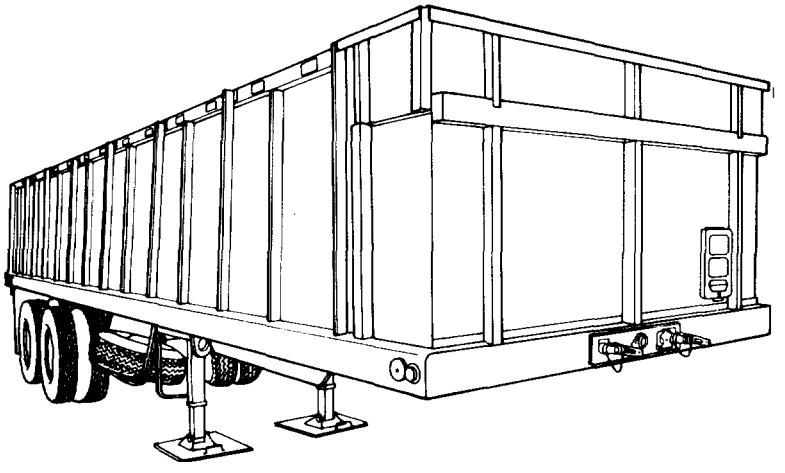
TM 9-2330-386-14&P

TECHNICAL MANUAL

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



SEMITRAILER, TACTICAL, DUAL PURPOSE, BREAKBULK/CONTAINER TRANSPORTER, 22-1/2 TON M871A2 (NSN 2330-01-294-3367)

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Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

28 September 1990

WARNING

TOWING VEHICLE

Do not tow the semitrailer 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 a serious compromise to the safety of personnel and equipment.

When towing the semitrailer with M818, M931 series, or M932 series the fifth wheel wedges must be in the locked-in (pushed in) mode for highway and secondary road use, and in the locked-out (pulled out) mode for cross country operation.

When transporting the 8-1/2 foot commercial container, the towing vehicle fifth wheel height must not exceed 50.4 inches (1.28 meters) to comply with the 157.48 inches (4meters) overall height limit for USAREUR. The M915 fifth wheel height meets this requirement.

W A R N I N G

TOWING SPEED

Under no circumstances shall speeds exceed the following:

Highway . . . . . 55 mph
Gravel/Dirt . . . . . 20 mph
Off-Road . . . . . 10 mph

Failure to observe the above may result in personnel injury and damage to equipment.

WARNING

EYE HAZARD

Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.

Compressed air for cleaning purposes will not exceed 30 psi. Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury, user must wear protective goggles or face shield when using compressed air.

Eye protection is required. Particles from drilling, grinding, and lathe operations are hazardous to the eyes.

WARNING

ELECTRICAL SHOCK

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

WARNING

BURN HAZARD

A hot brake can cause serious burns. Exercise extreme caution before attempting to touch brake drum after use. Slowly move hand toward drum. If drum is overheated, radiated heat will be felt before actually touching drum.

Use extreme caution while using steam cleaning equipment to avoid potentially serious burns and dangerous noise levels. To prevent injury, user must wear protective goggles or face shield and ear protection when using steam cleaning equipment.

WARNING

OPERATING HAZARD

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

Do not tow the semitrailer with an unsecured cargo container. Accident may occur resulting in injury to personnel.

Extreme caution shall be exercised in all turns, curves, and highway cloverleafs when towing a high center of gravity containerized load.

WARNING

LIFTING/SLINGING

Do not place any part of your body under a container during the loading or unloading of the semitrailer as injury to personnel may result.

Do not get under semitrailer while slinging operations are underway. Do not lift a loaded semitrailer. Failure to observe this warning could result in serious injury to personnel and damage to equipment.

Do not lift the semitrailer without a ground guide, using a 30 foot guideline attached to one rear lift point. Lack of ground-guide steering assistance could result in serious injury to personnel and damage to equipment.

Jack must be positioned directly under axle to prevent slippage. Axle must be firmly supported to prevent shifting of the semitrailer. Direct all personnel to stay clear of vehicle when vehicle is supported by jack only. Failure to do so could result in serious injury.

WARNING

MECHANICAL HAZARD

To prevent injury, keep hands away from brake chamber push rods and slack adjusters. They will move as service brakes are operated, and will automatically apply if system pressure drops.

WARNING

TOXIC/FLAMMABLE

Improper cleaning methods or use of improper cleaning liquids or solvents can injure personnel and damage equipment.

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

WARNING

SPRING BRAKES

Caging spring brakes is an emergency procedure. Use this procedure only to move the semitrailer off the traveled portion of the road when a brake line or other part fails, causing loss of air brake system air pressure.

Always block wheels with wheel chocks before caging (manually releasing) spring brakes.

Caged spring in bottom chamber is under 2,500 pounds of tension. Use extreme care when performing maintenance. Do not position yourself in front of, or in line with the spring brake assembly. Perform necessary maintenance from the side. Read all manufacturers warning labels before caging. Inspect clamp bands, castings, and fasteners for external damage. If damage to these items is evident, do not attempt caging procedure. Failure to observe this warning could result in serious personal injury.

WARNING

HEALTH HAZARD

Do not use a dry brush or compressed air to clean brake shoes. There may be asbestos dust on brake shoes which can be dangerous to your health if you breath it. Brake shoe must be wet, and a soft bristle brush must be used. Rinse and allow to dry.

TECNNICAL MANUAL

No. 9-2330-386-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D .C. , 28 September 1990

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

SEMITRAILER, TACTICAL, DUAL PURPOSE, BREAKBULK/CONTAINER TRANSPORTER, 22-1/2 TON M871A2 (NSN 2330-01-294-3367)

Current as of 27 July 1990.

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 48397-5000. A reply will be furnished to you.

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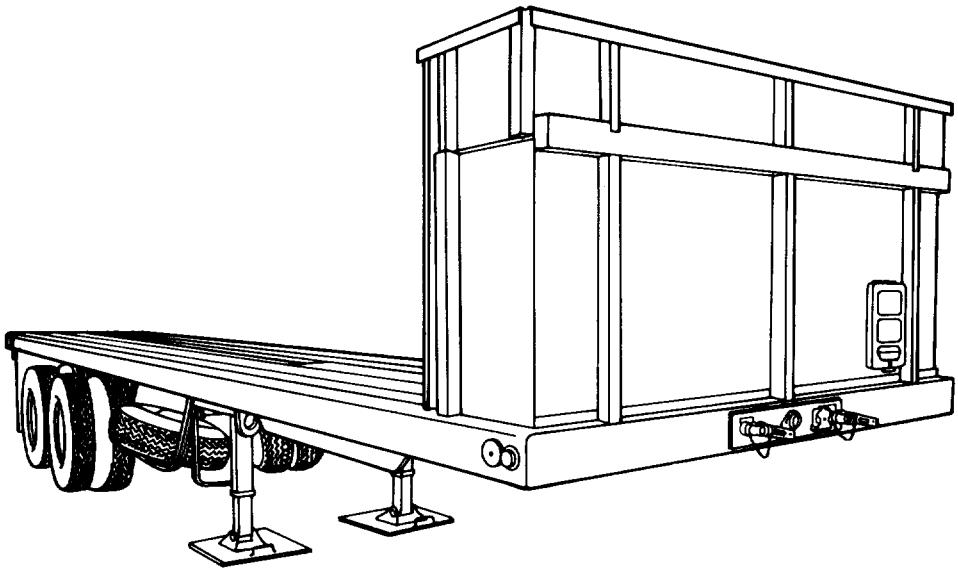
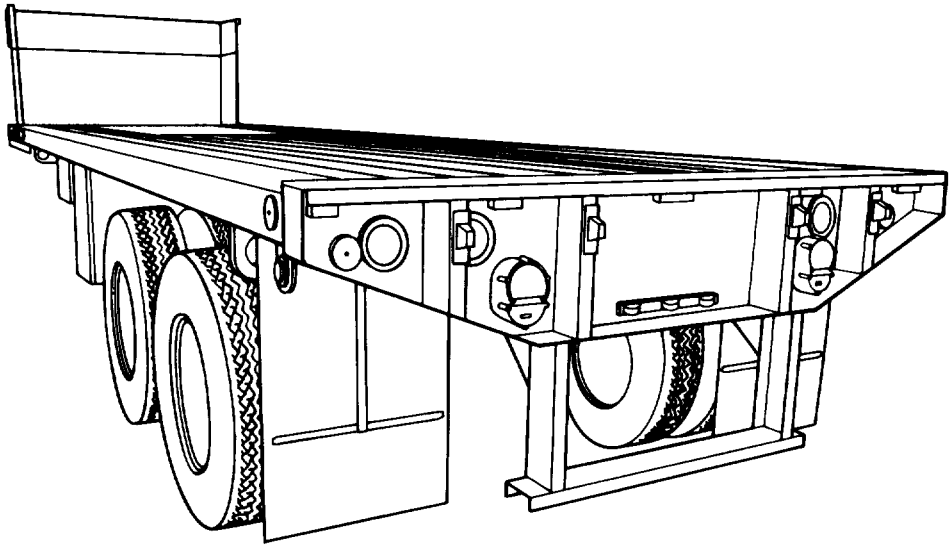


Right Front View



Left Rear View

M871A2 Semitrailer

CHAPTER 1

INTRODUCTION

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Section I. GENERAL INFORMATION

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1-1 SCOPE.

a. **Type of Manual.** Operator-s, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List).

b. **Model Number and Equipment Name.** M871A2 Semitrailer, Tactical, Dual Purpose, Breakbulk/Container Transporter, 22-1/2 Ton.

c. **Purpose of Equipment.** The semitrailer is for use in transporting containerized American National Standard Institute/International Organization for Standardization (ANSI/ISO) or breakbulk cargo on highways or off roads.

d. **Special Limitations on Equipment.** Do not exceed the load and speed limitation of the semitrailer. The semitrailer is designed to be towed over smooth, hard-surfaced roads with loads up to 22 l/2-tons at speeds as high as 55 mph. It can also be towed over unimproved roads, trails and open rolling terrain with loads up to 22 l/2-tons at a sustained speed of 10 mph. The semitrailer should be operated only after being serviced and equipped for existing climatic conditions.

1-2 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).

1-3 DESTRUCTION OF ARMY MATERIEL TO PREVET ENEMY USE.

Procedures for destruction of Tank-Automotive equipment to prevent enemy use are contained in TM 750-244-6.

1-4 PREPARATION FOR STORAGE OR SHIPMENT.

See paragraph 4-54 for storage and shipment information.

1-5 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your semitrailer needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don-t like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Tank-Automotive Command, Attn: AMSTA-MP, Warren, MI 48397-5000. We'll send you a reply.

1-6 WARRANTY INFORMATION.

The manufacturer warrants the M871A2 semitrailer main frame for defects in material and workmanship for a period of 18 months from the date of Government acceptance.

Section II. EQUIPMENT DESCRIPTION

1-7 EQUIPMENT CAPABILITIES AND FEATURES (CONT).

WARNING

Under no circumstances shall speeds exceed the following:

Highway	55 mph
Gravel/Dirt	20 mph
Off-Road	10 mph

Failure to observe the above may result in personnel injury and damage to equipment.

1-8 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

a. Right Front of Semitrailer.

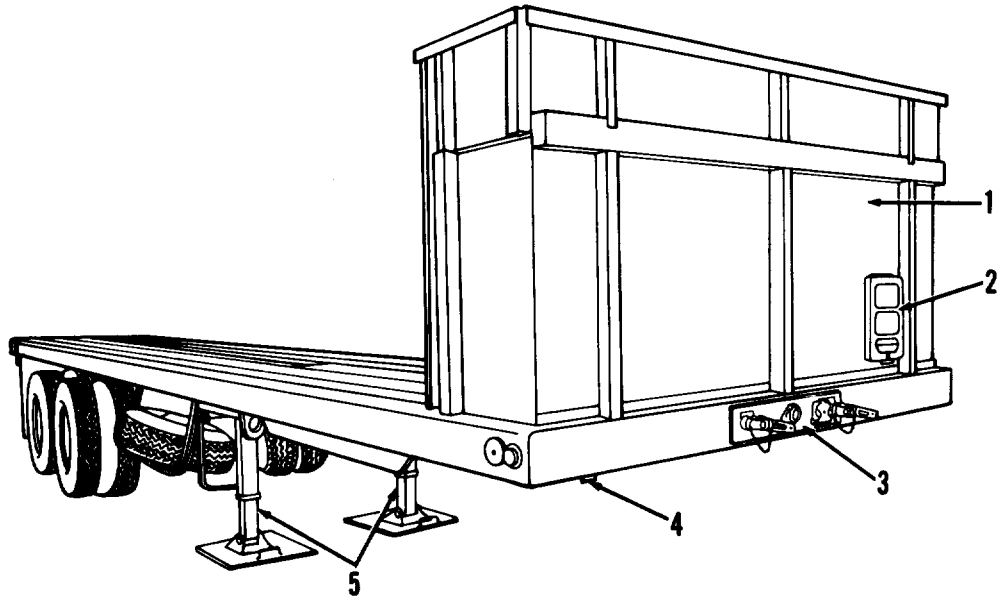
(1) BULKHEAD PANEL - Constructed of steel. It has the manifest box mounted on the front side. When carrying breakbulk cargo with the side racks installed, it will keep the load from shifting forward.

(2) MANIFEST BOX - Used to store the cargo manifests.

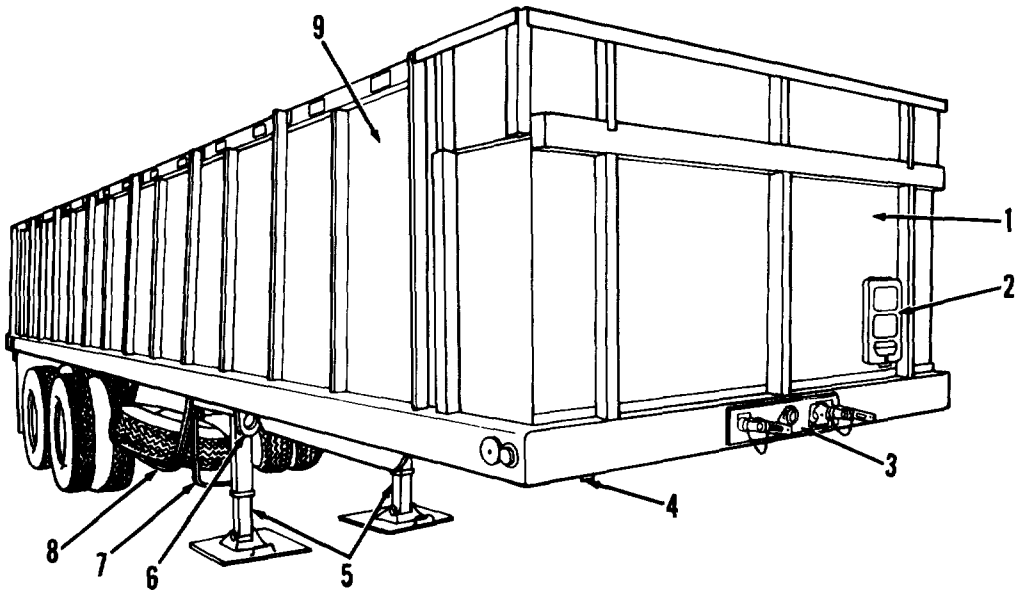
(3) NOSE PLATE - Contains the electrical and air line connections. The nose plate also contains the electrical parts required for proper operation of the service lights.

(4) KINGPIN - Connects the semitrailer to the fifth wheel of the towing vehicle.

(5) LANDING LEGS - Manually extended when the semitrailer is uncoupled from the towing vehicle, and manually retracted when the semitrailer is coupled to the towing vehicle.



1-8 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT) .



(6) LIFT POINTS - Used to lift the semitrailer with a sling hoist.

(7) LANDING GEAR AND CRANK - Two speed gear box for ease in extending or retracting landing legs.

(8) TIRE CARRIER - Carries the spare tire.

(9) SIDE RACKS - Used when carrying breakbulk cargo. The side racks mount to the frame.

b. **Left Rear of Semitrailer.**

(1) FLOOR - Constructed of wood. It is screwed to the frame for easy maintenance.

(2) RUBBER BUMPERS - Prevent damage to the semitrailer and the dock when loading or unloading.

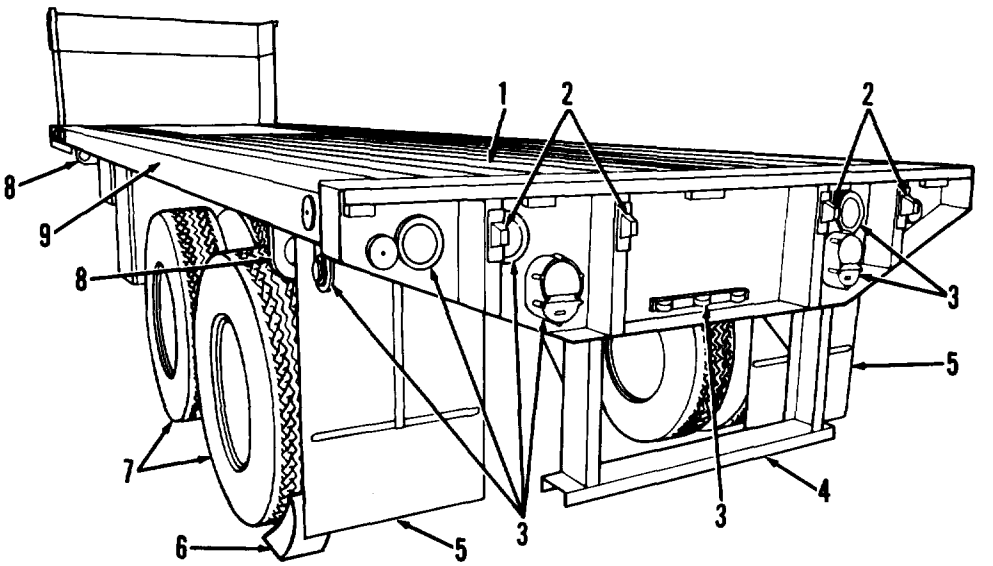
(3) SERVICE LIGHTS - Includes the clearance, composite (blackout stop light and tail light), and stop, turn and tail lights.

(4) BUMPER - Prevents damage to the suspension when backing the semitrailer into the dock.

(5) MUD FLAPS - Keep mud and water from being splashed off the rear tires during rainy weather. Mud flaps also keep most of the rocks thrown up when traveling unimproved roads from being thrown off to the rear.

(6) WHEEL CHOCKS - Stored on both sides of the semitrailer. Used to chock the wheels when the towing vehicle is uncoupled, to prevent movement.

1-8 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT.



(7) TANDEM AXLES - Consists of the suspension system, brake system, axles and the tires.

(8) LIFT POINTS - Used to lift the semitrailer with a sling hoist.

(9) FRAME - Constructed of steel. Provides the load bearing surface, mounting for the axles, suspension, kingpin, and side rack mounting.

1-9 EQUIPMENT DATA.

a. Semitrailer.

Kingpin diameter	2 in.
Kingpin to front of chassis	30 in.
Kingpin to landing leg (center to center)	118 in.
Dimensions overall:	
Length	31 ft.
Width	8 ft.
Height	103 in.
Floor height:	
Empty	55 in.
Loaded	54 in.
Upper fifth wheel plate height (loaded)	48 in.
Track (tread center-to-center of tires)	71.5 in.
Empty weight	12,240 lbs
Payload:	
Hard surface roads	45,000 lbs
Cross country	45,000 lbs
Center of gravity from front of trailer:	
Empty	197.5 in.

1-9 EQUIPMENT DATA (CONT) .

a. Semitrailer - continued.

Angle of departure (loaded)	50 degrees
Ground clearance (from bottom of axle)	19 in.
Fording depth	18 in.

b. Electrical System

Voltage	12 and 24 volts DC negative ground
Blackout lights	24 volt
Stop, turn and taillights	12 volt
Clearance lights	12 volt

Axles.

Manufacturer	Rockwell International
Type	5 in. tubular
Model number	TN4670-QH-2704
Quantity	2
Load capacity (per axle)	20,000 lbs

d. Brakes.

Actuation	Air
Internal brakes	S-cam, two-shoe, double anchor, expanding, self-adjusting and centering, quick change
Brake drum diameter	16.5 in.

e. Wheels.

Manufacturer	Firestone Accuride
Type	Tube type, 2 piece
Rim size	7.50 X 20
Wheel bearings:	
Manufacturer	Timken
Type	Tapered roller

f. Tires.

Type	Tube type, nylon, Longhauler
Quantity	8 plus 1 spare
Size	11.00 X 20
Ply	12
Tire inflation (cold)	75 psi

1-9 EQUIPMENT DATA (CONT) .

g. Landing Legs.

Manufacturer	Binkley Co.
Type	Telescopic, manual
Length to top of floor:	
Retracted	40.75 in.
Extended	57.5 in.
Operation	Hand crank, 2-speed
Width at feet (center to center)	48 in.
Lift capacity (at 75 lb-ft torque)	40,000 lbs

h. Suspension.

Manufacturer	Hutchens Industries Inc.
Type	Tandem overslung axle
Model number	H900-M871A2
Springs	Semi-elliptical, 3-leaf
Axle spacing (nominal):	
Empty	50.5 in.
Loaded	51.5 in.

Section III. TECENICAL PRINCIPLES OF OPERATION

1-10 SEMITRAILER SYSTEMS.

a. Electrical System Connects to towing vehicle electrical system to activate the 12 or 24 volt system. Includes 12 and 24 volt wiring for operating taillights, clearance lights, and composite lights.

b. Brake System. Air brake system and emergency operation. Includes air reservoirs, drain cocks, gladhands, emergency relay valves, multi-function valves spring brake chambers, lines and fittings.

c. Service Brakes System Air pressure activates the air chambers, which push the slack adjusters. The slack adjusters turn the camshafts causing the brake shoes to expand against the brake drum.

d. Suspension System. Includes springs, U-bolts, axles and trunnion tube for ease of travel on improved and unimproved roads.

CHAPTER2

OPERATING INSTRUCTIONS

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III	Operation Under Usual Conditions	2-14
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Section I. DESCRIPTION AND USE OF OPERATOR'S CORTROLS AND INDICATORS

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Float Pads (Ground Board Assemblies)	2-2	Kingpin	2-7
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Side Panels	2-5	Cargo Tiedown Rings	2-10
		Removable Tiedown Anchors	2-11
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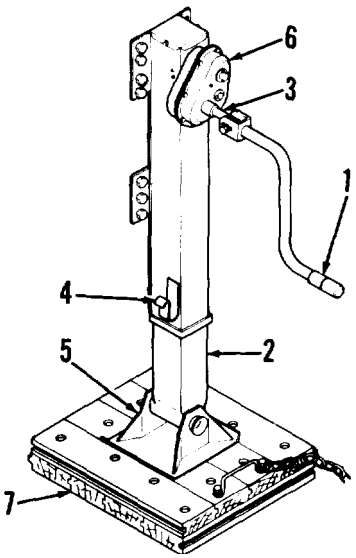
2-1 LANDING LEGS.



a. Rotating the crank (1) operates the landing gear.

(1) Turning the crank (1) clockwise lowers landing legs (2) for parking semitrailer.

(2) Counterclockwise rotation raises legs (2) to towing position.

b. Pushing operating shaft (3) in engages low speed gear for ease and speed in raising or lowering legs (2).

c. Pulling operating shaft (3) out engages high speed gear for raising or lowering legs (2).

d. Crank hanger (4) holds the crank (1) when not in use.

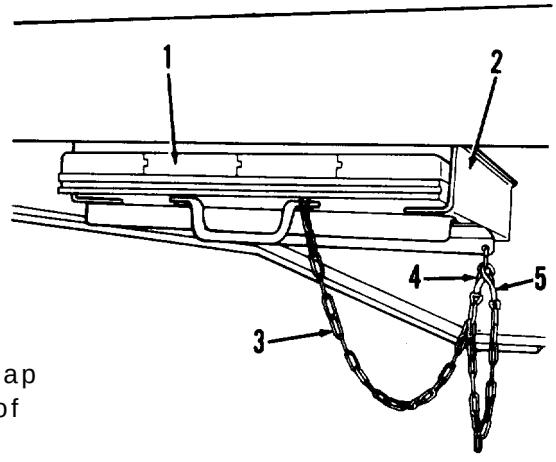
e. Sand shoe (5) keeps the leg (2) from sinking into the ground.

f. Landing leg gear box (6) is located on the right side (curbside) of the semitrailer.

g. Float pads (7) (ground board assemblies) are described in paragraph 2-2.

2-2 FLOAT PADS (GROUND BOARD ASSEMBLIES).

a. Two float pads (1) (ground board assemblies) are provided for placing under landing leg feet to keep them from sinking into soft ground.



b. Stored in brackets (2) welded to frame.

c. Float pad chain (3) is hooked on frame bracket (2). Snap hook (4) is provided to take up slack in chain (3).

d. Left (roadside) float pad (1) has extra snap hook (5) on end of chain (3), allowing removal of float pad (1) for use under axle jack.

2-3 WHEEL CHOCKS.

a. Two wheel chocks (1) located on each side of semitrailer.

b. Set wheel chocks (1) on each side of semitrailer.

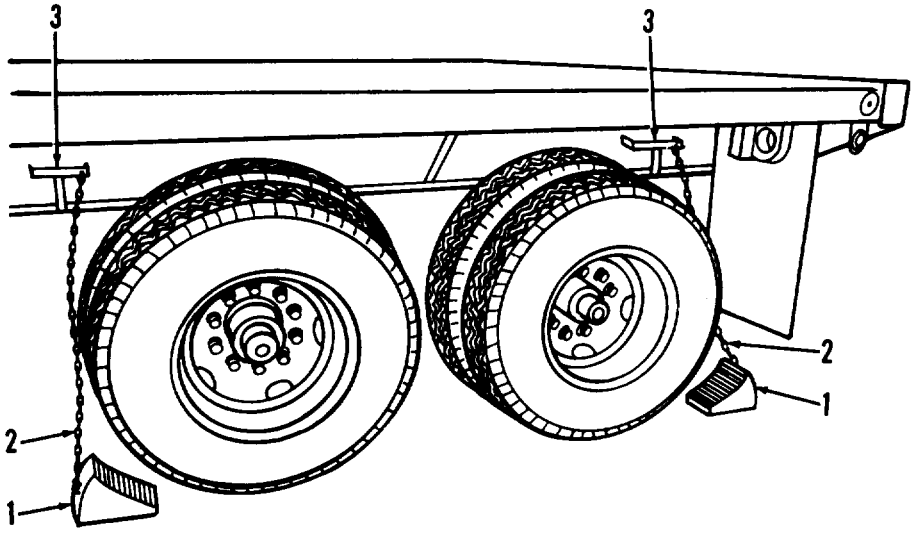
(1) Place front wheel chocks (1) firmly in front of forward wheels.

(2) Place rear wheel chocks (1) firmly behind rear wheels.

c. Help keep semitrailer from moving when towing vehicle is uncoupled, or when the unit is parked on a hill.

d. Chain (2) secures wheel chock (1) to semitrailer to keep it from being lost.

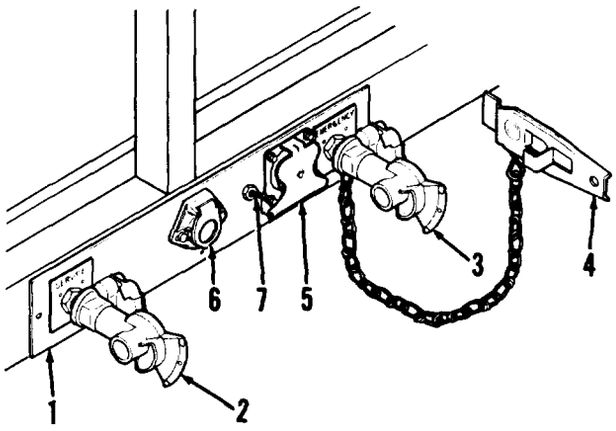
e. Stored in brackets (3) welded to frame.



2-4 NOSE PLATE.

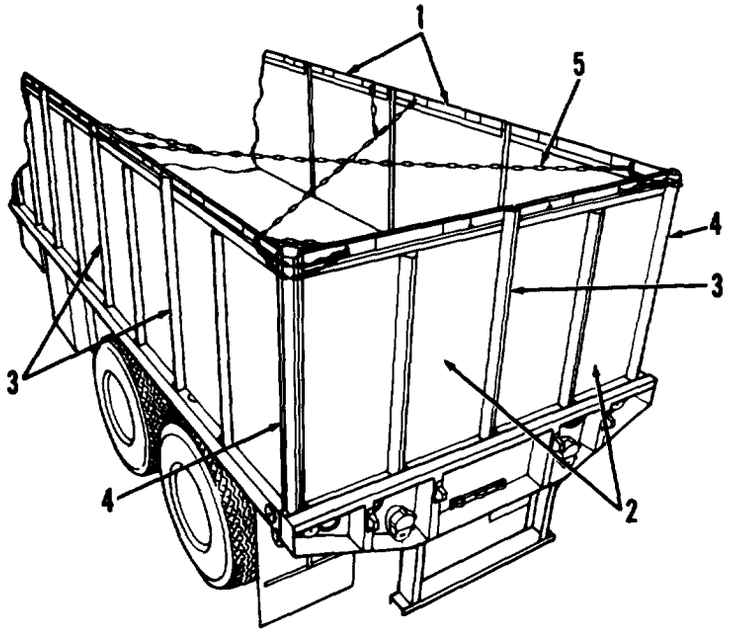
a. The nose plate (1) has the connections for the air lines and electrical cables from the towing vehicle to the semitrailer.

b. SERVICE gladhand (2) and EMERGENCY gladhand (3) couplings provide the connection between the semitrailer brake system and the towing vehicle air supply system.

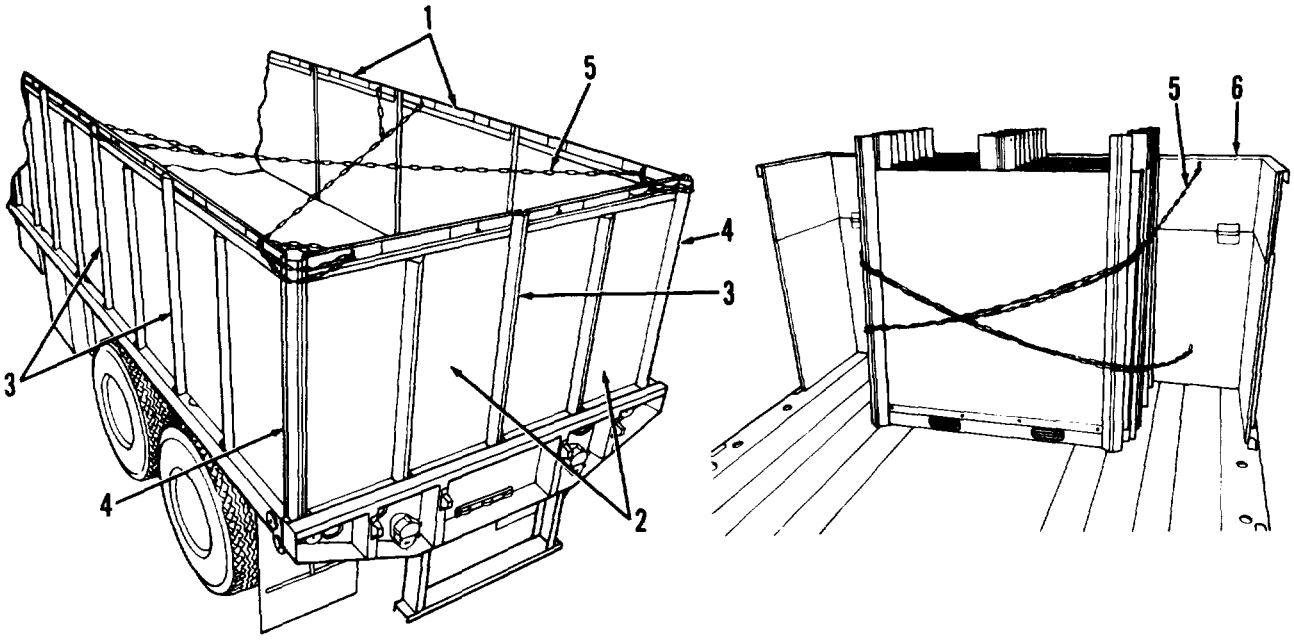


c. Two dummy couplings (4) are fitted to the SERVICE and EMERGENCY air hose couplings when brake air hose couplings are not connected to the towing vehicle. Dummy couplings (4) are used to prevent dirt and moisture from entering the semitrailer brake system.

d. Electrical receptacles (5 and 6) provide the connections between the semitrailer lights and the towing vehicle electrical system. Both receptacles use spring loaded covers to keep foreign matter out when the cables are disconnected. The left (roadside) receptacle (5) is for 24 volt; the right (curbside) receptacle (6) is for 12 volt.



2-5 SIDE PANELS (CONT) .



c. Side (panel splice) stakes (3) and corner stakes (4) are installed in sill holes to hold panels (1 and 2) in place.

d. Cross chains (5) aid in supporting side panels (1) to contain bulk cargo.

e. Stakes (3 and 4) and panels (1 and 2) are stowed against the forward bulkhead (6) when not in use. Cross chains (5) are used to retain panels in stowage.

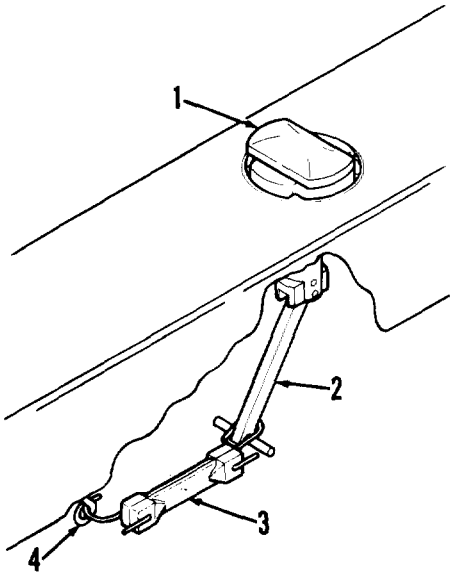
2-6 RETRACTABLE TWIST LOCKS.

a. Retractable twist locks are used to hold containers on the semitrailer. There are four locks.

b. The twist lock bayonet (1) fits into the container receptacle to secure the container.

c. The handle (2) turns the twist lock bayonet (1).

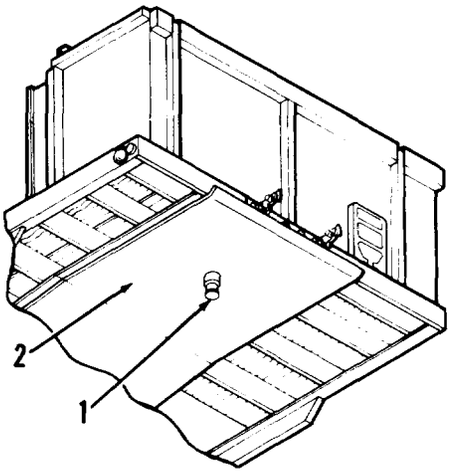
d. The elastic strap (3) and eye bolt (4) secure the twist lock handle (2), locking the twist lock bayonet (1) in the locked position.



2-7 KINGPIN.

a. Kingpin (1) used to couple semitrailer to towing vehicle.

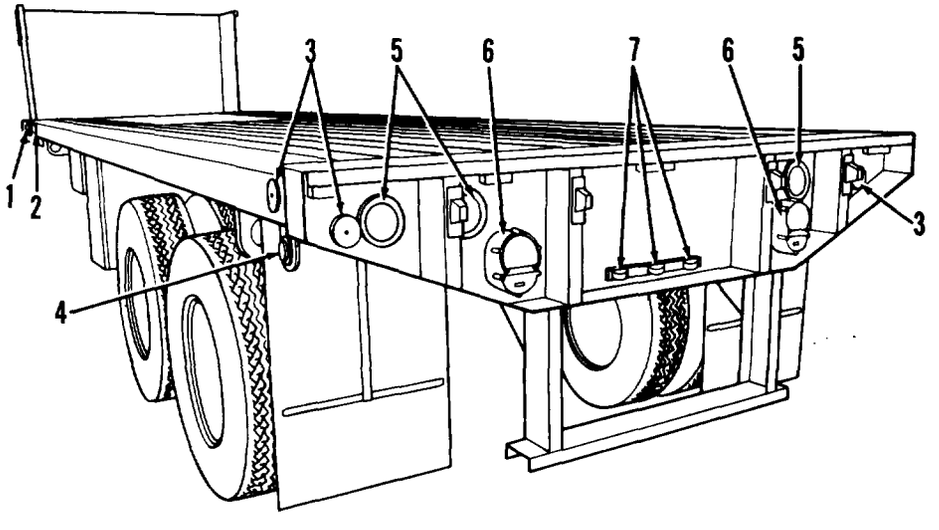
b. Protrudes from center of semitrailer kingpin plate (2).



2-8 SERVICE LIGHTS.

The semitrailer service lights and reflectors consist of the following:

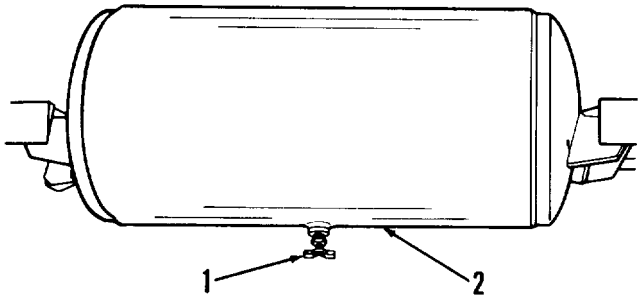
- One amber clearance light (1) on each front corner
- One amber reflector (2) on each front corner
- Two red reflectors (3) on each rear corner
- One red clearance light (4) on each rear corner
- Four stop, turn, and taillights (5) on rear
- Two composite lights (6) on rear
- Three red clearance lights (7) mounted on a rear bar



2-9 AIR RESERVOIR DRAIN COCK.

WARNING

Wear protective goggles when opening when opening drain cock (1) and avoid the air strem. Failure to do so could result in personal injury.



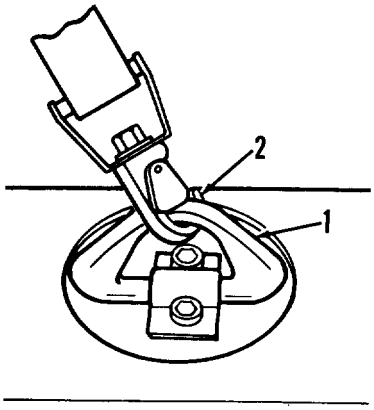
a. The drain cock (1) in used to relive air pressure in the semitrailer braking system.

b. It is also used for drainage of moisture collected in air reservior(2).

2-10 CARGO TIEDOWN RINGS.

N O T E

The tiedown rings (1) may be used in combination with other items listed in the Additional Authorization List (AppendixD) when hauling ammunition items.

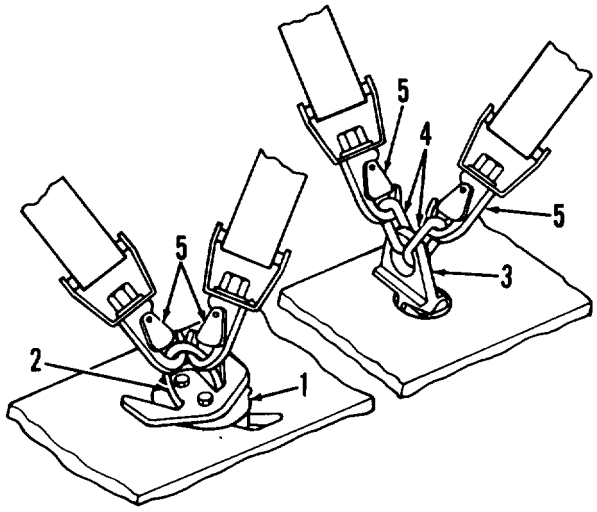


web strap tiedown assemblies or chains and binders to restrain cargo placed on the semi-trailer. There are five tiedown rings (1) permanently installed on each side rail.

b. The tiedown ring (1) is rotated upwards for attachment of web straps or chain/binder.

c. Hook (2) of web strap, chain or binder attaches to tiedown ring (1).

2-11 REMOVABLE TIEDOWN ANCHORS.



a. The removable tiedown anchors or fittings are listed in the Additional Authorization List (Appendix D) and are used with listed web strap tiedown assemblies to restrain loads of ammunition. There are 10 locations along each side rail for each vehicular tiedown assembly.

b. The fitting (1) is installed in slotted holes located in side rails used for removable container locks. Installed on side rail and rotated until locked into position.

c. Tiedown ring (2) of fitting (1) is rotated upwards for attachment of web strap.

2-11 REMOVABLE TIE DOWN ANCHORS (CONT).

d. Fitting (3) is installed in 1-3/4 inch diameter holes located in side rails so that spring loaded lock is engaged.

e. Tiedown ring (4) of fitting (3) is roated upwards for attachment of web straps.

f. Hook (5) of web strap.

2-12 HOLE COVER PLATES.

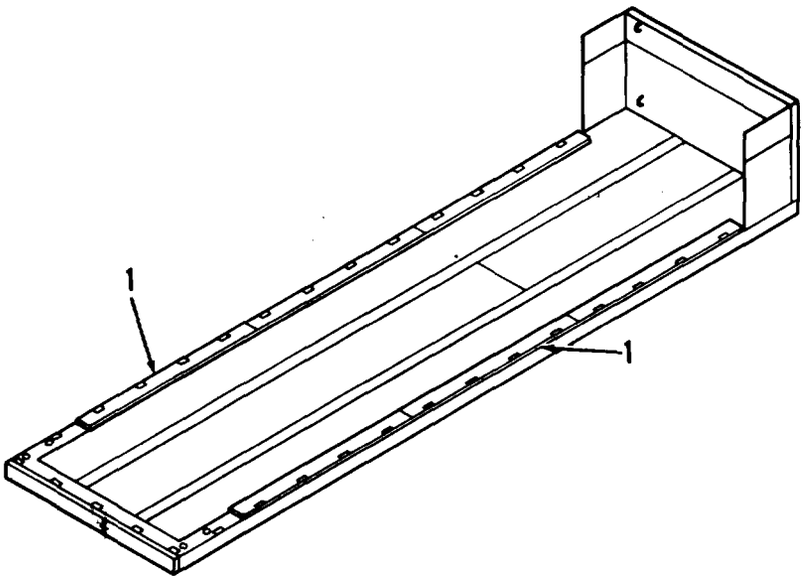
NOTE

If the semitrailer has additional apertures in the side rails or rear sill that are not covered by the cover plates (1), other material such as l/4-inch thick plywood, hardboard, etc., must be positioned over these additional apertures and be temporarily affixed to the semitrailer whenever transporting ammunition items.

a. Six removable hole cover plates (1) are used to close the apertures in the semitrailer side rails. The cover plates (1) are listed in the Additional Authorization List (Appendix D) and are used with side panels, stakes, and cross chains when transporting ammunition and using wooden dunnage (blocking and bracing) to restrain the load.

b. Cover plates (1) are positioned on side rails before installing side panels and stakes.

c. When not in use, the cover plates (1) will be stowed with the side panels and stakes against the forward bulkhead.



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

	Para
General	2-13
PMCS Procedures	2-14
Special Instructions	2-15

2-13 GENERAL.

a. Before you operate. Always keep in mind the CAUTIONS and WARNINGS. perform your before (B) PMCS prior to the equipment leaving its containment area or performing its intended mission.

b. While you operate. Always keep in mind the CAUTIONS and WARNING. perform your during (D) PMCS when the equipment is being used in its intended mission.

c. After you operate . Be sure to perform your after (A) PMCS after the equipment has been taken out of his mission mode or returned to its containment area.

d. If your equiment fails to operate. Report any deficiencies using the proper forms. See DA Pam 738-750.

2-14 PMCS procedures.

a .Purpose. Your Preventive Maintenance Checks and Services table lists the inspections and care of your equipment required to keep it in good operating condition.

b. Service Intervals. The interval column of your PMCS table tells you when to do a certain check or service. A dot in one or more of the interval columns indicates the check or service that you should do at a particular time.

C. Procedure. The procedure column of your PMCS table tells you how to do the required checks and services. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have organizational maintenance do the work.

d. Reporting and Correcting Deficencies. If your equipment does not perform as required, refer to Chapter 3 under Troubleshooting for possible problems. Report any malfunctions or failures on DA Form 2404, or refer to DA Pam 738-750.

NOTE

Use your PMCS table Item no. column to get the number for the TM ITEM NO. column of DA Form 2404 (Equipment Inspection and Maintenance Worksheet) when recording results of PMCS.

2-14 PMCS PROCEDURES (CONT) .

e. Equipment is not ready/available if; procedures. This column tells you when and why your equipment cannot be used.

NOTE

The terms ready/ available and mission capable refer to the same status: Equipment is on hand and is able to perform its combat mission (See AR700-138.)

2-15 SPECIAL INSTRUCTIONS.

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.

Class I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.

Class II Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected*

Class III Leakage of fluid great enough to form drops that fall from the item being checked/finspected.

C A U T I O N

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

When operating with Class I or Class II leaks, continue to check fluid levels as required in your PMCS.

Class III leaks should be reported to your supervisor or organizational maintenance.

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

NOTE

Do these checks and services in the order listed, within the designated interval.

B - Before Operation D - During Operation A - After Operation

Item no.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
				NOTE Perform Before (B) PMCS if: a. You are the assigned operator, but have not used the semitrailer since the last inspection. b. You are using the semitrailer for the first time.	
				NOTE Perform the following inspections/ checks, before connecting the semitrailer to the towing vehicle.	
1				Kingpin	
	•			a. Inspect kingpin for cracks and bends.	Cracked, bent, or damaged kingpin.
	•			b. Inspect kingpin plate for cracks and dents.	Cracked or dented kingpin plate.
2				Air Hoses and Electrical Cables	
	•			a. Check intervehicular air hoses and electrical cables for cuts and breaks.	Hoses broken or missing.
	•			b. Inspect gladhands (brake hose couplings) for security and/or damaged or missing seals.	Gladhand missing, broken, damaged or missing seals.
3				Electrical Connections	
	•			a. Inspect connector bodies for secure mounting/damage.	

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

B - Before Operation D - During Operation A - After Operation

Item no.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
3				Electrical Connections - continued	
	●			b. Inspect pins for bent, burned, or broken condition. Look for foreign matter build-up (para. 3-5).	
	●			c. Inspect insulators for evidence of arcing.	
				NOTE The following must be done with the towing vehicle hooked up in accordance with paragraph 2-16.	
4				Landing Gear	
	●			a. When cranking landing leg, check that each leg moves smoothly and does not bind. Pull out crank and check high speed operation. Push in crank and check low speed operation.	Landing leg binding or inoperative.
			●	b. Inspect crank, gear box, and landing leg feet for secure mounting. Check that crank hanger stows crank securely. Make sure that opposite leg moves equally with side being cranked.	Landing gear/leg inoperative.
5				Lights and Reflectors	
				NOTE A helper is needed while checking the brake lights.	
	●			a. Look for damage and presence of lenses and reflectors.	
	●			b. If tactical situation permits, connect intervehicular cable to towing vehicle. Operate vehicle light switch through all settings and check lights.	

OPERATOR/ CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

B - Before Operation D - During Operation A- After Operation

Item no.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
6				Tires	
	•			a. Check tires, including spare, for cuts, foreign objects, or unusual tread wear. Remove stones from between tires and tire treads.	Two or more tires per axle missing or unserviceable.
	•			b. Check tires for 75 psi cold inflation pressure.	
7				Wheels **NOTE** Turn left wheel nuts counterclockwise to tighten; clockwise to loosen. Turn right wheel nuts clockwise to tighten; counterclockwise to loosen.	
	Ž			a. Check wheels for damage.	Two or more wheels per axle damaged.
	•			b. Look for loose or missing wheel nuts.	Three or more wheel nuts missing from any wheel.
8				Suspension	
	•			a. Inspect hub caps for missing plugs, low oil level, and evidence of leakage.	Plug missing or Class III leakage seen.
	•			b. Inspect springs for broken or shifted leaves, and loose or missing U-bolt nuts or other hardware.	Loose, broken or missing parts are evident.
9				Air Reservoirs **W A R N I N G** Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.	

OPERATOR/CREW PREVENTIVE MAINTENANCE CNECKS AND SERVICES - Continued

B - Before Operation D - During Operation A- After Operation

Item no.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
9				Air Reservoirs - continued	
	•			a. Check both air reservoir drain cocks. Close drain cock if open.	
	•			b. Inspect both air reservoirs for damage or evidence of leakage.	Air reservoir(s) leaking or damaged.
			•	c. Open both drain cocks and drain condensation. Close drain cocks.	
10				Brake System	
	•			a. While a helper actuates service brakes, listen for air leaks at both gladhands, emergency relay valves, air reservoirs, and the multi-function valve. Observe air chambers push rod movement.	Air leaks are found. Service brakes do not operate.
		•		b. Be alert for unusual difficulty in stopping that would indicate that the semitrailer service brakes are malfunctioning.	Malfunction that would affect safe operation is evident.
				WARNING A hot brake or drum can cause serious burns. Exercise extreme caution before attempting to touch brake drum after use. Slowly move hand toward drum. If drum is over-heated, radiated heat will be felt before actually touching drum.	
			•	c. Cautiously feel brake drums for abnormal heat or cold. An abnormally hot drum indicates a possible dragging or grabbing brake, or improperly adjusted, dry, or defective wheel bearings. An abnormally cool drum indicates improper adjustment.	Brake drum abnormally hot.

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

B - Before Operation D - During Operation A - After Operation

Item no.	Interval B	Interval D	Interval A	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
11				Accessories	
	•			a. Inventory BII List for completeness (see Appendix c).	
	•			b. Inspect assemblies such as wheel chocks and ground boards for looseness of mountings or connections.	
	•			c. Look for presence of stakes and racks.	Any racks or stakes missing.
12				Operation	
		•		a. Be alert for any unusual noises while towing semitrailer. Stop and investigate any unusual noises.	Any condition that would affect safe operation is evident.
		•		b. Ensure that semitrailer is tracking properly with no side pull.	Semitrailer wanders or pulls to side.

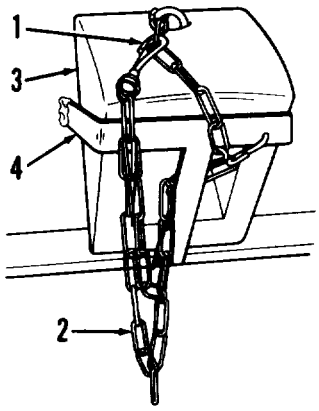
Section III. OPERATION UNDER USUAL CONDITIONS

	Para		Para
Preparation for Use	2-16	After Use	2-18
Operation	2-17	Slinging Procedures	2-19
		Preparation for Movement	2-20

2-16 PREPARATION FOR USE.

Perform the preventive maintenance checks and services (B - Before Operation Column) listed on page 2-10 before doing the following procedures. These checks and services will determine that the semitrailer is ready for operation.

2-16 PREPARATION FOR USE (CONT) .



a. Positioning Wheel Chocks.

(1) Unhook snap hook (1) from chain (2).

(2) Remove wheel chocks (3) from stowage brackets (4).

(3) Place front wheel chocks (3) in front of tires.

(4) Place rear wheel chocks (3) behind rear tires.

b. Coupling Semitrailer to Towing Vehicle.

WARNING

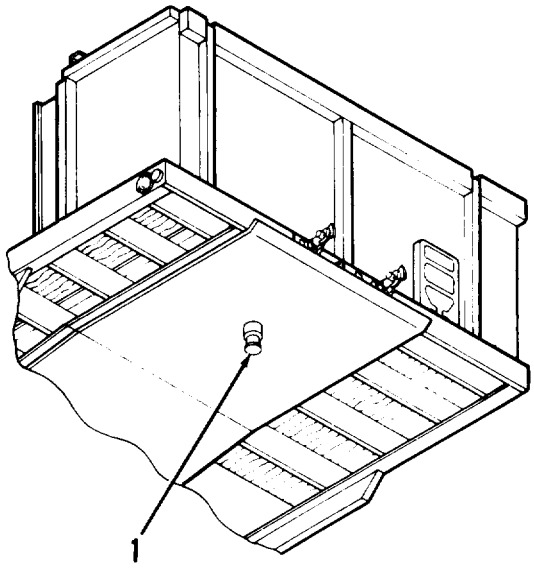
Do not tow the M871A2 with the M52, M52A1, or M52A2 truck tractor. The M52 five ton truck tractor's inherent design capabilities are not compatible with the semitrailer, and if used would result in a serious compromise to the safety of personnel and equipment.

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

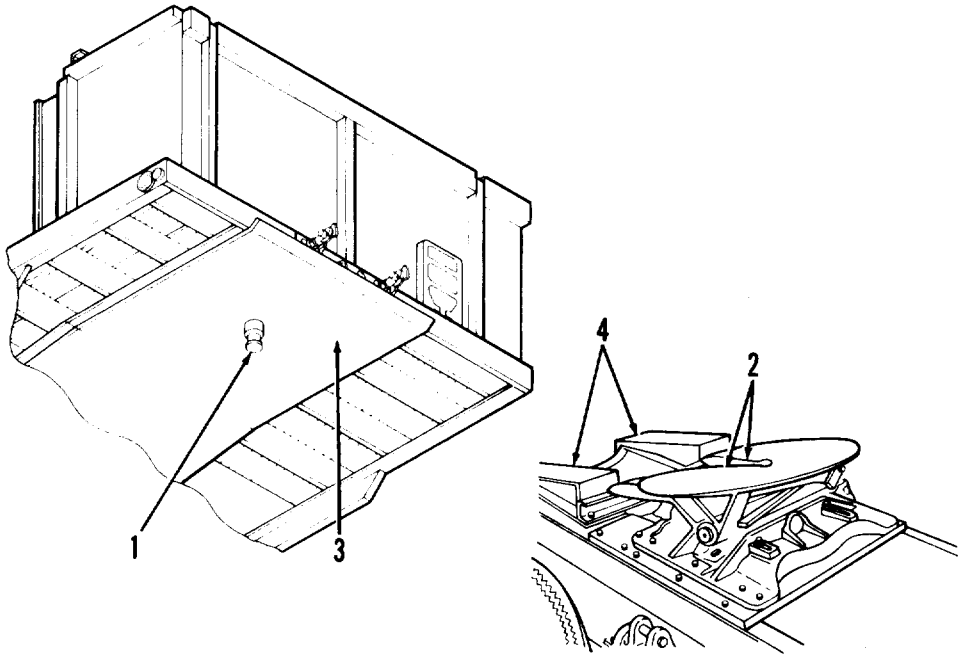
NOTE

Can be towed by M915 for improved highway use only, or the M818, M931 series, and M932 series for either highway or off-road.

(1) Aline towing vehicle with semitrailer kingpin (1).



2-16 PREPARATION FOR USE (CONT) .



(2) Slowly back towing vehicle into position. Be sure kingpin (1) is in line with fifth wheel coupler jaws (2).

(3) Stop the towing vehicle just before the kingpin plate (3) of the semi-trailer starts to ride up the approach ramps (4) of the towing vehicle.

c . Connecting Intervehicular Hoses .

CAUTION

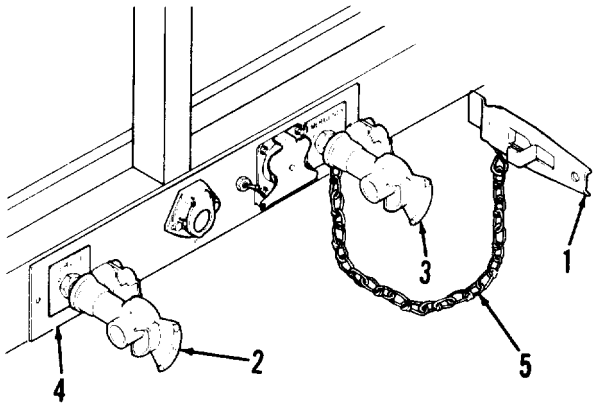
This operation is performed to lock the brakes and prevent movement of the semitrailer. Landing legs may be damaged if the semitrailer moves.

(1) Remove the dummy couplings (1) from the air hose gladhands (2 and 3) on the nose plate (4).

(2) Connect the two air hoses marked SERVICE and EMERGENCY on towing vehicle to corresponding air hose gladhands (2 and 3) on the nose plate (4).

(3) Open air line shut-off valves on towing vehicle.

(4) If no air leakage is detected, apply the brakes on the semi-trailer from the towing vehicle.



2-16 PREPARATION FOR USE (CONT).

(5) Wrap dummy couplings chain (5) around gladhands (2 and 3).

CAUTION

To prevent damage, be sure each dummy coupling chain (5) is wrapped around its gladhand (2 or 3). If dummy coupling hangs below the kingpin plate, it may be crushed between the towing vehicle and semitrailer.

d. Complete Semitrailer to Towing Vehicle.

(1) Before kingpin plate (1) starts to ride approach ramps (2), check that the kingpin plate (1) is above the approach ramps (2). Adjust height as needed by using landing gear. Make sure towing vehicle fifth wheel coupler jaws (3) are open.

WARNING

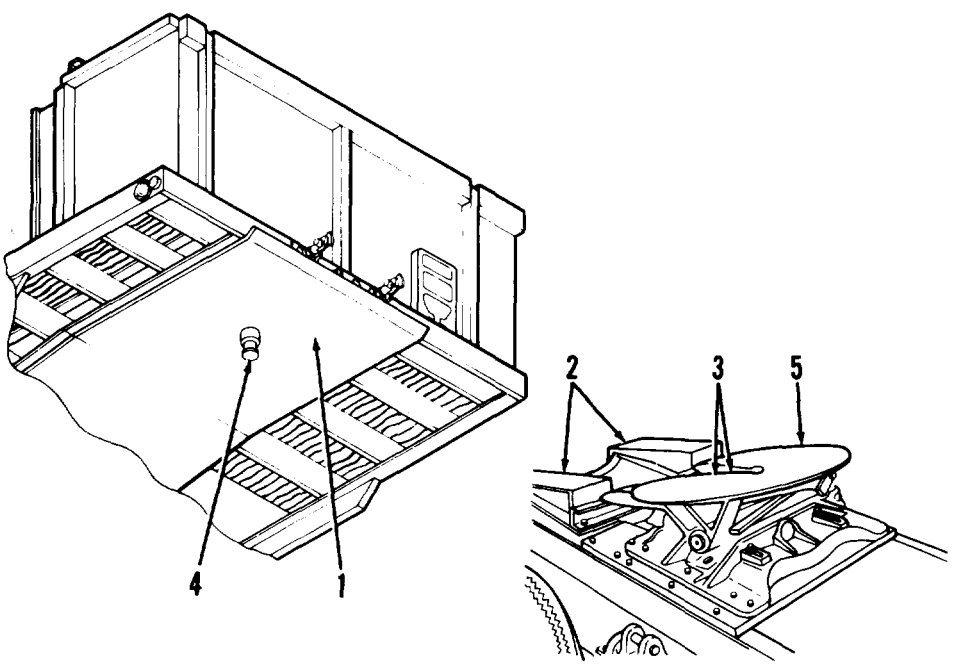
When towing the semitrailer with M818, M931 series, or M932 series the fifth wheel wedges must be in the locked-in (pushed in) mode for highway and secondary road use, and in the locked-out (pulled out) mode for cross country operation.

(2) Slowly back the towing vehicle until coupler jaws (3) engage kingpin (4).

CAUTION

Visually check the coupling. You should not be able to see light between the fifth wheel (5) and the kingpin plate (1).

If coupling operation is not completed and another attempt is to be made, pull towing vehicle forward carefully. Do not exceed the limits of air hoses and electrical cable.



2-16 PREPARATION FOR USE (CONT).

(3) Check coupling by carefully inching towing vehicle forward. If coupling is not locked, rock towing vehicle back and forth slowly until kingpin is locked in fifth wheel coupler jaws.

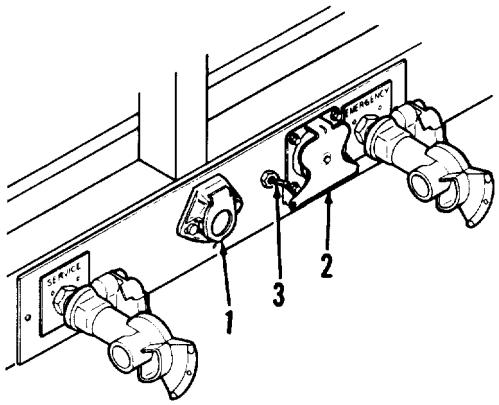
e. Connecting Intervehicular Cable.

(1) Open the cover on the receptacle (1 or 2).

(2) Aline slot on cable plug with alining key of receptacle (1 or 2).

(3) Push cable plug into matching receptacle (1 or 2) and release receptacle cover.

(4) Toggle light switch (3) toward receptacle in use.



(5) Operate lights from towing vehicle to make certain lights are in working order.

(6) Check the air lines and intervehicular cable to be sure that they are supported and will not catch or chafe.

(7) Recheck fifth wheel to kingpin locking by trying to move towing vehicle and semitrailer forward.

f. Raising Landing Gear.

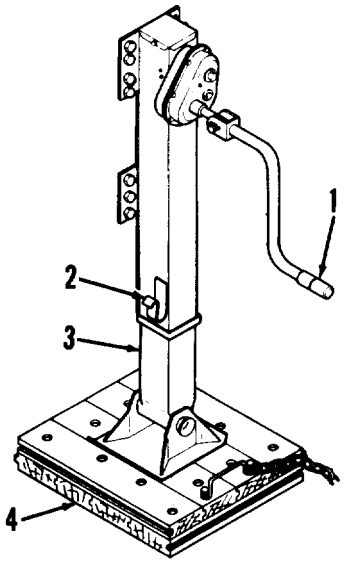
(1) Lift crank (1) from crank hanger (2).

(2) Raise crank (1) to operating position. Pull crank out for high speed operation.

(3) Turn crank (1) counterclockwise until legs (3) are retracted fully.

(4) Lower crank (1) and secure in crank hanger (2).

(5) Remove and stow float pads (4) (ground board assemblies), if used.



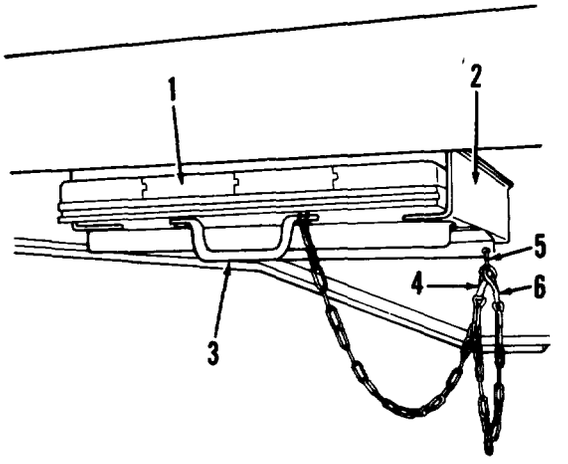
2-16 PREPARATION FOR USE (CONT) .

g. Stowing Float Pads.

(1) Position float pad (1) in brackets (2) with handle (3) down.

(2) Connect center snap hook (4) to S-hook (5).

(3) At storage box side (roadside) of semitrailer, connect end snap hook (6) to S-hook (5).

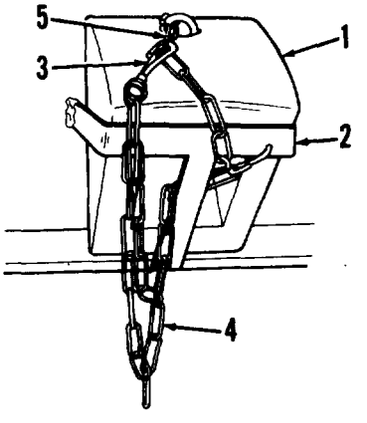


h. Stowing Wheel Chocks.

(1) Remove wheel chocks (1) from ground and position in brackets (2).

(2) Pull snap hook (3) with chain (4) between wheel chock (1) and bracket **(2).**

(3) Attach snap hook (3) to chain link (5).



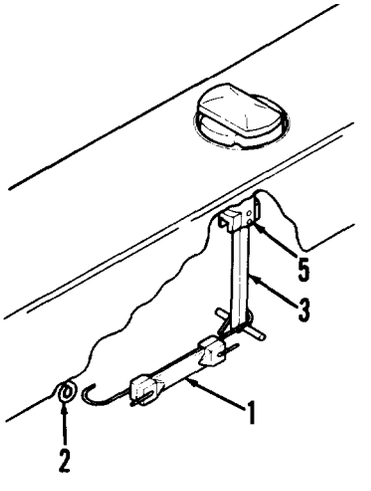
2-17 OPERATION.

a. Loading Semitrailer (Containerined Cargo.

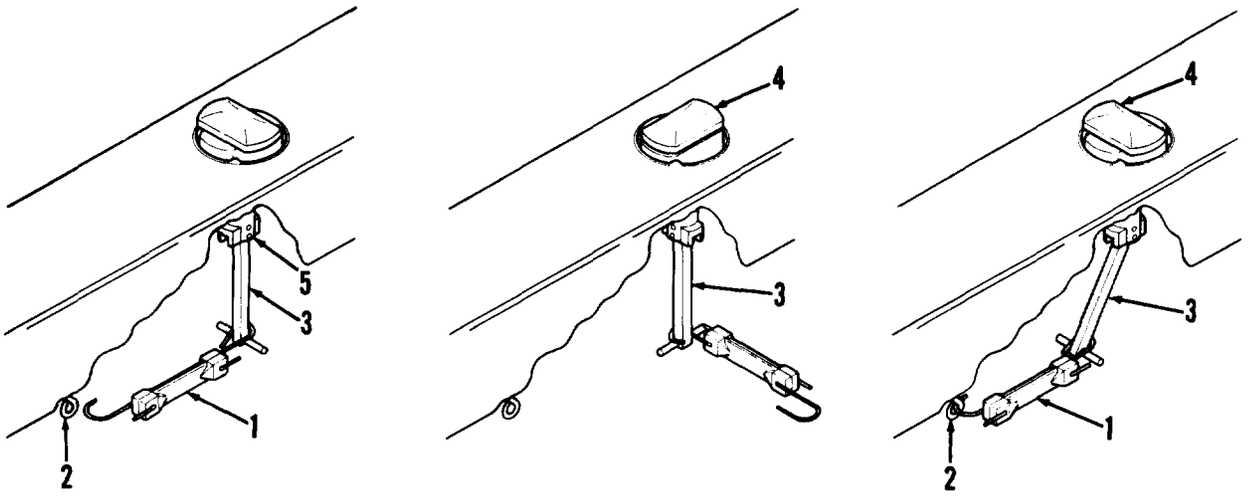
WARNING

Do not place any part of your body under a container during the loading or unloading operation as injury to personnel may result.

(1) Pull elastic strap (1) from eye bolt (2) and lower handle (3). Push twist lock assembly (5) up.



2-17 OPERATION (CONT).



RAISED READY TO LOAD LOCKED

(2) Turn handle (3) 90 degrees to rotate twist lock bayonet (4) into loading position.

(3) Repeat steps (1) and (2) for three remaining twist locks.

(4) Load cargo container on the semitrailer.

(5) Checkmating of twist lock bayonets (4) and container fittings.

(6) Turn handle (3) 90 degrees to rotate twist lock bayonet (4) into locked position.

(7) Raise handle (3) and secure elastic strap (1) in eye bolt (2).

(8) Repeat steps (6) and (7) for three remaining twist locks.

WARNING

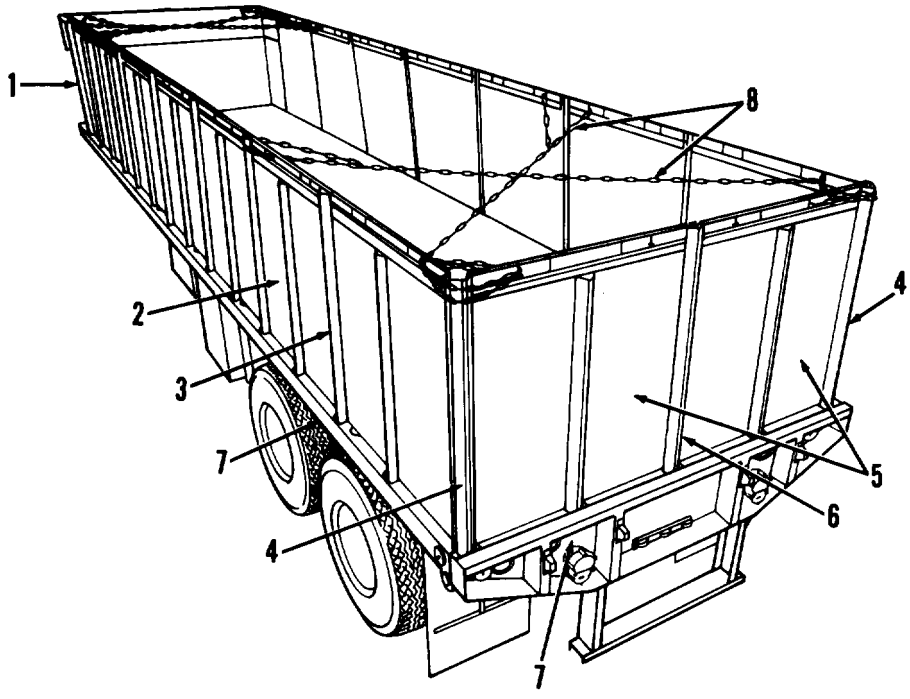
Do not tow the semitrailer with an unsecured cargo container. Accident may occur resulting in injury to personnel.

When transporting the 8-1/2 foot commercial container, the towing vehicle fifth wheel height must not exceed 50.4 inches (1.28 meters) to comply with the 157.48 inches (4 meters) overall height limit for USAREUR. The M915 fifth wheel height meets this requirement.

(9) Visually check to be sure the container is securely locked.

2-17 OPERATION (CONT).

b. Loading Semitrailer (Bulk Cargo)



(1) Install two panel Splice stakes (1) in sill holes at bulkhead. Guide top of stake under top of wing panel.

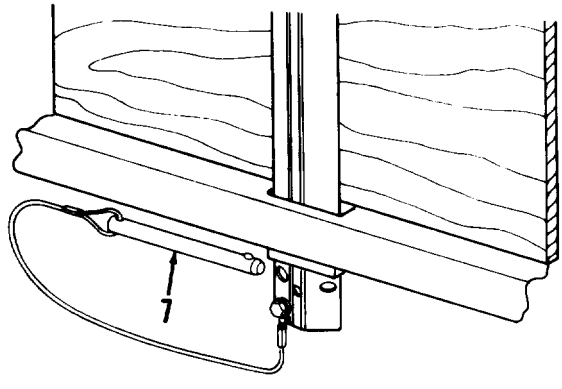
(2) Install all 14 side racks (2).

(3) Install 12 panel splice stakes (3) between the 14 side racks.

(4) Install two rear corner stakes (4).

(5) Install two rear racks (5) and panel splice stake (6).

(6) Install quick release pins (7) at bottom of racks.



(7) Install the four cross chains (8).

CAUTION

Install the four cross chains (8) before You load the cargo. If chains are not installed, the stakes and racks could bulge and break causing the cargo to spill.

(8) Load cargo into the semitrailer.

2-17 OPERATION (CONT).

c. Loading Semitralier (Ammunition Cargo).

NOTE

For specific ammunition loading, tiedown, restraint, and transport guidance, refer to U.S. Army Materiel Command 19-48 series tactical vehicle outloading drawings. These drawings are listed in DA Pam 75-5, Index of Storage and Outloading Drawings for Ammunition.

The Loose Projectile Restraint System (LPRS) is a system that provides a fast, simple method of securing loose, unfuzed 155-mm projectiles for transport in field artillery companion vehicles. These egg crate module racks may be assembled in 9-round, 15-round, and 25-round sets and are restrained in the cargo bed by authorized tiedown straps. Refer to TM 9-2590-210-10 for complete instructions.

(1) Wooden Dunnage Restraint.

(a) Install side rail hole cover plates, side racks, and side stakes on one side of semitrailer.

(b) Install nailed-down or floating dunnage (blocking and bracing), as appropriate, within semitrailer.

(c) Load ammunition cargo.

(d) Install remaining blocking and bracing.

(e) Install remaining side rail hole cover plates, side racks, and side stakes.

(f) Install quick release pins at bottom of racks.

(g) Install the four cross chains.

(2) Web Strap Tiedown Assembly Restraint.

(a) Install appropriate vehicular tiedown fittings in holes along each side rail, as required by appropriate tactical vehicle outloading drawing.

(b) Load ammunition cargo.

(c) Install appropriate web strap tiedown assemblies from a tiedown fitting on one side of the semitrailer, over/around/through the ammunition cargo (as required by outloading drawing), to a tiedown fitting on the other side of the semitrailer.

(d) Tension web straps as specified inappropriate outloading drawing.

(e) If required, install racks, stakes, and cross chains.

2-17 OPERATION (CONT).

d. Towing Semitrailer.

WARNING

When towing the semitrailer with M818, M931 series, or M932 series the fifth wheel wedges must be in the locked-in (pushed in) mode for highway and secondary road use, and in the locked-out (pulled out) mode for cross country operation.

Extreme caution shall be exercised in all turns, curves, and highway cloverleafs when towing a high center of gravity containerized load.

WARNING

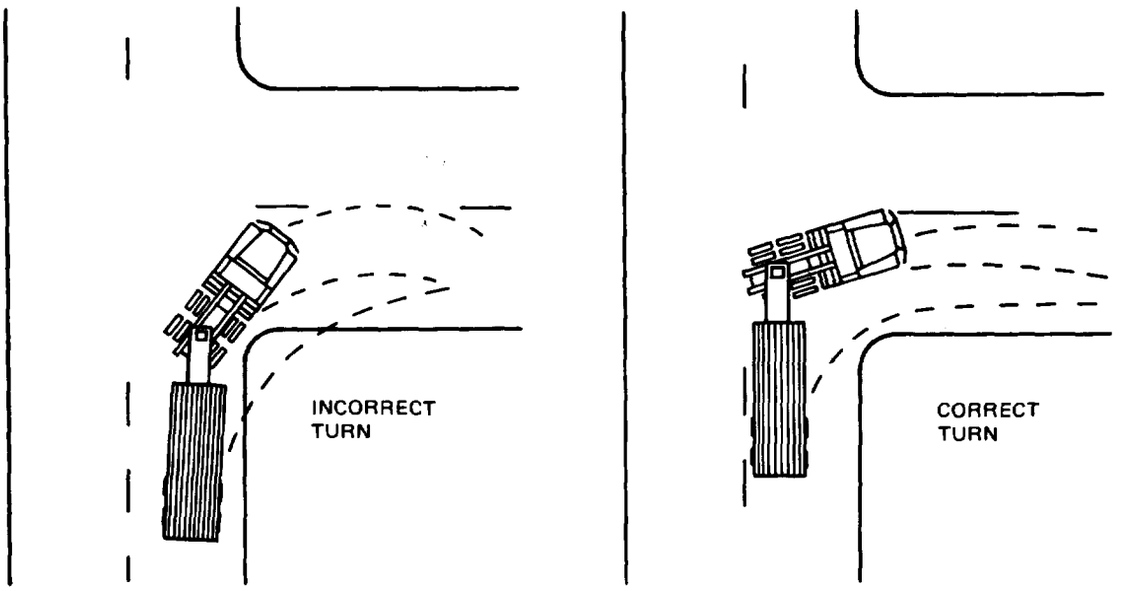
Under no circumstances shall speeds exceed the following:

Highway . . . . . 55 mph
Gravel/Dirt . . . . . 20 mph
Off-Road . . . . . 10 mph

Failure to observe these warnings may result in personnel injury and damage to equipment.

(1) Driving. When driving the towing vehicle 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. The semitrailer's payload will affect stopping and off-road maneuverability.

(2) Turning. When turning corners, allow for the semitrailer wheels turning inside the radius of the towing vehicle. Make a right turn by driving the towing vehicle about halfway into the intersection, then cutting sharply to the right. This will keep the semitrailer off the curb.

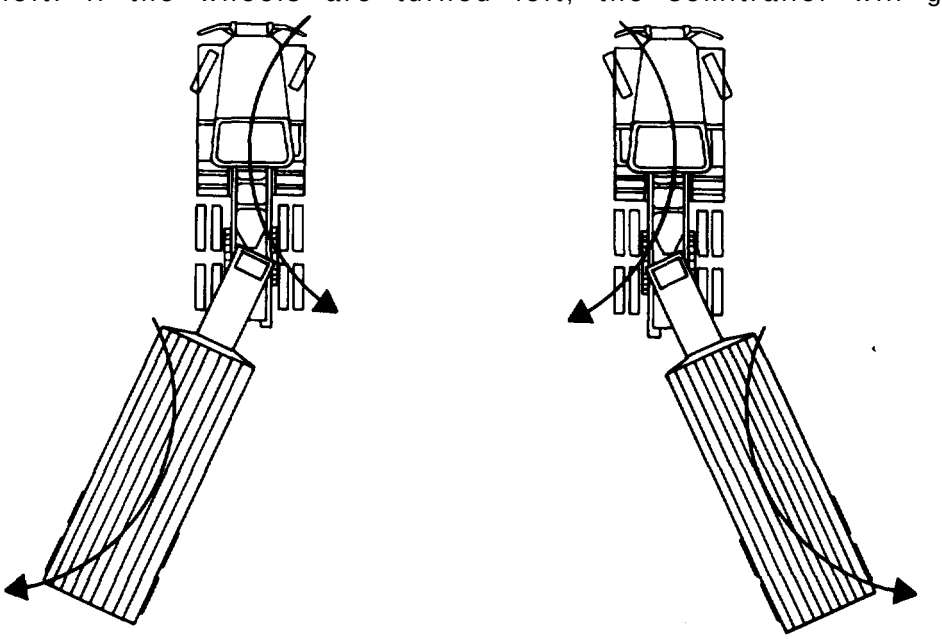


2-17 OPERATION (CONT).

(3) Stopping. The brakes of the towing vehicle and the semitrailer are applied at the same time in normal operation when the driver steps on the brake pedal. Brake pressure should 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, slowly apply the semitrailer brakes using the trailer handbrake control lever before you apply the towing vehicle brakes. This will reduce the possibility of jackknifing the semitrailer.

(4) Parking. When the towing vehicle and the semitrailer are to be parked and left unattended, set the parking brake on the towing vehicle and apply the brakes on the semitrailer. Turn off the towing vehicle's engine before leaving the cab. Block the semitrailer wheels with wheel chocks.

(5) Backing. When backing, use a helper as a ground guide to direct you. Adjust rear view mirrors before backing. When backing, the rear of the semitrailer will move in the opposite direction from the towing vehicle's front wheels. If the wheels are turned to the right, the semitrailer will go left. If the wheels are turned left, the semitrailer will go right.



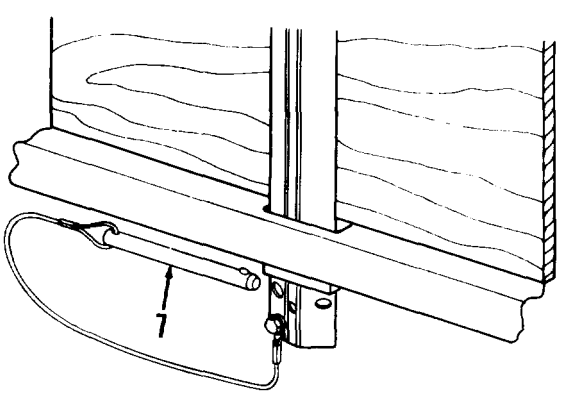
e. Unloading Semitrailer Ammunition Cargo.

(1) Wooden Dunnage Restraint.

(a) Remove the cross chains.

(b) Remove quick release pins (7) from bottom of racks.

(c) Remove stakes, side racks, and side rail hole cover plates as required for access to cargo.



2-17 OPERATION (CONT).

(d) Remove restraint dunnage, as appropriate, to allow access to cargo.

(e) Unload ammunition cargo from semitrailer.

(f) Remove the remaining stakes, side racks, and side rail hole cover plates.

(g) Store the racks, stakes, chains, and cover plates in the approved stowage area.

(2) Web Strap Tiedown Assembly Restraint.

(a) Remove cross chains, stakes, and side racks, if installed on the semitrailer.

(b) Remove web strap tiedown assemblies.

(c) Unload ammunition cargo from semitrailer.

(d) Remove vehicular tiedown fittings from the semitrailer side rails.

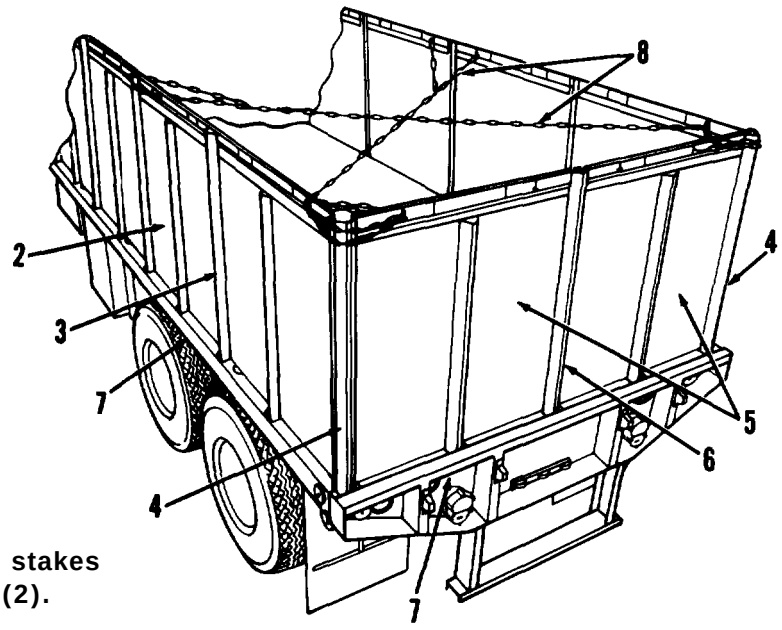
(e) Store the racks, stakes, chains, tiedown fittings, and web strap tiedown assemblies in the approved stowage area.

f. Unloading Semitrailer (Bulk Cargo).

(1) Unload cargo from semitrailer.

(2) Remove four cross chains (8).

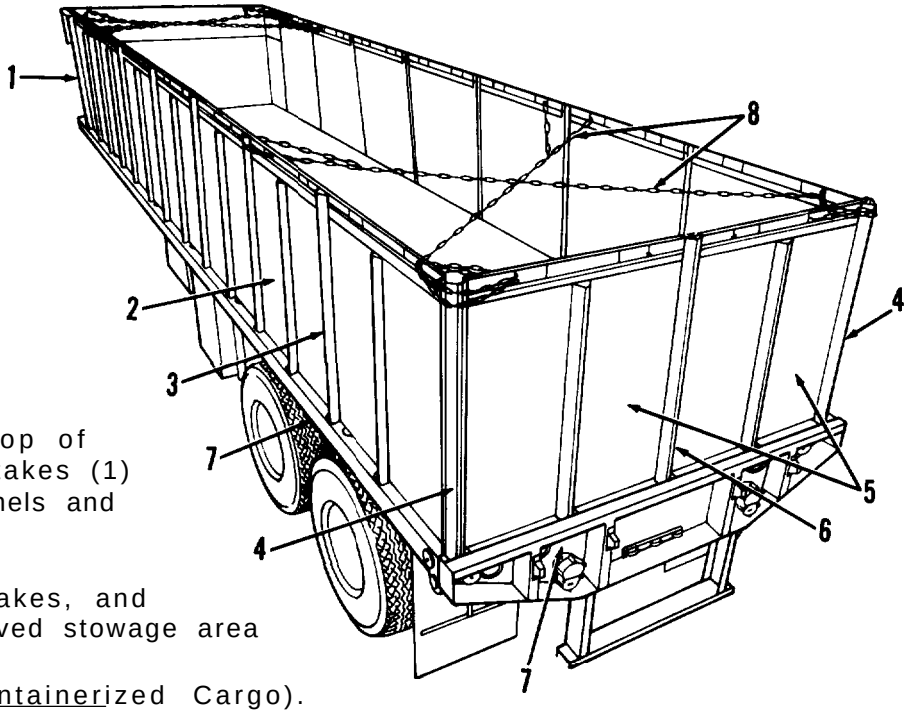
(3) Remove quick release pins (7) from bottom of racks.



(4) Remove panel splice stake (6), two rear racks (5), and rear corner stakes (4).

(5) Remove 12 panel splice stakes (3) and 14 side racks (2).

2-17 OPERATION (CONT).



(6) At bulkhead, tilt top of two panel splice stakes (1) from under wing panels and remove stakes (1).

(7) Store the racks, stakes, and chains in the approved stowage area

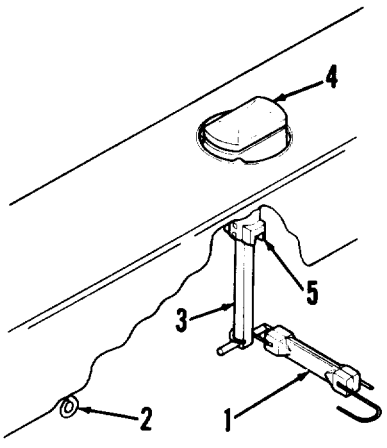
g. Unloading semitrailer (containerized Cargo).

WARNING

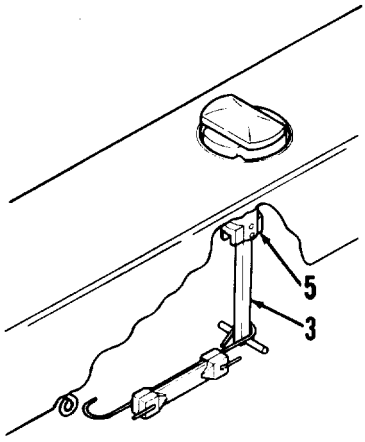
Do not place any part of your body under a container during the loading or unloading operation as injury to personnel may result.

(1) Pull elastic strap (1) from eye bolt (2).

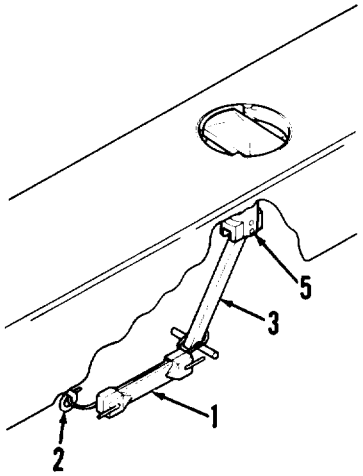
(2) Turn handle (3) 90 degrees to rotate twist lock bayonet (4) to unloading position.



READY TO UNLOAD



READY TO LOWER



LOWERED

2-17 OPERATION (CONT).

(3) Repeat steps (1) and (2) for three remaining twist locks.

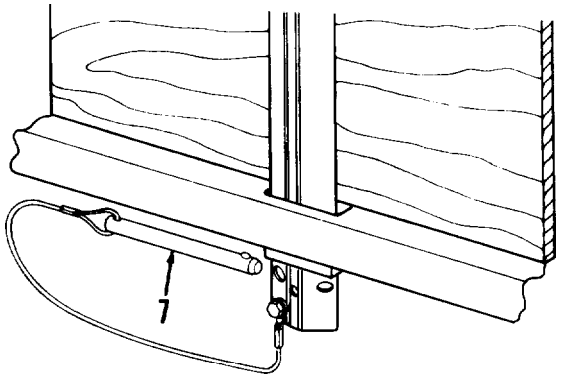
(4) Unload cargo container from semitrailer.

(5) Turn handle (3) 90 degrees and lower twist lock assembly (5) to stowed position.

(6) Raise handle (3) and secure elastic strap (1) in eye bolt (2).

(7) Repeat steps (5) and (6) for three remaining twist locks.

h. Stacking Slide Panels.



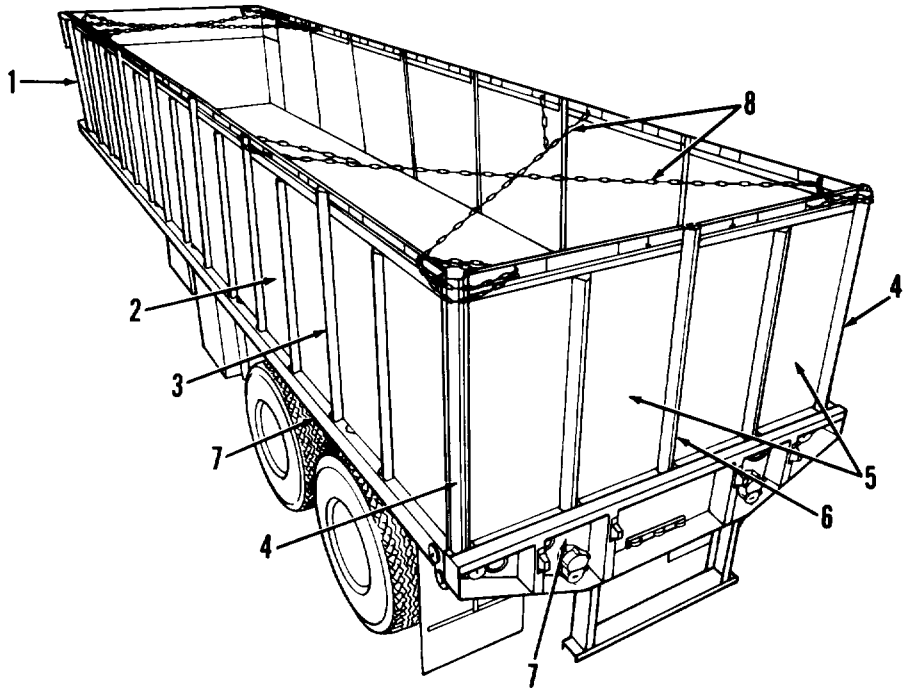
(1) Remove cross chains (8).

(2) Remove quick release pins (7) from bottom of racks.

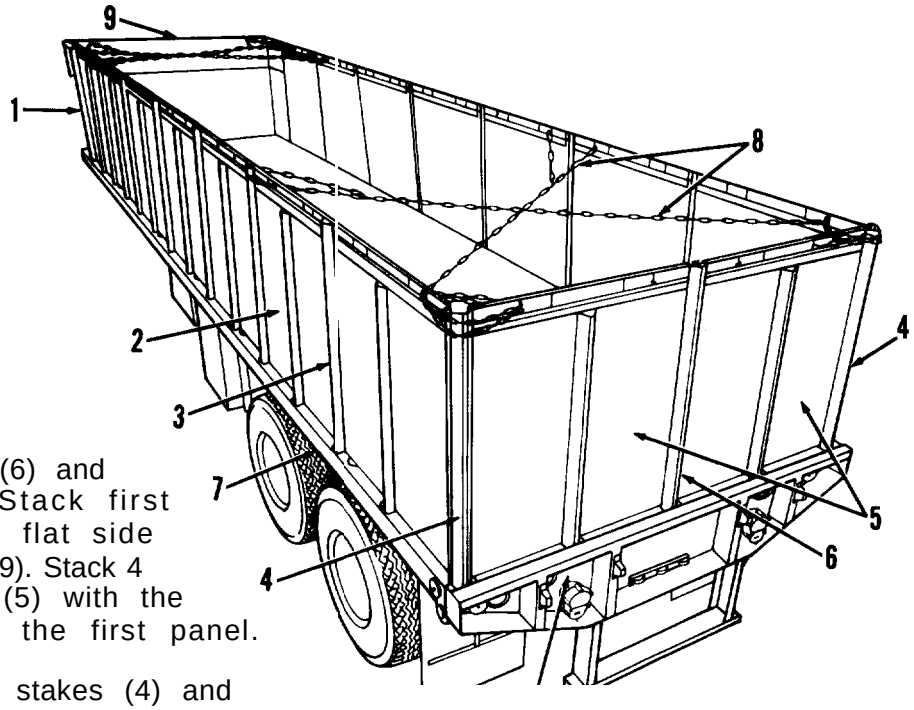
(3) Starting at the rear of the semi-trailer, number each panel and stake according to position and side using chalk. (Example: 2R is the second panel from the rear (2R) on the right side (2R) of the semitrailer.)

NOTE

camouflage patterns may not match if panels and stakes are not numbered.



2-17 OPERATION (CONT) .



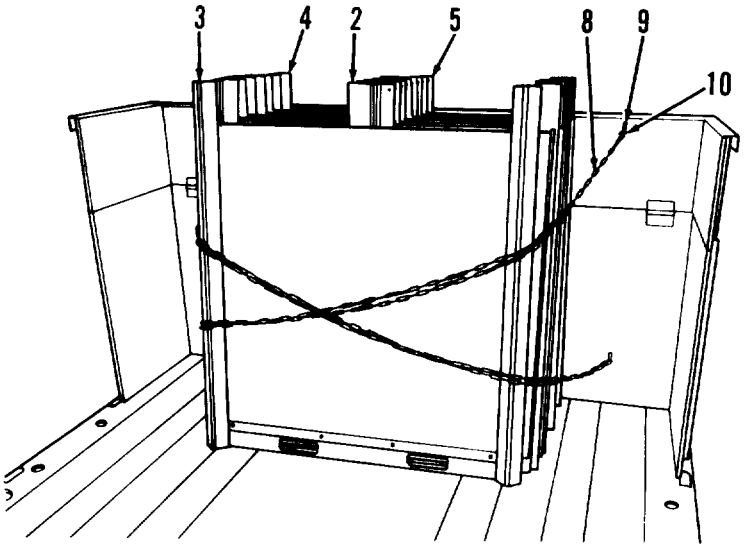
(4) Remove rear stake (6) and panels (5) first. Stack first panel (5) with the flat side against the bulkhead (9). Stack 4 second rear panel (5) with the stake side against the first panel.

(5) Remove rear corner stakes (4) and install on edges of second rear panel (5).

(6) Remove the first left and right side panels (2). stack left side panel with stake side facing out. Stack right side panel, with flat side facing out, against left side panel. Install stakes (3) on edges of left side panel.

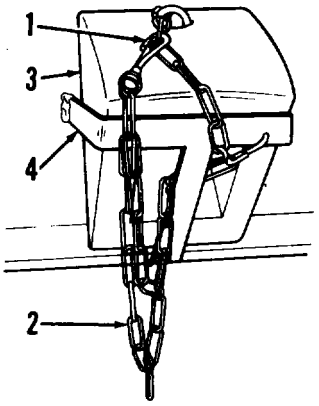
(7) Repeat step (6), alternating panel stake out and panel stake in, until all panels and stakes are stacked as shown.

(8) Secure panels and stakes to bulkhead (9) with two cross chains (8). Pull chains (8) tight and secure with S-hooks (10).



2-18 AFTER USE.

a. **Positioning Wheel Chocks.**



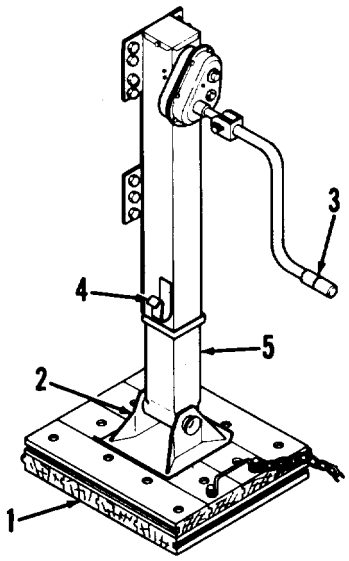
(1) Unhook snap hook (1) from chain (2).

(2) Remove wheel chocks (3) from brackets (4).

(3) Place front wheel chocks in front of tires.

(4) Place rear wheel chocks behind rear tires.

b. **Lowing Landing Gear.**



(1) If ground is soft, position float pads (1) (ground board assemblies) under sand shoes (2).

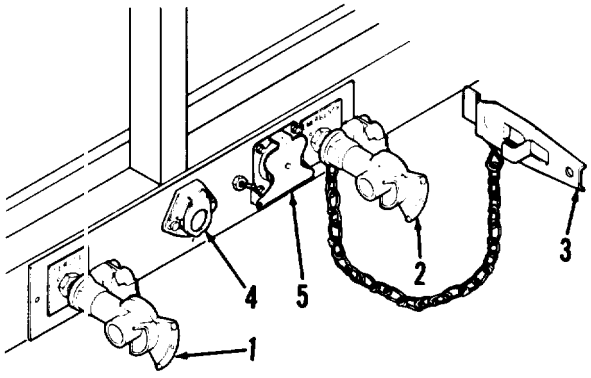
(2) Lift crank (3) from crank hanger (4).

(3) Raise crank (3) to operating position. Push crank in for low speed operation.

(4) Turn crank (3) clockwise until legs (5) are extended.

(5) Lower crank (3) and secure in crank hanger (4).

c. **Uncoupling Semitrailer From Towing Vehicle.**



(1) At towing vehicle, close the air line shut-off valves.

(2) Disconnect the two air hoses from the air hose gladhands (1 and 2) on the semitrailer.

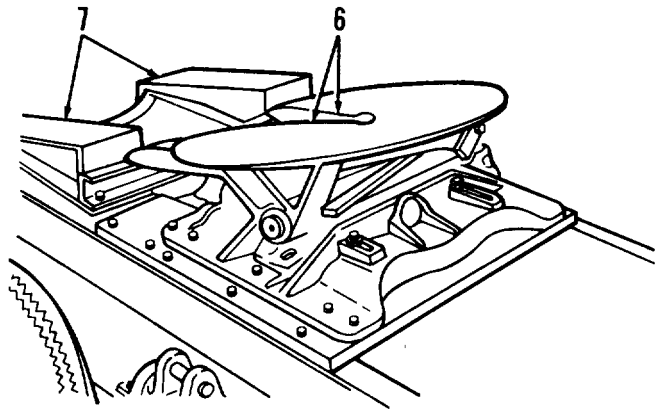
(3) Install dummy couplings (3) on SERVICE gladhand (1) and EMERGENCY gladhand (2).

(4) Open cover on receptacle (4 or 5), pull intervehicular cable plug from receptacle, and release cover.

2-18 AFTER USE (CONT) .

(5) At towing vehicle, open fifth wheel coupler jaws (6) to release semitrailer kingpin.

(6) Slowly drive towing vehicle forward until semitrailer is clear of approach ramps (7).



2-19 SLINGING PROCEDURES.

CAUTION

Do not lift the semitrailer with side racks installed. This will damage side racks and stacks.

a. Remove and stow side racks and stakes.

b. Stow float pads and wheel chocks.

CAUTION

Be sure that the sling hook point is facing toward the outside of the semitrailer.

c. Connect sling hooks to the four lift points (1).

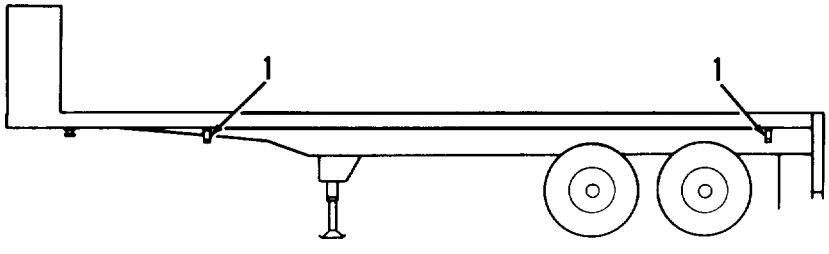
WARNING

Do not get under semitrailer while slinging operations are underway. Do not lift a loaded semitrailer. Failure to observe this warning could result in serious injury to personnel and damage to equipment.

Do not lift the semitrailer without a ground guide, using a 30 foot guideline attached to one rear lift point (1). Lack of ground-guide steering assistance could result in serious injury to personnel and damage to equipment.

d. Slowly take up all slack, then lift semitrailer.

e. After rowing the semitrailer, remove the sling hooks from the lift points (1).



2-20 PREPARATION FOR MOVEMENT.

a. Air Transport . The semitrailer can be air transported in C-130, C-141, and C-5A aircraft with the bulkhead extension lowered to reduce semitrailer height by 12 inches. All removed parts shall be stowed securely to prevent movement during air transport.

b. Lowing Bulkhead Extension .

(1) Remove side racks and stakes from semitrailer and band for shipment.

(2) Pull two side pins (1) and lift wing panels (2) from bulkhead (8). Stow wing panels (2) in authorized storage location.

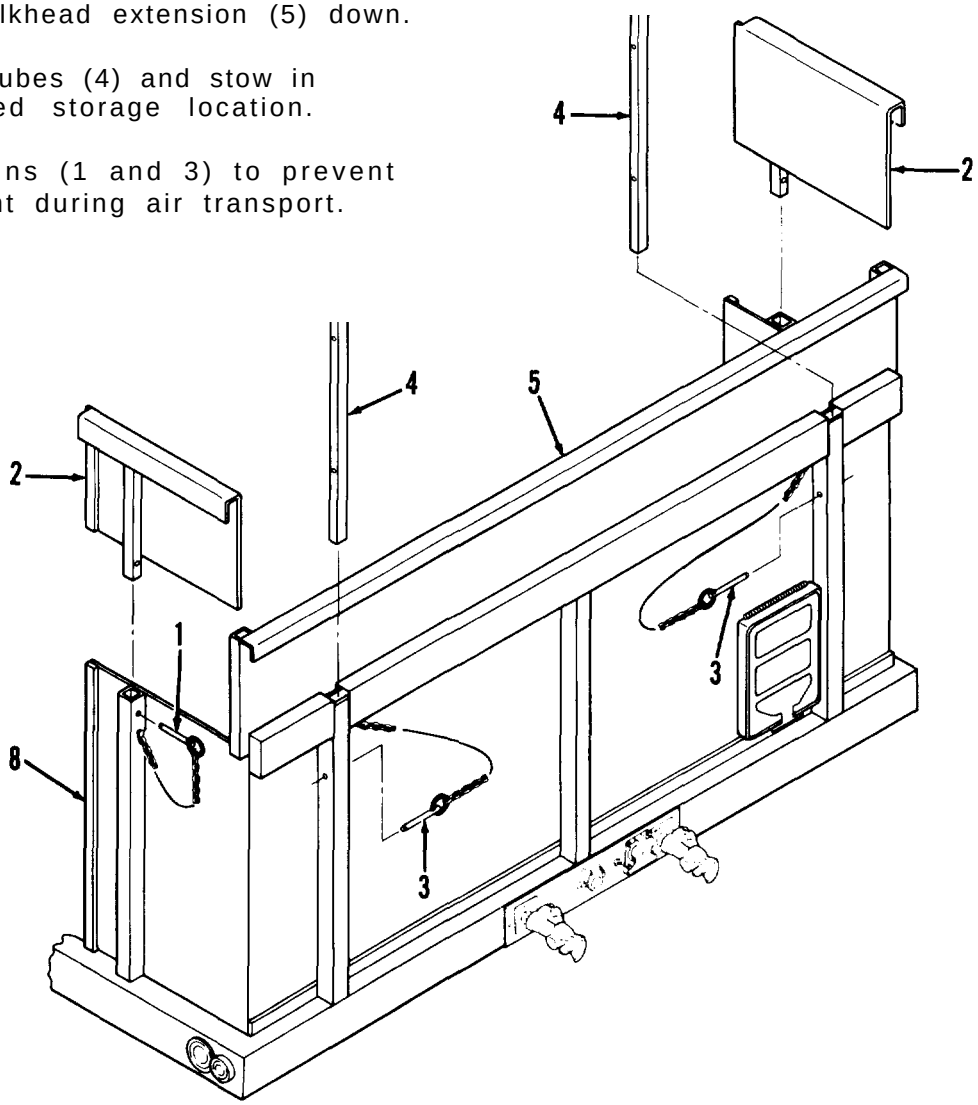
(3) Pull two front pins (3).

(4) Lower two tubes (4) until they clear flange at top of bulkhead extension (5)

(5) Swing bulkhead extension (5) down.

(6) Remove tubes (4) and stow in authorized storage location.

(7) Install pins (1 and 3) to prevent movement during air transport.



2-20 PREPARATION FOR MOVEMENT (CONT) .

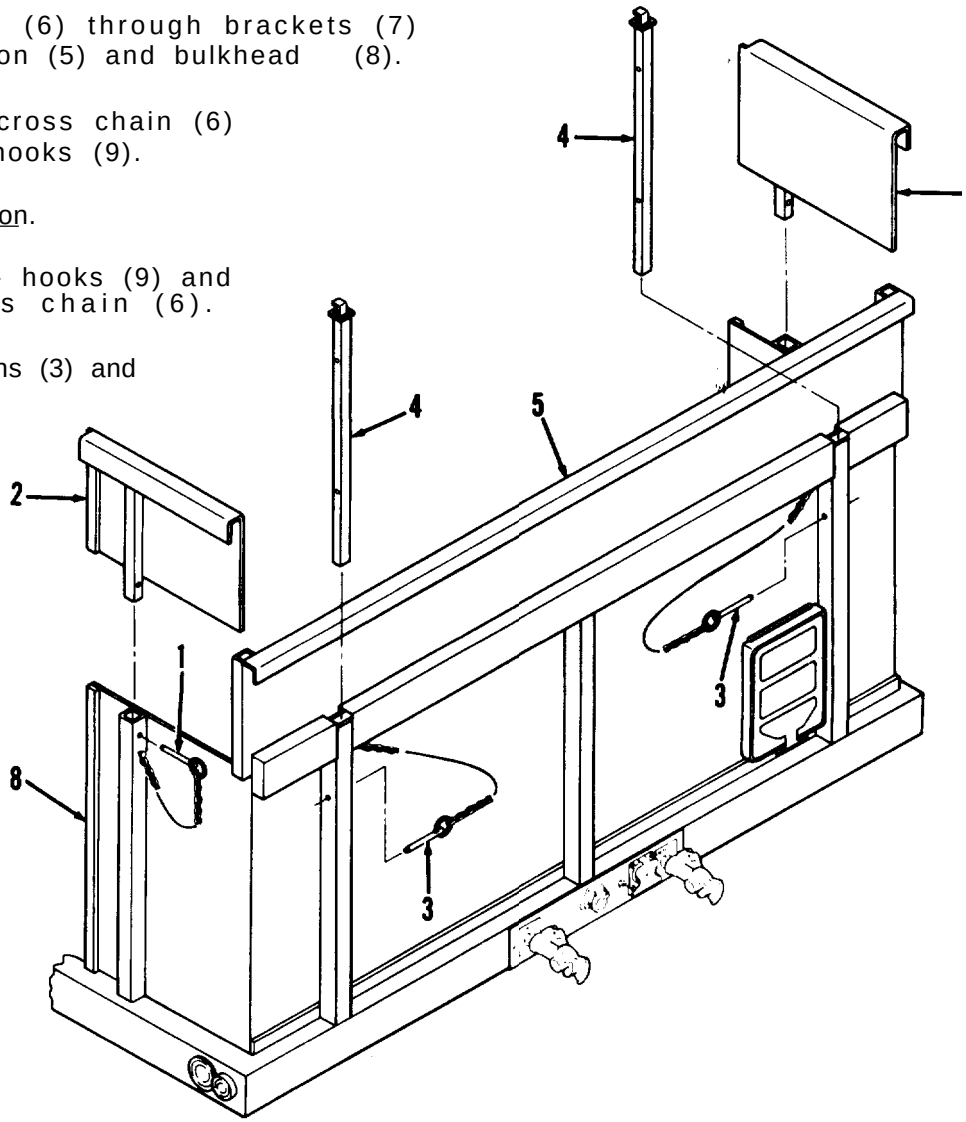
(8) Install cross chain (6) through brackets (7) on bulkhead extension (5) and bulkhead (8).

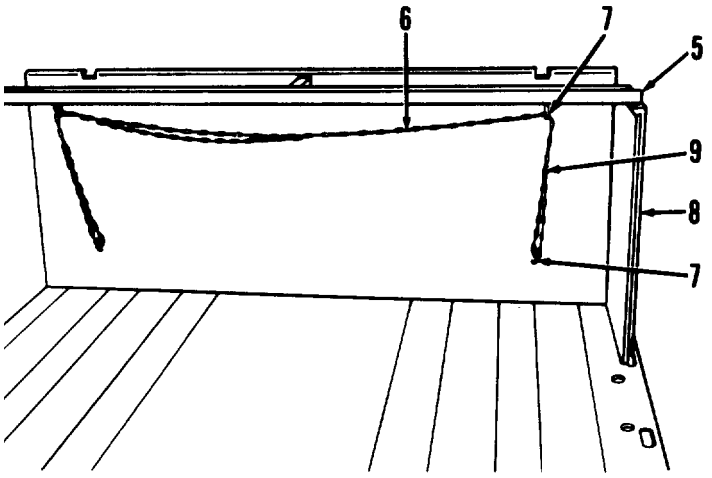
(9) Take Up slack in cross chain (6) and secure with S-hooks (9).

c. Raising Bulkhead Extension.

(1) Disconnect S- hooks (9) and remove cross chain (6).

(2) Pull two front pins (3) and side pins (1).





2-20 PREPARATION FOR MOVEMENT (CONT) .

(3) Install two tubes (4) in bulkhead (8), with camouflage patterns matched.

(4) Swing bulkhead extension (5) up and slide tubes (4) into flange at top of bulkhead extension (5).

(5) Install front pins (3) to secure tubes (4).

(6) Install wing panels (2) and side pins (1).

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

	Para		Para
Operation in Extreme Cold	2-21	Operation in Snow	2-25
Operation in Extreme Heat	2-22	Operation in Mud or Sand	2-26
Operation in Rainy or Humid Conditions	2-23	Operation on Rocky Terrain	2-27
Operation in Salt Water Areas	2-24	Fording	2-28
		Operation with Air Brake Failure (Caging Spring Brake Chambers)..	2-29

2-21 OPERATION IN EXTREME COLD.

a. Operation.

(1) Be careful when placing the semitrailer in motion after a shutdown. Congealed lubricants can cause part failure.

(2) Tires may freeze to the ground or have a flat spot if under inflated.

(3) Brake shoes may freeze to the brake drums 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 snow and ice that may be encountered during extreme cold weather conditions.

b. At-Halt or Parking.

(1) For short shutdown periods, park in a sheltered spot out of the wind.

(2) For long shutdown periods, if high, dry ground is not available, prepare a footing of planks or brush.

(3) Remove all buildup of ice and snow as soon as possible after shutdown.

(4) Cover and shield the semitrailer with canvas covers if available. Keep the ends of covers off the ground to keep them from freezing to the ground.

2-22 OPERATION IN EXTREME HEAT.

a. Refer to TB 43-0239 and FM 90-3 for maintenance and operations, respectively, under desert conditions.

b. Do not park the semitrailer in the sun for long periods of time. Heat and sunlight shorten the life of tires.

c. Park the semitrailer where it will get maximum protection from heat, sun, and dust.

2-23 OPERATION IN RAINY OR HUMID CONDITIONS.

Frequently inspect, clean, and lubricate inactive equipment to prevent rust and fungus accumulation.

2-24 OPERATION IN SALT WATER AREAS.

Salt water will cause rapid corrosion of metal parts. After operation, wash the semitrailer with fresh water. Clean, inspect, and lubricate equipment frequently.

2-25 OPERATION IN SNOW.

Refer to FM 21-305 for special instructions on operation in snow.

2-26 OPERATION IN MUD OR SAND.

CAUTION

Do not tow, pull, push, or lift semitrailer using rear bumper. This may damage equipment.

a. If wheels sink into mud, you may need to jack up the mired wheels and put planking or matting under them.

b. After operation in mud or sand clean, inspect and lubricate the semitrailer.

2-27 OPERATION ON ROCKY TERRAIN.

a. Tires must be fully inflated to 75 psi when moving on rough or rocky terrain. Underinflated tires will cause internal ruptures of tires and damage tubes.

b. Before driving over stumps or rocks, make sure the semitrailer can clear them. Such objects can damage parts on the underside of the semitrailer. Beware of low hanging tree limbs that can damage cargo.

c. Be sure you have a serviceable spare tire because there is a greater chance of tire puncture.

2-28 FORDING.

CAUTION

Do not exceed fording depth of 18 inches or damage to the equipment may result.

a. Before Fording.

(1) Before entering water, check bottom surface conditions. If bottom surface is too soft, do not ford.

(2) Protect cables and terminals by spraying with ignition insulation compound.

b. After Fording.

(1) After coming out of water, apply brakes a few times to help dry out brake linings. Make sure semitrailer brakes are working before driving at normal speeds.

(2) Drain or dry all areas where water has collected.

(3) Lubricate all unpainted surfaces. See lubrication chart, page 3-2.

(4) Drain and refill axle ends with lubricant as specified on the lubrication chart, page 3-2, after **each submersion.**

(5) Dry all lubrication points and lubricate as specified on the lubrication chart, page 3-2.

2-29 OPERATION WITH AIR BRAKE FAILURE (CAGING SPRING BRAKE CRAMBERS).

WARNING

This is an emergency procedure. Use this procedure only to move the semitrailer off the traveled portion of the road when a brake line or other part fails, causing loss of air brake system air pressure.

Always block wheels with wheel chocks before caging (manually releasing) spring brakes.

Caged spring in bottom chamber is under 2,500 pounds of tension. Use extreme care when performing maintenance. Do not position yourself in front of, or in line with the spring brake assembly. Perform necessary maintenance from the side. Read all manufacturer's warning labels before caging. Inspect clamp bands, castings, and fasteners for external damage. If damage to these items is evident, do not attempt caging procedure. Notify organizational maintenance immediately. Failure to observe this warning could result in serious personal injury.

2-29 OPERATION WITH AIR BRAKE FAILURE (CAGING SPRING BRAKE CHAMBERS) (CONT)

a. Block semitrailer with wheel chocks to prevent movement.

b. Pull dust cap (1) from brake chamber (2).

c. Remove nut (3) and washer (4). Remove spring brake tool (5) from mounting hole (6) on brake chamber (2).

d. Insert spring brake tool (5) through opening in brake chamber (2). Turn spring brake tool (5) 1/4 turn clockwise to lock in manual release position.

e. Install washer (4) and nut (3) on spring brake tool (5).

f. Tighten nut (3) until 2-1/2 to 2-3/4 inches of spring brake tool (5) is exposed.

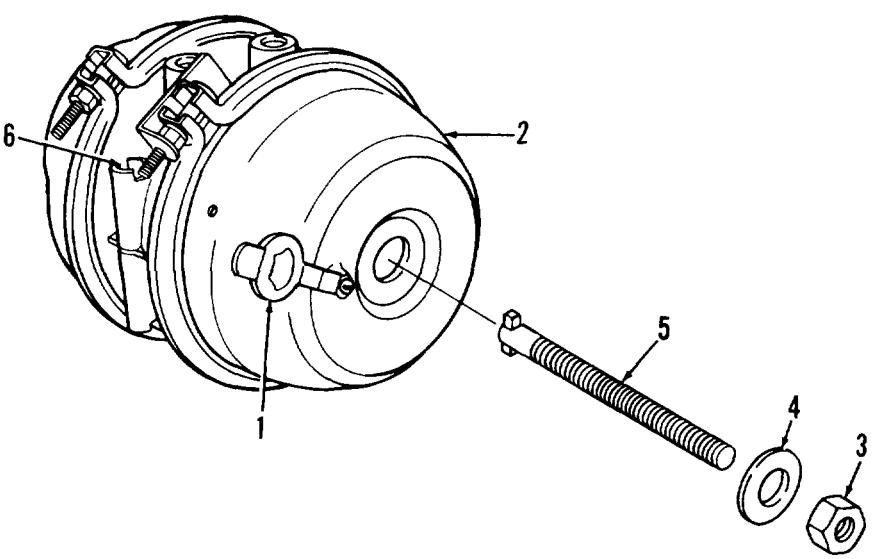
g. Repeat steps b. through f. for remaining spring brake chambers.

h. Remove wheel chocks and stow in brackets.

i. Move semitrailer off traveled portion of road.

j. Block semitrailer with wheel chocks to prevent movement.

k. Notify organizational maintenance.



CHAPTER3

OPERATOR MAINTENANCE

Index

Section	Title	Page
I	Lubrication Instructions	3-1
II	Operator Troubleshooting Procedures	3-6
III	Maintenance Procedures	3-11

Section I. LUBRICATION INSTRUCTIONS

	Para
Lubrication Instructions	3-1
Lubrication Requirements	3-2

3-1 LUBRICATION INSTRUCTIONS.

This section contains general lubrication instructions in addition to those contained in the lubrication chart.

a. Care of Lubricants Keep all lubricants in clean, closed containers and store in a dry area away from external heat. Don't allow dust, dirt, or other foreign matter to mix with lubricants during storage or use. Keep all lubrication equipment clean and ready for use.

b. Cleaning. Keep all external parts that do not require lubrication free of lubricants. Wipe all dirt and other foreign matter from lubrication points using a clean cloth. Clean container covers and surrounding area before removing them. Clean lubrication points after lubrication to prevent accumulation of foreign matter.

c. Lubrication Points. Refer to the lubrication chart for lubrication points and the proper intervals of lubrication.

3-2 LUBRICATION REQUIREMENTS.

a. For lubrication under normal conditions, refer to the lubrication chart on the following page.

b. For instructions on lubrication in weather below O °F, refer to FM 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 lubrication chart on following page.

LUBRICATION CHART

SEMITRAILER, TACTICAL, BREAKBULK/CONTAINER TRANSPORTER, 22-1/2- TON, M871A2

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 fording. The interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

NOTE

LV is Localized View.

WARNING

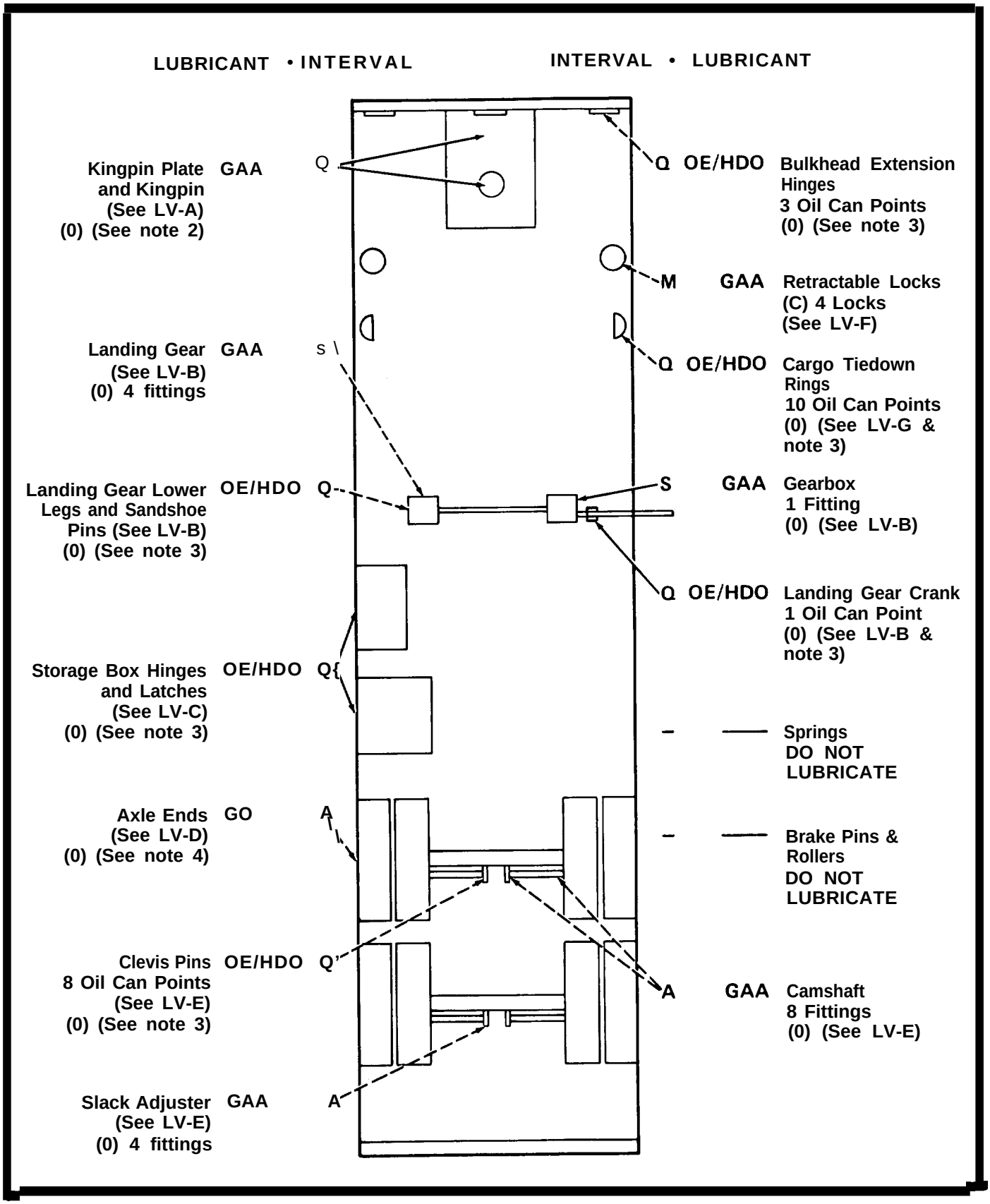
Dry cleaning solvent (SD-2) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

Clean fittings before lubricating. Clean parts with dry cleaning solvent (SD), type I I or equivalent. Dry before lubricating. Dotted leader lines indicate lubrication on both sides of the equipment.

The lowest level of maintenance authorized to lubricate a point is indicated by one of the following symbols as appropriate: Operator/crew (C); and Organizational Maintenance (0).

TOTAL MAN-HR		TOTAL MAN-HR	
INTERVAL	MAN-HR	INTERVAL	MAN-HR
M	0.2	S	0.4
Q	0.5	A	0.8

Lubrication Chart (Sheet 1 of 3)



Lubrication Chart (Sheet 2 of 3)

KEY

LUBRICANTS		CAPACITIES	EXPECTED TEMPERATURES			For Arctic Operation, refer to FM 9-207	INTERVALS
			Above +32°F (Above 0°C)	+40°F to -10°F (+4°C to -23°C)	0°F to -65°F (-18°C to -54°C)		SYMBOL INTERVAL
OE/HDO (MIL-L-2104) OEA (MIL-L-46167)	Lubricating Oil, ICE, Tactical Lubricating Oil, ICE, Arctic		OE/HDO-15/40 OR OE/HDO-30 (O-238)	OE-HDO-15/40 OR OE/HDO-10 (O-237)	OEA (O-183)		A Annually (Every 2nd "S" P.M. Service)
	Oil Can Points	As req					S Semiannually (Every "S" P.M. Service)
GO (MIL-L-2105)	Lubricating Oil, Gear, Multipurpose		ALL TEMPERATURES GO-80/90 (O-227)				Q Quarterly
	Axle Ends	36 oz					M Monthly
GAA (MIL-L-10924)	Grease, Automotive and Artillery	As req	GAA (G-403)				
	Camshaft Kingpin Plate and Kingpin Landing Gear and Gearbox Retractable Twist Locks Slack Adjuster						
SD-2 (P-D-680)	Solvent, Dry Cleaning	As req	SD-2 (S-753)				

NOTES

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -IO°F (-23°C) Remove lubricants prescribed in the key for temperatures above -IO°F (-23°C). Clean parts with dry cleaning solvent (SD-2). Relubricate with lubricants specified in the key for temperatures O°F to -65°F (-18°C to -54°C).

2. KINGPIN AND PLATE Apply a thin coat of grease (GAA) to kingpin and kingpin plate. If vehicle is in continuous use, apply grease weekly.

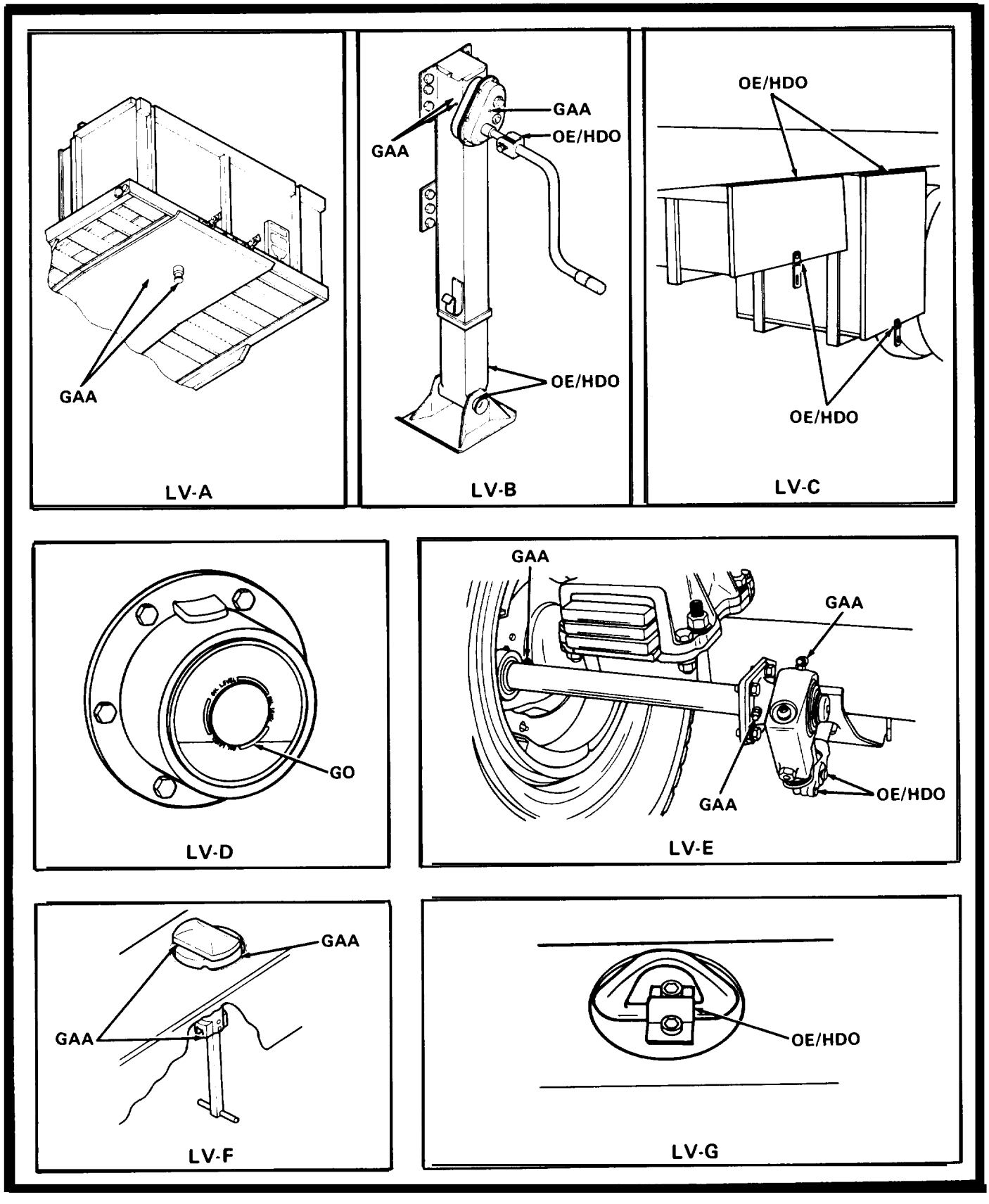
3. OIL CAN POINTS Lubricate slack adjuster clevis pins, storage box hinges and latches, cargo tie-down rings, bulkhead extension hinges, and landing gear crank, lower legs and sand shoe pins with lubricating oil (OE). OE/HDO- 15/40 is the preferred lubricant when temperatures are above +5° F (-15°C).

4. AXLE ENDS Check daily for lubricant at bottom OIL LEVEL mark in sight glass, Using clean cloth moistened with dry cleaning solvent (SD-2), clean area around rubber plug before removing. Pull rubber plug from hub cap, add lubricant (GO) to OIL LEVEL mark as necessary, and install rubber plug.

5. **DO NOT LUBRICATE SPRINGS, BRAKE ANCHOR PINS, OR BRAKE ROLLERS**

Copy of this lubrication chart will remain with the equipment at all times; instructions contained herein are mandatory.

Lubrication Chart (Sheet 3 of 3)



Lubrication Point Localized Views

Section II. OPERATOR TROUBLESHOOTING PROCEDURES

	Para
General	3-3
Symptom Index	3-4

3-3. GENERAL.

a. The table in this section lists the common malfunctions which you may find during the operation or maintenance of the semitrailer or its components. You should perform the tests/inspections and corrective maintenance in the order listed.

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

3-4. SYMPTOM INDEX.

	Page
ELECTRICAL SYSTEM	
All lights do not light	3-7
One or more lights will not light	3-7
Dim or flickering lights	3-8
BRAKES	
Brakes will not release	3-8
Grabbing brakes	3-9
LANDING GEAR	
Landing gear is difficult to raise or lower	3-10
TIRES	
Excessively worn, scuffed or cupped tires	3-10

OPERATOR TROUBLESHOOTING TABLE

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LIGHTS DO NOT LIGHT.

W A R N I N G

Disconnect electrical power source before performing any troubleshooting on wiring harness, connectors or lights.

Step 1. Turn on towing vehicle lights, including turn signals and stop lights. (See operator's manual for towing vehicle.)

a. If towing vehicle lights do not light, notify Organizational Maintenance.
b. If towing vehicle lights come on, go to step 2.

Step 2. Check electrical connection at intervehicular cable receptacle.

a. If cable is not properly connected, reconnect electrical cable.
b. If cable is properly connected, go to step 3.

Step 3. Check intervehicular connectors for dirty, damaged or corroded pins.

a. If pins are dirty or corroded, clean the pins (para. 3-5).
b. If pins are damaged, notify Organizational Maintenance.
c. If the above steps do not correct the malfunction, notify Organizational Maintenance.

2. ONE OR MORE LIGHTS WILL NOT LIGHT.

Step 1. Check setting of light switch on nose plate.

a. Set light switch properly.
b. If light switch is set properly, go to step 2.

Step 2. Visually check operation of light assembly.

a. If light assembly is not operating, notify Organizational Maintenance.
b. If light assemblies are operating, go to step 3.

Step 3. Check for broken lead wires or loose connections.

a. If lead wires are broken, notify Organizational Maintenance.
b. If connections are not loose or broken, go to step 4.

OPERATOR TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM - continued

2. ONE OR MORE LIGHTS WILL NOT LIGHT - continued.

Step 4. Check light assembly for damage.

a. If light assembly is damaged, notify Organizational Maintenance.
b. If light assembly is not damaged and malfunction is not corrected, notify Organizational Maintenance.

3. DIM OR FLICKERING LIGHTS.

Step 1. Check electrical connectors at light for loose, dirty or corroded pins.

a. If connectors are loose, tighten.
b. If connector pins are dirty or corroded, clean pins (para. 3-5).
c. If connectors are tight and clean, go to step 2.

Step 2. Visually check operation of light assembly.

a. If light assembly is not operating, notify Organizational Maintenance.
b. If light assemblies are operating, go to step 3.

Step **3.** Check intervehicular connectors for dirty, damaged or corroded pins.

a. If pins are dirty or corroded, clean the pins (para. 3-5).
b. If pins are damaged, notify Organizational Maintenance.
c. If the above steps do not correct the malfunction, notify Organizational Maintenance.

BRAKES

4. BRAKES WILL NOT RELEASE.

Step 1. If towing vehicle is equipped with air line shut-off valves at the gladhands, check to make sure they are fully open. (See operator-s manual for towing vehicle.)

a. If air line valves are shut off, open them fully.
b. If air supply is on, go to step 2.
c. If towing vehicle is not equipped with shut-off valves, go to step 2.

OPERATOR TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

4. BRAKES WILL NOT RELEASE - continued.

Step 2. Check pressure gage in towing vehicle for a minimum of 90 psi.

a. If pressure is low, build up air pressure to normal level.
b. If pressure is low and will not build up, notify Organizational Maintenance.
c. If pressure is normal, go to step 3.

Step 3. Check air line connections at gladhands.

a. If air lines are not properly connected (Emergency to Emergency, Service to Service), reconnect gladhands.
b. If air lines are connected properly, go to step 4.

Step 4. Check for dirty or damaged packing in gladhands.

a. If packing is dirty, clean packing (para. 3-7).
b. If packing is leaking or missing, notify Organizational Maintenance.
c. If packing is clean and not damaged, go to step 5.

Step 5. Inspect air line connections for leaks.

a. If leaks are evident, notify Organizational Maintenance.
b. If no leaks are evident, go to step 6.

Step 6. Check for open drain cock on each reservoir.

a. If either drain cock is open, close it (para. 3-6).
b. If drain cocks are closed, notify Organizational Maintenance.

5. GRABBING BRAKES.

WARNING

Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.

Check for moisture in air reservoir by opening each drain cock (para. 3-6).

a. If moisture is present, allow to drain.
b. If reservoirs are dry and malfunction is not corrected, notify Organizational Maintenance.

OPERATOR TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

LANDING GEAR

6. LANDING GEAR IS DIFFICULT TO RAISE OR LOWER.

Step 1. Check for misaligned or broken crank handle.

a. If handle is misaligned or broken, notify Organizational Maintenance.
b. If handle is not misaligned or broken, go to step 2.

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

a. If lower gear leg is dirty, clean leg (para 3-10).
b. If lower gear leg is clean, go to step 3.

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

If legs are misaligned, damaged or bent, notify Organizational Maintenance.

TIRES

7. EXCESSIVELY WORN, SCUFFED OR CUPPED TIRES.

Step 1. Check that cold tire pressure is 75 psi.

a. If tire pressure is incorrect, inflate or deflate tires to correct pressure.
b. If tire pressure is correct, go to step 2.

Step 2. Check for loose, cracked or broken wheels.

a. If wheels are loose, tighten nuts.
b. If wheel is cracked or broken, notify Organizational Maintenance.
c. 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.

a. If suspension system is damaged or has loose or missing bolts and nuts, notify Organizational Maintenance.
b. If suspension system is not damaged and all hardware is complete and secure, go to step 4.

OPERATOR TROUBLESHOOTING TABLE - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
TIRES - continued
7. EXCESSIVELY WORN, SCUFFED OR CUPPED TIRES - continued.
Step 4. Check tracking for indication of axle misalignment. a. If axle appears to be misaligned, notify Organizational Maintenance. b. If the above steps do not correct the malfunction, notify Organizational Maintenance.

Section III. MAINTENANCE PROCEDURES

	Para		Para
Electrical Connectors	3-5	Tire Removal and Installation	3-8
Air Reservoirs	3-6	Spare Tire Removal and Installation	3-9
Air Hose Couplings (Gladhands)	3-7	Landing Gear Legs	3-10

3-5 ELECTRICAL CONNECTORS.

This task covers cleaning.

INITIAL SETUP

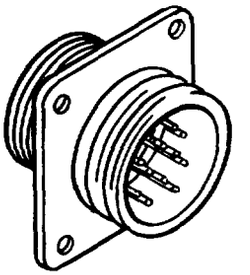
Materials/Parts

Brush, acid swabbing (item 1, Appendix E)
Detergent, liquid (item 3, Appendix E)
Rags, wiping (item 11, Appendix E)

3-5 ELECTRICAL CONNECTORS (CONT).

WARNING

Disconnect electrical power from vehicle before making any repairs on the electrical system. Failure to do so could result in personal injury.



a. Use a soft cloth to remove any buildup of grease and dirt on electrical connectors.

b. Using brush and detergent, clean metal surfaces.

c. Allow to dry.

TASK ENDS HERE

3-6 AIK RESERVOIRS.

This task covers servicing.

INITIAL SETUP

Tools

Protective goggles

---

a. Turn off air supply to semitrailer.

b. Unhook gladhands from air hose couplings.

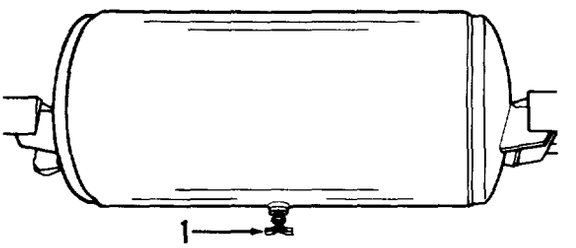
WARNING

Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.

c. Open drain cock (1) and allow pressure to drain.

d. Close drain cock (1).

e. Connect gladhands to air hose couplings.



TASK ENDS HERE

3-7 AIR HOSE COUPLINGS (GLADHANDS)

This task covers cleaning.

INITIAL SETUP

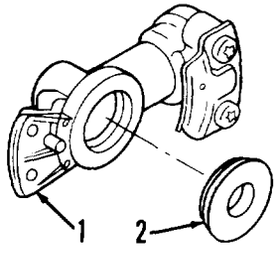
Materials/Parts

Detergent, liquid (item 3, Appendix E)
Rags, wiping (item 11, Appendix E)

a. Use a soft cloth to remove any buildup of grease and dirt on air hose couplings (1).

b. Use soft cloth, detergent, and water to thoroughly clean packings (2).

c. Allow to dry.



TASK ENDS HERE

3-8 TIRE REMOVAL AND INSTALLATION.

This task covers removal and installation.

INITIAL SETUP

Tools

Jack, hydraulic, hand
Wrench, lug/stud nut
Wrench extension bar

a. Removal.

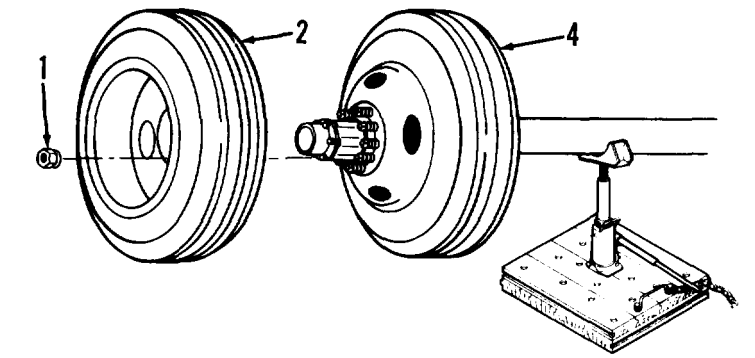
(1) Set wheel chocks opposite the tire(S)being removed.

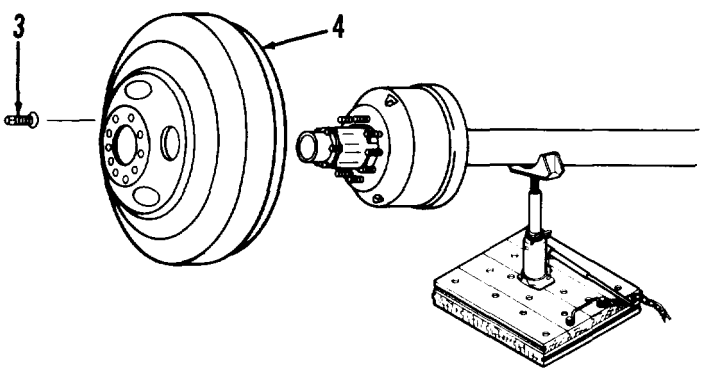
(2) Remove jack, lugwrench,and wrench bar from storage box.

(3)Remove float pad (groung board assembly) from storage box side of

semitrailer.

3-8 TIRE REMOVAL AND INSTALLATION (CONT) .





WARNING

Jack must be positioned directly under axle to prevent slippage. Direct all personnel to stay clear of vehicle when vehicle is supported in the air. Failure to do so could result in serious injury and damage to equipment.

(4) Position jack on float pad under axle closest to where tire(s) will be removed, as shown.

(5) Loosen, but do not remove ten lug nuts (1). If necessary, use wrench bar between handles of lug wrench for additional leverage.

(6) Jack up axle until tires (2 and 4) clear the ground.

(7) Remove ten lug nuts (1) and outer tire (2).

3-8 TIRE REMOVAL AND INSTALLATION (CONT) .

NOTE

If only the outer tire is being removed, omit steps (8) through (11) below.

(8) Lower jack until inner tire (4) touches the ground.

(9) Loosen, but do not remove ten lugs (3). If necessary, use wrench bar between handles of lug wrench for additional leverage.

(10) Jack up axle until inner tire (4) clears the ground.

(11) Remove ten lugs (3) and inner tire (4).

b. Installation.

NOTE

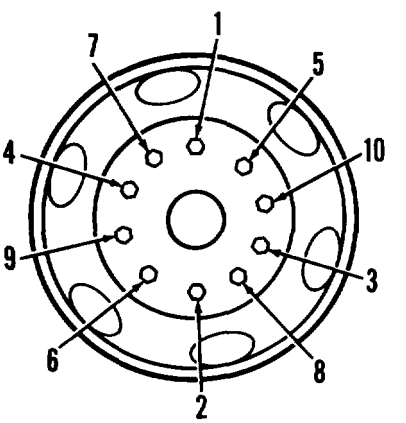
If only the outer tire was removed, go to step (4).

(1) If removed, install inner tire (4) and ten lugs (3). Tighten lugs.

(2) Lower jack until inner tire (4) touches the ground. Tighten lugs (3) in sequence shown.

(3) Jack up axle until inner tire (4) clears the ground.

(4) With valve stem 180 degrees from valve stem of inner tire (4), install outer tire (2) and ten lug nuts (1). Tighten lug nuts.



(5) Lower jack until tires touch ground.

(6) Tighten lug nuts (1) in sequence shown.

(7) Stow jack, lug wrench, and wrench bar in storage box.

(8) Remove float pad and wheel chocks and stow in brackets.

TASK ENDS HERE

3-9 SPARK SPARE TIRE REMOVAL AND INSTALLATION.

This task covers removal and installation.

a. Removal.

(1) Unhook snap (1) from chain (2).

(2) Pull spare tire (3) from spare tire carrier (4) and lower to ground.

b. Installation.

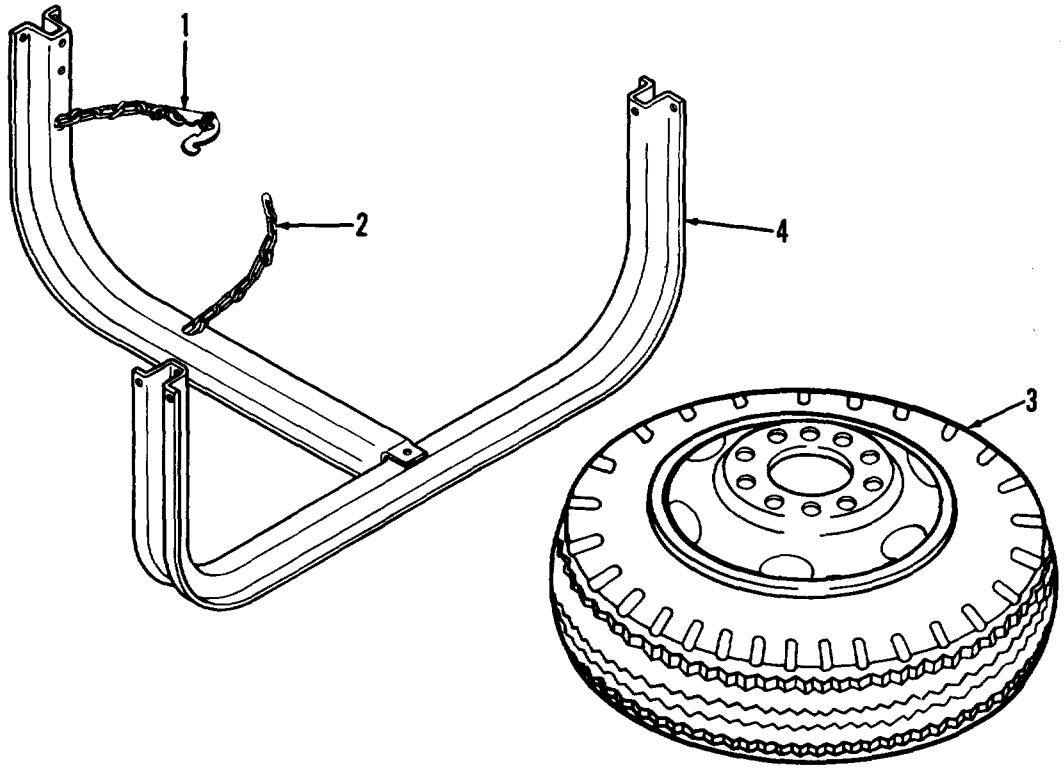
(1) Install spare tire (3) in spare tire carrier (4).

(2) Route chain (2) through the two 7/8-inch diameter holes in spare tire carrier (4).

(3) Bring end of chain (2) through center of spare tire (3).

(4) Take up slack in chain (2).

(5) Hook snap (1) to chain (2) to secure spare tire (3).



TASK ENDS HERE

3-10 LANDING GEAR LEGS.

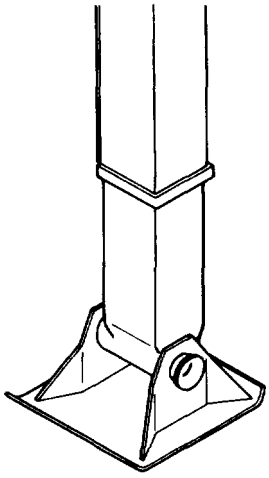
This task covers cleaning.

INITIAL SETUP

Materials/Parts

Rags, wiping (item 11, Appendix E)
Solvent, dry cleaning (P-D-680) (item 14, Appendix E)

a. Use soft cloth to remove any buildup of grease and dirt on landing gear.



WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

b. Use a small brush and dry cleaning solvent (P-D-680) to thoroughly clean landing gear leg.

c. Allow to dry.

TASK ENDS HERE

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Index

Section	Title	Page
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II	Repair Parts, Special Tools, TMDE, and Support Equipment	4-5
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IV	Organizational Preventive Maintenance Checks and Services (PMCS)	4-7
V	Organizational Troubleshooting Procedures	4-11
VI	Electrical System Maintenance	4-23
VII	Air Brake System Maintenance	4-46
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Section I. GENERAL MAINTENACE INSTRUCTIONS

	Para		Para
Scope	4-1	Cleaning Instructions	4-4
Safety, Care, and Handling	4-2	Inspection Instructions	4-5
General Information	4-3	Repair Instructions	4-6

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 maintenance tasks on the semitrailer.

4-2 SAFETY, CARE, AND HANDLING.

a. 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.

b. 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.

c. Always use power tools carefully.

4-3 GENERAL INFORMATION.

a. 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 the equipment only as far as necessary to repair or replace damaged or broken parts.

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

c. 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. Here are a few simple rules:

(1) Do not take out dowel pins or studs unless loose, bent, broken or otherwise damaged.

(2) Do not 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 packings.

4-4 CLEANING INSTRUCTIONS.

WARNING

Improper cleaning methods or use of improper cleaning liquids or solvents can injure personnel and damage equipment.

(1) The cleaning instructions will be the same for the majority of parts and components which make up the semitrailer.

(2) 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.

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

(a) Clean all parts before inspection, after repair, and before assembly.

(b) Hands should be kept free of any accumulation of grease, which can collect dust, dirt, or grit.

4-4 CLEANING INSTRUCTIONS (CONT) .

(c) 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.

b. Steam Cleaning.

WARNING

Use extreme caution while using steam cleaning equipment to avoid potentially serious burns and dangerous noise levels. To prevent injury, user must wear protective goggles or face shield and ear protection when using steam cleaning equipment.

(1) Protect all electrical equipment which could be damaged by the steam or moisture before steam cleaning the exterior of the semitrailer.

(2) Place disassembled parts in a suitable container to steam clean.

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

WARNING

Compressed air for cleaning purposes will not exceed 30 psi. Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury, user must wear protective goggles or face shield when using compressed air.

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

C. ElectricalCables,FlexibleHoses,andOilSeals.

CAUTION

Do not use dry cleaning solvent to clean rubber, plastic, or synthetic materials. Washing oil seals, electrical cables and flexible hoses with dry cleaning 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 because new seals will be used in assembly.

4-4 CLEANING INSTRUCTIONS (CONT) .

d. Brake Shoes.

WARNING

Do not use a dry brush or compressed air to clean brake shoes. There may be asbestos dust on brake shoes which can be dangerous to your health if you breath it. Brake shoe must be wet, and a soft bristle brush must be used. Rinse and allow to dry.

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

4-5 INSPECTION INSTRUCTIONS.

a. General. All components and parts must be carefully checked to determine if they are serviceable for reuse, if they can be repaired, or if they must be scrapped.

b. Drilled and Trapped (Threaded) HOLES.

(1) Inspect for wear, distortion (stretching), cracks, or any other damage in or around holes.

(2) Inspect threaded areas for wear, distortion, or evidence of cross-threading.

(3) Mark all damaged areas for repair or replacement.

c. Flexible Lines (Hose) Fitting.

(1) Inspect flexible lines for fraying, evidence of leakage, or loose metal fittings or connectors.

(2) Check all metal fittings and connectors for thread damage. Check for hex heads that are worn or rounded by poorly fitting wrenches.

(3) Mark all damaged material for repair or replacement.

d. Castings, Forgings, and Machined Metal Parts.

(1) Inspect machined surfaces for nicks, burrs, raised metal, wear, or any other damage.

(2) Check all inner and outer surfaces for breaks and cracks.

(3) Mark all damaged material for repair or replacement.

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

f. AirLine Fittings, and Connections, Check for leaking fittings and connections by coating fittings and connections with soap solution. No leakage is permissible.

4-6 REPAIR INSTRUCTIONS.

N O T E

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

a. General. 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.

b. Casting, Forgings, and Machined Metal Parts.

(1) Minor cracked castings or forgings may possibly be repaired. See your supervisor and refer to TM 9-237.

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 ºF.

(2) Repair minor damage to machined surfaces with a fine mill file or crocus cloth dipped in dry cleaning solvent (P-D-680).

(3) A deeply nicked machined surface which could affect the assembly operation should be replaced. See your supervisor.

(4) Minor damage to threaded capscrew holes should be repaired with thread tap of same size. See your supervisor.

Section II. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

	Para
Common Tools and Equipment	4-7
Special Tools, TMDE, and Support Equipment	4-8
Repair Parts	4-9

4-7 COMMON TOOLS AND EQUIPHEUT.

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

4-8 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

See MAC Appendix B, Section III for special tools. No TMDE or support equipment are required for maintenance of the semitrailer.

4-9 REPAIR PARTS.

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

Section III. SERVICE UPON RECEIPT

Para
Unpacking and Checking the Equipment 4-10
Servicing the Equipment 4-11

4-10 UNPACKING AND CHECKING THE EQUIPMENT.

a. Remove tape, banding, plywood, wrapping paper or other protective shipping items.

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 ºF.

b. If any exterior parts are coated with rust preventive compound, remove compound with cleaning solvent.

c. Read and follow all instructions contained in DD Form 1397, which comes attached to the semitrailer.

d. Inspect equipment for damage incurred during shipping. If equipment has been damaged, report the damage on SF 364, Report of Discrepancies.

e. Check equipment against packing slip to see if shipment is complete. Report all discrepancies in accordance with DA Pam 738-750.

4-11 SERVICING THE EQUIPMENT.

a. Perform operator and organizational preventive maintenance checks and services contained in the PMCS tables (pages 2-11 and 4-8).

b. Lubricate all points shown in the lubrication chart, page 3-2, regardless of interval.

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

Section IV. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Para
General 4-12
Organizational Preventive Maintenance Checks and Services 4-13
PMCS Column Description 4-14

4-12 GENERAL.

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

4-13 ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES.

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

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

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

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

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

d.If anything looks wrongand you can't fix it, write it down on your DA Form 2404. If you findsomething serious wrong, report it to direct suppoert maintenance as soon as possible.

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 ºF.

Compressed air for cleaning purposes will not exceed 30 psi. Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury user must wear protective goggles or face shield when using compressed air.

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

4-13 ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT).

(2) Bolts, nuts, and screws: Check that they are not loose, missing, bent or broken. Look for chipped paint, bare metal or rust around bolt heads. Tighten any that you find loose.

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

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

(5) Hoses and air lines: Look for wear, damage and leaks. Make sure fittings are tight. 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 maintenance (refer to MAC, Appendix B).

4-14 PMCS COLUMN DESCRIPTION.

a. Item Number - Tells the order PMCS should be performed. It is 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.

b. Interval - Tells when each check is to be performed.

c. Item To Be Inspected - Lists the checks to be performed.

NOTE

Perform Operator/Crew PMCS prior to or in conjunction with Organizational PMCS if:

1. There is a delay between the daily operation and the Organizational PMCS.

2. Regular operator is not assisting or participating.

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Q - Quarterly S-Semiannually

Item no.	Interval Q	Interval S	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.
1			**Air Reservoirs and Lines**
		●	Check air reservoirs and air lines for damage and tight connections.
2			**Wheels**
		●	a. Check brakes. Replace damaged or worn parts (para. 4-34).
		●	b. Check wheel bearing end play. Adjust or replace as necessary (para. 4-38).
		●	c. Rotate and match dual tires according to degree of wear (see TM 9-2610-200-24).
3			**Springs**
		●	a. Check springs for any evidence of damage.
		●	b. Check for shifted leaves. If evidence of shifting, sagging, or damage exists, immediately notify direct support maintenance.
			CAUTION
	●		
	●		
	●		

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

Q-Quarterly S- Semiannually

Item no.	Interval Q	Interval S	ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.
4			**Data Plates**
		●	Assure legibility and condition of data plates. Replace damaged or disfigured plates (para. 4-33 and 4-53).
5			**Body (Floor)**
		●	Check overall body and floor condition for evidence of rotted wood, gouges and other damage. Repair as necessary.
6			**Frame**
		●	Look for cracks, bent members, and broken welds. If frame damage is seen, immediately notify direct support maintenance.
7			**Road Test**
		●	a. Perform road test. Give special attention to items that were repaired or adjusted.
		●	b. Be alert during road tests for any unusual noises that may indicate damage or looseness in springs. **W A R N I N G** A hot brake can cause serious burns. Exercise extreme caution before attempting to touch brake drum after use. Slowly move hand toward drum. If drum is overheated, radiated heat will be felt before actually touching drum.
		●	c. Immediately after road test, cautiously feel brake drums and hubs for abnormal heat. **NOTE** An overheated wheel hub and brake drum indicates an improperly adjusted or defective brake or wheel bearing. An abnormally cool condition indicates an inoperative brake.

Section V. ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

	Para
General	4-15
Symptom Index	4-16

4-15 GENERAL.

a. The table in this section lists the common malfunctions which you may find during the operation or maintenance of the semitrailer or its components. You should perform the tests/inspections and corrective maintenance in the order listed.

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

4-16 SYMPTOM INDEX.

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BRAKES	
Brakes will not release	4-14
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ORGANIZATIONAL TROUBLESHOOTING TABLE

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

WARNING

Disconnect electrical power source before performing any troubleshooting on wiring harness, connectors or lights.

1. ALL LIGHTS DO NOT LIGHT.

Step 1. Check setting of light switch on towing vehicle. (See operator's manual for towing vehicle).

a. Set light switch properly.
b. If light switch is set properly, go to step 2.

Step 2. Check intervehicular cable receptacles for proper connections.

a. Pull plug out and reinsert fully.
b. If receptacles not defective, go to step 3.

Step 3. Check towing vehicle for tripped circuit breakers or blown fuses. (See maintenance manual for towing vehicle.)

a. If circuit breaker is open, reset circuit breaker.
b. If fuse is blown, replace fuse.
c. If circuit breaker is not tripped and fuse is not blown, go to step 4.

Step 4. Check wiring for bare spots in insulation.

a. Repair wiring, if defective (para. 4-21).
b. If wiring is not defective, go to step 5.

Step 5. Remove nose plate (para. 4-23) and check for loose or broken ground wires.

Repair ground wire or tighten connection. Install nose plate.

2. ONE OR MORE LIGHTS WILL NOT LIGHT.

Step 1. Check setting of light switch on nose plate.

a. Set light switch properly.
b. If light switch is set properly, go to step 2.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM - continued

2. ONE OR MORE LIGHTS WILL NOT LIGHT - continued.

Step 2. Check for burned lamp.

a. Replace lamp if defective (para. 4-17).
b. If lamp does not light, go to step 3.

Step 3. Remove lamp and check lamp socket for dirt or corrosion.

a. Clean lamp socket, if dirty or corroded.
b. If lamp socket is clean, install lamp and go to step 4.

Step 4. Check for damaged light assembly.

a. Replace light assembly, if damaged (para. 4-17 through 4-20).
b. If light assembly is not damaged, go to step 5.

Step 5. Check plug and/or receptacle for dirty or corroded contacts.

a. Clean contacts, if dirty or corroded.
b. If contacts are not dirty or corroded, go to step 6.

Step 6. Check for broken or shorted wire in cable or loose connection in plug or receptacle.

a. Tighten, repair or replace as necessary.
b. If wiring and connections are not damaged, go to step 7.

Step 7. Remove nose plate (para. 4-23) and check for loose or broken ground wires.

a. If ground wire is broken, repair or replace wire and install nose plate.
b. If ground wire is loose, tighten connection and install nose plate.
c. If ground wire is not broken and connection is tight, go to step 8.

Step 8. Check for open resistors.

a. Test for continuity.
b. Replace all open resistors and install nose plate (para. 4-26).

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES

3. BRAKES WILL NOT RELEASE.

Step 1. Check position of brake valve on towing vehicle. (See operator's manual for towing vehicle).

a. Move brake valve to release position.
b. If brake valve is correctly positioned, go to step 2.

Step 2. Check air hoses for proper connection to towing vehicle.

a. If air hoses are not properly connected (Emergency to Emergency, Service to Service), reconnect gladhands.
b. If hoses are properly connected, go to step 3.

Step 3. If towing vehicle is equipped with air line shut-off valves at the gladhands, check to make sure they are fully open. (See operator's manual for towing vehicle).

a. If air line valves are shut off, open them fully.
b. If valves are open, go to step 4.
c. If towing vehicle is not equipped with shut-off valves, go to step 4.

Step 4 Check air pressure gage on towing vehicle for a minimum of 90 psi.

a. If air pressure is low, build up pressure to normal level.
b. If air pressure is low and will not build up, troubleshoot towing vehicle air system. (See maintenance manual for towing vehicle.)
c. If air pressure gage indicates normal, go to step 5.

Step 5. Test operation of emergency relay valves (para. 4-29).

a. If emergency relay valve is defective, replace (para. 4-29).
b. If emergency relay valves are operating, go to step 6.

Step 6. Check for restriction in service air and emergency air lines.

a. If air lines or hoses are restricted, replace or repair as required (para. 4-27).
b. If air lines and hoses are free of restrictions, go to step 7.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

3. BRAKES WILL NOT RELEASE - continued.

W A R N I N G

To prevent injury, keep hands away from brake chamber push rods and slack adjusters. They will move as service brakes are operated, and will automatically apply if system pressure drops.

Step 7. Using soapy water, check spring brake chambers for leaks at clamp bands and hose fittings.

a. If leaks are seen at brake chamber clamp band, replace spring brake chamber (para. 4-32).
b. If leaks are seen at hose fitting, tighten hose fitting or replace hose (para. 4-27).
c. If brake chambers are not leaking, go to step 8.

Step 8. Remove brake drum (para. 4-38) and check for broken brake shoe tension springs.

If brake shoe tension spring is broken, replace (para. 4-34).

4. NO BRAKES OR WEAK BRAKES.

Step 1. Check air hoses for proper connection to towing vehicle.

a. If air hoses are not properly connected (Emergency to Emergency, Service to Service), reconnect gladhands.
b. If hoses are properly connected, go to step 2.

Step 2. If towing vehicle is equipped with air line shut-off valves at the gladhands, check to make sure they are fully open. (See operator's manual for towing vehicle).

a. If air line valves are shut off, open them fully.
b. If valves are open, go to step 3.
c. If towing vehicle is not equipped with shut-off valves, go to step 3.

Step 3. Check for open drain cocks in semitrailer air reservoirs.

a. If either drain cock is open, close it.
b. If both drain cocks are closed, go to step 4.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

4. NO BRAKES OR WEAK BRAKES - continued.

Step 4. Check air pressure gage on towing vehicle for a minimum of 90 psi.

a. If air pressure is low, build up pressure to normal level.
b. If air pressure is low and will not build up, troubleshoot towing vehicle air system. (See maintenance manual for towing vehicle.)
c. If air pressure gage indicates normal, go to step 5.

Step 5. Check air lines and connectors for restrictions and leaks.

a. Remove any restrictions from hoses and tighten connections. Repair or replace as necessary (para. 4-27).
b. If air lines and connections are not restricted or leaking, go to step 6.

Step 6. Test operation of emergency relay valves (para. 4-29).

a. If emergency relay valve is defective, replace (para. 4-29).
b. If emergency relay valves are operating, go to step 7.

WARNING

To prevent injury, keep hands away from brake chamber push rods and slack adjusters. They will move as service brakes are operated, and will automatically apply if system pressure drops.

Step 7. Have a helper apply and hold the towing vehicle service brakes. Using soapy water, check spring brake chambers for leaks at clamp bands and hose fittings.

a. If leaks are seen at brake chamber clamp band, replace spring brake chamber (para. 4-32).
b. If leaks are seen at hose fitting, tighten hose fitting or replace hose (para. 4-27).
c. If brake chambers are not leaking, go to step 8.

Step 8. Check brake adjustment.

a. If brakes are out of adjustment, check operation of automatic slack adjusters (para. 4-36). Replace all defective slack adjusters.
b. If brakes are not out of adjustment, go to step 9.

ORGANZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

4. NO BRAKES OR WEAK BRAKES - continued.

Step **9.** Remove brake drum (para. 4-38) and check for worn/worn out brake lining.

a. If brake lining is worn out, replace brake shoes (para. 4-34).
b. If brake lining is not worn, go to step 10.

Step 10. Look for grease or oil on brake lining.

a. If brake lining has grease on it, check camshaft O-ring for damage, replace O-ring if defective (para. 4-35) and replace brake shoes (para. 4-34).
b. If brake lining has oil on it, check wheel hub oil seal for leakage, replace oil seal if leaking (para. 4-38) and replace brake shoes (para. 4-34).
c. If brake lining shows no grease or oil, go to step 11.

Step 11. Visually check for broken or frozen camshaft roller.

If camshaft roller is broken or frozen, replace (para. 4-34).

5. SLOW BRAKE APPLICATION OR RELEASE.

Step 1. Check air pressure gage on towing vehicle for a minimum of 90 psi.

a. If air pressure is low, build up pressure to normal level.
b. If air pressure is low and will not build up, troubleshoot towing vehicle air system. (See maintenance manual for towing vehicle.)
c. If air pressure gage indicates normal, go to step 2.

Step 2. Check air lines and connectors for restrictions and leaks.

a. Remove any restrictions from hoses and tighten connections. Repair or replace as necessary (para. 4-27).
b. If air lines and connections are not restricted or leaking, go to step 3.

Step 3. Check emergency relay valves for plugged exhaust ports.

a. If exhaust port is plugged, clean valve.
b. If exhaust port is not plugged, go to step 4.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

5. SLOW BRAKE APPLICATION OR RELEASE - continued.

Step 4. Test operation of emergency relay valves (para. 4-29).

a. If emergency relay valve is defective, replace (para. 4-29).
b. If emergency relay valves are operating, go to step 5.

WARNING

To prevent injury, keep hands away from brake chamber push rods and slack adjusters. They will move as service brakes are operated, and will automatically apply if system pressure drops.

Step 5. Have a helper apply and hold the towing vehicle service brakes. Using soapy water, check spring brake chambers for leaks at clamp bands and hose fittings.

a. If leaks are seen at brake chamber clamp band, replace spring brake chamber (para. 4-32).
b. If leaks are seen at hose fitting, tighten hose fitting or replace hose (para. 4-27).
c. If brake chambers are not leaking, go to step 6.

Step 6. Remove brake drum (para. 4-38) and check for broken brake shoe tension spring.

a. If spring is broken, replace (para. 4-34).
b. If spring is not defective, go to step 7.

Step 7. Visually check for broken or frozen camshaft roller.

If camshaft roller is broken or frozen, replace (para. 4-34).

6. GRABBING BRAKES.

Step 1. Check for moisture in air reservoirs.

WARNING

Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.

a. Open drain cocks and allow moisture to drain.
b. If no moisture is present, close drain cocks and go to step 2.

ORGANIZATIONAL TROUBLESEOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

6. GRABBING BRAKES - continued.

Step 2. Check brake adjustment.

a. If brakes are out of adjustment, check operation of automatic slack adjusters (para. 4-36). Replace all defective slack adjusters.
b. If brakes are not out of adjustment, go to step 3.

Step 3. Check for loose or worn wheel bearings.

a. If wheel bearings are loose, adjust (para. 4-38).
b. If wheel bearings cannot be adjusted, replace (para. 4-38).
c. If wheel bearings are not loose or worn, go to step 4.

Step 4. Remove brake drum (para. 4-38) and look for grease or oil on brake lining.

a. If brake lining has grease on it, check camshaft O-ring for damage, replace O-ring if defective (para. 4-35) and replace brake shoes (para. 4-34).
b. If brake lining has oil on it, check wheel hub oil seal for leakage, replace oil seal if leaking (para. 4-38) and replace brake shoes (para. 4-34).
c. If brake lining shows no grease or oil, go to step 5.

Step 5. Visually check for broken or frozen camshaft roller. Look for flat spots on camshaft roller and camshaft.

a. If camshaft roller is broken or frozen, replace (para. 4-34).
b. If camshaft is defective, replace (para. 4-35).
c. If camshaft and roller are not defective, go to step 6.

Step 6. Check for loose or worn brake lining.

a. If brake lining is loose or worn, replace brake shoes (para. 4-34).
b. If brake lining is not loose or worn, go to step 7.

Step 7. Check for cracked, scored, or deformed brake drum.

a. If brake drum is cracked or deformed, replace (para. 4-38).
b. If brake drum is scored, notify direct support maintenance.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES - continued

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

Step 1. Check brake adjustment.

a. If brakes are out of adjustment or adjusted too tightly, check operation of automatic slack adjusters (para. 4-36). Replace all defective slack adjusters.
b. If brakes are not out of adjustment, go to step 2.

Step 2. Remove brake drum (para. 4-38) and check for broken brake shoe tension spring.

a. If spring is broken, replace (para. 4-34).
b. If spring is not defective, go to step 3.

Step 3. Visually check for broken or frozen camshaft roller. Look for flat spots on camshaft roller and camshaft.

a. If camshaft roller is broken or frozen, replace (para. 4-34).
b. If camshaft is defective, replace (para. 4-35).
c. If camshaft and roller are not defective, go to step 4.

Step 4. Check for cracked, scored or deformed brake drum.

a. If brake drum is cracked or deformed, replace (para. 4-38).
b. If brake drum is scored, notify direct support maintenance.

LANDING GEAR

8. DIFFICULTY IN TURNING HANDCRANK.

Step 1. Check for bent lower leg.

a. If lower leg is bent, replace landing leg (para. 4-45).
b. If lower leg is not bent, go to step 2.

Step 2. Operate crank and listen for grinding gears or bearings in landing leg gear box.

If gears or bearings grind and legs do not extend or retract properly, replace landing leg with assembled gear box (para. 4-45).

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

SPRINGS AND SUSPENSION

9. HARD PULLING.

Step 1. Check for dragging brakes (side pull or hot drum) .

a. If brakes are dragging, go to MALFUNCTION 7. BRAKES DRAG AND ONE OR MORE BRAKE DRUMS RUNNING HOT.
b. If brakes are not dragging, go to step 2.

Step 2. Check for loose or worn wheel bearings.

a. If wheel bearings are loose, adjust (para. 4-38).
b. If wheel bearings cannot be adjusted, replace (para. 4-38).
c. If wheel bearings are not loose or worn, go to step 3.

Step 3. Check for loose trunnion tube hanger bolts.

a. If trunnion tube hanger bolts are loose, torque to 300 lb-ft.
b. If trunnion tube hanger bolts are secure, go to step 4.

Step 4. Check for loose or broken springs.

If springs are loose or broken, notify direct support maintenance.

10. IMPROPER SPRING ACTION.

Step 1. Check for loose spring end cap U-bolts.

a. If U-bolts are loose, torque U-bolt lock nuts to 300 lb-ft.
b. If U-bolts are secure, go to step 2.

Step 2. Check springs for broken or weak spring leaves.

If leaves are broken or weak, notify direct support maintenance.

11. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES.

Step 1 Check that cold tire pressure is 75 psi.

a. If tire pressure is incorrect, inflate or deflate tires to correct pressure.
b. If tire pressure is correct, go to step 2.

ORGANIZATIONAL TROUBLESHOOTING TABLE - Continued

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

SPRINGS AND SUSPENSION - continued

11. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES - continued.

Step 2. Check for loose wheels.

a. If wheels are loose, tighten wheel lug nuts.
b. If wheels are secure, go to step 3.

Step 3. Visually check for bent wheel.

a. Replace wheel, if bent.
b. If wheel is not bent, go to step 4.

Step 4. Check dual tires for proper matching according to wear. (See TM 9-2610-200-24 for acceptable limits in matching tires.)

a. If necessary, remove and match tires.
b. If tires are properly matched, go to step 5.

Step 5. Check for loose or worn wheel bearings.

a. If wheel bearings are loose, adjust (para. 4-38).
b. If wheel bearings cannot be adjusted, replace (para. 4-38).
c. If wheel bearings are not loose or worn, go to step 6.

Step 6. Remove wheel (para. 3-8) and check for deformed, cracked or scored brake drum.

a. If brake drum is cracked or deformed, replace (para. 4-38).
b. If brake drum is scored, notify direct support maintenance.

Step 7. Check semitrailer tracking.

Notify direct support maintenance.

Section VI. ELECTRICAL SYSTEM MAINTENANCE

	Para		Para
Composite Light	4-17	Wire Connectors	4-22
Clearance Light	4-18	12-volt Receptacle (Nose Plate)	4-23
Bar Light	4-19	24-volt Receptacle	4-24
Taillight	4-20	Light Switch	4-25
Wiring Harnesses	4-21	Light Resistors	4-26

4-17 COMPOSITE LIGHT.

This task covers:
a. Removal
b. Disassembly
c. Repair
d. Reassembly
e. Installation

INITIAL SETUP

Tools	Materials/Parts
No. 1 common tool kit	Tie strap

NOTE

If wire connectors are to be repaired or replaced go to wire connector procedure (para. 4-22a).

Removal is not necessary for lamp or lens replacement. If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before taking electrical connectors apart.

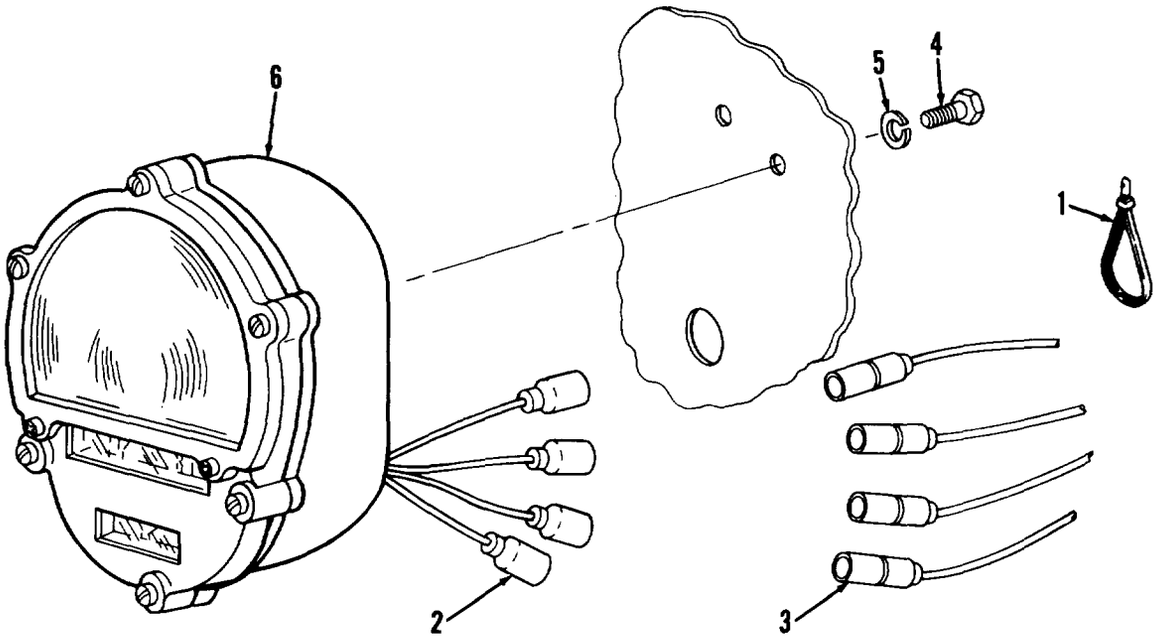
a. Removal.

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

(1) If necessary, cut tie strap (1) and remove from wiring harness. Discard tie strap.

4-17 COMPOSITE LIGHT (CONT).



CAUTION

Do not pull on wires, only pull connectors apart. Pulling on wires could damage them.

(2) Pull four connectors (2) from wiring harness connectors (3).

(3) Support composite light (6) and remove two capscrews (4) and lock washers (5).

(4) Guide connectors (2) through hole at rear of semitrailer and remove composite light (6).

b. Disassembly.

(1) Loosen six captive screws (7) and remove lens (8) with O-ring (9). Captive screws (7) are fitted with retaining rings (10) and will remain in lens (8).

(2) Remove O-ring (9) from groove in lens (8).

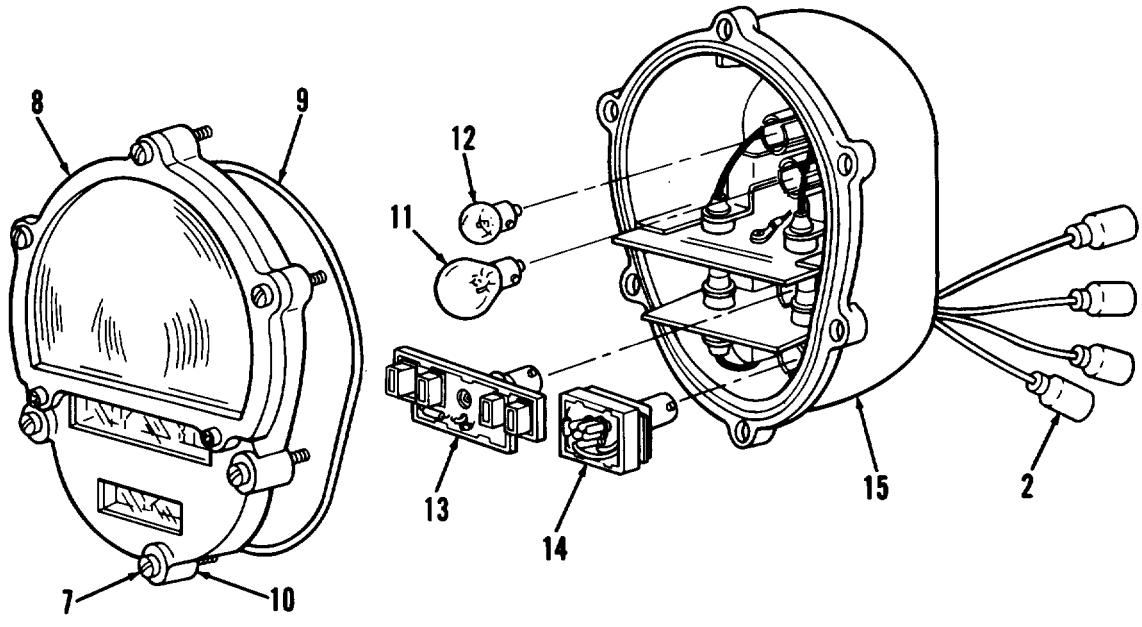
(3) Remove lamps (11 and 12) from sockets in body (15).

(4) Gently pull circuit board (13) for access to socket, turn circuit board plug counterclockwise, and pull from socket.

(5) Repeat step (4) to remove circuit board (14).

Repair. is limited to the replacement of unserviceable parts. See paragraph 4-22a for wire connector (2) repair.

4-17 COMPOSITE LIGHT (CONT).



d. Reassembly.

(1) position circuit board (14) plug in socket,press in, and turn clockwise.

(2) Repeat step (1) for circuit board (13)

(3) Install lamps (11 and 12) in sockets.

(4) Install O-ring (9) in groove of lens (8).

(5) Position lens (8) on body (15) .

(6) Tighten six captive screws (7).

e.Installation.

(1) Guide four connectors (2) through hole at rear of semitrailer and position composite light (6).

(2) Install two lock washers (5) and capscrews (4).

(3) Connect four connectors (2) to wiring harness connectors (3) according to circuit marker bands.

(4) If removed, install new tie strap (1) at wiring harness.

(5) Connect electrical power and test for proper operation-

TASK ENDS HERE

4-18 CLEARANCE LIGHT.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

NOTE

This procedure is typical for all side clearance lights.

a. Removal.

(1) Pull wiring harness connector (1) from clearance light (2).

(2) Push clearance light (2) from grommet (3).

(3) Remove grommet (3) from frame (4).

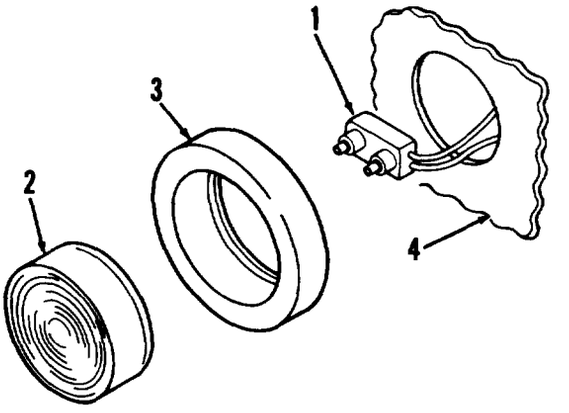
b. Installation.

(1) Install grommet (3) in frame (4).

(2) Snap clearance light (2) into position in grommet (3).

(3) Connect wiring harness connector (1) to clearance light (2).

(4) Connect electrical power and test for proper operation.



TASK END HERE

4-19 BAR LIGHT.

This task covers:
a. Removal
b. Disassembly
c. Repair
d. Reassembly
e. Installation

INITIAL SETUP

Tools

General mechanics tool kit

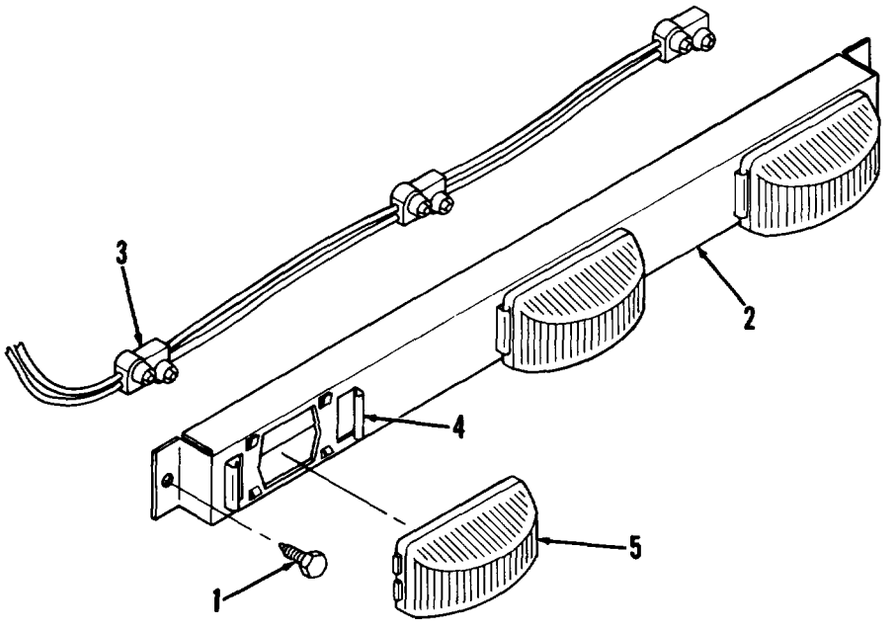
WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

a.Removal

(1) Remove two screws (1) and bracket (2).

(2) Pull three wiring harness connectors (3) from clearance lights (5).

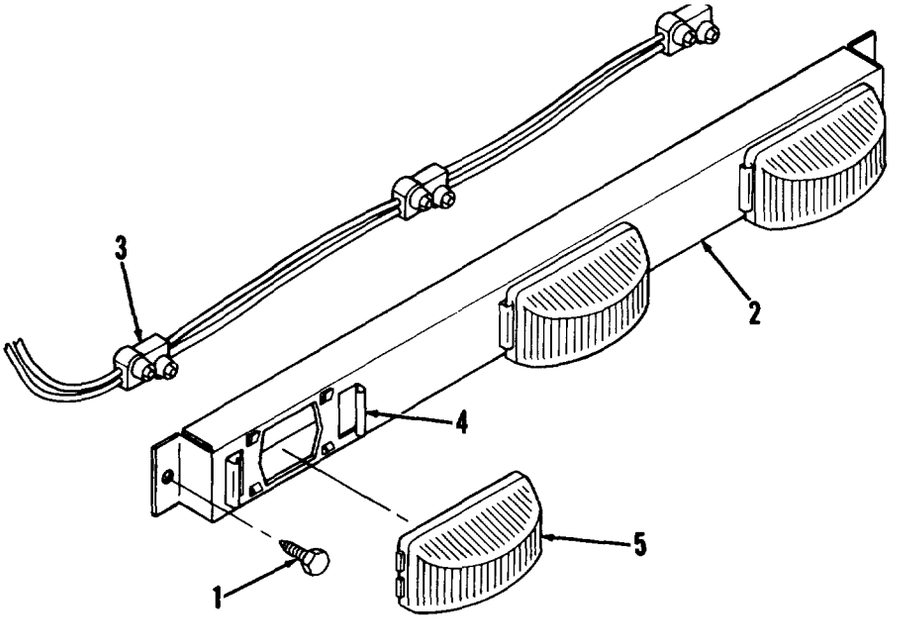


b.Disassembly.

(1) Using flat-tip screwdriver, pry tab (4) from side of clearance light (5) just enough to remove clearance light (5) from bracket (2).

(2) Repeat step (1) for two remaining clearance lights (5).

4-19 BAR LIGHT (CONT) .



c. Repair . Repair is limited to splicing wires and replacing damaged parts.

d. Reassembly .

(1) Position one side of clearance light (5) in tab (4) on bracket (2).

(2) Push other side of clearance light (5) into tab (4).

(3) Repeat steps (1) and (2) for two remaining clearance lights (5).

e. Installation.

(1) Connect three wiring harness connectors (3) to clearance lights (5).

(2) Position bracket (2) on semitrailer and install two screws (1).

(3) Connect electrical power and test for proper operation.

TASK ENDS HERE

4-20 TAILLIGHT.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do 80 could result in injury.

a. Removal

(1) Reach behind taillight (1) and push from grommet (3).

(2) Pull wiring harness connector (2) from taillight (1).

(3) Remove grommet (3) from frame (4).

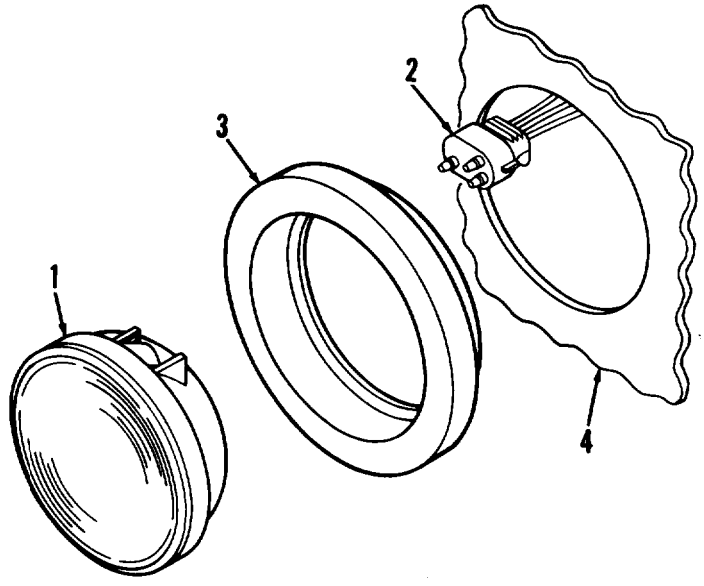
b. Installation.

(1) Install grommet (3) in frame (4).

(2) With connector (2) at top, snap taillight (1) into position in grommet (3).

(3) Connect wiring harness connector (2) to taillight (1).

(4) Connect electrical power and test for proper operation.



TASK ENDS HERE

4-21 WIRING HARMESSES.

This task covers removal, repair, installation, and testing.

INITIAL SETUP

Tools

No. 1 common tool kit

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

CAUTION

Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

Do not pull on wires, only pull on connectors. Pulling on wires could damage them.

NOTE

If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before disconnecting wiring harness leads.

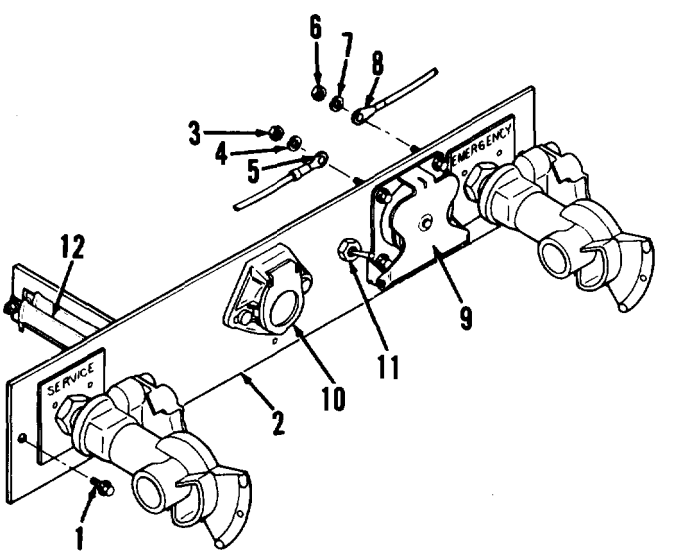
a. 12-volt Receptacle Harness Removal.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).

(2) Disconnect wiring harness leads from 12-volt receptacle (10) (para. 4-23).

(3) Disconnect wiring harness leads from light switch (11) (para. 4-25) and light resistors (12) (para. 4-26).

(4) Remove nut (3), lock washer (4), and wiring harness ground wire (5) from 24-volt receptacle (9).



4-21 WIRING HARNESSES (CONT).

(5) Disconnect wiring harness leads from main wiring harness connectors.

(6) Remove 12-volt receptacle harness.

b. 24-volt Receptacle Harness Removal. See paragraph 4-24 for removal.

c. Main Wiring Harness Removal.

(1) Disconnect main wiring harness leads from 12- and 24-volt receptacle harness connectors.

(2) Remove nut (6), lock washer (7), and main wiring harness ground wire (8) from 24-volt receptacle (9).

(3) Disconnect main wiring harness leads from lights as listed below.

Para.	Lights
4-17	Composite lights (2)
4-18	Side clearance lights (4)
4-19	Bar light
4-20	Taillights (4)

NOTE

Record wiring harness routing to aid installation.

(4) Bend loop clamps away from harness and lift main wiring harness from loop clamps.

(5) At rear of semitrailer, note location of three tie straps *to* aid installation. Cut tie straps and remove from main wiring harness. Discard tie straps.

(6) Pull main wiring harness through grommets located in frame and remove from semitrailer.

d. Repair. Repair is limited to splicing of damaged wires, connectors (para. 4-22), and replacement of 24-volt receptacle pins (para. 4-24).

e. 12-volt Receptacle Harness Installation.

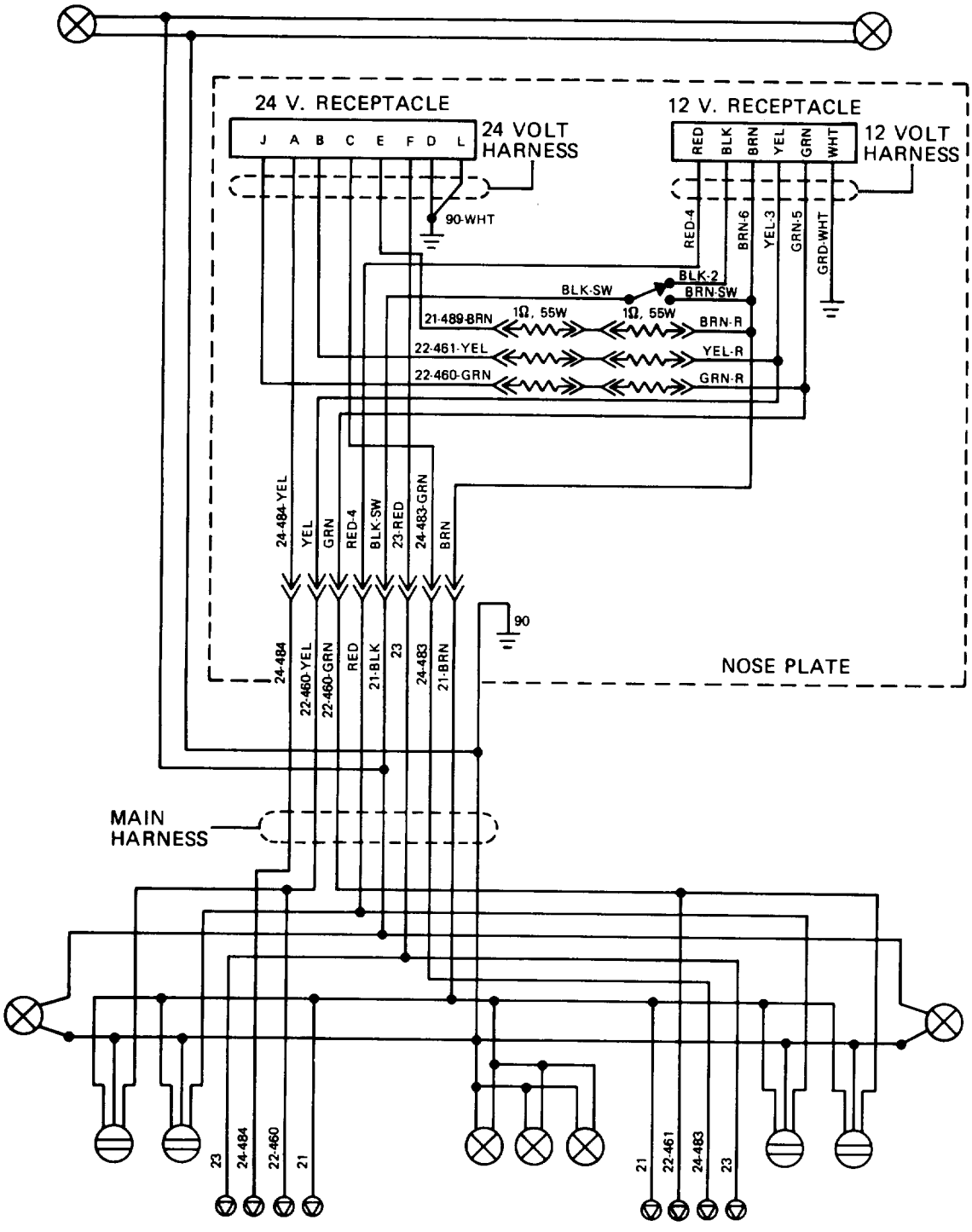
(1) Connect wiring harness leads to main wiring harness connectors.

(2) Install wiring harness ground wire (5), lock washer (4), and nut (3) on 24-volt receptacle (9).

(3) Connect wiring harness leads to light switch (11) (para. 4-25) and light resistors (12) (para. 4-26).

(4) Connect wiring harness leads to 12-volt receptacle (10) (para. 4-23).

4-21 WIRING HARNESSES(CONT).



⊗ PLUG FOR CLEARANCE LIGHT

▽ FEMALE BULLET CONNECTOR FOR COMPOSITE LIGHT

⊖ PLUG FOR STOP, TURN AND TAILLIGHT

Electrical Schematic

4-21 WIRING HARNESSES(CONT) .

f. 24-volt Receptacle Harness Installation. See paragraph 4-24 for installation.

g. Main Wiring Harness Installation.

CAUTION

Be sure all grommets are present when installing wiring harness. If grommets are missing, the wiring harness may be damaged.

(1) Starting at rear of semitrailer, route main wiring harness as recorded during removal. Pull main wiring harness through grommets located in frame.

(2) Secure main wiring harness in loop clamps by bending clamps against frame.

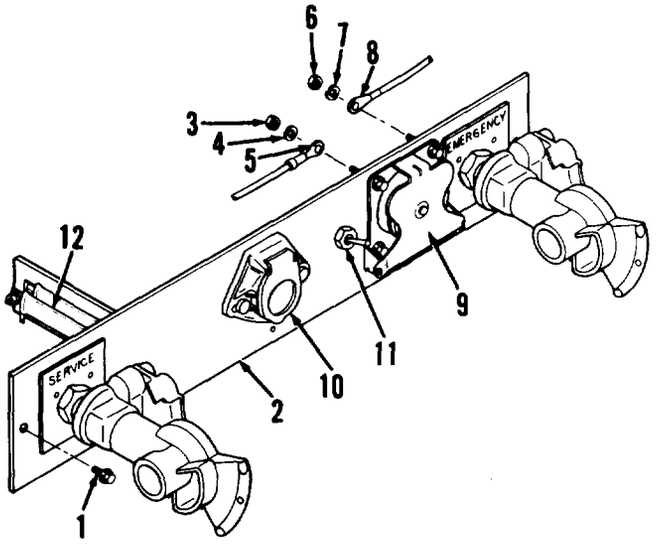
(3) Connect main wiring harness leads to lights as listed below.

Para.	
4-17	Composite lights (2)
4-18	Side clearance lights (4)
4-19	Bar light
4-20	Taillights (4)

(4) At rear of semitrailer, install three new tie straps on main wiring harness at locations noted during removal.

(5) At 24-volt receptacle (9), install main wiring harness ground wire (8), lock washer (7), and nut (6).

(6) Connect main wiring harness leads to 12- and 24-volt receptacle harness connectors.



h. Testing.

(1) Guide wires and tubing into frame opening and position nose plate (2) against frame.

(2) Install and tighten four capscrews (1).

(3) Connect electrical power and test for proper operation.

TASK ENDS HERE

4-22 WIRE CONNECTORS.

This task covers repair.

INITIAL SETUP

Tools	Equipment Condition
No. 2 common tool kit Electrical connector tool kit	Connector disconnected.

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

NOTE

If necessary, slide marker bands away from the connector.

a. Male Connector Repair.

(1) Slide shell (2) up wire lead (4) until clear of contact (3) and slotted washer (1).

(2) Remove slotted washer (1).

(3) Slide shell (2) off over contact (3).

NOTE

If replacing shell only, skip steps (4), (5), and (7) below.

(4) Cut wire lead (4) as close as possible to contact (3).

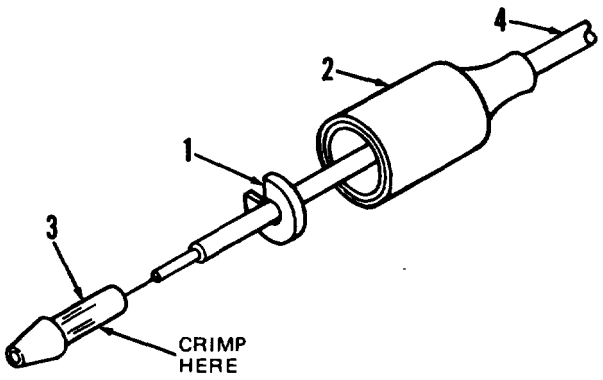
(5) Strip insulation from wire lead (4) equal to depth of new contact (3).

(6) Slide new shell (2) on wire lead (4).

(7) Slide wire lead (4) end in new contact (3). Crimp contact to wire lead. Apply insulating compound to wire lead (4).

(8) place slotted washer (1) on wire lead (4) at contact (3).

(9) Slide shell (2) down wire lead (4) until slotted washer(1) seats.



4-22 WIRE CONNECTORS (CONT) .

(10) Apply insulating compound to outside of female connector shell. Push connector halves together until seated.

(11) Connect power. Test semitrailer lights for proper operation.

b. Female Connector Repair.

(1) Slide shell (7) and insulator (6) up wire lead (8) until clear of terminal (5).

(2) Cut wire lead (8) as close as possible to terminal (5).

(3) Slide insulator (6) and shell (7) off wire lead (8).

(4) Strip insulation from wire lead (8) l/8-inch from end.

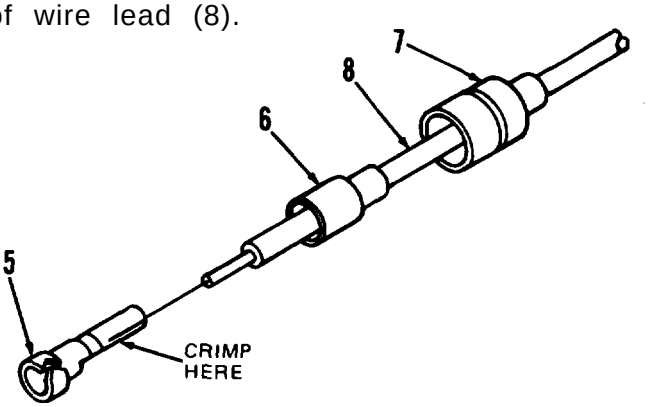
(5) Slide shell (7) and insulator (6) on wire lead (8).

(6) Slide wire lead (8) end in terminal (5). Crimp terminal to wire lead. Apply insulating compound to end of wire lead (8).

(7) Slide insulator (6) and shell (7) over terminal (5) until seated.

(8) Apply insulating compound to outside of female connector shell (7). Push connector halves together until seated.

(9) Connect power. Test semitrailer lights for proper operation.



c. Terminal Replacement.

NOTE

This procedure is typical for ring-type and quick disconnect terminals. Procedure shown is for ring (grounding) terminal.

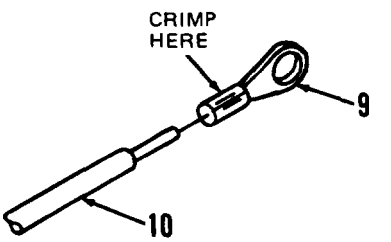
(1) Cut wire lead (10) as close as possible to terminal (9). Discard terminal.

(2) Strip insulation from wire lead (10) equal to depth of new terminal (9).

(3) Slide wire lead (10) end in new terminal (9). Crimp texminal to wire lead.

(4) Connect terminal.

(5) Connect power. Test semitrailer lights for proper operation.



4-22 WIRE CONNECTORS (CONT) .

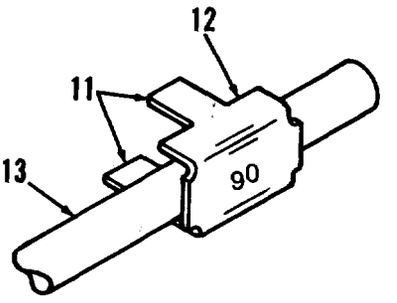
d. Circuit Marker Band Replacement

(1) Using flat-tip screwdriver, open tab ends (11) on marker band (12) . Remove from wire lead (13), note circuit number, and discard marker band.

(2) Etch proper number on new marker band (12).

(3) Place new circuit marker band (12) on wire lead (13). Bend tab ends (11) over wire lead.

(4) Connect power.



TASK ENDS HERE

4-23 12-VOLT RECEPTACLE (NOSE PLATE.)

This task covers removal and installation.

INITIAL SETUP

Tools

No. 1 common tool kit
Electrical connector tool kit

---

a. Removal.

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

CAUTION

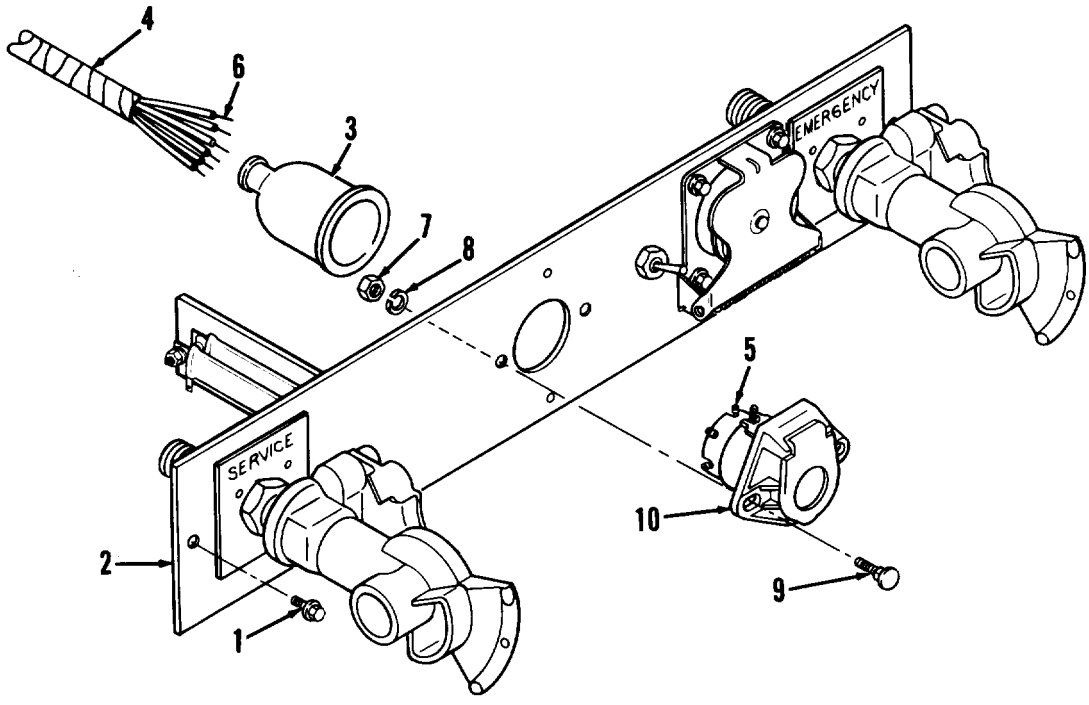
Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

NOTE

If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before disconnecting wire leads.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).

4-23 12-VOLT RECEPTACLE (NOSE PLATE) (CONT).



(2) Slide boot (3) up wiring harness (4) until clear of screws (5).

(3) Loosen, but do not remove six screws (5).

(4) Withdraw six wire leads (6) from receptacle (10).

(5) Slide boot (3) off wiring harness (4).

(6) Remove two nuts (7) and lock washers (8).

(7) Remove two bolts (9) and receptacle (10).

b.Installation.

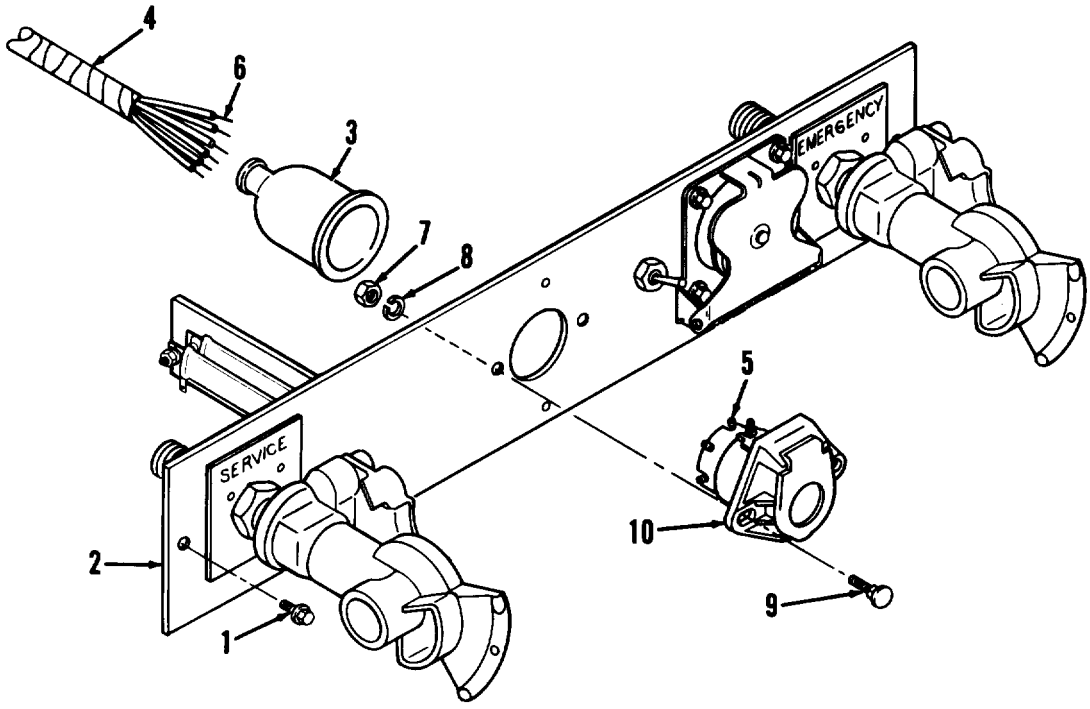
(1) position receptacle (10) on nose plate (2).

(2) Install two bolts (9), lock washers (8), and nuts (7) and tighten.

(3) Slide boot (3) on wiring harness (4), small end first.

(4) If necessary, strip insulation from wire leads (6) l/4-inch from end.

4-23 12-VOLT RECEPTACLE (NOSE PLATE) (CONT).



(5) Insert six wire leads (6) in receptacle (10) according to marker bands as shown in illustration. Be certain wire leads go in proper place.

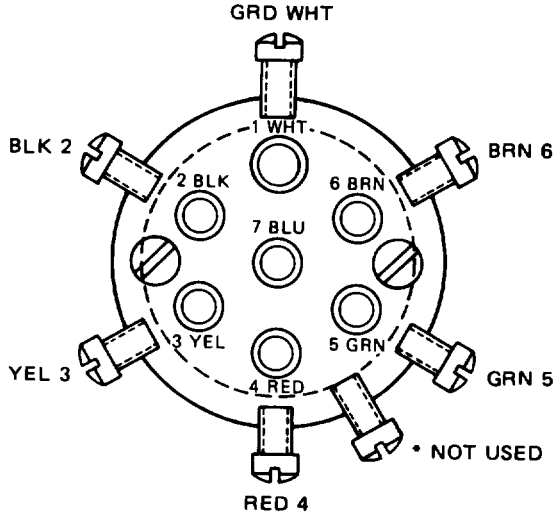
(6) Tighten six screws (5).

(7) Slide boot (3) over receptacle (10) until seated.

(8) Guide wires and tubing into frame opening and position nose plate (2) against frame.

(9) Install and tighten four cap-screws (1).

(10) Connect electrical power and test for proper operation.



TASK END HERE

4-24 24-VOLT RECEPTACLE.

This task covers removal, repair, and installation.

INITIAL SETUP

Tools

No. 1 common tool kit
Electrical connector tool kit

Materials/Parts

Solder (item 13, Appendix E)

a. Removal

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

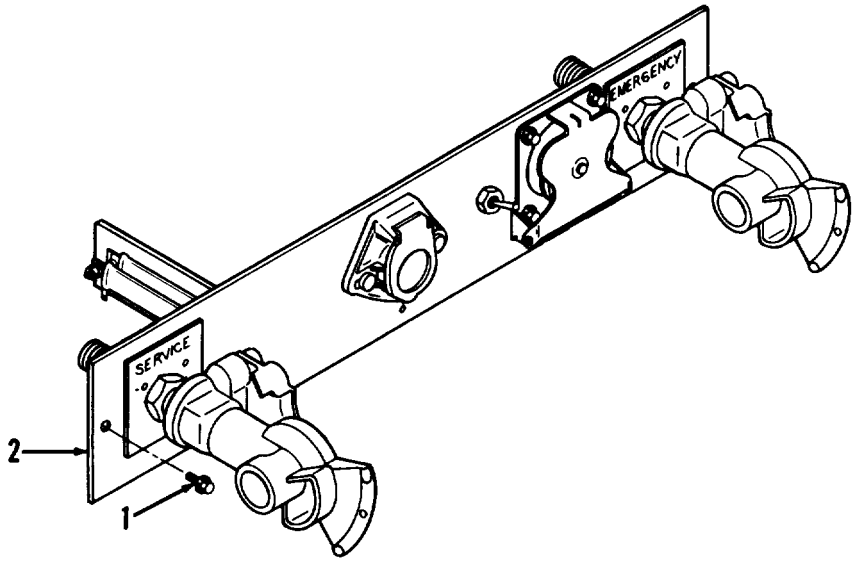
CAUTION

Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

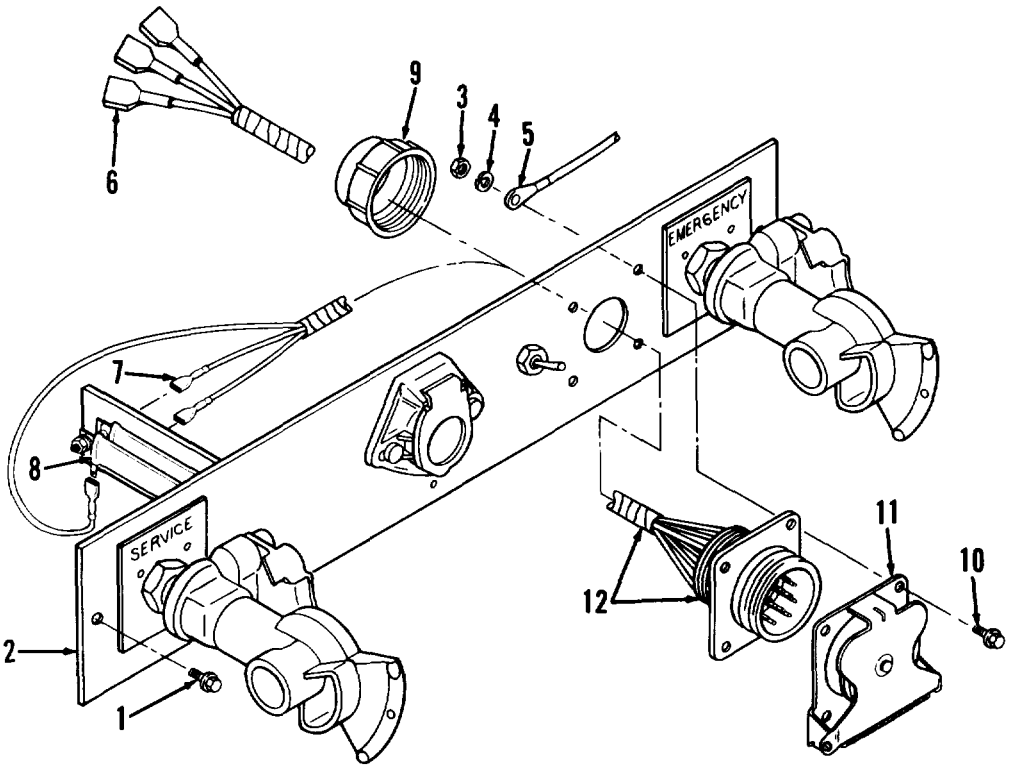
NOTE

If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before disconnecting wire leads.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).



4-24 24-VOLT RECEPTACLE (CONT) .



(2) Remove three nuts (3), lock washers (4), and ground wires (5) from capscrews (10).

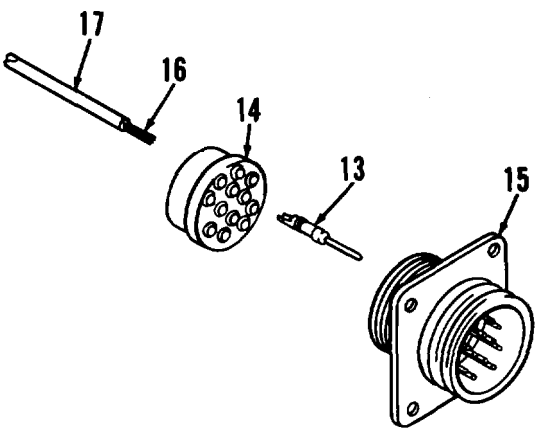
(3) Disconnect three receptacle harness connectors (6) from main wiring harness and three harness connectors (7) from the resistors (8).

(4) Remove nut (9) from receptacle harness (12).

(5) Remove four capscrews (10) and cover (11).

(6) Remove receptacle harness (12) from nose plate (2).

b. Repair.



(1) Apply insulating compound to harness wires (17) behind bushing (14). Slide bushing (14) along harness wires (17) away from receptacle (15).

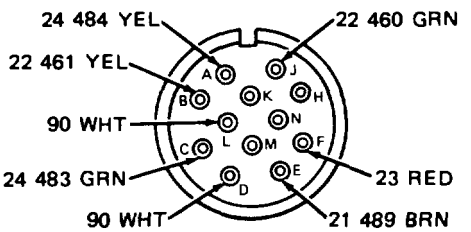
(2) Using pin remover tool from electrical connector tool kit, pull pins (13) from back of receptacle (15).

(3) Using soldering gun, heat solder end of pin and remove pins (13) from wire ends (16).

(4) Slide bushing (14) from harness wires (17).

4-24 24-VOLT RECEPTACLE (CONT).

(5) Insert wire ends (17) into back of bushing (14) according to pin placement diagram.



(6) Strip insulation from wire ends (16) equal to depth of solder well in pins (13). Place wire end (16) in solder end of pin (13) and solder.

(7) Apply insulating compound to rubber grommet in receptacle (15).

(8) Install pins (13) in receptacle (15) grommet according to pin placement diagram.

(9) Slide bushing (14) down harness wires (17) and position over pins (13).

c.Installation.

(1) Position receptacle harness (12) on nose plate (2).

(2) Slide nut (9) on wires and install on receptacle. Tighten nut (9).

(3) Install cover (11) and four capscrews (10) and tighten.

(4) Connect three receptacle harness connectors (6) to main wiring harness and three connectors (7) to resistors (8).

(5) Install three ground wires (5), lock washers (4), and nuts (3). Tighten nuts (3).

(6) Guide wires and tubing into frame opening and position nose plate (2) against frame.

(7) Install and tighten four capscrews (1).

(8) Connect electrical power and check for proper operation.

TASK END HERE

4-25 LIGHT SWITCH.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

CAUTION

Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

NOTE

If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before disconnecting wire leads.

a. Removal.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).

(2) Loosen three screws (3) and remove connectors (4) from switch (6) terminals.

(3) Remove nut (5) and switch (6).

b. Installation.

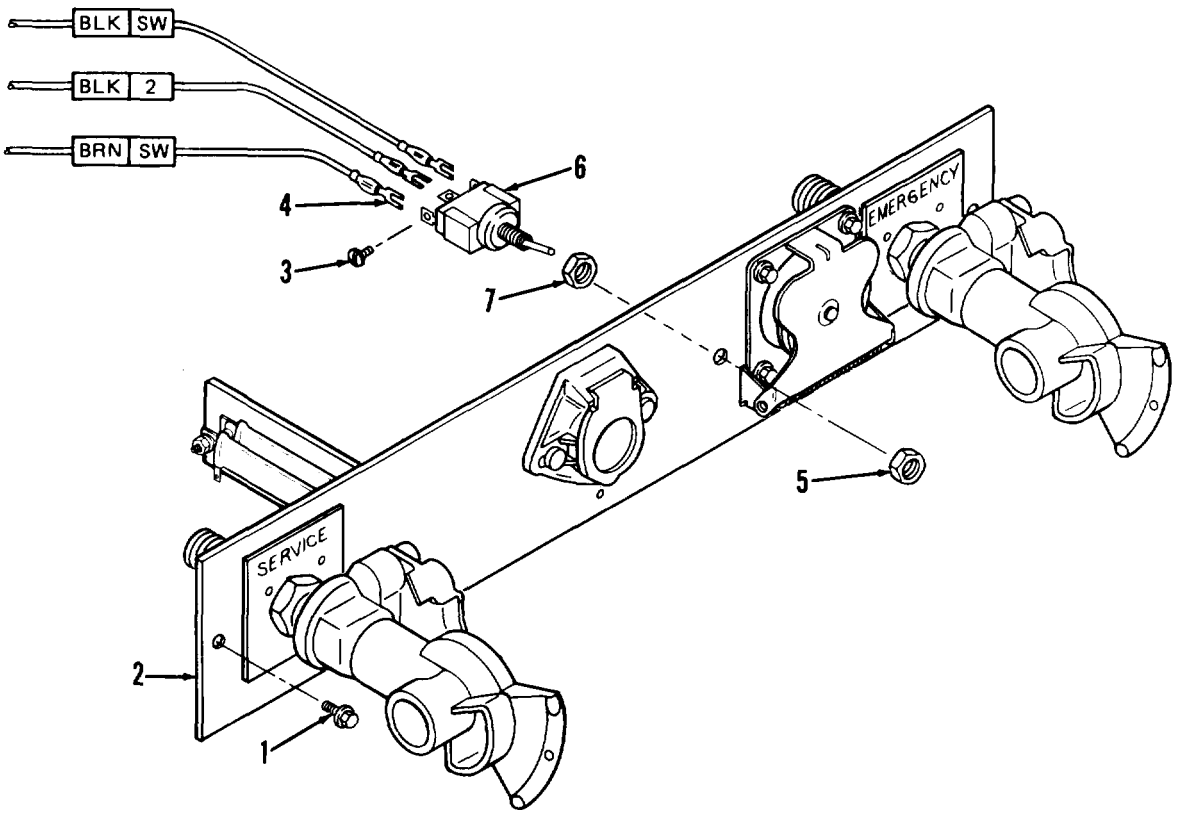
(1) Install switch (6) on nose plate (2) and position nut (7) as necessary. Be certain that switch toggles from side to side.

(2) Install and tighten nut (5).

(3) Install three connectors (4) on switch (6) terminals according to marker bands, as shown.

(4) Tighten three screws (3).

4-25 LIGHT SWITCH (CONT) .



(5) Guide wires and tubing into frame opening and position nose plate (2) against frame.

(6) Install and tighten four capscrews (1).

(7) Connect electrical power and check for proper operation.

TASK ENDS HERE

4-26 LIGHT RESISTORS.

This task covers removal and installation.

INITIAL SETUP

Tools

No. 1 common tool kit

4-26 LIGHT RESISTORS (CONT) .

a. Removal.

WARNING

Disconnect all electrical power before performing any maintenance on the electrical system. Failure to do so could result in injury.

CAUTION

Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

NOTE

If circuit marker bands are missing or not readable, tag wires or replace bands (para. 4-22d) before disconnecting wire leads.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).

(2) Disconnect wire assembly (3) from resistors (8) terminals.

(3) Pull two connectors (4) from resistors (8) terminals.

(4) Remove two nuts (5), lock washers (6), washers (7), and resistors (8).

(5) Pull two connectors (9) and wire assembly (10) from resistors (12) terminals.

(6) Remove two screws (11) and resistors (12).

(7) Pull two connectors (13) and wire assembly (14) from resistors (18) terminals.

(8) Remove two nuts (15), lock washers (16), and washers (17).

(9) Remove resistors (18) and screws (19).

b. Installation.

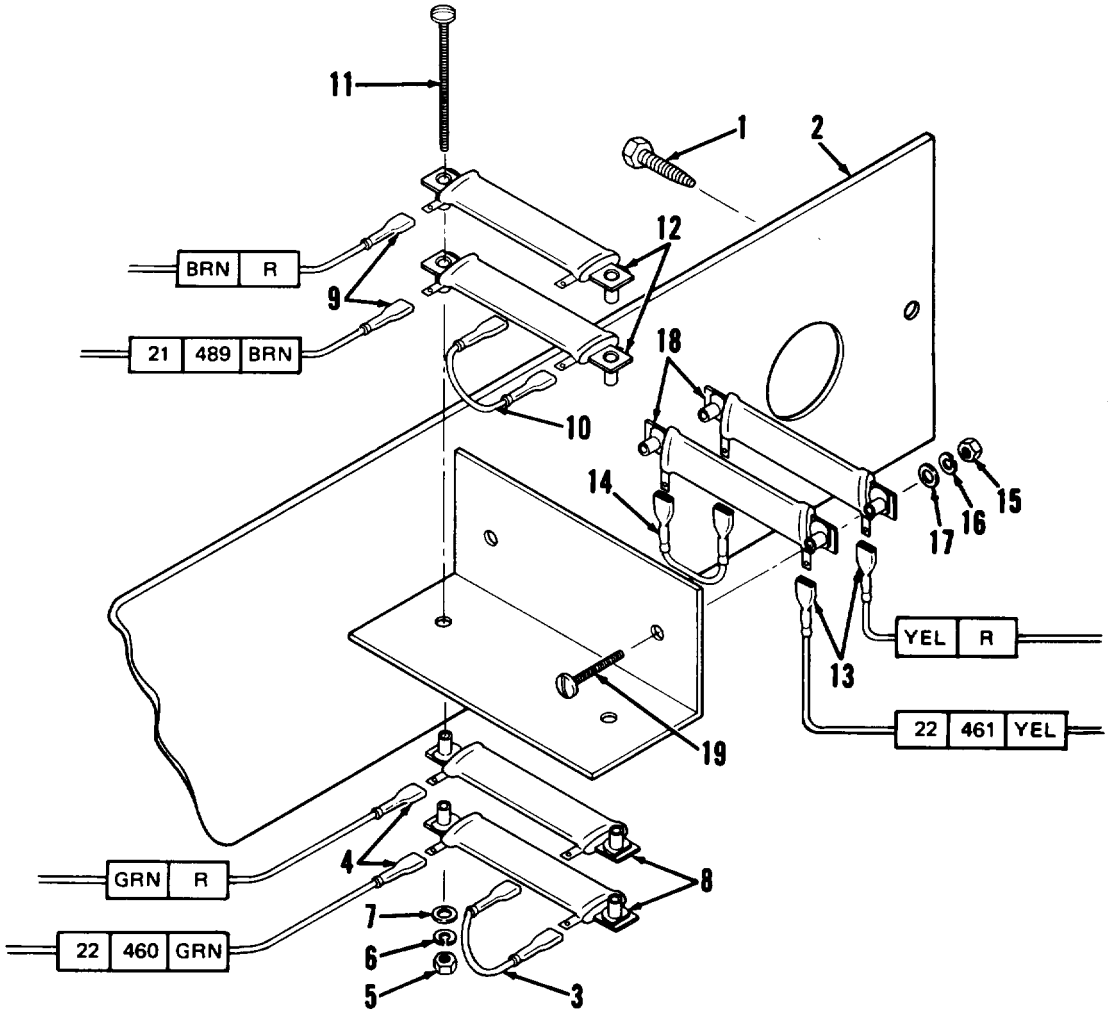
(1) Install two screws (19), resistors (18), washers (17), lock washers (16), and nuts (15) and tighten.

(2) Connect wire assembly (14) and two connectors (13) to resistors (18) terminals, as shown in illustration.

(3) Install two screws (11) through resistors (12) and position on nose plate.

(4) Install resistors (8), washers (7), lock washers (6), and nuts (5) and tighten.

4-26 LIGHT RESISTORS (CONT).



(5) Connect wire assembly (10) and two connectors (9) to resistors (12) terminals, as shown in illustration.

(6) Connect wire assembly (3) and two connectors (4) to resistors (8) terminals, as shown in illustration.

(7) Route wires away from resistors, to prevent contact between wire insulation and resistor body.

(8) Guide wires and tubing into frame opening and position nose plate (2) against frame.

(9) Install and tighten four capscrews (1).

(10) Connect electrical power and check for proper operation.

TASK END HERE

Section VII. AIR BRAKE SYSTEM MAINTENANCE

	Para		Para
Air Lines and Fittings	4-27	Spring Brake Chambers	4-32
Air Reservoirs	4-28	Air Couplings (Gladhands)	4-33
Emergency Relay Valves	4-29	Brake Shoes	4-34
Multi-function Valve	4-30	Brake Camshaft	4-35
Uncaging Spring Brake Chambers	4-31	Slack Adjuster	4-36

4-27 AIR LINES AND FITTINGS.

This task covers removal, repair, installation, and testing.

INITIAL SETUP

Tools

General mechanics tool kit
No. 1 common tool kit

Materials/Parts

Tie straps
Sealing compound (item 12, Appendix E)
Soap (item 17, Appendix E)

Equipment Condition
References

Para. 3-6 Drain cocks open.
Para. 4-23 Nose plate removed (for gladhand tubing or fitting replacement).
Para. 4-44 Right float pad removed from bracket (for-long tubing replacement).

NOTE

Refer to Brake System Schematic for air line connections.

a. Removal.

(1) Set wheel chocks on both sides of vehicle.

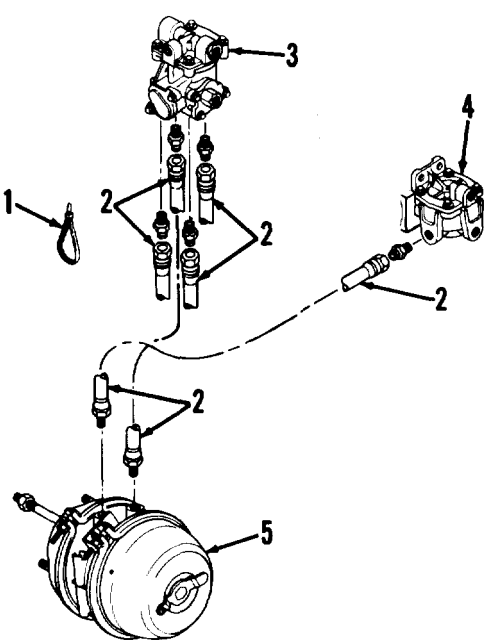
(2) Hoses.

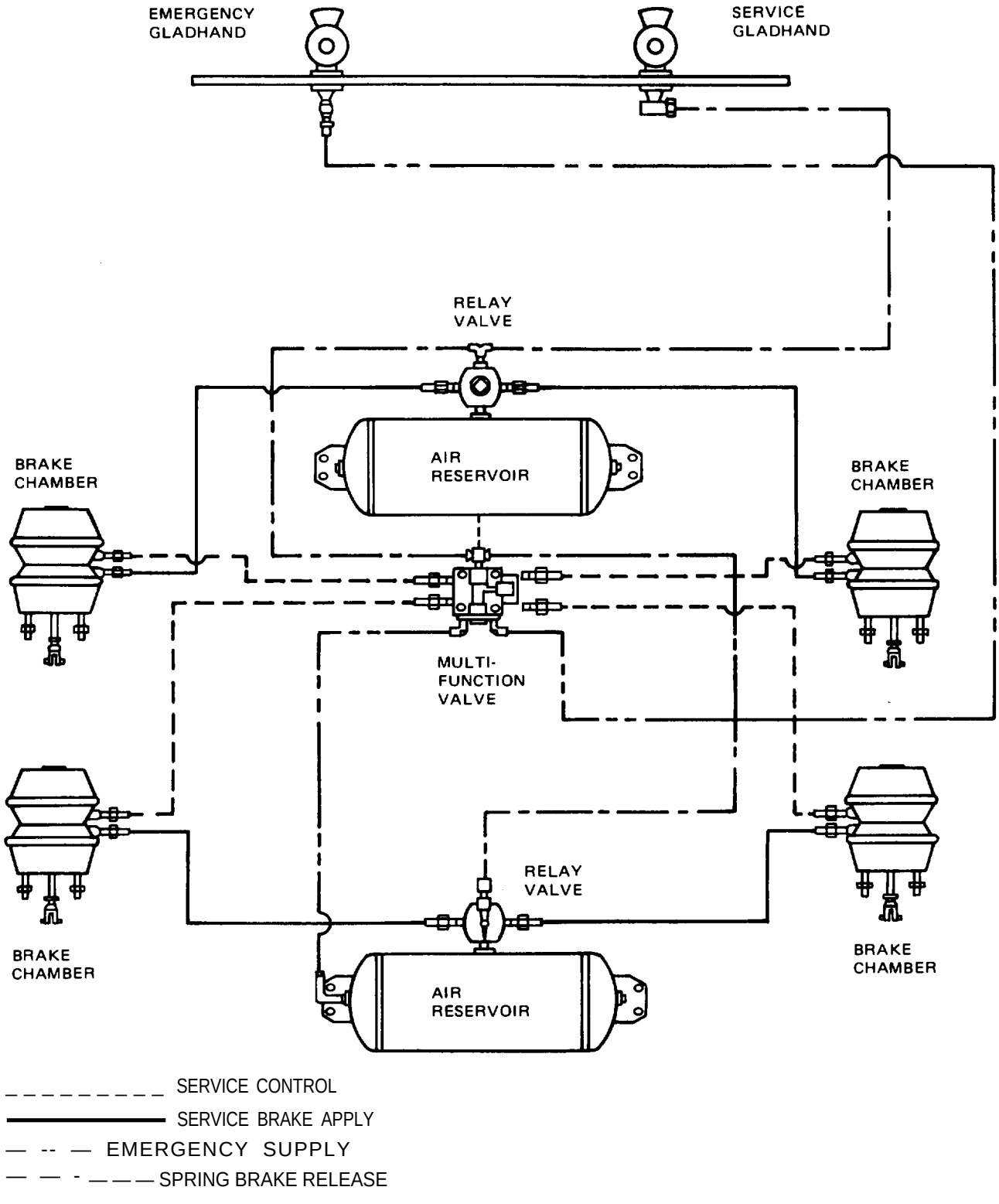
(a) Note location of tie straps (1) to aid installation. Cut and remove tie straps (1) securing hoses (2). Discard tie straps.

(b) Loosen and disconnect swivel end of hose (2) from multi-function valve (3) or relay valve (4).

(c) Loosen and disconnect other end of hose (2) from brake chamber (5).

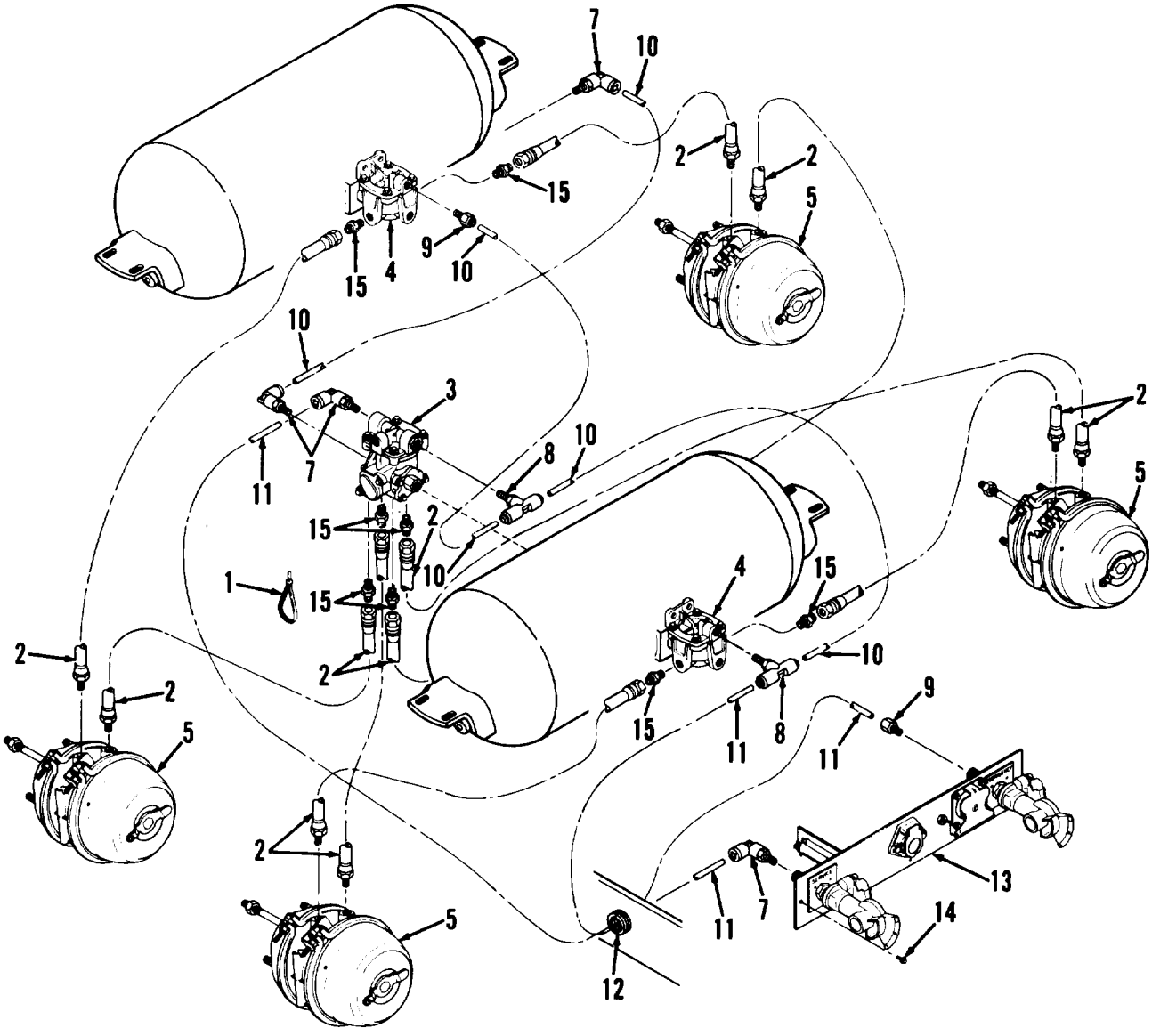
(d) Remove hose (2) from vehicle.





Brake System Schematic

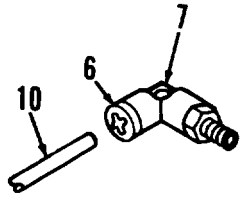
4-27 AIR LINES AND FITTINGS (CONT) .



(e) Remove adapter (15) from valve (3 or 4).

(3) Tubing and fittings.

(a) Press collar (6) against fitting (7, 8, or 9) and pull tubing (10 or 11) from fitting.



(b) Repeat step (a) to disconnect other end of tubing (10 or 11).

(c) Loosen and remove fitting (7, 8, or 9).

4-27 AIR LINES AND FITTINGS (CONT) .

NOTE

If necessary, bend loop clamps away from tubing (10 or 11).

(d) Lift tubing (10 or 11) from loop clamps welded to frame rail.

(e) Remove tubing (10 or 11) from vehicle.

(f) Remove grommets (12) from vehicle frame.

b. Repair. Repair is limited to fabrication of replacement tubing (Appendix G) and replacement of defective parts.

c. Installation.

(1) Tubing and fittings.

(a) Install grommets (12) in vehicle frame.

(b) Apply sealing compound to fitting (7, 8, or 9) threads.

(c) Install and tighten fitting (7, 8, or 9).

(d) Route long tubing (11) through grommets (12) to nose plate (13).

(e) Route tubing (10 or 11) in vehicle between fittings.

(f) Position tubing (10 or 11) in loop clamps welded to frame rail.

(g) Swivel the elbow (7) or tee (8) to the required position.

(h) Push end of tubing (10 or 11) into fitting (7, 8, or 9) until it bottoms.

(i) Repeat steps (g) and (h) for other end of tubing (10 or 11) and fitting (7, 8, or 9).

(2) Hoses.

(a) Route hose (2) in vehicle, with non-swivel hose connector at brake chamber (5).

(b) Apply sealing compound to adapter (15) threads.

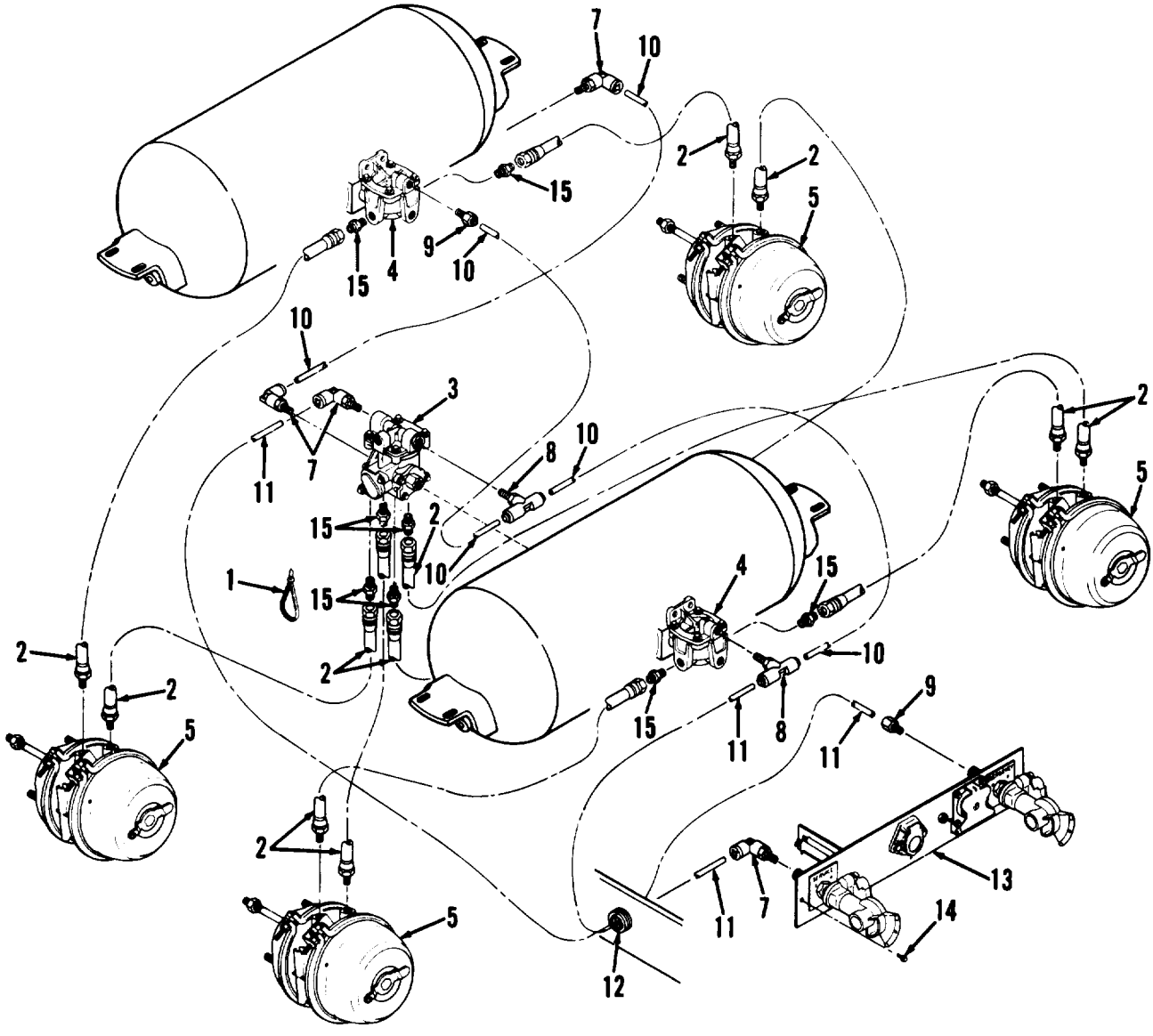
(c) Install adapter (15) in valve (3 or 4) port.

(d) Install hose (2) non-swivel connector in brake chamber (5) port.

(e) Install hose (2) swivel connector on valve (3 or 4).

(f) Secure hoses (2) using new tie straps (1) at locations noted during removal.

4-27 AIR LINES AND FITTINGS (CONT).



d. Testing.

(1) Close drain cocks and pressurize air brake system.

(2) Apply soapy water to hose (2) and tubing (10 and 11) connections and fittings. No leakage is permissible. If leaks are seen, tighten connections.

(3) Guide wires and tubing into frame opening and position nose plate (13) against frame.

(4) Install and tighten four capscrews (14).

(5) Remove wheel chocks and stow in brackets.

TASK ENDS HERE

4-28 AIR RESERVOIRS.

This task covers removal, installation, and testing.

INITAL SETUP

Tools	Equipment Condition References
General mechanics tool kit	Para. 3-6 Drain cock open.
Material/Parts	Para. 4-29 Emergency relay valve removed.
Sealing compound(item12,AppendixE)	Para. 4-27 Air line disconnected and elbow Para.4-30 Multi-function valvae removed (front air reservoir).

a. Removal.

(1) Set wheel chocks on both sides of vehicle.

(2) Support air reservoir (5) and remove four nuts (1), lock washers (2), capscrews (3), and washers (4).

(3) Remove air reservoir (5).

(4) Remove drain cock (6) from bottom of air reservoir (5)

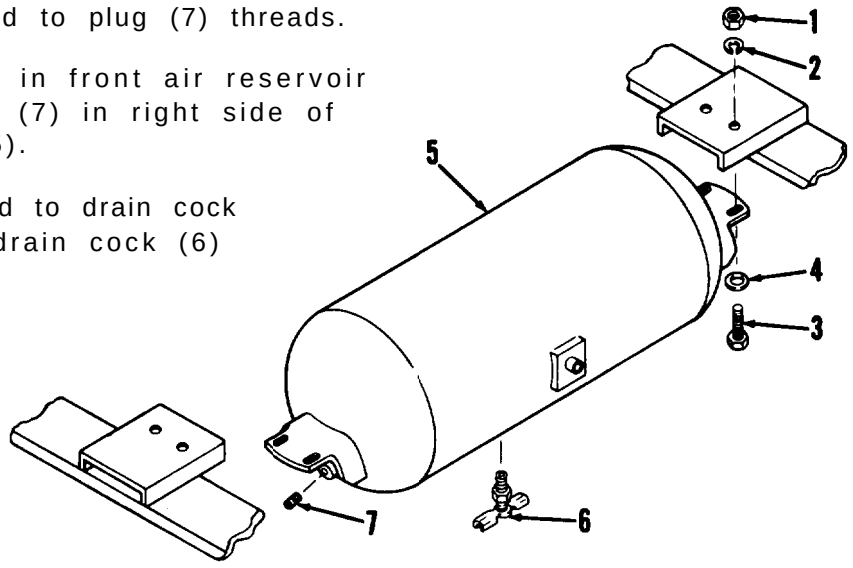
(5) Remove two plugs (7) from front air reservoir (5). Remove one plug (7) from rear air reservoir (5).

Installation

(1) Apply sealing compound to plug (7) threads.

(2) Install two plugs (7) in front air reservoir (5). Install one plug (7) in right side of rear air reservoir (5).

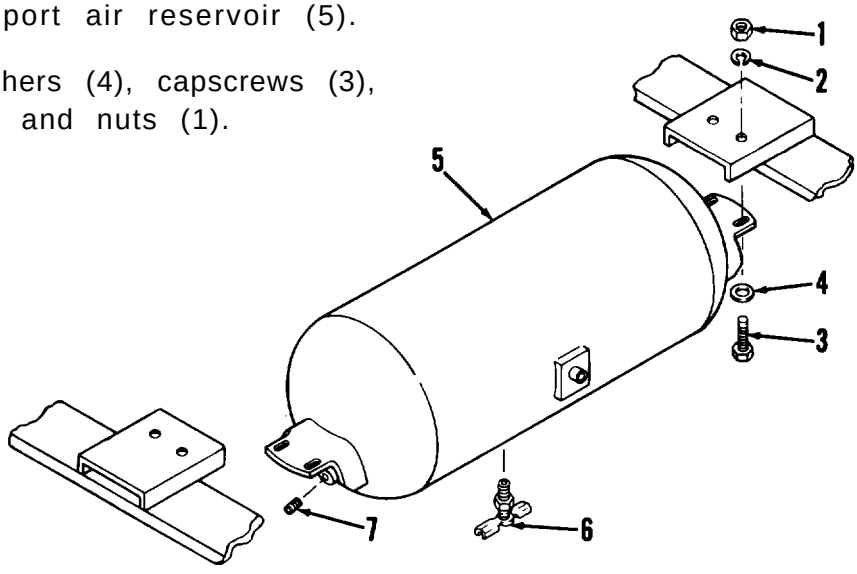
(3) Apply sealing compound to drain cock (6) threads. Install drain cock (6) in air reservoir (5).



4-28 AIR RESERVOIRS (CONT) .

(4) Position and support air reservoir (5).

(5) Install four washers (4), capscrews (3), lock washers (2), and nuts (1).



c. Testing

(1) With both air reservoirs installed, close drain cocks and charge semitrailer air system.

(2) Apply soapy water to drain cocks (6), pipe plugs (7), and connections. No leakage is permissible. If leaks are seen, tighten connections.

(3) Remove wheel chocks and stow in brackets.

TASK ENDS HERE

4-29 EMERGENCY RELAY VALVES.

This task covers removal, installation, and testing.

INITIAL SETUP

Tools

General mechanics tool kit

Materials/Parts

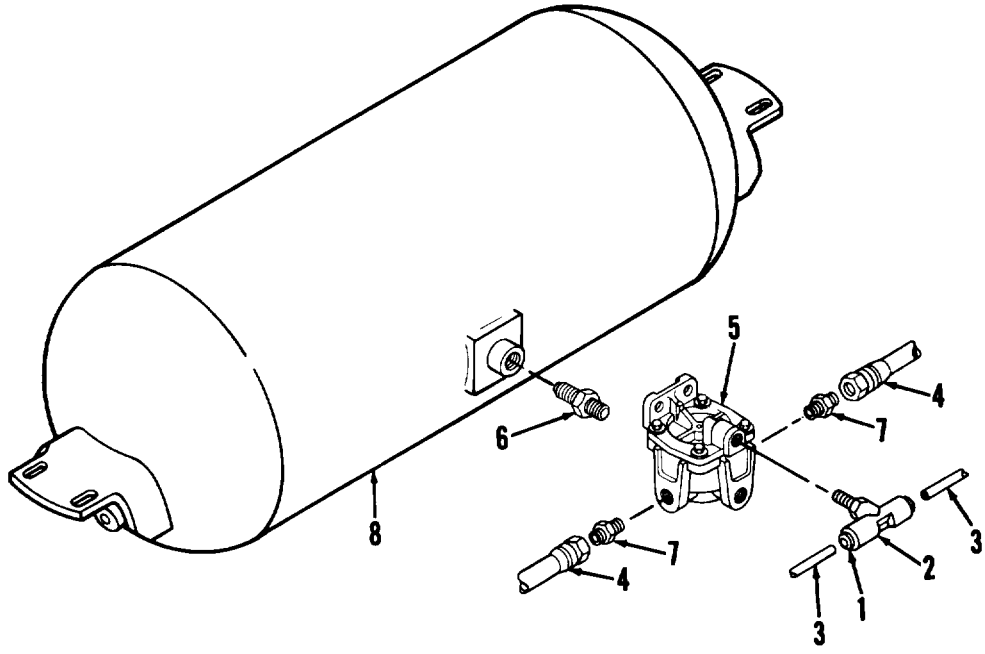
Sealing compound (item 12, Appendix E)
Soap (item 17, Appendix E)

Equipment Condition
Reference

Para. 3-6 Drain cocks open.

Personnel Required: (2)

4-29 EMERGENCY RELAY VALVES (CONT) .



NOTE

This procedure is typical for both relay valves. Relay valve shown is on the front air reservoir.

a. Removal.

(1) Set wheel chocks on both sides of vehicle.

(2) Press collar (1) against fitting (2) and pull tubing (3) from fitting (2) .

(3) Remove hoses (4) from relay valve (5).

(4) Remove relay valve (5) and pipe nipple (6).

(5) Remove fitting (2) and adapters (7) from relay valve (5).

b. Installation.

(1) Apply sealing compound to fitting (2) threads, pipe nipple (6) threads, and adapter (7) threads.

(2) Install fitting (2), pipe nipple (6), and adapters (7) in relay valve (5).

(3) Install and tighten relay valve (5).

(4) Install hoses (4) on relay valve (5).

(5) Push end of tubing (3) into fitting (2) until it bottoms.

(6) Close drain cocks.

4-29 EMERGENCY RELAY VALVES (CONT) .

C. Testing.

(1) Connect air hoses to towing vehicle and charge semitrailer air system.

W A R N I N G

To prevent injury, keep hands away from brake chamber push rods and slack adjusters. They will move as service brakes are operated, and will automatically apply if system pressure drops.

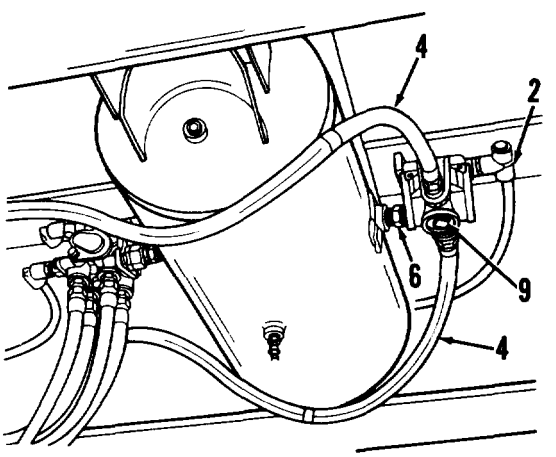
(2) Have your assistant apply towing vehicle brakes and check that brakes of all semitrailer wheels apply properly.

(3) Have your assistant release towing vehicle brakes. Check that each semitrailer brake releases promptly.

(4) With brake system fully charged, close shutoff valve in emergency line on towing vehicle. Disconnect air hose coupling tagged EMERGENCY. Make sure semitrailer brakes apply automatically.

(5) Apply soapy water to exhaust port (9) on relay valve.

(6) Leakage from exhaust port (9) must not exceed a one inch bubble in three seconds. If excess leakage is seen, replace relay valve.



(7) Connect air hose coupling tagged EMERGENCY. Open shutoff valve on towing vehicle and check that semitrailer brakes release automatically.

(8) Apply soapy water to fitting (2), hose (4) ends, and pipe nipple (6). No leakage is permitted. If leakage is seen, tighten connection or replace part.

(9) Remove wheel chocks and stow in brackets.

TASK ENDS HERE

4-30 MULTI-FUNCTION VALVE.

This task covers removal, installation, and testing.

INITIAL SETUP

Tools

No. 1 common tool kit

Material/Parts

Tie strap
Sealing compound (item 12, Appendix E)
Soap (item 17, Appendix E)

Equipment Condition

Para. 3-6 Drain cocks open.

a. Removal.

(1) Set wheel chocks on both sides of vehicle and open drain cocks.

(2) Cut and remove tie strap (1) securing hoses (2). Discard tie strap.

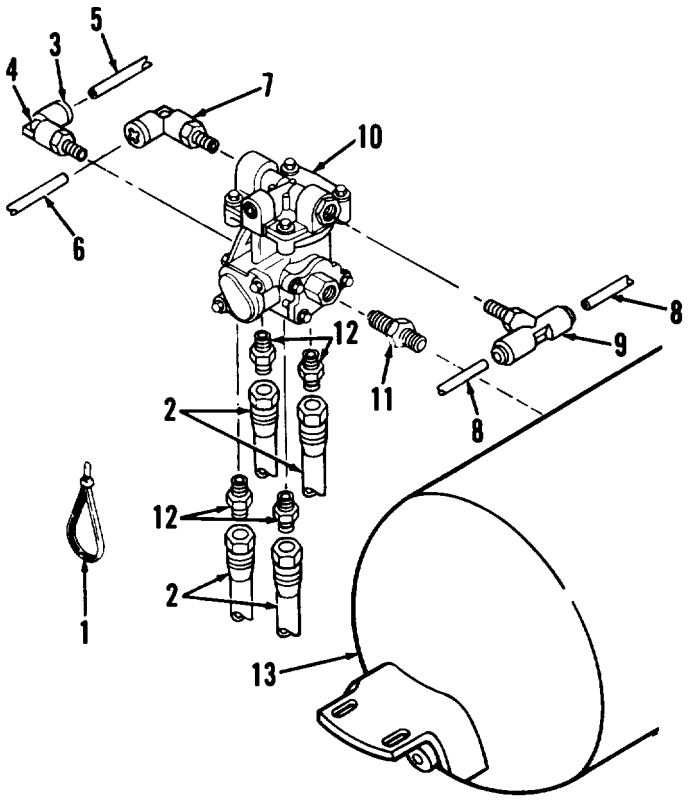
(3) Loosen and disconnect swivel end of hoses (2) from multi-function valve (10).

(4) Press collar (3) against elbow (4) and pull tubing (5) from elbow (4).

(5) Repeat step (4) to disconnect tubing (6 and 8).

(6) Remove multi-function valve (10) and pipe nipple (11).

(7) Remove elbows (4 and 7), tee (9), and adapters (12) from multi-function valve (10).

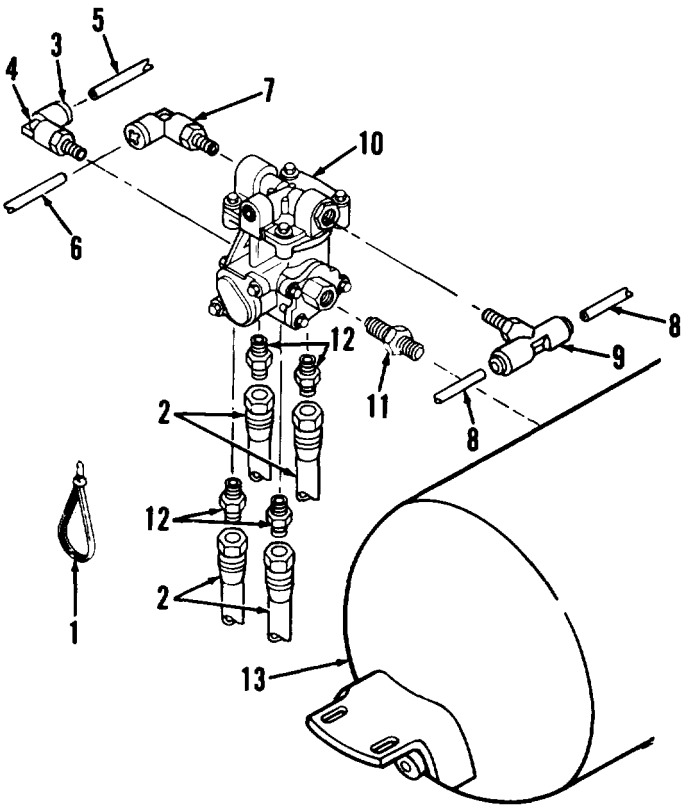


b. Installation.

(1) Apply sealing compound to threads on elbows (4 and 7), tee (9), pipe nipple (11), and adapters (12).

(2) Install elbows (4 and 7), tee (9), pipe nipple (11), and adapters (12) in multi-function valve (10).

4-30 MULTI-FUNCTION VALVE (CONT) .



(3) Install and tightenmulti-function valve (10) in air reservoir (13).

(4) Install hoses (2) on multi-function valve (10).

(5) Swivel the elbows (4 and 7) and tee (9) to the required position.

(6) Push end of tubing (5) into elbow (4) until it bottoms.

(7) Repeat step (6) to install tubing (6 and 8).

(8) Secure hoses (2) using new tie strap (1).

c.Testing.

(1) Close drain cocks and charge semitrailer air system. The spring brake chambers should release.

(2) Shut off the engine.

WARNING

Wear protective goggles when opening drain cock and avoid the air stream. Failure to do so could result in personal injury.

(3) Open drain cock on front or rear air reservoir.

(4) After the air system is bled down, the spring brake chambers on the semitrailer should actuate promptly.

(5) Apply soapy water to drain cock. Leakage at open drain cock should not exceed a one inch bubble in five seconds. If excess leakage is seen, replace multi-function valve (10).

(6) Close drain cock.

(7) Repeat steps (1) through (6) using other air reservoir.

(8) Remove wheel chocks and stow in brackets.

TASK ENDS HERE

4-31 UNCAGING SPRING BRAKE CHAMBERS.

This task covers service.

INITIAL SETUP

Tools

General mechanics tool kit
Spring brake tool

Equipment Condition
Reference

Para. 2-29 Spring brake caged.

WARNING

Caged spring in bottom chamber is under 2,500 pounds of tension. Use extreme care when performing maintenance.

Do not position yourself in front of, or in line with the spring brake assembly. Perform necessary maintenance from the side.

Read all manufacturer's warning labels before uncaging.

Inspect clamp bands, castings, and fasteners for external damage. If damage to these items is evident, do not attempt uncaging procedure. Refer to paragraph 4-32 for brake chamber replacement.

Failure to observe these warnings could result in serious personal injury and damage to equipment.

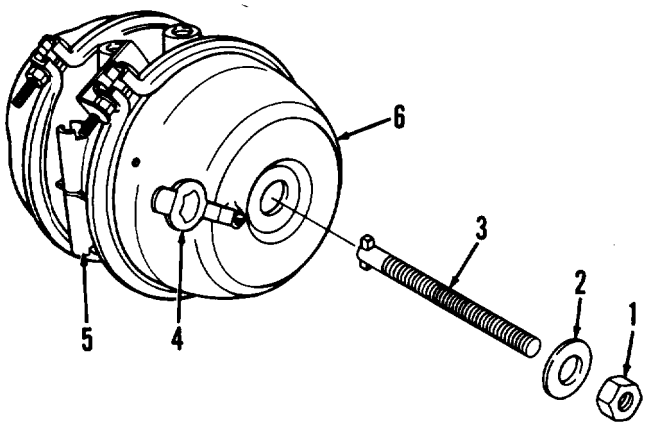
a. Chock wheels to prevent semitrailer from rolling.

b. Slowly loosen nut (1) on spring brake tool (3). Remove nut (1) and washer (2).

c. Turn spring brake tool (3) l/4-turn counterclockwise to unlock from manual release position. Remove spring brake tool (3).

d. Install dust cap (4) on brake chamber (6).

e. Insert spring brake tool (3) in mounting hole (5) on either side of brake chamber (6). Secure spring brake tool (3) with washer (2) and nut (1).



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

g. Remove wheel chocks and stow in brackets.

TASK ENDS HERE

4-32 SPRING BRAKE CHAMBERS.

This task covers removal, installation, and testing.

INITIAL SETUP

Tools

General mechanics tool kit
Torque wrench

Materials/Parts

OE/HDO oil (item 10, Appendix E)
Tags (item 15, Appendix E)
soap (item 17, Appendix E)

Equipment Condition

References

Para. 2-29 Spring brake caged.
Para. 3-6 Drain cocks open.
Para. 4-27 Air hoses disconnected from brake chamber.

a. Removal.

WARNING

Caged spring in bottom chamber is under 2,500 pounds of tension. Use extreme care when performing maintenance.

Do not position yourself in front of, or in line with the spring brake assembly. Perform necessary maintenance from the side.

Inspect clamp bands, castings, and fasteners for external damage. If damage to these items is evident, do not attempt uncaging procedure. Replace brake chamber.

Failure to observe these warnings could result in serious personal injury and damage to equipment.

(1) Chock wheels to prevent semitrailer from rolling.

(2) Remove small cotter pin (1) and clevis pin (2).

(3) Remove large cotter pin (3) and clevis pin (4).

(4) Measure and record distance between brake chamber (7) and clevis (8) to aid installation.

WARNING

Be sure spring brake is caged. Failure to observe this warning could result in personal injury or death.

(5) Remove two lock nuts (5), washers (6), and brake chamber (7).

4-32 SPRING BRAKE CHAMBERS (CONT).

(6) Remove clevis (8) from brake chamber push rod (9). Do not remove jam nut (10) .

(7) If necessary, remove drive screw (11) and dust cap (12).

b. **Installation.**

(1) If removed, position dust cap (12) and install drive screw (11).

(2) Install clevis (8) on brake chamber push rod (9) at position recorded during removal. Tighten clevis (8) against jam nut (10) to hold clevis in correct position.

(3) Position brake chamber (7) on mounting bracket (13). Make sure slack adjuster arm (14) is correctly positioned in clevis (8).

(4) Install two washers (6) and lock nuts (5). Torque lock nuts to 100-115 1b-ft.

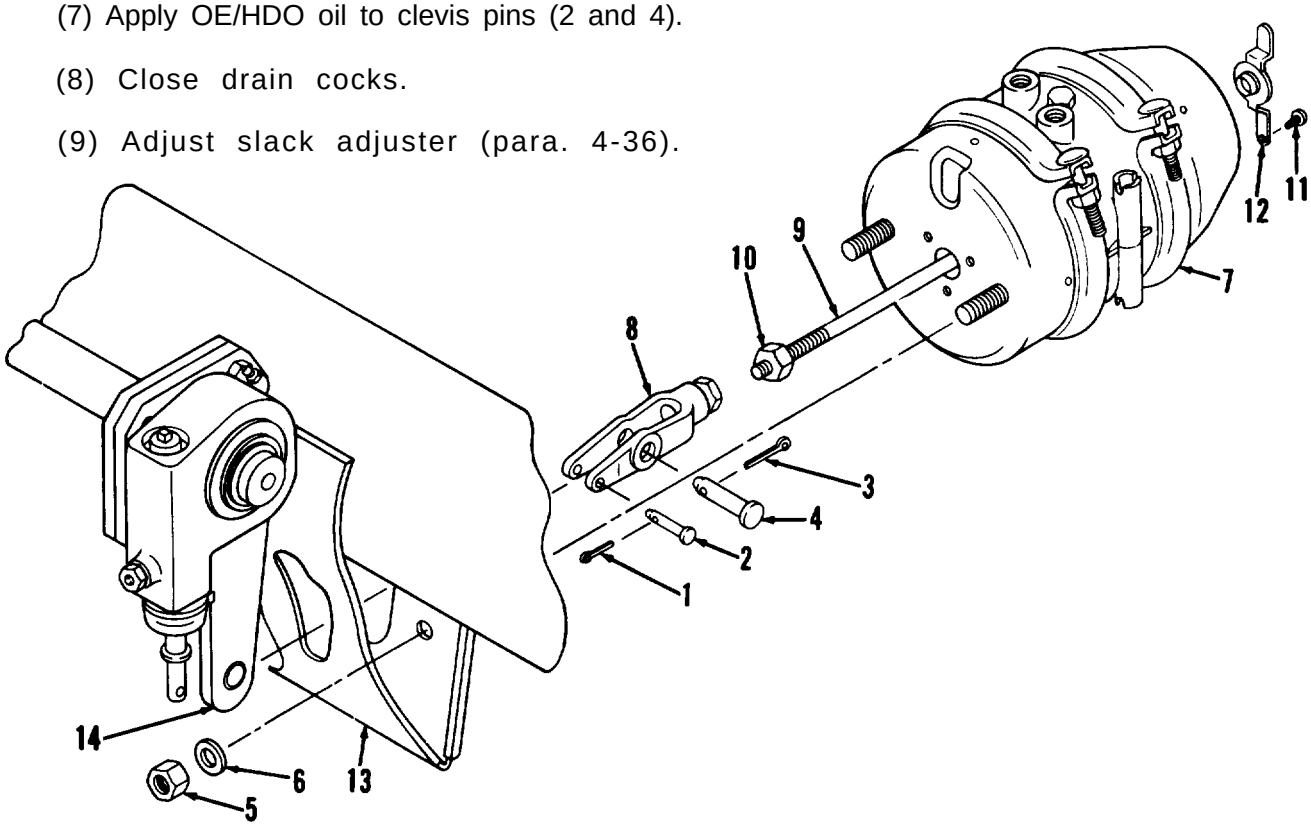
(5) Install clevis pins (2 and 4) through clevis (8) and slack adjuster arm (14).

(6) Install cotter pins (1 and 3) in clevis pins (2 and 4). Bend ends of cotter pins.

(7) Apply OE/HDO oil to clevis pins (2 and 4).

(8) Close drain cocks.

(9) Adjust slack adjuster (para. 4-36).



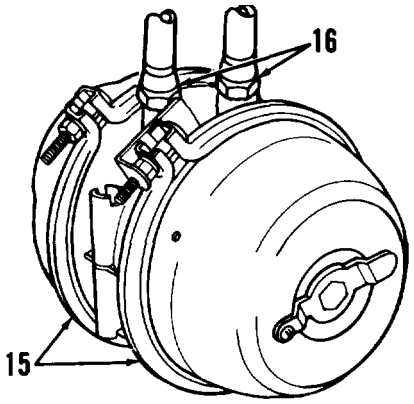
4-32 SPRING BRAKE CHAMBERS (CONT) .

c. Testing.

(1) Charge semitrailer air system.

(2) Apply soapy water to clamp bands (15) on brake chamber and to hose fittings (16) at brake chamber. No leakage is permitted. If leakage is seen at clamp bands, replace brake chamber. If leakage is seen at hose fittings, tighten hose fitting or replace hose.

(3) Remove wheel chocks and stow in brackets.



TASK ENDS HERE

4-33 AIR COUPLINGS (GLADHANDS).

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

Material/Parts

Sealing compound (item 12, Appendix E)
Soap (item 17, Appendix E)

Equipment Condition
References

Para. 3-6 Drain cocks open.

NOTE

This procedure is typical for both gladhands.

a. Removal.

CAUTION

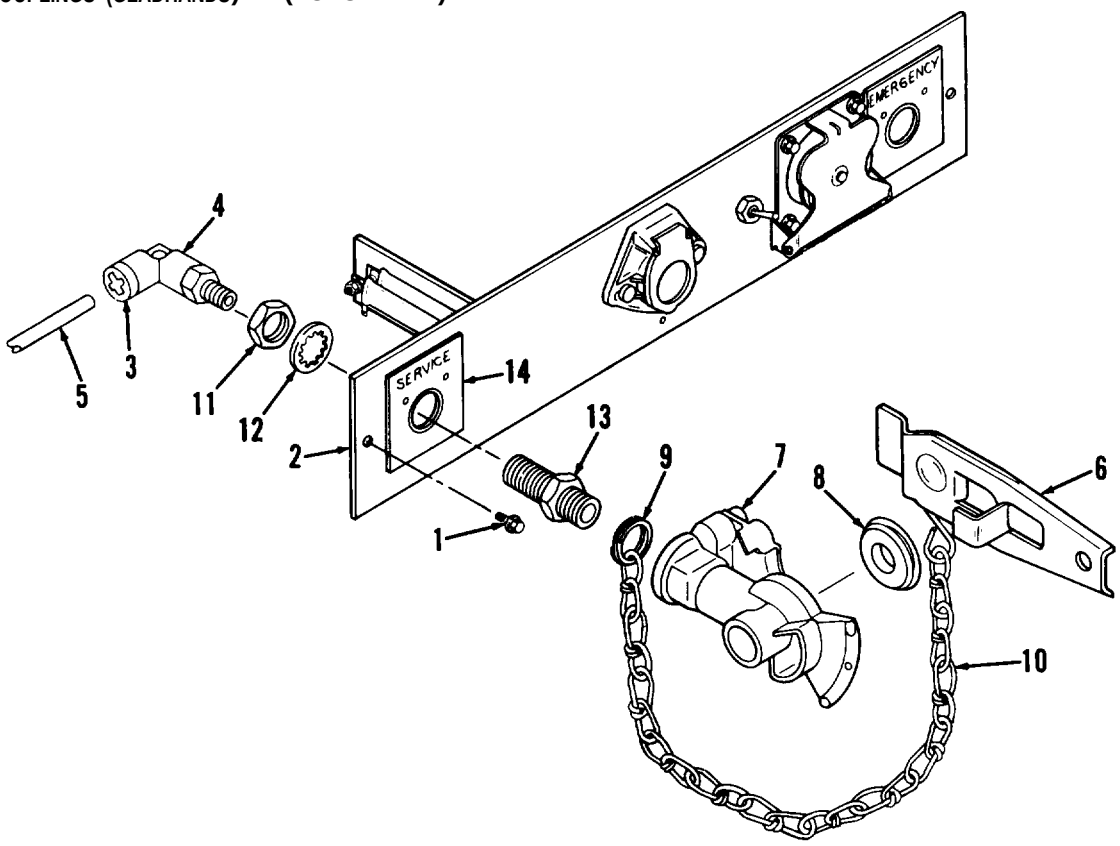
Don't allow nose plate to drop or hang by wires. Support nose plate to prevent damage to wires, connectors, and tubing.

(1) Remove four capscrews (1) and carefully pull nose plate (2) away from frame. Support nose plate (2).

(2) Press collar (3) against fitting (4) and pull tubing (5) from fitting (4).

(3) Remove fitting (4) from bushing (13).

4-33 AIR COUPLINGS (GLADHANDS) (C O N T) .



(4) Remove dummy coupling (6) from gladhand (7).

(5) Remove gladhand (7) from bushing (13).

(6) Remove packing (8) from gladhand (7).

(7) Remove split ring (9) from bushing (13) and separate from end of chain (10). Remove dummy coupling (6) and chain (10).

(8) Remove nut (11) and lock washer (12) from bushing (13).

(9) Remove bushing (13) and data plate (14) from nose Plate (2).

b. Installation.

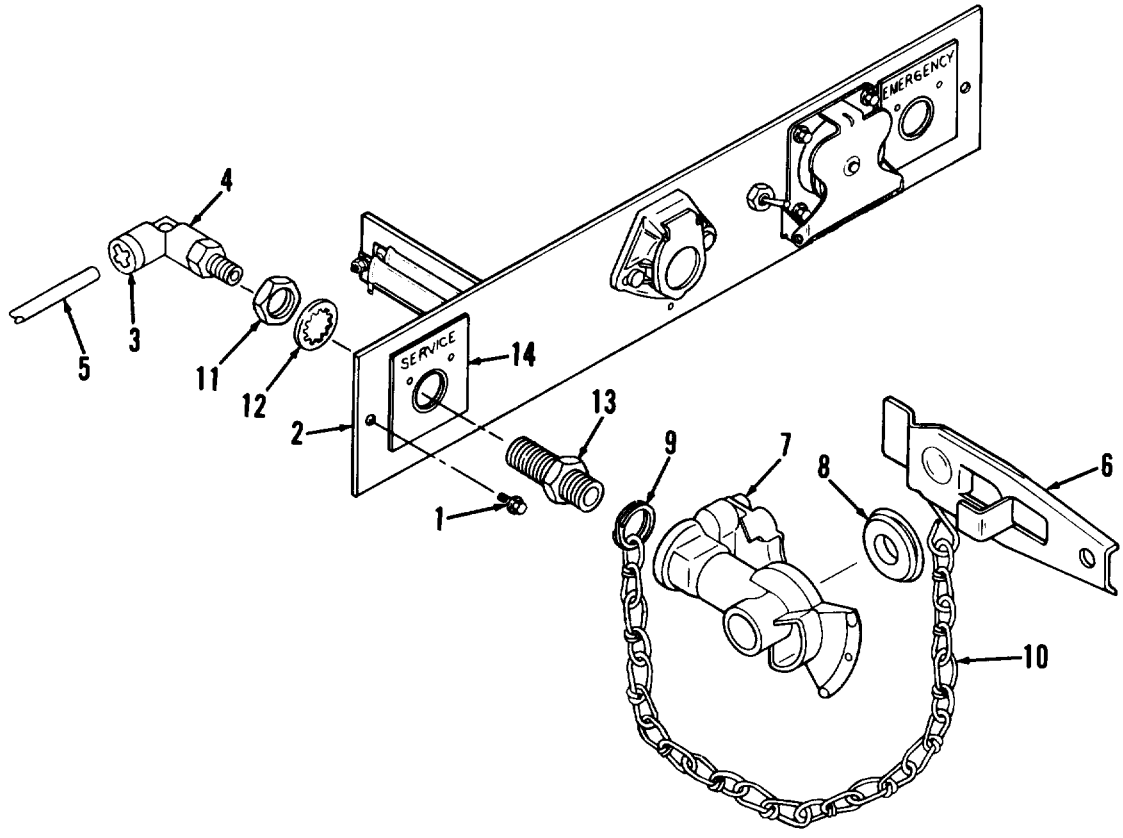
(1) Position data plate (14) and bushing (13) on nose plate (2).

(2) Install lock washer (12) and nut (11).

(3) Install split ring (9) on end of chain (10). Install dummy coupling (6) on chain (10).

(4) Position split ring (9) on bushing (13). Apply sealing compound to bushing (13) threads.

4-33 AIR COUPLINGS (GLADHANDS) (cont).



(5) Install packing (8) in gladhand (7).

(6) Install gladhand (7) on bushing (13) in position shown.

(7) Apply sealing compound to fitting (4) threads. Install fitting (4) in bushing (13).

(8) Push end of tubing (5) into fitting (4) until it bottoms.

(9) Close drain cocks and pressurize air brake system.

(10) Apply soapy water to fitting (4), gladhand (7) , and bushing (13). No leakage is permitted. If leakage is seen, tighten connection or replace part.

(11) Install dummy couplings (6) on gladhands (7).

(12) Guide tubing (5) and electrical wires into frame opening and position nose plate (2) against frame.

(13) Install and tighten four capscrews (1).

TASK ENDS HERE

4-34 BRAKE SHOES.

This task covers removal and installation.

INITIAL SETUP

Tools

Jack stands
General mechanics tool kit

Equipment Condition

References

Para. 3-8 Tires removed.
Para. 4-38 Brake drum removed.

a. Removal.

WARNING

The axle must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

Do not use a dry brush or compressed air to clean brake shoes. There may be asbestos dust on brake shoes which can be dangerous to your health if you breath it. Brake shoe must be wet, and a soft bristle brush must be used. Rinse and allow to dry.

NOTE

The wheel hub is shown removed for clarity. Hub removal is not necessary for brake shoe replacement.

(1) Support axle on both sides of semitrailer with jack stands.

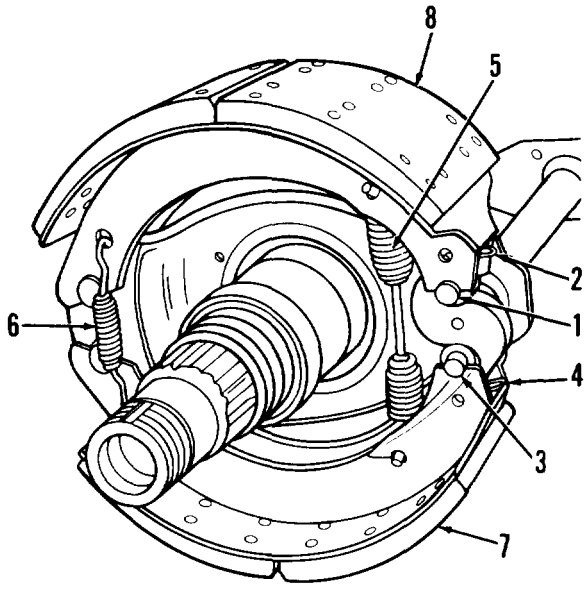
(2) push cam end of lower shoe (7) down. Pull roller retainer (4) to remove bottom roller (3) and roller retainer (4).

(3) Lift cam end of upper shoe (8). Pull roller retainer (2) to remove top roller (1) and roller retainer (2).

(4) Lift free end of lower shoe (7) and remove return spring (5).

(5) Swing free end of lower shoe (7) away from cam to release tension on retaining springs (6).

(6) Remove two retaining springs (6) and shoes (7 and 8).



4-34 BRAKE SHOES (CONT).

(7) Remove two shouldered pins (9).

(8) Using hammer and suitable driver, remove two bushings (10) from spider (12).

b. Installation.

(1) Drive two new bushings (10) in spider (12).

(2) Install two shouldered pins (9).

(3) Place upper shoe (8) in position shouldered pin (9).

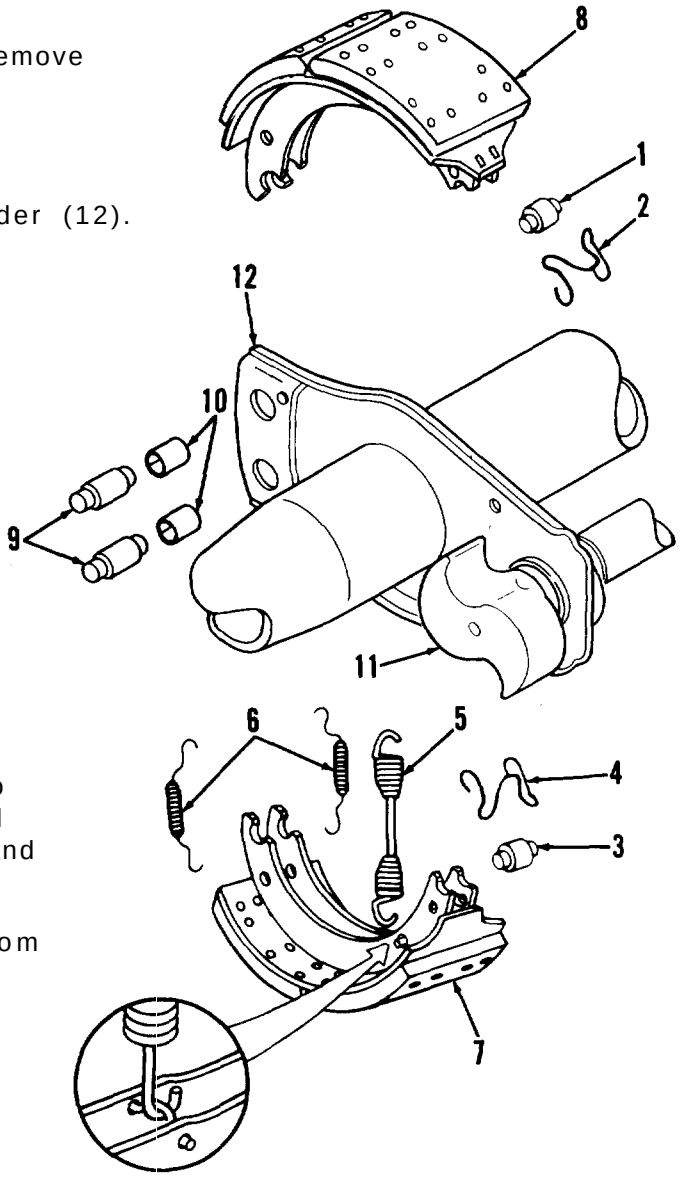
NOTE

Install new rollers (1 and 3), retainers (2 and 4), and springs (5 and 6) at each brake shoe reline.

(4) Hold lower shoe (7) against bottom shouldered pin (9) and install two retaining springs (6).

(5) Swing free end of lower shoe (7) to cam (11), pull shoe up, and install return spring (5) on both shoe (7 and 8) pins.

(6) Install roller retainer (4) on bottom roller (3).



(7) Push cam end of lower shoe (7) down.

(8) Squeeze sides of roller retainer (4) together so it fits between lower shoe (7) webs. Position bottom roller (3) on webs and push roller retainer (4) between shoe webs until it locks into holes in webs.

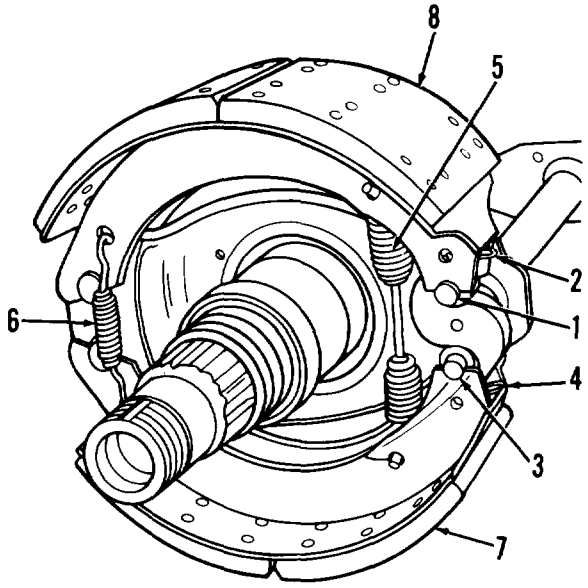
(9) Install roller retainer (2) on top roller (1).

(10) Pull cam end of upper shoe (8) up.

4-34 BRAKE SHOES (CONT).

(11) Squeeze sides of roller retainer (2) together so it fits between upper shoe (8) webs. Position top roller (1) on webs and push roller retainer (2) between shoe webs until it locks into holes in webs.

(12) Adjust slack adjusters (para. 4-36).



TASK ENDS HERE

4-35 BRAKE CAMSHAFT

This task covers removal and installation.

INITIAL SETUP

Tools

Jack stands
General mechanics tool kit
Torque wrench

Materials/Parts

GAA grease (item 4, Appendix E)

Equipment Condition
References

Para. 3-6 Drain cocks open.
Para. 2-29 Spring brake caged.
Para. 3-8 Tires and wheels removed.
Para. 4-38 Brake drum and hub removed.
Para. 4-34 Brake shoes removed.
Para. 4-36 Slack adjuster removed.

---

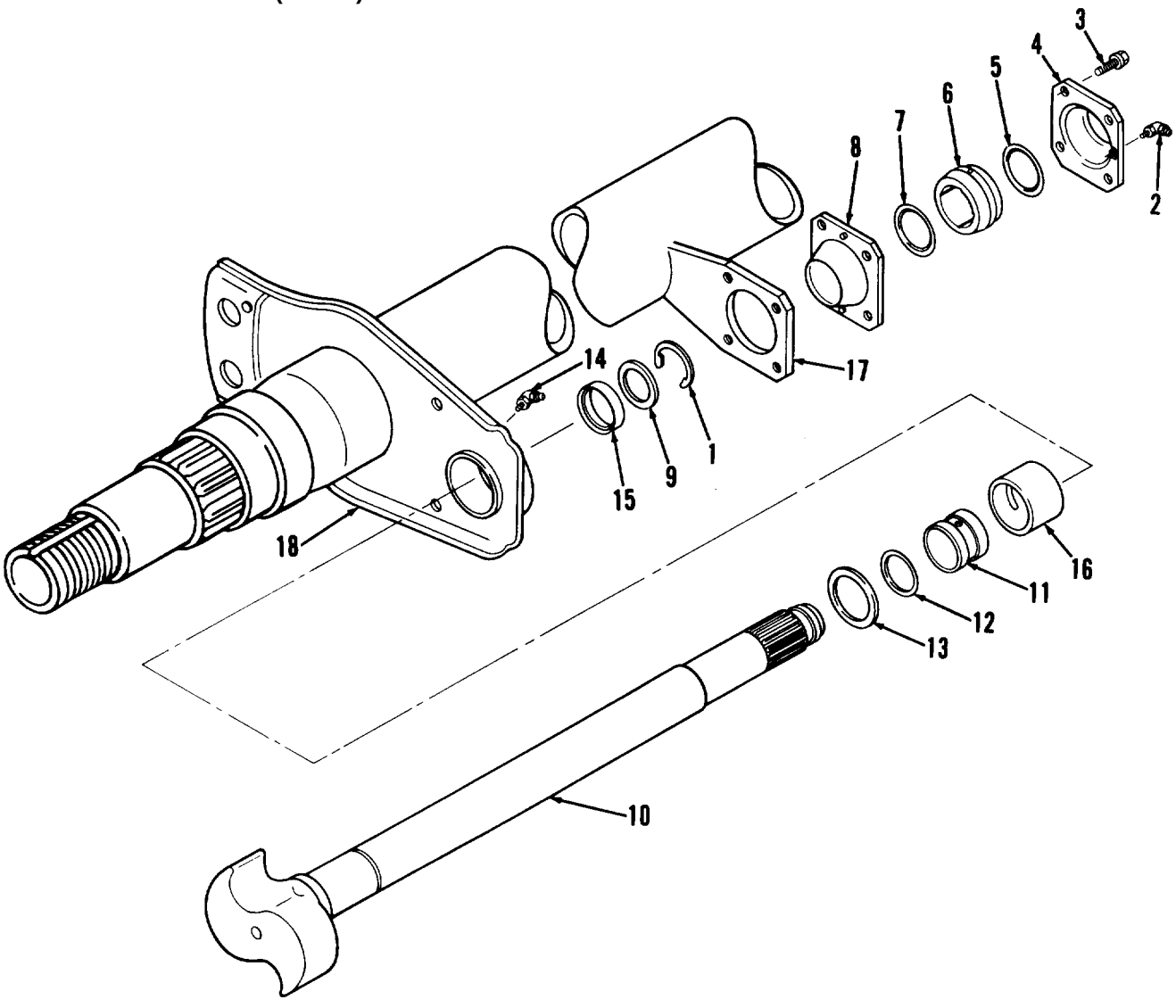
a. Removal.

WARNING

The axle must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

(1) Support axle on both sides of semitrailer with jack stands.

4-35 BRAKE CAMSHAFT (CONT) .



(2) Remove retaining ring (1) from camshaft (10).

(3) Remove lubrication fitting (2) from retainer (4).

(4) Remove four screws (3) and retainer (4).

(5) Remove O-ring (5), bushing (6), O-ring (7), and retainer (8).

(6) Pull camshaft (10) halfway out and remove washer (9).

(7) Remove camshaft (10) with inner bushing (11), O-ring (12), and washer (13).

(8) Remove inner bushing (11), o)-ring (12), and washer (13) from camshaft (10).

(9) Remove lubrication fitting (14) from spider (18).

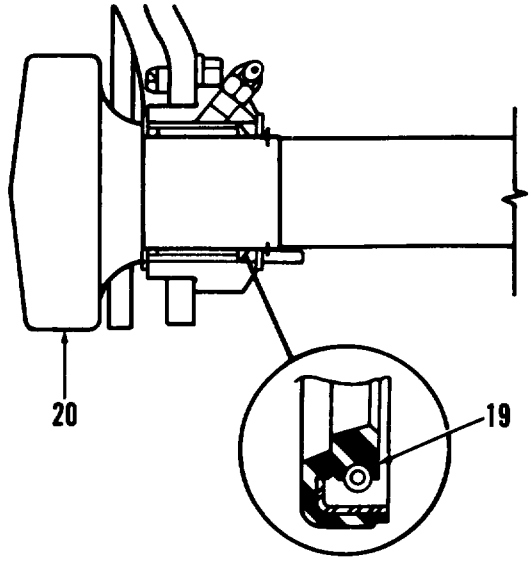
4-35 BRAKE CAMSHAFT (CONT).

(10) Using suitable puller, remove seal (15). Discard seal.

(11) Using hammer and suitable driver, drive outer bushing (16) from spider (18). Discard outer bushing.

b. Installation.

(1) Position new outer bushing (16) on brake side of spider (18), with bushing slot centered on location of lubrication fitting (14) hole. Tap outer bushing (16) into spider (18) until flush with spider surface. Hole for lubrication fitting (14) must be visible through slot in outer bushing (16).



(2) Position new seal (15) in spider (18), with seal lip (19) away from S-cam (20). Tap seal (15) into spider (18) until flush with spider surface.

(3) Install lubrication fitting (14) in spider (18).

(4) Apply clean GAA grease to bushings (6, 11, and 16), camshaft (10) journals, and seal (15) lip.

(5) Install washer (13), 0-ring (12), and inner bushing (11) on camshaft (10) and slide against S-cam.

(6) Install camshaft (10) halfway through outer bushing (16) and install washer (9).

(7) Install camshaft (10) through hole in bracket (17) while guiding inner bushing (11) into outer bushing (16).

(8) Install retainer (8), 0-ring (7), bushing (6), and 0-ring (5) on camshaft (10). Slide these parts into position at bracket (17).

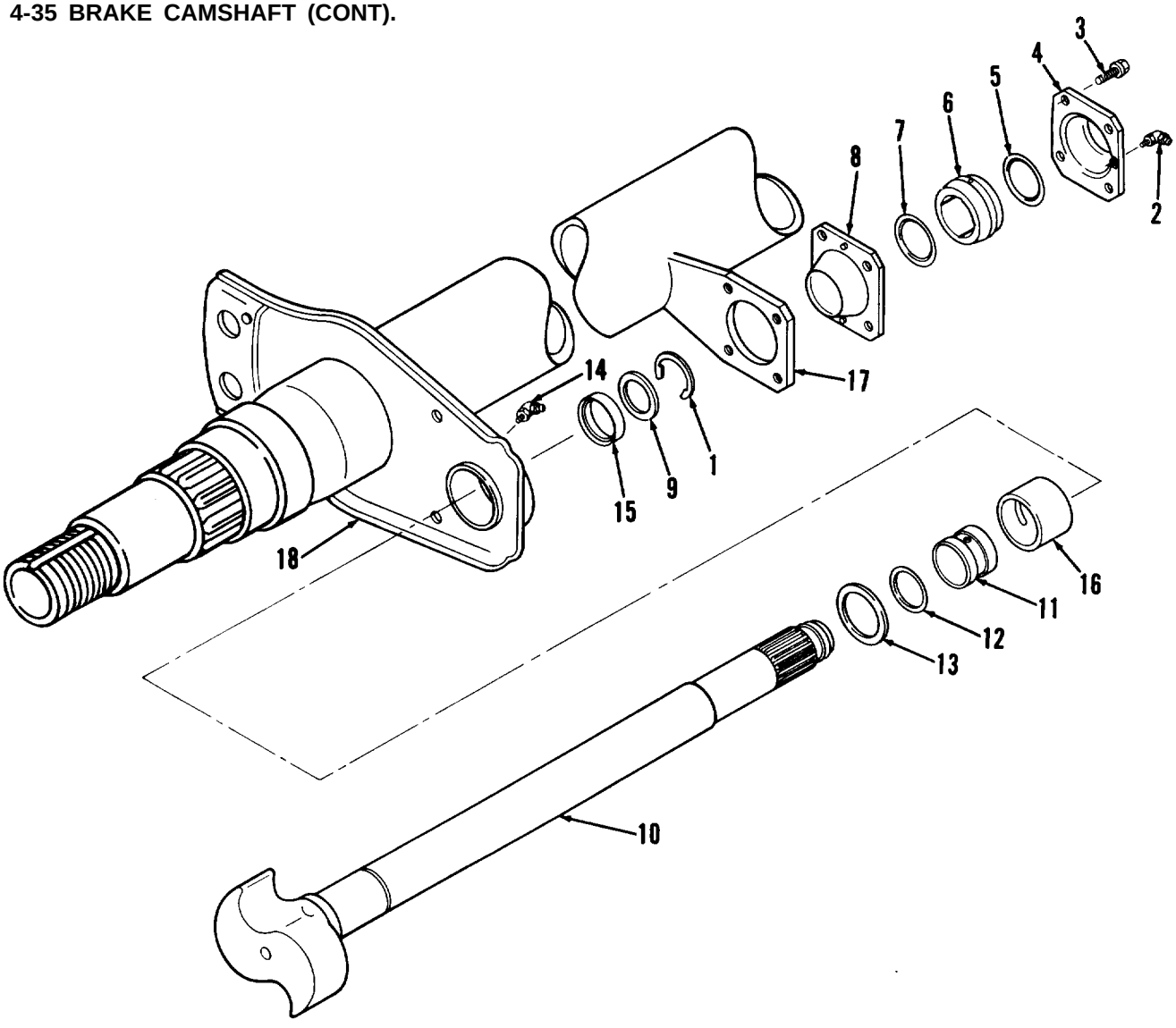
(9) position retainer (4) with hole for lubrication fitting (2) away from axle.

(10) Install four screws (3). Torque screws (3) to 25-40 lb-ft.

(11) Install lubrication fitting (2) in retainer (4).

(12) Slide washer (9) against seal (15).

4-35 BRAKE CAMSHAFT (CONT).



(13) Install retaining ring (1) in camshaft (10) *groove.*

(a) Push S-cam against spider (18). Using thickness gage, measure clearance between washer (9) and retaining ring (1). Clearance must not exceed 0.060 inch.

(b) If clearance is more than 0.060 inch remove retaining ring (1), slide camshaft (10) halfway out, and install additional washer(s) (9) until correct clearance is obtained.

(14) Apply GAA grease to lubrication fittings (2 and 14).

(15) Adjust slack adjuster (para. 4-36).

TASK ENDS HERE

4-36 SLACK ADJUSTER.

This task covers removal, test, installation, and adjustment.

INITIAL SETUP

Tools

General mechanics tool kit
Retaining ring pliers
Torque wrench, 250 1b-in

Equipment Condition
References

Para. 2-29 Spring brake caged.

Materials/Parts

GAA grease (item 4, Appendix E)
OE/HDO oil (item 10, Appendix E)

a. Removal.

(1) Chock wheels to prevent semitrailer from rolling.

CAUTION

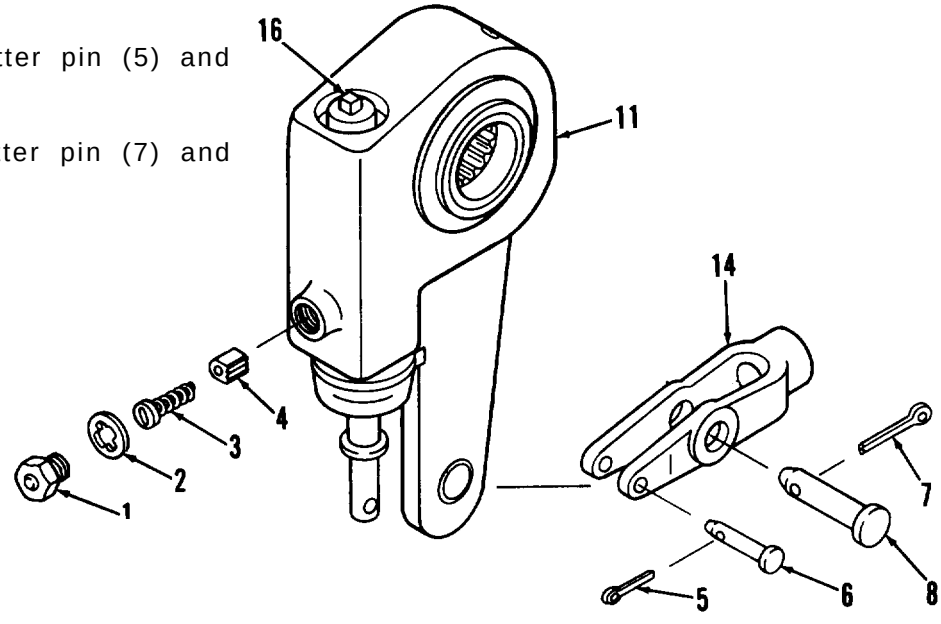
Remove the pawl (4) before you turn the adjusting nut (16), or the pawl teeth will be damaged.

(2) Remove capscrew (1), lock washer (2), spring (3), and Pawl (4) from slack adjuster (11).

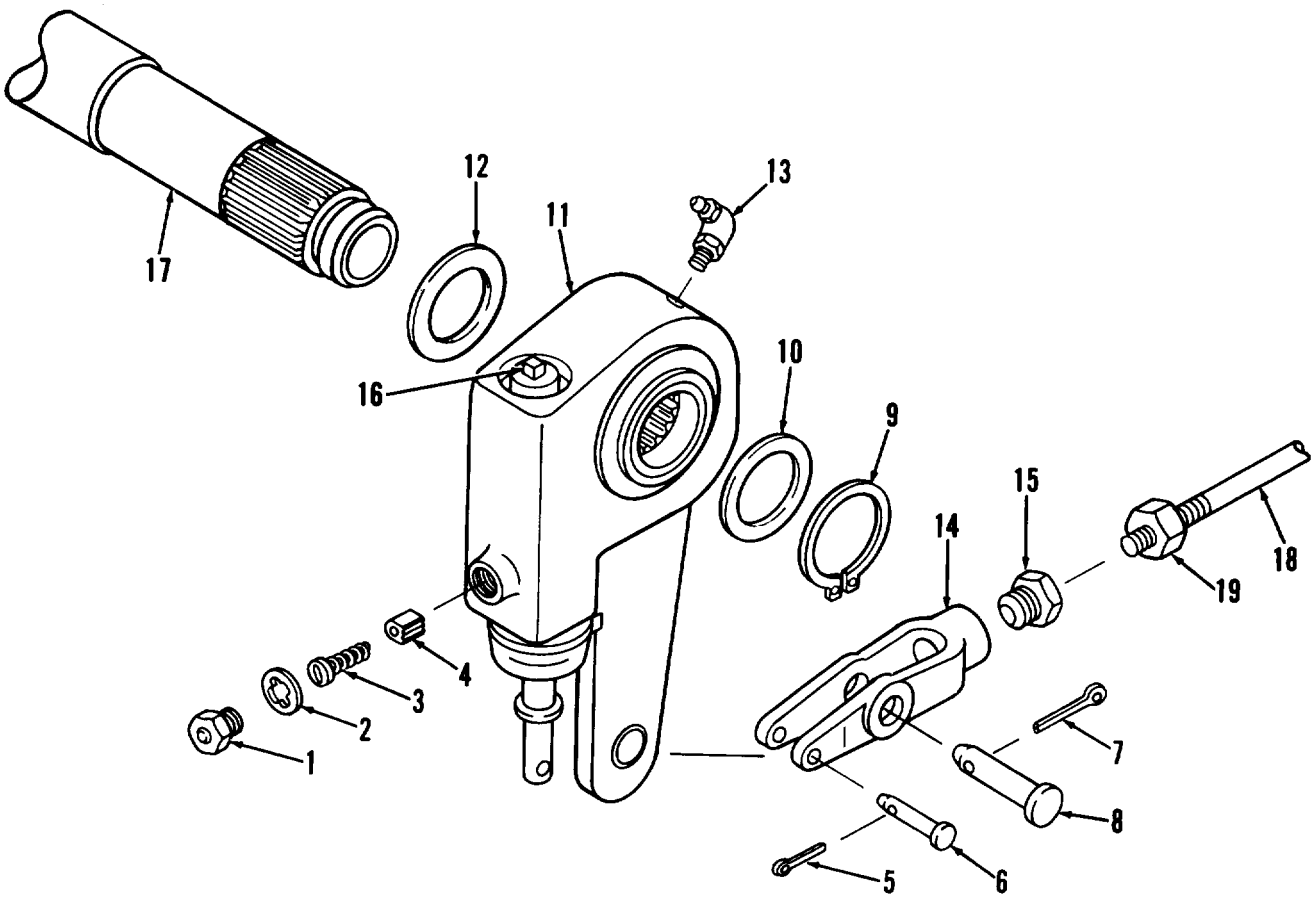
(3) Turn adjusting nut (16) on slack adjuster clockwise to release spring forces.

(4) Remove small cotter pin (5) and clevis pin (6).

(5) Remove large cotter pin (7) and clevis pin (8).



4-36 SLACK ADJUSTER (CONT).



(6) Remove retaining ring (9) and washer (10).

(7) Rotate slack adjuster (11) arm out of the clevis (14).

(8) Remove slack adjuster (11) and spacer (12) from camshaft (17). If necessary, use soft face hammer to tap slack adjuster (11) from camshaft (17).

(9) Remove lubrication fitting (13) from slack adjuster (11).

NOTE

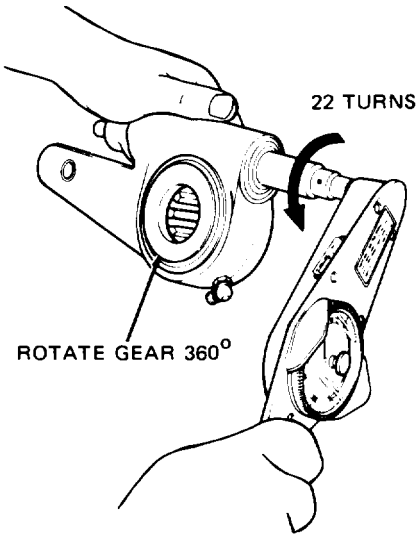
In following step, don't try to remove collar (15) from clevis (14). The collar and clevis cannot be separated after they are assembled.

(10) Remove clevis (14) with collar (15) from push rod (18). Do not remove jam nut (19) from push rod (18).

4-36 SLACK ADJUSTER (CONT) .

b. Test.

(1) Using lb-in torque wrench, turn adjusting nut (16) in direction shown. Read torque indication while you turn torque wrench 22 complete revolutions, to rotate slack adjuster gear 360 degrees.



(2) If torque indication is 45 lb-in or less during the complete 360 degree rotation of slack adjuster gear, the slack adjuster is okay.

(3) If torque indication is more than 45 lb-in, the slack adjuster is defective. Replace slack adjuster.

c. Installation

(1) push new collar (15) in clevis (14).

(2) Install clevis (14) with collar (15) on brake chamber push rod (18) at position recorded during removal. Do not tighten the push rod jam nut (19).

(3) Measure thread engagement between clevis (14) and push rod (18). If thread engagement is less than 1/2 inch, turn collar (15) on push rod until thread engagement is 1/2 inch minimum.

(4) Tighten jam nut (19) against collar (15) assembly to hold clevis in correct position.

(5) Install lubrication fitting (13) in slack adjuster.

(6) Apply clean GAA grease to camshaft (17) splines and splines on slack adjuster (11) gear.

(7) Install spacer (12) and slack adjuster (11) on camshaft (17).

(8) Install washer (10) and retaining ring (9) on camshaft (17).

(a) Using thickness gage, measure clearance between washer (10) and retaining ring (9). Clearance must not exceed 0.062 inch.

(b) If clearance is more than 0.062 inch, remove retaining ring (9) and install additional washer(s) (10) until correct clearance is obtained.

4-36 SLACK ADJUSTER (CONT).

CAUTION

Remove the pawl (4) before you turn the adjusting nut (16), or the pawl teeth will be damaged.

(9) If installed, remove capscrew (1), lock washer (2), spring (3), and pawl (4) from slack adjuster (11).

(10) Turn adjusting nut (16) counterclockwise to aline hole in slack adjuster (11) arm with hole in clevis (14).

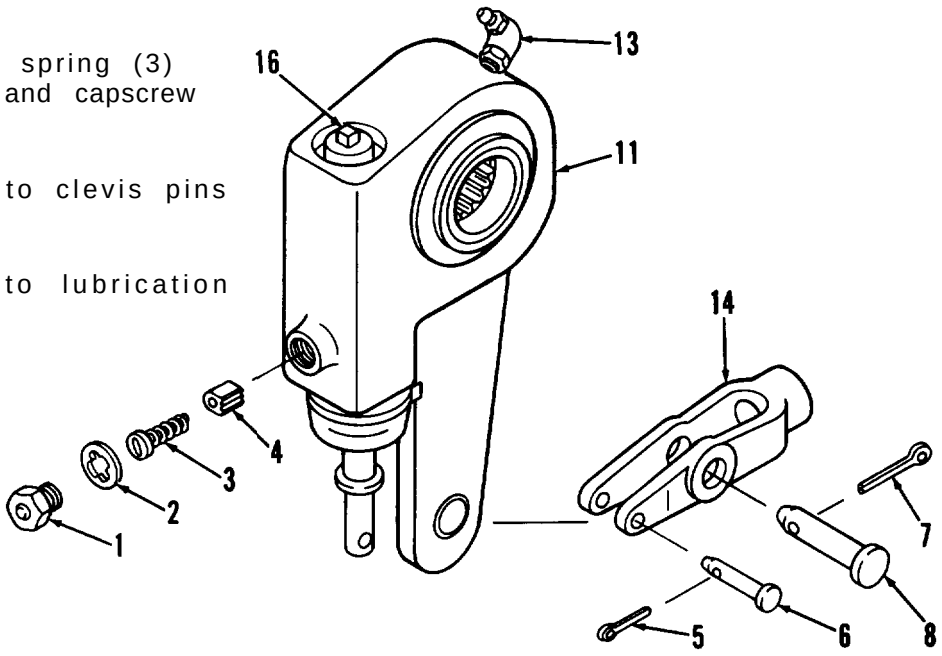
(11) Install clevis pins (6 and 8) through clevis (14) and slack adjuster (11).

(12) Install cotter pins (5 and 7) in clevis pins (6 and 8). Bend ends of cotter pins.

(13) Install pawl (4), spring (3) lock washer (2), and capscrew (1).

(14) Apply OE/HDO oil to clevis pins (6 and 8).

(15) Apply GAA grease to lubrication fitting (13).



d. Slack Adjuster Initial Adjustment.

(1) Set wheel chocks on both sides of vehicle to prevent semitrailer from rolling.

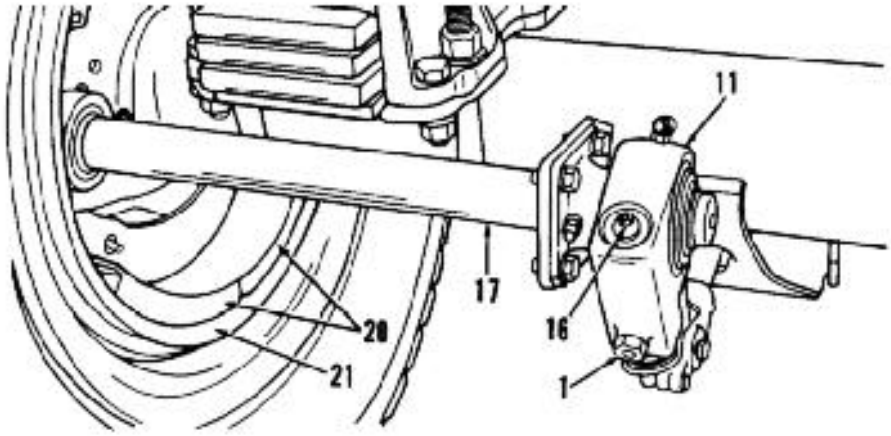
(2) Close drain cocks and charge semitrailer air system to release spring forces from slack adjuster (11) and camshaft (17).

CAUTION

Remove the pawl (4) before you turn the adjusting nut (16), or the pawl teeth will be damaged.

(3) Remove capscrew (1), lock washer (2), spring (3), and pawl (4) from slack adjuster (11).

4-36 SLACK ADJUSTER (CONT).



(4) Turn adjusting nut (16) counterclockwise until brake linings (20) touch drum (21). Then turn adjusting nut (16) 1/2 turn clockwise. Ensure brake drum turns freely.

(5) Install pawl (4), spring (3), lock washer (2), and capscrew (1) in slack adjuster (11). Torque capscrew to 15-20 lb-ft.

(6) Remove frame and axle supports.

(7) Remove wheel chocks and stow in brackets.

TASK ENDS HERE

Section VIII. WHEELS, HUBS, AND DRUMS MAINTENANCE

	Para
Tire and Tube	4-37
Brake Drum and Hub	4-38

4-37 TIRE AND TUBE.

Refer to TM 9-2610-200-24 for tire and tube removal, repair, and installation.

4-38 BRAKE DRUM AND HUB.

This task covers: a. Removal b. Disassembly c. Reassembly d. Installation e. Adjustment

INITIAL SETUP

Tools

General mechanics tool kit
Puller

Material/Parts

Gasket, hub cap
Oil, gear (item 6, Appendix E)

Personnel Required: (2)

Equipment Conditions
References

Para. 2-29 Spring brake caged.
Para. 3-8 Tires and wheels removed.

a. Removal.

WARNING

Brake drum weighs 60 pounds. To prevent injury, do not lift the brake drum without assistance.

(1) With your helper, remove brake drum (1).

(2) Place an empty container under hub cap (5) to catch oil.

(3) Remove plug (2) from hub cap (5).

(4) Remove six capscrews (3), slotted washers (4), hub cap (5), and gasket (6). Discard gasket (6).

(5) Remove setscrew (7) , jam nut (8), lock washer (9) , and inner nut (10).

CAUTION

When removing hub (12) from axle spindle (18), make sure bearing (11) does not fall and become damaged.

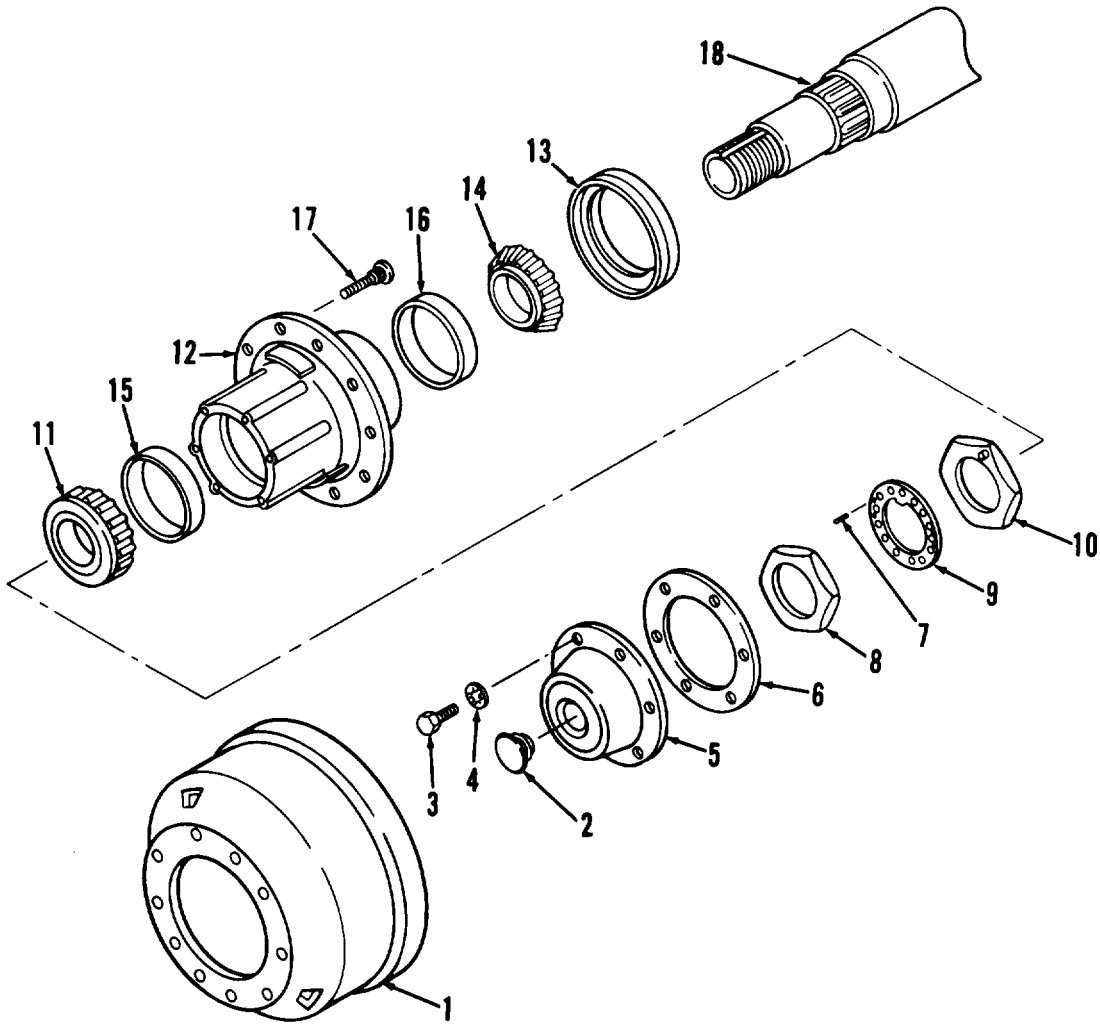
(6) Remove bearing (11) and hub (12). If necessary, use puller to remove hub (12).

DISASSEMBLY.

(1) Using puller, remove oil seal (13) from hub (12). Discard oil seal (13).

(2) Remove bearing (14).

4-38 BRAKE DRUM AND HUB (CONT).



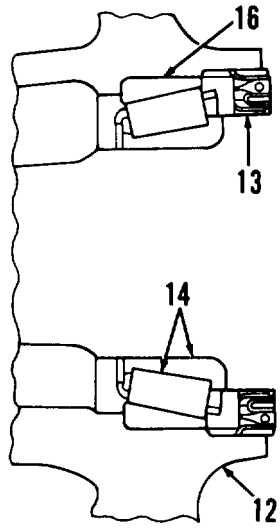
(3) Using puller, remove bearing cups (15 and 16) from hub (12) . Discard bearing cups (15 and 16).

(4) Position hub (12) inner flange surface on backing blocks. Using hammer, drive damaged studs (17) from hub (12). Discard studs (17).

c. Reassembly.

(1) Position hub (12) outer flange surface on backing blocks. Using hammer, drive new studs (17) in hub (12).

4-38 BRAKE DRUM AND HUB (CONT) .



(2) Using hammer and suitable driver, press new bearing cups (15 and 16) in hub (12). Make sure bearing cups are pressed tight against hub shoulders.

(3) Position bearing (14) in bearing CUP (16).

CAUTION

In the following step, stop driving oil seal (13) when it touches bearing cup (16). Otherwise, oil seal will be damaged.

(4) Using hammer, carefully drive new oil seal (13) in hub (12) until it bottoms against bearing cup (16).

d. Installation.

(1) Apply clean gear oil to axle spindle (18), oil seal (13) lip, and bearing (11 and 14) rollers.

CAUTION

Take care not to damage bearing (14) or oil seal (13) when installing hub (12).

(2) Carefully install hub (12) on axle spindle (18).

(3) Install bearing (11) and push against bearing cup (15).

e. Adjustment .

(1) Install inner nut (10) with pin side out.

(a) while rotating hub, torque inner nut to 100 lb-ft.

(b) Loosen inner nut completely.

(c) While rotating hub, torque inner nut to 50 lb-ft.

(d) Loosen inner nut 1/6 to 1/4 turn.

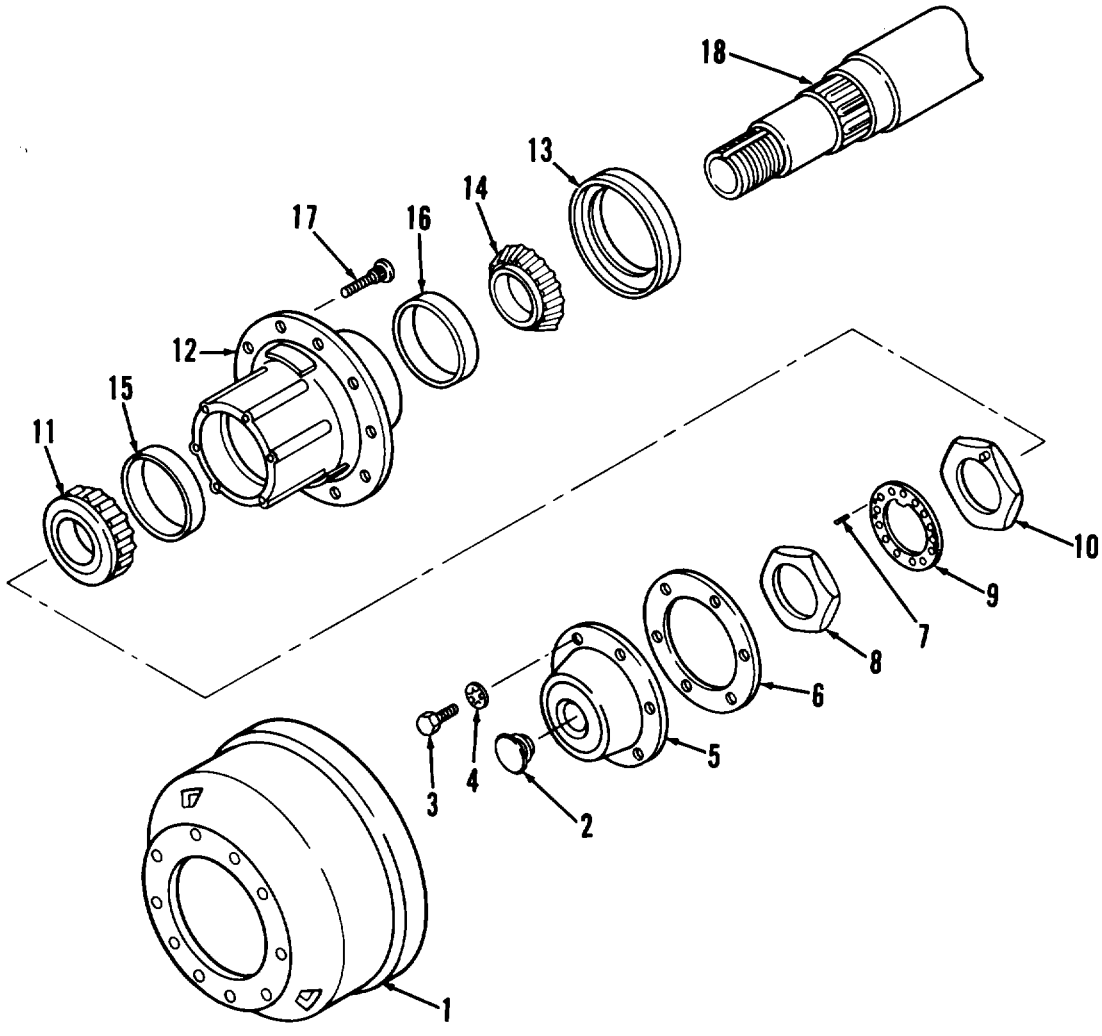
(2) Install lock washer (9) on axle spindle (18). Turn inner nut (10) as necessary to aline inner nut (10) pin with nearest hole on lock washer (9).

(3) Install jam nut (8) and torque to 250-300 lb-ft.

(4) Install setscrew (7) in lock washer (9) to secure jam nut (8).

(5) Position hub cap (5) with new gasket (6) against hub (12).

4-38 BRAKE DRUM AND HUB (CONT) .



(6) Install six slotted washers (4) and capscrews (3). Torque capscrews (3) to 15-20 lb-ft.

(7) Using gear oil, fill hub cap (5) to the bottom OIL FILL mark in the window.

(8) Install plug (2) and rotate hub several revolutions. Check oil level and add oil as necessary.

(9) With your helper, install brake drum (1).

TASK ENDS HERE

Section IX. FRAME MAINTENANCE

	Para		Para
Wheel Chocks	4-39	Spare Tire Carrier	4-43
Retractable Twist Locks	4-40	Float Pads (Ground Board	
Tiedown Rings	4-41	Assemblies)	4-44
Dock Bumpers	4-42	Landing Gear	4-45

4-39 WHEEL CHOCKS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

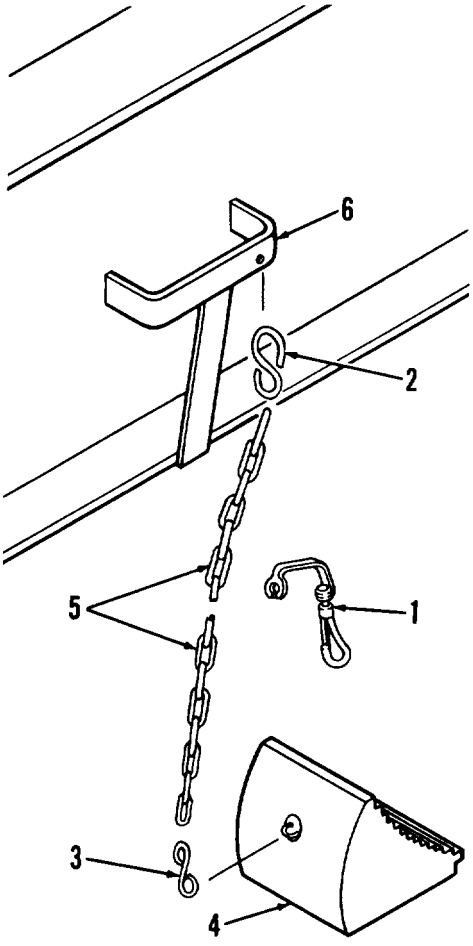
a. Removal.

(1) Unhook snap hook (1) clasp and place wheel chock (4) on ground.

(2) Remove snap hook (1) from chain (5).

(3) Remove S-hook (2) from bracket (6) and chain (5).

(4) Remove S-hook (3) from wheel chock (4) and chain (5).



Installation.

NOTE

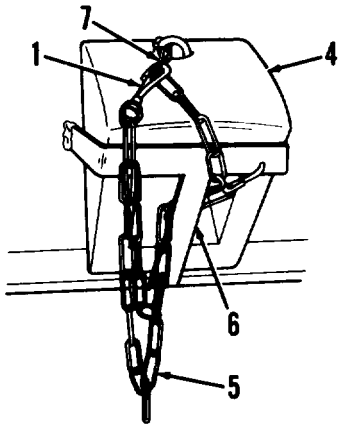
See Appendix G for chain fabrication details.

(1) Install S-hook (3) **on end of chain (5) and wheel** chock (4).

(2) Install S-hook (2) on bracket (6) and remaining end of chain (5).

(3) Count 14 chain links from bracket (6) and install snap hook (1) on link number 14.

4-39 WHEEL CHOCKS (CONT).



(4) Position wheel chock (4) in bracket (6) as shown.

(5) Pull snap hook (1) with chain (5) between wheel chock (4) and bracket (6).

(6) Attach snap hook (1) to chain link (7).

TASK ENDS HERE

4-40 RETRACTABLE TWIST LOCKS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

Equipment Condition

Para. 2-5 Side panels removed.

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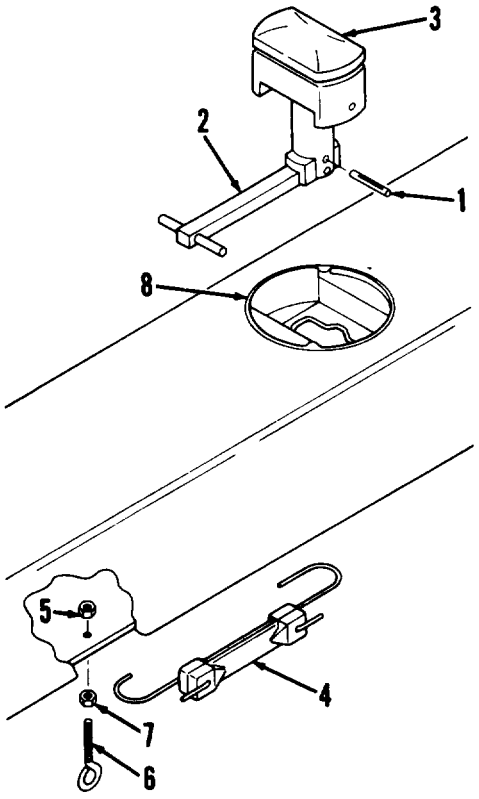
a. Removal.



(1) Remove elastic strap (4) from eye bolt (6).

(2) Lower handle (2) to vertical position.

(3) Remove elastic strap (4) from handle (2).

(4) Lower twist lock (3) in socket (8) for access to pin (1).

(5) Drive pin (1) from twist lock (3).

(6) Remove twist lock (3) from socket (8).

(7) Remove nut (5), eye bolt (6), and nut (7).

b. Installation. .

(1) Install nut (7), eye bolt (6), and nut (5).

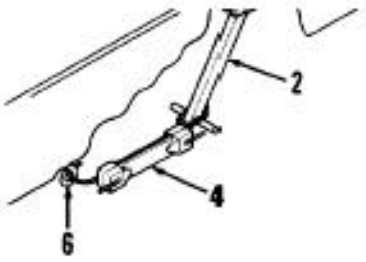
(2) Install twist lock (3) in socket (8).

(3) Drive pin (1) into twist lock (3).

4-40 RETRACTABLE TWIST LOCKS (CONT) .

(4) Install elastic strap (4) on handle (2) .

(5) Lift end of handle (2) and secure elastic strap (4) to eye bolt (6).



TASK ENDS HERE

4-41 TIEDOWN RINGS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

Equipment Condition

Para. 2-5 Side panels removed.

---

a. Removal.

(1) Remove two nuts (1), lock washers (2), and socket head screws (3).

(2) Remove strap (4) and D-ring (5).

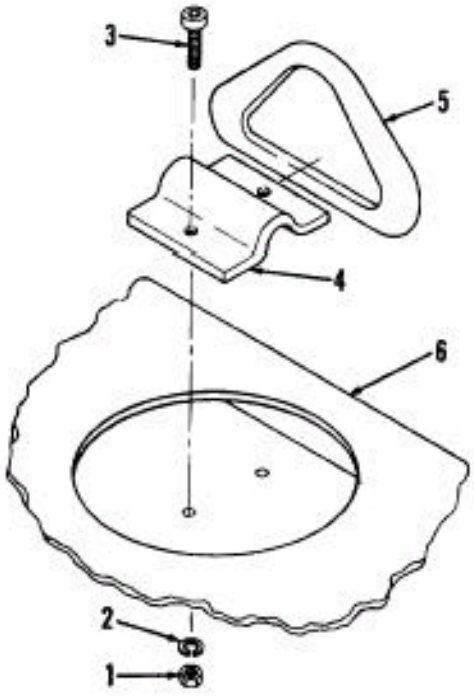
(3) Repeat steps (1) and (2) for remaining tiedown rings as needed.

b. **Installation**

(1) Position D-ring (5) and strap (4) on semitrailer frame (6).

(2) Install two socket head screws (3), lock washers (2), and nuts (1).

(3) Repeat steps (1) and (2) for remaining tiedown rings as needed.



TASK ENDS HERE

4-42 DOCK BUMPERS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

a. Removal.

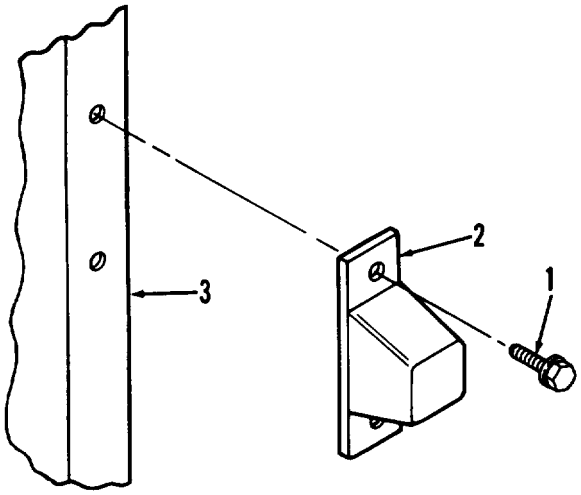
(1) At rear of semitrailer, remove two screws (1) and dock bumper (2).

(2) Repeat step (1) for other dock bumpers as required.

b. Installation.

(1) Position dock bumper (2) on semi-trailer frame (3) and install two screws (1).

(2) Repeat step (1) for remaining dock bumpers as required.



TASK ENDS HERE

4-43 SPARE TIRE CARRIER.

This task covers removal, repair, and installation.

INITIAL SETUP

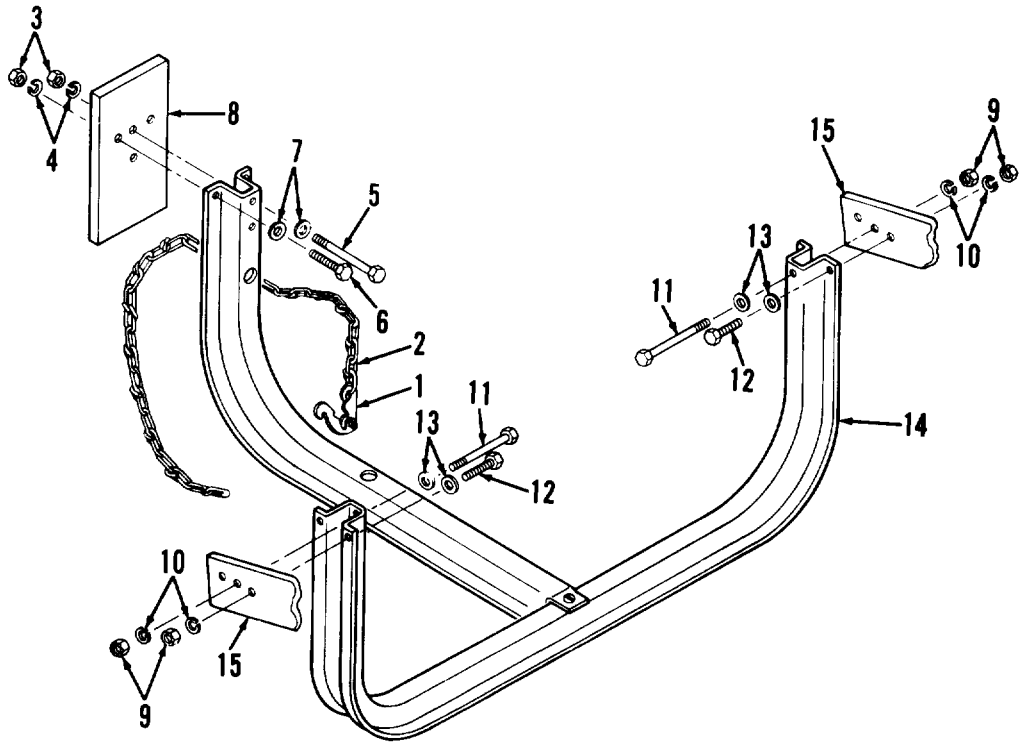
Tools

General mechanics tool kit

Equipment Condition

Para. 3-9 Spare tire removed from spare tire carrier.

4-43 SPARE TIRE CARRIER (CONT).



a. Removal.

(1) Support spare tire carrier (14).

(2) At inside bracket (8), remove three nuts (3), lock washers (4), capscrew (5), two capscrews (6), and three washers (7).

(3) At each outside bracket (15), remove three nuts (9), lock washers (10), capscrew (11), two capscrews (12), and three washers (13).

(4) Remove spare tire carrier (14).

b. Repair. Repair is limited to replacement of the chain (2).

c. Installation.

(1) Position and support spare tire carrier (14).

(2) At each outside bracket (15), install two capscrews (12), Cap screw (11), and three washers (13).

(3) Install three lock washers (10) and nuts (9).

(4) At inside bracket (8), install two capscrews (6), capscrew (5), and three washers (7).

(5) Install three lock washers (4) and nuts (3).

TASK ENDS HERE

4-44 FLOAT PADS (GROUND BOARD ASSEMBLIES.

This task covers removal and installation.

INITIAL SETUP

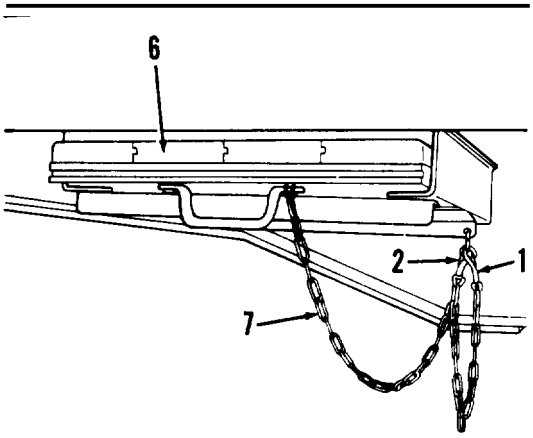
Tools

General mechanics tool kit

NOTE

This procedure is typical for both float pads. Snap hook (2) is used on both sides of semitrailer. Snap hook (1) is used on storage box side of semitrailer only.

a. Removal.



(1) Unhook snap hook (1 and 2) clasps.

(2) Pull float pad (6) from brackets and place on ground.

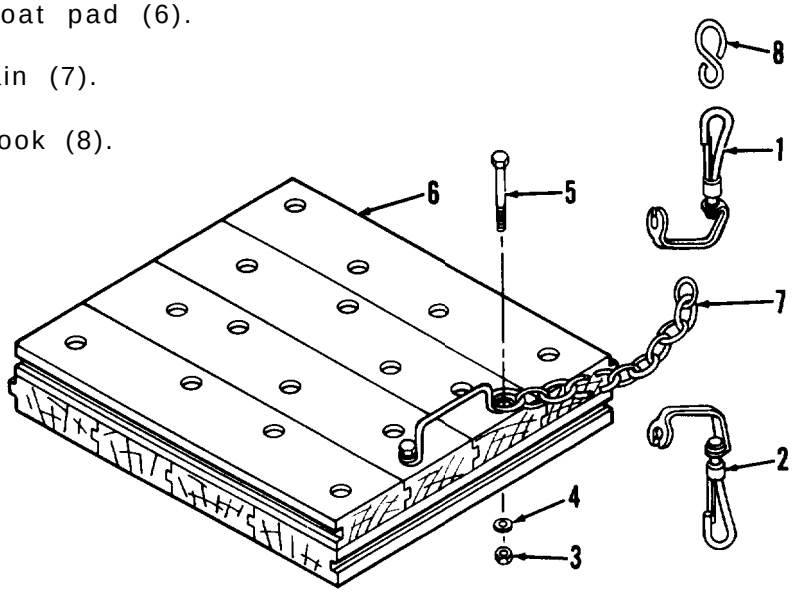
(3) Remove snap hooks (1 and 2) from chain (7).

(4) Remove nut (3), washer (4), and capscrew (5) holding chain (7) to float pad handle.

(5) Lift float pad handle and pull chain (7) from float pad (6).

(6) Remove chain (7).

(7) Remove S-hook (8).



4-44 FLOAT PADS(GROUND BOARD ASSEMBLIES) (CONT).

b. Installation.

NOTE

See Appendix G for chain fabrication details.

(1) Install S-hook (8) on bracket (9).

(2) At curbside of semitrailer, place chain (7) end link on S-hook (8).

(3) Squeeze both S-hook (8) ends closed.

(4) Slide chain (7) end link between float pad (6) and end of handle.

(5) Insert capscrew (5) through end of handle, chain (7) end link, and float pad (6).

(6) Install washer (4) and nut (3).

(7) Position snap hook (2) on middle link of chain (7).

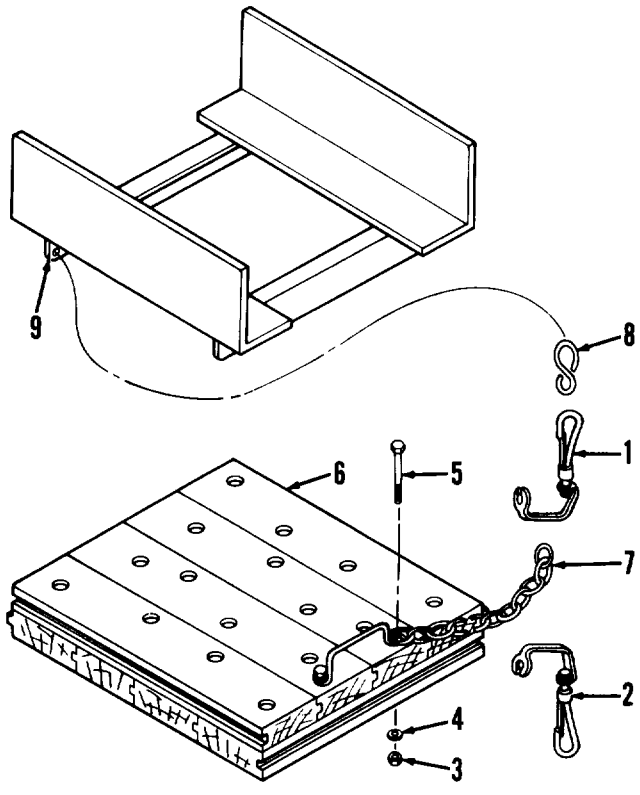
(8) At storage box side of semitrailer, position snap hook (1) on end link of chain (7).

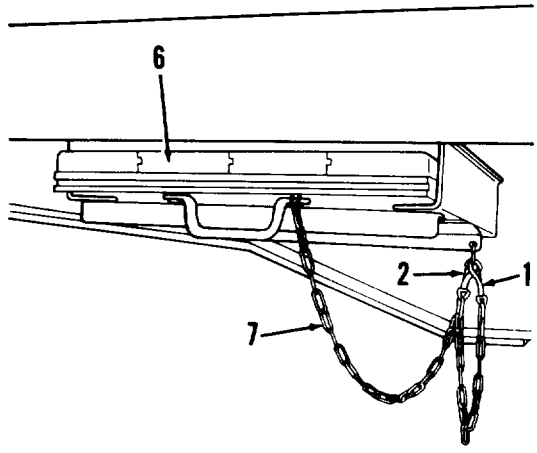
(9) Squeeze snap hooks (1 and 2) closed.

(10) At storage box side of semitrailer, hook snap hook (1) clasp on S-hook (8).

(11) Stow float pad (6) in brackets with handle down.

(12) Take up slack in chain (7) and hook snap hook (2) clasp in position.





TASK ENDS HERE

4-45 LANDING GEAR.

This task covers removal and installation.

INITIAL SETUP

Tools

Personnel Required: (2)

Jack stands
General mechanics tool kit

a. Crank Removal.

WARNING

The frame must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

(1) Block semitrailer frame on jack stands.

(2) Chock wheels to prevent semitrailer from moving.

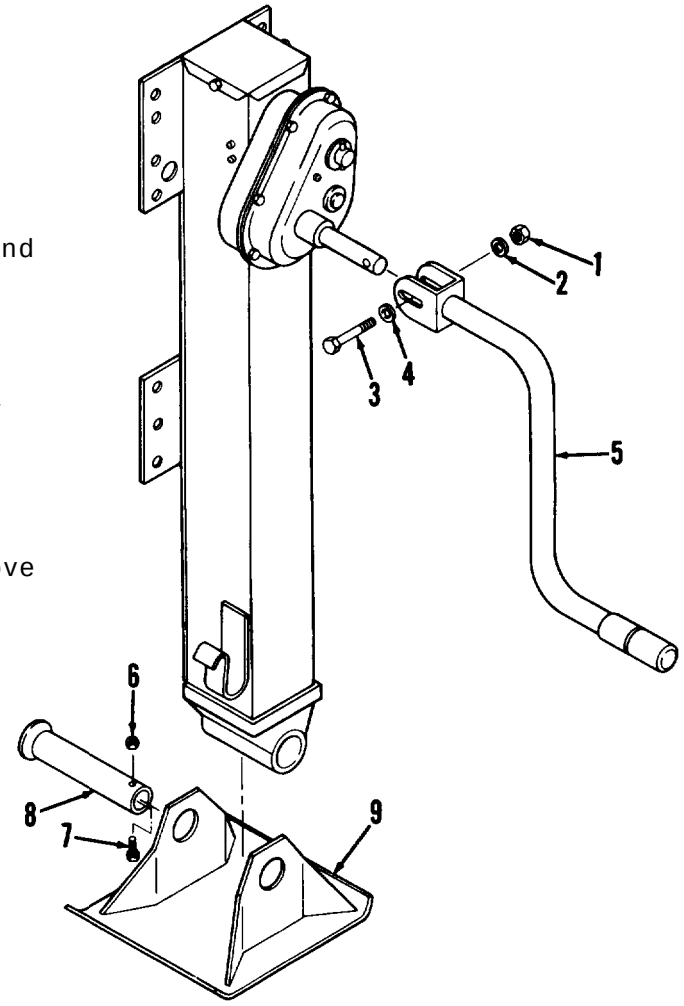
(3) Remove lock nut (1), washer (2), capscrew (3), washer (4), and hand crank (5).

b. Sand Shoes Removal.

(1) Remove lock nut (6) and capscrew (7).

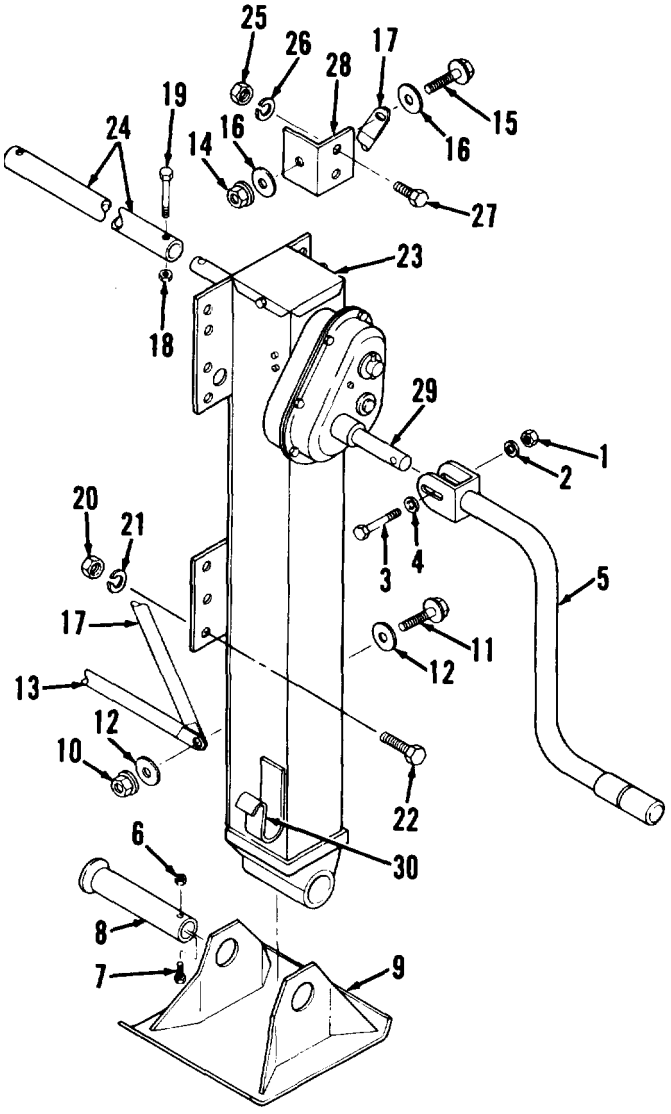
(2) Remove axle (8) and shoe (9).

(3) Repeat steps (1) and (2) to remove other sand shoe.



445 LANDING GEAR (CONT) .

c. Landing Leg Removal.



NOTE

This procedure is typical for both landing legs.

(1) Remove two lock nuts (10) , capscrews (11), four washers (12), and brace (13).

(2) Remove two lock nuts (14), capscrews (15), four washers (16), and two braces (17).

(3) Remove lock nut (18) and capscrew (19) from drive shaft (24).

(4) Wedge blocks under landing leg (23) to support weight.

(5) Remove 14 nuts (20), lock washers (21), and capscrews (22) from landing leg (23) plates.

(6) With your helper, remove landing leg (23).

(7) Remove four nuts (25), lock washers (26), capscrews (27), and two brackets (28).

d. **Landing Leg Installation.**

(1) Install two brackets (28), four capscrews (27), lock washers (26), and nuts (25). Torque nuts (25) to 80 lb-ft.

NOTE

If drive shaft (24) is installed, guide landing leg (23) shaft into drive shaft (24).

(2) With your helper, position landing leg (23) against semitrailer frame and aline holes.

(3) Wedge blocks under landing leg (23) to support weight.

(4) Install 14 capscrews (22), lock washers (21), and nuts (20). Torque capscrews (22) to 150 lb-ft.

NOTE

Be sure the landing legs are extended the same distance.

4-45 LANDING GEAR (CONT) .

(5) If removed, install drive shaft (24) on landing leg (23) shaft.

(6) Aline holes in drive shaft (24) with hole in landing leg (23) shaft.

(7) Install capscrew (19) and lock nut (18).

(8) Repeat steps (2) through (7) to install other landing leg (23).

(9) Install two braces (17), capscrews (15), four washers (16), and two lock nuts (14). Do not tighten lock nuts (14).

(10) Install brace (13), two capscrews (11), four washers (12), and two lock nuts (10). Torque lock nuts (10 and 14) to 50 lb-ft.

e. Sand shoe Installation.

(1) Install shoe (9) and axle (8) on landing leg (23).

(2) Install capscrew (7) and locknut (6).

(3) Repeat steps (1) and (2) to install other sand shoe.

f. Crank Installation.

(1) Position hand crank (5) on gear box shaft (29) and aline holes.

(2) Install washer (4), capscrew (3), washer (2), and lock nut (1).

(3) Check operation of landing legs.

(4) Lower landing legs fully and stow hand crank (5) in hanger (30).

(5) Remove jack stands and stow wheel chocks.

TASK ENDS HERE

Section X. BODY MAINTENANCE

	Para		Para
Bulkhead Chains	4-46	Floor	4-49
Side Panels	4-47	Storage Box Chains	4-50
Mud Flaps	4-48	Manifest Box	4-51

4-46 BULKEKAD CEAIHS.

This task covers removal and installation.

INITIAL SETUP

Tools
General mechanics tool kit

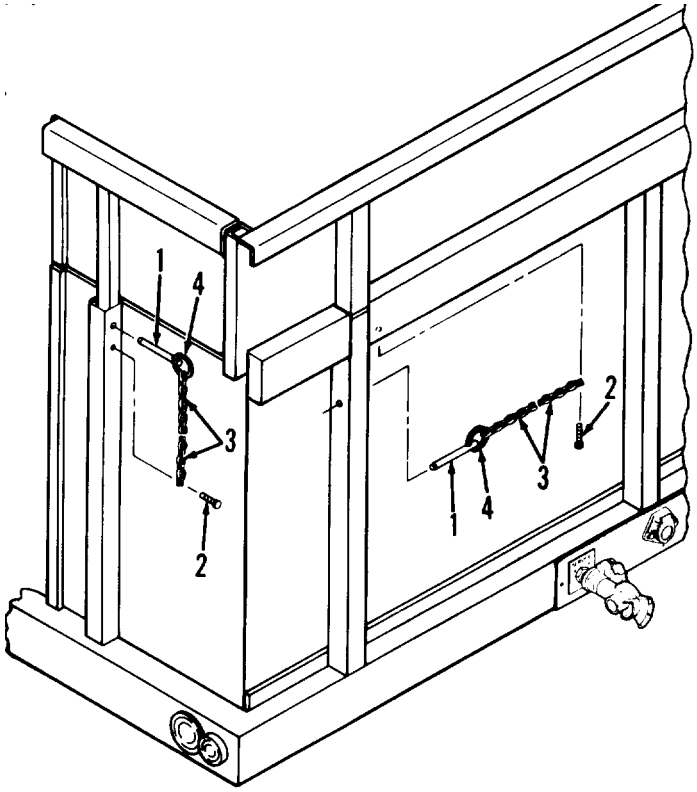
4-46 BULKHEAD CHAINS (CONT) .

a. Removal.

(1) Remove split ring (4) and pin (1) from chain (3) .

(2) Remove screw (2) and chain (3).

(3) Repeat steps (1) and (2) as required for other pins and chains.



b. Installation.

NOTE

See Appendix G for chain fabrication details.

(1) Position end of chain (3) on bulkhead and install screw (2).

(2) Install end of chain (3) on split ring (4).

(3) Repeat steps (1) and (2) as required for other pins and chains.

TASK ENDS HERE

4-47 SIDE PANELS.

This task covers disassembly, repair, and reassembly.

INITIAL SETUP

Tools	Equipment Condition
General mechanics tool kit No. 1 common tool kit	Para. 2-5 Side panels removed.

---

a. Disassembly.

(1) Remove screw (1) and pin (2) from stake (4).

(2) Remove seven screws (3) and stake (4) from plywood panel (8).

4-47 SIDE PANELS (CONT).

W A R N I N G

Eye protection is required. Particles from drilling operations are hazardous to the eyes.

(3) Drill out four blind rivets (5). Remove and discard blind rivets (5) and rivet caps (6).

(4) Remove top rail (7) from plywood panel (8).

b. Repair. Repair is limited to replacement of defective parts.

c.. Reassembly.

(1) Position and center top rail (7) on plywood panel (8). Using holes in top rail (7) as a guide, drill four 9/32-inch diameter holes through plywood panel (8).

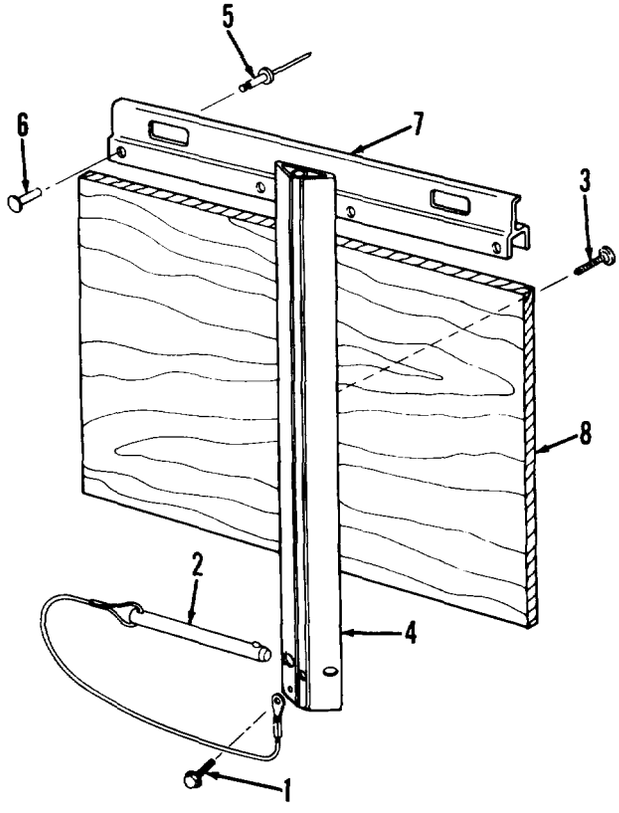
(2) Insert four new rivet caps (6) in top rail (7) and plywood panel (8).

(3) Install four new blind rivets (5).

(4) Center stake (4) on plywood panel (8) and butt against top rail (7). If necessary, drill seven equally spaced pilot holes for screws (3).

(5) Aline holes and install seven screws (3).

(6) Install pin (2) and screw (1) on stake (4).



TASK ENDS HERE

4-48 MUD FLAPS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

4-48 MUD FLAPS (CONT) .

a. Removal.

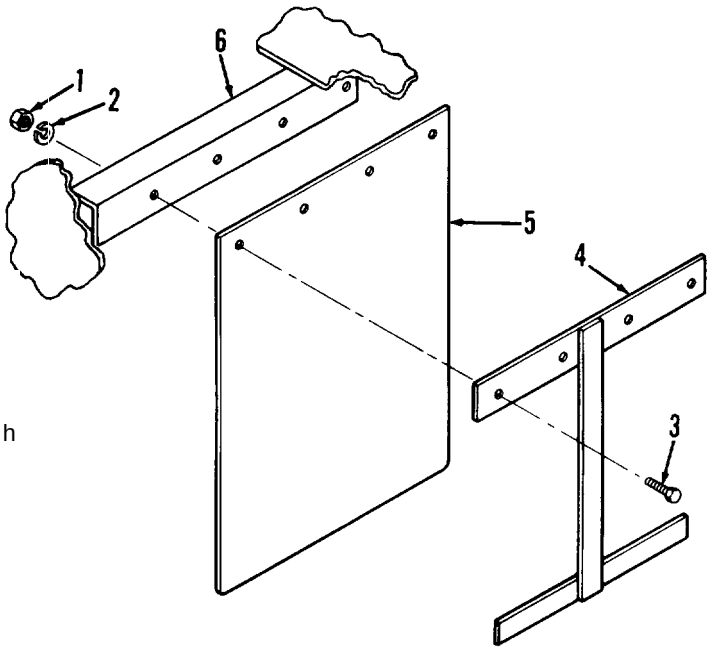
(1) Remove four nuts (1), lock washers (2), and capscrews (3).

(2) Remove retainer (4) and mud flap (5).

b. Installation. .

(1) Position mud flap (5) and retainer (4) on frame (6) with holes alined.

(2) Install four capscrews (3), lock washers (2), and nuts (1).



TASK ENDS HERE

4-49 FLOOR.

This task covers removal and installation.

INITIAL SETUP

Tools

No. 1 common tool kit
Torque-x driver bit (Appendix D)

NOTE

See Appendix G for information on board size and configuration of floor.

a. Removal.

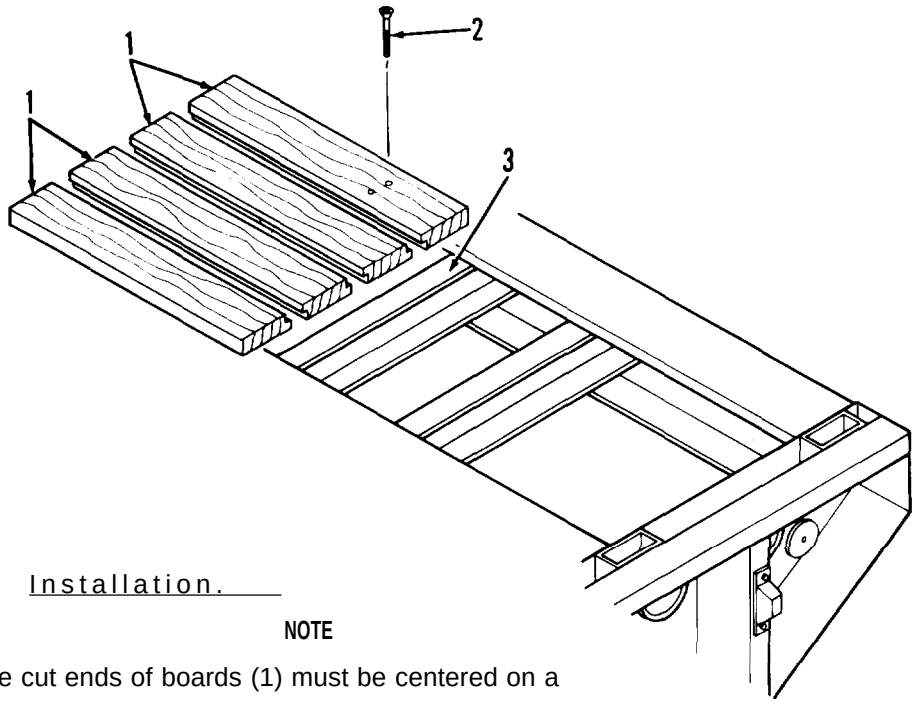
(1) Measure board (1) length and width to be replaced.

(2) Remove screws (2) as needed to free board (1).

(3) Pry board (1) away from crossmembers (3).

(4) Repeat steps (1) through (3) for remaining boards needing replacement.

4-49 FLOOR (CONT) .



b . Installation.

NOTE

The cut ends of boards (1) must be centered on a crossmember(3)

(1) Place board (1) into position on crossmembers (3).

(2) Drill 9/32-inch diameter holes through board (1) and crossmembers (3).

(3) Install screws (2).

(4) Repeat steps (1) through (3) for remaining boards (1) that were removed.

TASK ENDS HERE

4-50 STORAGE BOX CHAINS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

NOTE

This procedure is typical for the tarpaulin box or tool box.

4-50 STORAGE BOX CHAINS (CONT) .

a. Removal.

(1) Open storage box door (10). Hook snap hook (5) to semitrailer frame (11) to hold storage box door (10) open.

(2) If necessary, remove contents to gain access to eye bolt (9).

(3) Remove nut (1), lock washer (2), chain (3), and screw (4).

(4) Remove snap hook (5) from split ring (6).

(5) Remove split ring (6) from chain (3).

(6) Remove nut (7), lock washer (8), and eye bolt (9).

b. Installation. .

NOTE

See Appendix G for chain fabrication details.

(1) Install eye bolt (9), lock washer (8), and nut (7).

(2) Install split ring (6) on end of chain (3).

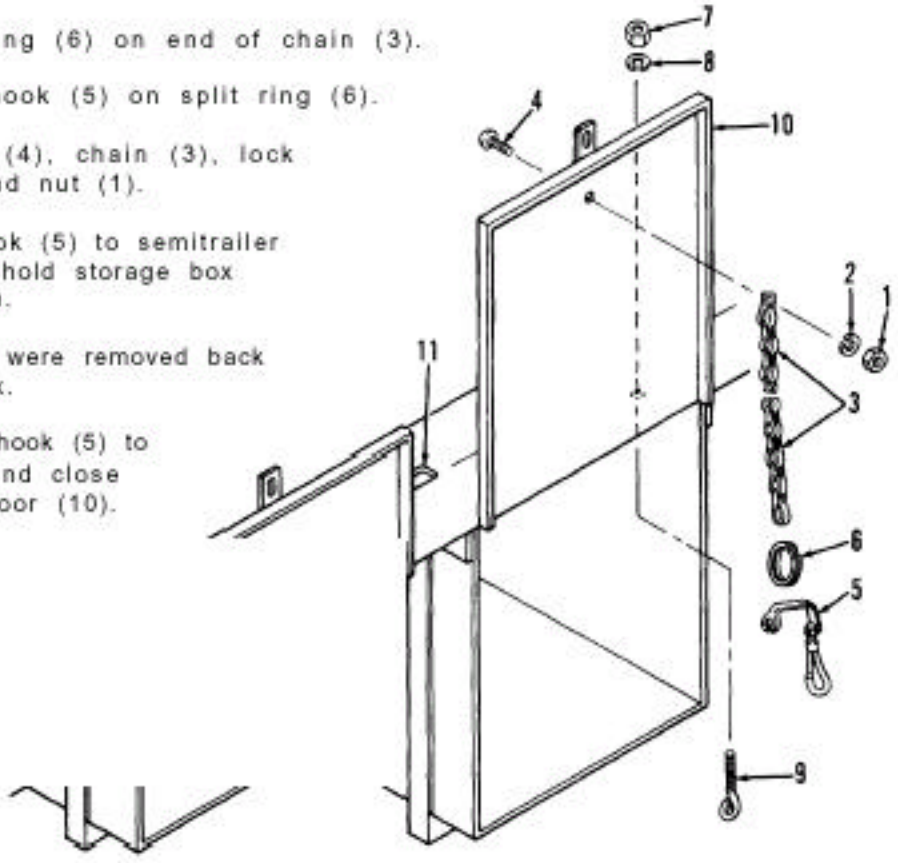
(3) Install snap hook (5) on split ring (6).

(4) Install screw (4), chain (3), lock washer (2), and nut (1).

(5) Hook snap hook (5) to semitrailer frame (11) to hold storage box door (10) open.

(6) Put items that were removed back in storage box.

(7) Connect snap hook (5) to eye bolt (9) and close storage box door (10).



TASK ENDS HERE

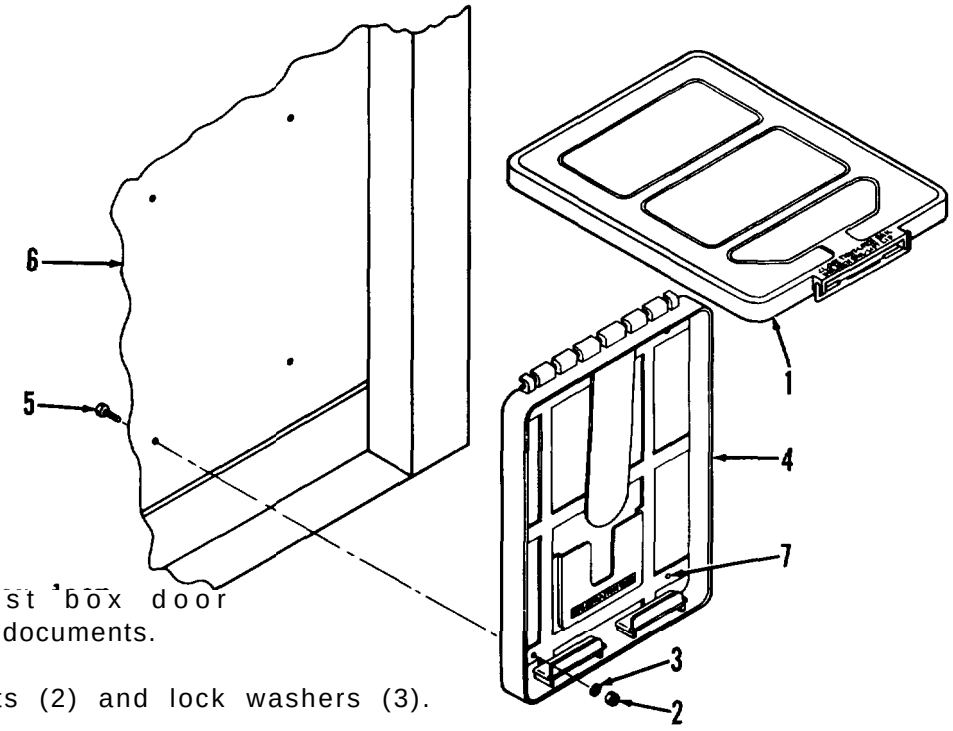
4-51 MANIFEST BOX.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit
No. 1 common tool kit



a. Removal.

(1) Open manifest box door (1) and remove documents.

(2) Remove four nuts (2) and lock washers (3).

(3) Remove manifest box (4) from capscrews (5).

(4) Remove four capscrews (5) from bulkhead (6).

b. Installtion.

(1) Install four capscrews (5) in bulkhead (6).

(2) Drill four 1/4-inch diameter mounting holes at dimples (7) on new manifest box (4).

(3) Attach door (1) to manifest box (4). Keep door (1) in open position.

(4) Position manifest box (4) on capscrews (5).

(5) Install four lock washers (3) and nuts (2).

(6) Place documents in manifest box, close door, and secure latch.

TASK ENDS HERE

Section XI. ACCESSORY ITEMS MAINTENANCE

Para
Reflectors 4-52
Data Plates 4-53

4-52 REFLECTORS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit

NOTES

This procedure is typical for all reflectors.

a. Removal.

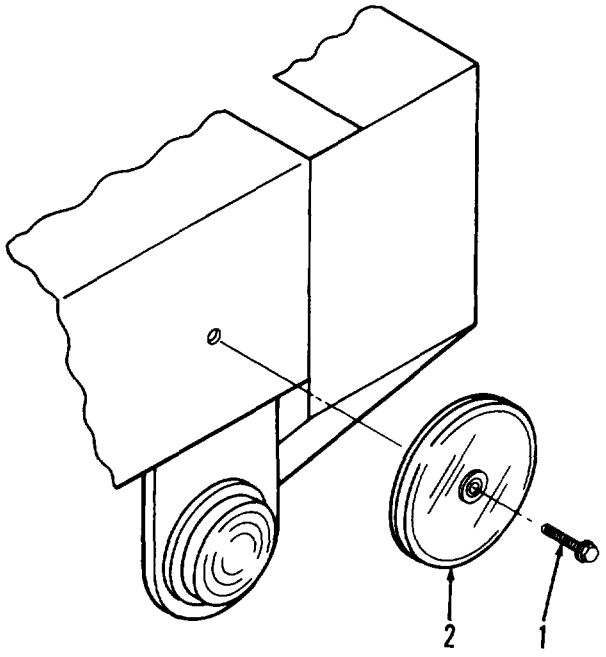
(1) Remove screw (1) and reflector (2).

(2) If necessary, repeat step (1) for remaining reflectors.

b. Installation. .

(1) Position red reflector on rear corner of semitrailer; position amber reflector on front corner of semitrailer.

(2) Install and tighten screw (1).



TASK ENDS HERE

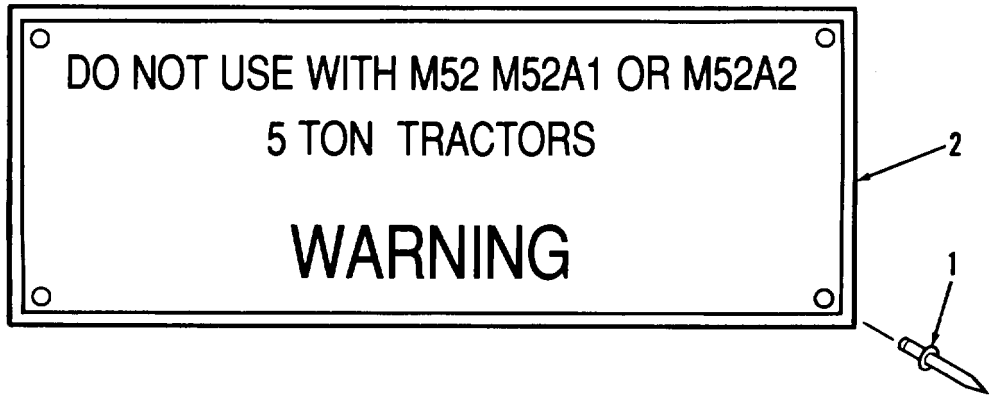
4-53 DATA PLATES.

This task covers removal and installation.

INITIAL SETUP

Tools

No. 1 common tool kit



a. Removal.

WARNING

Eye protection is required. Particles from drilling operations are hazardous to the eyes.

NOTE

This task pertains to all data plates.

(1) Drill out four blind rivets (1). Remove and discard blind rivets (1) .

(2) Remove data plate (2).

(3) Repeat steps (1) and (2) as required for other data plates.

b. Installation.

(1) Position data plate (2) on semitrailer.

(2) Install four new blind rivets (1).

(3) Repeat steps (1) and (2) as required for other data plates.

TASK ENDS HERE

Section XII. PREPARATION FOR STORAGE AND SHIPMENT

	Para
General	4-54
Shipping Instructions	4-55

4-54 GENERAL.

Commanders are responsible for insuring that all materiel issued or assigned to their command is maintained in a serviceable condition, properly cared for and that personnel under their command comply with technical instructions. Lack of time, lack of trained personnel or lack of proper tools may result in a unit being incapable of performing maintenance for which it is responsible. In such cases, unit commanders, with approval of major commanders, may place materiel that is beyond the maintenance capability of the unit, in administrative storage or return it to supply agencies. When preparing the materiel for administrative storage, the unit commander will be responsible for processing the materiel, including all tools and equipment, in such a manner as to protect it against corrosion, deterioration and physical damage during shipment or periods of administrative storage.

4-55 SHIPPING INSTRUCTIONS.

a. Preparation for shipment. Preservation and other protective measures taken in the preparation of materiel and accompanying tools and equipment for shipment must be sufficient to protect the materiel against deterioration and physical damage during shipment.

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

b. Cleaning. Use dry cleaning solvent (P-D-680) to clean or wash grease or oil from all metal parts. All exposed machined surfaces must be cleaned to insure removal of corrosion, soil, grease, residues, perspiration or other acid or alkali residues.

c. Drying. After cleaning, use cold water to rinse all parts. Use clean cloths to dry all parts thoroughly.

d. Lubrication. Lubricate items specified on lubrication chart (page 3-2).

4-55 SHIPPING INSTRUCTIONS (CONT).

e. Preservation.

(1) All critical unpainted metal surfaces must be protected during shipment. Oil or grease covered in the lubrication section may be used for this purpose but it is effective for only a few days. Equipment protected in this manner must be watched for signs of corrosion. Preservatives selection will be such that their application, use or removal will not damage the surface to which they are applied.

(2) Coat lower landing gear leg, chassis, frame, exterior hardware and suspension system with corrosion preventive compound.

(3) Spray data plates with a thin coating of ignition insulation compound. Control overspray to avoid coating adjacent surfaces.

(4) Cover all exterior reflectors and lights with tape.

f. Markings. Refer to AR 746-1, Packaging of Army Materiel for Storage and Shipment.

Section XIII. MAINTENANCE UNDER UNUSUAL CONIDITIONS

	Para
Extreme Cold Weather Maintenance	4-56
Extreme Hot Weather Maintenance	4-57
Maintenance After Fording	4-58
Maintenance After Operation on Unusual Terrain	4-59

4-56 EXTERME COLD WEATHER MAINTENANCE.

C A U T I O N

It is very important that approved maintenance procedures be followed. FM 9-207 contains general information which is specifically applicable to this materiel as well as all other materiel. It must be considered an essential part of this technical manual, not merely an explanatory supplement to it.

a. The importance of maintenance must be impressed on all concerned. Maintenance of mechanical equipment in extreme cold is exceptionally difficult in the field. Even shop maintenance cannot be completed with normal speed because equipment must be allowed to thaw out and warm up before the mechanic can make satisfactory repairs. In the field, maintenance must be undertaken under the most difficult of conditions. Bare hands stick to cold metal. Fuel in contact with the hands results in supercooling due to evaporation, and hands can be painfully frozen in a matter of minutes. Engine oils, except subzero grade, are unpourable at temperatures below -40 °F. Ordinary greases become solid.

b. These difficulties increase time required to perform maintenance. At temperatures below -40 °F, maintenance requires up to five times the normal amount of time. Complete winterization, diligent maintenance, and well trained crews are the key to efficient Arctic winter operation.

4-56 EXTREME COLD WEATRER MAINTENANCE (CONT).

c. Refer to FM 9-207 for general information on extreme cold weather maintenance procedures.

4-57 EXTREME HOT WEATHER MAINTEANCE.

a. Desert Maintenance. Refer to TB 43-0239 for specific desert maintenance instructions.

b. Corrosion. In hot, damp climates, corrosive action will occur on all parts of the materiel and will be accelerated during rainy seasons. Evidence will appear as rust, paint blisters, mildew, mold and fungus growth.

c. Protective Action. Remove the corrosion from exterior metal surfaces with abrasive paper or cloth and apply a protective coating of paint, or touch up existing paint. Keep a film of preservative oil on unfinished exposed metal surfaces. Protect cables and terminals by spraying with ignition insulation compound.

4-58 MAINTENANCE AFTER FORDING.

a. General. Although materiel unit housings are sealed to prevent the free flow of water into the housings, it must be realized that due to the necessary design of these assemblies, some water may enter, especially during submersion. The following services should be accomplished on all materiel which has been exposed to some depth of water or completely submerged, especially in salt water. Precautions should be taken as soon as practicable to halt deterioration and avoid damage before the semitrailer is driven extensively in regular service.

b. Lubricate. Clean and lubricate all parts as specified on the lubrication chart (page 3-2). Remove hub caps; clean hubs and fill with new oil. Make sure that lubricant is generously forced into each lubrication fitting to force out any water present.

c. Electrical Connections. Check all electrical connections for corrosion.

d. Paint. Clean all exposed painted surfaces and touch up paint where necessary. Coat unpainted metal parts with preservative oil.

e. Aluminum or Magnesium Parts. If vehicle remains in salt water for any appreciable length of time, aluminum or magnesium parts which were exposed to water will probably be unfit for further use and must be replaced.

4-59 MAINTENANCE AFTER OPERATION ON UNUSUAL TERRAIN.

a. Mud. Thorough cleaning and lubrication of all parts affected must be accomplished as soon as possible after operation in mud. Clean all suspension components and lubricate as specified on the lubrication chart (page 3-2). Change wheel hub oil, if necessary.

b. Sand or Dust. Touch up all painted surfaces damaged by sand. Lubricate completely to force out lubricants contaminated by sand or dust.

CHAPTER5

DIRECT SUPPORT AND GENERAL SUPPORT MAINTEANCE

Index

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Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

	Para
Common Tools and Equipment	5-1
Special Tools, TMDE, and Support Equipment	5-2
Repair Parts	5-3
Troubleshooting	5-4

5-1 COMMON TOOLS AND EQUIPMENT.

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

5-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

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

5-3 REPAIR PARTS.

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

5-4 TROUBLESHOOTING

DIRECT SUPPORT TROUBLESHOOTING TABLE

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
VEHICLE DOES NOT TRACK.
Step 1. Check axles for damage. a. If any axle is damaged, replace the damaged axle (para. 5-5). b. If axles are not damaged, go to step 2.

DIRECT SUPPORT TROUBLESHOOTING TABLE - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
VEHICLE DOES NOT TRACK - continued
Step 2. Check axle alinement (para. 5-5e). a. If axles are misalined, aline axles. b. If axle alinement is correct, go to step 3.
Step 3. Check for loose springs (para. 5-10). a. If springs are loose, tighten them. b. If springs are not loose, go to step 4.
Step 4. Check trunnion tube for secure mounting and damage. a. If trunnion tube is loose, tighten it (para. 5-11). b. If trunnion tube is damaged, replace it (para. 5-11).

Section II. AXLE MAINTENANCE

5-5 AXLES.

This task covers: a. Removal c. Installation
b. Repair d. Adjustment

INITIAL SETUP

Tools	Equipment Conditions References
Floor jack Jack stands General mechanics tool kit Shop equip auto repair, FM basic Shop equip repair, FM basic, Sup No. 2 Shop equip welding field maint	Para. 2-1 Landing legs down. Para. 3-8 Tires and wheels removed. para. 4-27 Brake chamber air hose assemblies removed. Para 4-32 Spring brake chambers removed. Para. 4-36 Slack adjusters removed. Para. 4-38 Brake drums and hubs removed. Para. 4-34 Brake shoes removed.
Personnel Required: (2) Welder 44B	

5-5 AXLES (CONT).

a. Removal.

W A R N I N G

The frame must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

(1) Place jack stands into position to support axle (9) and under each spring (10).

(2) Remove four lock nuts (1), washers (2), and capscrews (3) from end cap (7).

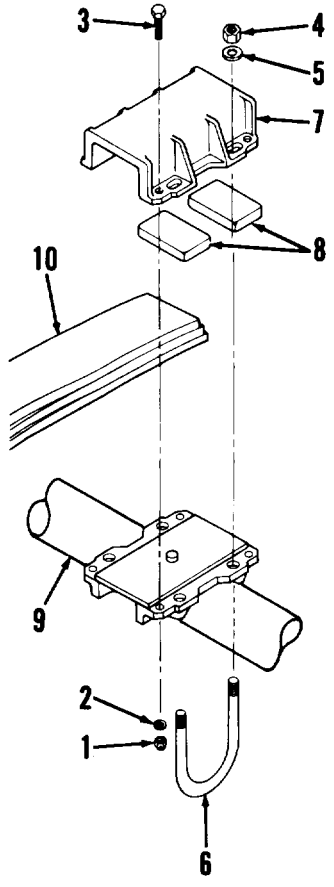
(3) Remove jack stands from under axle (9) and place under springs (10).

(4) Remove four locknuts (4) evenly. Remove washers (5) and two U-bolts (6).

(5) Remove end cap (7) and two pads (8) from spring (10).

(6) Repeat steps (2) through (5) above for other side of axle (9).

(7) Slowly lower and remove axle (9)



b. Repair. Repair of axles is limited to chasing spindle threads.

c. Spring Seat Installation. (For new axles only)

NOTE

This procedure is to be used only when a new axle is being installed. If old axle is being installed, go to step d. Axle Installation. listed below.

When ordering new axle, you must also order the lower alinement plates and spring seats. Two sets (alinement plate and lower spring seat) are required per axle (Appendix F, fig. 27, items 16 and 17).

If installing two new axles, preweld two alinement plates and spring seats and install on the springs at opposite corners (example: Left-Rear and Right-Front).

5-5 AXLES (CONT).

(1) Install two pads (8) with rounded edges on spring (10). Install end cap (7).

(2) Install two U-bolts (6), four washers (5), and lock nuts (4). Do not tighten lock nuts.

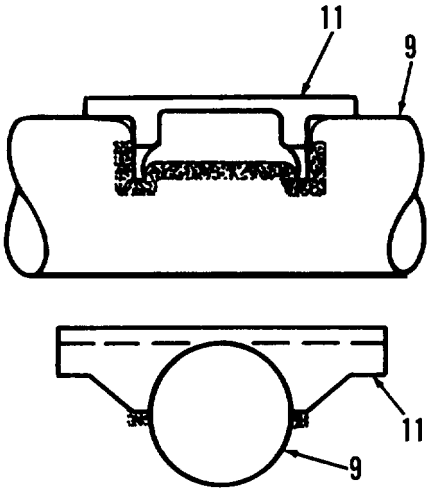
(3) Install four capscrews (3), washers (2), and lock nuts (1). Do not tighten lock nuts.

(4) Spring seats (11) must be arranged so that the center of the seat is at the top of the axle (9) beam. The exact top of the axle beam is indicated by a 0.31 inch die hole at the top center of the axle.

(5) Both spring seats (11) must be parallel.

(6) Place axle (9) in position under suspension. Be sure spring seats (11) are equal distance from the axle beam center hole. Spring seats (11) should also be the same distance from the brake spiders.

(7) Spring seats (11) must fit tight to the axle beam.



WELD POINTS

WARNING

Wear welding mask, gloves, and apron when welding or using cutting torch. Failure to wear adequate protective clothing may result in serious injury.

CAUTION

Do not attach welding ground clamps to U-bolts, springs, or axles except at designated weld points. These parts should be protected from weld spatter.

(8) Tack weld spring seats (11) in place. Then recheck to be certain that the spring sea ts (11) are still level, parallel, properly located and alined. Lower axle (9) .

(9) Weld spring seats (11) to axle (9) using 3/8 inch fillet welds. Welds shall be per Class 2, MIL-STD-1 261.

d. Axle Installation

(1) If necessary, install brake camshafts (para. 4-35).

5-5 AXLES (CONT) .

W A R N I N G

For proper operation of brakes, both axles must be positioned with brake chambers to the front of semitrailer and slack adjusters to the rear.

(2) Position axle (9) under springs (10) with brake chambers toward front of semitrailer. Raise axle (9) into position.

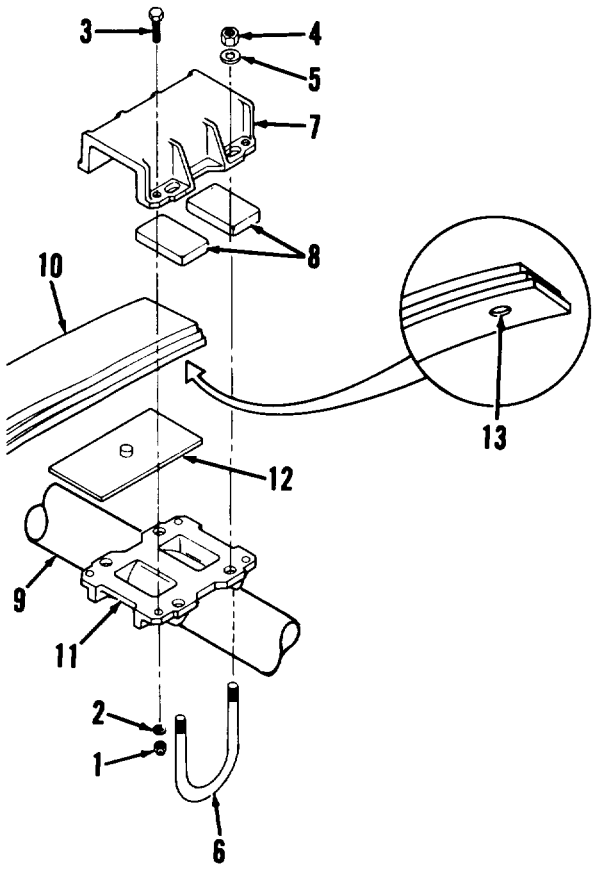
(3) On both sides of axle (9), aline raised surface of alinement plate (12) (which is welded to spring seat (11) unless axle is new) with recess (13) on underside of spring assembly.

(4) Install two pads (8) with rounded edges on spring (10). Install end cap (7).

(5) Install two U-bolts (6), four washers (5), and lock nuts (4). Do not tighten lock nuts.

(6) Install four capscrews (3), washers (2), and lock nuts (1). Do not tighten lock nuts.

(7) Repeat steps (4) through (6) above for other side of axle (9).



NOTE

If installing new axle, go to step e. Axle Alinement listed below.

(8) Torque U-bolt locknuts (4) to 300 lb-ft.

(9) Torque end cap lock nuts (1) to 180 lb-ft.

(10) Repeat steps (8) and (9) above for other side of axle (9).

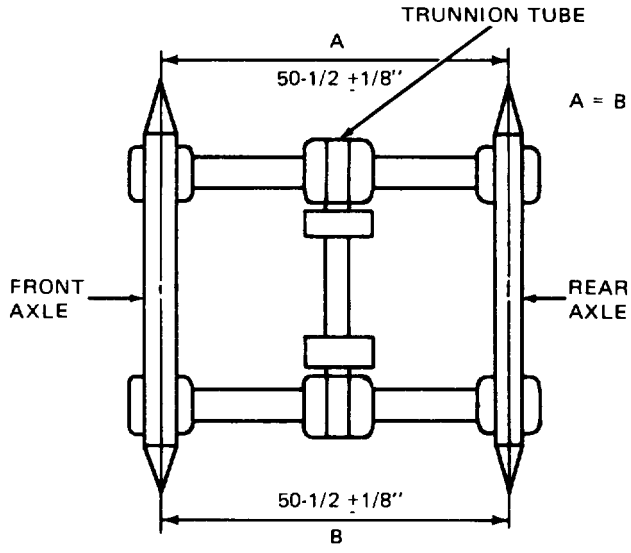
(11) Close drain cocks (para. 3-6).

(12) Remove axle and frame supports.

5-5 AXLES (CONT).

e. Axle Alinement.

(1) To aline the new axle with the existing axle, measure between the front and rear axle hub cap plugs on both sides (A and B). The measurement on both sides should be 50-1/2 + 1/8 inch.



(2) If the measurements are not correct, adjust alinement plate on axle being replaced until measurements are within limits.

(3) Tighten U-bolt lock nuts (4) and end cap lock nuts (1) on axle being replaced.

(4) Recheck the alinement of the front axle with the rear axle.

WARNING

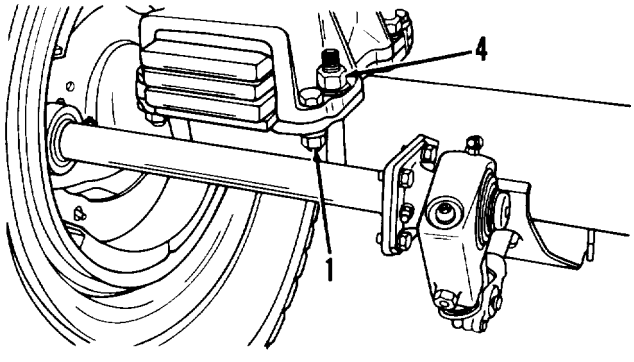
Wear welding mask, gloves, and apron when welding or using cutting torch. Failure to wear adequate protective clothing may result in serious injury.

C A U T I O N

Do not attach welding ground clamps to U-bolts, springs, or axles except at designated weld points. These parts should be protected from weld spatter.

(5) Weld the unwelded alinement plate to the spring seat to match the prewelded plate. Welds shall be per Class 2, MIL-STD-1261.

(6) Torque U-bolt lock nuts (4) on both sides of front and rear axles to 300 lb-ft.



(7) Torque end cap lock nuts (1) on both sides of front and rear axles to 180 lb-ft.

(8) Close drain cocks (para. 3-6).

(9) Remove axle and frame supports.

TASK ENDS HERE

Section III. BRAKE MAINTENANCE

5-6 BRAKE LININGS.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit
Riveting tool

Equipment Condition

References

Para. 3-8 Tires and wheels removed.
Para. 4-38 Brake drum removed.
Para. 4-34 Brake shoes removed.

a. Removal.

(1) Remove 14 rivets (1) from each lining (2 and 3).

(2) Strip linings (2 and 3) from brake shoe (4).

b. Installation.

(1) Make sure linings (2 and 3) and shoe (4) contact faces are clean.

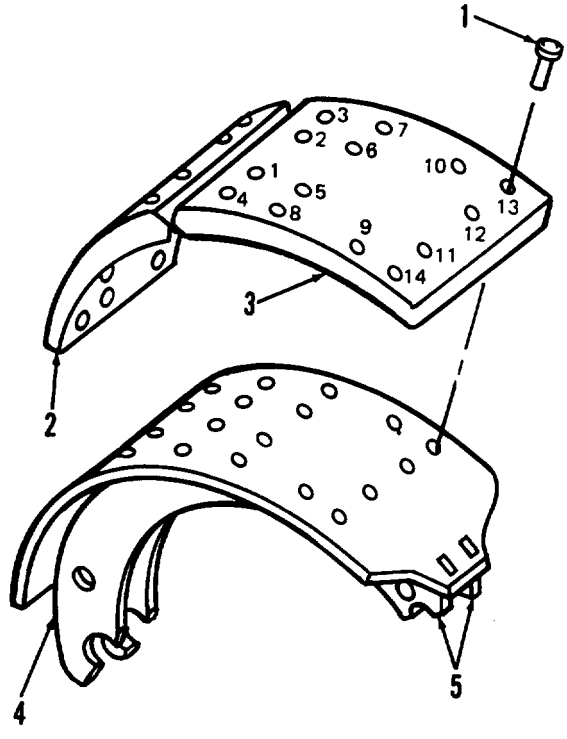
(2) Install new lining (3) on brake shoe (4) with rivet holes alined.

(3) Clamp lining (3) in place and install the first four rivets (1) in the sequence shown.

(4) Remove clamp and continue installing rivets (1) following the sequence shown.

(5) Repeat steps (1) through (4) above for remaining lining (2).

(6) Check contact of linings (2 and 3) with brake shoe (4). A 0.010 inch feeler gage should not enter between the brake shoe and lining at any point, except between the webs (5) where a 0.025 inch gap is acceptable.



TASK ENDS HERE

Section IV. BRAKE DRUMS MAINTENANCE

5-7 BRAKE DRUMS.

This task covers repair.

INITIAL SETUP

Tools

Lathe, brake drum
Micrometer, inside, brake drum I.D.
General mechanics tool kit
Shop equip auto repair, FM basic

Equipment Condition
Reference

Para. 3-8 Tires and wheels removed.
Para. 4-38 Brake drum removed.

Materials/Parts

Crocus cloth (item 2, Appendix E)
Rags, wiping (item 11, Appendix E)
Solvent, dry cleaning (item 14, Appendix E)

WARNING

Dry cleaning solvent (P-D-680) is toxic and flammable. Avoid prolonged breathing of vapors. Avoid skin contact. Use only in a well ventilated area. Keep away from open flame. Flash point of solvent is 138 °F.

a. Clean brake drum (1) with dry cleaning solvent (P-D-680).

b. Check brake drum (1) for wear, cracks, or damage. Replace, if necessary.

NOTE

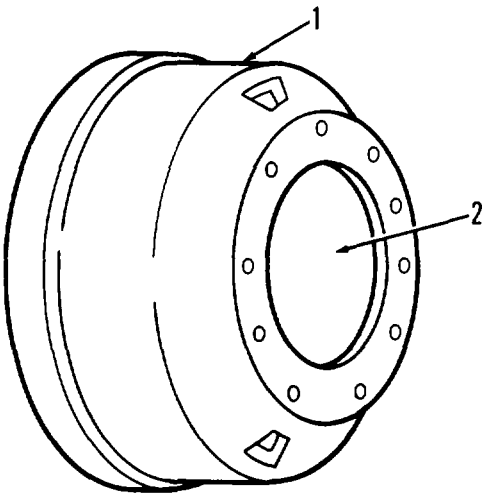
Slight scoring condition can be corrected by polishing with crocus cloth. Heavy scoring and out-of-round conditions require turning brake drum on a refinishing lathe.

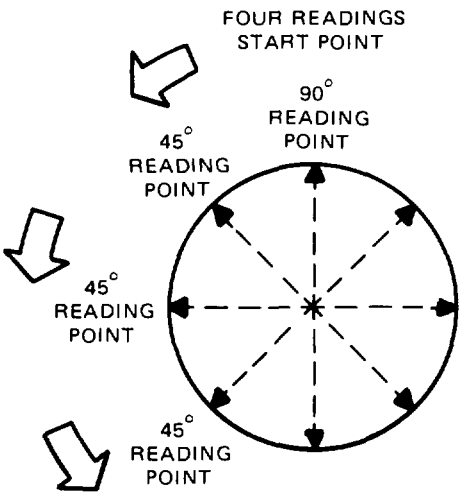
c. Check inner braking surface (2) for cracks, heat checking, scoring, pitting, or warpage.

d. Using micrometer, check inside of brake drum (1) for out-of-round or tapered wear. Take four readings in the sequence shown.

e. Record each reading. The maximum difference between the four readings must not exceed 0.0006 inch. Drums with out-of-round exceeding limits must be turned on a refinishing lathe.

5-7 BRAKE DRUMS (CONT) .





W A R N I N G

Eye protection is required. Particles from lathe operations are hazardous to the eyes.

NOTE

If turning drum will cause a new diameter which exceeds the maximum diameter stamped on outside of drum, replace drum. The other drum on that axle should be replaced also.

Check drum diameter after each cut to make sure you have not cut too much metal out.

f. To refinish inner braking surface (2), mount brake drum on refinishing lathe. Make several thin cuts until scoring has been removed.

g. Refinish other drum on that axle to the same specifications.

TASK ENDS HERE

Section V. FRAME AND TOWING ATTACHMENTS MAINTENANCE

Para
Frame 5-8
Kingpin 5-9

5-8 FRAME.

Refer to TB 9-2300-247-40 for repair of the frame.

5-9 KINGPIN.

This task covers removal and installation.

INITIAL SETUP

Tools

General mechanics tool kit
Shop equip repair, FM basic, Sup No. 2
Shop equip welding field maint

Material/Parts

Paint (item 18, Appendix E)

Personnel Required:(2)
Welder 44 B

Equipment conditions
References

Para 2-1 Landing legs down.
Para 3-8 Outer tires and wheels on front axle removed.

a. Removal.

WARNING

Compressed air for cleaning purposes will not exceed 30 psi. Particles blown by compressed air are hazardous. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury, user must wear protective goggles or face shield when using compressed air.

Wear welding mask, gloves, and apron when welding or using cutting torch. Failure to wear adequate protective clothing may result in serious injury.

(1) Measure from floor side of bulkhead (1) and mark two straight lines on top metal plate (2) between main beams (3) at locations shown.

(2) Using the air-arc process, make two straight cuts in top metal plate (2) between main beams (3) at locations marked.

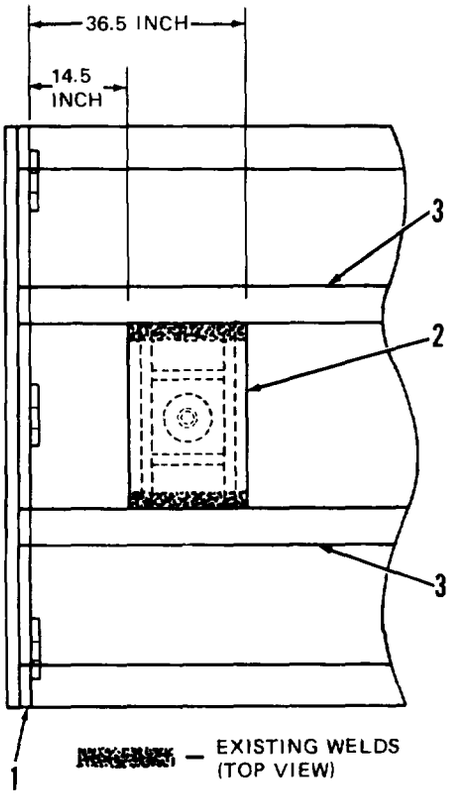
(3) Air-arc the existing welds securing the metal plate (2) to the main beams (3).

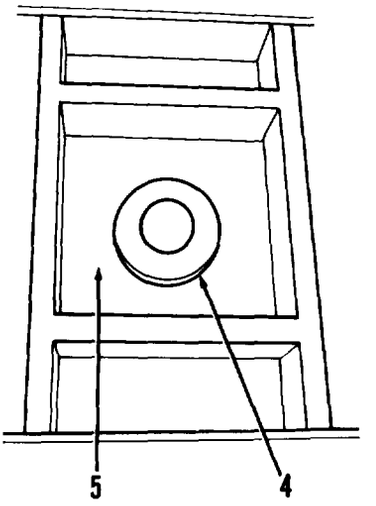
(4) Remove the cut out section of metal plate (2) to gain access to top of kingpin.

(5) Using the air-arc process, remove the welds securing the kingpin (4) mushroom to the bolster plate (5). A 300 amp welder is required along with a shop air supply of 90 psi. Care must be taken to minimize damage to the bolster plate (5).

(6) Remove and discard the kingpin (4).

5-9 KINGPIN (CONT) .





b. Installation.

WARNING

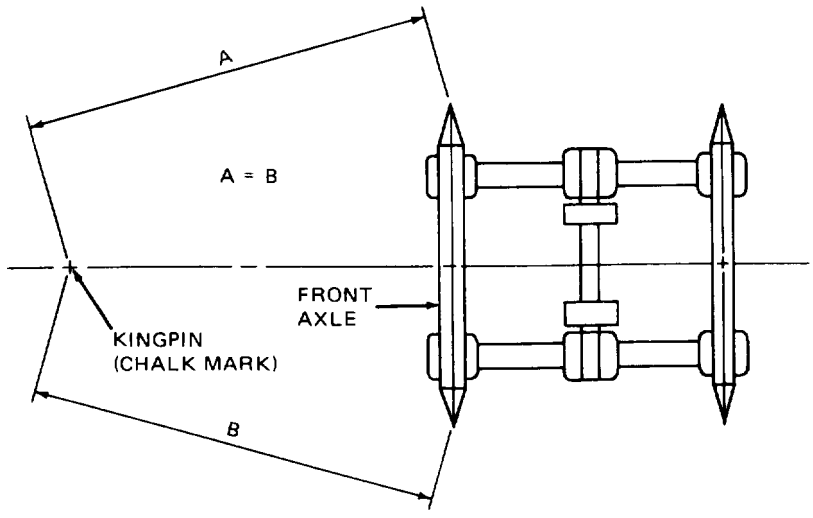
Eye protection is required. Particles from grinding operations are hazardous to the eyes.

(1) Grind the area of the bolster plate (5) under the kingpin (4) mushroom flush so that the new kingpin will lie flat on the bolster plate.

(2) Position new kingpin (4) on bolster plate (5).

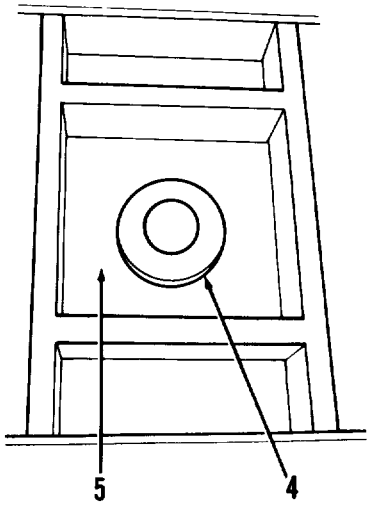
(3) Drop a plumb line and bob from kingpin (4) to ground and mark spot with a chalk mark.

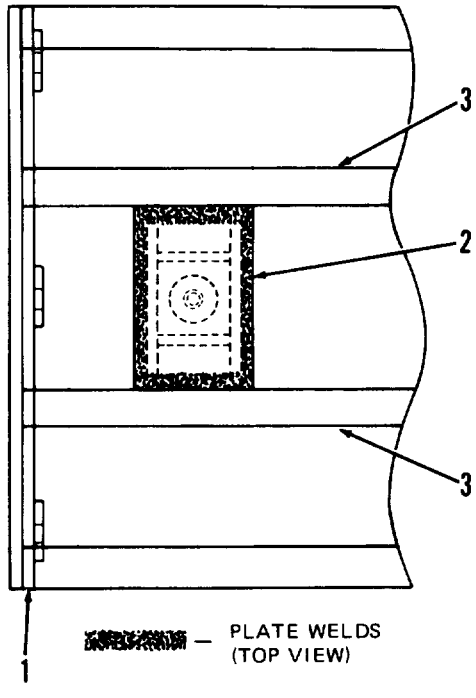
5-9 KINGPIN (CONT) .



(4) To center the kingpin (4), measure the distance from the chalk mark to the center of the hub cap plugs on the front axle (A and B). The difference between measurements should be no more than 3/8 inch.

(5) If the measurements are not correct, adjust position of kingpin (4) on bolster plate (5) until measurements are within limits.





WARNING

Wear welding mask, gloves, and apron when welding or using cutting torch. Failure to wear adequate protective clothing may result in serious injury.

5-9 KINGPIN (CONT) .

(6) Weld the kingpin (4) mushroom to the bolster plate (5) with a continuous 5/8 inch fillet weld. Welds are to be in accordance with MIL-STD-1261, class 3. Use 70,000 psi electrode or wire of the following specification: electrodes, mineral coated, low hydrogens MIL-E-2200/6 type MIL-10015 or MIL-10016. Wire, use bare solid wire, low alloy steel, MIL-E-23765/2 type 100S-1 or 110S-1.

(7) Repeat step (6) two times to obtain a continuous 3-pass weld on the kingpin.

(8) Inspect kingpin weld and the air-arc cut edges with dye penetrant or magnetic particle inspection. No cracks are allowable. Any cracks found must be ground out or otherwise repaired.

(9) Weld into place the top metal plate (2) that was removed to gain access to the kingpin.

(10) Prime and paint the top metal plate (2) as follows: prime, per TT-p-636 or TT-P-634. Paint using chemical agent resistant coating (CARC) per MIL-C-46168 or MIL-C-53039.

TASK ENDS HERE

Section VI. SUSPENSION MAINTENANCE

	Para
Springs	5-10
Trunnion Tube	5-11

5-10 SPRINGS.

This task covers removal and installation.

INITIAL SETUP

Tools

Jack stands
Shop equip auto repair, FM basic
Shop equip welding field maint

Personnel Required:
Welder 44B

Equipment Condition
References

Para. 2-1 Landing legs down.
Para. 3-8 Tires and wheels removed.
Para. 4-27 All hoses removed from air brake chambers.

5-10 SPRINGS (CONT).

a. Removal.

WARNING

The frame and axles must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

(1) Raise and support semitrailer frame.

(2) Place floor jacks into position to support both axles (17).

(3) Remove four nuts (1), washers (2), and clap plate (3).

(4) Repeat step (3) at opposite end of trunnion tube (19).

(5) Lower floor jacks until U-bolts (15) clear alinement plates (18) on both sides of semitrailer.

(6) Remove both trunnion hubs (4).

(7) Remove four lock nuts (5), washers (6), and capscrews (7).

(8) Remove four locknuts (8), washers (9), and two U-bolts (10).

(9) Remove end cap (11) and two pads (12) from spring (13).

(10) Repeat steps (7) through (9) for other end of spring (13).

WARNING

Spring (13) weighs 240 pounds. Do not lift the spring without assistance.

(n) Remove spring (13) from axles (17).

(12) Pull trunnion hub (14) with two U-bolts (15) from trunnion tube (19).

(13) Remove two U-bolts (15) from trunnion hub (14).

(14) Remove bushing (16) from trunnion tube (19).

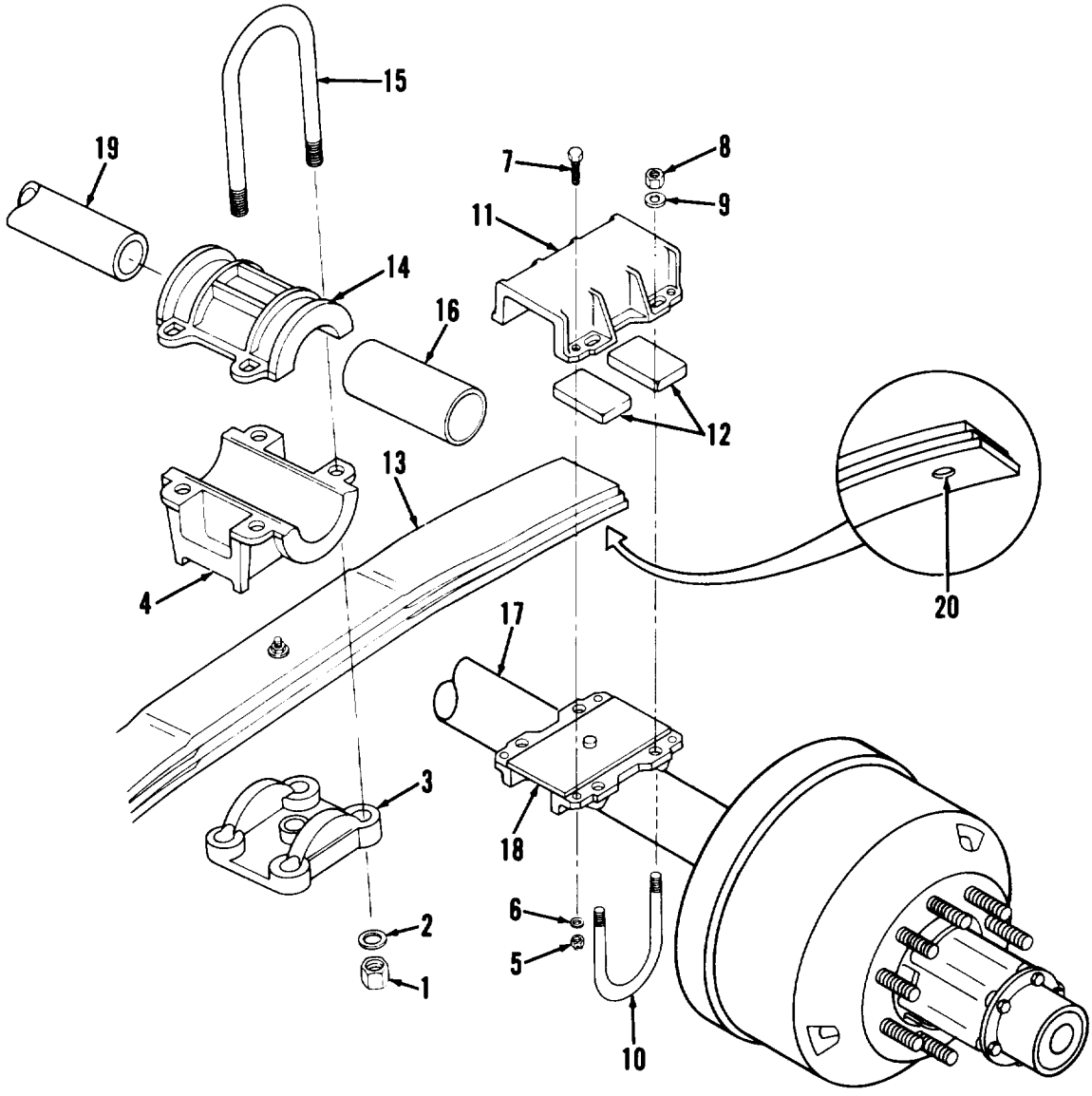
b. Installation.

NOTE

If installing new axle, see spring seat installation procedure (para. 5-5c) and axle alinement procedure (para. 5-5e) for information on welding spring seats and alinement plate into place.

(1) Install bushing (16) on trunnion tube (19).

5-10 SPRINGS (CONT).



(2) Install two U-bolts (15) in trunnion hub (14).

(3) Slide trunnion hub (14) with two U-bolts (15) on trunnion tube (19).

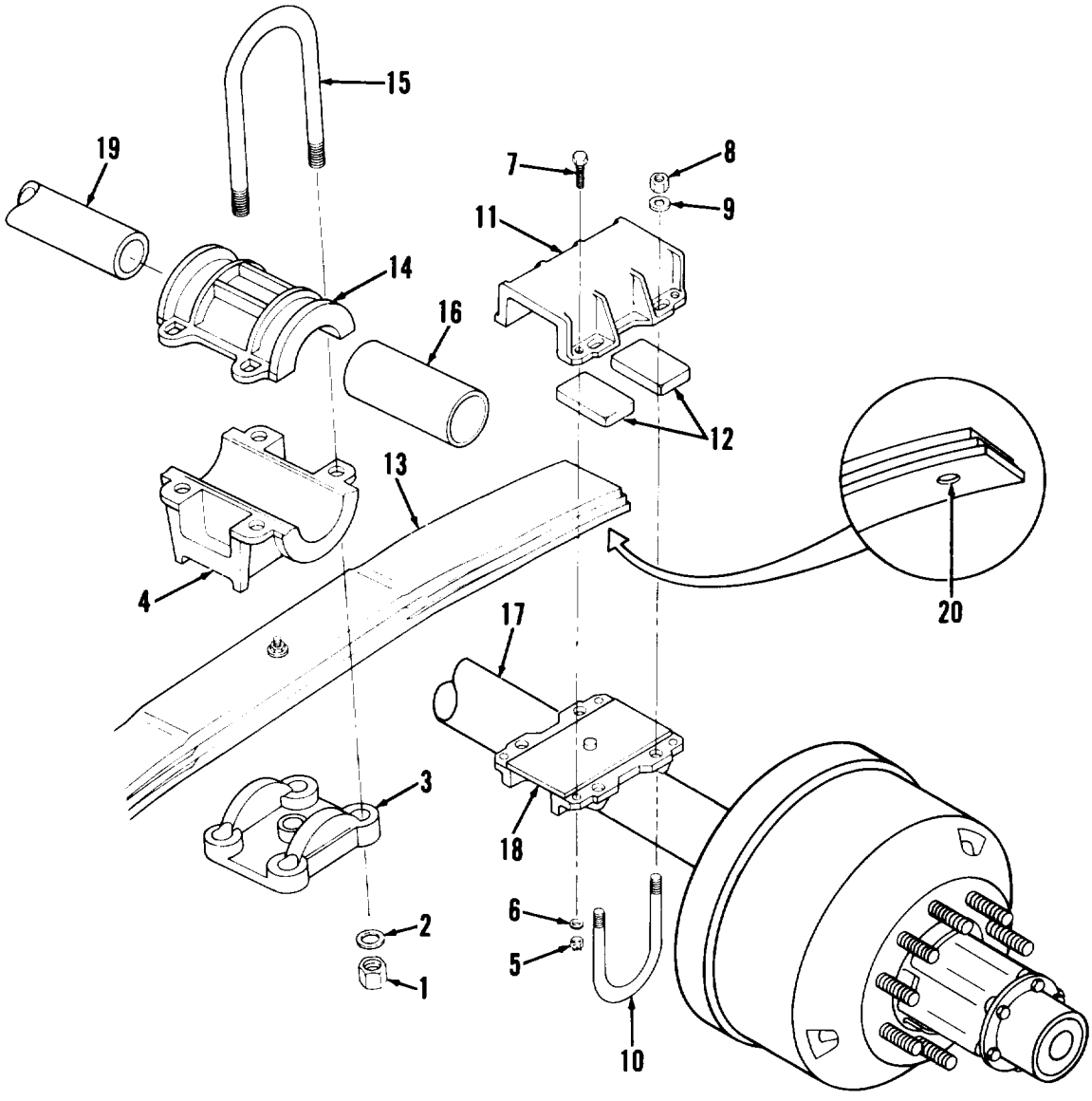
(4) Repeat steps (1) through (3) at opposite end of trunnion tube (19).

(5) Position spring (13) on axle alinement plates (18). Be sure the recessed areas (20) on the underside of both spring ends are alined with the raised surface of the alinement plates (18).

(6) Position trunnion hub (4) on both springs (13).

(7) Install two pads (12) with rounded edges on spring (13). Install end cap (11).

5-10 SPRINGS **(CONT) .**



(8) Install two U-bolts (10), four washers (9), and locknuts (8). Torque lock nuts to 300 lb-ft.

(9) Install four capscrews (7), washers (6), and lock nuts (5). Torque lock nuts to 180 lb-ft.

(10) Repeat steps (7) through (9) for other end of spring (13).

(11) Raise floor jacks while guiding U-bolts (15) through trunnion hubs (4).

NOTE

Before tightening nuts (1), be sure bushings (16) are centered in trunnion hubs (4).

5-10 SPRINGS (CONT) .

(12) Install clamp plate (3) , four washers (2), and nuts (1). Torque nuts to 880 lb-ft.

(13) Remove axle and frame supports.

TASK ENDS HERE

5-11 TRUNNION TUBE.

This task covers removal and installation.

INITIAL SETUP

Tools

Floor jacks
Jack stands
General mechanics tool kit
Shop equip auto repair, FM basic

Personnel Required: (2)

Equipment Condition
References

Para. 2-1 Landing legs down.
Para. 3-8 Tires and wheels removed.
Para. 4-27 All hoses removed from air brake chambers.

a. Removal.

WARNING

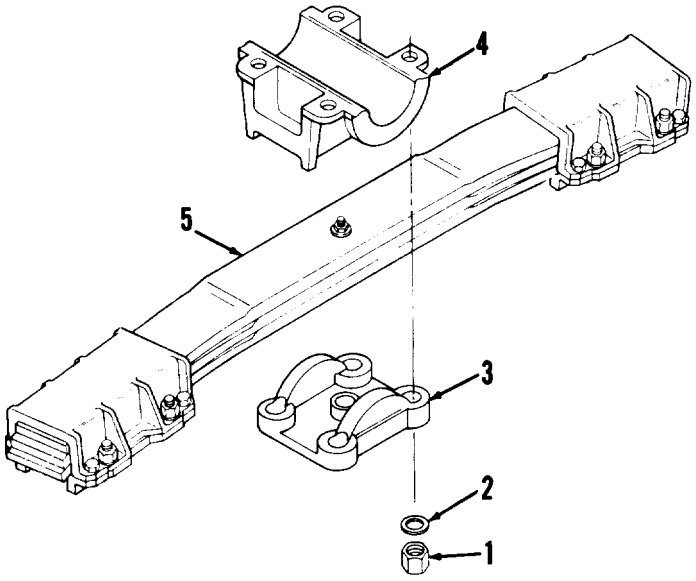
The frame and axles must be firmly supported to prevent shifting of the semitrailer. Shifting may cause serious injury to personnel and damage to equipment.

(1) Raise and support both sides of semitrailer frame.

(2) Place floor jacks into position support both axles.

(3) Remove four nuts (1), washers (and clamp plate (3).

(4) Repeat step (3) at opposite aid of semitrailer.



5-11 TRUNNION TUBE (CONT) .

(5) Lower floor jacks until U-bolts (7) clear springs (5) on both sides of semitrailer.

NOTE

Axles will support spring assemblies.

(6) Remove trunnion hub (4).

(7) Remove trunnion hub (6) with two U-bolts (7) from trunnion tube (12).

(8) Remove two U-bolts (7) from trunnion hub (6).

(9) Remove bushing (8) and washer (9) from trunnion tube (12).

(10) Remove two lock nuts (10) and capscrews (11) from trunnion hanger (13) (trunnion hangers are welded to the frame).

(11) Repeat steps (6) through (10) on other side of semitrailer.

(12) Clean trunnion tube (12). If necessary, use sandpaper to remove rust.

WARNING

Trunnion tube weighs 100 pounds. Do not lift the trunnion tube without assistance.

(13) With a helper, remove trunnion tube (12) from trunnion hangers (13).

b. Installation.

(1) Clean new trunnion tube (12).

NOTE

Measure from end of the trunnion tube (12) to the trunnion hanger (13) to determine if the trunnion tube is centered.

(2) With a helper, install trunnion tube (12) in trunnion hangers (13). Be sure trunnion tube is centered evenly.

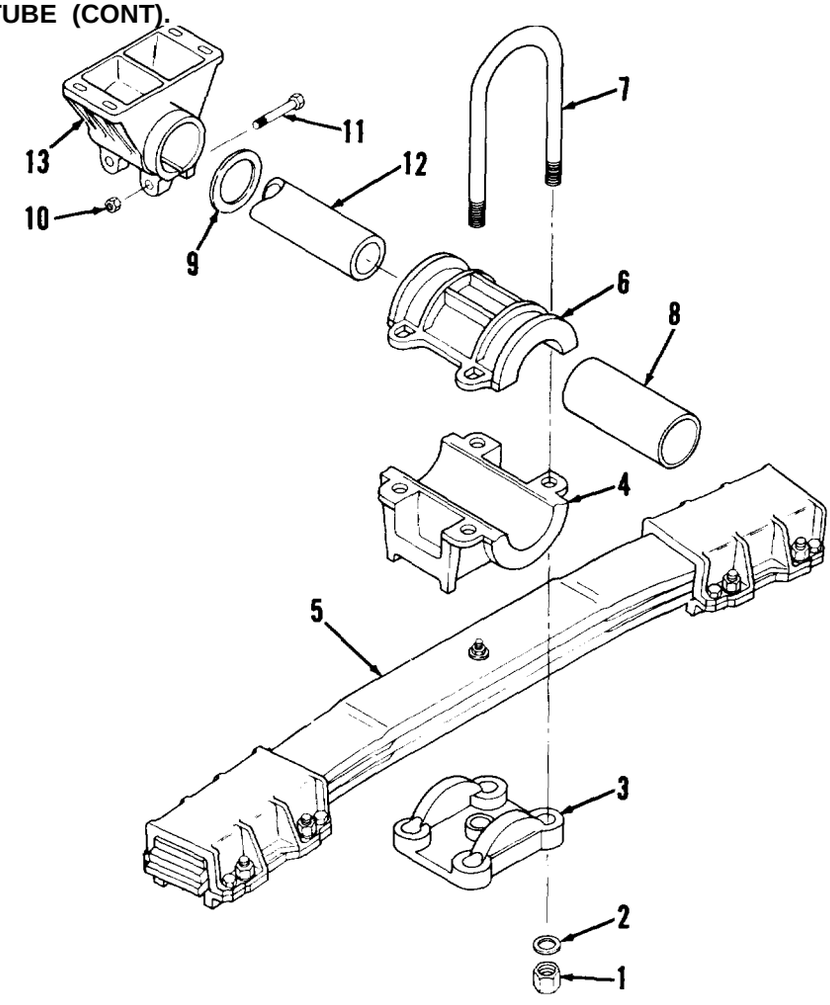
(3) Install two washers (9) and bushings (8), one on each end of trunnion tube (12).

NOTE

Before tightening lock nuts (10), make sure trunnion tube (12) iS centered.

(4) Install two capscrews (11) and locknuts (10) on each trunnion hanger (13). Torque lock nuts to 300 lb-ft.

5-11 TRUNNION TUBE (CONT).



(5) Install two U-bolts (7) on each trunnion hub (6).

(6) Slide trunnion hubs (6) with U-bolts (7) on trunnion tube (12).

(7) Position trunnion hub (4) on spring assembly (5).

(8) Lower semitrailer frame while guiding U-bolts (7) through trunnion hub (4).

NOTE

Before tightening nuts (1), be sure bushings (8) are centered on trunnion hubs.

(9) Install clamp plate (3), four washers (2), and nuts (1). Torque nuts to 880 lb-ft.

(10) Repeat steps (7) through (9) on other side of semitrailer.

(11) Remove axle and frame supports.

TASK ENDS HERE

APPENDIX A

REFERENCES

A-1 SCOPE.

This appendix lists forms, field manuals, technical manuals, and other publications referenced in this manual and which apply to operation, unit maintenance, and direct support and general support maintenance of the semitrailer.

A-2 DEPARTMENT OF THE ARMY PAMPHLETS.

Consolidated Index of Army Publications and Blank Forms . . . . . DA Pam 25-30
Index for Storing and Outloading Drawings for Ammunition . . . . . DA Pam 75-5
Using Unit Supply System (Manual Procedures) . . . . . DA Pam 710-2-1
The Army Maintenance Management System (TAMMS) . . . . . DA pm 738-750

A-3 FORMS.

Recommended Changes to Publications and Blank Forms . . . . . DA Form 2028
Recommended Changes to Equipment Technical Publications . . . . . DA Form 2028-2
Organizational Control Record for Equipment . . . . . DA Form 2401
Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Maintenance Request . . . . . DA Form 2407
Preventive Maintenance Schedule and Record . . . . . DD Form 314
Report of Discrepancies . . . . . SF 364
Product Quality Deficiency Report (NSN 7540-00-105-0078) .... SF 368

A-4 FIELDS MANUALS.

NEC Contamination Avoidance . . . . . FM 3-3
NEC Protection . . . . . FM 3-4
NEC Decontamination . . . . . FM 3-5
Camouflage . . . . . FM 5-20
Operation and Maintenance of Ordnance Materiel in Cold Weather (0° to -65°F) .... FM 9-207
First Aid for Soldiers . . . . . FM 21-11
Manual for the Wheeled Vehicle Driver . . . . . FM 21-305
Basic Cold Weather Manual . . . . . FM 31-70
Northern Operations . . . . . FM 31-71
Army Motor Transport Units and Operations . . . . . FM 55-30
Desert Operations . . . . . FM 90-3

A-4 FIELD MANUALS (CONT) .

Mountain Operations (How to Fight) ..... F M 9 0 - 6

A-5 TECHNICAL BULLETINS.

Tactical Wheeled Vehicles: Repair of Frames . . . . . TB 9-2300-247-40

Equipment Improvement Report and Maintenance Digest (US Army Tank-Automotive Command) Tank-Automotive Equipment . . . . . TB 43-0001-39 series

Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment and Materials Handling Equipment . . . . . TB 43-0209

Maintenance in the Desert . . . . . TB 43-0239

A-6TECHNICAL MANUALS.

Inspection, Care, and Maintenance of Antifriction Bearings . . . . . TM 9-214

Operator's Manual: Welding Theory and Application . . . . . TM 9-237

Deepwater Fording of Ordnance Materiel . . . . . TM 9-238

Use and Care of Hand Tools and Measuring Tools . . . . . TM 9-243

Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals . . . . . TM 9-247

Care, Maintenance, and Repair of Pneumatic Tires and Inner Tubes . . TM 9-2610-200-24

Inspection and Classification of Tires . . . . . TM 9-2610-201-14

Principles of Automotive Vehicles . . . . . TM 9-8000

Painting Instructions for Field Use . . . . . TM 43-0139

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

A-7 SPECIFICATIONS AND STANDARDS.

Dry Cleaning Solvent . . . . . Fed Spec P-D-680

Preparation for Shipment and Storage of Basic Issue Items MIL-B-12841

Inspection, Liquid Penetrant Methods MIL-I-6866

Inspection Process, Magnetic Particles MIL-I-6868

Methods of Preservation MIL-P-116

A-8 OTHER PUBLICATIONS.

Accident Reporting and Records . . . . . AR 385-40

Prevention of Motor Vehicle Accidents . . . . . AR 385-55

Accounting for Lost, Damaged, and Destroyed Property . . . . . AR 735-11

Packaging of Army Materiel fo, Storage and Shipment . . . . . AR 746-1

Army Medical Department Expendable/Durable Items . . . . . CTA 8-100

Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items) ..... CTA 50-970

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 FUNCTION.

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), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, 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 equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

B-2 MAINTENANCE FUNCTION (CONT).

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 an 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 is shown as the 3d position code of the SMR code.

i. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions 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/action) prescribed to restore an item to a 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 materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3 EXPLANATION OF COLUMS IN THE MAC, SECTION II.

a. Column1,GroupNumber. 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.

b.Column2. Complant/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Level. Functional. 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. Column4, Maintenance Level.Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time 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 work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions.

B-3 EXPLANATION OF COLUMNS IN TEE MAC, SECTION II (CONT).

This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/fquality 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. Column5,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.Column6,Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4 EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. Column Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Level. 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. Column1,Reference Code. The code recorded in column 6, Section II.

b Column2,Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART
FOR
SEMITRAILER, TACTICAL, BREAKBULK/CONTAINER TRANSPORTER M871A2

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		DS	GS	D		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Eqpt.	Remarks
06	**ELECTRICAL SYSTEM**							1,2,3	A
0609	Composite Lights	Inspect	0.1						
		Replace		0.3					
		Repair		0.2					
	Sealed Lamp Units	Replace		0.2					
0613	Chassis Wiring Harness	Inspect	0.1						
		Replace		1.5					
		Repair		1.0					
		Test		0.5					
	Receptacle Assemblies, 12 and 24 volt	Service	0.5						
		Replace		1.5					
		Repair		1.5					
	Resistors	Replace		0.5					
		Test		0.2					
11	**REAR AXLE**							1,4,7	B
1100	Rear Axle Assembly	Service		2.0					
		Replace			5.0				
		Repair			3.0				
		Adjust			1.0				
12	**BRAKES**							1,2, 3,4	A,B
1202	Service Brakes	Test	0.1						
		Replace		2.0					
	Brake Shoe Assy	Inspect		0.2					
		Replace		0.8					
		Repair			1.0				
	Brake Lining	Replace			1.0				

The subcolumns are as follows:

C=operator/crew
O=organizational
F=direct support
H=general support
D=depot

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		DS	GS	D		
Group Number	Component /Assembly	Maintenance Function	C	O	F	H	D	Tools and Eqpt.	Remarks
1206	Slack Adjuster	Test		0.1					
		Service		0.2					
		Adjust		0.2					
		Replace		1.0					
1208	Air Brake System	Test		0.2					
	Air Lines and Fittings	Inspect	0.1						
		Replace		1.2					
	Air Reservoirs	Inspect	0.1						
		Service	0.1						
		Replace		2.0					
	Drain Cock	Replace		0.2					
	Emergency Relay Valve	Test		0.2					
		Replace		1.0					
	Multi-function Valve	Test		0.2					
		Replace		1.0					
	Spring Brake Chambers	Test		0.5					
		Replace		1.0					
	Air Hose Couplings (Gladhands)	Inspect	0.1						
		Service	0.5						
		Replace		0.2					
		Repair		0.2					D
13	WHEELS, HUBS AND DRUMS							1,2, 3,4	A,B
1311	Wheel Assembly	Inspect	0.5						
		Remove/ Install	0.5						
		Replace		0.5					
	Wheel Bearing	Adjust		0.5					
		Replace		1.5					

The subcolumns are as follows:

C=Operator/crew
O=organizational
F=direct support
H=general support
D=depot

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			Unit		DS	GS	D		
Group Number	Component /Assembly	Maintenance Function	c	o	F	H	D	Tool S and Eqpt.	Remarks
1311	Brake Drum	Replace		0.5					
		Repair			1.5				
	Hub	Service		0.3					
		Replace		0.5					
	Hub Cap Gasket	Replace		0.2					
	Oil Seal	Replace		1.0					
1313	Tires, Tubes	Service	0.1						
	Tires	Inspect	0.5						
		Replace		1.5					
	Tubes	Replace		0.5					
		Repair		0.7					
15	FRAME, TOWING ATTACHMENTS							1,2,3, 4,7	A,C
1501	Frame Assembly	Inspect		0.2					
		Repair				8.0			
	Chock Blocks	Replace		0.5					
	Twist Locks	Replace		1.0					
	Cargo Bed Tiedown Rings	Replace		0.2					
	Dock Bumpers	Replace		0.3					
1503	Kingpin	Service	0.2						
		Replace				24.0			
1504	Spare Tire Carrier	Replace		1.0					
	Chain	Replace		0.1					

The subcolumns are as follows:

C=operator/crew
O=organizational
F=direct support
H=general support
D=depot

SECTION II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4)	(5)	(6)				
			MAINTENANCE LEVEL						
			UNIT		DS	GS	D	TOOLS	
GROUP		MAINTENANCE						AND	
NUMBER	COMPONENT/ASSEMBLY	FUNCTION	C	O	F	H	D	EQPT.	REMARKS
1507	LANDING GEAR	SERVICE	0.2						
		REPAIR		1.0					
	LANDING LEG	REPLACE		1.5					
	FLOAT PAD (GROUND BOARD ASSEMBLY)	REPLACE		1.0					
16	SPRINGS AND SHOCK ABSORBERS							1,2, 4,7	B
1601	SPRINGS	INSPECT	0.1						
		SERVICE		2.0					
		REPLACE			4.0				
	TRUNNION TUBE	REPLACE			4.0				
18	BODY							1,2,3	A
1801	BULKHEAD WING PANELS	REPLACE		0.5					
	SIDE PANELS	INSTALL	1.0						
		REPAIR		1.0					
	MUD FLAPS	REPLACE		0.5					
1805	FLOOR	REPLACE		2.5				8	E
1808	STORAGE BOX CHAINS	REPLACE		0.3					
	MANIFEST BOX	REPLACE		0.5					
22	BODY, CHASSIS ACCESSORY ITEMS							1,2,3	A
2202	REFLECTORS	REPLACE		0.2					
2210	DATA PLATES	REPLACE		0.2					

THE SUBCOLUMNS ARE AS FOLLOWS:

C=OPERATOR/CREW F=DIRECT SUPPORT D=DEPOT
O=ORGANIZATIONAL H=GENERAL SUPPORT

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) REFERENCE CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) TOOL NUMBER
		COMMON TOOLS:		
1	0	TOOL KIT GENERAL MECHANIC AUTOMOTIVE SC5180-90-CL-N26	5180-00-177-7033	W33004
2	0	SHOP EQUIPMENT, AUTO MAINT AND REPAIR: ORG MAINT COMMON NO. 1, LESS POWER SC4910-95-CL-A74	4910-00-754-0654	W32593
3	0	SHOP EQUIPMENT, AUTOMO-TIVE MAINTENANCE AND RE-PAIR, ORGANIZATIONAL MAINT SUPPLEMENTAL NO. 1 SC4910-95-CL-A73	4910-00-754-0653	W32867
4	F	SHOP EQUIPMENT, AUTO MAINT AND REPAIR, FM BASIC, LESS POWER SC4910-95-CL-A31	4910-00-754-0705	724660
5	F	SHOP EQUIPMENT, AUTO MAINT AND REPAIR, FM BASIC, SUPPLEMENTAL NO. 1 SC4910-95-CL-A62	4910-00-754-0706	T25619
6	F	SHOP EQUIPMENT, AUTO MAINT AND REPAIR, FM BASIC, SUPPLEMENTAL NO. 2 SC4910-95-CL-A63	4910-00-754-0707	T25756
7	F	SHOP EQUIPMENT, WELDING, FIELD MAINTENANCE SC3470-95-CL-A08	3470-00-357-7268	T16714
		SPECIAL TOOLS:		
8	0	BIT,HEX,INSERT, 1/4-INCH DRIVE	5120-01-160-9635	440-TX40

Section IV. REMARKS

REFERENCE CODE	REMARKS
A	All repair and replacement of parts performed by Organizational (o) maintenance limited to authorized items listed in RPSTL Appendix F.
B	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.
C	General support (H) maintenance includes repair of most replaceable assemblies. Overhaul of assemblies which require extensive work in terms of man hours, skills and testing of overhauled assemblies will be accomplished at depots.
D	Repair by replacing packing only.
E	Time given to replace one flooring strip: 5- to 7-inches wide by 30-feet long.

APPENDIX C

COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LIST

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. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III - Basic Issue ITEM. These are the minimum essential items required to place the semitrailer in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the semitrailer during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

C-3 EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. Column (1) - Illustration 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 Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number.

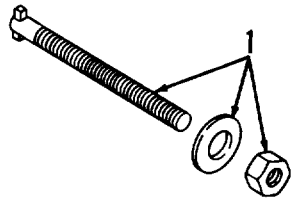
d. Column (4) - Unit Of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g. , ea, in, pr).

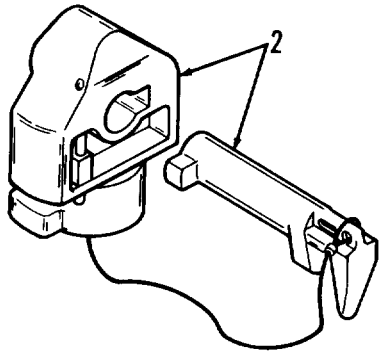
e. Column (5) Quantity Required (Qty rqr. Indicates the quantity of the item authorized to be used with/on the equipment.

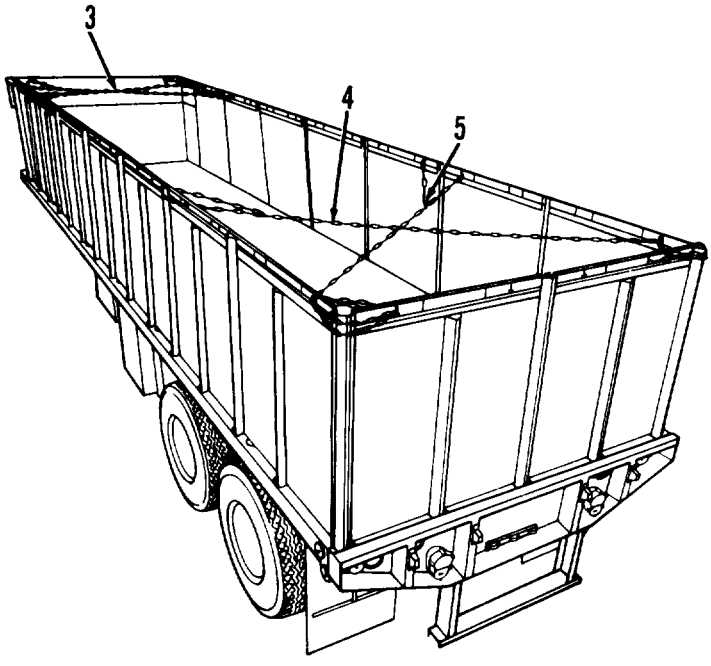
Section II. COMPONENTS OF END ITEM LIST

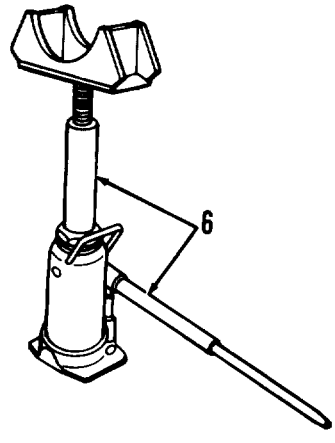
NONE

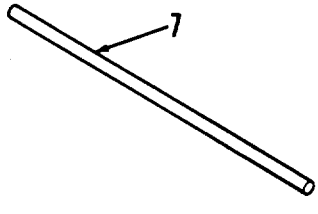
Section III. BASIC ISSUE ITEMS LIST

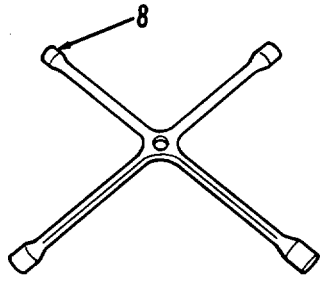












SECTION III. BASIC ISSUE ITEMS LIST - CONTINUED

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGEC AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY RQR
1	5306-01-313-9961	BOLT,CAGING (STUD ASSEMBLY) (4B100) 9007003		EA	4
2	2590-01-062-3520	CONTAINER LOCK (TWIST LOCK WITH F-PIN) (94658) F635-1		EA	4
3		CROSS CHAIN, 20 FEET LONG (8S867) CHAIN20		EA	2
4		CROSS CHAIN, 25 FEET LONG (8S867) CHAIN25		EA	2
		NOTE MAKE CROSS CHAINS 3 AND 4 USING BULK WELDED CHAIN (39428) 8962T16 NSN 4010-01-065-6955.			
	4010-01-065-6955	CHAIN, WELDED, BULK (39428) 8962T16		FT	AR
5		HOOK, CHAIN, S (80120) 498		EA	8
6	5120-01-313-4761	JACK, HYDRAULIC, HAND, 8 TON CAPACITY (8S867) M871JACK		EA	1
7		WRENCH EXTENSION BAR (8S867) 1 HRRD		EA	1
8	5120-00-293-1404	WRENCH, SOCKET (LUG) (03683) 1850		EA	1

APPENDIX D

ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

D-1 SCOPE.

This appendix lists additional items 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 authorizes the item(s) to you.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National stock number	(2) Description CAGEC and part number	Usable on code	(3) U/M	(4) Qty auth
2540-00-797-9195	Tarpaulin (19207) 7979195		EA	1
2540-01-138-3995	Bow (19207) 12255591		EA	9
5120-01-160-9635	Bit, Hex, Insert (03705) 440-TX40		EA	1
	NOTE The following are items to be used when hauling conventional ammunition on staked sidewall trailer using wooden dunnage for ammunition restraint.			
2590-01-060-7116	Plate, Cover, Intermediate (25575) FB 7556		EA	6

(1) National stock number	(2) Description CAGEC and part number	Usable on code	(3) U/M	(4) Qty auth
	NOTE The following are items to be used when hauling all ammunition types and using web strap tiedown assemblies for ammunition restraint.			
2540-01-117-3043	Tiedown Assembly, Vehicular (96603) SP 3715-1		EA	20
2540-01-112-1732	Tiedown Assembly, Vehicular (98255) SW 15906A		EA	20
5340-00-980-9277	Tiedown Assembly, Web Strap (Non-nuclear) (19207) 10900880		EA	25*
1670-00-725-1437	Tiedown Assembly, Web Strap (Non-nuclear) (96603) SP4067		EA	25*
5340-01-089-4997	Tiedown Assembly, Web Strap (Nuclear) (19207) 11669588		EA	25*
5340-01-204-3009	Tiedown Assembly, Web Strap (Nuclear) (59678) 9392419		EA	25*
	NOTE The six previous items may be used for ammunition transport. When transporting nuclear ammunition, however, only the nuclear web strap tiedown assemblies, NSN 5340-01-089-4997 and NSN 5340-01-204-3009, will be used in conjunction with the vehicular tiedown assemblies to restrain nuclear ammunition items.			

*NOTICE: Only a total of 25 straps is authorized per trailer. This quantity of 25 may be all of one of the straps listed above or may be a combination of all the four listed for all ammunition types except nuclear. For nuclear munitions, the quantity of 25 may be all of one of the last two straps listed or any combination thereof.

APPENDIX E

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1 SCOPE.

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the semitrailer. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

E-2 EXPLANATION OF COLUMNS.

a. **Column** (1) Items 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 Commercial and Government Entity Code (CAGEC) 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/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	7920-00-514-2417	BRUSH: ACID SWABBING, BOX OF 144 (81348) H-B-643	EA
2	0	5350-00-221-0872	CLOTH, ABRASIVE: CROCUS, FERRIC OXIDE AND QUARTZ, JEAN-CLOTH BACKING, EXPOSED COAT, 9 X 11 SH, 50-SHEET SHEAVE (81348) P-C-458, 42-C-20420-50	EA
3	0	7930-00-282-9699	DETERGENT: NONSUDSING, GENERAL PURPOSE, LIQUID, 1 GALLON (80244) MILD-D-16791 TYPE I	GAL
4	C		GREASE, GAA: AUTOMOTIVE AND ARTILLERY (81349) MIL-G-10924	
		9150-00-065-0029	2-1/4 OUNCE TUBE	OZ
		9150-00-935-1017	14 OUNCE CARTRIDGE	OZ
		9150-00-190-0904	1-3/4 POUND CAN	LB
		9150-00-190-0905	6-1/2 POUND CAN	LB
		9150-00-190-0907	35 POUND CAN	LB
5	C	8520-00-262-7177	HAND CLEANER: CONTAINER (09177) 200-767-4A	EA
6	C		OIL: LUBRICATING, GEAR, MULTIPURPOSE, GO 80/90 (81349) MIL-L-2105	
		9150-01-035-5392	1 QUART CAN	QT
		9150-01-035-5393	5 GALLON DRUM	GAL
7	C		OIL: LUBRICATING, INTERNAL COMBUSTION ENGINE, ARCTIC, OEA (81349) MIL-L-46167	
		9150-00-402-4478	1 QUART CAN	QT
		9150-00-402-2372	5 GALLON DRUM	GAL
8	C		OIL: LUBRICATING, INTERNAL COMBUSTION ENGINE, TACTICAL SERVICE, OE/HDO 10 (81349) MIL-L-2104	
		9150-00-189-6727	1 QUART CAN	QT
		9150-00-186-6668	5 GALLON DRUM	GAL
9	C		OIL: LUBRICATING, INTERNAL COMBUSTION ENGINE, TACTICAL SERVICE, OE/HDO 30 (81349) MIL-L-2104	
		9150-00-186-6681	1 QUART CAN	QT
		9150-00-188-9858	5 GALLON DRUM	GAL

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST - CONTINUED

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
10	C		OIL: LUBRICATING, INTERNAL COMBUSTION ENGINE, TACTICAL SERVICE, OE/HDO 15/40 (81349) MIL-L-2104	
		9150-01-152-4117	1 QUART CAN	QT
		9150-01-152-4118	5 GALLON DRUM	GAL
11	C	7920-00-205-1711	RAG: WIPING, COTTON AND COTTON SYNTHETIC, 50 POUND BALE (58356) A-A-531	LB
12	0		SEALING COMPOUND: THREAD LOCKING (BLUE) (81349) MIL-S-46163 TYPE II GRADE N	EA
		8030-01-104-5392	(05972) 24221, 10 ML BOTTLE	
		8030-01-014-5869	(05972) 24231, 50 ML BOTTLE	
13	0	3439-00-224-3567	SOLDIER: ROSIN CORE, 60/40, 0.094 INCH DIAMETER, 5 POUND SPOOL (81348) QQ-S-571	LB
14	C		SOLEVENT: DRY CLEANING P-D-680 TYPE II (58536) A-A-71	
		6850-00-664-5685	1 QUART CAN	QT
		6850-00-264-9038	1 GALLON CAN	GAL
		6850-00-274-5421	5 GALLON DRUM	GAL
		6850-00-285-8011	55 GALLON DRUM	GAL
15	0	9905-00-537-8954	TAG: BLANK, CABLE IDENTIFICATION, BOX OF 50 (81349) MIL-T-12755	EA
16	0	5970-00-419-4291	TAPE: INSULATION ELECTRICAL, PRESSURE SENSITIVE, PLASTIC, GENERAL PURPOSE (81349) MIL-I-24391	FT
17	0	7930-00-899-9534	DISHWASH SOAP: LIQUID HAND (81348) P-10-410	EA
18	0		COATING: CHEMICAL AGENT RESISTANT (81349) MIL-C-46168	GAL

APPENDIX F

ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

F-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 organizational, direct supports and general support maintenance of the semitrailer. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

F-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. The lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The lists also include 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 by item name in FIG BULK at the end of the section. Repair parts kits or sets are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in the section.

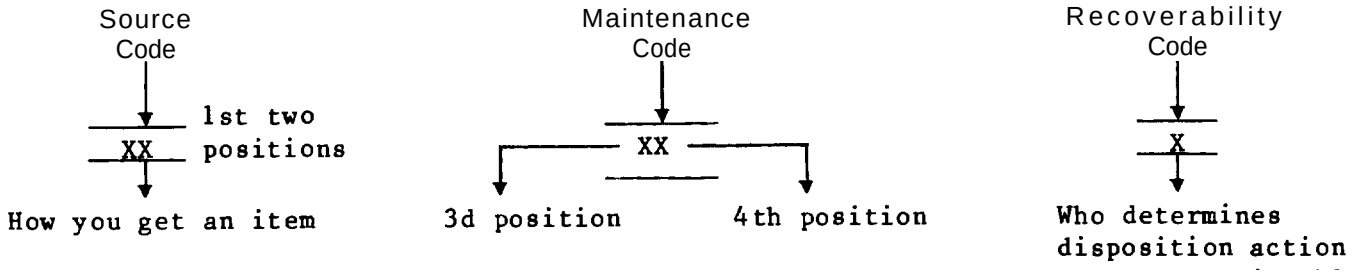
b. Section III Special Tools List. A list of special tools, special TMDE and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. Section IV Cross-reference Indexes. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, FSCM, and part numbers.

F-3 EXPLANTATION OF COLUMNS (SECTIONS II AND III).

a. ITEM NO.(column(1). 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 level 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.

(1) Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Code	Explanation
PA, PB, PC**, PD, PE, PF, PG	Stocked items; use the applicable NSN to request/ requisition items with these source codes. They are authorized to the level indicated by the code entered in the 3d position of the SMR code.
	**NOTE: Items coded PC are subject to deterioration.
KD, KF, KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO- (Made at org/ AVUM Level) MF- (Made at DS/ AVIM Level) MH- (Made at GS Level) ML- (Made at Specialized Repair Activity (SRA)) MD- (Made at Depot)	Items with these codes are not to be requested/ requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

Code	Explanation
AO- (Assembled org/AVUM Level) AF- (Assembled by DS/AVIM Level) AH- (Assembled by GS Level) AL- Assembled by SRA) AD- Assembled by Depot)	Items with these codes are not to be requested requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position of the SMR code authorizes you to replace the item, but the source code indicates 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 FSCM and part number given.

XC- Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD- Item is not stocked. Order an 'XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tell you the 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:

code	Application/Explanation
C	-Crew or operator maintenance done within organizational or aviation unit maintenance.
O	-Organizational or aviation unit level 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 you 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:

O	-Organizational 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, lubricating, etc., at the user level.

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

Recoverability Codes	Application/Explanation
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR code.
O	-Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit 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 not authorized below specialized repair activity (SRA).

Recoverability Codes	Application/Explanation
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. FSCM (Column (3)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

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 an 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) The physical security classification of the item is indicated by the parenthetical entry, e.g., Phy Sec Cl (C)-Confidential. No physical security classification is applicable to the M871A2 Semitrailer.

(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 an 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 to the M871A2 Semitrailer.

(7) The usable on code, when applicable (see paragraph F-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.

F-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 digits of the NSN (i.e., 5305-01-674-1467). 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.

NSN
NIIN

(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 O through 9 and each following letter or digit in like order) .

(1) FSCM column. The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric 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 FSCM 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) FSCM column. The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric 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.

F-5 SPECIAL INFORMATION.

a. USABLE ON CODE. The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "Uoc: .... " in the Description Column (justified left) on the first line following applicable item description/nomenclature. Not applicable to the M871A2 Semitrailer.

b. FABRICATION INSTRUCTION. 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 Appendix G of this manual.

C. ASSEMBLY INSTRUCTION. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in Chapters 4 and 5 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 a group in Section II (see table of contents).

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.

f. FIGURE TITLE PART NUMBERS. Next higher assembly part number shown on the figure title and header data is used for manual development and may not be found in the index.

F-6 HOW TO LOCATE REPAIR PARTS.

a. When Stock Number or Part Number is Not Known:

(1) First. Using the table of contents, determine the assembly group or sub-assembly 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 same 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 note the item number.

(4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

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

(1) First . Using the National Stock Number or Part Number Index, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see F-4a(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see F-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.

F-7 ABBREVIATIONS.

Abbreviations used in this RPSTL are listed below and include associated definition.

Abbreviations	Definition
BOI	Basis of Issue
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
NSN	National Stock Number
RPSTL	Repair Parts and Special Tools List
SMR Code	Source, Maintenance, and Recoverability Code
Uoc	Usable on Code

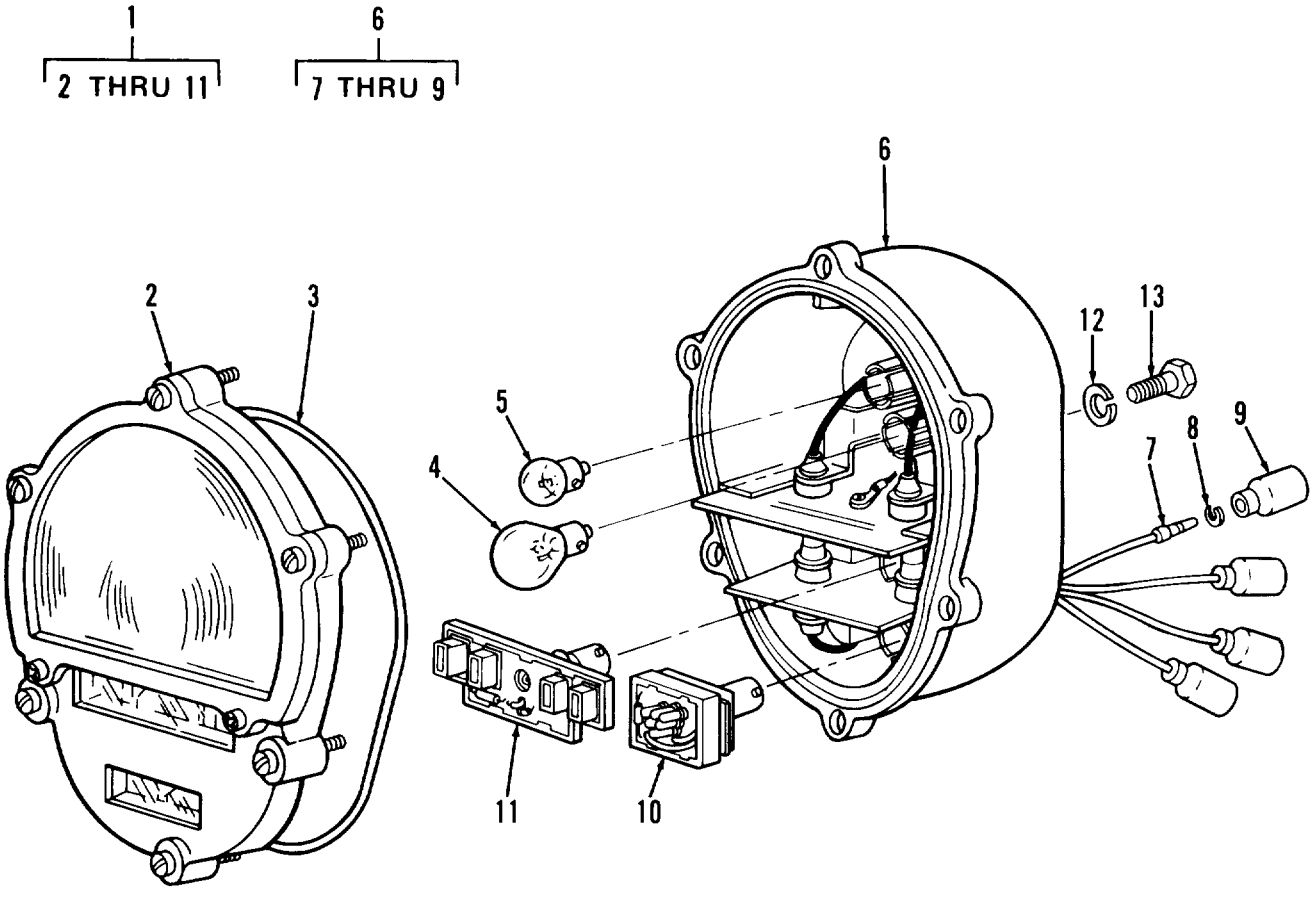


Figure 1. Composite Light

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 06 ELECTRICAL	
				GROUP 0609 LIGHTS	
				FIG. 1 COMPOSITE LIGHT	
1	PAOOO	51831	DC-12350-38	STOP LIGHT-TAILLIGH	2
2	PAOZZ	19207	11639535	LENS,LIGHT	1
3	PCOZZ	19207	11639519-2	PACKING,PREFORMED	1
4	PAOZZ	96906	MS35478-1073	LAMP,INCANDESCENT 12V	1
5	PAOZZ	96906	MS15570-89	LAMP,INCANDESCENT 12V	1
6	PAOZZ	19207	11639520	BODY ASSEMBLY	1
7	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	4
8	PAOZZ	19207	8338567	WASHER,SLOTTED	4
9	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	4
10	PAOZZ	19207	12360870-2	STOP LIGHT,VEHICULA 24V	1
11	PAOZZ	19207	12360850-1	LIGHT,MARKER,CLEARA 24V	1
12	PAOZZ	96906	MS35338-46	WASHER,LOCK	4
13	PAOZZ	96906	MS90728-64	SCREW,CAP,HEXAGON H	4
				END OF FIGURE	

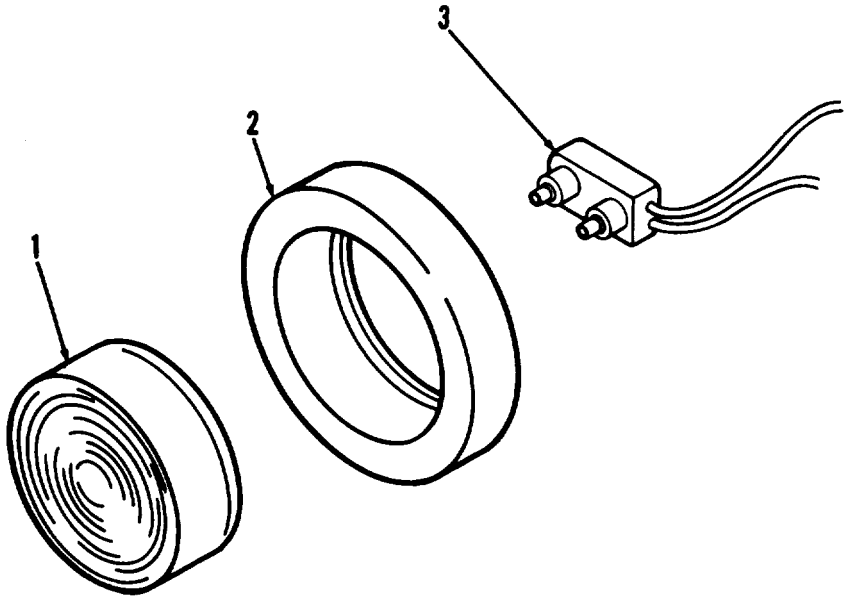


Figure 2. Clearance Light

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 2 CLEARANCE LIGHT	
1	PAOZZ	13548	30200Y	LIGHT,MARKER,CLEARA AMBER	2
1	PAOZZ	13548	30200R	LAMP UNIT,VEHICULAR RED	2
2	PAOZZ	13548	30700	GROMMET,NONMETALLIC	1
3	PAOZZ	13548	94902	PLUG ASSEMBLY	1
				END OF FIGURE	

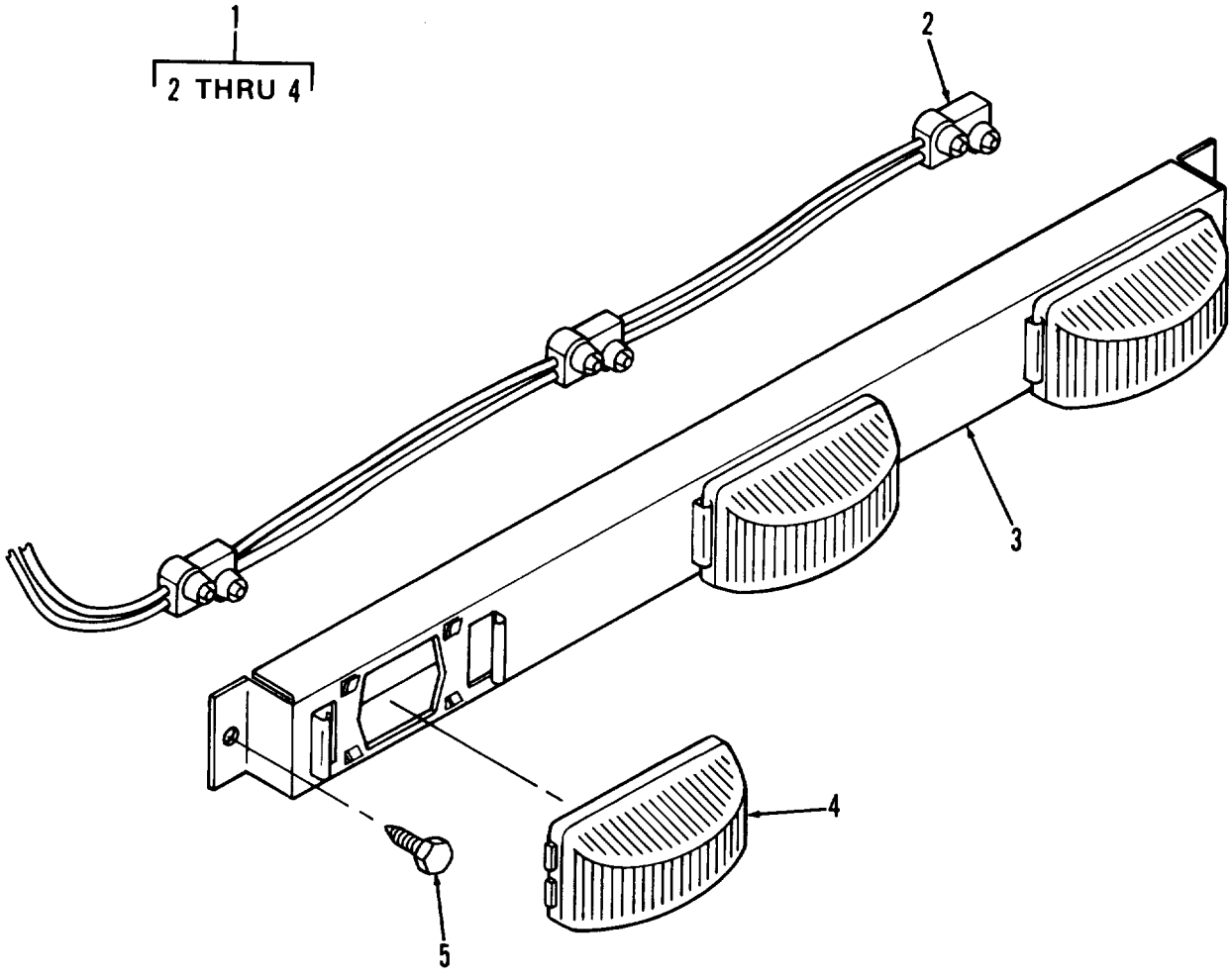


Figure 3. Bar Light

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 3 BAR LIGHT	
1	PAOOZ	13548	15741R	LIGHT ASSEMBLY,CLEA	1
2	XAOZZ	13548	93943	WIRING HARNESS	1
3	XAOZZ	13548	00808	BRACKET,LIGHT	1
4	PAOZZ	13548	15200R	LAMP UNIT,VEHICULAR	3
5	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	2
				END OF FIGURE	

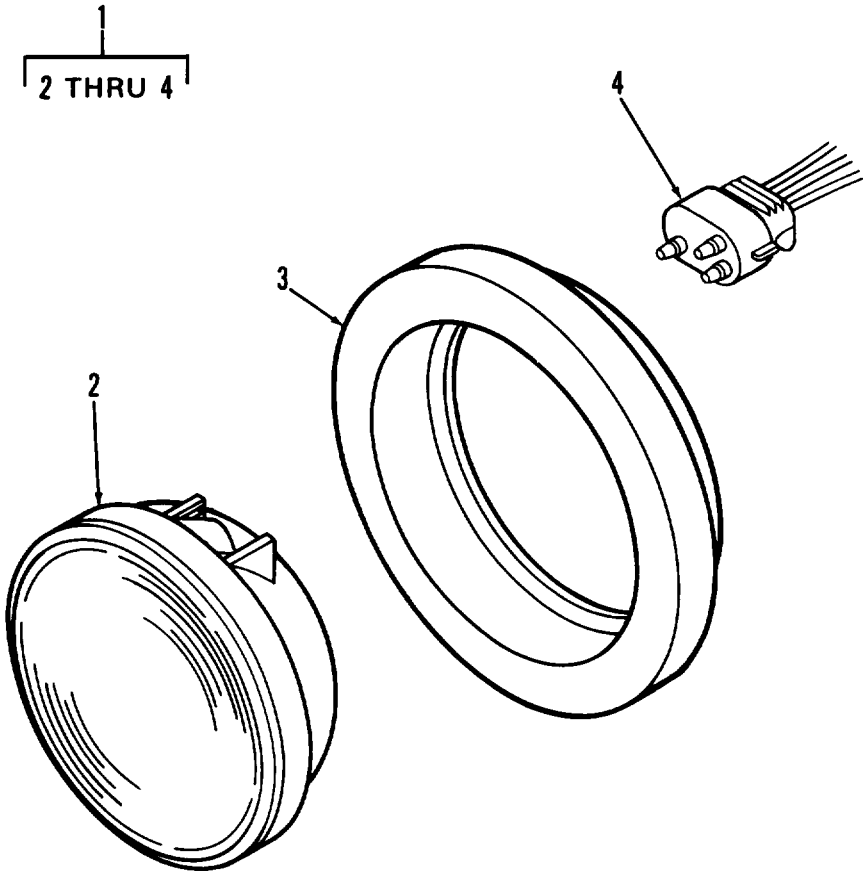


Figure 4. Taillight

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 4 TAILLIGHT	
1	PAOZZ	12662	426K	LAMP UNIT,VEHICULAR	4
2	PAOZZ	13548	40202R	STOP LIGHT-TAILLIGH	1
3	PAOZZ	13548	40700	GROMMET,NONMETALLIC	1
4	PAOZZ	13548	94993	PLUG,END SEAL,ELECT	1
				END OF FIGURE	

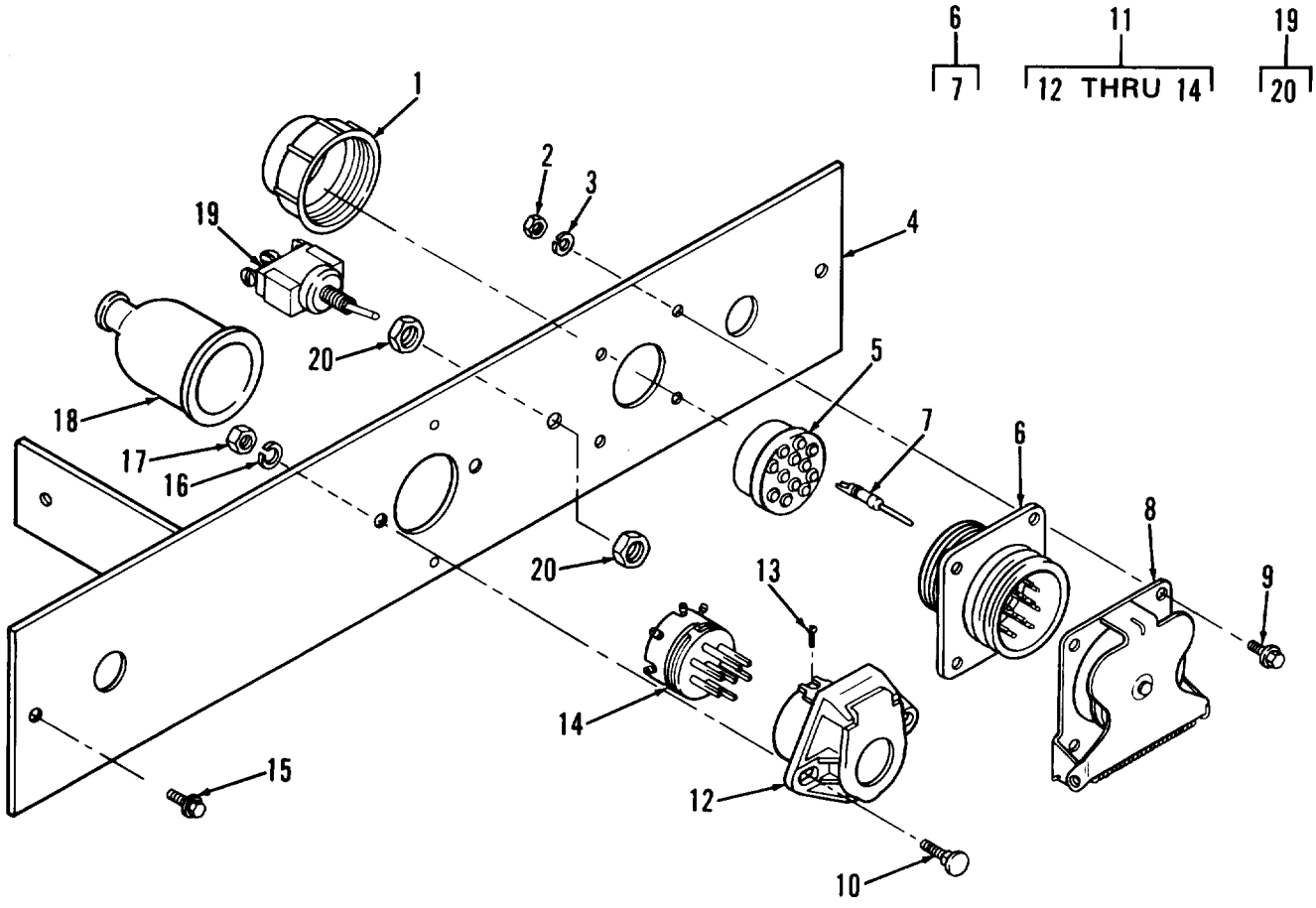


Figure 5. Nose Plate

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 CHASSIS WIRING HARNESS	
				FIG. 5 NOSE PLATE	
1	PAOZZ	19207	7723309	NUT,PLAIN,KNURLED	1
2	PAOZZ	39428	90480A011	NUT,PLAIN,HEXAGON	3
3	PAOZZ	96906	MS35338-43	WASHER,LOCK	3
4	PFOZZ	8S867	MTPGLT1	PLATE,MOUNTING	1
5	PAOZZ	19207	7722333	BUSHING,RUBBER	1
6	PAOZZ	96906	MS75021-1	CONNECTOR,RECEPTACL	1
7	PAOZA	19207	7716521	CONTACT,ELECTRICAL	12
8	PAOZZ	19207	7731428	COVER,ELECTRICAL CO	1
9	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	4
10	PAOZZ	96906	MS35751-41	BOLT,SQUARE NECK	2
11	PAOZZ	06721	782HD	CONNECTOR,RECEPTACL	1
12	XAOZZ	06721	201081-A	BODY,CONNECTOR	1
13	XAOZZ	06721	7750257	SCREW,MACHINE,FLAT	1
14	XAOZZ	06721	7750259	TERMINAL ASSEMBLY	1
15	PAOZZ	96906	MS51851-88	SCREW,TAPPING,THREA	4
16	PAOZZ	96906	MS35338-45	WASHER,LOCK	2
17	PAOZZ	24617	120376	NUT,PLAIN,HEXAGON	2
18	PAOZZ	06721	782101	BOOT,DUST AND MOIST	1
19	PAOZZ	96906	MS25306-232	SWITCH,TOGGLE	1
20	XAOZZ	8S867	SWNUT1	NUT,PLAIN,HEXAGON	2
				END OF FIGURE	

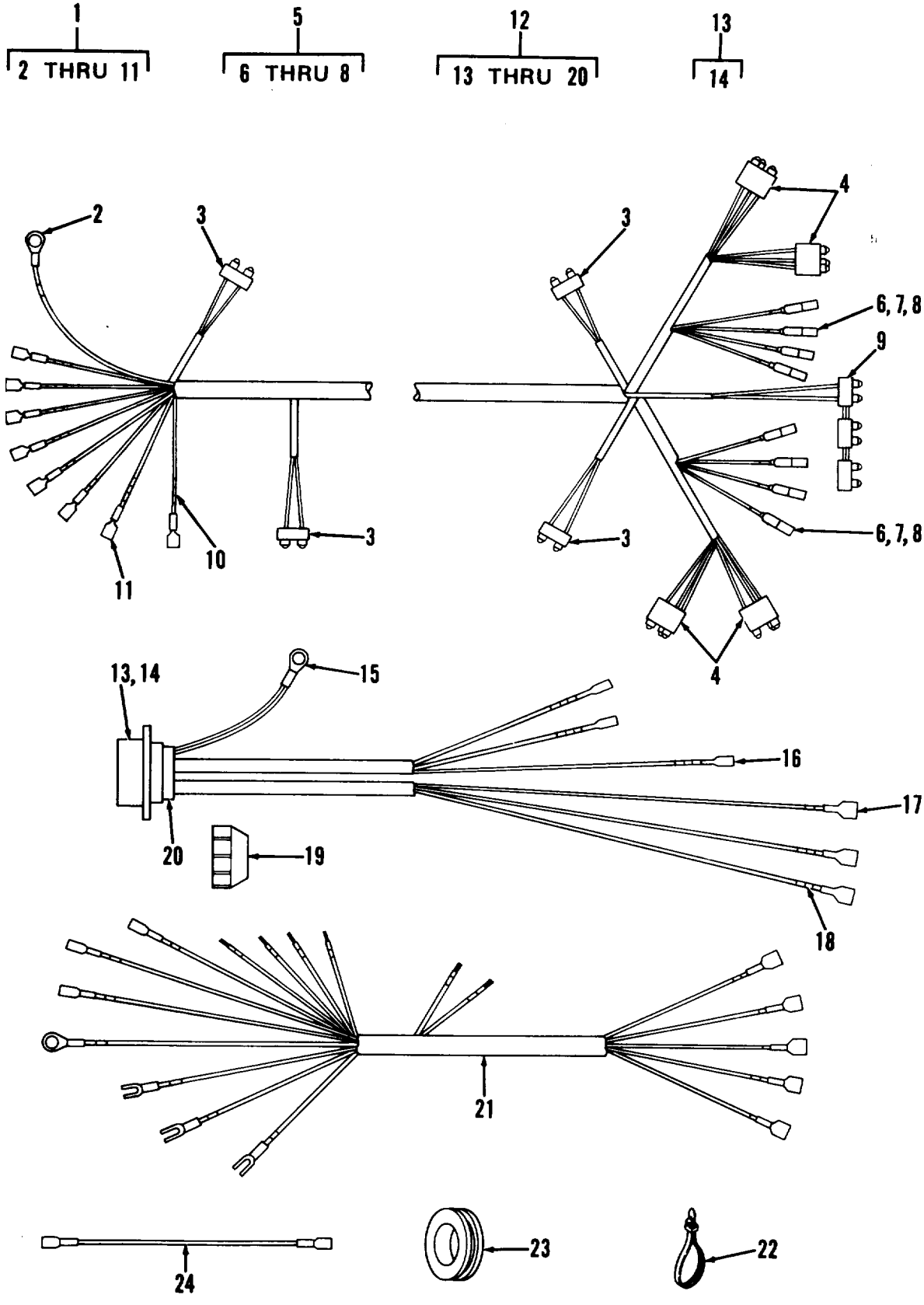


Figure 6. Wiring Harness

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 CHASSIS WIRING HARNESS	
				FIG. 6 WIRING HARNESS	
1	PFOOO	51831	ACC8016	WIRING HARNESS,BRAN	1
2	PAOZZ	96906	MS20659-104	TERMINAL,LOG	1
3	PAOZZ	13548	94902	PLUG ASSEMBLY	4
4	XAOZZ	13548	94993	PLUG,END SEAL,ELECT	4
5	PFOOO	96906	MS27144-1	CONNECTOR,PLUG,ELEC	8
6	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	1
7	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	1
8	PAOZZ	19207	8338562	INSULATOR,BUSHING	1
9	PFOZZ	13548	93943	WIRING HARNESS	1
10	PAOZZ	19207	10875481	BAND MARKER	29
11	PAOZZ	74025	10476-103	TERMINAL,QUICK DISC	8
12	PAOOO	51831	ACC8018	WIRING HARNESS,BRAN	1
13	PAOZZ	96906	MS75021-1	CONNECTOR,RECEPTACL	1
14	PAOZA	19207	7716521	CONTACT,ELECTRICAL	12
15	PAOZZ	96906	MS25036-112	TERMINAL,LUG	1
16	PAOZZ	14726	S05308F	TERMINAL,QUICK DISC	3
17	PAOZZ	14726	S05076	TERMINAL,QUICK DISC	3
18	PAOZZ	19207	10875481	BAND,MARKER	42
19	PAOZZ	19207	7723309	NUT,PLAIN,KNURLED	1
20	PAOZZ	19207	7722333	BUSHING,RUBBER	1
21	PAOZZ	51831	ACC8019	WIRING HARNESS,BRAN	1
22	PAOZZ	20999	6225	STRAP,TIEDOWN,ELECT	2
23	PAOZZ	96906	MS35489-110	GROMMET,NONMETALLIC	4
24	PAOZZ	51831	ACC8017	LEAD ASSEMBLY,ELECT	3
				END OF FIGURE	

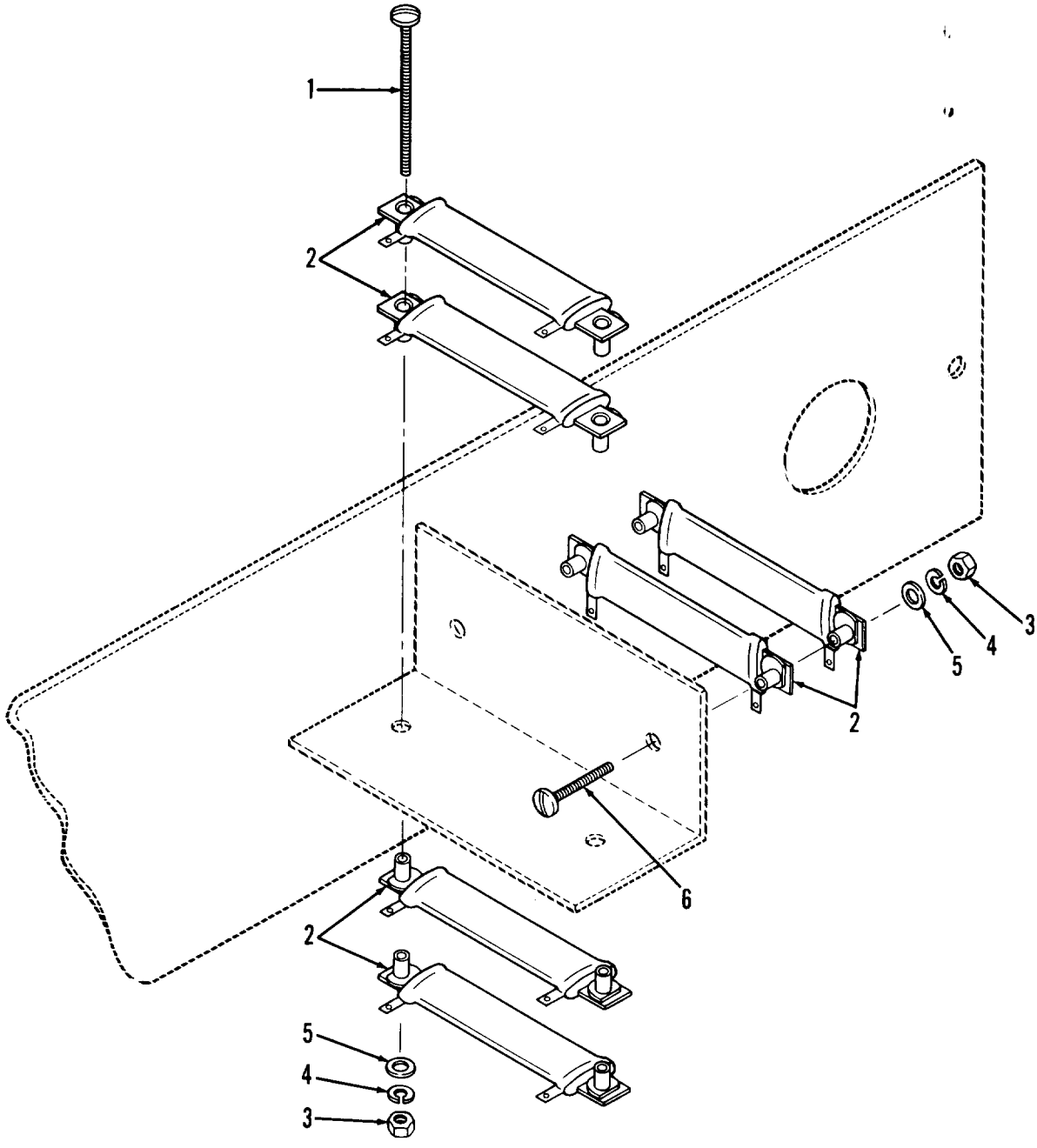


Figure 7. Light Resistors

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 CHASSIS WIRING HARNESS	
				FIG. 7 LIGHT RESISTORS	
1	PAOZZ	96906	MS51957-55	SCREW,MACHINE	2
2	PAOZZ	91637	HL55-09	RESISTOR,FIXED,WIRE WOULD,1 OHM,5 PCT,55 WATTS	6
3	PAOZZ	39428	90480A011	NUT,PLAIN,HEXAGON	4
4	PAOZZ	96906	MS35338-43	WASHER,LOCK	4
5	PAOZZ	96906	MS27183-7	WASHER,FLAT	4
6	PAOZZ	39428	90276A251	SCREW,MACHINE	2
				END OF FIGURE	

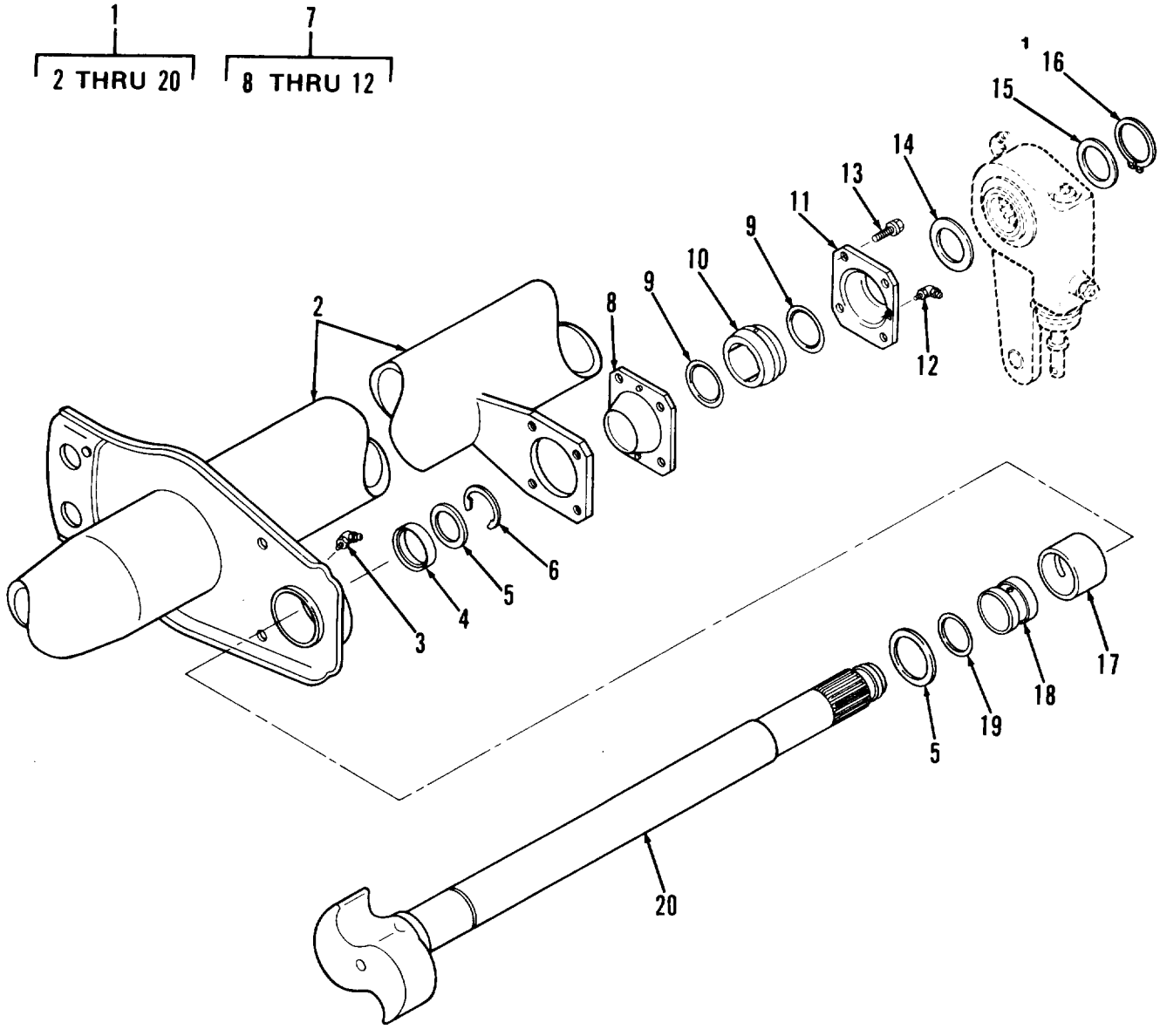


Figure 8. Rear Axle Assembly

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 11 REAR AXLE	
				GROUP 1100 REAR AXLE ASSEMBLY	
				FIG. 8 AXLE ASSEMBLY	
1	PBFFF	78500	TN4670-QH-2704	AXLE,VEHICULAR,NOND	2
2	XAFZZ	78500	D36-3273-W-101	BEAM,AXLE	1
3	PAOZZ	19207	11662296-33	FITTING,LUBRICATION	2
4	PFOZZ	78500	1205U1451	SEAL PART OF KIT P/N KIT 970	2
5	PFOZZ	78500	1229X3118	WASHER,FLAT PART OF KIT P/N KIT 970	4
6	KFOZZ	78500	1229-D-3124	RING,RETAINING PART OF KIT P/N KIT 970	2
7	PAOOO	78500	A3105-V-282	PARTS KIT, BRAKE ADJ	2
8	XAOZZ	78500	3105-U-281	RETAINER,BUSHING	1
9	PFOZZ	19207	11662296-14	PACKING,PREFORMED PART OF KIT P/N KIT 970	2
10	KFOZZ	78500	1225-R-1058	BUSHING,BRACKET PART OF KIT P/N KIT 970	1
11	XAOZZ	78500	3105-V-282	RETAINER,BUSHING	1
12	XDOZZ	78500	2297-B-5046	FITTING,LUBRICATION	1
13	PAOZZ	78500	10-X-1348	SCREW,TAPPING,THREA	8
14	PFOZZ	78500	1229-J-868	SPACER,RING PART OF KIT P/N KIT 970	2
15	PFOZZ	19207	11662296-10	WASHER,FLAT PART OF KIT P/N KIT 970	2
16	PFOZZ	19207	11662296-9	RING,RETAINING PART OF KIT P/N KIT 970	2
17	KFOZZ	78500	1225-A-833	BUSHING,SPIDER,OUTE PART OF KIT P/N KIT 970	2
18	PFOZZ	78500	1225-B-834	BUSHING,SPIDER,INNE PART OF KIT P/N KIT 970	2
19	PFOZZ	78500	1205V1452	PACKING,PREFORMED PART OF KIT P/N KIT 970	2
20	PAOZZ	78500	2210-Q-4333	CAMSHAFT,ACTUATING, RIGHT HAND	1
20	PAOZZ	78500	2210-R-4334	CAMSHAFT,ACTUATING, LEFT HAND	1
				END OF FIGURE	

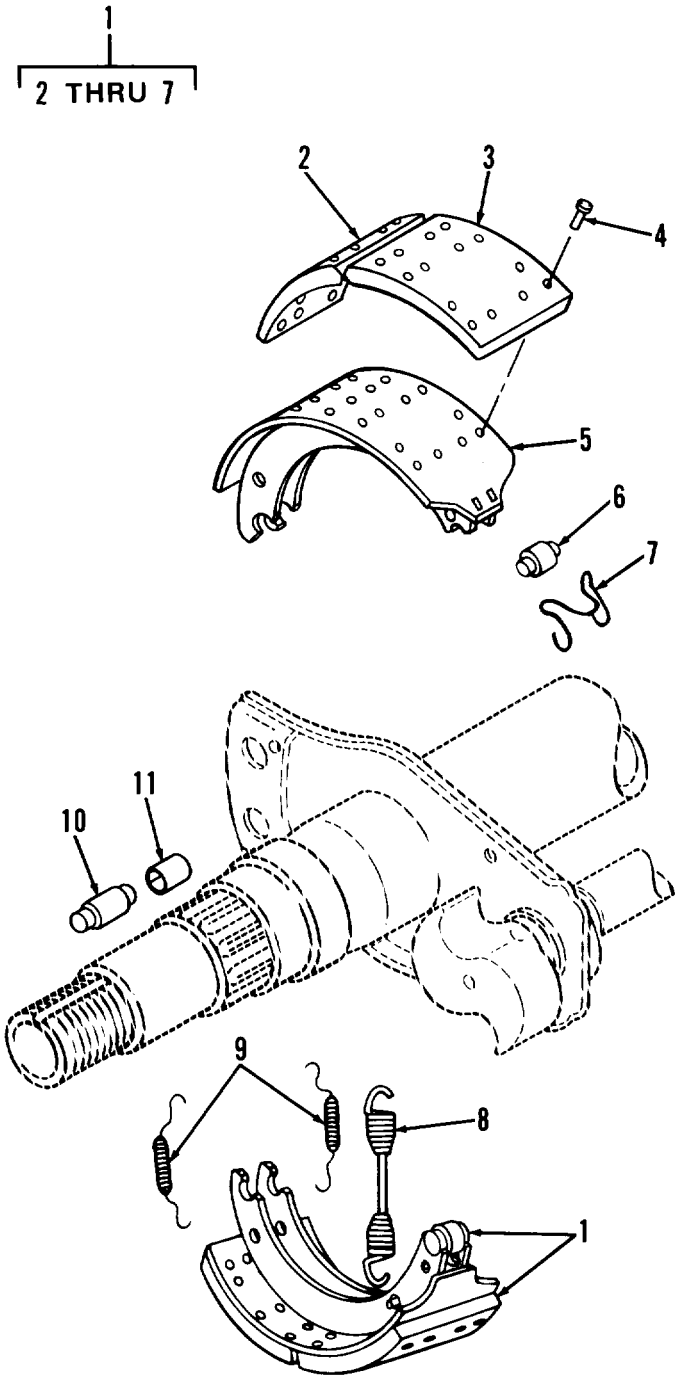


Figure 9. Brake Shoes

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 12 BRAKES	
				GROUP 1202 SERVICE BRAKES	
				FIG. 9 BRAKE SHOES	
1	PAOFZ	78500	A78-3222S1293	BRAKE SHOE	4
2	KFFZZ	78500	2240-N-4642	LINING,ANCHOR END PART OF KIT P/N 2000-F-1228	1
3	KFFZZ	78500	2240-M-4641	LINING,CAM END OF PART OF KIT P/N 2000 -F-1228	1
4	PFFZZ	97286	RV3109	RIVET,TUBULAR PART OF KIT P/N 2000-F-1228	28
5	XAFZZ	78500	A3222-S-1293	SHOE ASSEMBLY,BRAKE	1
6	PFOZZ	78500	1779R18	ROLLER,LINEAR-ROTAR PART OF KIT P/N KIT 8000HD	1
7	KFOZZ	78500	3105-B-210	RETAINER,ROLLER PART OF KIT P/N KIT 8000HD	1
8	KFOZZ	78500	2258-W-803	SPRING,HELICAL,EXTE PART OF KIT P/N KIT 8000HD	2
9	PFOZZ	78500	2258-Q-615	SPRING,HELICAL,EXTE PART OF KIT P/N KIT 8000HD	4
10	PFOZZ	78500	1259-N-274	PIN,SHOULDER,HEADLE PART OF KIT P/N KIT 8000HD	4
11	PFOZZ	19207	11662296-34	BUSHING,ANCHOR PIN PART OF KIT P/N KIT 8000HD	4
				END OF FIGURE	

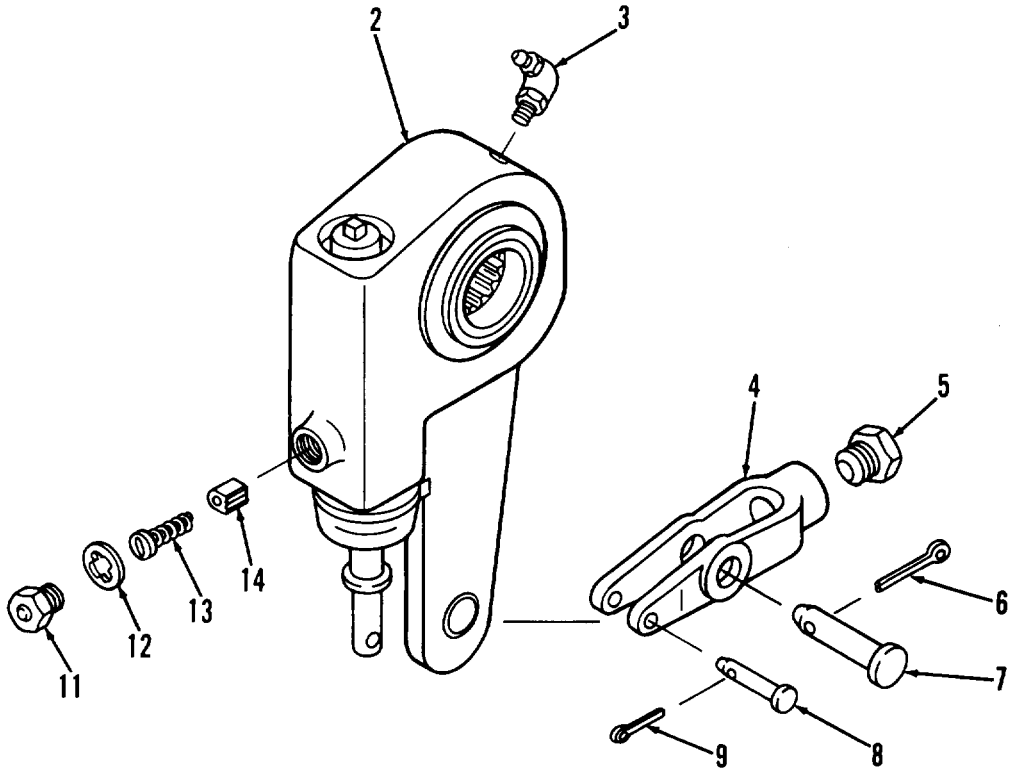


Figure 10. Slack Adjuster

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1206 MECHNICAL BRAKE SYSTEM	
				FIG. 10 SLACK ADJUSTER	
1	PAOOZ	78500	A15-3275-N-716	ADJUSTER,SLACK,BRAK	2
2	XAOZZ	78500	A3275-Z-780	HOUSING AND BUSHING	1
3	PAOZZ	78500	1898-R-720-S	FITTING,LUBRICATION	1
4	PAOZZ	78500	A2-1245-E-395	CLEVIS,ROD END	1
5	PAOZZ	78500	2207-M-13 S	COLLAR,SHAFT	1
6	PAOZZ	96906	MS24665-353	PIN,COTTER	1
7	PAOZZ	78500	19X60	PIN,STRAIGHT,HEADED	1
8	PAOZZ	78500	19X127	PIN,STRAIGHT,HEADED	1
9	PAOZZ	96906	MS24665-283	PIN,COTTER	1
10	PAOZZ	78500	A1-1199-S-3737	PAWL	1
11	XAOZZ	78500	A2206-Y-51	SCREW,CAP,PRESSURE	1
12	PAOZZ	78500	1729B262	WASHER,LOCK	1
13	XAOZZ	78500	2258-U-567	SPRING,HELICAL,COMP	1
14	XAOZZ	78500	1199-S-3737	PAWL,GUIDE	1
				END OF FIGURE	

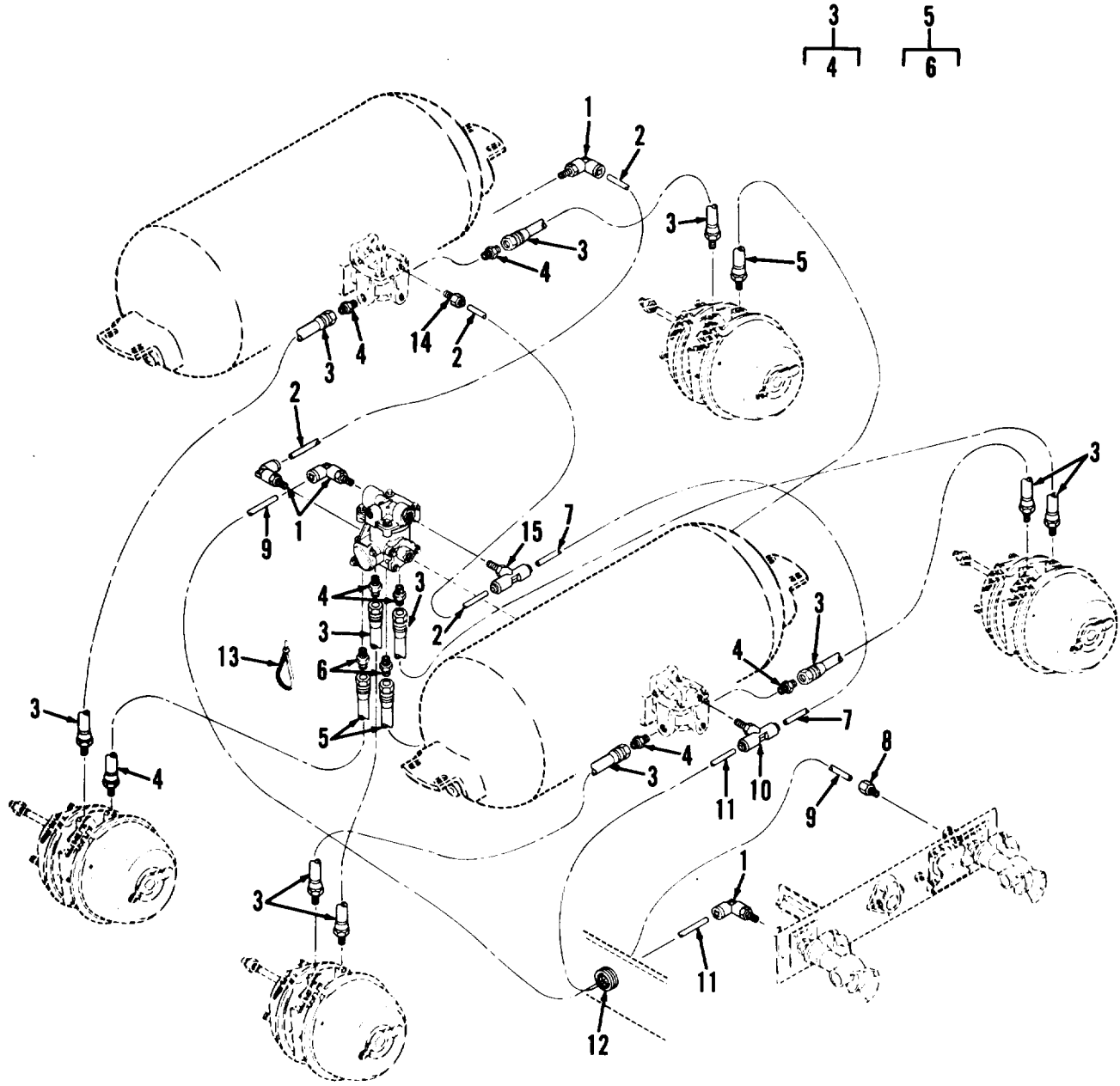


Figure 11. Air Lines and Fittings

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIR BRAKE SYSTEM	
				FIG. 11 AIR LINES AND FITTINGS	
1	PAOZZ	58755	3109-60-18	ELBOW,SWIVEL,PIPE TO	4
2	MOOZZ	8S867	BRKTUBE1	TUBING,PLASTIC 3/8 X 80 IN.LONG, MAKE FROM TUBING,PN C0606B	2
3	PAOZZ	58429	62X3542	HOSE ASSEMBLY,NONME	6
4	XAOZZ	58429	6-A-6	ADAPTER,STRAIGHT	1
5	PAOZZ	58429	62X3572	HOSE ASSEMBLY,NONME	2
6	XAOZZ	58429	6-A-6	ADAPTER,STRAIGHT	1
7	MOOZZ	8S867	BRKTUBE3	TUBING,PLASTIC 3/8 X 36 IN.LONG, MAKE FROM TUBING,PN C0606B	1
8	PAOZZ	58755	3115-60-18	ADAPTER,STRAIGHT,TU	1
9	MOOZZ	8S867	BRKTUBE2	TUBING,PLASTIC 3/8 X 300 IN.LONG, MAKE FROM TUBING,PN C0606B	1
10	PAOZZ	58755	3108-60-14	TEE,TUBE	1
11	MOOZZ	8S867	BRKTUBE4	TUBING,PLASTIC 3/8 X 282 IN.LONG, MAKE FROM TUBING,PN C0606B	1
12	PAOZZ	96906	MS35489-110	GROMMET,NONMETALLIC	2
13	PAOZZ	20999	6225	STRAP,TIEDOWN,ELECT	5
14	PAOZZ	58755	3115-60-14	ADAPTER,STRAIGHT,TU	1
15	PAOZZ	58755	3108-60-18	TEE,TUBE TO HOSE	1
				END OF FIGURE	

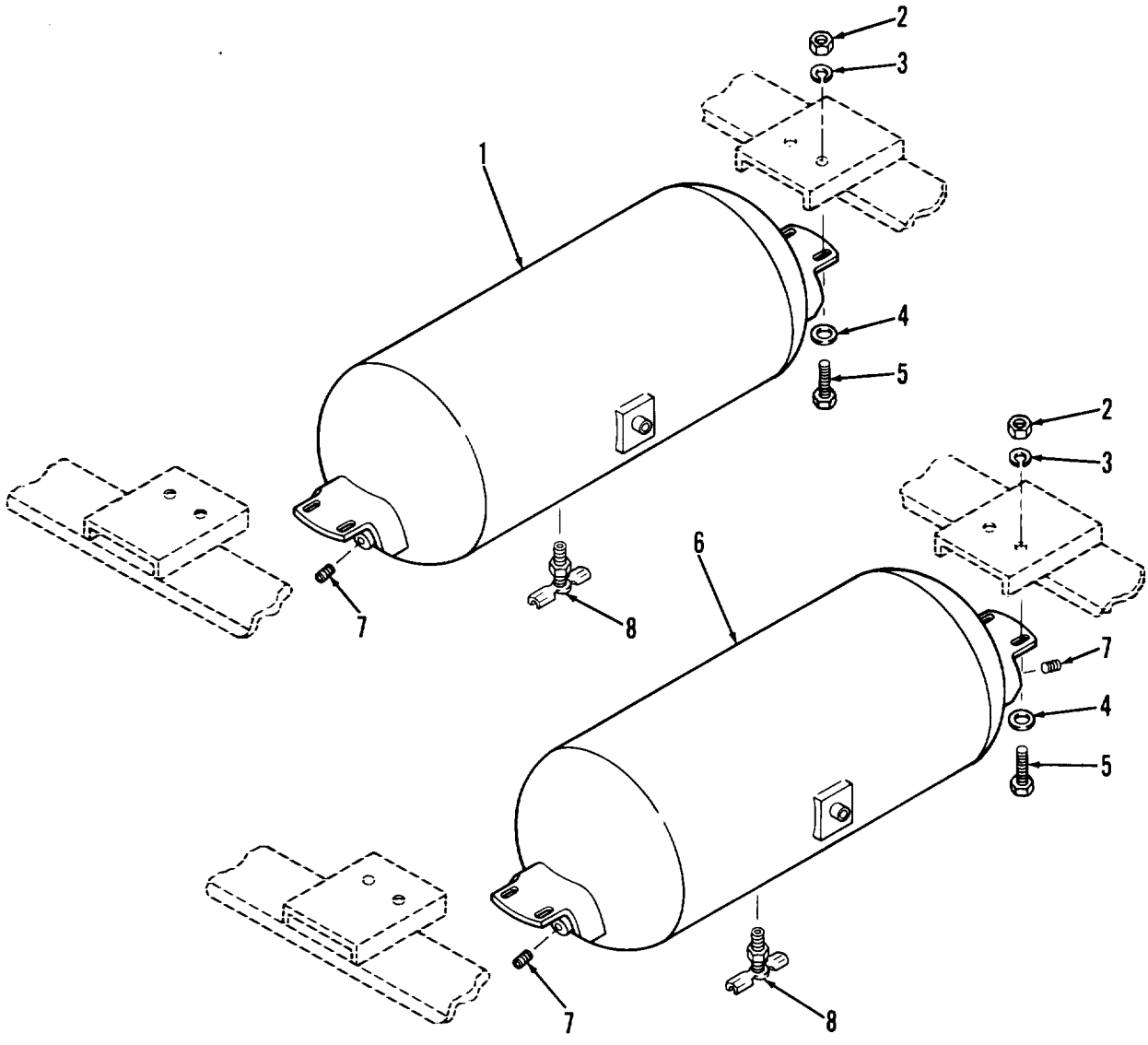


Figure 12. Air Reservoirs

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIR BRAKE SYSTEM	
				FIG. 12 AIR RESERVOIRS	
1	PFOZZ	62173	9523	TANK,PRESSURE	1
2	PAOZZ	39428	90490A031	NUT,PLAIN,HEXAGON	8
3	PAOZZ	96906	MS35338-46	WASHER,LOCK	8
4	PAOZZ	96906	MS27183-15	WASHER,FLAT	8
5	PAOZZ	96906	MS90728-64	SCREW,CAP,HEXAGON H	8
6	PFOZZ	62173	9515	TANK,PRESSURE	1
7	PAOZZ	39428	4554K13	PLUG,PIPE	3
8	PAOZZ	06721	10713	COCK,DRAIN	2
				END OF FIGURE	

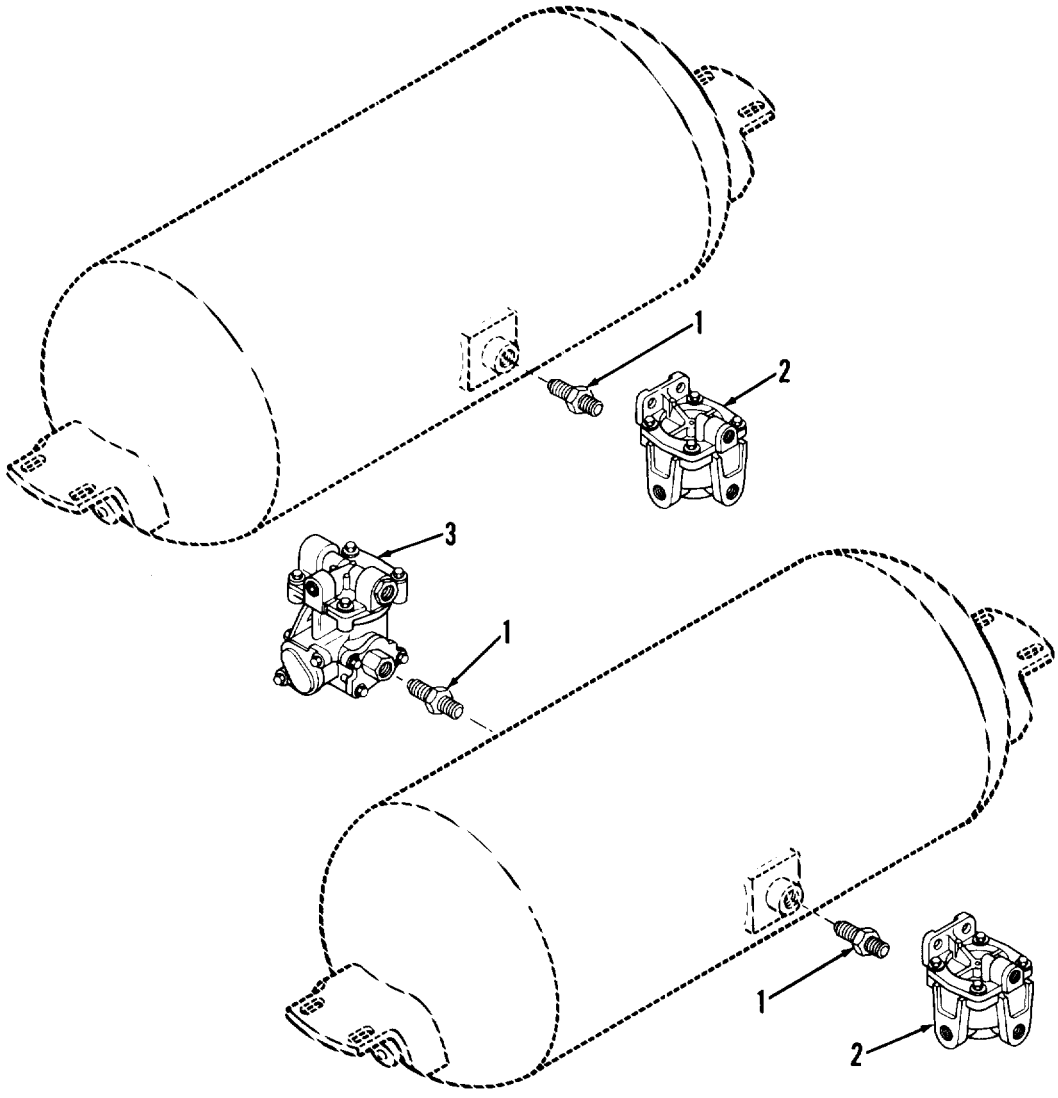


Figure 13. Emergency Relay and Multi-function Valves

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIR BRAKE SYSTEM	
				FIG. 13 EMERGENCY RELAY AND MULTI-FUNCTION VALVES	
1	PAOZZ	30780	12FFB	NIPPLE,PIPE	3
2	PAOZZ	06721	N30108AK	VALVE,RELAY,AIR PRE	2
3	PAOZZ	06721	N4302A	VALVE,RELAY,AIR PRE	1
				END OF FIGURE	

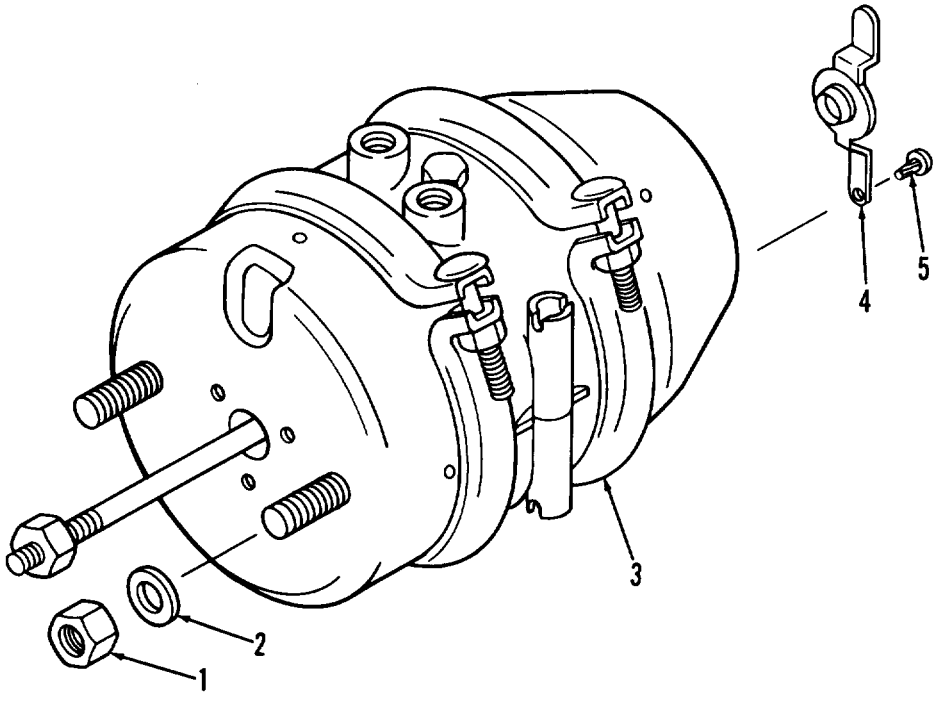


Figure 14. Spring Brake Chamber

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIR BRAKE SYSTEM	
				FIG. 14 SPRING BRAKE CHAMBER	
1	PAOZZ	56878	31FAF-1011	NUT,SELF-LOCKING,HE	4
2	PAOZZ	78500	1229U1503Z	WASHER,FLAT	4
3	PAOZZ	4B100	3130300	CHAMBER,AIR BRAKE	2
4	KFOZZ	4B100	8019011	CAP,DUST,PLASTIC PART OF KIT P/N 9019002	1
5	KFOZZ	4B100	8120007	SCREW,ROUND HEAD PART OF KIT P/N 9019002	1
				END OF FIGURE	

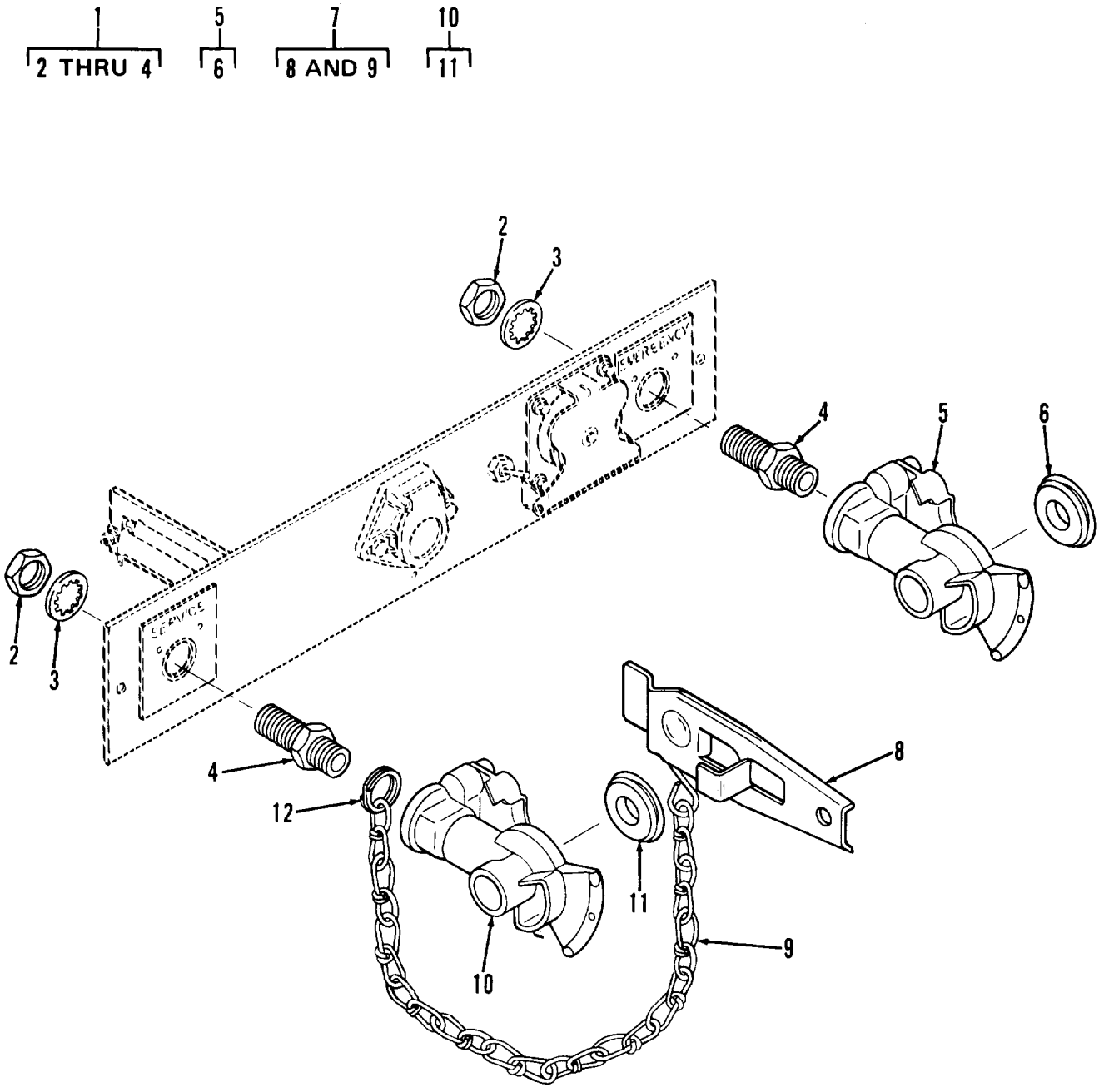


Figure 15. Air Couplings (Gladhands)

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIR BRAKE SYSTEM	
				FIG. 15 AIR COUPLINGS	
1	PFOOO	79146	035079	BUSHING,PIPE	2
2	PAOZZ	79146	035023	NUT,PLAIN,HEXAGON	1
3	PAOZZ	79146	035024	WASHER,LOCK	1
4	PAOZZ	79146	035080	CLAMPING,STUD	1
5	PAOZZ	98343	10451E	COUPLING HALF,QUICK	1
6	PCOZZ	98343	1509	PACKING,PREFORMED	1
7	PAOOO	19207	7338409	DUMMY COUPLING,AUTO	2
8	XAOZZ	06721	N-20071	DUMMY COUPLING,AUTO	1
9	PFOZZ	06721	N-13047	CHAIN,WELDLESS	1
10	PAOZZ	98343	10452S	COUPLING HALF,QUICK	1
11	PCOZZ	98343	1509	PACKING,PREFORMED	1
12	PAOZZ	39428	90177A219	HOLDER,KEY	2
				END OF FIGURE	

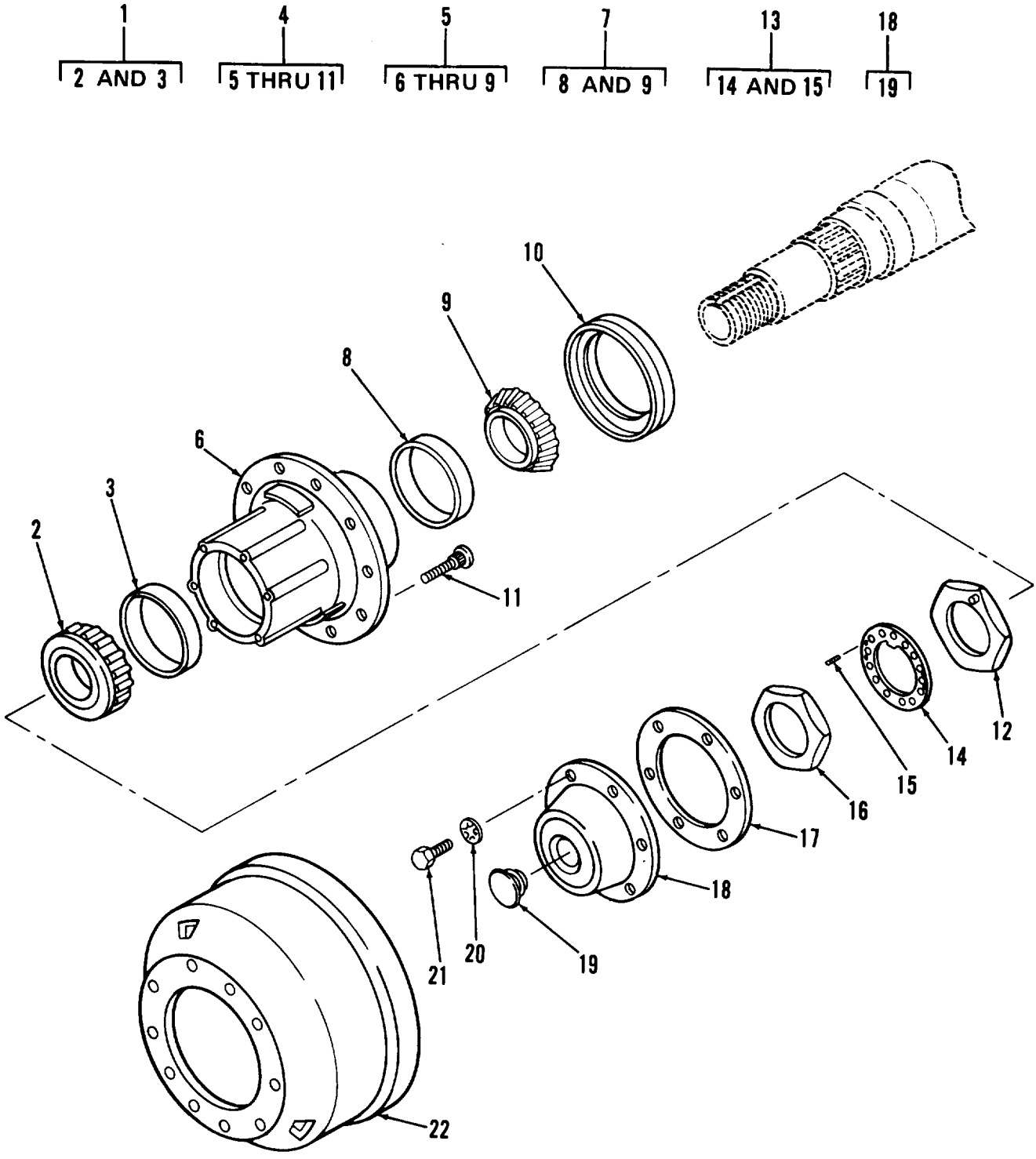


Figure 16. Hub and Drum

(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	
				GROUP 1311 WHEEL ASSEMBLY	
				FIG. 16 HUB AND DRUM	
1	PAOZZ	96906	MS19081-113	BEARING,ROLLER,TAPE	2
2	XA0ZZ	60038	HM212049	CONE AND ROLLERS,TA	1
3	XAOZZ	60038	HM212011	CUP,TAPERED ROLLER	1
4	PBOOO	78500	HTQF-00T-24	HUB,WHEEL,VEHICULAR RIGHT HAND	1
4	PBOOO	78500	HTQF-00T-23	HUB,WHEEL,VEHICULAR LEFT HAND	1
5	PAOOO	78500	A333-A-3589	HUB AND CUP ASSEMBL	1
6	XAOZZ	78500	333-A-3589	HUB	1
7	PAOZZ	96906	MS19081-283	BEARING,ROLLER,TAPE	1
8	XAOZZ	60038	HM218210	CUP,TAPERED ROLLER	1
9	XAOZZ	60038	HM218248	CONE AND ROLLERS,TA	1
10	POOZZ	78500	1205-P-1212	SEAL,PLAIN	1
11	PAOZZ	78500	20X2088	STUD,SHOULDERED RIGHT HAND	10
11	PAOZZ	78500	20X2089	STUD,SHOULDERED LEFT HAND	10
12	PAOZZ	78500	1227C549	NUT,INNER WHEEL BEA	2
13	PAOZZ	78500	A1229-W-2545	WASHER ASSY,LOCK	2
14	PAOZZ	78500	1229W2545	WASHER,LOCK	1
15	PAOZZ	78500	1199-K-3859	SETSCREW	1
16	PAOZZ	78500	1227-B-756	NUT,PLAIN,HEXAGON	2
17	PAOZZ	78500	2208N430	GASKET	2
18	PAOOO	78500	A3262-H-398	CAP,PROTECTIVE,DUST	2
19	PAOZZ	06721	401199P	PLUG,PROTECTIVE,DUS	1
20	PAOZZ	78500	1229-J-1570	WASHER,SLOTTED	12
21	PAOZZ	78500	S255C	SCREW,CAP	12
22	PFOFF	78500	3219-X-4860	BRAKE DRUM	2
				END OF FIGURE	

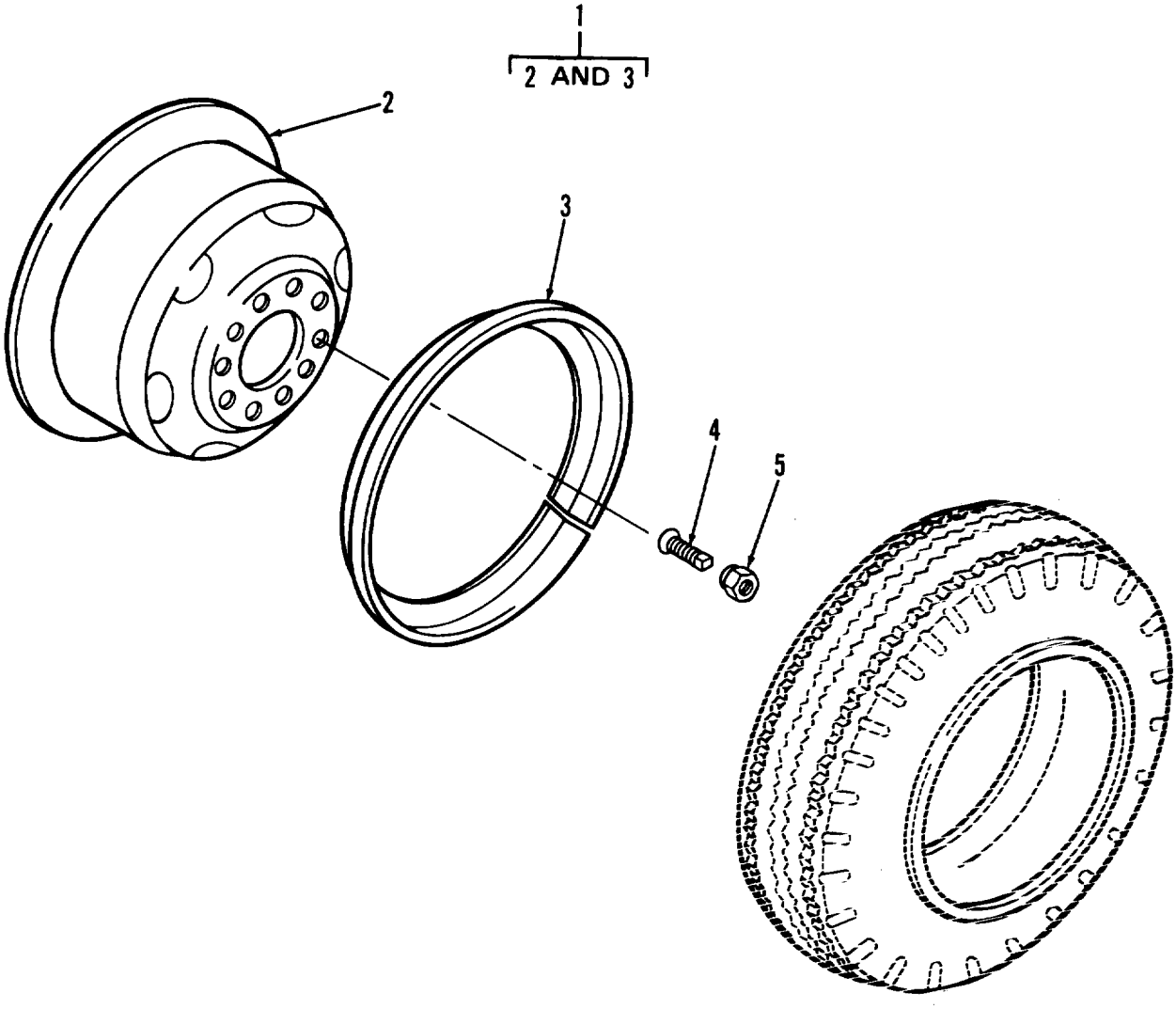


Figure 17. Wheel Assembly

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1311 WHEEL ASSEMBLY	
				FIG. 17 WHEEL ASSEMBLY	
1	PFOOZ	96906	MS53044-6	WHEEL,PNEUMATIC TIR	9
2	PAOZZ	19207	7389493	WHEEL,PNEUMATIC TIR	1
3	PAOZZ	19207	7389061	RING,SIDE,AUTOMOTIV	1
4	PAOZZ	78500	1199J114	NUT CAP ASSEMBLY RIGHT HAND	20
4	PAOZZ	96906	MS53068-1	NUT,CAP,DUAL WHEEL LEFT HAND	20
5	PAOZZ	78500	1199N118	NUT,CAP OUTER RIGHT HAND	20
5	PAOZZ	96906	MS51983-3	NUT,PLAIN,SINGLE BA LEFT HAND	20
				END OF FIGURE	

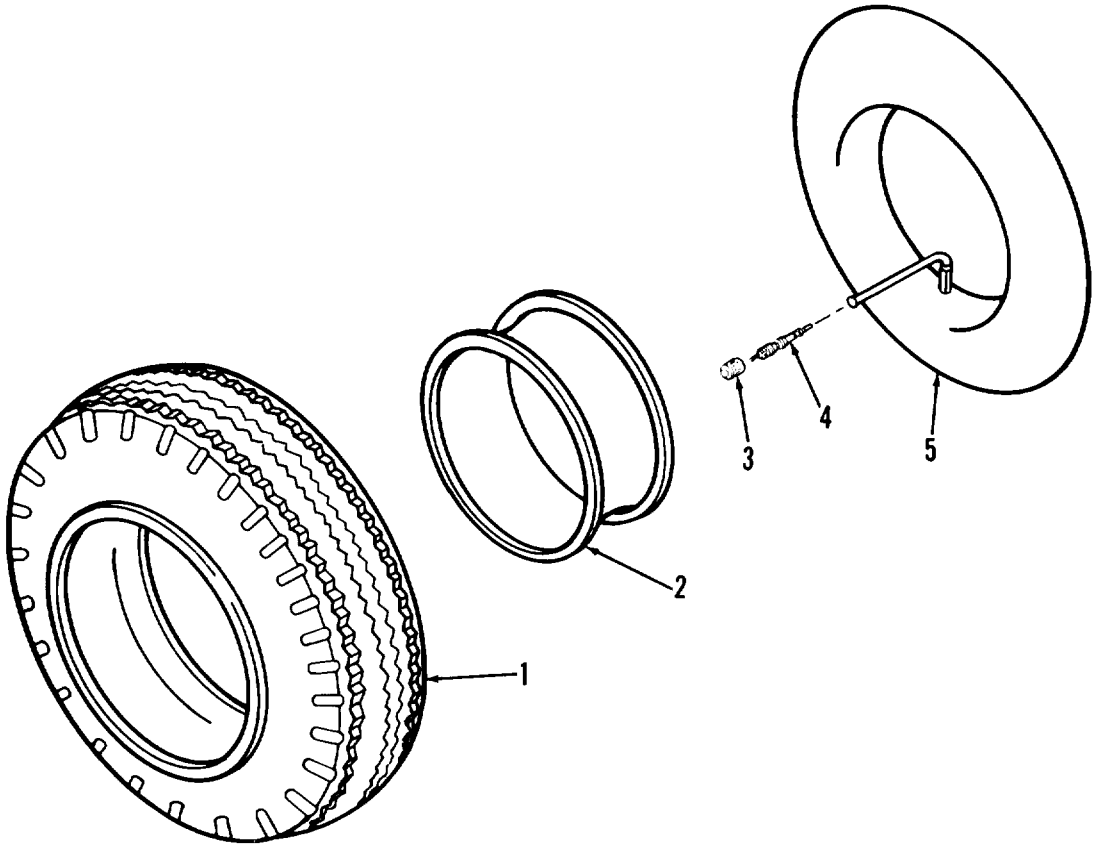


Figure 18. Tire and Tube

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1313 TIRES AND TUBES	
				FIG. 18 TIRE AND TUBE	
1	PAOZH	19200	12009347	TIRE,PNEUMATIC	1
2	POOZZ	19200	12009349	FLAP,INNER TUBE,PNE	1
3	PAOZZ	17875	627	CAP,PNEUMATIC VALVE	1
4	PAOZZ	17875	100HA	VALVE CORE	1
5	POOOZ	81348	11.00R20/GP2/TR7 8A/ON CENTER	INNER TUBE,PNEUMATI	1
				END OF FIGURE	

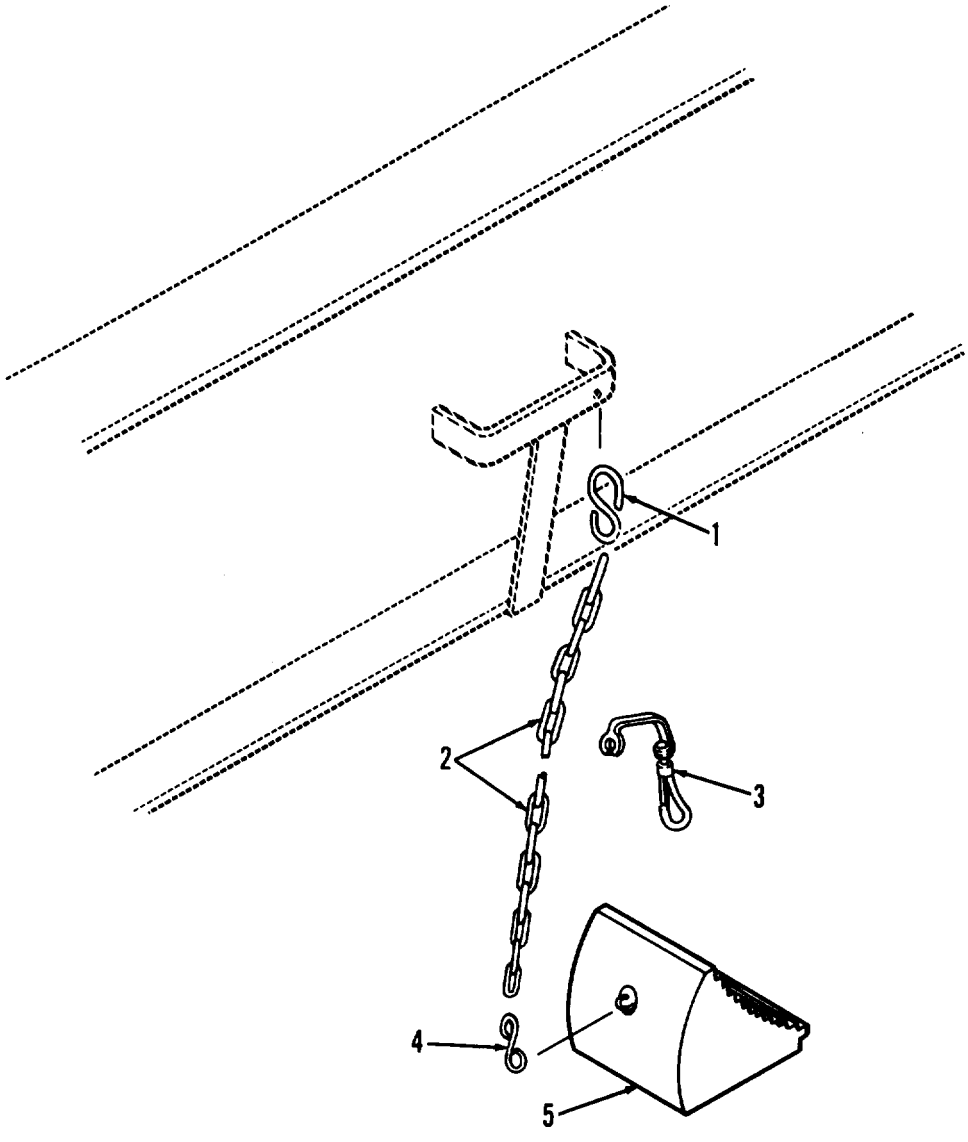


Figure 19. Wheel Chock

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 15 FRAME, TOWING ATTACHMENTS	
				GROUP 1501 FRAME ASSEMBLY	
				FIG. 19 WHEEL CHOCK	
1	PAOZZ	80120	498	HOOK,S-	4
2	MOOZZ	8S867	CHAIN2	CHAIN,WELDED 42 INCHES LONG,MAKE FROM CHAIN,PN 8962T16	4
3	PAOZA	39428	3922T14	SNAP HOOK	4
4	PAOZZ	94189	10555	HOOK,CHAIN,S	4
5	PAOZZ	3B938	RC-8874	CHOCK,WHEEL-TRACK	4
				END OF FIGURE	

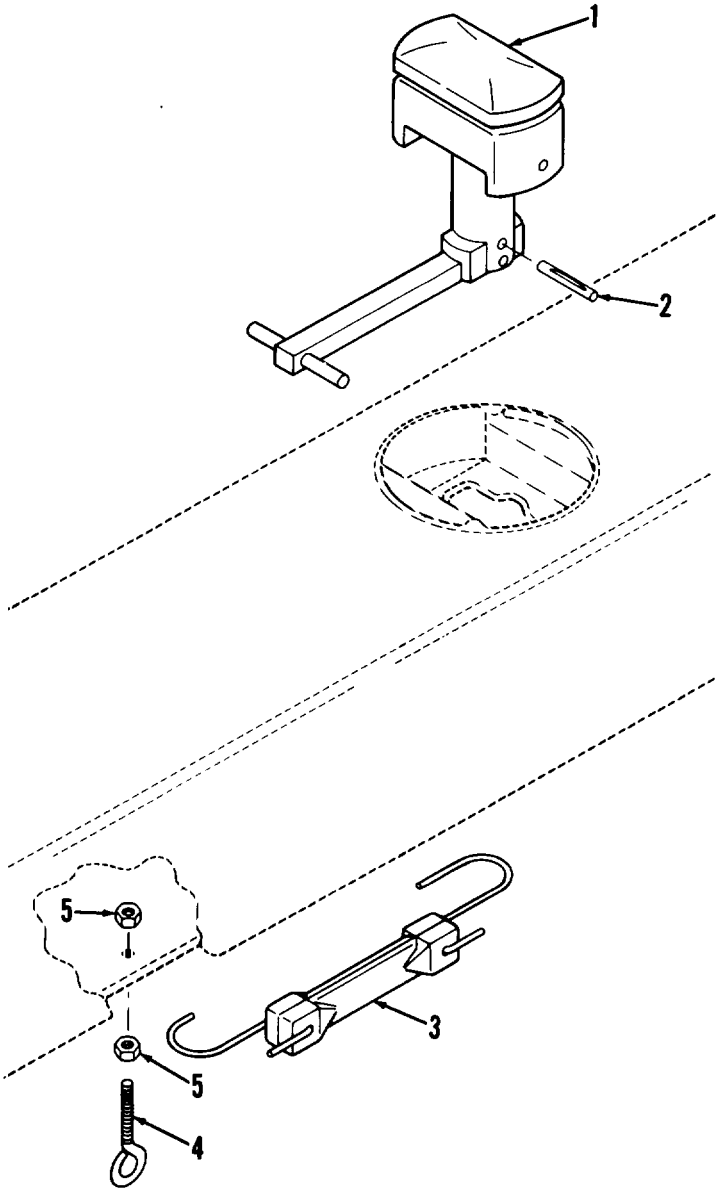


Figure 20. Retractable Twist Lock

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1501 FRAME ASSEMBLY	
				FIG. 20 RETRACTABLE TWIST LOCK	
1	PAOZF	94658	F804-1	TWIST LOCK ASSEMBLY	4
2	XAOZZ	94658	1/4X1-3/4	PIN,GROOVED,HEADLES	1
3	PAOZZ	8S867	6	STRAP,ELASTIC	4
4	PAOZZ	39428	9489T13	BOLT,EYE	4
5	PAOZZ	39428	90480A011	NUT,PLAIN,HEXAGON	8
				END OF FIGURE	

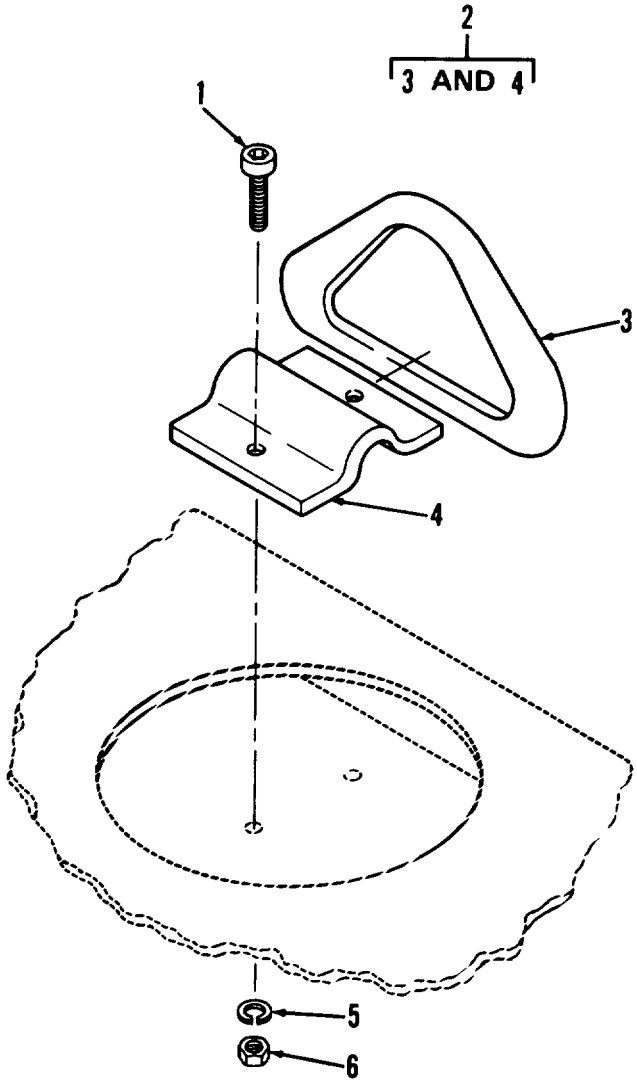


Figure 21. Tiedown Ring

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1501 FRAME ASSEMBLY	
				FIG. 21 TIEDOWN RING	
1	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON H	20
2	PAOZO	94658	F187-6/8	RING,DEE	10
3	XAOZZ	94658	F187-6	RING,DEE	1
4	XAOZZ	94658	F187-8	STRAP,D-RING	1
5	PAOZZ	96906	MS35340-48	WASHER,LOCK	20
6	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	20
				END OF FIGURE	

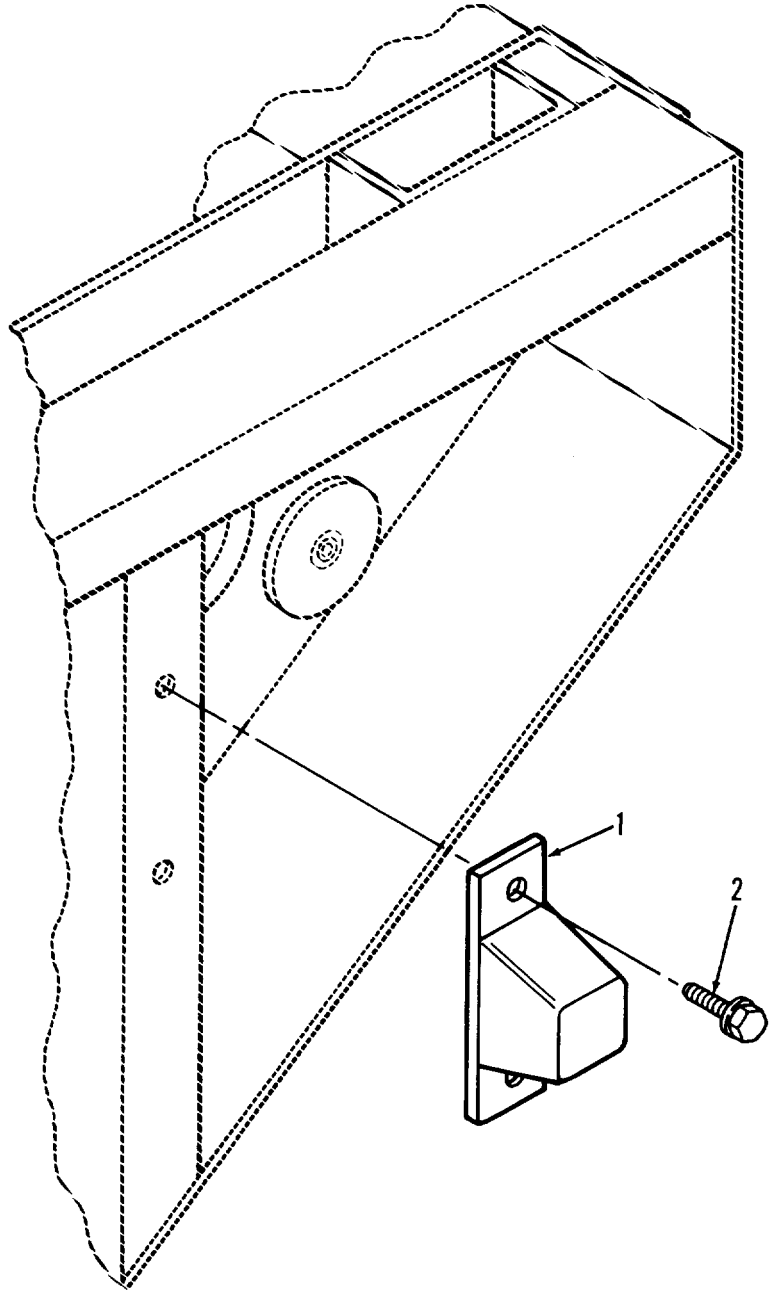


Figure 22. Dock Bumper

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1501 FRAME ASSEMBLY	
				FIG. 22 DOCK BUMPER	
1	PAOZZ	15460	71-68	BUMPER,NONMETALLIC	4
2	PAOZZ	39428	90822A610	SCREW,SELF-DRILLING	8
				END OF FIGURE	

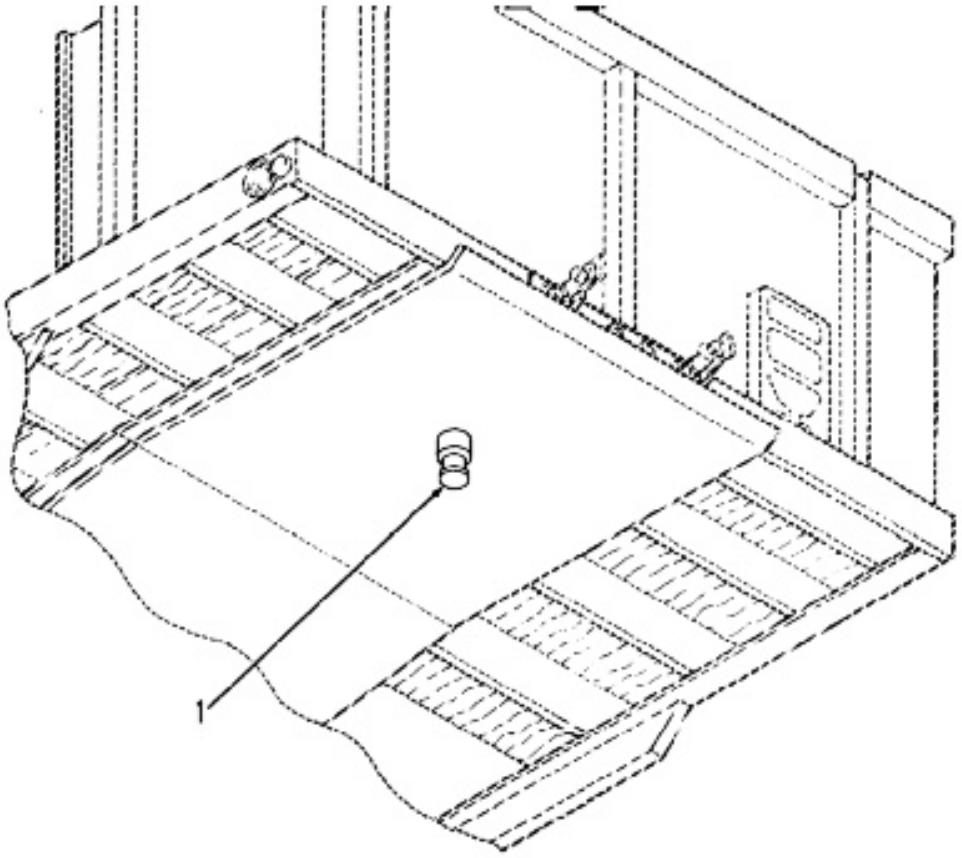


Figure 23. Kingpin

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1503 PINTLES AND TOWING ATTACHMENTS	
				FIG. 23 KINGPIN	
1	PBHZZ	74410	KP-T-809-F	KINGPIN,FIFTH WHEEL	1
				END OF FIGURE	

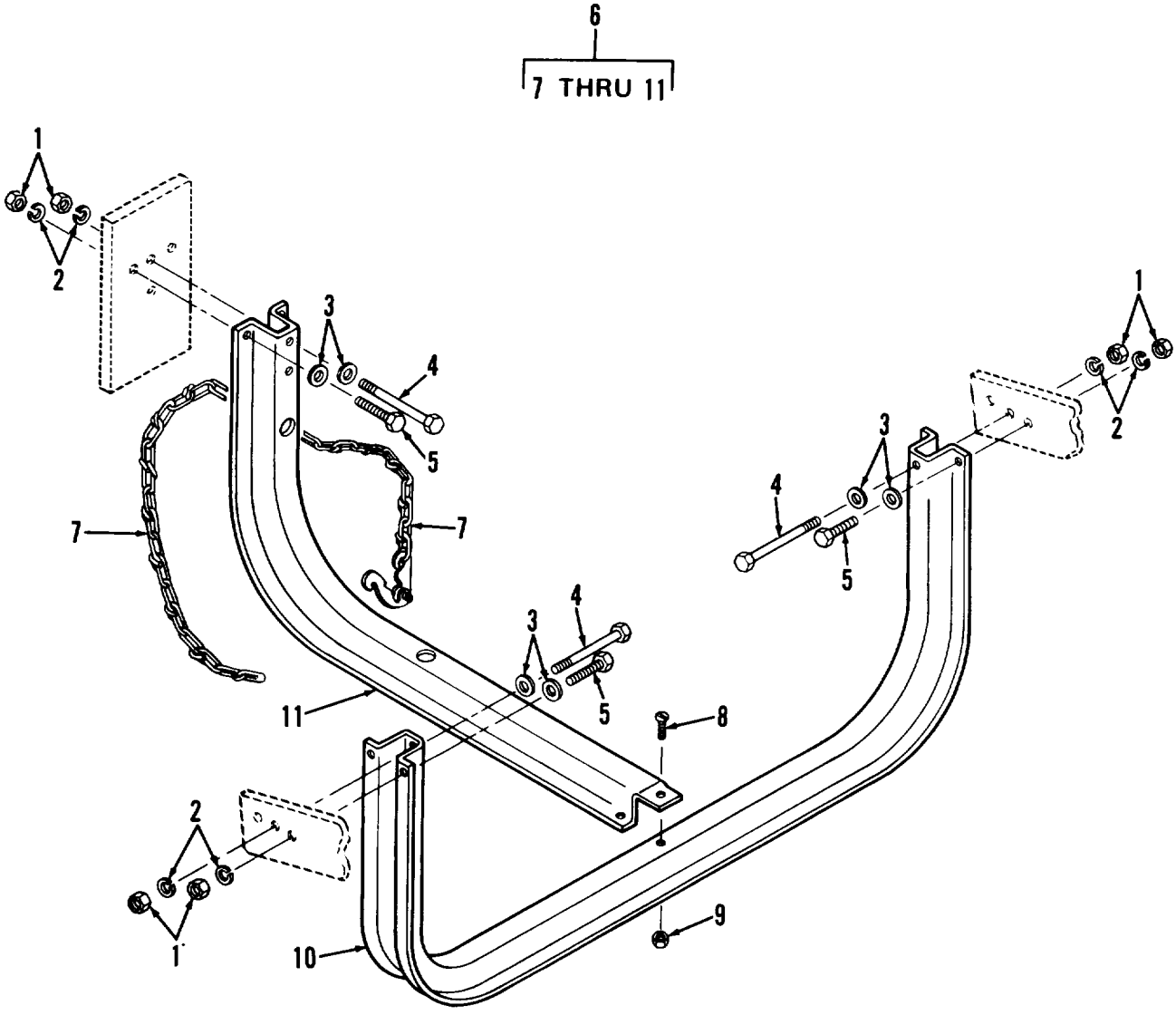


Figure 24. Spare Tire Carrier

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1504 SPARE TIRE CARRIER	
				FIG. 24 SPARE TIRE CARRIER	
1	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	9
2	PAOZZ	96906	MS35338-46	WASHER,LOCK	9
3	PAOZZ	96906	MS27183-15	WASHER,FLAT	9
4	PAOZZ	96906	MS90728-70	SCREW,CAP,HEXAGON H	3
5	PAOZZ	96906	MS90728-60	SCREW,CAP,HEXAGON H	6
6	PAOOZ	99411	TS0002	CARRIER ASSEMBLY,TI	1
7	KFOZZ	99411	PP0033-53	CHAIN AND SNAP ASSE PART OF KIT P/N CP3473	1
8	KFOZZ	99411	PP0004-19	SCREW,MACHINE,ROUND PART OF KIT P/N CP3473	3
9	PFOZZ	24617	9422277	NUT,SELF-LOCKING,HE PART OF KIT P/N CP3473	3
10	XAOZZ	99411	TS0013	FRAME,U	1
11	XAOZZ	99411	CP0540	FRAME,REAR	1
				END OF FIGURE	

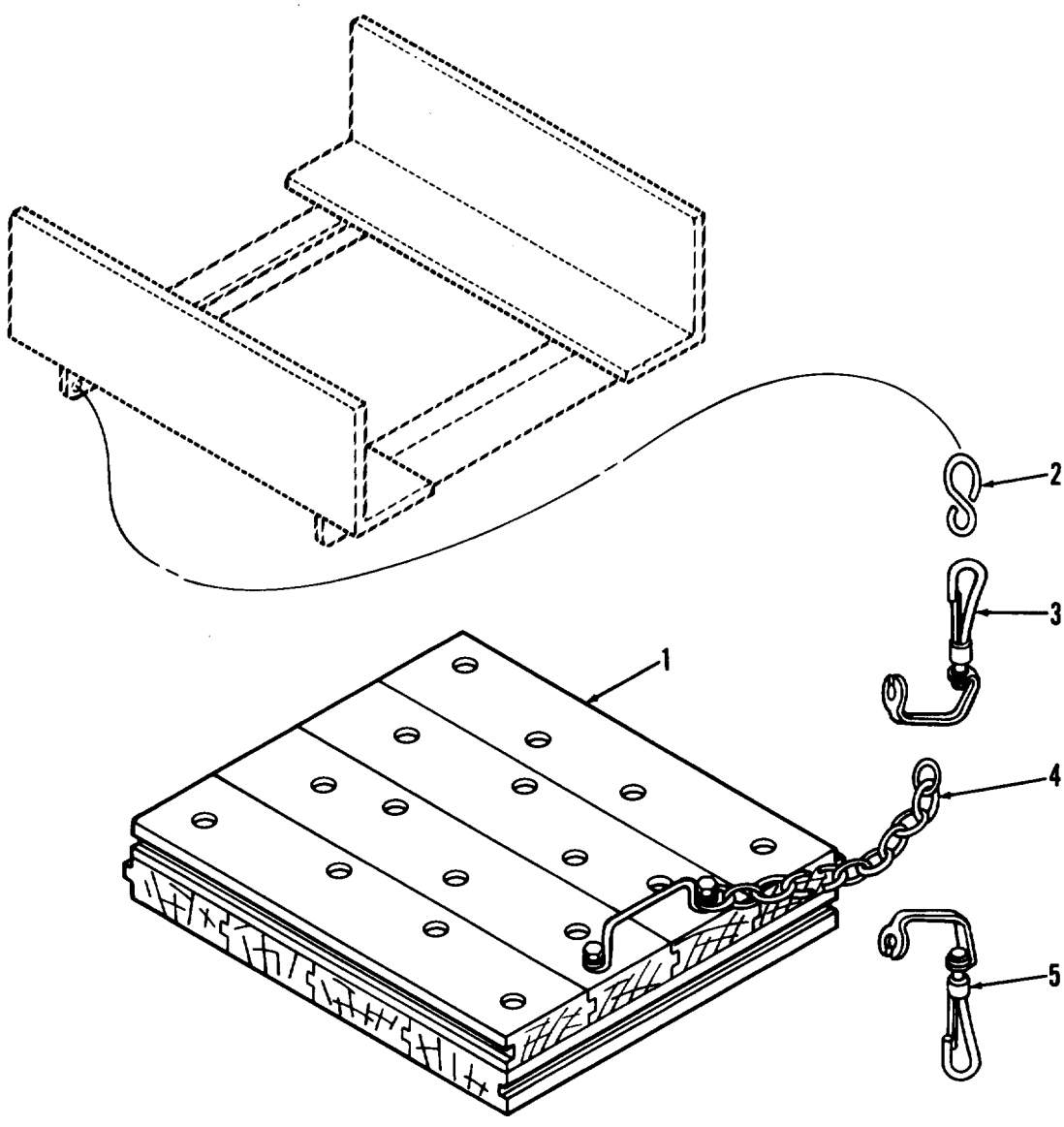


Figure 25. Ground Board Assembly

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR	
				FIG. 25 GROUND BOARD ASSEMBLY	
1	PAOZZ	19207	7417585	BOARD GROUND JACK	2
2	PAOZZ	80120	498	HOOK,S-	2
3	PAOZA	39428	3922T14	SNAP HOOK (BOX SIDE ONLY)	1
4	MOOZZ	8S867	CHAIN1	CHAIN,WELDED 50 INCHES LONG,MAKE FROM CHAIN,PN 8962T16	2
5	PAOZA	39428	3922T14	SNAP HOOK	2
				END OF FIGURE	

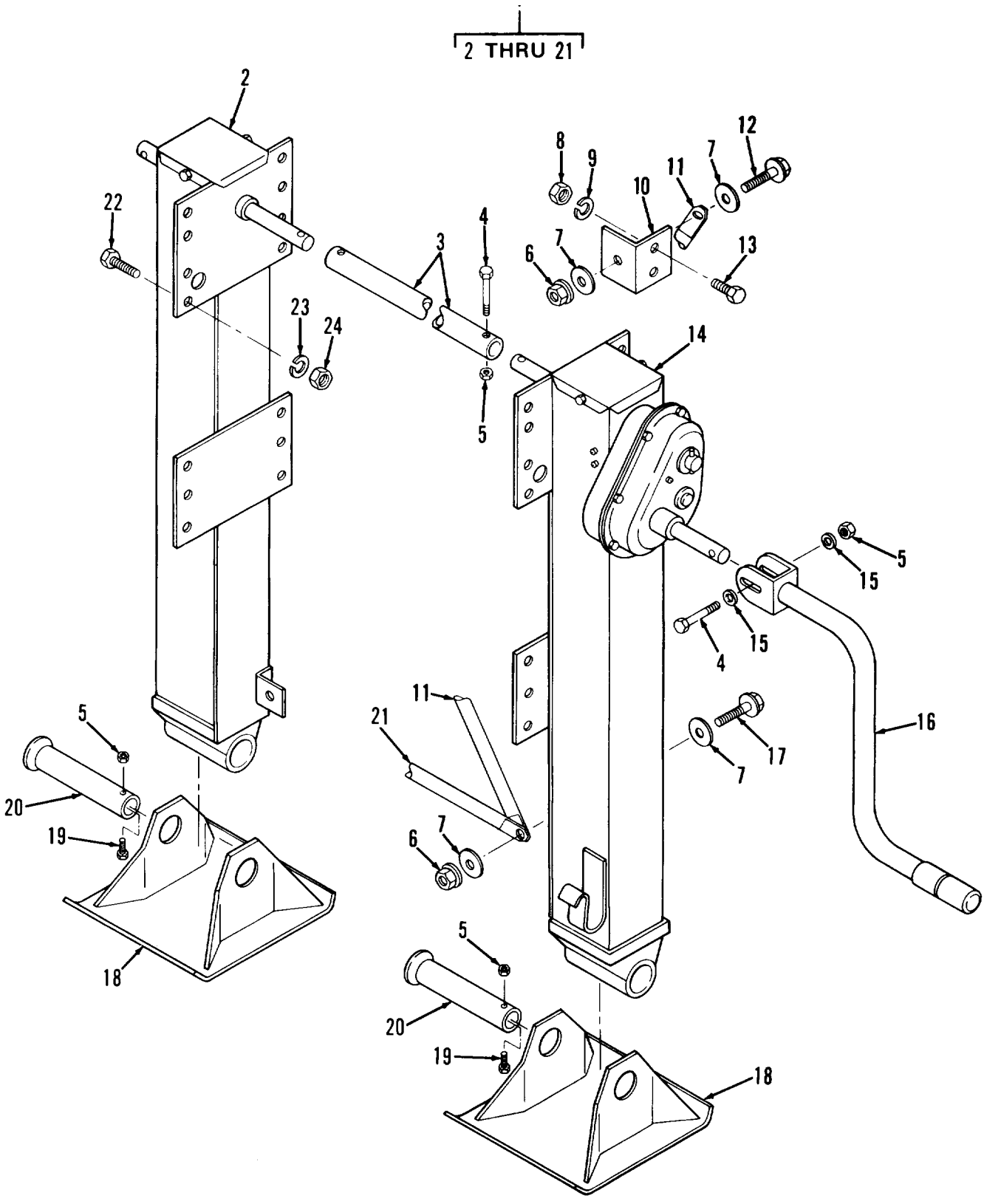


Figure 26. Landing Gear

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR	
				FIG. 26 LANDING GEAR	
1	PBOOO	8S867	LG4423-90DY	SUPPORT,RETRACTABLE	1
2	PFOZZ	8S867	LG4000-91DY	LEG,SEMITRAILER RET	1
3	PFOZZ	99411	LG0094	AXLE,STRAIGHT	1
4	PAOZZ	96906	MS90725-67	SCREW,CAP,HEXAGON H	3
5	PAOZZ	24617	9422277	NUT,SELF-LOCKING,HE	5
6	PAOZZ	8S867	HFJN5/8	NUT,JAM,HEX FLANGED	4
7	PAOZZ	96906	MS27183-22	WASHER,FLAT	8
8	PAOZZ	96906	MS51967-14	NUT,PLAIN,HEXAGON	4
9	PAOZZ	96906	MS35338-67	WASHER,LOCK	4
10	PAOZZ	8S867	LGBRKT	BRACKET	2
11	PAOZZ	8S867	LGBRACE2	BRACE, TUBE	2
12	PAOZZ	8S867	HHC5/8-275	SCREW,CAP,HEXAGON H	2
13	PAOZZ	96906	MS90728-113	SCREW,CAP,HEXAGON H	4
14	PFOZZ	8S867	LG4000-92DY	LEG,SEMITRAILER RET	1
15	PAOZZ	99411	PP0016-03	WASHER,FLAT	2
16	PFOZZ	99411	LG0083-01	CRANK,HAND	1
17	PAOZZ	8S867	HHC5/8-250	SCREW,CAP,HEXAGON H	2
18	PAOZZ	99411	LG0056	SHOE,JACK SUPPORT	2
19	PAOZZ	96906	MS90725-60	SCREW,CAP,HEXAGON H	2
20	PAOZZ	99411	LG0070-02	TUBE,METALLIC	2
21	PAOZZ	8S867	LGBRACE1	BRACE, TUBE	1
22	PAOZZ	96906	MS90728-164	SCREW,CAP,HEXAGON H	28
23	PAOZZ	96906	MS35338-50	WASHER,LOCK	28
24	PAOZZ	96906	MS51967-20	NUT,PLAIN,HEXAGON	28
				END OF FIGURE	

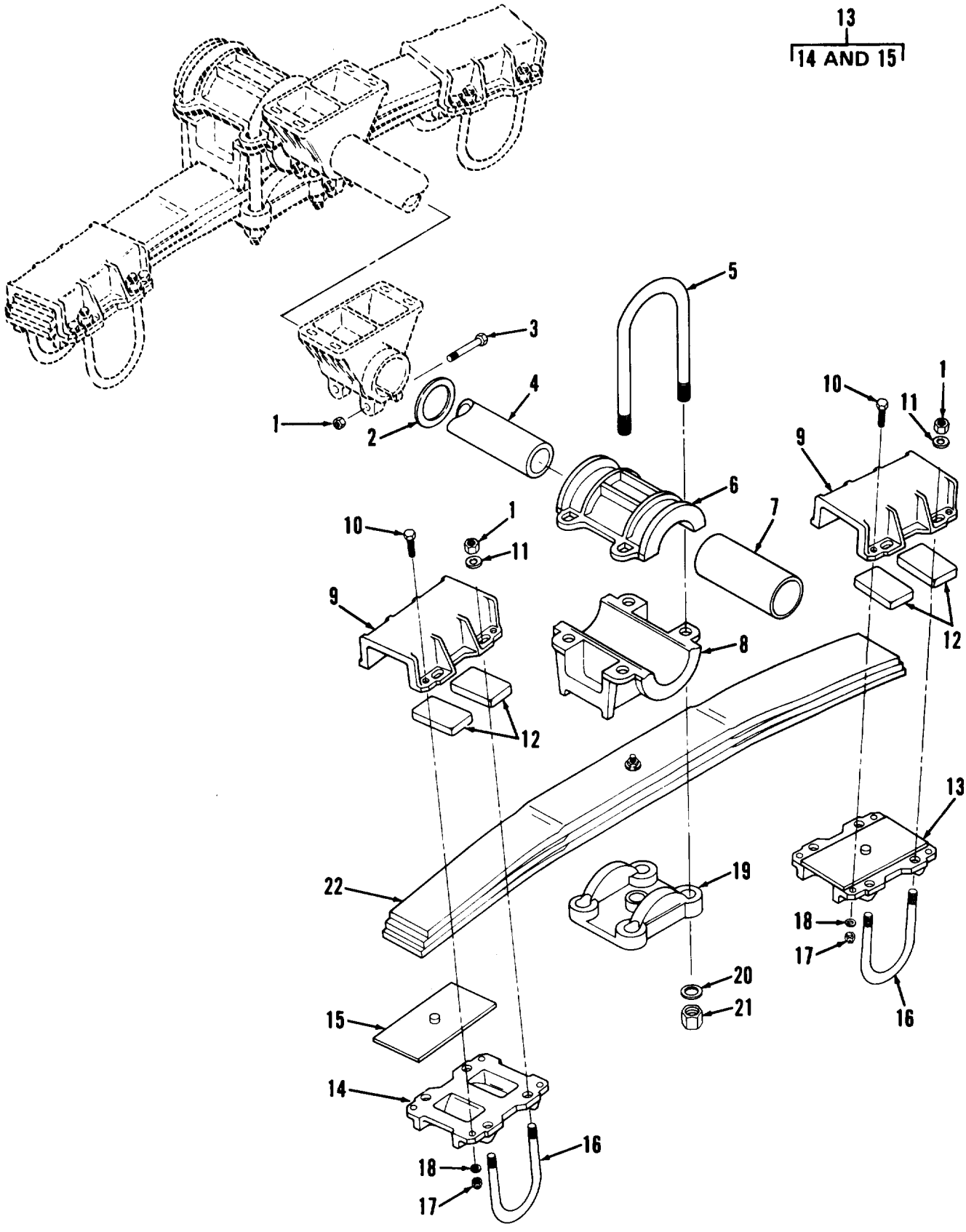


Figure 27. Suspension

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 16 SPRINGS AND SHOCK ABSSORBERS	
				GROUP 1601 SPRINGS	
				FIG. 27 SUSPENSION	
1	PAFZZ	92967	841-00	NUT,SELF-LOCKING,HE	20
2	PAFZZ	19207	12315355	WASHER,FLAT	2
3	PAFZZ	96906	MS90727-197	SCREW,CAP,HEXAGON H	4
4	PFFZZ	92967	893-05	TUBE,METALLIC	1
5	PAFZZ	92967	835-04	BOLT,U	4
6	PFFZZ	92967	892-00	HUB,BODY	2
7	PFFZZ	92967	11357-00	SPACER,SLEEVE	2
8	PFFZZ	92967	891-00	HUB TRUNNION,UPPER	2
9	PFFZZ	92967	9937-00	END CAP,SPRING	4
10	PAFZZ	96906	MS90727-164	SCREW,CAP,HEXAGON H	16
11	PAFZZ	92967	817-00	WASHER,FLAT	16
12	PFFZZ	92967	814-00	PAD,CUSHIONING	8
13	AFFFZ	19207	12315349	SEAT,LEAF SPRING	4
14	PFFZZ	92967	9934-02	SEAT,LEAF SPRING	1
15	PFFFZ	19207	12315441	PLATE,ALIGNMENT,LEA	1
16	PAFZZ	92967	10060-01	BOLT,U	8
17	PAFZZ	92967	37-03	NUT,SELF-LOCKING,HE	16
18	PAFZZ	92967	10273-00	WASHER,FLAT	16
19	PAFZZ	92967	820-00	PLATE,WEAR,LEAF SPR	2
20	PAFZZ	92967	837-00	WASHER,FLAT	8
21	PAFZZ	19207	12315614	NUT,PLAIN,HEXAGON	8
22	PFFZZ	92967	12258-01	SPRING ASSEMBLY,LEA	2
				END OF FIGURE	

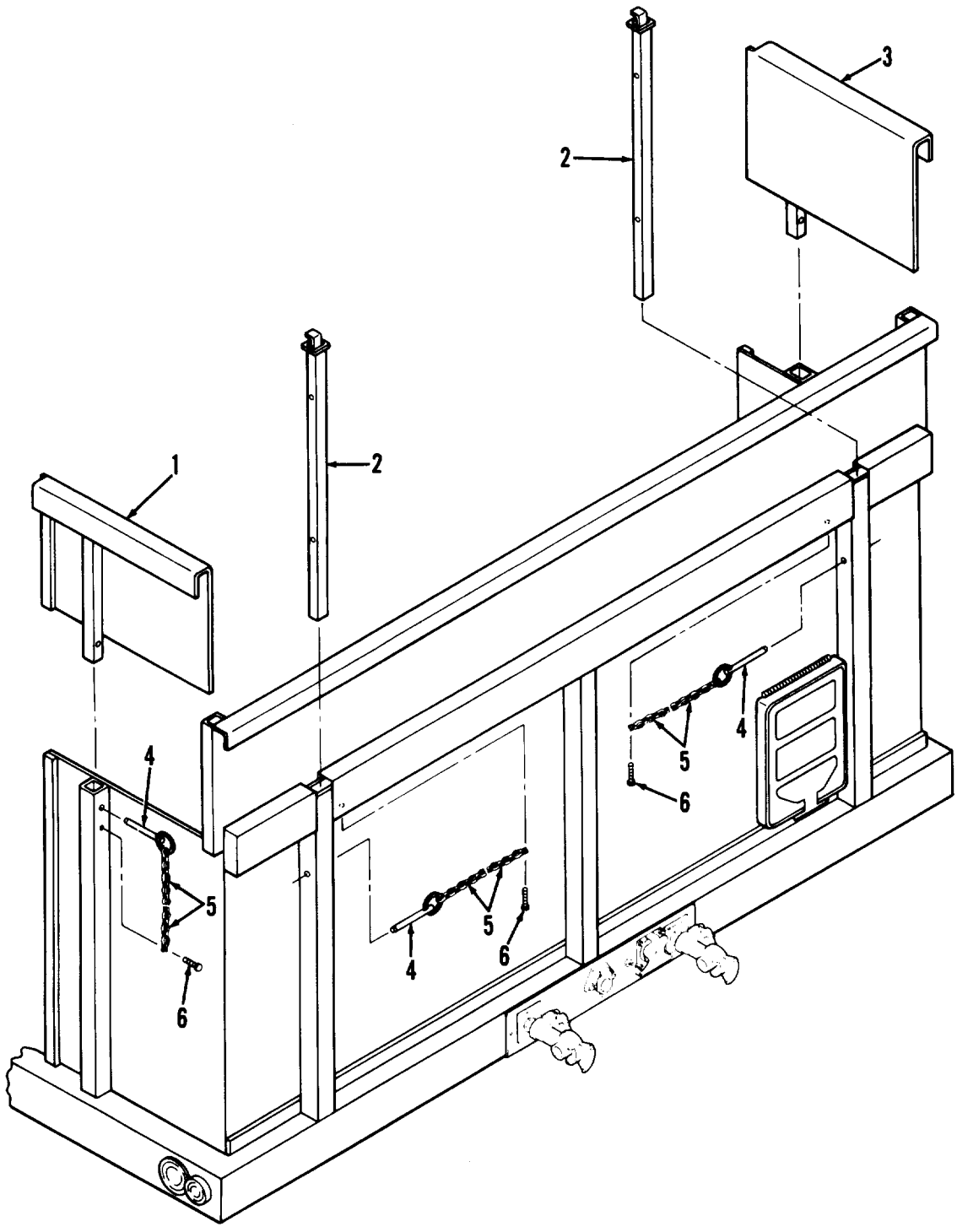


Figure 28. Bulkhead Wing Panels

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 18 BODY	
				GROUP 1801 BODY ASSEMBLIES	
				FIG. 28 BULKHEAD WING PANELS	
1	PFOZZ	8S867	BLKHD3A	WING PANEL,RIGHT	1
2	PFOZZ	8S867	BLKTBE1	TUBE ASSEMBLY,METAL	2
3	PFOZZ	8S867	BLKHD3	BULKHEAD,LEFT	1
4	PAOZZ	5P512	MRL30-21	PIN,QUICK RELEASE	4
5	MOOZZ	8S867	CHAIN6	CHAIN,SASH 6 INCHES LONG,MAKE FROM CHAIN,PN 3607T25	4
6	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	4
				END OF FIGURE	

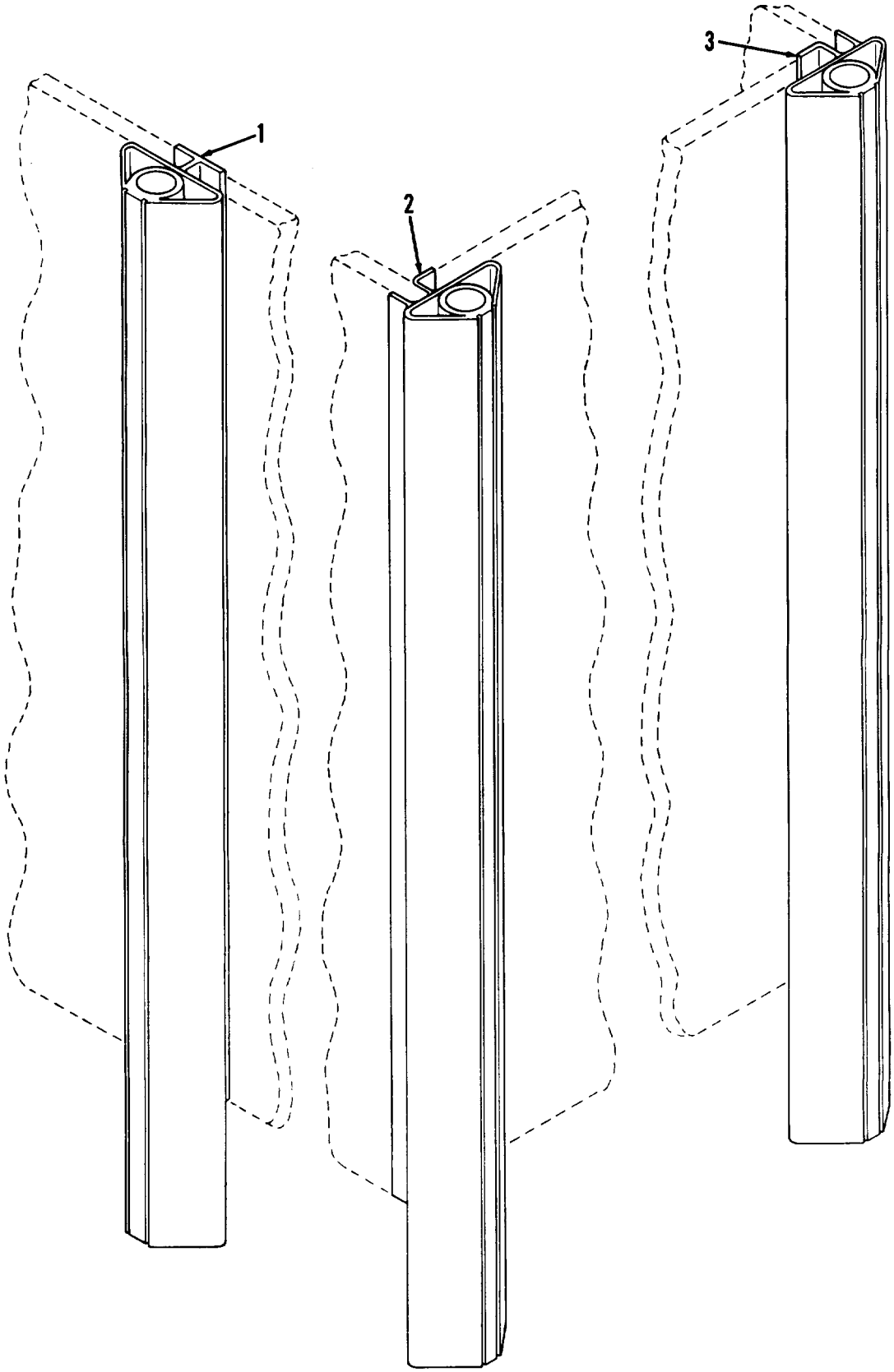


Figure 29. Corner Stakes and Panel Splice

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1801 BODY ASSEMBLIES	
				FIG. 29 CORNER STAKES AND PANEL SPLICE	
1	PAOZZ	8S867	M871STK2	STAKE,VEHICLE BODY PANEL,SPLICE	15
2	PAOZZ	8S867	M871STK3	STAKE,VEHICLE BODY LEFT REAR	1
3	PAOZZ	8S867	M871STK4	STAKE,VEHICLE BODY RIGHT REAR	1
				END OF FIGURE	

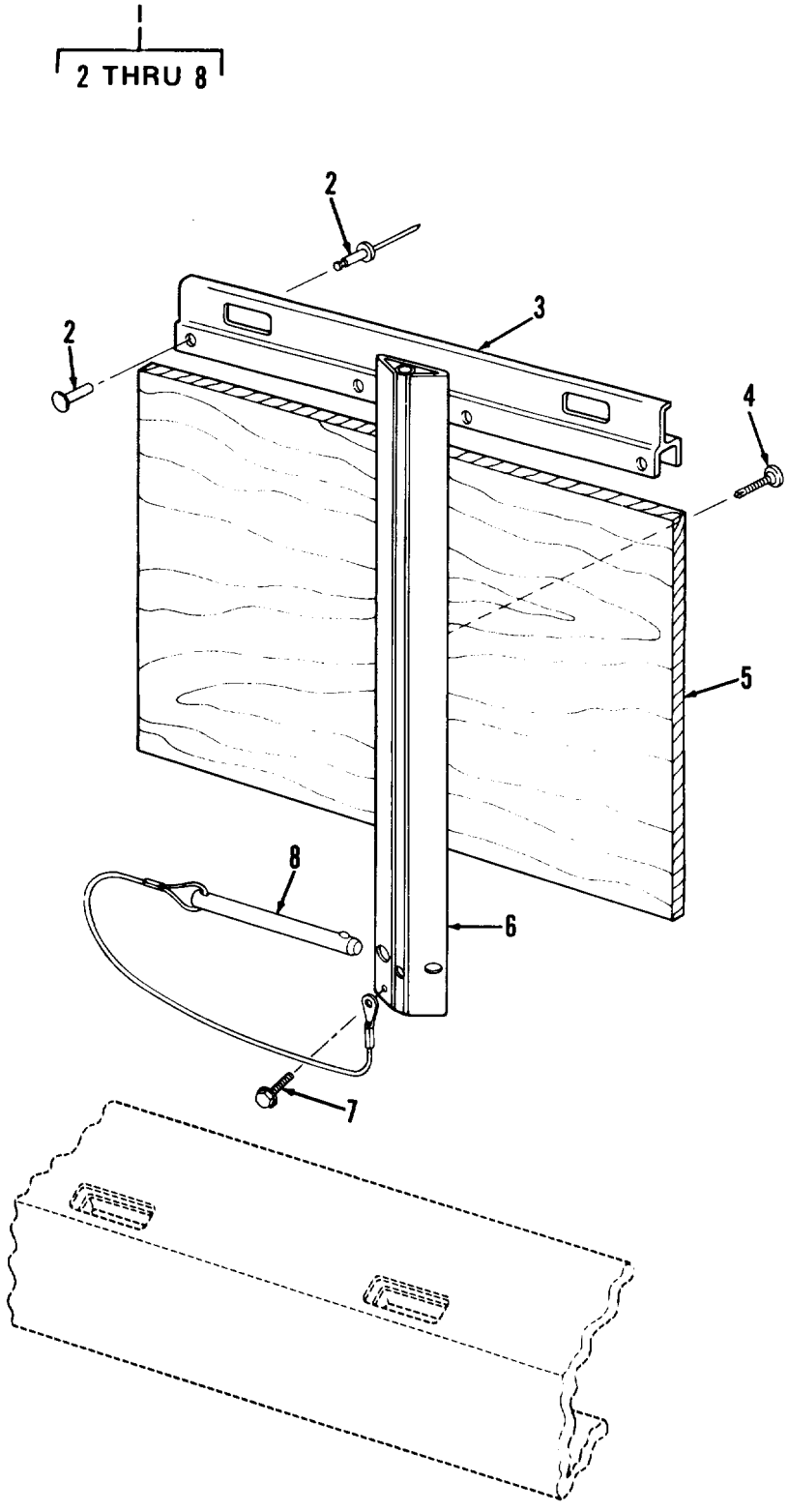


Figure 30. Side Panels

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1801 BODY ASSMBLIES	
				FIG. 30 SIDE PANELS	
1	PAOOO	8S867	M871PNL1	RACK ASSEMBLY,SIDE	14
1	PAOOO	8S867	M871PNL2	RACK ASSEMBLY,REAR	2
2	PAOZZ	39428	92352A16	RIVET,BLIND	4
3	PFOZZ	8S867	M871TR1	CHANNEL,STRUCTURAL SIDE RACK	1
3	PFOZZ	8S867	M871TR2	RAIL,TRAILER REAR RACK	1
4	PAOZZ	39428	94054A249	SCREW,SELF-DRILLING	7
5	PFOZZ	8S867	PANEL1	PLYWOOD,CONSTRUCTIO SIDE RACK	1
5	PFOZZ	8S867	PANEL2	PLYWOOD CONSTRUCTIO REAR RACK	1
6	PAOZZ	8S867	M871STK1	STAKE,VEHICLE BODY	1
7	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	1
8	PAOZZ	8S867	RKPIN	PIN,QUICK RELEASE	1
				END OF FIGURE	

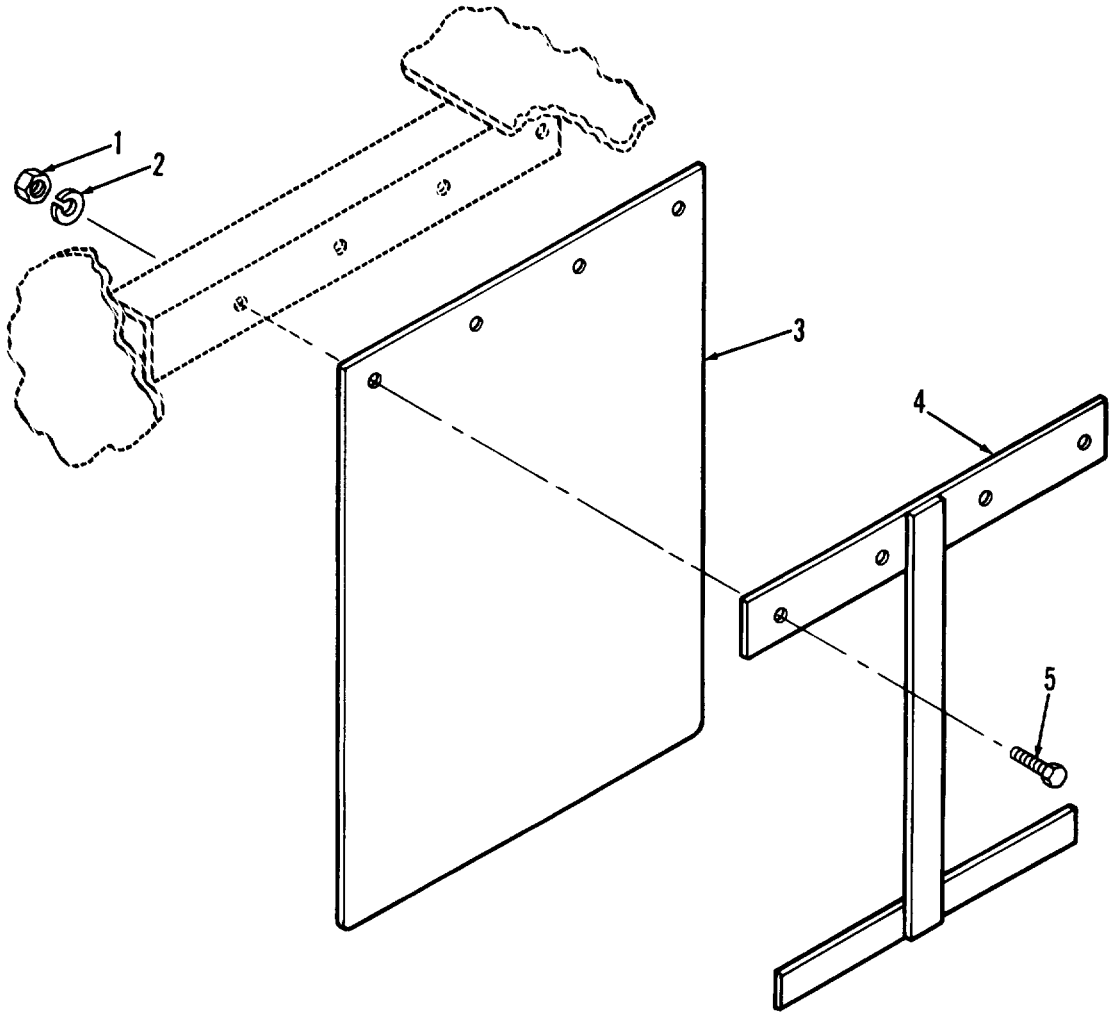


Figure 31. Mud Flaps

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1801 BODY ASSEMBLIES	
				FIG. 31 MUD FLAPS	
1	PAOZZ	24617	120376	NUT,PLAIN,HEXAGON	8
2	PAOZZ	96906	MS35338-46	WASHER,LOCK	8
3	PAOZZ	96906	MS51331-6	GUARD,SPLASH,VEHICU	2
4	PAOZZ	8S867	MFBRKT1	BRACKET,VEHICULAR C	2
5	PAOZZ	96906	MS90728-64	SCREW,CAP,HEXAGON H	8
				END OF FIGURE	

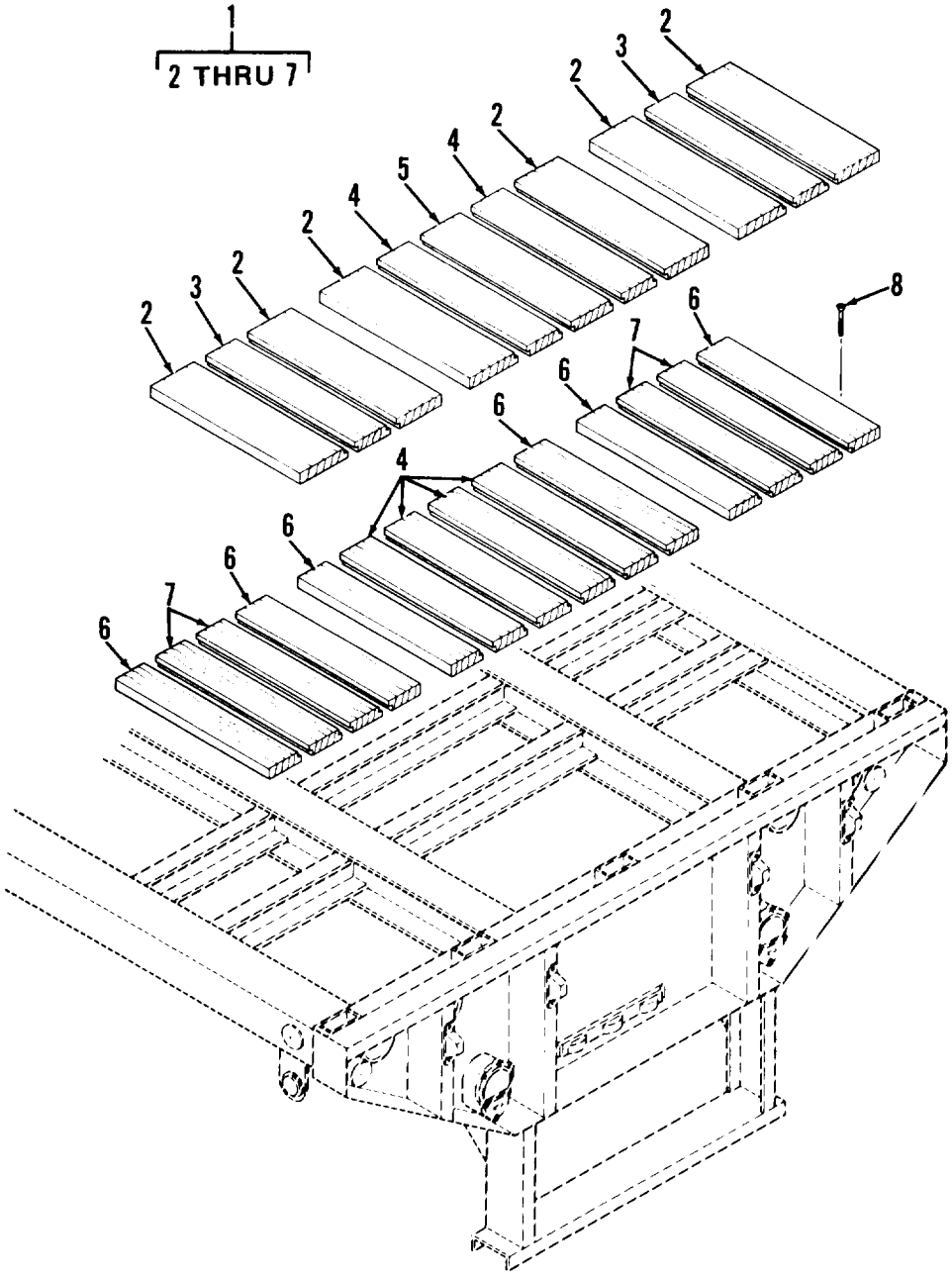


Figure 32. Floor

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1805 FLOORS, SUBFLOORS AND RELATED COMPONENTS	
				FIG. 32 FLOOR	
1	PFOOO	3B938	DW30	FLOOR KIT,HARDWOOD	1
2	MOOZZ	8S867	FB1	BOARD,FLOOR 7-3/16 IN.WIDE,MAKE FROM PN DM871-R1 PATT1	V
3	MOOZZ	8S867	FB2	BOARD,FLOOR 5-3/8 IN.WIDE,MAKE FROM PN DM871-R2 PATT2	V
4	MOOZZ	8S867	FB3	BOARD,FLOOR 5-7/16 IN.WIDE,MAKE FROM PN DM871-RD PATT5	V
5	MOOZZ	8S867	FB4	BOARD,FLOOR 6-3/4 IN.WIDE,MAKE FROM PN DM871-R6 PATT6	V
6	MOOZZ	8S867	FB5	BOARD,FLOOR 5 IN.WIDE,MAKE FROM PN DM871-R1 ALT.PATT1	V
7	M00ZZ	8S867	FB6	BOARD,FLOOR 5-1/16 IN.WIDE,MAKE FROM PN DM871-R2 ALT.PATT2	V
8	PAOZZ	6N040	959-13130-731	SCREW,TAPPING,THREA	120
				END OF FIGURE	

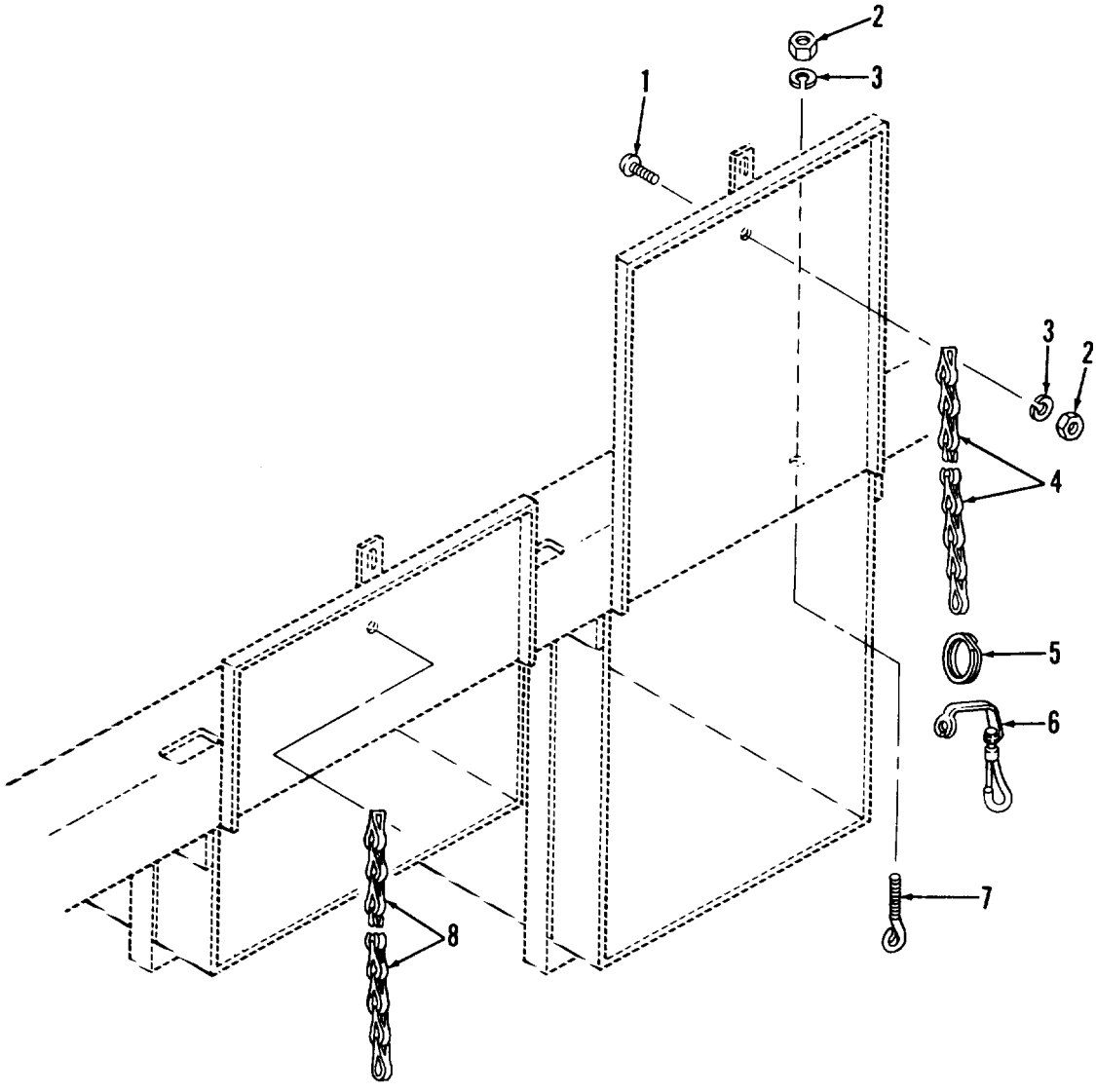


Figure 33. Storage Box Chains

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CASES, ETC.	
				FIG. 33 STOWAGE BOX CHAINS	
1	PAOZZ	96906	MS35206-263	SCREW,MACHINE	1
2	PAOZZ	39428	90480A011	NUT,PLAIN,HEXAGON	1
3	PAOZZ	96906	MS35338-43	WASHER,LOCK	1
4	MOOZZ	8S867	CHAIN5	CHAIN,SASH 26 INCHES LONG,MAKE FROM CHAIN,PN 3607T25	1
5	PAOZZ	39428	90177A219	RING,SPLIT	1
6	PAOZZ	39428	3922T14	SNAP HOOK	1
7	PAOZZ	39428	9489T13	BOLT,EYE	1
8	MOOZZ	8S867	CHAIN3	CHAIN,SASH 14 INCHES LONG,MAKE FROM CHAIN,PN 3607T25	1
				END OF FIGURE	

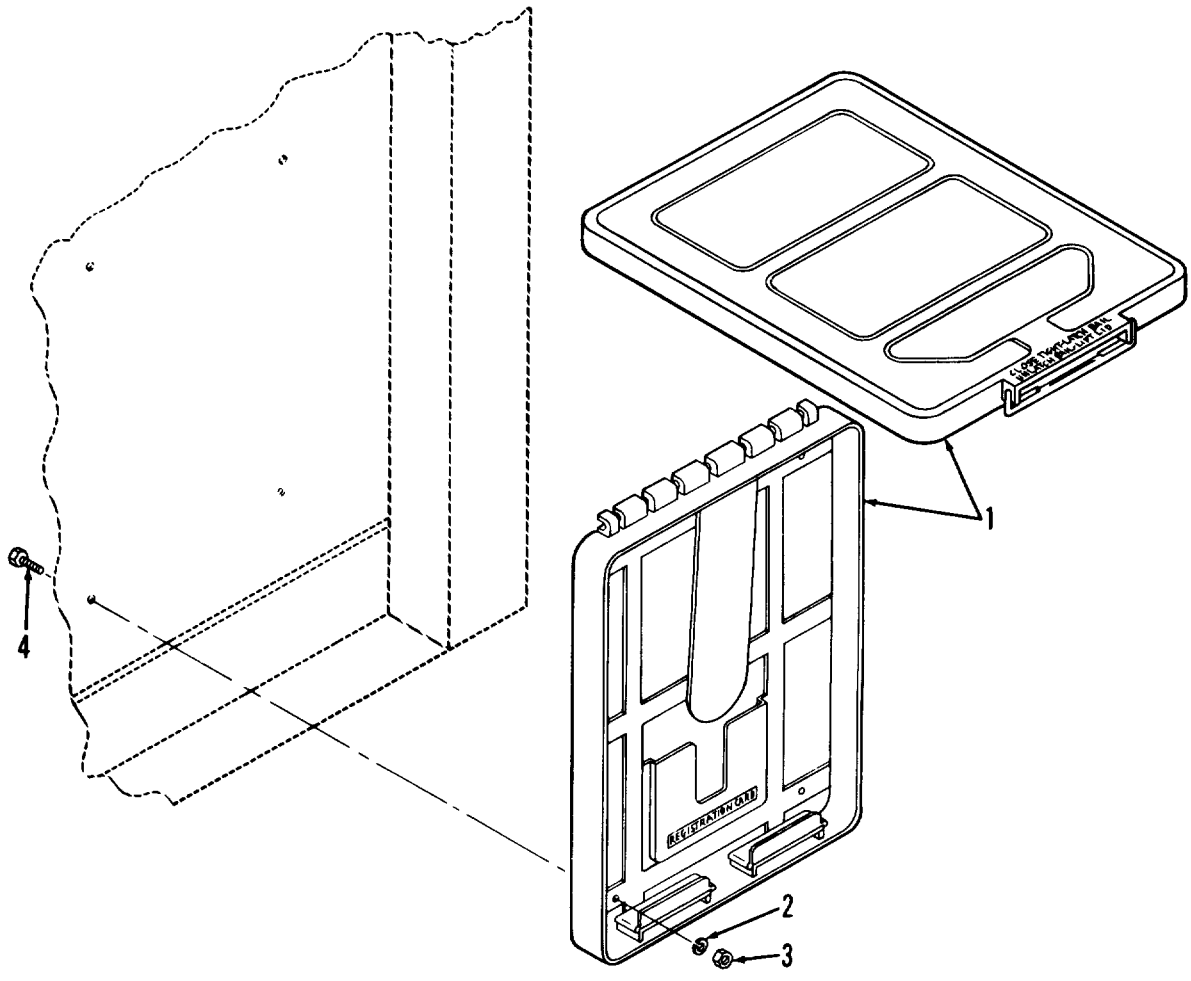


Figure 34. Manifest Box

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1808 STOWAGE RACKS, BOXES, STRAPS, CASES, ETC.	
				FIG. 34 MANIFEST BOX	
1	PFOZZ	1JA34	550	BOX,DOCUMENT	1
2	PAOZZ	96906	MS27183-9	WASHER,FLAT	4
3	PAOZZ	39428	90480A011	NUT,PLAIN,HEXAGON	4
4	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	4
				END OF FIGURE	

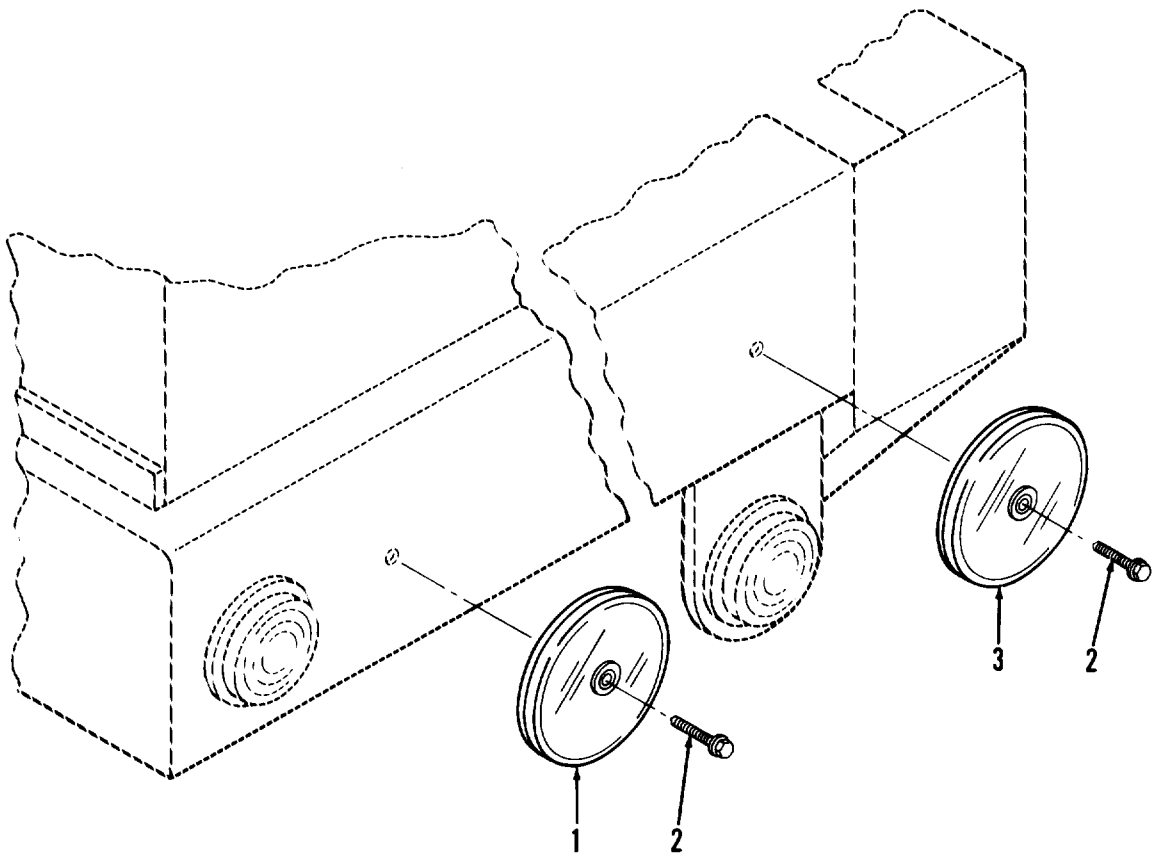


Figure 35. Reflectors

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 22 BODY AND CHASSIS ACCESSORY ITEMS	
				GROUP 2202 ACCESSORY ITEMS	
				FIG. 35 REFLECTORS	
1	PAOZZ	13548	98006Y	REFLECTOR,INDICATIN AMBER	2
2	PAOZZ	96906	MS51850-66	SCREW,TAPPING,THREA	8
3	PAOZZ	13548	98006R	REFLECTOR,INDICATIN RED	4
				END OF FIGURE	

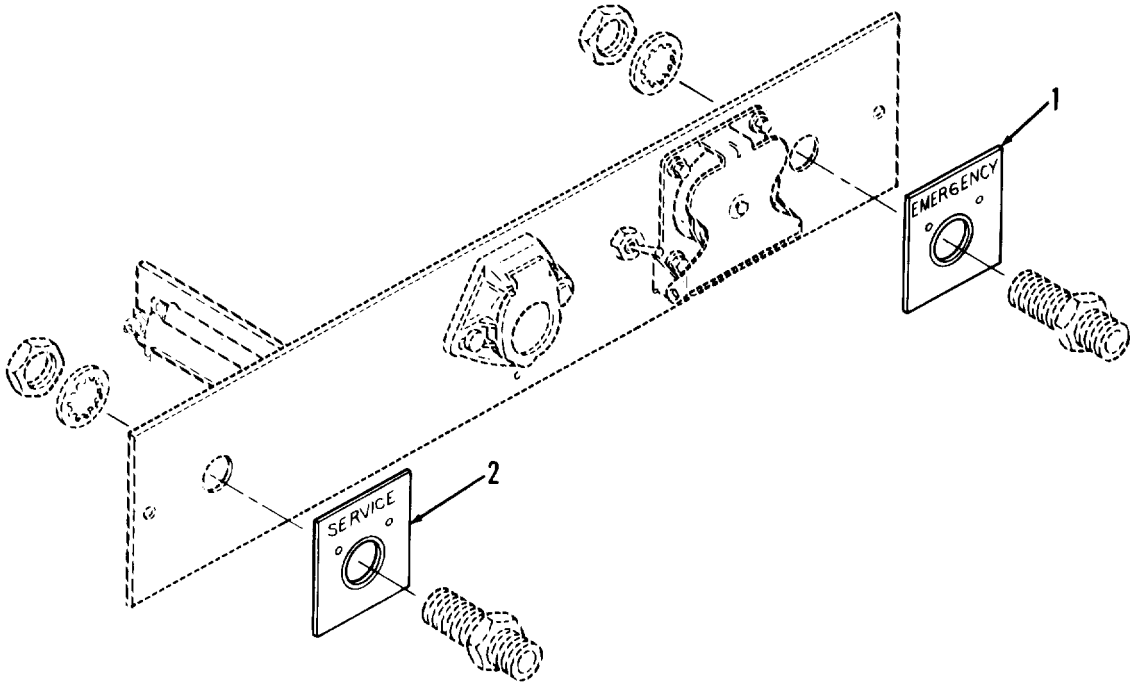
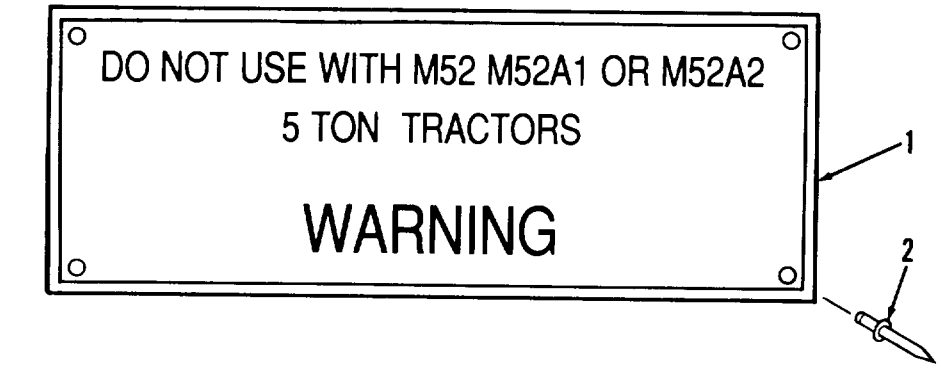
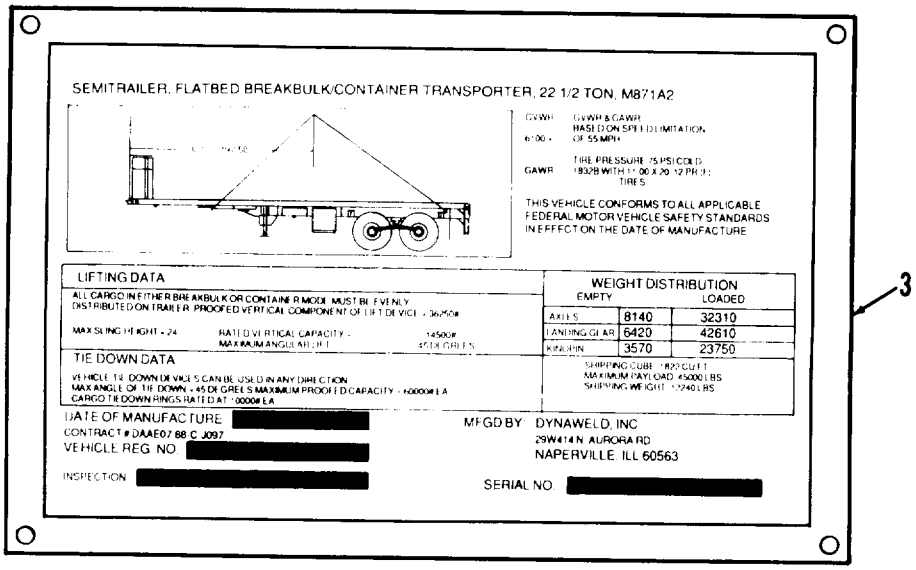


Figure 36. Brake System Data Plates

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 2210 DATA PLATES	
				FIG. 36 BRAKE SYSTEM DATA PLATES	
1	PAOZZ	96906	MS53007-2	PLATE,IDENTIFICATIO EMERGENCY	1
2	PAOZZ	96906	MS53007-1	PLATE,IDENTIFICATIO SERVICE	1
				END OF FIGURE	





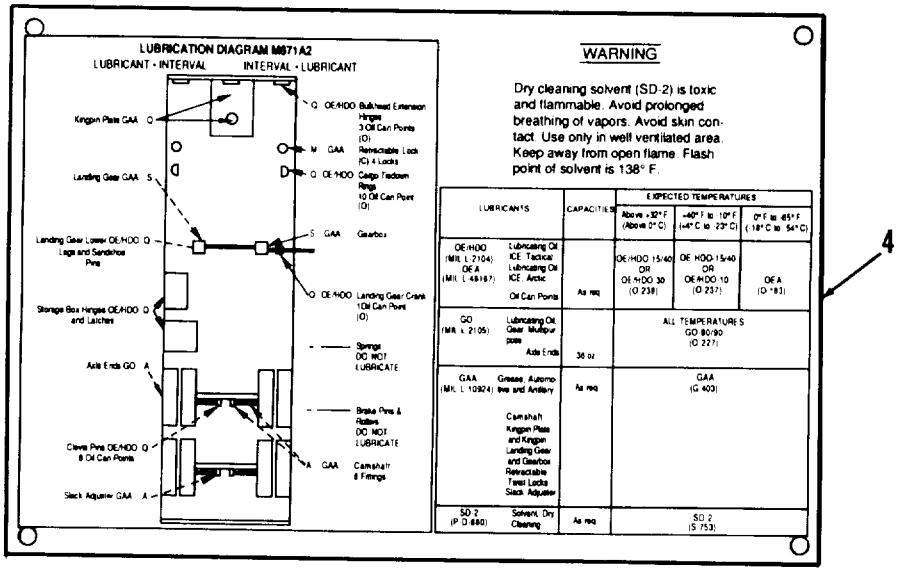


Figure 37. Data Plates

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 2210 DATA PLATES	
				FIG. 37 DATA PLATES	
1	PFOZZ	8S867	WARPLT	PLATE,INSTRUCTION WARNING	1
2	PFOZZ	81349	M24243/1A408	RIVET,BLIND	12
3	PFOZZ	8S867	TDPLATE	PLATE,INSTRUCTION TIE DOWN	1
4	PFOZZ	8S867	LUBEPLT	PLATE,INSTRUCTION LUBRICATION	1
				END OF FIGURE	

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 94 KITS	
				GROUP 9401 KITS AND RELATED PARTS	
				FIG. KITS	
	PAOZZ	78500	KIT 970	PARTS KIT,BRAKE ADJ SERVICES ONE AXLE BUSHING,SPIDER,OUTE(2) 8-17 BUSHING,BRACKET (1) 8-10 PACKING,PREFORMED (2) 8-9 PACKING,PREFORMED (2) 8-19 RING,RETAINING (2) 8-6 RING,RETAINING (2) 8-16 SEAL (2) 8-4 SPACER,RING (2) 8-14 SPIDER,BRAKE (2) 8-18 WASHER,FLAT (2) 8-15 WASHER,FLAT (4) 8-5	V
	PAOZZ	78500	KIT 8000HD	PARTS KIT,BRAKE SHO BUSHING,ANCHOR PIN (4) 9-11 PIN,SHOULDER,HEADLE(4) 9-10 RETAINER,ROLLER (1) 9-7 ROLLER,LINEAR-ROTAR(1) 9-6 SPRING,HELICAL,EXTE(2) 9-8 SPRING,HELICAL,EXTE(4) 9-9	V
	PFOZZ	99411	CP3473	KIT,TIRE CARRIER CHAIN AND SNAP ASSE(1) 24-7 NUT,SELF-LOCKING,HE(3) 24-9 SCREW,MACHINE,ROUND(3) 24-8	V
	PAFZZ	78500	2000-F-1228	PART KIT,BRAKE SHO SERVICES ONE AXLE LINING,ANCHOR END (1) 9-2 LINING,CAM END (1) 9-3 RIVET,TUBUALR (28) 9-4	V
	PAOZZ	4B100	9019002	PARTS KIT,BRAKE AIR CAP,DUST,PLASTIC (1) 14-4 SCREW,ROUND HEAD (1) 14-5	V
				END OF FIGURE	

(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	
				GROUP 9501 BULK MATERIEL	
				FIG. BULK	
1	PAOZZ	39428	3607T25	CHAIN,WELDLESS	V
2	PAOZA	39428	8962T16	CHAIN,WELDED	V
3	PAOZZ	30327	C0606B	HOSE,NONMETALLIC	V
4	PAOZZ	3B938	DM871-R1 ALT.PAT T1	LUMBER,HARDWOOD	V
5	PAOZZ	3B938	DM871-R1 PATT1	LUMBER,HARDWOOD	V
6	PAOZZ	3B938	DM871-R2 ALT.PAT T2	LUMBER,HARDWOOD	V
7	PAOZZ	3B938	DM871-R2 PATT2	LUMBER,HARDWOOD	V
8	PAOZZ	3B938	DM871-R5 PATT5	LUMBER,HARDWOOD	V
9	PAOZZ	3B938	DM871-R6 PATT6	LUMBER,HARDWOOD	V
				END OF FIGURE	

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-004-5033	12	3	5310-00-637-9541	1	12
4730-00-007-2275	8	3		24	2
5310-00-011-6121	26	9		31	2
2610-00-029-0563	18	5	2530-00-693-1029	17	4
5310-00-045-3296	5	3	5306-00-721-5944	5	10
	7	4	5305-00-724-7222	26	22
	33	3	5305-00-725-2317	1	13
5305-00-054-6682	7	1		12	5
5999-00-057-2929	1	7		31	5
5305-00-068-0510	24	5	5305-00-726-2551	27	10
5305-00-071-2069	26	13	5310-00-732-0558	21	6
5365-00-090-5426	5	5		24	1
	6	20	2530-00-738-9061	17	3
5940-00-107-1481	6	2	2530-00-738-9493	17	2
6240-00-143-3159	1	5	2510-00-741-7585	25	1
5940-00-143-4794	6	15	5365-00-753-4865	8	14
5305-00-146-2663	5	15	5310-00-763-8920	26	24
4030-00-153-8711	19	4	5310-00-768-0318	26	8
5310-00-161-9964	17	5	5930-00-772-9276	5	19
5935-00-167-7775	6	5	5935-00-773-1428	5	8
5330-00-172-1919	15	6	5310-00-809-4061	12	4
	15	11		24	3
5310-00-178-7733	14	2	5310-00-809-8544	7	5
6220-00-179-4324	1	2	5310-00-820-6653	26	23
5310-00-195-8969	17	4	5310-00-823-8804	34	2
5325-00-202-4005	6	23	3110-00-829-0575	16	1
	11	12	5935-00-833-8561	6	6
5365-00-204-5061	8	16	5970-00-833-8562	6	8
5330-00-205-3583	8	9	5310-00-833-8567	1	8
3120-00-255-6042	9	11	5310-00-834-7606	21	5
5305-00-269-3211	26	19	5315-00-839-5822	10	6
5305-00-269-3217	26	4	9905-00-842-2950	6	10
2530-00-270-3878	15	7		6	18
3120-00-322-6430	9	6	5315-00-842-3044	10	9
5310-00-393-6685	5	1	5935-00-846-3883	5	6
	6	19		6	13
5940-00-399-6676	6	7	5305-00-846-5703	24	4
5310-00-407-9566	5	16	5320-00-850-3282	37	2
5310-00-409-3355	5	17	5305-00-852-1012	3	5
	31	1		5	9
5305-00-411-9331	16	21		28	6
5330-00-462-0907	1	3		30	7
5310-00-462-4655	14	1		34	4
4820-00-476-6412	18	4		35	2
5999-00-485-8955	5	7	5310-00-880-2004	17	5
	6	14	2530-00-886-1103	16	12
5935-00-572-9180	1	9	4730-00-891-0798	15	10
5330-00-576-3028	16	17	2540-00-921-5069	31	3
2530-00-603-5768	17	1	5940-00-926-0085	6	11
6240-00-617-0991	1	4	5305-00-940-8069	27	3

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-942-2196	21	1	5310-01-179-4113	16	14
5320-00-948-7636	9	4	2530-01-179-7532	8	18
5310-00-951-7209	26	7	5305-01-186-5859	16	15
5310-00-964-7811	10	12	2590-01-202-0956	20	1
5305-00-984-6210	33	1	5935-01-211-4434	5	11
9905-00-999-7369	36	1	4820-01-214-1422	12	8
9905-00-999-7370	36	2	5306-01-222-9071	20	4
5330-01-023-5229	8	4		33	7
5330-01-024-2294	8	19	5310-01-224-6835	8	5
6220-01-047-4059	4	2	6220-01-225-7830	4	1
4010-01-065-6955	BULK	2	5310-01-231-0688	12	2
2510-01-067-4717	1	6	4010-01-239-5719	15	9
6220-01-067-5264	2	3	2590-01-241-6060	24	6
	6	3	6220-01-242-9030	3	4
5325-01-067-5438	2	2	4730-01-244-9828	12	7
5325-01-067-5890	4	3	2530-01-248-6984	13	3
5340-01-082-6805	19	3	5310-01-251-7570	5	2
	25	3		7	3
	25	5		20	5
	33	6		33	2
5940-01-083-6203	6	16		34	3
6220-01-085-3391	2	1	4730-01-265-2669	15	1
5330-01-090-2107	16	10	5310-01-268-8983	15	2
4730-01-096-3204	15	5	5310-01-268-9052	15	3
2530-01-096-3430	8	20	5340-01-271-1014	15	12
2640-01-098-2029	18	3		33	5
5306-01-098-7197	27	16	6220-01-273-6024	3	1
5310-01-098-7236	27	21	4720-01-273-9163	BULK	3
5310-01-098-7244	27	18	6220-01-284-2709	1	11
5310-01-098-7245	27	11	2610-01-287-6409	18	1
5310-01-098-7246	27	20	2530-01-289-1013	13	3
5310-01-098-7247	27	2	5307-01-289-4466	15	4
5310-01-098-7827	27	1	2530-01-290-9101	9	1
5310-01-099-6539	27	17	5310-01-291-2200	16	20
2510-01-100-7167	27	9	2640-01-295-9967	18	2
2590-01-100-9001	27	12	6220-01-297-3217	1	10
2510-01-100-9270	27	14	4730-01-307-0020	11	1
2520-01-101-0935	27	8	2530-01-311-8410	8	7
2510-01-101-2890	27	15	2530-01-311-8415	16	4
5310-01-116-4765	16	13	2590-01-311-8426	6	1
5310-01-117-2404	16	16	2590-01-312-0484	6	12
5310-01-126-9404	24	9	2540-01-312-4715	30	1
	26	5	2540-01-312-4716	30	1
5315-01-129-6898	9	10	2530-01-312-4717	16	5
5310-01-133-5373	8	15	2530-01-312-4765	8	1
5940-01-139-0853	6	17	2510-01-312-6427	32	1
5340-01-153-1870	26	16	5340-01-313-8523	28	4
2530-01-155-4183	8	20	4710-01-313-9334	28	2
5360-01-158-1974	9	9	4710-01-313-9335	27	4
5310-01-174-0431	26	15	6220-01-314-1318	1	1

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
2590-01-314-1321	26	1	3040-01-316-9688	26	3
2530-01-314-2141	KITS		3130-01-317-0122	27	6
2590-01-314-2191	26	18	4730-01-317-0682	10	3
4720-01-314-2520	11	3	6150-01-317-0802	6	9
5340-01-314-2961	10	4	2540-01-317-1586	19	5
4730-01-314-4220	11	10	5307-01-317-2617	16	11
2590-01-314-4351	31	4	5307-01-317-2618	16	11
2530-01-314-4392	KITS		5340-01-317-2657	20	3
2510-01-314-4412	27	19	3040-01-317-2776	10	5
2510-01-314-4467	27	22	2510-01-317-3960	29	2
2510-01-314-4468	30	6	5305-01-317-8192	7	6
2510-01-314-4469	29	3	5340-01-317-9251	22	1
2540-01-314-4475	28	3	5320-01-318-4526	30	2
6150-01-314-4690	6	24	3110-01-319-3970	16	7
2530-01-314-5083	16	4	5306-01-321-2386	27	5
3040-01-314-6488	10	10	6150-01-321-5778	4	4
5365-01-314-6592	21	2	6150-01-321-5827	6	21
5340-01-314-6594	16	18	2530-01-322-9360	16	22
5305-01-314-6757	30	4			
5305-01-314-6758	22	2			
5315-01-314-6897	10	7			
5975-01-314-8107	5	18			
2530-01-314-8896	14	3			
2530-01-314-9318	KITS				
2530-01-314-9355	12	1			
2510-01-314-9372	29	1			
2530-01-315-1068	12	6			
2590-01-315-2610	KITS				
2510-01-315-2611	BULK	4			
2510-01-315-2612	BULK	5			
2510-01-315-2613	BULK	6			
2510-01-315-2614	BULK	7			
2510-01-315-2615	BULK	8			
2510-01-315-2616	BULK	9			
5305-01-315-3563	8	13			
5315-01-315-3614	10	8			
2510-01-315-6287	23	1			
2590-01-315-6693	30	3			
5365-01-316-3300	27	7			
2590-01-316-4721	30	3			
2590-01-316-5657	26	14			
2590-01-316-5658	26	2			
4720-01-316-6349	11	5			
5315-01-316-7547	26	20			
5305-01-316-7645	32	8			
2530-01-316-9165	10	1			
2530-01-316-9167	KITS				
4730-01-316-9220	11	8			
4730-01-316-9221	11	14			
4730-01-316-9230	11	15			

SECTION IV

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
51831	ACC8016	2590-01-311-8426	6	1
51831	ACC8017	6150-01-314-4690	6	24
51831	ACC8018	2590-01-312-0484	6	12
51831	ACC8019	6150-01-321-5827	6	21
78500	A1-1199-S-3737	3040-01-314-6488	10	10
78500	A1229-W-2545	5310-01-116-4765	16	13
78500	A15-3275-N-716	2530-01-316-9165	10	1
78500	A2-1245-E-395	5340-01-314-2961	10	4
78500	A2206-Y-51		10	11
78500	A3105-V-282	2530-01-311-8410	8	7
78500	A3222-S-1293		9	5
78500	A3262-H-398	5340-01-314-6594	16	18
78500	A3275-Z-780		10	2
78500	A333-A-3589	2530-01-312-4717	16	5
78500	A78-3222S1293	2530-01-290-9101	9	1
8S867	BLKHD3	2540-01-314-4475	28	3
8S867	BLKHD3A		28	1
8S867	BLKTBE1	4710-01-313-9334	28	2
8S867	BRKTUBE1		11	2
8S867	BRKTUBE2		11	9
8S867	BRKTUBE3		11	7
8S867	BRKTUBE4		11	11
8S867	CHAIN1		25	4
8S867	CHAIN2		19	2
8S867	CHAIN3		33	8
8S867	CHAIN5		33	4
8S867	CHAIN6		28	5
99411	CP0540		24	11
99411	CP3473	2590-01-315-2610	KITS	
30327	C0606B	4720-01-273-9163	BULK	3
51831	DC-12350-38	6220-01-314-1318	1	1
3B938	DM871-R1 ALT.PAT T1	2510-01-315-2611	BULK	4
3B938	DM871-R1 PATT1	2510-01-315-2612	BULK	5
3B938	DM871-R2 ALT.PAT T2	2510-01-315-2613	BULK	6
3B938	DM871-R2 PATT2	2510-01-315-2614	BULK	7
3B938	DM871-R5 PATT5	2510-01-315-2615	BULK	8
3B938	DM871-R6 PATT6	2510-01-315-2616	BULK	9
3B938	DW30	2510-01-312-6427	32	1
78500	D36-3273-W-101		8	2
8S867	FB1		32	2
8S867	FB2		32	3
8S867	FB3		32	4
8S867	FB4		32	5
8S867	FB5		32	6
8S867	FB6		32	7
94658	F187-6		21	3
94658	F187-6/8	5365-01-314-6592	21	2
94658	F187-8		21	4
94658	F804-1	2590-01-202-0956	20	1

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
8S867	HFJN5/8		26	6
8S867	HHC5/8-250		26	17
8S867	HHC5/8-275		26	12
91637	HL55-09		7	2
60038	HM212011		16	3
60038	HM212049		16	2
60038	HM218210		16	8
60038	HM218248		16	9
78500	HTQF-00T-23	2530-01-311-8415	16	4
78500	HTQF-00T-24	2530-01-314-5083	16	4
78500	KIT 8000HD	2530-01-314-4392	KITS	
78500	KIT 970	2530-01-314-2141	KITS	
74410	KP-T-809-F	2510-01-315-6287	23	1
8S867	LGBRACE1		26	21
8S867	LGBRACE2		26	11
8S867	LGBRKT		26	10
99411	LG0056	2590-01-314-2191	26	18
99411	LG0070-02	5315-01-316-7547	26	20
99411	LG0083-01	5340-01-153-1870	26	16
99411	LG0094	3040-01-316-9688	26	3
8S867	LG4000-91DY	2590-01-316-5658	26	2
8S867	LG4000-92DY	2590-01-316-5657	26	14
8S867	LG4423-90DY	2590-01-314-1321	26	1
8S867	LUBEPLT		37	4
8S867	MFBRKT1	2590-01-314-4351	31	4
5P512	MRL30-21	5340-01-313-8523	28	4
96906	MS15570-89	6240-00-143-3159	1	5
96906	MS18154-60	5305-00-942-2196	21	1
96906	MS19081-113	3110-00-829-0575	16	1
96906	MS19081-283	3110-01-319-3970	16	7
96906	MS20659-104	5940-00-107-1481	6	2
96906	MS24665-283	5315-00-842-3044	10	9
96906	MS24665-353	5315-00-839-5822	10	6
96906	MS25036-112	5940-00-143-4794	6	15
96906	MS25306-232	5930-00-772-9276	5	19
96906	MS27144-1	5935-00-167-7775	6	5
96906	MS27148-2	5999-00-057-2929	1	7
96906	MS27183-15	5310-00-809-4061	12	4
			24	3
96906	MS27183-22	5310-00-951-7209	26	7
96906	MS27183-7	5310-00-809-8544	7	5
96906	MS27183-9	5310-00-823-8804	34	2
96906	MS35206-263	5305-0-984-6210	33	1
96906	MS35338-43	5310-00-045-3296	5	3
			7	4
			33	3
96906	MS35338-45	5310-00-407-9566	5	16
96906	MS35338-46	5310-00-637-9541	1	12
		5310-00-004-5033	12	3
		5310-00-637-9541	24	2
			31	2

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35338-50	5310-00-820-6653	26	23
96906	MS35338-67	5310-00-011-6121	26	9
96906	MS35340-48	5310-00-834-7606	21	5
96906	MS35478-1073	6240-00-617-0991	1	4
96906	MS35489-110	5325-00-202-4005	6	23
			11	12
96906	MS35751-41	5306-00-721-5944	5	10
96906	MS51331-6	2540-00-921-5069	31	3
96906	MS51850-66	5305-00-852-1012	3	5
			5	9
			28	6
			30	7
			34	4
			35	2
96906	MS51851-88	5305-00-146-2663	5	15
96906	MS51957-55	5305-00-054-6682	7	1
96906	MS51967-14	5310-00-768-0318	26	8
96906	MS51967-20	5310-00-763-8920	26	24
96906	MS51967-8	5310-00-732-0558	21	6
			24	1
96906	MS51983-3	5310-00-880-2004	17	5
96906	MS53007-1	9905-00-999-7370	36	2
96906	MS53007-2	9905-00-999-7369	36	1
96906	MS53044-6	2530-00-603-5768	17	1
96906	MS53068-1	2530-00-693-1029	17	4
96906	MS75021-1	5935-00-846-3883	5	6
			6	13
96906	MS90725-60	5305-00-269-3211	26	19
96906	MS90725-67	5305-00-269-3217	26	4
96906	MS90727-164	5305-00-726-2551	27	10
96906	MS90727-197	5305-00-940-8069	27	3
96906	MS90728-113	5305-00-071-2069	26	13
96906	MS90728-164	5305-00-724-7222	26	22
96906	MS90728-60	5305-00-068-0510	24	5
96906	MS90728-64	5305-00-725-2317	1	13
			12	5
			31	5
96906	MS90728-70	5305-00-846-5703	24	4
8S867	MTPGLT1		5	4
81349	M24243/1A408	5320-00-850-3282	37	2
8S867	M871PNL1	2540-01-312-4715	30	1
8S867	M871PNL2	2540-01-312-4716	30	1
8S867	M871STK1	2510-01-314-4468	30	6
8S867	M871STK2	2510-01-314-9372	29	1
8S867	M871STK3	2510-01-317-3960	29	2
8S867	M871STK4	2510-01-314-4469	29	3
8S867	M871TR1	2590-01-316-4721	30	3
8S867	M871TR2	2590-01-315-6693	30	3
06721	N-13047	4010-01-239-5719	15	9
06721	N-20071		15	8
06721	N30108AK	2530-01-248-6984	13	2

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
06721	N4302A	2530-01-289-1013	13	3
8S867	PANEL1		30	5
8S867	PANEL2		30	5
99411	PP0004-19		24	8
99411	PP0016-03	5310-01-174-0431	26	15
99411	PP0033-53		24	7
3B938	RC-8874	2540-01-317-1586	19	5
8S867	RKPIN		30	8
97286	RV3109	5320-00-948-7636	9	4
8S867	SWNUT1		5	20
14726	S05076	5940-01-139-0853	6	17
14726	S05308F	5940-01-083-6203	6	16
78500	S255C	5305-00-411-9331	16	21
8S867	TDPLATE		37	3
78500	TN4670-QH-2704	2530-01-312-4765	8	1
99411	TS0002	2590-01-241-6060	24	6
99411	TS0013		24	10
8S867	WARPLT		37	1
13548	00808		3	3
79146	035023	5310-01-268-8983	15	2
79146	035024	5310-01-268-9052	15	3
79146	035079	4730-01-265-2669	15	1
79146	035080	5307-01-289-4466	15	4
94658	1/4X1-3/4		20	2
78500	10-X-1348	5305-01-315-3563	8	13
17875	100HA	4820-00-476-6412	18	4
92967	10060-01	5306-01-098-7197	27	16
92967	10273-00	5310-01-098-7244	27	18
98343	10451E	4730-01-096-3204	15	5
98343	10452S	4730-00-891-0798	15	10
74025	10476-103	5940-00-926-0085	6	11
94189	10555	4030-00-153-8711	19	4
06721	10713	4820-01-214-1422	12	8
19207	10875481	9905-00-842-2950	6	10
			6	18
81348	11.00R20/GP2/TR7 8A/ON CENTER	2610-00-029-0563	18	5
92967	11357-00	5365-01-316-3300	27	7
19207	11639519-2	5330-00-462-0907	1	3
19207	11639520	2510-01-067-4717	1	6
19207	11639535	6220-00-179-4324	1	2
19207	11662296-10	5310-01-133-5373	8	15
19207	11662296-14	5330-00-205-3583	8	9
19207	11662296-33	4730-00-007-2275	8	3
19207	11662296-34	3120-00-255-6042	9	11
19207	11662296-9	5365-00-204-5061	8	16
78500	1199-K-3859	5305-01-186-5859	16	15
78500	1199-S-3737		10	14
78500	1199J114	5310-00-195-8969	17	4
78500	1199N118	5310-00-161-9964	17	5
30780	12FFB		13	1

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19200	12009347	2610-01-287-6409	18	1
19200	12009349	2640-01-295-9967	18	2
24617	120376	5310-00-409-3355	5	17
			31	1
78500	1205-P-1212	5330-01-090-2107	16	10
78500	1205U1451	5330-01-023-5229	8	4
78500	1205V1452	5330-01-024-2294	8	19
78500	1225-A-833		8	17
78500	1225-B-834	2530-01-179-7532	8	18
78500	1225-R-1058		8	10
92967	12258-01	2510-01-314-4467	27	22
78500	1227-B-756	5310-01-117-2404	16	16
78500	1227C549	2530-00-886-1103	16	12
78500	1229-D-3124		8	6
78500	1229-J-1570	5310-01-291-2200	16	20
78500	1229-J-868	5365-00-753-4865	8	14
78500	1229U1503Z	5310-00-178-7733	14	2
78500	1229W2545	5310-01-179-4113	16	14
78500	1229X3118	5310-01-224-6835	8	5
19207	12315349		27	13
19207	12315355	5310-01-098-7247	27	2
19207	12315441	2510-01-101-2890	27	15
19207	12315614	5310-01-098-7236	27	21
19207	12360850-1	6220-01-284-2709	1	11
19207	12360870-2	6220-01-297-3217	1	10
78500	1259-N-274	5315-01-129-6898	9	10
98343	1509	5330-00-172-1919	15	6
			15	11
13548	15200R	6220-01-242-9030	3	4
13548	15741R	6220-01-273-6024	3	1
78500	1729B262	5310-00-964-7811	10	12
78500	1779R18	3120-00-322-6430	9	6
78500	1898-R-720-S	4730-01-317-0682	10	3
78500	19X127	5315-01-315-3614	10	8
78500	19X60	5315-01-314-6897	10	7
78500	20X2088	5307-01-317-2617	16	11
78500	20X2089	5307-01-317-2618	16	11
78500	2000-F-1228	2530-01-316-9167	KITS	
06721	201081-A		5	12
78500	2207-M-13 S	3040-01-317-2776	10	5
78500	2208N430	5330-00-576-3028	16	17
78500	2210-Q-4333	2530-01-096-3430	8	20
78500	2210-R-4334	2530-01-155-4183	8	20
78500	2240-M-4641		9	3
78500	2240-N-4642		9	2
78500	2258-Q-615	5360-01-158-1974	9	9
78500	2258-U-567		10	13
78500	2258-W-803		9	8
78500	2297-B-5046		8	12
13548	30200R	6220-01-085-3391	2	1
13548	30200Y		2	1

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
13548	30700	5325-01-067-5438	2	2
56878	31FAF-1011	5310-00-462-4655	14	1
78500	3105-B-210		9	7
78500	3105-U-281		8	8
78500	3105-V-282		8	11
58755	3108-60-14	4730-01-314-4220	11	10
58755	3108-60-18	4730-01-316-9230	11	15
58755	3109-60-18	4730-01-307-0020	11	1
58755	3115-60-14	4730-01-316-9221	11	14
58755	3115-60-18	4730-01-316-9220	11	8
4B100	3130300	2530-01-314-8896	14	3
78500	3219-X-4860	2530-01-322-9360	16	22
78500	333-A-3589		16	6
39428	3607T25		BULK	1
92967	37-03	5310-01-099-6539	27	17
39428	3922T14	5340-01-082-6805	19	3
			25	3
			25	5
			33	6
06721	401199P		16	19
13548	40202R	6220-01-047-4059	4	2
13548	40700	5325-01-067-5890	4	3
12662	426K	6220-01-225-7830	4	1
39428	4554K13	4730-01-244-9828	12	7
80120	498		19	1
			25	2
1JA34	550		34	1
8S867	6	5340-01-317-2657	20	3
58429	6-A-6		11	4
			11	6
58429	62X3542	4720-01-314-2520	11	3
58429	62X3572	4720-01-316-6349	11	5
20999	6225		6	22
			11	13
17875	627	2640-01-098-2029	18	3
15460	71-68	5340-01-317-9251	22	1
19207	7338409	2530-00-270-3878	15	7
19207	7389061	2530-00-738-9061	17	3
19207	7389493	2530-00-738-9493	17	2
19207	7417585	2510-00-741-7585	25	1
19207	7716521	5999-00-485-8955	5	7
			6	14
19207	7722333	5365-00-090-5426	5	5
			6	20
19207	7723309	5310-00-393-6685	5	1
			6	19
19207	7731428	5935-00-773-1428	5	8
06721	7750257		5	13
06721	7750259		5	14
06721	782HD	5935-01-211-4434	5	11
06721	782101	5975-01-314-8107	5	18

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
4B100	8019011		14	4
4B100	8120007		14	5
92967	814-00	2590-01-100-9001	27	12
92967	817-00	5310-01-098-7245	27	11
92967	820-00	2510-01-314-4412	27	19
19207	8338561	5935-00-833-8561	6	6
19207	8338562	5970-00-833-8562	6	8
19207	8338564	5940-00-399-6676	6	7
19207	8338566	5935-00-572-9180	1	9
19207	8338567	5310-00-833-8567	1	8
92967	835-04	5306-01-321-2386	27	5
92967	837-00	5310-01-098-7246	27	20
92967	841-00	5310-01-098-7827	27	1
92967	891-00	2520-01-101-0935	27	8
92967	892-00	3130-01-317-0122	27	6
92967	893-05	4710-01-313-9335	27	4
39428	8962T16	4010-01-065-6955	BULK	2
39428	90177A219	5340-01-271-1014	15	12
			33	5
4B100	9019002	2530-01-314-9318	KITS	
39428	90276A251	5305-01-317-8192	7	6
39428	90480A011	5310-01-251-7570	5	2
			7	3
			20	5
			33	2
			34	3
39428	90490A031	5310-01-231-0688	12	2
39428	90822A610	5305-01-314-6758	22	2
39428	92352A16	5320-01-318-4526	30	2
13548	93943		3	2
		6150-01-317-0802	6	9
39428	94054A249	5305-01-314-6757	30	4
24617	9422277	5310-01-126-9404	24	9
			26	5
39428	9489T13	5306-01-222-9071	20	4
			33	7
13548	94902	6220-01-067-5264	2	3
			6	3
13548	94993	6150-01-321-5778	4	4
			6	4
62173	9515	2530-01-315-1068	12	6
62173	9523	2530-01-314-9355	12	1
6N040	959-13130-731	5305-01-316-7645	32	8
13548	98006R		35	3
13548	98006Y		35	
92967	9934-02	2510-01-100-9270	27	14
92967	9937-00	2510-01-100-7167	27	9

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
BULK	1		39428	3607T25
BULK	2	4010-01-065-6955	39428	8962T16
BULK	3	4720-01-273-9163	30327	C0606B
BULK	4	2510-01-315-2611	3B938	DM871-R1 ALT.PAT T1
BULK	5	2510-01-315-2612	3B938	DM871-R1 PATT1
BULK	6	2510-01-315-2613	3B938	DM871-R2 ALT.PAT T2
BULK	7	2510-01-315-2614	3B938	DM871-R2 PATT2
BULK	8	2510-01-315-2615	3B938	DM871-R5 PATT5
BULK	9	2510-01-315-2616	3B938	DM871-R6 PATT6
KITS		2530-01-314-2141	78500	KIT 970
KITS		2530-01-314-4392	78500	KIT 8000HD
KITS		2530-01-314-9318	4B100	9019002
KITS		2530-01-316-9167	78500	2000-F-1228
KITS		2590-01-315-2610	99411	CP3473
1	1	6220-01-314-1318	51831	DC-12350-38
1	2	6220-00-179-4324	19207	11639535
1	3	5330-00-462-0907	19207	11639519-2
1	4	6240-00-617-0991	96906	MS35478-1073
1	5	6240-00-143-3159	96906	MS15570-89
1	6	2510-01-067-4717	19207	11639520
1	7	5999-00-057-2929	96906	MS27148-2
1	8	5310-00-833-8567	19207	8338567
1	9	5935-00-572-9180	19207	8338566
1	10	6220-01-297-3217	19207	12360870-2
1	11	6220-01-284-2709	19207	12360850-1
1	12	5310-00-637-9541	96906	MS35338-46
1	13	5305-00-725-2317	96906	MS90728-64
2	1		13548	30200Y
2	1	6220-01-085-3391	13548	30200R
2	2	5325-01-067-5438	13548	30700
2	3	6220-01-067-5264	13548	94902
3	1	6220-01-273-6024	13548	15741R
3	2		13548	93943
3	3		13548	00808
3	4	6220-01-242-9030	13548	15200R
3	5	5305-00-852-1012	96906	MS51850-66
4	1	6220-01-225-7830	12662	426K
4	2	6220-01-047-4059	13548	40202R
4	3	5325-01-067-5890	13548	40700
4	4	6150-01-321-5778	13548	94993
5	1	5310-00-393-6685	19207	7723309
5	2	5310-01-251-7570	39428	90480A011
5	3	5310-00-045-3296	96906	MS35338-43
5	4		8S867	MTPGLT1
5	5	5365-00-090-5426	19207	7722333
5	6	5935-00-846-3883	96906	MS75021-1
5	7	5999-00-485-8955	19207	7716521
5	8	5935-00-773-1428	19207	7731428
5	9	5305-00-852-1012	96906	MS51850-66

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
5	10	5306-00-721-5944	96906	MS35751-41
5	11	5935-01-211-4434	06721	782HD
5	12		06721	201081-A
5	13		06721	7750257
5	14		06721	7750259
5	15	5305-00-146-2663	96906	MS51851-88
5	16	5310-00-407-9566	96906	MS35338-45
5	17	5310-00-409-3355	24617	120376
5	18	5975-01-314-8107	06721	782101
5	19	5930-00-772-9276	96906	MS25306-232
5	20		8S867	SWNUT1
6	1	2590-01-311-8426	51831	ACC8016
6	2	5940-00-107-1481	96906	MS20659-104
6	3	6220-01-067-5264	13548	94902
6	4		13548	94993
6	5	5935-00-167-7775	96906	MS27144-1
6	6	5935-00-833-8561	19207	8338561
6	7	5940-00-399-6676	19207	8338564
6	8	5970-00-833-8562	19207	8338562
6	9	6150-01-317-0802	13548	93943
6	10	9905-00-842-2950	19207	10875481
6	11	5940-00-926-0085	74025	10476-103
6	12	2590-01-312-0484	51831	ACC8018
6	13	5935-00-846-3883	96906	MS75021-1
6	14	5999-00-485-8955	19207	7716521
6	15	5940-00-143-4794	96906	MS25036-112
6	16	5940-01-083-6203	14726	S05308F
6	17	5940-01-139-0853	14726	S05076
6	18	9905-00-842-2950	19207	10875481
6	19	5310-00-393-6685	19207	7723309
6	20	5365-00-090-5426	19207	7722333
6	21	6150-01-321-5827	51831	ACC8019
6	22		20999	6225
6	23	5325-00-202-4005	96906	MS35489-110
6	24	6150-01-314-4690	51831	ACC8017
7	1	5305-00-054-6682	96906	MS51957-55
7	2		91637	HL55-09
7	3	5310-01-251-7570	39428	90480A011
7	4	5310-00-045-3296	96906	MS35338-43
7	5	5310-00-809-8544	96906	MS27183-7
7	6	5305-01-317-8192	39428	90276A251
8	1	2530-01-312-4765	78500	TN4670-QH-2704
8	2		78500	D36-3273-W-101
8	3	4730-00-007-2275	19207	11662296-33
8	4	5330-01-023-5229	78500	1205U1451
8	5	5310-01-224-6835	78500	1229X3118
8	6		78500	1229-D-3124
8	7	2530-01-311-8410	78500	A3105-V-282
8	8		78500	3105-U-281
8	9	5330-00-205-3583	19207	11662296-14
8	10		78500	1225-R-1058

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
8	11		78500	3105-V-282
8	12		78500	2297-B-5046
8	13	5305-01-315-3563	78500	10-X-1348
8	14	5365-00-753-4865	78500	1229-J-868
8	15	5310-01-133-5373	19207	11662296-10
8	16	5365-00-204-5061	19207	11662296-9
8	17		78500	1225-A-833
8	18	2530-01-179-7532	78500	1225-B-834
8	19	5330-01-024-2294	78500	1205V1452
8	20	2530-01-096-3430	78500	2210-Q-4333
8	20	2530-01-155-4183	78500	2210-R-4334
9	1	2530-01-290-9101	78500	A78-3222S1293
9	2		78500	2240-N-4642
9	3		78500	2240-M-4641
9	4	5320-00-948-7636	97286	RV3109
9	5		78500	A3222-S-1293
9	6	3120-00-322-6430	78500	1779R18
9	7		78500	3105-B-210
9	8		78500	2258-W-803
9	9	5360-01-158-1974	78500	2258-Q-615
9	10	5315-01-129-6898	78500	1259-N-274
9	11	3120-00-255-6042	19207	11662296-34
10	1	2530-01-316-9165	78500	A15-3275-N-716
10	2		78500	A3275-Z-780
10	3	4730-01-317-0682	78500	1898-R-720-S
10	4	5340-01-314-2961	78500	A2-1245-E-395
10	5	3040-01-317-2776	78500	2207-M-13 S
10	6	5315-00-839-5822	96906	MS24665-353
10	7	5315-01-314-6897	78500	19X60
10	8	5315-01-315-3614	78500	19X127
10	9	5315-00-842-3044	96906	MS24665-283
10	10	3040-01-314-6488	78500	A1-1199-S-3737
10	11		78500	A2206-Y-51
10	12	5310-00-964-7811	78500	1729B262
10	13		78500	2258-U-567
10	14		78500	1199-S-3737
11	1	4730-01-307-0020	58755	3109-60-18
11	2		8S867	BRKTUBE1
11	3	4720-01-314-2520	58429	62X3542
11	4		58429	6-A-6
11	5	4720-01-316-6349	58429	62X3572
11	6		58429	6-A-6
11	7		8S867	BRKTUBE3
11	8	4730-01-316-9220	58755	3115-60-18
11	9		8S867	BRKTUBE2
11	10	4730-01-314-4220	58755	3108-60-14
11	11		8S867	BRKTUBE4
11	12	5325-00-202-4005	96906	MS35489-110
11	13		20999	6225
11	14	4730-01-316-9221	58755	3115-60-14
11	15	4730-01-316-9230	58755	3108-60-18

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
12	1	2530-01-314-9355	62173	9523
12	2	5310-01-231-0688	39428	90490A031
12	3	5310-00-004-5033	96906	MS35338-46
12	4	5310-00-809-4061	96906	MS27183-15
12	5	5305-00-725-2317	96906	MS90728-64
12	6	2530-01-315-1068	62173	9515
12	7	4730-01-244-9828	39428	4554K13
12	8	4820-01-214-1422	06721	10713
13	1		30780	12FFB
13	2	2530-01-248-6984	06721	N30108AK
13	3	2530-01-289-1013	06721	N4302A
14	1	5310-00-462-4655	56878	31FAF-1011
14	2	5310-00-178-7733	78500	1229U1503Z
14	3	2530-01-314-8896	4B100	3130300
14	4		4B100	8019011
14	5		4B100	8120007
15	1	4730-01-265-2669	79146	035079
15	2	5310-01-268-8983	79146	035023
15	3	5310-01-268-9052	79146	035024
15	4	5307-01-289-4466	79146	035080
15	5	4730-01-096-3204	98343	10451E
15	6	5330-00-172-1919	98343	1509
15	7	2530-00-270-3878	19207	7338409
15	8		06721	N-20071
15	9	4010-01-239-5719	06721	N-13047
15	10	4730-00-891-0798	98343	10452S
15	11	5330-00-172-1919	98343	1509
15	12	5340-01-271-1014	39428	90177A219
16	1	3110-00-829-0575	96906	MS19081-113
16	2		60038	HM212049
16	3		60038	HM212011
16	4	2530-01-311-8415	78500	HTQF-00T-23
16	4	2530-01-314-5083	78500	HTQF-00T-24
16	5	2530-01-312-4717	78500	A333-A-3589
16	6		78500	333-A-3589
16	7	3110-01-319-3970	96906	MS19081-283
16	8		60038	HM218210
16	9		60038	HM218248
16	10	5330-01-090-2107	78500	1205-P-1212
16	11	5307-01-317-2617	78500	20X2088
16	11	5307-01-317-2618	78500	20X2089
16	12	2530-00-886-1103	78500	1227C549
16	13	5310-01-116-4765	78500	A1229-W-2545
16	14	5310-01-179-4113	78500	1229W2545
16	15	5305-01-186-5859	78500	1199-K-3859
16	16	5310-01-117-2404	78500	1227-B-756
16	17	5330-00-576-3028	78500	2208N430
16	18	5340-01-314-6594	78500	A3262-H-398
16	19		06721	401199P
16	20	5310-01-291-2200	78500	1229-J-1570
16	21	5305-00-411-9331	78500	S255C

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
16	22	2530-01-322-9360	78500	3219-X-4860
17	1	2530-00-603-5768	96906	MS53044-6
17	2	2530-00-738-9493	19207	7389493
17	3	2530-00-738-9061	19207	7389061
17	4	2530-00-693-1029	96906	MS53068-1
17	4	5310-00-195-8969	78500	1199J114
17	5	5310-00-161-9964	78500	1199N118
17	5	5310-00-880-2004	96906	MS51983-3
18	1	2610-01-287-6409	19200	12009347
18	2	2640-01-295-9967	19200	12009349
18	3	2640-01-098-2029	17875	627
18	4	4820-00-476-6412	17875	100HA
18	5	2610-00-029-0563	81348	11.00R20/GP2/TR7 8A/ON CENTER
19	1		80120	498
19	2		8S867	CHAIN2
19	3	5340-01-082-6805	39428	3922T14
19	4	4030-00-153-8711	94189	10555
19	5	2540-01-317-1586	3B938	RC-8874
20	1	2590-01-202-0956	94658	F804-1
20	2		94658	1/4X1-3/4
20	3	5340-01-317-2657	8S867	6
20	4	5306-01-222-9071	39428	9489T13
20	5	5310-01-251-7570	39428	90480A011
21	1	5305-00-942-2196	96906	MS18154-60
21	2	5365-01-314-6592	94658	F187-6/8
21	3		94658	F187-6
21	4		94658	F187-8
21	5	5310-00-834-7606	96906	MS35340-48
21	6	5310-00-732-0558	96906	MS51967-8
22	1	5340-01-317-9251	15460	71-68
22	2	5305-01-314-6758	39428	90822A610
23	1	2510-01-315-6287	74410	KP-T-809-F
24	1	5310-00-732-0558	96906	MS51967-8
24	2	5310-00-637-9541	96906	MS35338-46
24	3	5310-00-809-4061	96906	MS27183-15
24	4	5305-00-846-5703	96906	MS90728-70
24	5	5305-00-068-0510	96906	MS90728-60
24	6	2590-01-241-6060	99411	TS0002
24	7		99411	PP0033-53
24	8		99411	PP0004-19
24	9	5310-01-126-9404	24617	9422277
24	10		99411	TS0013
24	11		99411	CP0540
25	1	2510-00-741-7585	19207	7417585
25	2		80120	498
25	3	5340-01-082-6805	39428	3922T14
25	4		8S867	CHAIN1
25	5	5340-01-082-6805	39428	3922T14
26	1	2590-01-314-1321	8S867	LG4423-90DY
26	2	2590-01-316-5658	8S867	LG4000-91DY

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
26	3	3040-01-316-9688	99411	LG0094
26	4	5305-00-269-3217	96906	MS90725-67
26	5	5310-01-126-9404	24617	9422277
26	6		8S867	HFJN5/8
26	7	5310-00-951-7209	96906	MS27183-22
26	8	5310-00-768-0318	96906	MS51967-14
26	9	5310-00-011-6121	96906	MS35338-67
26	10		8S867	LGBRKT
26	11		8S867	LGBRACE2
26	12		8S867	HHC5/8-275
26	13	5305-00-071-2069	96906	MS90728-113
26	14	2590-01-316-5657	8S867	LG4000-92DY
26	15	5310-01-174-0431	99411	PP0016-03
26	16	5340-01-153-1870	99411	LG0083-01
26	17		8S867	HHC5/8-250
26	18	2590-01-314-2191	99411	LG0056
26	19	5305-00-269-3211	96906	MS90725-60
26	20	5315-01-316-7547	99411	LG0070-02
26	21		8S867	LGBRACE1
26	22	5305-00-724-7222	96906	MS90728-164
26	23	5310-00-820-6653	96906	MS35338-50
26	24	5310-00-763-8920	96906	MS51967-20
27	1	5310-01-098-7827	92967	841-00
27	2	5310-01-098-7247	19207	12315355
27	3	5305-00-940-8069	96906	MS90727-197
27	4	4710-01-313-9335	92967	893-05
27	5	5306-01-321-2386	92967	835-04
27	6	3130-01-317-0122	92967	892-00
27	7	5365-01-316-3300	92967	11357-00
27	8	2520-01-101-0935	92967	891-00
27	9	2510-01-100-7167	92967	9937-00
27	10	5305-00-726-2551	96906	MS90727-164
27	11	5310-01-098-7245	92967	817-00
27	12	2590-01-100-9001	92967	814-00
27	13		19207	12315349
27	14	2510-01-100-9270	92967	9934-02
27	15	2510-01-101-2890	19207	12315441
27	16	5306-01-098-7197	92967	10060-01
27	17	5310-01-099-6539	92967	37-03
27	18	5310-01-098-7244	92967	10273-00
27	19	2510-01-314-4412	92967	820-00
27	20	5310-01-098-7246	92967	837-00
27	21	5310-01-098-7236	19207	12315614
27	22	2510-01-314-4467	92967	12258-01
28	1		8S867	BLKHD3A
28	2	4710-01-313-9334	8S867	BLKTBE1
28	3	2540-01-314-4475	8S867	BLKHD3
28	4	5340-01-313-8523	5P512	MRL30-21
28	5		8S867	CHAIN6
28	6	5305-00-852-1012	96906	MS51850-66
29	1	2510-01-314-9372	8S867	M871STK2

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
29	2	2510-01-317-3960	8S867	M871STK3
29	3	2510-01-314-4469	8S867	M871STK4
30	1	2540-01-312-4715	8S867	M871PNL1
30	1	2540-01-312-4716	8S867	M871PNL2
30	2	5320-01-318-4526	39428	92352A16
30	3	2590-01-315-6693	8S867	M871TR2
30	3	2590-01-316-4721	8S867	M871TR1
30	4	5305-01-314-6757	39428	94054A249
30	5		8S867	PANEL1
30	5		8S867	PANEL2
30	6	2510-01-314-4468	8S867	M871STK1
30	7	5305-00-852-1012	96906	MS51850-66
30	8		8S867	RKPIN
31	1	5310-00-409-3355	24617	120376
31	2	5310-00-637-9541	96906	MS35338-46
31	3	2540-00-921-5069	96906	MS51331-6
31	4	2590-01-314-4351	8S867	MFBRKT1
31	5	5305-00-725-2317	96906	MS90728-64
32	1	2510-01-312-6427	3B938	DW30
32	2		8S867	FB1
32	3		8S867	FB2
32	4		8S867	FB3
32	5		8S867	FB4
32	6		8S867	FB5
32	7		8S867	FB6
32	8	5305-01-316-7645	6N040	959-13130-731
33	1	5305-00-984-6210	96906	MS35206-263
33	2	5310-01-251-7570	39428	90480A011
33	3	5310-00-045-3296	96906	MS35338-43
33	4		8S867	CHAIN5
33	5	5340-01-271-1014	39428	90177A219
33	6	5340-01-082-6805	39428	3922T14
33	7	5306-01-222-9071	39428	9489T13
33	8		8S867	CHAIN3
34	1		1JA34	550
34	2	5310-00-823-8804	96906	MS27183-9
34	3	5310-01-251-7570	39428	90480A011
34	4	5305-00-852-1012	96906	MS51850-66
35	1		13548	98006Y
35	2	5305-00-852-1012	96906	MS51850-66
35	3		13548	98006R
36	1	9905-00-999-7369	96906	MS53007-2
36	2	9905-00-999-7370	96906	MS53007-1
37	1		8S867	WARPLT
37	2	5320-00-850-3282	81349	M24243/1A408
37	3		8S867	TDPLATE
37	4		8S867	LUBEPLT

APPENDIX G

ILLUSTRATED LIST OF MANUFACTURED ITEMS

G-1 INTRODUCTION.

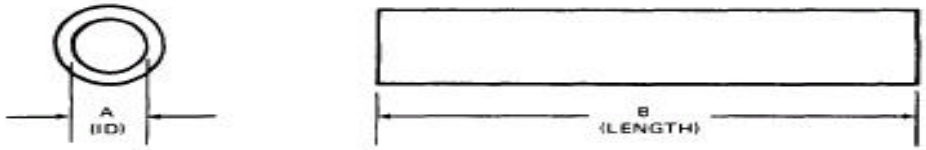
This appendix includes complete instructions for making items authorized to be manufactured or fabricated at direct support/general support maintenance. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria. All bulk materials needed for manufacture of the item are listed on the illustration.

G-2 MANUFACTURED ITEMS PART NUMBER INDEX.

Part number	Figure
BRKTUBE1	G-1
BRKTUBE2	G-1
BRKTUBE3	G-1
BRKTUBE4	G-1
CHAIN1	G-2
GHAIN2	G-2
CHAIN3	G-2
CHAIN5	G-2
CHAIN6	G-2
CHAIN20	G-2
CHAIN25	G-2
FB1	G-3
FB2	G-3
FB3	G-3
FB4	G-3
FB5	G-3
FB6	G-3

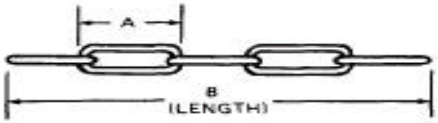
G-3 MANUFACTURED ITEMS ILLUSTRATIONS.

The manufactured items illustrations are simplified line drawings which illustrate all items authorized to be manufactured/fabricated by direct support/general support maintenance personnel. Each illustration includes all dimensions and information necessary for the manufacture. The Part Number column of the table lists the part number of the items to be manufactured, and the Description column describes the items. The Dimension and Materials columns provide information on the size of each item and the material from which it shall be manufactured.



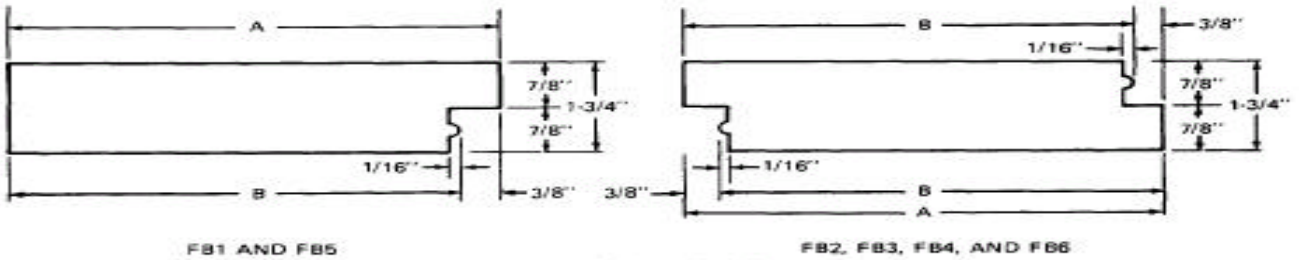
Part number	Description	Dimensions (inches) A	Dimensions (inches) B	Materials - NSN or (FSCM) and part number
BRKTUBE1	Tubing, multi-function valve to rear reservoir	0.375	80 ±0.5	(30327) C060B
BRKTUBE2	Tubing, emergency gladhand	0.375	300 ±0.5	(30327) C060B
BRKTUBE3	Tubing, relay valve to multi-function valve	0.375	36 ±0.5	(30327) C060B
BRKTUBE4	Tubing, Service gladhand	0.375	282 ±0.5	(30327) C0606B

Figure G-1. Air System Tubing

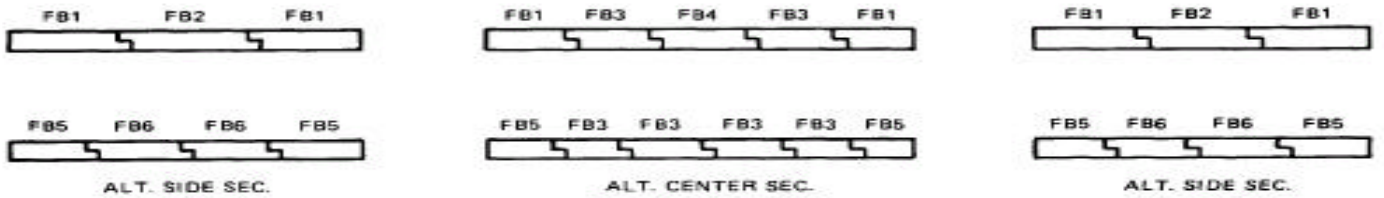


Part number	Description	Dimensions (inches) A	Dimensions (inches) B	Materials - NSN or (FSCM) and part number
CHAIN1	Chain, welded, ground board	1-5/8	50 ±0.5	(39428) 8962T16
CHAIN2	Chain, welded, wheel chock	1-5/8	42 ±0.5	(39428) 8962T16
CHAIN3	Chain, sash, tool box	11/16	14 ±0.5	(39428) 3607T25
CHAIN5	Chain, sash, tarpaulin box	11/16	26 ±0.5	(39428) 3607T25
CHAIN6	Chain, sash, bulkhead pin	11/16	6 ±0.5	(39428) 3607T25
CHAIN20	Chain, cross tie, front	1-5/8	240 ±1.0	(39428) 8962T16
CHAIN25	Chain, cross tie, rear	1-5/8	300 ±1.0	(39428) 8962T16

Figure G-2. Chain



MILLING DETAILS



FLOOR CROSS SECTIONS

Part number	Description	Dimensions (inches)		Materials - NSN or (FSCM) and part number
		A	B	
FB1	Floor board, edge	7-3/16	6-13/16	(3B938) DM871-R1 PATT1
FB2	Floor board, center	5-3/8	5	(3B938) DM871-R2 PATT2
FB3	Floor board, center	5-7/16	5-1/16	(3B938) DM871-R5 PATT5
FB4	Floor board, center	6-3/4	6-3/8	(3B938) DM871-R6 PATT6
FB5	Floor board, edge	5	4-5/8	(3B938) DM871-R1 ALT. PATT1
FB6	Floor board, center	5-1/16	4-11/16	(3B938) DM871-R2 ALT. PATT2

Figure G-3. Floor Boards

APPENDIX H

TORQUE LIMITS

H-1 GENERAL.

This section provides general torque values for fasteners. Special torque values are indicated in the maintenance procedures for applicable components. The general torque values given in this appendix shall be used when specific torque values are not indicated in the maintenance procedures. Do not use these general values in place of those specified in other sections of this manual.

H-2 TORQUE LIMITS.

Torque limits are listed in table H-1 for dry fasteners and in table H-2 for wet fasteners. Dry fasteners are defined as fasteners on which no lubricants are applied to the threads. Wet fasteners are defined as fasteners on which special graphited or moly-disulphide greases or other extreme pressure lubricants are applied to the threads.

Table H-1 . Torque Limits for Dry Fasteners

SHANK SIZE		TORQUE					
		SAE GRADE NO. 2		SAE GRADE NO. 5		SAE GRADE NO. 8	
INCHES	MILLIMETERS	POUNDS FOOT	NEWTON METERS	POUNDS FOOT	NEWTON METERS	POUNDS FOOT	NEWTON METERS
1/4	6.35	5-6	6.8- 8.13	9-11	12.2- 14.9	12-15	16.3- 20.3
5/16	7.94	10-12	13.6- 16.3	17-20.5	23.1- 27.8	24-29	32.5- 39.3
3/8	9.53	20- 23	27.1- 31.2	35-42	47.5- 57.0	45- 54	61.0- 73.2
7/16	11.11	30- 35	40.7- 47.4	54-64	73.2- 86.8	70-84	94.9- 113.9
1/2	12.70	45- 52	61.0- 70.5	80-96	108.5- 130.2	110-132	149.2- 179.0
9/16	14.29	65- 75	88.1-101.6	110-132	149.2- 179.0	160-192	217.0- 260.4
5/8	15.88	95-105	128.7-142.3	150- 180	203.4- 244.1	220- 264	298.3- 358.0
3/4	19.05	150-185	203.3-250.7	270- 324	366.1- 439.3	380- 456	515.3- 518.3
7/8	22.23	160-200	216.8-271.0	400- 480	542.4- 650.9	600- 720	813.6- 976.3
1	25.40	250-300	338.8-406.5	580- 696	786.5- 943.8	900-1080	1220.4-1464.5
1-1/8	25.58	-	-	800- 880	1084.8-1193.3	1280-1440	1735.7-1952.8
1-1/4	31.75	-	-	1120-1240	1518.7-1681.4	1820-2000	2467.9-2712.0
1-3/8	34.93	-	-	1460-1680	1979.8-2278.1	2380-2720	3227.3-3688.3
1-1/2	38.10	-	-	1940-2200	2630.6-2983.2	3160-3560	4285.0-4827.4

TableH-2. Torque Limits for Wet Fasteners

SHANK SIZE		TORQUE					
		SAE GRADE NO. 2		SAE GRADE NO. 5		SAE GRADE NO. 8	
INCHES	MILLI-METERS	POUNDS FOOT	NEWTON METERS	POUNDS FOOT	NEWTON METERS	POUNDS FOOT	NEWTON METERS
1/4	6.35	4.5- 5.5	6.1- 7.5	8 - 10	10.8- 13.6	11 - 13.5	14.9- 18.3
5/16	7.94	9 - 11	12.2- 14.9	15 - 18.5	20.4- 25.1	21.5- 26	29.2- 35.3
3/8	9.53	18 - 20.5	24.4- 27.8	31.5- 38	42.8- 51.6	40.5- 48.5	55 - 65.9
7/16	11.11	27 - 31.5	36.7- 42.8	48.5- 57.5	65.9- 78.2	63 - 75.5	85.6- 102.6
1/2	12.70	40.5- 47	55 - 63.9	72 - 86.5	97.9- 117.6	99 - 119	134.6- 161.8
9/16	14.29	58.5- 67.5	79.5- 91.8	99 - 119.0	134.6- 161.8	144 - 173	195.8- 235.2
5/8	15.88	85.5- 94.5	116.2-128.5	135 - 162	183.6- 220.3	198 - 237.5	269.2- 323
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By Order of the Secretary of the Army:

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TEAR ALONG PERFORATED LINE

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

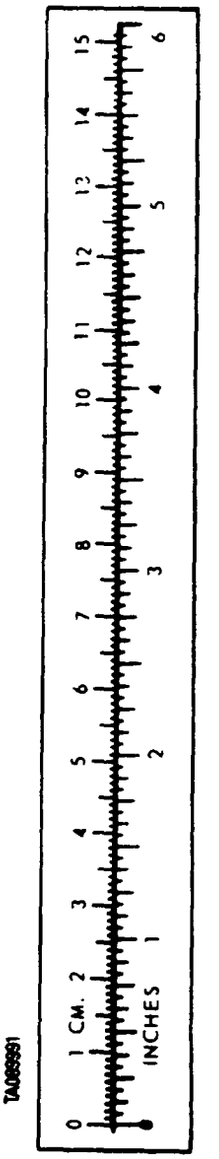
TEMPERATURE

5/9(°F – 32) = °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(°C + 32) = °F

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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