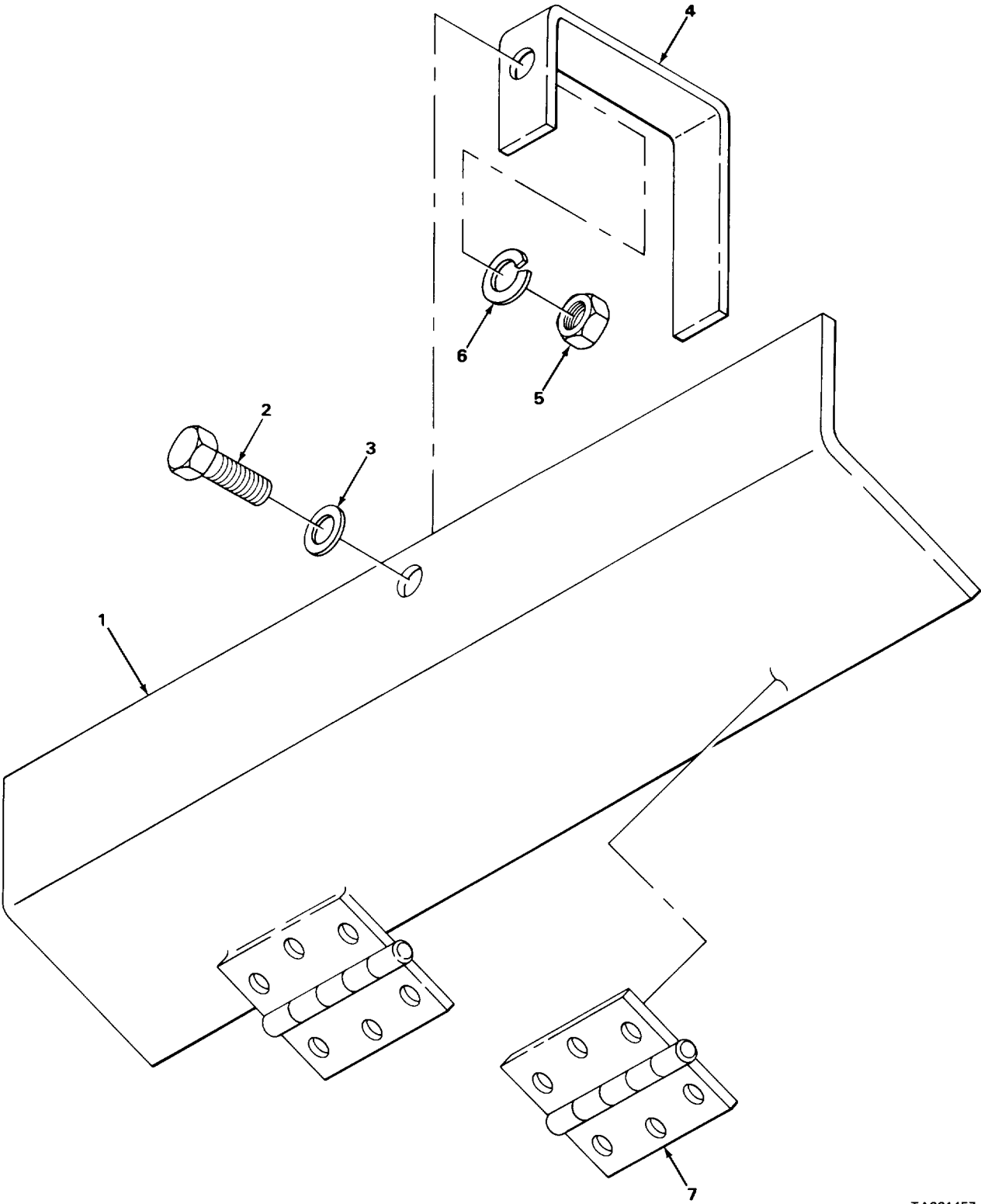


TA221456

FIGURE 32. SPLASH GUARDS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 18 BODY					
1801 BODY COMPONENTS					
FIG. 32. SPLASH GUARDS					
1	PAOZZ	96906	MS90727-64	SCREW,CAP,HEXAGON H	8
2	PAOZZ	96906	MS27183-15	WASHER,FLAT	8
3	PAOZZ	19207	11631727	RETAINER,SPLASH GUA	2
4	PAOZZ	96906	MS35338-46	WASHER,LOCK	8
5	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON	8
6	PAOZZ	96906	MS51331-3	GUARD,SPLASH,VEHICU	2

END OF FIGURE

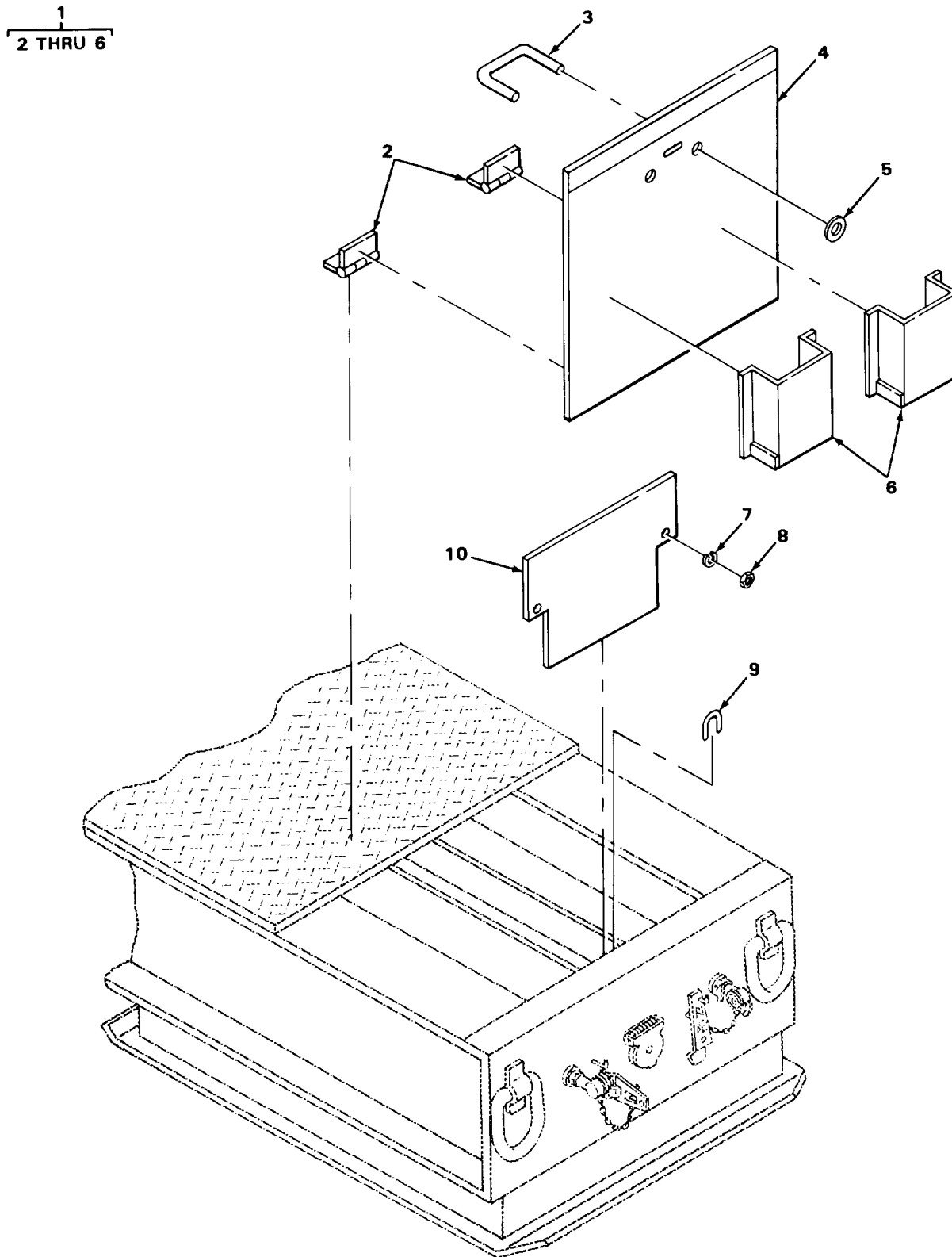


TA221457

FIGURE 33. SPLASH SHIELD.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1801 BODY COMPONENTS					
FIG. 33. SPLASH SHIELD					
1	XDOZZ	19207	8701058	SHIELD	2
2	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H	2
3	PAOZZ	96906	MS27183-14	WASHER,FLAT	2
4	XDOZZ	19207	12270027	BRACKET	2
5	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	2
6	PAOZZ	96906	MS35338-46	WASHER,LOCK	2
7	PAOZZ	96906	MS27968-6	HINGE,BUTT	4

END OF FIGURE



TA221458

FIGURE 34. TOP COVER ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1808 STOWAGE BOXES					
FIG. 34. TOP COVER ASSEMBLY					
1	XDOOO	19207	8730483	COVER ASSEMBLY	1
2	PAOZZ	96906	MS27968-2	.HINGE,BUTT	2
3	XDOZZ	19207	8379540	.HANDLE	1
4	XDDZZ	19207	8701173	.COVER	1
5	PAOZZ	96906	MS27183-21	.WASHER,FLAT	2
6	XDOZZ	19207	8730484	.CONTAINER ASSEMBLY	2
7	PAOZZ	96906	MS35338-44	WASHER,LOCK	2
8	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	2
9	XDOZZ	19207	8701042	HASP	1
10	XBOZZ	19207	8701112	SHIELD	1

END OF FIGURE

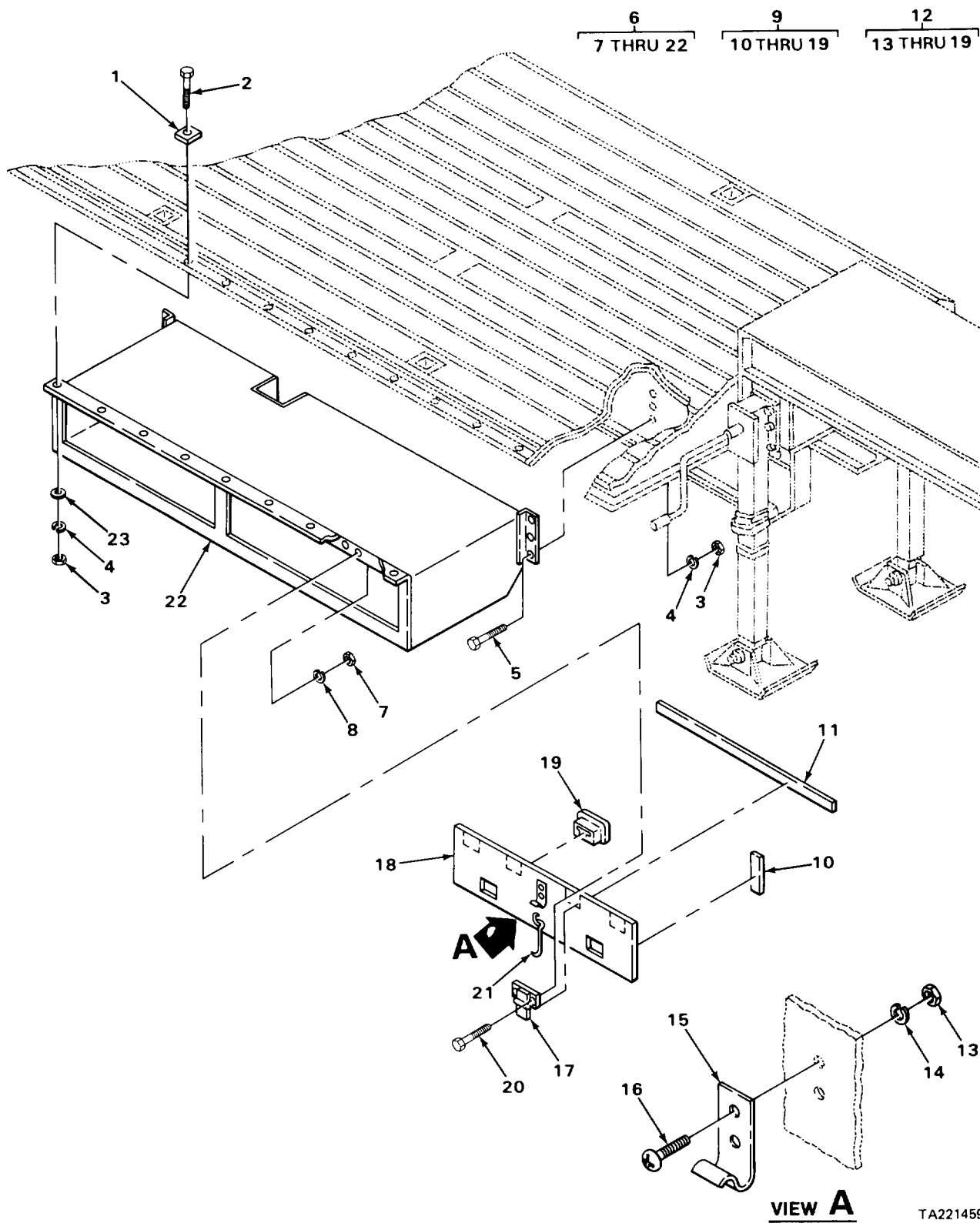
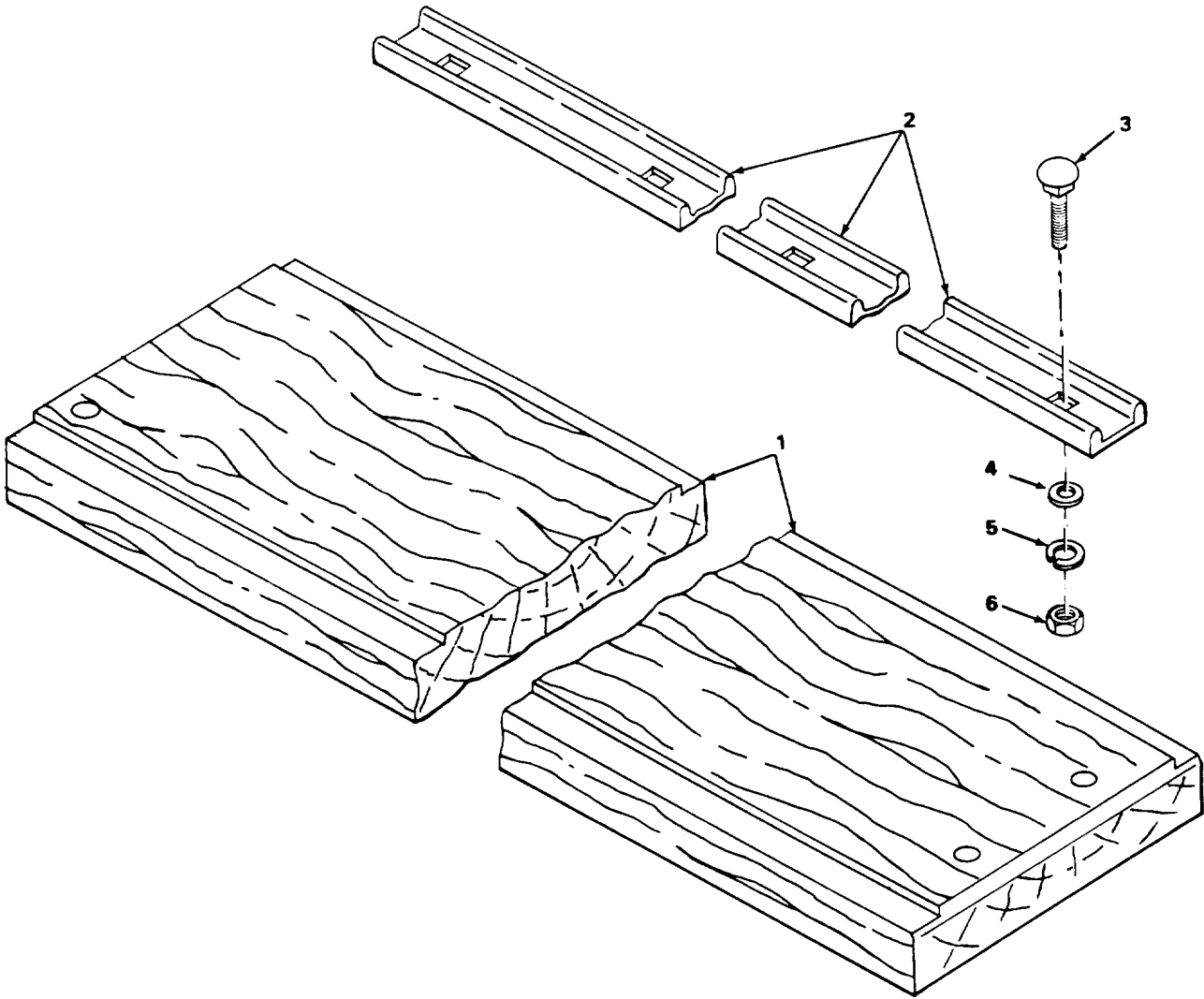


FIGURE 35. STORAGE BOX ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1808 STOWAGE BOXES					
FIG. 35. STOWAGE BOX ASSEMBLY					
1	PAOZZ	19207	8730454	WASHER, BEVEL	9
2	PAOZZ	96906	MS90727-114	SCREW, CAP, HEXAGON H	9
3	PAOZZ	96906	MS51968-14	NUT, PLAIN, HEXAGON	15
4	PAOZZ	85757	3250-061	HOSE, NONMETALLIC	15
5	PAOZZ	96906	MS90726-113	SCREW, CAP, HEXAGON H	6
6	XDOOO	19207	8730451	STOWAGE BOX	1
7	PAOZZ	96906	MS51967-8	.NUT, PLAIN, HEXAGON	16
8	PAOZZ	96906	MS35338-46	.WASHER, LOCK	16
9	PAOOO	19207	8730443	.DOOR, ACCESS	2
10	XDOZZ	19207	8730449	..SEAL	2
11	XDOZZ	19207	8730450	..SEAL	2
12	XDOOO	19207	8730427	..DOOR ASSEMBLY	1
13	PAOZZ	96906	MS35650-3254	...NUT, PLAIN, HEXAGON	2
14	PAOZZ	96906	MS35338-44	...WASHER, LOCK	2
15	XDOZZ	19207	8730434	...CLIP	1
16	PAOZZ	96906	MS35207-283	...SCREW, MACHINE	2
17	PAOZZ	19207	8730448	...HINGE, BUTT	4
18	XDOZZ	19207	8730444	...SHEET	1
19	PAOZZ	19207	8730481	...LOCK, FLUSH	2
20	PAOZZ	96906	MS18154-58	.SCREW, CAP, HEXAGON H	2
21	XDOZZ	19207	8730452	.HOOK	2
22	XDOZZ	19207	8730437	.STOWAGE BOX	1
23	PAOZZ	96906	MS27183-18	WASHER, FLAT	9

END OF FIGURE



TA221460

FIGURE 36. PLANKING.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1810 CARGO BODY FIG.36. PLANKING	
1	MHHZZ	19207	2744994-1	LUMBER,HARDWOOD MAKE FROM LUMBER,P/ N MML736TYPE30AKGR22	V
2	MFFZZ	19207	4002457-1	STRIP FLOOR MAKE FROM P/N 7979182	V
3	PAFZZ	96906	MS35751-47	BOLT,SQUARE NECK	526
4	PFFZZ	96906	MS27183-12	WASHER,FLAT	18
5	PFFZZ	96906	MS35338-45	WASHER,LOCK	526
6	PAFZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON	526

END OF FIGURE

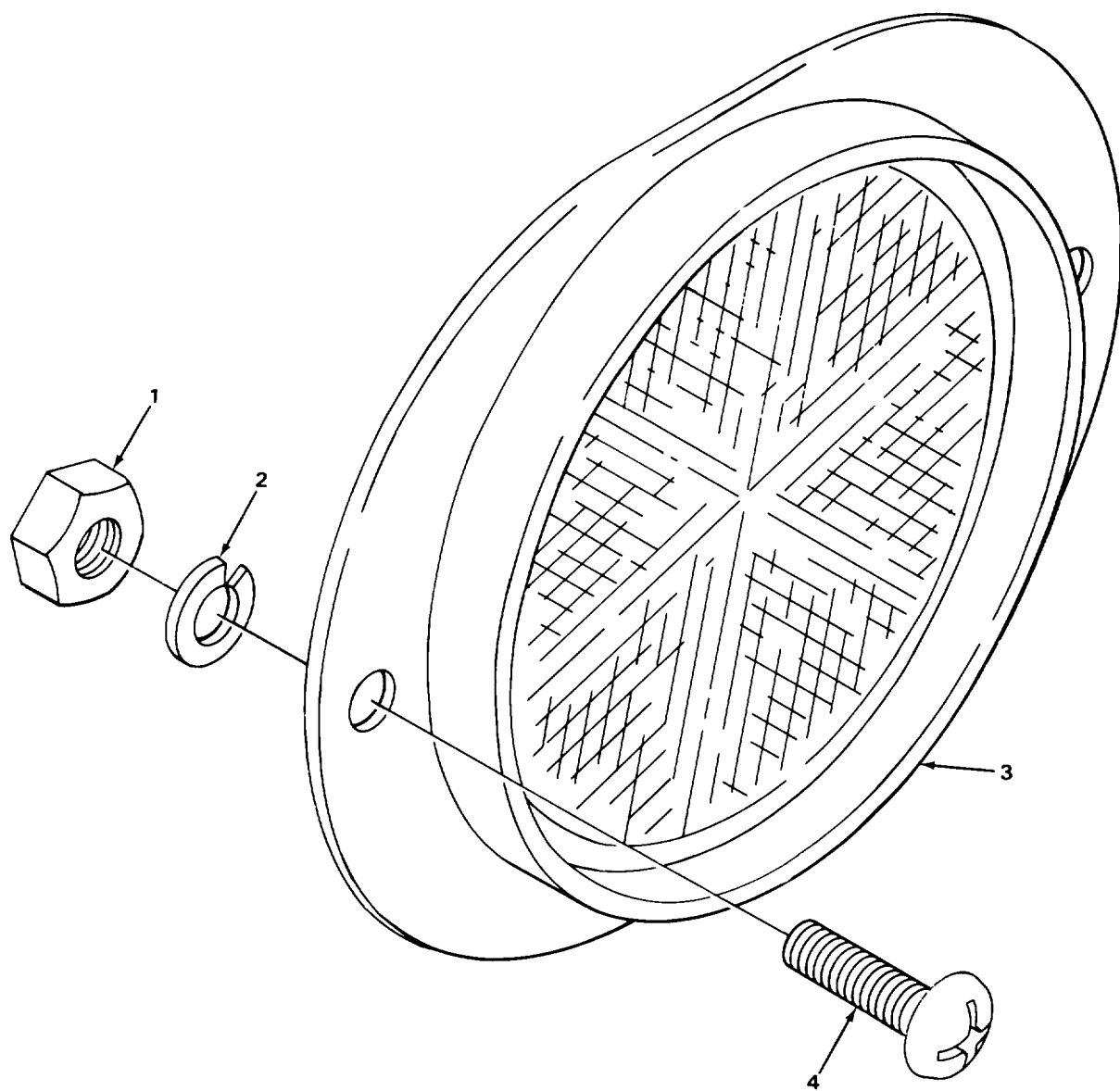


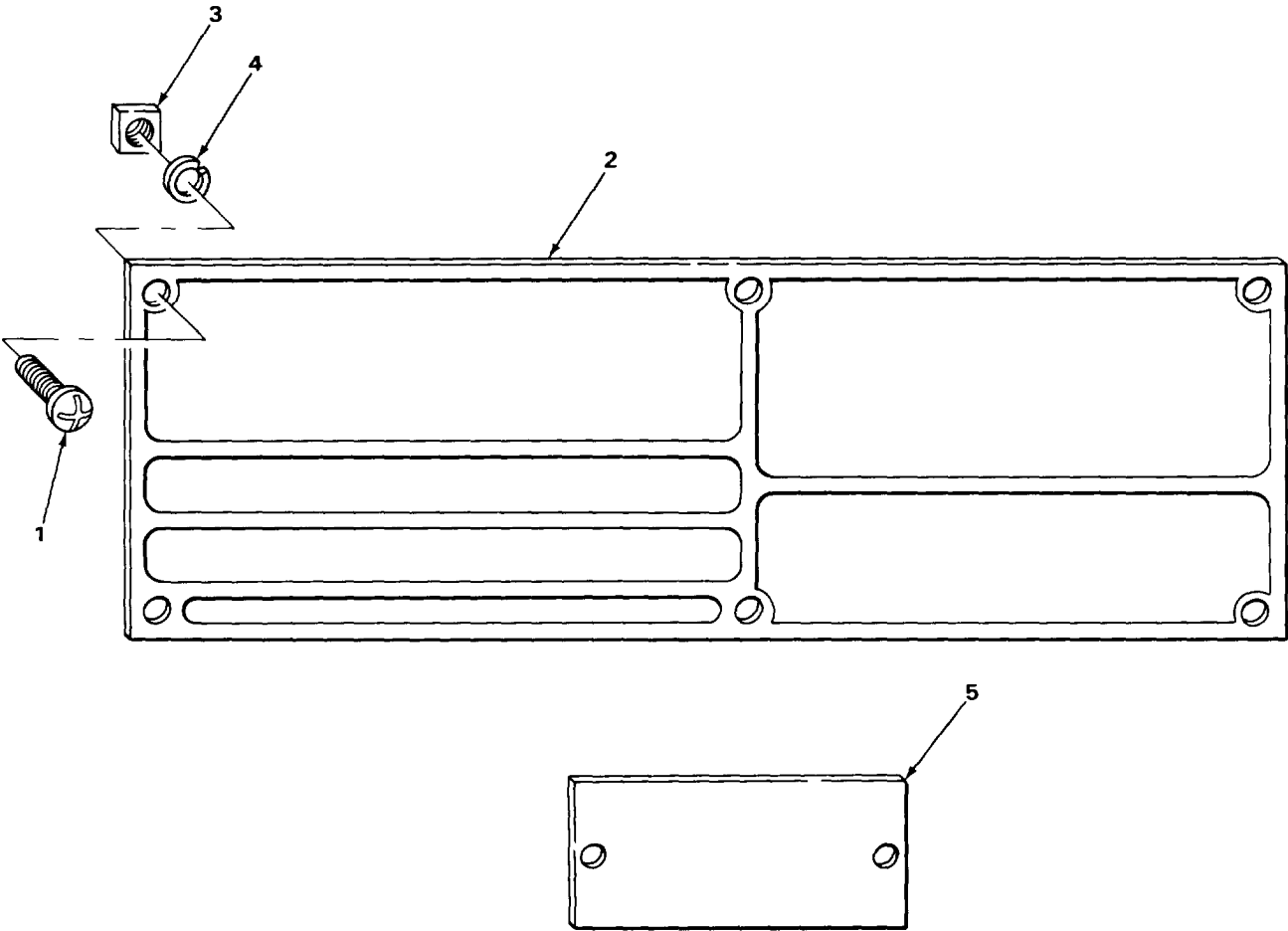
FIGURE 37. REFLECTORS.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 22 BODY ACCESSORY ITEMS					
2202 ACCESSORY ITEMS					
FIG. 37. REFLECTORS					
1	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	20
2	PAOZZ	96906	MS35338-44	WASHER,LOCK	20
3	PAOZZ	96906	MS35387-2	REFLECTOR,INDICATIN AMBER	6
3	PAOZZ	96906	MS35387-1	REFLECTOR,INDICATIN RED	4
4	PAOZZ	96906	MS35206-283	SCREW,MACHINE	20

END OF FIGURE



TA221462

FIGURE 38. DATA AND INSTRUCTION PLATES.

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
2210 DATA PLATES					
FIG. 38. DATA AND INSTRUCTION PLATES					
1	PAOZZ	96906	MS35206-265	SCREW,MACHINE 2X3-4	6
2	PAOZZ	19207	8730479	PLATE,IDENTIFICATIO	1
3	PAOZZ	96906	MS35338-43	WASHER,LOCK	6
4	PAOZZ	96906	MS27040-8	NUT,PLAIN,SQUARE	6
5	PAOZZ	19207	11625139	MARKER,IDENTIFICATI	1

END OF FIGURE

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 94 KITS					
9401 KITS					
FIG. KIT					
PADZZ	19207	8332543	PARTS KIT,BRAKE CHA DIAPHRAGM,CHAMBER,B(1) 17-9 GASKET (1) 17-6 NUT,PLAIN,HEXAGON (18) 17-2 SCREW,CAP,HEXAGON H(18) 17-11 SPRING,HELICAL,COMP(1) 17-7 WASHER,LOCK (18) 17-3		1
PADZZ	19207	116677781	PARTS KIT,BRAKE SHO NUT,SELF-LOCKING,HE(8) 9-1 WASHER,RECESSED (24) 9-2 SPRING,HELICAL,COMP(8) 9-3 SPRING,HELICAL,COMP(8) 9-14 PIN,BRAKE MOUNTING (2) 9-16 WASHER,LOCK (2) 9-17 NUT,PLAIN,HEXAGON (40) 9-18		1
END OF FIGURE					

KIT-1

SECTION II

TM9-2330-371-14&PC01

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 95 GENERAL USE STANDARDIZED PARTS					
9501 BULK MATERIAL					
FIG. BULK					
1	XDOZZ	81349	M13486113-1	CABLE,SPECIAL PURPO	V
2	PADZZ	85757	3250-061	HOSE,NONMETALLIC	V
3	XDFZZ	81348	MML736TYPE30AKGR 22	LUMBER,HARDWOOD	V
4	XDOZZ	19207	872463	NONMETALLIC ROD	V
5	PAFZZ	19207	7979182	STRIP,FLOOR,VEHICLE	V
END OF FIGURE					

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
4730-00-018-9566	16	28	2510-00-168-2405	8	3
	29	15	5340-00-177-7807	35	9
6240-00-019-0877	1	8	2590-00-177-9980	28	18
	2	3	2590-00-177-9992	28	14
6240-00-019-3093	1	10	6220-00-179-4324	1	2
2530-00-040-2874	KIT		5315-00-187-9567	31	1
6240-00-044-6914	1	9	9905-00-202-3639	37	3
5310-00-045-3296	2	6	2530-00-204-3622	9	9
	38	3	9905-00-205-2795	37	3
4730-00-050-4203	7	3	5310-00-209-0965	21	12
5940-00-050-6209	5	11	5310-00-209-1761	11	7
2610-00-051-9450	24	2	5340-00-211-6129	21	13
4730-00-054-2571	19	3	2530-00-215-4160	15	1
4730-00-054-2572	19	4	4730-00-221-2136	15	2
5306-00-054-8024	36	3	4730-00-221-2138	16	14
5999-00-057-2929	1	4	4730-00-221-2140	16	29
	3	8	4730-00-222-1838	16	21
	47	7	5305-00-225-3843	5	4
5310-00-060-9435	29	17	5310-00-225-6408	30	14
4730-00-069-1186	16	4	5306-00-225-8498	7	5
	20	3	5306-00-226-4822	21	1
4730-00-069-1187	19	1	5306-00-226-4823	22	1
	20	10		29	11
5310-00-080-6004	33	3	5306-00-226-4828	16	24
5310-00-081-4219	36	4	4820-00-242-4064	16	7
5310-00-087-4652	28	8	4730-00-244-9848	20	2
5310-00-087-7493	16	25	5305-00-269-2803	12	3
5330-00-090-2128	20	15		15	7
5365-00-090-5426	5	14		17	11
2530-00-093-5597	21	14	5305-00-269-3217	28	7
3110-00-100-0332	22	10	5305-00-269-3218	28	3
3110-00-100-0337	22	16	5305-00-269-3238	19	7
3110-00-100-0663	22	9	5305-00-269-3240	32	1
3110-00-100-0683	22	15	5310-00-269-4040	28	10
3110-00-100-4223	21	8	4730-00-270-4616	16	27
	29	4	2530-00-272-8106	11	1
5305-00-115-9526	1	12	5310-00-275-6635	11	5
	11	9	5310-00-275-9460	9	20
	33	2	2530-00-278-2243	12	7
	35	20	4730-00-278-3213	19	12
3010-00-117-3413	28	6	2530-00-278-6555	11	4
2510-00-117-9286	29	1	4730-00-278-8825	20	6
2530-00-134-7846	21	9	4730-00-278-8873	13	7
2530-00-137-9235	16	1	5365-00-281-6623	10	9
	20	16	5340-00-287-8220	21	3
4730-00-142-3076	19	10	4730-00-289-0051	19	11
2530-00-142-6045	17	1	4730-00-289-0155	16	19
	17	1		20	10
2530-00-162-1986	9	4	5365-00-289-4926	12	10
3040-00-168-2238	8	6	5330-00-290-8521	21	4

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
2530-00-293-4373	17	9	5310-00-582-5965	20	12
4730-00-293-7108	20	5		34	7
6220-00-299-7425	2	4		35	14
6220-00-299-7426	2	4		37	2
3120-00-304-9074	7	16	5310-00-584-7888	8	4
2640-00-338-2705	24	4		9	21
5310-00-353-2427	21	5	5310-00-584-7889	8	9
	29	7		29	13
2530-00-359-1162	23	1	4730-00-595-0083	16	2
5310-00-374-0836	21	7		20	1
	29	5	5310-00-595-7237	9	17
5306-00-383-4957	21	16	2530-00-603-5768	23	3
5310-00-393-6685	5	16	5310-00-620-2486	22	7
5940-00-399-6676	3	2	5307-00-637-1084	22	18
	4	2	5310-00-637-9541	1	11
	5	10		11	10
2510-00-400-2457	BULK	5		12	2
5310-00-400-5503	35	13		15	5
2530-00-404-4440	21	15		17	3
5310-00-407-9566	7	8		19	8
	21	2		32	4
	22	2		33	6
	29	10		35	8
	36	5	5340-00-656-4895	11	11
4820-00-435-7577	16	16	3110-00-689-8250	21	18
5320-00-443-5065	9	6		29	19
5306-00-444-8480	8	8	2590-00-690-8665	3	1
4730-00-460-3907	20	9		4	1
5315-00-461-3835	9	22	2530-00-692-6133	9	15
5330-00-462-0907	1	3	2530-00-693-1029	23	1
6940-00-467-1012	07	12	5310-00-700-7089	21	6
5340-00-482-6072	33	7		29	6
5999-00-485-8955	5	12	2530-00-703-2715	7	13
4710-00-511-1692	12	6	2510-00-706-7973	27	1
4730-00-516-7419	11	8	5305-00-719-5235	35	2
4730-00-528-2743	11	6	5305-00-724-5910	28	4
5325-00-531-1737	3	13	5305-00-724-6772	9	19
4710-00-534-2349	13	5	5305-00-724-7219	28	22
4710-00-534-2350	13	1	5305-00-724-7222	28	11
5306-00-550-5033	15	3	5305-00-725-4183	35	5
5310-00-572-0218	22	19	6220-00-726-1916	2	1
5935-00-572-9180	1	6	5305-00-726-2551	30	17
	3	6	5305-00-726-2552	26	1
	4	5	5305-00-726-2555	26	3
6220-00-577-3434	2	1		30	3
6220-00-577-3435	2	1	6220-00-727-3288	2	1
5310-00-582-5965	3	11	4820-00-728-7467	16	20
	4	12	6220-00-729-9295	2	2
	5	3	5310-00-732-0558	12	1
	13	3		15	6

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
5310-00-732-0558	33	5	2510-00-797-9305	29	14
	35	7		29	16
5310-00-732-0559	9	18	5310-00-797-9332	49	10
	17	2	5360-00-797-9339	9	12
	19	9	5306-00-797-9365	29	2
	32	5	5310-00-798-1265	29	12
5310-00-732-0560	35	3	1015-00-798-2997	5	10
5306-00-733-9239	21	16	5365-00-803-7299	7	10
5306-00-734-6958	8	2	5995-00-808-6126	5	5
4730-00-737-3252	13	6	5340-00-809-1490	2	8
5330-00-737-3354	12	9		3	10
2530-00-738-9061	23	2		4	9
5330-00-740-9312	29	23		13	4
5315-00-740-9379	9	13	5340-00-809-1492	20	13
5340-00-740-9391	29	9	4720-00-809-2750	12	13
2510-00-740-9511	26	2	5310-00-809-4061	28	2
5330-00-740-9550	21	19		32	2
	29	20	5310-00-809-5998	35	23
2590-00-740-9553	29	24	5310-00-809-8533	30	5
3120-00-740-9567	9	8	4730-00-813-7811	16	8
5330-00-740-9600	29	8	5310-00-820-6653	26	5
5330-00-740-9606	29	21		30	11
4710-00-740-9607	8	1	5310-00-823-8803	28	5
5306-00-740-9608	29	18		30	13
5310-00-740-9615	29	22		34	5
2530-00-740-9620	31	5	5935-00-833-8561	3	3
5310-00-740-9621	31	3		4	4
9905-00-752-4649	3	5		5	8
	5	6	5970-00-833-8562	3	4
6220-00-752-5992	2	4		4	3
6220-00-752-5993	2	4		5	9
2530-00-757-9955	6	1	5310-00-833-8567	1	5
5310-00-761-6882	2	9		3	7
	3	12		4	6
	4	13	5310-00-835-2037	18	2
	5	2	5315-00-839-5822	18	6
	13	2	5315-00-842-3044	9	11
	20	11	5935-00-846-3883	5	13
	34	8	4820-00-849-1220	15	8
	37	1	2540-00-860-0575	32	6
5310-00-762-6213	8	10	5310-00-880-2004	22	20
5310-00-763-8901	8	5		23	4
5310-00-763-8904	30	12	5310-00-880-2005	22	20
5310-00-763-8905	25	4		23	4
5935-00-773-1428	5	1	5310-00-880-7744	7	9
4730-00-773-2163	12	8		36	6
5360-00-780-0508	17	7	5310-00-880-7745	21	11
2530-00-797-9189	31	2	9905-00-893-3570	5	17
2510-00-797-9217	29	3	5310-00-897-5940	9	23
5325-00-797-9287	20	8		28	20

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
4730-00-908-3193	12	5	2530-01-098-5123	16	11
2530-00-920-7568	11	2	5306-01-098-7197	30	6
4730-00-930-6354	16	17	5310-01-098-7236	30	9
5310-00-934-9758	2	7	5310-01-098-7246	30	8
	12	14	2590-01-100-9001	30	1
5305-00-940-8069	30	20	2510-01-100-9271	30	15
9905-00-979-4458	3	9	2520-01-101-0935	30	7
	4	10	2510-01-101-2559	30	2
5310-00-982-4937	38	4	2510-01-101-2890	30	16
5310-00-984-3806	16	26	5310-01-101-4843	22	11
5305-00-984-6212	38	1	5330-01-101-4854	22	14
5305-00-984-6214	2	5	2530-01-101-5429	18	1
5305-00-984-6215	12	4	2530-01-110-1332	22	13
5340-00-984-8540	3	10	5310-01-110-4242	9	1
5305-00-988-1727	37	4	5315-01-121-1859	18	4
5305-00-993-2459	35	16	5910-01-125-0530	32	3
9905-00-999-7369	15	6	5340-01-127-8824	34	2
9905-00-999-7370	16	3	5330-01-132-2053	22	4
4720-01-014-4915	35	4	5310-01-134-6935	35	1
	BULK	2	5325-01-134-6961	3	14
5315-01-031-4458	9	16		4	11
5360-01-036-8596	9	14	5340-01-135-6608	35	17
5360-01-037-1083	9	3	4710-01-140-6473	30	19
5310-01-040-7465	9	2	2510-01-141-5297	30	18
5310-01-043-0596	22	5	5306-01-141-7893	28	15
3010-01-048-2809	28	9	3040-01-145-4232	28	12
5310-01-049-4072	28	16	5315-01-162-8987	10	6
5310-01-049-9051	22	6	2805-01-168-1557	16	23
5340-01-060-8993	18	3	5340-01-178-7362	22	3
2530-01-061-5723	16	15	5310-01-183-6854	22	12
5306-01-062-2334	21	17	2530-01-185-6764	14	1
3010-01-062-7588	28	13	5330-01-190-4634	7	7
7690-01-064-6477	38	5	2530-01-217-8156	10	13
2540-01-069-8785	28	21	2530-01-218-0005	10	3
2590-01-070-5968	28	19	2530-01-218-3454	10	5
9905-01-074-8292	38	2	2530-01-219-4331	10	2
1440-01-077-1600	17	5	5315-01-220-6238	10	10
4730-01-079-8821	16	5	5315-01-220-6245	10	8
	16	9	5310-01-220-7966	10	11
	16	13	5310-01-220-7967	7	11
	16	18	5360-01-220-9373	10	7
	19	2	5320-01-239-0880	10	4
	20	4	5330-01-239-0885	7	15
5340-01-083-3107	28	1	3120-01-239-0888	7	4
5305-01-090-3012	10	12	5310-01-239-0893	22	8
5340-01-090-7761	35	19	2530-01-241-4818	7	6
2530-01-092-6445	9	5	5360-01-241-6961	10	14
2640-01-093-2842	24	3	2530-01-241-7404	7	2
6220-01-093-4439	1	1	2530-01-257-6443	10	1
2530-01-093-8268	8	7	3120-01-281-7211	30	10

SECTION IV

TM9-2330-371-14&PC01
CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG	ITEM
		STOCK	NUMBER		
16662	AC2569	4730-00-069-1186		16	4
88044	AN931010-20	5325-00-531-1737		3	13
78500	A1-3102B2446	2530-00-797-9189		31	2
78500	A1227S305	5310-00-374-0836		21	7
				29	5
56697	A150034	5310-00-620-2486		22	7
78500	A173736H8	2530-00-692-6133		9	15
78500	A2110L116	2530-00-740-9620		31	5
23705	A298322	4710-00-511-1692		12	6
80686	B168-66	4730-00-270-4616		16	27
81348	CMDX2-3PT573036	5340-00-809-1492		20	13
19207	CPR102321-1	4730-01-079-8821		16	5
				16	9
				16	13
				16	18
				19	2
				20	4
9W125	CPR10442-2-19			16	10
19207	CPR104420-2X12.5			16	22
89549	D30-5100	5365-00-281-6623		10	9
76005	FC11589	2530-00-278-6555		11	4
63477	FD-6145			11	3
24617	G1251	4730-00-018-9566		16	28
79146	HD-169-6X4	4730-00-069-1187		20	10
79146	HD169-6X4	4730-00-069-1187		19	1
81343	J246	4730-00-278-3213		19	12
62707	K22-FT-167W			7	1
47346	K25HH100	5330-01-101-4854		22	14
81349	MIL-T-12459/CLCC			24	1
	/SB/1100-20/F/CC				
81349	MILH13719			13	8
81348	MML736TYPE30AKGR			BULK	3
	22				
96906	MS15001-1	4730-00-050-4203		7	3
96906	MS15570-1251	6240-00-019-0877		1	8
				2	3
96906	MS15570-623	6240-00-019-3093		1	10
96906	MS16624-1150	5365-00-803-7299		7	10
96906	MS17125			28	17
96906	MS18154-58	5305-00-115-9526		1	12
				11	9
				33	2
				35	20
96906	MS19081-181	3110-00-100-4223		21	8
				29	4
96906	MS20913-1S	4730-00-221-2136		15	2
96906	MS20913-6S	4730-00-221-2140		16	29
96906	MS21333-102	5340-00-984-8540		3	10
96906	MS21333-98	5340-00-809-1490		2	8
				3	10
				4	9

SECTION IV

TM9-2330-371-14&PC01
CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG	ITEM
96906	MS21333-98	5340-00-809-1490	13	4
96906	MS24665-283	5315-00-842-3044	9	11
96906	MS24665-500	5315-00-187-9567	31	1
96906	MS27040-8	5310-00-982-4937	38	4
96906	MS27148-2	5999-00-057-2929	1	4
			3	8
			4	7
96906	MS27183-12	5310-00-081-4219	36	4
96906	MS27183-14	5310-00-080-6004	33	3
96906	MS27183-15	5310-00-809-4061	28	2
			32	2
96906	MS27183-18	5310-00-809-5998	35	23
96906	MS27183-21	5310-00-823-8803	28	5
			30	13
			34	5
96906	MS27183-23	5310-00-809-8533	30	5
96906	MS27968-2	5340-01-127-8824	34	2
96906	MS27968-6	5340-00-482-6072	33	7
96906	MS35206-265	5305-00-984-6212	38	1
96906	MS35206-267	5305-00-984-6214	2	5
96906	MS35206-268	5305-00-984-6215	12	4
96906	MS35206-283	5305-00-988-1727	37	4
96906	MS35207-283	5305-00-993-2459	35	16
96906	MS35333-42	5310-00-595-7237	9	17
96906	MS35338-4S	5310-00-407-9566	7	8
96906	MS35338-43	5310-00-045-3296	2	6
			38	3
96906	MS35338-44	5310-00-582-5965	3	11
			4	12
			5	3
			13	3
			20	12
			34	7
			35	14
			37	2
96906	MS35338-45	5310-00-407-9566	21	2
			22	2
			29	10
			36	5
96906	MS35338-46	5310-00-637-9541	1	11
			11	10
			12	2
			15	5
			17	3
			19	8
			32	4
			33	6
			35	8
96906	MS35338-47	5310-00-209-0965	21	12
96906	MS35338-50	5310-00-820-6653	26	5
			30	11

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		STOCK	NUMBER		
96906	MS35338-51	5310-00-584-7888		8	4
				9	21
96906	MS35338-53	5310-00-584-7889		8	9
				29	13
96906	MS35338-55	5310-00-060-9435		29	17
96906	MS35355-74	5306-00-550-5033		15	3
96906	MS35387-1	9905-00-205-2795		37	3
96906	MS35387-2	9905-00-202-3639		37	3
96906	MS35420-1	6220-00-752-5992		2	4
96906	MS35420-2	6220-00-752-5993		2	4
96906	MS35421-1	6220-00-299-7425		2	4
96906	MS35421-2	6220-00-299-7426		2	4
96906	MS35422-1	6220-00-729-9295		2	2
96906	MS35423-1	6220-00-577-3434		2	1
96906	MS35423-2	6220-00-726-1916		2	1
96906	MS35424-1	6220-00-577-3435		2	1
96906	MS35424-2	6220-00-727-3288		2	1
96906	MS35478-1683	6240-00-044-6914		1	9
96906	MS35649-202	5310-00-934-9758		2	7
				12	14
96906	MS35650-3254	5310-00-400-5503		35	13
96906	MS35691-53	5310-00-835-2037		18	2
96906	MS35746-1	4730-00-595-0083		16	2
				20	1
96906	MS35751-47	5306-00-054-8024		36	3
96906	MS35782-5	4820-00-849-1220		15	8
96906	MS35842-12	4730-00-908-3193		12	5
96906	MS39191-3	4730-00-930-6354		16	17
96906	MS51003-6			07	14
96906	MS51331-3	2540-00-860-0575		32	6
96906	MS51846-39	4730-00-222-1838		16	21
96906	MS51851-106	5305-01-090-3012		10	12
96906	MS51922-17	5310-00-087-4652		28	8
96906	MS51922-45	5310-00-897-5940		9	23
				28	20
96906	MS51922-49	5310-00-269-4040		28	10
96906	MS51922-53	5310-00-225-6408		30	14
96906	MS51922-9	5310-00-984-3806		16	26
96906	MS51946-1	5306-00-733-9239		21	16
96906	MS51946-2	5306-00-383-4957		21	16
96906	MS51967-2	5310-00-761-6882		2	9
				3	12
				4	13
				5	2
				13	2
				20	11
96906	MS51967-5	5310-00-880-7744		34	8
				37	1
				7	9
				36	6
96906	MS51967-8	5310-00-732-0558		12	1

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		STOCK	NUMBER		
96906	MS51967-8	5310-00-732-0558		15	6
				33	5
				35	7
96906	MS51968-11	5310-00-880-7745		21	11
96906	MS51968-14	5310-00-732-0560		35	3
96906	MS51968-20	5310-00-763-8905		26	4
96906	MS51968-21	5310-00-763-8904		30	12
96906	MS51968-23	5310-00-763-8901		8	5
96906	MS51968-32	5310-00-762-6213		8	10
96906	MS51968-8	5310-00-732-0559		9	18
				17	2
				19	9
96906	MS51983-3	5310-00-880-2004		32	5
				22	20
				23	4
96906	MS51983-4	5310-00-880-2005		22	20
				23	4
				23	4
96906	MS52125-2	6220-01-093-4439		1	1
96906	MS521301A204120	4720-00-809-2750		12	13
96906	MS53004-1			19	6
96906	MS53007-1	9905-00-999-7370		16	3
96906	MS53007-2	9905-00-999-7369		16	6
96906	MS53044-6	2530-00-603-5768		23	3
96906	MS53068-1	2530-00-693-1029		23	1
96906	MS53068-2	2530-00-359-1162		23	1
96906	MS75021-1	5935-00-846-3883		5	13
96906	MS90725-162	5305-00-724-5910		28	4
96906	MS90725-33	5306-00-225-8498		7	5
96906	MS90725-67	5305-00-269-3217		28	7
96906	MS90725-68	5305-00-269-3218		28	3
96906	MS90726-113	5305-00-725-4183		35	5
96906	MS90726-139	5305-00-724-6772		9	19
96906	MS90726-60	5305-00-269-2803		12	3
				15	7
				17	11
96906	MS90727-114	5305-00-719-5235		35	2
96906	MS90727-164	5305-00-726-2551		30	17
96906	MS90727-165	5305-00-726-2552		26	1
96906	MS90727-168	5305-00-726-2555		26	3
				30	3
				30	20
96906	MS90727-197	5305-00-940-8069		30	20
96906	MS90727-62	5305-00-269-3238		19	7
96906	MS90727-64	5305-00-269-3240		32	1
96906	MS90728-160	5305-00-724-7219		28	22
96906	MS90728-164	5305-00-724-7222		28	11
96906	MS90728-30	5306-00-226-4823		22	1
				29	11
				16	24
96906	MS90728-35	5306-00-226-4828		16	24
96906	MS90728-8	5305-00-225-3843		5	4
62707	M10HH100	5330-01-190-4634		7	7
62707	M10HK131	5340-01-178-7362		22	3

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		STOCK NUMBER			
62707	M10HM100	5320-01-239-0880	10	4	
62707	M10HN101	5310-01-043-0596	22	5	
62707	M10HN102	5310-01-239-0893	22	8	
62707	M10HN103	5310-01-220-7966	10	11	
62707	M10HN151	5310-01-049-9051	22	6	
62707	M10HP102	5315-01-220-6238	10	10	
62707	M10HS113	5310-01-220-7967	7	11	
62707	M10WH100-1	2530-01-241-4818	7	6	
62707	M10WH100-2	2530-01-241-7404	7	2	
62707	M10WJ100	3120-01-239-0888	7	4	
81349	M13486113-1		BULK	1	
62707	M16HD100	3120-00-304-9074	7	16	
62707	M16HH100	5330-01-239-0885	7	15	
62707	M16WA100	2530-01-110-1332	22	13	
62707	M16WB100	2530-01-217-8156	10	13	
62707	M16WJ100	5360-01-241-6961	10	14	
62707	M16WJ103	5360-01-220-9373	10	7	
62707	M16WJ104	5315-01-220-6245	10	8	
62707	M16WK102-17	2530-00-703-2715	7	13	
62707	M16WK103-17	6940-00-467-1012	07	12	
62707	M16WL100-1	2530-01-218-0005	10	3	
62707	M16WL100-2	2530-01-219-4331	10	2	
62707	M16WN101X	2530-01-257-6443	10	1	
62707	M16WR100	2530-01-185-6764	14	1	
62707	M16WS104X	2530-01-218-3454	10	5	
81349	M43436/1-1	9905-00-752-4649	3	5	
			5	6	
81349	M43436/1-3	9905-00-893-3570	5	17	
40342	N10673A	5360-00-780-0508	17	7	
79934	TR78A	2640-01-093-2842	24	3	
85336	TYPE30CLAMPBAND	2530-00-142-6045	17	1	
08081	W00361	4730-00-293-7108	20	5	
61361	X10710	2530-00-272-8106	11	1	
19207	0623470-1		4	8	
19207	0623470-2		5	7	
77820	10-33646	5999-00-485-8955	5	12	
92967	10054-23		30	4	
92967	10060-01	5306-01-098-7197	30	6	
16662	103235B	2805-01-168-1557	16	23	
92967	10608-00	2510-01-101-2890	30	16	
09386	10709	5310-00-572-0218	22	19	
92967	10712-00	2510-01-100-9271	30	15	
19207	10896748	5320-00-443-5065	9	6	
19207	10950323	2530-00-757-9955	6	1	
81348	11.00-20/TR78A/O	2610-00-051-9450	24	2	
	N CENTER				
50153	11M059		18	5	
50153	11M018-1	5340-01-060-8993	18	3	
50153	11M061	5315-01-121-1859	18	4	
50153	11M063	5315-00-839-5822	18	6	
78500	1107F84	5340-00-211-6129	21	13	

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79470	112-10321	4730-00-737-3252	13	6
19207	11621099	4820-00-435-7577	16	16
19207	11625071-2	3040-01-145-4232	28	12
19207	11625084	2590-00-177-9980	28	18
19207	11625085	2590-01-070-5968	28	19
19207	11625086	5310-01-049-4072	28	16
19207	11625119	2590-00-177-9992	28	14
19207	11625125	3010-01-062-7588	28	13
19207	11625128	3010-01-048-2809	28	9
19207	11625139	7690-01-064-6477	38	5
19207	11625428	2540-01-069-8785	28	21
19207	11625431	3010-00-117-3413	28	6
19207	11631727	5910-01-125-0530	32	3
19207	11639519-2	5330-00-462-0907	1	3
19207	11639520		1	7
19207	11639535	6220-00-179-4324	1	2
19207	11640134-1	5340-01-083-3107	28	1
19207	11663025	5360-01-036-8596	9	14
19207	11663231	5315-01-031-4458	9	16
19207	11663232	5310-01-040-7465	9	2
19207	11663233	5360-01-037-1083	9	3
19207	11663236	5310-01-110-4242	9	1
19207	11665741		9	7
19207	116677781		9	
19207	11668361	2530-00-142-6045	17	1
78500	1199F1436	2590-00-740-9553	29	24
19207	12267070	2530-01-061-5723	16	15
19207	12270027		33	4
19207	12315610	2510-01-101-2559	30	2
19207	12315614	5310-01-098-7236	30	9
19207	12354092	3120-01-281-7211	30	10
09386	13989	5307-00-637-1084	22	18
72452	1459-103	4730-00-221-2138	16	14
82347	15545	2510-00-797-9217	29	3
50153	162429	2530-01-101-5429	18	1
83194	1628	9905-00-979-4458	3	9
			4	10
22271	16361	5315-01-162-8987	10	6
78500	1745-E-5	2530-00-204-3622	9	9
19207	1770102		19	5
			20	7
19207	1807289-1		5	15
76933	200360	4730-00-278-8825	20	6
06853	213630	5330-00-090-2128	20	15
06853	215660	2530-00-215-4160	15	1
78500	2208A313	5330-00-740-9600	29	8
06853	234101	2530-00-293-4373	17	9
19207	2744994-1		36	1
06853	278614	4820-00-728-7467	16	20
78500	2797E5	5340-00-656-4895	11	11
06853	284744	2530-01-098-5123	16	11

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56697	300137-001		22	17
26337	305106	5330-01-132-2053	22	4
78500	3219X2052	2530-00-093-5597	21	14
85757	3250-061	4720-01-014-4915	35	4
			BULK	2
78500	3262G85	5340-00-740-9391	29	9
78500	3277B1016	2510-00-797-9305	29	16
81495	330 2000	5310-00-087-7493	16	25
22337	4B22GG	2530-01-092-6445	9	5
19207	4002457-1		36	2
56697	402109	5310-01-101-4843	22	11
73342	444687	4730-00-018-9566	29	15
78500	5X625	5330-00-740-9312	29	23
62707	500361-8	5310-01-183-6854	22	12
19207	501212		17	6
21450	506209	5940-00-050-6209	5	11
19207	5139123	5310-00-700-7089	21	6
			29	6
19207	515663		12	11
19207	5160323	5310-00-209-1761	11	7
19207	5167419	4730-00-516-7419	11	8
19207	5186963	4730-00-278-8873	13	7
19207	5214539	5310-00-275-6635	11	5
19207	5215673	5365-00-289-4926	12	10
28548	5228623	4730-00-244-9848	20	2
03776	5282743	4730-00-528-2743	11	6
19207	5705700	2530-00-162-1986	9	4
81343	6-2 120201BA		16	12
81343	6-4 120102BA	4730-00-069-1186	20	3
81343	6-4-6 120424BA	4730-00-813-7811	16	8
81343	6-6 120202BA	4730-00-289-0155	16	19
81343	6-6120201BA	4730-00-460-3907	20	9
81343	6-6120202BA	4730-00-289-0155	20	10
77873	63-PT-349	5306-00-226-4822	21	1
60038	632	3110-00-100-0332	22	10
60038	643	3110-00-100-0663	22	9
19207	7067973	2510-00-706-7973	27	1
21450	712288	3110-00-689-8250	21	18
			29	19
19207	7207919	5310-00-275-9460	9	20
19207	7346958	5306-00-734-6958	8	2
19207	7373354	5330-00-737-3354	12	9
19207	7389061	2530-00-738-9061	23	2
19207	7409607	4710-00-740-9607	8	1
19207	7411021	2530-00-137-9235	16	1
			20	16
61220	742	3110-00-100-0337	22	16
60038	749	3110-00-100-0683	22	15
19207	7722333	5365-00-090-5426	5	14
19207	7723309	5310-00-393-6685	5	16
19207	7731428	5935-00-773-1428	5	1

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19207	7745288			15	4
19207	7979153			26	6
19207	7979170	2510-00-740-9511		26	2
19207	7979179	5306-01-062-2334		21	17
19207	7979182	2510-00-400-2457		BULK	5
19207	7979183	5310-00-740-9621		31	3
19207	7979188			31	4
19207	7979263	5310-00-353-2427		21	5
				29	7
19207	7979264	5330-00-740-9606		29	21
19207	7979265	5310-00-740-9615		29	22
19207	7979268	2530-01-093-8268		8	7
78500	7979271	5315-00-461-3835		9	22
19207	7979280	3120-00-740-9567		9	8
19207	7979286	2510-00-168-2405		8	3
19207	7979287	5325-00-797-9287		20	8
19207	7979312	2510-00-797-9305		29	14
19207	7979313	3040-00-168-2238		8	6
19207	7979316	2510-00-117-9286		29	1
19207	7979329	5306-00-740-9608		29	18
19207	7979330	5315-00-740-9379		9	13
19207	7979332	5310-00-797-9332		9	10
19207	7979339	5360-00-797-9339		9	12
19207	7979349	5330-00-740-9550		21	19
				29	20
19207	7979365	5306-00-797-9365		29	2
19207	7979366	5310-00-798-1265		29	12
82796	7979377	5306-00-444-8480		8	8
63477	7979691	4730-00-773-2163		12	8
19207	7982997	1015-00-798-2997		5	10
81343	8 120111B	4730-00-054-2572		19	4
81343	8 120115B	4730-00-054-2571		19	3
81343	8-6120102BA	4730-00-142-3076		19	10
81343	8-6120202BA	4730-00-289-0051		19	11
92967	814-00	2590-01-100-9001		30	1
19207	8332086	2530-00-278-2243		12	7
19207	8332543	2530-00-040-2874		KIT	
19207	8338561	5935-00-833-8561		3	3
				4	4
				5	8
19207	8338562	5970-00-833-8562		3	4
				4	3
				5	9
19207	8338564	5940-00-399-6676		3	2
				4	2
				5	10
19207	8338566	5935-00-572-9180		1	6
				3	6
				4	5
19207	8338567	5310-00-833-8567		1	5
				3	7

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		STOCK	NUMBER		
19207	8338567	5310-00-833-8567		4	6
92967	837-00	5310-01-098-7246		30	8
19207	8376442	4820-00-242-4064		16	7
19207	8379540			34	3
19207	8379685	2640-00-338-2705		24	4
19207	8380801			17	4
19207	8380814	1440-01-077-1600		17	5
19207	8380816			17	8
19207	8380817			17	10
92967	850-01	2510-01-141-5297		30	18
19207	8700985			12	12
19207	8701004			25	1
19207	8701026			25	2
19207	8701042			34	9
19207	8701058			33	1
19207	8701112			34	10
19207	8701173			34	4
19207	8710721	2530-00-134-7846		21	9
19207	8710722			21	9
82796	8710723			21	10
19207	8710724	2530-00-404-4440		21	15
19207	8710725	5340-00-287-8220		21	3
19207	8710726	5330-00-290-8521		21	4
19207	872463			BULK	4
19207	8730420	5995-00-808-6126		5	5
19207	8730427			35	12
19207	8730428	2590-00-690-8665		3	1
				4	1
19207	8730434			35	15
19207	8730437			35	22
19207	8730440	4710-00-534-2350		13	1
19207	8730441	4710-00-534-2349		13	5
19207	8730443	5340-00-177-7807		35	9
19207	8730444			35	18
19207	8730448	5340-01-135-6608		35	17
19207	8730449			35	10
19207	8730450			35	11
19207	8730451			35	6
19207	8730452			35	21
19207	8730454	5310-01-134-6935		35	1
19207	8730457			20	14
19207	8730460-2	5306-01-141-7893		28	15
19207	8730461	5325-01-134-6961		3	14
				4	11
19207	8730479	9905-01-074-8292		38	2
19207	8730481	5340-01-090-7761		35	19
19207	8730483			34	1
19207	8730484			34	6
19207	8758259	2530-00-920-7568		11	2
92967	891-00	2520-01-101-0935		30	7
92967	893-01	4710-01-140-6473		30	19

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FIG	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
BULK	1		81349	M13486113-1
BULK	2	4720-01-014-4915	85757	3250-061
BULK	3		81348	MML736TYPE30AKGR 22
BULK	4		19207	872463
BULK	5	2510-00-400-2457	19207	7979182
KIT		2530-00-040-2874	19207	8332543
1	1	6220-01-093-4439	96906	MS52125-2
1	2	6220-00-179-4324	19207	11639535
1	3	5330-00-462-0907	19207	11639519-2
1	4	5999-00-057-2929	96906	MS27148-2
1	5	5310-00-833-8567	19207	8338567
1	6	5935-00-572-9180	19207	8338566
1	7		19207	11639520
1	8	6240-00-019-0877	96906	MS15570-1251
1	9	6240-00-044-6914	96906	MS35478-1683
1	10	6240-00-019-3093	96906	MS15570-623
1	11	5310-00-637-9541	96906	MS35338-46
1	12	5305-00-115-9526	96906	MS18154-58
2	1	6220-00-577-3434	96906	MS35423-1
2	1	6220-00-577-3435	96906	MS35424-1
2	1	6220-00-726-1916	96906	MS35423-2
2	1	6220-00-727-3288	96906	MS35424-2
2	2	6220-00-729-9295	96906	MS35422-1
2	3	6240-00-019-0877	96906	MS15570-1251
2	4	6220-00-299-7425	96906	MS35421-1
2	4	6220-00-299-7426	96906	MS35421-2
2	4	6220-00-752-5992	96906	MS35420-1
2	4	6220-00-752-5993	96906	MS35420-2
2	5	5305-00-984-6214	96906	MS35206-267
2	6	5310-00-045-3296	96906	MS35338-43
2	7	5310-00-934-9758	96906	MS35649-202
2	8	5340-00-809-1490	96906	MS21333-98
2	9	5310-00-761-6882	96906	MS51967-2
3	1	2590-00-690-8665	19207	8730428
3	2	5940-00-399-6676	19207	8338564
3	3	5935-00-833-8561	19207	8338561
3	4	5970-00-833-8562	19207	8338562
3	5	9905-00-752-4649	81349	M43436/1-1
3	6	5935-00-572-9180	19207	8338566
3	7	5310-00-833-8567	19207	8338567
3	8	5999-00-057-2929	96906	MS27148-2
3	9	9905-00-979-4458	83194	1628
3	10	5340-00-809-1490	96906	MS21333-98
3	10	5340-00-984-8540	96906	MS21333-102
3	11	5310-00-582-5965	96906	MS35338-44
3	12	5310-00-761-6882	96906	MS51967-2
3	13	5325-00-531-1737	88044	AN931C10-20
3	14	5325-01-134-6961	19207	8730461
4	1	2590-00-690-8665	19207	8730428
4	2	5940-00-399-6676	19207	8338564

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FIG	ITEM	FIGURE AND ITEM NUMBER INDEX		
		STOCK NUMBER	CAGEC	PART NUMBER
4	3	5970-00-833-8562	19207	8338562
4	4	5935-00-833-8561	19207	8338561
4	5	5935-00-572-9180	19207	8338566
4	6	5310-00-833-8567	19207	8338567
4	7	5999-00-057-2929	96906	MS27148-2
4	8		19207	0623470-1
4	9	5340-00-809-1490	96906	MS21333-98
4	10	9905-00-979-4458	83194	1628
4	11	5325-01-134-6961	19207	8730461
4	12	5310-00-582-5965	96906	MS35338-44
4	13	5310-00-761-6882	96906	MS51967-2
5	1	5935-00-773-1428	19207	7731428
5	2	5310-00-761-6882	96906	MS51967-2
5	3	5310-00-582-5965	96906	MS35338-44
5	4	5305-00-225-3843	96906	MS90728-8
5	5	5995-00-808-6126	19207	8730420
5	6	9905-00-752-4649	81349	M43436/1-1
5	7		19207	0623470-2
5	8	5935-00-833-8561	19207	8338561
5	9	5970-00-833-8562	19207	8338562
5	10	1015-00-798-2997	19207	7982997
5	10	5940-00-399-6676	19207	8338564
5	11	5940-00-050-6209	21450	506209
5	12	5999-00-485-8955	77820	10-33646
5	13	5935-00-846-3883	96906	MS75021-1
5	14	5365-00-090-5426	19207	7722333
5	5		19207	1807289-1
5	16	5310-00-393-6685	19207	7723309
5	17	9905-00-893-3570	81349	M43436/1-3
6	1	2530-00-757-9955	19207	10950323
7	1		62707	K22-FT-167W
7	2	2530-01-241-7404	62707	M10WH100-2
7	3	4730-00-050-4203	96906	MS15001-1
7	4	3120-01-239-0888	62707	M10WJ100
7	5	5306-00-225-8498	96906	MS90725-33
7	6	2530-01-241-4818	62707	M10WH100-1
7	7	5330-01-190-4634	62707	M10HH100
7	8	5310-00-407-9566	96906	MS35338-4S
7	9	5310-00-880-7744	96906	MS51967-5
7	10	5365-00-803-7299	96906	MS16624-1150
7	11	5310-01-220-7967	62707	M10HS113
7	12	6940-00-467-1012	62707	M16WK103-17
7	13	2530-00-703-2715	62707	M16WK102-17
7	14		96906	MS51003-6
7	15	5330-01-239-0885	62707	M16HH100
7	16	3120-00-304-9074	62707	M16HD100
8	1	4710-00-740-9607	19207	7409607
8	2	5306-00-734-6958	19207	7346958
8	3	2510-00-168-2405	19207	7979286
8	4	5310-00-584-7888	96906	MS35338-51
8	5	5310-00-763-8901	9690	MS51968-23

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FIG	ITEM	FIGURE AND ITEM NUMBER INDEX		
		STOCK NUMBER	CAGEC	PART NUMBER
8	6	3040-00-168-2238	19207	7979313
8	7	2530-01-093-8268	19207	7979268
8	8	5306-00-444-8480	82796	7979377
8	9	5310-00-584-7889	96906	MS35338-53
8	10	5310-00-762-6213	96906	MS51968-32
9			19207	116677781
9	1	5310-01-110-4242	19207	11663236
9	2	5310-01-040-7465	19207	11663232
9	3	5360-01-037-1083	19207	11663233
9	4	2530-00-162-1986	19207	5705700
9	5	2530-01-092-6445	22337	4B22GG
9	6	5320-00-443-5065	19207	10896748
9	7		19207	11665741
9	8	3120-00-740-9567	19207	7979280
9	9	2530-00-204-3622	78500	1745-E-5
9	10	5310-00-797-9332	19207	7979332
9	11	5315-00-842-3044	96906	MS24665-283
9	12	5360-00-797-9339	19207	7979339
9	13	5315-00-740-9379	19207	7979330
9	14	5360-01-036-8596	19207	11663025
9	15	2530-00-692-6133	78500	A173736H8
9	16	5315-01-031-4458	19207	11663231
9	17	5310-00-595-7237	96906	MS35333-42
9	18	5310-00-732-0559	96906	MS51968-8
9	19	5305-00-724-6772	96906	MS90726-139
9	20	5310-00-275-9460	19207	7207919
9	21	5310-00-584-7888	96906	MS35338-51
9	22	5315-00-461-3835	78500	7979271
9	23	5310-00-897-5940	96906	MS51922-45
10	1	2530-01-257-6443	62707	M16WN101X
10	2	2530-01-219-4331	62707	M16WL100-2
10	3	2530-01-218-0005	62707	M16WL100-1
10	4	5320-01-239-0880	62707	M10HM100
10	5	2530-01-218-3454	62707	M16WS104X
10	6	5315-01-162-8987	22271	16361
10	7	5360-01-220-9373	62707	M16WJ103
10	8	5315-01-220-6245	62707	M16WJ104
10	9	5365-00-281-6623	89549	D30-5100
10	10	5315-01-220-6238	62707	M10HP102
10	11	5310-01-220-7966	62707	M10HN103
10	12	5305-01-090-3012	96906	MS51851-106
10	13	2530-01-217-8156	62707	M16WB100
10	14	5360-01-241-6961	62707	M16WJ100
11	1	2530-00-272-8106	61361	X10710
11	2	2530-00-920-7568	19207	8758259
11	3		63477	FD-6145
11	4	2530-00-278-6555	76005	FC11589
11	5	5310-00-275-6635	19207	5214539
11	6	4730-00-528-2743	03776	5282743
11	7	5310-00-209-1761	19207	5160323
11	8	4730-00-516-7419	19207	5167419

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		FIGURE AND PART NUMBER INDEX		
FIG	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
11	9	5305-00-115-9526	96906	MS18154-58
11	10	5310-00-637-9541	96906	MS35338-46
11	11	5340-00-656-4895	78500	2797E5
12	1	5310-00-732-0558	96906	MS51967-8
12	2	5310-00-637-9541	96906	MS35338-46
12	3	5305-00-269-2803	96906	MS90726-60
12	4	5305-00-984-6215	96906	MS35206-268
12	5	4730-00-908-3193	96906	MS35842-12
12	6	4710-00-511-1692	23705	A298322
12	7	2530-00-278-2243	19207	8332086
12	8	4730-00-773-2163	63477	7979691
12	9	5330-00-737-3354	19207	7373354
12	10	5365-00-289-4926	19207	5215673
12	11		19207	515663
12	12		19207	8700985
12	13	4720-00-809-2750	96906	MS521301A204120
12	14	5310-00-934-9758	96906	MS35649-202
13	1	4710-00-534-2350	19207	8730440
13	2	5310-00-761-6882	96906	MS51967-2
13	3	5310-00-582-5965	96906	MS35338-44
13	4	5340-00-809-1490	96906	MS21333-98
13	5	4710-00-534-2349	19207	8730441
13	6	4730-00-737-3252	79470	112-10321
13	7	4730-00-278-8873	19207	5186963
13	8		81349	MILH13719
14	1	2530-01-185-6764	62707	M16WR100
15	1	2530-00-215-4160	06853	215660
15	2	4730-00-221-2136	96906	MS20913-1S
15	3	5306-00-550-5033	96906	MS35355-74
15	4		19207	7745288
15	5	5310-00-637-9541	96906	MS35338-46
15	6	5310-00-732-0558	96906	MS51967-8
15	7	5305-00-269-2803	96906	MS90726-60
15	8	4820-00-849-1220	96906	MS35782-5
16	1	2530-00-137-9235	19207	7411021
16	2	4730-00-595-0083	96906	MS35746-1
16	3	9905-00-999-7370	96906	MS53007-1
16	4	4730-00-069-1186	16662	AC2569
16	5	4730-01-079-8821	19207	CPR102321-1
16	6	9905-00-999-7369	96906	MS53007-2
16	7	4820-00-242-4064	19207	8376442
16	8	4730-00-813-7811	81343	6-4-6 120424BA
16	9	4730-01-079-8821	19207	CPR102321-1
16	10		9W125	CPR10442-2-19
16	11	2530-01-098-5123	06853	284744
16	12		81343	6-2 120201BA
16	13	4730-01-079-8821	19207	CPR102321-1
16	14	4730-00-221-2138	72452	1459-103
16	15	2530-01-061-5723	19207	12267070
16	16	4820-00-435-7577	19207	11621099
16	17	4730-00-930-6354	96906	MS39191-3

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FIG	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
16	18	4730-01-079-8821	19207	CPR102321-1
16	19	4730-00-289-0155	81343	6-6 120202BA
16	20	4820-00-728-7467	06853	278614
16	21	4730-00-222-1838	96906	MS51846-39
16	22		19207	CPR104420-2X12.5
16	23	2805-01-168-1557	16662	103235B
16	24	5306-00-226-4828	96906	MS90728-35
16	25	5310-00-087-7493	81495	330 2000
16	26	5310-00-984-3806	96906	MS51922-9
16	27	4730-00-270-4616	80686	B168-66
16	28	4730-00-018-9566	24617	GL251
16	29	4730-00-221-2140	96906	MS20913-6S
17	1	2530-00-142-6045	19207	11668361
17	1	2530-00-142-6045	85336	TYPE30CLAMPBAND
17	2	5310-00-732-0559	96906	MS51968-8
17	3	5310-00-637-9541	96906	MS35338-46
17	4		19207	8380801
17	5	1440-01-077-1600	19207	8380814
17	6		19207	501212
17	7	5360-00-780-0508	40342	N10673A
17	8		19207	8380816
17	9	2530-00-293-4373	06853	234101
17	10		19207	8380817
17	11	5305-00-269-2803	96906	MS90726-60
18	1	2530-01-101-5429	50153	162429
18	2	5310-00-835-2037	96906	MS35691-53
18	3	5340-01-060-8993	50153	11M018-1
18	4	5315-01-121-1859	50153	11M061
18	5		50153	11M059
18	6	5315-00-839-5822	50153	11M063
19		4730-00-069-1187	79146	H0169-6X4
19	2	4730-01-079-8821	19207	CPR102321-1
19	3	4730-00-054-2571	81343	8 120115B
19	4	4730-00-054-2572	81343	8 120111B
19	5		19207	1770102
19	6		96906	MS53004-1
19	7	5305-00-269-3238	96906	MS90727-62
19	8	5310-00-637-9541	96906	MS35338-46
19	9	5310-00-732-0559	96906	MS51968-8
19	10	4730-00-142-3076	81343	8-6120102BA
19	11	4730-00-289-0051	81343	8-6120202BA
19	12	4730-00-278-3213	81343	J246
20	1	4730-00-595-0083	96906	MS35746-1
20	2	4730-00-244-9848	28548	5228623
20	3	4730-00-069-1186	81343	6-4 120102BA
20	4	4730-01-079-8821	19207	CPR102321-1
20	5	4730-00-293-7108	08081	W00361
20	6	4730-00-278-8825	76933	200360
20	7		19207	1770102
20	8	5325-00-797-9287	19207	7979287
20	9	4730-00-460-3907	81343	6-6120201BA

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FIG	ITEM	FIGURE AND ITEM NUMBER STOCK NUMBER	INDEX CAGEC	PART NUMBER
20	10	4730-00-069-1187	79146	HD-169-6X4
20	10	4730-00-289-0155	81343	6-6120202BA
20	11	5310-00-761-6882	96906	MS51967-2
20	12	5310-00-582-5965	96906	MS35338-44
20	13	5340-00-809-1492	81348	CMDX2-3PT573036
20	14		19207	8730457
20	15	5330-00-090-2128	06853	213630
20	16	2530-00-137-9235	19207	7411021
21	1	5306-00-226-4822	77873	63-PT-349
21	2	5310-00-407-9566	96906	MS35338-45
21	3	5340-00-287-8220	19207	8710725
21	4	5330-00-290-8521	19207	8710726
21	5	5310-00-353-2427	19207	7979263
21	6	5310-00-700-7089	19207	5139123
21	7	5310-00-374-0836	78500	A1227S305
21	8	3110-00-100-4223	96906	MS19081-181
21	9		19207	8710722
21	9	2530-00-134-7846	19207	8710721
21	10		82796	8710723
21	11	5310-00-880-7745	96906	MS51968-11
21	12	5310-00-209-0965	96906	MS35338-47
21	13	5340-00-211-6129	78500	1107F84
21	14	2530-00-093-5597	78500	3219X2052
21	15	2530-00-404-4440	19207	8710724
21	16	5306-00-383-4957	96906	MS51946-2
21	16	5306-00-733-9239	96906	MS51946-1
21	17	5306-01-062-2334	19207	7979179
21	18	3110-00-689-8250	21450	712288
21	19	5330-00-740-9550	19207	7979349
22	1	5306-00-226-4823	96906	MS90728-30
22	2	5310-00-407-9566	96906	MS35338-45
22	3	5340-01-178-7362	62707	M10HK131
22	4	5330-01-132-2053	26337	305106
22	5	5310-01-043-0596	62707	M10HN101
22	6	5310-01-049-9051	62707	M10HN151
22	7	5310-00-620-2486	56697	A150034
22	8	5310-01-239-0893	62707	M10HN102
22	9	3110-00-100-0663	60038	643
22	10	3110-00-100-0332	60038	632
22	11	5310-01-101-4843	56697	402109
22	12	5310-01-183-6854	62707	500361-8
22	13	2530-01-110-1332	62707	M16WA100
22	14	5330-01-101-4854	47346	K25HH100
22	15	3110-00-100-0683	60038	749
22	16	3110-00-100-0337	61220	742
22	17		56697	300137-001
22	18	5307-00-637-1084	09386	13989
22	19	5310-00-572-0218	09386	10709
22	20	5310-00-880-2004	96906	MS51983-3
22	20	5310-00-880-2005	96906	MS51983-4
23	1	2530-00-359-1162	96906	MS53068-2

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FIG	ITEM	FIGURE AND PART NUMBER INDEX		
		STOCK NUMBER	CAGEC	PART NUMBER
23	1	2530-00-693-1029	96906	MS53068-1
23	2	2530-00-738-9061	19207	7389061
23	3	2530-00-603-5768	96906	MS53044-6
23	4	5310-00-880-2004	96906	MS51983-3
23	4	5310-00-880-2005	96906	MS51983-4
24	1		81349	MIL-T-12459/CLCC /SB/1100-20/F/CC
24	2	2610-00-051-9450	81348	11.00-20/TR78A/D N CENTER
24	3	2640-01-093-2842	79934	TR78A
24	4	2640-00-338-2705	19207	8379685
25	1		19207	8701004
25	2		19207	8701026
26	1	5305-00-726-2552	96906	MS90727-165
26	2	2510-00-740-9511	19207	7979170
26	3	5305-00-726-2555	96906	MS90727-168
26	4	5310-00-763-8905	96906	MS51968-20
26	5	5310-00-820-6653	96906	MS35338-50
26	6		19207	7979153
27	1	2510-00-706-7973	9207	7067973
28	1	5340-01-083-3107	19207	11640134-1
28	2	5310-00-809-4061	96906	MS27183-15
28	3	5305-00-269-3218	96906	MS90725-68
28	4	5305-00-724-5910	96906	MS90725-162
28	5	5310-00-823-8803	96906	MS27183-21
28	6	3010-00-117-3413	19207	11625431
28	7	5305-00-269-3217	96906	MS90725-67
28	8	5310-00-087-4652	96906	MS51922-17
28	9	3010-01-048-2809	19207	11625128
28	10	5310-00-269-4040	96906	MS51922-49
28	11	5305-00-724-7222	96906	MS90728-164
28	12	3040-01-145-4232	19207	11625071-2
28	13	3010-01-062-7588	19207	11625125
28	14	2590-00-177-9992	19207	11625119
28	15	5306-01-141-7893	19207	8730460-2
28	16	5310-01-049-4072	19207	11625086
28	17		96906	MS17125
28	18	2590-00-177-9980	19207	11625084
28	19	2590-01-070-5968	19207	11625085
28	0	5310-00-897-5940	96906	MS51922-45
28	21	2540-01-069-8785	19207	11625428
28	22	5305-00-724-7219	96906	MS90728-160
29	1	2510-00-117-9286	19207	7979316
29	2	5306-00-797-9365	19207	7979365
29	3	2510-00-797-9217	82347	15545
29	4	3110-00-100-4223	96906	MS19081-181
29	5	5310-00-374-0836	78500	A1227S305
29	6	5310-00-700-7089	19207	5139123
29	7	5310-00-353-2427	19207	7979263
29	8	5330-00-740-9600	78500	2208A313
29	9	5340-00-740-9391	78500	3262G85

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FIG	ITEM	FIGURE AND PART NUMBER INDEX		PART NUMBER
		STOCK NUMBER	CAGEC	
29	10	5310-00-407-9566	96906	MS35338-45
29	11	5306-00-226-4823	96906	MS90728-30
29	12	5310-00-798-1265	19207	7979366
29	13	5310-00-584-7889	96906	MS35338-53
29	14	2510-00-797-9305	19207	7979312
29	15	4730-00-018-9566	73342	444687
29	16	2510-00-797-9305	78500	3277B1016
29	17	5310-00-060-9435	96906	MS35338-55
29	18	5306-00-740-9608	19207	7979329
29	19	3110-00-689-8250	21450	712288
29	20	5330-00-740-9550	19207	7979349
29	21	5330-00-740-9606	19207	7979264
29	22	5310-00-740-9615	19207	7979265
29	23	5330-00-740-9312	78500	5X625
29	24	2590-00-740-9553	78500	1199F1436
30	1	2590-01-100-9001	92967	814-00
30	2	2510-01-101-2559	19207	12315610
30	3	5305-00-726-2555	96906	MS90727-168
30	4		92967	10054-23
30	5310-00-	96906	MS27183-23	
30	6	5306-01-098-7197	92967	10060-01
30	7	2520-01-101-0935	92967	891-00
30	8	5310-01-098-7246	92967	837-00
30	9	5310-01-098-7236	19207	12315614
30	10	3120-01-281-7211	19207	12354092
30	11	5310-00-820-6653	96906	MS35338-50
30	12	5310-00-763-8904	96906	MS51968-21
30	13	5310-00-823-8803	96906	MS27183-21
30	14	5310-00-225-6408	96906	MS51922-53
30	15	2510-01-100-9271	92967	10712-00
30	16	2510-01-101-2890	92967	10608-00
30	17	5305-00-726-2551	96906	MS90727-164
30	18	2510-01-141-5297	92967	850-01
30	19	4710-01-140-6473	92967	893-01
30	20	5305-00-940-8069	96906	MS90727-197
31	1	5315-00-187-9567	96906	MS24665-500
31	2	2530-00-797-9189	78500	A1-3102B2446
31	3	5310-00-740-9621	19207	7979183
31	4		19207	7979188
31	5	2530-00-740-9620	78500	A2110L116
32	1	5305-00-269-3240	96906	MS90727-64
32	2	5310-00-809-4061	96906	MS27183-15
32	3	5910-01-125-0530	19207	11631727
32	4	5310-00-637-9541	96906	MS35338-46
32	5	5310-00-732-0559	96906	MS51968-8
32	6	2540-00-860-0575	96906	MS51331-3
33	1		19207	8701058
33	2	5305-00-115-9526	96906	MS18154-58
33	3	5310-00-080-6004	96906	MS27183-14
33	4		19207	12270027
33	5	5310-00-732-0558	96906	MS51967-8

SECTION IV TM9-2330-371-14&PC01
CROSS-REFERENCE INDEXES

FIG	ITEM	FIGURE AND ITEM NUMBER INDEX		
		STOCK NUMBER	CAGEC	PART NUMBER
33	6	5310-00-637-9541	96906	MS35338-46
33	7	5340-00-482-6072	96906	MS27968-6
34	1		19207	8730483
34	2	5340-01-127-8824	96906	MS27968-2
34	3		19207	8379540
34	4		19207	8701173
34	5	5310-00-823-8803	96906	MS27183-21
34	6		19207	8730484
34	7	5310-00-582-5965	96906	MS35338-44
34	8	5310-00-761-6882	96906	MS51967-2
34	9		19207	8701042
34	10		19207	8701112
35	1	5310-01-134-6935	19207	8730454
35	2	5305-00-719-5235	96906	MS90727-114
35	3	5310-00-732-0560	96906	MS51968-14
35	4	4720-01-014-4915	85757	3250-061
35	5	5305-00-725-4183	96906	MS90726-113
35	6		19207	8730451
35	7	5310-00-732-0558	96906	MS51967-8
35	8	5310-00-637-9541	96906	MS35338-46
35	9	5340-00-177-7807	19207	8730443
35	10		19207	8730449
35	11		19207	8730450
35	12		19207	8730427
35	13	5310-00-400-5503	96906	MS35650-3254
35	14	5310-00-582-5965	96906	MS35338-44
35	15		19207	8730434
35	16	5305-00-993-2459	96906	MS35207-283
35	17	5340-01-135-6608	19207	8730448
35	18		19207	8730444
35	19	5340-01-090-7761	19207	8730481
35	20	5305-00-115-9526	96906	MS18154-58
35	21		19207	8730452
35	22		19207	8730437
35	23	5310-00-809-5998	96906	MS27183-18
36	1		19207	2744994-1
36	2		19207	4002457-1
36	3	5306-00-054-8024	96906	MS35751-47
36	4	5310-00-081-4219	96906	MS27183-12
36	5	5310-00-407-9566	96906	MS35338-45
36	6	5310-00-880-7744	96906	MS51967-5
37	1	5310-00-761-6882	96906	MS51967-2
37	2	5310-00-582-5965	96906	MS35338-44
37	3	9905-00-202-3639	96906	MS35387-2
37	3	9905-00-205-2795	96906	MS35387-1
37	4	5305-00-988-1727	96906	MS35206-283
38	1	5305-00-984-6212	96906	MS35206-265
38	2	9905-01-074-8292	19207	8730479
38	3	5310-00-045-3296	96906	MS35338-43
38	4	5310-00-982-4937	96906	MS27040-8
38	5	7690-01-064-6477	19207	11625139

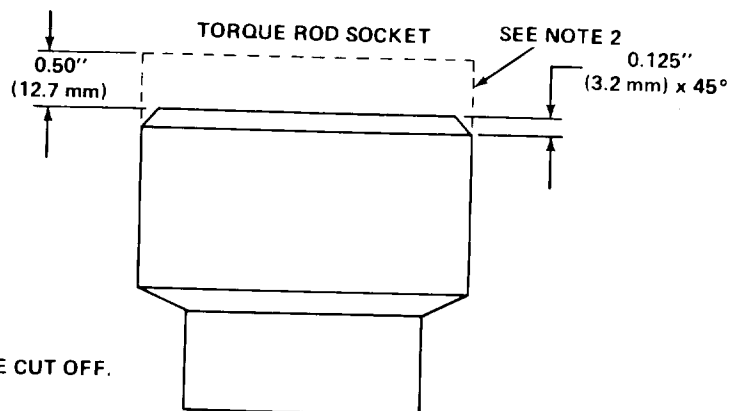
APPENDIX G **ILLUSTRATED LIST OF MANUFACTURED ITEMS**

Section I. INTRODUCTION

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at Direct Support/General Support Maintenance.

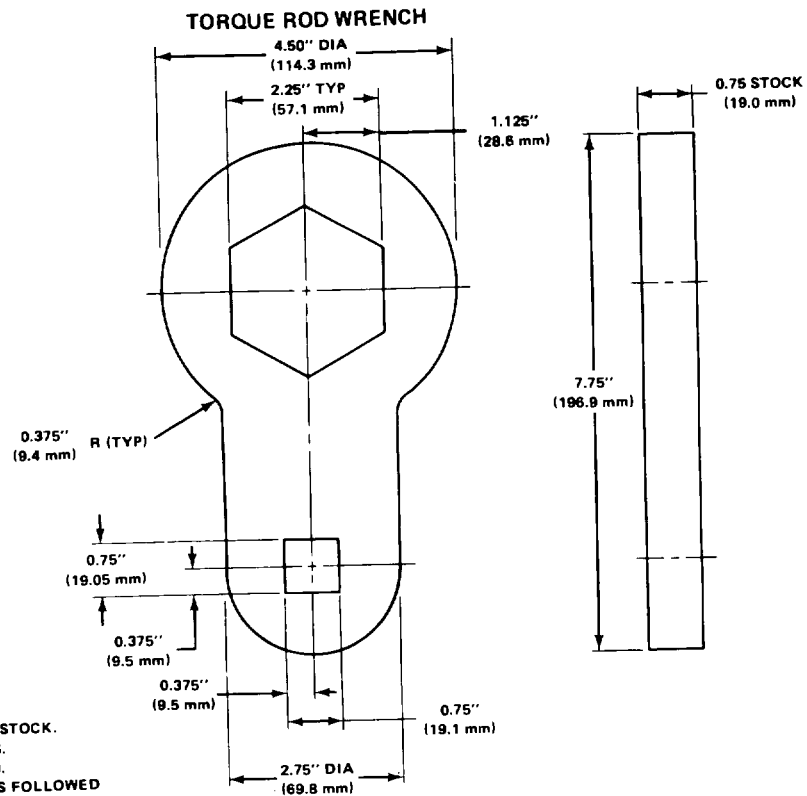
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1.	Torque rod socket	G-1
2.	Torque rod wrench	G-2
3.	Composite light adapter harness	G-3
4.	Air lines	G-4

Section II. MANUFACTURED ITEMS ILLUSTRATIONS



NOTES:

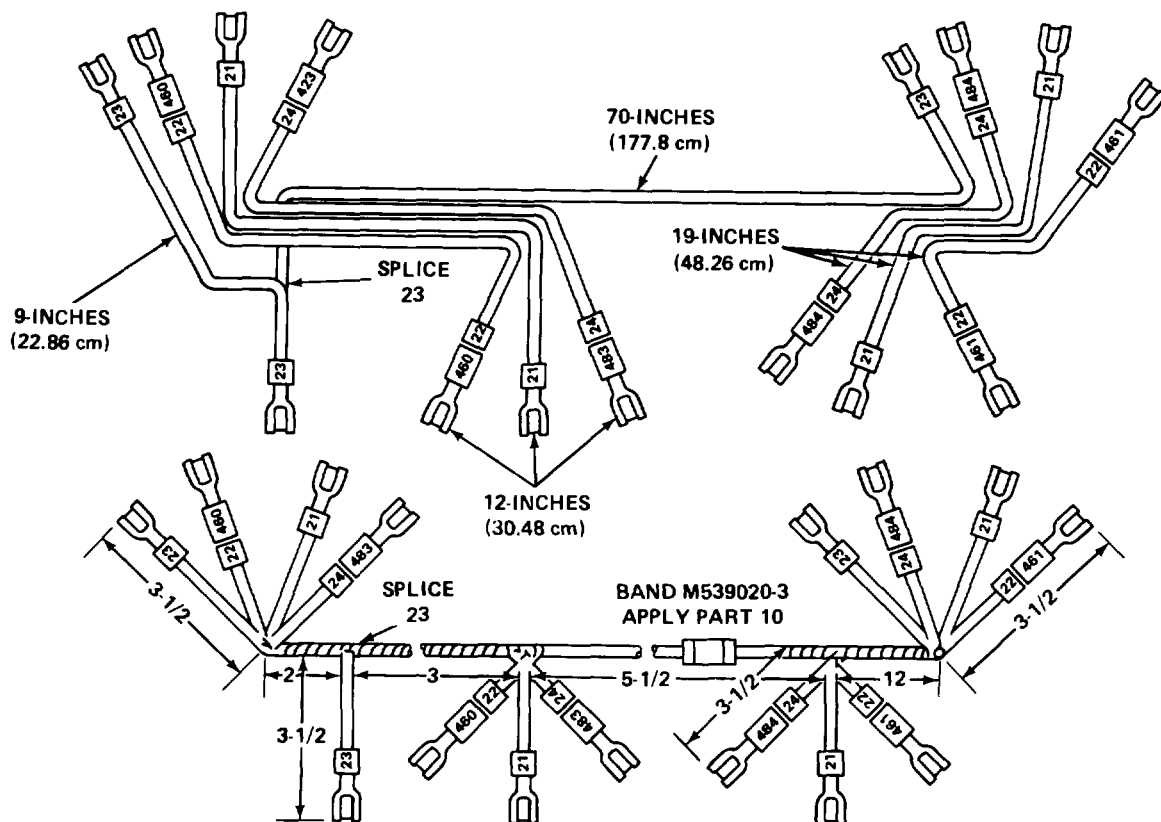
1. FABRICATE FROM NSN 5120-00-199-7771.
2. DASHED LINE REPRESENTS MATERIAL TO BE CUT OFF.
3. ALL CUTTING TOLERANCE +0.005.



NOTES:

1. FABRICATE FROM NSN 9510-00-228-4802 STOCK.
2. REMOVE ALL BURRS AND SHARP EDGES.
3. ALL CUTTING TOLERANCE $+0.005 -0.000$.
4. ALL DIMENSIONS SHOWN ARE IN INCHES FOLLOWED BY: (METRIC EQUIVALENTS).

COMPOSITE LIGHT ADAPTER HARNESS



NOTES:

1. FABRICATE FROM:

- a. NSN 6145-01-062-3470 – CABLE, SPECIAL PURPOSE

NO. 23	9 IN. (22.86 CM)
	70 IN. (177.8 CM)
NO. 22-460	12 IN. (30.48 CM)
NO. 21	12 IN. (30.48 CM)
	19 IN. (48.26 CM)
NO. 24-483	19 IN. (48.26 CM)
NO. 22-461	12 IN. (30.48 CM)
NO. 24-484	19 IN. (48.26 CM)

- b. NSN 0000-00-000-0000 – TAPE, PLASTIC ELECTRICAL

- c. 5935-00-833-8561 – CONNECTOR (8)

- d. 5940-00-399-6676 – TERMINAL (8)

- e. 5970-00-833-8562 – INSULATOR (8)

- f. 5935-00-572-9180 – CONNECTOR (7)

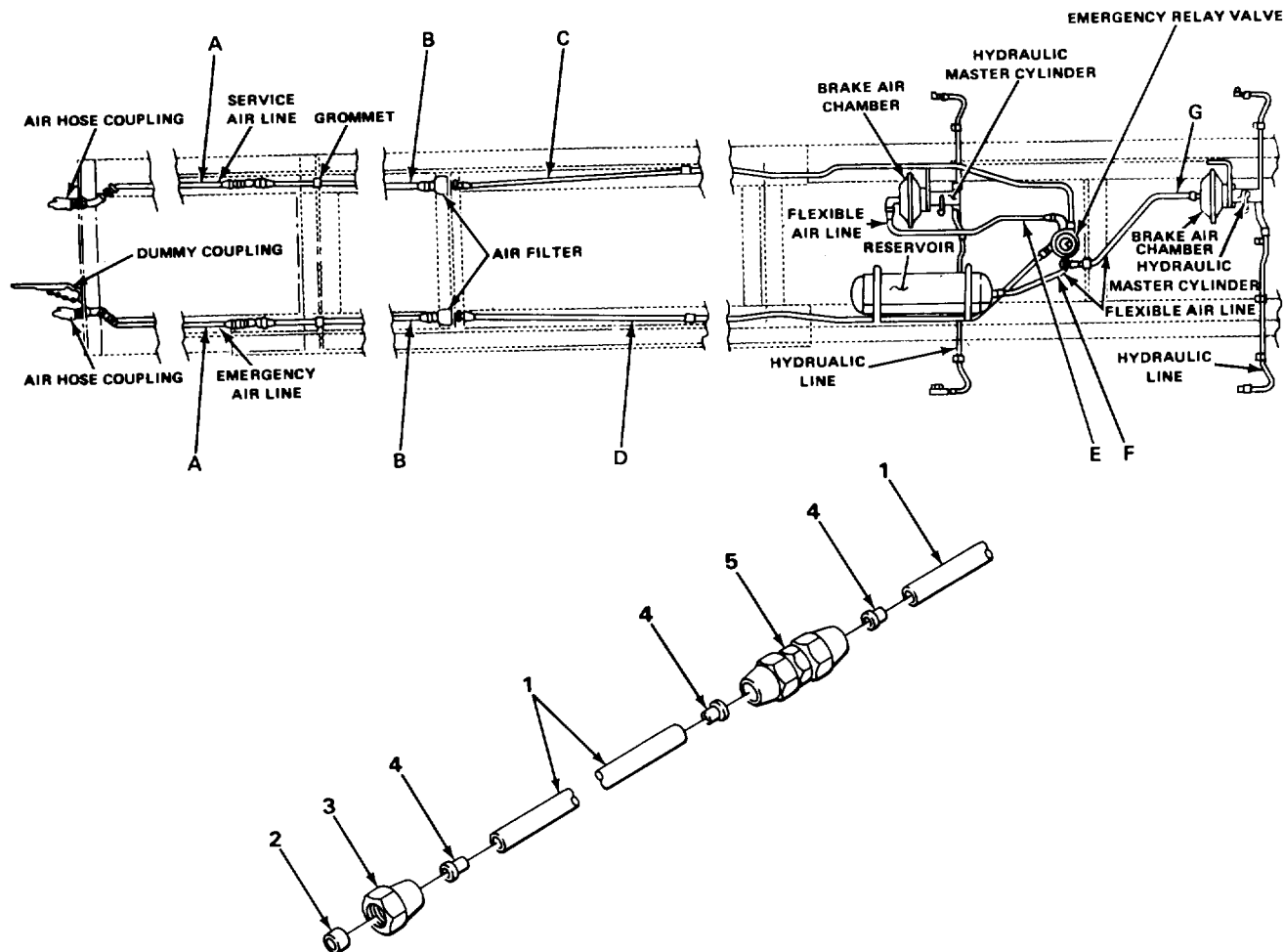
- g. 5999-00-057-2929 – CONTACT (7)

- h. 5310-00-833-8567 – WASHER, SLOTTED (7)

- i. 9905-00-752-4649 – BAND, MARKED (15)

2. SOLDER TWO WIRES NUMBER 23 AND WRAP SECURELY.

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NOTES:

THE DIMENSIONS ARE GIVEN FOR EACH HOSE ASSEMBLY, LENGTHS INCLUDE ONLY THE NON METALLIC HOSE AND NOT THE FITTINGS

FABRICATE FROM:

1. NSN 4720-00-177-0102 – HOSE, NONMETALLIC HOSE ASSEMBLY

- A. 7 FEET
- B. 6 FEET 3 INCHES
- C. 33 FEET 5 INCHES
- D. 32 FEET 9 INCHES
- E. 3 FEET 2 INCHES
- F. 1 FOOT 10 INCHES
- G. 2 FEET 5 INCHES




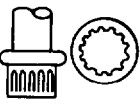

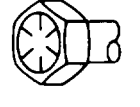



2. NSN 4730-00-054-2571 – SLEEVE, COMPRESSION
3. NSN 4730-00-054-2572 – NUT, TUBE COUPLING
4. NSN 4730-01-019-8821 – INSERT, TUBE FITTING
5. NSN 4730-00-278-3213 – NIPPLE TUBE

TA224349

APPENDIX H

TORQUE LIMITS

CAPSCREW MARKING

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings			6 	
Manufacturer's marks may vary			7 	
These are all SAE Grade 5 (3 line)	  			

TORQUE VALUES

CAUTION

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for that placement. This will prevent equipment damage due to over torquing.

Capscrew Body Size (Inches) - (Thread)		Torque Ft Lb (N•m)		Torque Ft Lb (N•m)		Torque Ft Lb (N•m)		Torque Ft Lb (N•m)	
1/4	20	5	(7)	8	(11)	10	(14)	12	(16)
	28	6	(8)	10	(14)			14	(19)
5/16	18	11	(15)	17	(23)	19	(26)	24	(33)
	24	13	(18)	19	(26)			27	(37)
3/8	16	18	(24)	31	(42)	34	(46)	44	(60)
	24	20	(27)	35	(47)			49	(66)
7/16	14	28	(38)	49	(66)	55	(75)	70	(95)
	20	30	(41)	55	(75)			78	(106)
1/2	13	39	(53)	75	(102)	85	(115)	105	(142)
	20	41	(56)	85	(115)			120	(163)
9/16	12	51	(69)	110	(149)	120	(163)	155	(210)
	18	55	(75)	120	(163)			170	(231)
5/8	11	83	(113)	150	(203)	167	(226)	210	(285)
	18	95	(129)	170	(231)			240	(325)
3/4	10	105	(142)	270	(366)	280	(380)	375	(508)
	16	115	(156)	295	(400)			420	(569)
7/8	9	160	(217)	395	(536)	440	(597)	605	(820)
	14	175	(237)	435	(590)			675	(915)
1	8	235	(319)	590	(800)	660	(895)	910	(1234)
	14	250	(339)	660	(895)			990	(1342)

TA224350

TORQUE VALUES - CONTINUED

NOTE

Always use the torque values listed above when specific torque values are not available.

Do not use above values in place of those specified in other sections of this manual; special attention should be observed when using SAE Grade 6, 7 and 8 capscrews.

The above is based on use of clean, dry threads.

Reduce torque by 10 percent when engine oil is used as a lubricant.

Reduce torque by 20 percent if new plated capscrews are used.

Capscrews threaded into aluminum may require reductions in torque of 30 percent or more of Grade 5 capscrews torque and must attain two capscrew diameters of thread engagement.

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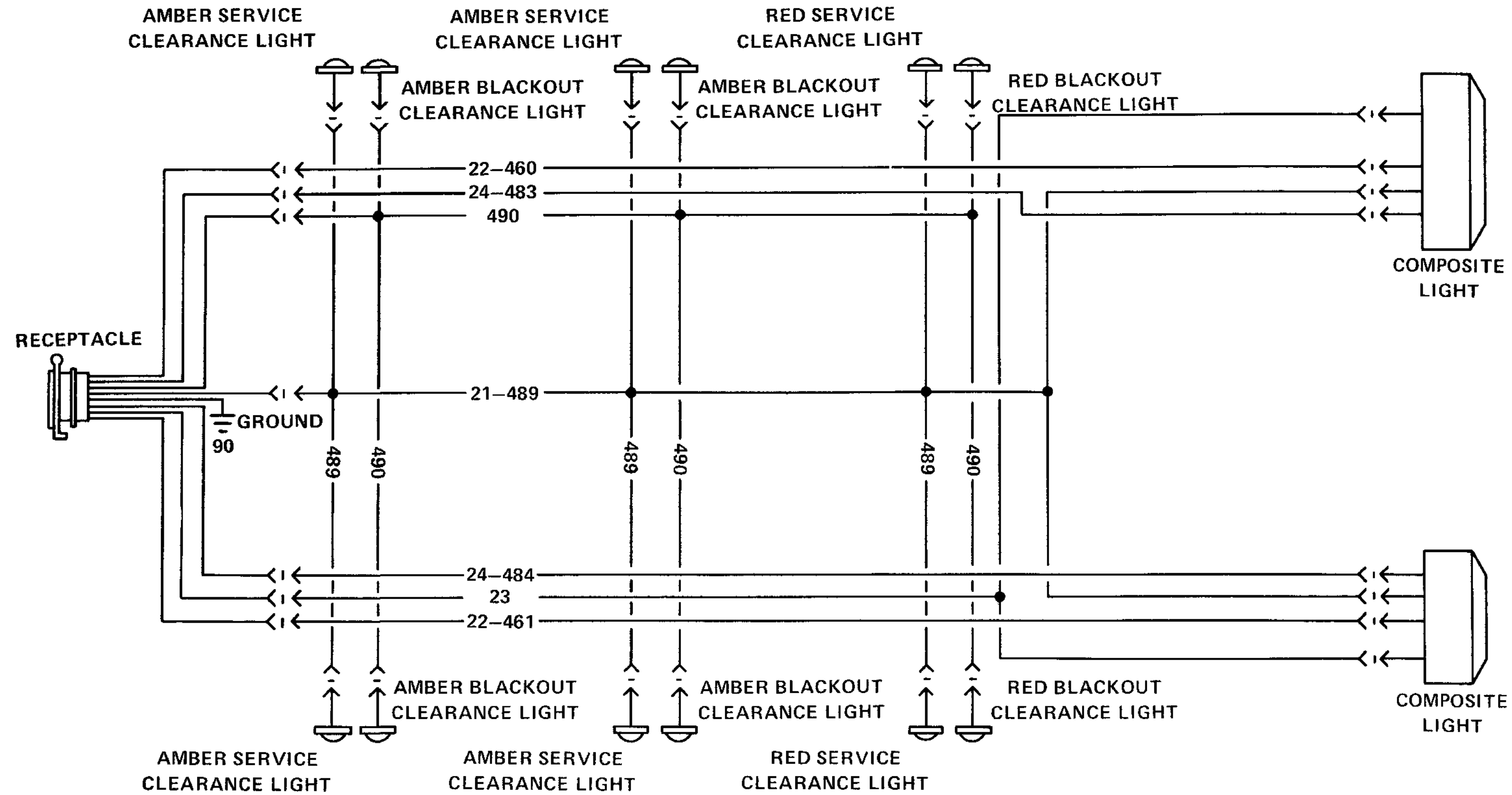
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Line
16

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Dimension should read 0.008 inch (0.20 mm).

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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

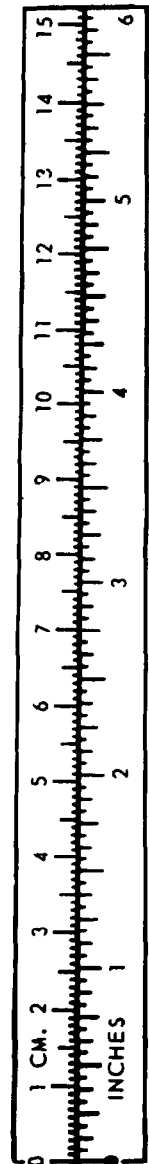
TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
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

TO CHANGE	TO	MULTIPLY BY
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



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