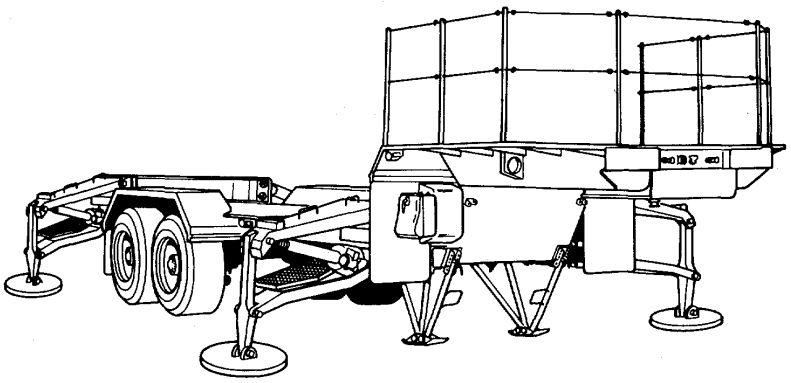
TECHNICAL MANUAL
OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

FOR

SEMITRAILER, FLATBED: RADAR SET AND LAUNCHING STATION M860A1 (NSN 2330-01-117-3280)



This manual supersedes TM 9-2330-357-14&P, dated 17 December 1987, and LO 9-2330-357-12, dated 12 June 1986.

Approved for public release: distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 1993

FOR INFORMATION ON FIRST AID, REFER TO FM 21-11.

WARNING

ASBESTOS HAZARD

DO NOT handle brakeshoes, , or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result In serious illness or death to personnel.

WARNING

COMPRESSED AIR

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

WARNING

COUPLING AND UNCOUPLING SEMITRAILER

All personnel must stand clear of tractor truck and semitrailer during coupling and uncoupling operations. Failure to follow this warning may result in serious injury or death to personnel.

WARNING

DRY CLEANING SOLVENT

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 1000F-1380F (380C-590C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

WARNING

HEAVY PARTS

Use extreme caution when handling heavy parts. Lifting device is required when parts weigh over 50 lb (23 kg) for a single person lift, over 100 lb (45 kg) for a two person lift, and over 150 lb (68 kg) for a three or more person lift. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause serious Injury or death to personnel.

WARNING

HOT COMPONENTS

When checking for improperly adjusted brakes or dry wheel bearings, cautiously feel each wheel hub and brakedrum. Serious burns may result from touching an overheated wheel hub and brakedrum.

WARNING

OUTRIGGER OPERATION

- Two men are required to implace vehicle outriggers to prevent injury to personnel or damage to equipment on blind side of vehicle.
- DO NOT attempt to implace outriggers on a side-slope greater than 10°. Failure to follow this warning may result in injury or death to personnel, or damage to equipment.
- Use a hoist of at least 1000 lb (454 kg) capacity when hoisting any outrigger components.

WARNING

SLINGING OPERATIONS

All personnel must stand clear of semitrailer during slinging operations. Failure to follow this warning may result in injury to personnel or damage to equipment.

WARNING

TIRE INFLATION

Before inflating tire, check to ensure that tire is seated on rim and that rim is not damaged.

WARNING

UNAUTHORIZED CLEANING METHODS

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and destroy equipment. To prevent this, refer to TM 9-247 for further instructions.

TECHNICAL MANUAL

TM 9-2330-357-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., *4* May*1993*

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

FOR
SEMITRAILER, FLATBED: RADAR SET AND LAUNCHING STATION
M860A1
(NSN 2330-01-117-3280)

Current as of 29 December 1992

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, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be fumished to you.

TABLE OF CONTENTS

*__This manual supersedes TM 9-2330-357-14&P, dated 17 December 1987, and LO 9-2330-357-12, dated 12 June 1986.__

TABLE OF CONTENTS (Con't)

TABLE OF CONTENTS (Con't)

TABLE OF CONTENTS (Con't).

TABLE OF CONTENTS (Con't)

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

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

b. **Model Number and Equipment Name.** Semitrailer, Flatbed: Radar Set and Launching Station, M860A1.

c. **Purpose of Equipment.** Used for the transport of the Patriot Missile System launching equipment and for the transport and operation of the search/track radar set.

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

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 PREVENT ENEMY USE.

For destruction of Army materiel to prevent enemy use, refer to TM 750-2446.

1-4. PREPARATION FOR STORAGE AND SHIPMENT.

For information on preparing the semitrailer for storage and shipment, refer to Chapter 4, Section XIV.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

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

Section II. EQUIPMENT DESCRIPTION AND DATA

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

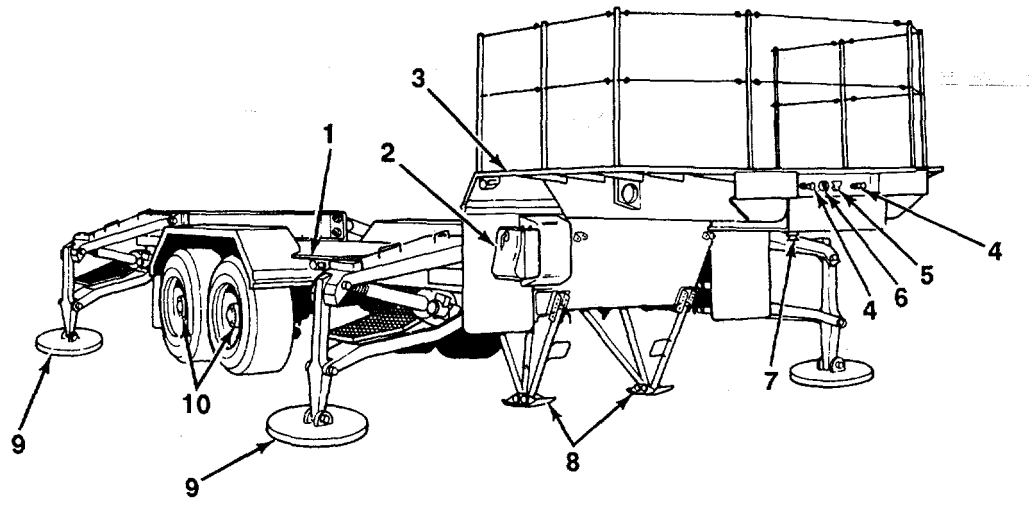
a. The M860A1 Flatbed Semitrailer is designed to be towed by a 10 ton, 8x8, Tractor Truck (M983).

b. The semitrailer is equipped:

(1) To transport either the Patriot Missile launcher or the search/track radar set.

(2) With outriggers to provide leveling of the semitrailer when the search/radar set is deployed on uneven ground.

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.



Key	Component	Description
1	Frame	Provides load bearing surface, mounting for axles and suspension, outriggers, landing gear, and kingpin. Constructed of steel.
2	Outrigger Control Box	Contains controls for operating outriggers.
3	Walkway	Provides crew with access to generator. Constructed of steel.
4	Air Couplings	Connect service and emergency airbrakes to tractor truck

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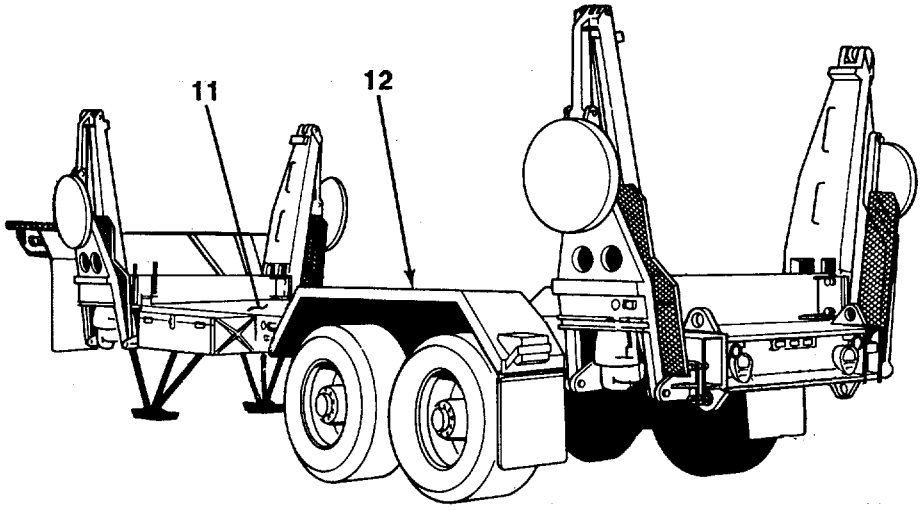
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

Key	Component	Description
5	Electrical Connector	Connects service lights electrical system to tractor truck.
6	Slave Cable Electrical Connector	Connects outrigger electrical system to tractor truck.
7	Fifth Wheel Kingpin	Couples semitrailer to fifth wheel of tractor truck.
8	Landing Gear	Supports front of semitrailer when uncoupled from tractor truck. Manually operated.
9	Outriggers	Extend to level semitrailer and retract for semitrailer movement. Electrically operated.
10	Tandem Axles	Arranged one behind the other, carrying the wheels and allowing the wheels to rotate. Consist of suspension system, brake system, axles, tires, and wheels.



Key	Component	Description
11	Floor	Provides mounting surface for launcher or radar set Constructed of steel.
12	Fender	Prevents mud and water from being splashed off rear tires. Keeps most rocks from being thrown from rear tires during travel.

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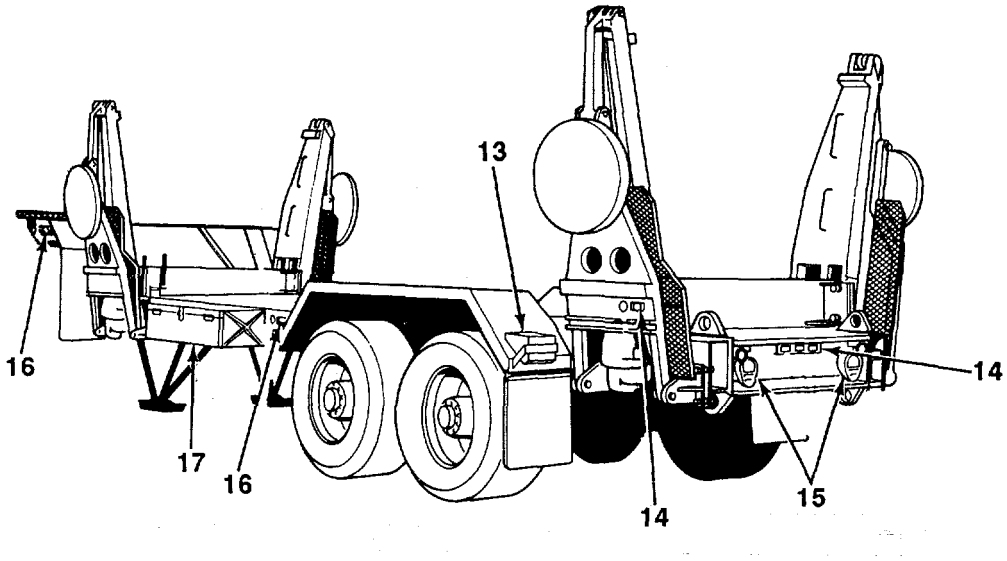
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).



Key	Component	Description
13	Chock Blocks	Prevent semitrailer from rolling. Stored on both sides of semitrailer.
14	Red Clearance Lights	Indicate back and side of semitrailer and semitrailer presence to vehicles traveling behind.
15	Composite Lights	Indicate semitrailer presence to vehicles traveling behind. Consist of taillights, stoplights, turn signals, and blackout lights.
16	Amber Clearance Lights	Indicate front of semitrailer.
17	Stowage Box	Provides stowage for miscellaneous items.

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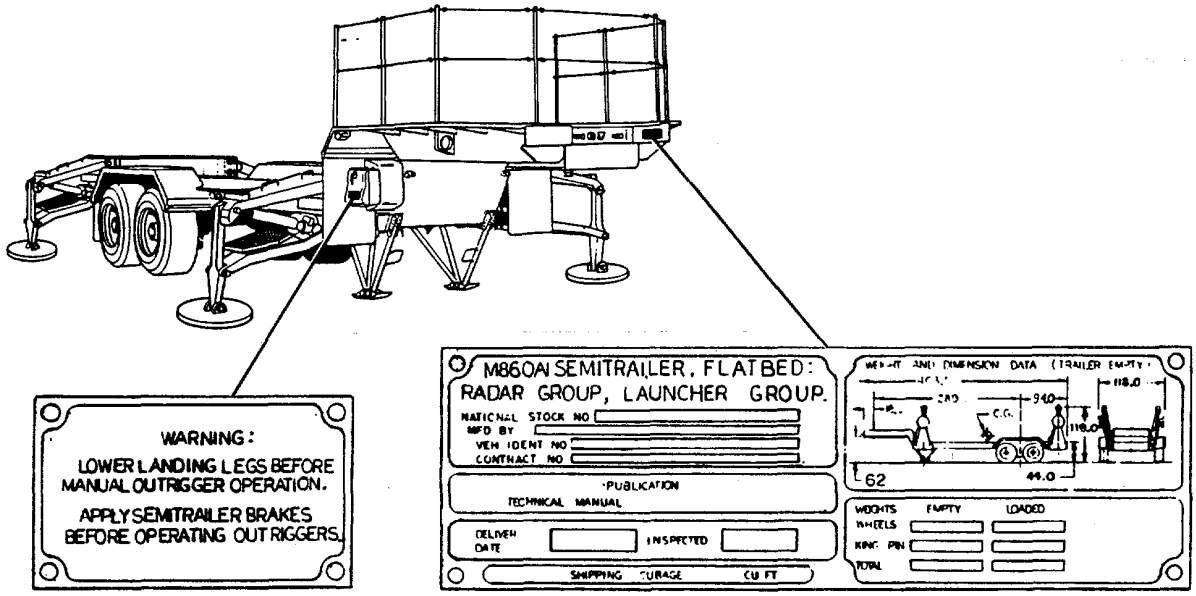
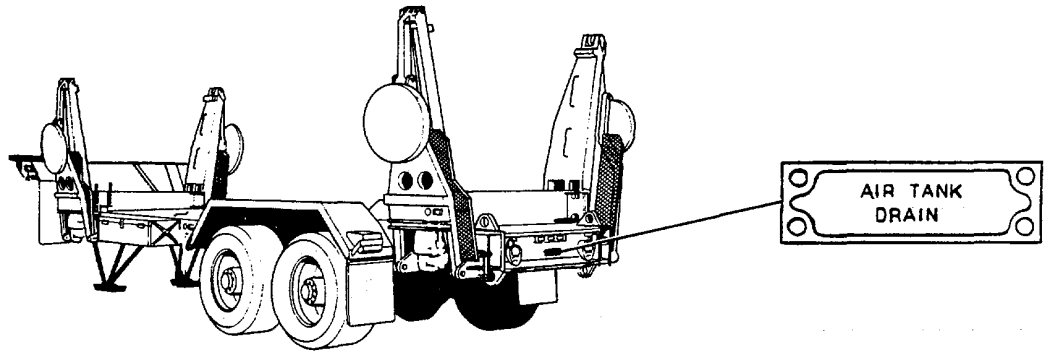
1-8. LOCATION AND CONTENTS OF DATA PLATES.

The following illustrations show location and contents of semitrailer data plates.





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1-9. EQUIPMENT DATA.

Dimensions:	
Height:	
Bottom of Gooseneck	62 in. (157 cm)
Top of Launcher	156 in. (396 cm)
Top of Radar Set	142 in. (361 cm)
Length	403.5 in. (1025 cm)
Width:	
Outriggers Retracted	118 in. (287 cm)
Outriggers Extended	203 in. (516 cm)
Weight:	
Empty	24,000 lb (10,886 kg)
With Launcher	Refer to TM 9-1440-600-10
With Radar Set	Refer to TM 9-1430-601-10-1 and TM 9-1430-601-10-2
Electrical System:	24 V dc, Negative Ground
Axles:	
Manufacturer	Rockwell International Automotive Operations Troy, Michigan
Model Number:	
Front	SCD-5-30221-B
Rear	SCD-5-30221-C
Capacity	16,000 lb (7264 kg) per axle
Ground Clearance (from bottom of axle)	19 in. (48 cm)
Suspension:	
Type	Tandem Axle
Wheels:	
Number	4
Rim Size	18-22.5x14
Tires:	
Number	4
Inflation	65 psi (448 kPa)
Fifth Wheel Kingpin:	
Size	3.5 in. (9 cm)
Location (from front of trailer)	20 in. (51 cm)
Outrigger Leveling Equipment:	
Landing Gear, Type	Swing Away, Manual
Outrigger Side-slope Operational Capacity	100 or less

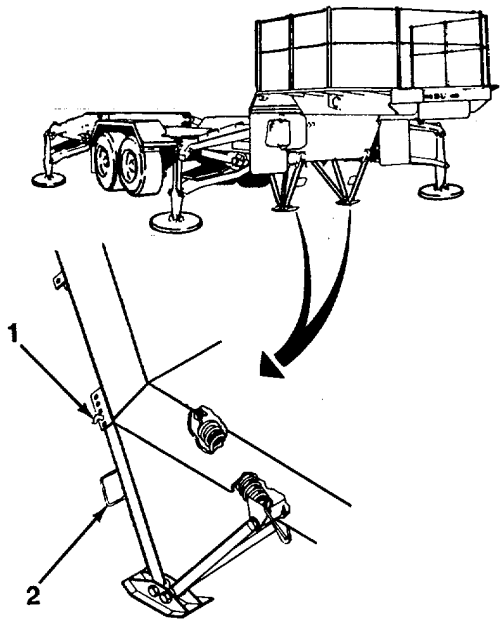
CHAPTER 2
OPERATING INSTRUCTIONS

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

2-1. GENERAL.

This section shows the location and describes the function of all semitrailer controls and indicators. Review this section thoroughly before operating the semitrailer.

2-2. CONTROLS AND INDICATORS.



LANDING GEAR

Key	Control or Indicator	Function
1	Hitch Pin	Secures landing gear in extended or retracted position.
2	Handle	Raises or lowers landing gear.

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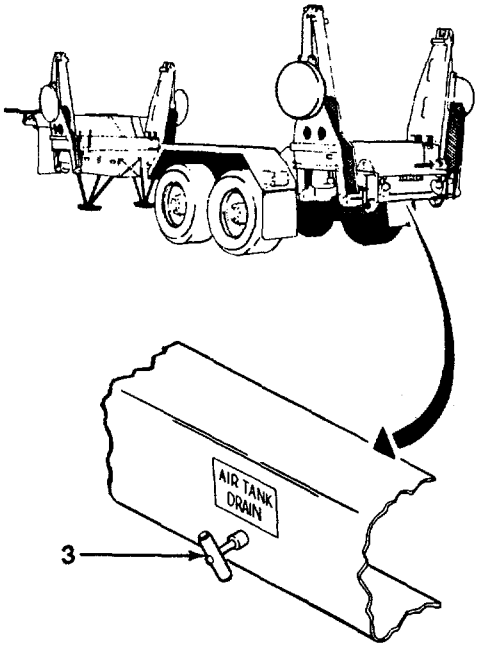
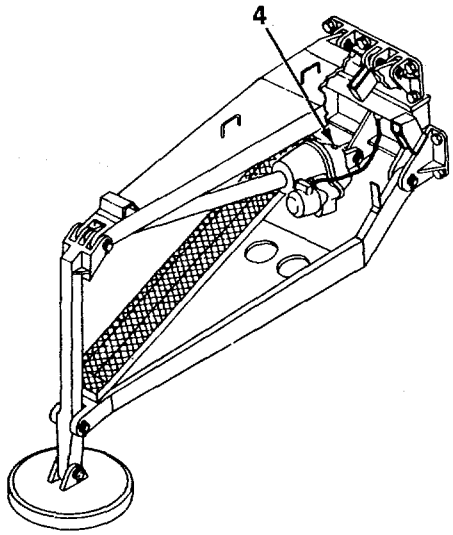
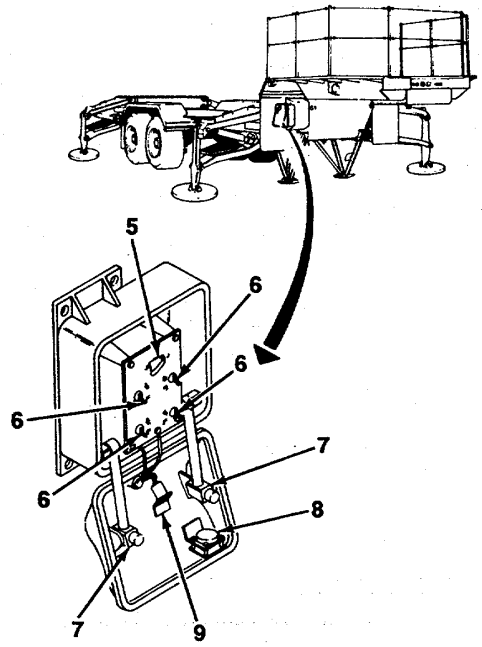
2-2. CONTROLS AND INDICATORS (Con't).





Key	Controls or Indictors	Function
3	Air Reservoir Drain Handle	Actuates remote air release line which draws air and moisture in air reservoir.
4	Outrigger Oil Level Sight Gage	Indicates level of oil in outrigger actuator. Outrigger must be in upright, stowed position

2-2. CONTROLS AND INDICATORS (Con't).



Key	Controls or Indictors	Function
5	Power Switch	Turns system on and off.
6	Outrigger Control Switches	Control extention and retraction of individual outriggers
7	Locks	Lock outrigger control panel cover in open position.
8	Leveling Device	Indicates amount of cant in semitrailer.
9	Light	Lights leveling device during night operations.

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

2-3. GENERAL.

a. To ensure that the M860A1 Flatbed Semitrailer is ready for operation at all times, it must be inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure, or injury to personnel. This section contains systematic instructions on inspections, adjustments, and corrections to be performed by the operator/crew.

b. While performing PMCS, read and follow all safety instructions found in the Warning Summary at the front of this manual. Keep in mind all WARNINGs and CAUTIONs.

2-4. SERVICE INTERVALS.

Perform PMCS, found in Table 2-1, at the following intervals:

(1) Perform *Before* (B) PMCS before operating the semitrailer.
(2) Perform *During* (D) PMCS while operating the semitrailer.
(3) Perform *After* (A) PMCS right after operating the semitrailer.
(4) Perform *Weekly (W)* PMCS once each week.

2-5. REPORTING REPAIRS.

All defects which the operator cannot fix must be reported on a DA Form 2404, *Equipment Inspection and Maintenance Worksheet,* immediately after completing PMCS. If a serious problem is found, IMMEDIATELY report it to your supervisor.

2-6. GENERAL PMCS PROCEDURES.

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 1000F-138°F (38°C-590C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

a. Keep equipment clean. Dirt, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 16, Appendix E) on all metal surfaces. Use detergent (Item 9, Appendix E) and water on rubber, plastic, and painted surfaces.

2-6. GENERAL PMCS PROCEDURES (Con't). I

b. While performing specific PMCS procedures, inspect the following components:

(1) **Bolts, Nuts, and Screws.** Ensure that they are not loose, missing, bent, or broken. Report loose or missing bolts, nuts, and screws to Organizational Maintenance.

(2**) Welds.** Inspect for gaps where parts are welded together. Check for loose or chipped paint, rust, and cracks. Report bad welds to Organizational Maintenance.

(3) **Electric Conduit, Wires, or Connectors.** Inspect for cracked or broken conduit insulation, bare wires, and loose or broken connectors. Report loose connections and faulty wiring to Organizational Maintenance.

(4) **Hoses, Lines, and Fittings.** Inspect for wear, damage, and leaks. Ensure that clamps and fittings are tight. Report any damage, leaks, or loose fittings and clamps to Organizational Maintenance.

c. Check that components are adequately lubricated in accordance with Chapter 3, Section I.

2-7. SPECIFIC PMCS PROCEDURES.

a. Operator/Crew PMCS are provided in Table 2-1. Always perform PMCS in the order listed. Once it becomes a habit, anything that is not right can be spotted in a minute.

b. Before performing PMCS, read all the checks required for the applicable interval and prepare all the tools needed. Have several clean rags (Item 14, Appendix E) handy. Perform ALL inspections at the applicable interval.

c. If anything wrong is discovered through PMCS, perform the appropriate troubleshooting task in Chapter 3, Section II. If any component or system is not serviceable, or if a given service does not correct the problem, notify your supervisor.

d. The columns in Table 2-1 are defined as follows:

(1) **Item No**. Provides a logical sequence for PMCS to be performed and is used as a source for item numbers for the "TM ITEM NO." column when recording PMCS results on DA Form 2404.

(2) **Interval.** Specifies the interval at which PMCS is to be performed.

(3) **Item To Be Inspected.** Lists the system and common name of items that are to be inspected. Included in this column are specific servicing, inspection, replacement, or adjusting procedures to be followed.

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 (AR 700-138).

(4) **Equipment Is Not Ready/Available If.** Explains when and why the semitrailer cannot be used.

2-8. LEAKAGE DEFINITIONS.

a. It is important for you to know how fluid leakage affects the semitrailer. Following are types/classes of leakage an operator must know to determine whether the semitrailer is mission-capable. Learn these leakage definitions. When in doubt, notify your supervisor.

Leakage Definitions for Operator/Crew PMCS

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

2-8. LEAKAGE DEFINITIONS (Con't).

CAUTION

When operating with Class I or II leaks, continue to check fluid levels in addition to that required in your PMCS. Parts without fluid will stop working or may be damaged.

b. Equipment operation is allowed with minor (Class I or II) leakage. Fluid levels in an item/system affected with such leakage must be checked more frequently than required in PMCS. When in doubt, notify your supervisor.

c Report Class III leaks IMMEDIATELY to your supervisor.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS).

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

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled, or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
					NOTE **Perform Weekly (W) as well as Before** (B) **PMCS if:** **a. You are the assigned operator but have not operated the semitrailer since the last Weekly.** **b. You are operating the semitrailer for the first time.**	
1					**EXTERIOR OF SEMITRAILER**	
	•				a. Check tires for unusual or extreme wear, cuts, cracks, and imbedded foreign objects.	Tires have cuts or abrasions that would result in tire failure during operation. One or more tires missing or unserviceable.
				•	b. Using tire gage, check tires for correct pressure of 65 psi (448 kPa) when tires are cool.	
	•				c. Visually check for loose, missing, or damaged parts.	
	•				d. Check for evidence of oil leaks on or under semi-trailer.	
2				•	**WHEELS** Check wheels and wheel nuts to ensure that they are secured. If loose,notify Organizational Maintenance.	
3	•				**BRAKE AIR HOSES** Check air hoses for obvious damage.	Air hose missing or damaged.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

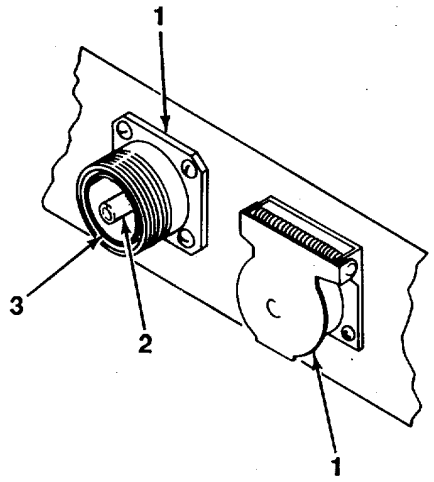
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
4					**ELECTRICAL WIRING AND CONNECTORS**	
	•				a. Visually check electrical wiring for cuts, breaks, or other damage.	
			•		b. Visually check connector bodies (1) for secure mounting and damage.	
			•		c. Visually check pins (2) for dirt, bends, bums, or broken pins.	
			•		d. Visually check insulator (3) for signs of deterioration or arcing.	
						
5					**SPRINGS AND SUSPENSION**	
	•				a Visually check springs for extensive sagging, broken leaves, and broken or missing clips and associated hardware	Spring assemblies damaged or missing parts.
	•				b. Check torque rods for looseness or damage	Damaged, loose, or missing parts.

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Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

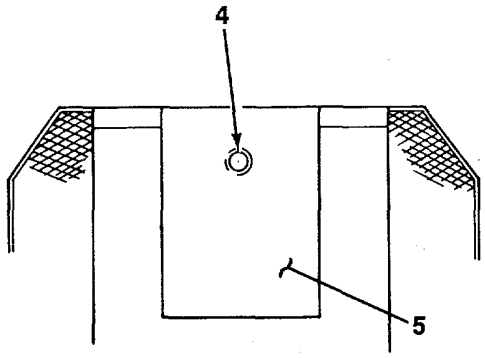
ITEM NO.	INTERVAL B	D	A	W	ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
6					**FIFTH WHEEL KINGPIN**	
	.				a. Check fifth wheel kingpin (4) for obvious wear cracks, chips, gouges, and/or damage. Check for secure mounting	Fifth wheel kingpin is damaged, cracked, broken, bent, chipped,. gouged, missing, or has uneven wear.
	.				b. Check fifth wheel kingpin mounting plate (5) for cracks and dents. 	Mounting plate is cracked.
7	.				**LANDING GEAR** Check landing gear for proper operation, secure mounting, and obvious damage.	

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Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

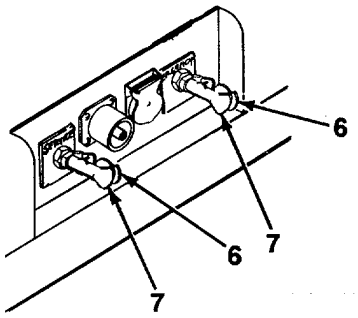
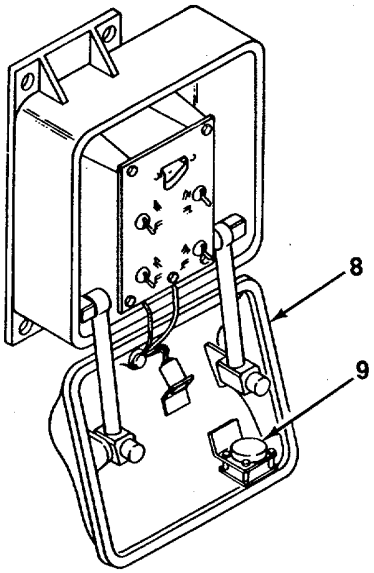
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
8	•				**AIR LINES CONNECTIONS** Check air couplings (7) for secure mounting and damage, and check that covers (6) move freely. Clean dirt from mounting surfaces.  	Air couplings are broken, missing, or leaking.-
9				•	**LEVELING DEVICE** Lower outrigger control panel cover (8) and visually check leveling device (9) for broken lens, or leaking or lost fluid.  	Leveling device is broken or missing.

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Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
10	•				**OUTRIGGERS** a. Connect slave cable (para 2-12) and check outriggers (10) for proper operation (para 2-12).	One or more outriggers inoperative. Outrigger fails to operate electrically.
	•				b. Visually check for damage, cracks, and broken or missing components that would hinder safe operation	Damaged, cracked, or missing components.
				•	c. Visually check oil level sight gage (11) for proper oil level. Outrigger (10) must be in upright, stowed position.	Oil level is not visible.
				•	d. Exercise outrigger (10) by moving it up and down at least one time.	

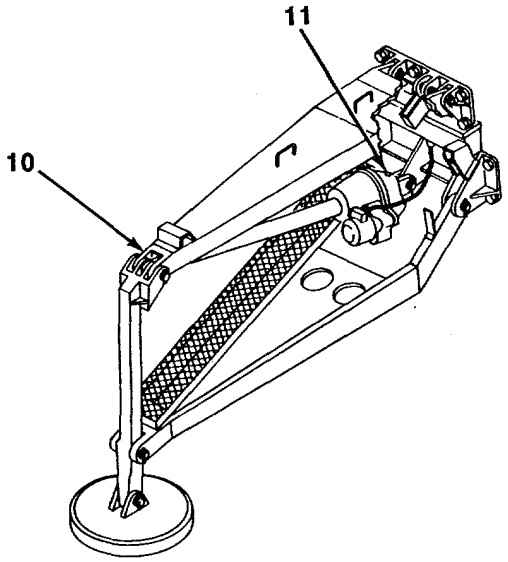

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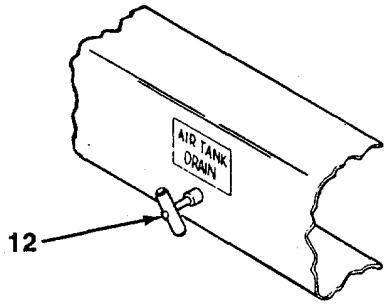
Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

ITEM NO.	INTERVAL B	D	A	W	ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled or adjusted as needed	EQUIPMENT IS NOT READY/AVAILABLE IF
11	•				**BRAKES** Test brake system by coupling semitrailer to tractor truck (para 2-10). Check air line connections and ensure that the tractor truck service air line is on. Apply semitrailer brakes several times and check for any unusual conditions or unsatisfactory performance (grab-bing, pulling, or slow application).	Service brakes fail to operate.
12	•				**AIR PRESSURE** Test airbrake system by stopping engine of tractor truck when air is at maximum operating pressure. Apply semitrailer brakes and listen for air leaks.	
13					**TRACKING** Pull semitrailer straight ahead and check for any side pull, wander, shimmy, or slack between kingpin and fifth wheel lock.	
14	•			•	**LIGHTS AND REFLECTORS** **NOTE** **An assistant Is required while checking all lights.** a. If tactical situation permits, with semitrailer still coupled to tractor truck, operate the tractor truck light switch through all settings and check semi-trailer lights for proper operation. b. Visually check for damaged reflectors.	
15	•				**BRAKEDRUM AND HUB** **WARNING** **When checking for improperly adjusted brakes or dry wheel bearings, cautiously feel each wheel hub and brakedrum. Serious burns may result from touching an overheated wheel hub and brakedrum.** Cautiously feel brakedrums and hubs for excessive heat. Overhearing could indicate improperly adjusted or defective wheel bearings, or a locked-up brake.	

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

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

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED Procedure: Check for and have repaired, filled, or adjusted as needed.	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
16			.		**AIR RESERVOIR** a. Pull air reservoir drain handle (12) at rear of semitrailer to drain condensation (para 3-9).	
				.	b. Visually check air reservoir under semitrailer for damage and/or leaking. 	

TA706420

Section III. OPERATION UNDER USUAL CONDITIONS

2-9. OPERATION OF LANDING GEAR.

a. **Lowering.**

NOTE

If ground is soft, place ground boards (Appendix D) under sandshoes (3) to prevent semitrailer from sinking.

(1) Remove hitch pin (7) from bracket (1).

(2) Grasp handle (5) and lower landing gear (4) until forward leg pinhole (6) is alined with appropriate hole in bracket (2).

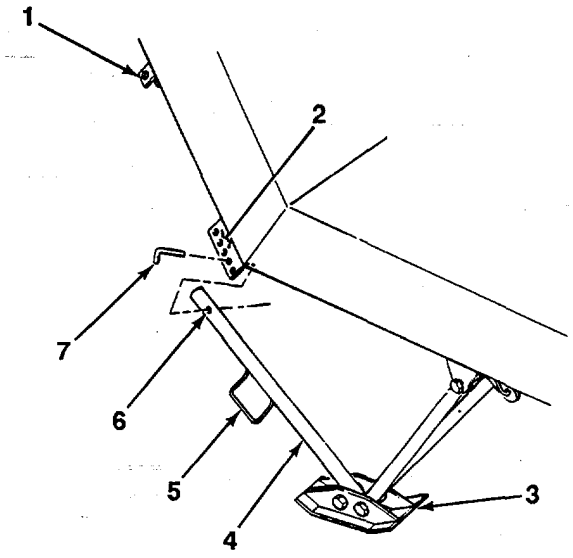
(3) Install hitch pin (7) in bracket (2).

b. **Raising.**

(1) Remove hitch pin (7) from bracket (2).

(2) Grasp handle (5) and raise landing gear (4) until forward leg pinhole (6) is alined with hole in bracket (1).

(3) Install hitch pin (7) in hole in bracket (1).



TA706421

2-10. COUPLING SEMITRAILER.

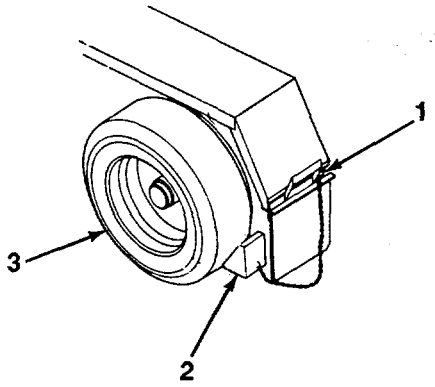
WARNING

All personnel must stand clear of tractor truck and semitrailer during coupling operation. Failure to follow this warning may result in serious Injury or death to personnel.

NOTE

Perform all Before PMCS prior to performing the tasks listed below. PMCS is an Integral part of preparation for use.

a. Remove chock blocks (2) from each stow-age bracket (1) and place behind rearmost wheel (3) on each side of semitrailer.



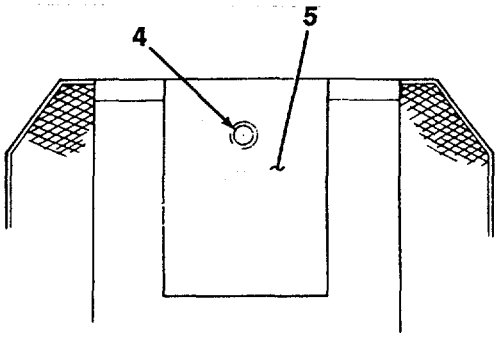
b. Aline tractor truck with semitrailer and slowly back tractor truck so that fifth wheel kingpin (4) alines withcoupler jaws (7).

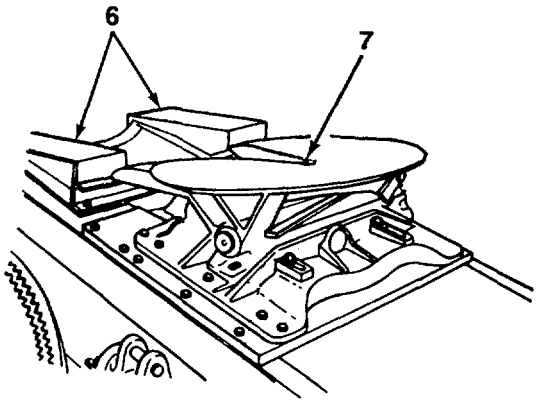
CAUTION

DO NOT use outriggers to adjust height of semitrailer. Damage to outriggers may result during coupling operation.

c. Ensure that fifth wheel kingpin plate (5) is above approach ramps (6). Adjust height as necessary using landing gear.

d. Slowly back tractor truck until coupler jaws (7) engage fifth wheel kingpin (4) and lock.





e. Remove chock blocks (2) from behind rearmost wheels (3) and stow in stowage brackets (1).

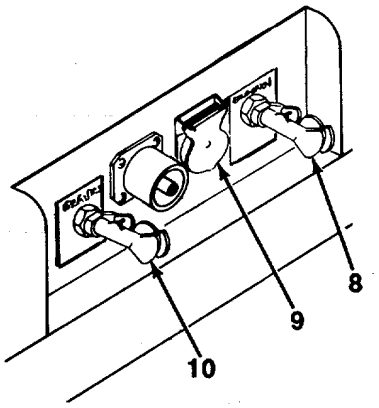
f. Ensure that coupling is secure by inching tractor truck forward. If coupling is not locked, slowly rock tractor truck back and forth until fifth wheel kingpin (4) is locked in coupler jaws (7).

TA706422

2-10. COUPLING SEMITRAILER (Con't).

g. Connect tractor trailer's inter vehicular cable to connector (9) by pushing in straight.

h. Connect service air line to service air coupling (10) and emergency air line to emergency air coupling (8). Open shutoff valves on tractor truck.



i. Ensure that air lines and intervehicular cable are supported and will not catch or chafe during operation.

j. Pressurize air system by applying tractor truck brakes.

k. Raise landing gear (para 2-9).

l. Have driver tun on tractor truck lights. Ensure that amber clearance lights (11), red clearance lights (12), and composite lights (13) are lit.

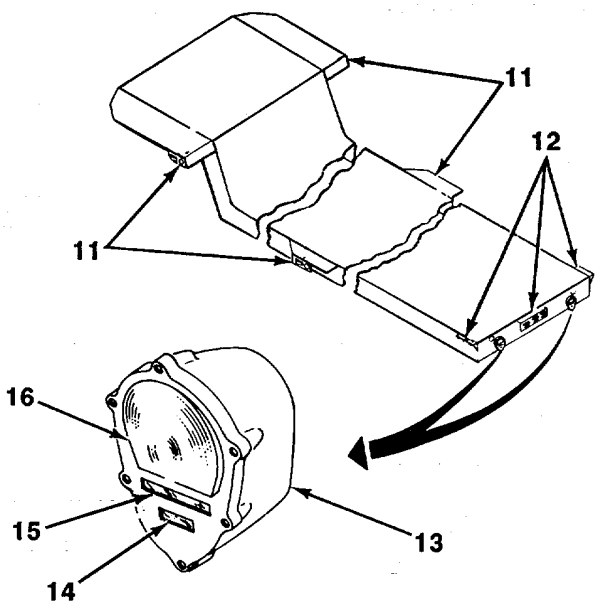
m. Have driver apply brakes. Ensure that main lens (16) of both composite lights (13) are lit and that they go out when brake pedal is released.

n. Have driver operate turn signals. Ensure that main lens (16) of composite light (13) flashes when operating left and right turn signals.

o. Have driver operate blackout lights. Ensure that amber clearance lights (11) and red clearance lights (12) go out, and blackout slot (15) of both composite lights (13) is lit.

p. Have driver apply brakes. Ensure that blackout stoplights (14) are lit and that they go out when brake pedal is released.

q. Have driver operate turn signals. Ensure that marker in blackout slot (15) of composite light (13) flashes when operating left and right turn signals.



r. Have driver apply semitrailer brakes only (para 2-11). While watching semitrailer wheels, have driver move tractor truck and semitrailer forward. Semitrailer wheels should be locked.

TA706423

2-11. OPERATION OF SEMITRAILER.

NOTE

- **For additional Information on driving, see FM 21-305.**
- **Semitrailer is designed to be towed by 10 ton, 8x8, Tractor Truck (M983).**

a. **Towing.**

(1) When towing the semitrailer, overall length of the unit must be kept in mind when passing other vehicles and when turning.

(2) Turning and backing operations will be affected because the tractor truck and semitrailer are a hinged unit.

(3) Semitrailer's payload will effect stopping and off-road maneuverability.

(4) Always tow semitrailer at safe speeds and note any driving irregularities.

b. **Turning.**

(1) When turning corners, allow for semitrailer wheels turning inside turning radius of tractor truck.

(2) To make a right turn at an intersection, drive tractor truck halfway into intersection, then cut sharply to right. This will allow for shorter turning radius of semitrailer and will keep semitrailer off curb.

c. **Stopping.**

(1) During normal operation, brake pressure must be applied gradually and smoothly.

(2) Brakes of tractor truck and semitrailer are applied at the same time when driver applies brake pedal.

(3) Semitrailer brakes may be applied separately by using brake control lever on tractor truck steering column. On steep grades or slippery surfaces, semitrailer brakes must be applied before tractor truck brakes. This will help prevent semitrailer from jackknifing or swinging out of line of travel.

d. **Parking.**

(1) When tractor truck and semitrailer are to be parked and left unattended, set parking brake on tractor truck.

(2) Turn off tractor truck engine.

(3) Set chock blocks behind rearmost wheels of semitrailer.

e. **Backing.**

(1) Use a ground guide to ensure safe backing operation.

(2) Adjust all tractor truck rearview mirrors before backing.

(3) If semitrailer is to be backed to right, turn tractor truck steering wheel to left (counterclockwise). If semitrailer is to be backed to left, turn tractor truck steering wheel to right (clockwise).

(4) When semitrailer has turned and backing in a straight line is required, turn tractor truck wheels in the direction semitrailer is moving. This will slowly bring tractor truck and semitrailer into a straight line.

2-12. OPERATION OF OUTRIGGERS.

a. **Lowering.**

WARNING

- **Two men are required to implace vehicle outriggers to prevent injury to personnel or damage to equipment on blind side of vehicle.**
- **DO NOT attempt to implace outriggers on a side-slope greater than 100. Failure to follow this warning may result in Injury or death to personnel, or damage to equipment.**

CAUTION

Tractor truck must be uncoupled from semitrailer before using outriggers for leveling.

Failure to follow this caution may cause damage to semitrailer.

NOTE

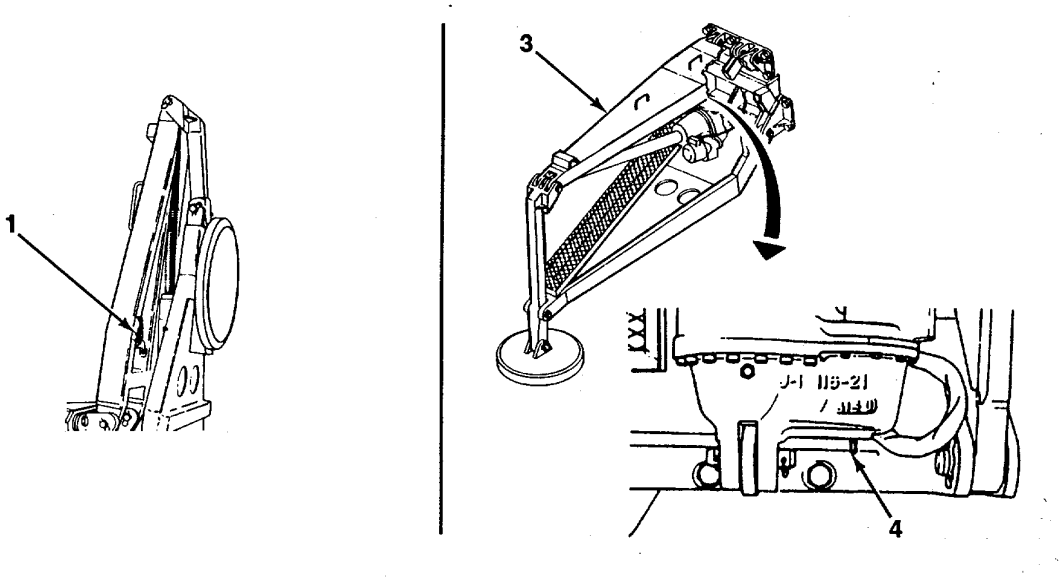
To manually lower outriggers, only perform steps (1) and (2). To electrically lower outriggers, skip step (2).

(1) Unhook travel lock safety chains (1).

NOTE

Manual operation of outrigger requires %6 in. socket and ratchet.

(2) Install socket and ratchet on outrigger manual drive shaft (4), and crank ratchet to lower outrigger (3).



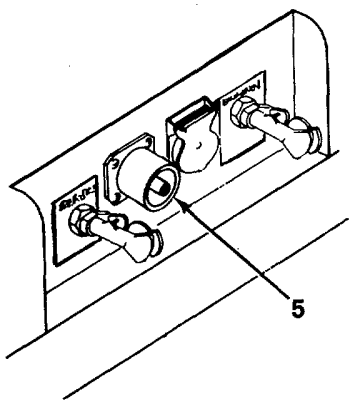
TA706424

2-12. OPERATION OF OUTRIGGERS (Con't).

NOTE

Slave cable must be used to bring power from tractor truck or other power source to semitrailer to operate outriggers.

(3) Connect slave cable to connector (5) on semitrailer.



(4) Open outrigger control panel door (8). Set power switch (6) to ON position.

CAUTION

- **Lower front outriggers or rear outriggers together. DO NOT operate left front and right rear and right front and left rear at same time. Doing so could cause semitrailer to tip over.**
- **Front outriggers must be Implanted first, with eciual leveling between front and rear, to prevent overload of outrigger actuator mechanism.**

NOTE

Ensure that outrigger control switches are held momentarily. Circuit breaker will open if outrigger control switches are held too long. Circuit breaker will reset in about two minutes.

(5) Hold front outrigger control switches (9), either in pairs or individually, to lower outriggers (3) until they contact ground. Release switches. Repeat for rear outrigger control switches.

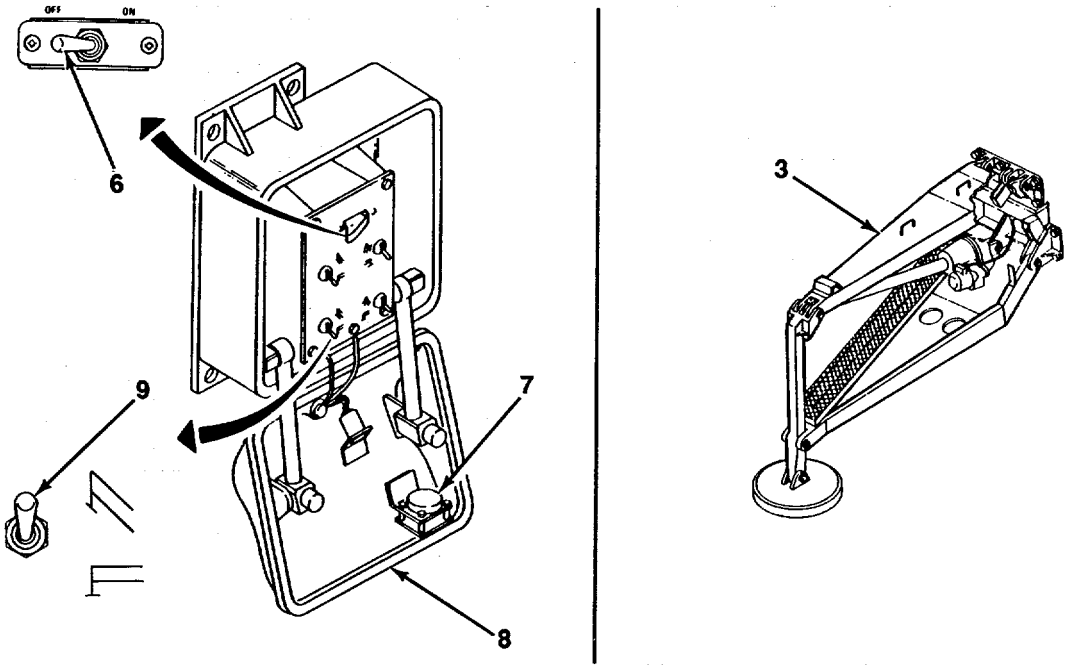
NOTE

Ensure that outrigger control switches are held momentarily. Circuit breaker will open If outrigger control switches are held too long. Circuit breaker will reset in about two minutes.

(6) Simultaneously hold front outrigger control switches (9) to lower outriggers (3) until semitrailer wheels are off the ground. Release outrigger control switches. Repeat for rear outrigger control switches.

TA706425

2-12. OPERATION OF OUTRIGGERS (Con't).



(7) Hold individual outrigger control switches (9) to lower or raise outriggers (3) as necessary until leveling device (7) in outrigger control panel door (8) indicates semitrailer is level. Release outrigger control switches.

(8) Set power switch (6) to OFF position. Close outrigger control panel door (8).

(9) Disconnect slave cable from connector (5).

b. **Raising.**

NOTE

To manually raise outriggers, only perform steps (7) and (8). To electrically raise outriggers, skip step (7).

(1) Connect slave cable to connector (5) on semitrailer.

(2) Open outrigger control panel door (8). Set power switch (6) to ON position.

CAUTION

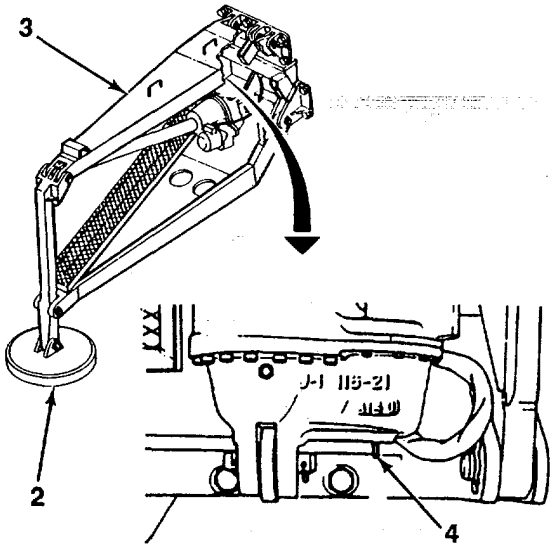
- DO NOT raise outriggers Individually until semitrailer wheels are on ground.
- Raise front outrlggers or rear outriggers together. DO NOT operate left front and right rear or right front and left rear at same time. Doing so could cause semitrailer to tip over.

(3) Hold outrigger control switches (9) in pairs to raise outriggers (3) until semitrailer wheels are on ground.

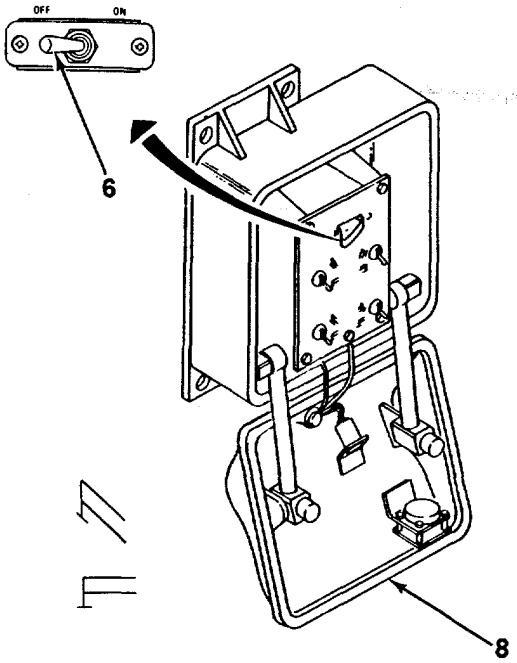
TA706426

2-12. OPERATION OF OUTRIGGERS (Con't).

(4) Ensure that outrigger shoes (2) are free to pivot once semitrailer wheels are on ground. Outriggers (3) may be raised either in pairs or individually untilcompletely raised.



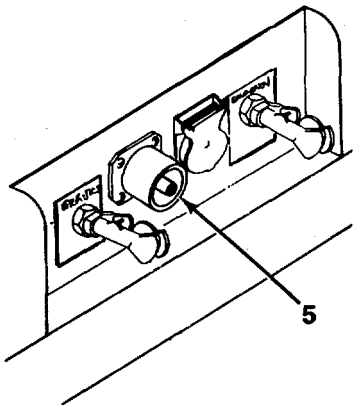
(5) Set power switch (6) to OFF position. Close outrigger control panel door (8).



TA706427

2-12. OPERATION OF OUTRIGGERS (Con't).

(6) Disconnect slave cable from connector (5).

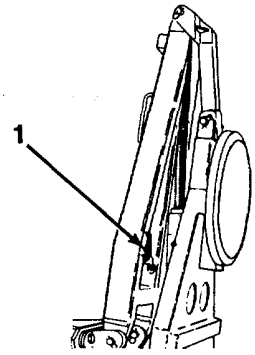


NOTE

Manual operation of outrigger requires N6 in. socket and ratchet.

(7) Install socket and ratchet on outrigger manual drive shaft (4) and crank ratchet to raise outrigger (3).

(8) Hook travel lock safety chains (1).



TA706428

2-13. UNCOUPLING SEMITRAILER.

WARNING

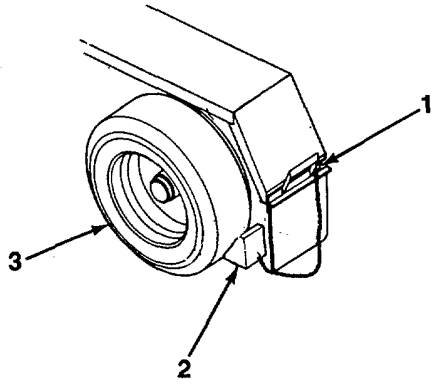
All personnel must stand clear of tractor truck and semitrailer during uncoupling operation. Failure to follow this warning may result in serious Injury or death to personnel.

CAUTION

DO NOT use outriggers to support semitrailer during uncoupling operation. Damage to outriggers may result.

a. Lower landing gear (para 2-9).

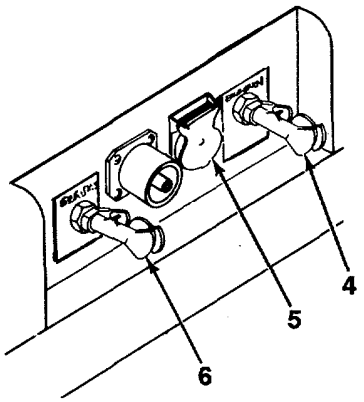
b. Remove chock blocks (2) from each stowage bracket (1) and place behind rearmost wheel (3) on each side of semitrailer.



c. Close shutoff valves on service and emergency air lines on tractor truck.

d. Disconnect service air line from semitrailer service air coupling (6) and emergency air line from emergency air coupling (4).

e. Disconnect intervehicular cable from connector (5).



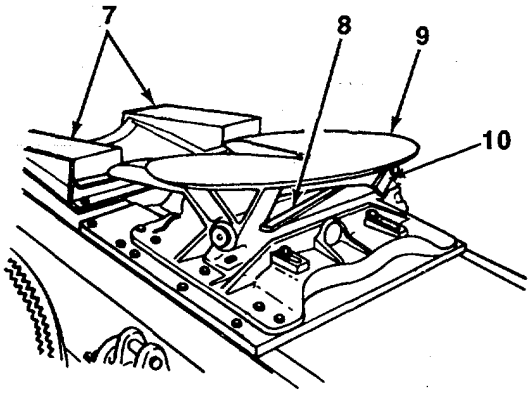
TA706429

2-13. UNCOUPLING SEMITRAILER (Con't).

WARNING

DO NOT use outriggers to adjust height of semitrailer. Damage to outriggers may result during uncoupling procedures.

f. Release semitrailer fifth wheel kingpin from tractor truck coupler jaws (9) by holding locking plunger (10) and moving locking lever (8) forward.
g. Slowly drive tractor truck forward until semitrailer is clear of approach ramps (7).



2-14. SLINGING OPERATIONS.

WARNING

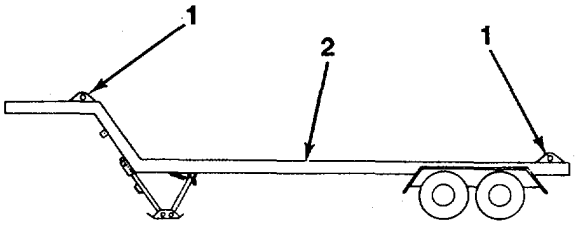
All personnel must stand clear of semitrailer during slinging operations. Failure to follow this warning may result in Injury to personnel or damage to equipment.

NOTE
Ensure that all sling hook points are toward outside of semitrailer.

a. Connect sling hooks to four lifting eyes (1).

b. Lift semitrailer (2) when all four sling hooks are attached to lifting eyes (1).

c. After moving semitrailer (2), remove sling hooks from lifting eyes (1) and stow sling.



TA706430

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-15. GENERAL.

a. This section contains instructions for safely operating the M860A1 Flatbed Semitrailer under unusual conditions. In addition to normal preventive maintenance and services, special care must be taken to keep semitrailer operational in extreme temperatures and humidity.

b. Chronic failure of materiel resulting from exposure to extreme conditions must be reported in accordance with DA Pam 738-750.

2-16. OPERATION IN EXTREME COLD OR SNOW.

a. Special care must be taken when operating semitrailer in cold weather. Refer to FM 9-207 and FM 21-305 for special instructions on operating in cold or snow.

b. Refer to Lubrication Instructions (Chapter 3, Section I) for proper lubrication during extreme cold weather.

c. Be cautious when placing semitrailer in motion after a shutdown. Thickened lubricants could cause damage to equipment.

d. When parking for any period of time in temperatures below 0 °F (-18 °C), park in a sheltered area out of the wind and clean off any buildup of ice or snow. Place a footing of planks or brush under tires and landing legs to prevent them from freezing to the ground. Ensure that the tires are properly inflated (para 1-9). Underinflated tires will freeze, resulting in flat spots.

e. Brakeshoes may be frozen to brakedrums and may require preheating to avoid damage.

2-17. OPERATION IN EXTREME HEAT.

a. Preventive maintenance is critical when operating at high temperatures. Semitrailer operating systems must be kept cool, clean, and in good condition. Refer to Lubrication Instructions (Chapter 3, Section I) for proper lubricant during extreme heat conditions.

b. Fluids evaporate or break down under extreme heat. Have Organizational Maintenance check outrigger control box and outrigger actuator fluids more frequently.

c. Do not park semitrailer in sun for long periods of time as heat and sunlight will shorten life of tires. Check tires more often for damage or wear. Check tire inflation and add air when tires are cold and during midpoint temperature during day, if possible. Do not over inflated tires (para 1-9).

d. Shelter or cover semitrailer, if tactical situation permits.

2-18. OPERATION IN RAINY OR HUMID CONDITIONS.

a. Refer to Lubrication Instructions (Chapter 3, Section I) for proper lubricant during humid conditions.

b. Equipment will rust and fungus will grow more readily in rainy or humid climates. Equipment must be inspected, cleaned, and lubricated more frequently.

2-19. FORDING.

a. Water obstacles can be forded to a depth of 30 in. (76 cm).

b. Clean, inspect, and lubricate immediately after fording or when tactical situation permits.

c. Saltwater immersion greatly increases rusting and corrosion. Equipment must be inspected, cleaned, and lubricated more frequently.

2-20. OPERATION IN MUD.

a. Maximum allowable speed when driving in mud is 5 mph (8 kph).

CAUTION

Under no circumstances will semitrailer be pulled or pushed from rear. Damage to equipment may result.

b. If one or more wheels sink into mud, it may be necessary to raise wheel and insert planking or matting beneath it.

c. Thoroughly clean off all mud immediately after operation in mud. Inspect and lubricate (Lubrication Instructions, Chapter 3, Section I) immediately, or when tactical situation permits.

2-21. OPERATION IN DUSTY OR SANDY AREAS.

NOTE

For desert operations, all requirements for extreme heat apply.

a. Dust or sand act as contaminants and abrasives, which increase damage and wear.

b. Keep semitrailer lubricants clean. Wipe clean all lubricating tools and lubrication points before lubricating. Lubricate enclosed seals through grease fittings more often, adding lubricant until clean lubricant comes out. Wipe excess lubrication from seals and grease fittings. Check that seals and fittings are not damaged.

c. Oils and grease act as magnets for dust or sand and create a sludge that clogs, damages, and increases wear on parts. Keep lubrication of exposed bearing surfaces to a minimum, and use only what is necessary to reduce friction.

d. When performing maintenance on semitrailer, cover area being worked on to prevent dirt and dust contamination.

e. Traveling over rocky desert terrain can quickly damage tires. Frequently check condition of tires.

f. Traveling over rocky desert terrain can damage frames, sheer rivets, or loosen nuts and bolts. Check for these conditions at each halt. Early detection can prevent damage from occurring.

CHAPTER 3
OPERATOR MAINTENANCE

Section I. LUBRICATION INSTRUCTIONS

3-1. GENERAL.

NOTE
These Instructions are MANDATORY.

a. The semitrailers must receive lubrication with approved lubricants at recommended intervals in order to be mission-ready at all times.

b. The KEY lists lubricants to be used in all temperature ranges and shows the intervals.

c. The Lubrication Chart shows lubrication points, names of items to be lubricated, the required lubricants, and recommended intervals for lubrication. Any special lubricating instructions required for specific components are contained in the NOTES section of the chart.

d. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

3-2. SPECIFIC LUBRICATION INSTRUCTIONS.

a. Keep all lubricants in a closed container and store in a clean, dry place away from extreme heat. Keep container covers clean and do not allow dust, dirt, or other foreign material to mix with lubricants. Keep all lubrication equipment clean and ready for use.

b. Maintain a record of lubrication performed and report any problems noted during lubrication. Refer to DA Pam 738-750 for maintenance forms and procedures to record and report any findings.

WARNING

Wipe excess lubrication from area of brakeshoe linings to avoid grease soaking linings. If brakeshoe linings become soaked, have Organizational Maintenance replace brakeshoes. Failure to follow this warning may cause brakes to malfunction, resulting in serious Injury or death to personnel.

c. Keep all external parts of equipment not requiring lubrication free of lubricants. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

d. Refer to FM 9-207 for lubrication in cold weather.

e. After operation in muddy, sandy, or dusty conditions, clean and inspect all points of lubrication for fouled lubricants. Change lubricants as required.

LUBRICATION CHART

SEMITRAILER, FLATBED: RADAR SET AND LAUNCHING STATION M860A1 (NSN 2330-01-117-3280)

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

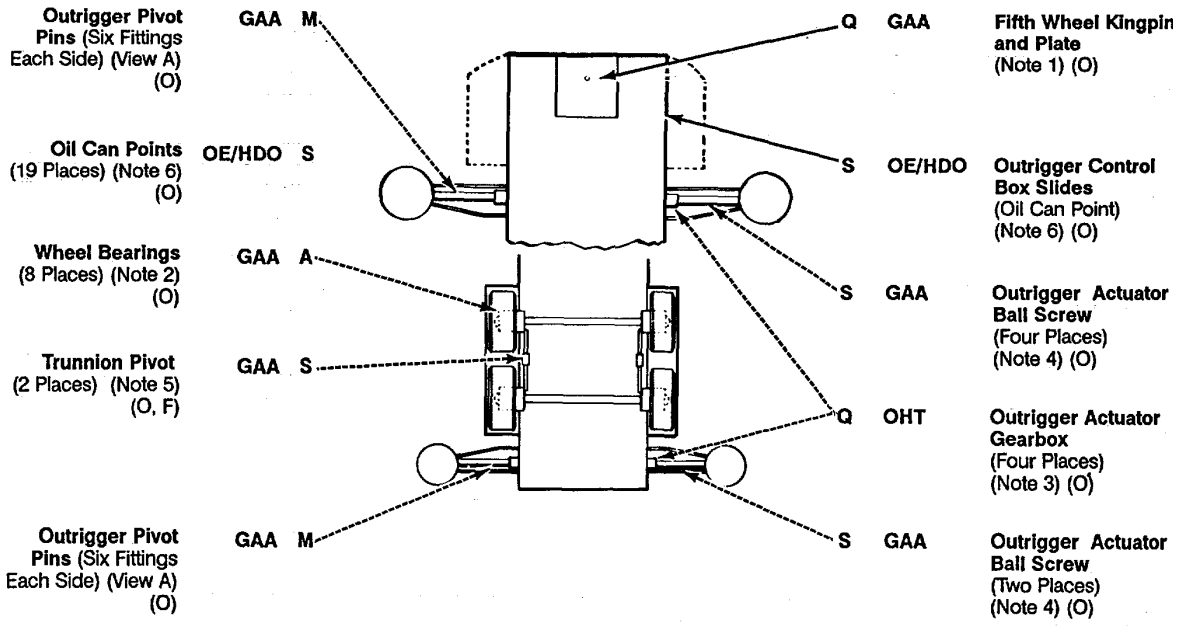
Dotted leader lines indicate lubrication is required on both sides of the equipment.

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves. and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 1 00°F-1 38°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

Clean all fittings and area around lubrication points with dry cleaning solvent (Item 16, Appendix E) or equivalent before lubricating equipment. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

The lowest level of maintenance authorized to lubricate a point is in indicated in parentheses by use of the following: (C) Operator/Crew; (O) Organizational Maintenance or (F) Direct Support Maintenance



TOTAL MAN-HOURS*

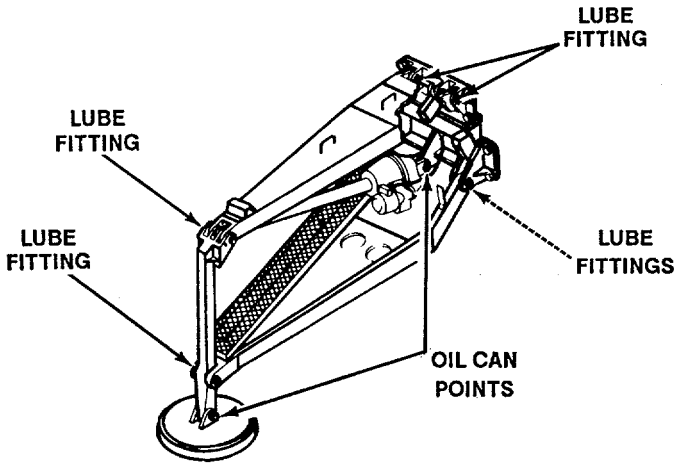
INTERVAL	MAN-HOUR
M	1.0
Q	2.5
S	3.0
A	4.0

* The man-hour time specified is the time you need to do all services prescribed for a particular interval.

TA706431

LUBRICANTS	EXPECTED TEMPERATURES				INTERVALS
	ABOVE +32°F ABOVE 0°C)	+40°Fto-10°F +40C to -230C	0°Fto-65°F (-18°C to -540C)	FOR ARTIC OPERATIONS, REFER TO FM9-207	
OHT (MIL-H-5606) Hydraulic Fluid, Petroleum Base	All Temperatures				M - Monthly Q - Quarterly, 75 Hours, or 750 Miles
GAA (MIL-L-2014) Grease, Automotive and Artillery	All Temperatures				S - Semiannually, 150 Hours, or 1500 Miles
OE/HDO (MIL-L-2104) Lubricating Oil, Internal Combustion Engine	All Temperatures				A - Annually, 300 Hours, or 3000 Miles

Ⓐ **OUTRIGGERS**



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NOTES:

WARNING

Dry cleaning solvent is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38 °C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. FIFTH WHEEL KINGPIN AND PLATE. Remove old grease, and clean fifth wheel kingpin and plate with a clean rag (Item 14, Appendix E) and dry cleaning solvent (Item 16, Appendix E). Allow to dry. Coat fifth wheel kingpin and plate with GM grease. Refer to operator PMCS (Table 2-1) for inspection.

WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

2. WHEEL BEARINGS. Disassemble, clean with a clean rag (Item 14, Appendix E) and dry cleaning solvent (Item 16, Appendix E), and inspect wheel bearings. Pack with GM grease and assemble.

3. OUTRIGGER ACTUATOR GEARBOX. Remove filler plug and drain plug, and allow all fluid to drain into a suitable container. Install drain plug and fill gearbox (ball screw actuator in horizontal position) with 2 qt (1.89 l) OHT hydraulic fluid. Install filler plug and wipe off any excess fluid.

4. OUTRIGGER ACTUATOR BALL SCREW. A minimal amount of GM grease (approximately three pumps on a handgun) should be discharged.

5. TRUNNION PIVOT.

a. Organizational. Semiannually, loosen dust cap slightly and fill with GM grease (through grease fitting in lower pivot point) until grease is forced out from around dust cap. Tighten dust cap.

WARNING

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b. Direct Support. Annually, disassemble, clean with a clean rag (item 14, Appendix E) and dry cleaning solvent (Item 16, Appendix E) and inspect pivot bearings. Pack pivot bearings with GAA grease and assemble.

NOTE

Grade 15W/40 (OE/HDO 15W/40) is the preferred lubricant when temperatures are above 5°F (-15°C). 6.

6. OIL CAN POINTS. Monthly, lubricate outrigger shoe feltwashers, outrigger control box slides, and outrigger actuator mounting swivel bearings (at each end of outrigger actuator) using an oil can with OE/HDO.

Section II. OPERATOR/CREW TROUBLESHOOTING PROCEDURES

3-3. GENERAL.

a. This section provides information for identifying and correcting malfunctions which may develop while operating your semitrailer.

b. The Troubleshooting Symptom Index (para 3-5) lists common malfunctions which may occur and refers you to the proper page in Table 3-1 for a troubleshooting procedure.

c. If you are unsure of the location of an item mentioned in the troubleshooting procedure, refer to paragraph 1-7 or to the maintenance task where item is replaced.

d. Before performing a troubleshooting procedure, read and follow all safety instructions found in the Warning Summary at the front of this manual.

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

f. When troubleshooting a malfunction:

(1) Locate the symptom or symptoms in paragraph 3-5 that best describe the malfunction.

(2) Turn to the page in Table 3-1 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: Malfunction, Test or Inspection (in step number order), and Corrective Action.

(3) Perform each step in the order listed until the malfunction is corrected. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

3-4. EXPLANATION OF COLUMNS.

The columns in Table 3-1 are defined as follows:

(1) **Malfunction.** A visual or operational indication that something is wrong with the semitrailer.
(2) **Test or Inspection**. A procedure to isolate the problem in a component or system.
(3) **Corrective Action.** A procedure to correct the problem.

3-5. TROUBLESHOOTING SYMPTOM INDEX.

Table 3-1. Operator/Crew Troubleshooting.

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
ELECTRICAL SYSTEM
1. ALL LIGHTS FAIL TO LIGHT.
Step 1. Check position of tractor truck light switch.
Set light switch to correct position.
Step 2. Check tractor truck for inoperative lights.
Notify Organizational Maintenance if tractor truck lights are inoperative.

Table 3-1. Operator/Crew Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 3. Check intervehicular cable connection at front of semitrailer and rear of tractor truck.

Connect intervehicular cable (para 2-10).

Step 4. Check electrical connectors for dirty, corroded, or damaged pins.

Clean pins (para 3-7).

Notify Organizational Maintenance if pins are damaged.

2. ONE OR MORE LIGHTS (BUT NOT ALL) FAIL TO LIGHT.

Step 1. Check for loose connections or broken lead wires.

Tighten connections.

Notify Organizational Maintenance if lead wires are broken.

Step 2. Check lens and light assembly for damage.

Notify Organizational Maintenance if lens or light assembly is damaged.

3. DIM OR FLICKERING LIGHTS.

Step 1. Check intervehicular cable connection at front of semitrailer and rear of tractor truck.

Connect intervehicular cable (para 2-10).

Step 2. Check electrical connectors for loose, dirty, corroded, or damaged pins.

Tighten connections.

Clean pins (para 3-7).

Notify Organizational Maintenance if pins are damaged.

BRAKES

4. BRAKES WILL NOT RELEASE.

WARNING

Chock wheels to prevent semitrailer from moving when brakes are released (para 2-13). Failure to follow this warning may result in serious injury or death to personnel.

Step 1. Check for closed airbrake shutoff valves on tractor truck.

Open airbrake shutoff valves (refer to TM 9-2330-279-10).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2. Check semitrailer air reservoir for open air reservoir drain valve.

Close air reservoir drain valve.

Notify Organizational Maintenance if air reservoir drain valve Is closed.

Step 3. Check air pressure of tractor truck.

Build air pressure to normal level.

Step 4. Check connection of air lines to semitrailer air couplings.

Connect air lines to semitrailer air couplings (para 2-10).

Step 5. Check for dirty or leaking air coupling.

Clean air coupling (para 3-8).

Notify Organizational Maintenance if air coupling is leaking.

Step 6. Inspect brake hoses and connectors for leaks.

Notify Organizational Maintenance if hoses or connectors are leaking.

5. BRAKES GRAB.

Check for moisture in air reservoir by opening air reservoir drain valve (para 3-9).

Allow to drain.

Notify Organizational Maintenance if moisture is not present.

6. NO BRAKES OR WEAK BRAKES

Step 1. Check for closed airbrake shutoff valves on tractor truck.

Open airbrake shutoff valves (refer to TM 9-2320-279-10).

Step 2. Check semitrailer air reservoir for open air reservoir drain valve.

Close air reservoir drain valve.

Notify Organizational Maintenance if air reservoir drain valve is closed.

Step 3. Check air pressure of tractor truck.

Build air pressure to normal level.

Step 4. Check connection of air lines to semitrailer air couplings.

Connect air lines to semitrailer air couplings (para 2-10).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

7. SLOW APPLICATION OR SLOW RELEASE OF BRAKES.

Check air pressure of tractor truck.

Build air pressure to normal level.

TIRES

8. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES.

Step 1. Check tire pressure.

Tire pressure should be 65 psi (448 kPa).

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

Tighten lugnuts (para 3-11).

Notify Organizational Maintenance if wheel is cracked or broken.

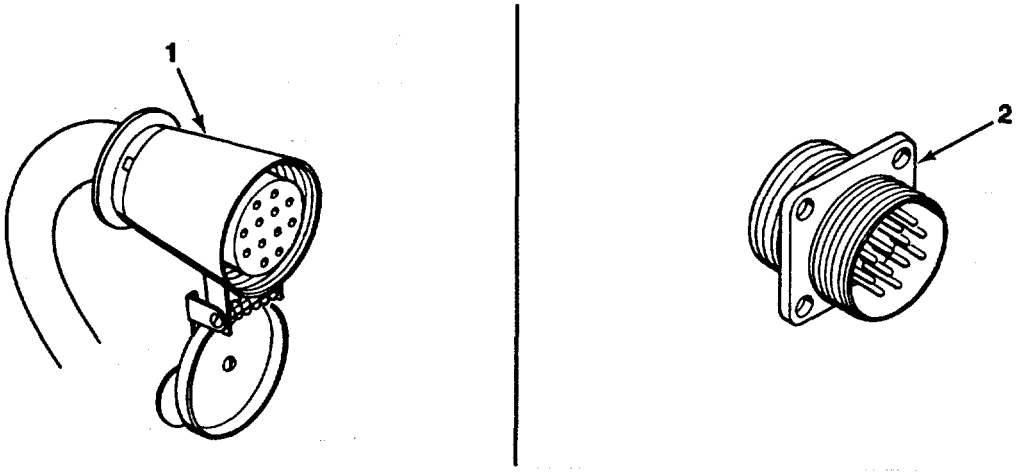
Section III. MAINTENANCE PROCEDURES

3-6. GENERAL.

The following paragraphs contain those maintenance procedures to be performed by operator/crew. If a problem with the equipment is discovered that cannot be corrected, notify Organizational Maintenance.

3-7. CLEANING OF ELECTRICAL CONNECTORS.

a. Use a clean rag (Item 14, Appendix E) to remove any buildup of grease, dirt, or dust on electrical connector (1) and slave cable electrical connector (2).



WARNING

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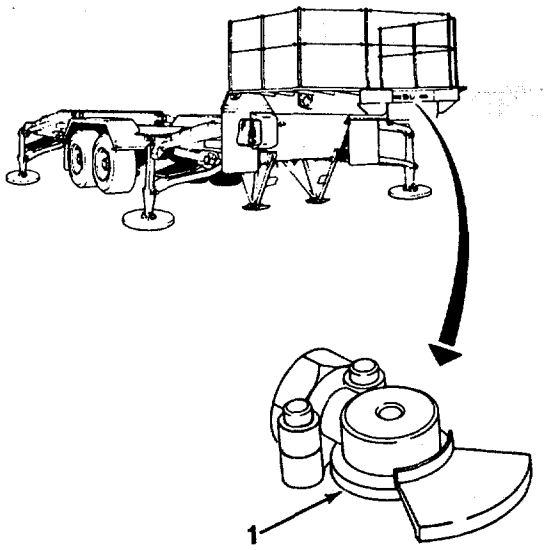
b. Use a scrub brush (Item 4, Appendix E) and dry cleaning solvent (Item 16, Appendix E) to thoroughly clean electrical connectors (1 and 2), and allow to dry.

TA706433

3-8. CLEANING OF AIR COUPLINGS.

a. Use a clean rag (Item 14, Appendix E) to remove any buildup of grease, dirt, or dust on air coupling (1).

b. Use detergent (Item 9, Appendix E) and water to thoroughly clean air coupling (1), and allow to dry.



3-9. SERVICING AIR RESERVOIR.

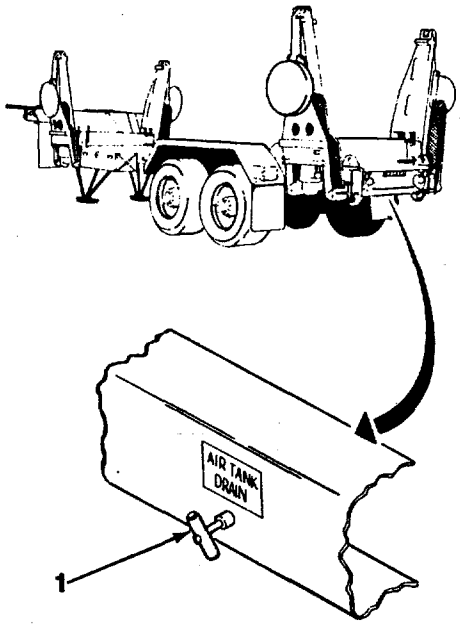
a. Disconnect air lines from semitrailer air couplings (para 2-13).

b. Pull air reservoir drain handle (1) to release air pressure and allow moisture to drain completely.

c. Release air reservoir drain handle (1).

d. Connect air lines to semitrailer air couplings(para 2-10).

e. Allow tractor truck brakes to pressurize brake system (para 2-10) and check for leaks. No leaks are permissible.



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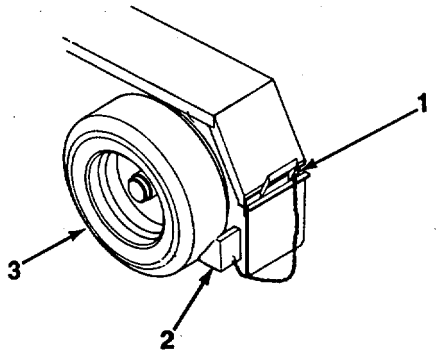
3-10. CAGING AND UNCAGING BRAKES MANUALLY.

a. Caging.

WARNING

Chock wheels to prevent semitrailer from moving when brakes are released (caged). Failure to follow this warning may result in serious Injury or death to personnel.

(1) Remove chock block (2) from each stowage bracket (1) and place behind rearmost wheel (3) on each side of semitrailer.

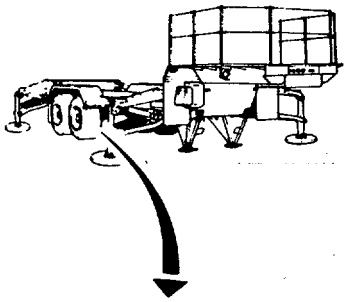


(2) Disconnect air lines from semitrailer air couplings (para 2-13).

(3) Drain air pressure from air reservoir (para 3-9).

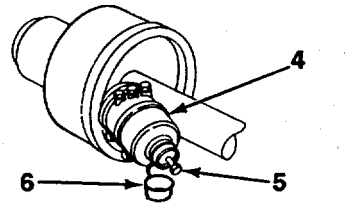
(4) Remove dust cover (6) from brake chamber (4).

NOTE
Socket and ratchet are required to turn bolt.



(5) Turn out bolt (5) until it stops.

(6) Repeat this procedure for each of three other brake chambers (4).



b. Uncaging.

NOTE
Socket and ratchet are required to turn bolt.

(1) Turn in bolt (5) until it stops.

(2) Install dust cover (6) onto brake chamber (4).

(3) Repeat two previous steps for each of three other brake chambers (4).

TA706435

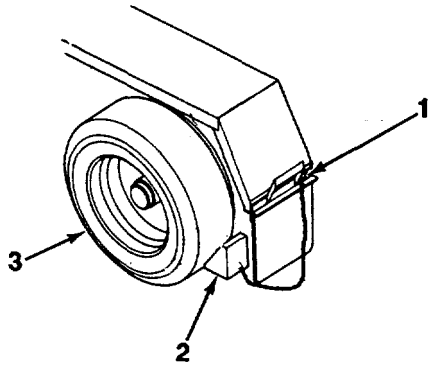
3-10. CAGING AND UNCAGING BRAKES MANUALLY (Con't).

NOTE
Perform the following steps only if continuing operations.

(4) Connect air lines to semitrailer air couplings (para 2-10).

(5) Apply tractor truck brakes to pressurize airbrake system.

(6) Remove chock blocks (2) from behind rearmost wheels (3) and stow in stowage brackets (1).



3-11. WHEEL AND TIRE REPLACEMENT.

NOTE
Task may require an assistant.

a. Removal.

(1) Remove chock block (2) from each stowage bracket (1) and place behind rearmost wheel and tire (3)on each side of semitrailer.

(2) Loosen ten lugnuts (4).

(3) Raise wheel and tire (3) from ground using outriggers (para 2-12).

(4) Remove ten lugnuts (4).

(5) Remove wheel and tire (3).

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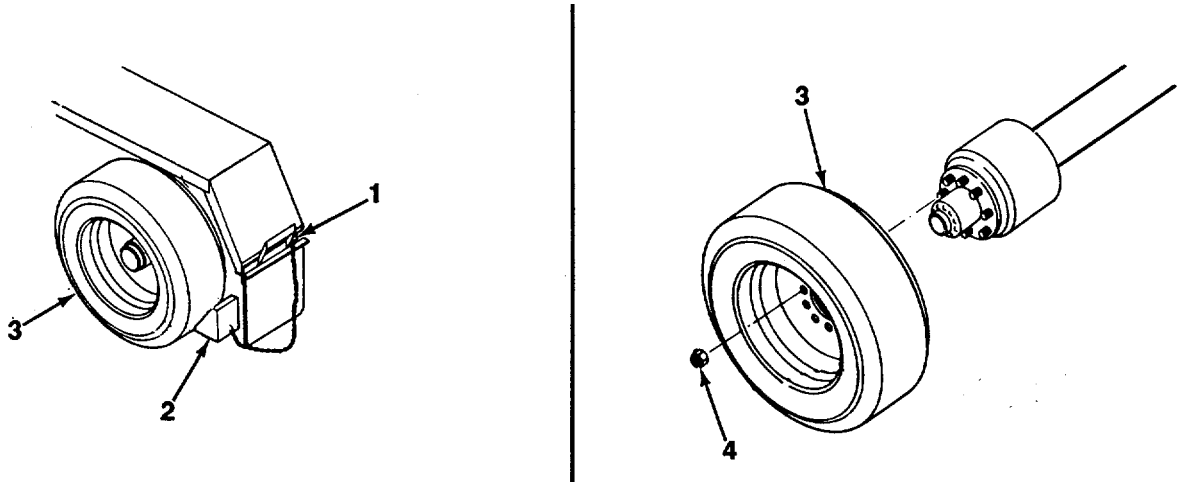
3-11. WHEEL AND TIRE REPLACEMENT (Con't).



b. Installation.

NOTE

- **Notify Organizational Maintenance to apply proper torque to lugnuts as soon as possible.**
- **If semitrailer is new or wheel and tire have been removed, have Organizational Maintenance torque lugnuts after 100 mi (161 km) of operation.**

(1) Install wheel and tire (3) and ten lugnuts (4). Loosely tighten lugnuts.

(2) Lower wheel and tire (3) to ground using outriggers (para 2-12).

(3) Evenly tighten ten lugnuts (4).

(4) Remove chock blocks (2) from behind rearmost wheel and tires (3) and stow in stowage brackets (1).

TA706437

CHAPTER 4
ORGANIZATIONAL MAINTENANCE

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

4-1. COMMON TOOLS AND EQUIPMENT.

Refer to *Modified Table of Organization and Equipment (MTOE)* for authorized common tools and equipment applicable to your unit.

4-2. SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT.

For authorization of special tools; Test, Measurement, and Diagnostic Equipment (TMDE); and support equipment required to maintain the M860A1 Flatbed Semitrailer, refer to Appendix B, Maintenance Allocation Chart (MAC).

4-3. REPAIR PARTS.

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

Section II. SERVICE UPON RECEIPT

4-4. GENERAL.

When a new, used, or reconditioned semitrailer is first received, determine whether it has been properly prepared for service and is in condition to perform its mission. Follow inspection instructions in paragraph 4-5 and servicing instructions in paragraph 4-6.

4-5. INSPECTION INSTRUCTIONS.

a Refer to DD Form 1397 for procedures on unpacking the semitrailer.

b. Remove all straps, plywood, tape, seals, and wrappings from the semitrailer.

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

c. Remove rust preventive compound from coated exterior parts of semitrailer using dry cleaning solvent(Item 16, Appendix E) and rags (Item 14, Appendix E).

d. Inspect semitrailer for damage incurred during shipping. Also check to see if the semitrailer has been modified.

e. Check semitrailer against packing list to ensure that shipment is complete. Report discrepancies or damage in accordance with instructions in DA Pam 738-750.

4-6. SERVICING INSTRUCTIONS.

a. Perform all operator/crew and organizational PMCS. Schedule next PMCS on DD Form 314.

b. Check bottom of trunnion pivot for grease fitting. If grease fitting is not present, remove plug and install grease fitting.

c. Torque all wheel lugnuts to 450-500 Ib.-ft. (610-678 Nom)..

d. Lubricate all lubrication points as described in (Lubrication Instructions, Chapter 3, Section I), regardless of interval.

e. Report any problems discovered during servicing procedures on DA Form 2407.

f. Perform a break-in road test of 25 mi (40 km) at a maximum speed of 55 mph (88 kph).

Section III. ORGANIZATIONAL PREVENTIVE MAINTENANCE

4-7. GENERAL.

To ensure that the M860A1 Flatbed Semitrailer is ready for operation at all times, it must be inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure, or injury to personnel. This section contains systematic instructions on inspections, adjustments, and corrections to be performed by Organizational Maintenance.

4-8. SERVICE INTERVALS.

Perform PMCS, found in Table 4-1, at the following intervals:

(1) Perform *Semiannual* (S) PMCS once every six months.

(2) Perform *Annual* (A) PMCS once each year.

4-9. REPORTING REPAIRS.

Record all deficiencies and corrective actions taken on DA Form 2404. If a serious problem Is found, IMMEDIATELY report it to your supervisor.

4-10. GENERAL PMCS PROCEDURES.

WARNING

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a. Keep equipment clean. Dirt, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 16, Appendix E) on all metal surfaces. Use detergent (Item 9, Appendix E) and water on rubber, plastic, and painted surfaces.

4-10. GENERAL PMCS PROCEDURES (Con't).

b. While performing PMCS, inspect the following components:

(1) **Bolts, Nuts, and Screws.** Ensure that they are not loose, missing, bent, or broken. Tighten any that are loose.

(2) **Welds.** Inspect for gaps where parts are welded together. Report bad welds to your supervisor.

(3) **Electric Conduit, Wires, or Connectors.** Inspect for cracked or broken conduit insulation, bare wires, and loose or broken connectors. Tighten loose connectors, and make repairs or replace items as required.

(4) **Hoses, Lines, and Fittings.** Inspect for wear, damage, and leaks. Ensure that clamps and fittings are tight. If a leak originates from a loose fitting or connector, tighten it. If a component is broken or worn, correct the problem if authorized by Appendix B, Maintenance Allocation Chart (MAC). If not authorized, report it to your supervisor.

4-11. SPECIFIC PMCS PROCEDURES.

a. Organizational PMCS are provided in Table 4-1. Always perform PMCS in order listed. Once it becomes a habit, anything that is not right can be spotted in a minute. If anything wrong is discovered through PMCS, perform the appropriate troubleshooting task in Section IV of this chapter. If any component or system is not serviceable, or if the given service does not correct the problem, notify your supervisor.

b. Before performing preventive maintenance, read all the checks required for the applicable interval and prepare the tools needed to make all checks. Have several clean tags (Item 14, Appendix E) handy. Perform ALL inspections at the applicable interval.

c. The columns in Table 4-1 are defined as follows:

(1) **Item No.** Provides logical sequence for PMCS to be performed and is used as a source for item numbers for the "TM ITEM NO" column on DA Form 2404 in recording PMCS results.

(2) **Interval.** Specifies the interval at which PMCS is to be performed.

(3) **Item To Be Inspected.** Lists the system and common name of items that are to be inspected.

(4) **Procedures.** Tells you how to do the required check or service.

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

S-SEMIANNUAL **A-ANNUAL**

ITEM NO	INTERVAL		ITEM TO BE INSPECTED	PROCEDURES
	S	A		
				NOTE **Perform operator/crew PMCS prior to or along with organizational PMCS if:** **a. There is a delay between the daily operation and the organizational PMCS.** **b. Regular operator is not assisting/participating.**
1			**WHEELS**	
	•			a. Torque lugnuts to 450-500 lb.-ft. (610-678 Nom) after 100 mi (161 km) of operation when semitrailer is new or wheel has been removed.
	•			b. Check wheel bearings for proper adjustment (para 4-46).
		•		c. Check brakes. Replace damaged or worn parts (para 4-32).
		•		d. Disassemble, clean, Inspect, pack, and adjust wheel bearings (para 4-46).
2			**AIRBRAKE SYSTEM**	**NOTE** **To perform this check, tractor truck and semitrailer must be coupled (para 2-10).**
3			**ELECTRICAL SYSTEM**	**NOTE** **To perform this check, tractor truck and semitrailer must be coupled (para 2-10).**
	•			Check airbrake system for leaks by coating air lines with soapy water (Item 9, Appendix E) and looking for bubbles.
		•		Check wiring harness assemblies, clips, receptacles, shells, grommets, and electrical harness shields for correct assembly and serviceable condition.

Table 4-1. Organizational Preventive Maintenance Checks and Services (PMCS) (Con't).

S-SEMIANNUAL **A-ANNUAL**

ITEM NO	INTERVAL		ITEM TO BE INSPECTED	PROCEDURES
	S	A		
4			**SPRINGS AND SUSPENSION**	
		•		a. Torque U-bolt nuts (5) to 500-600 lb.-ft. (678-814 N•m), spring seat screws to 650-750 lb.-ft. (881-1017 N•m), and torque rod nuts to 350-400 lb.-ft. (475-542 N•m).
	•			b. Check springs for any evidence of damage or sagging.
	•			c. Check for loose clips or shifted leaves.
5			**OUTRIGGERS**	**WARNING** **Lower front outriggers or rear outriggers together. DO NOT operate left front and right rear or right front and left rear at same time. Doing so may cause semitrailer to tip over.** **CAUTION** **Tractor truck must be uncoupled from semitrailer before using outriggers for leveling. Failure to follow this caution may cause damage to semitrailer.** **NOTE** **Slave cable must be used to bring power from tractor truck or other power source to semitrailer to operate outriggers.** a. Check outrigger actuators for damage. Lower outriggers and sufficiently lift wheels to ensure that outriggers are operating properly. b. Electrically check adjustment of outrigger limit switches (paras 4-24 and 4-25).
6			**DATA PLATES**	
	•			Ensure legibility and condition of data plates. Replace damaged or disfigured plates (para 4-60).

Table 4-1. Organizational Preventive Maintenance Checks and Services (PMCS) (Con't).

S-SEMIANNUAL **A-ANNUAL**

ITEM NO	INTERVAL		ITEM TO BE INSPECTED	PROCEDURES
	S	A		
7	•		**FRAME**	Check frame for cracks, bent members, and broken welds. If frame is damaged, immediately notify Direct Support Maintenance.
8			**ROAD TEST**	**NOTE** **Be alert for any unusual noises that may indicate damage or looseness In springs.** a. Perform road test. Give special attention to items that were repaired or adjusted. Be alert for unusual or excessive noises that may indicate damage, looseness, defects, or deficient lubrication in attachments or wheels. **WARNING** **When checking for Improperly adjusted brakes or dry wheel bearings, cautiously feel each wheel hub and brakedrum. Serious burns may result from touching an overheated wheel hub and brakedrum.** b. Immediately after road test, cautiously feel wheel hubs and brakedrums for excess heat. An overheated wheel hub and brakedrum indicate an improperly adjusted or defective brake, or a dry wheel bearing. An abnormally cool wheel hub and brake drum indicate an inoperative brake.
	•			
	•			

Section IV. ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

4-12. GENERAL.

a. This section provides information for identifying and correcting malfunctions which may develop while operating or maintaining the semitrailer.

b. The troubleshooting Symptom Index (para 4-14) lists common malfunctions which may occur and refers you to the proper page in Table 4-2 for a troubleshooting procedure.

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

d. When troubleshooting a malfunction:

(1) Question the operator to obtain any information that might help determine the cause of the problem. Before continuing, ensure that all applicable operator/crew troubleshooting was performed.

(2) Locate the symptom or symptoms In paragraph 4-14 that best describe the malfunction. If the appropriate symptom is not listed, notify your supervisor.

(3) Turn to the page in Table 4-2 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: *Malfunction, Test or Inspection* (in step number order), and *Corrective Action.*

(4) Perform each step in the order listed until the malfunction is corrected. Do not perform any maintenance task unless the troubleshooting procedure tells you to do so.

4-13. EXPLANATION OF COLUMNS.

The columns in Table 4-2 are defined as follows:

(1) **Malfunction.** A visual or operational indication that something is wrong with the semitrailer.

(2) **Test or Inspection.** A procedure to isolate the problem in a component or system.

(3) **Corrective Action.** A procedure to correct the problem.

4-14. TROUBLESHOOTING SYMPTOM INDEX.

Table 4-2. Organizational Troubleshooting.

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
ELECTRICAL SYSTEM
1. ALL LIGHTS FAIL TO LIGHT.
Step 1. Check for damaged or burned out lamps. Replace damaged or burned out lamps (para 4-26 or 4-27).
Step 2. Check for open circuit in wiring. Repair defective wiring (para 4-30).
2. ONE OR MORE (BUT NOT ALL) LIGHTS FAIL TO LIGHT.
Step 1. Check for damaged or burned out lamp. Replace damaged or burned out lamp (para 4-26 or 4-27).
Step 2. Inspect for damaged or corroded lamp socket. If socket is damaged or corroded, replace light housing (para 4-26 or 4-27).
Step 3. Check for broken or damaged wiring to defective light. Repair broken or damaged wiring (para 4-30).
Step 4. Check for defective light assemblies or connectors. Repair defective light assemblies or replace connectors (para 4-26 or 4-27).
3. DIM OR FLICKERING LIGHTS.
Step 1. Check for defective wiring harness or ground wire. Repair defective wiring harness (para 4-30). Notify Direct Support Maintenance to replace ground wire.
Step 2. Check for damaged or burned out lamp. Replace damaged or burned out lamp (para 4-26 or 4-27).
Step 3. Check for defective light assemblies or connectors. Repair defective light assemblies or replace connectors (para 4-26 or 4-27).
BRAKES
4. BRAKES WILL NOT RELEASE.
Step 1. Check for restrictions or leaks in air lines. Replace restricted or leaking air lines (para 4-37).

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 2. Coat emergency relay valve with soapy water (Item 9, Appendix E) and check for leaks.

Emergency relay valve is defective and must be replaced (para 4-34) if bubbles form. Disregard leakage from bleeder valve.

Step 3. Coat fail-safe airbrake chamber with soapy water (Item 9, Appendix E) and check for leaks.

Fail-safe airbrake chamber is defective and must be replaced (para 4-43) if bubbles form.

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an Industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result In serious Illness or death to personnel.

Step 4. Remove wheel and brakedrum, and check for weak, distorted, or broken brakeshoe return spring.

Replace weak, distorted, or broken brakeshoe return spring (para 4-32).

5. NO BRAKES OR WEAK BRAKES.

Step 1. Check for low air pressure or air leaks.

Repair or replace leaking air lines or connectors (para 4-37).

Step 2. Check emergency relay valve by applying brakes and listening for emergency relay valve to operate.

Replace emergency relay valve if it does not respond immediately (para 4-34).

Step 3. Check for air pressure in air reservoir by pulling air reservoir drain handle (para 3-9).

Replace emergency relay valve if air is not released from air reservoir (para 4-34).

Step 4. Coat fail safe airbrake chamber and airbrake chamber with soapy water (Item 9, Appendix E), and check for leaks.

Fail-safe airbrake chamber is defective and must be replaced (para 4-43) if bubbles form.

Airbrake chamber is defective and must be replaced (para 4-42) if bubbles form. Disregard leakage from bleeder valve.

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous If you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an Industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result In serious illness or death to personnel.

Step 5. Check for grease on brakeshoe linings.

Replace defective oil seals and brakeshoes (para 4-32).

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using- an-industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious Illness or death to personnel.

Step 6. Check for worn or loose brakeshoe linings.

Replace brakeshoes if brakeshoe linings are worn to within 0.03 in. (0.76 mm) above rivets or are loose (para 4-32).

6. SLOW BRAKE APPLICATION OR SLOW RELEASE.

Step 1. Check for restrictions or leaks in air lines.

Replace restricted or leaking air lines (para 4-37).

Step 2. Check emergency relay valve by applying brakes and listening for emergency relay valve to operate.

Replace emergency relay valve if it does not respond immediately (para 4-34). Disregard leakage from bleeder valve.

Step 3. Coat fail-safe airbrake chamber and airbrake air chamber with soapy water (Item 9, Appendix E), and check for leaks.

Fail-safe airbrake chamber is defective and must be replaced (para 4-43) if bubbles form.

Disregard leakage from bleeder valve. Airbrake chamber is defective and must be replaced (para 4-42) if bubbles form.

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe It. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

Step 4. Remove wheel and brakedrum, and check for weak, distorted, or broken brakeshoe return spring.
Replace weak, distorted, or broken brakeshoe return spring (para 4-32).

7. BRAKES GRAB.

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous If you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an Industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result In serious Illness or death to personnel.

Step 1. Check for grease on brakeshoe linings.

Replace defective oil seals and brakeshoes (para 4-32).

Step 2. Check for loose or worn wheel bearings.

Adjust wheel bearings (para 4-46).

Inspect and replace worn bearing races or spindle if wheel bearings cannot be adjusted (para 4-46).

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

Step 3. Check for cracked, scored, or deformed brakedrum.

Replace cracked, scored, or deformed brakedrum (para 4-46).

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe It. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an Industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

Step 4. Check for worn or loose brakeshoe linings.
Replace brakeshoes if brakeshoe linings are worn to within 0.03 in. (0.76 mm) above rivets or are loose (para 4-32).

8. BRAKES DRAG (ONE OR MORE BRAKEDRUMS RUNNING HOT).

Step 1. Check brakeshoe adjustment (para 4-32).

Adjust brakes (para 4-32).

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

Step 2. Remove wheel and brakedrum, and check for weak, distorted, or broken brakeshoe return spring.
Replace weak, distorted, or broken brakeshoe return spring (para 4-32).

Step 3. Visually check for out-of-round brakedrum.

Replace out-of-round brakedrum (para 4-46).

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

TIRES

9. EXCESSIVELY WORN, SCUFFED, OR CUPPED TIRES.

Step 1. Check for loose wheels.

Torque wheel lugnuts to 450-500 lb.-ft. (610-678 N•m).

Step 2. Check for loose wheel bearings.

Adjust wheel bearings (para 4-46).

Inspect for worn bearing races or spindle if wheel bearings cannot be adjusted. Replace worn bearing races or spindle (para 4-46).

Step 3. Check for defective or loose torque rods.

Replace defective or loose torque rods (para 4-52).

SUSPENSION SYSTEM

10. PULLS TO ONE SIDE.

Step 1. Perform troubleshooting Malfunction 8.

Step 2. Check wheel bearing adjustment.

Adjust wheel bearings (para 4-46).

Inspect for worn bearing races or spindle if wheel bearings cannot be adjusted. Replace worn bearing races or spindle (para 4-46).

Step 3. Check for defective or loose torque rods.

Replace defective or loose torque rods (para 4-52).

11. LEANS TO ONE SIDE.

Step 1. Check for loose or damaged U-bolts.

Notify Direct Support Maintenance if U-bolts are loose or damaged.

Step 2. Check for broken or sagging spring.

Notify Direct Support Maintenance if springs are broken or sagging.

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

OUTRIGGERS

12. ALL OUTRIGGERS FAIL TO OPERATE.

Step 1. Check that outrigger control panel power switch is set to ON position.

Step 2. Disconnect cable from input side of circuit breaker box. Measure for 24 V dc between circuit breaker input box cable and ground.

Replace defective connector if 24 V dc is not present (para 4-20).

Step 3. Disconnect cable from output side of circuit breaker box. Connect input cable to input side of circuit breaker box. Measure for 24 V dc between output connector of circuit breaker box and ground.

Replace circuit breaker box if 24 V dc is not present on output side of circuit breaker box(para 4-20).

Step 4. Connect cable to output side of circuit breaker box. Disconnect cable on output side of master relay box. Measure for 24 V dc between output connector of master relay box and ground.

Perform step 5 if 24 V dc is present.

Perform step 6 if 24 V dc is not present.

Step 5. Check for defective or damaged wiring harness.

Replace defective or damaged wiring harness (see FO-1).

Step 6. Connect cable to output side of master relay box. Disconnect small connector linking master relay box to outrigger control box. Measure for 24 V dc between connector and ground.

Master relay box is defective and must be replaced if 24 V dc is present (para 4-23).

Step 7. Check for defective control panel and power switch.

Replace defective control panel or power switch (para 4-22).

13. ONE OR MORE (BUT NOT ALL) OUTRIGGERS FAIL TO OPERATE.

Step 1. Check for defective or damaged upper and lower outrigger limit switches.

Replace defective or damaged upper or lower outrigger limit switches (para 4-24 or 4-25).

NOTE
Steps 2 through 5 check for defective outrigger relay box panels.

Step 2. Check for 24 V dc to ground at cable 100. Connect cable.

Check wiring harness if 24 V dc is not present.

Table 4-2. Organizational Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 3. Disconnect cable at outrigger actuator and check for 24 V dc to ground at pin F.

Check wiring harness if 24 V dc is not present (see FO-1).

Step 4. Check pins E and F on outrigger actuator connector for less than 1 ohm resistance.

Replace outrigger drive motor if more than 1 ohm resistance (para 4-50).

Step 5. Jumper pins E and F on cable. Have another person hold outrigger switch first in up position, then in down position. Check for following indications:

Pins A and D	Pins B and C	Pins G and H
24 V dc	24 V dc	24 V dc

Replace outrigger drive motor if voltage is present (para 4-50).

Replace relay panel if voltage is not present.

Step 6. Check for defective outrigger control panel switches.

Replace defective outrigger control panel switches (para 4-22).

Step 7. Check for defective outrigger drive motors.

Replace defective outrigger drive motors (para 4-50).

Step 8. Check for defective or damaged wiring harness.

Replace or repair defective or damaged wiring harness (see FO-1).

Step 9. Check for defective or damaged outrigger actuator.
Replace defective or damaged outrigger actuator (para 4-48).

14. OUTRIGGER INTERLOCK SYSTEM INOPERATIVE.

Step 1. With all outriggers positioned 50 or greater below horizontal of semitrailer bed, test for continuity at interlock harness receptacle. Test should show a "closed" circuit between contacts A and B. Any one outrigger, when raised to less than 50 below horizontal will "open" interlock circuit.

Replace interlock harness receptacle if continuity is not present (see FO-1).

Step 2. Test individual upper and lower outrigger limit switches for continuity.

Replace upper or lower outrigger limit switches if continuity is not present (para 4-24 or 4-25).

Step 3. Check interlock wiring harness for frayed, cracked, or broken condition.

Replace defective interlock wiring harness (see FO-1).

Section V. GENERAL MAINTENANCE INSTRUCTIONS

4-15. GENERAL.

a. 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 performing any Organizational Maintenance tasks.

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

c. In some cases, a part may be damaged during removal. If the part appears to be good, and other parts behind it are not defective, leave the part on and continue with the procedure. Here are a few simple rules:

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

(2) Do not remove bearings or bushings unless damaged. If you need to remove them to access parts behind, very carefully pull bearings and bushings.

(3) Replace all gaskets, seals, and preformed packings.

d. The following *Initial Setup* information applies to all procedures:

(1) Resources are not listed unless they apply to the procedure.

(2) Personnel *Required* is listed only if more than one technician is required to complete the task.

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

4-16. CLEANING INSTRUCTIONS.

WARNING

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can Injure personnel and damage equipment. To prevent this, refer to TM 9-247 for further Instructions.

a. General. Cleaning instructions will be the same for a majority of parts and components which make up the semitrailer. The following should apply to all cleaning operations:

(1) Clean all parts before Inspection, after repair, and before assembly.

4-16. CLEANING INSTRUCTIONS (Con't).

(2) Keep hands free of grease which can collect dust, dirt, and grit.

(3) After cleaning, all parts should be covered or wrapped to protect them from dust and dirt. Parts that
are subject to rust should be lightly oiled (Item 12, Appendix E).

b. **Steam Cleaning.**

(1) Before steam cleaning exterior of semitrailer, protect all electrical equipment which could be damaged by steam or moisture.

(2) Place disassembled parts in suitable container to steam clean. Parts that are subject to rust should be dried and lightly oiled (Item 12, Appendix E) after cleaning.

c. **Castings, Forgings, and Machined Metal Parts**.

WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (380C-590C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid. (1) Clean inner and outer surfaces with dry cleaning solvent (Item 16, Appendix E) and clean rag (Item 14, Appendix E).

(2) Remove grease and accumulated deposits with scrub brush (Item 4, Appendix E).

WARNING

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel. (3) Clear all threaded holes with compressed air to remove dirt and cleaning fluids.

CAUTION

DO NOT wash oil seals, electrical cables, and flexible lines with dry cleaning solvent or mineral spirits. Serious damage or destruction of material could result.

d. **Oil Seals, Electrical Cables, and Flexible Lines.** Wash electrical cables and flexible lines with a solution of detergent (Item 9, Appendix E) and water, and wipe dry with clean rag (Item 14, Appendix E).

e. **Bearings.** Clean bearings in accordance with TM 9-214.

4-17. INSPECTION INSTRUCTIONS.

NOTE

All damaged areas should be marked for repair or replacement.

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

4-17. INSPECTION INSTRUCTIONS (Con't).

b. Inspect drilled and tapped (threaded) holes for the following:

(1) Wear, distortion, cracks, and any other damage in or around holes.

(2) Threaded areas for wear distortion (stretching) and evidence of cross-threading.

c. Inspect metal lines, flexible lines, and metal fittings for the following:

(1) Metal lines for sharp kinks, cracks, bad bends, and dents.

(2) Flexible lines for fraying, evidence of leakage, and loose metal fittings or connectors.

(3) Metal fittings and connectors for thread damage and worn or rounded hex heads.

d. Inspect castings, forgings, and machined metal parts for the following:

(1) Machined surfaces for nicks, burrs, raised metal wear, and other damage.

(2) Inner and outer surfaces for breaks and cracks.

e. Inspect air lines, fittings, and connectors for leaks with soapy water (Item 9, Appendix E).

f. Inspect bearings in accordance with TM 9-214.

4-18. TAGGING PARTS.

a. Use marker tags (Item 17, Appendix E) to identify all electrical wires and air lines, and any other parts which may be hard to identify or replace later. Fasten tags to parts during removal by wrapping wire fasteners around or through parts and twisting ends together. Position tags to be out of the way during cleaning, inspection, and repair. Mark tags with a pencil, pen, or marker.

b. Whenever possible, identify electrical wires with the number of the terminal or wire to which it connects. If no markings can be found, tag both wires or the wire and the terminal, and use the same identifying mark for both. If you cannot tag a wire because it must fit through a small hole or you cannot reach it, write down the description of the wire and the point to which it connects or draw a simple diagram on paper. Be sure to write down enough information so that you will be able to properly connect wires during assembly. If you need to identify a loose wire, look for identifying numbers near the end of the wire, stamped on a permanent metal tag. Compare this number to the wire numbers on the appropriate electrical schematic.

c. Identify and tag other parts as required by name and installed location.

4-19. LINES AND PORTS.

To keep dirt from contaminating air lines and fluid systems when removing and installing lines, perform the following:

(1) Clean fittings and surrounding areas before disconnecting lines.

(2) Cover, cap, plug, or tape lines and ports after disconnecting lines. When these items are not available, use handcarved wooden plugs, clean rags (Item 14, Appendix E), or other similar material to prevent dirt from entering the system.

(3) Ensure that all new and used parts are clean before installing.

(4) Wait to uncover, uncap, or unplug air lines and ports until just before installing lines.

Section VI. ELECTRICAL SYSTEM MAINTENANCE

4-20. CIRCUIT BREAKER BOX MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Assembly
d. Installation

Initial Setup:

Equipment Conditions:

- Slave cable disconnected from semitrailer (para 2-12).
- Access cover removed (para 4-58).

Materials/Parts:

- Two gaskets
- Eighteen lockwashers

Personnel Required: Two

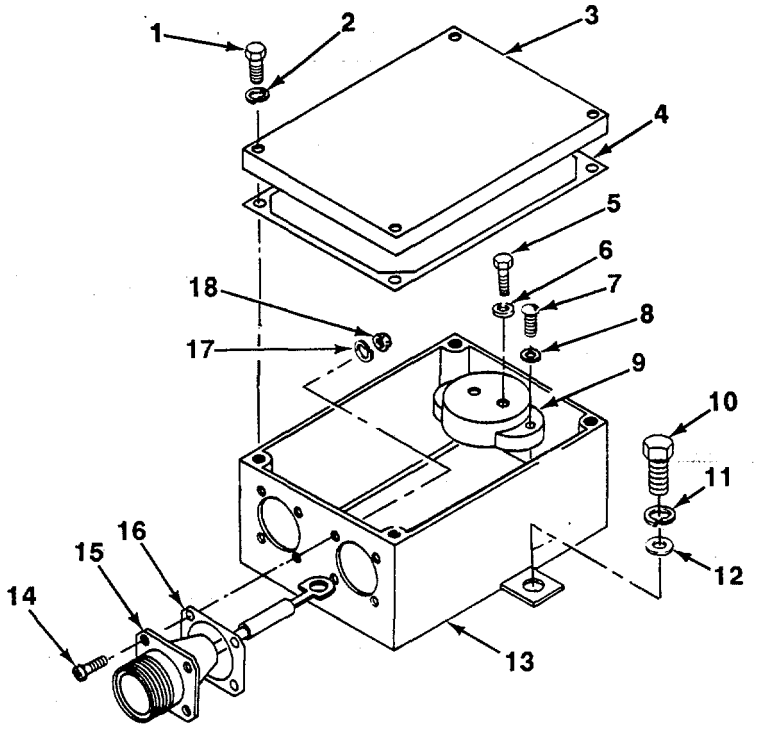
Tools/Test Equipment:

- General mechanic's tool kit

4-20. CIRCUIT BREAKER BOX MAINTENANCE (Con't).

a. REMOVAL

1. Disconnect cable from each connector (15).
2. Remove two bolts (10), lockwashers (11), washers (12), and circuit breaker box (13). Discard lockwashers.



b. DISASSEMBLY

1. Remove four screws (1), lockwashers (2), and cover (3) from circuit breaker box (13). Discard lockwashers.
2. If damaged, remove gasket (4) from cover (3). Discard gasket.
3. Remove two screws (5) and lockwashers (6) from circuit breaker (9). Discard lockwashers.
4. Remove eight screws (14), nuts (18), lockwashers (17), two connectors (15), and gaskets (16). Discard gaskets and lockwashers.
5. Remove two screws (7), lockwashers (8), and circuit breaker (9) from circuit breaker box (13). Discard lockwashers.

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4-20. CIRCUIT BREAKER BOX MAINTENANCE (Con't).

c. ASSEMBLY

1. Install circuit breaker (9) into circuit breaker box (13) with two new lockwashers (8) and screws (7).
2. Install two new gaskets (16) and connectors (15) with eight new lockwashers (17), screws (14), and nuts (18).
3. Install two new lockwashers (6) and screws (5) into circuit breaker (9).
4. If removed, apply adhesive (Item 1, Appendix E) to new gasket (4) and install gasket into cover (3).
5. Install cover (3) on circuit breaker box (13) with four new lockwashers (2) and screws (1).

d. INSTALLATION

1. Install circuit breaker box (13) with two washers (12), new lockwashers (11), and bolts (10).
2. Connect cable to each connector (15).

FOLLOW-ON TASKS:

- Install access cover (para 4-58).

4-21. OUTRIGGER RELAY BOX REPLACEMENT.

This Task Covers:
a. Removal
b. Installation

Initial Setup:

Equipment Conditions:

- Affected outrigger lowered to ground (para 2-12).
- Outrigger control panel power switch in OFF position.

Materials/Parts:

- Four lockwashers

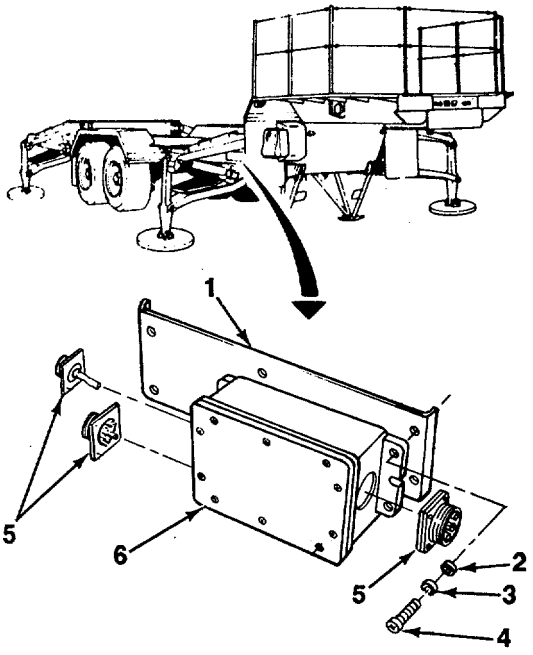
Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

1. Disconnect three cables from three connectors (5).
2. Remove four bolts (4), lockwashers (3), washers (2), and outrigger relay box (6) from bracket (1). Discard lockwashers.
3. If bracket (1) is damaged, remove additional bolts, lockwashers, washers, and bracket from semitrailer. Discard lockwashers.

b. INSTALLATION

1. If removed, install bracket (1) with washers, new lockwashers, and bolts.
2. Install outrigger relay box (6) with four washers (2), new lockwashers (3), and bolts (4).
3. Connect three cables to three connectors (5).



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FOLLOW-ON TASKS:
- Raise affected outrigger off ground (para 2-12).

4-22. OUTRIGGER CONTROL PANEL MAINTENANCE.

This Task Covers:

a. Outrigger Control Box Removal
b. Level Light Removal
c. Outrigger Control Panel Removal
d. Outrigger Control Switches Removal
e. Door Removal
f. Door Handle Removal
g. Cleaning and Inspection
h. Door Handle Installation
i. Door Installation
J. Outrigger Control Switches Installation
k. Outrigger Control Panel Installation
I. Level Light Installation
m. Outrigger Control Box Installation

Initial Setup:

Equipment Conditions:

- Slave cable disconnected from semitrailer (para 2-12).
- Leveling device removed (para 4-61).

Tools/Test Equipment:

- Two cotter pins
- General mechanic's tool kit
- Common no. 1 shop set

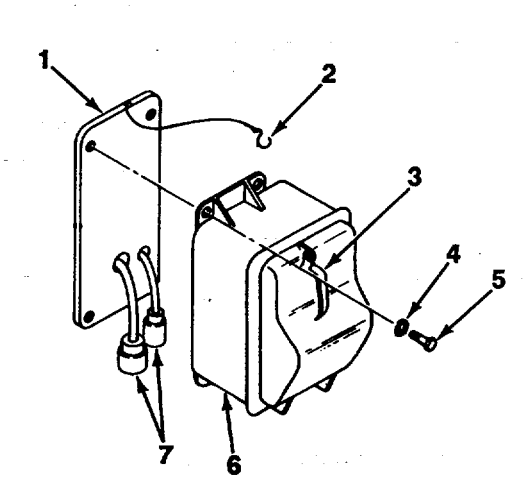
Materials/Parts:

- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)
- One preformed packing
- Twenty-seven lockwashers

Personnel Required: Two

a. OUTRIGGER CONTROL BOX REMOVAL

1. Remove S-hook (2) from door handle (3).
2. Remove four screws (5) and washers (4) from out-rigger control box (6) and bracket (1)
3. Pull outrigger control box (6) away from bracket (1) disconnect two electrical connectors (7), and remove outrigger control box.



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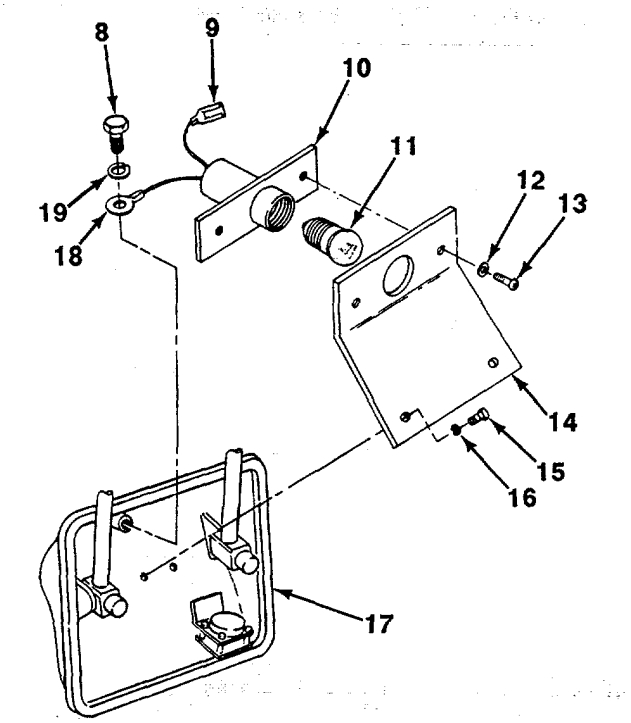
4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

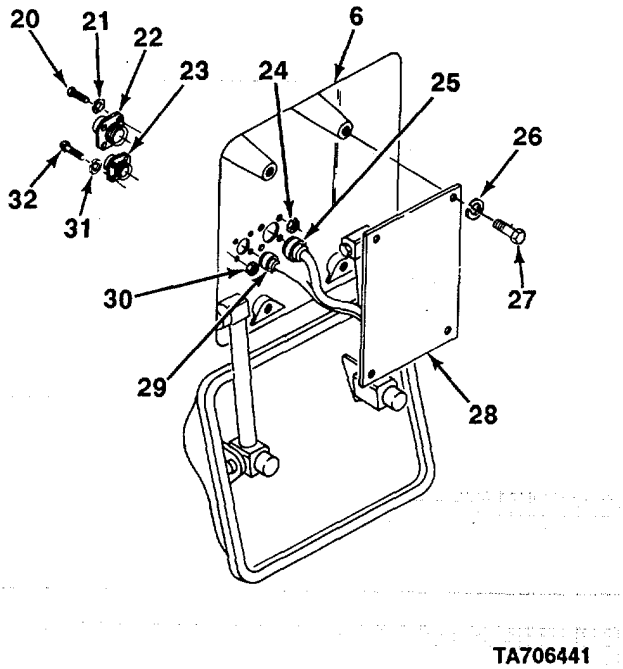
b. LEVEL LIGHT REMOVAL

1. Open door (17).
2. Remove screw (8) and lockwasher (19) from terminal (18). Discard lockwasher.
3. Tag and disconnect connector (9).
4. Remove two screws (15), lockwashers (16), and level light bracket (14) from door (17). Discard lockwashers.
5. Remove two screws (13), lockwashers (12), and level light (10) from level light bracket (14). Discard lockwashers.
6. If damaged, remove lamp (11) from level light(10).



c. OUTRIGGER CONTROL PANEL REMOVAL

1. Remove four screws (27) and lockwashers (26), and carefully pull outrigger control panel plate (28) forward. Discard lockwashers.
2. Remove four nuts (24), screws (20), lockwashers (21), and shield (22). Discard lockwashers.
3. Remove connector (25) from outrigger control box (6).
4. Remove four nuts (30), screws (32), lockwashers (31), and shield (23). Discard lockwashers.
5. Remove connector (29) from outrigger control box (6).
6. Remove outrigger control panel plate (28).
7. Tag and disconnect all connectors from back of outrigger control panel plate (28) and remove wiring harness.

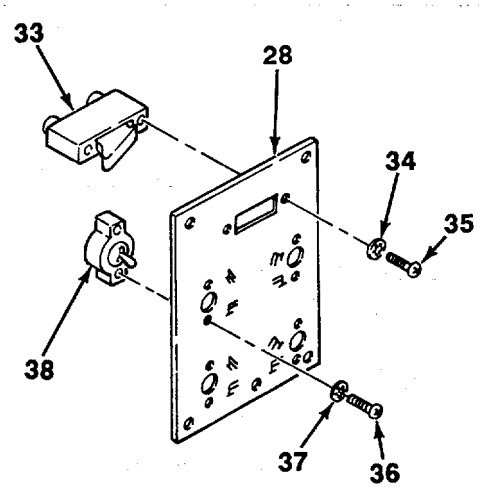


TA706441

4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

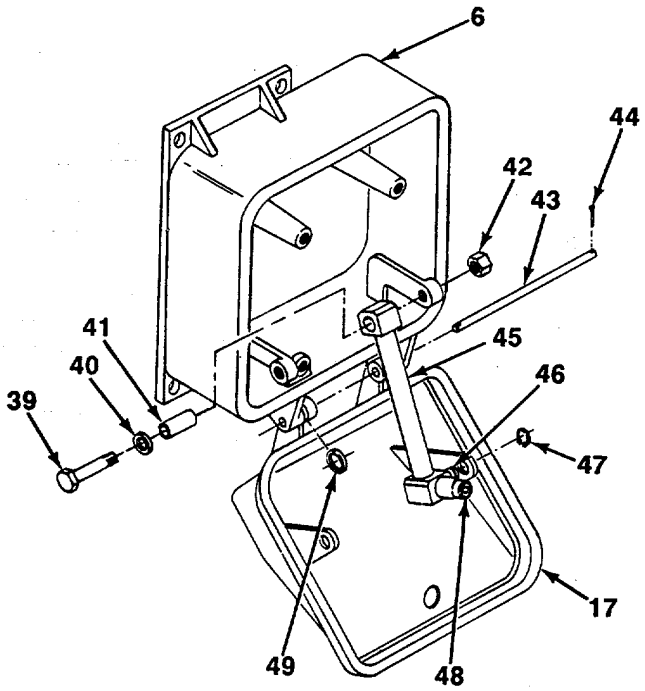
d. OUTRIGGER CONTROL SWITCHES REMOVAL

1. Remove two screws (35), lockwashers (34), and power switch (33) from outrigger control panel plate (28). Discard lockwashers.
2. Remove eight screws (36), lockwashers (37), and four outrigger control switches (38) from outrigger control panel plate (28). Discard lockwashers.



e. DOOR REMOVAL

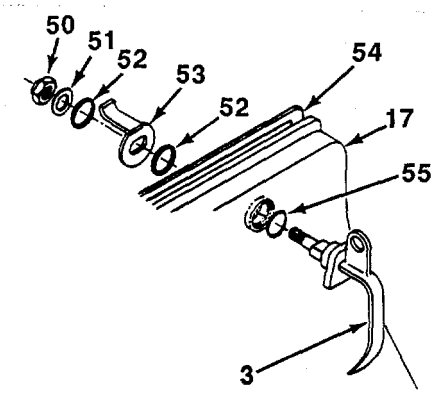
1. Remove two screws (39), washers (40), bushings (41); and nuts (42) from outrigger control box (6) and two outrigger control box slides (45).
2. Remove two retaining rings (47) and outrigger control box slides (45) from door (17).
3. If damaged, remove two pins (46) and plungers (48) from two outrigger control box slides (45).
4. Remove two cotter pins (44), pin (43), two bearings (49), and door (17) from outrigger control box (6). Discard cotter pins.



4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

f. DOOR HANDLE REMOVAL

1. Remove nut (50), washer (51), two spacers (52), and lever (53) from door handle (3).
2. Pull door handle (3) and preformed packing (55) from door (17).
3. Remove preformed packing (55) from door handle (3). Discard preformed packing.
4. If damaged, remove rubber seal (54) from around door (17) and discard.



g. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all metal parts with a clean rag and dry cleaning solvent, and allow to dry.
2. Clean all electrical parts and rubber parts with a clean rag.
3. Inspect wiring for damage, deteriorated insulation, and broken or cracked connectors and insulators.
4. Inspect all metal parts for scratches, marred paint, cracks, rust, or corrosion.

h. DOOR HANDLE INSTALLATION

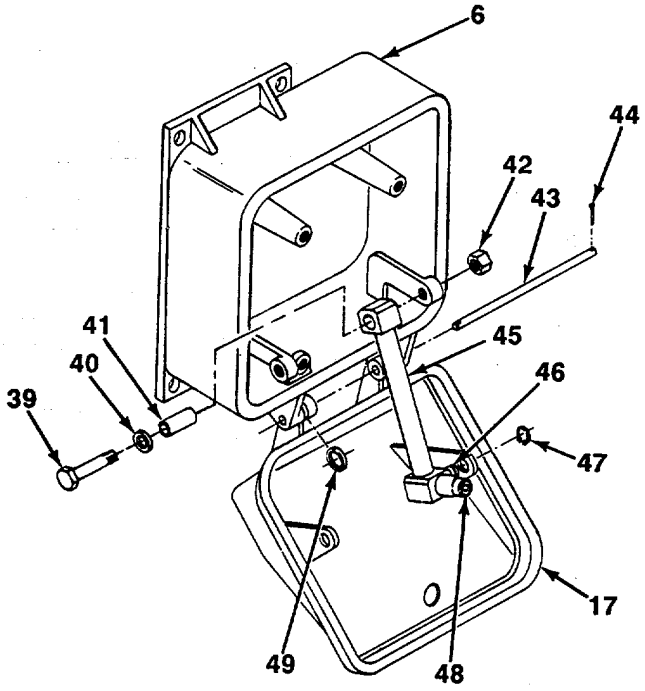
1. If removed, install new rubber seal (54) around door (17).
2. Install new preformed packing (55) on door handle (3).
3. Install door handle (3) and preformed packing (55) in door (17).
4. Install two spacers (52), lever (53), washer (51), and nut (50) on door handle (3).

TA706443

4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

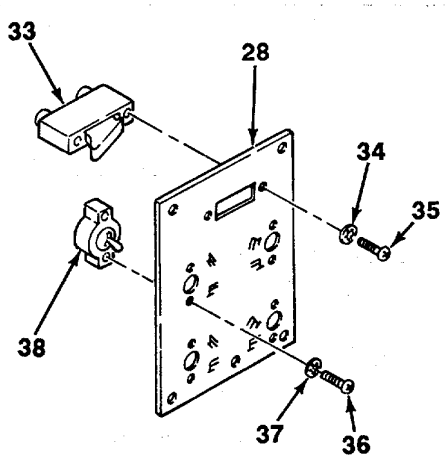
i. DOOR INSTALLATION

1. Install door (17) onto outrigger control box (6) with pin (43), two bearings (49), and new cotter pins (44).
2. If removed, install two pins (46) and plungers (48) into two outrigger control box slides (45).
3. Install two outrigger control box slides (45) into door (17) with two retaining rings (47).
4. Install two outrigger control box slides (45) into outrigger control box (6) with two bushings (41), washers (40), screws (39), and nuts (42).



j. OUTRIGGER CONTROL SWITCHES INSTALLATION

1. Install four outrigger control switches (38) into outrigger control panel plate (28) with eight new lockwashers (37) and screws (36).
2. Install power switch (33) into outrigger control panel plate (28) with two new lockwashers (34) and screws (35).

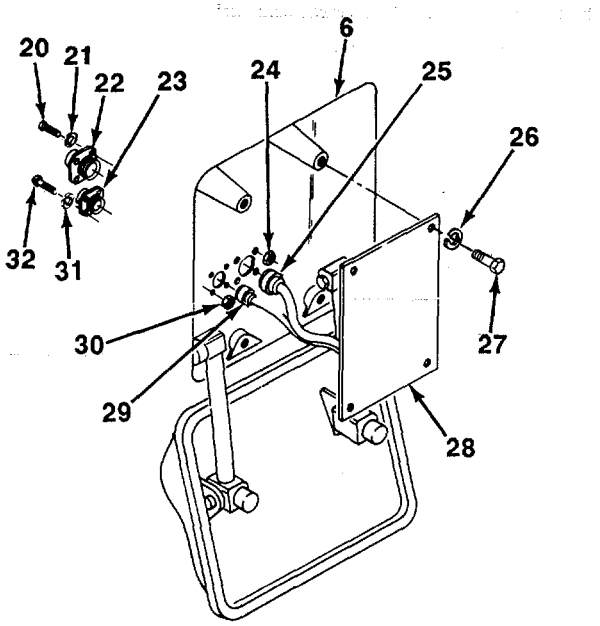


TA706444

4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

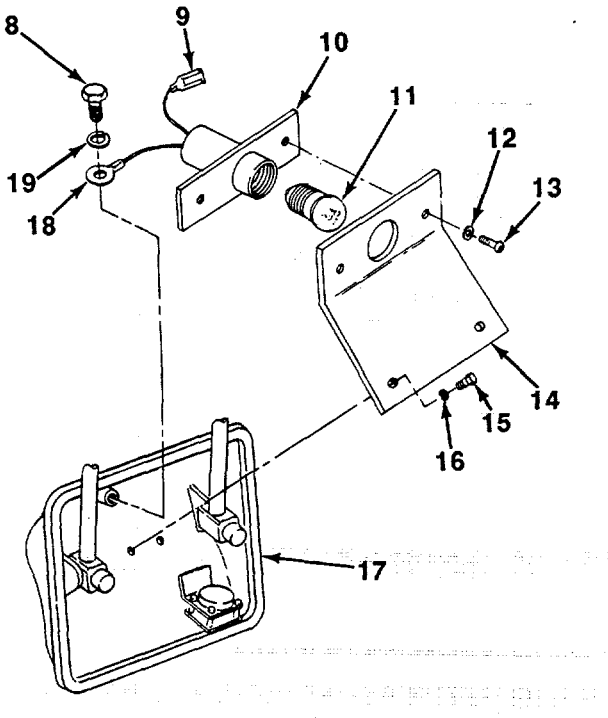
k. OUTRIGGER CONTROL PANEL INSTALLATION

1. Install wiring harness to back of outrigger control panel plate (28) as tagged.
2. Install connector (29) into outrigger control box (6).
3. Install shield (23) with four new lockwashers (31), screws (32), and nuts (30).
4. Install connector (25) into outrigger control box (6).
5. Install shield (22) with four new lockwashers (21), screws (20), and nuts (24).
6. Install outrigger control panel plate &(28) with four new lockwashers (26) and screws (27).



l. LEVEL LIGHT INSTALLATION

1. If removed, install lamp (11) into level light (10).
2. Install level light (10) to level level light bracket (14) with two new lockwashers (12) and screws (13).
3. Install level light bracket (14) to door (17) with two new lockwashers (16) and screws (15).
4. Connect connector (9) as tagged.
5. Install terminal (18) with new lockwasher (19) and screw (8).
6. Close door (17).

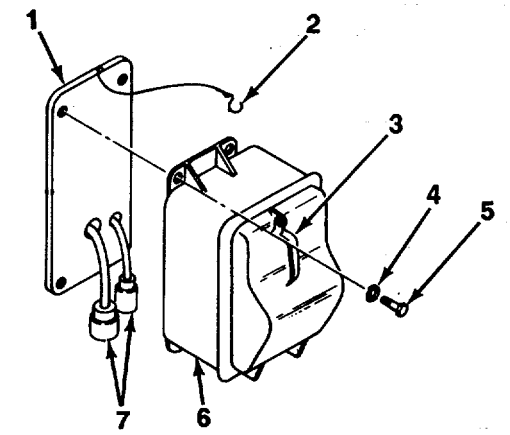


TA706445

4-22. OUTRIGGER CONTROL PANEL MAINTENANCE (Con't).

m. OUTRIGGER CONTROL BOX INSTALLATION

1. Connect two electrical connectors (7) to back of outrigger control box (6).
2. Install outrigger control box (6) to bracket (1) with four washers (4) and screws (5).
3. Install S-hook (2) to door handle (3).



TA706446

FOLLOW-ON TASKS:

- Install leveling device (para 4-61).

4-23. MASTER RELAY BOX REPLACEMENT.

This Task Covers:
a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:
- Slave cable disconnected from semitrailer (para 2-12).
- Access cover removed (para 4-58).

Tools/Test Equipment:
- General mechanic's tool kit

Materials/Parts:
- Rags (Item 14, Appendix E)
- Two lockwashers

a. REMOVAL

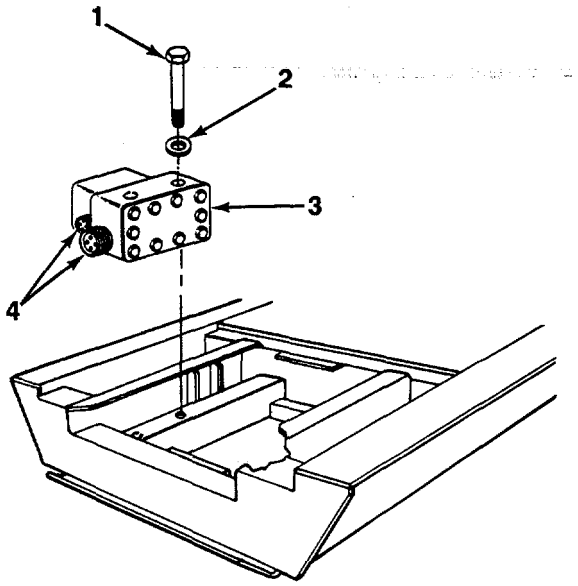
1. Disconnect three cables from three connectors (4).
2. Remove two screws (1), lockwashers (2), and master relay box (3). Discard lockwashers.

b. CLEANING AND INSPECTION

1. Clean all parts with a clean rag.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect connections for broken, loose, bent, or missing pins, or cracked connector bodies.
4. Inspect master relay box for cracks, rust, and corrosion.

c. INSTALLATION

1. Install master relay box (3) to semitrailer with two new lockwashers (2) and screws (1).
2. Connect three cables to three connectors (4).



TA706447

FOLLOW-ON TASKS:
* Install access cover (para 4-58).

4-24. UPPER OUTRIGGER LIMIT SWITCH MAINTENANCE.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation
d. Adjustment

Initial Setup:

Equipment Conditions:
- Affected outrigger lowered to ground (para 2-12).
- Outrigger control panel power switch in OFF position.
- Marker tags (Item 17, Appendix E)

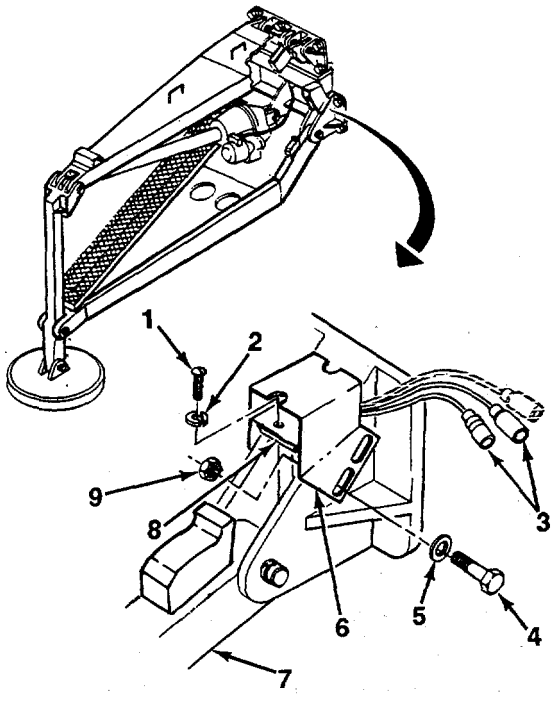
Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set
- Switch adjustment tool (Appendix G)

Materials/Parts:
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Electrical tape (Item 18, Appendix E)
- Two locknuts
- Two lockwashers

Personnel Required: Two

a. REMOVAL

1. Tag and disconnect two switch connectors (3) from harness connectors.
2. Remove two screws (4), washers (5), locknuts (9), and bracket (6) from outrigger (7). Discard lock-nuts.
3. Remove two screws (1), lockwashers (2), and upper outrigger limit switch (8) from bracket (6). Discard lockwashers.



TA706448

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (380C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Clean all parts with a clean rag and dry cleaning solvent, and allow to dry.

4-24. UPPER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

2. Inspect for loose, missing, or damaged hardware.
3. Inspect wiring for damage, deteriorated insulation, and broken or frayed conductors.
4. Inspect upper outrigger limit switch for cracks or signs of burning.
5. Inspect bracket for cracks, rust, or corrosion.

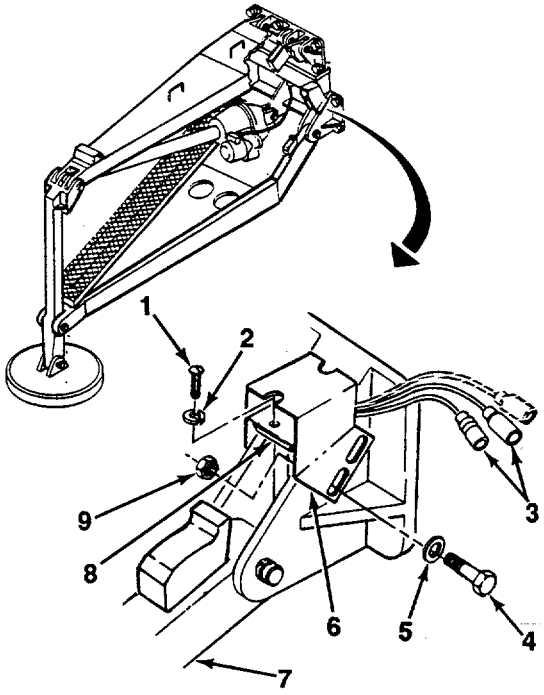
c. INSTALLATION

1. Install upper outrigger limit switch (8) into bracket (6) with two new lockwashers (2) and screws (1).
2. Install bracket (6) to outrigger (7) with two washers (5), screws (4), and new locknuts (9).

NOTE

Unused lead and connector of upper outrigger limit switch must be folded and safely bound to other leads using electrical tape.

3. Connect two switch connectors (3) to harness connectors.



d. ADJUSTMENT

1. Raise all outriggers off ground (para 2-12).

CAUTION

- **Ensure that there is no interference or forcing of outriggers beyond their limits. Adjust upper outrigger limit switch mounting bracket and/or upper outrigger limit switch so that plunger on switch is depressed to activate switch. Failure to do so will result in improper adjustment.**
- **Outside width between right front and left front or right rear and left rear outrigger should be no greater than 9 ft 10 in. (3 m). If measurement is incorrect, damage to equipment may result.**

TA706449

4-24. UPPER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

NOTE

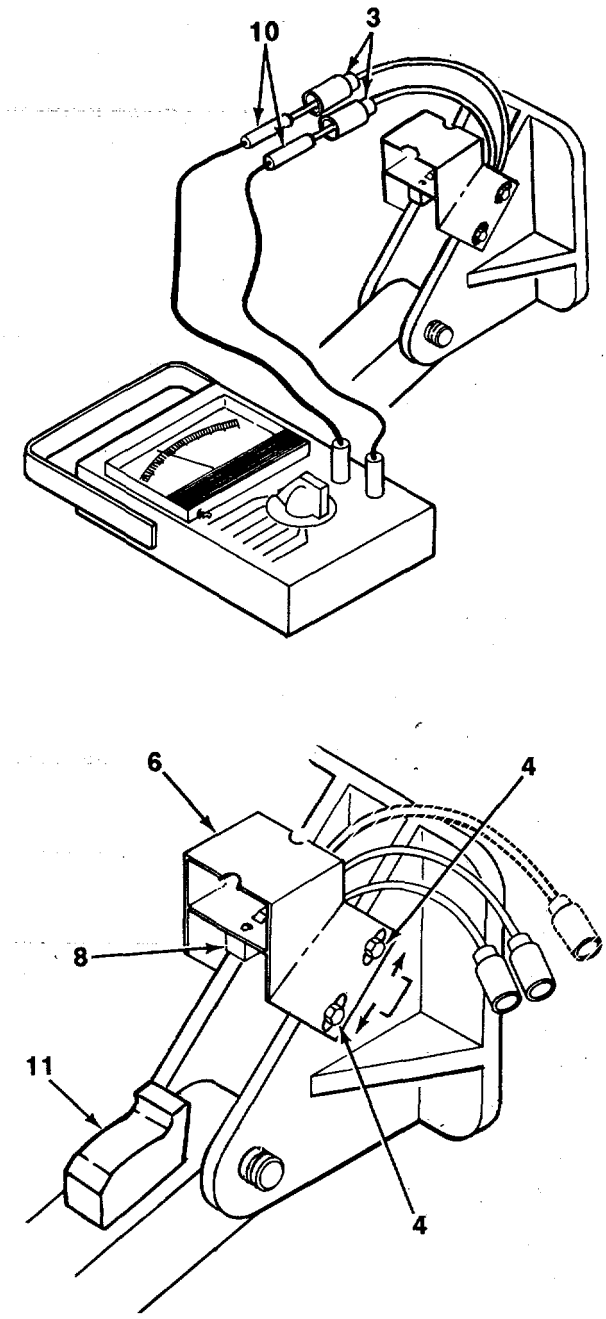
- **When checking adjustment under electrical power, ensure that generator output Is 24 v and outrigger control switch is activated Intermittently at extreme limits of ball screw travel.**
- **When checking adjustments under power of tractor truck, engine should be running at fast idle.**

2. Set control panel power switch to OFF position.
3. Tag and disconnect two switch connectors (3) from harness connectors.
4. Set multimeter to R x 1 (Ohms scale) and zero meter.

NOTE

Ensure that multimeter probes are connected to switch connectors and not to harness connectors.

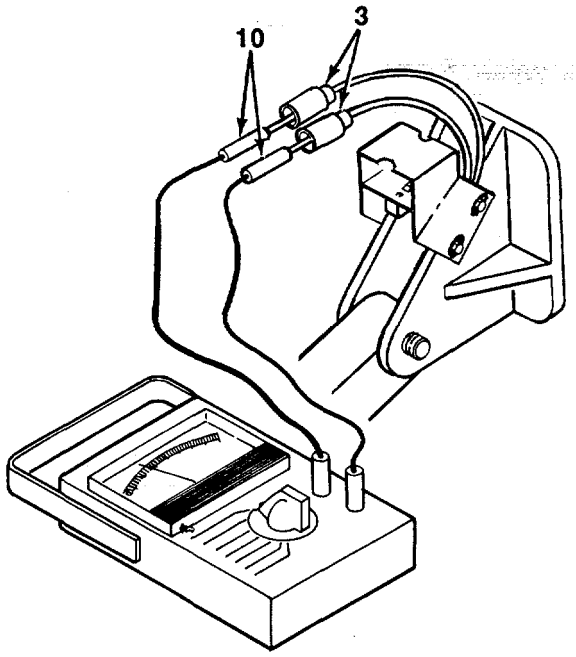
5. Connect two multimeter probes (10) to two switch connectors (3).
6. Loosen two screws (4).
7. Move bracket (6) away from actuating cam (11) to release pressure on upper outrigger limit switch (8). Multimeter should indicate 0 (zero) ohms.
8. Move bracket (6) toward actuating cam (11) until pressure on upper outrigger limit switch (8) causes multimeter to indicate oo (infinite) ohms.
9. Tighten two screws (4) to secure bracket (6).



TA706450

4-24. UPPER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

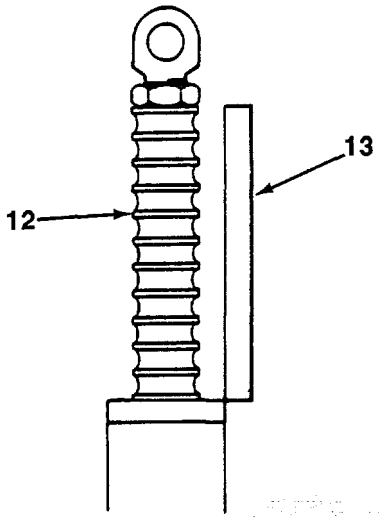
10. Remove multimeter probes (10) from switch connectors (3).
11. Connect switch connectors (3) as tagged, to harness connectors.
12. Raise outrigger (para 2-12) using outrigger control panel switch until outrigger stops automatically.



NOTE

Screw length Is checked from top of ball nut to top of screw. DO NOT include rod end nut In check.

13. Check length of screw (12) with switch adjustment tool (13).
14. If length of screw (12) is not equal to length of switch adjustment tool (13), repeat steps 1 through 13 until lengths match.



TA706451

4-25. LOWER OUTRIGGER LIMIT SWITCH MAINTENANCE.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation
d. Adjustment

Initial Setup:

Equipment Conditions:
- Affected outrigger raised halfway (para 2-12).
- Outrigger control panel power switch in to OFF
- Dry cleaning solvent (Item 16, Appendix E)

position.

Materials/Parts:
- Rags (Item 14, Appendix E)
- Marker tags (Item 17, Appendix E)
- Electrical tape (Item 18, Appendix E)
- Six lockwashers

Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set
- Switch adjustment tool (Appendix G)

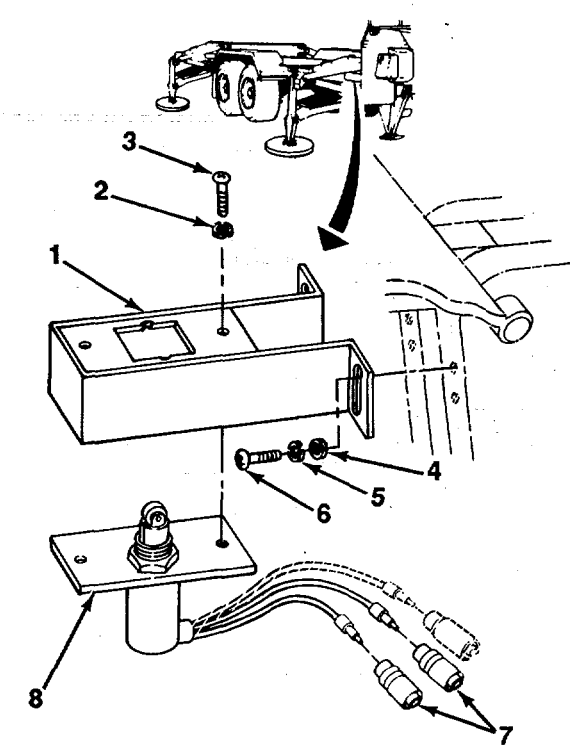
Personnel Required: Two

a. REMOVAL

1. Remove four screws (6), lockwashers (5), and washers (4), and ease bracket (1) away from outrigger. Discard lockwashers.

2. Tag and disconnect two switch connectors (7) from harness connectors.

3. Remove two screws (3), lockwashers (2), and lower outrigger limit switch (8) from bracket (1). Discard lockwashers.



TA706452

4-25. LOWER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Clean all parts with a clean rag and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect wiring for damage, deteriorated insulation, and broken or frayed conductors.
4. Inspect lower outrigger limit switch for cracks or signs of burning.
5. Inspect bracket for cracks, rust, or corrosion.

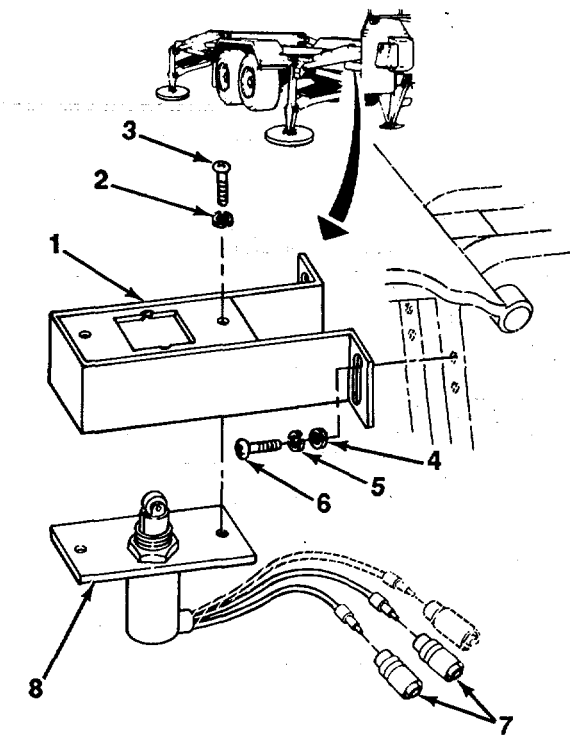
c. INSTALLATION

1. Install lower outrigger limit switch (8) into bracket (1) with two new lockwashers (2) and screws (3).

NOTE

Unused lead and connector of lower outrigger limit switch must be folded and safely bound to other leads using electrical tape.

2. Connect two switch connectors (7) to harness connectors.
3. Install bracket (1) to outrigger with four washers (4), new lockwashers (5), and screws (6).



4-25. LOWER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

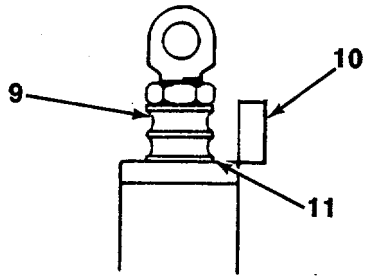
d. ADJUSTMENT

1. Fully lower all outriggers (para 2-12).

NOTE

Screw length is checked from top of ball nut to top of screw. DO NOT include rod end nut in check.

2. Raise or lower affected outrigger (para 2-12) until amount of screw (9) showing from ball nut (11) is equal to the width of the switch adjustment tool (10).
3. Set control panel power switch to OFF position.

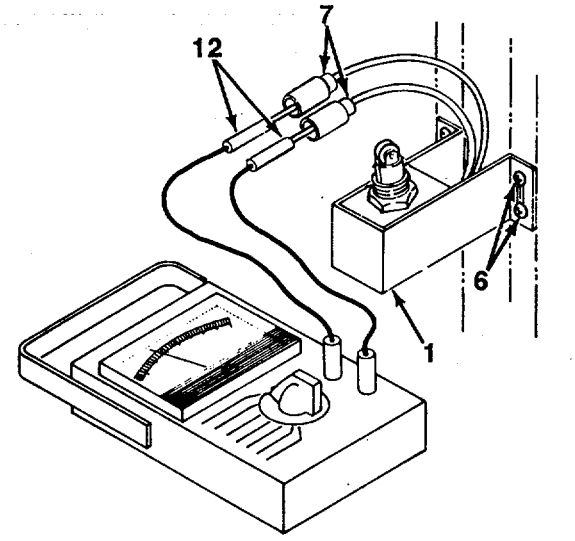


4. Tag and disconnect two switch connectors (7) from harness connectors.
5. Set multimeter to R x 1 (Ohms scale) and zero meter.

NOTE

Ensure that multimeter probes are connected to switch connectors and not to harness connectors.

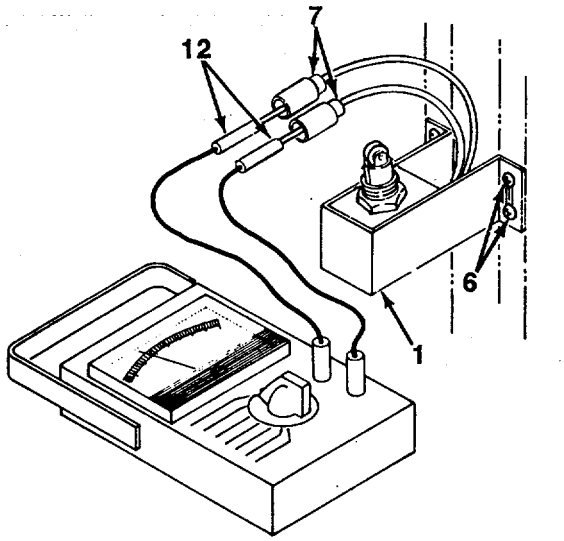
6. Connect two multimeter probes (12) to switch connectors (7).
7. Loosen four screws (6).
8. Move bracket (1) until multimeter indicates 0 (zero) ohms.
9. Move bracket (1) until multimeter indicates ∞ (infinite) ohms.
10. Tighten four screws (6).



TA706454

4-25. LOWER OUTRIGGER LIMIT SWITCH MAINTENANCE (Con't).

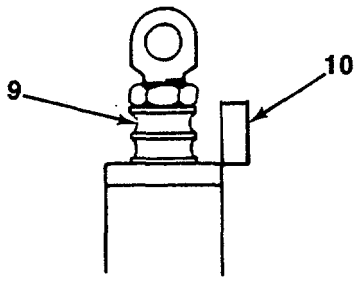
11. Remove two multimeter probes (12) from switch connectors (7).
12. Connect two switch connectors (7) as tagged, to harness connectors.
13. Set outrigger control panel power switch to ON position and raise outrigger.
14. Lower outrigger (para 2-12) until it stops automatically.



NOTE

Screw length is checked from top of ball nut to top of screw. DO NOT Include rod end nut In check.

15. Check length of screw (9) with switch adjustment tool (10).
16. If length is not correct, repeat steps 4 through 15 until length is correct.



TA706455

4-26. COMPOSITE LIGHT ASSEMBLY MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

• Tractor truck intervehicular cable disconnected from semitrailer (para 2-13).

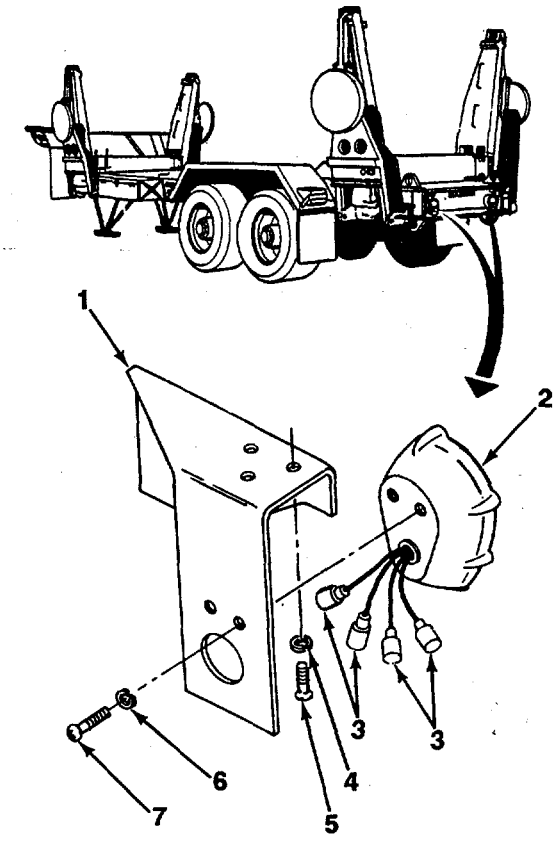
Tools/Test Equipment:
• General mechanic's tool kit

Materials/Parts:

• Rags (Item 14, Appendix E)
• Dry cleaning solvent (Item 16, Appendix E)
• Marker tags (Item 17, Appendix E)
• Five lockwashers

a. REMOVAL

1. Remove three screws (5), lockwashers (4), and bracket (1) from semitrailer. Discard lockwashers.
2. Tag and disconnect four electrical connectors (3).
3. Remove two screws (7), lockwashers (6), and composite light assembly (2) from bracket (1). Discard lockwashers.



TA706456

4-26. COMPOSITE LIGHT ASSEMBLY MAINTENANCE (Con't).

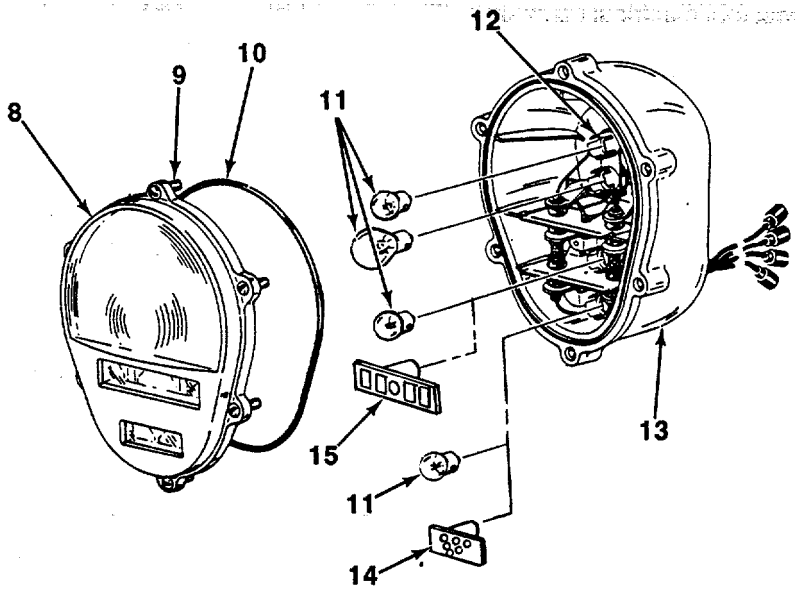
b. DISASSEMBLY

1. Loosen six captive screws (9).
2. Remove lens (8) and preformed packing (10) from body (13). Inspect preformed packing for damage. If damaged, remove and discard.
3. Remove lamps (11) from sockets (12).

NOTE

- **To remove LEDs, perform steps 4 and 5.**
- **If LEDs are not present, skip steps 4 and 5.**

4. Insert a small flat-tipped screwdriver into slot inside center hole in LED marker (15). Firmly push in, turn counterclockwise slightly, and remove from socket (12).
5. Insert a small flat-tipped screwdriver into slot on left side LED stoplight (14) and remove cover, allowing access to slot in center hole. Firmly push in with screwdriver in center hole slot, turn counterclockwise slightly, and remove from socket (12).



TA706457

4-26. COMPOSITE LIGHT ASSEMBLY MAINTENANCE (Con't).

c. CLEANING AND INSPECTION

WARNING

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1. Clean all parts with a clean rag and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect wiring for damage, deteriorated insulation, and broken or frayed conductors.
4. Inspect body and lens for cracks, holes, and other signs of damage.

d. ASSEMBLY

NOTE

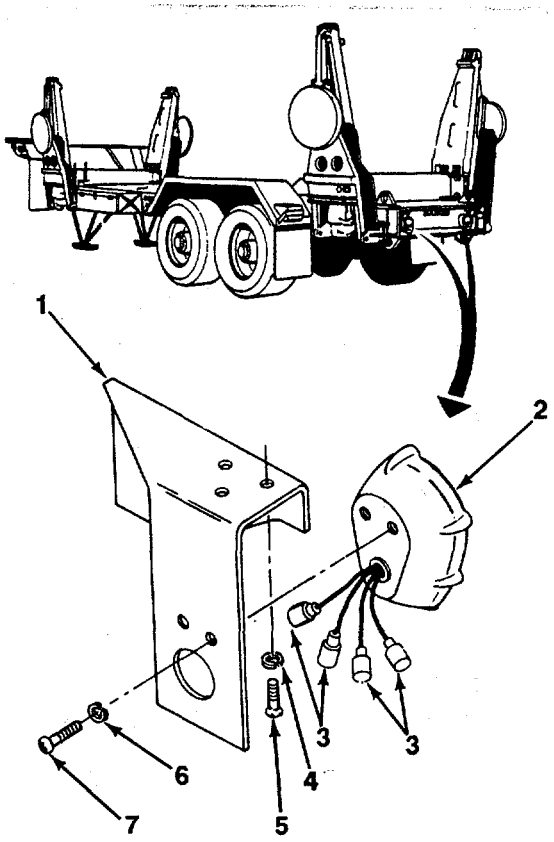
- **LEDs can be used to replace stoplight and marker lamps that were removed.**
- **To Install LEDs, perform step 1**

1. Install LED stoplight (14) and marker (15) into sockets (12) by snapping into place with hand pressure.
2. Install lamps (11) into sockets (12).
3. If removed, install new preformed packing (10) into lens (8).
4. Install lens (8) onto body (13) and tighten six captive screws (9).

4-26. COMPOSITE LIGHT ASSEMBLY MAINTENANCE (Con't).

e. INSTALLATION

1. Install composite light assembly (2) to bracket (1) with two new lockwashers (6) and screws (7).
2. Connect four electrical connectors (3) as tagged, to harness connectors.
3. Install bracket (1) to semitrailer with three new lockwashers (4) and screws (5).



FOLLOW-ON TASKS:
- Connect tractor truck intervehicular cable to semitrailer (para 2-10).
- Check operation of composite lights (para 2-10).

TA706458

4-27. CLEARANCE LIGHT ASSEMBLY REPLACEMENT.

This Task Covers:
a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck intervehicular cable disconnected from semitrailer (para 2-13).

Tools/Test Equipment:

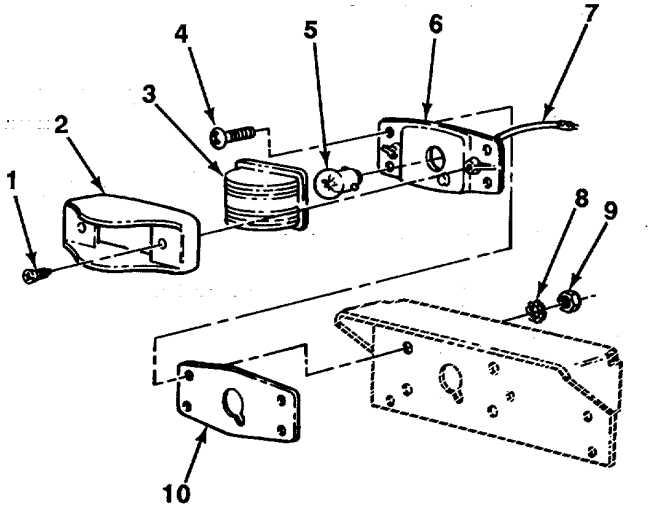
- General mechanic's tool kit

Materials/Parts:

- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- One gasket
- Four lockwashers

a. REMOVAL

1. Remove two screws (1) and lens retainer (2).
2. Remove lens (3) from lens retainer (2).
3. Remove lamp (5) from socket.
4. Disconnect lead (7) from harness connector.
5. Remove four screws (4), lockwashers (8), nuts (9), mounting plate (6), and gasket (10). Discard lock-washers and gasket.



TA706459

4-27. CLEARANCE LIGHT ASSEMBLY REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

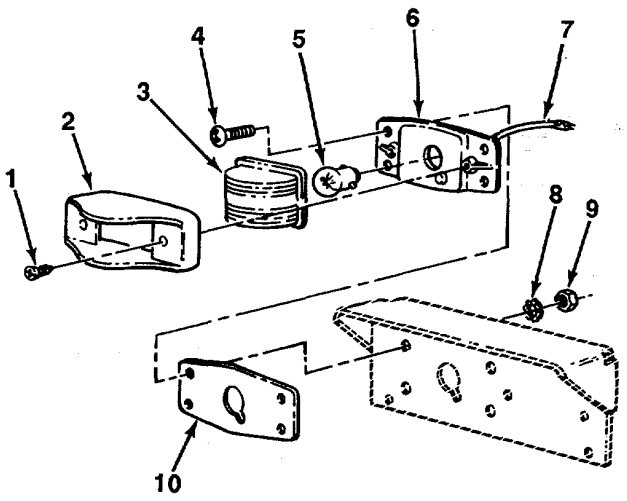
WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with a clean rag and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect mounting plate, lens retainer, and lens for cracks, holes, and other signs of damage.

c. INSTALLATION

1. Install new gasket (10) and mounting plate (6) with four new lockwashers (8), screws (4), and nuts (9).
2. Connect lead (7) to harness connector.
3. Install lamp (5) in socket.
4. Install lens (3) into lens retainer (2).
5. Install lens retainer (2) with two screws (1).



FOLLOW-ON TASKS:

- Connect tractor truck intervehicular cable to semitrailer (para 2-10).
- Check operation of clearance lights (para 2-10).

TA706460

4-28. ELECTRICAL SHIELDS REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Materials/Parts:

- Lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

NOTE

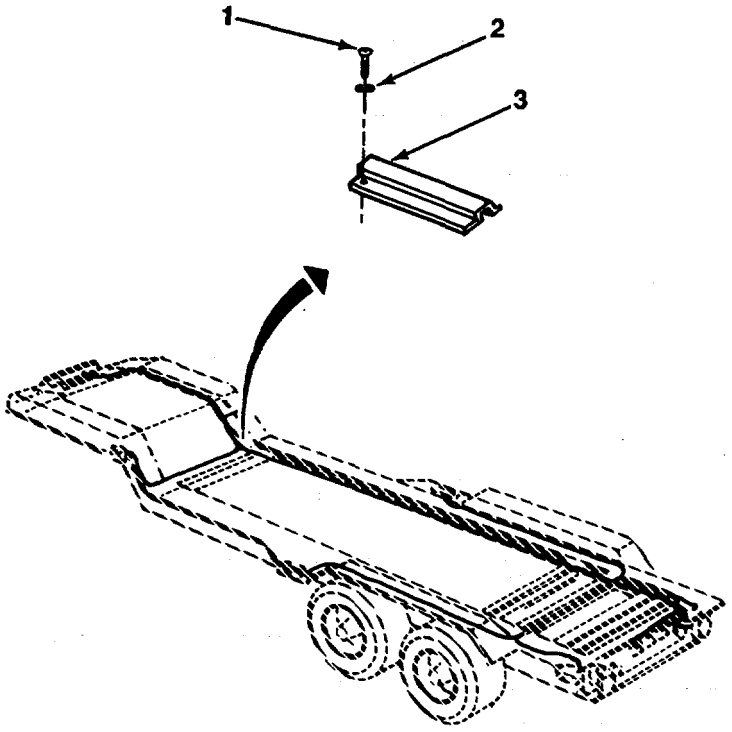
Screws may hold down edge of more than one shield. Quantity of mounting hardware varies with shield.

a. REMOVAL

Remove screws (1), lockwashers (2), and electrical shield (3). Discard lockwashers.

b. INSTALLATION

Install electrical shield (3) with new lockwashers (2) and screws (1).



TA706461

4-29. OUTRIGGER RELAY WIRING HARNESS REPLACEMENT.

This Task Covers:
a. Removal
b. Installation

Initial Setup:

Equipment Conditions:

- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Materials/Parts:

- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

NOTE

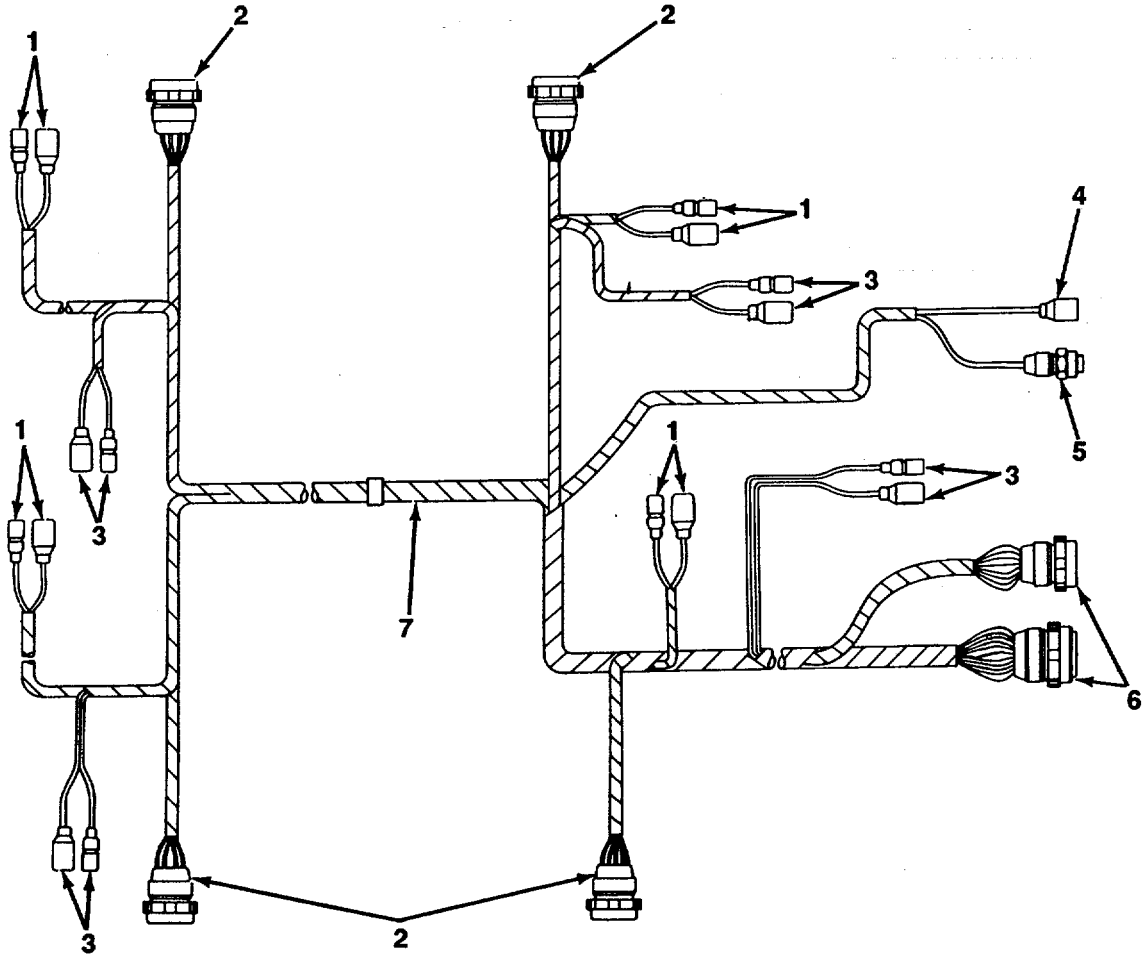
- **All connectors and outrigger relay wiring harness should be tagged before removal.**
- **All four outrigger connections are disconnected in the same way.**

1. Disconnect two connectors (1) from lower outrigger limit switch.
2. Disconnect two connectors (3) from upper outrigger limit switch.
3. Disconnect connector (2) from outrigger relay box.
4. Repeat steps 1 through 3 for other three outriggers.
5. Disconnect connector (4) from master relay wiring harness.
6. Disconnect connector (5) from master relay box.
7. Disconnect two connectors (6) from outrigger control box.
8. Remove outrigger relay wiring harness (7) from semitrailer.

b. INSTALLATION

1. Install outrigger relay wiring harness (7) to semitrailer.
2. Connect two connectors (6) as tagged, to outrigger control box.
3. Connect connector (5) as tagged, to master relaybox.
4. Connect connector (4) as tagged, to master relay wiring harness.
5. Connect two connectors (3) as tagged, to upper outrigger limit switch.
6. Connect connector (2) as tagged, to outrigger relay box.

4-29. OUTRIGGER RELAY WIRING HARNESS REPLACEMENT (Con't).



7. Connect two connectors (1) as tagged, to lower outrigger limit switch.
8. Repeat steps 5 through 7 for other three outriggers.

FOLLOW-ON TASKS:

- **Install electrical shields, as required (para 4-28).**

TA706462

4-30. WIRING HARNESS REPAIR.

This Task Covers:

a. Terminal Replacement
b. Male Connector Repair
c. Female Connector Repair
d. Connector Plug Assembly Repair
e. Connector Receptacle Repair

Initial Setup:

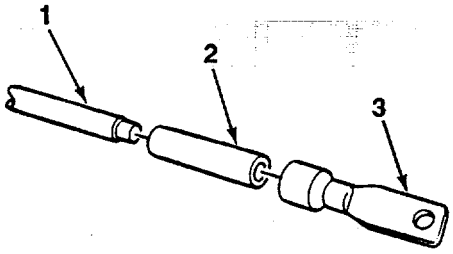
Equipment Conditions:
- Tractor truck intervehicular cable disconnected from semitrailer (para 2-13).
- Slave cable disconnected from semitrailer (para 2-12)

Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:
- Solder (Item 15, Appendix E)
- Contacts (as required)
- Inserts (as required)
- Terminals (as required)

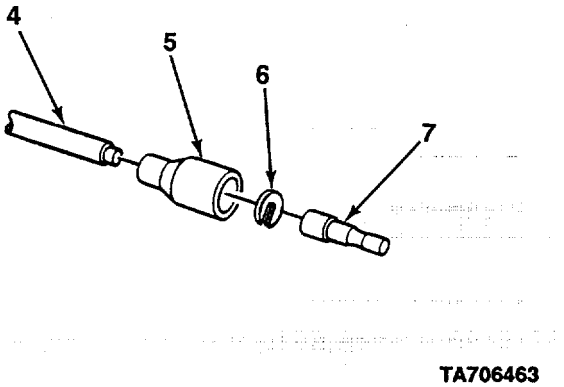
References:
- TB SIG 222

a. TERMINAL REPLACEMENT



1. Cut terminal (3) from wire (1). Discard terminal.
2. Strip insulation off wire (1) equal to depth of new terminal (3).
3. Slide insulator (2) on wire (1).
4. Position new terminal (3) on wire (1). Crimp terminal.
5. Slide insulator (2) over crimped end of terminal (3).

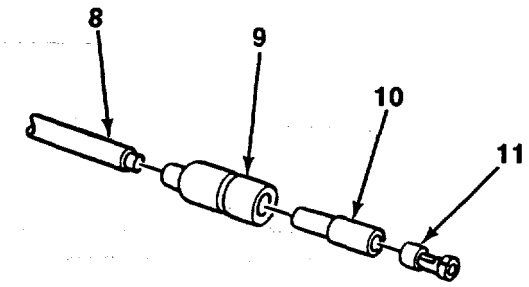
b. MALE CONNECTOR REPAIR



1. Slide shell (5) back and remove slotted washer (6) from wire (4). Cut contact (7) from cable. Discard contact. Remove shell.
2. Strip insulation off wire (4) equal to depth of new contact (7).
3. Slide shell (5) on wire (4).
4. Install new contact (7) on wire (4) and crimp wire.
5. Position slotted washer (6) on wire (4) near crimping. Slide shell (5) over slotted washer and contact (7).

4-30. WIRING HARNESS REPAIR (Con't).

c. FEMALE CONNECTOR REPAIR



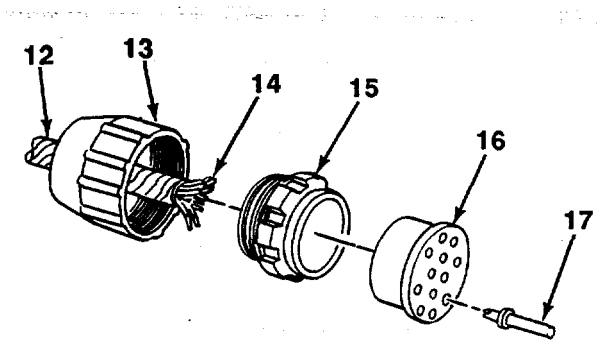
1. Slide shell (9) and sleeve (10) back and cut terminal (11) from wire (8). Discard terminal.
2. Remove sleeve (10) and shell (9) from wire (8).
3. Strip insulation off wire (8) equal to depth of new terminal (11).
4. Slide shell (9) and sleeve (10) on wire (8).
5. Position new terminal (11) on wire (8) and crimp wire.
6. Slide sleeve (10) and shell (9) over terminal (11).

d. CONNECTOR PLUG ASSEMBLY REPAIR

NOTE

Male and female inserts are replaced in the same way. This procedure covers male. Insert replacement.

1. Remove coupling nut (15) from grommet retaining nut (13).
2. Remove grommet (16) from coupling nut (15). Cut insert (17) from wire (14). Discard insert.
3. Remove grommet (16), coupling nut (15), and grommet retaining nut (13) from cable (12).
4. Strip insulation off wire (14) equal to depth of new Insert (17).
5. Thread cable (12) through grommet retaining nut (13), coupling nut (15), and grommet (16).
6. Position new insert (17) on wire (14) and solder.
7. Press grommet (16) into coupling nut (15) until seated.
8. Install coupling nut (15) on grommet retaining nut (13).



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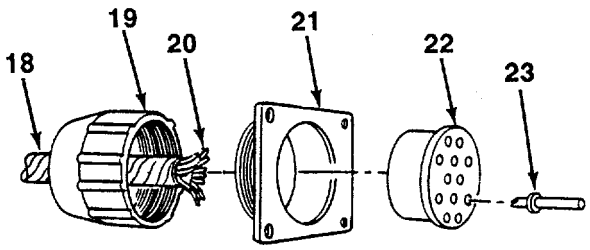
4-30. WIRING HARNESS REPAIR (Con't).

e. CONNECTOR RECEPTACLE REPAIR

NOTE

Male and female inserts are replaced In the same way. This procedure covers male. Insert replacement.

1. Remove receptacle (21) from grommet retaining nut (19).
2. Remove grommet (22) from receptacle (21). Cut insert (23) from wire (20). Discard insert.
3. Remove grommet (22), receptacle (21), and grommet retaining nut (19) from cable (18).
4. Strip insulation off wire (20) equal to depth of new insert (23).
5. Thread cable (18) through grommet retaining nut (19), receptacle (21), and grommet (22).
6. Position new Insert (23) on wire (20) and solder.
7. Press grommet (22) into receptacle (21) until seated
8. Install receptacle (21) on grommet retaining nut (19).



TA706465

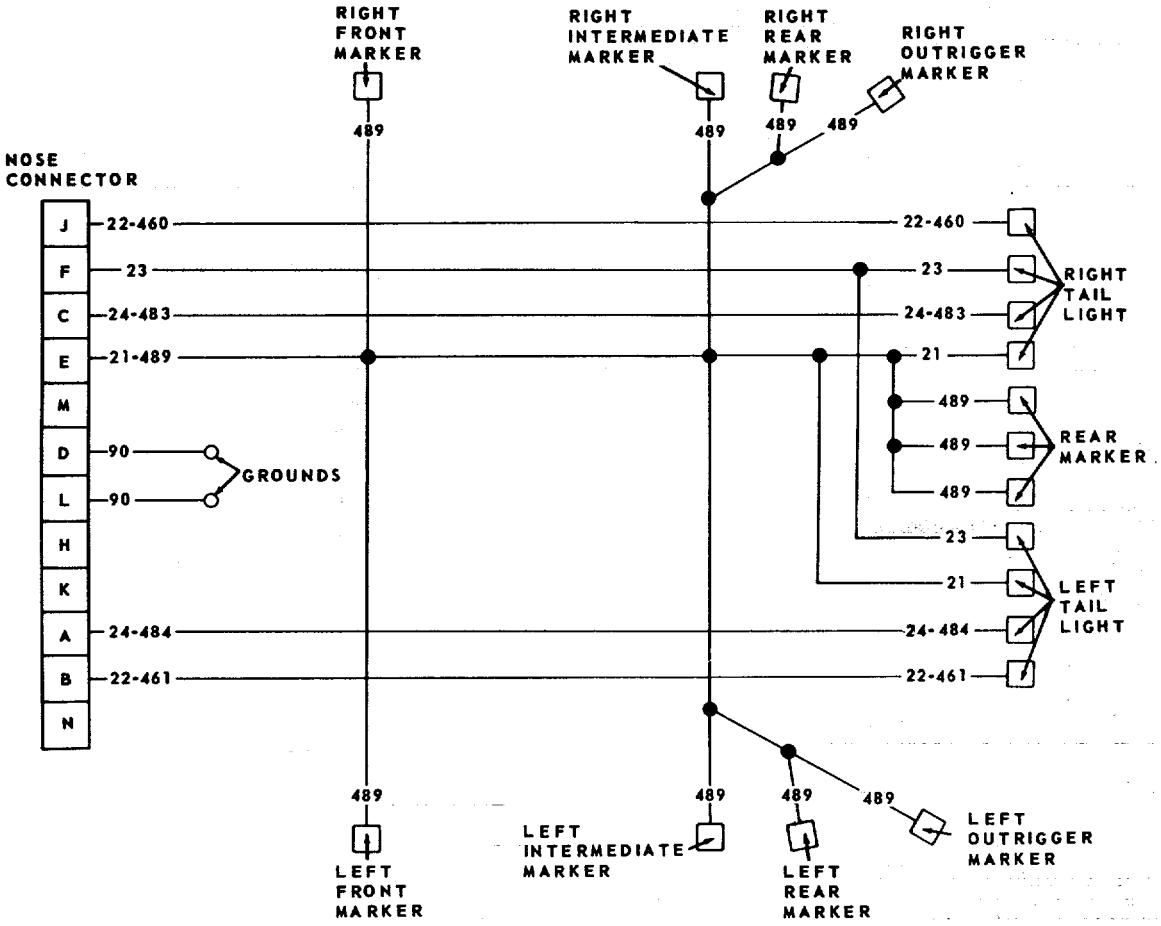
FOLLOW-ON TASKS:

- Connect slave cable to semitrailer (para 2-12).
- Connect tractor truck intervehicular cable to semitrailer (para 2-10).
- Check operation of lights (para 2-10) or outriggers (para 2-12).

4-31. LIGHTING WIRING DIAGRAM.

NOTE

- **This paragraph contains the lighting wiring diagram for the M860A1 Flatbed Semitrailer. Consult this diagram when performing troubleshooting or maintenance on the trailer lighting electrical system.**
- **The wiring diagram for the outrigger electrical system is contained in Figure FO-1.**



TA706466

Section VII. BRAKE SYSTEM MAINTENANCE

4-32. SERVICE BRAKE MAINTENANCE.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation
d. Adjustment

Initial Setup:

Equipment Conditions:
- Wheel and tire removed (para 3-11).
- Brakedrum removed (para 4-46).

Materials/Parts:
- Brush (Item 5, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Four seals
- Ten lockwashers

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

4-32. SERVICE BRAKE MAINTENANCE (Con't).

WARNING

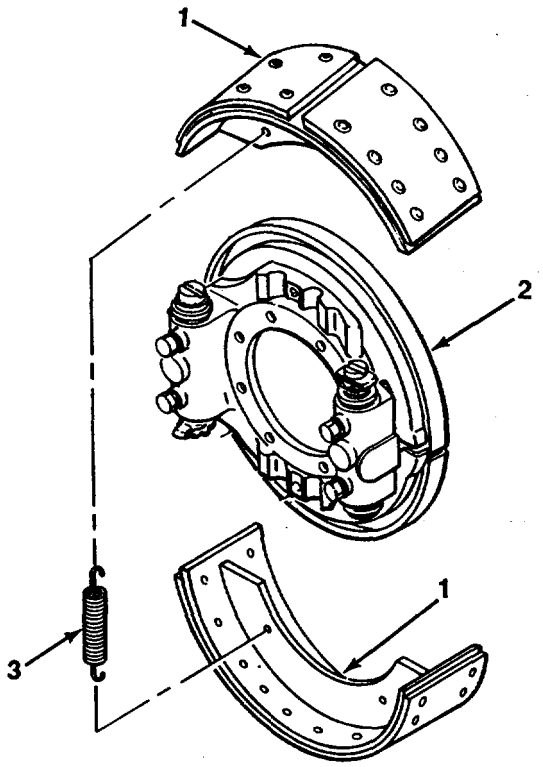
DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

a. REMOVAL

NOTE

- Note location of all components during removal to aid In installation.
- Perform steps 1 and 2 If replacing brakeshoes only.

1. Remove both brakeshoe return springs (3) with brake springtool.
2. Remove two brakeshoes (1) from brake assembly (2).

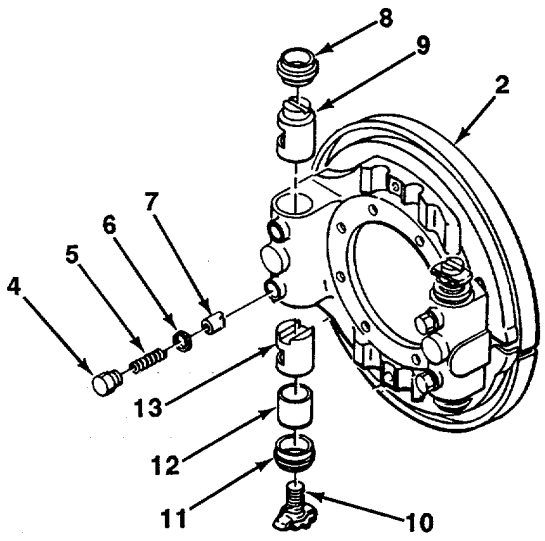


TA706467

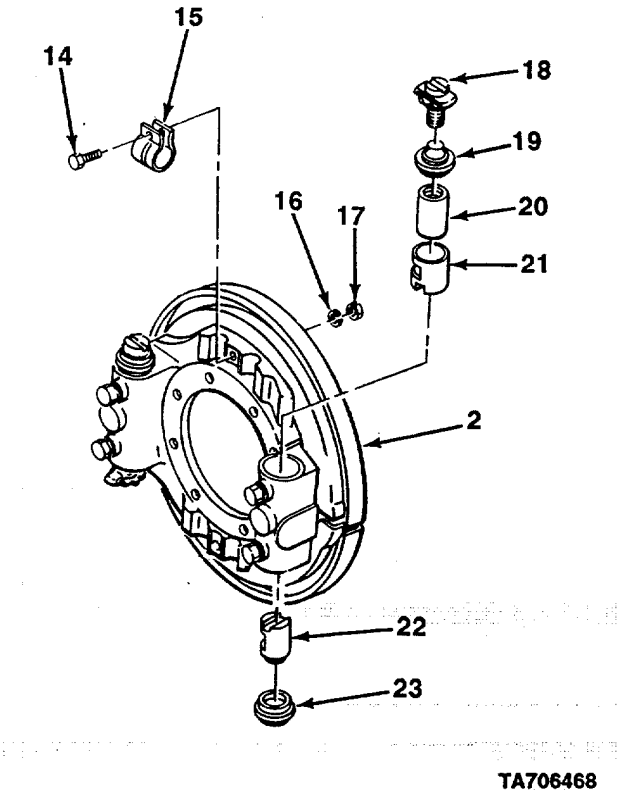
4-32. SERVICE BRAKE MAINTENANCE (Con't).

NOTE
Anchor guides with springs are on adjustment end of cylinder.

3. Remove four anchor guides (4), two springs (5), four lockwashers (6), and plungers (7) from brake assembly (2). Discard lockwashers.
4. Remove seal (8) and plunger (9) from brake assembly (2). Discard seal.
5. Remove adjustment screw (10), seal (11), actuator (12), and plunger (13) from brake assembly (2). Discard seal.



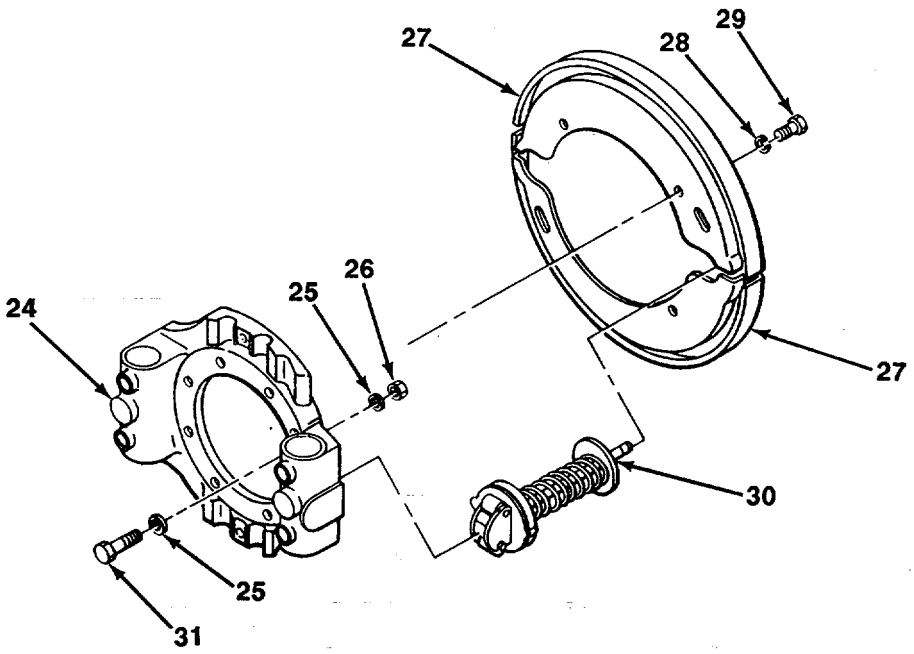
6. Remove seal (23) and plunger (22) from brake assembly (2). Discard seal.
7. Remove adjustment screw (18), seal (19), actuator (20), and plunger (21) from brake assembly (2). Discard seal.
8. Remove nut (17), lockwasher (16), bolt (14), and clip (15) from brake assembly (2). Discard lock-washer. Repeat for other clip.



TA706468

4-32. SERVICE BRAKE MAINTENANCE (Con't).

9. Remove 16 nuts (26), 32 washers (25), 16 screws (31), spider (24), and two dust shields (27).
10. Remove four screws (29), lockwashers (28), and two dust shields (27). Discard lockwashers.
11. Remove wedge assembly (30) from spider (24).



b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or soft paint brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged rod ends.
3. Inspect all parts for cracks, rust, corrosion, or marred finish.
4. Replace brakeshoes if brakeshoe linings are worn to within 0.03 in. (0.76 mm) above rivets.

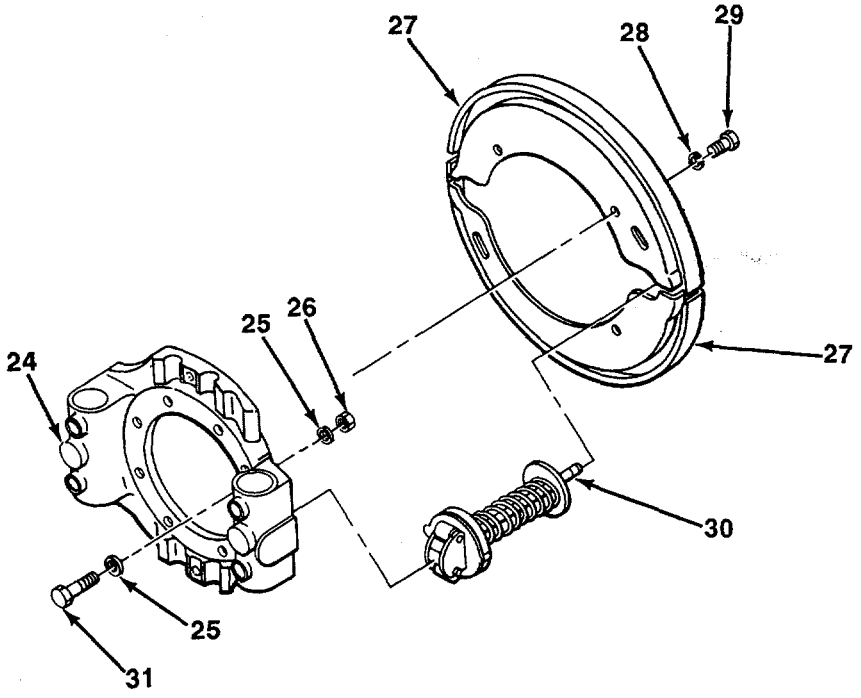
TA706469

4-32. SERVICE BRAKE MAINTENANCE (Con't).

c. INSTALLATION

NOTE
Perform steps 10 and 11 if replacing brakeshoes only.

1. Install wedge assembly (30) into spider (24).
2. Install two dust shields (27) with four new lockwashers (28) and screws (29).
3. Install spider (24) with 16 screws (31), 32 washers (25), and 16 nuts (26). Torque nuts to 250 lb.-ft. (339 N-m).



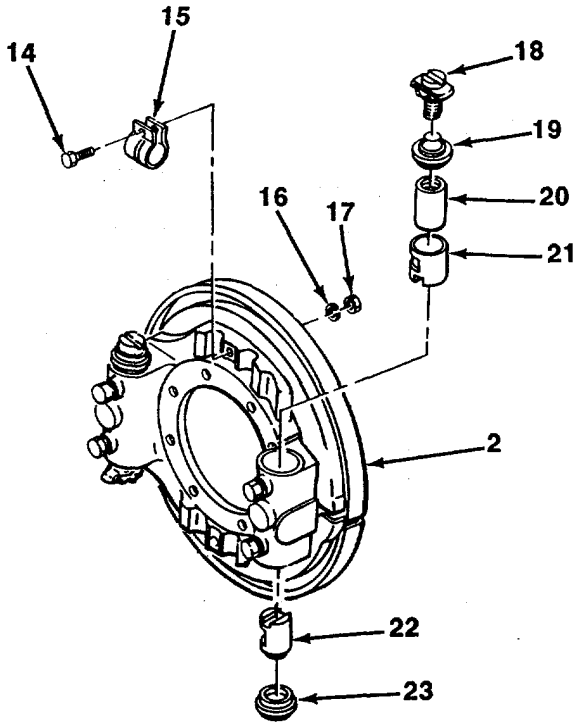
TA706470

4-32. SERVICE BRAKE MAINTENANCE (Con't).

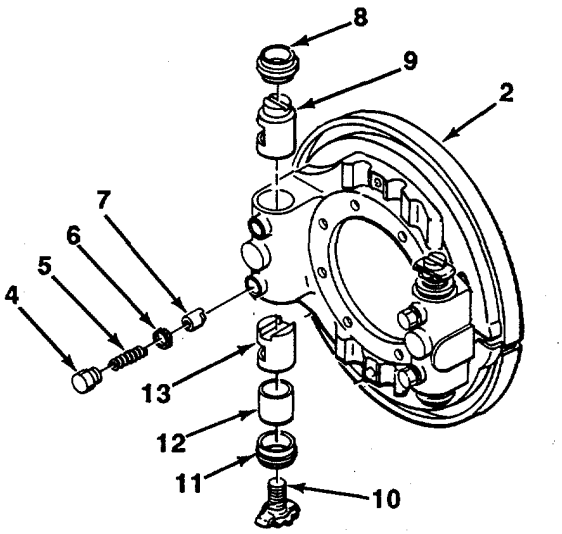
4. Install clip (15) with screw (14), new lockwasher (16), and nut (17) in brake assembly (2). Repeat for other clip.
5. Install plunger (21), actuator (20), new seal (19), and adjustment screw (18) in brake assembly (2).

NOTE
Slot on plunger faces out.

6. Install plunger (22) and new seal (23) in brake assembly (2).



7. Install plunger (13), actuator (12), new seal (11), and adjustment screw(10) In brake assembly (2).
8. Install plunger (9) and new seal (8) in brake assembly (2).
9. Install four plungers (7), lockwashers (6), two springs (5), and four anchor guides (4) in brake assembly (2).

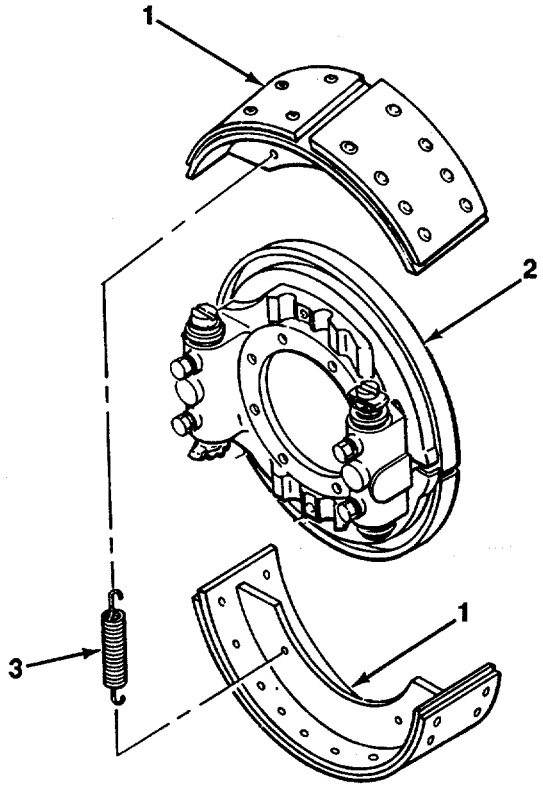


TA706471

4-32. SERVICE BRAKE MAINTENANCE (Con't).

NOTE
Arrows on brakeshoes indicate how they should be installed.

10. Install two brakeshoes (1) on brake assembly (2).
11. Install two brakeshoe return springs (3).
12. Install brakedrum (para 4-46).
13. Install wheel and tire (para 3-11).



d. ADJUSTMENT

1. Raise rear wheels off ground using outriggers (para 2-12).
2. Cage brakes (para 3-10).

NOTE
If new brakeshoes were installed, perform steps 3 through 8. If existing brakeshoes were installed, perform steps 9 through 13.

3. Remove four rubber plugs (33).
4. Insert screwdriver into adjustment hole (32).

TA706472

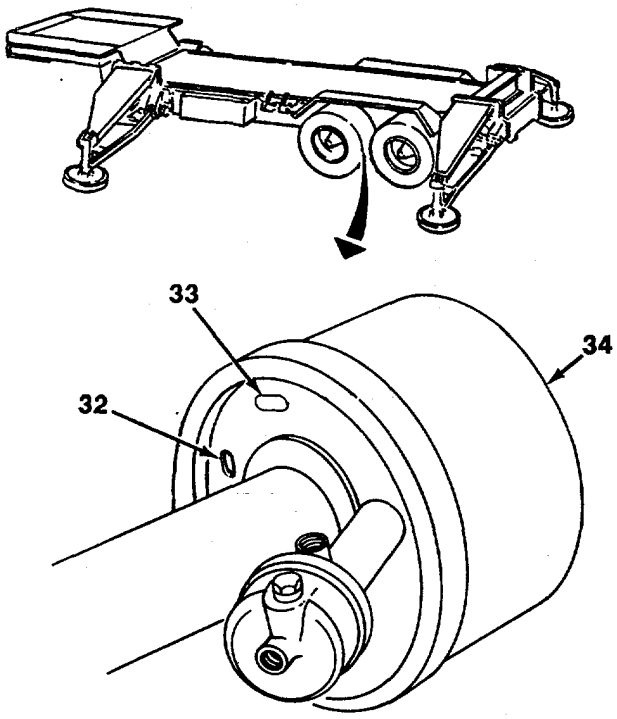
4-32. SERVICE BRAKE MAINTENANCE (Con't).

5. Insert feeler gage between brakedrum and brakeshoe.

NOTE
Adjustment screws have right-hand threads.

6. Rotate star wheel on adjustment screw with screwdriver in direction necessary to obtain a clearance of 0.05 in. ± 0.01 in. (1.27 mm + 0.25 mm).

7. Repeat steps 3 through 6 for opposite brakeshoe.
8. Install four rubber plugs (33).
9. Turn wheel (34) by hand.
10. Insert screwdriver into adjustment hole (32).



NOTE
Adjustment screws have right-hand threads.

11. Rotate star wheel on adjustment screw with screwdriver until heavy drag on wheel (34) is obtained.
12. Rotate star wheel back until a very light drag on wheel (34) is obtained.
13. Repeat steps 9 through 12 for opposite brakeshoe.
14. Uncage brakes (para 3-10).
15. Lower rear wheels to ground using outriggers (para 2-12).

TA706473

4-33. AIR COUPLING REPLACEMENT.

This Task Covers:
a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

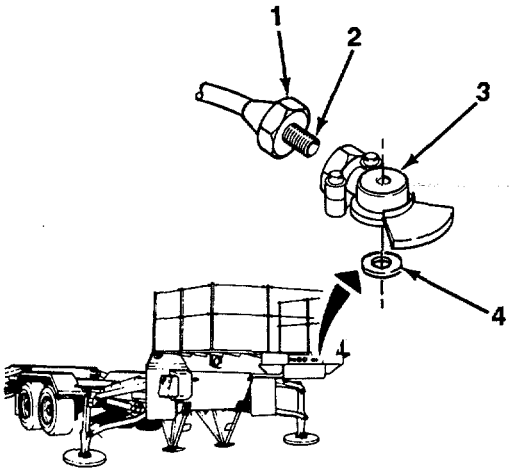
Equipment Conditions:
- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)

Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

1. Loosen nut (1).
2. Remove air coupling (3) from fitting (2). Cap air line (para 4-19).
3. If damaged, remove preformed packing (4) from air coupling (3) and discard.



b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.

TA706474

4-33. AIR COUPLING REPLACEMENT (Con't).

2. Inspect for cracks, dents, holes, and warps.
3. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

1. If removed, install new preformed packing (4) into air coupling (3).
2. Uncap air line.
3. Install air coupling (3) to fitting (2).
4. Tighten nut (1).

FOLLOW-ON TASKS:

- Connect tractor truck to air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-34. EMERGENCY RELAY VALVE REPLACEMENT.

This Task Covers:
a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).

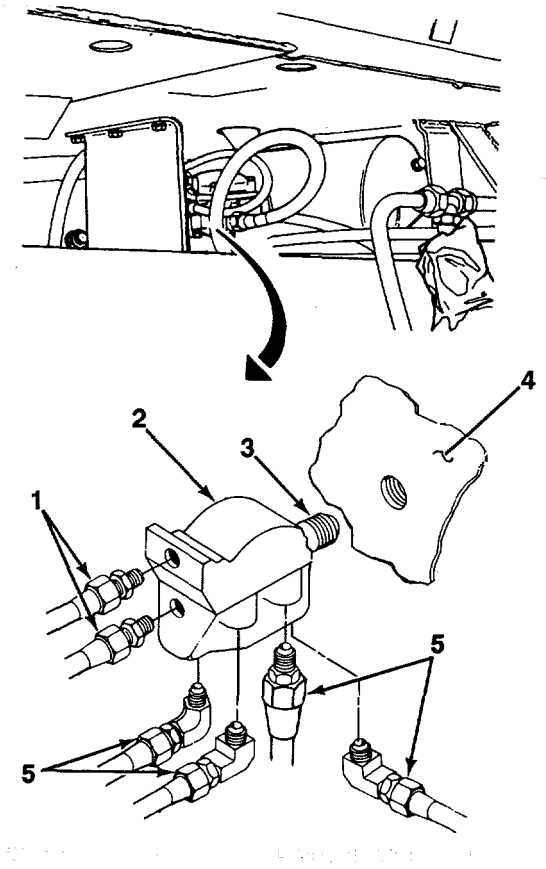
Materials/Parts:

- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

1. Tag and disconnect two input lines (1) and four output lines (5) from emergency relay valve (2). Cap all lines (para 4-19).
2. Remove emergency relay valve (2) from air reservoir (4) by rotating entire emergency relay valve counterclockwise.



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4-34. EMERGENCY RELAY VALVE REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, dents, holes, and warps.
4. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

1. Install emergency relay valve (2) by inserting nipple (3) into air reservoir (4) and rotating entire emergency relay valve clockwise.
2. Uncap four output lines (5) and connect as tagged.
3. Uncap two Input lines (1) and connect as tagged.

FOLLOW-ON TASKS:

- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-35. AIR RESERVOIR REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Emergency relay valve removed (para 4-34).
- Wheel-to-air reservoir air lines disconnected from air reservoir (para 4-40).

Materials/Parts:

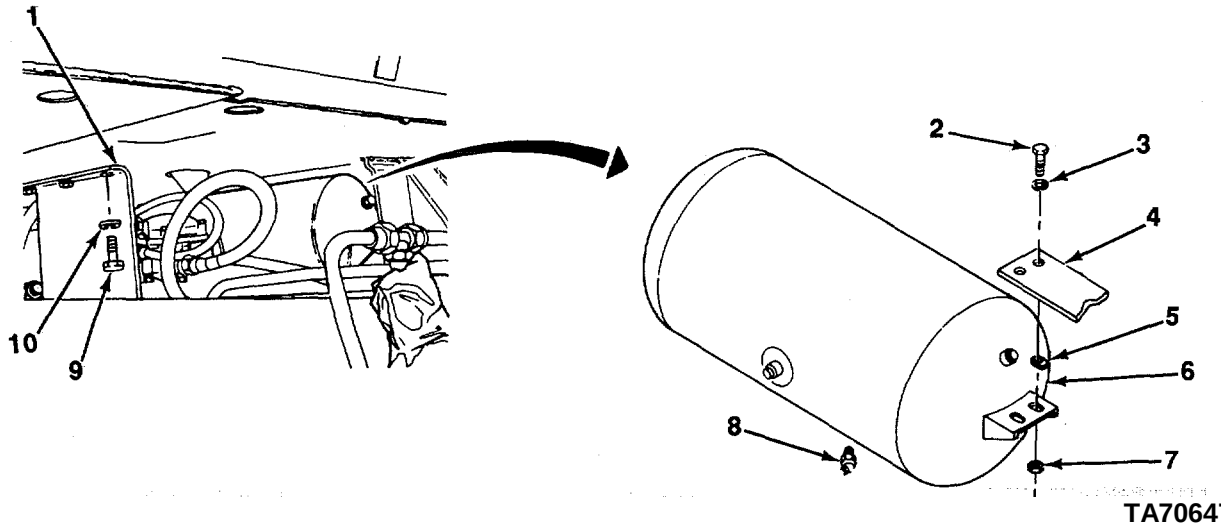
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Four locknuts
- Six lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Remove six screws (9), lockwashers (10), and shield (1). Discard lockwashers.
2. Remove drain valve (8) from air reservoir (6).
3. Remove four locknuts (7), washers (5), air reservoir (6), four grommets (3), and screws (2) from bracket (4). Discard locknuts.



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4-35. AIR RESERVOIR REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect air reservoir for cracks, dents, holes, and warps.
4. Inspect mounting brackets for cracks, warps, and broken welds.
5. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

1. Install four screws (2), grommets (3), air reservoir (6), four washers (5), and new locknuts (7) on bracket (4).
2. Install drain valve (8) into air reservoir (6).
3. Install shield (1) with six new lockwashers (10) and screws (9).

FOLLOW-ON TASKS:

- Connect wheel-to-air reservoir air lines to air reservoir (para 4-40).
- Install emergency relay valve (para 4-34).
- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-36. AIR FILTER MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Access cover removed (para 4-58).
- One filter element

Materials/Parts:

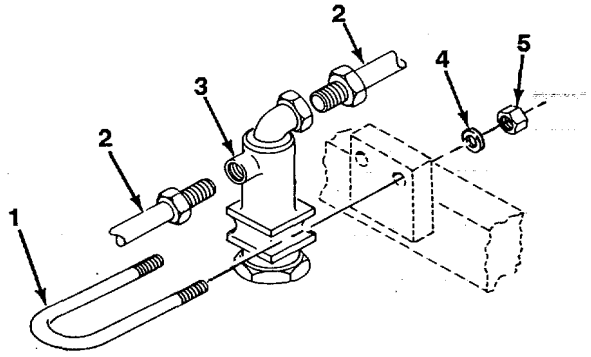
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)
- One gasket
- Two lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

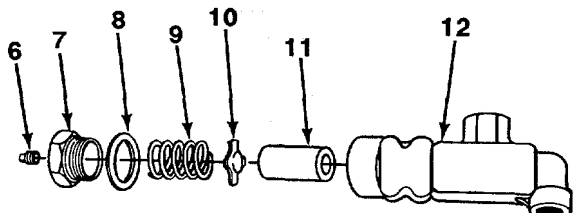
a. REMOVAL

1. Tag and disconnect two air lines (2) from air filter (3). Cap air lines (para 4-19).
2. Remove two nuts (5), lockwashers (4), U-bolt (1), and air filter (3). Discard lockwashers.



b. DISASSEMBLY

1. Remove drain plug (6), adapter bushing (7), and gasket (8). Discard gasket.
2. Remove spring (9), springwasher (10), and filter element (11) from housing (12). Discard filter element.



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4-36. AIR FILTER MAINTENANCE (Con't).

c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect housing and adapter bushing for damaged threads.
3. Inspect for cracks, dents, and holes.
4. Inspect for rust, corrosion, or marred finish.

d. ASSEMBLY

1. Install new filter element (11) and springwasher (10) to housing (12).
2. Install new gasket (8) to adapter bushing (7).
3. Install spring (9), adapter bushing (7), and drain plug (6) to housing (12).

e. INSTALLATION

1. Install air filter (3) with U-bolt (1), two new lockwashers (4), and nuts (5).
2. Uncap two air lines (2).
3. Connect two air lines (2) as tagged, to air filter (3).

FOLLOW-ON TASKS:

- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.
- Install access cover (para 4-58).

4-37. AIR COUPLING-TO-AIR FILTER AIR LINES REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Access cover removed (para 4-58).
- Ensure that all clamps and screws necessary to access air line are removed.
- Two lockwashers

Materials/Parts:

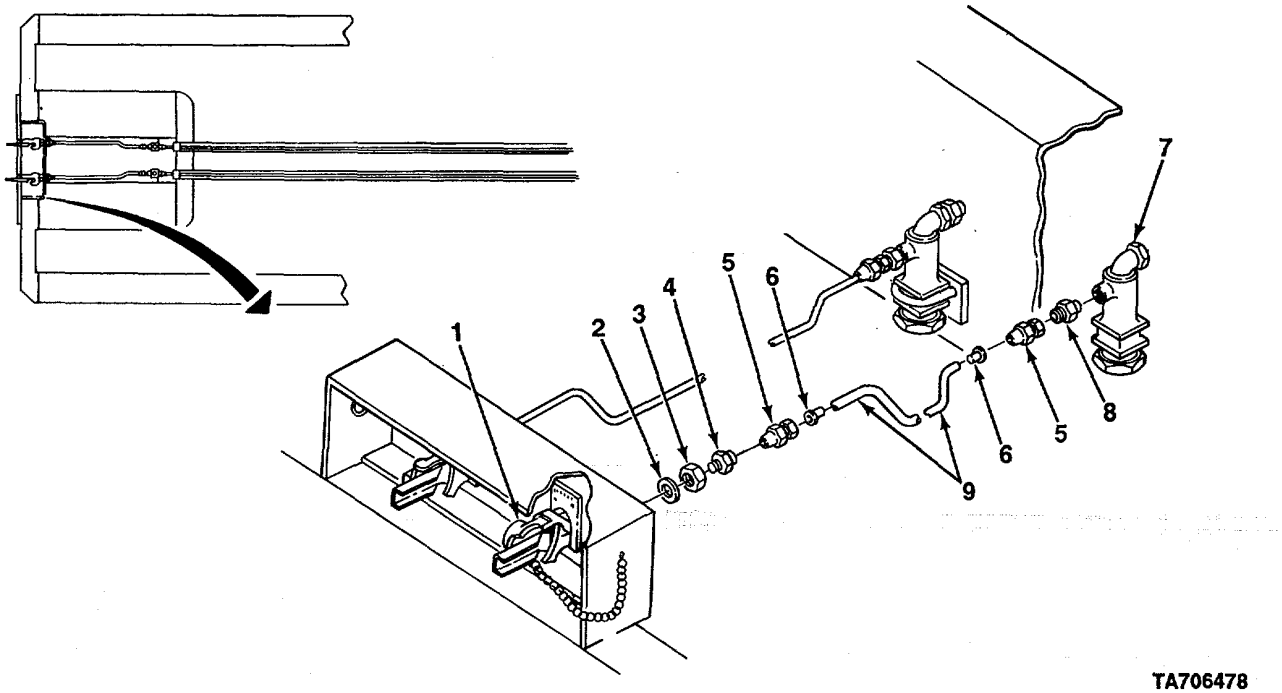
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Tag and disconnect air line (9) from air coupling (1) and air filter (7).
2. Remove adapter (8) from air line (9).
3. Remove lockwasher (2), nut (3), adapter (4), two elbows (5), and inserts (6) from air line (9). Discard lockwasher. Cap air line (para 4-19).
4. Repeat steps 1 through 3 for other air line (9).



4-37. AIR COUPLING-TO-AIR FILTER AIR LINES REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for cracks, dents, holes, and deteriorated condition.
3. Inspect end connectors for damaged threads, rust, or corrosion.

c. INSTALLATION

1. Uncap air line (9).
2. Install two inserts (6), elbows (5), adapter (4), nut (3), and new lockwasher (2) in air line (9).
3. Install adapter (8) into air line (9).
4. Connect air line (9) as tagged, to air coupling (1) and air filter (7).
5. Repeat steps 1 through 4 for other air line (9).

FOLLOW-ON TASKS:

- Ensure that all clamps and screws removed to access air line are installed.
- Install access cover (para 4-58).
- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-38. AIR FILTER-TO-EMERGENCY RELAY VALVE AIR LINES REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Ensure that all clamps and screws necessary to access air line are removed.

Materials/Parts:

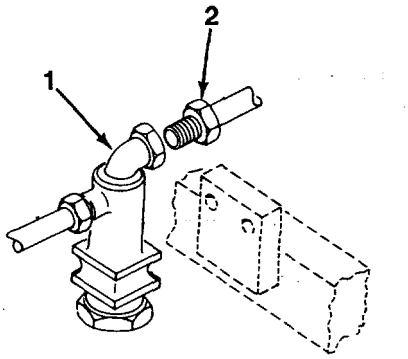
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Tag and disconnect air line (2) from air filter (1). Cap air line (para 4-19).



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2. Disconnect air line (2) from emergency relay valve (4) and remove air line.
3. Remove adapter (3) from air line (2). Cap air line (para 4-19).
4. Repeat steps 1 through 3 for other air line (2).

4-38. AIR FILTER-TO-EMERGENCY RELAY VALVE AIR LINES REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

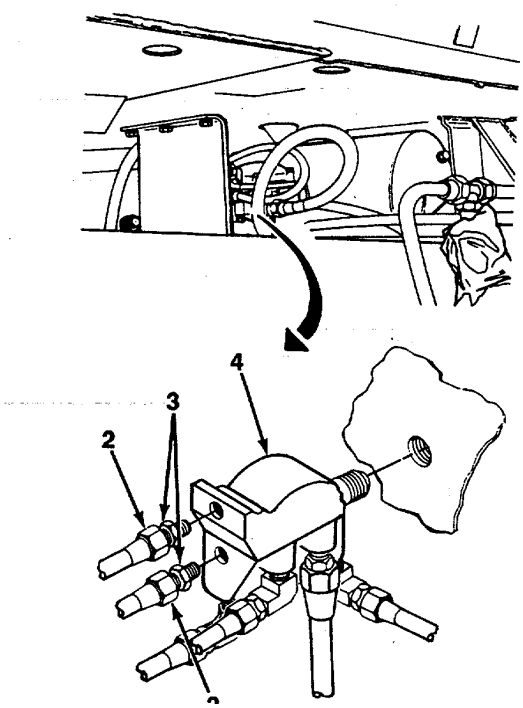
WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for cracks, dents, holes, and deteriorated condition.
3. Inspect end connectors for damaged threads, rust, or corrosion.

b. INSTALLATION

1. Uncap air line (2) and install adapter (3) to air line.
2. Connect air line (2) to emergency relay valve (4).
3. Uncap and connect air line (2) as tagged, to air filter (1).
4. Repeat steps 1 through 3 for other air line (2).



FOLLOW-ON TASKS:

- Ensure that all clamps and screws removed to access air line are installed.
- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

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4-39. EMERGENCY RELAY VALVE-TO-WHEELS AIR LINES REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Ensure that all clamps and screws necessary to access air line are removed.

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

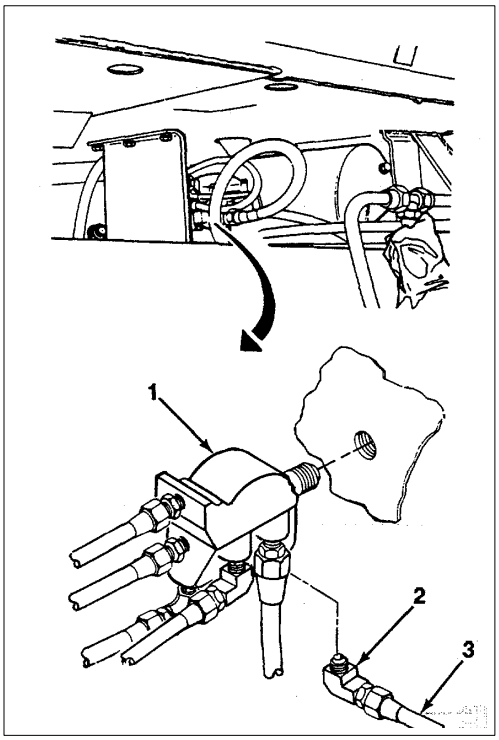
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)
- One gasket
- Two lockwashers

a. REMOVAL

NOTE

- **Before disconnecting air lines, all air lines must be tagged (para 4-18).**
- **After disconnecting air lines, all air lines must be capped (para 4-19).**
- **This task covers one set of emergency valve-to-wheel air lines. Other three are removed the same way. Left rear wheel is illustrated.**

1. Disconnect air line (3) from emergency relay valve (1).
2. Remove elbow (2) from air line (3).



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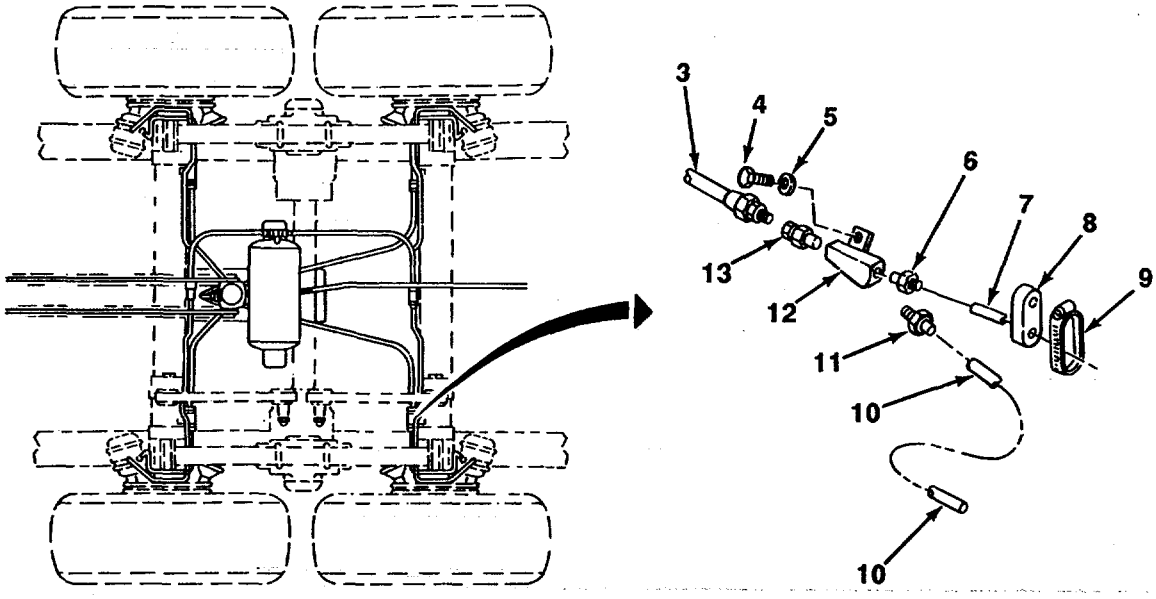
4-39. EMERGENCY RELAY VALVE-TO-WHEELS AIR LINES REPLACEMENT (Con't).

3. Disconnect air line (3) from connector assembly (12) and remove air line.
4. Remove pipe coupling (13) from air line (3).
5. Disconnect air line (7) from connector assembly (12).
6. Remove pipe coupling (6) from air line (7).
7. Remove clamp (9) and gasket (8). Discard gasket.
8. Disconnect air line (10) from connector assembly (12).
9. Remove pipe coupling (11) from air line (10).
10. Remove two screws (4), lockwashers (5), and connector assembly (12). Discard lockwashers.



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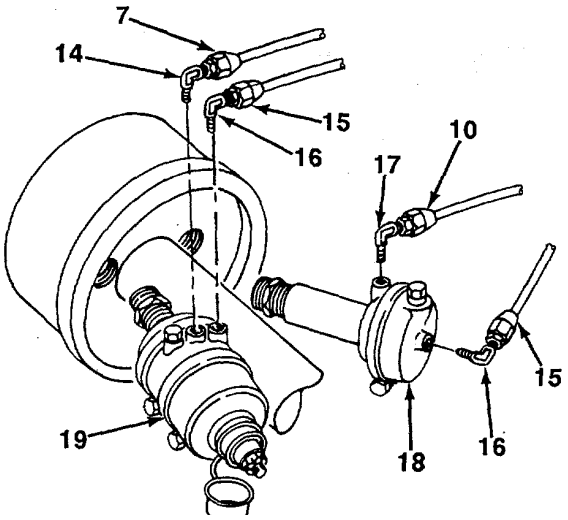
4-39. EMERGENCY RELAY VALVE-TO-WHEELS AIR LINES REPLACEMENT (Con't).

11. Disconnect air line (7) from fail-safe airbrake chamber (19) and remove air line.
12. Remove elbow (14) from air line (7).
13. Disconnect air line (15) from fail-safe airbrake chamber (19) and airbrake chamber (18) and remove air line.
14. Remove two elbows (16) from air line (15).
15. Disconnect air line (10) from airbrake chamber (18) and remove air line.
16. Remove elbow (17) from air line (10).
17. Repeat steps 1 through 16 for other three emergency relay valve-to-wheel air lines.



b. CLEANING AND INSPECTION

WARNING

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1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for cracks, dents, holes, and deteriorated condition.
3. Inspect end connectors for damaged threads, rust, or corrosion.

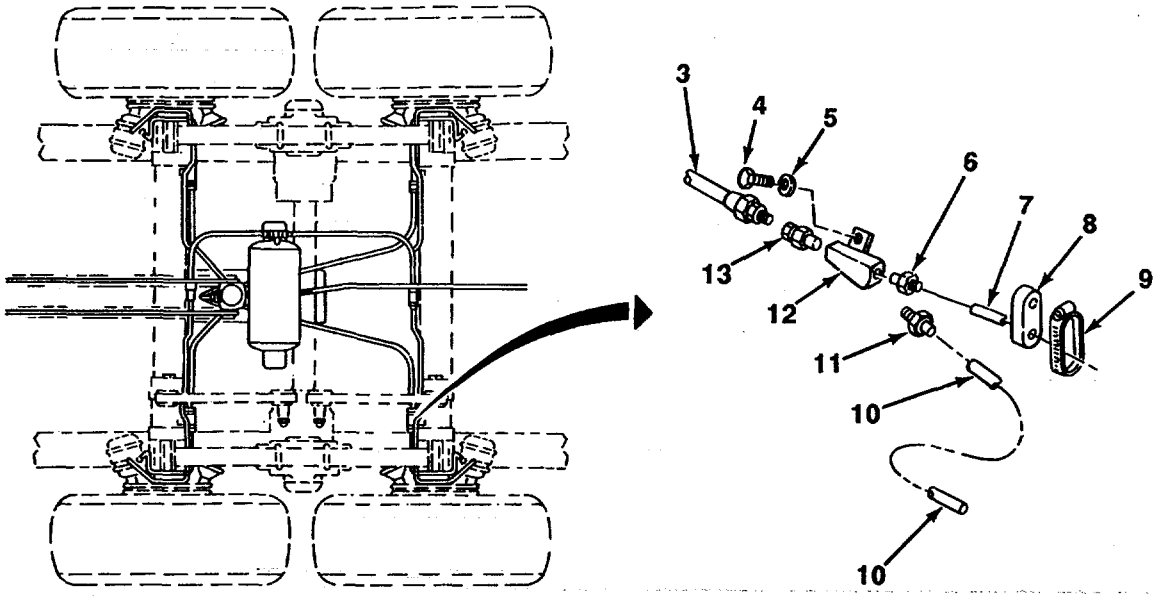
c. INSTALLATION

1. Install elbow (17) to air line (10).
2. Connect air line (10) to airbrake chamber (18).
3. Install two elbows (16) to air line (15).
4. Connect air line (15) to airbrake chamber (18) and fail-safe airbrake chamber (19).
5. Install elbow (14) to air line (7).
6. Connect air line (7) to fail-safe airbrake chamber (19).

TA706483

4-39. EMERGENCY RELAY VALVE-TO-WHEELS AIR LINES REPLACEMENT (Con't).

7. Install connector assembly (12) with two new lockwashers (5) and screws (4).
8. Install pipe coupling (11) to air line (10).
9. Connect air line (10) to connector assembly (12).
10. Install new gasket (8) and clamp (9).
11. Install pipe coupling (6) to air line (7).
12. Connect air line (7) to connector assembly (12).
13. Install pipe coupling (13) to air line (3).
14. Connect air line (3) to connector assembly (12).



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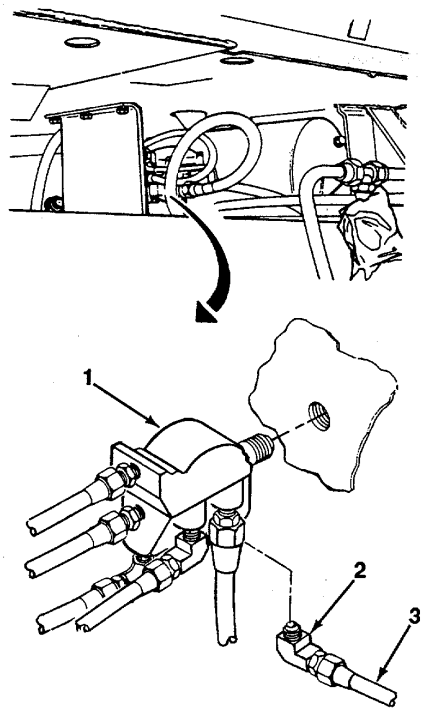
4-39. EMERGENCYARELAYVALVE-TO-WHEELS AIRLINES REPLACEMENT (Con't).

15. Install elbow (2) to air line (3).

16. Connect air line (3) to emergency relay valve (1).

17. Repeat steps 1 through 16 for other three emergency relay valve-to-wheel air lines.



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FOLLOW-ON TASKS:

- Ensure that all clamps and screws removed to access air lines are installed.
- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-40. WHEEL-TO-AIR RESERVOIR AIR LINES REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditlons:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Ensure that all clamps and screws necessary to access hose or air line are removed.

Materials/Parts:

- ·Brush (item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- · Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

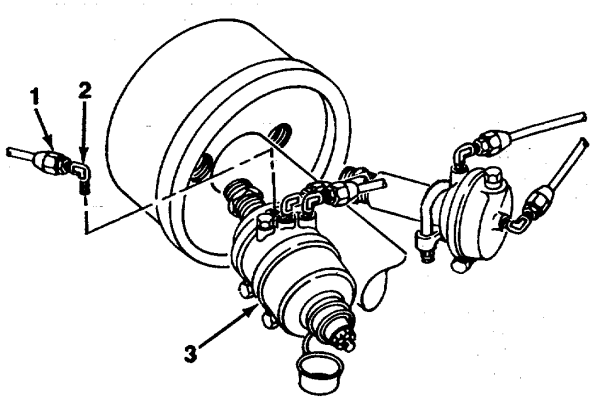
- General mechanic's tool kit

a. REMOVAL

NOTE

- **Before disconnecting air lines, all air lines must be tagged (para 4-18).**
- **After disconnecting air lines, all air fines must be capped (para 4-19).**
- **This task addresses one set of wheel-to-air reservoir air lines. Other three are removed In the same way. Left rear rear wheel is illustrated.**

1. Disconnect air line (1) from fail-safe airbrake chamber (3).
2. Remove elbow (2) from air line (1).



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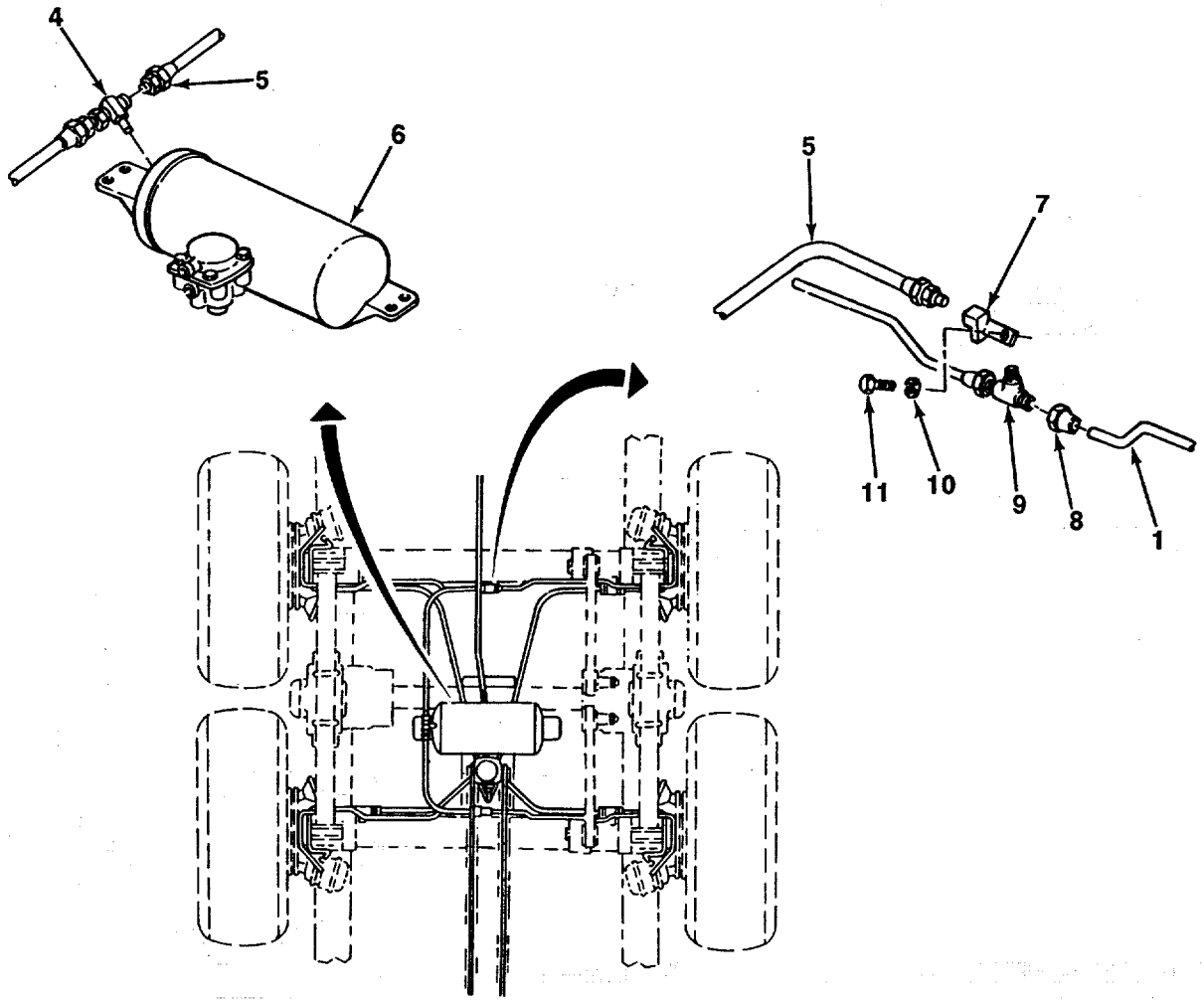
4-40. WHEEL-TO-AIR RESERVOIR AIR LINES REPLACEMENT (Con't).

3. Disconnect air line (1) from tee connector (9) and remove air line.
4. Remove adapter (8) from air line (1).
5. Disconnect air line (5) from elbow (7).
6. If elbow (7) is damaged, remove screw (11) and lockwasher (10), then remove elbow from tee connector (9) Discard lockwasher.
7. Disconnect air line (5) from tee connector (4) on air reservoir (6) and remove air line.
8. Repeat steps 1 through 7 for other three wheel-to-air reservoir air lines.



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4-40. WHEEL-TO-AIR RESERVOIR AIR LINES REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

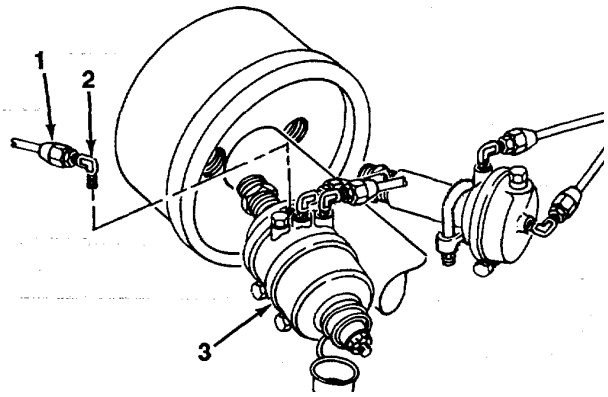
WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent and allow to dry.
2. Inspect for cracks, dents, holes, and deteriorated condition.
3. Inspect end connectors for damaged threads, rust, or corrosion.

c. INSTALLATION

1. Connect air line (5) to tee connector (4) on air reservoir (6).
2. If removed, install elbow (7) to tee connector (9) and install new lockwasher (10) and screw (11).
3. Connect air line (5) to elbow (7).
4. Install adapter (8) on airline (1).
5. Connect air line (1) to tee connector (9).
6. Install elbow (2) to air line (1).
7. Connect air line (1) to fail-safe airbrake chamber (3).
8. Repeat steps 1 through 7 for other three wheel-to-air reservoir air lines.



FOLLOW-ON TASKS:

- Ensure that all clamps and screws removed to access line are Installed.
- Connect tractor truck air lines to semitrailer (para 2-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

TA706488

4-41. REMOTE AIR RELEASE LINE REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).

Tools/Test Equipment:

- General mechanic's tool kit

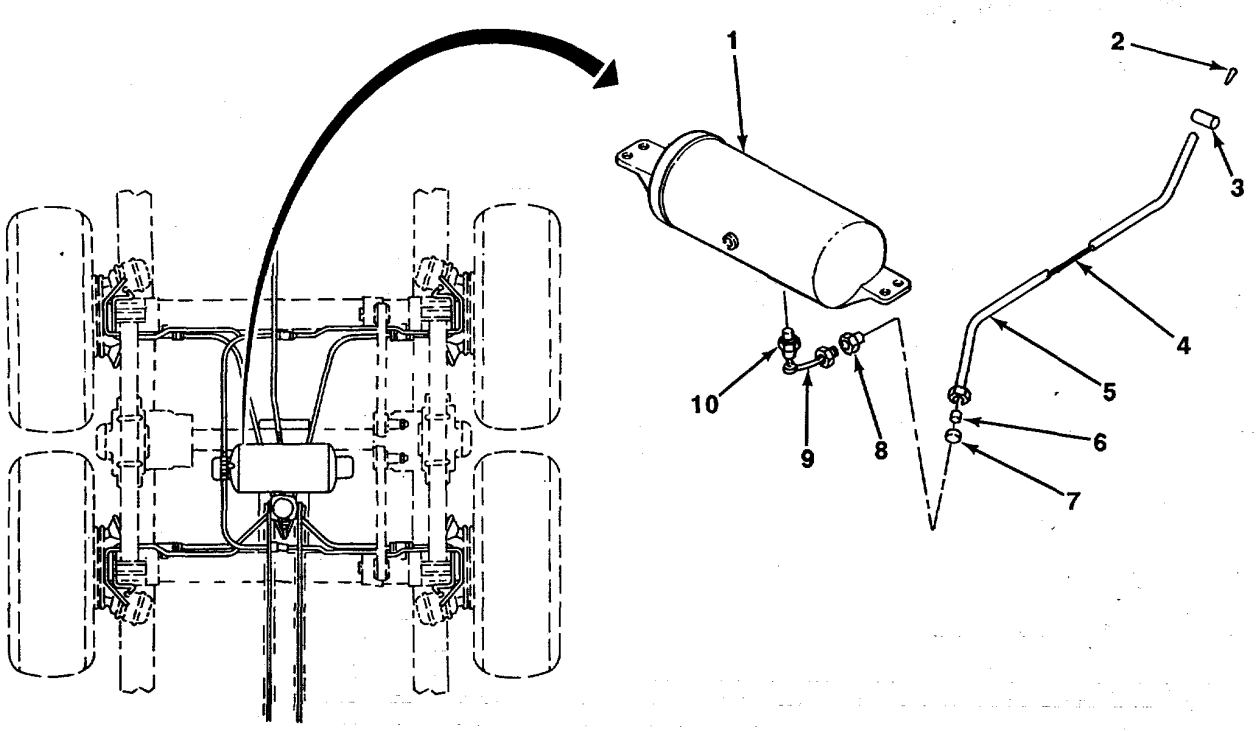
a. REMOVAL

1. Loosen wire rope clamp (9) at air reservoir (1).
2. Loosen helical retainer (7).
3. Remove looped wire rope (4) from drain valve (10).
4. Remove pipe coupling (8), helical retainer (7), and spring (6) from wire rope (4).
5. Remove air reservoir drain handle (3) and wire rope (4) from guide tube (5).
6. Remove ball (2) and air reservoir drain handle (3) from wire rope (4).

b. INSTALLATION

1. Install air reservoir drain handle (3) and ball (2) to wire rope (4).
2. Install wire rope (4) with air reservoir drain handle (3) into guide tube (5).
3. Install spring (6), helical retainer (7), and pipe coupling (8) to wire rope (4).
4. Install wire rope (4) through wire rope clamp (9).
5. Install wire rope (4) through hole in drain valve (10).
6. Install end of wire rope (4) back through wire rope clamp (9) until snug up against helical retainer (7).
7. Tighten wire rope clamp (9) and helical retainer (7).

4-41. REMOTE AIR RELEASE LINE REPLACEMENT (Con't).



FRONT OF SEMITRAILER

TA706489

4-42. AIRBRAKE CHAMBER REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspections
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Fail-safe airbrake chamber caged (para 3-10).

Materials/Parts:

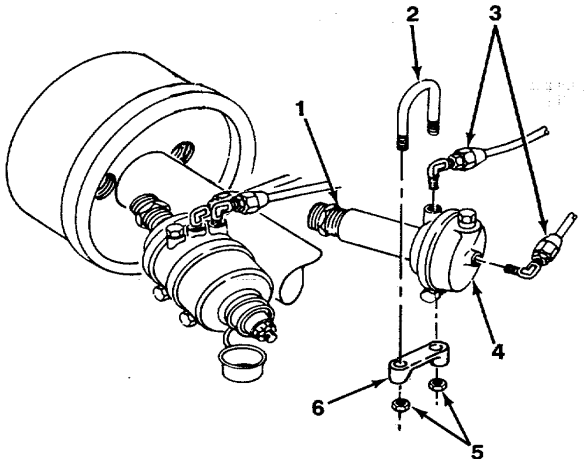
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Tag and disconnect two air lines (3) from airbrake chamber (4).
2. Cap two air lines (3) (para 4-19).
3. Remove two nuts (5), lower clamp half (6), and U-bolt (2) from airbrake chamber (4).
4. Loosen collet nut (1).
5. Remove airbrake chamber (4).



TA706490

4-42. AIRBRAKE CHAMBER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, dents, and holes.
4. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

1. Place airbrake chamber (4) into position and tighten collet nut (1).
2. Install U-bolt (2), lower clamp half (6), and two nuts (5) on airbrake chamber (4).
3. Uncap two air lines (3) and connect to airbrake chamber (4) as tagged.

FOLLOW-ON TASKS:

- Connect tractor truck air lines to semitrailer (para 2-10).
- Uncage fail-safe airbrake chamber (para 3-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-43. FAIL-SAFE AIRBRAKE CHAMBER REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tractor truck air lines disconnected from semitrailer (para 2-13).
- Air reservoir drained (para 3-9).
- Fail-safe airbrake chamber caged (para 3-10).

Materials/Parts:

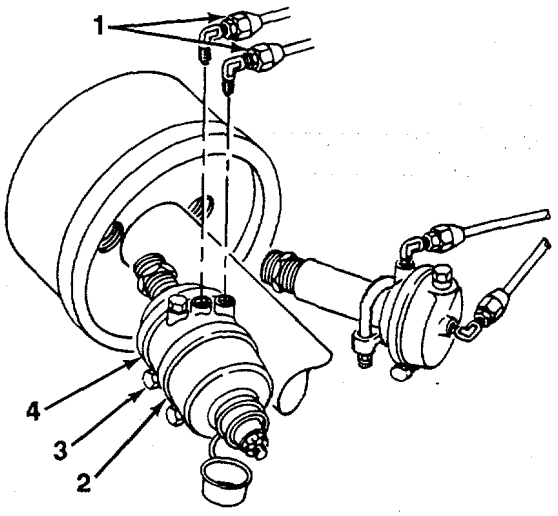
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Tag and disconnect two air lines (1).
2. Cap two air lines (1) (para 4-19).
3. Loosen nut (3) on clamp ring (4).
4. Remove fail-safe airbrake chamber (2).



TA706491

4-43. FAIL-SAFE AIRBRAKE CHAMBER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag and dry cleaning solvent, and allow to dry.
2. Check threaded end of fail-safe airbrake chamber for burrs or other damage.

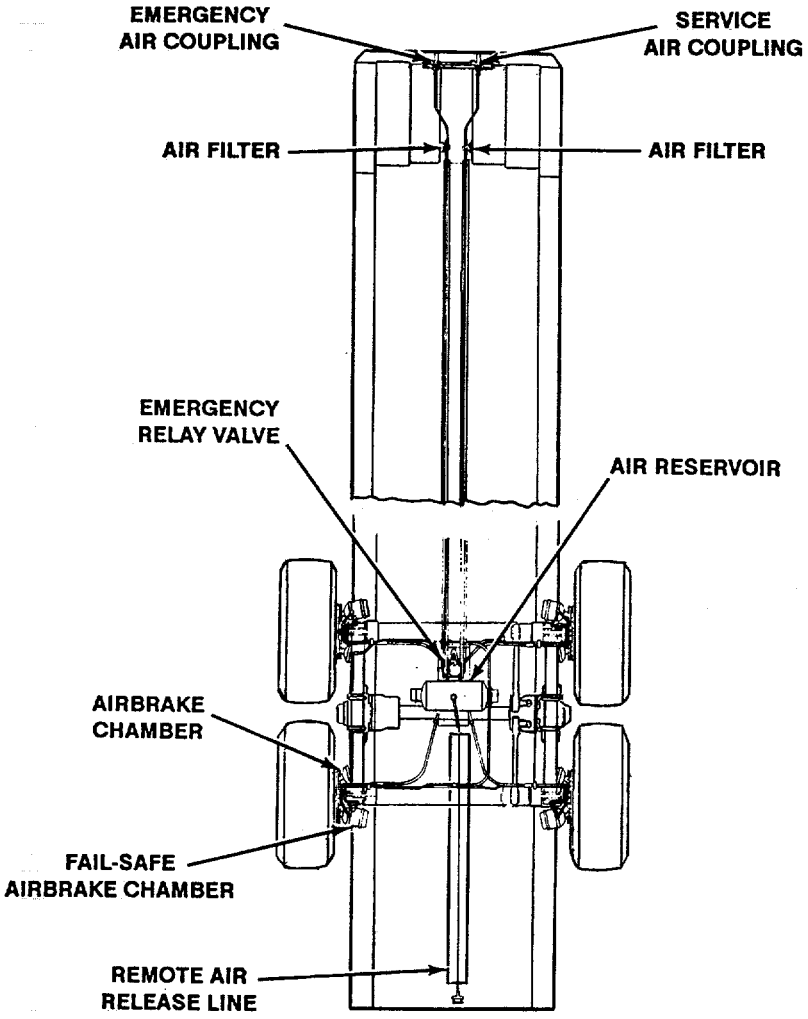
c. INSTALLATION

1. Place fail-safe airbrake chamber (2) into position and tighten nut (3) on clamp ring (4).
2. Uncap and connect two air lines (1) to fail-safe airbrake chamber (2) as tagged.

FOLLOW-ON TASKS:

- Connect tractor truck air lines to semitrailer (para 2-10).
- Uncage fail-safe airbrake chamber (para 3-10).
- Pressurize airbrake system (para 2-10) and check for leaks.

4-44. AIRBRAKE SYSTEM SCHEMATIC.



TA706492

Section VIII. WHEELS, HUBS, AND BRAKEDRUMS MAINTENANCE

4-45. WHEEL AND TIRE MAINTENANCE.

This Task Covers:

a. Demounting
b. Cleaning and Inspection
c. Repair
d. Mounting

Initial Setup:

Equipment Conditions:

- Wheel and tire removed (para 3-11).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:

- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)

References:

- TM 9-2610-200-14

a. DEMOUNTING

Refer to TM 9-2610-200-14 for tire demounting.

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect wheel for cracks, dents, holes, warps, deformed lug bolt holes, rust, corrosion, and marred finish.
3. Inspect tire for cracks, holes, signs of chunking, uneven wear, and deterioration.

4-45. WHEEL AND TIRE MAINTENANCE (Con't).

c. REPAIR

Refer to TM 9-2610-200-14 for tire repair.

d. MOUNTING

1. Refer to TM 9-2610-200-14 for tire mounting.
2. Torque wheel lugnuts to 450-500 lb.-ft. (610-678 N•m).

4-46. HUB AND BRAKEDRUM MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Rear wheels raised off ground using outriggers (para 2-12).
- Wheel and tire removed (para 3-11).

Materials/Parts:

- Brush (Item 4, Appendix E)
- Grease (Item 11, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- One gasket
- One oil seal
- Five lockwashers

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

References:

- TM 9-214

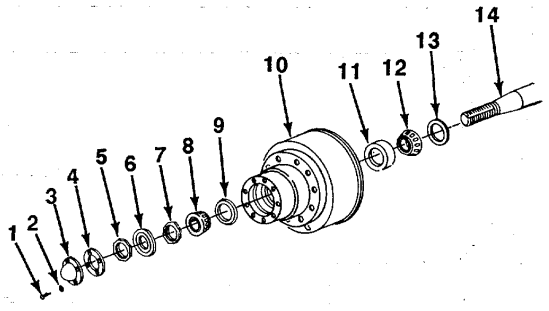
Personnel Required: Two

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe It. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious Illness or death to personnel.

a. REMOVAL

1. Remove five screws (1), lockwashers (2), cap (3), and gasket (4). Discard lockwashers and gasket.
2. Remove outer nut (5), keywasher (6), and inner nut (7).
3. Remove hub and brakedrum assembly (10) from spindle (14).
4. Remove bearing (8), race (9), oil seal (13), bearing (12), and race (11). Discard oil seal.

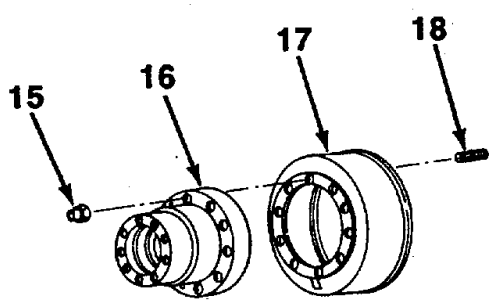


TA706493

4-46. HUB AND BRAKEDRUM MAINTENANCE (Con't).

b. DISASSEMBLY

1. Remove ten nuts (15) and bolts (18).
2. Separate hub (16) from brakedrum (17).



c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Clean and inspect bearings and races in accordance with TM 9-214.
3. Inspect for loose, missing, cracked, or damaged hardware.
4. Inspect all parts for rust, corrosion, or marred finish.
5. Visually inspect brakedrum for out-of-roundness and scoring.

d. ASSEMBLY

Install hub (16) to brakedrum (17) with ten bolts (18) and nuts (15).

TA706494

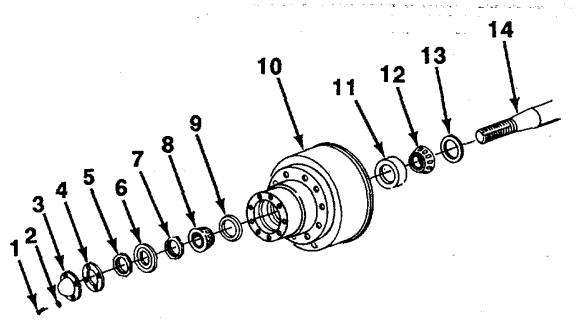
4-46. HUB AND BRAKEDRUM MAINTENANCE (Con't).

e. INSTALLATION

NOTE

Bearings and races should be packed with grease in accordance with TM 9-214 before installation.

1. Install race (11), bearing (12), new oil seal (13), and race (9) into hub and brakedrum assembly (10).
2. Install hub and brakedrum assembly (10) to spindle (14).
3. Install bearing (8), inner nut (7), keywasher (6), and outer nut (5). Adjust wheel bearing by torquing inner nut to 40 lb.-ft. (54 N.m).
4. Install new gasket (4), cap (3), five new lockwashers (2), and screws (1).



TA706495

FOLLOW-ON TASKS:

- Install wheel and tire (para 3-11).
- Lower rear wheels to ground using outriggers (para 2-12).

Section IX. FRAME AND TOWING ATTACHMENTS MAINTENANCE

4-47. LANDING LEG MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Front of semitrailer raised and supported with jackstands or other suitable support.
- Rear wheels chocked (para 2-13).

Materials/Parts:

- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Jackstands

Personnel Required: Two

4-47. LANDING LEG MAINTENANCE (Con't).

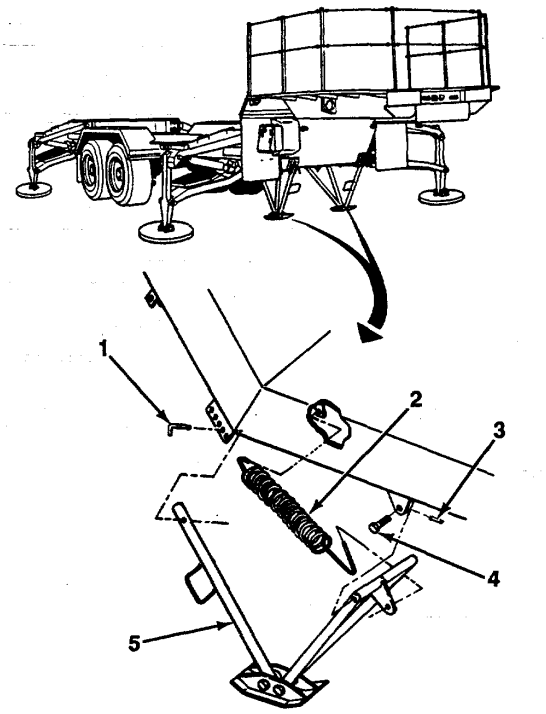
a. REMOVAL

1. Remove hitch pin (1) and raise landing leg (5).

NOTE

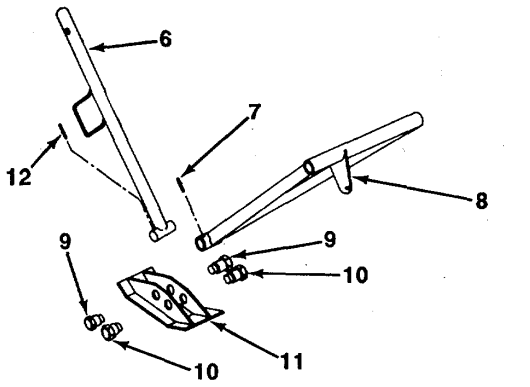
A pry bar may be required to perform step 2.

2. Remove spring (2) from landing leg (5) and semi-trailer.
3. Remove pin (3) and plug (4).
4. Push landing leg (5) inward and then rotate down and away to remove.



b. DISASSEMBLY

1. Remove two pins (7), plugs (10), and leg (8).
2. Remove two pins (12), plugs (9), forward leg (6), and sandshoe (11).



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4-47. LANDING LEG MAINTENANCE (Con't).

c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.

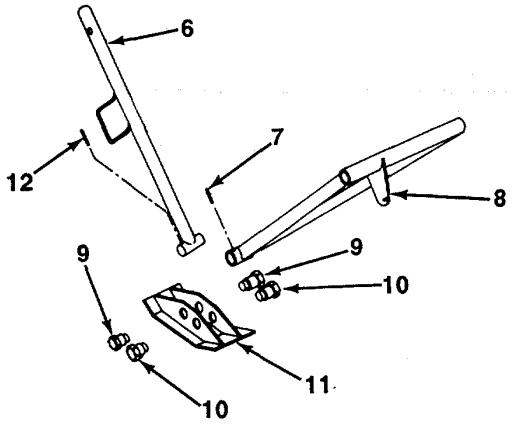
2. Inspect for loose, missing, or damaged parts.

3. Inspect all parts for cracks, dents, holes, bends, burrs, rust, corrosion, or marred finish.

d. ASSEMBLY

1. Install forward leg (6) into sandshoe (11) with two plugs (9) and pins (12).

2. Install leg (8) into sandshoe (11) with two plugs (10) and pins (7).



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4-47. LANDING LEG MAINTENANCE (Con't).

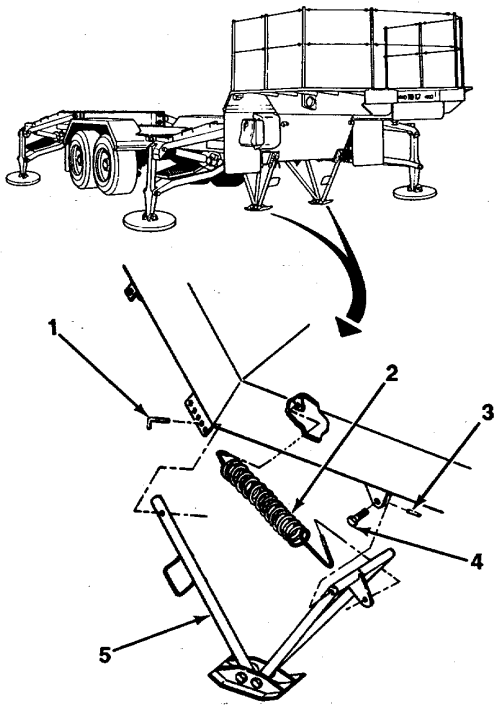
e. INSTALLATION

1. Install landing leg (5) onto semitrailer.
2. Install plug (4) and pin (3).

NOTE

A pry bar may be required to perform step 3.

3. Install spring (2) to landing leg (5) and semitrailer.
4. Install hitch pin (1).



FOLLOW-ON TASKS:

- Remove chock blocks from behind rearmost wheels and stow.
- Remove jackstands or other suitable support from front of semitrailer.

TA706498

4-48. OUTRIGGER REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup: -

Equipment Conditions:

- Outriggers lowered to ground, not raising semitrailer (para 2-12).
- Slave cable disconnected from semitrailer (para 2-12).
- Outrigger drive motor cable connector disconnected from semitrailer harness (para 4-49).
- Upper outrigger limit switch disconnected from semitrailer harness (para 4-24).
- Lower outrigger limit switch disconnected from semitrailer harness (para 4-25).

Materials/Parts:

- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Suitable hoist (1000 lb capacity minimum)

- **Personnel Required**: Three

a. REMOVAL

WARNING

Use extreme caution when handling heavy parts. Lifting device is required when parts weigh over 50 lb (23 kg) for a single person lift, over 100 lb (45 kg) for a two person lift, and over 150 lb (68 kg) for a three or more person lift. **Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause serious injury or death to personnel.**

1. Place wooden block (7) between outrigger actuator (6) and walkway frame (8).
2. Attach suitable hoist to upper outrigger leg (1).

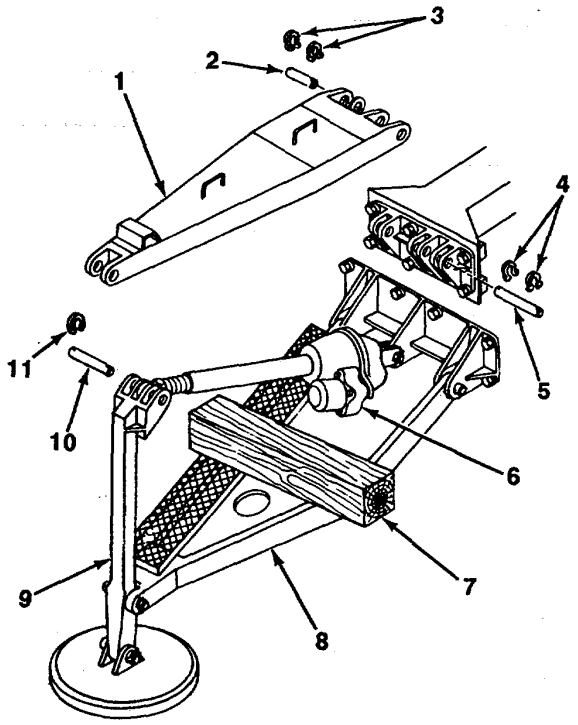
CAUTION

Use brass drift to remove pins in steps 3 through 5. DO NOT use metal hammer directly on pins. Failure to follow this caution could cause pins to bend or be damaged.

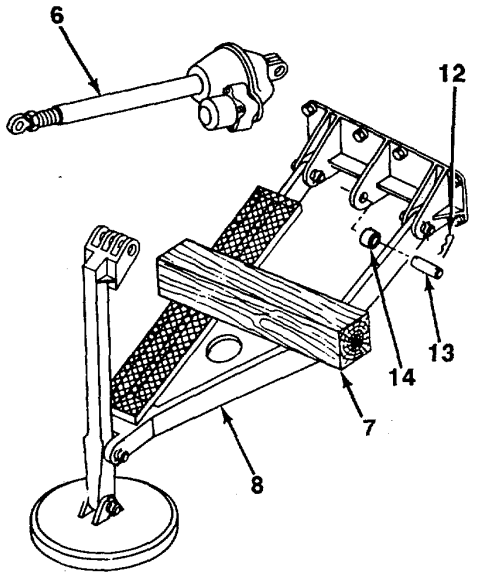
3. Remove two retaining rings (11) and pin (10).

4-48. OUTRIGGER REPLACEMENT (Con't).

4. Remove two retaining rings (3) and pin (2).
5. Remove two retaining rings (4) and pin (5).
6. Remove upper outrigger leg (1).



7. Attach suitable hoist to outrigger actuator (6).
8. Remove two lockpins (12), pin (13), and bearing (14).
9. Remove outrigger actuator (6).
10. Remove wood block (7) from walkway frame (8).
11. Attach suitable hoist to walkway frame (8).



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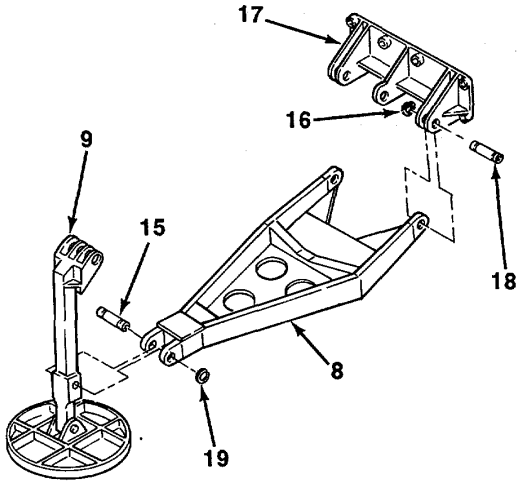
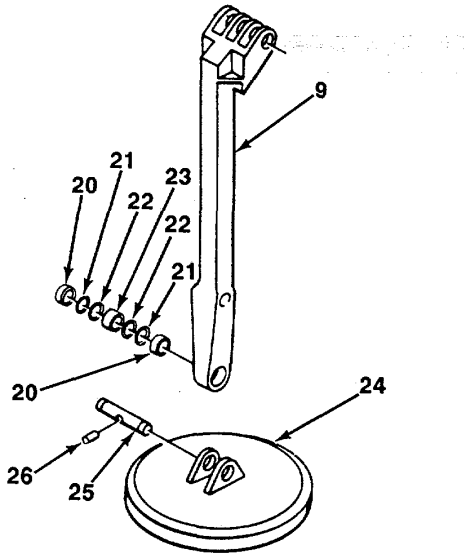
4-48. OUTRIGGER REPLACEMENT (Con't).

12. Remove two retaining rings (19) and pin (15) from upright brace (9).
13. Lower end of walkway frame (8) to ground.
14. Remove four retaining rings (16) and two pins (18) from outrigger lower bracket (17).
15. Remove walkway frame (8).



16. Attach suitable hoist to upright brace (9).
17. Remove pin (26) and two retaining rings (21).
18. Remove pin (25), two feltwashers (22), and spacers (20).
19. Remove upright brace (9) from shoe (24).
20. Remove bearing (23) from upright brace (9).



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4-48. OUTRIGGER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, holes, warps, dents, and bends.
4. Visually check for mounting holes that are out-of-round or burred.
5. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

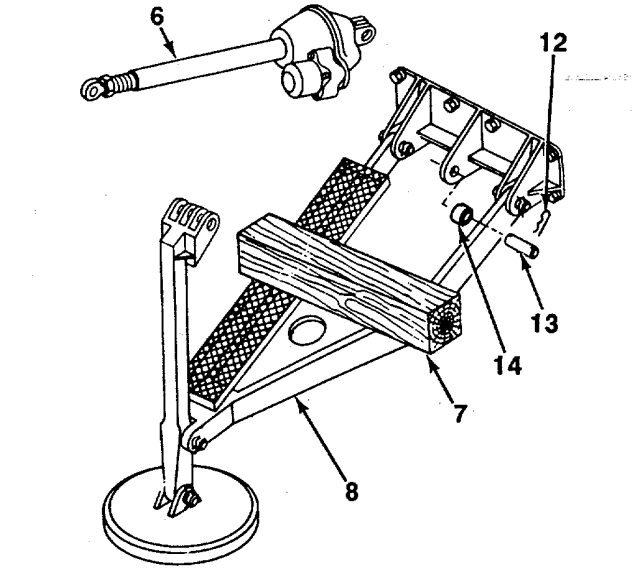
WARNING

Use extreme caution when handling heavy parts. Lifting device Is required when parts weigh over 50 lb (23 kg) for a single person lift, over 100 lb (45 kg) for a two person lift, and over 150 lb (68 kg) for a three or more person lift. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause serious Injury or death to personnel.

1. Install bearing (23) in upright brace (9).
2. Attach suitable hoist to upright brace (9) and place into position on shoe (24).
3. Install pin (25), two spacers (20), feltwashers (22), and retaining rings (21).
4. Secure upright brace (9) by installing pin (26) in pin (25).
5. Attach suitable hoist to walkway frame (8) and place into position on outrigger lower bracket (17).
6. Install two pins (18) and four retaining rings (16) into outrigger lower bracket (17).
7. Install upright brace (9) to walkway frame (8) with pin (15) and two retaining rings (19).

4-48. OUTRIGGER REPLACEMENT (Con't).

8. Place wooden block (7) on walkway frame (8).
9. Attach suitable hoist to outrigger actuator (6).
10. Install outrigger actuator (6) and bearing (14) with pin (13) and two lockpins (12).



11. Attach suitable hoist to upper outrigger leg (1).

CAUTION

Use brass drift to install pins in steps 12 and 13. DO NOT use metal hammer directly on pins. Failure to follow this caution could cause pins to bend or be damaged.

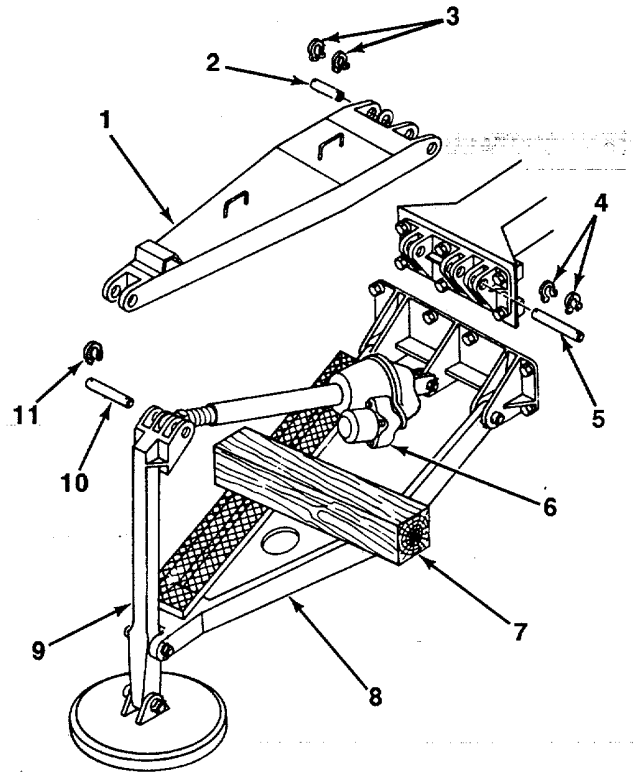
12. Install upper outrigger leg (1) with pin (2), two retaining rings (3), pin (5), and two retaining rings (4).

NOTE

Ensure that bearing in outrigger actuator is alined with holes In upright brace before Installing pin.

13. Install upper outrigger leg (1) to upright brace (9) with pin (10) and two retaining rings (11).

14. Remove wooden block (7) from between outrigger actuator (6) and walkway frame (8).



FOLLOW-ON TASKS:

- Lubricate outrigger (Chapter 3, Section I).
- Connect lower outrigger limit switch to semitrailer harness (para 4-25).
- Connect upper outrigger limit switch to semitrailer harness (para 4-24).
- Connect outrigger drive motor cable connector to semitrailer harness (para 4-49).
- Connect slave cable to semitrailer (para 2-12)
- Cycle replaced outrigger through complete lowering and raising procedure to check operation (para 2-12).

4-49. OUTRIGGER BRACKET REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Outrigger removed (para 4-48).
- Upper outrigger limit switch removed (para 4-24).
- Lower outrigger limit switch removed (para 4-25).
- Outrigger relay box removed (para 4-21).

Materials/Parts:

- Fourteen lockwashers

Personnel Required: Two

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

a. REMOVAL

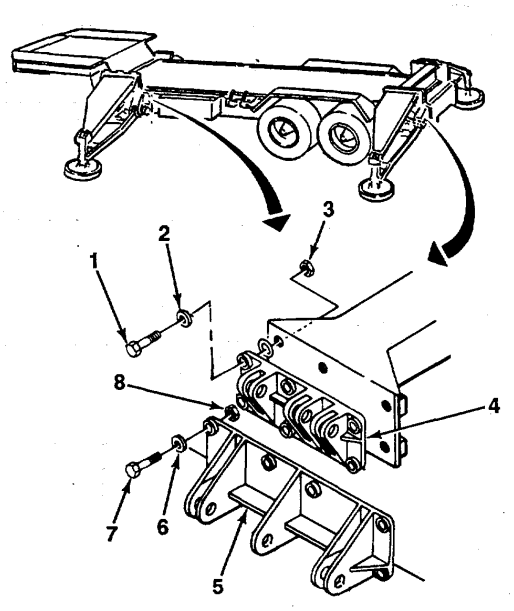
1. Remove six nuts (3), lockwashers (2), screws (1), and outrigger upper bracket (4). Discard lockwashers.

2. Remove eight nuts (8), lockwashers (6), screws (7), and outrigger lower bracket (5). Discard lockwashers.

b. INSTALLATION

1. Install outrigger lower bracket (5) with eight nuts (8), new lockwashers (6), and screws (7). Torque nuts to 300 lb.-ft. (407 N.m).

2. Install outrigger upper bracket (4) with six nuts (3), new lockwashers (2), and screws (1). Torque nuts to 300 lb.-ft. (407 N.m).



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FOLLOW-ON TASKS:

- Install outrigger relay box (para 4-21).
- Install upper outrigger limit switch (para 4-24).
- Install lower outrigger limit switch (para 4-25).
- Install outrigger (para 4-48).

4-50. OUTRIGGER DRIVE MOTOR REPLACEMENT.

This Task Covers:

a. Test
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Outriggers lowered to ground (para 2-12).

Materials/Parts:

- One gasket
- Four self-locking screws

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

Personnel Required: Two

a. TEST

1. Disconnect outrigger motor cable from connector (1).

NOTE

When performing step 2, multimeter should be set on highest scale.

2. Check continuity of pins in connector (1) of drive motor (2) as shown:

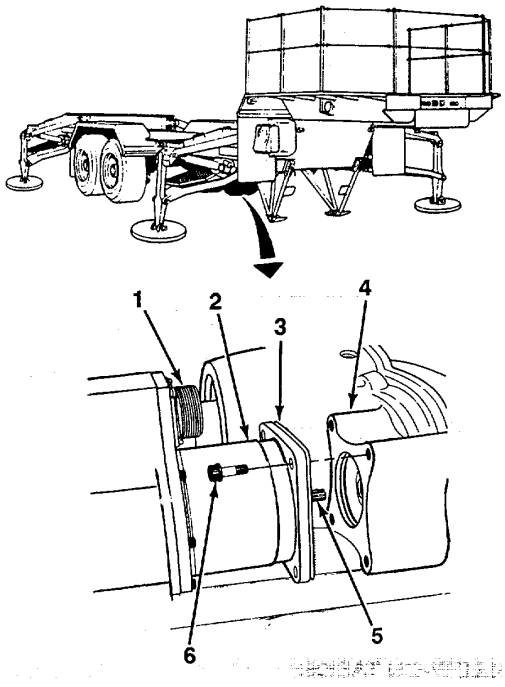
Pins	Ohms
A to D	20
C to B	0
H to G	0
F to E	0

3. If continuity check shows correct values, check each pin to ground.

4. If pin F to pin E shows open, thermal switch is defective, notify Direct Support Maintenance.

5. If any continuity check (other than pin F to pin E) shows open, field widings are defective and outrigger drive motor should be replaced.

6. Connect outrigger motor cable to connector (1).



4-50. OUTRIGGER DRIVE MOTOR REPLACEMENT (Con't).

b. REMOVAL

1. Disconnect outrigger motor cable from connector (1).
2. Remove four self-locking screws (6) and gently tap outrigger drive motor (2) to unseat it from gear housing (4). Discard self-locking screws.
3. Remove spline connector (5) from outrigger drive motor (2).
4. Remove and discard gasket (3).

c. INSTALLATION

1. Align holes in new gasket (3) and outrigger drive motor (2). Install gasket to outrigger drive motor.
2. Install short end of spline connector (5) into outrigger drive motor (2) on shaft.
3. Install outrigger drive motor (2) on gear housing (4) with four new self-locking screws (6).
4. Connect outrigger motor cable to connector (1).

FOLLOW-ON TASKS:

- Cycle outrigger with replaced drive motor through complete lowering and raising procedure to check operation (para 2-12).

Section X. SUSPENSION MAINTENANCE

4-51. SPRING BUMPER REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

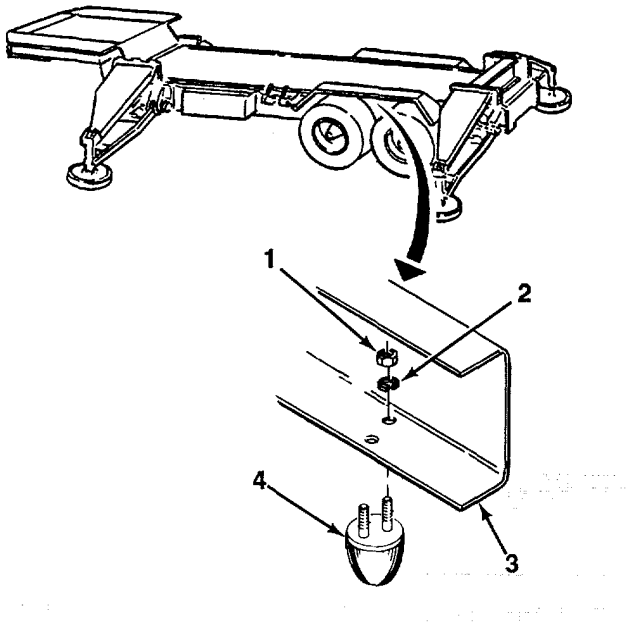
Equipment Conditions:
- Fender removed (para 4-55).

Tools/Test Equipment:
- General mechanic's tool kit

Materials/Parts:
- Detergent (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- Two lockwashers

a. REMOVAL

1. Remove two nuts (1) and lockwashers (2). Discard lockwashers.
2. Remove spring bumper (4) from frame (3).



TA706504

4-51. SPRING BUMPER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

1. Remove all buildup of grease or dirt by using a clean rag.
2. Wash thoroughly with detergent and water, and allow to dry.
3. Inspect all parts for cracks, tears, and deterioration.

c. INSTALLATION

1. Install spring bumper (3) to frame (3).
2. Install two new lockwashers (2) and nuts (1).

FOLLOW-ON TASKS:

- Install fender (para 4-55).

4-52. TORQUE ROD REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:
- Bogie assembly removed by Direct Support Maintenance.

Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Two cotter pins

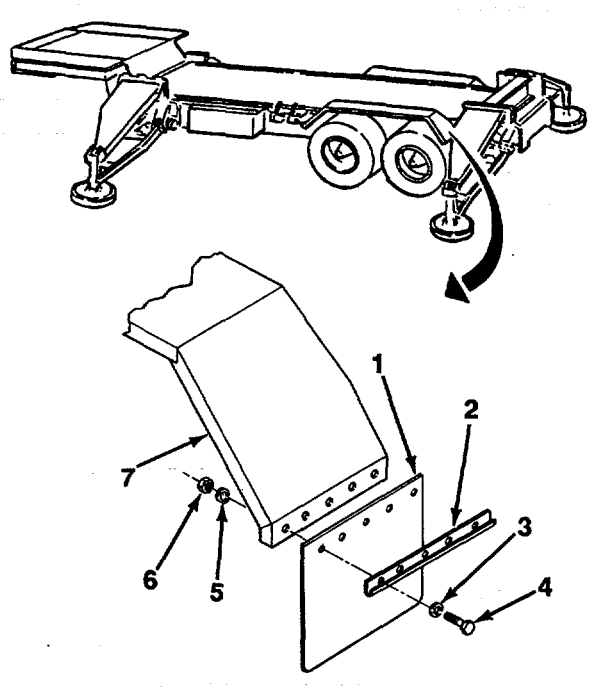
Personnel Required: Two

a. REMOVAL

NOTE

Upper torque rods cannot be removed unless bogie assembly Is removed by Direct Support Maintenance to provide access.

1. Remove two cotter pins (2) and castellated nuts (1). Discard cotter pins.
2. Remove torque rod (3).
3. Repeat steps 1 and 2 for other five torque rods (3).



4-52. TORQUE ROD REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose or damaged rod ends.
3. Inspect all parts for cracks, twists, and burrs.

c. INSTALLATION

1. Install torque rod (3) with two castellated nuts (1). Torque castellated nuts to 350 lb.-ft. (475 N-m), then tighten to next slot In nut.
2. Install two new cotter pins (2).
3. Repeat steps 1 and 2 for other five torque rods (3).

FOLLOW-ON TASKS:

- Bogie assembly installed by Direct Support Maintenance.

Section XI. BODY MAINTENANCE

4-53. REAR SPLASHGUARD REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Materials/Parts:

- Detergent (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- Five lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

Personnel Required: Two

a. REMOVAL

Remove five nuts (6), lockwashers (5), washers (3), screws (4), retainer (2), and rear splashguard (1) from fender (7). Discard lockwashers.

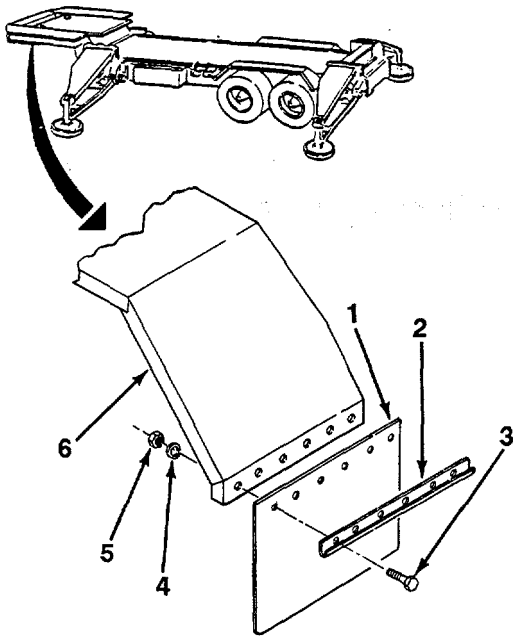
b. CLEANING AND INSPECTION

1. Remove all buildup of grease or dirt by using a clean rag.
2. Wash thoroughly with detergent and water, and allow to dry.
3. Inspect for loose, missing, or damaged hardware.
4. Inspect for cracks, tears, holes, and deterioration.

4-53. REAR SPLASHGUARD REPLACEMENT (Con't).

c. INSTALLATION

Install rear splashguard (1) and retainer (2) to fender (7) with five washers (3), screws (4), new lockwashers (5), and nuts (6).



TA706506

4-54. FRONT SPLASHGUARD REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

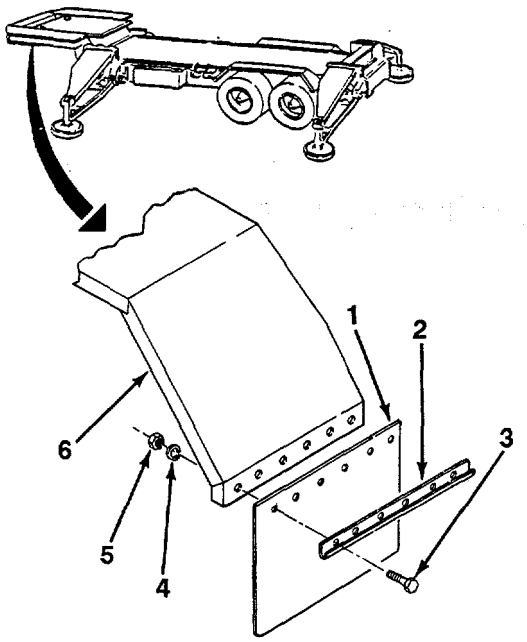
Materials/Parts:
- Detergent (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- Six lockwashers

Tools/Test Equipment:
- General mechanic's tool kit

Personnel Required: Two

a. REMOVAL

Remove six nuts (5), lockwashers (4), screws (3), retainer (2), and front splashguard (1) from fender (6). Discard lockwashers.



b. CLEANING AND INSPECTION

1. Remove all buildup of grease or dirt using a clean rag.
2. Wash thoroughly with detergent and water, and allow to dry.
3. Inspect for loose, missing, or damaged hardware.
4. Inspect for cracks, tears, holes, and deterioration.

c. INSTALLATION

Install front splashguard (1) and retainer (2) to fender (6) with six screws (3), new lockwashers (4), and nuts (5).

TA706507

4-55. FENDER REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:
- Rear splashguard removed (para 4-53).
- Front splashguard removed (para 4-54).

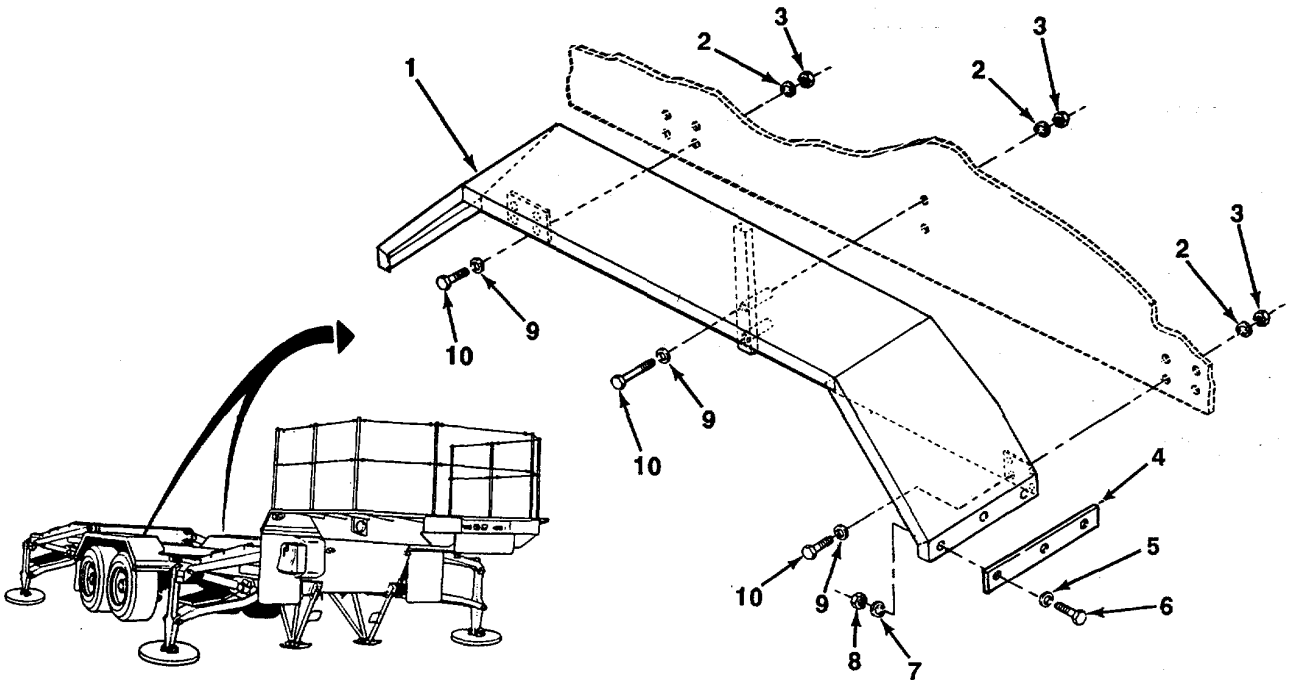
Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Sixteen lockwashers

Personnel Required: Two

a. REMOVAL

1. Remove ten nuts (3), washers (2), screws (10), lockwashers (9), and fender (1). Discard lockwashers.
2. Remove three nuts (8), lockwashers (7), washers (5), screws (6), and bracket (4). Discard lockwashers.
3. Repeat step 2 for other bracket (4).



TA706508

4-55. FENDER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

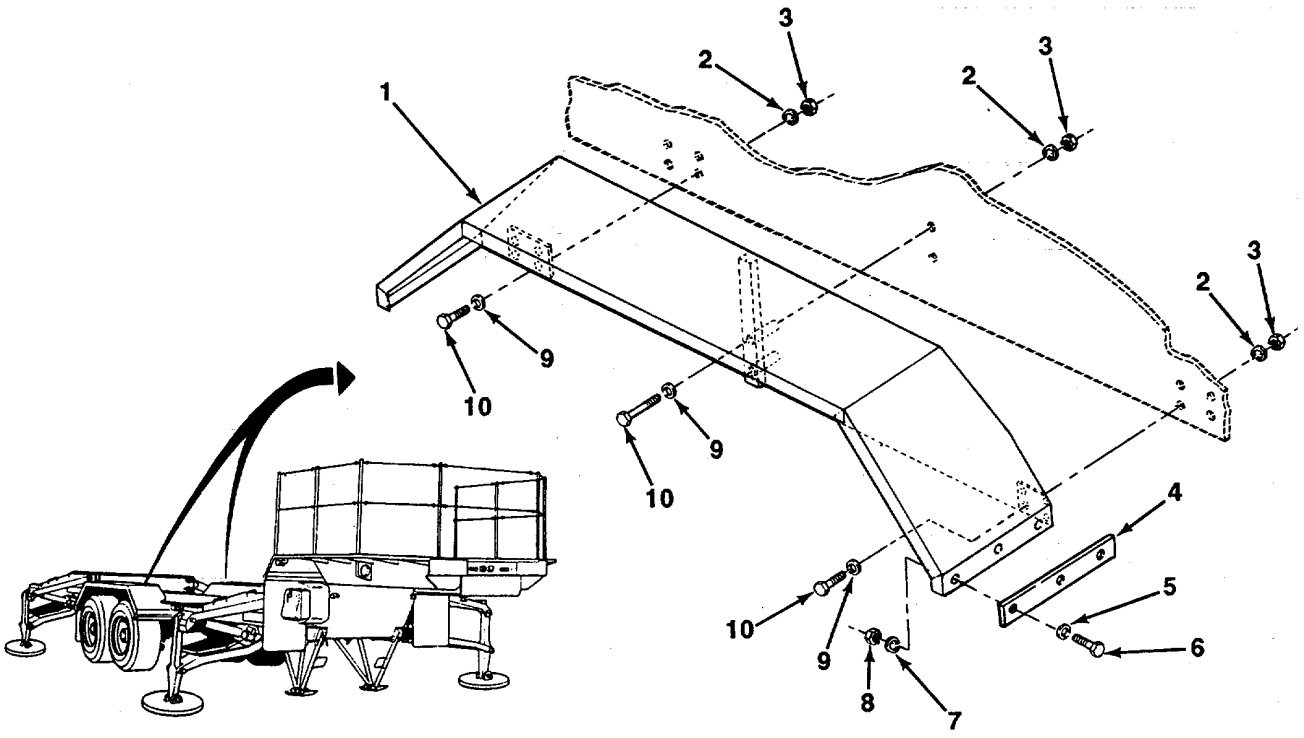
Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease and dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, holes, warps, dents, and bends.
4. Inspect for rust, corrosion, or marred finish.

c. INSTALLATION

1. Install bracket (4) with three screws (6), washers (5), new lockwashers (7), and nuts (8).
2. Repeat step 1 for other bracket (4).
3. Install fender (1) with ten new lockwashers (9), screws (10), washers (2), and nuts (3). Torque screws to 30-35 Ib.-ft. (41-47 N-m).

4-55. FENDER REPLACEMENT (Con't).



FOLLOW-ON TASKS:

- Install front splashguard (para 4-54).
- Install rear splashguard (para 4-53).

TA706509

4-56. STOWAGE BOX REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Eight lockwashers

Tools/Test Equipment:
- General mechanic's tool kit

Personnel Required: Two

a. REMOVAL

1. Remove six screws (5) and lockwashers (4) from stowage box (3). Discard lockwashers.
2. Remove padlock. Open door (1), and remove two screws (7) and lockwashers (6). Discard lockwashers.
3. Remove stowage box (3).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, holes, warps, dents, and bends.
4. Inspect for rust, corrosion, or marred finish.

4-56. STOWAGE BOX REPLACEMENT (Con't).

c. INSTALLATION

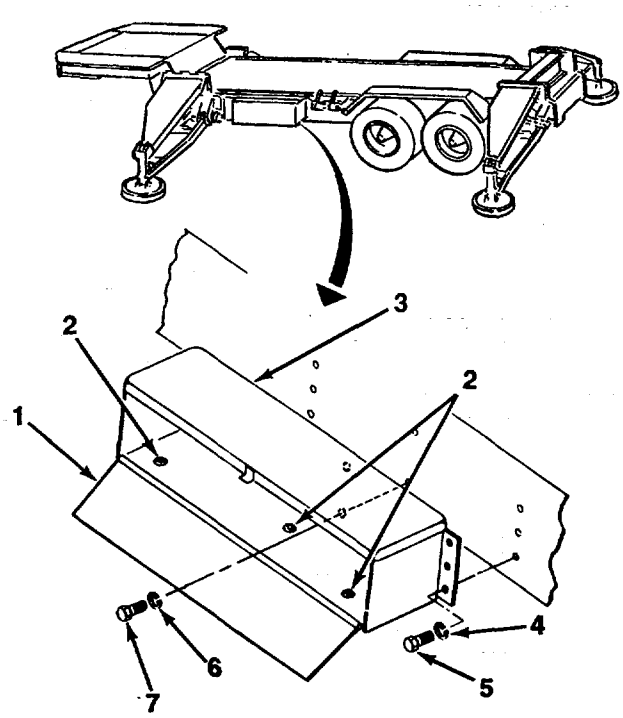
1. Install stowage box (3) with two new lockwashers (6) and screws (7).

2. Install six new lockwashers (4) and screws (5).

CAUTION

DO NOT plug drain holes (2) in bottom of stowage box. Corrosion could result from lack of drainage.

3. Close door (1). Install padlock.



TA706510

4-57. CHOCK BLOCK REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Two lockwashers

Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

1. Remove chock block (1) from bracket (4).
2. Remove two nuts (7), lockwashers (6), washers (3), screws (2), and bracket (4) from fender (5). Discard lockwashers.

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

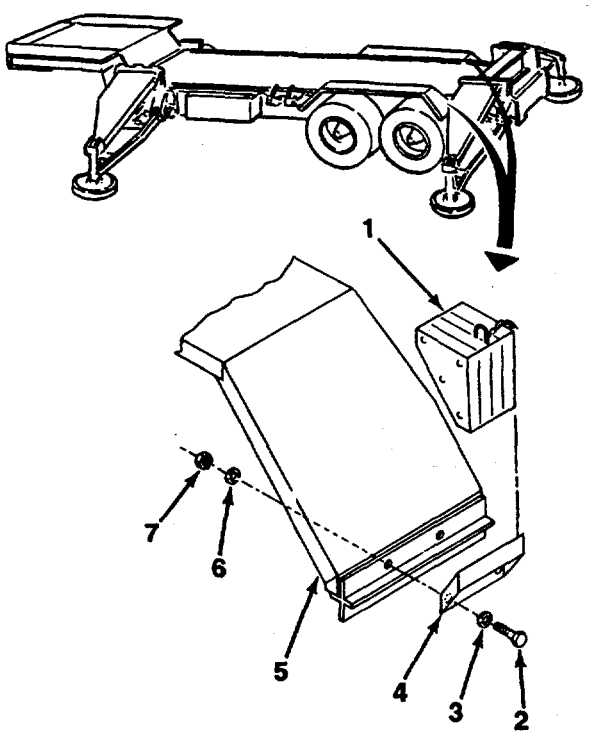
1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect for loose, missing, or damaged hardware.
3. Inspect for cracks, holes, warps, dents, and bends.
4. Inspect for rust, corrosion, or marred finish.

4-57. CHOCK BLOCK REPLACEMENT (Con't).

l c. **INSTALLATION**

1. Install bracket (4) to fender (5) with two washers (3), screws (2), new lockwashers (6), and nuts (7).

2. Insert chock block (1) in bracket (4).



TA706511

4-58. ACCESS COVER REPLACEMENT.

This Task Covers:
a. Removal
b. Installation

Initial Setup:

Tools/Test Equipment:
- General mechanic's tool kit

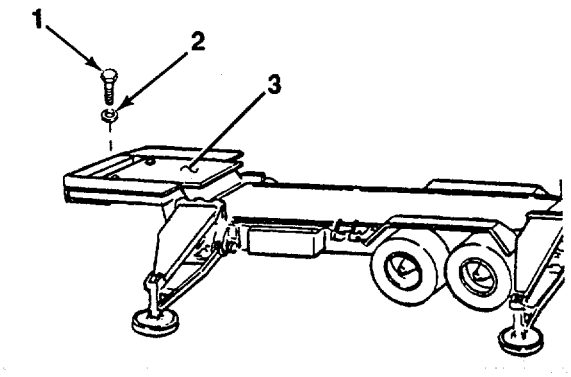
Personnel Required: Two

a. REMOVAL

1. Loosen two bolts (1) and washers (2).
2. Slide access cover (3) forward and remove.

b. INSTALLATION

1. Slide access cover (3) into position.
2. Secure access cover with two washers (2) and bolts (1).



TA706512

Section XII. ACCESSORY ITEMS MAINTENANCE

4-59. REFLECTOR REPLACEMENT.

This Task Covers:
a. Removal
b. Installation

Initial Setup:

Materials/Parts:
- Two lockwashers

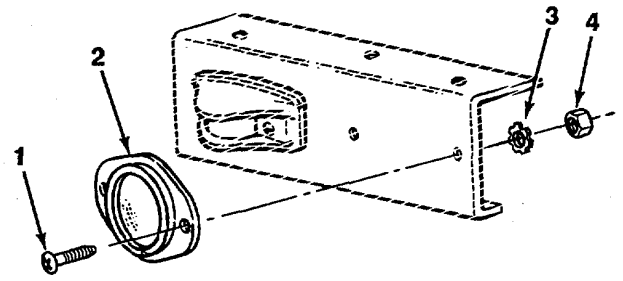
Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

Remove two screws (1), lockwashers (3), nuts (4), and reflector (2). Discard lockwashers.

b. INSTALLATION

Install reflector (2) with two screws (1), new lockwashers (3), and nuts (4).



TA706513

4-60. DATA PLATE REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit

NOTE

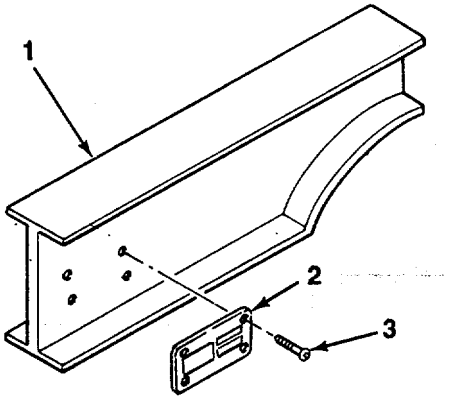
Vehicle data plate has six drive screws, other two plates have four drive screws.

a. REMOVAL

Remove four or six drive screws (3) and data plate (2) from frame (1).

b. INSTALLATION

Install data plate (2) to frame (1) with four or six drive screws (3).



TA706514

Section XIII. NONELECTRICAL GAGE MAINTENANCE

4-61. LEVELING DEVICE MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:
- Tractor truck slave cable disconnected from semi- trailer (para 2-12)

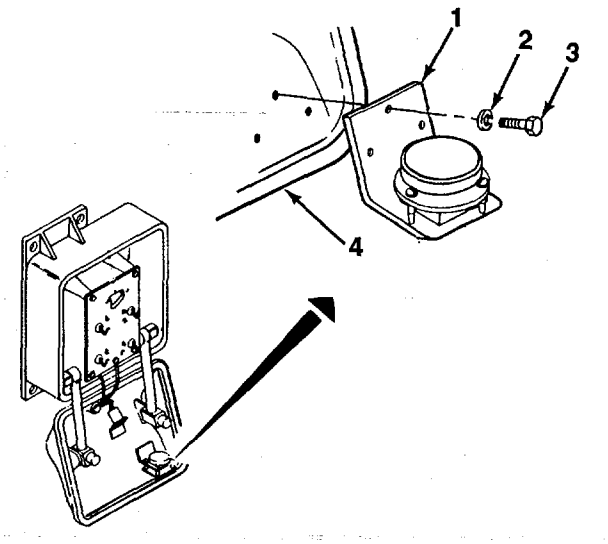
Tools/Test Equipment:
- General mechanic's tool kit
- Common no. 1 shop set

References:
- TM 9-1430-600-10
- TM 9-1440-600-10

Materials/Parts:
- Brush (Item 4, Appendix E)
- Sealing compound (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Six lockwashers

a. REMOVAL

1. Open outrigger control panel door (4).
2. Remove three screws (3), lockwashers (2), and leveling device (1) from outrigger control panel door (1). Discard lockwashers.



TA706515

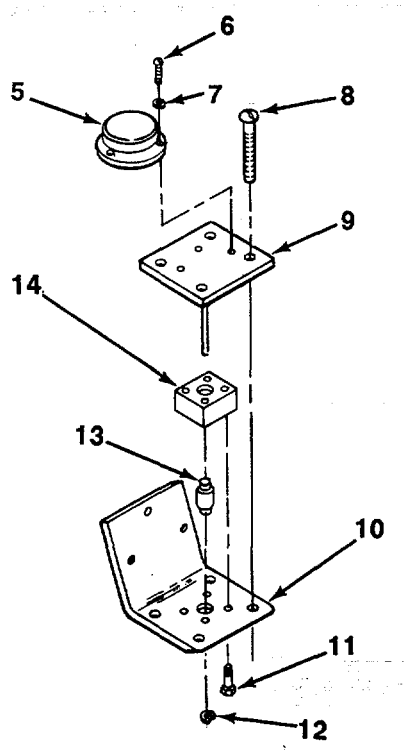
4-61. LEVELING DEVICE MAINTENANCE (Con't).

b. DISASSEMBLY

1. Remove three screws (6), lockwashers (7), and level (5). Discard lockwashers.

2. Remove four screws (8) and retaining ring (12). Lift out plate (9).

3. Remove four screws (11), block (14), and bearing (13) from bracket (10).



c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59° C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of dirt or grease by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.

2. Inspect for loose, missing, or damaged hardware.

3. Inspect all metal parts for scratches, marred finish, cracks, rust, and corrosion.

TA706516

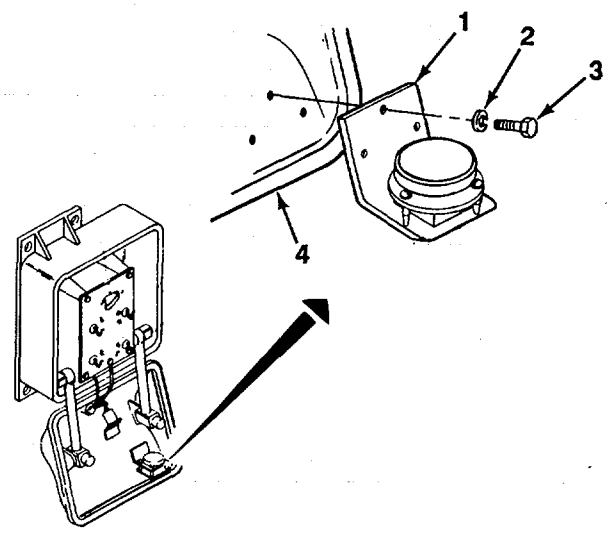
4-61. LEVELING DEVICE MAINTENANCE (Con't).

d. ASSEMBLY

1. Set level (5) using outriggers (para 2-12) and procedures in either launch technical manual (TM 9-1440-600-10) or in radar set technical manual (TM 9-1430-600-10).
2. Install block (14) and bearing (13) to bracket (10) with four screws (11).
3. Apply sealing compound to threads of four screws (8). Install and tighten screws halfway in plate (9).
4. Install plate (9) through hole in block (14) and bearing (13). Attach retaining ring (12). Fully tighten four screws (8).
5. Install level (5) with three new lockwashers (7) and screws (6).
6. Adjust level (5) by tightening or loosening screws (6) until bubble centers.

e. INSTALLATION

1. Install leveling device (1) into outrigger control panel door (4) with three new lockwashers (2) and screws (3).
2. Close outrigger control panel door (4).



TA706517

Section XIV. PREPARATION FOR STORAGE AND SHIPMENT

4-62. GENERAL.

a. This section contains requirements and procedures for administrative storage of equipment that is issued to and in use by Army activities worldwide.

b. The requirements specified herein are necessary to maintain equipment in administrative storage in such a way as to achieve the maximum readiness condition.

c. Equipment that is placed in administrative storage should be capable of being readied to perform its mission within a 24-hour period, or as otherwise prescribed by the approving authority. Before equipment is placed in administrative storage, a current Preventive Maintenance Checks and Services (PMCS) should be completed and deficiencies corrected.

d. Report equipment in administrative storage as prescribed for all reportable equipment.

e. Perform inspections, maintenance services, and lubrication as specified herein.

f. Records and reports to be maintained for equipment in administrative storage are those prescribed by DA Pam 738-750, for equipment in use.

g. A 10% variance is acceptable on time, running hours, or mileage used to determine the required maintenance actions.

h. Accomplishment of applicable PMCS, as mentioned throughout this section, will be on a quarterly basis.

4-63. DEFINITION OF ADMINISTRATIVE STORAGE.

The placement of equipment in administrative storage can be for short periods of time when a shortage of maintenance effort exists. Items should be ready for use within the time factors as determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

4-64. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE.

a. Storage Site.

(1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area "Administrative Storage."

(2) Covered space is preferred.

(3) Open sites should be improved hardstand, if available. Unimproved sites should be firm, well-drained, and kept free of excessive vegetation.

b. Storage Plan.

(1) Store equipment so as to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

(2) Take into consideration environmental conditions, such as extreme heat and cold; high humidity; blowing sand, dust, or loose debris; soft ground; mud; heavy snows; or any combinations thereof, and take adequate precautions.

(3) Establish a fire plan and provide for adequate firefighting equipment and personnel.

c. Maintenance Services and Inspection.

(1) **Maintenance Services.** Prior to storage, perform the next scheduled organizational PMCS.

(2) **Inspection.** Inspect and approve the equipment prior to storage. Do not place equipment in storage in a nonmission-capable condition.

d. Auxiliary Equipment and Basic Issue Items.

(1) Process auxiliary and basic issue items simultaneously with the major item to which they are assigned.

(2) If possible, store auxiliary and basic issue items with the major item.

(3) If stored apart from the major item, mark auxiliary and basic issue items with tags indicating the major item, its registration or serial number and location, and store in protective type closures. In addition, place a tag or list indicating the location of the removed items in a conspicuous place on the major item.

e. Correction of Shortcomings and Deficiencies. Correct all shortcomings and deficiencies prior to storage, or obtain a deferment from the approving authority.

f. Lubrication. Lubricate equipment in accordance with Lubrication Instructions (Chapter 3, Section I).

g. General Cleaning, Painting, and Preservation.

CAUTION

DO NOT direct water or steam, under pressure, against unsealed electrical systems or any exterior opening. Failure to follow this caution may result in damage to equipment.

(1) **Cleaning.** Clean the equipment of dirt, grease, and other contaminants, but do not use vapor degreasing.

(2) **Painting.** Remove rust and damaged paint by scraping, wire brushing, sanding, or buffing. Sand to a smooth finish and spot paint as necessary (TB 43-0209).

4-64. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE (Con't).

(3) **Preservation.** After cleaning and drying, immediately coat unpainted metal surfaces with oil or grease, as appropriate (Lubrication Instructions, Chapter 3, Section I).

CAUTION

Place a piece of barrier material (Item 2, Appendix E) between desiccant bags and metal surfaces.

NOTE

Air circulation under draped covers reduces deterioration from moisture or heat.

(4) **Weatherproofing.** Sunlight, heat, moisture (humidity), and dirt tend to accelerate deterioration. Install all covers (including vehicle protective closures) authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required. Place equipment and provide blocking or framing to allow for ventilation and water drainage. Support cover away from item surfaces which may rust, rot, or mildew.

4-65. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE.

a. **Maintenance Services.** After equipment has been placed in administrative storage, inspect, service, and exercise as specified herein.

b. **Inspection.** Inspection will usually be visual and must consist of at least a walkaround examination of all equipment to detect any deficiencies. Inspect equipment in open storage weekly and equipment in covered storage monthly. Inspect all equipment immediately after any severe storm or environmental change. The following are examples of things to look for during a visual inspection:

(1) Low or flat tires.

(2) Condition of preservatives, seals, and wraps.

(3) Corrosion or other deterioration.

(4) Missing or damaged parts.

(5) Water in compartments.

(6) Any other readily recognizable shortcomings or deficiencies.

c. **Repair During Administrative Storage.** Keep equipment in an optimum state of readiness. Accomplish the required services and repairs as quickly as possible. Whenever possible, perform all maintenance on-site.

d. **Exercising.** Exercise equipment in accordance with Table 4-3, Exercise Schedule, and the following instructions.

(1) **Vehicle Major Exercise.** Depreserve equipment by removing only that material restricting exercise. Close all drains, remove blocks, and perform all before-operation checks. Couple semitrailer to tractor truck and drive for at least 25 mi (40 km). Make several right and left 90° turns. Make several hard braking stops without skidding. Do the following during exercising when it is convenient and safe: operate all other functional components and perform all during and after-operation checks.

(2) **Scheduled Services.** Scheduled services will include inspection per subparagraph b above and will be conducted in accordance with Table 4-3. Lubricate in accordance with Lubrication Instructions (Chapter 3, Section I).

4-65. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE (Con't).

(3) **Corrective Action.** Immediately take action to correct shortcomings and deficiencies noted. Record inspection and exercise results on DA Form 2404. Record and report all maintenance actions on DA Form 2407. After exercising, restore the preservation to the original condition. Replenish lubricants used during exercising and note the amount on DA Form 2408.

Table 4-3. Exercise Schedule.

Weeks	2	4	6	8	10	12	14	16	18	20	22	24
PMCS						X						X
Scheduled Services		X		X		X		X		X		
Major Exercise												X

e. **Rotation.** Rotate items in accordance with any rotational plan that will keep the equipment in an operational condition and reduce the maintenance effort.

4-66. PROCEDURES FOR COMMON COMPONENTS AND MISCELLANEOUS ITEMS.

a. **Tires.** Visually inspect tires during each walkaround inspection. This inspection includes checking tires with a tire gage. Inflate, repair, or replace as necessary those found to be low, damaged, or excessively worn. Mark inflated and repaired tires with a crayon for checking at the next inspection.

b. **Air Lines and Air Reservoir.** Drain air lines and air reservoir of condensation and leave drain valve open. Attach a caution tag, annotated to provide for closing of drain valve when the equipment is exercised. Place tags in a conspicuous location.

c. **Seals.** Seals may develop leaks during storage, or shortly thereafter. If leaking persists, refer to the applicable maintenance section in this manual for corrective maintenance procedures.

4-67. REMOVAL OF EQUIPMENT FROM ADMINISTRATIVE STORAGE.

a. **Activation.** Restore the equipment to normal operating condition in accordance with the instructions contained in Chapter 4, Section II.

b. **Servicing.** Resume the maintenance service schedule in effect at the commencement of storage, or service the equipment before the scheduled dates in order to produce a staggered maintenance workload.

4-68. PREPARATION OF EQUIPMENT FOR SHIPMENT.

a. Refer to FM 55-21, TM 55-601, and TM 743-200-1 for additional instructions on processing, storage, and shipment of materiel.

b. Semitrailers that have been removed from storage for shipment do not have to be reprocessed if they will reach their destination within the administrative storage period. Reprocess only if inspection reveals any corrosion or if anticipated in-transit weather conditions make it necessary.

c. When a semitrailer is received and has already been processed for domestic shipment, as indicated on DD Form 1397, the semitrailer does not have to be reprocessed for storage unless corrosion and deterioration are found during the inspection upon receipt. List on SF Form 364 all discrepancies found because of poor preservation, packaging, packing, marking, handling, loading, storage, or excessive preservation. Repairs that cannot be handled by the receiving unit must have tags attached listing needed repairs. A report of these conditions will be submitted by the unit commander for action by an ordnance maintenance unit.

CHAPTER 5
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

Section I. ELECTRICAL SYSTEM MAINTENANCE

5-1. OUTRIGGER RELAY BOX REPAIR.

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly
d. Bench Test

Initial Setup:

Equipment Conditions:
- Outrigger lowered to ground (if required) (para 2-12)
- Outrigger control panel power switch in OFF position.
- Outrigger relay box removed (para 4-21).

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set

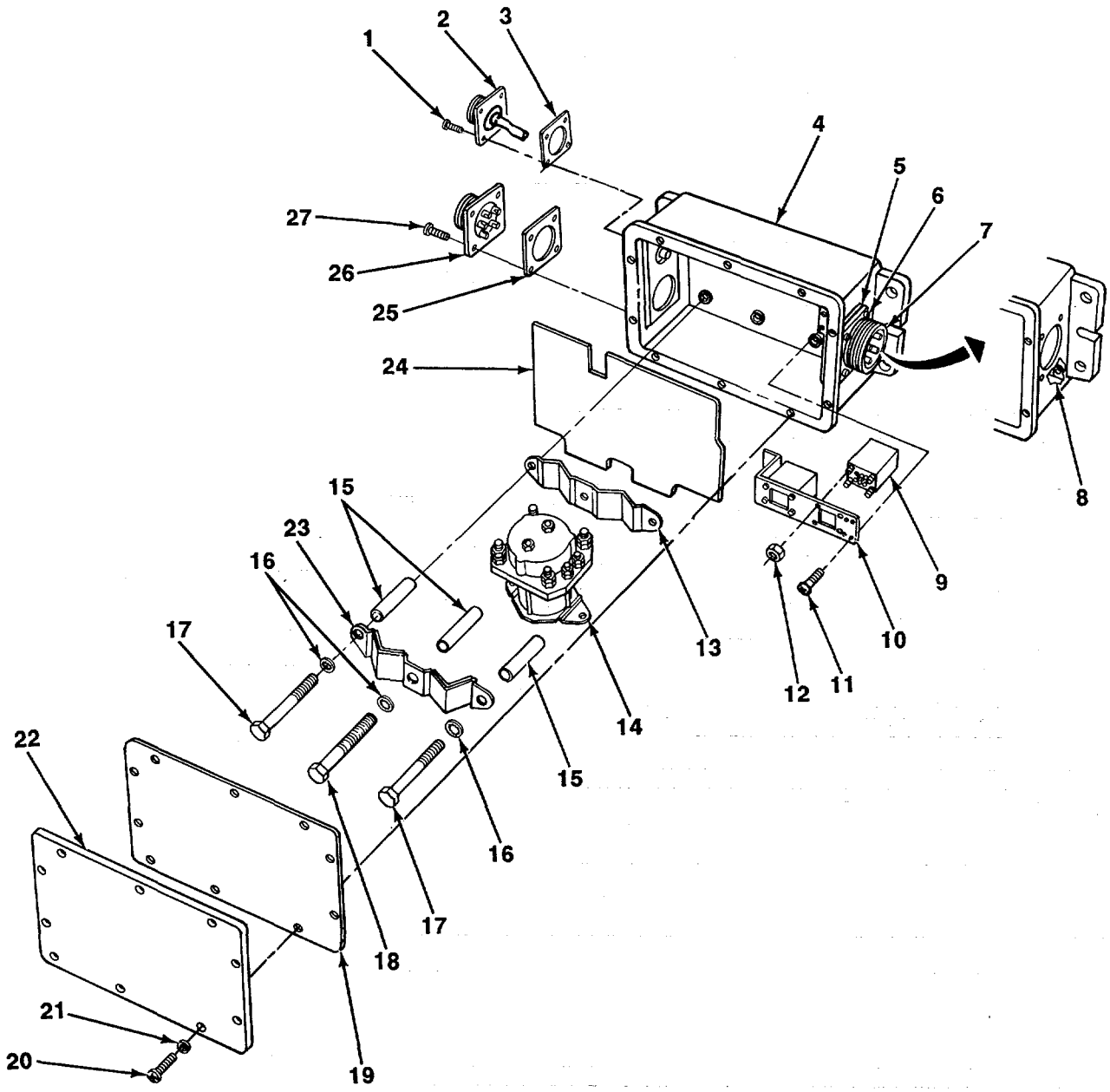
References:
- TB SIG 222

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Solder (Item 15, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Marker tags (Item 17, Appendix E)
- Varnish (Item 19, Appendix E)
- Four gaskets
- Ten lockwashers

5-1. OUTRIGGER RELAY BOX REPAIR (Con't).

a. DISASSEMBLY

1. Remove ten screws (20), lockwashers (21), cover (22), and gasket (19). Discard lockwashers and gasket.
2. Perform bench test (subpara d).



5-1. OUTRIGGER RELAY BOX REPAIR (Con't).

3. Tag and disconnect wires from rear of two large relays (14).
4. Remove screw (18), two bolts (17), three washers (16), bracket (23), and three spacers (15).
5. Partially remove two large relays (14) to gain access to wiring in rear of box (4).
6. Tag and remove wiring in rear of box (4).
7. Remove two large relays (14) and bracket (13).
8. Tag wiring on two small relays (9). Unsolder connections and disconnect wiring (TB SIG 222).
9. Remove four screws (11), bracket (10), eight nuts (12), and two small relays (9).
10. Tag and disconnect ground lead connection (8).
11. Remove four screws (1), power lead receptacle (2) with wiring and gasket (3). Discard gasket.
12. Remove four screws (27), actuator lead receptacle (26), and gasket (25). Discard gasket.
13. Remove four screws (6), control lead receptacle (7), and gasket (5). Discard gasket.
14. If damaged, remove insulator plate (24) from bottom of box (4).

b. CLEANING AND INSPECTION I

WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only In a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect wiring for damage, deteriorated insulation, and broken or frayed conductors.
3. Inspect each relay for cracks or signs of burning.
4. Inspect connectors for broken, loose, bent, or missing pins or cracked connector bodies.

5-1. OUTRIGGER RELAY BOX REPAIR (Con't).-- .

c. ASSEMBLY

1. Install power lead receptacle (2) with wiring and new gasket (3) with four screws (1). Torque screws to 9-11 lb.-in. (1.02-1.24 N•m).

2. Install actuator lead receptacle (26) and new gasket (25) with four screws (27). Torque screws to 24-30 lb.-in. (2.7-3.4 N•m).

3. Install control lead receptacle (7) and new gasket (5) with four screws (6). Torque screws to 9-11 lb.-in. (1.02-1.24 N•m).
4. If removed, install insulator plate (24) in bottom of box (4).

5. Install ground lead connection (8). Torque ground lead connection to 40-50 lb.-in. (4.5-5.6 N•m).

6. Install two small relays (9) on bracket (10) with eight nuts (12). Torque nuts to 9-11 lb.-in. (1.02-1.24 N•m).

7. Install bracket'(10), with two small relays (9) in box (4), with four screws (11). Torque screws to 15-20 lb.-in. (1.7-2.3 N•m).

8. Connect wiring on two small relays (9) and solder as tagged during removal (TB SIG 222).

9. Connect wiring to rear of two large relays (14) as tagged.

NOTE

Screw is installed in center hole of bracket. Bolts are installed in end holes.

10. Install two large relays (14) with bracket (13), three spacers (15), bracket (23), three washers (16), two bolts (17), and screw (18). Torque bolts to 50-60 lb.-in. (5.7-6.8 N•m). Torque screw to 140-180 lb.-in. (15.8-20.3 N•m).

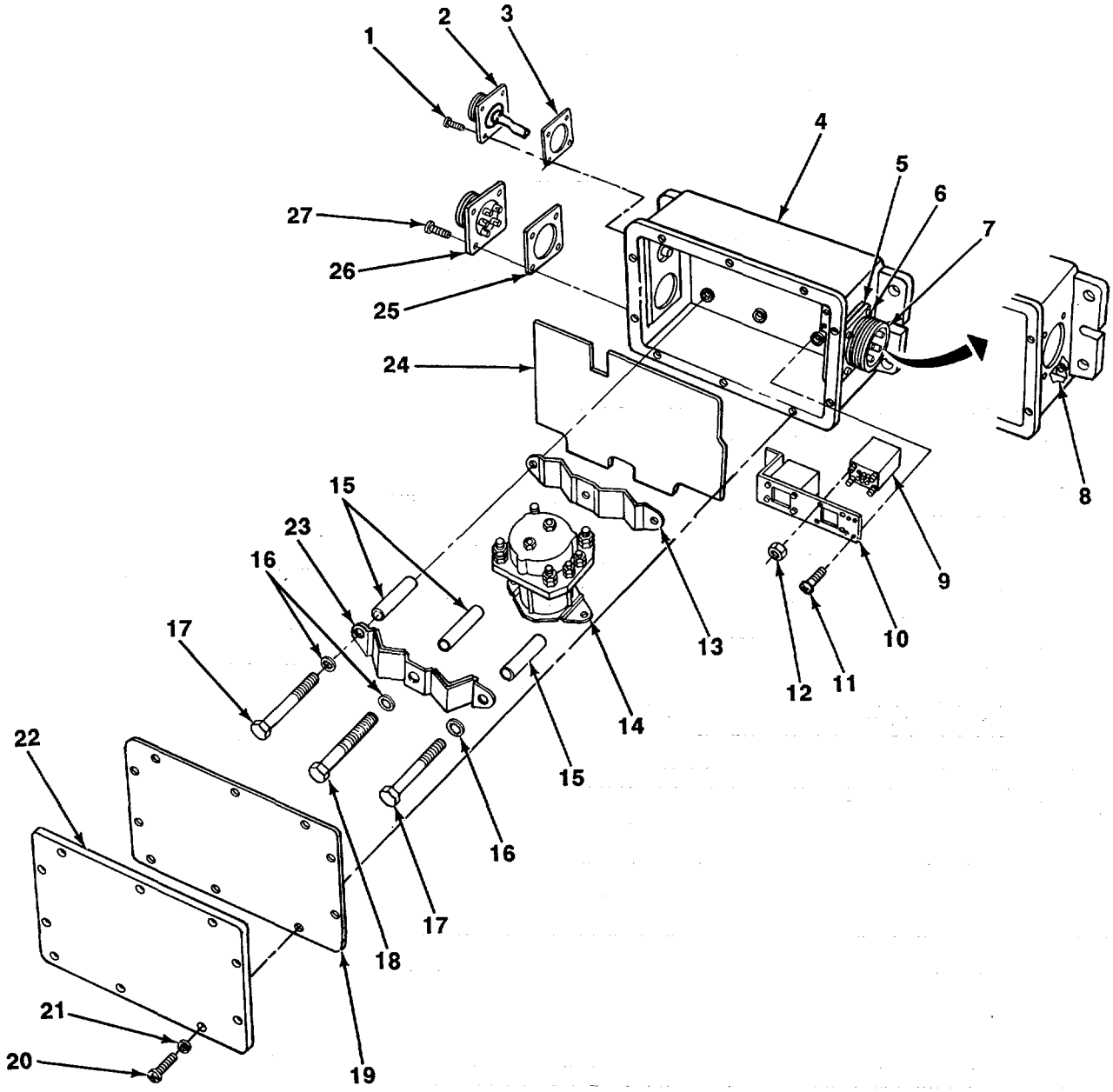
11. Connect remaining wiring as tagged.

12. Perform bench test (subpara d).

13. After Installing all components, making electrical connections, and performing bench test, spray all items inside box (4) with moisture-proof varnish.

14. Install new gasket (19) and cover (22) with ten new lockwashers (21) and screws (20). Torque screws to 24-30 lb.-In. (2.7-3.39 N•m).

5-1. OUTRIGGER RELAY BOX REPAIR (Con't).



TA706519

5-1. OUTRIGGER RELAY BOX REPAIR (Con't).

d. BENCH TEST

NOTE

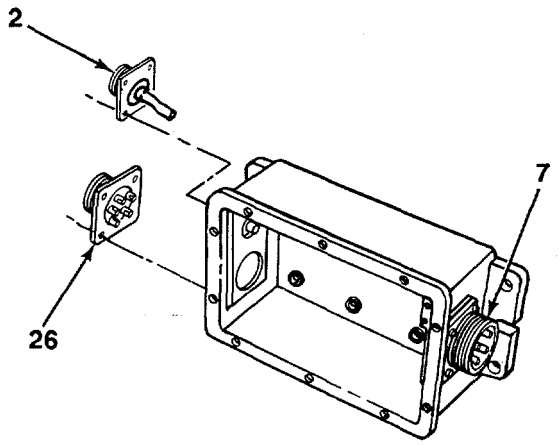
Ground refers to case of relay box.

1. Apply a + 24-volt power source to center contact of power lead receptacle (2), with negative terminal to ground.

NOTE

When performing steps 2 and 4, a resistive load of 150 amperes will be connected between pin B and ground and between pin C and ground respectively, and energized for 15 seconds each load.

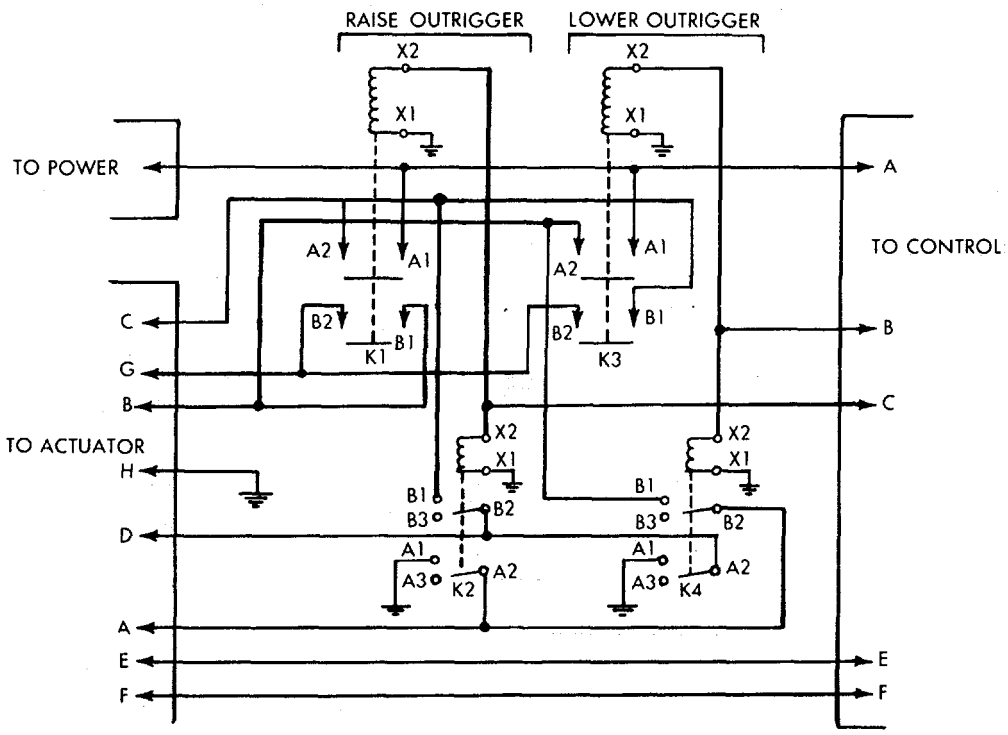
2. Reading at pin A of control lead receptacle (7) should be +24v.
3. Disconnect +24-volt power source from center contact of power lead receptacle (2).
4. Apply a +24-volt power source to pin B control lead receptacle (7).
   (a) Reading at pin B of actuator lead receptacle (26) should be + 24v.
   (b) Reading at pin A of actuator lead receptacle (26) should be + 24v.
   (c) Reading at pin D of actuator lead receptacle (26) should show ground.
5. Disconnect + 24-volt power source from pin B of control lead receptacle (7).



6. Apply a + 24-volt power source to pin C of control lead receptacle (7).
   (a) Reading at pin C of actuator lead receptacle (26) should be at + 24v.
   (b) Reading at pin D of actuator lead receptacle (26) should show + 24v.
7. Disconnect + 24-volt power source from pin C of control lead receptacle (7).
8. Pin A of actuator lead receptacle (26) should show ground.
9. Check for continuity from pin E on control lead receptacle (7) to pin E on actuator lead receptacle (26).
10. Check continuity from pin F on control lead receptacle (7) to pin F on actuator lead receptacle (26).
11. Pin H on actuator lead receptacle (26) should be grounded to case.

TA706520

5-1. OUTRIGGER RELAY BOX REPAIR (Con't.)



FOLLOW-ON TASKS:

- Install outrigger relay box (para 4-21).
- Raise outrigger, as required (para 2-12).

TA706521

5-2. MASTER RELAY WIRING HARNESS REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:
- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Tools/Test Equipment:
- General mechanic's tool kit

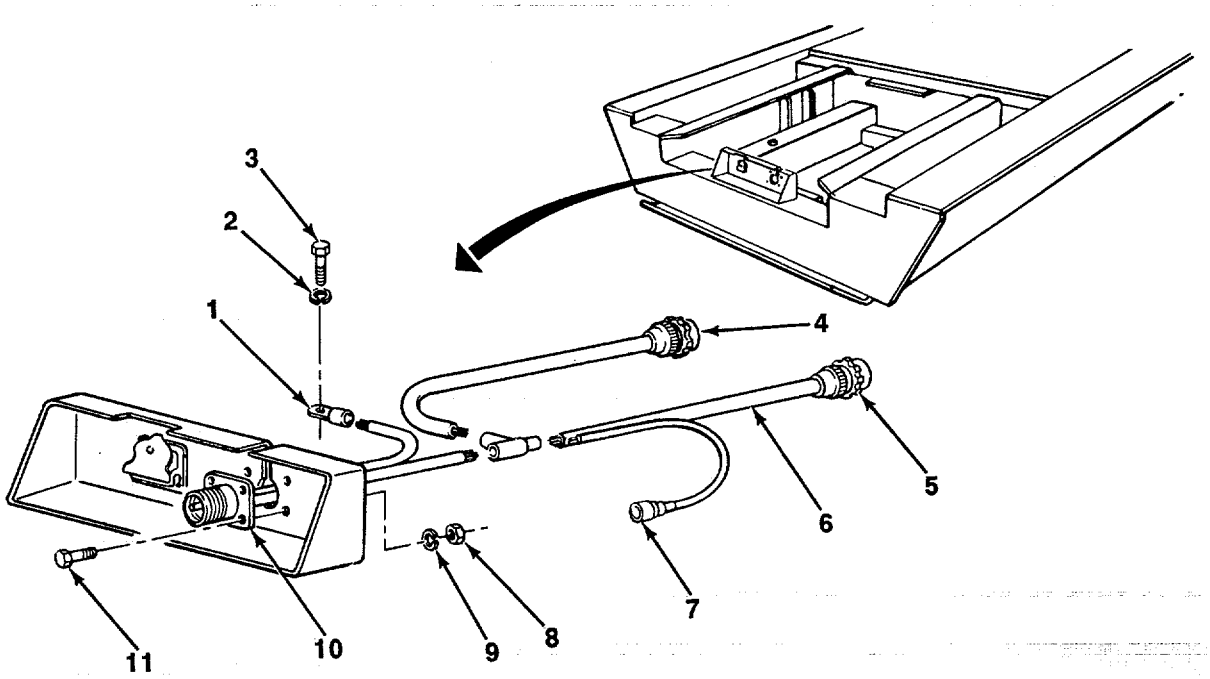
Materials/Parts:
- Marker tags (Item 17, Appendix E)
- Five lockwashers

a. REMOVAL

NOTE

All connectors and master relay wiring harness should be tagged before removal.

1. Disconnect connector (4) from master relay box.
2. Disconnect connector (5) from circuit breaker box.
3. Disconnect connector (7) from main wiring harness.



TA706522

5-2. MASTER RELAY WIRING HARNESS REPLACEMENT (Con't).

4. Remove bolt (3), lockwasher (2), and ground connector (1) from frame. Discard lockwasher.
5. Remove four screws (11), lockwashers (9), and nuts (8). Discard lockwashers.
6. Slide connector (10) and master relay wiring harness (6) out of frame.

b. INSTALLATION

1. Install connector (10) and master relay wiring harness (6) into frame with four nuts (8), new lockwashers (9), and screws (11).
2. Install ground connector (1) to frame with new lockwasher (2) and bolt (3).
3. Connect connector (7) to main wiring harness.
4. Connect connector (5) to circuit breaker box.
5. Connect connector (4) to master relay box.

FOLLOW-ON TASKS:

- Install electrical shields, as required (para 4-28).

5-3. POWER SOURCE-TO-OUTRIGGER RELAY WIRING HARNESS REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:
- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Tools/Test Equipment:
- General mechanic's tool kit

Materials/Parts:
- Marker tags (Item 17, Appendix E)

a. REMOVAL

NOTE

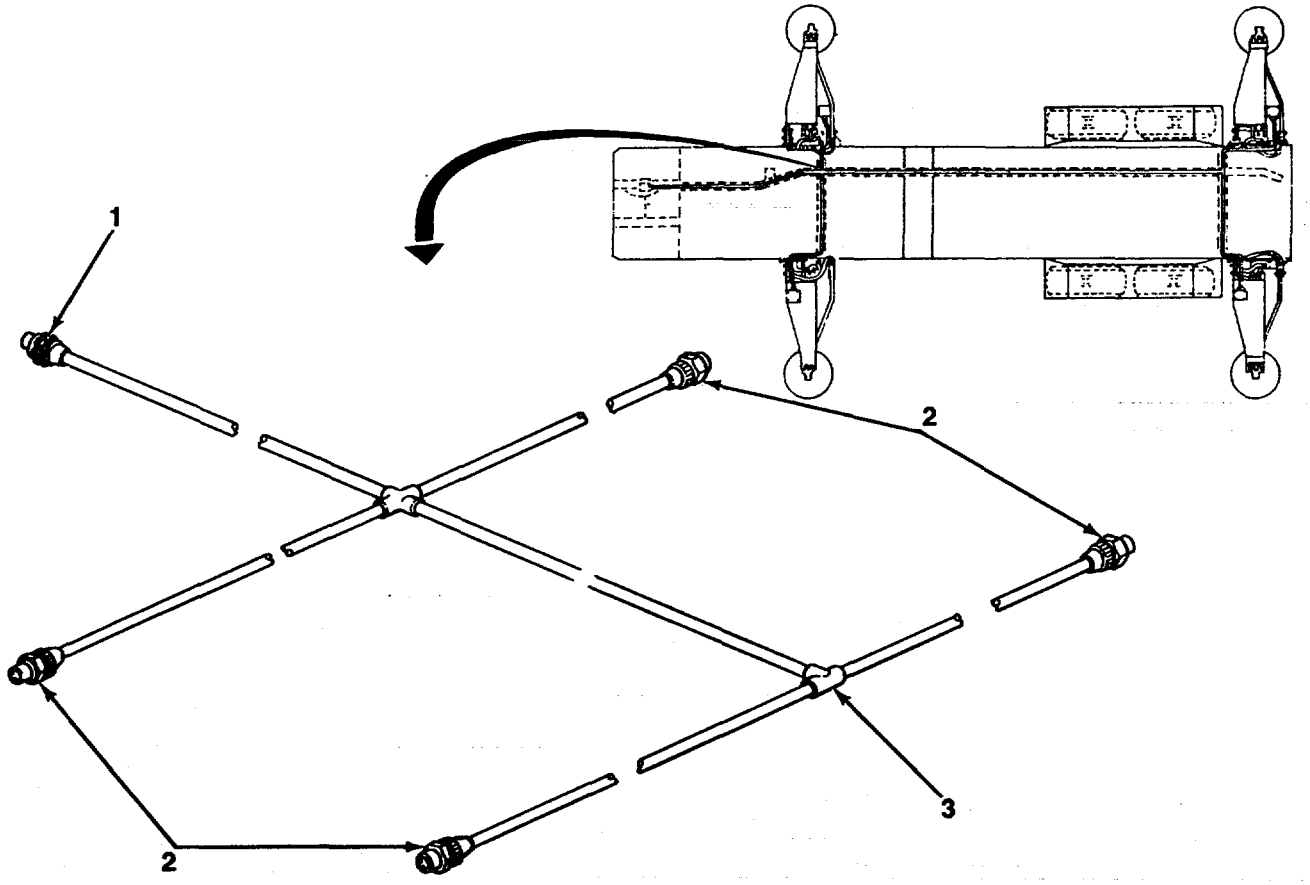
All connectors and outrigger relay wiring harness should be tagged before removal.

1. Disconnect connector (1) from master relay box.
2. Disconnect four connectors (2) from four outrigger relay boxes.
3. Remove outrigger relay wiring harness (3) from semitrailer.

b. INSTALLATION

1. Install outrigger relay wiring harness (3) into semitrailer.
2. Connect four connectors (2) to four outrigger relay boxes.
3. Connect connector (1) to master relay box.

5-3. POWER SOURCE-TO-OUTRIGGER RELAY WIRING HARNESS REPLACEMENT (Con't).



FOLLOW-ON TASKS:

- Install electrical shields, as required (para 4-28).

TA706523

5-4. OUTRIGGER INTERLOCK WIRING HARNESS REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:
- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Tools/Test Equipment:
- General mechanic's tool kit

Materials/Parts:
- Marker tags (Item 17, Appendix E)

a. REMOVAL

NOTE

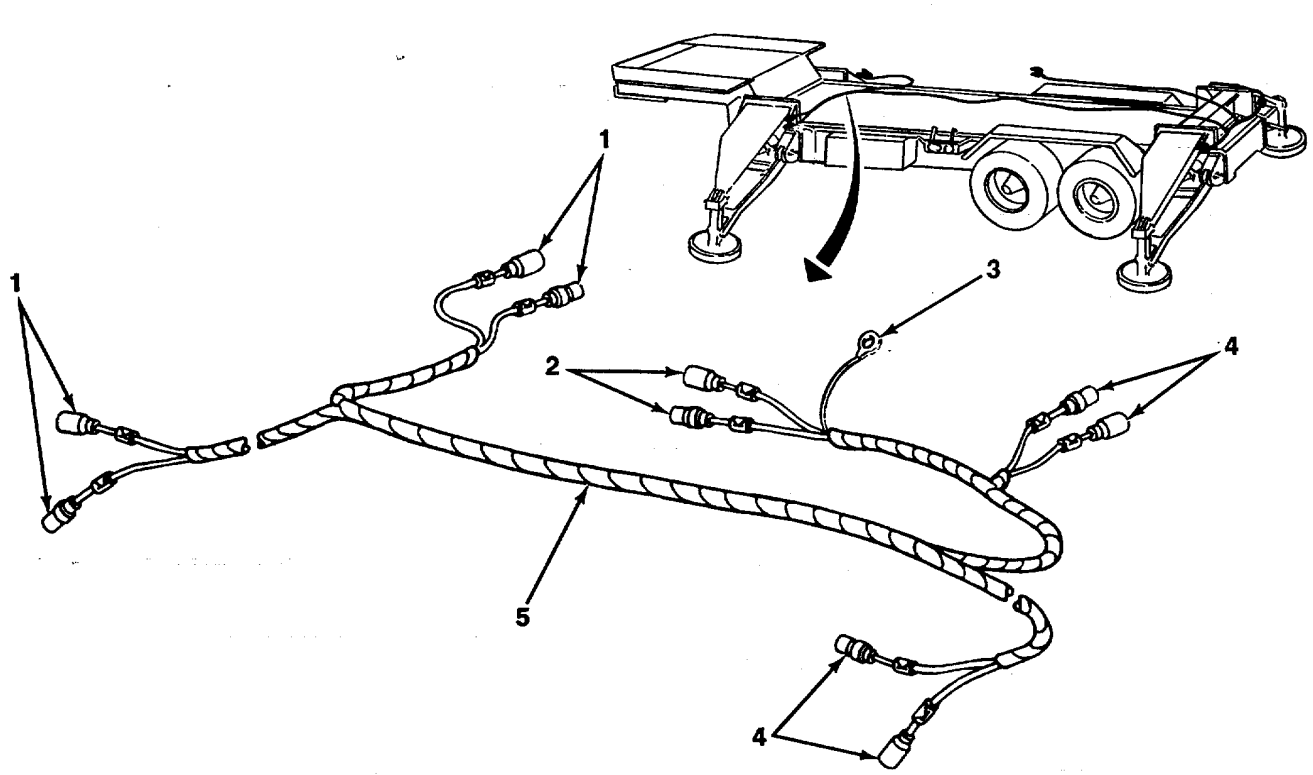
All connectors and outrigger Interlock wiring harness should be tagged before removal.

1. Disconnect two wiring harness connectors (2) from outrigger interlock assembly.
2. Disconnect ground lug (3) from frame.
3. Disconnect four wiring harness connectors (1) from front interlock switches.
4. Disconnect four wiring harness connectors (4) from rear interlock switches.
5. Remove outrigger interlock wiring harness (5).

b. INSTALLATION

1. Install outrigger interlock wiring harness (5) to frame.
2. Connect four wiring harness connectors (4) to rear interlock switches.
3. Connect four wiring harness connectors (1) to front interlock switches.
4. Connect ground lug (3) to frame.
5. Connect two wiring harness connectors (2) to outrigger interlock assembly.

5-4. OUTRIGGER INTERLOCK WIRING HARNESS REPLACEMENT (Con't).



FOLLOW-ON TASKS:

- Install electrical shields, as required (para 4-28).

TA706524

5-5. OUTRIGGER INTERLOCK ASSEMBLY REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:
- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Materials/Parts:
- Marker tags (Item 17, Appendix E)
- Three lockwashers

Tools/Test Equipment:
- General mechanic's tool kit

a. REMOVAL

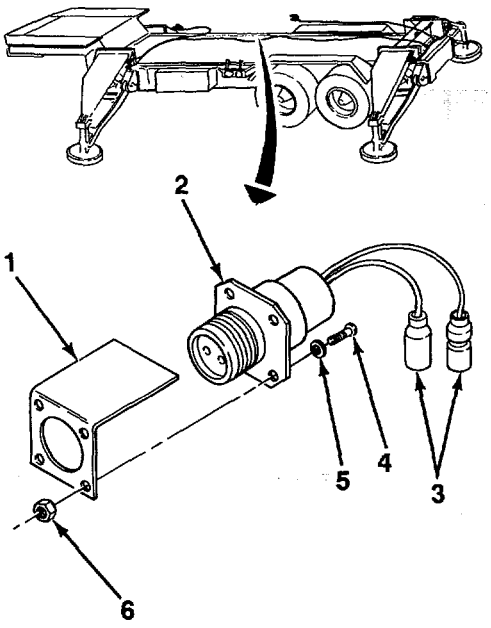
NOTE

All connectors and wires should be tagged before removal.

1. Disconnect two connectors (3) from outrigger interlock wiring harness.
2. Remove three screws (4), lockwashers (5), nuts (6), and interlock receptacle (2) from bracket (1). Discard lockwashers.

b. INSTALLATION

1. Install interlock receptacle (2) to bracket (1) with three nuts (6), new lockwashers (5), and screws (4).
2. Connect two connectors (3) to outrigger interlock wiring harness.



TA706525

FOLLOW-ON TASKS:

- Install electrical shields, as required (para 4-28).

5-6. LIGHTING WIRING HARNESS REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Slave cable disconnected from semitrailer (para 2-12).
- Electrical shields removed, as required (para 4-28).

Materials/Parts:

- Marker tags (Item 17, Appendix E)
- Four lockwashers

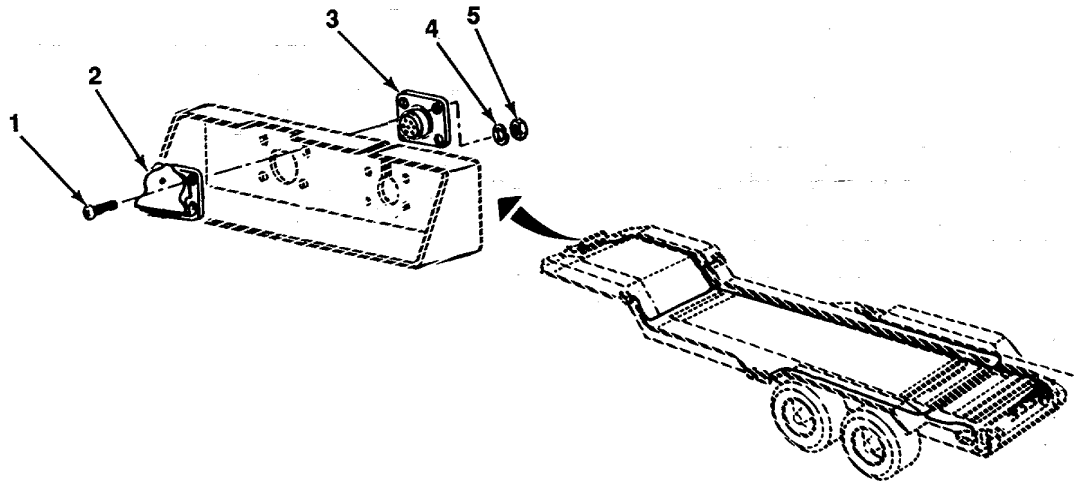
Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

NOTE
All connectors and lighting wiring harness should be tagged before removal.

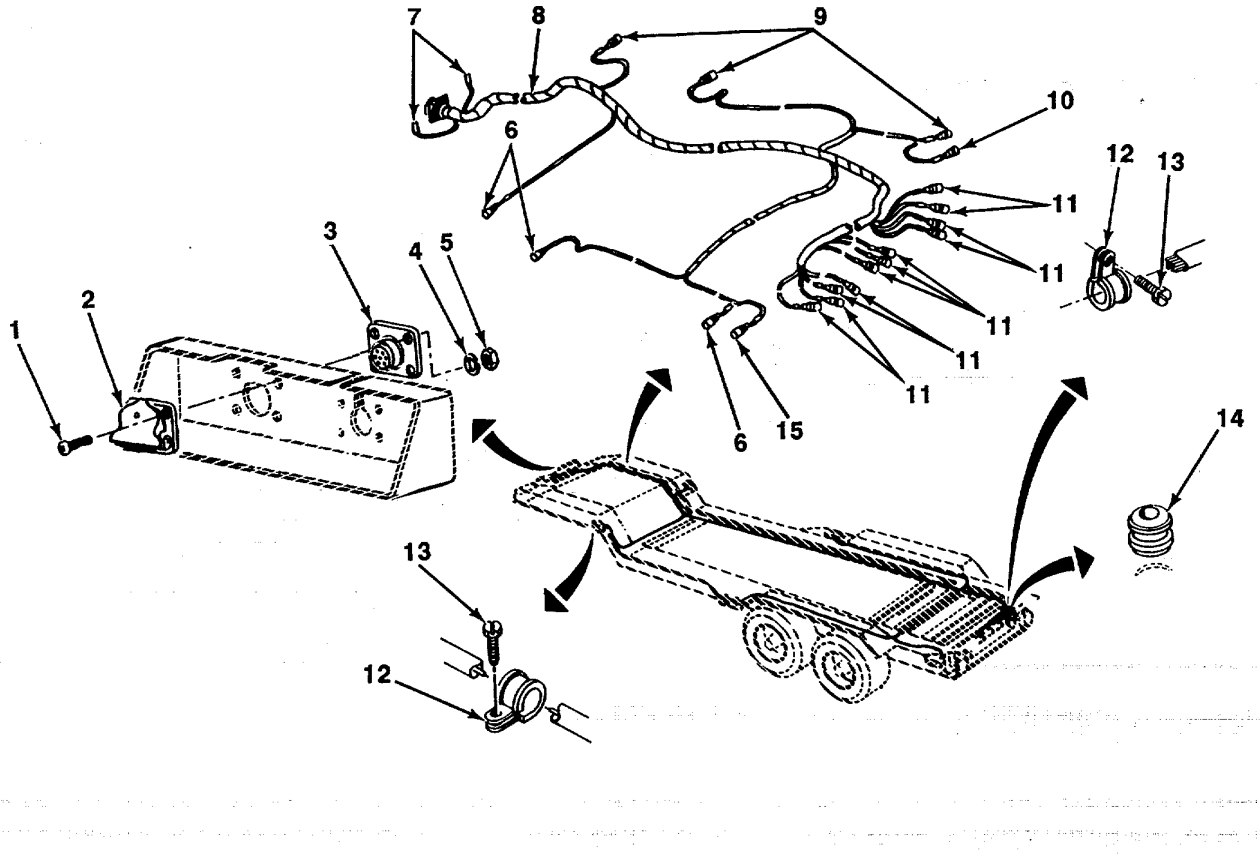
1. Remove four screws (1), lockwashers (4), nuts (5), and cover (2) from connector (3). Discard lockwashers.



TA706526

5-6. LIGHTING WIRING HARNESS REPLACEMENT (Con't).

2. Disconnect two ground wires (7) from fram e.
3. Disconnect three connectors (9) from three right side marker lights.
4. Disconnect connector (10) from right outrigger side marker light.
5. Disconnect 11 connectors (11) from two composite lights and three marker lights on rear of semitrailer.
6. Disconnect connector (15) from left outrigger marker light.
7. Disconnect three connectors (6) from three left side marker lights.
8. Remove 21 screws (13) and clamps (12) as required.
9. Remove lighting wiring harness (8).
10. If damaged, remove grom met (14) from lighting wiring harness (8).



TA706527

5-6. LIGHTING WIRING HARNESS REPLACEMENT (Con't).

b. INSTALLATION

1. If removed, install grommet (14) on lighting wiring harness (8).
2. Install lighting wiring harness (8) into semitrailer.
3. Install 21 clamps (12) with screws (13) as required.
4. Connect three connectors (6) to three left side marker lights.
5. Connect connector (15) to left outrigger marker light.
6. Connect 11 connectors (11) to two composite lights and three marker lights on rear of semitrailer.
7. Connect connector (10) to right outrigger side marker light.
8. Connect three connectors (9) to three right side marker lights.
9. Connect two ground wires (7) to frame.
10. Install cover (2) to connector (3) with four nuts (5), new lockwashers (4), and screws (1).

FOLLOW-ON TASKS:

- Install electrical shields, as required (para 4-28).

Section II. AXLE MAINTENANCE

5-7. AXLE REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:
- Outriggers fully raised (para 2-12).
- Tractor truck disconnected from semitrailer (para 2-13).
- Brakes caged (para 3-10).
- Right side fender removed (para 4-55).
- Air lines disconnected from emergency relay valve (para 4-38).
- Air reservoir removed (para 4-35).

Personnel Required: Four

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Eight lockwashers

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set
- Suitable lifting device

WARNING

Use extreme caution when handling heavy parts. Lifting device Is required when parts weigh over 50 lb (23 kg) for a single person lift, over 100 lb (45 kg) for a two person lift, and over 150 lb (68 kg) for a three or more person lift. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause serious injury or death to personnel.

a. REMOVAL

1. Remove eight bolts (1), lockwashers (2), and nuts (3). Discard lockwashers
2. Raise rear of semitrailer with suitable lifting device.
3. Remove upper torque rods (para 4-52).

5-7. AXLE REPLACEMENT (Con't).

4. Raised rear of semitrailer until clearance for bogie assembly (4) is obtained.

5 Push or pull bogie assembly (4) out rear of semitrailer.

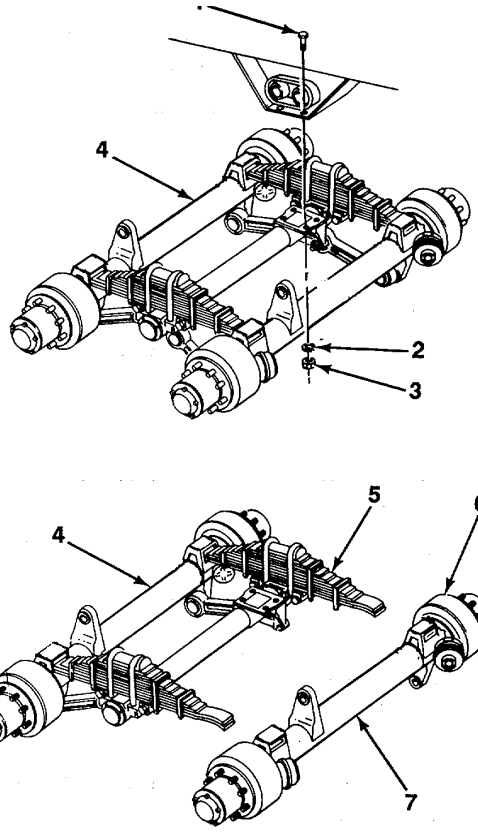
6. Support rear of semitrailer on jackstands.

7. Remove lower torque rods (para 4-52).

8. Disconnect air line from wheels at emergency relay valve (para 4-39).

9. Raise rear of bogie assembly (4) with suitable lifting device until weight has been removed from wheels (6).

10. Pull or push axle (7) off springs (5) and away from bogie assembly (4).



b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

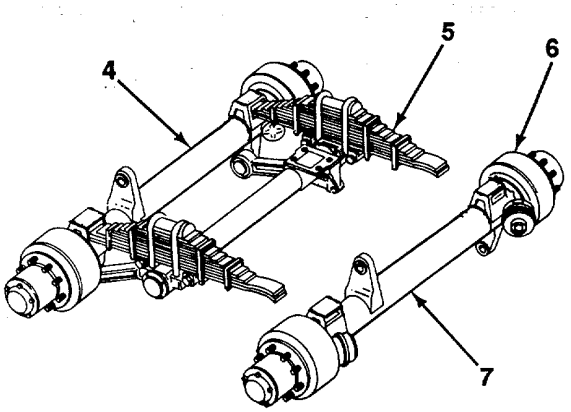
1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.

2. Inspect for loose, missing, or damaged hardware.

TA706528

5-7. AXLE REPLACEMENT (Con't).

3. Inspect for cracks, bends, and other visible damage.
4. Inspect for rust or corrosion.
5. Inspect for broken or damaged spring leaves.

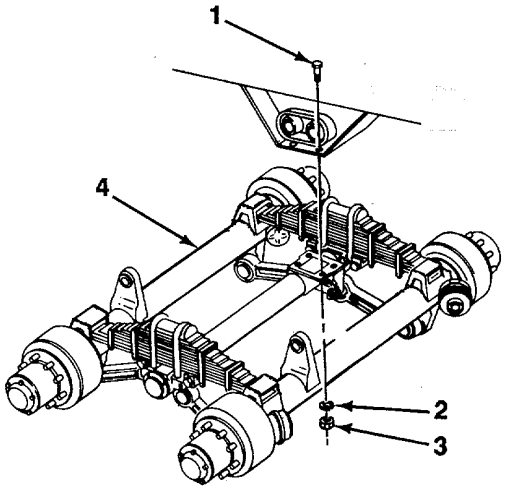


c. INSTALLATION

1. Install axle (7) to springs (5).
2. Install air lines from wheels to emergency relay valve (para 4-39).
3. Install lower torque rods (para 4-52).
4. Pull or push bogie assembly (4) under rear of semitrailer.
5. Install upper torque rods (para 4-52).

NOTE
Two shorter bolts are placed in outside of torque rod side mount.

6. Install bogie assembly (4) to frame with eight nuts (3), new lockwashers (2), and bolts (1). Torque bolts to 600 lb.-ft. (814 N •m).
7. Raise rear of semitrailer with suitable lifting device, remove jackstands, and lower semitrailer until wheels are on ground.



FOLLOW-ON TASKS:

- Connect air lines to emergency relay valve (para 4-38).
- Install air reservoir (para 4-35).
- Install right side fender (para 4-55).
- Uncage brakes (para 3-10).

TA706529

5-8. TRUNNION AXLE REPAIR.

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:
- Bogie assembly removed (para 5-7).
- Springs removed (paragraph 5-13).

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set
- Suitable lifting device

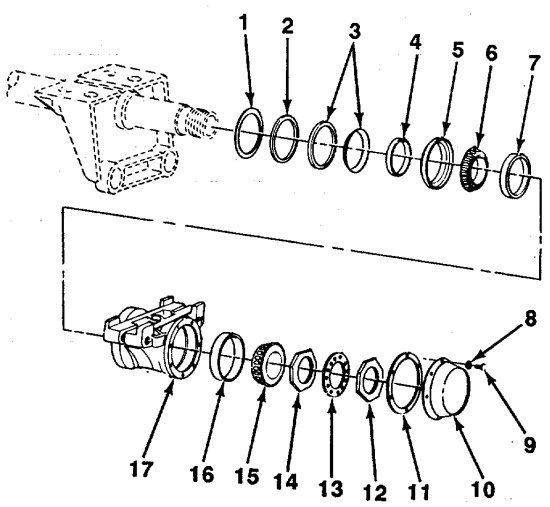
Personnel Required: Two

Materials/Parts:
- Brush (Item 4, Appendix E)
- Grease (Item 11, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- One gasket
- Four oil seals
- Six lockwashers

References:
- TM 9-214

a. DISASSEMBLY

1. Remove six bolts (9), lockwashers (8), cap (10), and gasket (11). Discard lockwashers and gasket.
2. Remove nut (12), keywasher (13), nut (14), and spring seat (17).
3. Remove bearing (15) and bearing cup (16) from spring seat (17).
4. Remove washer (1), oil seal (2), two oil seals (3), oil seal (4), retainer (5), bearing (6), and bearing cup (7). Discard oil seals.



TA706530

5-8. TRUNNION AXLE REPAIR (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.

2. Inspect for loose, missing, or damaged hardware.

3 . Inspect bearings and cups in accordance with TM 9-214.

c. ASSEMBLY

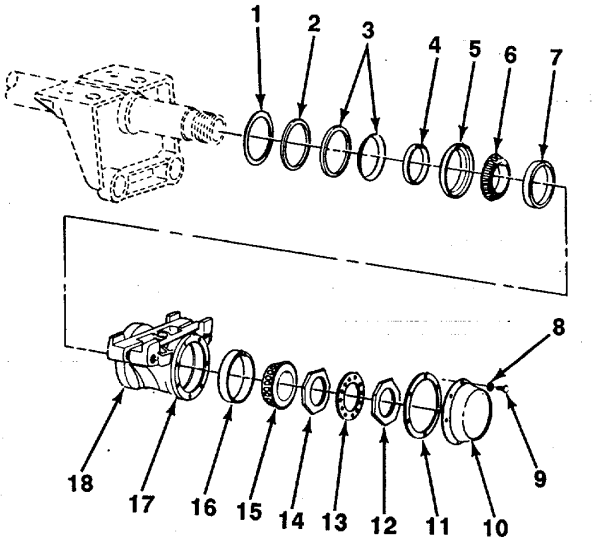
1. Install bearing cup (7), bearing (6), retainer (5), new oil seal (4), two new oil seals (3), new oil seal (2), and washer (1).

2. Install bearing cup (16) into spring seat (17).

3. Install bearing (15), spring seat (17), nut (14), keywasher (13), and nut (12). Adjust nuts to allow spring seat to move when 15-20 lb.-ft. (20-27 N•m) of torque is applied.

4. Install new gasket (11), cap (10), six new lockwashers (8), and bolts (9).

5. Pack assembly with grease through grease fitting (18).



TA706531

FOLLOW-ON TASKS:

- Install springs (para 5-13).
- Install bogie assembly (para 5-7).

Section III. WHEELS AND TIRES MAINTENANCE

5-9. TIRE REPAIR.

See TM 9-2610-200-14 for tire repair.

Section IV. FRAME MAINTENANCE

5-10. FIFTH WHEEL KINGPIN REPLACEMENT.

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:
- Access cover removed (para 4-58).

Tools/Test Equipment
- Field automotive shop set
- Field maintenance welding shop equipment
- Welder's tool kit

Materials/Parts:
- Brush (Item 5, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)

References
- TM 9-237

a. REMOVAL

WARNING

- Always wear protective clothing (gloves, goggles, etc.) when using cutting, grinding, or welding (burning) equipment. Failure to do so could result in serious Injury to personnel.
- Ensure that upper fifth wheel kingpin plate and fifth wheel kingpin are free of all grease and other flammable material. Failure to adequately clean this area prior to torch application could result in serious fire damage or Injury to personnel.

CAUTION

DO NOT damage fifth wheel kingpin plate using excessive heat or burning.

1. Cut away fifth wheel kingpin (2) weld with cutting torch (TM 9-237).
2. Discard fifth wheel ki ngpin (2).
3. Grind inside (topside) of upper fifth wheel kingpin plate smooth.

5-10. FIFTH WHEEL KINGPIN REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, Immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or wire brush and dry cleaning solvent, and allow to dry.

2. Inspect upper fifth wheel kingpin plate for dents, cracks, or deformation.

c. INSTALLATION

1. Place fifth wheel kingpin (2) into position.

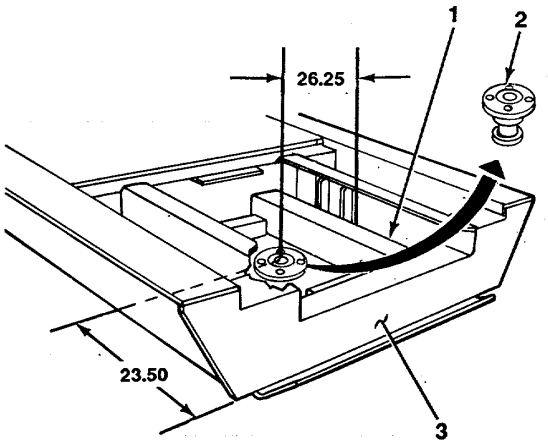
2. To center fifth wheel kingpin (2):

   (a) Measure 23.5 in. (59.7 cm) forward from edge of bearing plate (3).

   (b) Measure 26.25 in. (66.68) from side rail (1).

   (c) Measure 18 in. (45.72 cm) from front cross-member.

   (d) Measure 7 in. (17.78 cm) from cross-angle support.



WARNING

Always wear protective clothing (gloves, goggles, etc.) when using cutting, grinding or welding (burning) equipment. Failure to do so could result in serious injury to personnel

3. Weld fifth wheel kingpin (2) in place (TM 9-237).

FOLLOW-ON TASKS:
- Install access cover (para 4-58).

TA706532

Section V. LANDING GEAR MAINTENANCE

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR.

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:
- Outrigger actuator removed from semitrailer (para 4-48).
- Outrigger drive motor removed (para 4-50).

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set
- Arbor adapter
- Bearing inserter (J-1611 6-F/A-F8)
- Bearing inserter (J-16116-F/A-Fl5)
- Fabricated horizontal jig (Appendix G)
- Fabricated vertical jig (Appendix G)
- Fabricated vertical jig, alternate (Appendix G)
- Seal adapter
- Seal inserter
- Spanner wrench
- Suitable lifting device

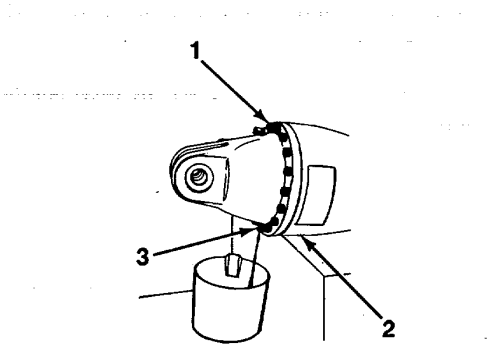
Materials/Parts:
- Adhesive (Item 1, Appendix E)
- Brush (Item 4, Appendix E)
- Sealing compound (Item 6, Appendix E)
- Sealing compound (Item 8, Appendix E)
- Hydraulic fluid (Item 10, Appendix E)
- Grease (Item 11, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Nonelectrical wire (Item 20, Appendix E)
- Four seals
- One gasket

Personnel Required: Two

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

a. DISASSEMBLY

1. Position outrigger actuator assembly (2) on horizontal jig with lower drain plug (3) down. Place suitable container on floor beneath lower drain plug.



2. Loosen upper drain plug (1).

3. Remove lower drain plug (3) and allow hydraulic fluid to drain into container.

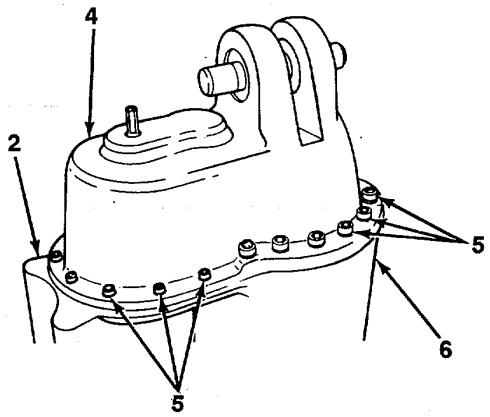
4. Remove upper drain plug (1).

5. Position outrigger actuator assembly (2) into vertical jig.

NOTE

Socket head screws are of different sizes. Note locations of socket head screws for Installation.

6. Remove 23 socket head screws (5) from gear housing cover (4) and gear housing (6).

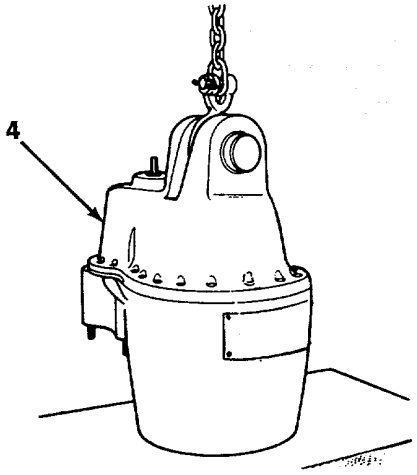


TA706533

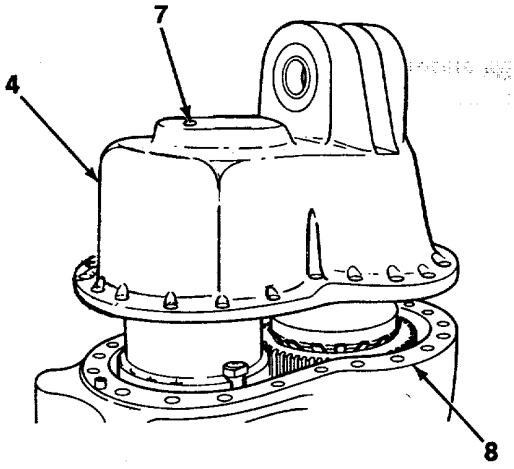
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't). .

7. Using suitable lifting device, apply light lifting force to gear housing cover (4). Tap gear housing cover and lift straight up until all internal components are clear.

8. Remove gear housing cover (4) from lifting device.



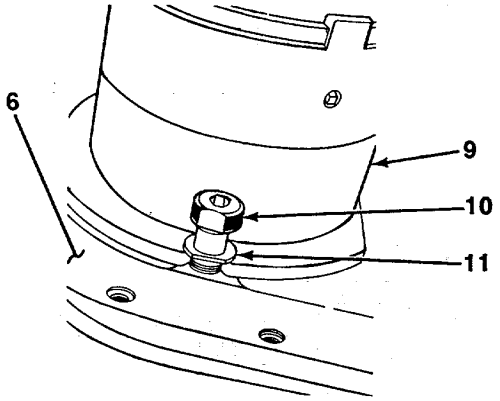
9. Remove seal (7) and gasket (8) from gear housing cover (4). Discard seal and gasket.

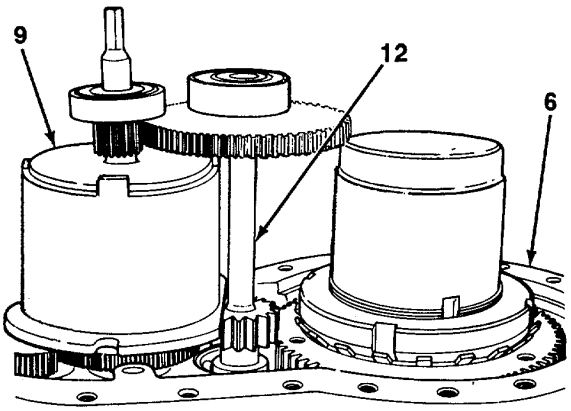


TA706534

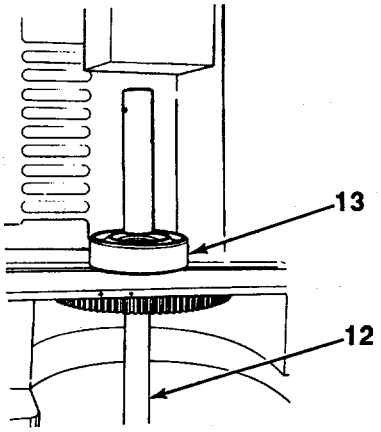
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

10. Remove two screws (10), bearing washers (11), no-back clutch assembly (9), and gearshaft (12) from gear housing (6).





11. Press gearshaft (12) out of bearing (13).

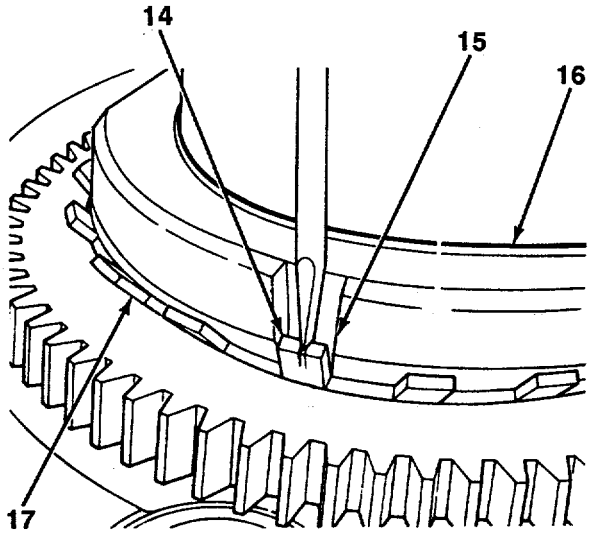


TA706535

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

12. Bend tab (14) on lockwasher (17) away from slot (15) in locknut (16).

13. Remove locknut (16) and lockwasher (17).



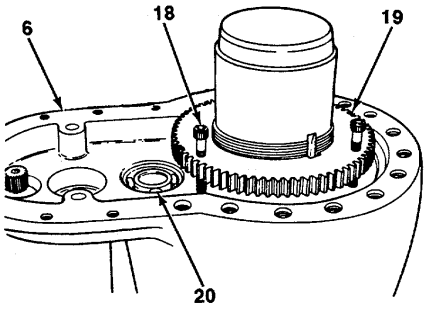
NOTE

Socket head screws used as jackscrews in step 14 should be ¼ in. Head and 2 in. (5cm) long.

14. Install three socket head screws (18) into tapped holes in output gear (19).

15. Rotate output gear (19) to position where surface of gear housing (6) is directly below each of three socket head screws (18). Tighten all three socket head screws evenly and remove output gear.

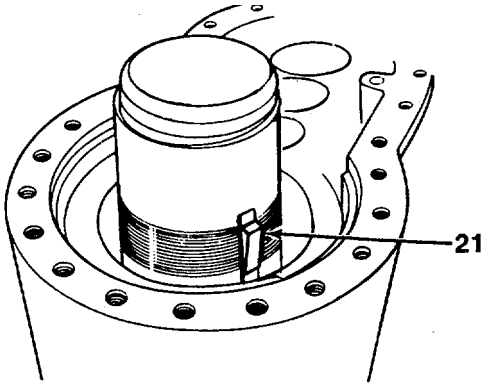
16. If damaged, remove lower gearshaft bearing (20) from gear housing (6).



TA706536

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

17. Remove key (21).

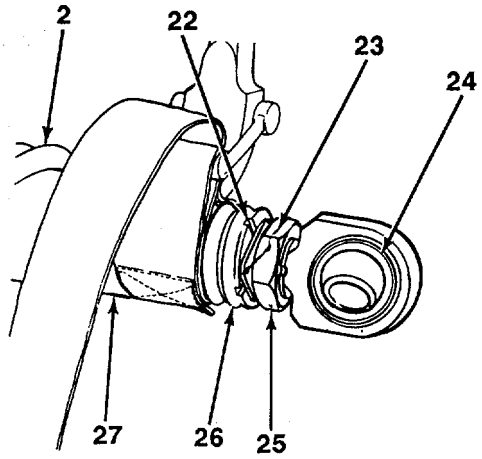


18. Place outrigger actuator assembly (2) into horizontal jig.

CAUTION

DO NOT extend or retract ball screw subassembly to extreme ends of travel to keep from turning. Failure to follow this caution will result in damage to equipment.

19. Remove lockwire (23) and loosen jamnut (25) until lockwasher (26) can be disengaged from slot (22) in ball screw subassembly (27). Discard lockwire.



NOTE

Keep ball screw subassembly from turning while performing step 20.

20. Insert bar through hole in rod end (24) and remove rod end by turning counterclockwise.

TA706537

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

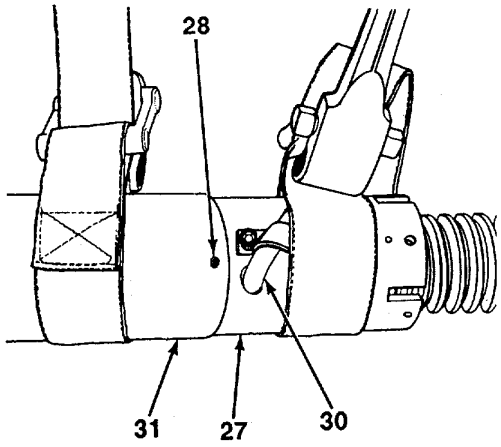
21. Remove setscrew (28) from extension cover (31).

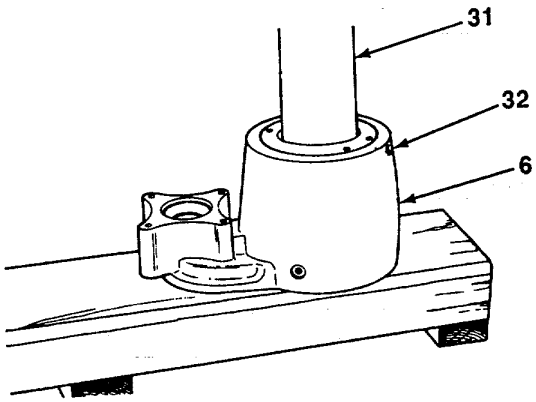
CAUTION

To prevent return tubes (30) on ball nut from collapsing, position strap wrench on ball nut with webbing over extension cover.

22. Use one strap wrench on extension cover (31) and one strap wrench on ball screw subassembly (27), and unscrew ball screw subassembly from extension cover.

23. Place gear housing (6) in vertical jig with extension cover (31) up.
24. Remove sealing compound covering brass tip setscrew (32) and remove brass tip setscrew from gear housing (6).





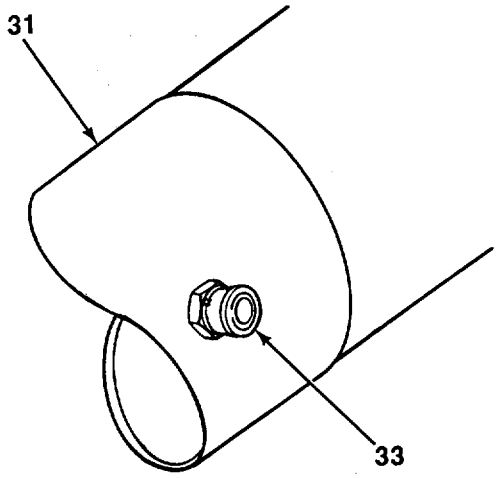
TA706538

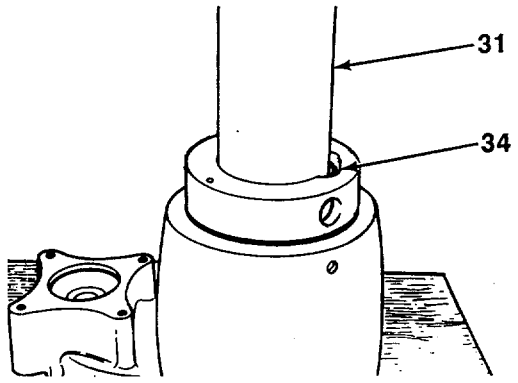
5-11. OUTRIGGER ACTUATOR ASSEMBLY RE PAIR (Con't).

25. Remove air vent (33) from extension cover (31).

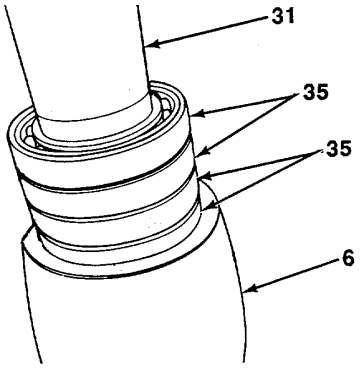
26. Remove external threaded ring (34) from extension cover (31) with spanner wrench.

27. Remove seal from external threaded ring (34). Discard seal.





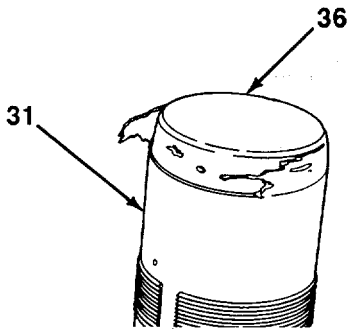
28. Remove extension cover (31), with four bearings (35) installed, from gear housing (6).



TA706539

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

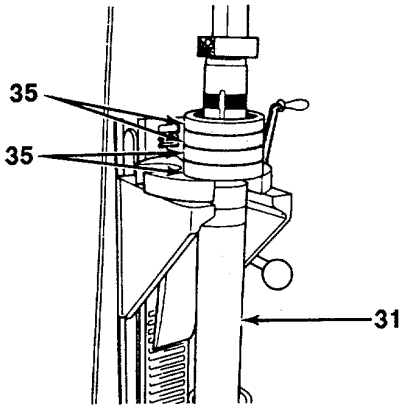
29. Remove sealing compound fro m around cap plug (36) and remove cap plug from extension cover (31).

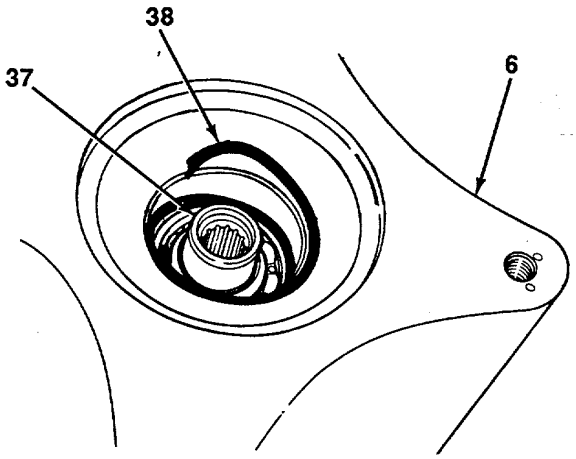


30. Press four bearings (35) from extension cover (31).

31. Place gear housing (6), with extension cover end up, in vertical jig.

32. Remove seal (37) and retaining ring (38) from gear housing (6). Discard seal.

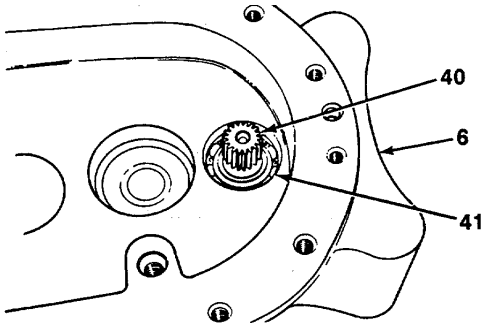




TA706540

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

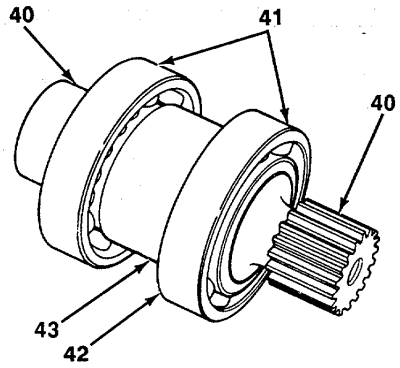
33. Place gear housing (6) in horizontal jig, and remove input gear (40) and two bearings (41) as an assembly from inside of gear housing.



34. Support bearing (41) nearest input gear (40) and press input gear from bearing.

35. Support second bearing (41) and press Input gear (40) from bearing.

36; Remove spacer tube (43) and retaining ring (42) from input gear (40).



TA706541

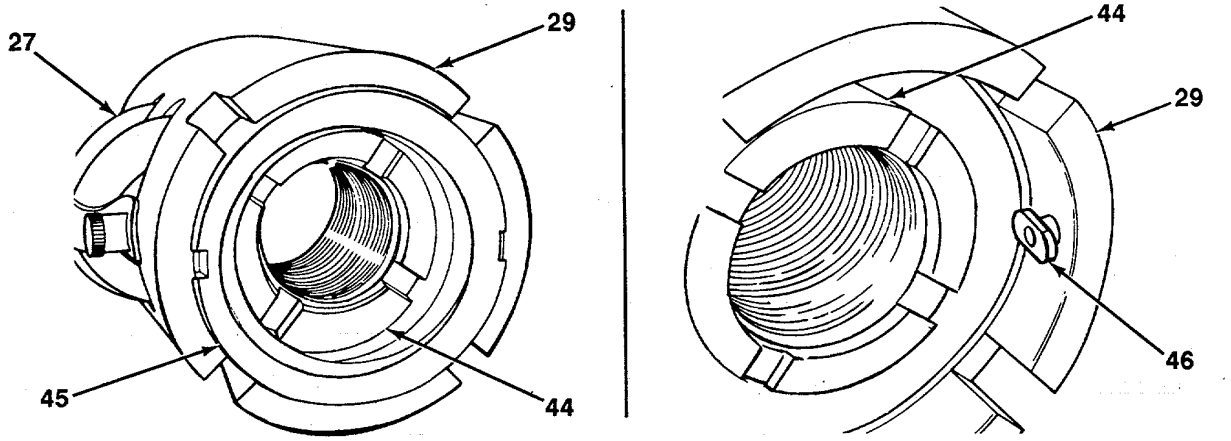
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

37. Place ball screw subassembly (27), with ball nut (29) up, into vertical jig.

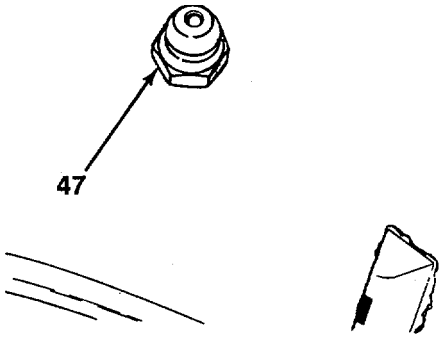
CAUTION

To prevent loss of ball bearings, DO NOT rotate ball nut more than 5/8 in. (1.58 cm) past end face of ball screw. If bearings are removed, replace ball screw subassembly.

38. Turn ball nut (29) approximately 5/8 in. (1.58 cm) past end face of ball screw (44) and remove ice scraper (45) and two ice scraper pins (46) from ball nut.



39. If damaged, remove lube fitting (47).



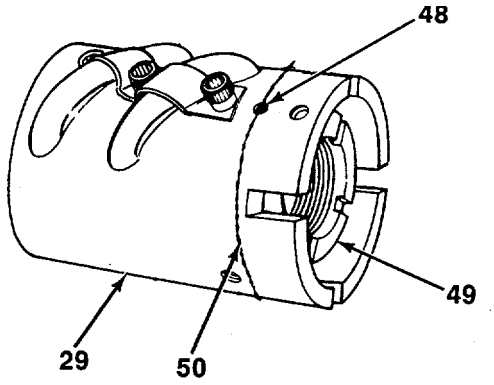
TA706542

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

40. Remove and discard lockwire (50).

41. Remove seal screw (48).

42. Hold seal (49) stationary and turn ball nut (29) clockwise to expose seal. Remove seal from ball nut and discard seal.



b. CLEANING AND INSPECTION

1. Remove all buildup of grease or dirt by wiping a with clean rag.

2. Remove old gasket material and sealing compound from mounting surfaces.

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

3. Immerse mounting surface parts in dry cleaning so lvent until all remaining sealing compound is softened and remove with a medium bristle brush.

WARNING

Dry cleaning solvent, P-D-680, Is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

4. Clean remaining parts with a clean rag or medium bristle brush and dry cleaning solvent and allow to dry.

5. Inspect for damaged or missing hardware.

6. Inspect bearings for unusual wear or abrasion.

TA706543

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

7. Inspect gears for wear.

8. Inspect for cracks, holes, warps, dents, and bends.

c. ASSEMBLY

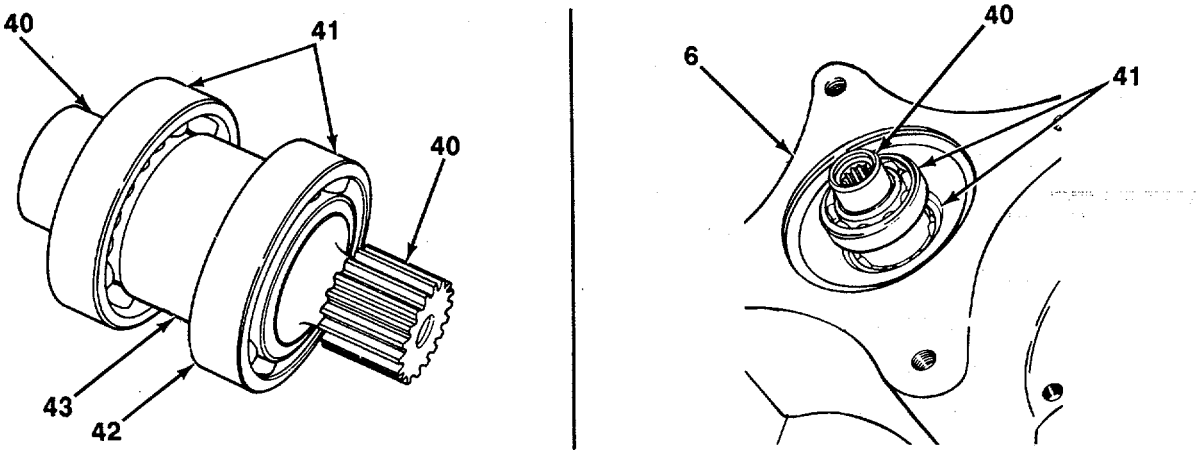
1. Install retaining ring (42) onto input gear (40).

2. Place input gear (40), with gear end up, onto arbor press; install one bearing (41) on input gear and press down to retaining ring (42) with bearing inserter (J-16116-F/A-F-15).

3. Turn over input gear (40) and install spacer tube (43) with counterbore fitting over retaining ring (42).

4. Install second bearing (41) on input gear (40) and press down to spacer tube (43) with bearing inserter (J-16116-F/A-F15).

5. Install input gear (40) and two bearings (41) into gear housing (6) and tap until seated.



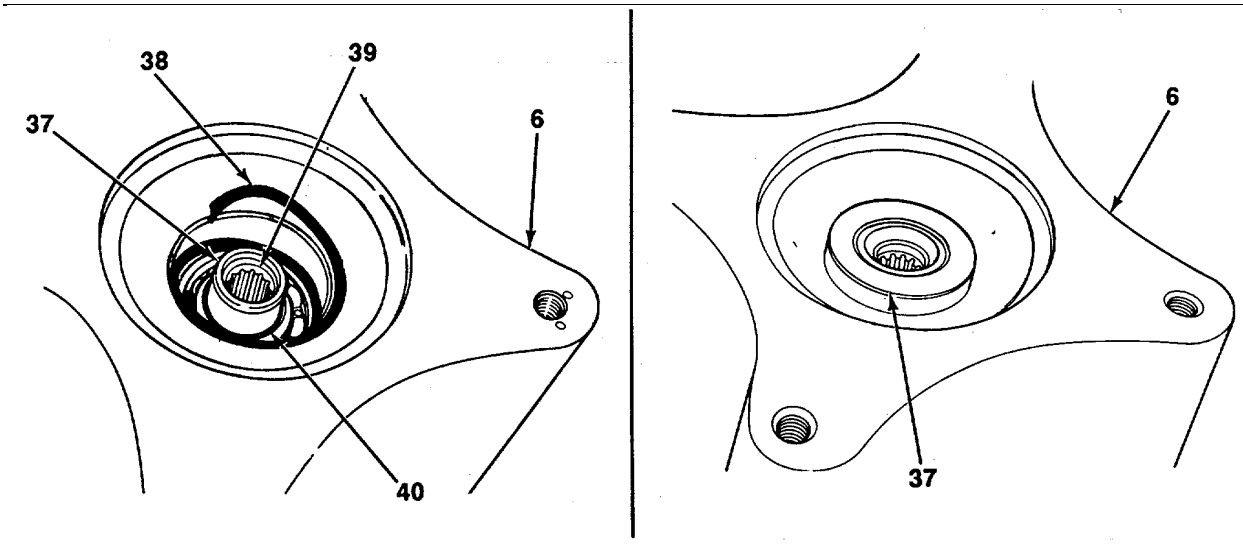
6. Install retaining ring (38) into gear housing (6).

7. Grease seal diameter (39) of input gear (40).

8. Install new seal (37) in gear housing (6) using seal inserter with open face toward retaining ring (38). Ensure that seal is bottomed against retaining ring.

TA706544

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).



CAUTION

DO NOT allow sealing compound to be contaminated with oil, dirt, dust, etc. during curing process.

NOTE
Circulating warm air, not to exceed 120°F (49°C), will accelerate curing time.

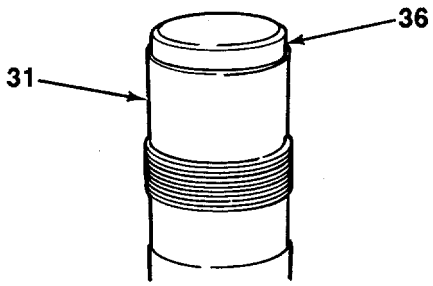
9. Apply sealing compound (Item 6, Appendix E) to inside edge of extension cover (31), then tap cap plug (36) into centerbore of extension cover until it bottoms against counterbore shoulder.

10. Apply sealing compound (Item 6, Appendix E) to cap plug (36) and extension cover (31). Allow sealing compound to cure for 72 hours.

11. Apply light film of grease to entire inside diameter of extension cover (31) and cap plug (36).

12. Place extension cover (31), with cap plug (36) up, in arbor press.

13. Apply light film of grease to bearing diameter on extension cover (31).



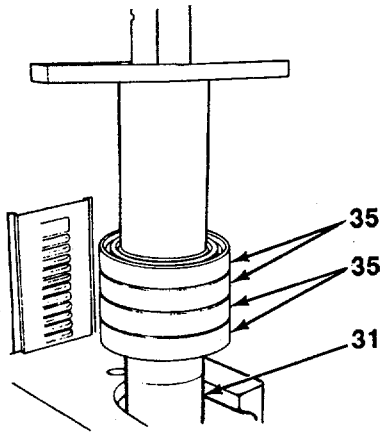
TA706545

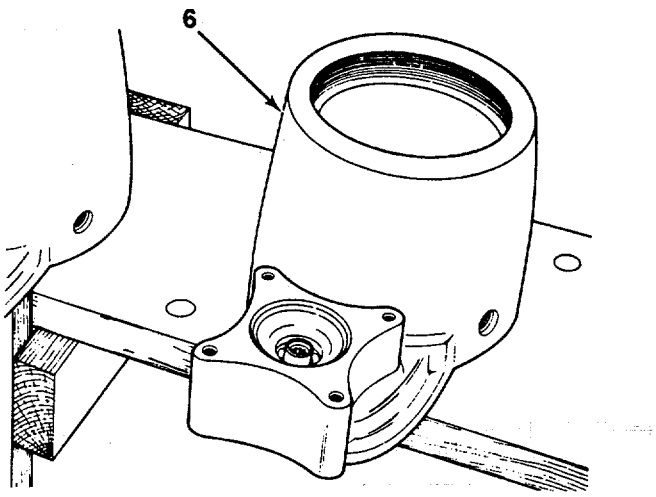
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't)

14. Press two bearings (35), with inner race thrust shoulders down, onto extension cover (31) using bearing inserter (J-16116-F/A-F8) until bearings bottom against shoulder.

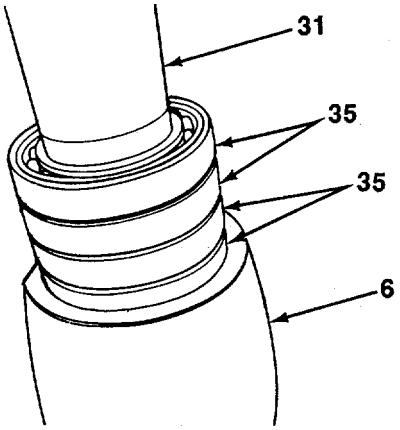
15. Press remaining two bearings (35), with inner race thrust shoulders up, onto extension cover (31) with bearing inserter (J-16116-F/A-F8) until bearings bottom against first two bearings.

16. Place gear housing (6) into vertical jig and apply thin film of grease to bearing bore in gear housing.





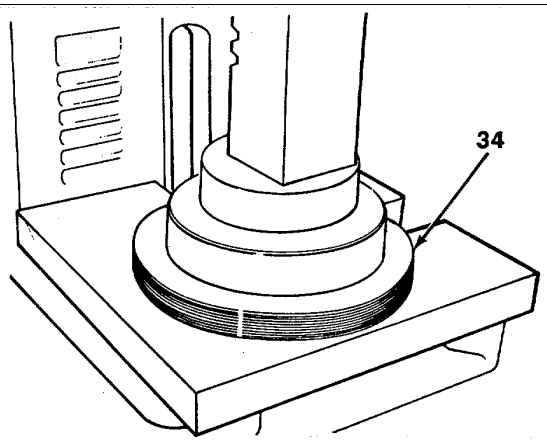
17. Install extension cover (31) with four bearings (35) into gear housing (6) until first bearing bottoms against gear housing shoulder.



TA706546

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

18. Press new seal into external threaded ring (34), with seal identification numbers up, using seal adapter. Ensure that seal bottoms out.



CAUTION

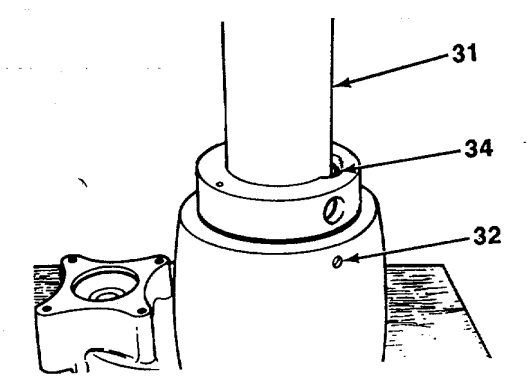
When Installing external threaded ring over extension cover, DO NOT damage seal.

19. Apply light film of grease over entire length of extension cover (31) and install external threaded ring (34) onto extension cover.

20. Apply sealing compound (Item 6, Appendix E) to threads of external threaded ring (34) and tighten securely with spanner wrench.

21. Apply sealing compound (Item 8, Appendix E) to threads of brass tip setscrew (32) and install brass tip setscrew.

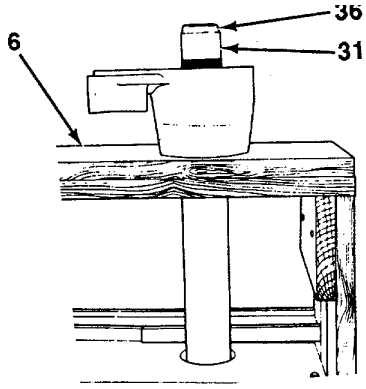
22. Fill cavity above brass tip setscrew (32) with sealing compound (Item 6, Appendix E).



TA706547

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

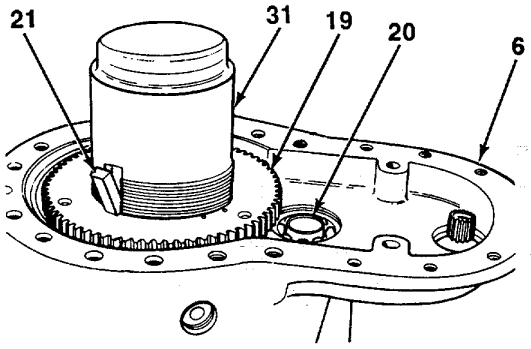
23. Install gear housing (6) into vertical jig with cap plug (36) end of extension cover (31) up.



24. If removed, install lower gearshaft bearing (20) into gear housing (6), tapping as necessary until lower gearshaft bearing bottoms against shoulder of bearing pocket.

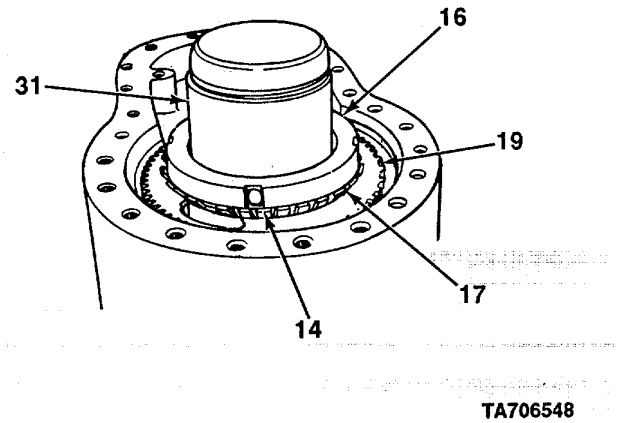
25. Line up keyways in output gear (19) with keyways in extension cover (31) and install output gear face up onto extension cover, tapping as necessary until output gear bottoms against lower gearshaft bearing (20).

26. Install key (21) into keyway and tap into position.



27. Install lockwasher (17) onto extension cover (31). Ensure that tab (14) on lockwasher is positioned in one of two keyways of output gear (19).

28. Install locknut (16) onto extension cover (31) and tighten securely.



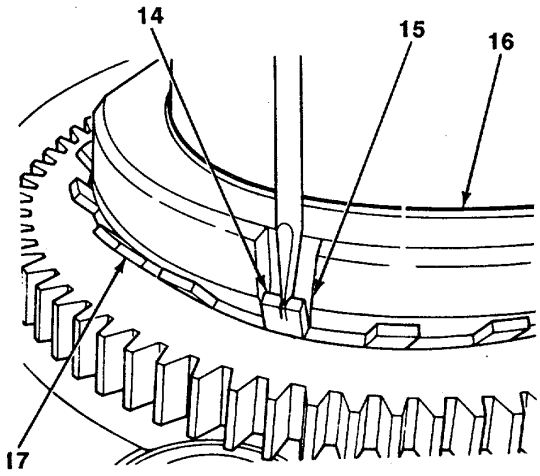
TA706548

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

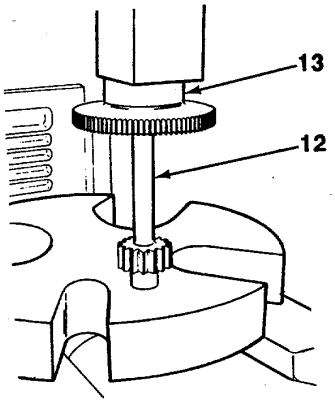
NOTE

It may be necessary to move locknut slightly (left or right) until one tab is alined with slot.

29. Bend up one tab (14) of lockwasher (17) into one slot (15) of locknut (16).



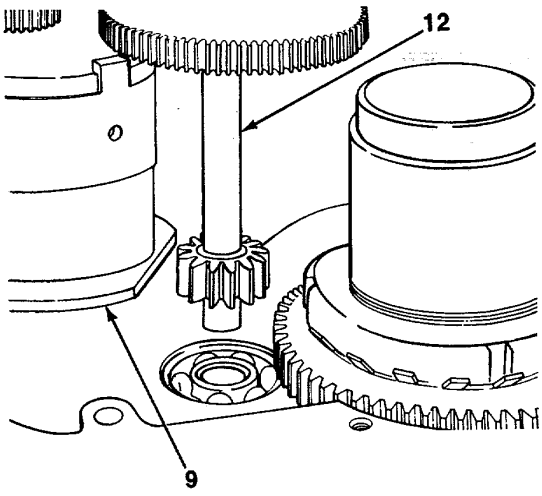
30. Press bearing (13) onto gearshaft (12) until bottomed against shoulder.



TA706549

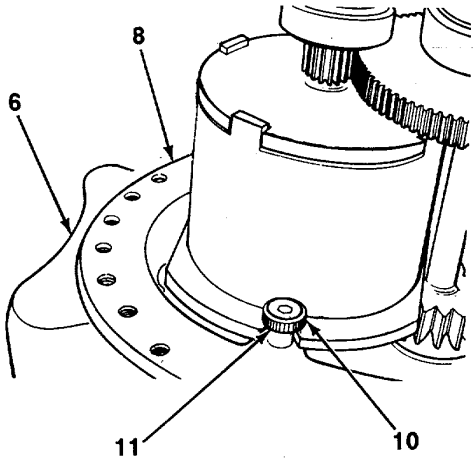
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

31. Simultaneously install no-back clutch assembly (9) and gearshaft (12) with upper gears in proper mesh.



32. Apply sealing compound (Item 8, Appendix E) to threads of two screws (10). Install two bearing washers (11) and screws. Tighten securely.

33. Apply sealing compound (Item 6, Appendix E) around outside edge of gasket surface on gear housing (6) and install new gasket (8) onto gear housing, lining up all holes.



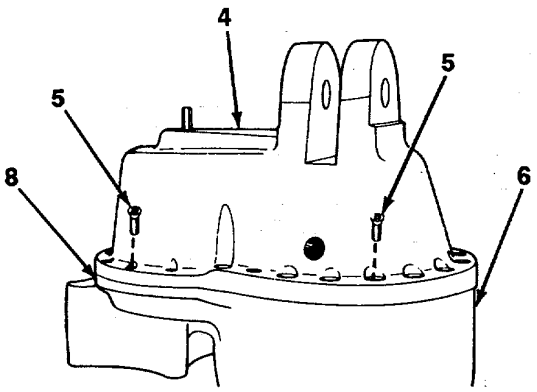
TA706550

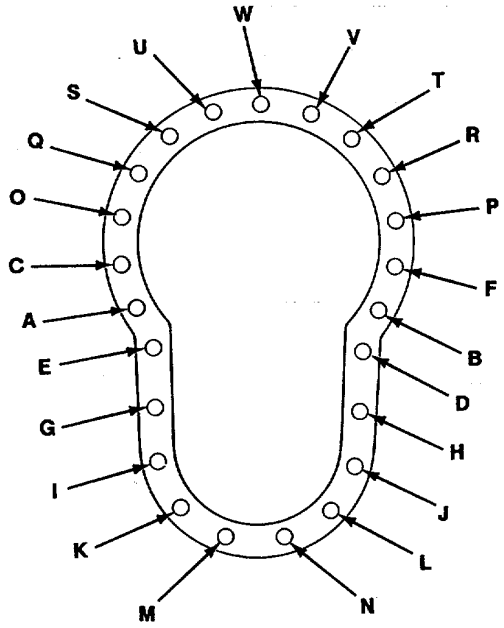
5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

34. Install gear housing cover (4) straight down onto gear housing (6), using dowel pin for alinement, and tap until gear housing cover is firmly seated against gasket (8).

NOTE
When Installing socket head screws, leave loose until ready to torque in sequence.

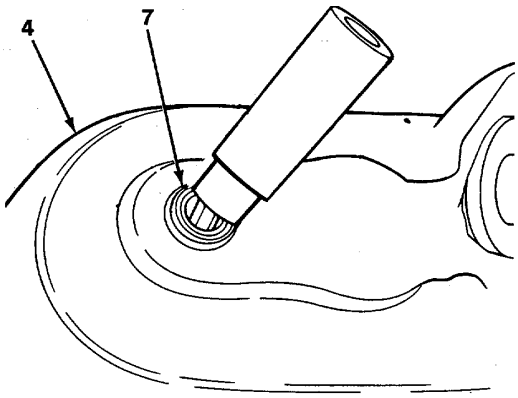
35. Install 23 socket head screws (5). Torque larger socket head screws to 435 lb.-in. (49 N •m) and smaller socket head screws to 114-124 lb.-in. (13-14 N •m) in torque sequence illustrated.





TORQUE SEQUENCE

36. Apply film of grease to seal diameter on manual drive shaft and install new seal (7), closed face out, tapping with arbor adapter until seal bottoms against shoulder in gear housing cover (4).



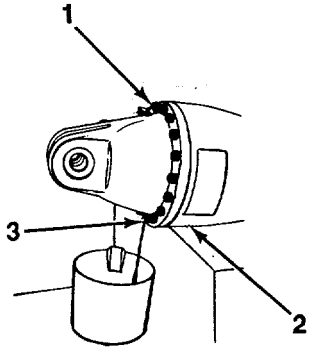
TA706551

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

37. Apply sealing compound (Item 6, Appendix E) to threads in upper drain plug (1) and lower drain plug (3).

38. Install lower drain plug (3) into outrigger actuator assembly (2).

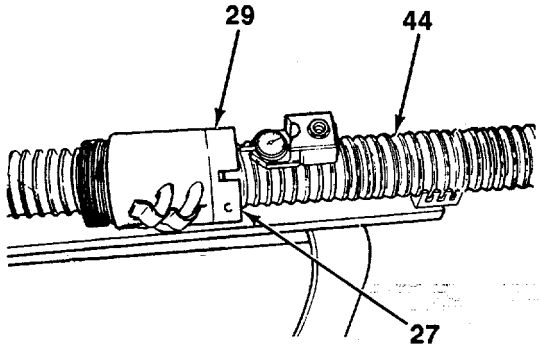
39. Install outrigger actuator assembly (2) in horizontal jig with lower drain plug (3) down and fill gear housing with two quarts of hydraulic fluid. Install upper drain plug (1).



40. Install ball screw subassembly (27) in v-blocks on surface plate and clamp both ends to v-blocks and table.

41. Install C-clamp on ball nut (29) with C-clamp handle resting on edge of surface plate to keep ball nut from rotating on ball screw (44).

42. Install magnetic base indicator on ball screw (44) with stylus on end face of ball nut (,29).



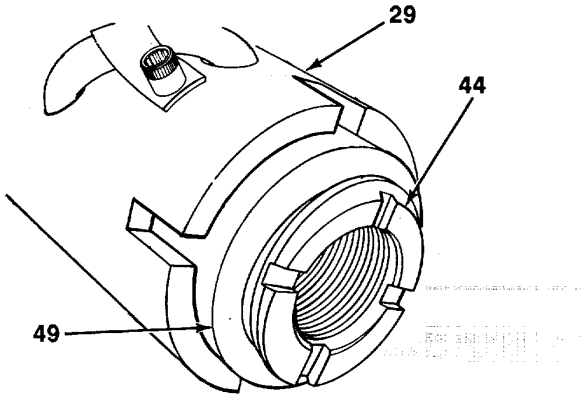
NOTE

If backlash is more than 0.013 In. (0.33 mm), ball screw subassembly must be replaced.

43. Push and pull on ball nut (29) to read magnetic base indicator. Repeat procedure at three equally spaced positions. Backlash should not be more than 0.013 in. (0.33 mm).

44. Install ball screw subassembly (27) in vertical jig and thread new seal (49) onto ball screw (44) with larger outside diameter surface outward.

45. Hold seal (49) and rotate ball nut (29) counter-clockwise over seal until outward face of seal is flush with bottom of slots in ball nut.



TA706552

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

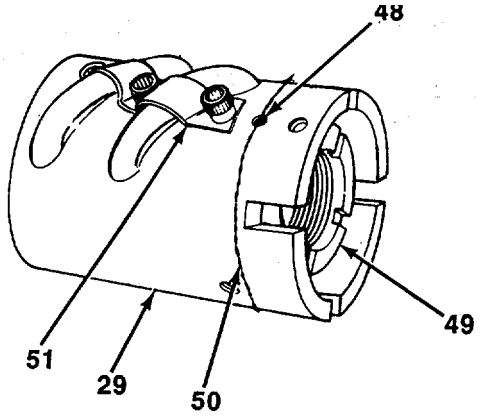
CAUTION

While drilling seal, DO NOT damage threads of hole in ball nut.

46. Drill Y64 in. hole through steel shell of seal (49), using threaded hole in ball nut (29) nearest return tube clamp (51).

47. Install seal screw (48) into ball nut (29) and tighten until seated in seal (49).

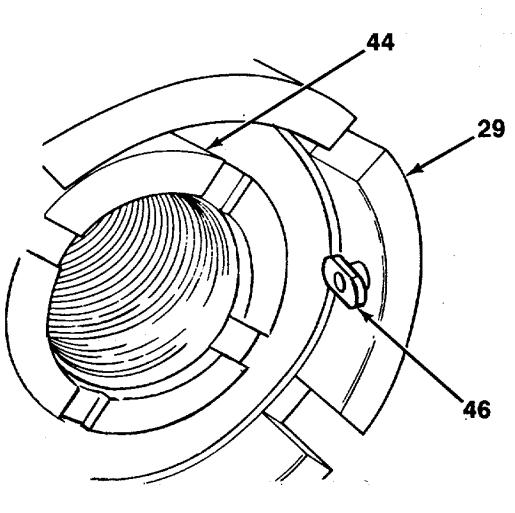
48. Install new lockwire (50) onto ball nut (29).

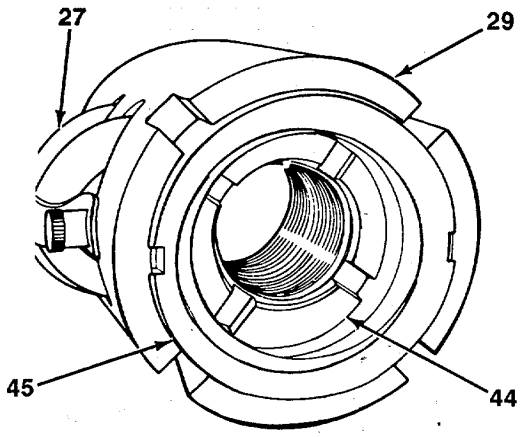


NOTE

If ice scraper cannot be started on ball screw thread, remove ice scraper and rotate 180°.

49. Rotate ball nut (29) % in. past end face of ball screw (44) and install two ice scraper pins (46) and ice scraper (45) into ball nut. Turn ball nut clockwise to bring ball screw through ice scraper.





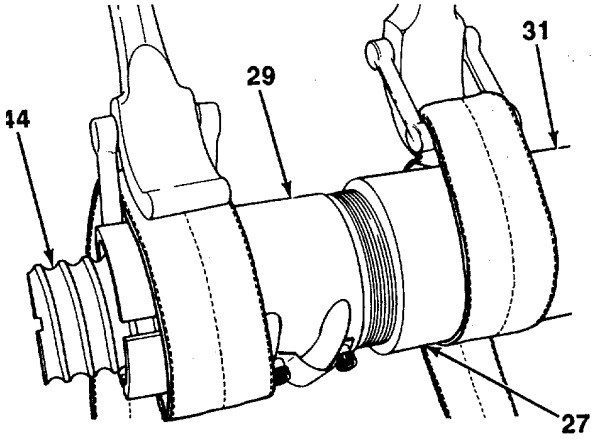
TA706553

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

50. Apply grease to entire length of ball screw (44).

51. Apply sealing compound (Item 6, Appendix E) to threads of ball nut (29).

52. Place ball screw subassembly (27) in horizontal jig. Install ball screw (44) into extension cover (31). Thread ball nut (29) into position and tighten securely.

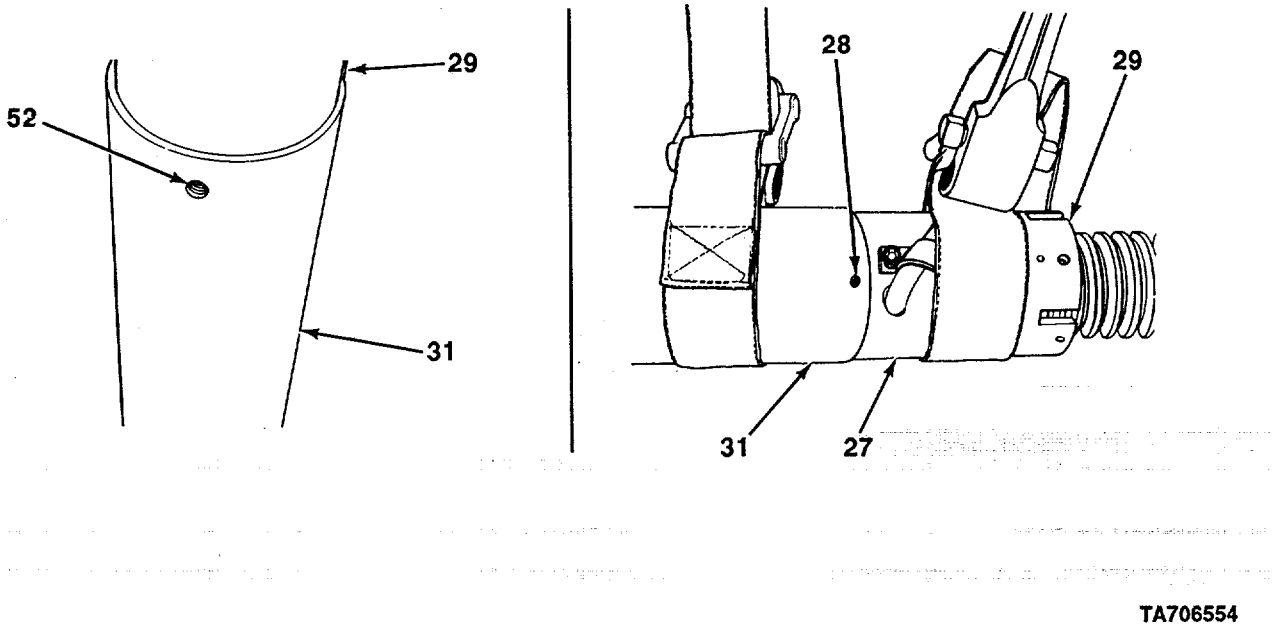


CAUTION

DO NOT damage threads of hole In extension cover.

53. Drill complete Y4 in. drill bit point into ball nut (29) threads using threaded hole (52) in extension cover (31) as locater hole.

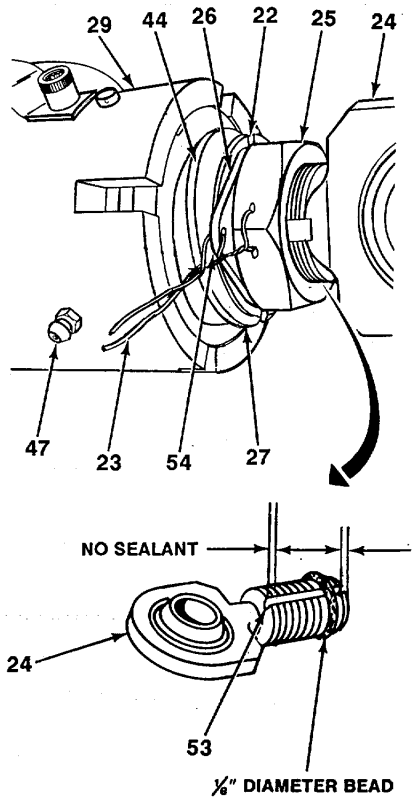
54. Install setscrew (28) into extension cover (31) and tighten until seated in ball nut (29).



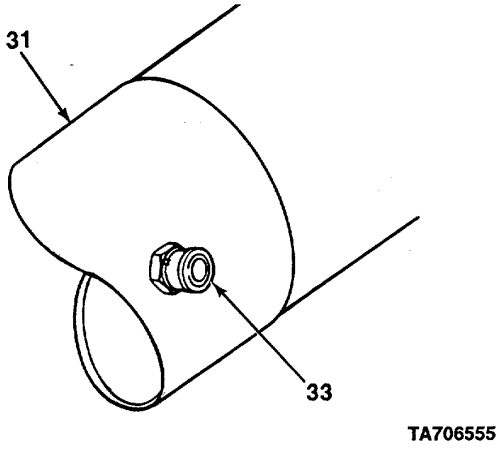
TA706554

5-11. OUTRIGGER ACTUATOR ASSEMBLY REPAIR (Con't).

55. If removed, install lube fitting (47) into ball nut (29).
56. Install jamnut (25) onto shank of rod end (24) as far as it will go.
57. Install lockwasher (26) onto shank of rod end (24) with flat face of lockwasher against jamnut (25) and lockwasher tang (54) in key slot.
58. Fill keyway (53) with adhesive until flush with thread outside diameter for full length of keyway. Allow to set for one hour.
59. Approximately in. (0.64 cm) from start of threads of rod end (24), apply X in. diameter bead of adhesive to full diameter of rod end.
60. Wipe ball screw subassembly (27) end face and fill four slots (22) with adhesive.
61. Ensure that lockwasher tang (54) is engaged in ball screw subassembly (27) face slot (22).
62. Tighten jamnut (25) against lockwasher (26) and ball screw (44).
63. Install new lockwire (23) to lockwasher (26) and jamnut (25).



64. Install air vent (33) into extension cover (31).



- Install outrigger drive motor (para 4-50).
- Install outrigger actuator onto semitrailer (para 4-48).

5-12. OUTRIGGER DRIVE MOTOR THERMAL SWITCH REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:
- Outrigger drive motor removed (see paragraph 4-50).

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set

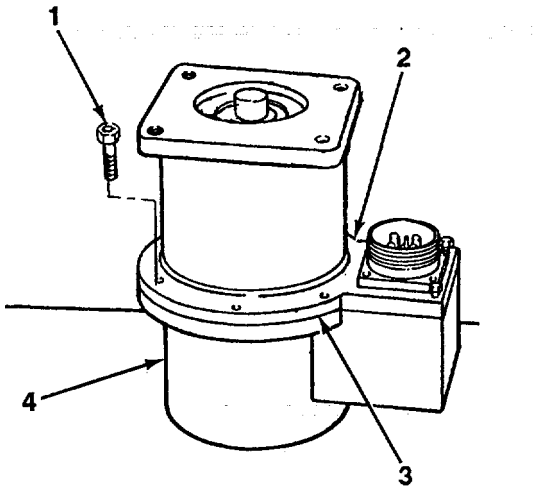
Materials/Parts:
- Sealing compound (Item 7, Appendix E)
- Solder (Item 15, Appendix E)
- Nonelectrical wire (Item 20, Appendix E)
  One gasket

References:
- TB SIG 222

NOTE
This task only applies to outrigger drive motors produced by Westinghouse.

a. REMOVAL

1. Remove eight bolts (1) from rear cover (4).
2. Remove rear cover (4) and gasket (3) from outrigger drive motor housing (2). Scrape all gasket material from both rear cover and outrigger drive motor housing. Discard gasket.



3. Mark outrigger drive motor housing (2) and end bell (9) to aid during installation.
4. Cut lacing wire (7) from four brush hold-down screws (8). Discard lacing wire.
5. Remove two screws (6), washers (5), and end bell (9) from outrigger drive motor housing (2).

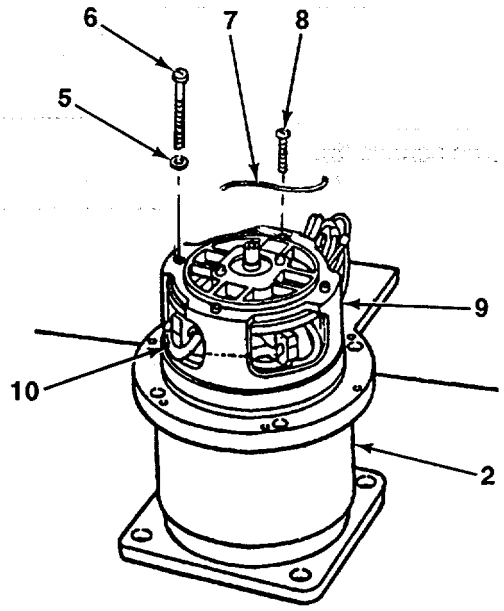
TA706556

5-12. OUTRIGGER DRIVE MOTOR THERMAL SWITCH REPLACEMENT (Con't).

NOTE
DO NOT remove ground brush screws.

6. Pull four brushes (10) from brush holders until brush spring moves to side of brush.

7. Remove screw and disconnect field positive lead wire from side of electrical switch.



CAUTION

DO NOT allow washers and nuts to drop inside outrigger drive motor. Outrigger drive motor will have to be replaced if they cannot be recovered.

8. Remove two screws, washers, and nuts which hold thermal switch (11) in place against rear of outrigger drive motor housing (2).

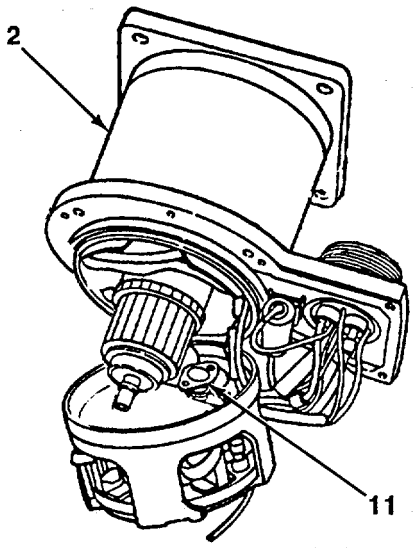
9. Unsolder two wires, which come from pin E and pin F to thermal switch (11) (TB SIG 222).

b. INSTALLATION

1. Solder two wires from pin E and pin F to thermal switch (11) (TB SIG 222).

2. Install thermal switch (11) against rear of outrigger drive motor housing (2) with two nuts, washers, and screws.

3. Connect field positive lead wire to side of electrical switch with screw.



TA706557

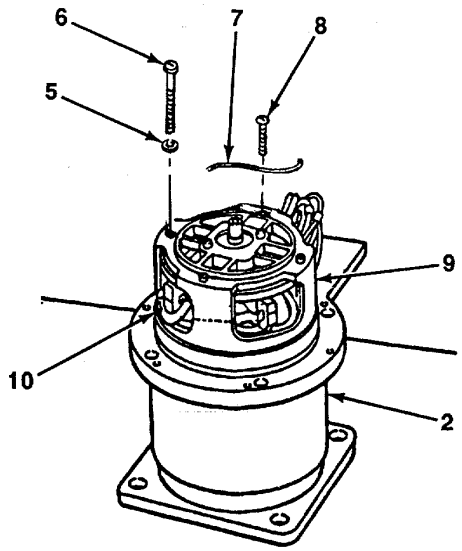
5-12. OUTRIGGER DRIVE MOTOR THERMAL SWITCH REPLACEMENT (Con't).

NOTE
Ensure that brush spring Is over end of brush for proper seating and contact.

4. Push four brushes (10) into brush holders.

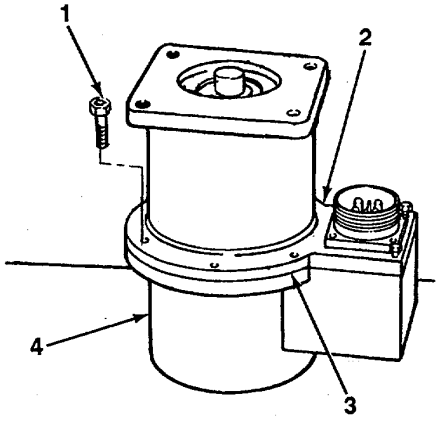
5. Install new lacing wire (7) through four brush hold-down screws (8).

6. Aline marks made during removal and install end bell (9) on outrigger drive motor housing (2) with two washers (5) and screws (6).



7. Apply sealing compound to gasket sealing surfaces of rear cover (4) and outrigger drive motor housing (2).

8. Install new gasket (3) and rear cover (4) on outrigger drive motor housing (2) with eight bolts (1). Torque bolts to 18-22 lb.-in. (2.0-2.5 N•m).



TA706558

FOLLOW-ON TASKS:

- Test outrigger drive motor (see paragraph 4-50).
- Install outrigger drive motor (see paragraph 4-50).

Section VI. SUSPENSION MAINTENANCE.

5-13. SPRING MAINTENANCE.

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:
- Bogie assembly re moved (para 5-7).
- Axles slipped off springs (para 5-7).

Tools/Test Equipment:
- General mechanic's tool kit
- Field automotive shop set
- Suitable lifting device

Materials/Parts:
- Brush (Item 4, Appendix E)
- Rags (Item 14, Appendix E)
- Dry cleaning solvent (Item 16, Appendix E)
- Four lockwashers

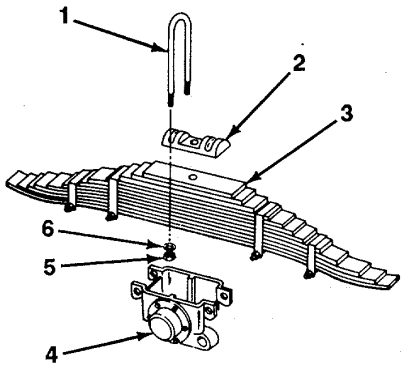
Personnel Required: Three

WARNING

Use extreme caution when handling heavy parts. Lifting device Is required when parts weigh over 50 lb (23 kg) for a single person lift, over 100 lb (45 kg) for a two person lift, and over 150 lb (68 kg) for a three or more person lift. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause serious injury or death to personnel.

a. REMOVAL

1. Remove four nuts (5), lockwashers (6), two U-bolts (1), and saddle (2). Discard lockwashers.
2. Remove springs (3) from spring seat (4).

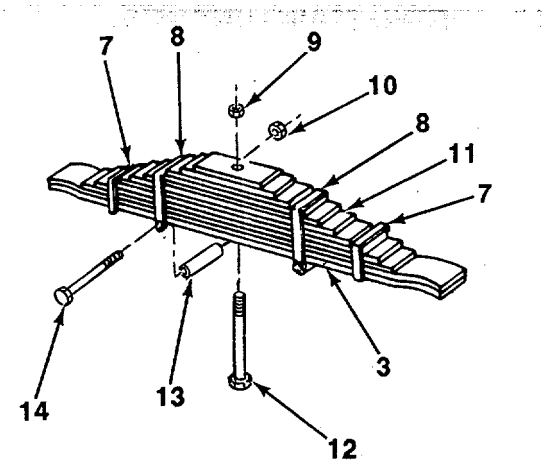


TA706559

5-13. SPRING MAINTENANCE (Con't).

b. DISASSEMBLY

1. Remove two alinement cli ps (7) from springs (3).
2. Remove two screws (14), spacers (13), nuts (10), and alinement clips (8).
3. Remove bolt (12) and nut (9).
4. Separate individual spring leaves (11) as necessary.



c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point Is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, Immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Remove all buildup of grease or dirt by using a clean rag or medium bristle brush and dry cleaning solvent, and allow to dry.
2. Inspect parts for cracks, wear, distortion, or damage.

d. ASSEMBLY

1. Assemble individual spring leaves (11), and install bolt (12) and nut (9).
2. Install two alinement clips (8) with two nuts (10), spacers (13), and screws (14).
3. Install two alinement clips (7) to springs (3).

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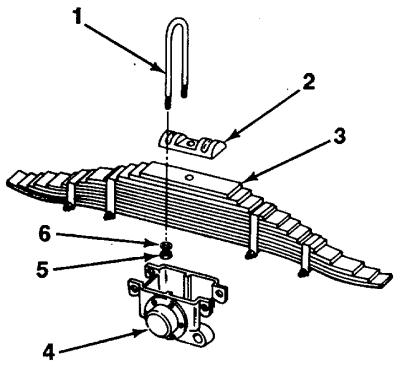
5-13. SPRING MAINTENANCE (Con't).

e. INSTALLATION

1. Install springs (3) to spring seat (4).

2. Install saddle (2), two U-bolts (1), four new lock-washers (6), and nuts (5). Torque nuts to 650-750 lb.-ft. (881-1017 N-m).



5-12#1

FOLLOW-ON TASKS:

- Install axles to springs (para 5-7).
- Install bogie assembly (para 5-7).

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APPENDIX A
REFERENCES

A-1. SCOPE.

This appendix lists all forms, field manuals, technical manuals, and other publications referenced in this manual which apply to the Operation and the Unit, Direct Support, and General Support Maintenance of the M860A1 Flatbed Semitrailer.

A-2. PUBLICATION INDEX.

DA Pam 25-30, *Consolidated Index of Army Publications and Blank Forms,* should be consulted frequently for latest changes or revisions and for new publications relating to materiel covered in this technical manual.

A-3. FORMS.

Refer to DA Pam 738-750, *The Army Maintenance Management System (TAMMS),* for instructions on the use of maintenance forms.

Equipment Inspection and Maintenance ..... Worksheet DA Form 2404
Equipment Log Assembly (Records) ..... DA Form 2408
Maintenance Request Form ..... DA Form 2407
Organizational Control Record for Equipment ..... . DA Form 2401
Preventive Maintenance Schedule and Record ..... . DD Form 314
Processing and Deprocessing Record for Shipment, Storage and Issue of
Vehicles and Spare Engines ..... DD Form 1397
Product Quality Deficiency Report ..... SF Form 368
Recommended Changes to Equipment Technical Publications .... DA Form 2028-2
Recommended Changes to Publications and Blank Forms ..... DA Form 2028
Report of Discrepancy (ROD) .... SF 364

A-4. FIELD MANUALS.

Army Motor Transport Units and Operation ..... FM 55-30
Basic Cold Weather Manual .... FM 31-70
Camouflage . ..... FM 20-3
Desert Operations ..... FM 90-3
Field Hygiene and Sanit ation..... ... FM 21-10
First Aid for Soldiers ..... FM 21-11
Manual for Wheeled Vehicle Driver ..... FM 21-305
NBC Contamination Avoidance ..... FM 3-3
NBC Decontamination ..... FM 3-5
NBC Protection ..... .FM 3-4
Northern Operations ..... FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0°F to -65 °F) ..... FM 9-207
Railway Operating and Safety Rules ..... FM 55-21

A-5. TECHNICAL BULLETINS.

Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment ..... TB 43-0209
Description, Use, Bonding Techniques, and Properties of Adhesives ..... TB ORD 1032
Equipment Improvement Report and Maintenance Digest (U.S. Army Tank-Automotive Command) Tank-Automotive Equipment ..... TB 43-0001-39 Series
Maintenance in the Desert ..... TB 43-0239
Soldering Methods and Equipment ..... TB SIG 222
Tactical Wheeled Vehicles: Repair of Frames ..... TB 9-2300-247-40

A-6. TECHNICAL MANUALS.

Inspection, Care, and Maintenance of Antifrictio n Bearings ..... TM 9-214
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Other Related Materials Including Chemicals ..... TM 9-247
Operator's Manual for Display Aided Maintenance Support Data Radar Set, Semitrailer Mounted: AN/MPQ-53 (Patriot Air Defense Guided Missile System) .. TM 9-1430-601-10-2
Operator's Manual for Engagement Control Station, Truck Mounted: AN/MXQ 104 (Patriot Air Defense Guided Missile System) ..... TM 9-1430-600-10
Operator's Manual for Launching Station, M901 Guided Missile, Semitrailer Mounted (Patriot Air Defense Guided Missile System) ..... TM 9-1440-600-10
Operator's Manual for M977 Series, 8x8, Heavy Expanded, Mobility Tactical Trucks (HEMTT) Including Truck, Tractor, with Winch, Without Crane, M983 (NSN 2320-01-097-247) ..... TM 9-2320-279-10
Operator's Manual for Radar Set, Semitrailer MTD, AN/MPQ-53 (Patriot Air Defense Guided Missile System) ..... TM 9-1430-601-10-1
Operator's Manual for Welding Theory and Application ..... TM 9-237
Operator's, Unit, Direct Support, and General Support Maintenance Manual for Care, Maintenance, Repair, and Inspection of Pneumatic Tire and Inner Tubes ..... TM 9-2610-200-14
Painting Instructions for Army Material ..... TM 43-0139
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use ..... TM 750-244-6
Railcar Loading Procedures ..... TM 55-601
Storage and Materials Handling ..... TM 743-200-1

A-7. OTHER PUBLICATIONS.

Army Logistics Readiness and Sustainability ..... AR 700-138
Army Medical De partment Expendable/Durable Items ..... CTA 8-100
Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items) ..... CTA 50-970
Storage, Serviceability Standard: Tracked Vehicles, Wheeled Vehicles, and Component Part ..... SB 740-98-1

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at the various maintenance levels.

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 levels.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. **Service**. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), 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.

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 third position of the SMR code.

B-2. MAINTENANCE FUNCTIONS (Con't).

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 COLUMNS IN THE MAC, SECTION II .

a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. **Column 2, Component/Assembly.** Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For a detailed explanation of these functions, refer to paragraph B-2.)

d. **Column 4, Maintenance Level.** Column 4 specifies, by the listing of a *work time* figure in the appropriate subcolumn(s), the level 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 level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designations for the various maintenance levels are as follows:

C ..... Unit (Operator or Crew)
O ..... *Unit (Organizational) Maintenance*
F..... *Direct Support Maintenance*
H ..... *General Support Maintenance*
D ..... *Depot Maintenance*

e. **Column 5, Tools and Equipment.** Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. **Column 6, Remarks.** This column shall, when applicable, contain a letter code, in 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 1, Tool or Test Equipment 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 level 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/NATO Stock Number**. The National or NATO Stock Number of the tool or test equipment.

e. **Column 5, Tool Number**. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. **Column 1, Reference Code**. The code recorded in Column 6, Section II.

b. **Column 2, Remarks**. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT	DS	GS	DEPOT			
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	TOOLS AND EQUIPMENT	REMARKS
06	**ELECTRICAL SYSTEM**								
0608	*Miscellaneous Items*								
	Circuit Breaker Box	Replace		0.3				1	
		Repair		0.3				1	
	Master Relay Box Assembly	Replace		0.5				1	
	Outrigger Relay Box Assembly	Test		0.3				2,3	
		Replace		0.5				1	
		Repair			1.0			1,4	
	Control Panel Assembly	Replace		0.5				1,2,3	
		Repair		0.5				1,2,3	
0609	Outrigger Limit Switches	Adjust		0.5				1,2	
		Replace		0.5				1,2	
	Lights								
	Composite Light Assembly	Inspect		0.1					
		Replace		0.5				1	
		Repair		0.5				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT	DS	GS		DEPOT		
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	TOOLS AND EQUIPMENT	REMARKS
0609	*Lights (Con't)*								
	Marker Light Assembly	Inspect		0.1					
		Replace		0.5				1	
		Repair		0.5				1,2	
	Leveling Device Light Assembly	Replace		0.5				1	
		Repair		0.5				1,2	
0613	*Hull or Chassis Wiring Harness*								
					2.0			1	
	Master Relay Wiring Harness	Inspect		0.5				1,2	
		Replace							
		Repair		1.0					
	Power Source-to-Outrigger Relay Wiring Harness	Inspect		0.5					
		Replace			3.0			1	
		Repair		1.0				1,2	
	Control Panel Wiring Harness	Inspect		0.5					
		Replace		1.0				1	
		Repair		1.0				1,2	
	Outrigger Relay Wiring Harness	Inspect		0.5					
		Replace		0.5				1	
		Repair		1.0				1,2	
	Outrigger Interlock Wiring Harness	Inspect		0.5					
		Replace			2.0			1	
		Repair		1.0				1,2	
	Lighting System Wiring Harness	Inspect		0.5					
		Replace				2.0		1	
		Repair		1.0				1.2	
11	**REAR AXLE**								
1100	*Rear Axle Assembly*								
	Bogie Assembly	Inspect	0.2						
		Replace			6.0			1,4	
		Repair			2.0			1,4	
	Axle Assembly	Replace			6.0			1,4	
	Trunnion Assembly	Inspect			0.5				
		Service		0.5				1	
		Replace			6.0			1,4	
		Repair			1.0			1,4	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT	DS	GS		DEPOT		
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	TOOLS AND EQUIPMENT	REMARKS
12	**BRAKES**								
1202	*Service Brakes*								
	Service Brake Assembly	Inspect		0.5					
		Adjust		0.5				1,2	
		Replace		1.5				1,2	
		Repair		1.5				1,2	
1208	*Airbrake System*								
	Lines and Fittings	Inspect		0.3					
		Replace		0.4				1,2	
		Repair		0.4				1,2	
	Airbike Chamber Services Brakes	Replace		0.8				1	
	Fall-Safe Airbrake Chamber	Replace		1.0				1	
	Emergency Relay Valve	Replace		1.0				1	
	Air Reservoir Assembly	Service	0.1						
		Replace		1.5				1	
	Air Filters	Replace		0.3				1	
		Service		0.3				1	
13	**WHEELS AND TRACKS**								
1311	Wheel Assembly	Inspect	0.2						
		Replace	0.5						
	Hub and Brakedrums	Inspect		0.2					
		Replace		1.0				1,2	
		Repair		0.5				1	
1313	Tires, Tubes, Tire Chains								
	Tires	Inspect	0.1						
		Service	0.2						
		Replace		0.5				1,2,3	
		Repair			1.0			1,4	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT	DS	GS		DEPOT		
			C	O	F	H	D		
15	**FRAME, TOWING ATTACHMENTS, DRAW-BARS, AND ARTICULA-TION SYSTEMS**								
1503	*Pintles and Towing Attachments*								
	Fifth Wheel Kingpin	Inspect	0.2						
		Services	0.2						
		Replace			1.0			4,5,6	
1507	*Landing Gear, Leveling Jacks*								
	Landing Leg	Inspect	0.2						
		Replace		1.0				1,2	
		Repair		0.5				1,2	
	Outriggers	Inspect	0.2						
		Replace		1.0				1,2	
		Repair		0.5				1,2,3	
	Outriggers Actuator Assembly	Inspect	0.2					1,2	
		Replace		1.5				1,4,7,8, 9,10,11,12	A
		Repair				4.0			
	Outrigger Brackets	Replace		3.0				1,2	
	Outrigger Drive Motor Assembly	Test		0.5				2,3	
		Replace		1.0				1,2	
		Repair			1.0			1,4	
16	**SPRINGS AND SHOCK ABSORBERS**								
1601	*Springs*								
	Spring Assembly	Inspect	0.2						
		Replace			2.0			1,4	
		Repair			3.0			1,4	
	Spring Bumpers	Inspect		0.1					
		Replace		0.3				1	
	Spring Sets	Inspect	0.1						
		Replace			3.5			1,4	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4) MAINTENANCE LEVEL					(5)	(6)
			UNIT	DS	GS		DEPOT		
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	C	O	F	H	D	TOOLS AND EQUIPMENT	REMARKS
1605	*Torque, Radius, and Stabilizer Rods*								
	Torque Rods	Inspect	0.1						
		Replace		1.0				1,2	
18	**BODY, CAB, HOOD, AND HULL**								
1801	*Body, Cab, Hood, and Hull Assemblies*								
	Splashguard	Replace		0.4				1	
1802	*Fenders, Running Boards with Mounting and Attaching Parts, Outriggers, Windshield, Glass, Etc.*								
	Fenders	Replace		1.0				1,2	
1808	*Stowage Racks, Boxes, Straps, Carrying Cases, Cable Reels, Hose Reels, Etc.*								
	Stowage Box	Replace		1.0				1	
		Repair		1.0				1	
22	**BODY, CHASSIS, AND HULL ACCESSORY ITEMS**								
2202	*Accessory Items*								
	Chock Block Assembly	Replace		0.5				1	
2210	*Data Plates and Instruction Holders*								
	Data Plates	Replace		0.3				1	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL UNIT C	DS O	GS F	DEPOT H	DEPOT D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
47	**GAGE (NONELECTRICAL), WEIGHTING AND MEASURING DEVICES**								
4702	*Gages, Mounting, Lines, and Fittings*								
	Leveling Device	Inspect	0.1						
		Adjust		0.5				1	
		Replace		0.5				1,2	
		Repair		0.5				1,2	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) Tool or Test Equipment Reference Code	(2) Maintenance Level	(3) Nomenclature	(4) National/Nato Stock Number	(5) Tool Number
1	O,F,H	Tool Kit, General Mechanic's, Automotive	5180-00-177-7033	
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	
3	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Supplemental No. 1, Less Power	4910-00-754-0643	
4	F,H	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Basic, Less Power	4910-00-754-0705	
5	F	Shop Equipment, Welding, Field Maintenance	4940-00-357-7260	
6	F,H	Tool Kit, Welder's	5180-00-754-0661	
		DIRECT SUPPORT SPECIAL TOOLS		**J-1618-F/A-F12**
7	F	Arbor Adapter	5120-01-125-0531	**J-16116-F/A-F15** **J-16116-F/A-F8**
8	F	Bearing Inserter	5120-01-124-5061	**J16116-F/A-F17** **J16116-F/A/F7**
9	F	Bearing Inserter	5120-01-124-5059	**J16116-F/A/F39**
10	F	Seal Inserter	5120-01-124-5062	
11	F	Seal Inserter	5120-01-125-0573	
12	F	Spanner Wrench		

Section IV. REMARKS

(1) Reference Code	(2) REMARKS
A	Repair of outrigger actuator assembly is assigned to specialized repair activity.

APPENDIX C
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists Components of End Item and Basic Issue Items for the M860A1 Flatbed 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 (COEI)**. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b**. Section III. Basic Issue Items (BII).** 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 upon TOE/MTOE authorizations of the end item.

C-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listing:

a. **Column (1) - Illustration Number (Illus Number)**. This column indicates the number of the illustration in which the item is shown.

b. **Column (2) - National Stock Number**. Indicates the National Stock Number (NSN) assigned to the item and will be used for requisitioning purposes.

c. **Column (3) - Description**. Indicates the Federal Item Name and, if required, a description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code in parentheses, followed by the part number. If item needed differs or different models of this equipment, the model is shown under the "Usable On Code" heading in this column.

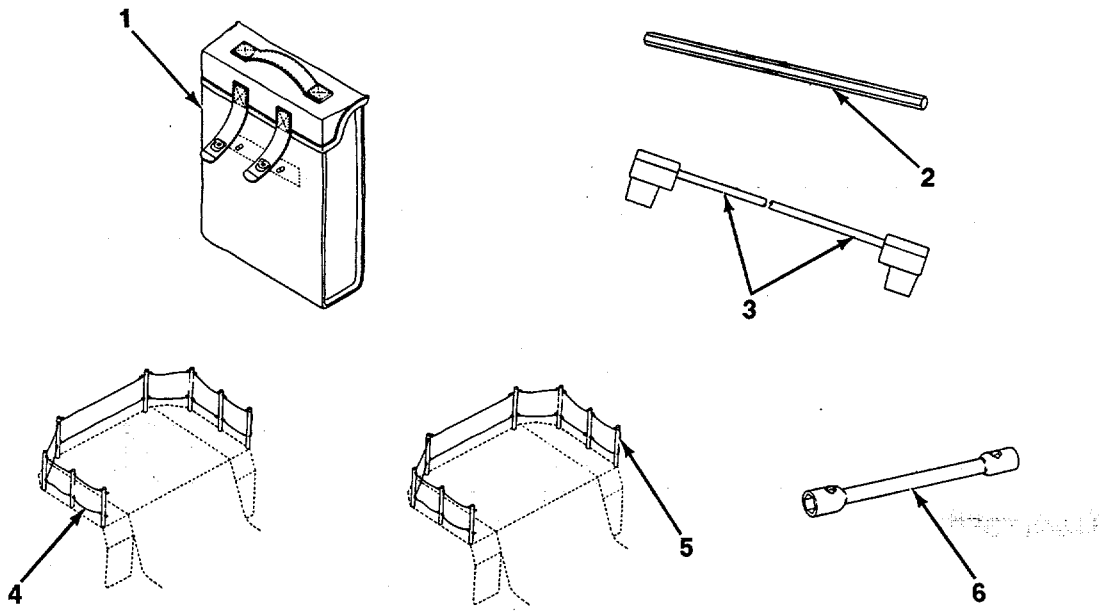
d. **Column (4) - Unit of Measure (U/M)**. Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr).

e. **Column (5) - Quantity Required (Qty Req'd)**. Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

The semitrailer currently does not have any Components of End Item assigned.

Section III. BASIC ISSUE ITEMS



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable Code	(4) U/M	(5) Qty Reg'd
1	2540-00-670-2459	Bag Assembly, pamphlet (19207 7961712		ea	1
2	5120-00-243-2419	Bar, Socket Wrench Handle (19207) 6196147		ea	1
3	6150-01-022-6004	Cable Assembly (M860A1) (19207) 11682336		ea	1
4	4020-01-090-7630	Rope, Fibrous (Guardrail) (19207) 12296211-1		ea	1
5	2510-01-090-0953	Stake, Vehicular (Guardrail) (19207) 122960208		ea	8
6	5120-00-316-9217	Wrench, Socket (19207) 11677000-3		ea	1

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APPENDIX D
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists additional items you are authorized for the support of the M860A1 Flatbed 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 COLUMNS.

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. If item required differs for different models of this equipment, the model is shown under the "usable on" heading in the description column.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National Stock Number	(2) Description CAGE and Part Number	(3) U/M	(4) Qty Auth
5120-01-160-9635	Bit, Screwdriver, ¼ In. Shank (03705) 440-TX40	ea	1
2510-00-741-7585	Board, Ground (Jack) (19207) 7417585	ea	2
5340-00-980-9277	Strap, Webbing (19207, 10900880	ea	2

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 M860A1 Faltbed 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),* or CTA 8-100, *Army Medical Department Expendable/Durable Items.*

E-2. EXPLANATION OF COLUMNS.

a. **Column (1)-item Number**. This number is assigned to the entry in the listing and is referenced in the "Initial Setup" of maintenance paragraphs or narrative instructions to identify the material needed (e.g., Dry cleaning solvent, Item 16, Appendix E).

b. **Column (2) - Level**. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

c. **Column (3)- National Stock Number**. This is the National Stock Number assigned to the item; use it to request or requisition the item.

d. **Column (4)- Description**. Indicates the Federal Item Name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code in parentheses followed by the part number, if applicable.

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 (CAGE) Part Number	(5) U/M
1	O		ADHESIVE: General Purpose, Type II (81348) MMM-A-167	
		8040-00-664-4318	1 Pint Can	pt
2	O		BARRIER MATERIAL: Greaseproof, Waterproofed, Flexible (81349) MIL-B-121	
		8135-00-171-0930	1 Yard Roll	yd
3	O	8020-00-297-6658	BRUSH: Paint, Oval, Type I, Class 2, Style 10, 1/8 Inch Wide (81348) H-B-491	ea
4	C	7920-00-061-0038	BRUSH: Scrub (81348) H-B-1490	ea
5	F	7320-00-900-3577	BRUSH: Wire (17987) 15SS	ea
6	O	8030-00-226-1129	COMPOUND: Sealing (83574) PR-1422 A-2	ea
7	F		COMPOUND: Sealing (05972) 569-31	
		8030-00-339-0310	1 Bottle	ea
8	O		COMPOUND: Sealing (80244) MIL-S-22473	
		8030-00-833-9116	1 Bottle	ea
9	C		DETERGENT: General Purpose, Liquid (81349) MIL-D-16791	
		7930-00-282-9699	1 Gallon Can	gl
10	O		FLUID, HYDRAULIC: Petroleum Base (81349) MIL-H-5606	
		9150-00-252-6383	1 Quart Can	gt
		9150-00-223-4134	1 Gallon Can	gl
		9150-00-082-7524	10 Gallon Can	gl
		9150-00-265-3408	55 Gallon Drum	gl

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description (CAGE) Part Number	(5) U/M
11	O		GREASE: Automotive and Artillery, GAA (81349) MIL-G-10924	
		9150-01-197-7693	14 Ounce Cartridge	oz
		9150-01-197-7690	13/4 Pound Can	lb
		9150-01-197-7689	6X Pound Can	lb
		9150-01-197-7692	35 Pound Pail	lb
		9150-01-197-7691	120 Pound Drum	lb
12	O		OIL: Lubricating, Internal Combustion Engine, Tactical Service, OE/HDO 15W/40 (81349) MIL-L-2104	
		9150-01-152-4117	1 Quart Can	qt
		9150-01-152-4118	5 Gallon Can	gl
		9150-01-152-4119	55 Gallon Drum	gl
13	O		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 Can	gl
		9150-00-189-6729	55 Gallon Drum	gl
14	C		RAG: Wiping, Cotton and Cotton-synthetic, White (58536) A-A-531	
		7920-0-205-1711	50 Pound Bale	lb
15	F		SOLDER: Lead Alloy (81348) QQ-S-571	
		3439-00-247-6921	1 Pound Bar	lb
		3439-00-265-7102	1 Pound Spool/Roll	lb
16	C		SOLVENT: Dry Cleaning, Type II (81349) P-D-680	
		6850-00-110-4498	1 Pint Can	pt
		6850-00-664-5685	1 Quart Can	qt
		6850-00-281-1985	1 Gallon Can	gl
		6850-00-274-5421	5 Gallon Can	gl
		6850-00-110-4498	55 Gallon Drum	gl
		6850-00-285-8011	55 Gallon Drum	gl

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description (CAGE) Part Number	(5) U/M
17	O		TAG: Marker (81349) MIL-T-12755	
		9905-00-537-8954	50 Each	ea
18	O		TAPE: Insulation, Electrical (81348) HH-1-510	
		5970-00-198-8621	85 Foot Roll	ft
19	F		VARNISH: Moisture-proof (81349) MIL-V-173	
		8010-00-180-6343	1 Quart Can	qt
20	F		WIRE: Nonelectrical (81346) ASTM A580	
		9505-00-554-0100	1 Pound Roll	lb

APPENDIX F
REPAIR PARTS AND SPECIAL TOOLS LISTS

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 support, and general support maintenance of the M860A1 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**. A list of spares and repair parts authorized by this RPSTL for use In the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

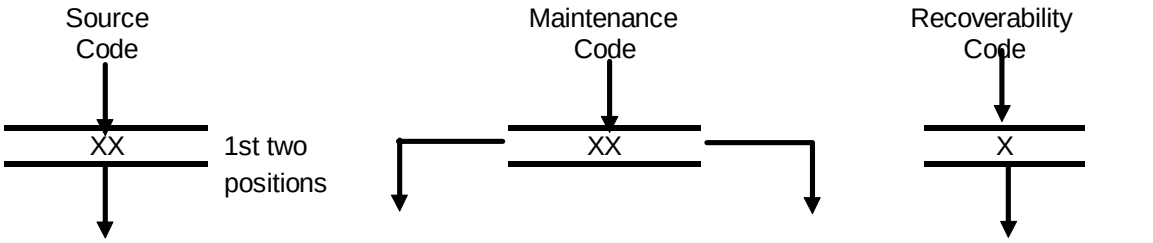
b. **Section III. Special Tools List**. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL [as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE column] for the performance of maintenance.

c. **Section IV. Cross-reference Indexes**. A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration/figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, CAGE, and part numbers.

F-3. EXPLANATION 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 category authorization criteria, and disposition instruction, 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.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(1) Source Code. The source code tells you ho w to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Code	*Application/Explanation*
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition Items with these source codes. They are authorized to the category indicated by the code entered In the 3d position of the SMR code. *** 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 category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO - Made at UM/AVUM Level *MF - Made at DS/AVUM Level* *MH - Made at GS Level* *MD - Made at Depot*	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the *DESCRIPTION AND USABLE ON CODE (UOC)* column and listed in the bulk materiel 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.
AO - Assembled by UM/ AVUM Level *AF - Assembled by DS/ AVUM Level* *AH - Assembled by GS Level* *AD - Assembled at De-pot*	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 indicted by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates that the item is assembled at a higher level, order the item from the higher level of maintenance.

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."

XA - DO NOT requisition an "XA"-coded item. Order its next higher assembly.
XB - If an "XB" item is not available from salvage, order it using the CAGE and part number given.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

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 CAGE and part number given, if no NSN is available.

(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 unit maintenance or aviation unit maintenance.
O	- Unit maintenance or aviation unit 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.

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.

(b) The maintenance code entered in the fourth position tells whether or not the Item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized *"Repair"* functions). This position will contain one of the following maintenance codes:

Code	*Application/Explanation*
O	- Unit maintenance or aviation unit is the lowest level that can do complete repair of the item.
F	- Direct support or aviation Intermediate is the lowest level than 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.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

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

Code	Application/Explanation
Z	- Nonreparable item. When unservic eable, condemn and dispose of the item at the level of maintenance shown in the ad position of the SMR code.
O	- Reparable item. When uneconomically reparable, condemn and dispose of the item at unit maintenance or aviation unit level.
F	- Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate level.
H	- Reparable item. When uneconomically reparable, condemn and dispose of the Rem at the general support level.
D	- Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L	- Reparable item. Condemnation and disposal of item not authorized bee low specialized repair activity (SRA).
A	- Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals /directives for specif ic instructions.

c. **CAGEG (Column (3)1).** The Commercial and Goverment Entity (CAGE) Code (C) is a 5-digit alphanumeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

NOTE

When you use an NSN to requisition an Item, the Item you receive may have a different part number from the part ordered.

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.

e. **DESCRIPTION AND USABLE ON CODE (UOC) [Column (5)].** This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the Item.

(2) Physical security classification. Not Applicable.

(3) Items that are included in kits and sets are listed below the name o f 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.

(7) The usable on code, when applicable (see paragraph F-5, Special Information).

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(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 Hem 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 invariable 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**. mis column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., NSN 5305-01-674-1467). Yemen using this column to locate an item, Ignore the first 4 digits of the NSN. Howev- NIIN er, the complete NSN should be used when ordering Items by stock number.

(2) *FIG*. **column**. This column lists the number of the figure where the item is identified/located. The figures are in numerical order In Section II and Section III

(3) *ITEM* **column**. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **Part Number Index.** Part numbers in this index are listed by part number In ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter o! digit of each group in order A through Z. followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) *CAGEC* **column**. The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) *PART NUMBER* **column**. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards and inspection requirements to identify an item or range of items.

(3) *STOCK NUMBER* **column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGE columns to the left.

(4) *FIG*. **column**. This column lists the number of the figure where the item is identified/located in Section 11 and Section lilt

(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 Sections II and lilt

(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.

F-4. SPECIAL INFORMATION (Con't).

(4) *CAGEC* **column** The Commercial and Government Entity (CAGE) Code (C) Is a 5-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(5) *PART NUMBER* **column**. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards and inspection requirements to identify an item or range of items.

F-5. SPECIAL INFORMATION.

a. **Usable On Code**. The usable on code appears in the lower left corner of the Description column heading. Not Applicable.

b. **Fabrication Instructions**. Bulk materials required to manufacture items are listed in the Bulk Materiel 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 Instructions**. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in Chapters 4 and 5. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. **Kits**. Line item entries for repair parts kits appear in group 9401 in Section II.

e. **Index Numbers**. Items which have the word BULK in the FIG. column will have an index number shown in the item column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk materiel list in Section II.

F-6. HOW TO LOCATE REPAIR PARTS.

a. **When National Stock Number or Part Number Is Not Known**:

(1) **First.** Using the Table of Contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the 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 use the Figure and Item Number Index to find the NSN.

b. **When National Stock Number or Part Number Is Known**:

(1) **First**. Using the National Stock Number or Part Number Index, find the pertinent National Stock Number or Part Number. The NON Index is in National Item Identification Number (NIIN) sequence [see paragraph F-4.a(1)]. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence (see paragraph 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.

For standard abbreviations see MIL-STD-12D, Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents.

Abbreviations	Explanation
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL	Repair Parts and Special Tools Lists

1	
2 THRU 14	

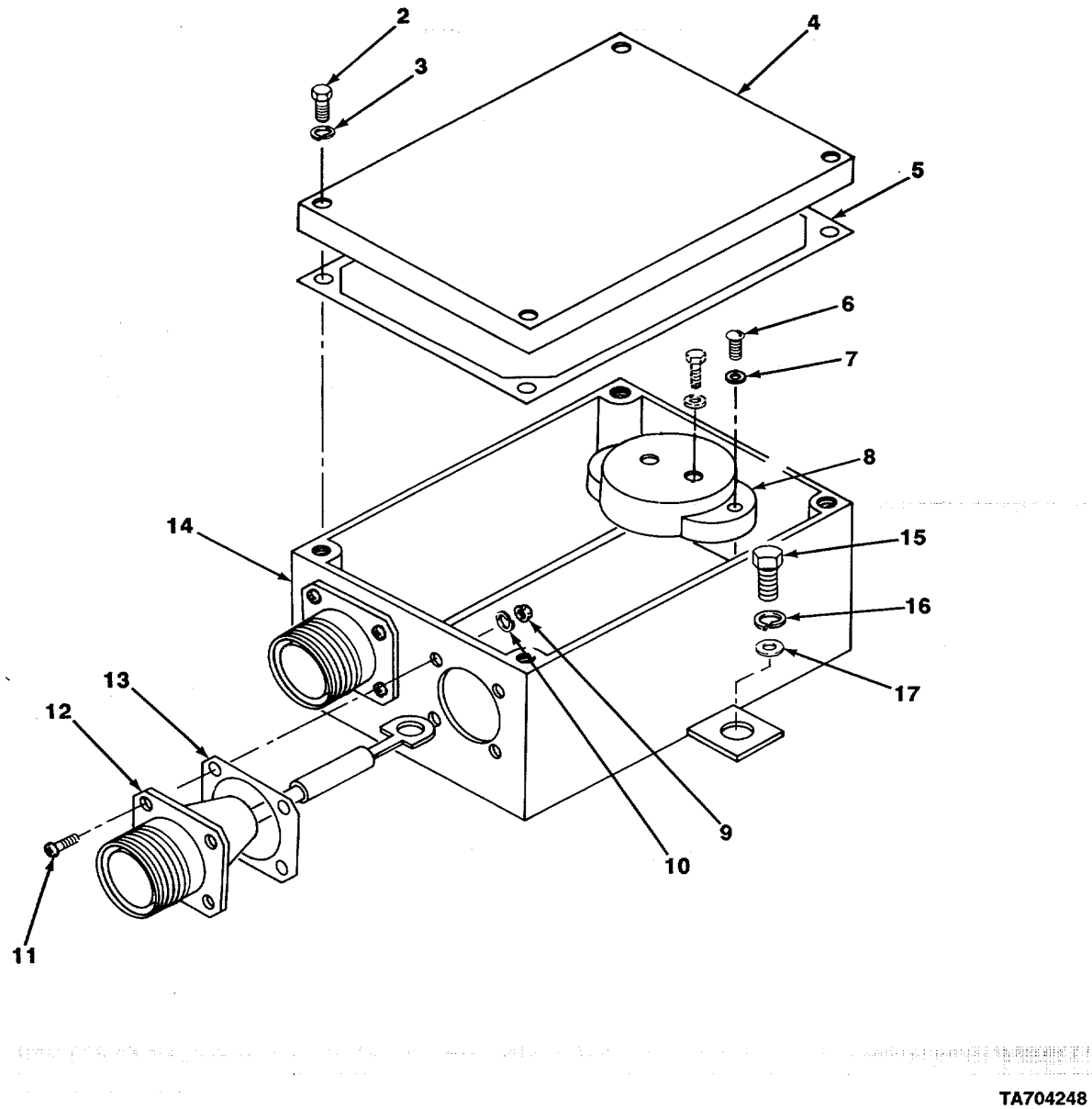


FIGURE 1. CIRCUIT BREAKER BOX ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 06 ELECTRICAL SYSTEM	
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 1 CIRCUIT BREAKER BOX ASSEMBLY	
1	PAOZZ	19207	12259647	CIRCUIT BREAKER BOX BOX ASSEMBLY	1
2	PAOZZ	96906	MS90725-6	.SCREW, CAP, HEXAGON H BOX COVER	4
3	PAOZZ	96906	MS35338-44	.WASHER, LOCK BOX COVER.....	4
4	PAOZZ	19207	12259649	.COVER, ACCESS CIRCUIT BREAKER BOX	1
5	PAOZZ	19207	12259653	.GASKET USE ADHESIVE MMM-A-1617 TYPE 1 TO SECURE TO BOX COVER.	1
6	PAOZZ	96906	MS35207-267	.SCREW, MACHINE CIRCUIT BREAKER	2
7	PAOZZ	96906	MS35338-43	.WASHER, LOCK CIRCUIT BREAKER.....	2
8	PAOZZ	81349	M13516/7-8	.CIRCUIT BREAKER 90 AMPER£S.....	1
9	PAOZZ	96906	MS35649-282	.NUT, PLAIN, HEXAGON LEAD ASSEMBLY.....	8
10	PAOZZ	96906	MS35338-42	.WASHER,LOCK LEAD ASSEMBLY	8
l1	PAOZZ	96906	MS35206-Z45	.SCREW,MACHINE LEAD ASSEMBLY	8
12	PAOZZ	19207	12259654	.LEAD,ELECTRICAL CIRCUIT BREAKER.....	2
13	PAOZZ	96906	MS52000-8	.GASKET CKT BREAKER LEAD ASSY	2
14	PAOZZ	19207	12259648	.CIRCUIT BREAKER BOX CIRCUIT BREAKER.....	1
15	PAOZZ	96906	MS90726-31	BOLT, MACHINE	2
16	PAOZZ	96906	MS35340--45	WASHER, LOCK	2
17	PAOZZ	96906	MS27183-12	WASHER, FLAT	2

END OF FIGURE

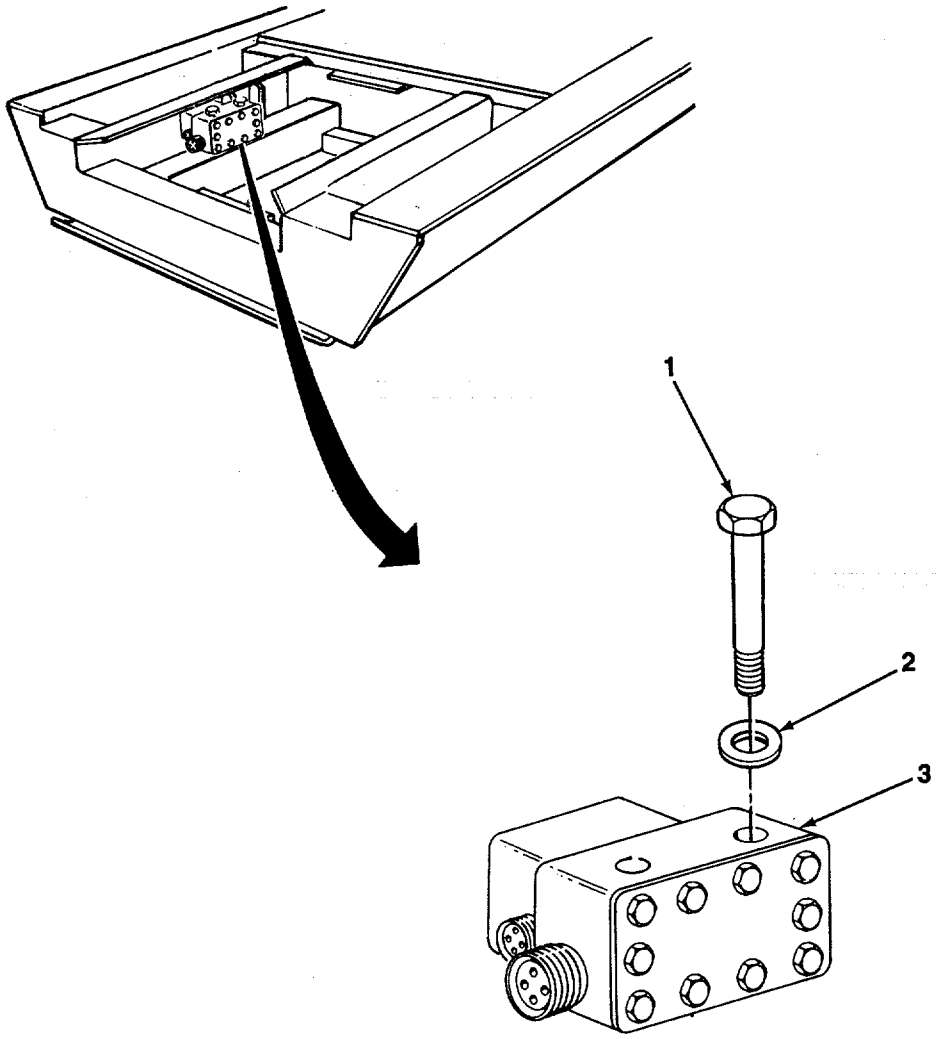


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FIGURE 2. MASTER RELAY BOX ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 2 MASTER RELAY BOX ASSEMBLY	
1	PAOZZ	96906	MS90726-47	SCREN,CAP,HEXAGON H	2
2	PAOZZ	96906	MS35340-45	WASHER,LOCK	2
3	PAOZZ	19207	10894808	RELAY AND HOUSING A	1

END OF FIGURE

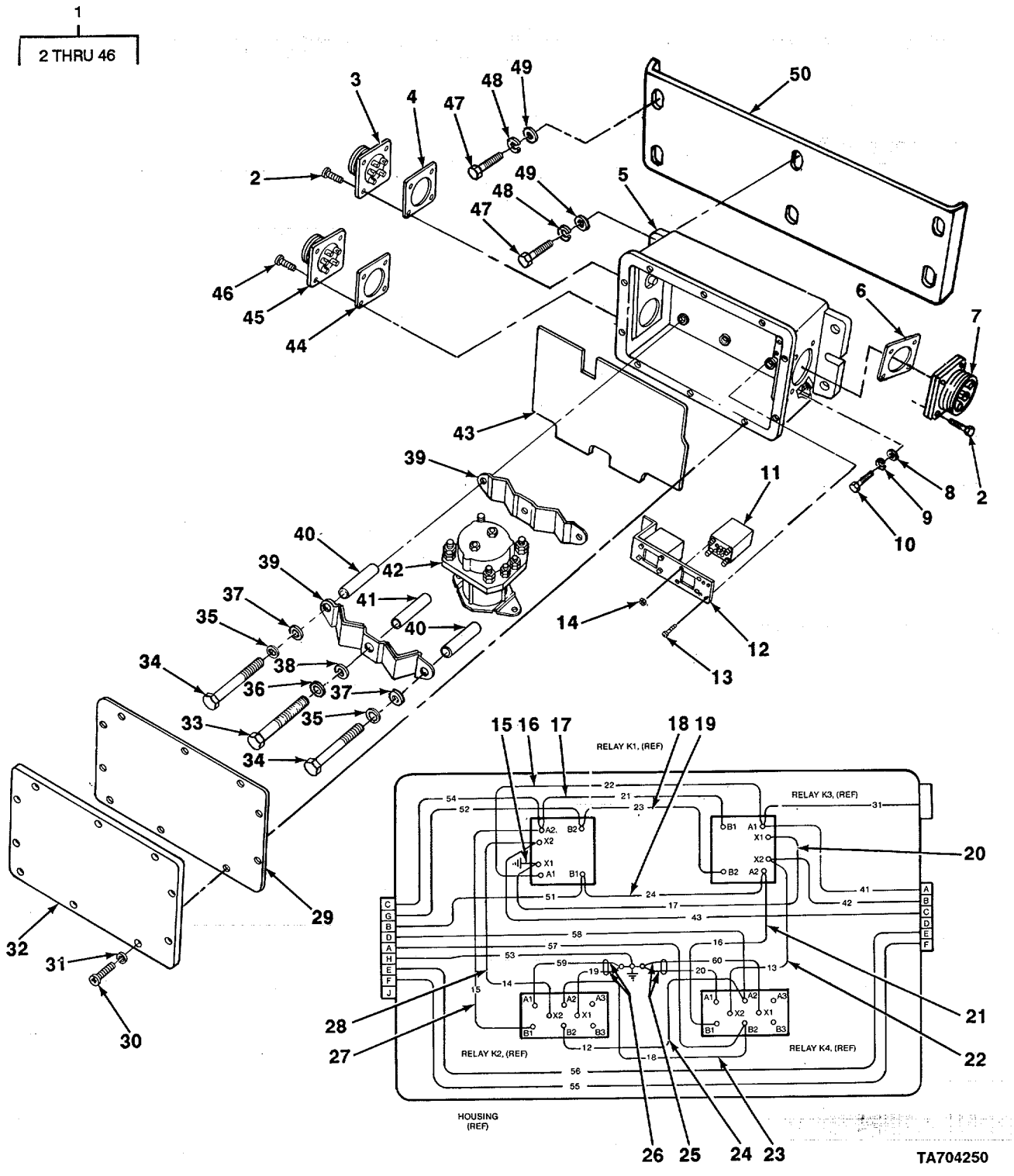

FIGURE 3. OUTRIGGER RELAY BOX ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 3 OUTRIGGER RELAY BOX ASSEMBLY	
1	PAOFF	19207	12343383	RELAY ASSEMBLY	4
2	PAFZZ	96906	MS35206-229	.SCREW, MACHINE	8
3	PAFZ2	192C7	12343370	.LEAD, ELECTRICAL	1
4	PAFZZ	96906	MS52000-5	.GASKET	1
5	PAFZZ	19207	12343381	.COVER, ELECTRICAL RE	1
6	PAFZZ	96906	MS52000-10	.GASKET	1
7	PAFZZ	19207	12343372	.LEAD ASSEMBLY, ELECT	1
8	PAFZZ	96906	JS27183-9	.WASHER, FLAT.	1
9	PAFZZ	96906	MS35335-33	.WASHER, LOCK	1
10	PAFZZ	96906	MS90725-3	.SCREEN, CAP, HEXAGON	1
11	PAFZZ	96906	MS25273-D1	.RELAY, ELCCTROMAGNET	2
12	PFFZZ	19207	12343380	.BRACKET, ANGLE.	1
13	PAFZZ	96906	MS35206-245	.SCREW, MACHINE.	4
14	PAFZZ	96906	M535649-262	.NUT, PLAIN, HEXAGON	9
15	PFFZZ	19207	lZ343386-1	.LEAD, ELECTRICAL	1
16	PFFZZ	19207	1234337Y-1	.INSULATOR, STRAIN.	1
17	PFFZZ	19207	12343379-2	.INSULATOR, STRAIN	1
18	PFFZ2	19207	12343379-3	.INSUIATOR, STRAIN	1
19	PFFZZ	19207	12343379-4	.INSULATOR, STRAIN.	1
20	PFFZZ	19207	12343386-7	.LEAD, ELECTRICAL	1
21	PfFZ2	19207	12343385-6	.LEAD, ELECTRICAL.	1
22	PFFZZ	19207	12343386-3	.LEAD, ELECTRICAL	.1
23	PFFZZ	19207	12343336-8	.LEAD, ELECTRICAL.	1
24	XDFZZ	19207	12343386-2	.LEAD ASSY, ELECTRICA.	1
25	PFFZZ	19207	12343384-2	.LEAD ASSEMBLY, ELECT	1
Z6	PFFZZ	19207	12343384-1	.LEAD ASSEMBLY, ELECT	1
Z7	PFFZZ	19207	12343386-5	.LEAD, ELECTRICAL	1
28	PFFZZ	19207	12343386-4	.LEAD, ELECTRICAL	1
29	PAFZZ	19207	1Z343368	.GASKET	1
30	PAFZZ	96906	MS35190-272	.SCREW, MACHINE	10
31	PAFZZ	969Q6	MS35336-21	.WASHER, LOCK	13
32	PFFZZ	19207	12343367	.COVER, ACCESS.	1
33	PAFZZ	96906	MS90728-92	.SCREW, CAP,HEXAGON H	1
34	PAF2Z	80204	B1821BH031C250N	.BOLT, MACHINE	2
35	PAFZZ	96906	MS27183-11	.WASHER, FLAT	2
36	PAFZZ	96906	MS35335-36	.WASHER, LOCK	1
37	PAFZZ	96906	MS35335-34	.WASHER, LOCK	2
38	PAFZZ	96906	MS27183-15	.WASHER, FLAT	1
39	PBFZZ	19207	12343377	.CLAMP, RIM CLENCHING	2
40	PFFZZ	19207	12343374-2	.SPACER, SLEEVE	2
41	PFFZZ	19207	12343374-1	.SPACER, SLEEVE	1
42	PAFZZ	81352	AN3362	.RELAY, ELECTROMAGNET	2
43	PFFZZ	19207	12343378	.INSULATCR, PLATE.	1
44	PAFZZ	96906	MS52000-8	.GASKET.	1
4S	PAFZZ	19207	12343371	.LEAD, ASSEMBLY, ELECT	1
46	PAFZZ	96906	MS35206-262	.SCREW, MACHINE	4
47	PAOZZ	96906	MS90726-33	.BOLT, MACHINE KIT ONLY CONTAINS 4 PART OF KIT P/N 5705722	6

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
48	PAOZZ	96906	MS35340-45	WASHER, LOCK KIT ONLY CONTAINS 4 PART OF KIT PIN 5705722	6
49	PAOZZ	96906	MS27183-12	WASHER,FLAT KIT ONLY CONTAINS 4 PART OF KIT P/N 5705722	6
50	PFOZZ	19207	12343373	PLATE,MOUNTING PART OF KIT P/N 5705122	1

END OF FIGURE

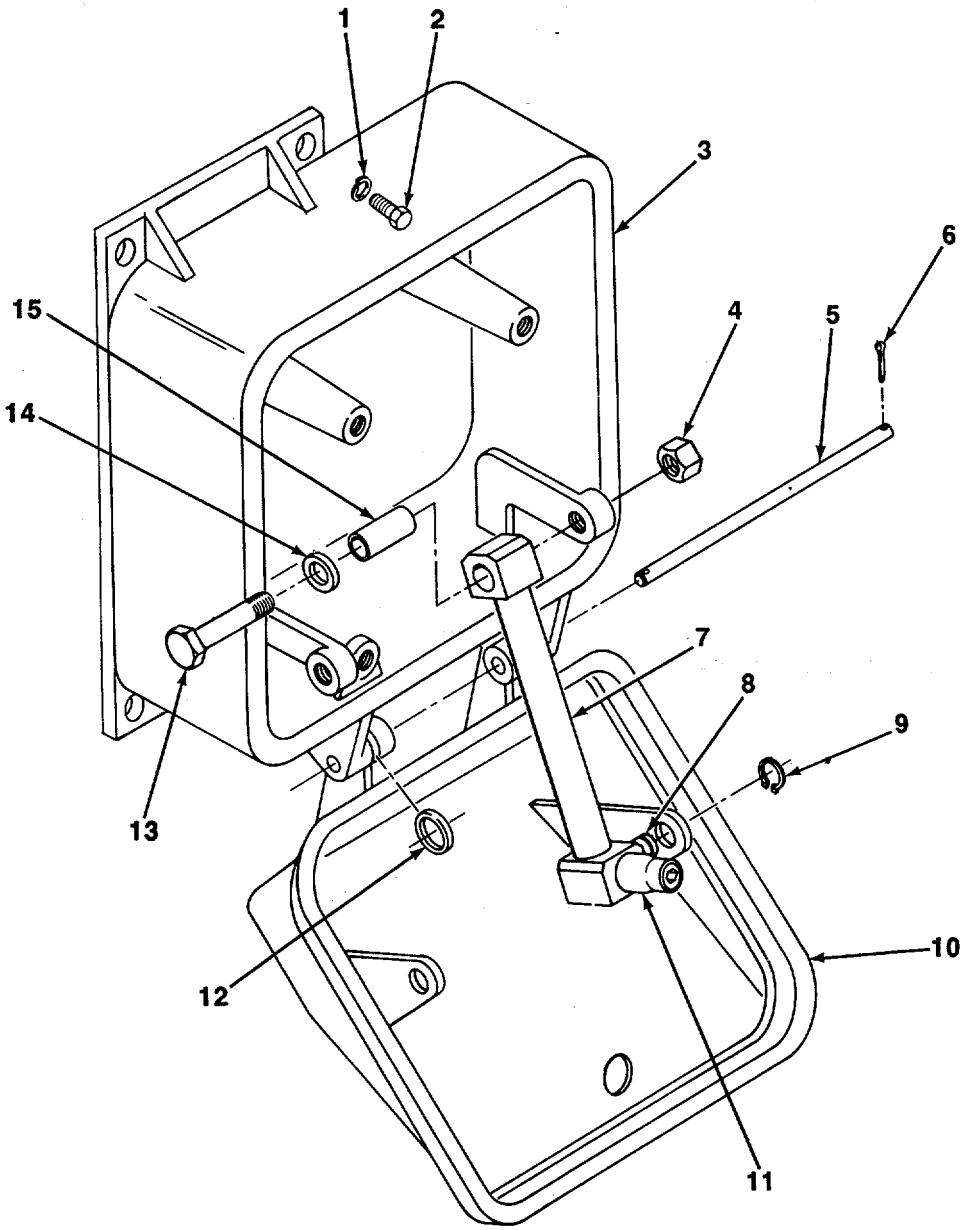

FIGURE 4. CONTROL PANEL ASSEMBLY, EXPLODED VIEW.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 4 CONTROL PANEL ASSEMBLY, EXPLODED VIEW	
1	PAOZZ	96906	MS535338-46	WASHER, LOCK	4
2	PAOZZ	96906	MS907Z7-62	SCREW, CAP, HEXAGON H	4
3	PAOZZ	19207	12259621	PLATE, BODY STRUCTUR	1
4	PAOZZ	96906	MS27151-18	NUT, STAMPED	2
5	PAOZZ	19207	12250032	PIN, STRAIGHT,HEADLE	1
6	PAOZZ	89749	IF316	PIN, COTTER.	2
7	PAOZZ	19207	12250034	CONTROL BOX, SLIDE	2
8	PAOZZ	19207	12250272	PIN, GROOVED, HEADED	2
9	PAOZZ	96906	MS16624	RING, RETAINING	2
10	PAOZZ	19207	12259622	COVER ASSEMBLY CONT CONTROL PANEL	1
11	PAOZZ	19207	12250023	PLUNGER, QUICK RELEA	2
12	PAOZZ	96906	MS21241-06C016	BEARING, SLEEVE	2
I3	PAOZZ	96906	MS90728-66	SCREW, CAP, HEXAGON	2
14	PAOZZ	96906	MS27183-14	WA5HER,.FLAT	2
15	PAOZZ	19207	12250291	BUSHING, SLEEVE	2

END OF FIGURE

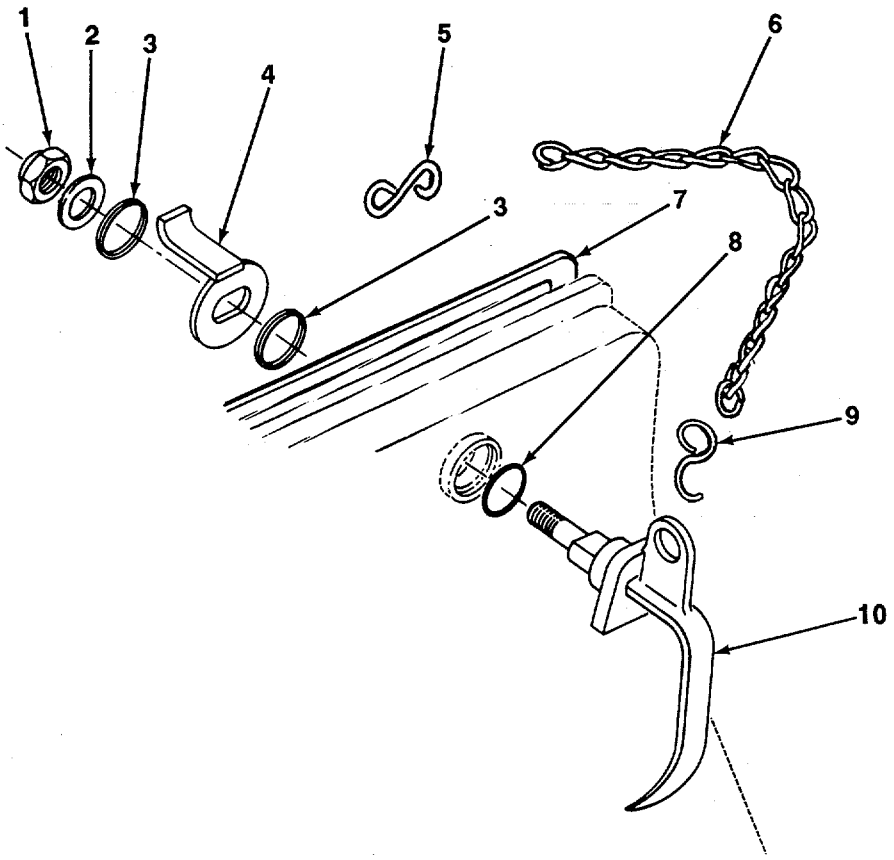

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FIGURE 5. CONTROL PANEL DOOR HANDLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 5 CONTROL PANEL DOOR HANDLE ASSEMBLY	
1	PAOZZ	96906	MS51922-17	NUT, SELF-LOCKING, HE HANDLE..... RETAINING	1
2	PAOZZ	19207	MS27183-14	WASHER, FLAT	1
3	PAOZZ	192C7	12250243	SPACER, PLATE	2
4	PAOZZ	19207	12250028	LEVER TOOL, CATCH	1
5	PAOZZ	96906	MS87006-23	HOOK, CHAIN	1
6	MOOZZ	21450	RRC271-18	CHAIN MAKE FROM CHAIN P/N RRC271	1
7	PAOZZ	19207	12250029	SEAL, RUBBER CHANNEL	1
8	PAOZZ	96906	MS29513-016	PACKING, PERFORMED	1
9	XDOZZ	19207	12269843	HOOK, S.....	1
10	PAOZZ	19207	12250052	HANDLE, DOOR.....	1

END OF FIGURE

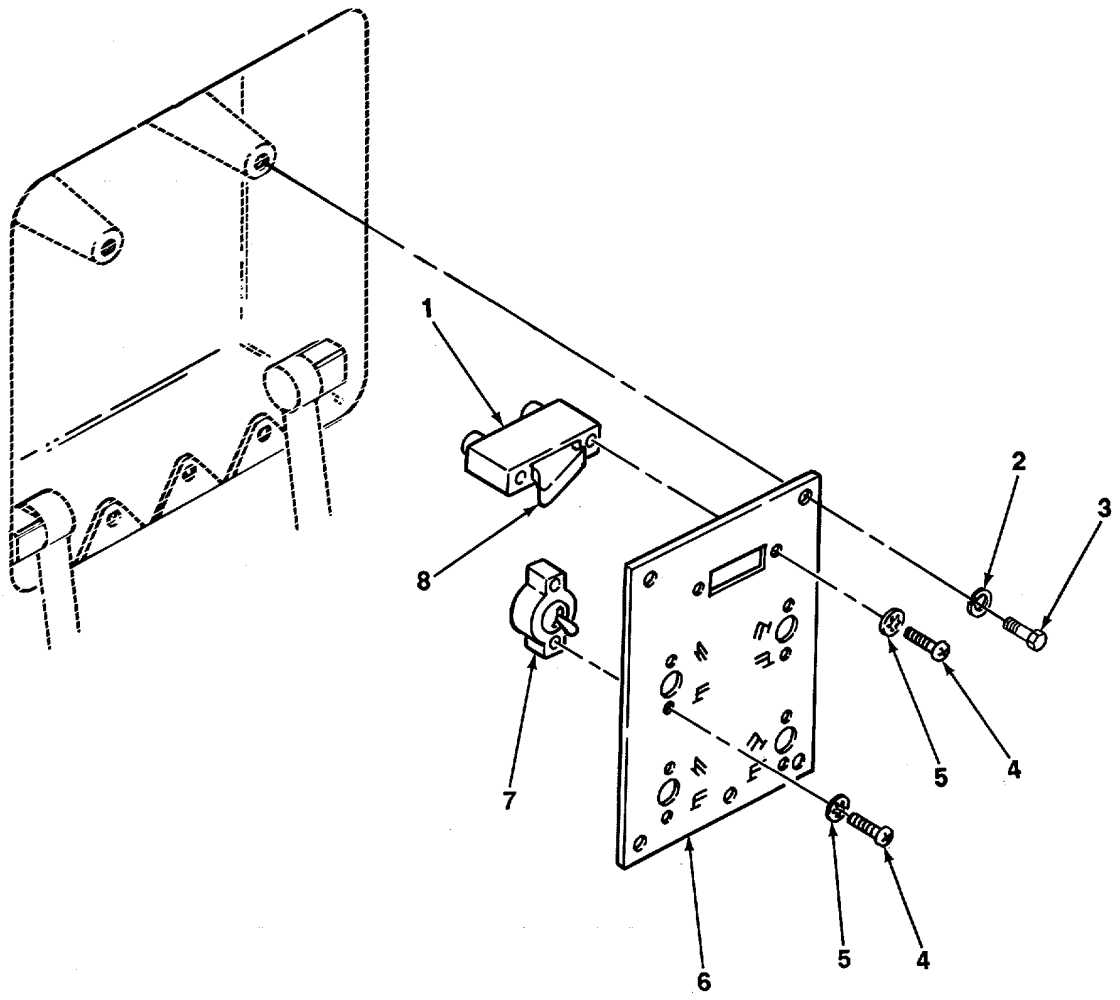

FIGURE 6. CONTROL PANEL SWITCHES AND MOUNTING PLATE..

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 6 CONTROL PANEL SWITCHES AND MOUNTING PLATE	
1	PAOZZ	96906	MS39061-1	SWITCH, TOGGLE OUTRIGGER POWER CONTROL	1
2	PAOZZ	96906	MS35338-44	WASHER, LOCK	4
3	PAOZZ	96906	MS90727-3	SCREW, CAP, HEXAGON H	4
4	PAOZZ	96906	MS35206-245	SCREW, MACHINE.	10
5	PAOZZ	95906	MS35338-42	WASHER, LOCK	10
6	XBOZZ	192Q7	12259620	PLATE CONTROL PANEL	12
7	PAOZZ	96906	MS39061-B	SWITCH, TOGGLE OUTRIGGER OPERATING.	4
8	PAOZZ	96906	MS25224-2	GUARD, SWITCH OUTRIGGER POWER SWITCH	1

END OF FIGURE

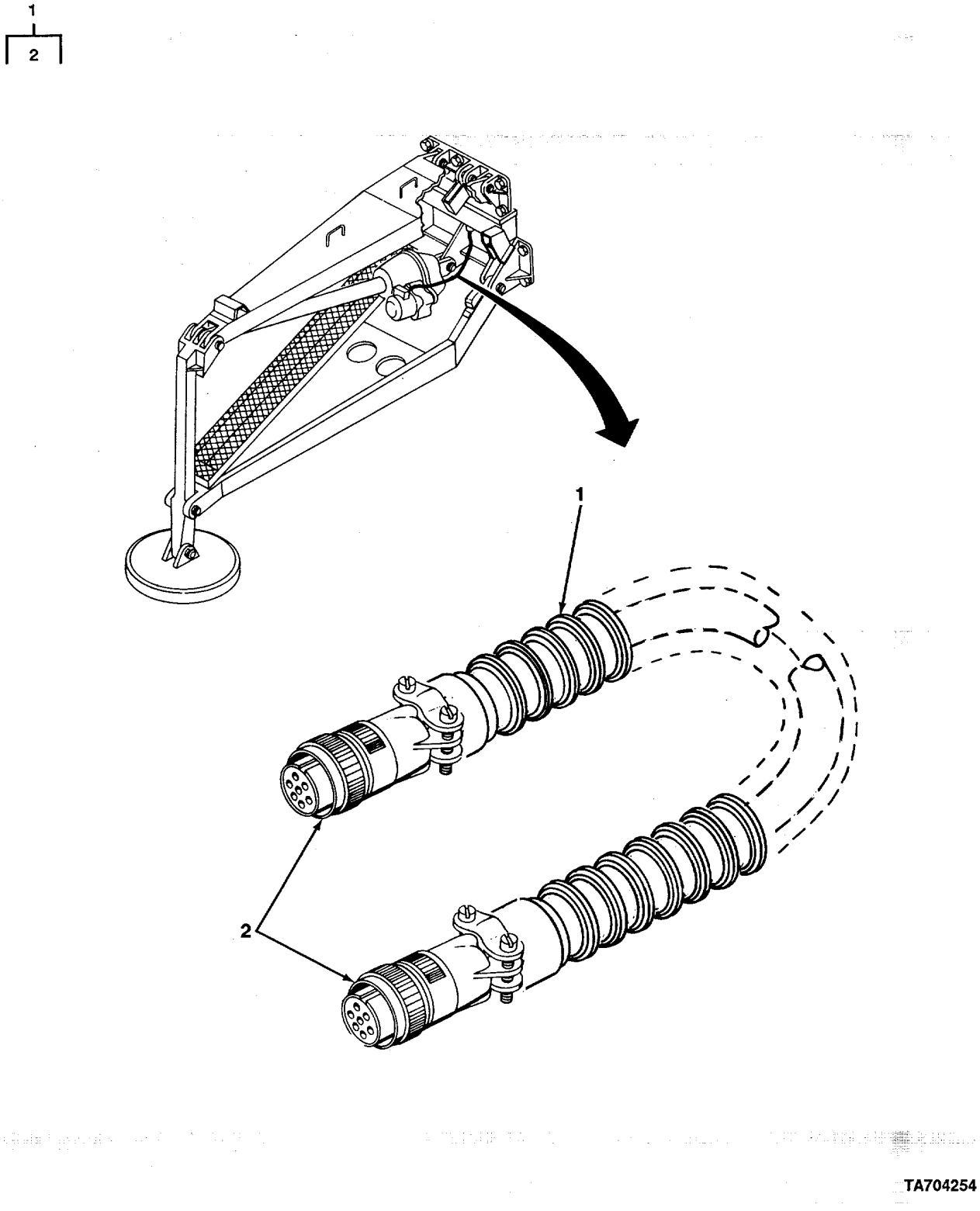

FIGURE 7. CONTROL PANEL RELAY BOX POWER WIRING HARNESS ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 7 CONTROL PANEL RELAY BOX POWER WIRING HARNESS ASSEMBLY	
1	PAOZZ	19207	11670256	WIRING HARNESS RELAY TO MOTOR,	1
2	PAOZZ	19207	11668652	CONNECTOR,PLUG,ELEC	2

END OF FIGURE

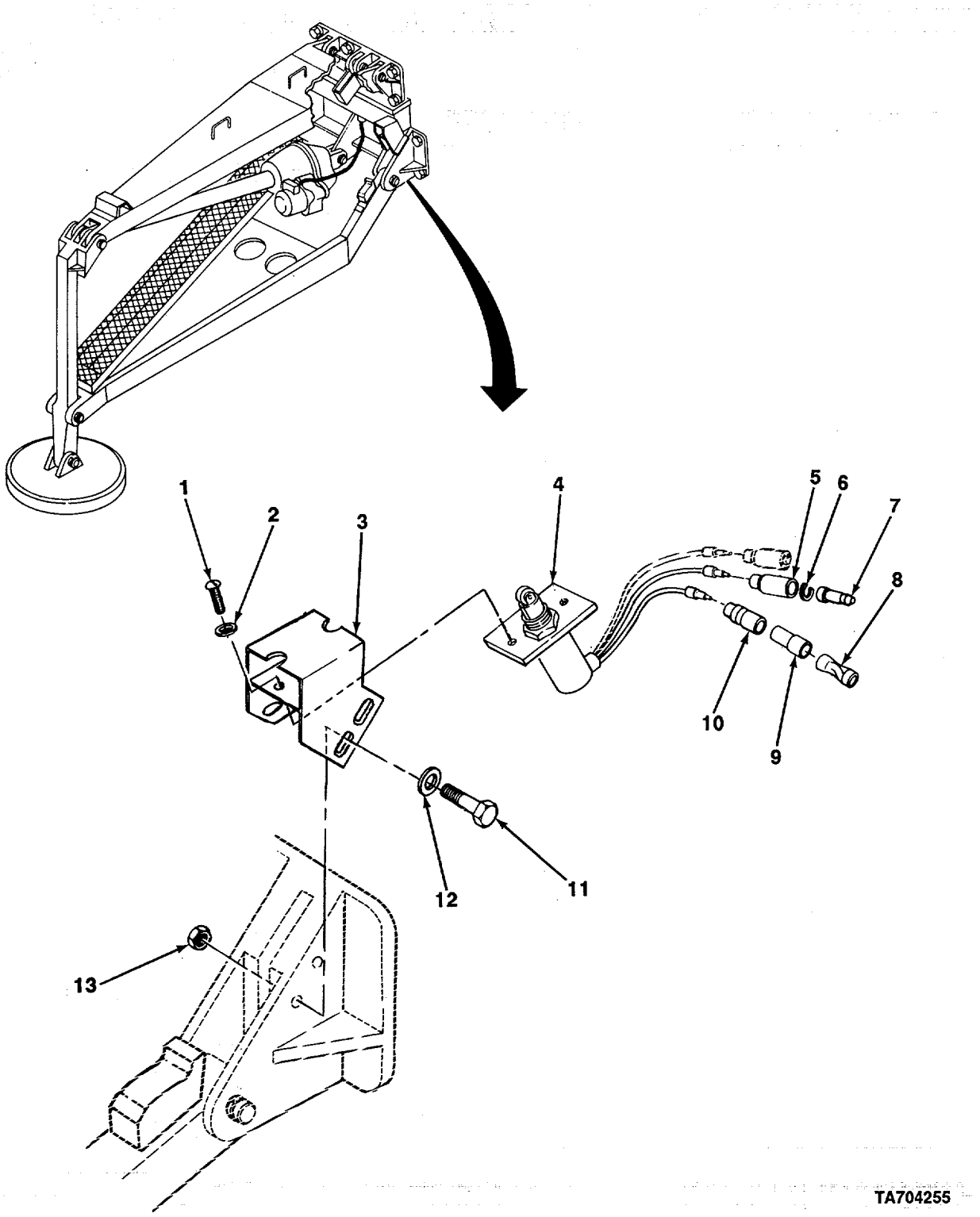

FIGURE 8. UPPER OUTRIGGER LIMIT SWITCH.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 8 UPPER OUTRIGGER LIMIT SWITCH	
1	PAOZZ	96906	MS35206-245	SCREW,MACHINE	2
2	PAOZZ	96906	MS35333-39	WASHER,LOCK	2
3	XDOZZ	19207	12259522	BRACKET,LIMIT SW	1
4	PAOZZ	19207	11669814	SWITCH,SENSITIVE	1
5	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	1
6	PAOZZ	19207	8338567	WASHER, SLOTTED	1
7	PAOZZ	96906	MS27148-2	CONTACT.ELECTRICAL	1
8	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	1
9	PAOZZ	19207	8338562	INSULATOR, BUSHING.	1
10	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	1
11	PAOZZ	96906	MS90727-24	SCREW,CAP,HEXAGON H	4
12	PAOZZ	96906	MS27183-10	WASHER,FLAT	4
13	PAOZZ	96906	MS21044N4	NUT,SELF-LOCKING,HE	4

END OF FIGURE

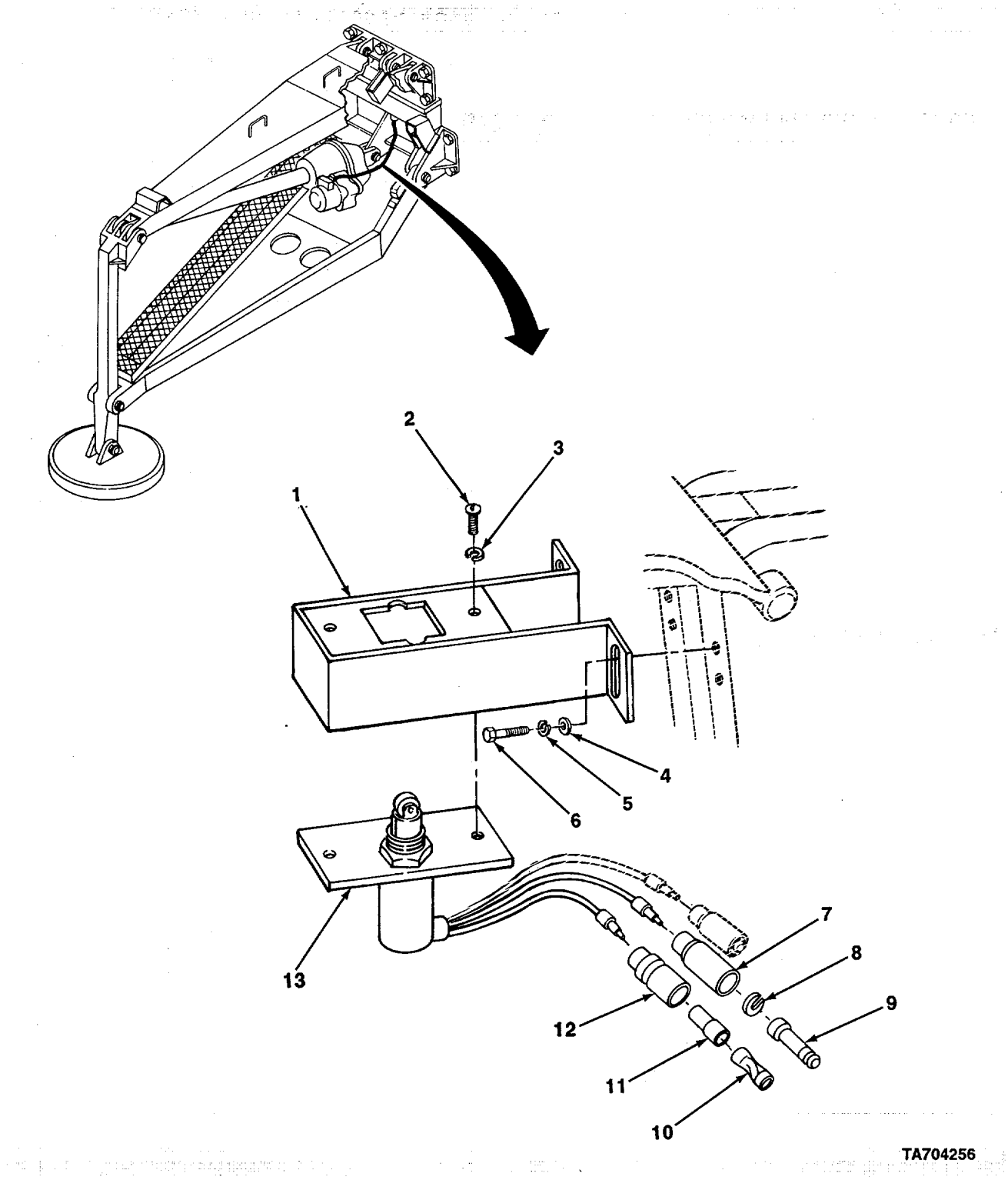

FIGURE 9. LOWER OUTRIGGER LIMIT SWITCH.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0608 MISCELLANEOUS ITEMS	
				FIG. 9 LOWER OUTRIGGER LIMIT SWITCH	
1	PAOZZ	19207	11670211	RETAINER,ELECTRICAL LOWER LIMIT SWITCH	1
2	PAOZZ	96906	MS35206-245	SCREWIMACHINE	2
3	PAOZZ	96906	MS35333-106	WASHER,LOCK	2
4	PAOZZ	96906	MS27183-42	WASHER,FLAT	4
5	PAOZZ	96906	MS35333-39	WASHER,LOCK	4
6	PAOZZ	96906	MS35207-263	SCREW,MACHINE	4
7	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	1
8	PAOZZ	19207	8338567	WASHER,SLOTTED,	1
9	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	1
10	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	1
11	PAOZZ	19207	8338562	INSULATOR,BUSHING	1
12	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	1
13	PAOZZ	19207	11669814	SWITCH,SENSITIVE	1

END OF FIGURE

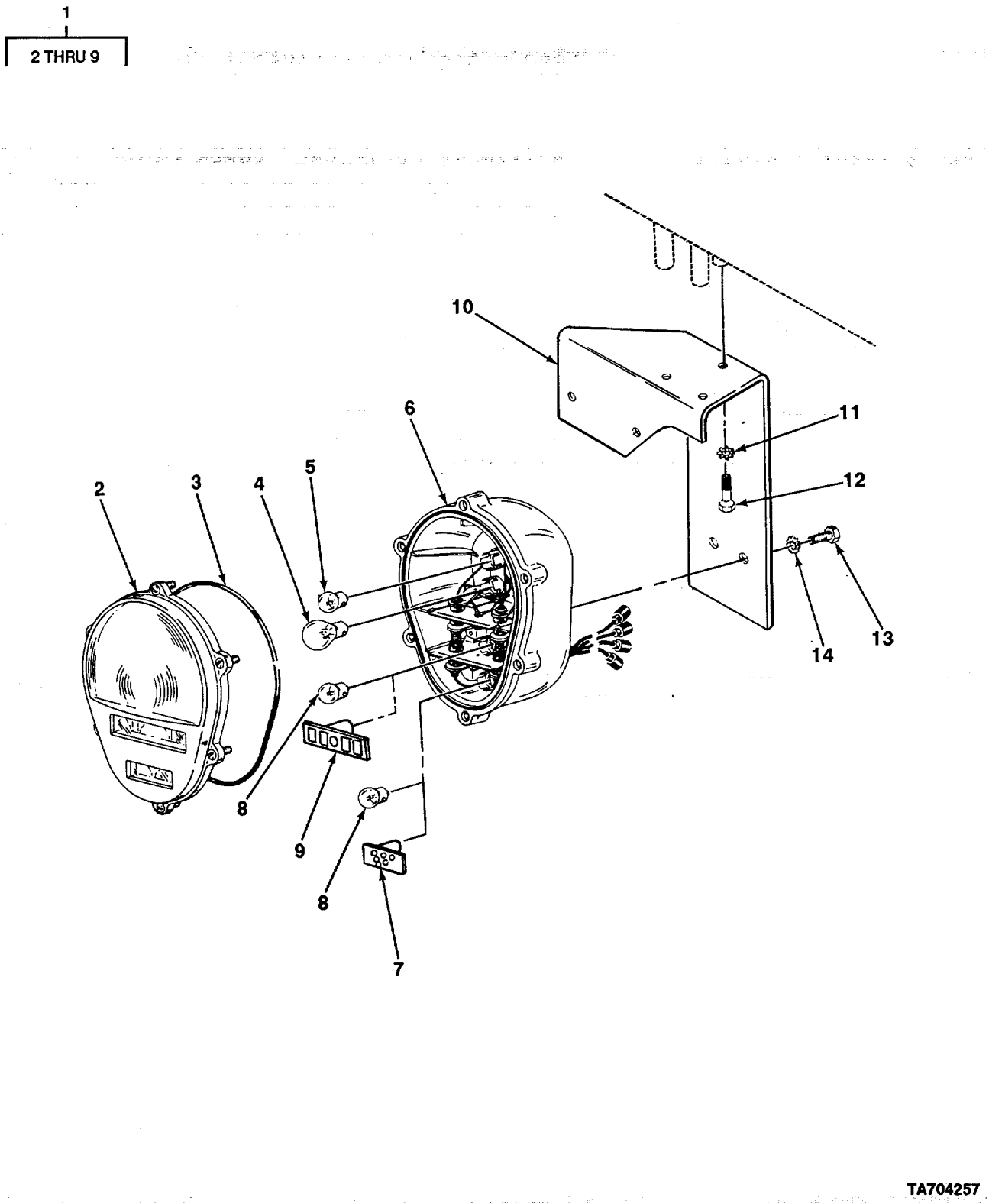

FIGURE 10. COMPOSITE LIGHT ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 10 COMPOSITE LIGHT ASSEMBLY	
1	PADOO	19207	E019522	STOPLIGHT-TAILLIGHT	1
2	PAOZZ	19207	11639535	LENS,LIGHT	1
3	PAOZZ	19207	11639519-2	PACKING,PREFORMED	1
4	PAOZZ	96906	MS35478-1683	LAMP,INCANDESCENT 24VOLT	1
5	PAOZZ	96906	MS15570-623	LAMP,INCANDESCENT 24 VOLT	1
6	PAOZZ	19207	11639520	BODY ASSEMBLY	1
7	PAOZZ	19207	12360870-2	STOP LAMP ASSEMBLY	1
8	PAOZZ	96906	MS15570-1251	LAMP,INCANDESCENT 24 VOLT	1
9	PAOZZ	19207	12360850-1	MARKER ASSEMBLY	1
10	XBOZZ	19207	11670092-1	BRACKET TAILLIGHT,LEFT	1
10	X30ZZ	19207	11670092-2	BRACKET TAILLIGHT,RIGHT	1
11	PAOZZ	96906	MS35335-33	WASHER,LOCK	6
12	PAOZZ	96906	MS90725-4	SCREW,CAP,HEXAGON H	6
13	PAOZZ	96906	MS90728-57	SCREW,CAP,HEXAGON H	2
14	PAOZZ	96906	MS35338-46	WASHER,LOCK	2
				END OF FIGURE	

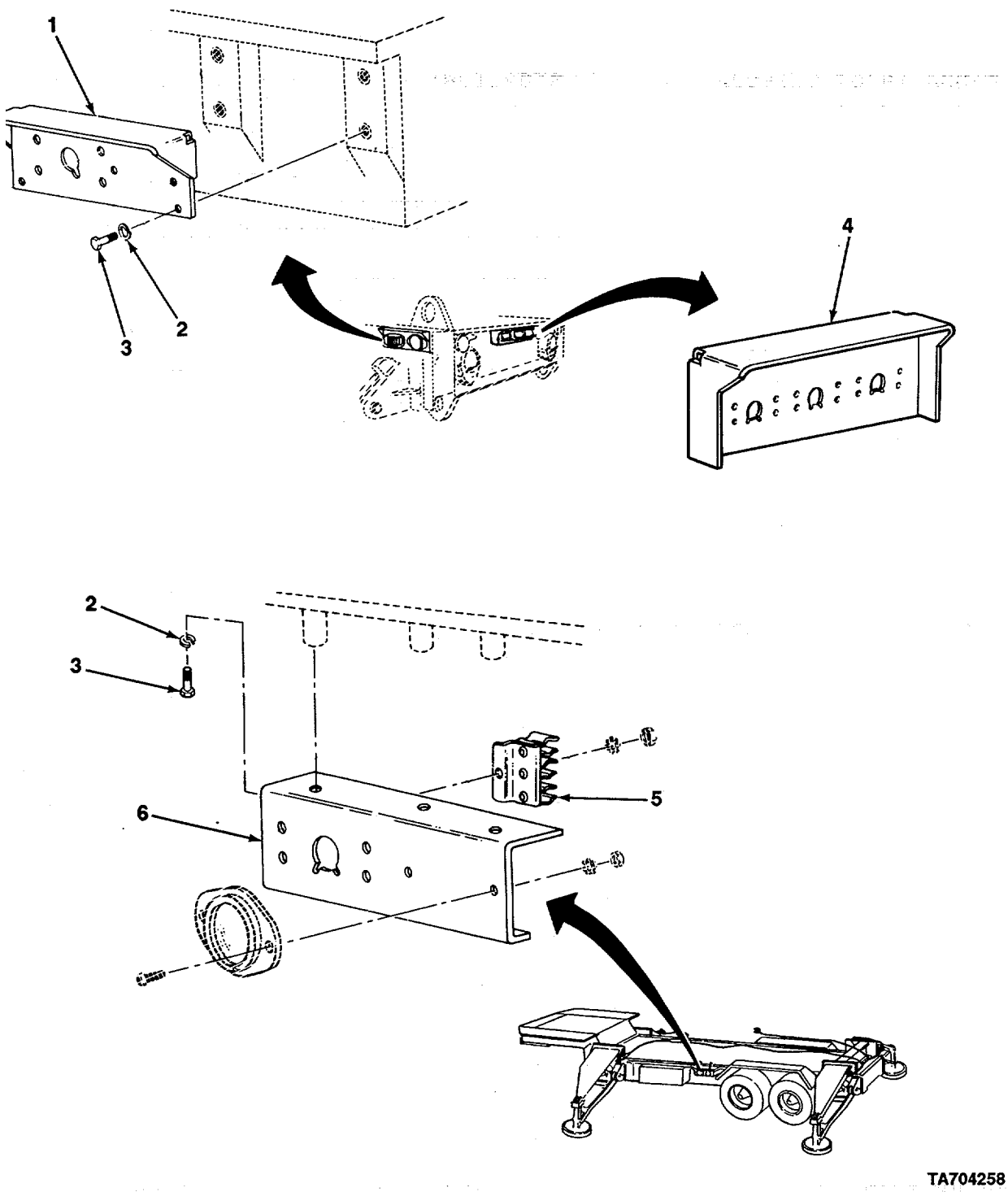

FIGURE 11. CLEARANCE LIGHT MOUNTING HARDWARE

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 11 CLEARANCE LIGHT MOUNTING HARDWARE	
1	XBOZZ	19207	11670208-2	BRACKET FRONT MARKER LAMP, LEFT	1
1	XBOZZ	19207	11670208-1	BRACKET FRONT MARKER LAMP, RIGHT	1
1	XBOZZ	19207	11670088-1	BRACKET REAR SIDE MARKER LIGHT,LEFT	1
1	XBOZZ	19207	11670088-2	BRACKET REAR SIDE MARKER LIGHT, RIGHT	1
2	PADZZ	96906	MS35335-33	WASHER,LOCK	18
3	PAOZZ	96906	MS90725-4	SCREW,CAP,HEXAGON H	14
4	XBOZZ	19207	11670034	BRACKET REAR MARKER LIGHT ASSEMBLY	1
5	PAOZZ	19207	8747908	CLIP ASSY,SPRING,TE RIGHT AND LEFT	2
6	XDOZZ	19207	11670090-1	BRACKET,DOUBLE ANGL LEFT INTERMEDIATE LIGHT,SIDE MARKER	1
6	XBOZZ	19207	11670090-2	BRACKET RIGHT INTERMEDIATE LIGHT SIDE MARKER	1
				END OF FIGURE	

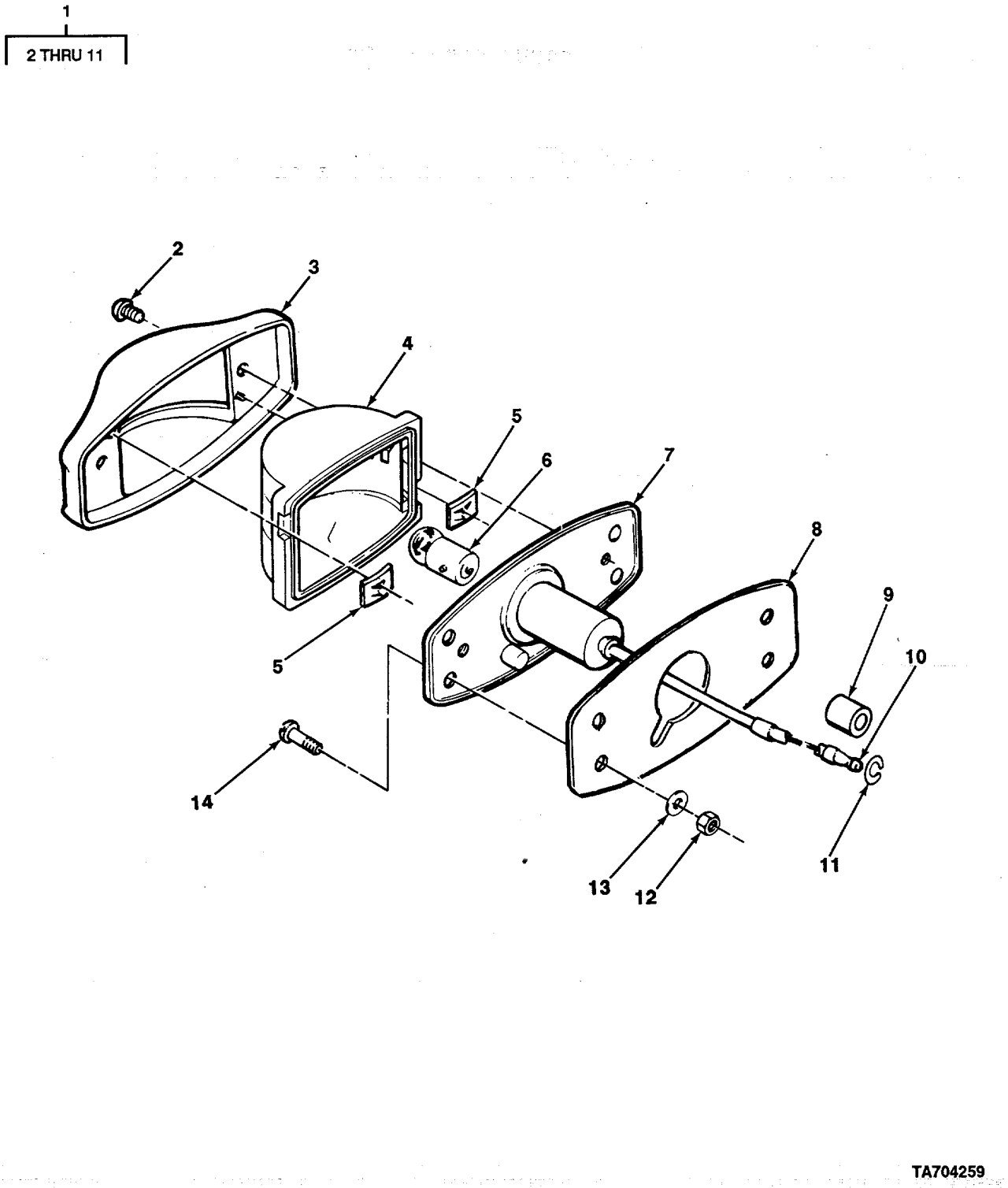

FIGURE 12. CLEARANCE LIGHT ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 12 CLEARANCE LIGHT ASSEMBLY	
I	PAOZZ	96906	MS35423-1	LIGHT,MARKER,CLEARA AMBER	1
1	PAOZZ	96906	MS35423-2	LIGHT,MARKER,CLEARA RED	1
2	PAOZZ	96906	MS51959-61	SCREW,MACHINE	2
3	XAOZZ	19207	7526516	RETAINER,LENS	1
4	XAOZZ	96906	MS35421-1	LENS,LIGHT LIGHT,AMBER	1
4	XAOZZ	96906	MS35421-2	LENS,LIGHT LIGHT,RED,SIDE MARKER, REAR	1
5	PAOZZ	19207	7526796	PUSH ON NUT	2
6	PAOZZ	96906	MS15570-1251	LAMP,INCANOESCENT 24 VOLT, INCANDESCENT,MARKER LIGHT	1
7	XAOZZ	19207	7526515	PLATE,MOUNTING,LAMP	1
8	XAOZZ	19207	7526509	FELT,MECHANICAL,PRE	1
9	XAOZZ	19207	8338566	SHELL,ELECTRICAL CO	1
10	XAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	1
11	XAOZZ	19207	8338567	WASHER,SLOTTED	1
12	PAOZZ	96906	MS35649-202	NUT,PLAIN,HEXAGON	4
13	PAOZZ	96906	MS35335-32	WASHER,LOCK	4
14	PAOZZ	96906	MS35206-264	SCREW,MACHINE	8
				END OF FIGURE	

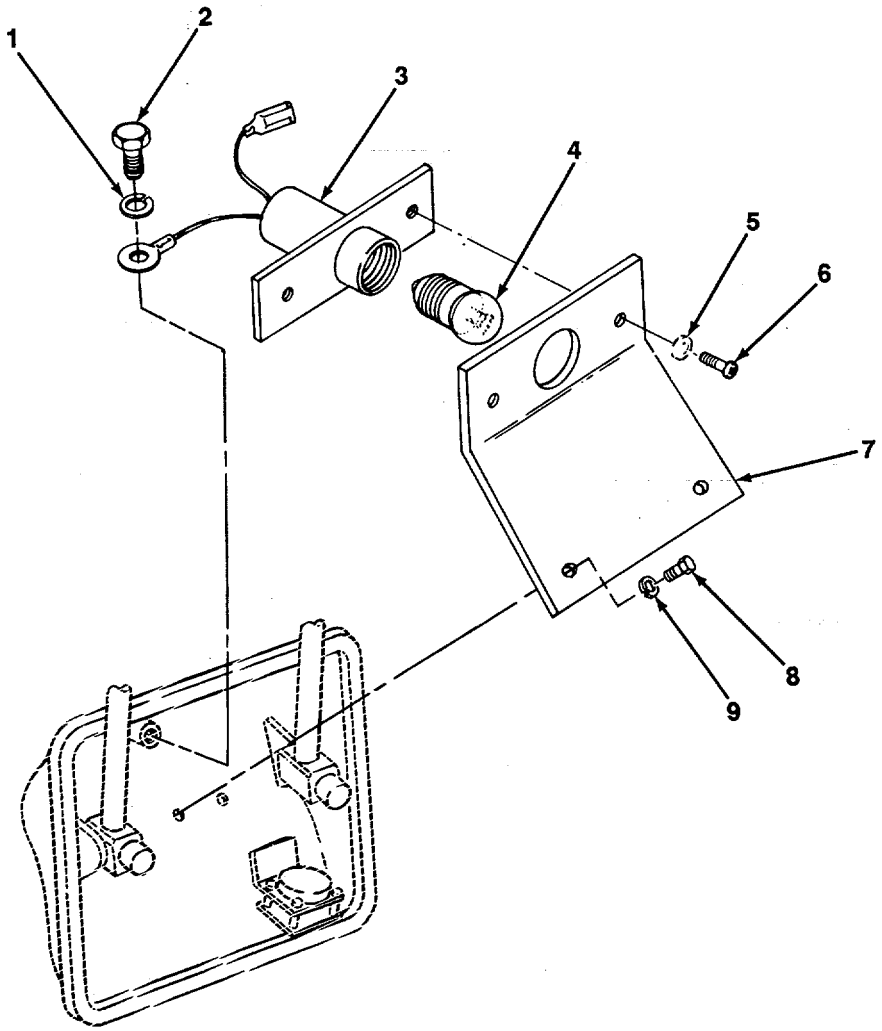

FIGURE 13. LEVELING DEVICE LIGHT ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) PART CAGEC	(4) NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 13 LEVELING DEVICE LIGHT ASSEMBLY	
1	PAOZZ	96906	MS35334-19	WASHER,LOCK	1
2	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H TO ATTACH GROUND LEAD	1
3	PAOZZ	19207	10916961	LIGHT,INDICATOR	1
4	PAOZZ	96906	MS25237-327AS15	LAMP,INCANDESCENT	1
5	PAOZZ	96906	MS35338-41	WASHER,LOCK	2
6	PAOZZ	96906	MS35206-227	SCREW,MACHINE	2
7	PAOZZ	19207	12250026	BRACKET,ANGLE	1
8	PAOZZ	96906	MS90727-1	SCREW,CAP,HEXAGON	2
9	PAOZZ	96906	MS35338-44	WASHER,LOCK	2
				END OF FIGURE	

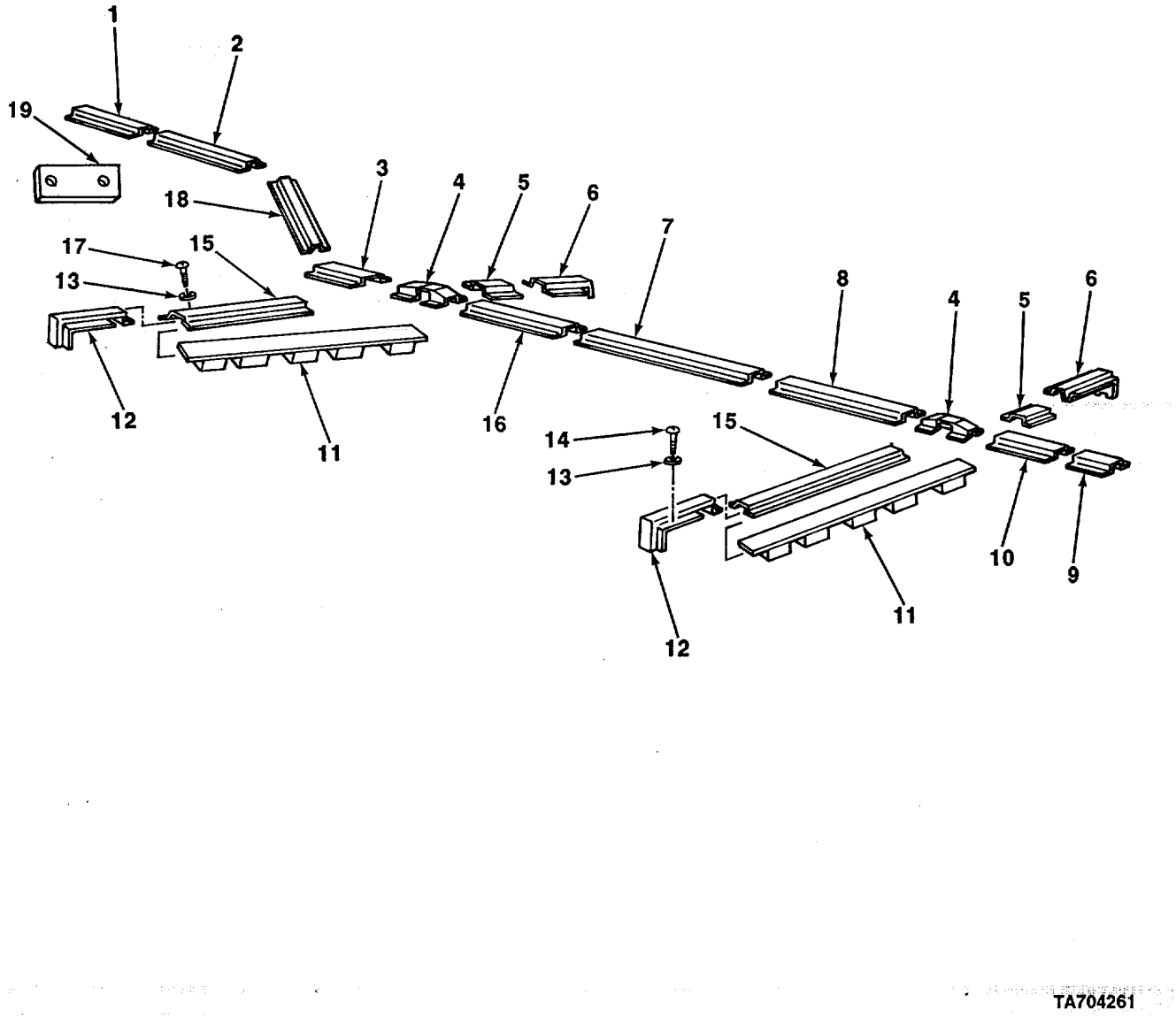

FIGURE 14. ELECTRICAL SHIELDS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0609 LIGHTS	
				FIG. 14 ELECTRICAL SHIELDS	
1	XBFZZ	19207	12296663	SHIELD WIRING HARNESS,LIGHTS	1
1	XDOZZ	19207	11686136-1	SHIELD	1
2	XBFZZ	19207	11686134	SHIELD WIRING HARNESS,LIGHTS,	1
3	XBFZZ	19207	12250241	SHIELD HARNESS ASSEMBLY,LIGHTS	1
4	XBFZZ	19207	12250238	SHIELD HARNESS ASSEMBLY,LIGHTS	1
5	XBFZZ	19207	12250240	SHIELD WIRING HARNESS,LIGHTS	2
6	XBFZZ	19207	12250242	SHIELD WIRING HARNESS,LIGHTS	2
7	XBFZZ	19207	11686113	SHIELD HARNESS ASSEMBLY,LIGHTS	4
8	PBOZZ	19207	12250339-1	BRACKET,DOUBLE ANGL	1
9	XBFZZ	19207	11686114	SHIELD HARNESS ASSEMBLY,LIGHTS	1
10	XDOZZ	19207	12250339-2	SHIELD	1
11	XBFZZ	19207	12370463	STRIP AND SPACER	2
12	XBFZZ	19207	11686142	SHIELD HARNESS ASSEMBLY,LIGHTS	3
13	PAOZZ	96906	MS35334-19	WASHER,LOCK HARNESS ASSEMBLY,LIGHTS	74
14	PAOZZ	96906	MS51851-87	SCREW,MACHINE HARNESS ASSEMBLY LIGHTS	66
15	XBFZZ	19207	11686137	SHIELD HARNESS ASSEMBLY,LIGHTS	1
16	XBFZZ	19207	12250216	SHIELD HARNESS ASSEMBLY,LIGHTS	1
17	PAOZZ	96906	MS90725-9	SCREW,MACHINE HARNESS ASSEMBLY, LIGHTS	8
18	XDOZZ	19207	12296434	SHIELD	1
19	PAOZZ	19207	2314118	INSULATOR,PLATE	37
				END OF FIGURE	

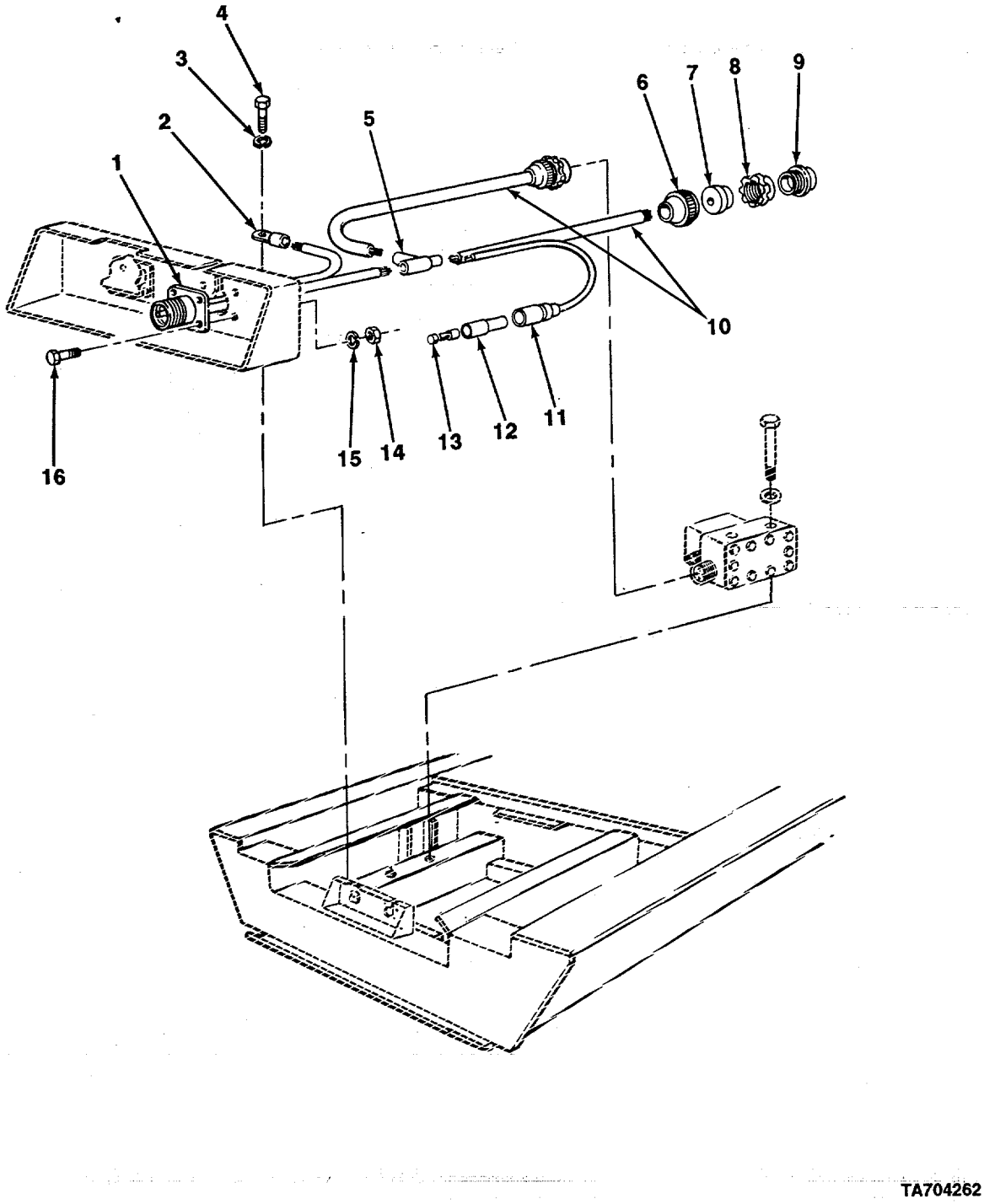

FIGURE 15. MASTER RELAY HARNESS ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 15 MASTER RELAY HARNESS ASSEMBLY	
1	PAOZZ	96906	MS17343R20N23S	CONNECTOR,RECEPTACL	1
2	PAOZZ	19207	7056714	TERMINAL,LUG UOC:GST	1
3	PAOZZ	96906	MS35335-34	WASHER,LOCK	1
4	PAOZZ	96906	MS90726-31	BOLT,MACHINE	1
5	PAOZZ	19207	12250117	CONNECTOR,TUBING,BR	1
6	PAOZZ	19207	7723308	NUT,BUSHING RETAINE	2
7	PACZZ	19207	8376776	BUSHING,NONMETALLIC	2
8	PADZZ	19207	8701325	NUT,SLEEVE	2
9	PAOZZ	77820	10-42622-75S	CONNECTOR,PLUG,ELEC	2
10	MFFZZ	19207	12259667-1	WIRING HARNESS MAKE FROM P/N M13486/1-14 AND P/N M13486/1-9..	1
11	PAOZZ	19207	8338561	SHELL,ELECTRICAL	1
12	PAOZZ	19207	8338562	INSULATOR,BUSHING	1
13	PAOZZ	19207	8338564	TERMINAL ASSEMBLY RELAY BOX ASSEMBLY	1
14	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON RECEPTACLE ATTACHING	4
15	PAOZZ	96906	MS35333-38	WASHER,LOCK RECEPTACLE RETAINING SCREW	4
16	PADZZ	96906	MS35207-245	SCREW,MACHINE GROUND WIRE ATTACHING	4
				END OF FIGURE	

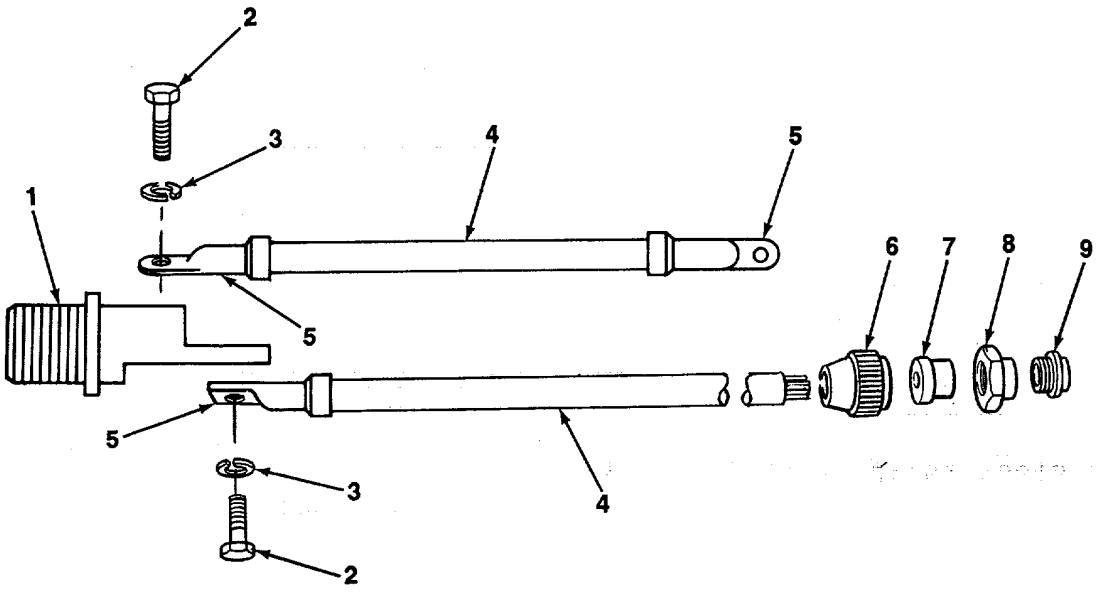

FIGURE 16. MASTER RELAY ELECTRICAL LEAD.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 16 MASTER RELAY ELECTRICAL LEAD	
1	PAOZZ	19207	11674728	CONNECTOR,RECEPTACL	1
2	PAOZZ	96906	MS90727-57	SCREW,CAP,HEXAGON H	2
3	PAOZZ	96906	MS35338-46	WASHER,LOCK	2
4	MOOO0	19207	12296446	WIRING HARNESS MAKE FROM P/N M13486/1-14.	1
5	PAOZZ	11083	3M9449	TERMINAL,LUG WIRING HARNESS,MASTER RELAY	3
6	PAOZZ	19207	7723308	NUT,BUSHING,RETAINE.	1
7	PAOZZ	19207	8376776	BUSHING,NONMETALLIC	1
8	PAOZZ	19207	8701325	NUT,SLEEVE	1
9	PAOZZ	77820	10-42622-7S	CONNECTOR,PLUG,ELEC	1

END OF FIGURE

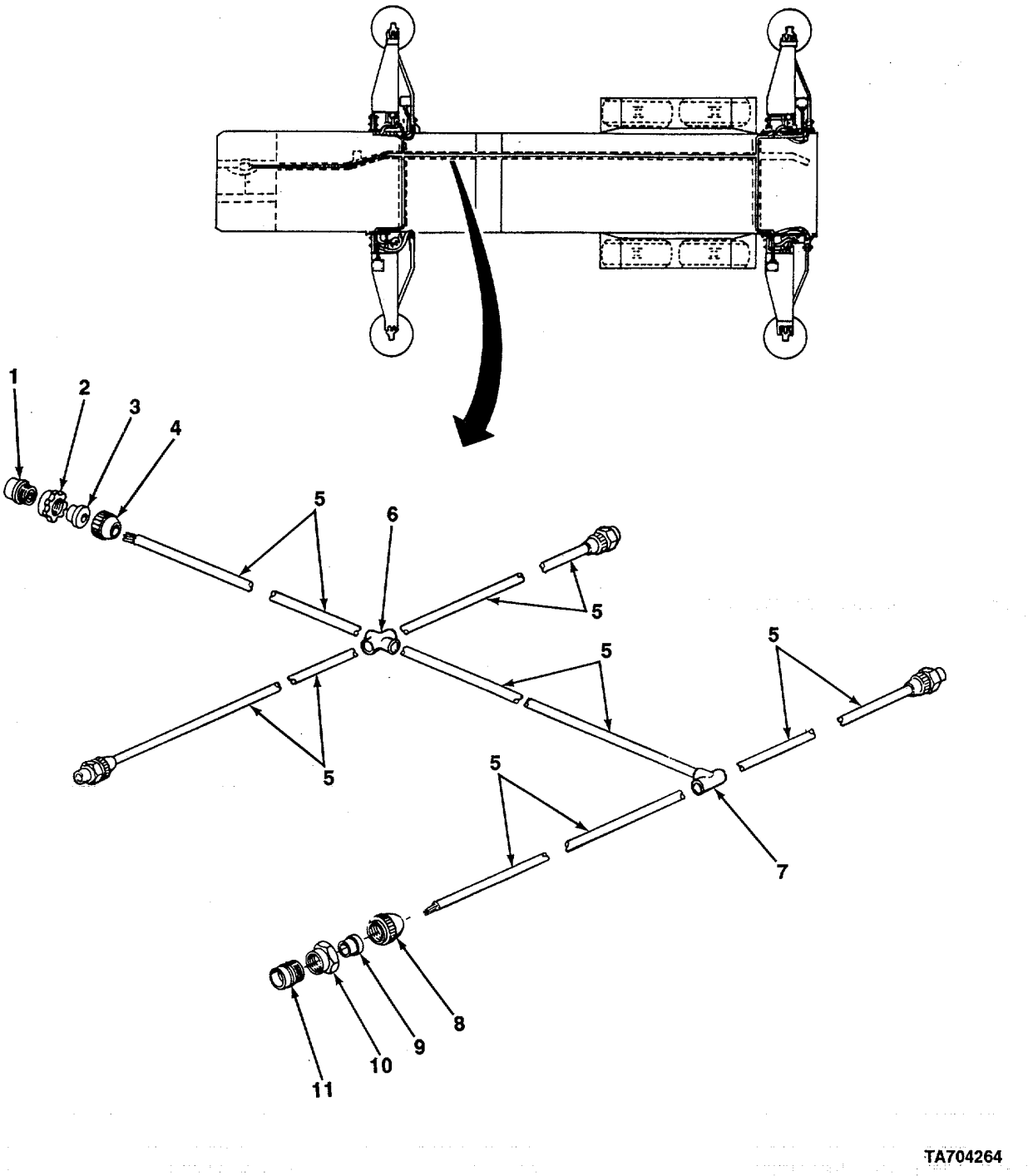

FIGURE 17. POWER SOURCE TO OUTRIGGER RELAY HARNESS ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 17 POWER SOURCE TO OUTRIGGER RELAY HARNESS ASSEMBLY	
1	PAOZZ	77820	10-42622-75S	CONNECTOR,PLUG,ELEC	2
2	PAOZZ	19207	8701325	NUT,SLEEVE	1
3	PAOZZ	19207	8376776	BUSHING,NONMETALLIC	1
4	PAOZZ	19207	7723308	NUT,BUSHING RETAINE	5
5	MFFZZ	19207	11670216-1	WIRING HARNESS MAKE FROM P/N M13486/1-11 AND P/N M13486/1-14	1
6	PAOZZ	19207	12250233	COUPLING,CONNECTOR, CROSS,	1
7	PAOZZ	19207	7419821	SPLICE,CONDUCTOR	1
8	PAOZZ	19207	7723307	NUT,BUSHING RETAINE	4
9	PAOZZ	19207	8724521	GROMMET,NONMETALLIC	4
10	PAOZZ	19207	7527645	NUT,COUPLING,ELECTR	4
11	PAOZZ	19204	8724235	CONNECTOR,PLUG,ELEC	4

END OF FIGURE

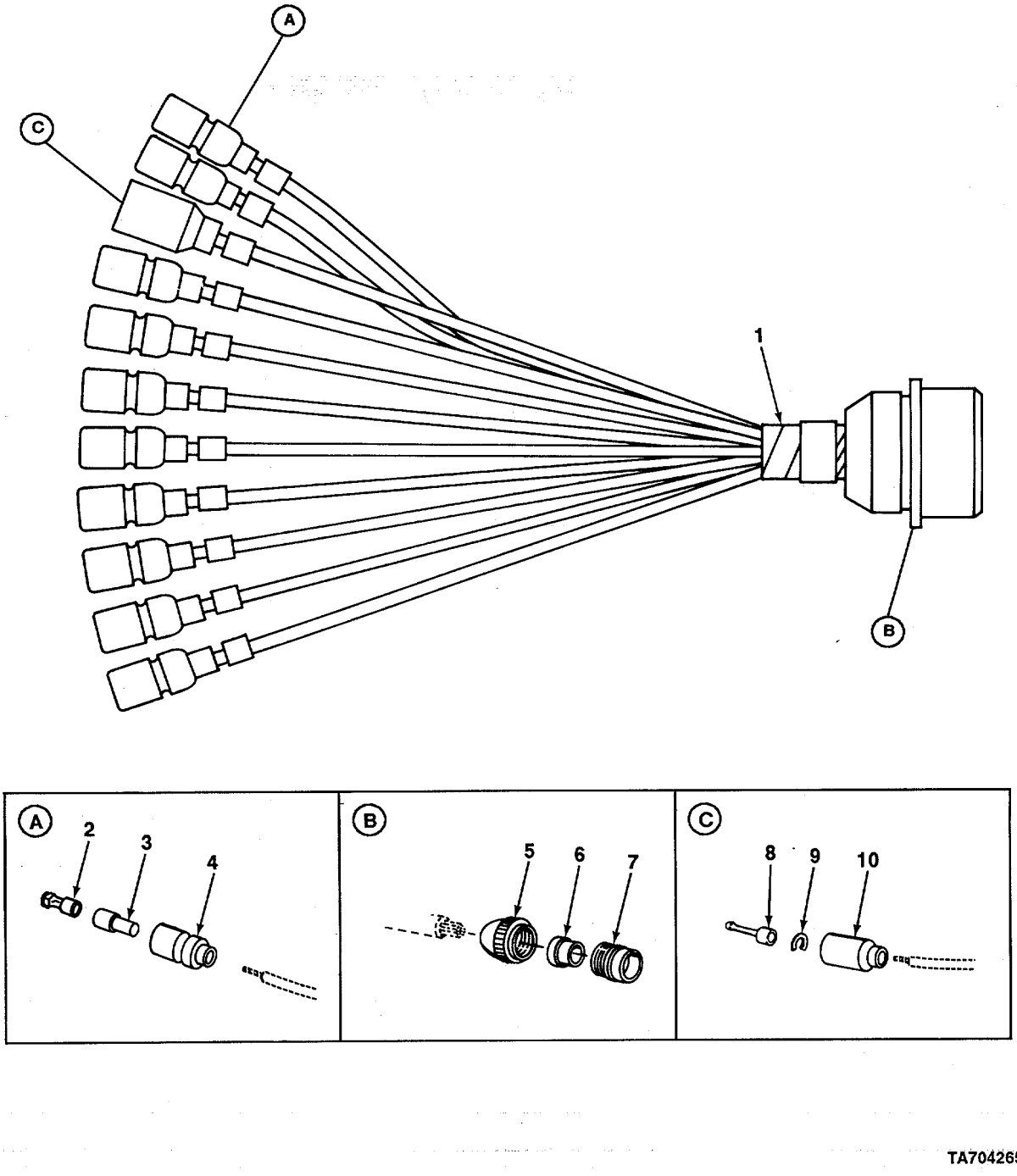

FIGURE 18. CONTROL PANEL WIRING HARNESS.

(1) ITEM NO	(2) SMR CODE	(3) PART CAGEC	(4) NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 18 CONTROL PANEL WIRING HARNESS	
I	MOOOO	19207	11686124	WIRING HARNESS MAKE FROM P/N M13486/1-5.	1
2	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	10
3	PAOZZ	19207	8338562	INSULATOR,BUSHING	10
4	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO.	10
5	PAOZZ	19207	7722333	BUSHING,NONMETALLIC CONTROL PANEL WIRING HARNESS*	1
6	PAOZZ	19207	7723309	NUT,PLAIN,KNURLED GROMMET RETAINING	1
7	PAOZZ	19207	7716794	CONNECTOR,RECEPTACL CONTROL PANEL WIRING HARNESS	1
8	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	1
9	PAOZZ	19207	8338567	WASHER,SLOTTED	1
10	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO.	1
				END OF FIGURE	

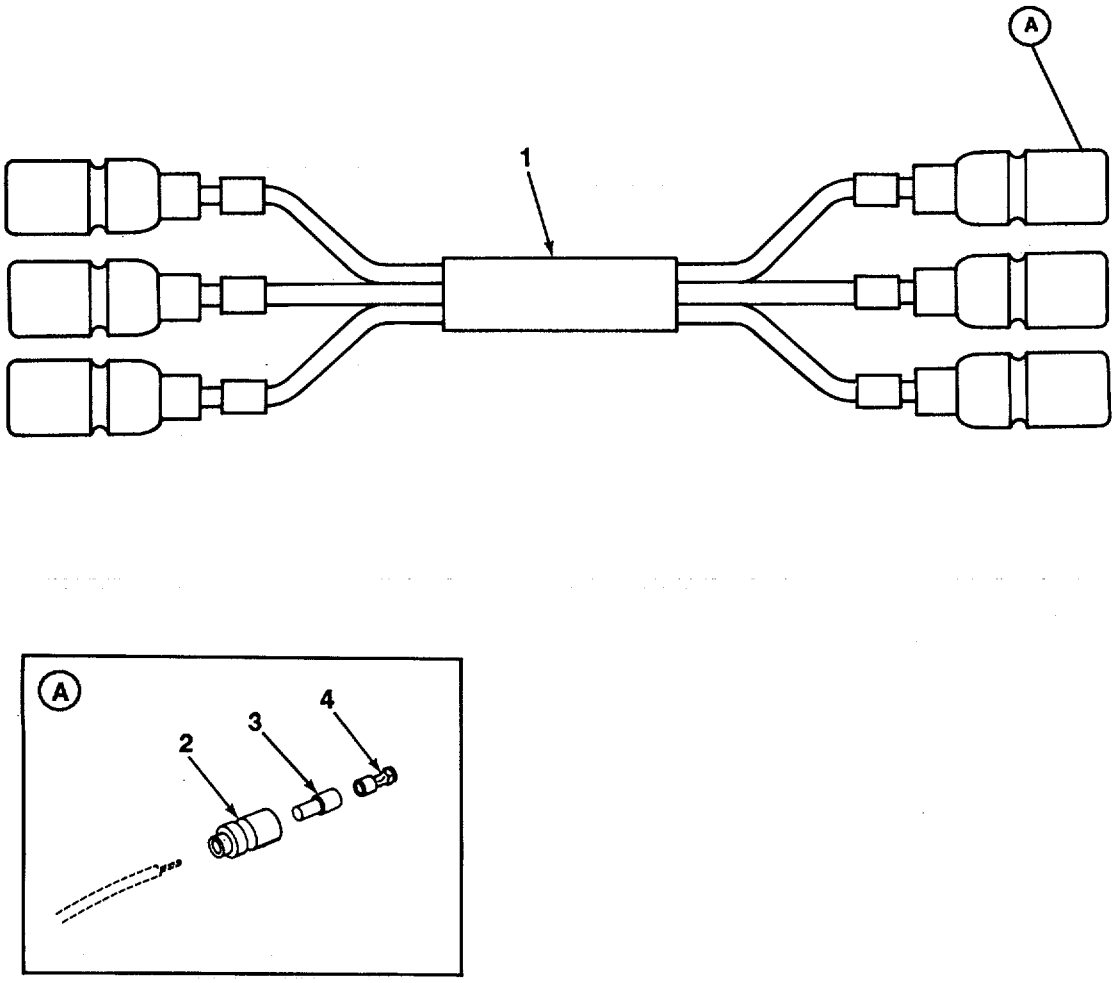

FIGURE 19. CONTROL PANEL CABLE ASSSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 19 CONTROL PANEL CABLE ASSEMBLY	
1	MOOOO	19207	11686125	CABLE ASSEMBLY MAKE FROM P/N M13486/1-5, ...	1
2	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO.....	6
	PAOZZ	19207	8338562	INSULATOR,BUSHING.....	6
4	PAOZZ	19207	8338564	TERMINAL ASSEMBLYV.....	6
				END OF FIGURE	

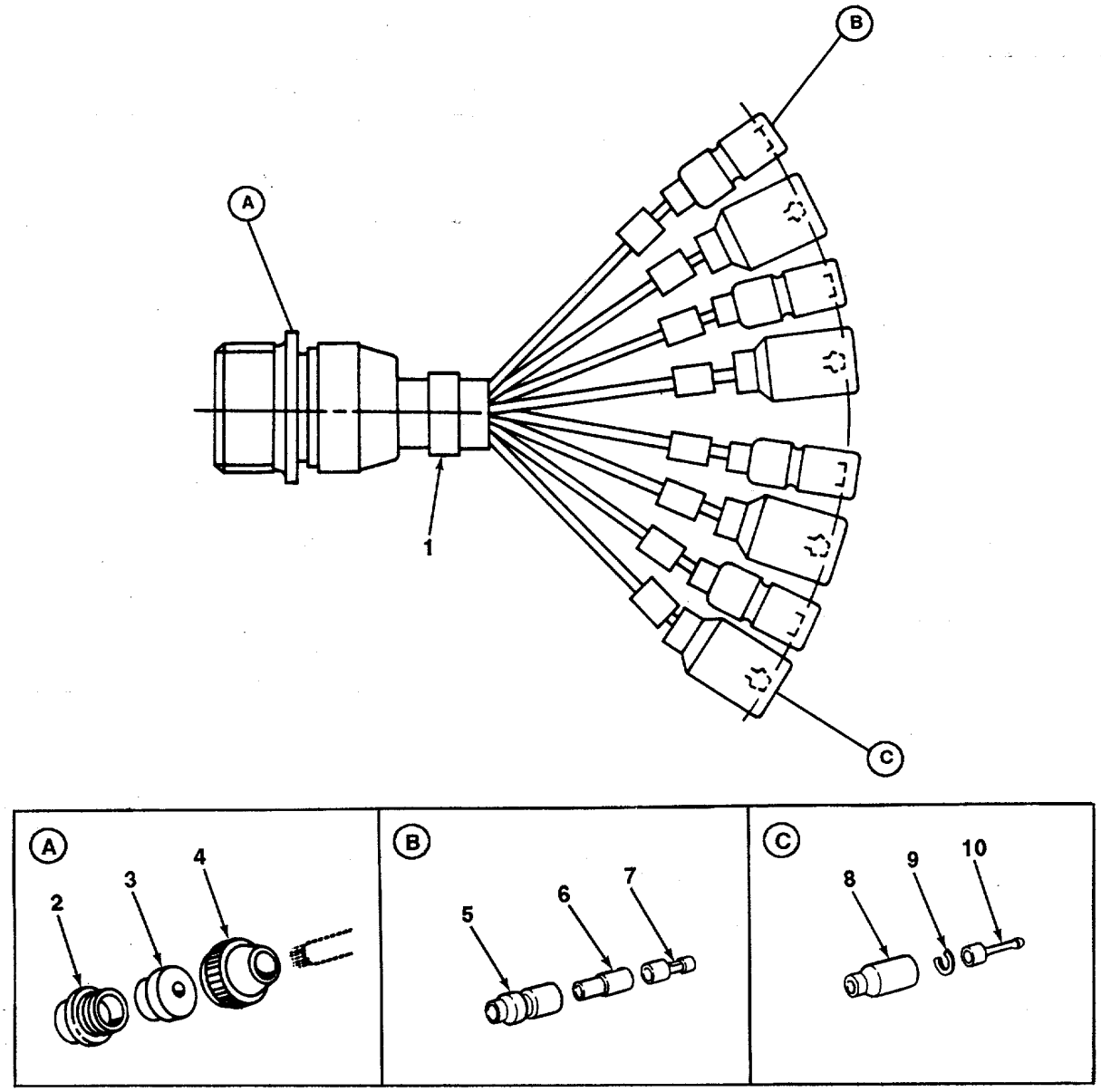

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FIGURE 20. CONTROL PANEL BOX WIRING HARNESS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 20 CONTROL PANEL BOX WIRING HARNESS	
1	MOOOO	19207	11686242	WIRING HARNESS CONTROL PANEL BOX MAKE FROM P/N M13486/1-5.	1
2	PAOZZ	19207	7722353	CONNECTOR,RECEPTACL CONTROL PANEL BOX WIRING HARNESS	1
3	PAOZZ	19207	7722322	BUSHING,NONMETALLIC WIRING HARNESS	1
4	PAOZZ	19207	7723308	NUT,BUSHING RETAINE GROMMET RETAINING	1
5	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	4
6	PAOZZ	9207	8338562	INSULATOR,BUSHING	4
7	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	4
8	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	4
9	PAOZZ	19207	8338567	WASHER,SLOTTED	4
10	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	4

END OF FIGURE

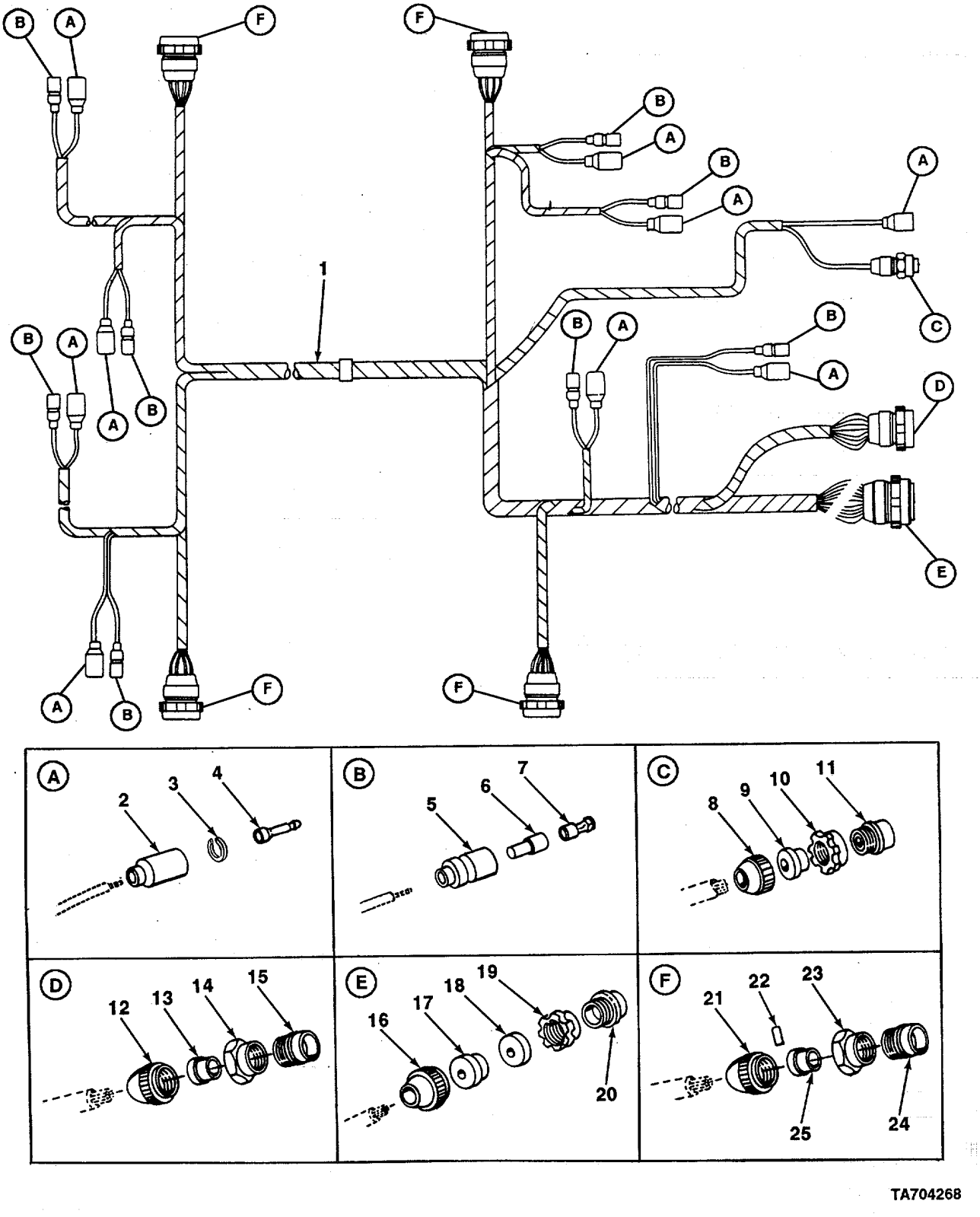

FIGURE 21. OUTRIGGER RELAY WIRING HARNESS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 21 OUTRIGGER RELAY WIRING HARNESS	
1	MFOZZ	19207	11670253	HARNESS ASSEMBLY MAKE FROM P/N M13486/1-15	1
2	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	9
3	PAOZZ	19207	8338567	WASHER,SLOTTED	9
4	PAOZZ	96906	MS2714B-2	CONTACT,ELECTRICAL	9
5	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	
6	PAOZZ	19207	8338562	INSULATOR,BUSHING	8
7	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	8
	PAOZZ	19207	7723306	NUT,BUSHING RETAINE	1
9	PAOZZ	19207	7722343	BUSHING,NONMETALLIC	1
10	PAOZZ	19207	8724199	CONNECTOR,PLUG,ELEC	1
11	PAOZZ	77820	10-40457-12S	NUT,COUPLING,ELECTR	1
12	PAOZZ	19207	7723308	NUT,BUSHING RETAINE	1
13	PAOZZ	19207	7722322	BUSHING,NONMETALLIC	1
14	PAOZZ	81996	B8005-16-003FN19	CONNECTOR,PLUG,ELEC	1
15	PAOZZ	19207	8701325	NUT,SLEEVE	5
16	PAOZZ	19207	7723309	NUT,PLAIN,KNURLED	1
17	PAOZZ	19207	8724763	NONMETALLIC ROD	1
18	PAOZZ	19207	7722333	BUSHING,NONMETALLIC	1
19	PAOZZ	19207	8724257	CONNECTOR, PLUG,ELEC	1
20	PAOZZ	19207	7716634	NUT,COUPLING,ELECTR	1
21	PAOZZ	19207	7723308	NUT,BUSHING RETAINE	1
22	PAOZZ	19207	87246762	NONMETALLIC ROD	4
23	PAOZZ	19207	8724246	CONNECTOR,PLUG,ELEC	4
24	PAOZZ	19207	8701325	NUT,SLEEVE	1
25	PAOZZ	19207	7722323	BUSHING,NONMETALLIC	4

END OF FIGURE

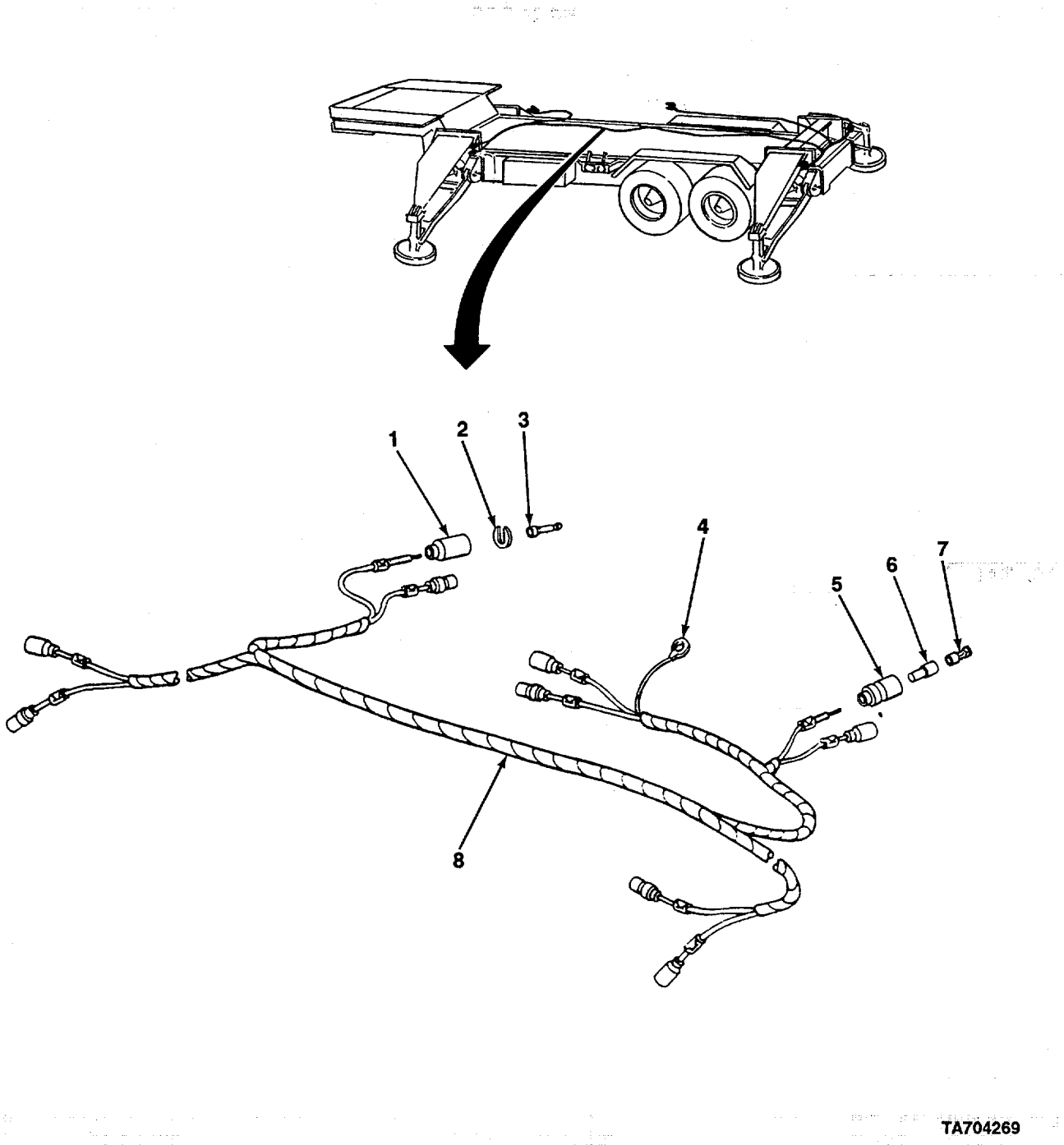

FIGURE 22. INTERLOCK BRANCHED WIRING HARNESS ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 22 INTERLOCK BRANCHED WIRING HARNESS ASSEMBLY	
1	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO	5
2	PAOZZ	19207	8338567	WASHER,SLOTTED	5
3	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL	5
4	PAOZZ	96906	MS25036-108	TERMINAL LUG	1
5	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	5
6	PAOZZ	19207	8338562	INSULATOR,BUSHING	5
7	PAOZZ	19207	8338564	TERMINAL ASSEMBLY.	5
8	MFFFF	19207	11686263	HARNESS,WIRING MAKE FROM P/N M13486/2-1	1

END OF FIGURE

1
2 THRU 10

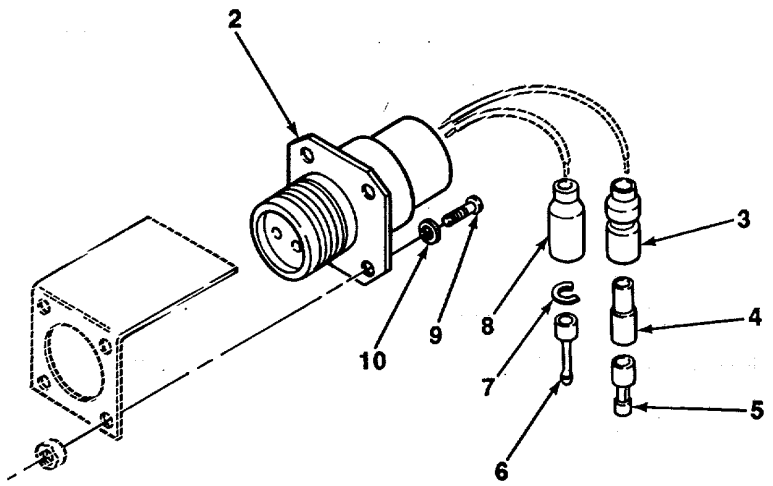

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FIGURE 23. INTERLOCK LEAD ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 23 INTERLOCK LEAD ASSEMBLY	
I	AOOOO	19207	11686268	LEAD ASSEMBLY INTERLOCK MAKE FROM ..... WIRE P/N M13486/2-1	1
2	PAOOA	96906	MS17343R16ClIP	CONNECTOR,RECEPTACL INTERLOCK..... LEAD ASSYS	1
3	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO.....	1
4	PAOZZ	19207	8338562	INSULATOR,BUSHING.....	1
5	PAOZZ	19207	8338564	TERMINAL ASSEMBLY.....	1
6	PAOZZ	96906	MS27148-2	CONTACT,ELECTRICAL.....	1
7	PAOZZ	19207	9338567	WASHER,SLOTTED.....	1
8	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO.....	1
9	PAOZZ	96906	MS35207-230	SCREW,MACHINE RECEPTACLE ATTACHING.....	4
10	PAOZZ	96906	MS35338-41	WASHER,LOCK RECEPTACLE SCREW ..... RETAINING	4
				END OF FIGURE	

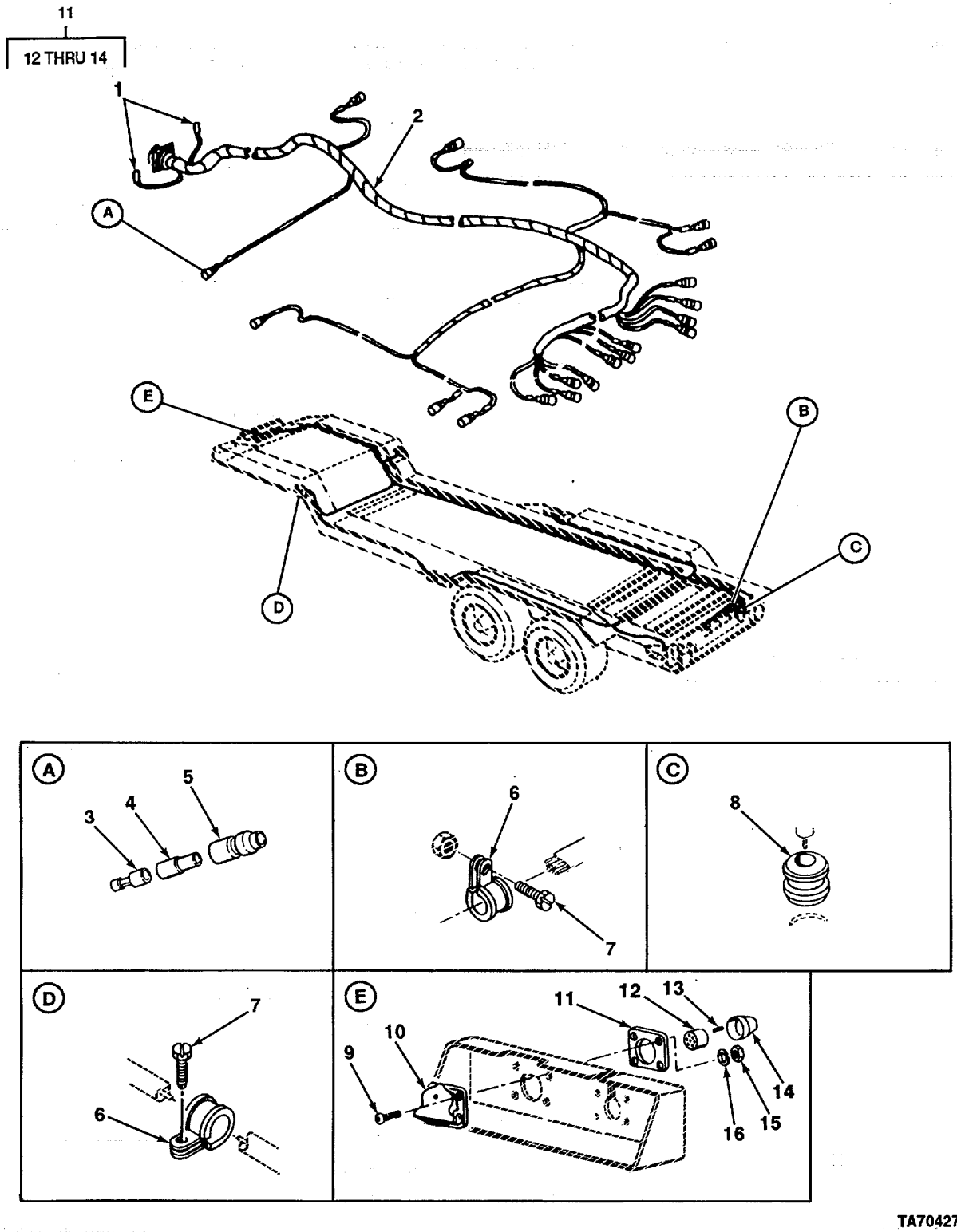

FIGURE 24. LIGHTING WIRING HARNESS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 24 LIGHTING WIRING HARNESS	
1	PAOZZ	19207	7056703	TERMINAL,LUG	2
2	MFHZZ	19207	11670031-1	WIRING HARNESS MAKE FROM P/N M13486/1-5	1
3	PAOZZ	19207	8338564	TERMINAL ASSEMBLY	19
4	PADZZ	19207	8338562	INSULATOR,BUSHING	19
5	PAOZZ	19207	8338561	SHELL,ELECTRICAL CO	19
6	PAOZZ	96906	MS21333-102	CLAMP,LOOP CABLE,HARNESS	3
6	PAOZZ	96906	M521333-66	CLAMP,LOOP	12
6	PAOZZ	96906	MS21333-100	CLAMP,LOOP	6
7	PAOZZ	96906	MS90725-3	SCREW,CAP,HEXAGON H GROUND CABLE CLAMP ATTACHING	21
8	PAFZZ	19207	11674759-3	GROMMET,NONMETALLIC HARNESS ASSEMBLY,LIGHTS.	1
9	PAOZZ	96906	MS35206-281	SCREW,MACHINE COVER ASSEMBLY INTERVEHICULAR RECEPTACLE	4
10	PAOZZ	19207	7731428	COVER,ELECTRICAL CO INTERVEHICULAR RECEPTACLE	1
11	PAOZZ	19207	8376208	CONNECTOR,RECEPTACL	1
12	PAOZZ	19207	7723309	NUT,PLAIN,KNURLED	1
13	PAOZZ	19207	8724763	NONMETALLIC ROD	3
14	PAOZZ	19207	7722333	BUSHING,NONMETALLIC	1
15	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	4
16	PAOZZ	96906	MS35335-33	WASHER,LOCK COVER ASSEMBLY INTERVEHICULAR RECEPTACLE	4

END OF FIGURE

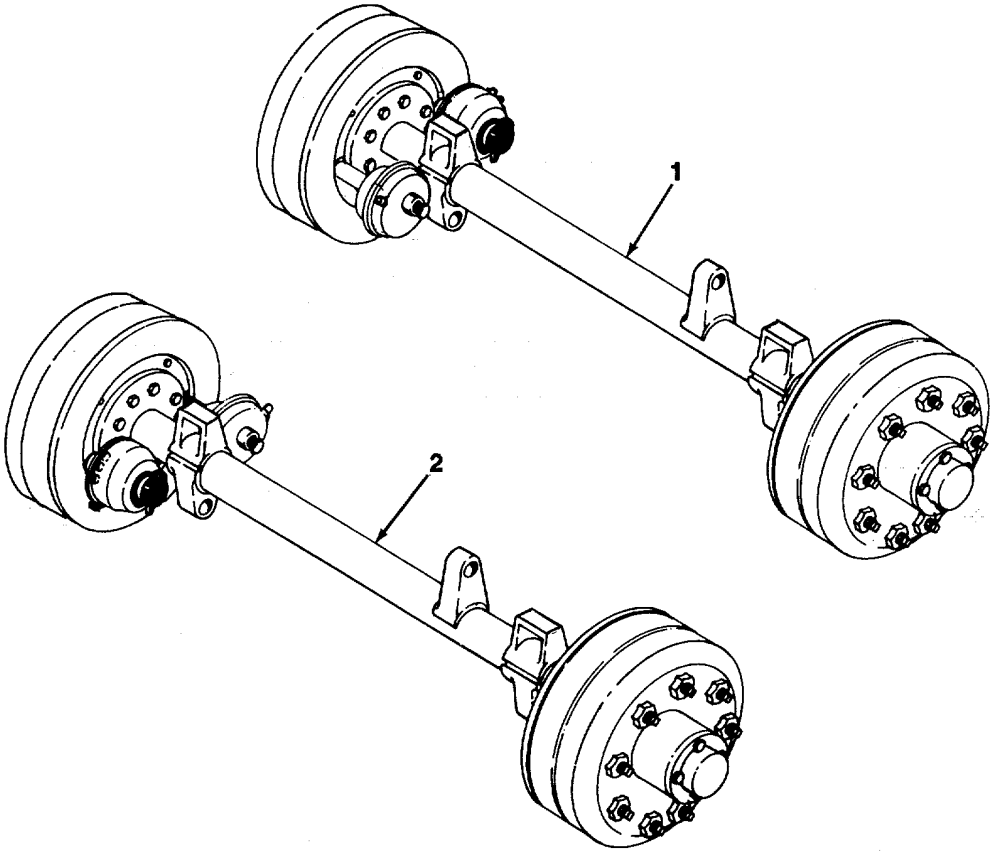

FIGURE 25. AXLE ASSEMBLY.

(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. 25 AXLE ASSEMBLY	
1	PAFFF	19207	11670070	AXLE ASSEMBLY,VEHIC.....	1
2	PAFFF	19207	11670071	AXLE,VEHICULAR,NOND REAR.....	1
				END OF FIGURE	

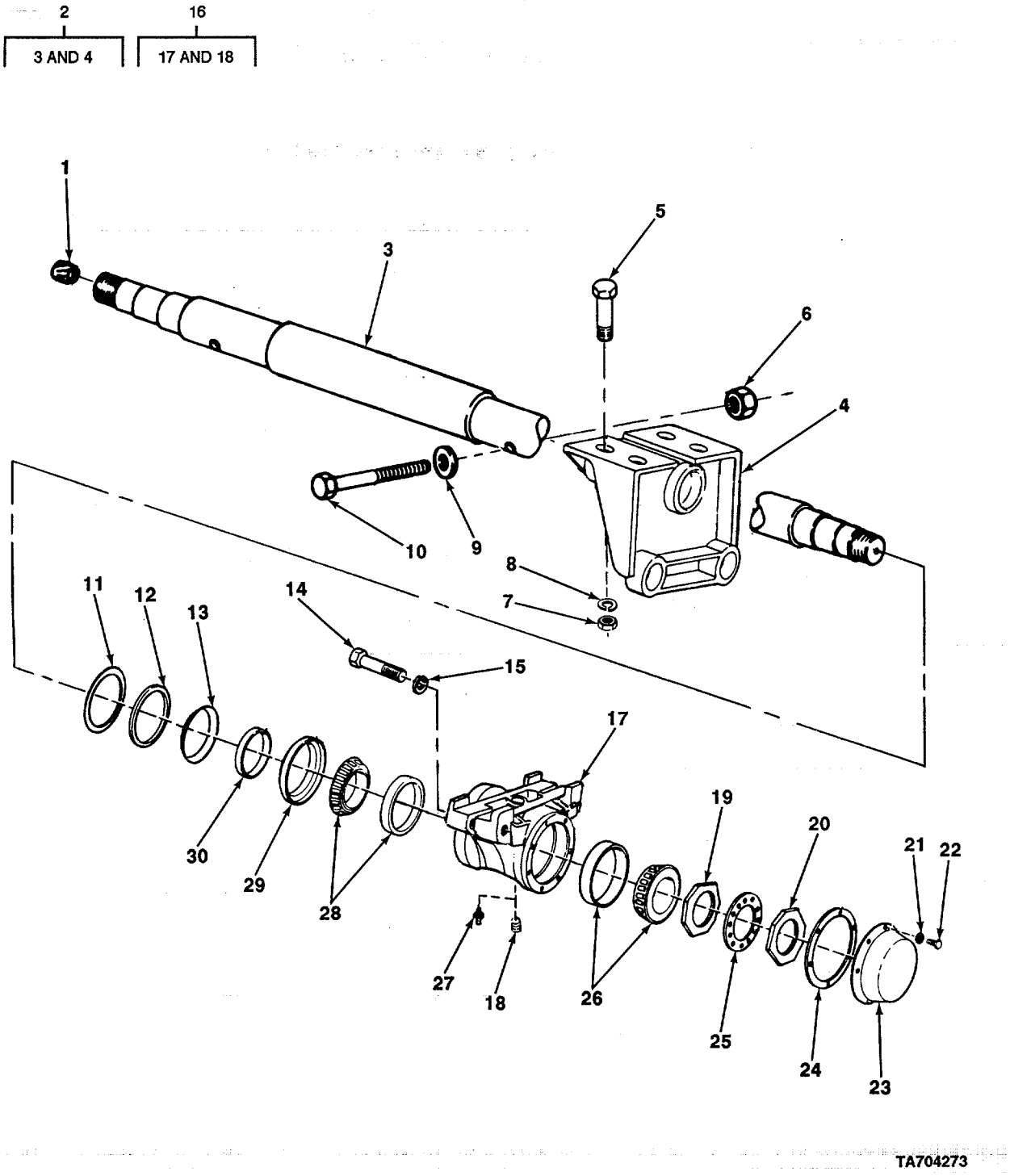

FIGURE 26. TRUNNION AXLE, EXPLORED VEIW.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1100 REAR AXLE ASSEMBLY	
				FIG. 26 TRUNNION AXLE, EXPLODED VIEW	
1	PAFZZ	19207	7979268	PLUG,TUBE AND BRACK TUBE ASSEMBLY TRUNNION	2
2	PAFFF	19207	11670072	TUBE ASSEMBLY,METAL TRUNNION	1
3	XAFZZ	19207	11670073	TUBE TRUNNION	1
4	PFFZZ	19207	7979286	BRACKET,TRUNION TUB TUBE ASSEMBLY TRUNNION	2
5	PAFZZ	19207	7979377	BOLT,MACHINE BOGIE ASSEMBLY.	8
6	PAFZZ	96906	MS51968-23	NUT,PLAIN,HEXAGON	2
7	PAFZZ	96906	MS51968-32	NUT,PLAIN,HEXAGON	8
8	PAFZZ	96906	MS35338-54	WASHER,LOCK BRACKET,TUBE ASSEMBLY, TRUNNION	8
9	PAFZZ	96906	MS35338-51	WASHER,LOCK BRACKET,TUBE ASSEMBLY, TRUNNION	2
10	PAFZZ	19207	7346958	BOLT,MACHINE	2
11	PAFZZ	19207	7979265	WASHER,FLAT INNER BEARING SEAL, SPRING SEAT ASSEMBLY.	2
12	PAFZZ	78500	5X625	FELT,MECHANICAL,PRE INNER BEARING SPRING SEAT ASSEMBLY.	2
13	PAFZZ	19207	7979264	RETAINER,PACKING SPRING SEAT ASSEMBLY	2
14	PAFZZ	19207	7979329	BOLT,MACHINE SPRING SEAT SUSPENSION ASSEMBLY	4
15	PAFZZ	96906	MS35338-55	WASHER,LOCK BOLT,SPRING SEAT	2
16	PAFZZ	19207	7979312	SEAT ,SPRING,AXLE	2
17	PAFZZ	19207	7979305	SEAT,SPRING,AXLE SUSPENSION SYSTEM	1
18	PAFZZ	15434	S911B	PLUG,PIPE SPRING SEAT ASSEMBLY	1
19	PAFZZ	19207	7979308	NUT,PLAIN,OCTAGON BEARING ADJUSTMENT,SPRING SEAT ASSEMBLY	2
20	PAFZZ	19207	7979263	NUT,PLAIN,OCTAGON SPRING SEAT ASSEMBLY	2
21	PAFZZ	96906	MS35338-45	WASHER,LOCK BOGIE ASSEMBLY	12
22	PAFZZ	96906	MS90728-30	BOLT,MACHINE SPRING SEAT ASSEMBLY	12
23	PAFZZ	19207	7979306	COVER,ACCESS SPRING SEAT ASSEMBLY.	2
24	PAFZZ	19207	7979274	GASKET SPRING SEAT ASSEMBL Y	2
25	PAFZZ	19207	5139123	WASHER,KEY SPRING SEAT ASSEMBLY	2
26	PAFZZ	21450	703077	BEARING,ROLLER,TAPE OUTER,SPRING SEAT ASSEMBLY	2
27	PAFZZ	96906	MS15003-1	FITTING,LUBRICATION	1
28	PAFZZ	21450	712288	BEARING,ROLLER,TAPE SPRING SEAT ASSEMBLY	2
29	PAFZZ	19207	7979349	SEAL,PLAIN ENCASED OIL,HUB AND DRUM ASSEMBLY	2
30	PAFZZ	19207	7409553	RING,WIPER HUB AND DRUM ASSEMBLY	2
				END OF FIGURE	

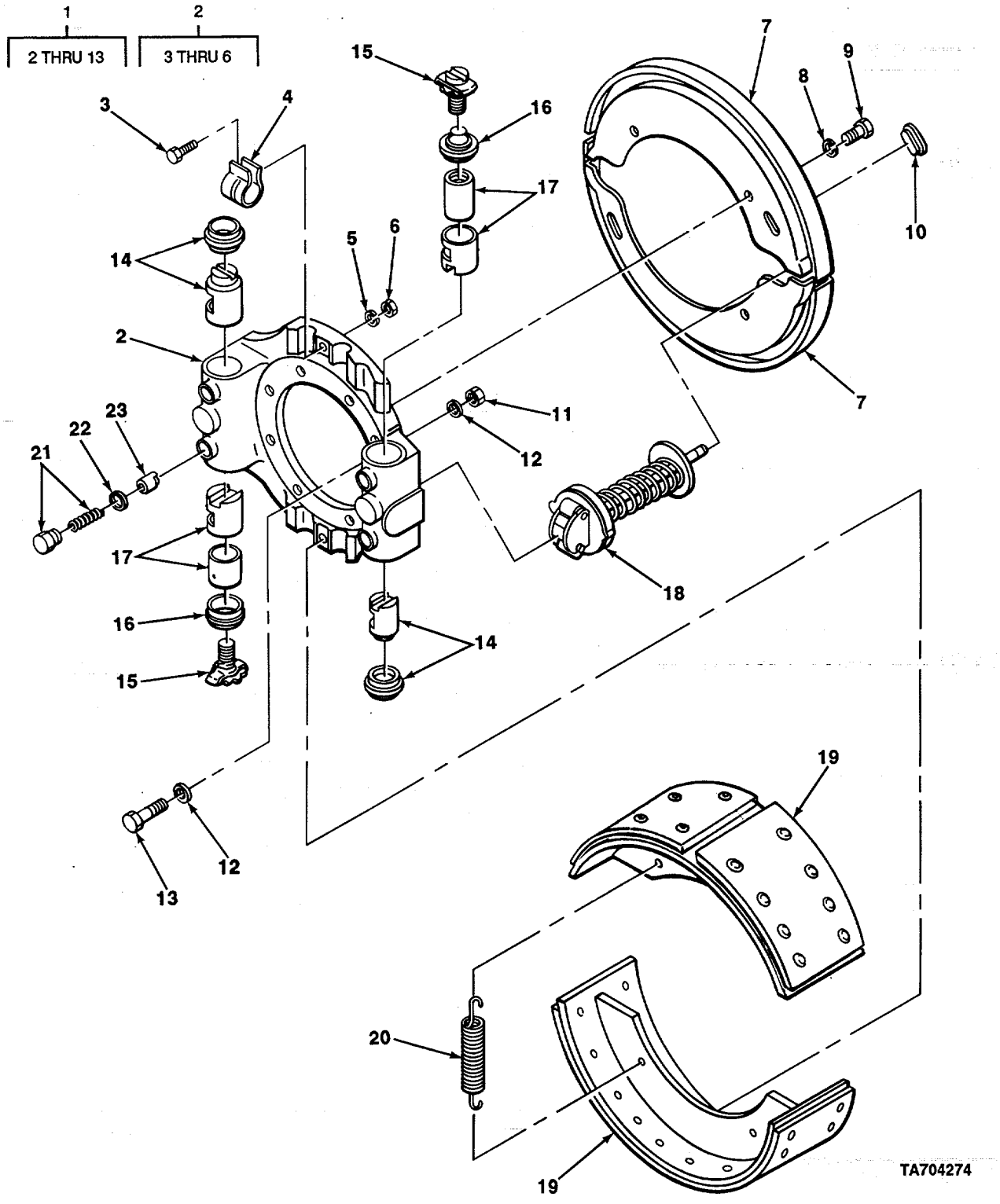

FIGURE 27. SERVICE BRAKE

(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. 27 SERVICE BRAKES	
1	PFOOO	78500	RDA1570-4627	BRAKE ASSEMBLY AXLE, LH FWD	1
1	PFOOO	78500	RDA1570-4628	BRAKE ASSEMBLY AXLE, RH FWD.....	1
1	PFOOO	78500	RDA1570-4629	BRAKE ASSEMBLY AXLE, LH REAR.....	1
1	PFOOO	78500	RDA1570-4630	BRAKE ASSEMBLY AXLE, RH REAR.....	1
2	PAOZZ	78500	A16-3211K2871	.BRAKE SPIDER AND CL LEFT HAND...	1
2	PAOZZ	78500	A1-3211D-2994	.BRAKE SPIDER ASSEMB RIGHT HAND.... ..	1
3	PAOZZ	79780	S-146	..BOLT, SPECIAL CLIP SHOE HOLD DOWN.	2
4	PAOZZ	78500	SCD-1718-D-134	..CLIP, BRAKE SHOE, HOL BRAKE SPIDER. ASSY	2
5	PAOZZ	78500	WA-14-C	..WASHER, LOCK BRAKE SPIDER ASSY	2
6	PAOZZ	78500	N-14	..NUT, PLAIN, HEXAGON BRAKE SPIDER.... ASSY	2
7	PAOZZ	78500	3736N326	.SHIELD, BRAKE DISK SERVICE BRAKES. ...	2
8	PAOZZ	78500	1229-S-513	.WASHER, LOCK DUST SHIELD TO SPIDER ASSEMBLY	4
9	PAOZZ	78500	S255C	.SCREW, CAP DUST SHIELD TO SPIDER.... ASSY	4
10	PAOZZ	78500	1707C3	.CAP-PLUG,PROTECTIVE DUST COVER.....	4
11	PAOZZ	78500	N19-1C	.NUT, PLAIN,SINGLE BA.....	16
12	PAOZZ	81205	BACW10P53S	.WASHER, FLAT	16
13	PAOZZ	78500	S-1914-1C	.SCREW	16
14	PAOZZ	78500	A1-2797-C-419	PLUNGER, BRAKE SHOE LEFT HAND	2
14	PAOZZ	78500	A1-2797-B-418	PLUNGER AND SEAL AS RIGHT HAND.....	2
15	KFOZZ	78500	A-2297-V-5326	ADJUSTING SCREW AS PART OF KIT P/N.. 116164.....	2
16	KFOZZ	78500	1205C2005	SEAL ADJUSTER PART OF KIT P/N 1164.....	2
17	KFOZZ	78500	A-3280-U-8185	PLUNGER, DETENT PART OF KIT P/N 1164.	2
18	PAOZZ	78500	A-2747-H-112	WEDGE ASSEMBLY AIR CHAMBER.....	4
19	PAOZZ	19207	5705696	PARTS KIT, BRAKE SHO SERVICE BRAKES	2
20	PAOZZ	78500	2258-K-583	SPRING, HELICAL, COMP	4
21	PAOZZ	78500	1779M195	GUIDE, ANCHOR.....	4
22	PAOZZ	78500	1729-B-262	WASHER, LOCK SPIDER ASSEMBLY	4
23	PAOZZ	78500	A-1199-Z-3432	KIT, GUIDE, AIR BRAKE SPIDER ASSEMBLY	4
				END OF FIGURE	

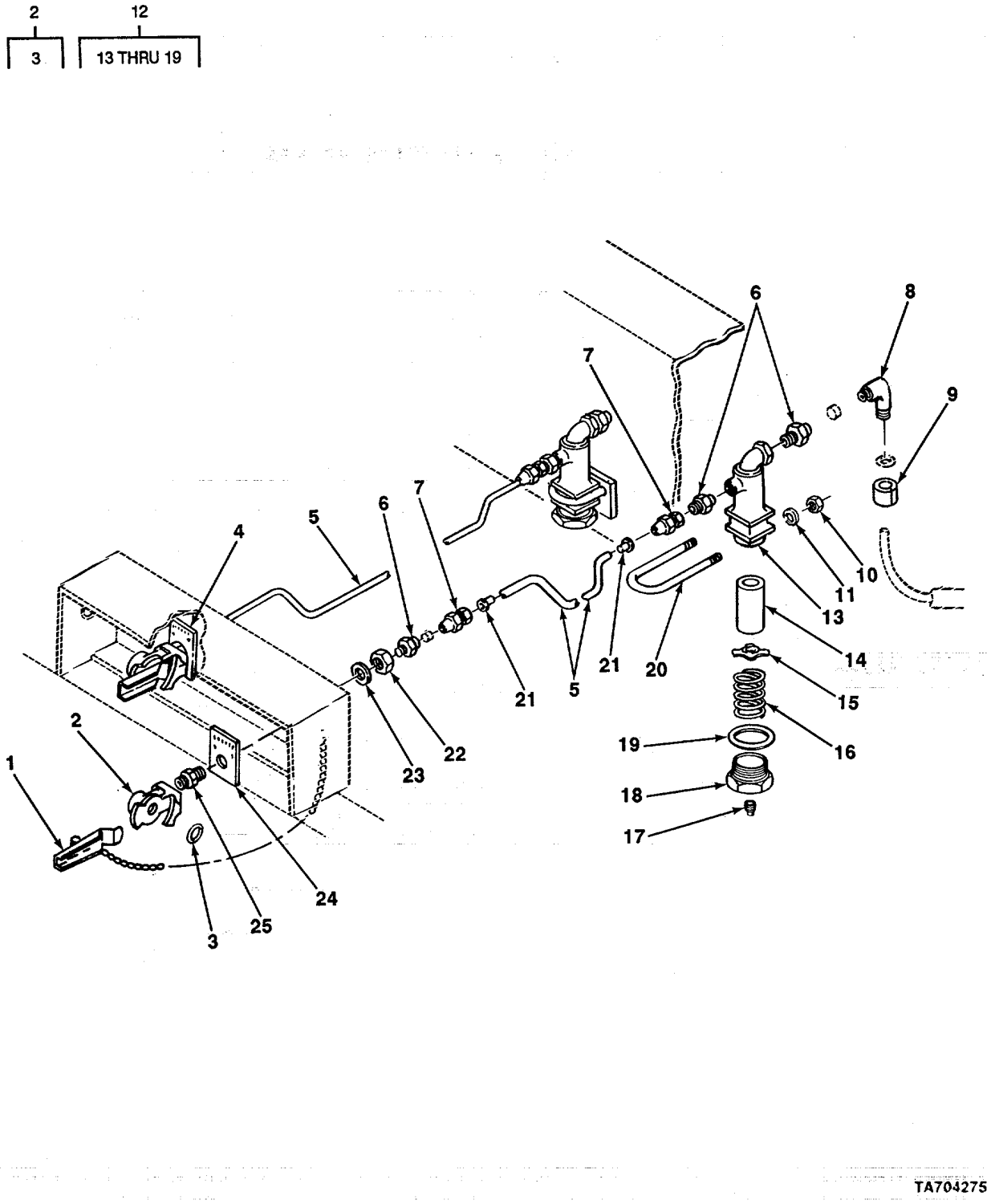

FIGURE 28. AIR LINES, COUPLINGS, AND HOSES (FRONT HALF).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIRBRAKE SYSTEM	
				FIG. 28 AIR LINES, COUPLINGS, AND HOSES (FRONT HALF)	
1	PAOZZ	19207	7411021	DUMMY COUPLING, AUTO AIR BRAKE LINES	2
2	PAOZZ	96906	MS35746-1	COUPLING HALF, QUICK AIR BRAKE HOSE.	2
3	PAOZZ	06853	213630	.PACKING, PREFORMED	1
4	PAOZZ	96906	MS53007-1	PLATE, IDENTIFIGATIO AIR..... LINE(SERVICE).....	1
5	PAOZZ	30327	C608	HOSE, NONMETALLIC FRONT AIR BRAKE..V LINES	
6	PAOZZ	81343	8-6 120102BA	ADAPTER, STRAIGHT, PI COUPLING END.. AIR BRAKE LINE.....	3
7	PAOZZ	81343	8-4 120202BA	ELBOW	2
8	PAOZZ	81343	8-6 120202BA	ELBOW	1
9	PAOZZ	19207	11670101	BUSHING, NONMETALLIC FRONT BRAKE... LINES	2
10	PAOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON..... .	4
11	PAOZZ	96906	MS35338-44	WASHER, LOCK CLEANER ASSY, BRAKE LINE	4
12	PAOZZ	19207	7411022	AIR FILTER, BRAKE LI FRONT AIR..... BRAKE LINES	2
13	PAOZZ	19207	7415748	ELBOW BODY, AIR LINE CLEANER ASSY .. BRAKE LINES	1
14	PAOZZ	19207	7411081	.FILTER ELEMENT, FLUI CLEANER ASSY ... BRAKE LINES PART OF KIT P/N RN-13-A.	1
15	PAOZZ	19207	7979614	.WASHER, SPRING TENSI FILTERSPRING, CLEAN ASSY BRAKE LINE.....	1
16	PAOZZ	19207	7979612	.SPRING, HELICAL, COMP CLEAN ASSY..... BRAKE LINES PART OF KIT P/N RN-13-A.	1
17	PAOZZ	96906	MS20913-1S	.PLUG, PIPE CLEANER ASSY, BRAKE LINE .	1
18	PAOZZ	19207	7979613	.ADAPTER BUSHING CLEANER ASSY..... BRAKE LINE.....	1
19	PAOZZ	19207	8329823	.GASKET CLEANER ASSY, BRAKE LINE..... PART OF KIT P/N RN-13-A	1
20	PAOZZ	19207	7979296	BOLT, U CLEANER ASSY, BRAKE LINE	2
21	PAOZZ	19207	CPR102321-4	INSERT, TUBE FITTING FRONT AIR BRAKE	4
22	PAOZZ	96906	MS35691-77	NUT, PLAIN, HEXAGON AIR BRAKE LINE	2
23	PAOZZ	96906	MS35333-49	WASHER, LOCK NIPPLE, AIR BRAKE LINE ...	2
24	PAOZZ	96906	MS53007-2	PLATE, IDENTIFICATIO AIR..... LINE(EMERGENCY).....	1
25	PAOZZ	19207	11670099	ADAPTER, STRAIGHT, PI AIR BRAKE LINE.	2

END OF FIGURE

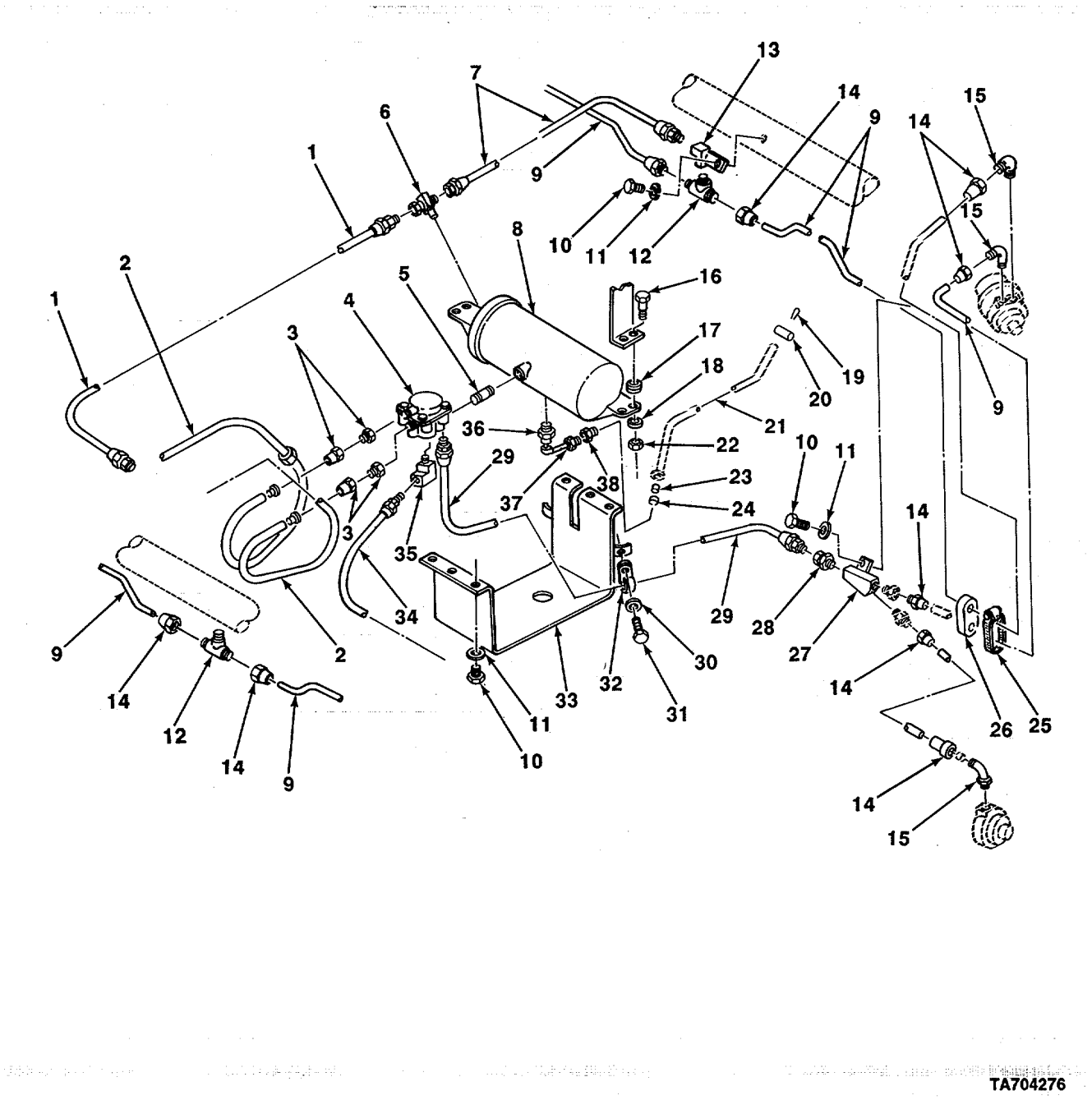

FIGURE 29. AIR LINES, COUPLINGS, AND HOSES (REAR HALF).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIRBRAKE SYSTEM	
				FIG. 29 AIR LINES, COUPLINGS, AND HOSES (REAR HALF)	
1	PAOZZ	19207	11670098-2	HOSE ASSEMBLY, NONME ADAPTER TO ... FRONT AXLE AIR BRAKE.....	1
2	PAOZZ	30327	C608	HOSE, NONMETALLIC FRONT AIR BRAKE..V LINES	
3	PAOZZ	81343	8-4 1202028A	ELBOW	2
4	PAOZZ	96906	MS53004-2	PARTS KIT, RELAY VAL REAR AIR BRAKE.. LINES	1
5	PAOZZ	96906	MS51953-101B	NIPPLE, PIPE	1
6	PAOZZ	19207	8395410	TEE, PIPE TO TUBE UNION TEE, AIR ..... BRAKE SYSTEMS.....	1
7	PAOZZ	19207	11670098-3	HOSE ASSEMBLY, NONME ADAPTER TO ... REAR AXLE, AIR BRAKE	1
8	PAOZZ	19207	12296406	TANK, PRESSURE.....	1
9	PAOZZ	95535	55229	TUBE, METALLIC AIR BRAKE SYSTEM..... ...V	
10	PAOZZ	96906	MS90727-58	SCREW, CAP, HEXAGON.....	18
11	PAOZZ	96906	MS35338-46	WASHER, LOCK RELAY VALVE SHIELD	18
12	PAOZZ	81343	8-6-6 120425BA	TEE	2
13	PAOZZ	19207	11670097-2	ELBOW, PIPE REAR AXLE, AIR BRAKE ..... SYSTEM	1
13	PAOZZ	19207	11670097-1	ELBOW, PIPE AIR BRAKE LINES.....	1
14	PAOZZ	81343	8-6 120102BA	ADAPTER, STRAIGHT, PI AIR BRAKE LINE, FAIL-SAFE	8
15	PAOZZ	81343	8-6 120202BA	ELBOW, PIPE TO TUBE REAR AIR BRAKE.. LINE.....	3
16	PAOZZ	96906	MS18153-63	SCREW, CAP, HEXAGON H	4
17	PAOZZ	19207	7979287	GROMMET, NONMETALLIC REAR AIR BRAKE LINES	4
18	PAOZZ	96906	MS27183-15	WASHER, FLAT REAR AIR BRAKE LINE	4
19	PAOZZ	96906	MS20664C4	BALL END, WIRE ROPEP.....	1
20	PAOZZ	19207	12250283	HANDLE, BAR DRAIN VALVE ACTUATING...	1
21	PAOZZ	19207	7068272	ROPE, WIRE 1/8 IN DIAMETER DRAIN..... VALVE ACTUATING	1
22	PAOZZ	96906	MS51922-21	NUT, SELF-LOCKING, HE REAR AIR BRAKE LINE.....	4
23	PAOZZ	96906	MS24585-1378	SPRING, HELICAL, COMP	1
24	PAOZZ	19207	12250284	RETAINER, HELICAL CO.....	1
25	PAOZZ	96906	MS35842-14	CLAMP, HOSE AIR BRAKE SYSTEM	4
26	PAOZZ	19207	11674991	GASKET AIR BRAKE LINES	4
27	PAOZZ	19207	11670100	CONNECTOR ASSEMBLY.....	4
28	PAOZZ	19207	8764909-1	COUPLINGTPIPE	4
29	PAOZZ	19207	11670098-4	HOSE ASSEMBLY, NONME RELAY VALVE TO REAR AXLE.....	2
30	PAOZZ	96906	MS35338-43	WASHER, LOCK AIR BRAKE LINES.....	2
31	PAOZZ	96906	MS51849-64	SCREW, MACHINE AIR BRAKES	2
32	PAOZZ	96906	MS21333-75	CLAMP, LOOP AIR BRAKE	2
33	XBOZZ	19207	11670096	SHIELD RELAY VALVE & AIR TANK.....	1
34	PAOZZ	19207	11670098-1	HOSE ASSEMBLY, NONME RELAY VALVE TO	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				FORWARD AXLE	
35	PAOZZ	19207	10900257	ELBOW, PIPE	1
36	PAOZZ	19207	12250285	COCK, DRAIN	1
37	PAOZZ	96906	MS16843-1	CLAMP, WIRE ROPE, THR DRAIN VALVE ACTUATING	1
38	PAOZZ	19207	8764909-1	COUPLING, PIPE	1

END OF FIGURE

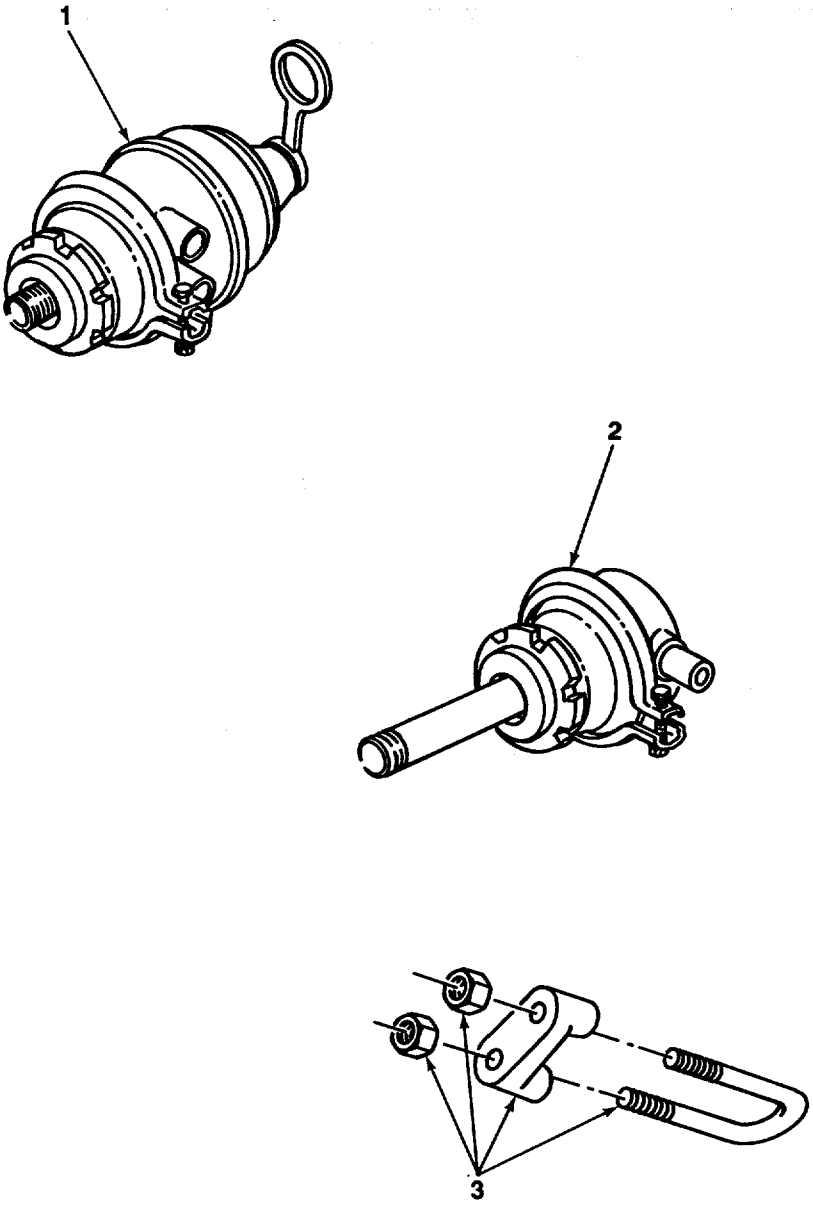

FIGURE 30. AIRBRAKE CHAMBERS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1208 AIRBRAKE SYSTEM	
				FIG. 30 AIRBRAKE CHAMBERS	
1	PAOZZ	78500	U34-3276L12X	CHAMBER, AIR BRAKE FAIL-SAFE	2
2	PAOZZ	78500	E3276L12(X)	CHAMBER, AIR BRAKE	2
3	PAOZZ	29201	25236-1	CLAMP, LOOP, ASSEMBLY	4

END OF FIGURE

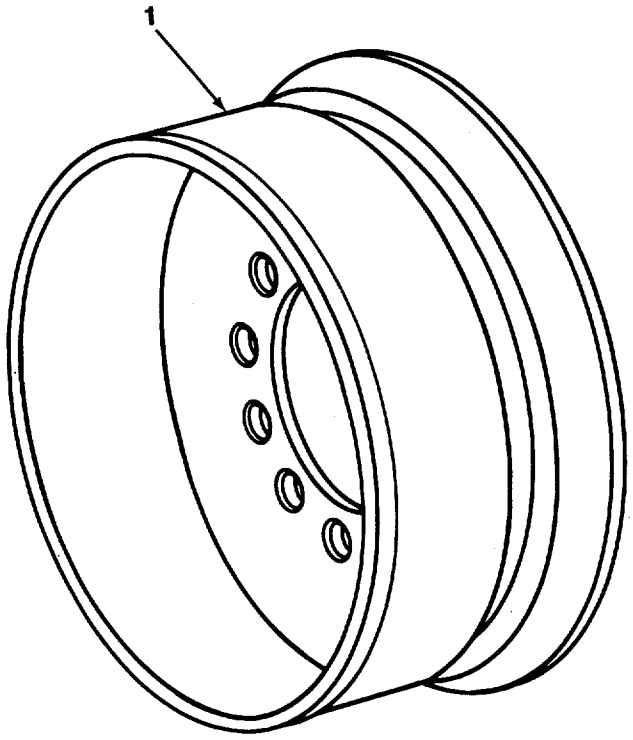

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FIGURE 31. WHEEL ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 13 WHEELS AND TRACKS	
				GROUP 1311 WHEEL ASSEMBLY	
				FIG. 31 WHEEL ASSEMBLY	
1	PAOZZ	19207	11601389	WHEEL, PNEUMATIC TIR	1
				END OF FIGURE	

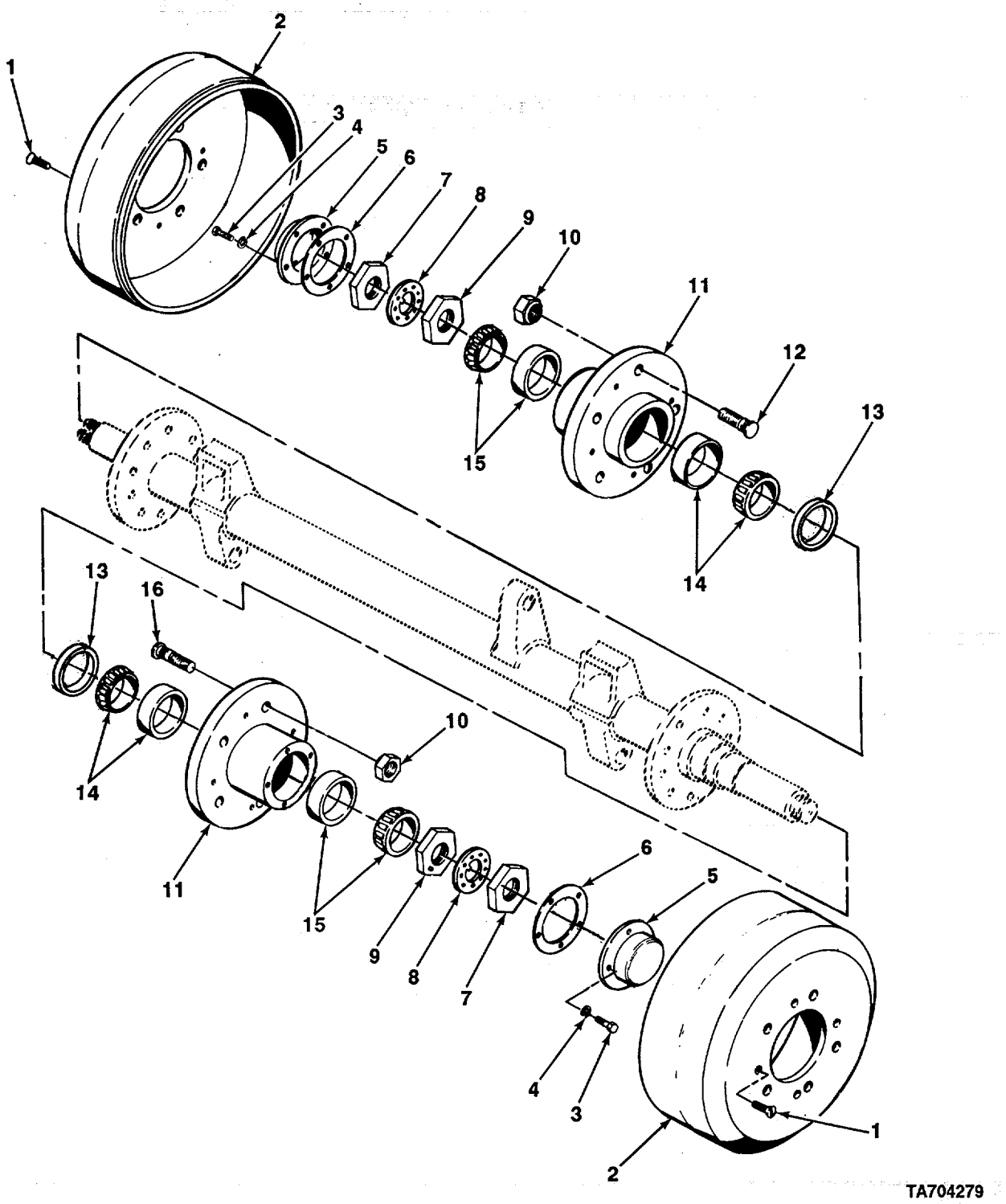

FIGURE 32. HUBS AND BRAKEDRUMS.

(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. 32 HUBS AND BRAKEDRUMS	
1	PAOZZ	78500	S7810S	SCREW WHEEL HUB DRUM BRAKE.....	20
2	PAOZZ	78500	3219G3647X	BRAKE DRUM BRAKE, REAR AXLE..... 2	
3	PAOZZ	78500	S2810	SCREW CAP, HUB.....	10
4	PAOZZ	80063	SCB52887-4	WASHER, LOCK	10
5	PAOZZ	78500	3262L90	COVER, ACCESS HUB..	2
6	PAOZZ	19207	7979275	GASKET CAP, HUB.....	2
7	PAOZZ	19207	7979263	NUT, PLAIN, OCTAGON BEARING CONE .... OUTER.....	2
8	PAOZZ	19207	5139123	WASHER, KEY BEARING CONE OUTER.....	2
9	PAOZZ	19207	7979309-1	NUT, PLAIN, OCTAGON BEARING CONE .... OUTER.....	2
10	PAOZZ	78500	1199G111	NUT, PLAIN, SINGLE BA LEFT HAND, HUB.. AND DRUM ASSEMBLY	10
10	PAOZZ	19207	10938443-2	NUT, PLAIN, SINGLE BA RIGHT HAND..... HUB AND DRUM ASSEMBLY	10
11	PAOZZ	78500	A333X2182X	HUB ASSEMBLY BRAKE DRUM.....	2
12	PAOZZ	78500	20X407C	BOLT, MACHINE LEFT HAND, HUB ASSEMBLY	10
13	PAOZZ	19207	7979349	SEAL, PLAIN ENCASED	2
14	PAOZZ	96906	MS19081-137	BEARING, ROLLER, TAPE	2
15	PAOZZ	96906	MS109081-181	CONE AND ROLLERS, TA OUTER, HUB AND DRUM ASSEMBLY	2
16	PAOZZ	78500	20X406C	BOLT, MACHINE RIGHT HAND, HUB..... ASSEMBLY	10

END OF FIGURE

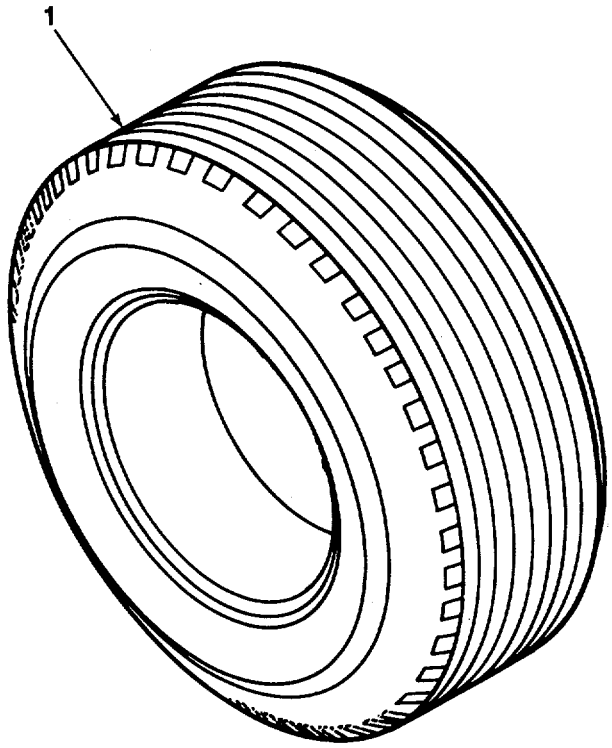

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FIGURE 33. TIRE.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1313 TIRES, TUBES, TIRE CHAINS	
				FIG. 33 TIRE	
1	PAOFF	19207	11603234	TIRE, PNEUMATIC 18 X 22.5 BIAS PLY	1
				END OF FIGURE	

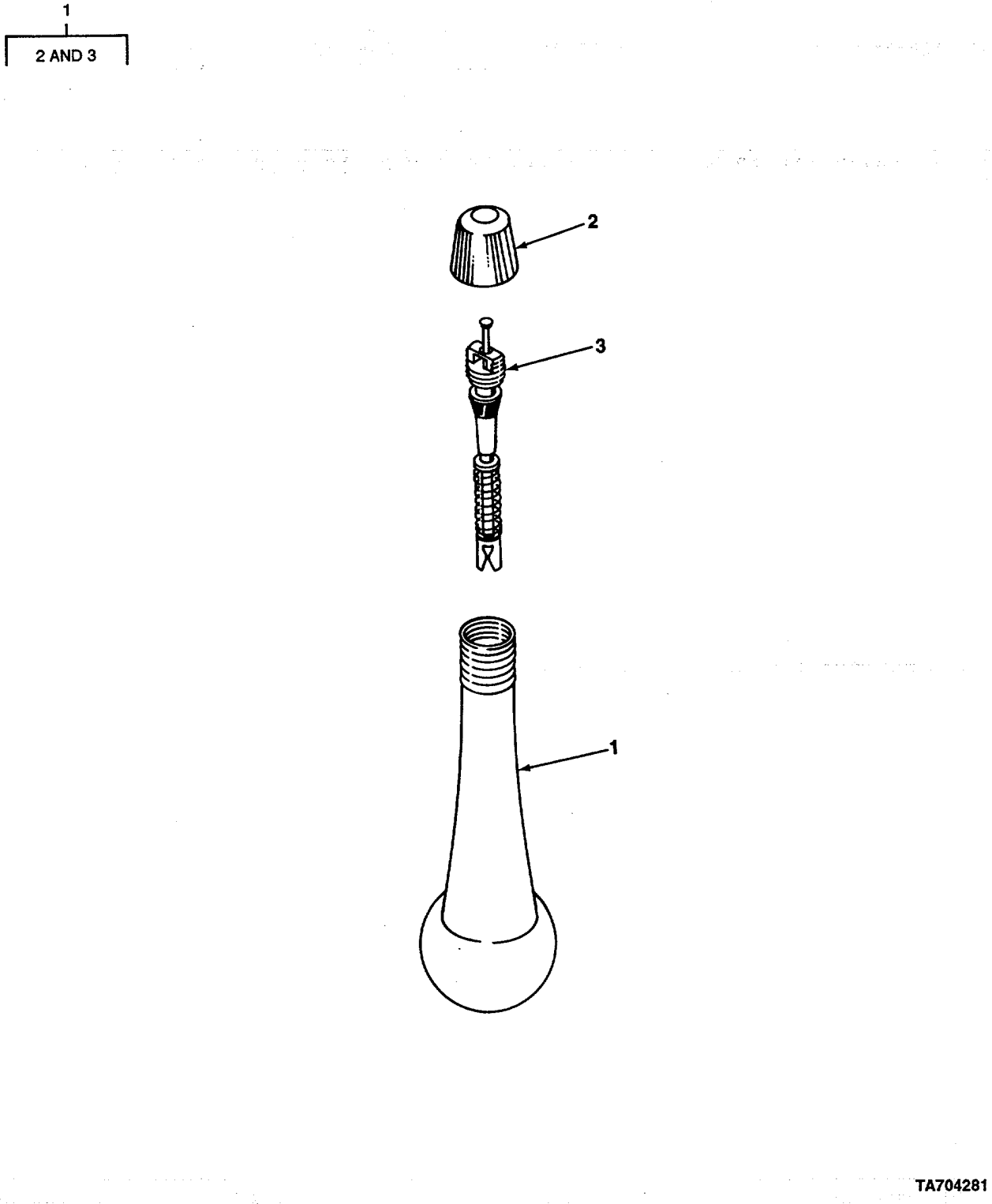

FIGURE 34. PNEUMATIC TIRE VALVE.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1313 TIRES, TUBES, TIRE CHAINS	
				FIG. 34 PNEUMATIC TIRE VALVE	
1	PAOZZ	96906	MS51368-Z	VALVE, PNEUMATIC TIR	1
2	PAOZZ	27783	7572	.CAP, PNEUMATIC VALVE	1
3	PAOZZ	17875	1OOAA	.VALVE CORE.....	1

END OF FIGURE

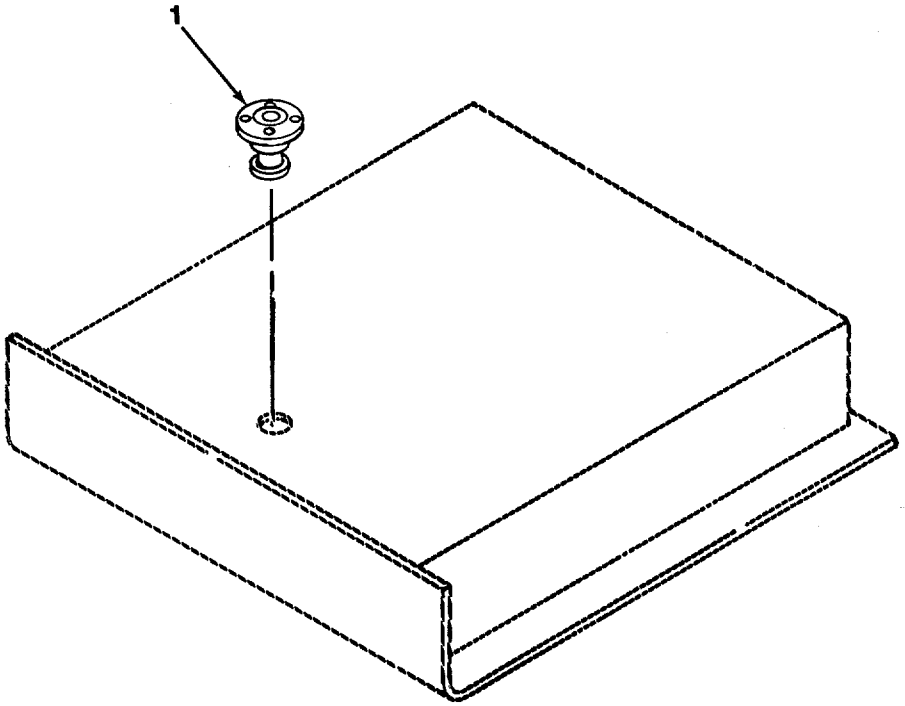

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FIGURE 35. FIFTH WHEEL KINGPIN.

(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, DRAWBARS, AND ARTICULATION SYSTEMS	
				GROUP 1503 PINTLES AND TOWING ATTACHMENTS	
				FIG. 35 FIFTH WHEEL KINGPIN	
1	PBFZZ	96906	MS53037-1	KINGPIN, FIFTH WHEEL	1

END OF FIGURE

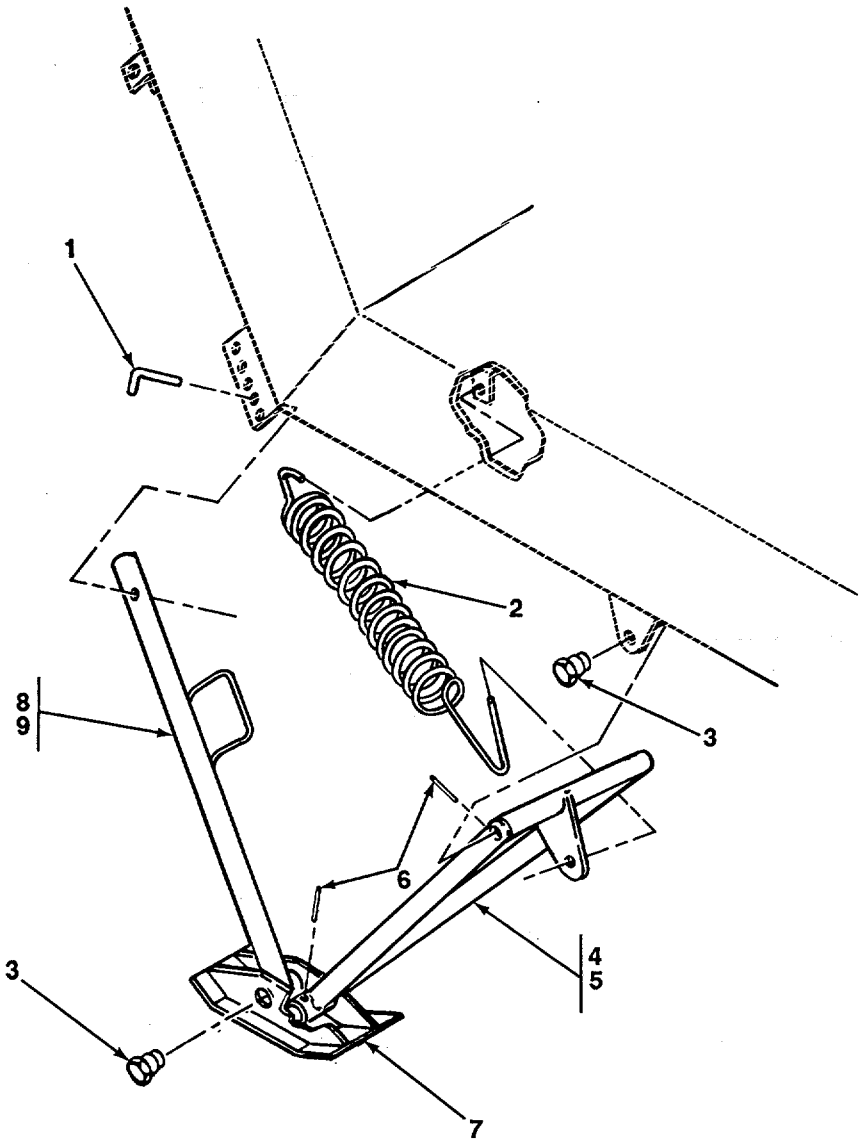

FIGURE 36. LANDING LEGS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 36 LANDING LEGS	
1	PAOZZ	19207	11669116	PIN, HITCH, LANDING L LANDING LEG.....	2
2	PAOZZ	19207	12255522	SPRING, HELICAL, EXTE LANDING LEG.....	2
3	PAOZZ	19207	11670042	PLUG, MACHINE THREAD	10
4	PBOZZ	19207	11670038-5	LEG, SEMITRAILER RET LEFT SIDE	1
5	PBOZZ	19207	11670038-6	LEG, SEMITRAILER RET RIGHT SIDE.....	1
6	PAOZZ	96906	MS16562-62	PIN, SPRING TO RETAIN PLUG.....	10
7	PFOZZ	19207	11670037	SHOE, JACK SUPPORT..... .	2
8	PBOZZ	19207	11670039-4	LEG, SEMITRAILER RET RIGHT SIDE.....	1
9	PBOZZ	19207	11670039	LEG, SEMITRAILER RET LEFT SIDE	1

END OF FIGURE

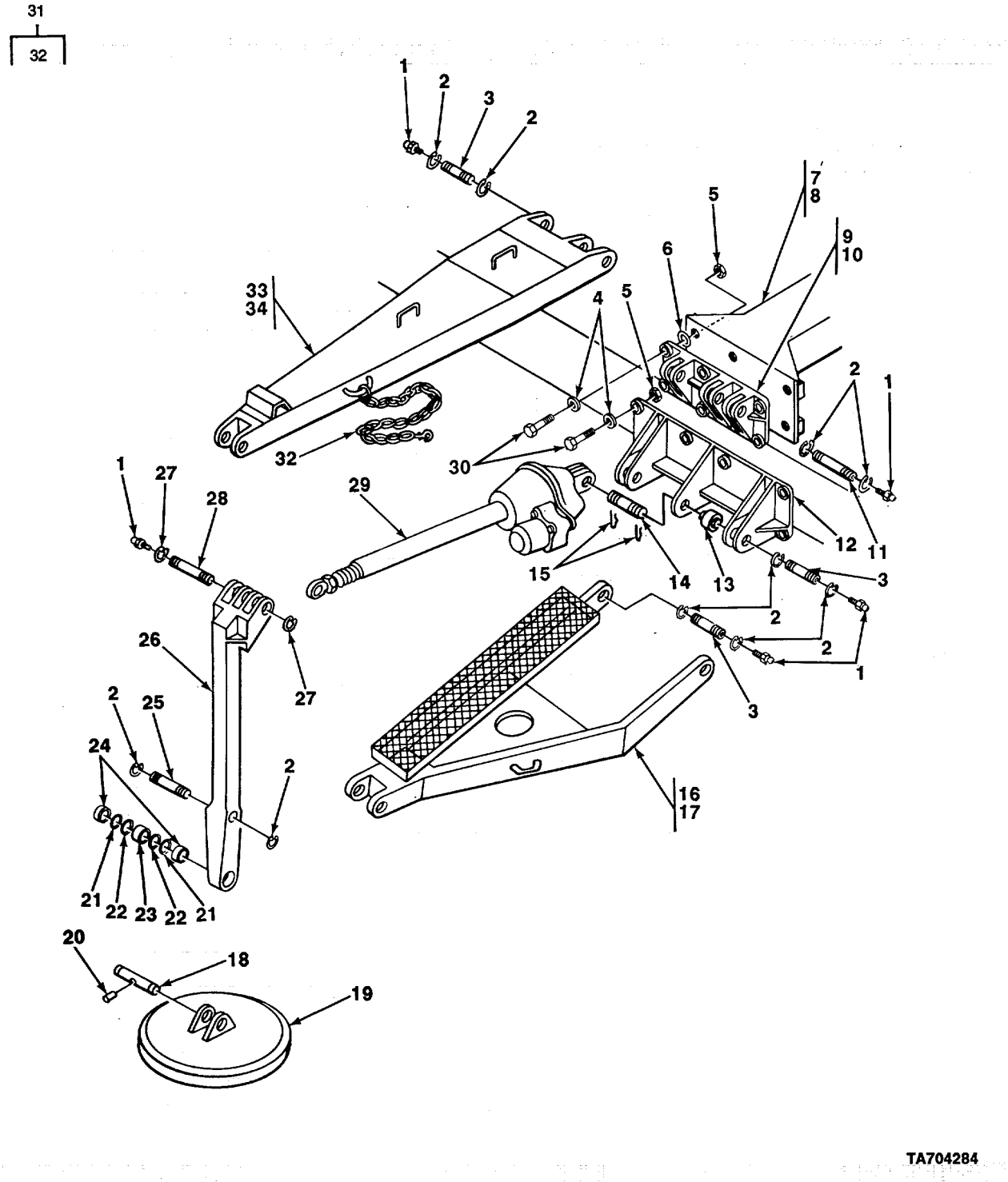

FIGURE 37. FRONT AND REAR OUTRIGGER ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 37 FRONT AND REAR OUTRIGGER ASSEMBLY	
1	PAOZZ	96906	MS15003-1	FITTING, LUBRICATION	24
2	PAOZZ	96906	MS16624-1137	RING, RETAINING	40
3	PAOZZ	19207	12343339-1	PIN, GROOVED, HEADLES	3
4	PAOZZ	96906	MS35338-53	WASHER, LOCK	8
5	PAOZZ	96906	MS51968-29	NUT, PLAIN, HEXAGON	8
6	PAOZZ	19207	11686210	SHIM V	
7	PFOZZ	19207	11670080	CROSS BEAM, FRONT	1
8	PFOZZ	19207	11670081	CROSS BEAM, REAR	1
9	PFOZZ	19207	12250055-1	BRACKET, MOUNTING UPPER LEFT	1
10	PFOZZ	19207	12250055-2	BRACKET, MOUNTING UPPER RIGHT	1
11	PAOZZ	19207	12343339-2	PIN, GROOVED, HEADLES	
12	PFOZZ	19207	12269971	BRACKET, MOUNTING	1
13	PAOZZ	96906	MS14104-16	BEARING, PLAIN, SELF-	1
14	PAOZZ	19207	12250215-1	PIN, STRAIGHT, HEADLE	1
15	PAOZZ	19207	5213744	PIN, LOCK	2
16	PBOZZ	19207	12269966-2	FRAME AND WALKWAY, R WALKWAY RIGHT SIDE	1
17	PBOZZ	19207	12269966-1	FRAME,STRUCTURAL, VE WALKWAY LEFT SIDE	1
18	PFOZZ	19207	12250215-6	PIN, STRAIGHT, HEADLE TO ATTACH PAD. W/ASSEMBLY	1
19	PBOZZ	19207	12259600	SHOE, JACK-SUPPORT	1
20	PAOZZ	96906	MS16562-67	PIN, SPRING	1
21	PAOZZ	19207	12314535	FELT, MECHANICAL, PRE	2
22	PAOZZ	96906	MS16625-1218	RING, RETAINING	2
23	PAOZZ	19207	11668013	BEAR-INGPLAIN, SELF-	1
24	PAOZZ	19207	11670010	SPACER, SLEEVE	2
25	PAOZZ	19207	12343339-3	PIN, GROOVED, HEADLES	4
26	PAOZZ	19207	11670077	BRACE ASSEMBLY UPRI	1
27	PAOZZ	96906	MS16624-1100	RING, RETAINING	8
28	PAOZZ	19207	12343339-4	PIN, GROOVED, HEADLES	1
29	PAOLD	19207	11686299	ACTUATOR, ELECTRO-ME	1
30	PAOZZ	27315	20Q65D5	SCREW, CAP, HEXAGON H	8
31	PAOOD	19207	12250309	CHAIN ASSEMBLY, SING SECURE OUTRIGGERS	1
32	PAOZZ	79577	660-1-4	.LINK, CHAIN, LAP	1
33	PBOZZ	19207	11670075-2	LEG, SEMITRAILER RET RIGHT SIDE	1
34	PBOZZ	19207	11670075-1	LEG, SEMITRAILER RET LEFT SIDE	1

END OF FIGURE

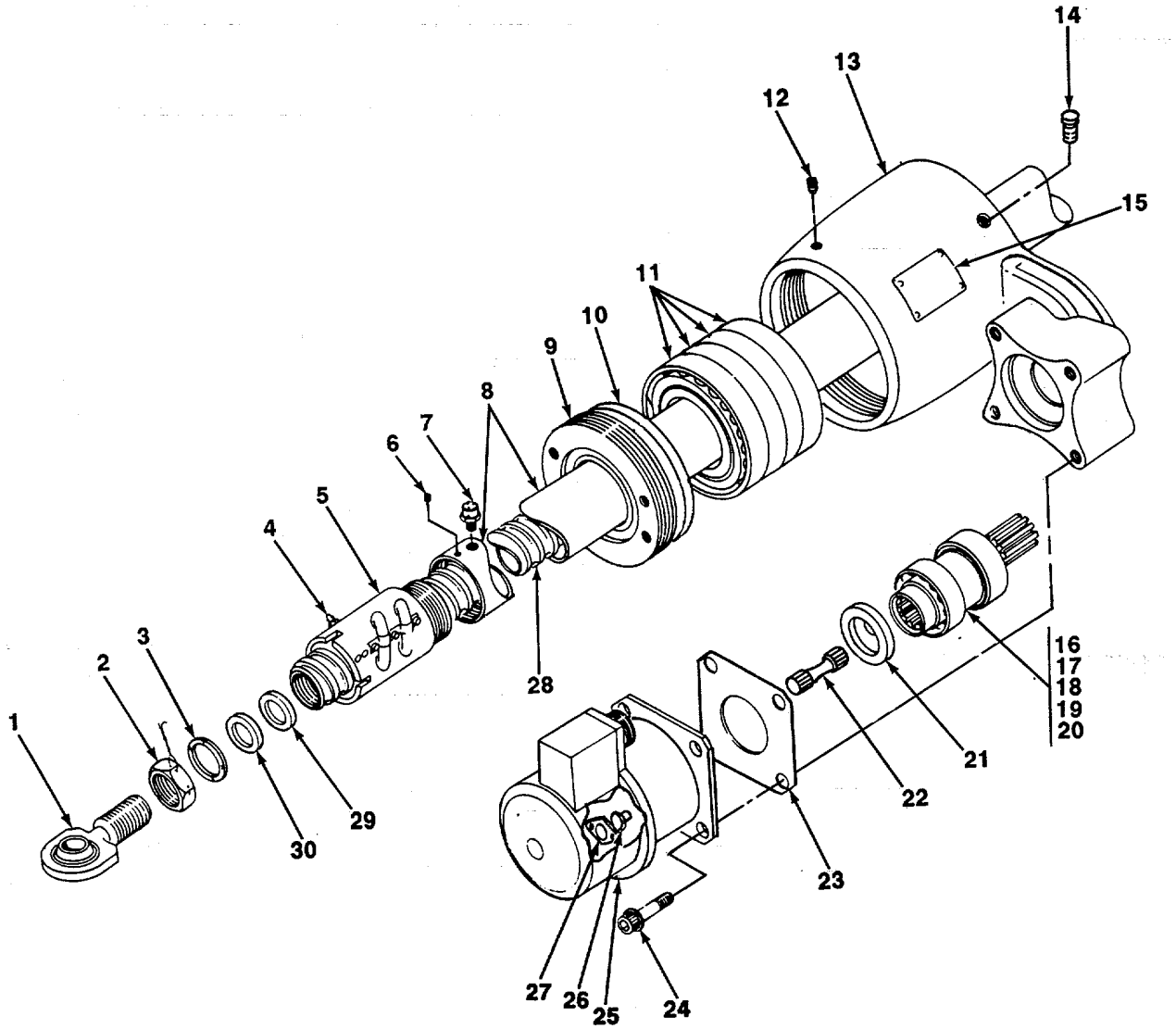

FIGURE 38. OUTRIGGER ACTUATOR BALL SCREW.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR LEVELING JACKS	
				FIG. 38 OUTRIGGER ACTUATOR BALL SCREW	
1	PAFZZ	00293	J-16116-41	BEARING, PLAIN, ROD	1
2	PFFZZ	80205	NAS509-4	NUT, PLAIN, HEXAGON	3
3	PAFZZ	80205	NAS513-24	WASHER, KEY	1
4	PAFZZ	96906	MS15001-1	FITTING, LUBRICATION	1
5	PAFDD	00293	J-16116-100	BALL SCREW SUB ASSY	1
6	PAFZZ	96906	MS51038-157	SETSCREW	1
7	PAFZZ	95879	301370	FITTING, LUBRICATION	1
8	PFFZZ	00293	J-16116-23	COVER, EXTENSION, HOU	1
9	PBFZZ	00293	J-16116-27	RING, EXTERNALLY THR	1
10	PAFZZ	80201	39934-CRSHA1-R	SEAL, PLAIN ENCASED	1
11	PAFZZ	52676	7218BG	BEARING,BALL, DUPLEXD	4
12	PAFZZ	88044	AN535-2-3	SCREW, DRIVE	1
13	PFFZZ	00293	J-16116-22	HOUSING, MECHANICAL	1
14	PAOZZ	95879	C47200-5	VALVE, SAFETY RELIEF	1
15	PFFZZ	00293	J-16116-57	PLATE, IDENTIFICATIO	1
16	PFFZZ	00293	J-16116-16	GEAR, SPEED INCREASE	1
17	PAFZZ	80756	RST78	RING, RETAINING	1
18	PFFZZ	00293	J-16116-29	SPACER, SLEEVE	1
19	PAFZZ	38443	1904S	BEARING	2
20	PAFZZ	80756	RRT150C	RING, RETAINING	1
21	PAFZZ	80201	7573-CRSA1-R	SEAL, PLAIN ENCASED	1
22	PAOZZ	00293	J-16116-201	CONNECTOR, SPLINED	1
23	PAOZZ	00293	J-16116-11	GASKET	1
24	PAOZZ	80205	NAS1352-5LE16P	SCREW, SELF-LOCKING	4
25	PAODD	2B100	9008D13-1	MOTOR, BALL SCREW AC	1
26	PAFZZ	82647	C4344-81-1	SWITCH-THERMOSTATIC USED ON WESTINGHOUSE MODEL ONLY	1
27	PAFZZ	83843	967C798-1	GASKET USED ON WESTINGHOUSE MODEL ONLY	1
28	XAFZZ	00293	J-16116-1	BALL, SCREW	1
29	PAFZZ	00293	J-16119-9	ICE SCRAPPER	1
30	PAFZZ	00293	J-16119-59	SEAL	1

END OF FIGURE

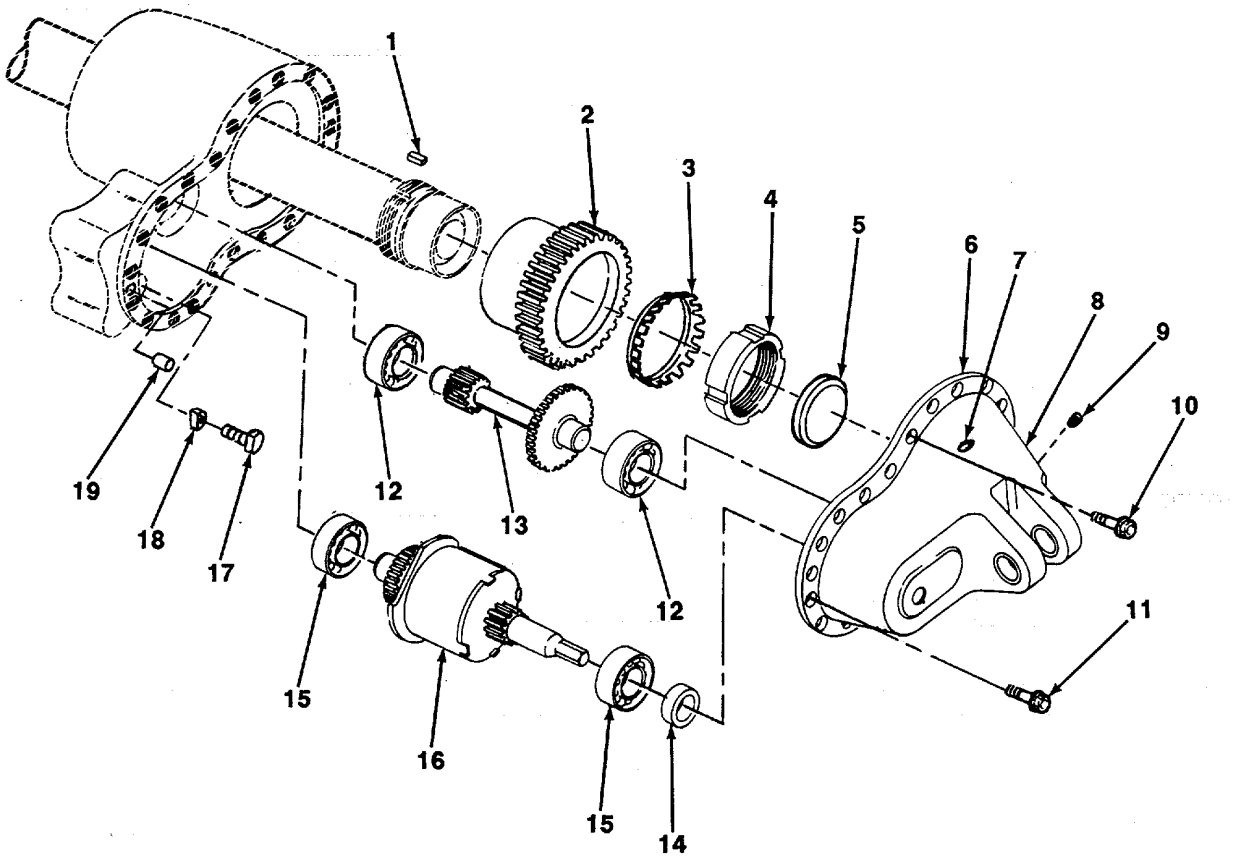

FIGURE 39. OUTRIGGER ACTUATOR GEARBOX.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1507 LANDING GEAR LEVELING JACKS	
				FIG. 39 OUTRIGGER ACTUATOR GEARBOX	
1	PAFZZ	00293	J-16116-45	KEY, MACHINE	1
2	PFFZZ	00293	J-16116-13	GEAR, SPUR	1
3	PAFZZ	96906	MS19070-181	WASHER, KEY	1
4	PAFZZ	08162	AN18	NUT, PLAIN, ROUND	1
5	PFFZZ	00293	J-16116-24	CAP, PROTECTIVE, DUST	1
6	PAFZZ	00293	J-16116-10	GASKET	1
7	PAOZZ	19207	11669871	INDICATOR, SIGHT, LIQ NOT ON EARLY MODELS	1
8	XAFZZ	00293	J-16116-21	COVER, HOUSING, ACCES	1
9	PAFZZ	79470	C3169X6	PLUG, PIPE	2
10	PAFZZ	80205	NAS1352-4LE12P	SCREW, SELF-LOCKING	8
11	PAOZZ	80205	NAS1352-6LE24	SCREW, SELF-LOCKING	15
12	PAFZZ	38443	204S	BEARING, BALL, ANNULA	1
13	PFFZZ	00293	J-16116-15	GEARSHAFT, SPUR	1
14	PAFZZ	76692	470650-47	SEAL, PLAIN ENCASED	1
15	PFFZZ	00293	J-16116-36	BEARING, BALL, ANNULA	1
16	PBFDD	00293	J-16116-200	CLUTCH ASSEMBLY, NO	1
17	PFFZZ	00293	J-16116-46	SCREW, SHOULDER	1
18	PAFZZ	00293	J-16116-56	BEARING, WASHER, THRU	2
19	PFFZZ	00293	J-16116-49	DOWEL, PIN	1

END OF FIGURE

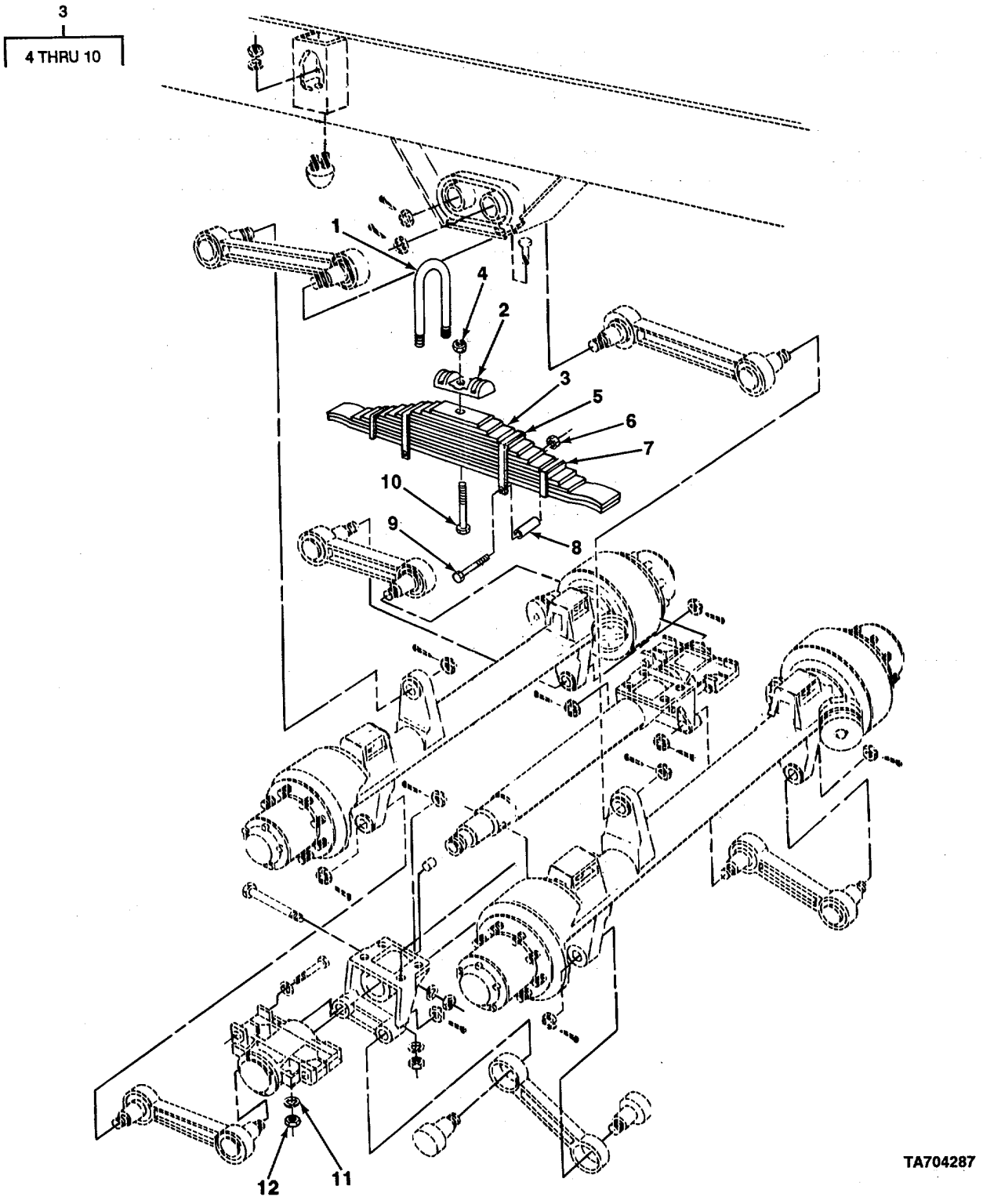

FIGURE 40. SPRING.

(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 ABSORBERS	
				GROUP 1601 SPRINGS	
				FIG. 40 SPRING	
1	PAFZZ	19207	7979365	BOLT, U SUSPENSION SYSTEM	2
2	PAFZZ	19207	7979316	SADDLE, LEAF SPRING SPRING ASSEMBLY	1
3	PAFFF	19207	12250269	SPRING ASSEMBLY, LEA REAR	1
4	PAFZZ	96906	MS35690-824	.NUT, PLAIN, HEXAGON.....	1
5	PAFZZ	19207	7979421	.ALIGNMENT CLIP, LEAF	2
6	PAFZZ	96906	MS35691-25	NUT, PLAIN, HEXAGON.....	2
7	PAFZZ	19207	7979422	.ALIGNMENT CLIP, LEAF	2
8	PAFZZ	19207	7979423	.SPACER, SLEEVE	2
9	PAFZZ	96906	MS90725-91	.SCREW, CAP, HEXAGON H	2
10	PAFZZ	19207	7979425	.BOLT, MACHINE	1
11	PAFZZ	96906	MS35338-53	WASHER, LOCK SUSPENSION SYSTEM, ... SPRING SEAT, REAR AXLE	8
12	PAFZZ	19207	7979366	NUT, PLAIN, HEXAGON SUSPENSION..... SYSTEM, SPRING SEAT, REAR AXLE	8
				END OF FIGURE	

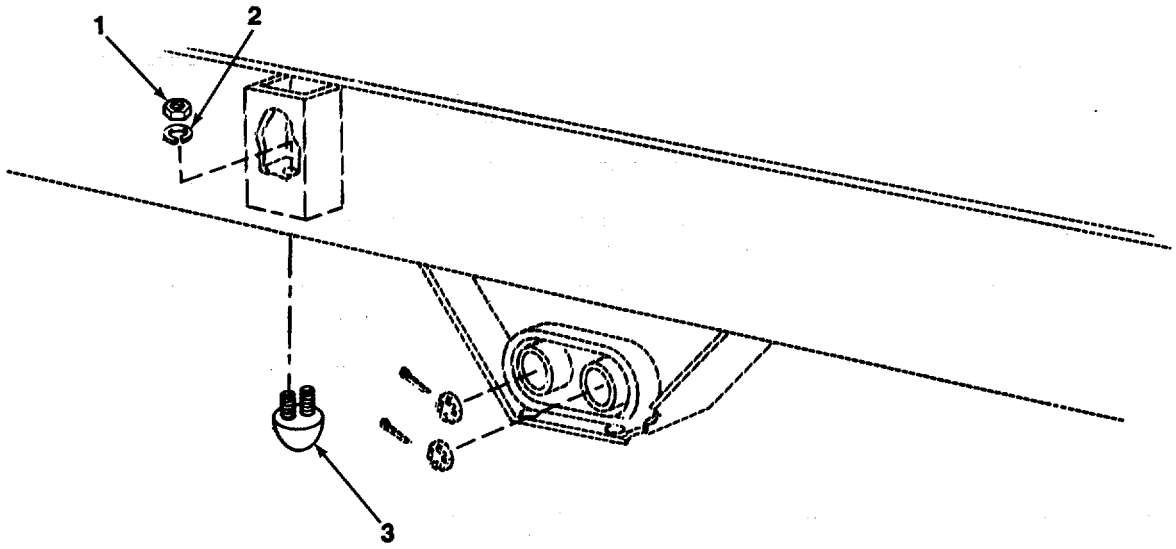

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FIGURE 41. SPRING BUMPER.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1601 SPRINGS	
				FIG. 41 SPRING BUMPER	
1	PAOZZ	96906	MS51967-5	NUT, PLAIN, HEXAGON BUMPER, RUBBER, SUSPENSION SYSTEM..... .	2
2	PAOZZ	96906	MS35338-45	WASHER, LOCK WALKWAY, FRONT.....	2
3	PAOZZ	19207	7409335	BUMPER, NONMETALLIC SUSPENSION..... SYSTEM.....	1
				END OF FIGURE	

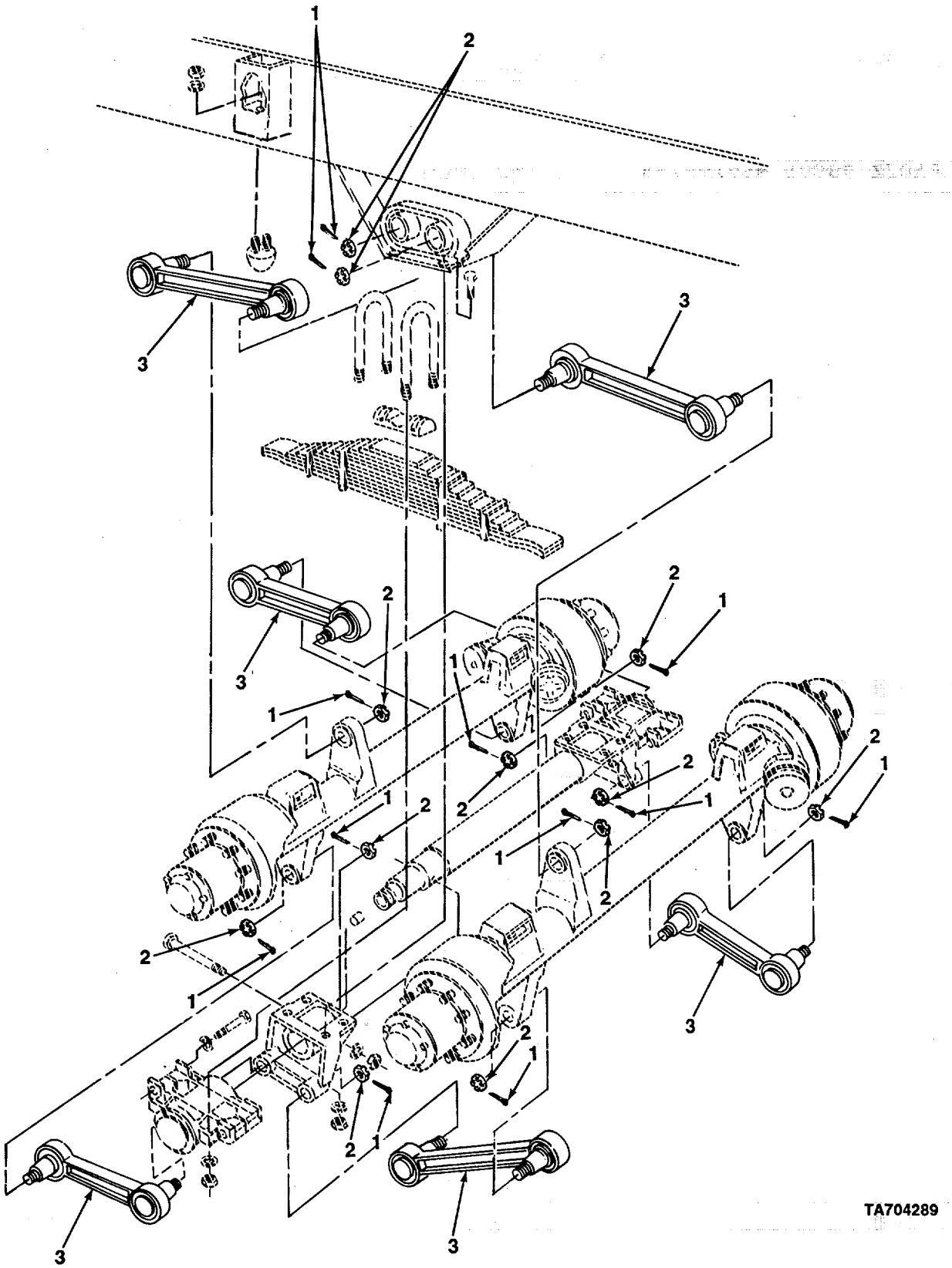

FIGURE 42. TORQUE RODS.

FIGURE 42. TORQUE RODS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1605 TORQUE, RADIUS, AND STABILIZER RODS	
				FIG. 42 TORQUE RODS	
1	PAOZZ	96906	MS24665-500	PIN, COTTER SUSPENSION SYSTEM, REAR AXLE	12
2	PAOZZ	19207	7979183	NUT, PLAIN, SLOTTED, H SUSPENSION, ... REAR AXLE.....	12
3	PAOZZ	78500	A1-3102B2446	ROD ASSEMBLY, TORQUE SUSPENSION .. REAR AXLE.....	6
				END OF FIGURE	

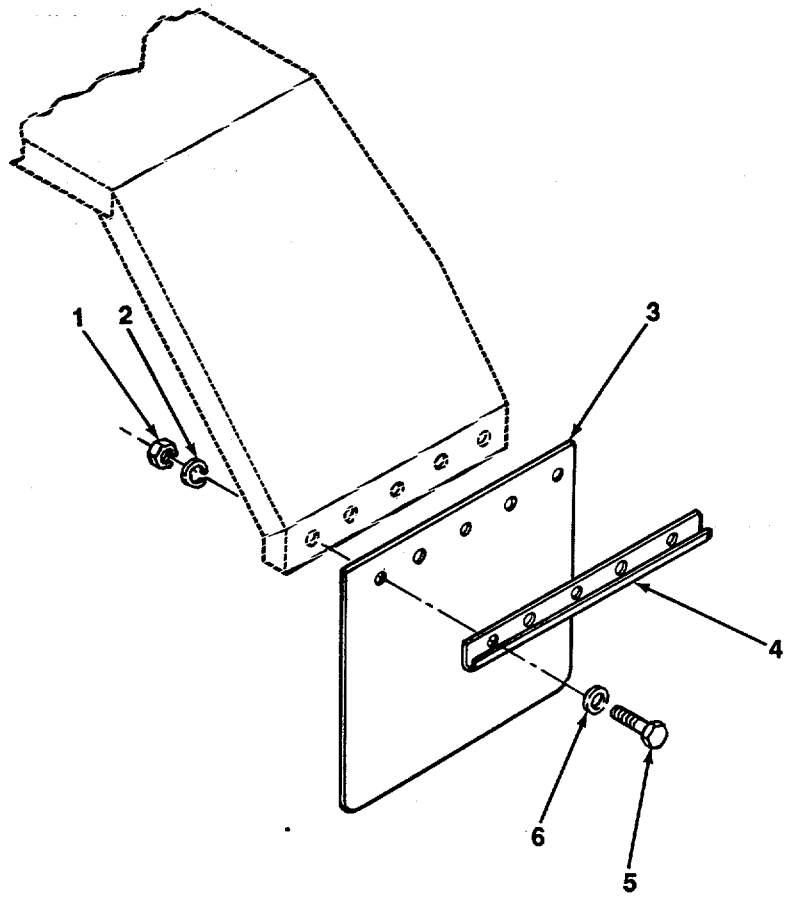

FIGURE 43. REAR SPLASHGUARD.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 18 BODY, CAB, HOOD, AND HULL	
				GROUP 1801 BODY, CAB, HOOD, AND HULL ASSEMBLIES	
				FIG. 43 REAR SPLASHGUARD	
1	PAOZZ	96906	MS51968-2	NUT,PLAIN, HEXAGON GUARD	10
2	PAOZZ	96906	MS35338-44	WASHER, LOCK GUARD.....	10
3	PAOZZ	19207	11591832	GUARD, SPLASH, VEHICU FENDER	2
4	PAOZZ	19207	11675102	RETAINER, SPLASH GUA GUARD.....	2
5	PAOZZ	96906	MS90727-11	SCREW, CAP, HEXAGON H GUARD	10
6	PAOZZ	96906	MS27183-10	WASHER, FLAT GUARD.....	10

END OF FIGURE

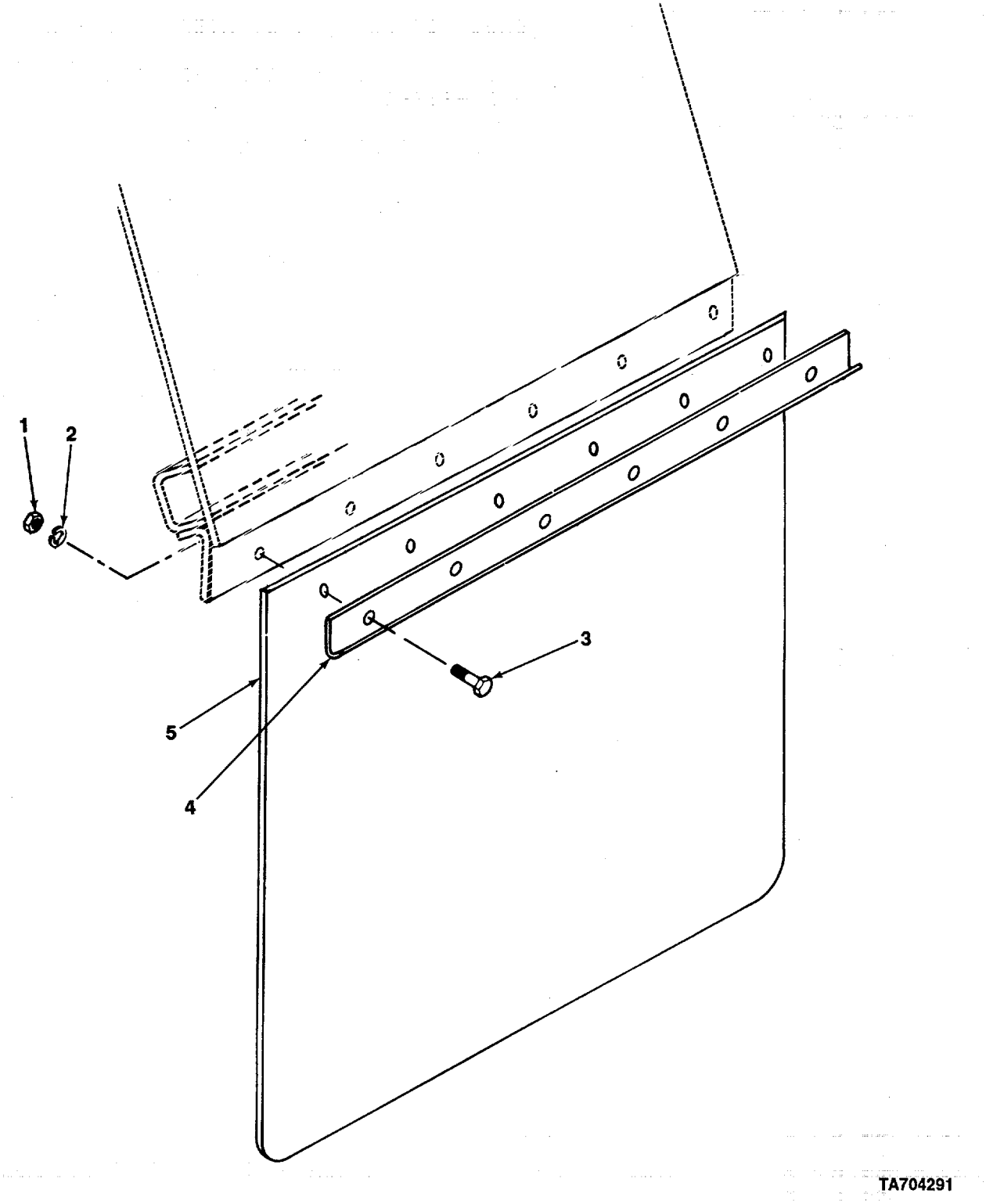

FIGURE 44. FRONT SPLASHGUARD.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1801 BODY, CAB, HOOD, AND HULL ASSEMBLIES	
				FIG. 44 FRONT SPLASHGUARD	
1	PAOZZ	96906	MS51968-5	NUT, PLAIN, HEXAGON	12
2	PAOZZ	96906	MS35338-45	WASHER, LOCK	12
3	PAOZZ	96906	MS90726-36	SCREW, CAP HEXAGON H	12
4	PAOZZ	19207	12259478	BRACKE2TANGLE	2
5	PAOZZ	19207	12255462	GUARD, SPLASH, VEHICU RETAINER, (RUBBER FLAP)	2
				END OF FIGURE	

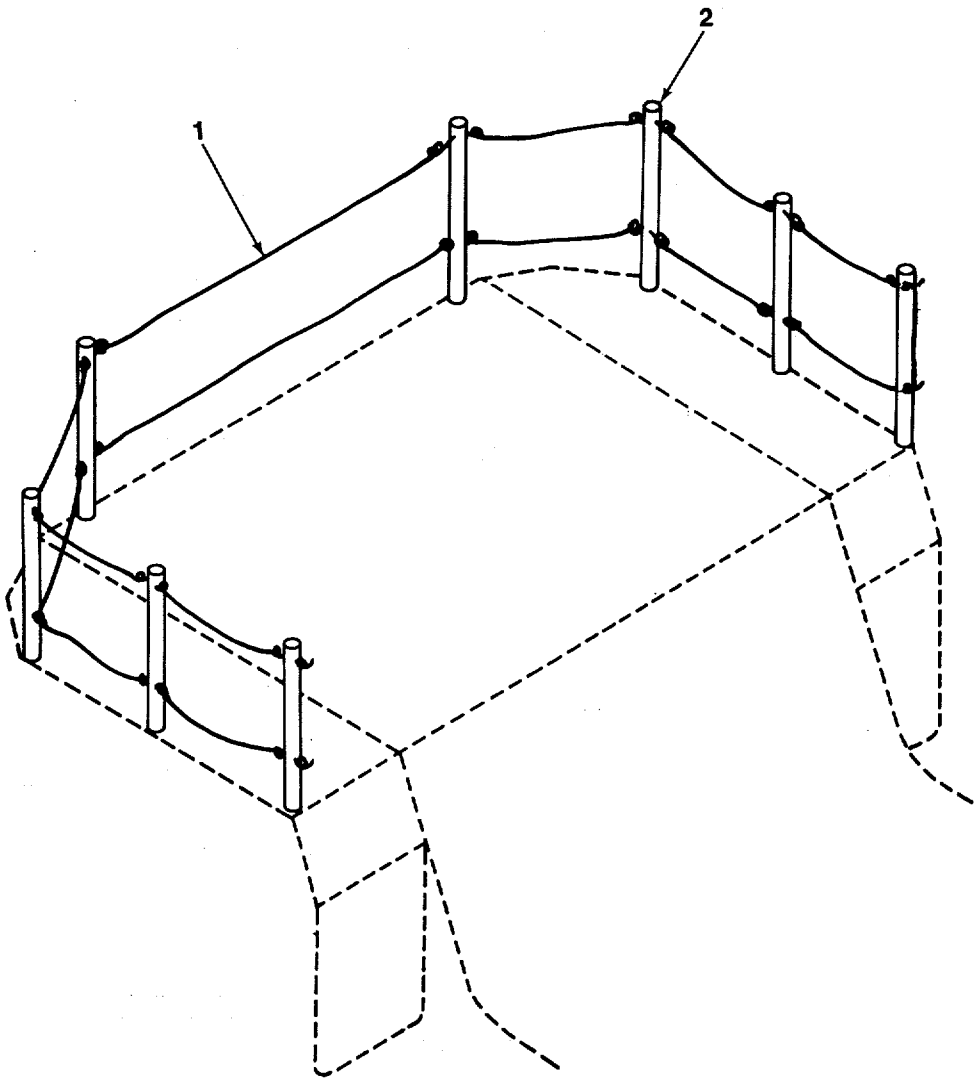

FIGURE 45. GUARDRAIL INSTALLATION.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1801 BODY, CAB, HOOD, AND HULL ASSEMBLIES	
				FIG. 45 GUARDRAIL INSTALLATION	
1	PAOZZ	19207	12296211-1	ROPE, FIBROUS	1
2	PAOZZ	19207	12296208	STAKE, VEHICLE BODY	8

END OF FIGURE

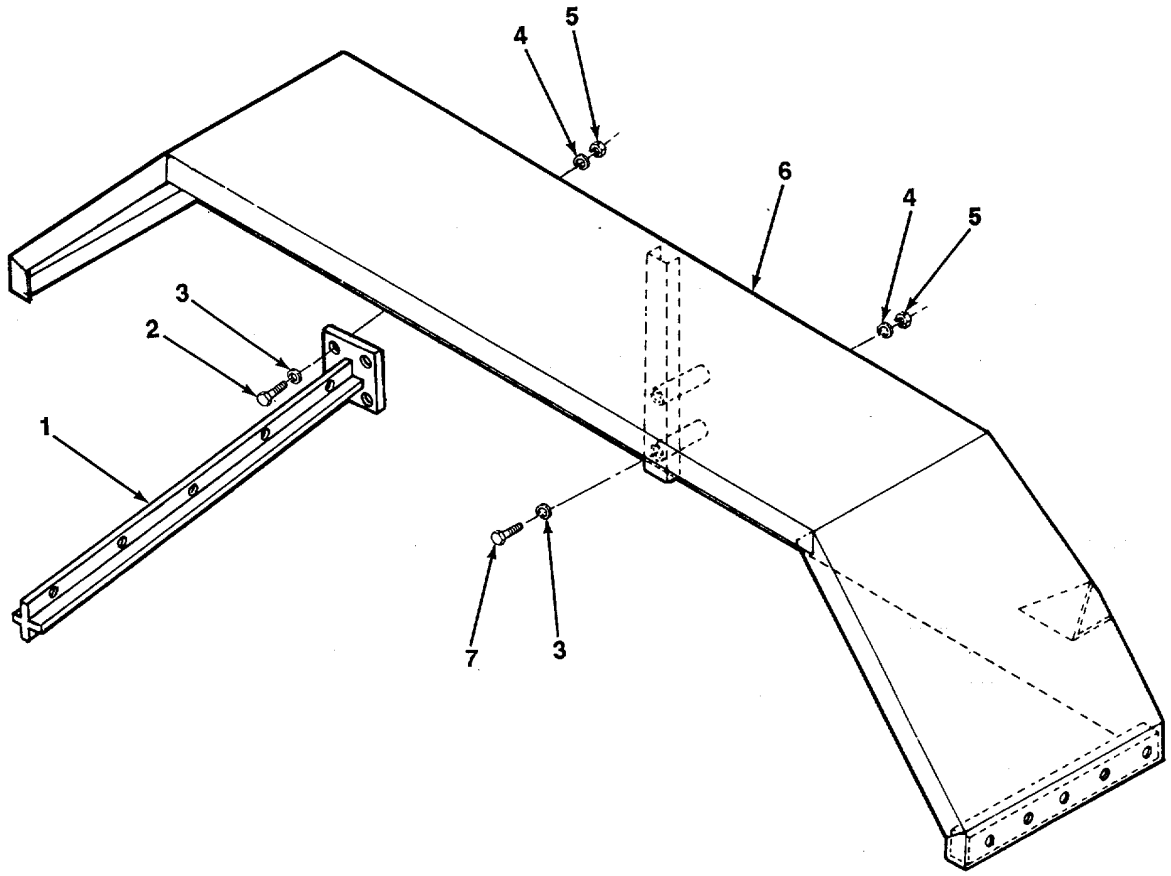

FIGURE 46. FENDER.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 1802 FENDERS RUNNING BOARDS WITH MOUNTING AND ATTACHING PARTS OUTRIGGERS,WINDSHIELD,GLASS,ETC.	
				FIG. 46 FENDER	
1	PFOZZ	19207	11675103	BRACKET,MOUNTING GUARD	2
2	PAOZZ	96906	MS90727-64	SCREW,CAP,HEXAGON H GUARD	8
3	PAOZZ	96906	MS27183-14	WASHER,FLAT FENDERS	10
4	PAOZZ	96906	MS35338-46	WASHER,LOCK FENDERS	10
5	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON FENDERS	10
6	PGOZZ	19207	11675104	FENDER	1
7	PAOZZ	96906	M590727-77	SCREW,CAP,HEXAGON H FENDERS	2
				END OF FIGURE	

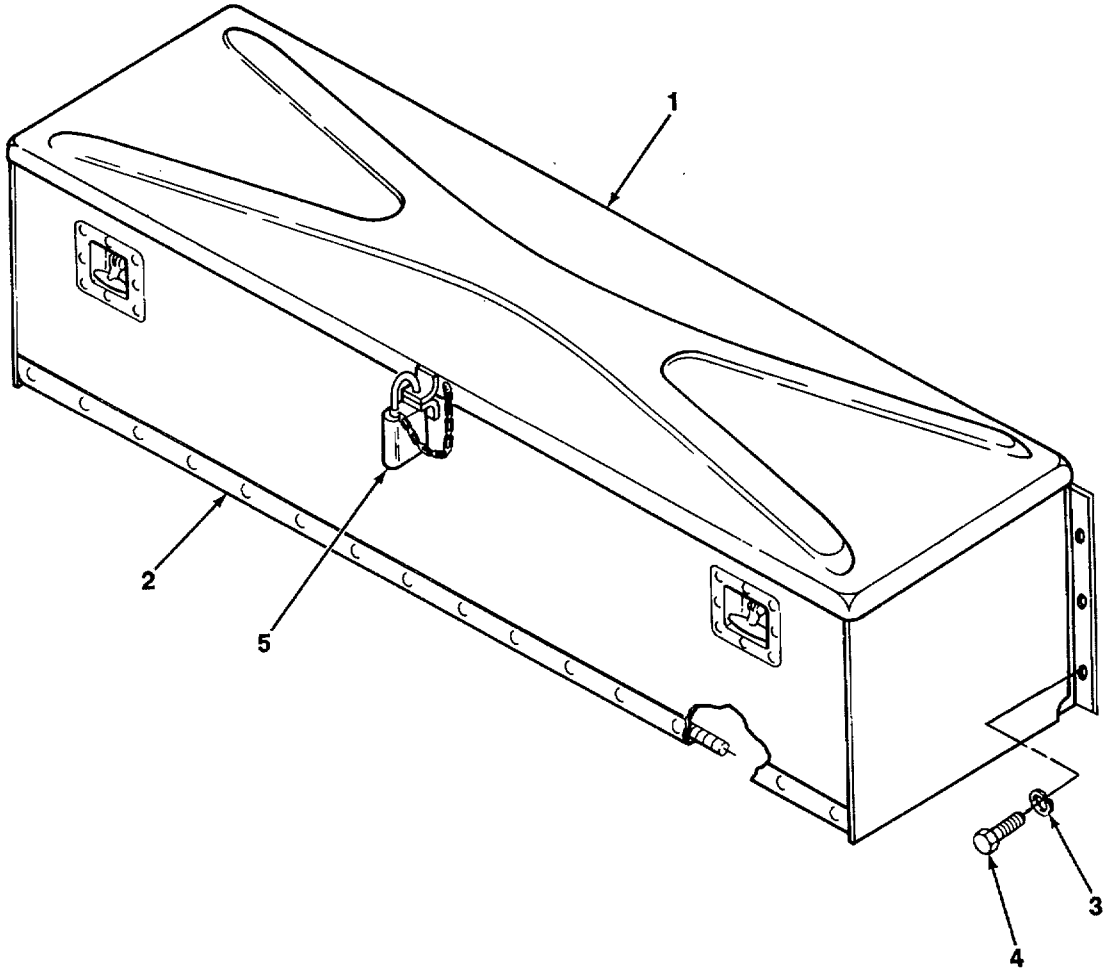

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FIGURE 47. STOWAGE BOX ASSEMBLY.

(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,CARRYING,CASES, CABLE REELS, HOSE REELS, ETC.	
				FIG. 47 STOWAGE BOX ASSEMBLY	
1	PGOZZ	19207	11670224-1	BOX,ACCESSORIES STO STOWAGE	1
2	PFOZZ	19207	11670242	DOOR,ACCESS STOWAGE BOX.....	1
3	PAOZZ	96906	MS35338-50	WASHER,LOCK	8
4	PAOZZ	96906	MS90727-162	SCREW,CAP,HEXAGON H	8
5	PAOZZ	96906	MS35647-4	PADLOCK.....	1
				END OF FIGURE	

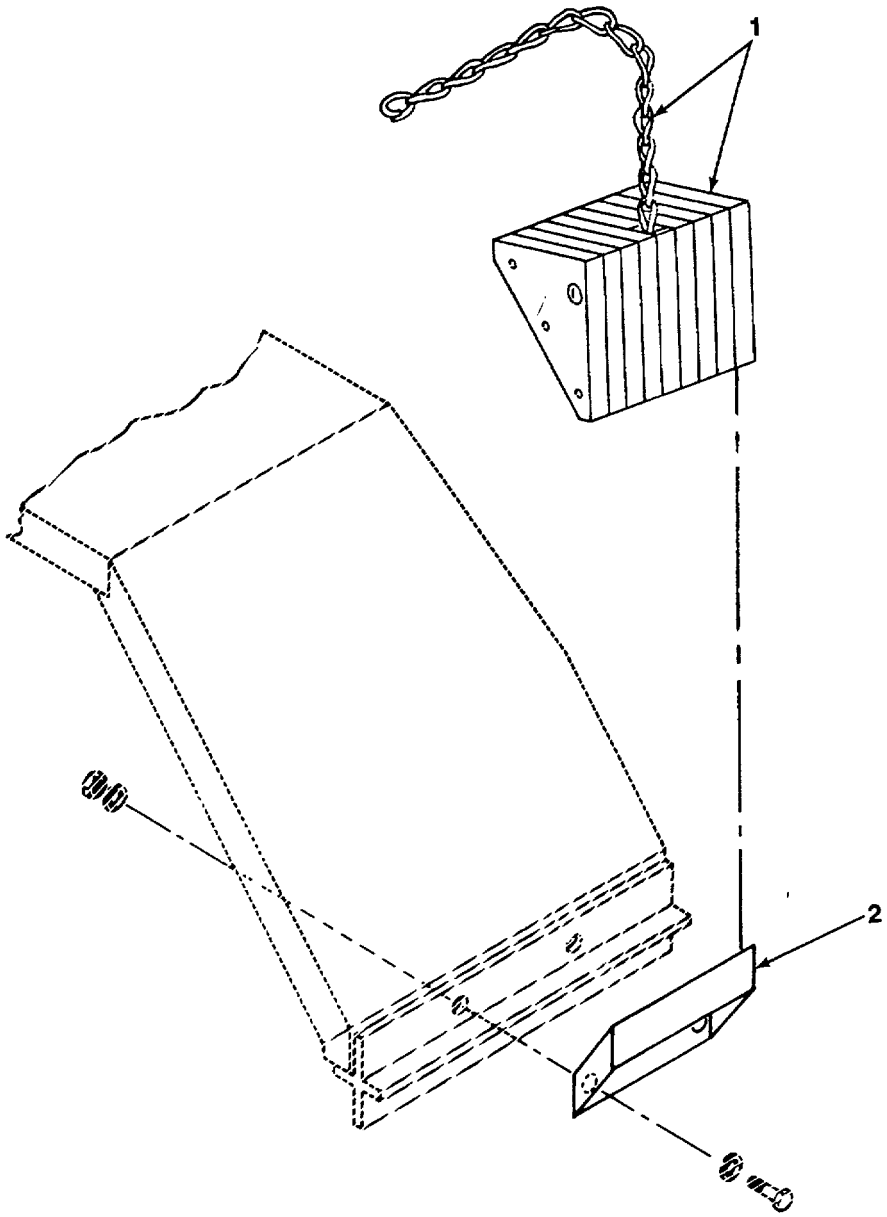


FIGURE 48. CHOCK BLOCK ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 22 BODY,CHASIS, AND HULL AACCESORY ITEMS	
				FIG. 48 CHOCK BLOCK ASSEMBLY	
1	PA0ZZ	96906	MS52127-3	CHOCK,WHEEL TRACK	1
2	PAOZZ	19207	11675093	BRACKET,CHOCK BLOCK	2

END OF FIGURE

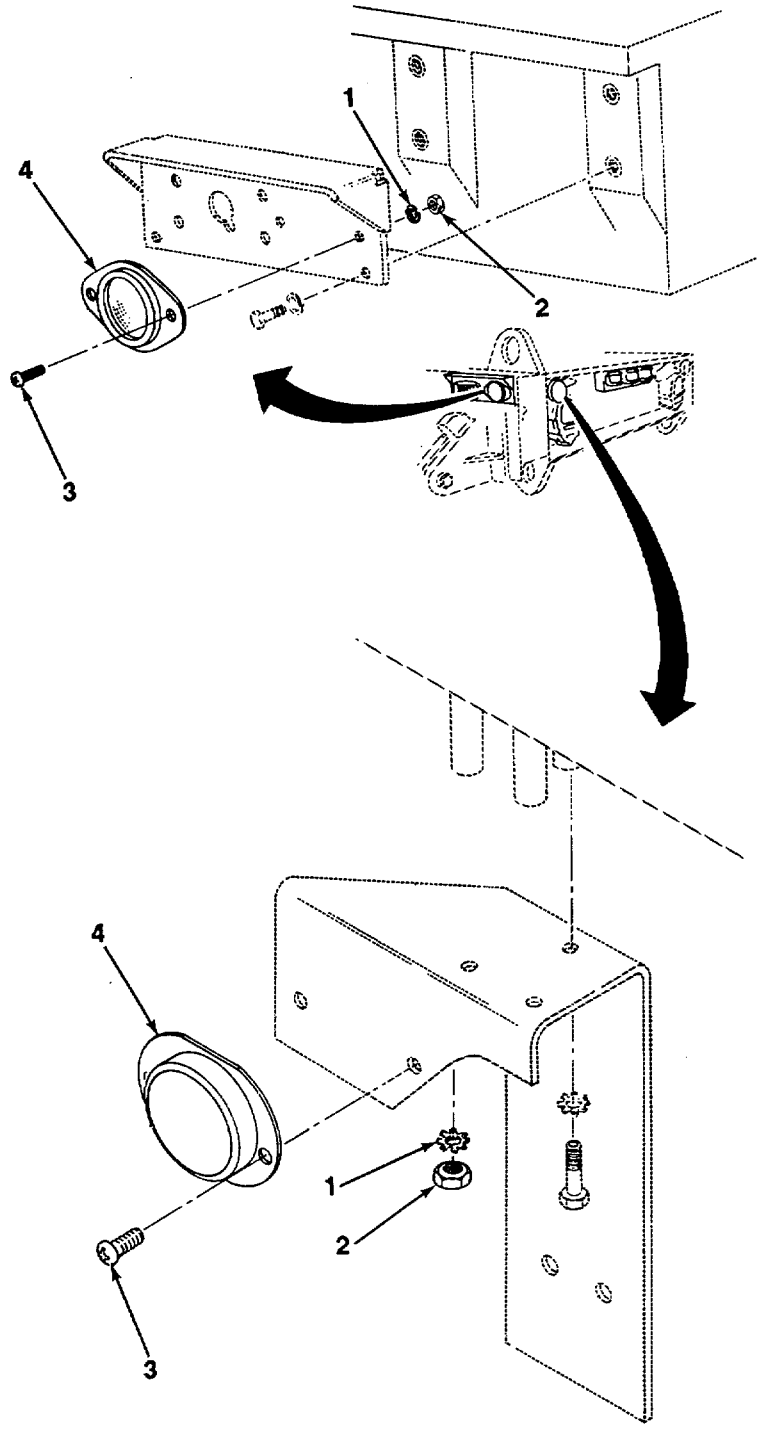


FIGURE 49. REAR REFLECTOR.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 2202 BODY,CHASIS, AND HULL AACCESORY ITEMS	
				FIG. 49 REAR REFLECTOR	
1	PAOZZ	96906	MS35335-33	WASHER,LOCK	8
2	PAOZZ	96906	MS35649-2252	NUT,PLAIN,HEXAGON.....	8
3	PAOZZ	96906	MS35206-280	SCREW,MACHINE.....	8
4	PAOZZ	96906	MS35387-1	REFLECTOR,INDICATOR RED.....	4

END OF FIGURE

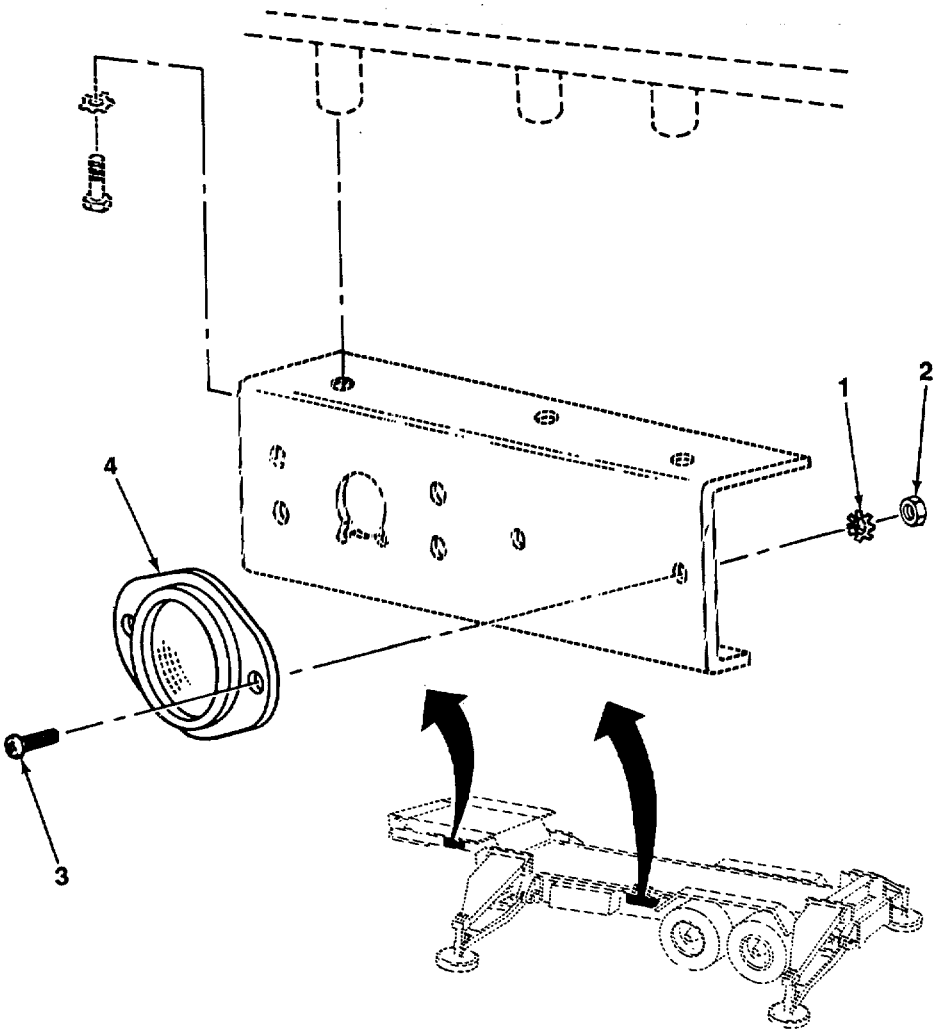


FIGURE 50. INTERMEDIATE REFLECTOR.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 2202 ACCESORY ITEMS	
				FIG.50 INTERMEDIATE REFLECTOR	
1	PAOZZ	96906	MS35335-33	WASHER,LOCK	8
2	PAOZZ	96906	MS35649-2252	NUT,PLAIN,HEXAGON REFLECTOR,SIDE ..... MARKER	8
3	PAOZZ	96906	MS35206-280	SCREW,MACHINE REFLECTOR,SIDE MARKER	8
4	PAOZZ	96906	MS35387-2	REFLECTOR,INDICATOR AMBER,SIDE ..... MARKER	4
				END OF FIGURE	

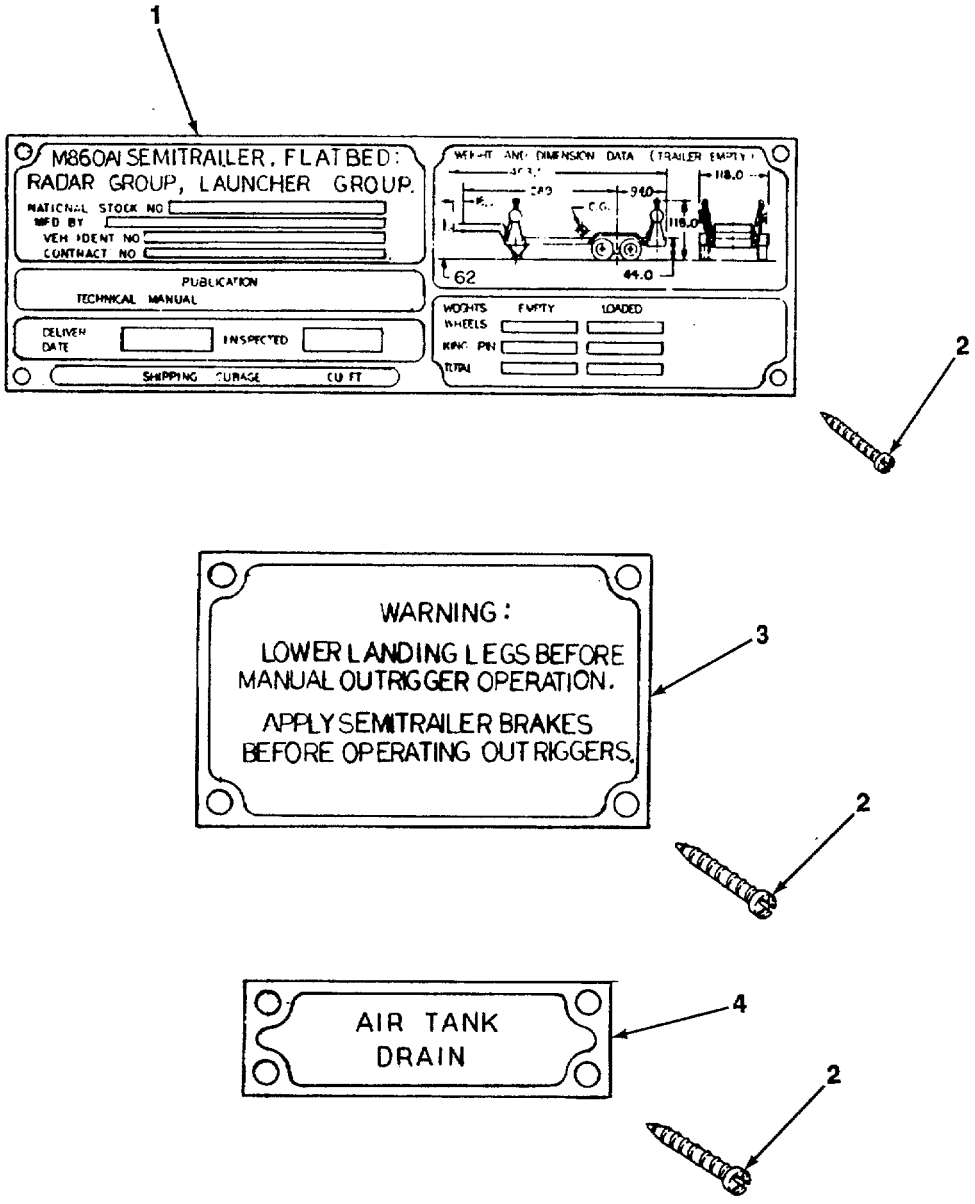


FIGURE 51. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS	
				FIG.51 DATA PLATES	
1	PFOZZ	19207	12296445	PLATE,INDEFICATION.....	1
2	PAOZZ	96906	MS2131B-58	SCREW,DRIVE.....	12
3	PPOZZ	19207	12269945	PLATE,INDETIFICATION	1
4	PAOZZ	19207	12269946	PLATE,INSTRUCTION	1

END OF FIGURE

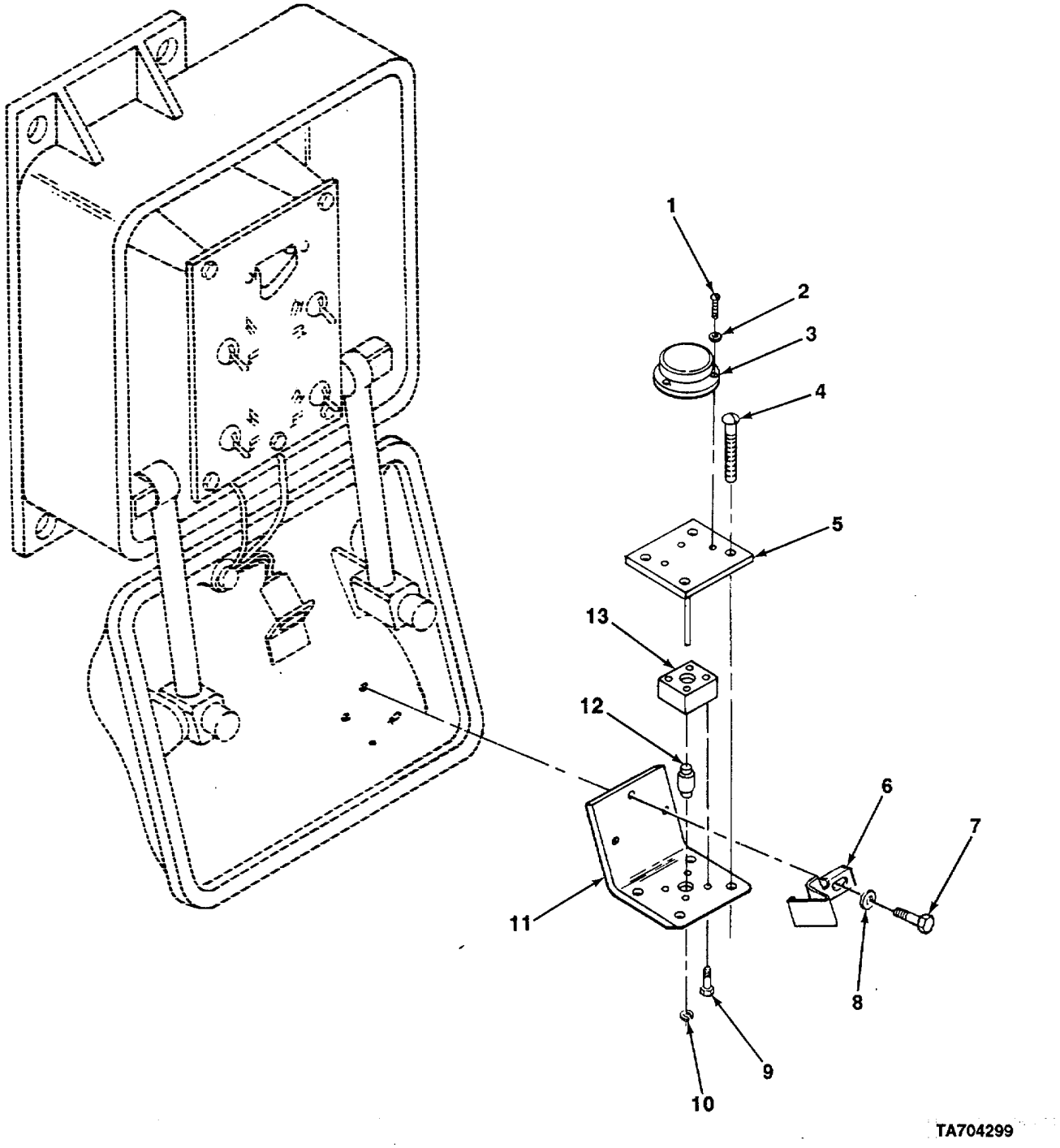


FIGURE 52. LEVELING DEVICE.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 47 GAGES (NONELECTRICAL), WEIGHING AND MEASURING DEVICES	
				GROUP 4702 GAGES, MONTING, LINES, AND FITTINGS	
				FIG. 52 LEVELING DEVICE	
1	PAOZZ	96906	MS35207-217	SCREW,MACHINE TO RETAIN LEVEL.....	3
2	PAOZZ	96906	MS35338-40	WASHER,LOCK LEVEL RETAINING SCREW	3
3	PAOZZ	19207	11669861	LEVEL,CYLINDRICAL.....	1
4	PAOZZ	19207	11636131	SCREW,MACHINE.....	4
5	PAOZZ	19207	11686120	PLATE,MOUNTING,LEVE	1
6	PAOZZ	19207	12343135	AREMSWITCH ACTUATOR..... .	1
7	PAOZZ	96906	MS90727-3	SCREW,CAP,HEXAGON H LEVELER ..... BRACKET RETAINING.....	3
8	PAOZZ	96906	MS35338-44	WASHER,LOCK BRACKET RETAINING SCREW	3
9	PAOZZ	96906	MS35207-264	SCREW,MACHINE BLOCK RETAINING	4
10	PAOZZ	96906	M516624-1050	RING,RETAINING.....	I
11	PAOZZ	19207	12250027	BRACK,ANGLE.....	1
12	PAOZZ	19207	11669118	BEARING,PLAIN,SELF.....	1
13	PAOZZ	19207	11686123	BLOCK,HOLDOWN.....	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 REPAIR KITS	
				GROUP 9401 REPAIR KITS	
				FIG. KITS	
	PAOZZ	06721	RN-13-A	KIT PARTS, FLUID PRESSURE FILTER	1
				FILTER ELEMENT (1) 28-14	
				GASKET (1) 28-19	
				SPRING,HELICAL,COMP(1) 28-16	
	PAOZZ	78500	1164	KIT PARTS HYDRAULIC	1
				ADJUSTING PLUNGER (2) 27-17	
				ADJUSTING SCREW ASS(2) 27-15	
				SEAL ADJUSTING (2) 27-16	
	PAOZZ	19207	5705722	KIT RELAY BOX MTD.....	4
				BOLT,MACHINE (4) 3-47	
				PLATE,MOUNTING (1) 3-50	
				WASHER , FLAT (4) 3-49	
				WASHER, LOCK (4) 3-48	

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	81349	M43436J1-1	BAND,MARKER	10
2	PAOZZ	81349	M43436/1-3	BAND,MARKER	5
3	PAOZZ	96906	MS39020-1	BAND,MARKER	2
4	PAOZZ	81349	M13486/1-5	WIRE, ELECTRICAL RELAY BOX ASSEMBLY	V
5	XDOZ2	81349	M13486-1-9	WIRE ELECTRICAL	V
6	PAOZZ	B1349	M134B671-3	WIRE ELECTRICAL	V
7	PAOZZ	81349	M13486/1-14	WIRE,ELECTRICAL	V
8	PAOZZ	81349	M13486/1-11	WIRE, ELECTRICAL	V
9	PAOZZ	81349	M13486-2-1	WIRE ELECTRICAL	V
10	PAOZZ	81349	M13486-1-3	WIRE,ELECTRICAL	1
11	PAOZZ	81348	RRC271	CHAIN	V

END 0F FIGURE

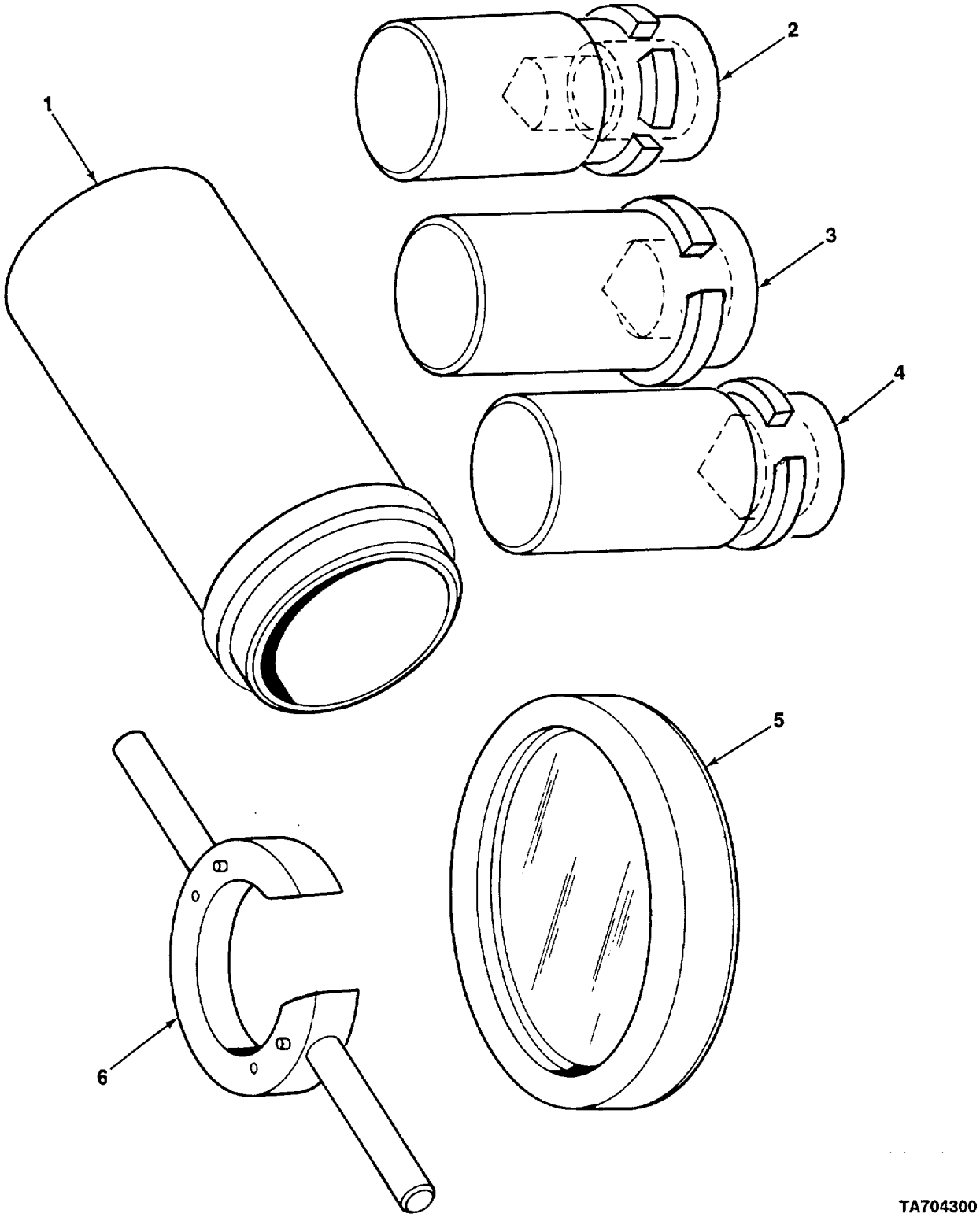


FIGURE 53. SPECIAL TOOLS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 26 TOOLS TEST EQUIPMENT	
				GROUP 2604 SPECIAL TOOLS	
				FIG. 53 SPECIAL TOOLS	
1	PEFZZ	00293	J-16116-F/A-F8	INSERTER,BEARING AN	
2	PEFZZ	00293	J-16116-F/A-F12	TOOL,ARBOR ADAPTER.....	
3	PEFZZ	00293	J-16116-F/A-F15	INSERTER,BEARING.....	
4	PEFZZ	00293	J-16116-F/A-F17	INSERTER,SEAL	
5	PEFZZ	00293	J-16116-F/A-F7	INSERTER,SEAL.....	
6	PEFZZ	00293	J-16116-F/A-F39	WRENCH,SPANNER.....	
				END OF FIGURE	

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
5365-00-003-8344	40	8
5310-00-010-3028	40	4
5310-00-014-5B50	9	4
2530-00-015-7564	27	21
4730-00-018-9566	26	18
5310-00-019-0670	9	3
6240-00-019-0877	10	8
	12	6
6240-00-019-3093	10	5
2530-00-021-2366	29	4
2510-00-030-6595	40	7
2540-00-036-0232	43	3
5305-00-042-9477	40	9
6240-00-044-6914	10	4
5310-00-045-3296	1	7
	29	30
5310-00-045-3299	1	10
	6	5
5310-00-045-4007	13	5
	23	10
2640-00-050-1229	34	3
5340-00-050-2740	29	37
4730-00-050-4203	38	4
4730-00-050-4208	26	27
	37	1
5360-00-055-2435	29	23
5999-00-057-2929	8	7
	9	9
	18	8
	20	10
	21	4
	22	3
	23	6
4730-00-057-5555	39	9
5310-00-060-9435	26	15
5935-00-062-7446	15	9
	16	9
	17	1
5305-00-068-0500	3	10
	24	
5305-00-068-0502	1	2
	13	2
5305-00-071-2058	3	33
5305-00-071-2242	14	17
6240-00-080-2012	13	4
5310-00-080-6004	4	14
	46	3
5310-00-081-4219	1	17
	3	49
2590-00-083-0266	2	3
5310-00-087-4652	5	1
5305-00-088-8332		30
5330-00-090-2128	28	3
5365-00-090-5426	18	5
	21	18
	24	14
3110-00-100-4220	32	14
3110-00-100-4223	26	26
4010-00-116-1604	37	32
4820-00-116-2994	29	36
2530-00-117-9l44	27	18
2510-00-117-9286	40	2
2530-00-137-9235	28	1
5310-00-141-3010	38	2
4730-00-142-3076	28	6
	29	14
2610-00-142-5136	33	1
5940-00-143-4780	22	4
9390-00-146-9334	21	22
6145-00-152-6499	BULK	4
6145-00-161-1609	BULK	6
.	BULK	10
2510-00-168-2405	26	4
4010-00-111-4236	29	21
5305-00-175-3230	38	12
6220-00-179-4324	10	2
5305-00-180-4966	29	31
9390-00-180-7289	21	17
	24	13
5340-00-181-1546	27	10
5305-00-182-9379	39	10
5310-00-185-6341	39	4
5310-00-186-0977	39	3
4010-00-186-9415	BULK	11
5315-00-187-9567	42	1
4730-00-188-1393	29	5
5310-00-194-9209	3	31
3110-00-202-0525	38	11
9905-00-202-3639	50	4
9905-00-205-2795	49	4
5306-00-206-7279	40	10
2510-00-207-9386	40	5
5310-00-209-0786	3	9
	10	11
	11	2
	24	16
	49	1
	50	1
4739-00-221-2136	28	17
5305-00-225-3838	10	12

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
5305-00-225-3838	11	3
5306-00-225-9086	1	15
	15	4
5306-00-225-9088	3	47
5305-00-225-9091	44	3
5305-00-225-9102	2	1
5306-00-226-4823	26	22
5306-00-226-4835	3	34
5330-00-248-3845	5	8
5305-00-253-2596	38	24
5305-00-253-5632	51	2
2640-00-255-9346	34	2
5945-00-258-5744	3	42
5305-00-267-8950	13	8
5305-00-267-8952	6	3
	52	7
5305-00-267-8955	43	5
5305-00-267-8968	8	11
5305-00-269-3233	16	2
5305-00-259-3234	29	10
5305-00-269-3238	4	2
5305-00-269-3240	46	2
5305-00-769-4530	46	7
4030-00-273-3079	29	19
5310-00-273-7771	32	10
5330-00-Z85-5123	28	19
4730-00-289-0051	28	8
	29	15
5930-00-296-6318	6	1
5365-00-318-8184	15	7
	16	7
	17	3
5935-00-333-3088	21	8
5935-00-333-9414	15	6
	16	6
	17	4
	20	4
	21	12
	21	21
5315-00-350-4326	37	15
5310-00-353-2297	32	9
5310-00-353-2427	26	20
	32	7
5340-00-368-4952	32	5
5310-00-374-0836	26	19
5310-00-393-6685	18	6
	21	16
	24	12
5940-00-399-6676	8	8
	9	10
5940-00-399-6676	15	13
	18	2
	19	4
	20	7
	21	7
	22	7
	23	5
	24	3
3120-00-400-8437	52	12
5310-00-407-9566	26	21
	41	2
	44	2
4730-00-409-7854	28	7
	29	3
5305-00-411-9331	27	g
4710-00-424-2694	29	9
5306-00-444-8480	26	5
5330-00-462-0907	10	3
6145-00-463-0644	BULK	9
5310-00-480-7606	32	10
5306-00-498-7113	27	3
5310-00-514-6674	3	37
	15	3
5975-00-522-7125	21	11
5365-00-530-7968	37	27
6145-00-538-8219	BULK	8
4730-00-541-9081	29	28
	29	38
5310-00-543-2410	52	2
5310-00-550-3503	3	36
3110-00-554-3232	39	12
2640-00-555-2829	34	1
5310-30-559-0070	15	15
5935-00-572-9180	8	5
	g	7
	18	10
	20	8
	21	2
	22	1
	23	8
5310-00-576-5752	8	2
	9	5
6220-00-577-3434	12	1
4730-00-580-8457	28	18
5340-00-582-2741	47	5
5310-00-582-5965	1	3
	6	2
	13	9
	28	11
	43	2

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-582-5965	52	8	5305-00-737-7431	32	1
5310-00-582-6714	28	23	5330-00-740-9312	26	12
5310-00-584-5272	32	4	5340-00-740-9335	41	3
5310-00-584-7888	26	9	5340-00-740-9391	26	23
5310-00-584-7889	37	4	5330-00-740-9550	26	29
	40	11		32	13
4730-00-591-3405	38	7	2590-00-740-9553	26	30
4730-00-595-0083	28	2	5330-00-740-9600	26	24
5310-00-596-7691	12	13	5330-00-740-9606	26	13
5310-00-596-8169	12	5	5306-00-740-9608	26	14
5365-00-598-0814	38	20	5310-00-740-9615	26	11
5340-00-611-7883	11	5	5310-00-740-9621	42	2
5935-00-614-3959	21	14	2940-00-741-1081	23	14
5310-00-637-9541	4	1	2530-00-741-5743	28	13
	10	14	5930-00-752-2766	6	7
	16	3	9905-00-752-4649	BULK	1
	29	11		BULK	3
	46	4	5935-00-754-9083	21	19
5330-00-641-4336	1	13	5310-00-760-7442	27	8
	3	44	5310-00-761-6882	15	14
5310-00-655-9860	15	8		24	15
	16	8		28	10
	17	2	5310-00-762-6213	26	7
	21	15	5310-00-762-6239	37	5
	21	24	5310-00-763-8901	26	6
2540-00-678-3469	48	1	5310-00-768-0319	43	1
5310-00-679-3606	28	15	5975-00-771-6634	21	20
5930-00-681-4897	6	8	5935-00-771-6794	13	7
5935-00-686-2610	21	10	5365-00-772-2322	20	3
5935-00-686-9957	17	11		21	13
3110-00-689-8250	26	28	5365-00-772-2323	21	25
6210-00-691-2623	13	3	5365-00-772-2343	21	9
2530-00-696-0351	KITS		5935-00-772-2353	20	2
5975-00-697-7769	17	10	5935-00-773-1428	24	10
5310-00-700-7089	26	25	5305-00-782-9489	4	13
	32	8	5325-00-793-6093	17	9
5305-00-701-5071	12	2	2530-00-797-9189	42	3
6145-00-705-6674	BULK	7	5325-00-797-9287	29	17
5940-00-705-6703	24	1	2530-00-797-9295	28	12
5940-00-705-6714	15	2	5306-00-797-9296	28	20
5940-00-705-6732	16	5	2510-00-797-9305	26	16
5360-00-706-9054	28	16		26	17
5305-00-721-5492	10	13	5306-00-797-9365	40	1
5330-00-725-1511	38	10	5310-00-798-1265	40	12
5310-00-725-1983	27	12	5945-00-803-0785	3	11
6220-00-726-1916	12	1	5365-00-803-7301	52	10
5305-00-727-2283	47	4	5365-00-803-7303	4	9
5310-00-732-0559	46	5	5365-00-803-7316	37	2
5305-00-734-6958	26	10	5365-00-804-2773	37	22
5330-00-734-6993	32	6	5340-00-809-1492	24	6

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-809-3078	3	35	9905-00-893-3570	BULK	2
53}0-00-809-4058	8	12	5940-00-893-8546	17	7
	43	6	4730-00-9O8-6292	29	25
5310-00-809-4061	3	38	4730-00-911-5645	29	35
	29	18	5305-00-914-6131	29	16
5935-00-811-0942	21	23	3120-00-923-4777	37	23
5315-00-816-1794	4	6	5310-00-934-9747	3	14
5310-00-820-6653	47	3	5310-00-934-9757	1	9
5310-00-821-6269	13	1	5310-00-934-9758	12	12
	14	13	5330-00-946-8344	3	4
5310-00-823-8804	3	8	4030-00-946-8497	5	5
4820-00-826-6465	38	14	5330-00-948-0704	3	6
5935-00-833-8561	8	10	5935-00-957-1676	7	2
	9	12	5305-00-958-4348	52	1
	15	11	5305-00-958-4354	23	9
	18	4	5310-00-959-1488	29	22
	19	2	5310-00-959-4679	1	16
	20	5		2	2
	21	5		3	48
	22	5	5310-00-964-7811	27	22
	23	3	5305-00-984-4984	13	6
	24	5	5305-00-964-4989	3	2
5970-00-833-8562	8	9	5305-00-984-6193	1	11
	9	11		3	13
	15	12		6	4
	18	3		8	1
	19	3		9	2
	20	6	5305-00-984-6209	3	46
	21	6	5305-00-984-6211	12	14
	22	6	5340-00-984-8540	24	6
	23	4	5305-00-988-1724	49	3
	24	4		50	3
5310-00-833-8567	8	6	5305-00-988-1725	24	9
	9	8	5305-00-989-4864	15	16
	18	9	5305-00-989-7434	9	6
	20	g	5305-00-989-7435	52	9
	21	3	5340-00-990-7610	24	6
	22	2	5305-00-993-1851	1	6
	23	7	5310-00-997-1888	49	2
4030-00-838-3533	29	37		50	2
5315-00-844-3662	36	6	9905-00-999-7369	28	24
5315-00-844-3664	37	20	9905-00-999-7370	28	4
5935-00-846-3883	24	11	4720-01-003-6706	28	5
5310-00-850-1611	26	8		29	2
5310-00-877-5796	8	13	5310-01-008-4134	27	11
5310-00-880-7744	41	1	2530-01-012-2880	2?	23
5310-00-830-7746	44	1	5305-01-025-7761	37	30
5310-00-889-2826	4	4	4733-01-028-3814	29	6
5310-00-891-1711	40	6	4730-01-032-6038	28	21
5310-00-891-3428	28	22	5935-01-059-0117	16	1

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-01-062-1374	32	3	5315-01-093-5341	37	14
5305-01-062-1376	27	13	2510-01-093-5845	40	3
2330-01-063-1305	27	14	5340-01-093-5861	4	44
5310-01-063-2299	27	5	2530-01-093-8268	26	1
2530-01-063-3698	27	14	2590-01-093-8269	4	7
5360-01-063-8951	27	20	5340-01-094-8991	48	2
5340-01-064-3702	27	4	5340-01-094-8992	4	10
6220-01-067-4717	10	6	5935-01-094-B994	1?	6
5340-01-071-9824	37	16	5120-01-095-7820	29	20
2510-01-071-9825	37	17	4010-01-095-7969	37	31
2510-01-071-9826	37	26	4730-01-096-2001	29	13
5340-01-071-9827	52	13	2530-01-096-5025	29	27
3110-01-071-9828	52	5	2530-01-096-5026	32	11
5365-01-071-9837	36	3	5120-01-096-5027	5	4
2540-01-071-9854	44	5	5315-01-096-5057	4	8
4710-01-071-9862	26	2	4730-01-096-5066	15	5
5925-01-072-3134	1	1	5330-01-096-5067	5	7
5925-01-072-31S7	1	14	5930-01-096-5077	9	1
5945-01-078-5877	37	29	4730-01-096-9122	29	13
2530-01-079-3145	32	2	2590-01-097-6908	36	1
2530-01-084-6052	25	1	2530-01-099-2476	25	2
2510-01-090-0953	45	2	3120-01-101-0810	37	13
4020-01-090-7630	45	1	2530-01-106-0127	29	8
4720-01-091-7021	29	34	6150-01-108-1082	1	12
5360-01-091-7177	36	2	2510-01-109-7054	35	1
5310-01-091-7768	27	6	5310-01-113-0577	38	3
2530-01-091-7814	30	2	2530-01-123-1229	27	2
4720-01-091-8040	29	1	5120-01-124-5059	53	4
5340-01-092-0279	52	11	5120-01-124-5060	53	3
5340-01-092-0443	29	24	5l20-01-124-5061	53	1
4720-01-092-1093	29	7	5120-01-124-5062	53	5
4720-01-092-1094	29	29	5120-01-125-0531	53	2
2540-01-092-1835	5	10	5120-01-125-0573	53	6
5365-01-092-1900	5	3	5330-01-128-5192	38	23
2530-01-092-3099	27	7	5330-01-128-5193	39	6
5365-01-090-3898	37	24	5330-01-128-6695	38	21
5365-01-092-4766	23	9	2590-01-132-0872	38	22
3120-01-092-5571	4	15	5305-01-133-3865	38	6
5305-01-092-6061	52	4	3120-01-134-8793	38	1
2530-01-092-8482	3}	1	2520-01-136-0963	39	16
5306-01-092-8628	32	12	6105-01-136-0964	38	25
5306-01-092-8629	32	16	5330-01-136-5351	39	14
5330-01-092-8753	1	5	2590-01-137-4849	38	5
2530-01-092-9289	30	1	1440-01-142-7564	27	1
5925-01-092-9694	1	8	3040-01-142-7565	27	1
5330-01-092-9945	29	26	3040-01-142-7566	27	1
5340-01-092-9998	13	7	1440-01-146-0865	27	1
5315-01-093-1680	4	5	5305-01-146-6863	39	11
5340-01-093-4691	4	11	5930-01-147-3295	8	4
5340-01-093-5241	1	4		9	13

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
5935-01-162-0781	23	2
2590-01-168-7939	27	2
3040-01-179-9008	38	8
3010-01-179-9010	38	16
5315-01-179-9017	39	19
5315-01-179-9106	39	1
3020-01-179-9136	39	2
5365-01-179-9159	38	18
5305-01-179-9237	39	17
3040-01-179-9296	39	13
3040-01-179-9299	38	13
3120-01-180-8613	39	18
5210-31-180-8651	52	3
2590-01-200-5830	37	34
2590-01-200-5831	37	33
9905-01-209-3470	3a	15
3110-01-209-6000	39	15
5365-01-209-6004	38	9
5340-01-209-6006	39	5
5930-01-213-0347	52	6
2590-01-215-6634	4	3
5330-01-216-7399	37	71
5315-01-216-7957	37	25
5315-01-216-7958	37	28
5315-01-217-4136	37	3
5315-01-217-4137	37	1
6680-01-244-5849	39	7
5945-01-245-2459	3	1
5340-01-245-2531	3	50
6150-01-245-3764	7	1
5945-01-246-4797	3	5
5970-01-246-5306	3	43
5365-01-748-1965	3	41
5365-01-248-1966	3	40
5340-01-249-0531	3	32
5315-01-249-4353	37	18
5340-01-250-0677	3	12
5340-01-253-3904	KITS	
2590-01-254-1047	36	9
2590-01-254-4951	36	4
5995-01-254-4973	3	45
2590-01-254-5595	36	
2590-01-254-6189	36	5
5995-01-254-6201	3	7
2590-01-254-8769.	36	7
5340-01-257-3871	3	39
5340-01-257-3872	37	9
5340-01-257-3873	37	10
5340-01-257-3874	37	12
5330-01-257-6099	3	29
5970-01-260-3557	14	19
2510-01-261-0524	3?	7
2510-01-261-0525	37	8
5340-01-261-0533	47	2
5340-01-261-0536	46	1
2590-01-263-2540	37	19
6150-01-266-5696	3	3
6150-01-268-2383	3	17
6150-01-268-2384	3	18
6150-01-266-6582	3	26
6150-01-268-6583	3	25
6150-01-270-0798	3	16
6150-01-270-0799	3	19
6220-01-284-2709	10	g
9905-01-284-4962	51	1
990S-01-284-4963	51	3
9905-02-284-4964	51	4
5930-01-285-9105	38	26
2530-01-286-3257	27	19
5330-01-286-8011	38	27
6220-01-297-3217	10	7
6150-01-317-5737	3	15
6150-01-317-5738	3	22
6150-01-317-5739	3	28
6150-01-317-5740	3	20
6150-01-317-5741	3	23
6150-01-323-5249	3	27
5340-01-333-5588	14	8

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
78500	A-1199-Z-3432	2530-01-012-2880	27	23
78500	A-2297-Y-5326		27	15
78500	A-2747-H-112	2530-00-117-9144	27	18
78500	A-3280-U-9185		27	17
O8162	AN1B	5310-00-185-6341	39	4
81352	AN3362-1	5945-00-258-5744	3	42
88044	AN535-2-3	5305-00-175-3230	38	12
78500	A1-2797-8-418	2530-01-063-3698	27	14
78500	A1-2797-C-419	2530-01-063-1305	27	14
78500	A1-310232446	2530-00-797-9189	42	3
78500	A1-3211D-2994	2530-01-123-1229	27	2
78500	A16-3211K2871	2590-01-168-7939	27	2
78500	A333X2LS2X	2530-01-096-5026	32	11
81205	BACW1OP53S	5310-00-725-1983	27	12
80204	B1821BHO31C250N	5306-00-226-4835	3	34
81996	B8005-16-003FN19	5935-00-614-3959	21	14
19207	CPR102321-4	4730-01-032-6038	28	21
79470	C3169X6	4730-00-057-5555	39	9
82647	C4344-81-1	5930-01-285-9105	38	26
95879	C47200-5	4820-00-826-6465	38	14
30327	C608	4720-01-003-6706	28	5
			29	2
19207	E019522		10	1
78500	53276L12(X)	2530-01-091-7814	30	2
89749	IF316	5315-00-816-1794	4	6
00293	J-16116-F/A-F12	5120-01-125-0531	53	2
00293	J-16116-F/A-F15	5120-01-124-5060	53	3
00293	J-16116-F/A-F17	5120-01-124-5059	53	4
00293	J-16116-F/A-F39	5120-01-125-0573	53	6
00293	J-16116-F/A-F7	5120-01-124-5062	53	5
00293	J-16116-F/A-F8	5120-01-124-5061	53	1
00293	J-16116-1		38	28
03293	J-16116-10	5330-01-128-5193	39	6
00293	J-16116-100	2590-01-137-4849	38	5
00293	J-16116-11	5330-01-128-5192	38	23
00293	J-16116-13	3020-01-179-9136	39	2
00293	J-16116-15	3040-01-179-9296	39	13
00293	J-16116-16	3010-01-179-9010	38	16
00293	J-16116-200	2520-01-136-0963	39	16
00293	J-16116-201	2590-01-132-0872	33	22
00293	J-16116-21		39	8
00293	J-16116-22	3040-01-179-9299	38	13
00293	J-16116-23	3040-01-179-9008	38	8
00293	J-16116-24	5340-01-209-6006	39	5
00293	J-16116-27	5365-01-209-6004	38	9
00293	J-15116-29	5365-01-179-9159	38	18
00293	J-16116-36	3110-01-209-6000	39	15
00293	J-16116-41	3120-01-134-8793	38	1
00293	J-16116-45	5315-01-179-9106	39	1
00293	J-15116-46	5305-01-179-9237	39	17
00293	J-16116-49	5315-01-179-9017	39	19

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
00293	J-16116-56	3120-01-180-8613	39	18
00293	J-16116-57	9905-01-209-3470	38	15
00293	J-IS119-59		38	30
00293	J-16119-9		38	29
96906	MS109081-181		32	15
96906	MS14104-16	3120-01-101-0810	37	13
96906	MS15001-1	4730-00-050-4203	38	4
96906	MS15003-1	4730-00-050-4208	26	27
			37	1
96906	MS15570-1251	6240-00-019-0877	10	8
			12	6
96906	MS15570-623	6240-00-019-3093	10	5
96906	MS16562-62	5315-00-844-3662	36	6
96906	MS16562-67	5315-00-844-3664	37	20
96906	MS16624-1050	5365-00-803-7301	52	10
96906	MS16S24-1075	5365-00-803-7303	4	9
96906	MS16624-1100	5365-00-530-7968	37	27
96906	MS16624-1137	5365-00-803-7316	37	2
96906	MS16625-1218	5365-00-804-2773	37	22
96906	MS16843-1	4030-00-838-3533	29	37
96906	MS17343R16C11P	5935-01-162-0781	23	2
96906	MS17343R20N23S		15	1
96906	MS18153-63	5305-00-914-6131	29	16
96906	MS19070-181	5310-00-186-0977	39	3
96906	MS19081-137	3110-00-100-4220	32	14
96906	MS20664C4	4030-00-273-3079	29	19
96906	MS20913-1S	4730-00-221-2136	28	17
96906	MS21044N4	5310-00-877-5796	8	13
96906	MS21241-06C016		4	12
96906	MS21318-58	5305-00-253-5632	51	2
96906	MS21333-100	5340-00-809-1497	24	6
96906	MS21333-102	5340-00-984-8540	24	6
96906	MS21333-66	5340-00-990-7610	24	6
96906	MS21333-75	5340-00-050-2740	29	32
96906	M524585-1378	5360-00-055-2435	29	23
96906	MS24665-500	5315-00-187-9567	42	1
96906	MS25036-108	5940-00-143-4780	72	4
96906	MS25224-2	5930-00-681-4897	6	8
96906	MS25237-327AS15	6240-00-080-2012	13	4
96906	MS25273-01	5945-00-803-0785	3	11
96906	MS27148-2	5999-00-057-2929	8	7
			9	9
			12	10
			18	8
			21	4
			22	3
		-	23	6
96906	MS27151-18	5310-00-889-2826	4	4
96906	MS27183-10	5310-00-809-4058	8	12
			43	6

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
96906	MS27183-11	5310-00-809-3078	3	35
96906	MS27183-12	5310-00-081-4219	1	17
			3	49
96906	MS27183-14	5310-00-030-6004	4	14
			5	2
			46	3
96906	MS27183-15	5310-00-809-4061	3	3B
			29	18
96906	MS27183-42	5310-00-014-5850	9	4
96906	MS27183-9	5310-00-823-8804	3	8
96906	MS29513-016	5330-00-248-3845	5	8
96006	MS35190-272	5305-00-088-8332	3	30
96906	MS35206-227	5305-00-984-4984	13	6
96906	MS35206-229	5305-00-984-4989	3	2
96906	MS35206-245	5305-00-984-6193	1	11
			3	13
			6	4
			8	1
			9	2
96906	MS35206-262	5305-00-984-6209	3	46
96906	MS35206-264	5305-00-984-6211	12	14
96906	MS35206-280	5305-00-988-1724	49	3
			50	3
96906	MS35206-281	5305-00-988-1725	24	9
96906	MS35207-217	5305-00-958-4348	52	1
96906	MS35207-230	5305-00-958-4354	23	9
96906	MS35207-245	5305-00-989-4864	15	16
96906	MS35207-263	5305-00-989-7434	9	6
96906	MS35207-264	5305-00-989-7435	52	9
96906	MS35207-267	5305-00-993-1851	1	6
96906	MS35333-106	5310-00-019-0670	9	3
96906	MS35333-38	5310-00-559-0070	15	15
96906	MS35333-39	5310-00-576-5752	8	2
96906	MS35333-49	5310-00-582-6714	28	23
96906	MS35334-19	5310-00-821-6269	13	1
			14	13
96906	MS3533S-32	5310-00-596-7691	12	13
96906	MS35335-33	5310-00-209-0786	3	9
			10	11
			11	2
			24	16
			49	1
			50	1
96906	MS35335-34	5310-00-514-6674	3	37
			15	3
96906	MS35335-36	5310-00-550-3503	3	36
96906	MS35336-21	5310-00-194-9209	3	31
96906	MS35338-40	5310-00-543-2410	52	2
96906	MS35338-41	5310-00-045-4007	13	5
			23	10

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
96906	MS35338-42	5310-00-045-3299	1	10
			6	5
96906	MS35338-43	5310-00-045-3296	1	7
			29	30
96906	MS35338-44	5310-00-582-5965	1	3
			6	2
			13	9
			28	11
			43	27
			52	8
96906	MS35338-45	5310-00-407-9566	26	21
			41	2
			44	2
96906	MS35338-46	5310-00-637-9541	4	1
			10	14
			16	3
			29	11
			46	4
96906	MS35338-50	5310-00-820-6653	47	3
96906	M535338-51	5310-00-584-7888	26	9
96906	MS35338-53	5310-00-584-7889	37	4
			40	11
96906	MS35338-54	5310-00-850-1611	26	8
96906	MS35338-55	5310-00-060-9435	26	15
96906	MS35340-45	5310-00-959-4679	1	16
			2	2
			3	48
96906	MS35387-1	9905-00-205-2795	49	4
96906	MS35387-2	9905-00-202-3639	50	4
95906	MS35421-1		I2	4
96906	MS35421-2		12	4
96906	MS35423-1	6220-00-577-3434	12	1
96906	MS35423-2	6220-00-726-1916	12	1
96906	MS35478-1683	6240-00-044-6914	10	4
96906	MS35647-4	S340-00-582-2741	47	5
96906	MS35649-202	5310-00-934-9758	12	12
96906	MS35649-2252	5310-00-997-1888	49	2
			50	2
96906	MS35649-262	5310-00-934-9747	3	14
96906	MS35649-282	5310-00-934-9757	1	9
96906	MS35690-824	5310-00-010-3028	40	4
96906	MS35691-25	5310-00-891-1711	40	6
96906	MS35691-77	5310-00-891-3428	28	22
96906	MS35746-1	4730-00-595-0083	28	2
96906	MS35842-14	4730-00-908-6292	29	25
96906	MS39020-1	9905-00-752-4649	BULK	3
96906	MS39061-1	5930-00-296-6318	6	1
96906	MS39061-8	5?30-00-752-2766	6	7
96906	MS51038-157	5305-01-133-3865	38	6
96906	MS51368-2	7640-00-555-2829	34	1
96906	MS51849-64	5305-00-130-4966	29	31

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
96906	MS51851-87		14	14
96906	MS51922-17	5310-00-087-4652	5	1
96906	MS51922-21	5310-00-959-1488	29	22
96906	MS51953-101B	4730-00-188-1893	29	5
96906	MS51959-61	5305-00-701-5071	12	2
96906	MS51967-2	5310-00-761-6882	15	14
			24	15
			28	10
96906	MS51967-5	5310-00-880-7744	41	1
96906	MS51968-2	5310-00-768-0319	43	1
96906	MS51968-23	5310-00-763-8901	26	6
969O6	MS51968-29	5310-00-762-6239	37	5
96906	MS51968-32	5310-00-762-6213	26	7
96906	MS5196805	5310-00-880-7746	44	1
96906	MS51968-8	5310-00-732-0559	46	5
96906	MS52000-10	5330-00-948-0704	3	6
96906	MS52000-5	5330-00-946-8344	3	4
96906	MS52000-8	5330-00-641-4336	1	13
			3	44
96906	MS52127-3	2540-00-678-3469	48	1
96906	MS53004-2	2530-00-021-2366	29	4
96906	MS53007-1	9905-00-999-7370	28	4
96906	MS53007-2	9905-00-999-7369	28	24
96906	MS53037-1	2510-01-109-7054	35	1
96906	MS87006-23	4030-00-946-8497	5	5
96906	MS90725-3	5305-00-068-0500	3	10
			24	7
96906	MS90725-4	5305-00-225-3838	10	12
			11	3
96906	MS90725-6	5305-00-068-0502	1	2
			13	2
96906	MS90725-9	5305-00-071-2242	14	17
96906	MS90725-91	5305-00-042-9477	40	9
96906	MS90726-31	5306-00-225-9086	1	15
			15	4
96906	MS90726-33	5306-00-225-9088	3	47
96906	MS90726-36	5305-00-225-9091	44	3
96906	H590726-47	5305-30-225-9102	2	1
96906	MS90727-1	5305-00-267-8950	13	8
96906	MS90727-11	5305-00-267-8955	43	5
96906	MS90727-162	5305-00-727-2283	47	4
96906	MS90727-24	5305-00-267-8968	8	11
96906	MS90727-3	5305-00-267-8952	6	3
			52	7
96906	MS90727-57	5305-00-269-3233	16	2
96906	MS90727-58	5305-00-269-3234	29	10
96906	MS90727-62	5305-00-269-3238	4	2
96906	MS90727-64	5305-00-269-3240	46	2
96906	MS90727-77	5305-00-269-4530	46	7
96906	MS90728-30	5306-00-226-4823	26	22
96906	MS90728-57	5305-00-721-5492	10	13

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
96906	MS90728-66	5305-00-782-9489	4	13
96906	MS90728-92	5305-00-071-2058	3	33
81349	M134B6-1-3	6145-00-161-1609	BULK	10
81349	M13486-1-9		BULK	5
81349	M134B6-2-1	6145-00-463-0644	BULK	9
81349	M13486/1-11	6145-00-538-8219	BULK	8
81349	M13486/1-14	6145-00-705-6674	BULK	7
81349	M1348671-3	6145-00-161-1609	BULK	6
81349	M13486J1-5	6145-00-152-6499	BULK	4
81349	M1351677-8	5925-01-092-9694	1	B
81349	M4343671-1	9905-00-752-4649	BULK	1
81349	H43436J1-3	9905-00-893-3570	BULK	2
73500	N-14	5310-01-091-7768	27	6
80205	NAS1352-4LE12P	5305-00-182-9379	39	10
80205	NA51352-5LE16P	5305-00-253-2596	38	24
80205	NAS1352-6LE24	5305-01-146-6863	39	11
80205	NAS509-4	5310-00-141-3010	38	2
80205	NAS513-24	5310-01-113-0577	38	3
78500	N19-10	5310-01-008-4134	27	11
78500	RDA1570-4627	1440-01-146-0865	27	1
78500	RDA1570-4628	1440-01-142-7564	27	1
78500	RDA1570-4629	3040-01-142-7566	27	1
78500	RDA1570-4630	3040-01-142-7565	27	1
06721	RN-13-A	2530-00-696-0351	KITS	
81348	RRC271	4010-00-186-9415	BULK	11
21450	RRC271-18		5	6
80756	RPT150C	5365-00-598-0814	38	20
80756	RSTT8		38	17
79780	S-146	5306-00-498-7113	27	3
78500	S-1914-1C	5305-01-062-1376	27	13
80063	50852887-4	5310-00-584-5272	32	4
78500	SCD-1718-D-134	5340-01-064-3702	27	4
78500	S255C	5305-00-411-9331	27	9
78500	52610	5305-01-062-1374	32	3
78500	S7810S	5305-00-737-7431	32	1
15434	S9118	4730-00-018-9566	26	18
78500	U34-3276L12X	2530-01-092-9289	30	1
78500	WA-14-C	5310-01-063-2299	27	5
7?820	10-40457-125	5975-00-522-7125	21	11
77820	10-42622-7S	5935-00-062-7446	15	9
			16	9
			17	1
17875	100AA	2640-00-050-1229	34	3
19207	10894808	2590-00-083-0266	2	3
19207	10900257	4730-00-911-5645	29	35
19207	10916961	6210-00-691-2623	13	3
19207	10938443-2	5310-00-480-7606	32	10
19207	11591832	2540-00-036-0232	43	3
19207	11601389	2530-01-092-8482	31	1
19207	11603234	2610-00-142-5136	33	1
19207	11639519-2	5330-00-462-0907	10	3

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	11639520	6220-01-067-4717	10	6
19207	11639535	6220-00-179-4324	10	2
73500	1164		KITS	
19207	11668013	3120-00-923-4777	37	23
19207	11668652	5935-00-957-1676	7	2
19207	11669116	2590-01-097-6908	36	1
19207	11669118	3120-00-400-8437	52	12
19207	11669814	5930-01-147-3295	8	4
			9	13
19207	11669861	5210-01-180-8651	52	3
19207	11669871	6680-01-244-5849	39	7
19207	11670010	5365-01-092-3898	37	24
19207	11670031-1		24	2
19207	11670034		11	4
19207	11670037	2590-01-254-8769	36	7
19207	11670038-5	2590-01-254-4951	36	4
19207	11670038-6	2590-01-254-6189	36	5
19207	11670039	2590-01-254-1047	36	1
19207	11670039-4	2590-01-254-5595	36	8
19207	11670042	5365-01-071-9837	36	3
19207	11670070	2530-01-084-6052	25	1
19207	11670071	2530-01-099-2476	25	2
19207	11670072	4710-01-071-9862	26	2
19207	11670073		26	3
19207	11670075-1	2590-01-200-5830	31	34
19207	11670075-2	2590-01-200-5831	37	33
19207	11670077	2510-01-071-9826	37	26
19207	11670080	2510-01-261-0524	37	7
19207	11670081	2510-01-261-0525	37	8
19207	11670088-1		11	1
19207	11670088-2		11	1
19207	11670090-1		11	6
19207	11670090-2		11	6
19207	11670092-1		10	I0
19207	11670092-2		10	10
19207	11670096		29	33
19207	11670097-1	4730-01-096-9122	29	13
19207	11670097-2	4730-01-096-2001	29	13
19207	11670098-1	4720-01-091-7021	29	34
19207	11670098-2	4720-01-091-8040	29	1
19207	11670098-3	4720-01-092-1093	29	7
19207	11670098-4	4720-01-092-1094	29	29
19207	11670099		28	25
19207	11670100	2530-01-096-5025	29	27
19207	11670101	5365-01-092-4766	28	9
19207	11670208-1		11	1
19207	11670208-2	.	11	1
19207	11670211	5930-01-096-5077	9	1
19207	11670216-1		17	5
19207	11670224-1		47	1
1920?	11670242	5340-01-261-0533	47	2

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	11670253		21	1
1920l	11670256	6150-01-245-3764	7	1
19207	11674728	5935-01-059-0117	16	1
19207	11674759-3		24	8
19207	11674991	5330-01-092-9945	29	26
19207	11675093	5340-01-094-8991	48	2
19207	11675102		43	4
19207	11675103	5340-01-261-0536	46	1
19207	11675104		46	6
19207	11686113		14	7
19207	11686114		14	9
19207	11686120	3110-01-071-9828	52	5
19207	11686123	5340-01-071-9827	52	13
19207	11686124		18	1
19207	11686125		19	1
19207	11686131	5305-01-092-6061	52	4
19207	11686134		14	2
19207	11686136-1		14	1
19207	11686137		14	15
19207	11686142		14	12
19207	11686210		37	6
19207	11686242		20	1
19207	11686263		22	8
19207	11686268		23	1
19207	11686299	5945-01-078-5877	37	29
78500	1199G111	5310-00-273-7771	32	10
78500	1205C2005		27	16
19207	12250023	5340-01-093-4691	4	11
19207	12250026	5340-01-092-9998	13	7
19207	12250027	5340-01-092-0279	52	11
19207	12250028	5120-01-096-5027	5	4
19207	12250029	5330-01-096-5067	5	7
19207	12250032	5315-01-093-1680	4	5
19207	12250034	2590-01-093-8269	4	7
19207	12250052	2540-01-092-1835	5	10
19207	12Z50055-1	5340-01-257-3872	37	9
19207	12250055-2	5340-01-257-3873	37	10
19207	12250117	4730-01-096-5066	15	5
19207	1225C215-1	5315-01-093-5341	37	14
19207	12250215-6	5315-01-249-4353	37	18
19207	12250216		14	16
19207	12250233	5935-01-094-8994	17	6
19207	12250238		14	4
19207	12250240		14	5
19207	12250241		14	3
19207	1225024Z		14	6
19207	12250243	5365-01-092-1900	5	3
19207	12250269	2510-01-093-5845	40	3
19207	12250272	5315-01-096-5057	4	8
19207	12250283	5120-01-095-7820	29	20
19207	12250264	5340-01-092-0443	29	24

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	12250285	4820-00-116-2994	29	36
19207	12250291	3120-01-092-5571	4	15
19207	12250309	4010-01-095-7969	37	31
19207	12250339-1	5340-01-333-5588	14	8
19207	12250339-2		14	10
19207	12255462	2540-01-071-9354	44	5
19207	12255522	5360-01-091-7177	36	2
19207	12259478	5340-01-093-5861	44	4
19207	12259522		9	3
19207	12259600	2590-01-263-2540	37	l,
19207	12259620		6	6
19207	12259621	2590-01-215-6634	4	3
19207	12259622	5340-01-094-8992	4	10
19207	12259647	5925-01-072-3134	1	1
19207	12259648	5925-01-072-3167	1	14
19207	12259649	5340-01-093-5241	1	4
19207	12259653	5330-01-092-8753	1	5
19207	12259654	6150-01-108-1082	1	12
19207	12259667-1		15	10
19207	12269843		5	9
19207	12269945	9905-01-284-4963	51	3
19207	12269946	9905-01-284-4964	51	4
19207	12269966-1	2510-01-071-9825	3?	17
19207	12269966-2	5340-01-071-9824	37	16
19207	12269971	5340-01-257-3874	37	}2
78500	1229-S-513	5310-00-760-7442	27	8
19207	12296208	2510-01-090-0953	45	2
19207	12296211-1	4020-01-090-7630	45	1
19207	12296406	2530-01-106-0127	29	8
19207	12296434		14	18
19207	12296445	9905-01-284-4962	51	1
19207	12296446		16	4
19207	12296663		14	1
19207	12314118	5970-01-260-3557	14	19
19207	12314535	5330-01-216-7399	37	21
19207	12343135	5930-01-213-0347	52	6
19207	12343339-1	5315-01-717-4136	37	3
19207	12343339-2	5315-01-217-4137	37	11
19207	12343339-3	5315-01-216-7957	37	25
19207	12343339-4	5315-01-216-7958	37	28
19207	12343367	5340-01-249-0531	3	32
19207	12343368	5330-01-257-6099	3	29
19207	12343370	6150-01-266-5696	3	3
19207	12343371	5995-01-254-4973	3	45
19207	12343372	5995-01-254-6201	3	7
19207	12343373	5340-01-245-2531	3	50
19207	12343374-1	5365-01-248-1965	3	41
19207	12343374-2	5365-01-248-1966	3	40
19207	12343377	5340-01-257-3871	3	39
19207	12343378	5970-01-246-5306	3	43
19207	12343379-1	6150-01-270-0798	3	16

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	12343379-2	6150-01-268-2383	3	17
19207	12343379-3	6150-01-268-2384	3	18
19207	12343379-4	6150-01-270-0799	3	19
19207	12343380	5340-01-350-0677	3	12
19207	12343381	5945-01-246-4797	3	5
19207	12343383	5945-01-245-2459	3	1
19207	12343384-1	6150-01-268-6582	3	26
19207	12343384-2	6150-01-268-6583	3	25
19207	12343386-1	6150-01-317-5737	3	15
19207	12343386-2		3	24
19207	12343386-3	6150-01-317-5738	3	22
19207	12343386-4	6150-01-317-5739	3	28
19207	12343386-5	6150-01-323-5249	3	27
19207	12343386-6		3	21
19207	12343386-7	6150-01-317-5740	3	20
19207	12343386-8	6150-01-317-5741	3	23
19207	12360850-1	6220-01-234-2709	I0	9
19207	12360870-2	6220-01-297-3217	10	7
19207	12370463		14	11
78500	1707C3	5340-00-181-1546	27	10
78500	1729-B-262	5310-00-964-7811	27	22
78500	1779M195	2530-00-015-7564	27	21
38443	1904S		38	19
27315	20Q65DS	5305-01-025-7761	37	30
78500	20X406C	5306-01-092-8629	32	16
78500	20X406C	5306-01-092-B628	32	12
38443	204S	3110-00-554-3232	39	12
06853	213630	5330-00-090-2128	28	3
78500	2258-K-583	5360-01-063-8951	27	20
29201	25236-1		30	3
11083	3M9449	5940-00-705-6732	16	5
95879	301370	4730-00-591-3405	38	7
78500	3219G3647X	2530-01-079-3145	32	2
78500	3262L90	5340-00-368-4952	32	1
78500	3736N326	2530-01-097-3099	27	7
80201	39934-CRSHA1-R	5330-00-725-1511	38	10
76692	470650-47	5330-01-136-5351	39	14
78500	5X625	5330-00-740-9312	26	12
19207	5139123	5310-00-700-7089	26	25
			32	8
19207	5213744	5315-00-350-4326	37	15
95535	55229	4710-00-424-2694	29	9
19207	5705696	2530-01-286-3257	27	19
19207	5705722	5340-01-253-3904	KITS	
79577	660-1-4	4010-00-116-1604	37	32
21450	703077	3110-00-100-4223	26	26
19207	7056703	5940-00-705-6703	24	1
19207	7056714	5940-00-705-6714	15	2
19207	7068272	4010-00-171-4236	29	21
21450	712288	3110-00-689-8250	26	28
52676	721B8G	3110-00-202-0525	38	11

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	7346958	5306-00-734-6958	26	10
19207	7409335	5340-00-740-9335	41	3
19207	7409553	2590-00-740-9553	26	30
19207	7411021	2530-00-137-9235	28	1
19207	7411022	2530-00-797-9295	28	12
19207	7411081	2940-00-741-1081	28	14
19207	7415748	2530-00-741-5748	28	13
19207	7419821	5940-00-893-8546	17	7
19207	7526509		12	8
19207	7526515		12	7
19207	7526516	-	12	3
19207	7526796	5310-00-596-8169	12	5
19207	7527645	5975-00-697-7769	17	10
27783	7572	2640-00-255-9346	34	2
80201	7573-CRSA1-R	5330-01-128-6695	38	21
19207	7716634	5975-00-771-6634	21	20
19207	7716794	5935-00-771-6794	18	7
19207	7722322	5365-00-772-2322	20	3
			21	13
19207	7722323	5365-00-772-7323	21	25
19207	7722333	5365-00-090-5426	18	5
			21	18
			24	14
19207	7722343	5365-00-772-2343	21	9
19207	7722353	5935-00-772-2353	20	2
19207	7723306	5935-00-333-3088	21	8
19207	7723307		I7	8
19207	7723308	5935-00-333-9414	15	6
			16	6
			17	4
			20	4
			21	12
			21	21
19207	7723309	5310-00-393-6685	18	6
			21	16
			24	12
19207	7731428	5935-00-773-1428	24	10
19207	7979183	5310-00-740-9621	42	2
19207	7979263	5310-00-353-2427	26	20
			32	7
19207	7979264	5330-00-740-9606	26	13
19207	7979265	5310-00-740-9615	26	11
19207	7979268	2530-01-093-8268	26	1
19207	7979274	5330-00-740-9600	26	24
19207	7979275	5330-00-734-6993	32	6
19207	7979286	2510-00-168-2405	26	4
19207	7979287	5325-00-797-9287	29	17
19207	7979296	5306-00-797-9296	28	20
19207	7979305	2510-00-797-9305	26	17
19207	7979306	5340-00-740-9391	26	23
19207	7979308	5310-00-374-0836	26	19

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	7979309-1	5310-00-353-2297	32	9
19207	7979312	2510-00-797-9305	26	16
19207	7979316	2510-00-117-9266	40	27
19707	7979329	5306-00-740-9608	26	14
19207	7979349	5330-00-740-9550	26	29
			32	13
19207	7979365	5306-00-797-9365	40	1
19207	7979366	5310-00-798-1265	40	12
19207	7979377	5306-00-444-8480	26	5
19207	7979421	2510-00-207-9386	40	5
19207	7979422	2510-00-030-6595	40	7
19207	7979423	5365-00-003-8344	40	8
19207	7979425	5306-00-206-7279	40	10
19207	7979612	5360-00-706-9054	28	16
19207	7979613	4730-00-580-8457	28	18
19207	7979614	5310-00-679-3606	23	15
81343	8-4 1202028A	4730-00-409-7854	28	7
			29	1
81343	8-6 120102BA	4730-00-142-3076	28	6
			29	14
81343	8-6 120202BA	4730-00-289-0051	28	8
			29	15
1343	8-6-6 120425 BA		29	12
191207	8329823	5330-00-285-5123	28	19
19207	8338561	5935-00-833-8561	8	10
			9	12
			15	11
			18	4
			19	27
			20	5
			21	5
			22	5
			23	3
			24	5
19207	8338562	5970-00-833-8562	1	9
			1	11
			15	12
			18	3
			19	3
			20	6
			21	
			22	6
			23	4
			24	4
19207	8338564	5940-00-399-6676	8	8
			9	10
			15	13
			18	2
			19	4
			20	7
			21	7

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG	ITEM
19207	B338564	5940-00-399-6676	22	7
			23	1
			24	3
19207	8338566	5935-00-572-9180	8	5
			9	7
			12	9
			18	10
			20	8
			21	2
			22	1
			23	8
19207	8338567	5310-00-833-8567	8	6
			9	12
			12	11
			18	9
			20	9
			21	3
			22	1
			23	7
19207	8376208	5935-00-846-3883	24	11
19207	8376776	5365-00-318-8184	15	7
			17	3
19207	8395410	4730-01-028-3814	29	6
19207	8701325	5310-00-655-9860	15	8
			16	8
			17	2
			21	15
			21	24
19207	8724199	5935-00-686-2610	21	10
19207	8724235	5935-00-686-9957	17	11
19207	8724246	5935-00-811-0942	21	2}
19207	8724257	5935-00-754-9083	21	19
19207	8724521	5325-00-793-6093	17	9
19207	8724762	9390-00-146-9334	21	22
19207	8724763	9390-00-180-7289	21	17
19207	8747908	5340-00-611-78B3	11	5
19207	8764909-1	4730-00-541-9081	29	28
			29	38
28100	9008D13-1	6105-01-136-0964	38	25
83843	9676798-1	5330-01-286-8011	38	27

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
BULK	1	9905-00-752-4649	81349	M43436/1-1
BULK	2	9905-00-893-3570	81349	M43436/1-3
BULK	3	9905-00-752-4649	96906	MS39020-1
BULK	4	6145-00-152-6499	81349	M13406/1-5
BULK	5		81349	M13486-1-9
BULK	6	6145-00-161-1609	81349	M13486/1-3
BULK	7	6145-00-705-6674	81349	M13486/1-14
BULK	8	6145-00-538-8219	81349	M13486/1-11
BULK	9	6145-00-463-0644	81349	M13486-2-1
BULK	10	6145-00-161-1609	81349	M13486-1-3
BULK	11	4010-00-186-9415	81348	RRC271
KITS			78500	1164
KITS		2530-00-696-0351	06721	RN-13-A
KITS		5340-01-253-3904	19207	5705727
1	1	5925-01-072-3134	19207	12259647
1	2	5305-00-068-0502	96906	MS90725-6
1	3	5310-00-582-5965	96906	MS35338-44
1	4	5340-01-093-5241	19207	12259649
1	5	5330-01-092-8753	19237	12259653
1	1	5305-00-993-1851	96906	MS35207-267
1	7	5310-00-045-3296	96906	MS35338-43
1	8	5925-01-092-9694	81349	M13516J7-B
1	9	5310-00-934-9757	96906	M535649-282
1	10	5310-00-045-3299	96936	MS35333-42
1	11	5305-00-984-6193	96906	MS35206-245
1	12	6150-01-108-1082	19207	12259654
1	13	5333-00-641-4336	959O6	MS52000-8
1	14	5925-01-072-3167	19237	12259648
1	15	5306-00-225-9086	96906	MS90726-31
1	16	5310-00-959-4679	96906	MS35340-45
1	17	5310-00-081-4219	96906	MS27183-12
2	1	5305-00-225-9102	969O6	MS90726-47
2	2	5310-00-959-4679	96906	MS35340-45
2	3	2590-00-083-0266	19207	10894808
3	1	5945-01-245-2459	19207	12343383
3	2	5305-00-984-4989	96906	MS35206-229
3	3	6150-01-266-5696	19207	12343370
3	4	5330-00-946-8344	96906	MS52000-5
3	5	5945-01-246-4797	19207	12343381
3	6	5330-00-948-0704	96906	MS52000-10
3	7	5995-01-254-6201	19207	12343372
3	8	5310-00-823-8804	96906	MS27183-9
3	9	5310-00-209-0786	96906	MS35335-33
3	10	5345-00-068-0500	96906	MS90725-3
3	11	5945-00-603-0185	96906	MS25273-D1
3	12	5340-01-250-0677	19207	12343380
3	13	5305-00-984-6193	96906	MS35206-245
3	14	5310-00-934-9747	96906	MS35649-262
3	15	6150-01-317-5737	19207	12343386-1
3	16	6150-01-270-0798	19207	12343379-1
1	17	6150-01-268-2383	19207	12343379-2

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
3	18	6150-01-268-2384	19207	12343379-3
3	19	6150-01-270-0799	19207	12343379-6
3	20	6150-01-317-5740	19207	12343386-7
3	21		19207	12343386-6
3	22	6150-01-317-5738	19207	12343386-3
3	23	6150-01-317-5741	19207	12343386-8
3	24		19207	12343386-2
3	25	6150-01-268-6583	19207	12343384-2
3	26	6150-01-268-6582	19207	12343384-1
3	27	6150-01-323-5249	19207	12343386-5
3	28	6150-01-317-5739	19207	12343386-4
3	29	5330-01-257-6099	19207	12343368
3	30	5305-00-088-8332	96906	MS35190-272
3	31	5310-00-194-9209	96906	MS35336-21
3	32	5340-01-249-0531	19207	12343367
3	33	5305-00-071-2058	96906	MS90728-92
3	34	5306-00-226-4835	80204	B1821BH031C250N
3	35	5306-00-809-3078	96906	MS27183-11
3	36	5310-00-550-3503	96906	MS35335-36
3	37	5310-00-514-6674	96906	MS35335-34
3	38	5310-00-809-4061	95906	MS27183-15
3	39	5340-01-257-3871	19207	12343377
3	40	5365-01-248-1966	19207	12343374-2
3	41	5365-01-248-1965	19207	12343374-1
3	42	5945-00-258-5744	81352	AN3362-l
3	43	5970-01-246-5306	19207	12343378
3	44	5330-00-641-4336	96906	MS52000-5
3	45	5995-01-254-4973	19207	12343371
3	46	5305-00-934-6209	96906	MS35206-262
3	47	5306-00-225-9088	96906	MS90726-33
3	48	5310-00-959-4679	96906	MS35340-45
3	49	5310-00-081-4219	96906	MS27183-12
3	50	5340-01-245-2531	19207	12343373
4	1	5310-00-637-9541	96906	MS35338-46
4	2	5305-00-269-3238	96906	MS90727-62
4	3	2590-01-215-6634	19207	12259621
4	4	5310-00-889-2826	96906	MS27151-18
4	5	5315-01-093-1680	19207	12250032
4	6	5315-00-816-1794	89749	IF316
4	7	2590-01-093-8269	19207	12250034
4	8	5315-01-096-5057	19207	12250272
4	9	5365-00-803-7303	96906	MS16624-1075
4	10	5340-01-094-8992	19207	12259622
4	11	5340-01-093-4691	19207	12250023
4	12		96906	MS21241-06C016
4	13	5305-00-782-9489	96906	MS90728-66
4	14	5310-00-030-6004	96906	MS27183-14
4	15	3120-01-092-5571	19207	12250291
5	1	5310-00-087-4652	96906	MS51922-17
5	2		19207	MS27183-14
5	3	5365-01-092-1900	19207	12250243

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
5	4	5120-01-096-5027	19207	12250028
5	5	4030-00-946-8497	96906	MS87006-23
5	6		21450	RRC271-18
5	7	5330-01-096-5067	19207	12250029
5	8	5330-00-248-3845	95906	MS29513-016
5	1		19207	12269843
5	10	2540-01-092-1835	19207	12250052
6	1	5930-00-296-6318	96906	MS39061-1
6	2	5310-00-582-5965	96906	MS35338-44
1	3	5305-00-267-8952	9690S	MS90727-3
6	4	5305-00-984-6193	96906	MS35206-245
6	5	5310-00-045-3299	96906	MS35338-42
6	6		19207	12259620
6	7	5930-00-752-2766	96906	MS39061-8
6	8	5930-00-681-4897	9690S	MS25224-2
7	1	6150-01-245-3764	19207	11670256
7	2	5935-00-957-1676	19207	11668652
8	1	5305-00-984-6193	96906	MS35206-245
8	2	5310-00-576-5752	969O6	MS35333-39
8	3		19207	12259522
8	4	5930-01-147-3295	19207	11669814
8	1	5935-00-572-9180	19207	8338566
8	6	5310-00-833-8567	19207	8338567
8	7	5999-00-057-2929	96906	MS27148-2
8	1	5940-00-399-6676	19207	8338564
8	9	5970-00-833-8562	19207	8338562
8	10	5935-00-833-8561	19207	8338561
8	11	5305-00-267-8968	96906	MS90727-24
8	12	5310-00-809-4058	96906	MS27183-10
8	13	5310-00-877-5796	96906	MS21044N4
9	1	5930-01-096-5077	19207	11670211
9	2	5305-00-984-6193	96906	MS35206-245
9	3	5310-00-019-0670	96906	MS35333-106
9	4	5310-00-014-5850	96906	MS27183-42
9	5	5310-00-576-5752	96906	MS35333-39
9	6	5305-00 -989-7434	96906	MS35207-263
9	7	5935-00-572-9180	19207	3338566
9	8	5310-00-833-8567	19207	8338567
9	9	5999-00-057-2929	969O6	MS27148-2
9	10	5940-00-399-6676	19207	8338564
9	11	5970-00-833-8562	19207	8338562
9	12	5935-00-833-8561	19207	8338561
9	13	5930-01-147-3295	19207	11669814
10	1		19207	E019522
10	2	6220-00-179-4324	19207	11639535
10	3	5330-00-462-0907	19207	11639519-2
10	4	6240-00-044-6914	96906	MS35478-1683
10	5	6240-00-019-3093	96906	MS15S70-623
10	6	6220-01-067-4717	19707	11639520
10	7	6220-01-297-3217	19207	12360870-2
10	8	6240-00-019-0877	96906	MS15570-1251

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
10	9	6220-01-284-2709	19207	12360850-1
10	10		19207	11670092-1
10	10		19207	11670092-2
10	11	5310-00-209-0786	96906	MS35335-33
10	12	5305-00-225-3838	96906	MS90725-4
10	13	5305-00-721-5492	96906	MS90728-57
10	14	5310-00-637-9541	96906	MS35338-46
11	1		19207	11670088-1
11	1		19207	11670088-2
11	1		19207	11670208-1
11	1		19207	11670208-2
11	2	5310-00-209-0786	96906	MS35335-33
11	3	5305-00-225-3838	96906	MS90725-4
11	4		19207	11670034
11	5	5340-00-611-7883	19207	8747908
11	6		19207	11670090-1
11	6		19207	11670090-2
12	1	6220-00-577-3434	96906	MS35423-1
12	1	6220-00-726-1916	96906	MS35423-2
12	2	5305-00-701-5071	9690.6	MS51959-61
12	3		19207	7526516
12	4		96906	MS35421-1
12	4		96906	MS35421-2
12	5	5310-00-596-8169	19207	7526796
12	6	6240-00-019-0877	96906	MS15570-1251
12	7		19207	7526515
12	8		19207	7526509
12	9		19207	8338566
12	10		96906	MS27148-2
12	11		19207	8338567
12	12	5310-00-934-9758	96906	MS35649-202
12	13	5310-00-596-7691	96906	MS35335-32
12	14	5305-00-984-6211	96906	MS35206-264
13	1	5310-00-821-6269	96906	MS35334-19
13	2	5305-00-068-0502	96906	MS90725-6
13	3	6210-00-691-2623	19207	10916961
13	4	6240-00-080-2012	96906	MS25237-327AS15
13	5	5310-00-045-4007	96906	MS35338-41
13	6	5305-00-984-4984	96906	MS35206-227
13	7	5340-01-092-9998	19207	12250026
13	8	5305-00-267-8950	96906	MS90727-1
13	9	5310-00-582-5965	96906	MS35338-44
14	1		19207	11686136-1
14	1		19207	12296663
14	2		19207	11686134
14	3		19207	12250241
14	4		19207	12250238
14	5		19207	12250240
14	6		19207	12250242
14	7		19207	11686113
14	8	5340-01-333-5588	19207	12250339-1

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
14	9		19207	11686114
14	10		19207	12250339-2
14	11		19207	12370463
14	12		19207	11686142
14	13	5310-00-821-6269	96906	MS35334-19
14	14		96906	MS51851-87
14	15		19207	11686137
14	16		19207	12250216
14	17	5305-00-071-2242	96906	MS90725-9
14	18		19207	12296434
14	19	5970-01-260-3557	19207	12314118
15	1		96906	MS17343R20N23S
15	2	5940-00-705-6714	19207	7056714
15	3	5310-00-514-6674	96906	MS35335-34
15	4	5306-00-225-9086	96906	MS90726-31
15	5	4730-01-096-5066	19207	12250117
15	6	5935-00-333-9414	19207	7723308
15	7	5365-00-318-8184	19207	8376776
15	8	5310-00-655-9860	19207	8701325
15	9	5935-00-062-7446	77820	10-42622-7S
15	10		19207	12259667-1
15	11	5935-00-833-8561	19207	8338561
15	12	5970-00-833-8562	19207	8338562
15	13	5940-0 0-399-66'76	19207	8338564
15	14	5310-00-761-6882	96906	MS51967-2
15	15	5310-00-559-0070	96906	MS35333-38
15	16	5305-00-989-4864	96906	MS35207-245
16	1	5935-01-059-0117	19207	11674728
16	2	5305-00-269-3233	96906	MS90727-57
16	3	5310-00-637-9541	96906	MS35338-46
16	4		19207	12296446
16	5	5940-00-705-6732	11083	3M9449
16	6	5935-00-333-9414	19207	7723308
16	7	5365-00-318-8184	19207	8376776
16	8	5310-00-655-9860	19207	8701325
16	9	5935-00-062-7446	77820	10-42622-7S
17	1	5935-00-062-7446	77820	10-42622-7S
17	2	5310-00-655-9860	19207	8701325
17	3	5365-00-318-8184	19207	8376776
17	4	5935-00-333-9414	19207	7723308
17	5		19207	11670216-1
17	6	5935-01-094-8994	19207	12250233
17	7	5940-00-893-8546	19207	7419821
17	8		19207	772330t
17	9	5325-00-793-6093	19207	8724521
17	10	5975-00-697-7769	19207	7527645
17	11	5935-00-686-9957	19204	8724235
18	1		19207	11686124
18	2	5940-00-399-6676	19207	8338564
18	3	5970-00-833-8562	19207	8338562
18	4	5935-00-833-8561	19207	8338561

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
18	5	5365-00-090-5426	19207	7722333
18	6	5310-00-393-6685	19207	7723309
18	7	5935-00-771-6794	19207	7716794
18	8	5999-00-057-2929	96906	MS27148-2
18	9	5310-00-833-8567	19207	8338567
18	10	5935-00-572-9180	19207	8338566
19	1		19207	11686125
19	2	5935-00-833-8561	19207	8338561
19	3	5970-00-833-8562	19207	8338562
19	4	5940-00-399-6676	19207	8338564
20	1		19207	11686242
20	2	5935-00-772-2353	19207	7722353
20	3	5365-00-772-2322	19207	7722322
20	4	5935-00-333-9414	19207	7723308
20	5	5935-00-833-8561	19207	8338561
20	6	5970-00-833-8562	19207	8338562
20	7	5940-00-399-6676	19207	8338564
20	8	5935-00-572-9180	19207	8338566
20	9	5310-00-833-8567	19207	8338567
20	10	5999-00-057-2929	96906	MS27148-2
21	1		19207	11670253
21	2	5935-00-572-9180	19207	8338566
21	3	5310-00-833-8567	19207	8338567
21	4	5999-00-057-2929	96906	MS27148-2
21	5	5935-00-833-8561	19207	8338561
21	6	5970-00-833-8562	19207	8338562
21	7	5940-00-399-6676	19207	8338564
21	9	5935-00-333-3088	19207	7723306
21	9	5365-00-772-2343	19207	7722343
21	10	5935-00-686-2610	19207	8724199
21	11	5975-00-522-7125	77820	10-40457-12S
21	12	5935-00-333-9414	19207	7723308
21	13	5365-00-772-2322	19207	7722322
21	14	5935-00-614-3959	81996	88005-16-003FN19
21	15	5310-00-655-9860	19207	8701325
21	16	5310-00-393-6685	19207	7723309
21	17	9390-00-180-7289	19207	8724763
21	18	5365-00-090-5426	19207	7722333
21	19	5935-00-754-9083	19207	8724257
21	20	5975-00-771-6634	19207	7716634
21	21	5935-00-333-9414	19207	7723308
21	22	9390-00-146-9334	19207	8724762
21	23	5935-00-811-0942	19207	8724246
21	24	5310-00-655-9860	19207	8701325
21	25	5365-00-772-2323	19207	7722323
22	1	5935-00-572-9180	19207	8338566
22	2	5310-00-833-8567	19207	8338567
22	3	5999-00-057-2929	96906	MS27148-2
22	4	5940-00-143-4780	96906	MS25036-108
22	5	5935-00-833-8561	19207	8338561
22	6	5970-00-833-8562	19207	8338562

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
22	7	5940-00-399-6676	19207	8338564
22	8		19207	11686263
23	1		19207	11686268
23	2	5935-01-162-0781	96906	MS17343R16C11P
23	3	5935-00-833-8561	19207	8338561
23	4	5970-00-833-8562	19207	8338562
23	5	5940-00-399-6676	19207	8338564
23	6	5999-00-057-2929	96906	MS27148-2
23	7	5310-00-833-8567	19207	8338567
23	8	5935-00-572-9180	19207	8338566
23	9	5305-00-958-4354	96906	MS35207-230
23	10	5310-00-045-4007	96906	MS35338-41
24	1	5940-00-705-6703	19207	7056703
24	2		19207	11670031-1
24	3	5940-00-399-6676	19207	8338564
24	4	5970-00-833-8562	19207	8338562
24	5	5935-00-833-8561	19207	8338561
24	6	5340-00-809-1492	96906	MS21333-100
24	6	5340-00-984-8540	96906	MS21333-102
24	6	5340-00-990-7610	96906	MS21333-66
24	7	5305-00-068-0500	96906	MS90725-3
24	8		19207	11674759-3
24	9	5305-00-988-1725	96906	MS35206-281
24	10	5935-00-773-1428	19207	7731428
24	11	5935-00-846-3883	19207	8376208
24	12	5310-00-393-6685	19207	7723309
24	13	9390-00-180-7289	19207	8724763
24	14	5365-00-090-5426	19207	7722333
24	15	5310-00-761-6882	96906	MS51967-2
24	16	5310-00-209-0786	96906	MS35335-33
25	1	2530-01-084-6052	19207	11670070
25	2	2530-01-099-2476	19207	11670071
26	1	2530-01-093-8268	19207	7979268
26	2	4710-01-071-9862	19207	11670072
26	3		19207	11670073
26	4	2510-00-168-2405	19207	7979286
26	5	5306-00-444-8480	19207	7979377
26	6	5310-00-763-8901	96906	MS51968-23
26	7	5310-00-762-6213	96906	MS51968-32
26	8	5310-00-850-1611	96906	MS35338-54
26	9	5310-00-584-7888	96906	MS35338-51
26	10	5306-00-734-6958	19207	7346958
26	1i	5310-00-740-9615	19207	7979265
26	12	5330-00-740-9312	78500	5X625
26	13	5330-00-740-9606	19207	7979264
26	14	5306-00-740-9608	19207	7979329
26	15	5310-00-060-9435	96906	MS35338-55
26	16	2510-00-797-9305	19207	7979312
26	17	2510-00-797-9305	19207	7979305
26	18	4730-00-018-9566	15434	S911B
26	19	5310-00-374-0836	19207	7979308

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
26	20	5310-00-353-2427	19207	7979263
26	21	5310-00-407-9566	96906	MS35338-45
26	22	5306-00-226-4823	96906	MS90728-30
26	23	5340-00-740-9391	19207	7979306
26	24	5330-00-740-9600	19207	7979274
26	25	5310-00-700-7089	19207	5139123
26	26	3110-00-100-4223	21450	703077
26	27	4730-00-050-4208	96906	MS15003-1
26	28	3110-00-689-8250	21450	712288
26	29	5330-00-740-9550	19207	7979349
26	30	2590-00-740-9553	19207	7409553
27	1	1440-01-142-7564	78500	RDA1570-4628
27	1	1440-01-146-0865	78500	RDA1570-4627
27	1	3040-01-142-7565	78500	RDA1570-4630
27	1	3040-01-142-7566	78500	ROA1570-4629
27	2	2530-01-123-1229	78500	A1-3211D-2994
27	2	2590-01-168-7939	78500	A16-3211K2871
27	3	5306-00-498-7113	79780	S-146
27	4	5340-01-064-3702	78500	SCD-1718-D-134
27	5	5310-01-063-2299	78500	WA-14-C
27	6	5310-01-091-7768	78500	N-14
27	7	2530-01-092-3099	78500	3736N326
27	8	5310-00-760-7442	78500	1229-S-513
27	9	5305-00-411-9331	78500	S255C
27	10	5340-00-181-1546	78500	1707C3
27	11	5310-01-008-4134	78500	N19-1C
27	12	5310-00-725-1983	81205	BACWlOP53S
27	13	5305-01-062-1376	78500	S-1914-1C
27	14	2530-01-063-1305	78500	A1-2797-C-419
27	14	2530-01-063-3698	78500	A1-2797-B-418
27	15		78500	A-2297-V-5326
27	16		78500	1205C2005
27	17		78500	A-3280-U-8185
27	18	2530-00-117-9144	78500	A-2747-H-112
27	19	2530-01-286-3257	19207	5705696
27	20	5360-01-063-8951	78500	2258-K-583
27	21	2530-00-015-7564	78500	1779M195
27	22	5310-00-964-7811	78500	1729-B-262
27	23	2530-01-012-2880	78500	A-1199-Z-3432
28	1	2530-00-137-9235	19207	7411021
28	2	4730-00-595-0083	96906	MS35746-1
28	3	5330-00-090-2128	06853	213630
28	4	9905-00-999-7370	96906	MS53007-1
28	5	4720-01-003-6706	30327	C608
28	6	4730-00-142-3076	81343	8-6 120102BA
28	7	4730-00-409-7854	81343	8-4 120202BA
28	8	4730-00-289-0051	81343	8-6 1202028A
28	9	5365-01-092-4766	19207	11670101
28	10	5310-00-761-6882	96906	MS51967-2
28	11	5310-00-582-5965	96906	MS35338-44
28	12	2530-00-797-9295	19207	7411022

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
28	13	2530-00-741-5748	19207	7415748
28	14	2940-00-741-1081	19207	7411081
28	15	5310-00-679-3606	19207	7979614
28	16	5360-00-706-9054	19207	7979612
28	17	4730-00-221-2136	96906	MS20913-1S
28	18	4730-00-580-8457	19207	7979613
28	19	5330-00-285-5123	19207	8329823
28	20	5306-00-797-9296	19207	7979296
28	21	4730-01-032-6038	19207	CPR102321-4
28	22	5310-00-891-3428	96906	MS35691-77
28	23	5310-00-582-6714	96906	MS35333-49
28	24	9905-00-999-7369	96906	MS53007-2
28	25		19207	11670099
29	1	4720-01-091-8040	19207	11670098-2
29	2	4720-01-003-6706	30327	C608
29	3	4730-00-409-7854	81343	8-4 120202BA
29	4	2530-00-021-2366	96906	MS53004-2
29	5	4730-00-188-1893	96906	MS51953-101B
29	6	4730-01-028-3814	19207	8395410
29	7	4720-01-092-1093	19207	11670098-3
29	8	2530-01-106-0127	19207	12296406
29	9	4710-00-424-2694	95535	55229
29	10	5305-00-269-3234	96906	MS90727-58
29	11	5310-00-637-9541	96906	MS35338-46
29	12		81343	8-6-6 120425BA
29	13	4730-01-096-2001	19207	11670097-2
29	13	4730-01-096-9122	19207	11670097-1
29	14	4730-00-142-3076	81343	8-6 1201028A
29	15	4730-00-289-0051	81343	8-6 1202028A
29	16	5305-00-914-6131	96906	MS18153-63
29	17	5325-00-797-9287	19207	7979287
29	18	5310-00-809-4061	96906	MS27183-15
29	19	4030-00-273-3079	96906	MS20664C4
29	20	5120-01-095-7820	19207	12250233
29	21	4010-00-171-4236	19207	7068272
29	22	5310-00-959-1488	96906	MS51922-21
29	23	5360-00-055-2435	96906	MS24585-1378
29	24	5340-01-092-0443	19207	12250284
29	25	4730-00-908-6292	96906	MS35842-14
29	26	5330-01-092-9945	19207	11674991
29	27	2530-01-096-5025	19207	11670100
29	28	4730-00-541-9081	19207	8764909-1
29	29	4720-01-092-1094	19207	11670098-4
29	30	5310-00-045-3296	96906	MS35338-43
29	31	5305-00-180-4966	96906	MS51849-64
29	32	5340-00-050-2740	96906	MS21333-75
29	33		19207	11670096
29	34	4720-01-091-7021	19207	11670098-1
29	35	4730-00-911-5645	19207	10900257
29	36	4820-00-116-2994	19207	12250285
29	37	4030-00-838-3533	96906	MS16843-1

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
29	38	4730-00-541-9081	19207	8764909-1
30	1	2530-01-092-9239	78500	U34-3276LL2X
30	2	2530-01-091-7814	78500	E3276L12(X)
30	3		29201	25236-1
31	1	2530-01-092-8482	19207	11601389
32	1	5305-00-737-7431	78500	S7810S
32	2	2530-01-079-3145	78500	3219G3647X
32	3	5305-01-062-1374	78500	S2810
32	4	5310-00-584-5272	80063	SCB52887-4
32	5	5340-00-368-4952	78500	3262L90
32	6	5330-00-734-6993	19207	7979275
32	7	5310-00-353-2427	19207	7979263
32	8	5310-00-700-7089	19207	5139123
32	9	5310-00-353-2297	19207	7979309-1
32	10	5310-00-273-7771	78500	1199G111
32	10	5310-00-480-7606	19207	10938443-2
32	11	2530-01-096-5026	73500	A333X2182X
32	12	5306-01-092-8628	78500	20X407C
32	13	5330-00-740-9550	19207	7979349
32	14	3110-00-100-4220	96906	MS19081-137
32	15		96906	MS109081-181
32	16	5306-01-092-8629	78500	20X406C
33	1	2610-00-142-5136	19207	11603234
34	1	2640-00-555-2829	96906	MS51368-2
34	2	2640-00-255-9346	27783	7572
34	3	2640-00-050-1229	17875	100AA
35	1	2510-01-109-7054	96906	MS53037-1
36	1	2590-01-097-6908	19207	11669116
36	2	5360-01-091-7177	19207	12255522
36	3	5365-01-071-9837	19207	11670042
36	4	2590-01-254-4951	19207	11670038-5
36	5	2590-01-254-6189	19207	11670038-6
36	6	5315-00-844-3662	96906	MS16562-62
36	7	2590-01-254-8769	19207	11670037
36	8	2590-01-254-5595	19207	11670039-4
36	9	2590-01-254-1047	19207	11670039
37	1	4730-00-050-4208	96906	MS15003-1
37	2	5365-00-803-7316	96906	MS16624-1137
37	3	5315-01-217-4136	19207	12343339-1
37	4	5310-00-584-7889	96906	MS35338-53
37	5	5310-00-762-6239	96906	MS51968-29
37	6		19207	11686210
37	7	2510-01-261-0524	19207	11670080
37	8	2510-01-261-0525	19207	11670081
37	9	5340-01-257-3872	19207	12250055-1
37	10	5340-01-257-3873	19207	12250055-2
37	11	5315-01-217-4137	19207	12343339-2
37	12	5340-01-257-3874	19207	12269971
37	13	3120-01-101-0810	96906	MS14104-16
37	14	5315-01-093-5341	19207	12250215-1
37	15	5315-00-350-4326	19207	5213744

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
37	16	5340-01-071-9824	19207	12269966-2
37	17	2510-01-071-9825	19207	12269966-1
37	18	5315-01-249-4353	19207	12250215-6
37	19	2590-01-263-2540	19207	12259600
37	20	5315-00-844-3664	96906	MS16562-67
37	21	5330-01-216-7399	19207	12314535
37	22	5365-00-804-2773	96906	MS16625-1218
37	23	3120-00-923-4777	19207	11668013
37	24	5365-01-092-3898	19207	11670010
37	25	5315-01-216-7957	19207	12343339-3
37	26	2510-01-071-9826	19207	11670077
37	27	5365-00-530-7968	96906	MS16624-1100
37	28	5315-01-216-7958	19207	12343339-4
37	29	5945-01-078-5877	19207	11686299
37	30	5305-01-025-7761	27315	20Q65D5
37	31	4010-01-095-7969	19207	12250309
37	32	4010-00-116-1604	79577	660-1-4
37	33	2590-01-200-5831	19207	11670075-2
37	34	2590-01-200-5830	19207	11670075-1
38	1	3120-01-134-8793	00293	J-16116-41
38	2	5310-00-141-3010	80205	NAS509-4
38	3	5310-01-113-0577	80205	NAS513-24
38	4	4730-00-050-4203	96906	MS15001-1
38	5	2590-01-137-4849	00293	J-16116-100
38	6	5305-01-133-3865	96906	MS51038-157
38	7	4730-00-591-3405	95879	301370
38	8	3040-01-179-9008	00293	J-16116-23
38	9	5365-01-209-6004	00293	J-16116-27
38	10	5330-00-725-1511	80201	39934-CRSHA1-R
38	11	3110-00-202-0525	52676	72188G
38	12	5305-00-175-3230	88044	AN535-2-3
38	13	3040-01-179-9299	00293	J-16116-22
38	14	4820-00-826-6465	95879	C47200-5
38	15	9905-01-209-3470	00293	J-16116-57
38	16	3010-01-179-9010	00293	J-16116-16
38	17		80756	RST78
38	18	5365-01-179-9159	00293	J-16116-29
38	19		38443	1904S
38	20	5365-00-598-0814	80756	RRT150C
38	21	5330-01-128-6695	80201	7573-CRSA1-R
38	22	2590-01-132-0872	00293	J-16116-201
38	23	5330-01-128-5192	00293	J-16116-11
38	24	5305-00-253-2596	80205	NAS1352-5LE16P
38	25	6105-01-136-0964	28100	9008013-1
38	26	5930-01-285-9105	82647	C4344-81-1
38	27	5330-01-286-8011	83843	967C798-1
38	28		00293	J-16116-1
38	29		00293	J-16119-9
38	30		00293	J-16119-59
39	1	5315-01-179-9106	00293	J-16116-45
39	2	3020-01-179-9136	00293	J-16116-13

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
39	3	5310-00-186-0977	96906	MS19070-181
39	4	5310-00-185-6341	08162	AN18
39	5	5340-01-209-6006	00293	J-16116-24
39	6	5330-01-128-5193	00293	J-16116-10
39	7	6680-01-244-5849	19207	11669871
39	8		00293	J-16116-21
39	9	4730-00-057-5555	79470	C3169X6
39	10	5305-00-182-9379	80205	NAS1352-4LE12P
39	11	5305-01-146-6863	80205	NAS1352-6LE24
39	12	3110-00-554-3232	38443	204S
39	13	3040-01-179-9296	00293	J-16116-15
39	14	5330-01-136-5351	76692	470650-47
39	15	3110-01-209-6000	00293	J-16116-36
39	16	2520-01-136-0963	00293	J-16116-200
39	17	5305-01-179-9237	00293	J-16116-46
39	18	3120-01-180-8613	00293	J-16116-56
39	19	5315-01-179-9017	00293	J-16116-49
40	1	5306-00-797-9365	19207	7979365
40	2	2510-00-117-9286	19207	7979316
40	3	2510-01-093-5845	19207	12250269
40	4	5310-00-010-3028	96906	MS35690-824
40	5	2510-00-207-9386	19207	7979421
40	6	5310-00-891-1711	96906	MS35691-25
40	7	2510-00-030-6595	19207	7979422
40	8	5365-00-003-8344	19207	7979423
40	9	5305-00-042-9477	96906	MS90725-91
40	10	5306-00-206-7279	19207	7979425
40	11	5310-00-584-7889	96906	MS35338-53
40	12	5310-00-798-1265	19207	7979366
41	1	5310-00-880-7744	96906	MS51967-5
41	2	5310-00-407-9566	96906	MS35338-45
41	3	5340-00-740-9335	19207	7409335
42	1	5315-00-187-9567	96906	MS24665-500
42	2	5310-00-740-9621	19207	7979183
42	3	2530-00-797-9189	78500	A1-310282446
43	1	5310-00-768-0319	96906	MS51968-2
43	2	5310-00-582-5965	96906	MS35338-44
43	3	2540-00-036-0232	19207	11591832
43	4		19207	11675102
43	5	5305-00-267-8955	96906	MS90727-11
43	6	5310-00-809-4058	96906	MS27183-10
44	1	5310-00-880-7746	96906	MS51968-5
44	2	5310-00-407-9566	96906	MS35338-45
44	3	5305-00-225-9091	96906	MS90726-36
44	4	5340-01-093-5861	19207	12259478
44	5	2540-01-071-9854	19207	12255462
45	1	4020-01-090-7630	19207	12296211-1
45	2	2510-01-090-0953	19207	12296208
46	1	5340-01-261-0536	19207	11675103
46	2	5305-00-269-3240	96906	MS90727-64
46	3	5310-00-080-6004	96906	MS27183-14

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
46	4	5310-00-637-9541	96906	MS35338-46
46	5	5310-00-732-0559	96906	MS51968-8
46	6		19207	11675104
46	7	5305-00-269-4530	96906	MS90727-77
47	1		19207	11670224-1
47	2	5340-01-261-0533	19207	11670242
47	3	5310-00-820-6653	96906	MS35338-50
47	4	5305-00-727-2283	96906	MS90727-162
47	5	5340-00-582-2741	96906	MS35647-4
48	1	2540-00-678-3469	96906	MS52127-3
48	2	5340-01-094-8991	19207	11675093
49	1	5310-00-209-0786	96906	MS35335-33
49	2	5310-00-997-1888	96906	MS35649-2252
49	3	5305-00-988-1724	96906	MS35206-280
49	4	9905-00-205-2795	96906	MS35387-1
50	1	5310-00-209-0786	96906	MS35335-33
50	2	5310-00-997-1888	96906	MS35649-2252
50	3	5305-00-988-1724	96906	MS35206-280
50	4	9905-00-202-3639	96906	MS35387-2
51	1	9905-01-284-4962	19207	12296445
51	2	5305-00-253-5632	96906	MS21318-58
51	3	9905-01-284-4963	19207	12269945
51	4	9905-01-284-4964	19207	12269946
52	1	5305-00-958-4348	96906	MS35207-217
52	2	5310-00-543-2410	96906	MS35338-40
52-	3	5210-01-180-8651	19207	11669861
52	4	5305-01-092-6061	19207	11686131
52	5	3110-01-071-9828	19207	11686120
52	6	5930-01-213-0347	19207	12343135
52	7	5305-00-267-8952	96906	MS90727-3
52	8	5310-00-582-5965	96906	MS35338-44
52	9	5305-00-989-7435	96906	MS35207-264
52	10	5365-00-803-7301	96906	MS16624-1050
52	11	5340-01-092-0279	19207	12250027
52	12	3120-00-400-8437	19207	11669118
52	13	5340-01-071-9827	19207	11686123
53	1	5120-01-124-5061	00293	J-16116-F/A-F8
53	2	5120-01-125-0531	00293	J-16116-F/A-F12
53	3	5120-01-124-5060	00293	J-16116-F/A-F15
53	4	5120-01-124-5059	00293	J-16116-F/A-F17
53	5	5120-01-124-5062	00293	J-16116-F/A-F7
53	6	5120-01-125-0573	00293	J-16116-F/A-F39

APPENDIX G
ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

G-1. SCOPE.

a. This appendix includes complete Instructions for making Items authorized to be manufactured or fabricated.

b. 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.

c. All bulk materiels needed for manufacture of an item are listed by National Stock Number (NSN), part number, or specification number in the manufacturing instructions. All dimensions given are in standard units.

G-2. GENERAL INSTRUCTIONS.

a. For metal tubing, use a tube cutting tool and cut the tube to the specified length.

b. Bend the tube to the configurations shown. Be careful not to kink the tube.

c. If possible, use the old connectors; if not, replace connectors and install them on the new tube.

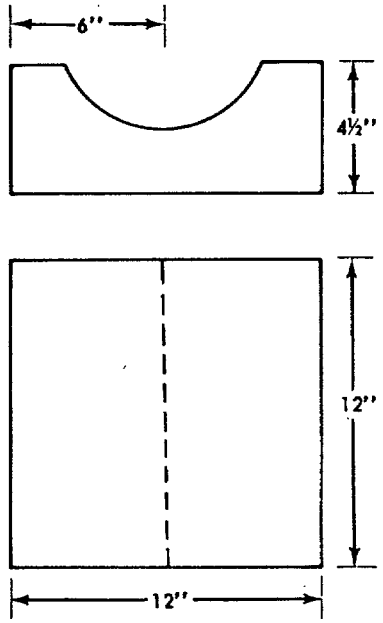
d. Flare the ends of the tube using a tube flaring tool.

e. Clean particles out of the tubes before installation.

Table G-1. Manufactured Items Part Number Cross-reference Index.

Part Number	Figure Title	Figure Number
11670031-1	Branched Wiring Harness	G-11
11670216-1	Power Source-to-Relay Wiring Harness	G-5
11670253	Branched Wiring Harness Assembly	G-10
11686124	Outrigger Control Panel Wiring Harness	G-12
11686125	Outrigger Control Panel Cable Assembly	G-13
11686242	Outrigger Control Panel Box Wiring Harness Assembly	G-14
11686263	Interlock Branched Wiring Harness	G-7
11686268	Interlock Lead Assembly	G-8
12259667-1	Master Relay Wiring Harness	G-6
12296446	Master Relay Lead Harness Assembly	G-9
N/A	Horizontal Jig	G-1
N/A	Vertical Jig	G-2
N/A	Vertical Jig (Alternate)	G-3
N/A	Switch Adjustment Tool	G-4

Section II. MANUFACTURING INSTRUCTIONS



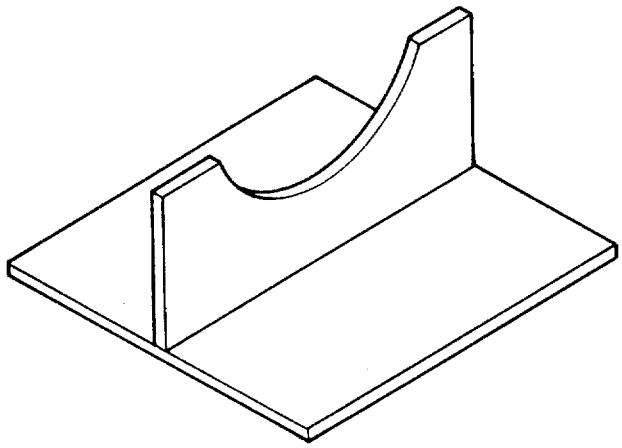


Table G-2. Materials Required for Horizontal Jig.

Quantity	Size	Type
2	1 in. x 6 in. x 12 in.	Board, Wood
2	1 in. x 12 in. x 12 in.	Board, Wood
6	#12 x 2 in.	Screw, Wood

1. Using the 1 in. x 6 in. x 12 in. boards, measure and mark a 4J In. diameter semicircle from the top center of each board.

2. Use a jigsaw and cut out the semicircle. Disca rd the semicircle.

3. On the 1 in. x 12 in. x 12 in. boards, measure and mark the centerline along one 12 in. dimension.

4. Position one 1 in. X 6 in. X 12 in. board along the centerline.

5. Using three of the #12 x 2 in. wood screws, secure the cut board to the large board.

Figure G-1. Horizontal Jig.

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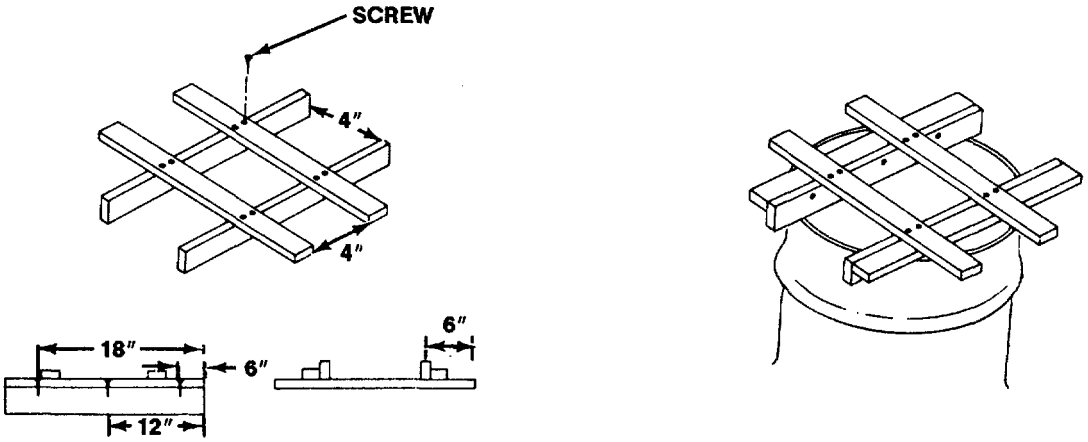

Table G-3. Materials Required for Vertical Jig.

Quantity	Size	Type
1	55 gl	Drum, Fuel Type
2	2 in. x 4 in. x 24 in.	Board, Wood
2	#12 X 1; in.	Screw, Wood
6	#12 X 3 in.	Screw, Wood

1. Assemble four board lengths and secure with the #12 X 1 1/2 in. screws.
2. Attach remaining boards as shown and secure with the #12 X 3 in. screws.
3. Remove the top from the 55 gl drum and position the assembled frame.

Figure G-2. Vertical Jig

TA706564

Section II. MANUFACTURING INSTRUCTIONS (Con't)

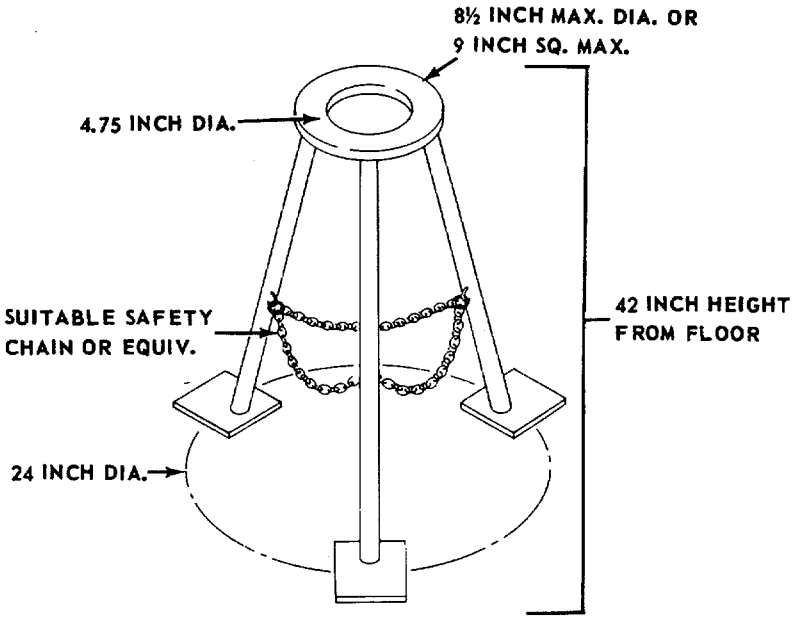

Figure G-3. Vertical Jig (Alternate).

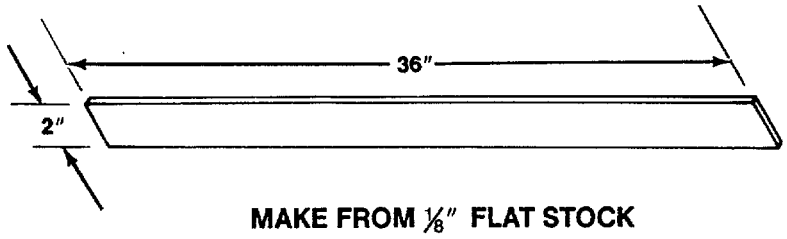

Figure G-4. Switch Adjustment Tool.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

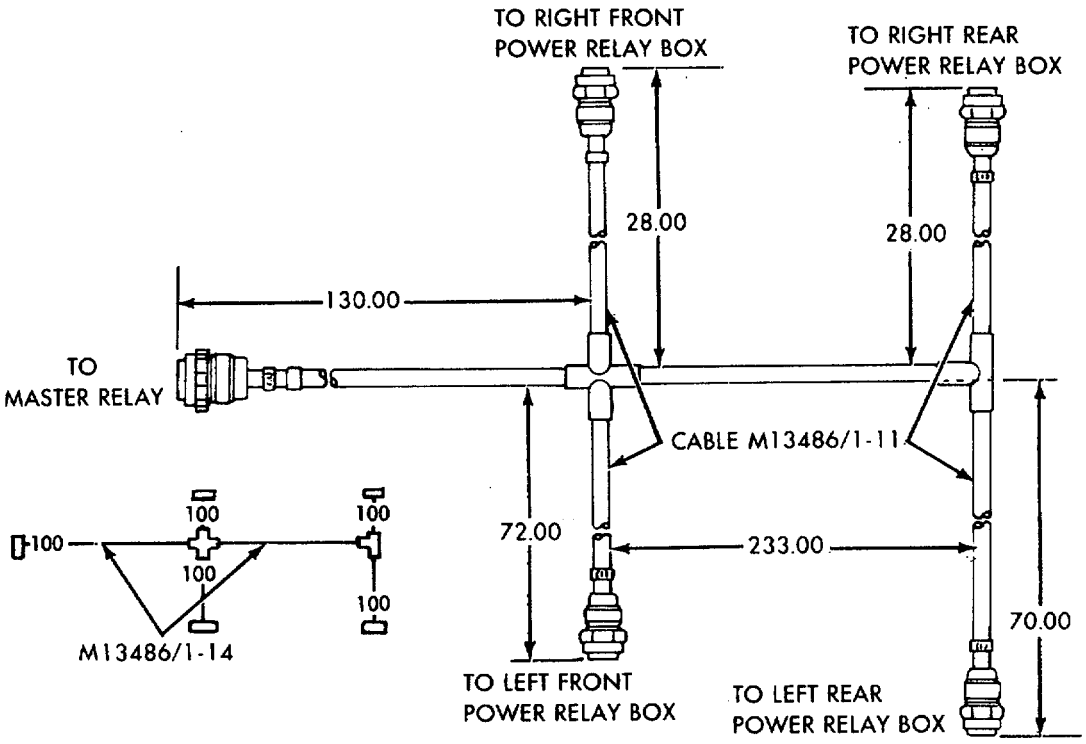

Figure G-5. Power Source-to Relay Wiring Harness.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

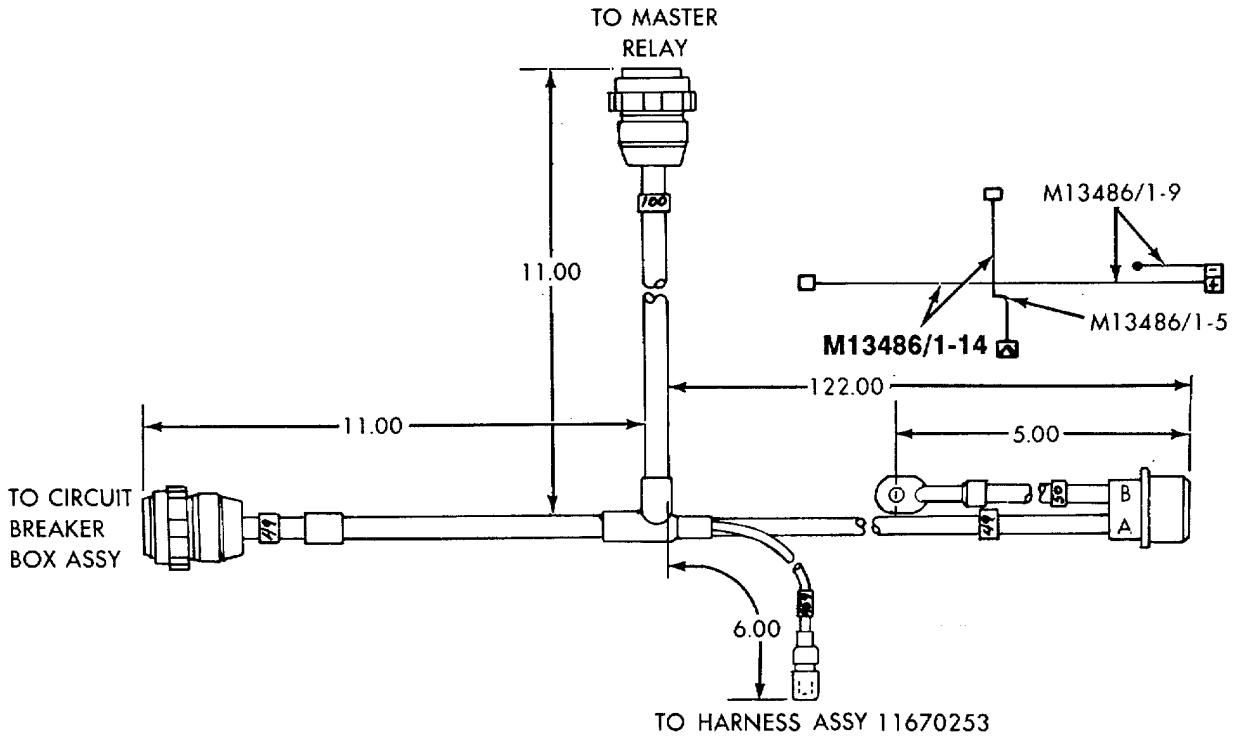

Figure G-6. Master Relay Wiring Harness.

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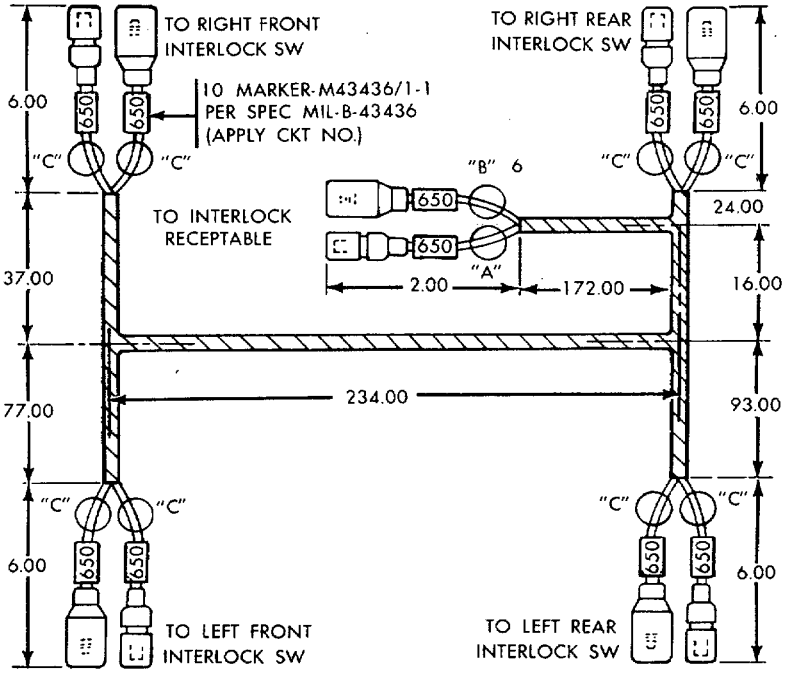
Section II. MANUFACTURING INSTRUCTIONS (Con't)



1. M13486/2-1 cable, per MIL-C-13486, to be used throughout.
2. Cable to be twisted full length at assembly prior to taping.

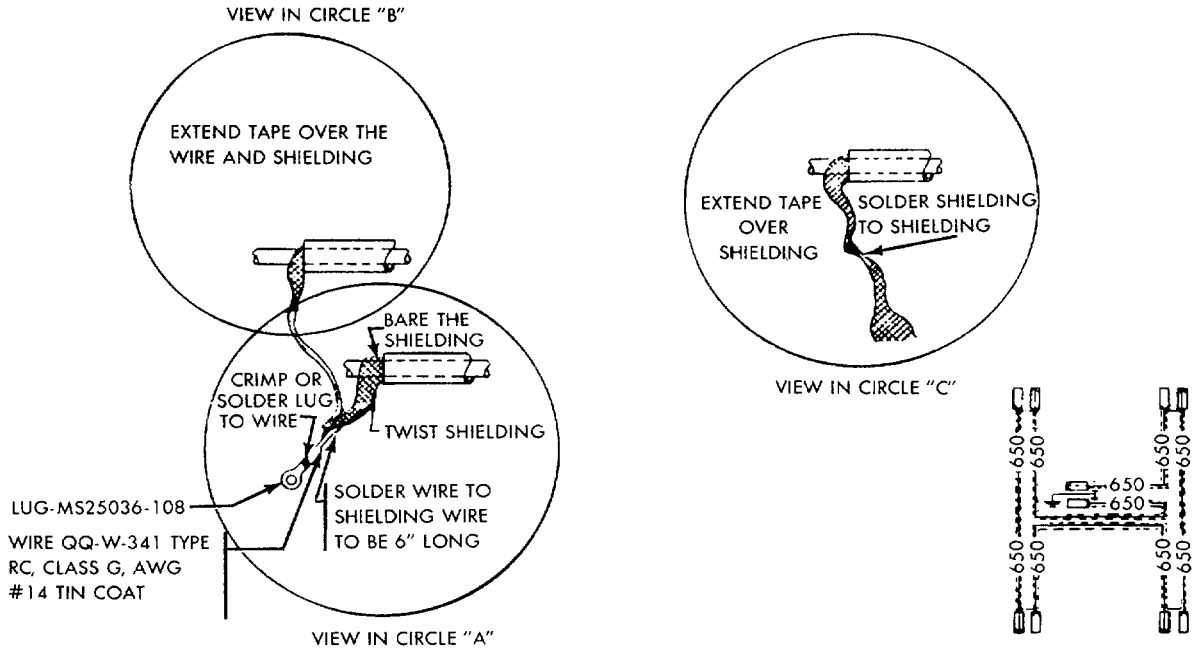


Figure G-7. Interlock Branched Wiring Harness.

Section II. MANUFACTURING INSTRUCTIONS (Con't)

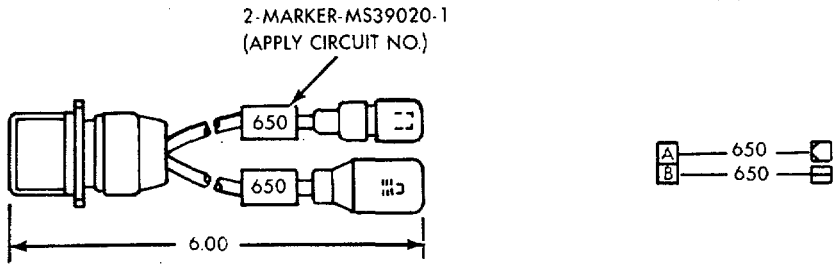


Figure G-8. Interlock Lead Assembly.

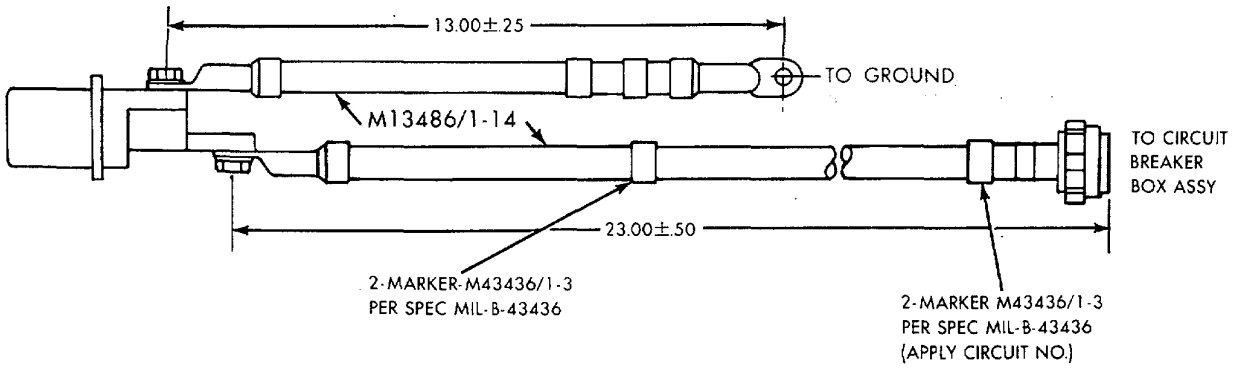


Figure G-9. Master Relay Lead Harness Assembly.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

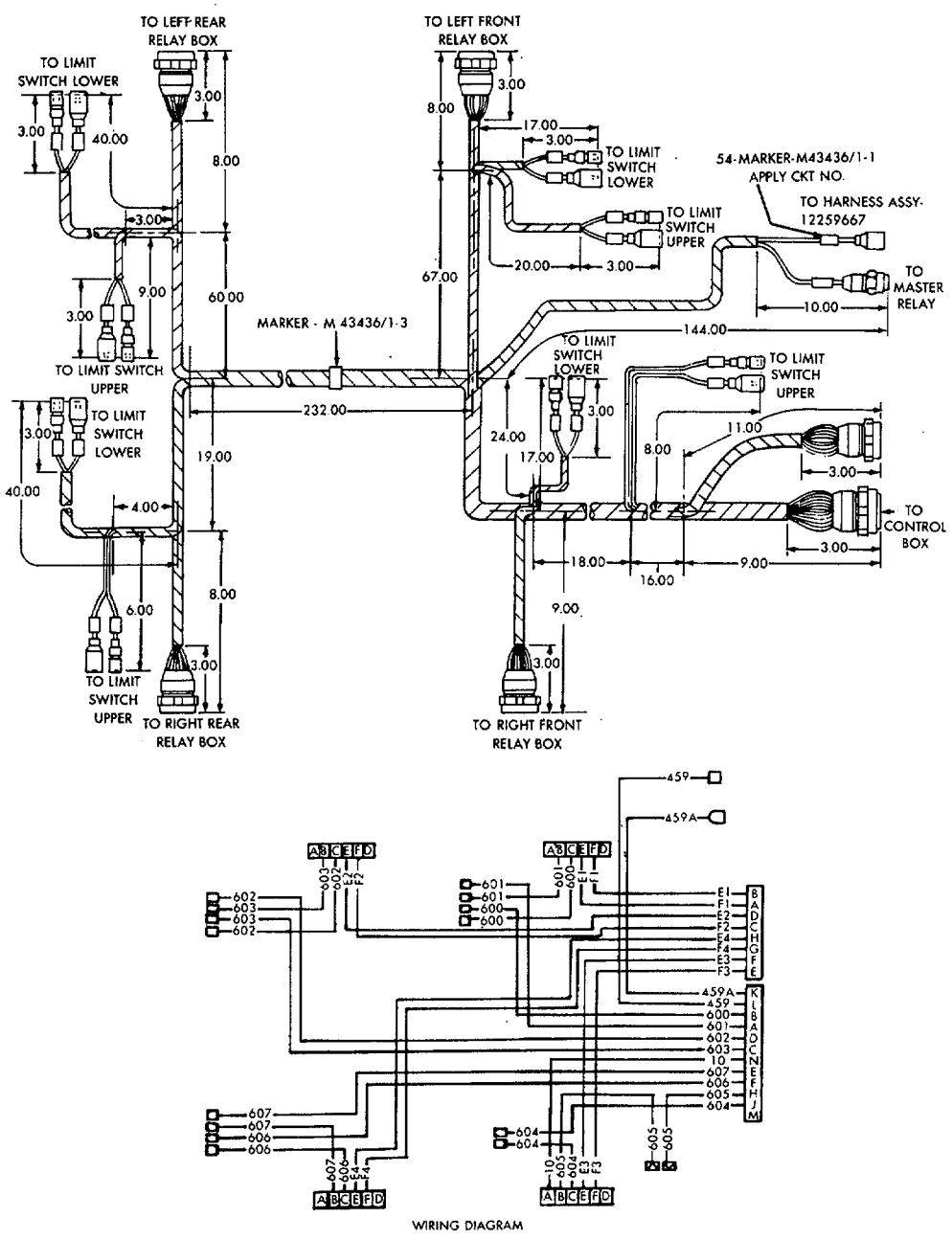

Figure G-10. Branched Wiring Harness Assembly.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

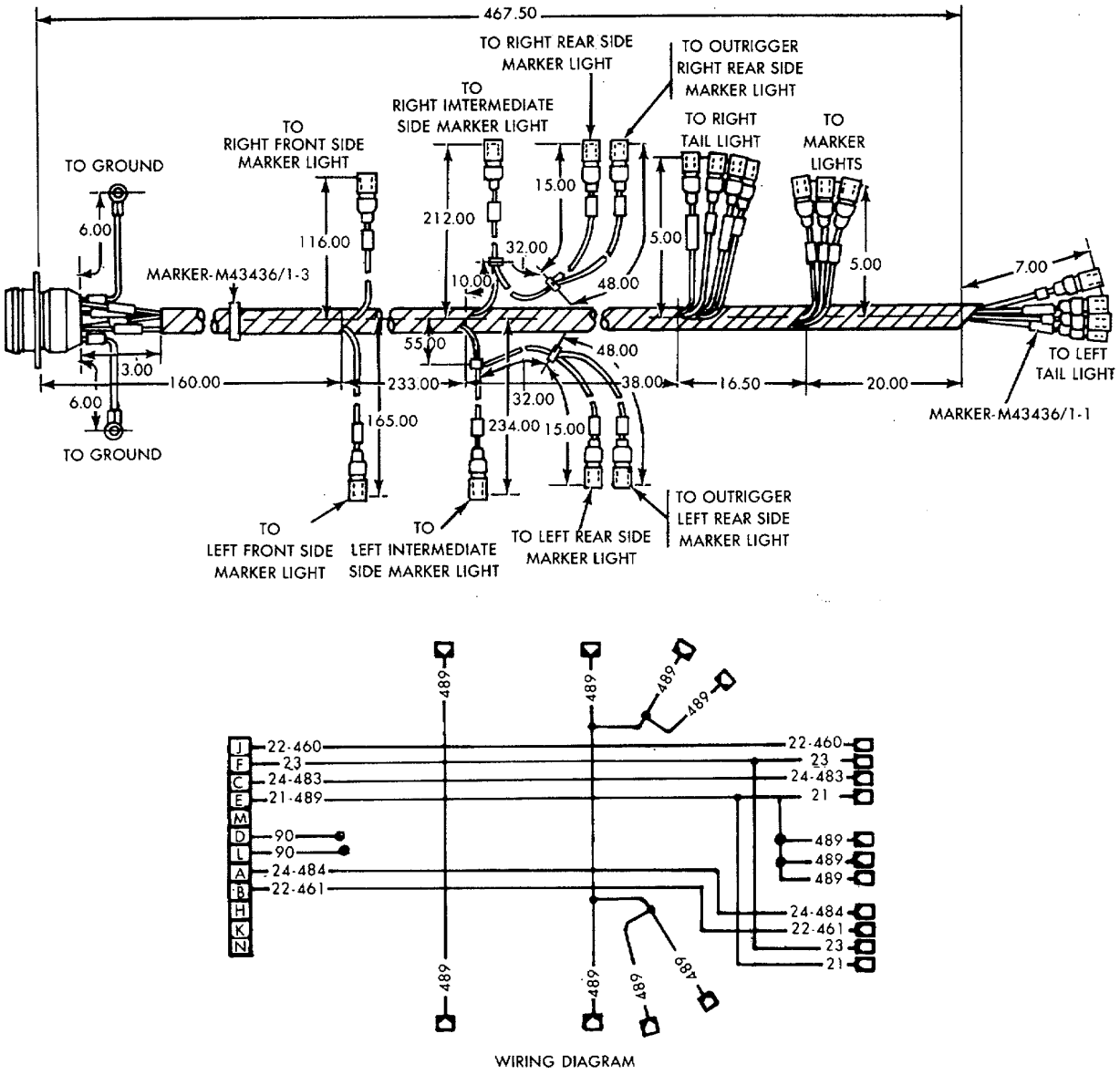

Figure G-11. Branched Wiring Harness.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

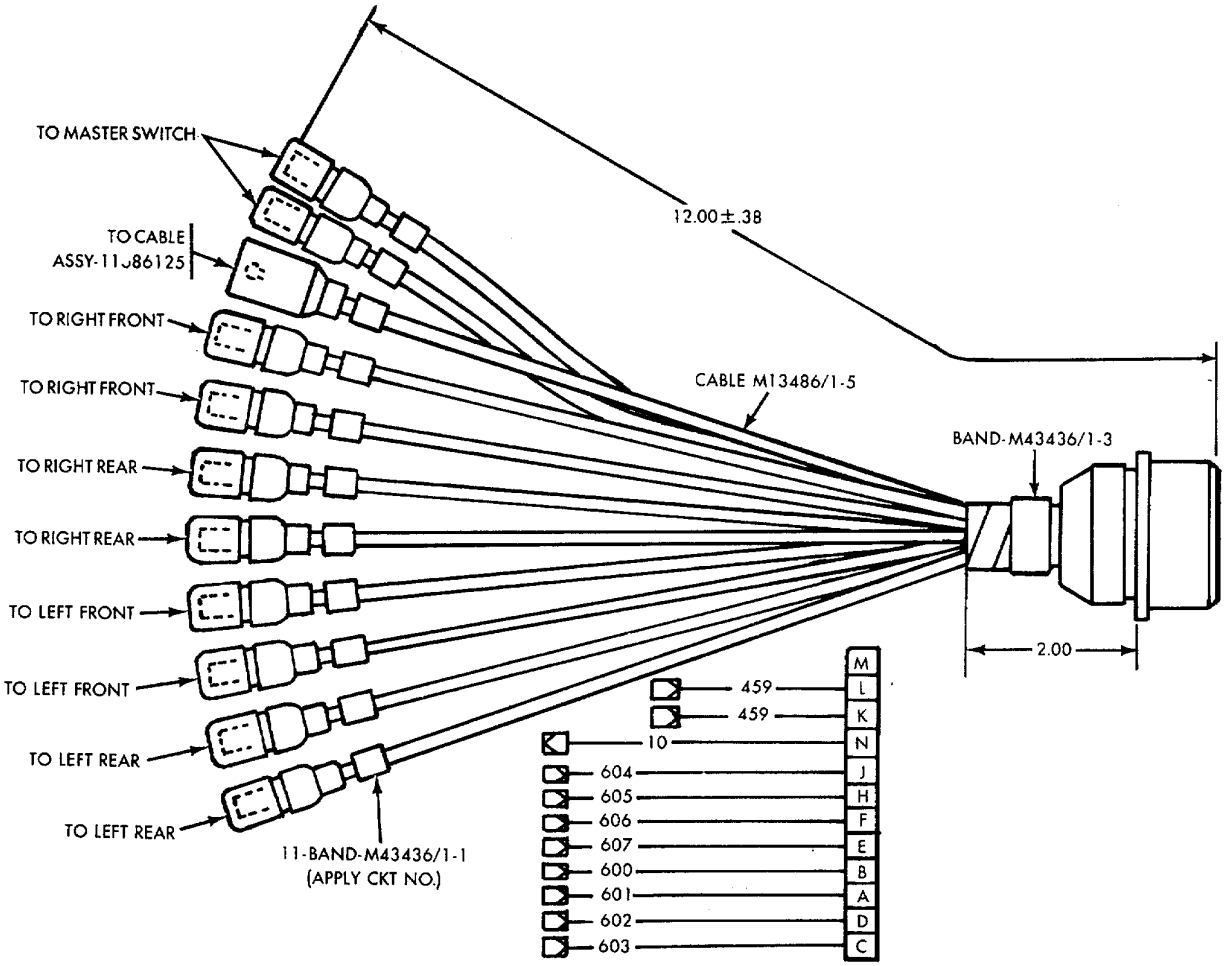

Figure G-12. Outrigger Control Panel Wiring Harness.

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Section II. MANUFACTURING INSTRUCTIONS (Con't)

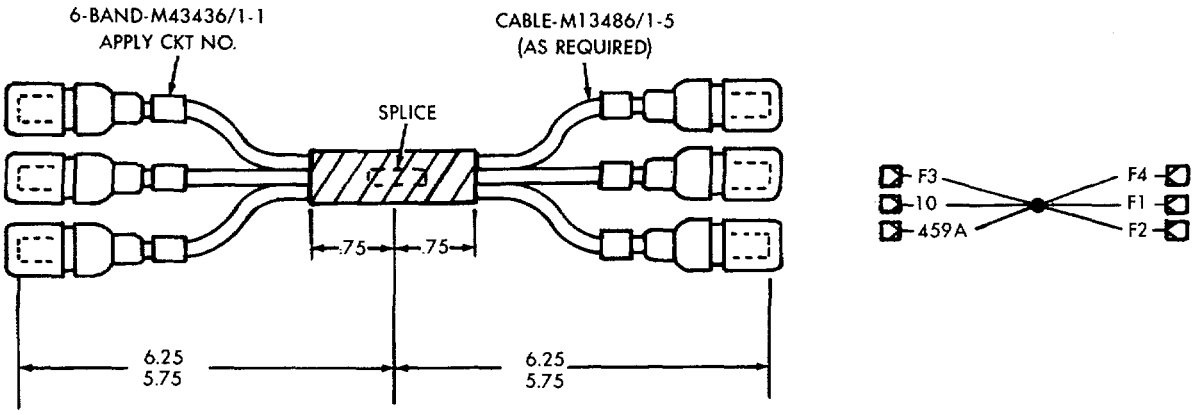


Figure G-13. Outrigger Control Panel Cable Assembly.

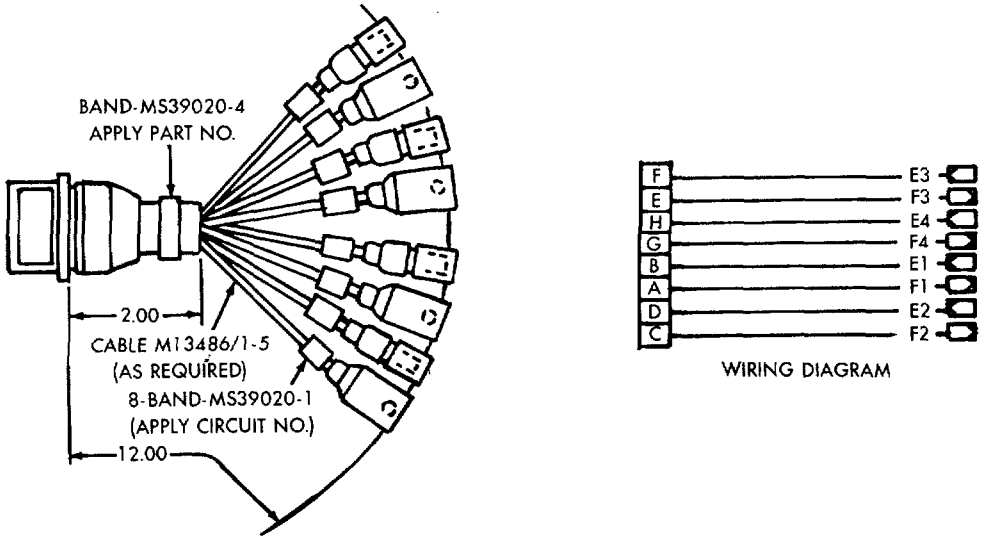


Figure G-14. Outrigger Control Panel Box Wiring Harness Assembly.

TA70673

APPENDIX H
TORQUE LIMITS

H-1. SCOPE.

This appendix lists standard torque values, as shown in Table H-1, and provides ge neral information for applying torque. Special torque values and tightening sequences are indicated in the maintenance procedures for applicable components.

H-2. GENERAL.

a. Always use the torque values listed in Table H-1 when the maintenance procedure does not give a specific torque value.

b. Unless otherwise indicated, standard torque tolerance shall be + 10%.

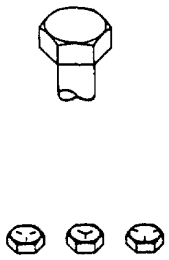
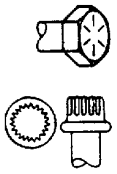
c. Torque values listed are based on clean, dry threads. Reduce torque by 10% when engine oil is used as a lubricant. Reduce torque by 20% if new plated capscrews are used.

d. Capscrews threaded into aluminum may require reductions in torque of 30% or more of Grade 5 capscrews torque. Capscrew threaded into aluminum must also attain two capscrew diameters of thread engagement.

CAUTION

If replacement capscrews are of higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to overtorquing.

Table H-1. Torque Limits.

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings Manufacturer's marks may vary These are all SAE Grade 5 (3 line)				
Capscrew Body Size Inches - Thread	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)
1/4 - 20	5 (7)	8 (11)	10 (14)	12 (16)
1/4 - 28	6 (8)	10 (14)		14 (19)
5/16 - 18	11 (15)	17 (23)	19 (26)	24 (33)
5/16 - 24	13 (18)	19 (26)		27 (37)
3/8 - 16	18 (24)	31 (42)	34 (46)	44 (60)
3/8 - 24	20 (27)	35 (47)		49 (66)
7/16 - 14	28 (38)	49 (66)	55 (75)	70 (95)
7/16 - 20	30 (41)	55 (75)		78 (106)
1/2 - 13	39 (53)	75 (102)	85 (115)	105 (142)
1/2 - 20	41 (56)	85 (115)		120 (163)
9/16 - 12	51 (69)	110 (149)	120 (163)	155 (210)
9/16 - 18	55 (75)	120 (163)		170 (231)
5/8 - 11	83 (113)	150 (203)	167 (226)	210 (285)
5/8 - 18	95 (129)	170 (231)		240 (325)
3/4 - 10	105 (142)	270 (366)	280 (380)	375 (508)
3/4 - 16	115 (156)	295 (400)		420 (569)
7/8 - 9	160 (217)	395 (536)	440 (597)	605 (820)
7/8 - 14	175 (237)	435 (590)		675 (915)
1 - 8	235 (319)	590 (800)	660 (895)	910 (1234)
1 - 14	250 (339)	660 (895)		990 (1342)

TA706574

INDEX

INDEX

INDEX

D

INDEX

INDEX

INDEX

INDEX

M

INDEX

O

INDEX

INDEX

P

INDEX

INDEX

INDEX

INDEX

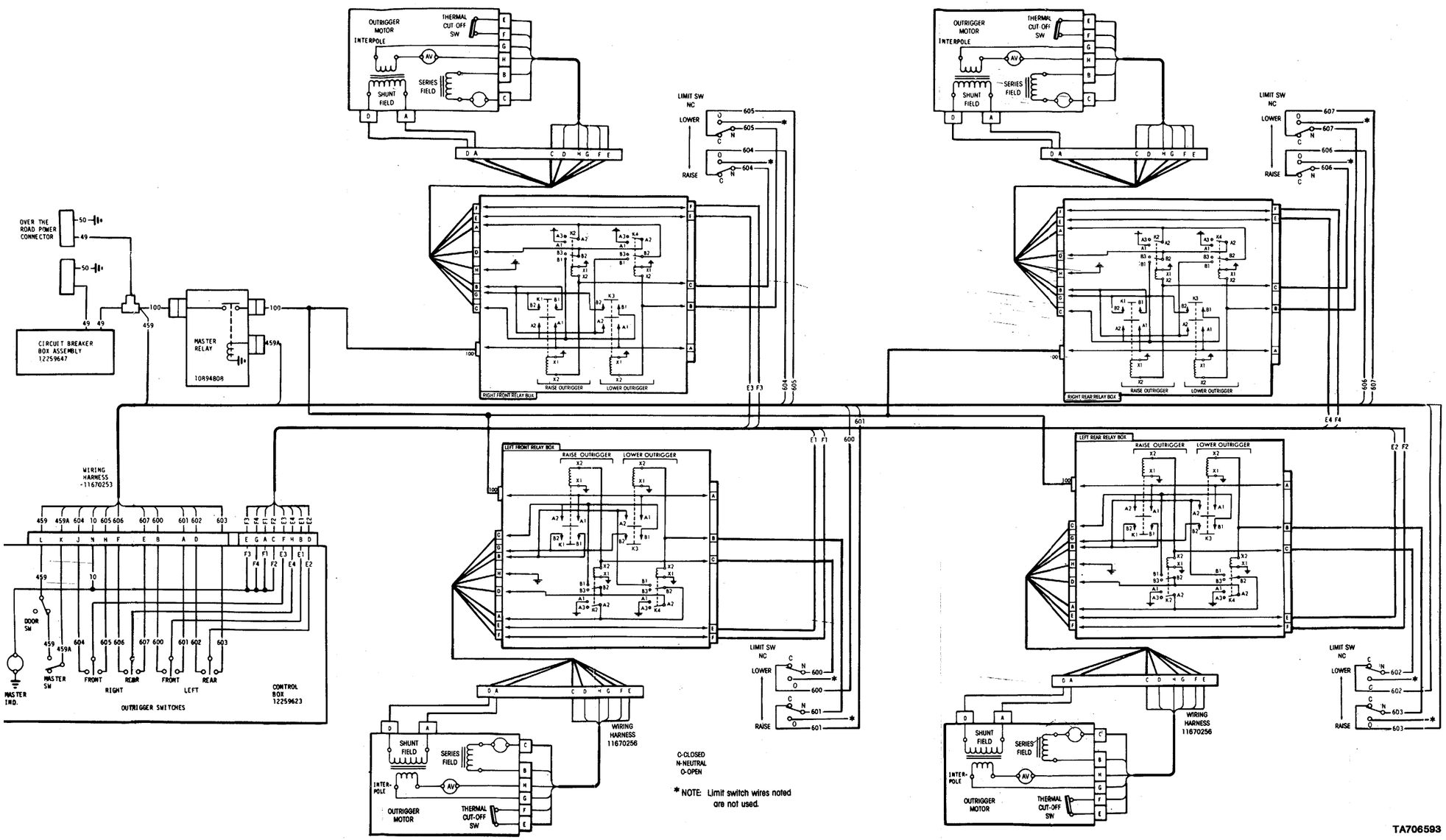


Figure FO-1. Outrigger Electrical Schematic.

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

Official:

MILTON H. HAMILTON
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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE
1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS
1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb

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 = 0.0386 Sq Miles

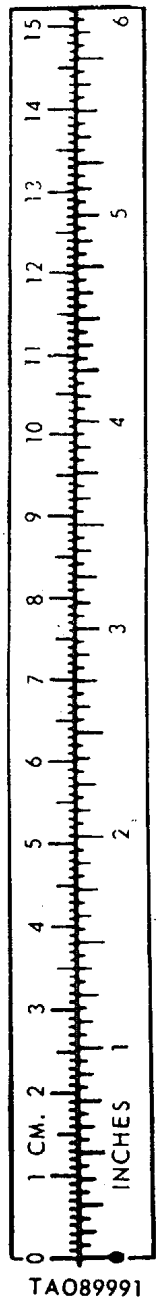
CUBIC MEASURE
1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

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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