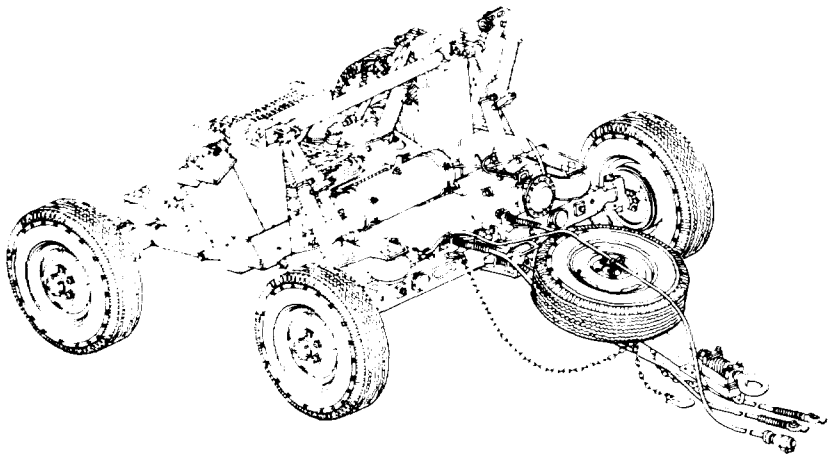
TM 9-2330-285-14&P/TO 36A11-21-10-1

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

DOLLY SET, LIFT, TRANSPORTABLE SHELTER, 3-TON M720 (NSN 2330-00-912-4251)



HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE

APRIL 1984

WARNING

USING DRYCLEANING SOLVENT

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

WARNING

WEAR GOGGLES FOR DRAINING HIGH PRESSURE AIR

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

WARNING

Brake lining material contains asbestos. Breathing of dust from linings is extremely hazardous. Wear a filter mask whenever working with brake shoes.

WARNING

Operating the dolly set on the highway without the struts and clamps attached could cause loss of control and serious injury to personnel.

WARNING

All personnel not involved with task of lowering the dolly should stay clear. When dolly set is lowered, personnel performing task should keep limbs from under it to prevent injury.

WARNING

The return spring inside the brake chamber is under very heavy tension. The two halves of the chamber must be clamped together in a vise before removing all of the screws and nuts which hold it together. Failure to do so could cause serious injury.

WARNING

Particles blown by compressed air are hazardous. Do not exceed 30 psi (207 kPa) air pressure. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury, user must wear safety eye goggles or face shield when using compressed air.

CHANGE

NO CO1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 7 December 1989

**OPERATOR, UNIT,
DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)**

**DOLLY SET, LIFT,
TRANSPORTABLE SHELTER,
3-TON M720
(NSN 2330-00-912-4251)**

TM 9-2330-285-14&P/TO36A11-21-10-1, April 1984 is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. File this change sheet in front of the publication for reference purposes.

REMOVE PAGES	INSERT PAGES	REMOVE PAGES	INSERT PAGES
1-9 and 1-10	1-9 and 1-10	4-117 and 4-118	4-117 and 4-118
2-7 and 2-8	2-7 and 2-8	4-125 through 4-128	4-125 through 4-128
2-17 through 2-20	2-17 through 2-20	4-155 and 4-156	4-155 and 4-156
2-23 through 2-26	2-23 through 2-26	A-1/(A-2 blank)	A-1 and A-2
2-33 and 2-34	2-33 and 2-34	F-1 through F-101/	1 through 1-29
4-3 and 4-4	4-3 and 4-4	(F-102 blank)	

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-39-R (Block Nos. 528,529, 530) Operator, Unit, Direct Support and General Support maintenance requirements for Dolly Set, Lift, Transportable Shelter, 3-ton M720. (Cumulative).

TECHNICAL MANUAL
NO. 9-2330-285-1 4&P
TECHNICAL ORDER
NO. 36A11-21-10-1

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
Washington, DC, 24 *April* 1984

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

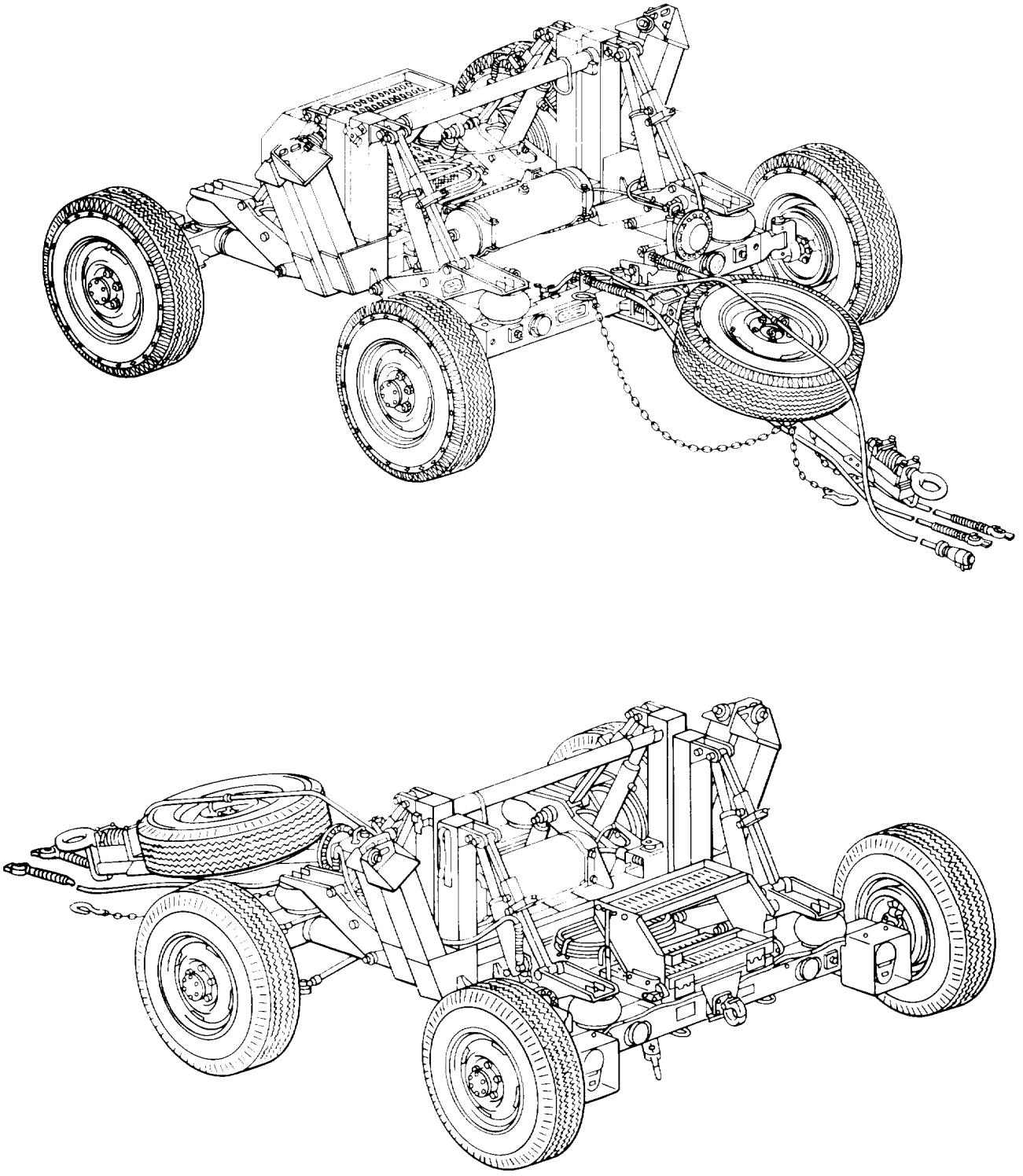
DOLLY SET, LIFT, TRANSPORTABLE SHELTER, 3-TON M720 (2330-00-912-4251)

Current as of 1 Sep 83

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. 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 publication direct to: US Army Tank-Automotive Command, ATTN: DRSTA-MBP Warren, Ml 48090. A reply will be furnished to you.

* This manual supersedes TM 9-2330-285-14&P/TO 36A11-21-10-1 dated 15 May 1974 and all changes.



TA 221610

CHAPTER 1

INTRODUCTION

OVERVIEW

The purpose of this chapter is to give you information on the 3-ton, transportable shelter dolly set size, shape, features, major equipment, and how it works.

Section I GENERAL INFORMATION

SCOPE

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

Equipment Name: Dolly Set, Lift, Transportable Shelter, 3-Ton, M720; Composed of: Dolly, Front (M721) and Dolly, Rear (M722).

Purpose of Equipment: The dolly set is used to move a transportable shelter.

MAINTENANCE FORMS AND RECORDS

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

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-8, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (US Army Tank-Automotive Command).

PREPARATION FOR STORAGE OR SHIPMENT

There are no special storage or shipping procedures.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your dolly set needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design, Put it on an SF 368 (Quality Deficiency Report). Mail it to us at US Army Tank-Automotive Command ATTN: DRSTA-MP, Warren, Ml 48090. We will send you a reply.

REFERENCE INFORMATION

This listing includes nomenclature cross-references, abbreviations and an explanation of terms (glossary) used in this manual.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name	Official Nomenclature
Dolly set	Transportable Shelter Lift, Dolly Set
Towing vehicle	Prime Mover

LIST OF ABBREVIATIONS

cm	Centimeter
kg	Kilogram
kPa	Kilopascal

GLOSSARY

Angle of departure	Maximum angle of incline from which a vehicle can move onto a horizontal plane without interference (for instance, from the rear frame).
Couple	To link together.
Gladhand	Air pressure hose disconnect coupling. To couple, link two ends together at right angles and with a rotating, sliding motion, bring hoses in line with one another.

Section II EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Characteristics

The dolly set consists of one front dolly for attaching to the shelter front and one rear dolly for attaching to the shelter rear.

The earlier model dolly sets can operate from either a 12- or 24-volt military electrical system power supply. Later models can operate only on 24-volts.

The rear dolly has a non-quick release towing pintle assembly.

The dolly set can raise and lower the transportable shelter by means of a hand-operated hydraulic pump and two hydraulic lift cylinders on each dolly.

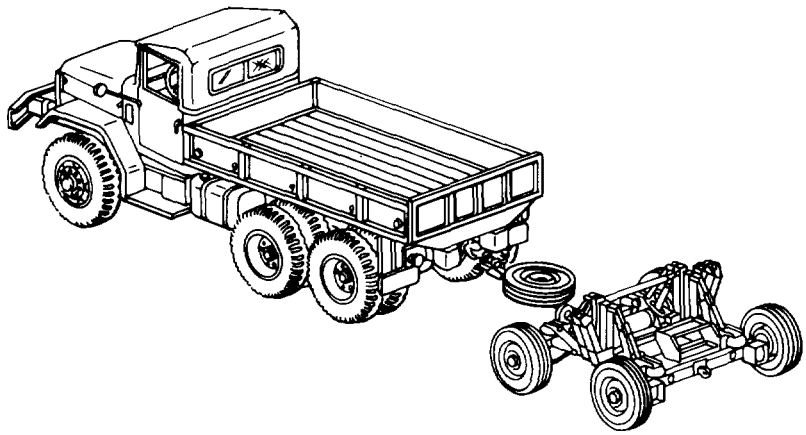
The rear dolly has a toolbox containing two leveling jack pump handles, one wheel nut wrench and one envelope containing the dolly set technical manual. Coiled and secured to the top of the toolbox is the interdolly harness assembly.

Capabilities and Features

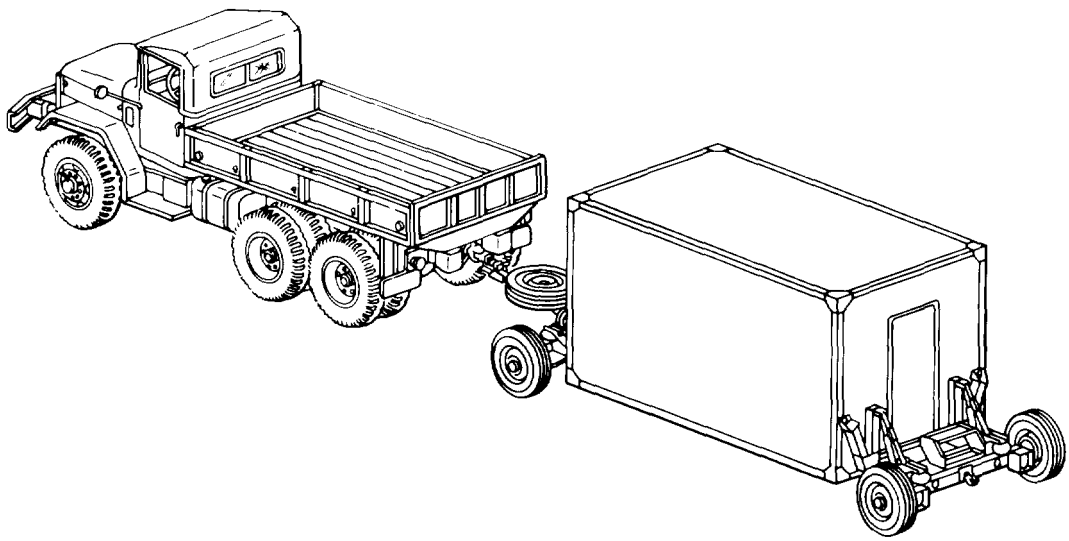
Towing speed limitations are as follows:

Highway: 50 mph
Cross-country: 15 mph

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED



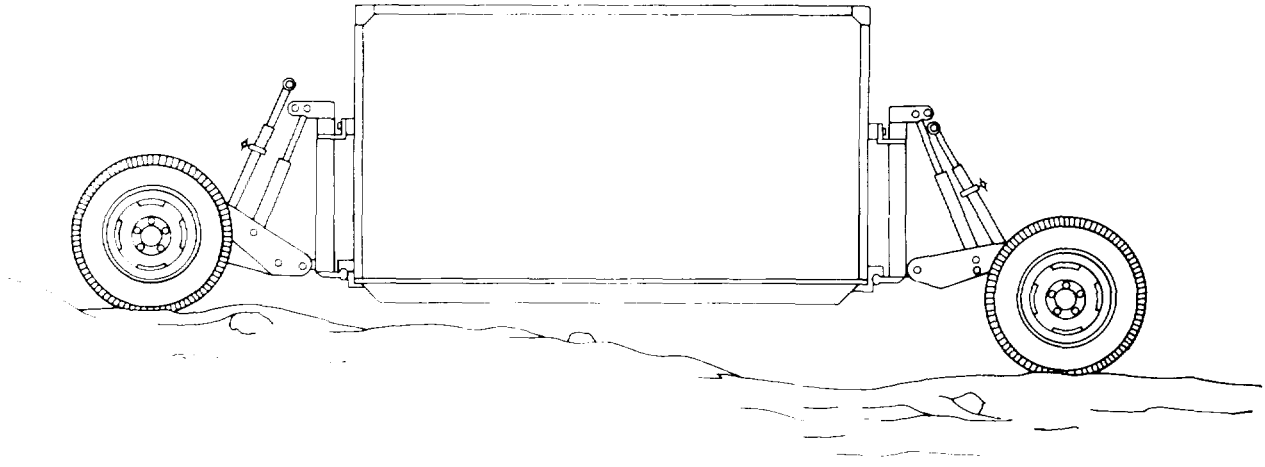
The M720 dolly set can be transported or stored while coupled together.



The M720 dolly set can be used to move a transportable shelter.

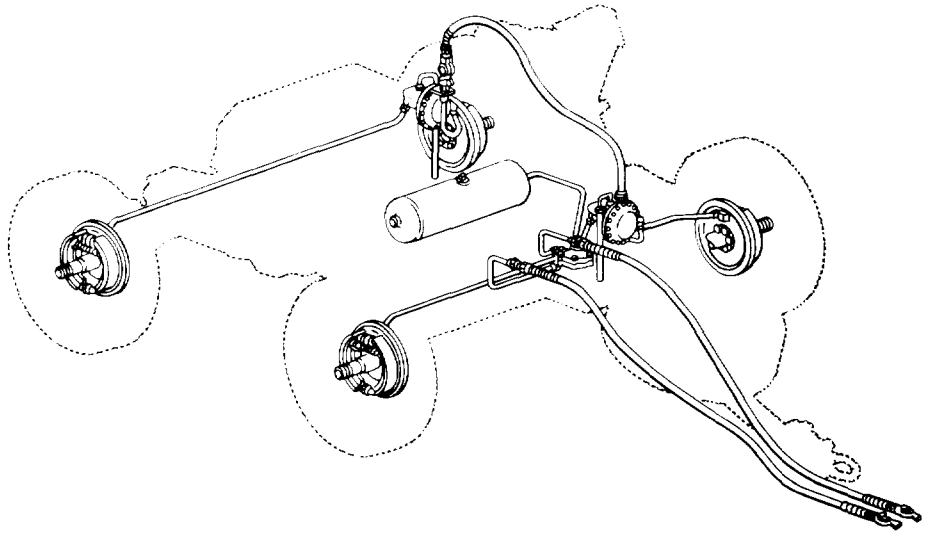
TA 221611

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED



The M720 dolly set can be used to level a shelter on uneven ground.

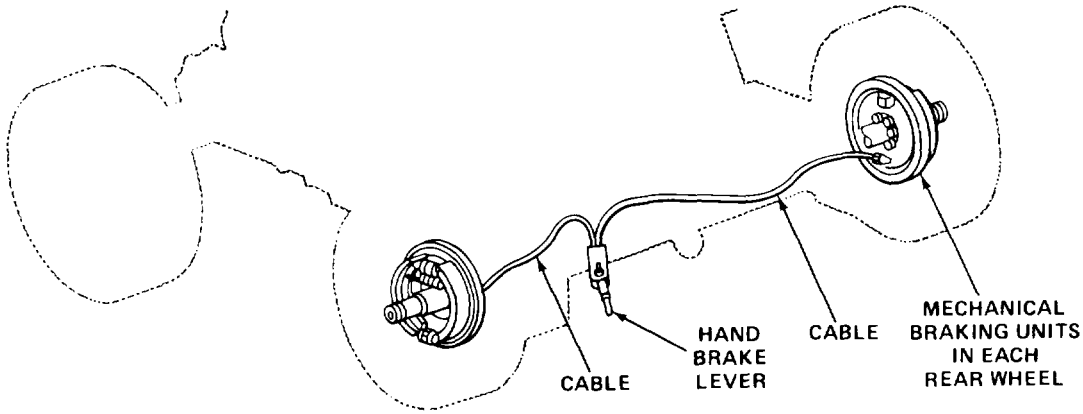
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



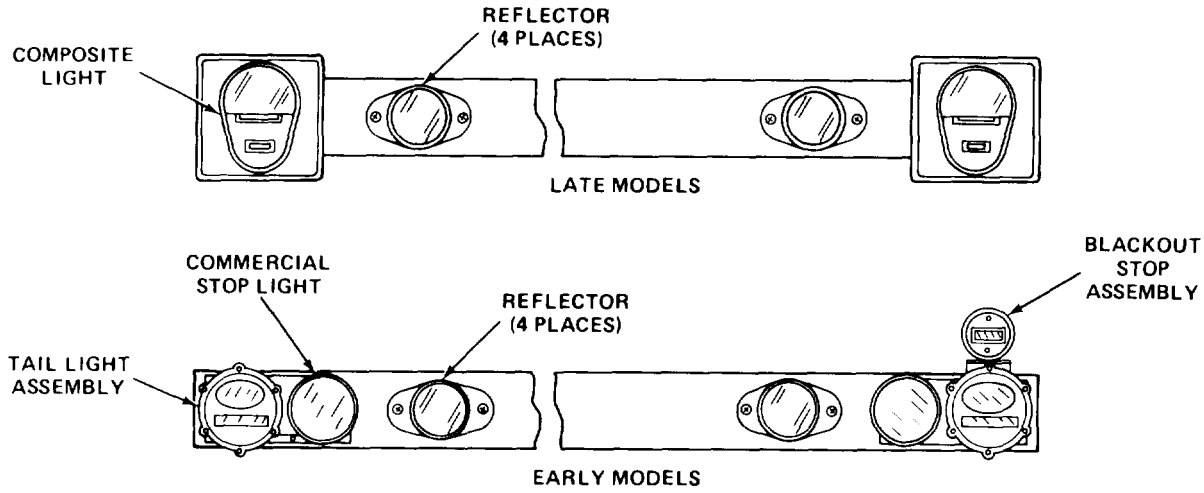
The M720 dolly set has an air over hydraulic braking system.

TA 221612

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



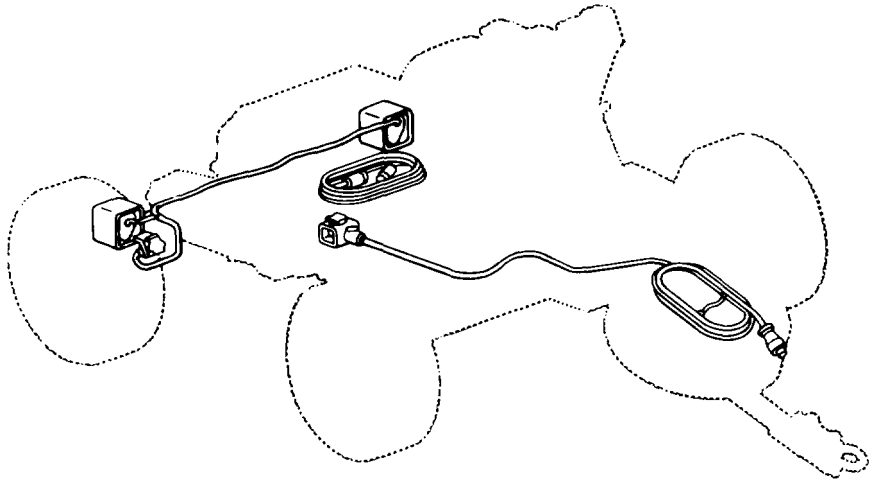
The M720 dolly set has a mechanical parking brake system on the rear dolly.



The M720 dolly set has two rear and two front red reflectors. Later models of the dolly are equipped with two composite marker light assemblies, each consisting of a 24-volt stop and turn signal, taillight, blackout marker, and blackout stoplight. Earlier models are equipped with one blackout stoplight, two commercial stoplights, and two taillights, which also contain turn signals and blackout taillights.

TA 221613

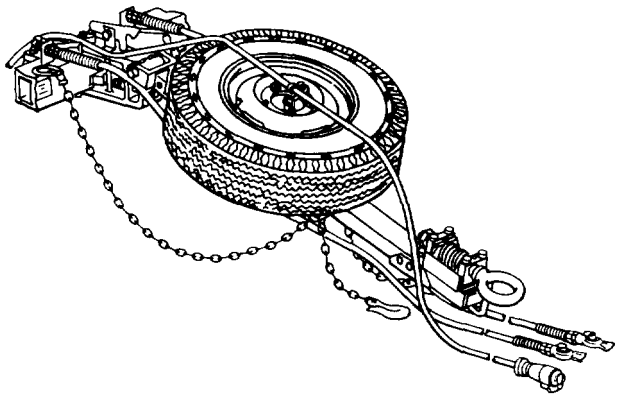
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



The M720 dolly set has an intervehicular cable, junction box, inner harness, interdolly cable, and rear trailer dolly harness assembly.

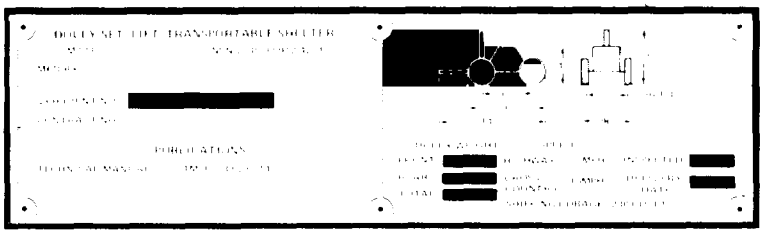
The M720 dolly set has a hydraulic lift system to lift the shelter.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



The towbar is used to steer the dolly set. It also is used to store the spare tire. The lunette is spring loaded to absorb towing shock loads.

LOCATION AND DESCRIPTION OF DATA PLATES



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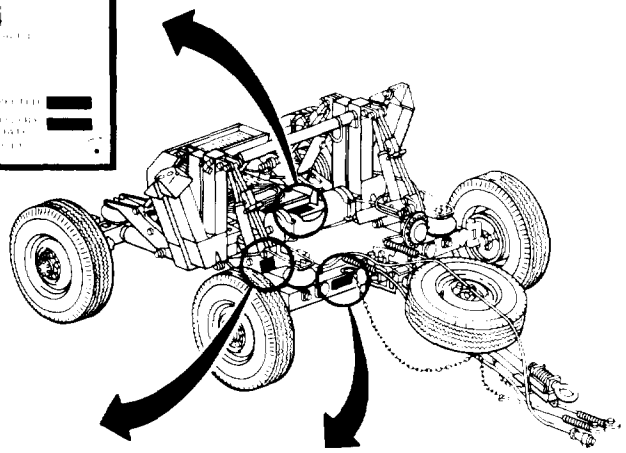


AIR SPRING INFLATION PROCEDURE

WITHOUT PAYLOAD
INFLATE AIR SPRINGS TO 15 PSI.
WITH PAYLOAD
INFLATE AIR SPRINGS TO 70 PSI PRIOR
TO LIFTING LOAD
RAISE LOAD TO FULL HEIGHT
ADJUST PRESSURE IN EACH AIR SPRING TO ALIGN
TOP OF WHITE MARKER ON SHOCK ABSORBER
WITH LOWER EDGE OF UPPER HOUSING.

11682100

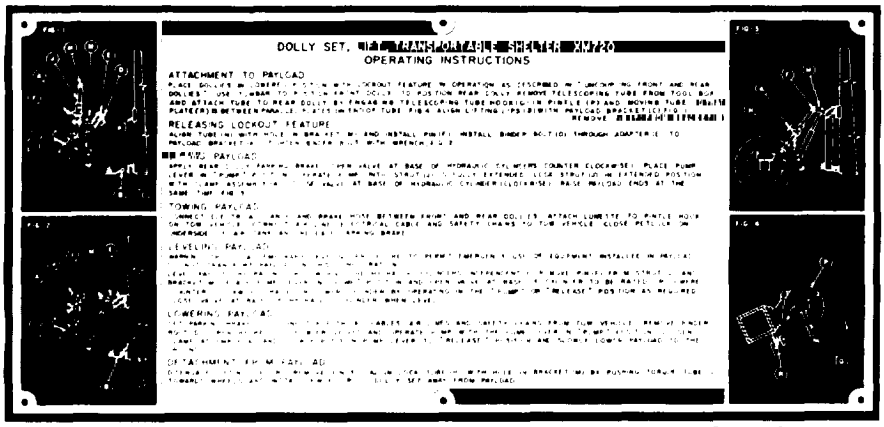
DOLLY, TRAILER, FRONT: M721
FSN 2330-912-4252
USA PART NO. 8736724
MFD BY
VEH IDENT NO.
CONTRACT NO.

11647982

The front dolly data plates consist of uncoupling instructions, dolly set identification plate, front dolly identification plate, and air springs inflation instructions.

TA 221615

LOCATION AND DESCRIPTION OF DATA PLATES - CONTINUED



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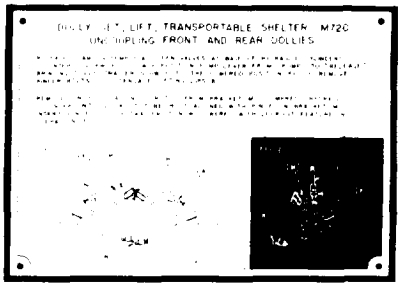

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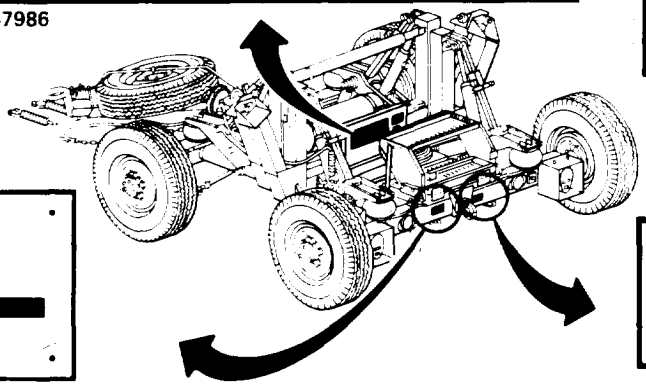


11647983

DOLLY TRAILER REAR M722
FSN 2330 912 4253
USA PART NO 8736725
MFD BY
VEH IDENT NO
CONTRACT NO

11612247

WARNING
DO NOT TOW LOADED
SHELTERS IN TRAIN

The rear dolly data plates consist of uncoupling instructions, coupling instructions, operating instructions, rear dolly identification plate, and towing warning plate.

EOUIPMENT DATA

Operator/Crew

Model number	M720
Towing vehicle	2 1/2- or 5-ton Military Prime Mover
Operating temperature range	-65°F(-54°C)to 160°F(71°C)
Weight	
Empty,	2080 lb (944 kg)
Payload	6000 lb (2724 kg)
Total	8080 lb (3668 kg)
Overall dimensions	
Ground clearance	16 in. (40.6 cm)
Height (towing bar lowered)	44 in. (111.8 cm)
Width	96 in. (243.9 cm)
Length (without load)	
Towing bar lowered	148 in. (376 cm)
Towing bar raised	93 in. (236.2 cm)
Angle of departure	30° slope

TA 221616

EQUIPMENT DATA - CONTINUED

Operator/Crew - Continued

Maximum towing speed	
Highway	50 mph
Cross-country	15 mph
Tire pressures	
Highway service	50 psig (344.8 kPa)
Cross-country service and airtransport	40 psig (275.8 kPa)
Voltage at dolly lights	24 vdc

Air mount pressure

Payload	Load off	Load on
3000 lb (1362 kg)	26 psig (179 kPa)	36 psig (248 kPa)
4000 lb (1816 kg)	32 psig (221 kPa)	44 psig (303 kPa)
5000 lb (2270 kg)	43 psig (296 kPa)	58 psig (400 kPa)
6000 lb(2724 kg)	52 psig (358 kPa)	70 psig (483 kPa)

Organizational/Direct and General Support

Brakes	
Actuation	Pneumatically actuated, hydraulically operated
Type of mechanism	Internal expanding, self-entering
Manufacturer	Bendix Corporation
Air Mount Assembly	
Quantity	4 each
Manufacturer	Firestone Industrial Products
Hand Hydraulic Pump	
Rated pressure	6000 psig (41370 kPa)
Manufacturer,	Applied Power Industries, Inc.
Hydraulic Cylinder	
Operating pressure (maximum)	6000 psig (41370 kPa)
Hydraulic fluid	MIL-H-5606 (non-petroleum base)
Reservoir Air Pressure (maximum)	150 psig (1034.3 kPa)
Tires	
Type	8 ply
Size	700 x 16
Number (including spare)..	5

Section III PRINCIPLES OF OPERATION

AIR OVER HYDRAULIC BRAKE SYSTEM

INTERVEHICULAR EMERGENCY HOSE - Supplies air to the dolly set to fill the air reservoir and initiates an emergency brake application.

INTERVEHICULAR SERVICE HOSE - Provides an air pressure signal from the towing vehicle which can tell the relay valve to apply or release the dolly set brake system.

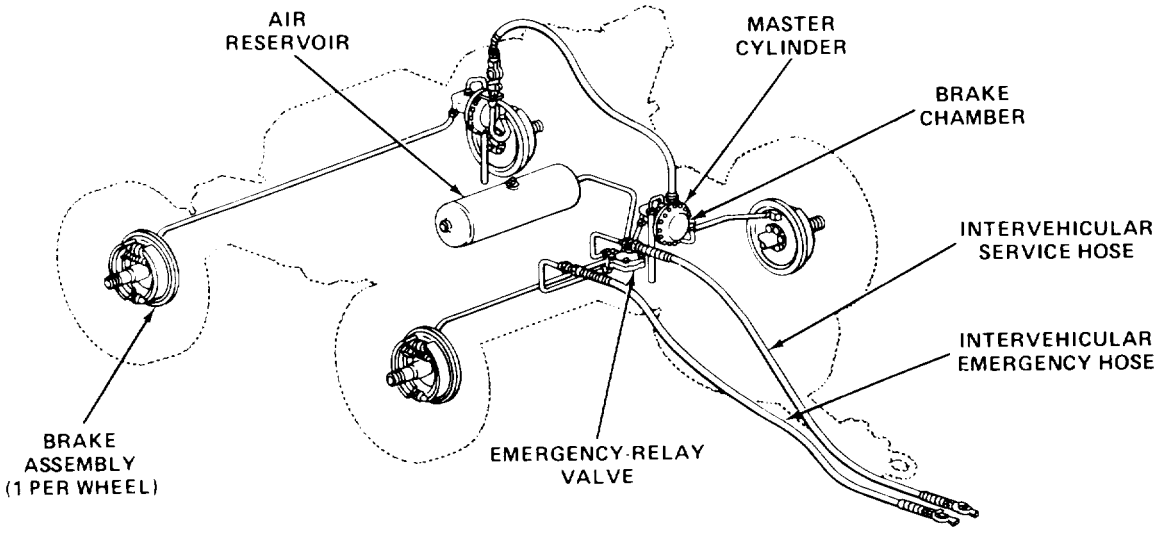
AIR RESERVOIR - Provides the air supply to apply the brakes.

EMERGENCY RELAY VALVE - Applies and releases the dolly set braking system.

BRAKE CHAMBERS - Use air pressure to operate the hydraulic master cylinders.

MASTER CYLINDERS - Provide the hydraulic pressure to apply the dolly set braking system.

BRAKE ASSEMBLIES - Operate by hydraulic pressure to stop the dolly set. There is one brake assembly on each wheel.



TA 221617

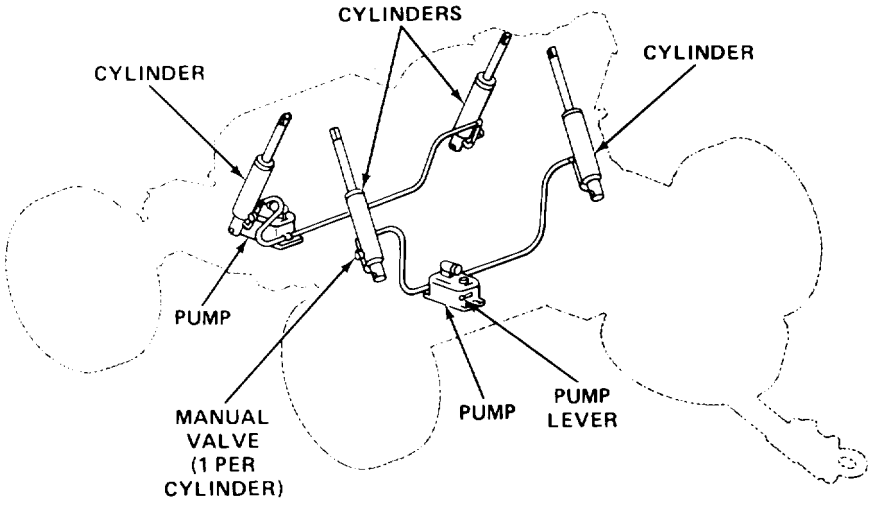
HYDRAULIC LIFT SYSTEM

PUMPS - Provide the hydraulic pressure to operate the hydraulic system. Operate by hand pump.

PUMP LEVER - Places the pump in an operating position or releases the pump pressure depending on its position.

CYLINDERS - Provide the system lifting power. They are actuated by hydraulic pressure. The dolly set has four hydraulic cylinders.

MANUAL VALVES - Allow each hydraulic cylinder to be independently controlled. One manual valve is located at each cylinder.



TA 221618

CHAPTER 2

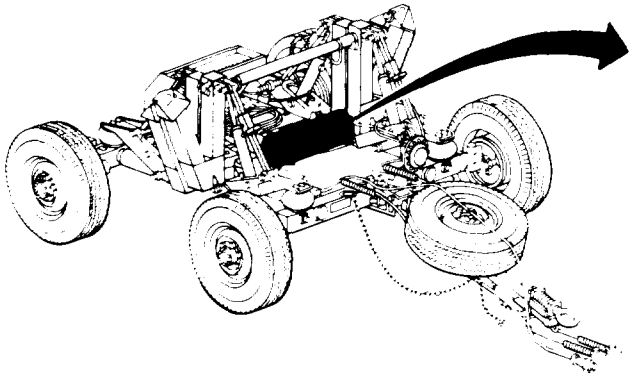
OPERATING INSTRUCTIONS

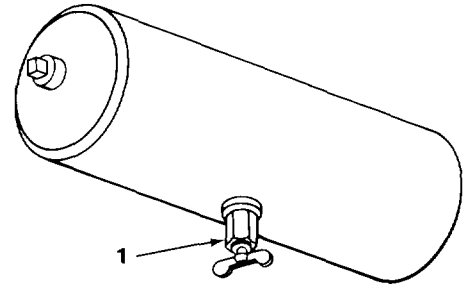
OVERVIEW

This chapter describes the dolly set controls and contains operator/crew preventive maintenance procedures. There are instructions for driving, stopping, parking and backing. There are also instructions for coupling and uncoupling the dolly set to a shelter. Instructions are provided for operation under usual and unusual conditions.

Section I DESCRIPTION AND USE OF OPERATOR'S CONTROLS

AIR RESERVOIR



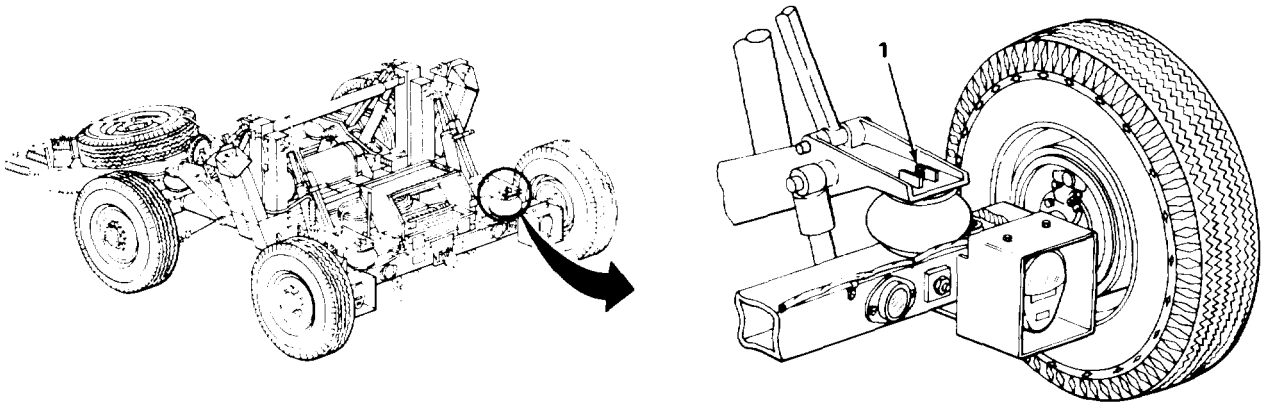


VIEW LOOKING UP

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Reservoir draincock	Used to drain air and/or water from dolly brake system. Located at the rear of front dolly.

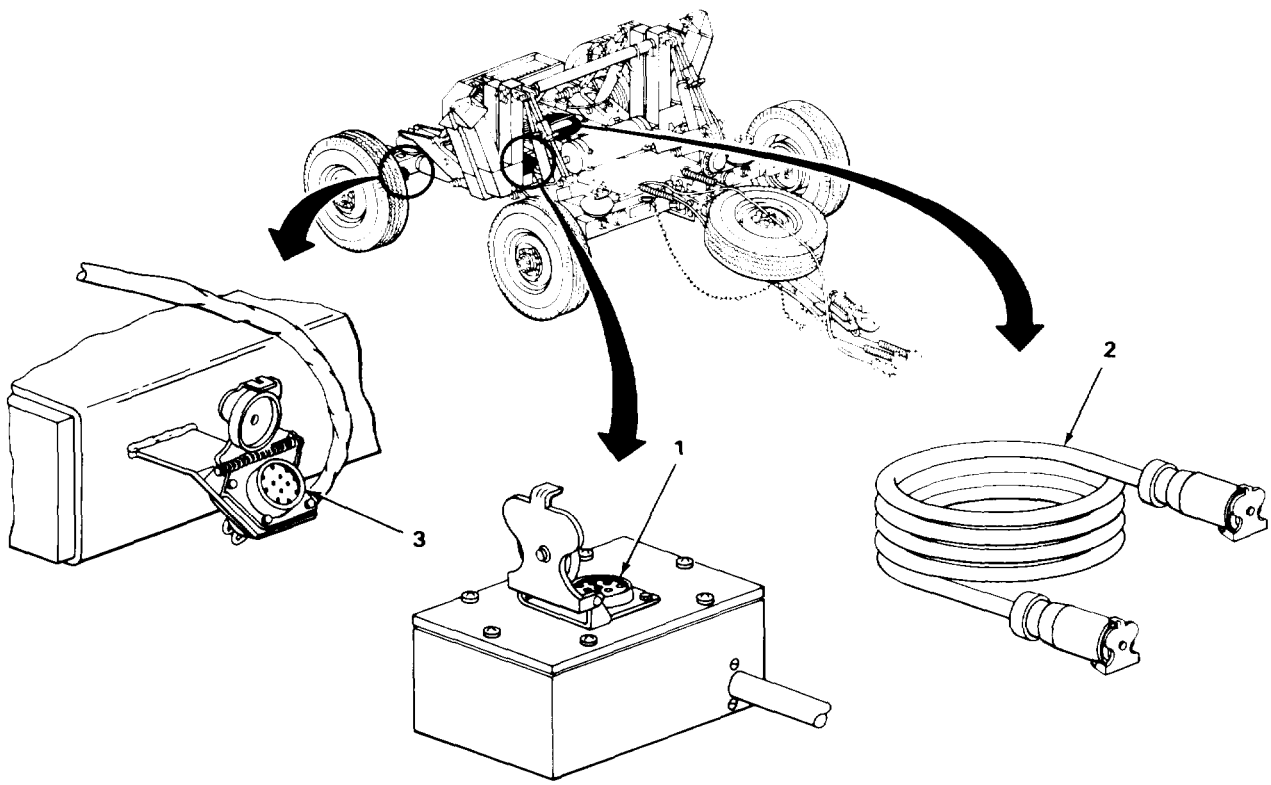
TA 221619

AIR SPRINGS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Four air spring valves	Used to let air into or out of the air springs.

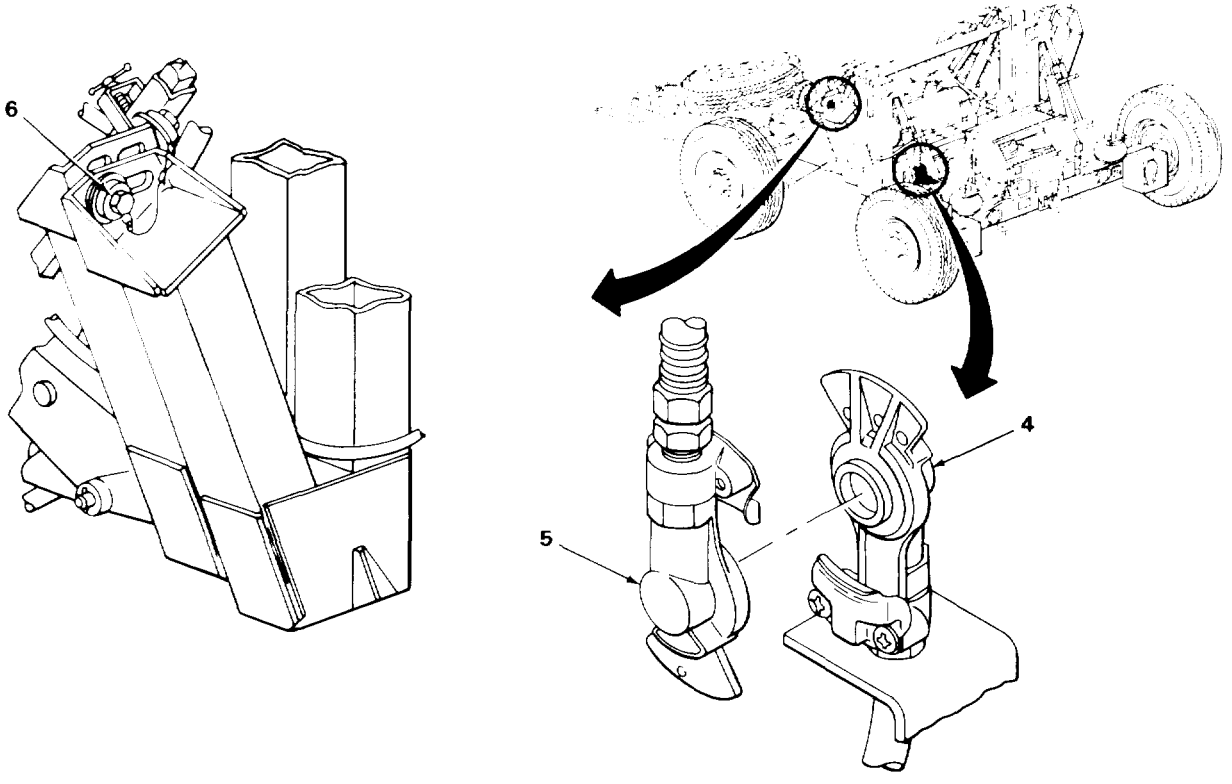
DOLLY TO DOLLY CONNECTIONS



TA 221620

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Front dolly receptacle	Connects interdolly cable to front dolly. Located on junction box.
2	Interdolly cable	Supplies electrical power from front to rear dolly.
3	Rear dolly receptacle	Connects interdolly cable to the rear dolly. Located on rear axle.

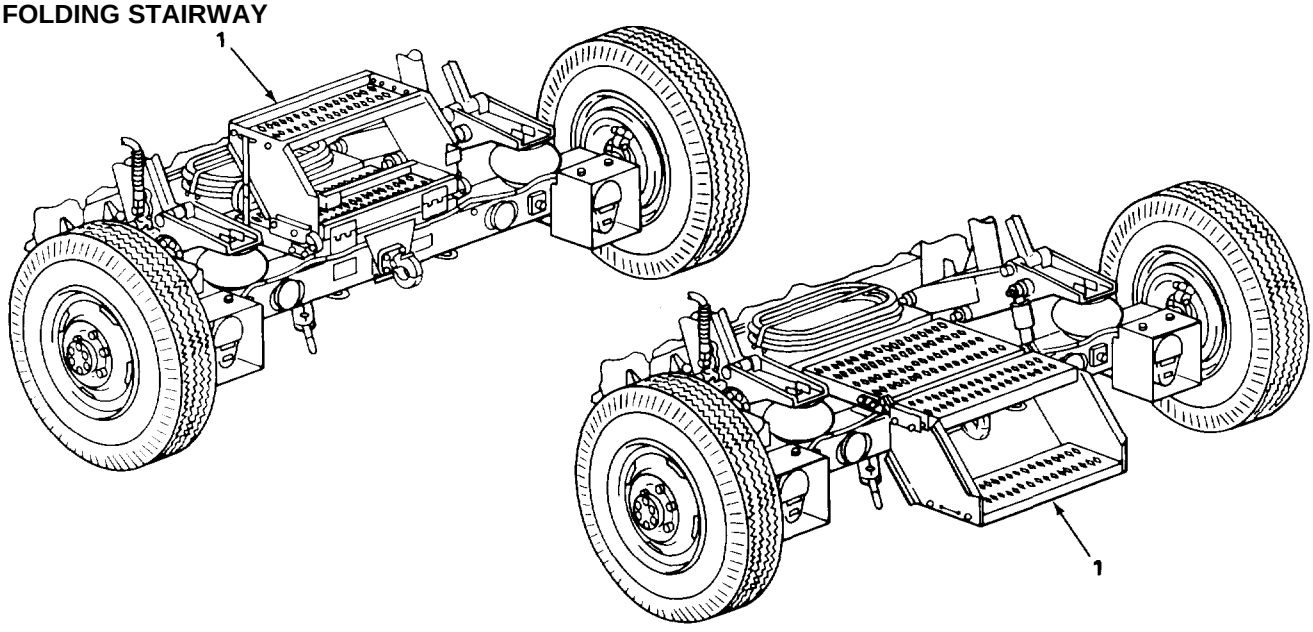
DOLLY TO DOLLY CONNECTIONS - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
4	Rear dolly gladhand connector	Connects interdolly airhose to the rear dolly braking system.
5	Interdolly airhose	Connects braking systems of front and rear dollies together.
6	Binder bolts	Used to secure front and rear dollies together.

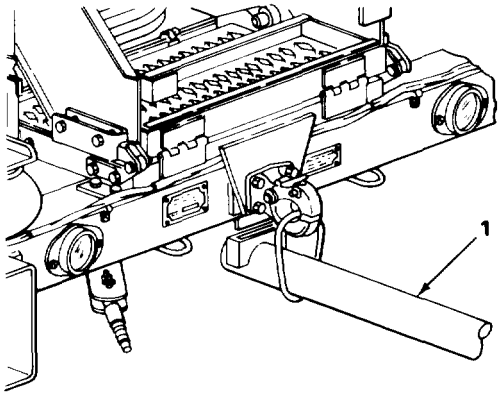
TA 221621

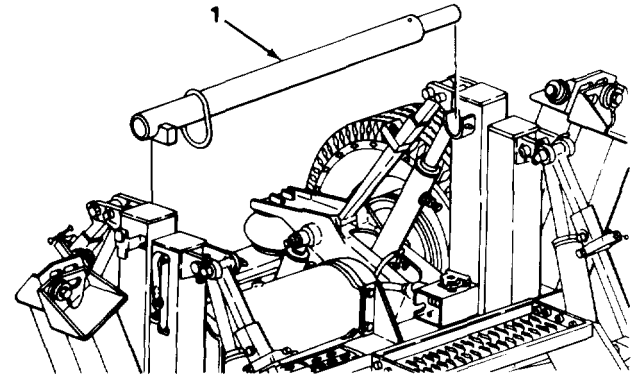
FOLDING STAIRWAY



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Folding stairway	Allows easy access to rear door of the shelter when it is attached to the dolly set.

POSITIONING BAR

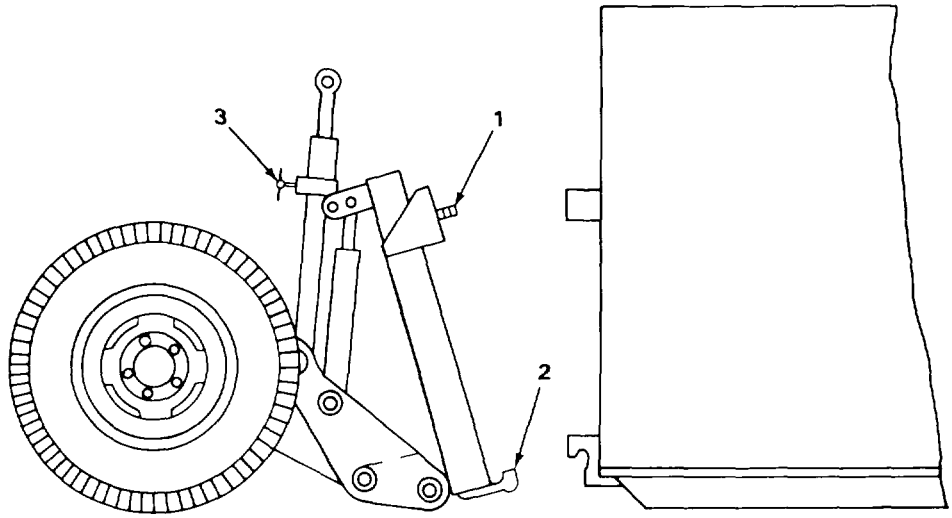




KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Positioning bar	Used to maneuver the rear dolly when attaching it to the shelter.

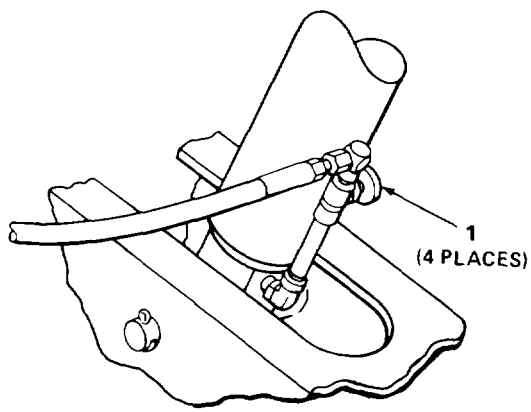
TA 221622

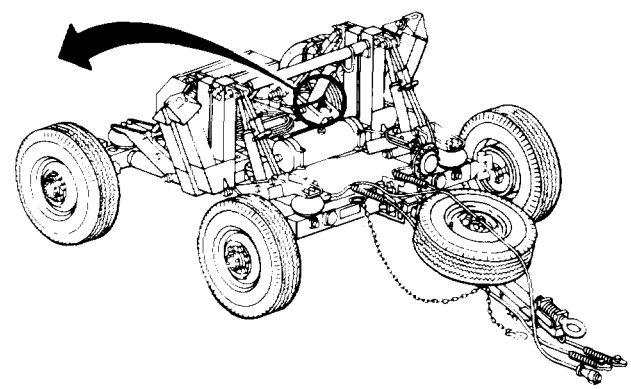
DOLLY TO SHELTER CONNECTIONS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Binder bolts	Used to secure dollies to the shelter.
2	Lifting lips	Used to support the weight of the shelter.
3	Strut clamps	Used to lock struts after shelter is lifted.

HYDRAULIC LIFT SYSTEM

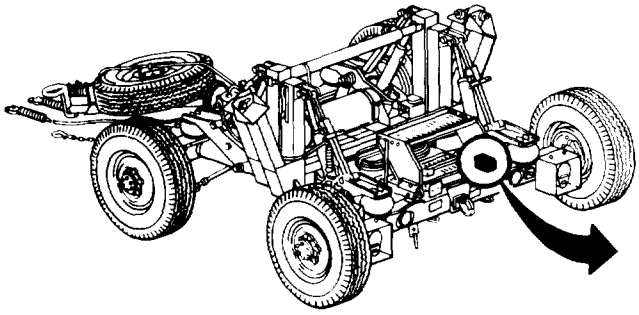


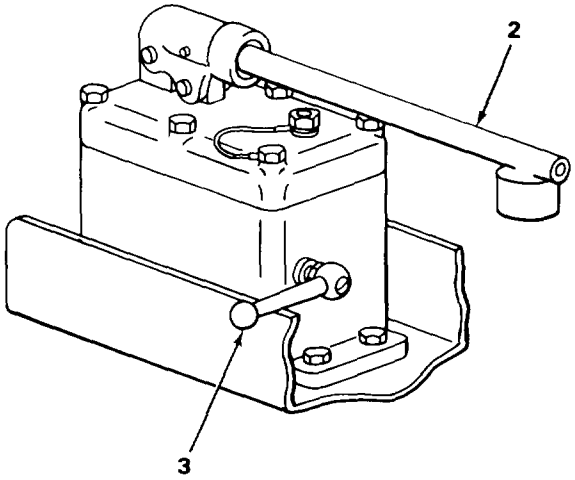


KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Manual control valves	Used to lock hydraulic cylinders in the raised position after shelter is loaded.

TA 221623

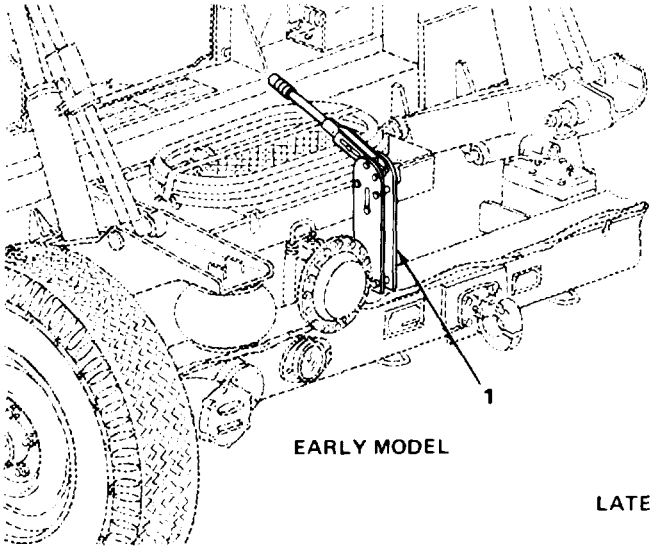
HYDRAULIC LIFT SYSTEM - CONTINUED

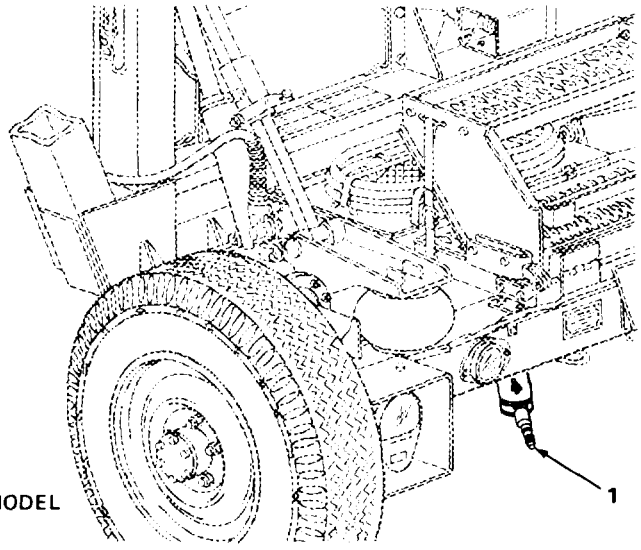




KEY	CONTROL OR INDICATOR	FUNCTION OR USE
2	Pump handle	Used to operate hydraulic pumps. Pumping the handle will raise shelters.
3	Pump lever	Used to control the raising and lowering of hydraulic system.

PARKING BRAKE

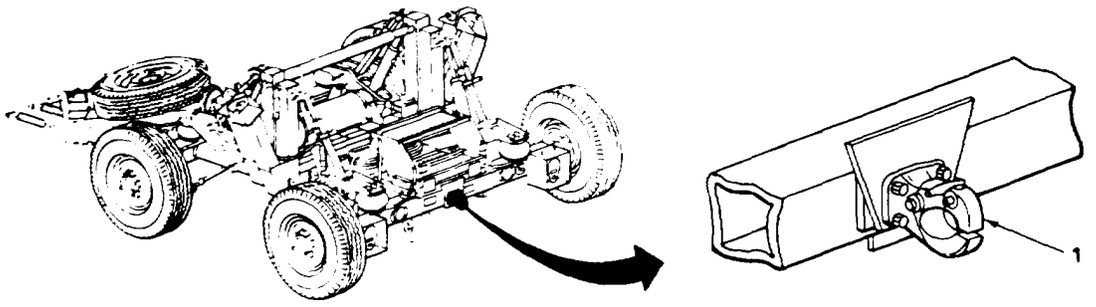




KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Parking brake lever	Used to apply and release parking brake. The lever may be located above or below the axle beam, depending on the model.

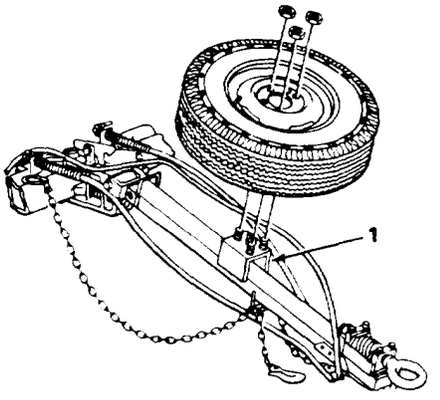
TA 221624

PINTLE



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Pintle	Used to secure positioning lever to rear dolly to aid in attachment to shelter.

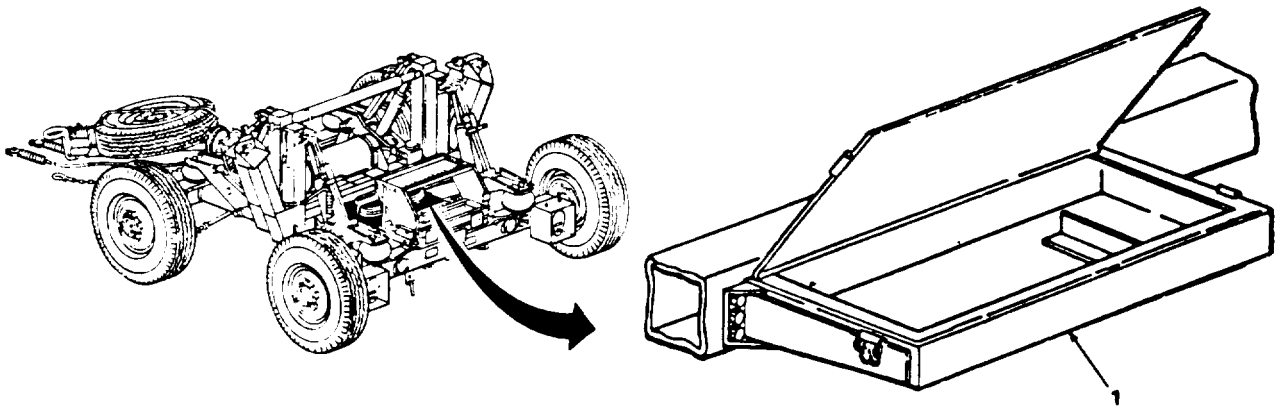
SPARE TIRE MOUNTING



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Spare tire mountings	Used to secure spare tire to towbar.

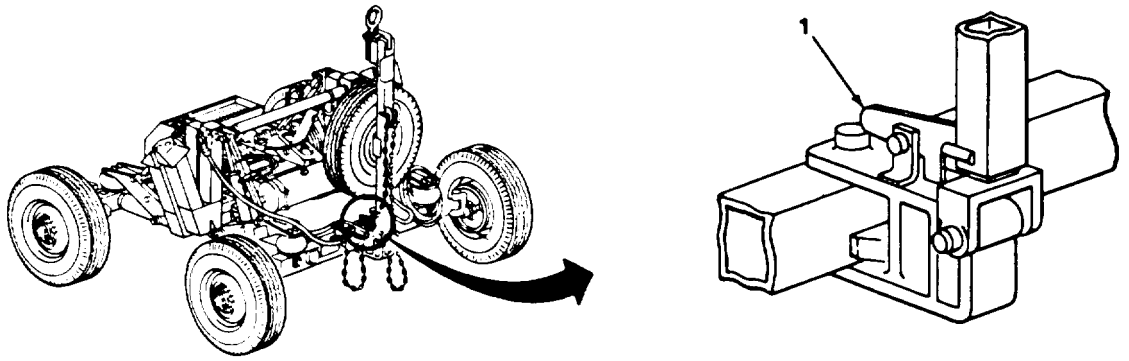
TA 221625

TOOLBOX



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Toolbox	Used to stow basic issue items. Located in the rear dolly.

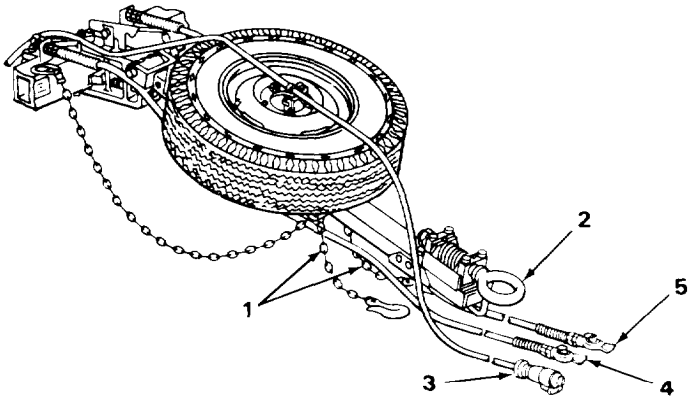
TOWBAR UPLOCK



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Towbar uplock	Used to stow towbar by holding it in a vertical position.

TA 221626

TOWING VEHICLE TO DOLLY CONNECTIONS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Safety chains	Used to secure dolly to the towing vehicle if dolly should accidently become unhooked.
2	Lunette	Used to attach the dolly to the towing vehicle.
3	Intervehicular cable	Used to carry electrical power from towing vehicle to dolly.
4	Intervehicular emergency brake airhose	Used to connect emergency brake system of towing vehicle to the dolly.
5	Intervehicular service brake airhose	Used to connect service brake system of towing vehicle to the dolly.

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

TA 221627

GENERAL

This section contains PMCS for the M720 Dolly Set. The procedure lists checks, services, and criteria to ensure that the dolly set is prepared for operation. Perform the checks and services at the specified intervals, keeping in mind the following guidelines:

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

Do your during (D) PMCS during operation. (During operation means to monitor the vehicle and its related components while it is actually being operated.)

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

Do your (W) PMCS weekly.

Do your (M) PMCS monthly.

SPECIAL INSTRUCTIONS

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

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

If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, report it to organizational maintenance immediately.

When you do your preventive maintenance, take along the tools you need to make all the checks. You always need a rag or two.

WARNING

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

1. Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use drycleaning solvent PD-680 on al metal surfaces. Use soap and water when you clean rubber or plastic material.

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

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

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

SPECIAL INSTRUCTIONS - CONTINUED

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

It is necessary for you to know how fluid leakage affects the status of your vehicle. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your vehicle. Learn and be familiar with them, and remember - when in doubt, notify your supervisor!

Leakage Definitions for Operator/Crew PMCS

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

CAUTION

When operating with class I or II leaks, continue to check fluid levels in addition to that required in PMCS. Parts without fluid will stop working and/or cause damage to the parts.

NOTE

Equipment operation is allowable with minor leakage (class I or II). Consideration must be given to the fluid capacity in the item being checked/inspected. When in doubt, notify your supervisor.

PMCS COLUMN DESCRIPTION

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

Interval - Tells when each check is to be performed.

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

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

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

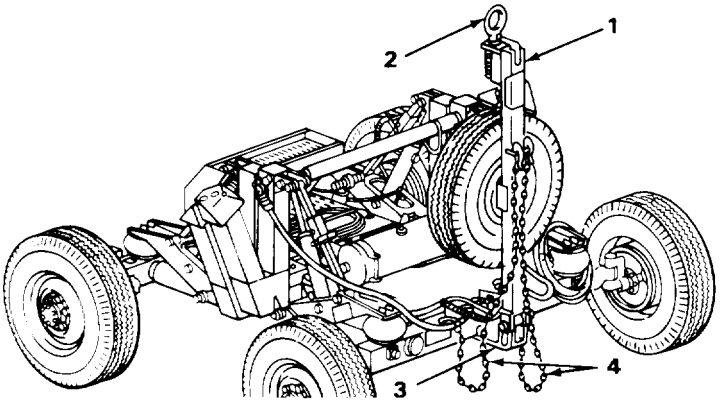
B-BEFORE D-DURING A-AFTER W-WEEKLY M-MONTHLY

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
						NOTE Perform weekly (W) as well as before (B) PMCS if: a. You are the assigned operator but have not operated the vehicle since the last weekly inspection. b. You are operating the vehicle for the first time.	
1						TIRES	
	•					Check tires for deep cuts, foreign objects, or unusual tread wear. Remove stones from between treads.	One or more tires are flat, missing, or unserviceable.
	•					Check tires, including spare for correct air pressure. Highway 50 psi (304 kPa) Cross-country 40 psi (276 kPa)	Spare wheel and tire assembly is missing or unserviceable.
2						WHEELS	
	•					Check wheels for damage and wheel nuts to see that they are tight and all there.	One or more wheels are damaged, or one or more wheel nuts are missing.
3						TOWBAR AND RELATED PARTS	
	•					Check for deformed towbar (1).	Any parts are worn, cracked, or deformed.
	•					Check Iunette (2) for wear or broken mountings.	

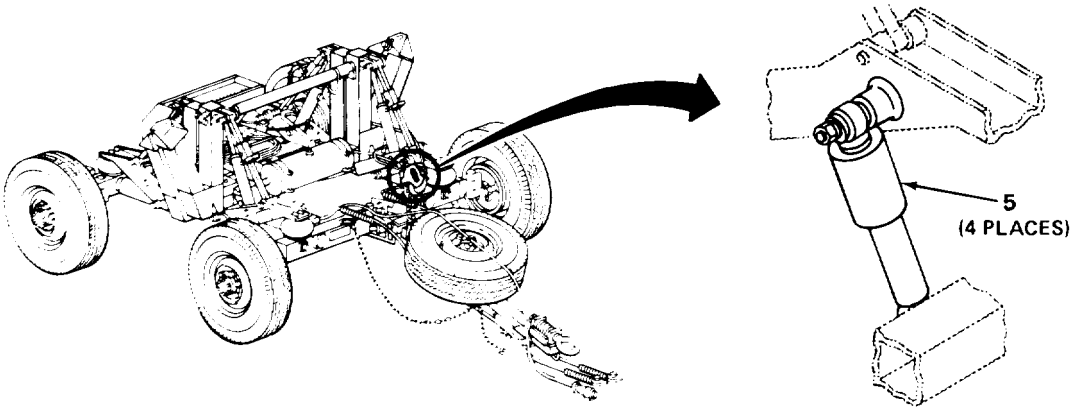
OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

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

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
						TOWBAR AND RELATED PARTS (CONT)	
					•	Check steering arm (3) for cracks or worn pivot.	
	•					Check for broken safety chains (4).	One or more safety chains (4) are broken.



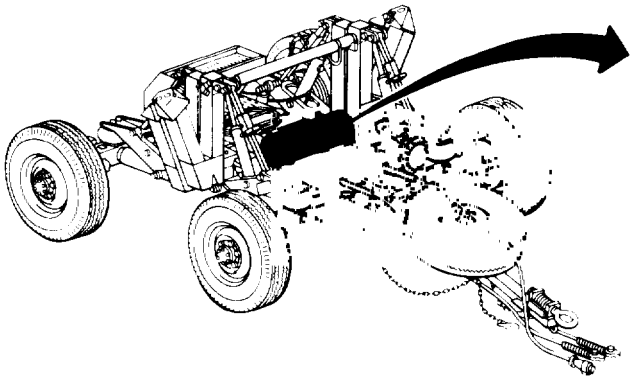
4						SHOCK ABSORBERS	
	•					Check for broken shock absorbers (5).	One or more shock absorbers (5) are broken.

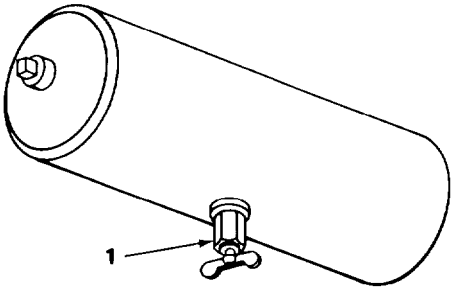


OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

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

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
5						AIR SPRINGS	
	•					Adjust all air springs to the correct pressure for the load being carried. Payload / Load off / Load on 3000 lb / 26 psig / 36 psig 4000 lb / 32 psig / 44 psig 5000 lb / 43 psig / 58 psig 6000 lb / 52 psig / 70 psig	
6						AIR RESERVOIR **WARNING** Wear goggles when opening draincock on air reservoir.	
	•					Inspect air reservoir for signs of leakage or damage.	
	•		•			Open draincock (1) and drain all moisture from reservoir.	





VIEW LOOKING UP

TA 221629

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

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

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURES: CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
7						LIGHTS AND REFLECTORS	
						NOTE	
						An assistant is required while checking the brake lights.	
		•				With the towing vehicle connected, operate all lights.	Any lights are inoperative.
	•					Check for any broken lenses and reflectors.	Any lenses or reflectors are broken.
8						HYDRAULIC LIFT SYSTEM	
		•				Check operation of system.	System does not operate as it should.
9						PARKING BRAKE	
		•				Set parking brake lever and try to move dolly set. Be sure both wheels lock on rear dolly.	One or more wheels do not lock on the rear dolly.
10						BRAKE SYSTEM	
		•				Move dolly set with towing vehicle and operate brakes. Observe any unusual operation.	Service brakes do not operate.

Section III OPERATION UNDER USUAL CONDITIONS

PREPARATION FOR USE

NOTE

If the dolly set is already in a raised position, go right to step 8.

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

Preparing Dolly Set For Transport Without A Shelter

1. Open four manual valves (1) by turning handles counterclockwise.
2. Turn two pump levers (2) to the RAISE position.
3. Remove two hydraulic pump handles (3) from the toolbox (4). Put handles into the two hydraulic pumps (5).

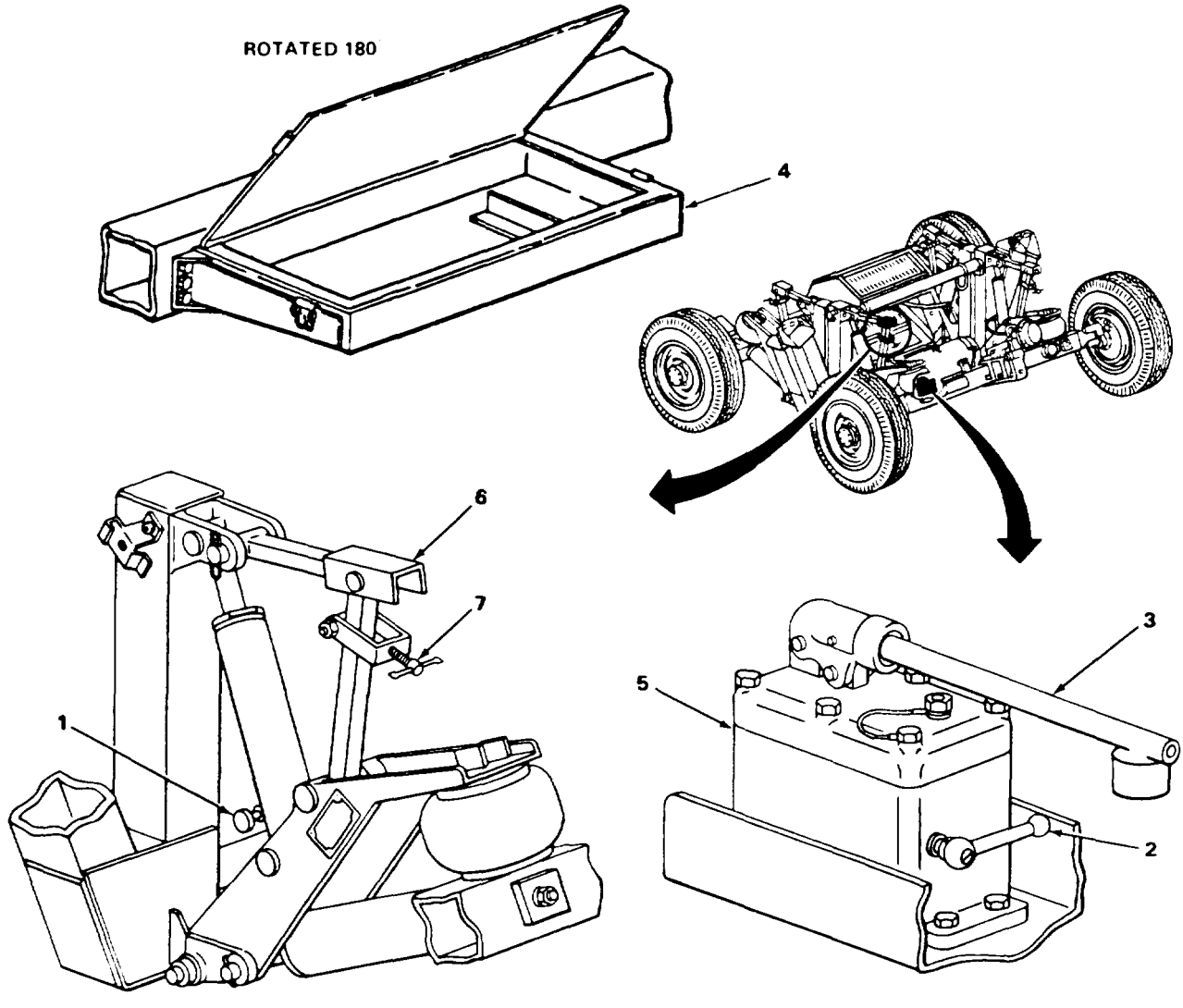
NOTE

Have a helper operate the pump on one dolly while you operate the other.

4. Operate the hydraulic pump handles (3) and raise dollies together until four strut assemblies (6) are straight.
5. Secure four strut assemblies (6) with four clamps (7) by tightening wingnuts on each.
6. Close four manual valves (1) by turning clockwise.
7. Stow pump handles (3) in the toolbox (4).

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Without A Shelter - Continued

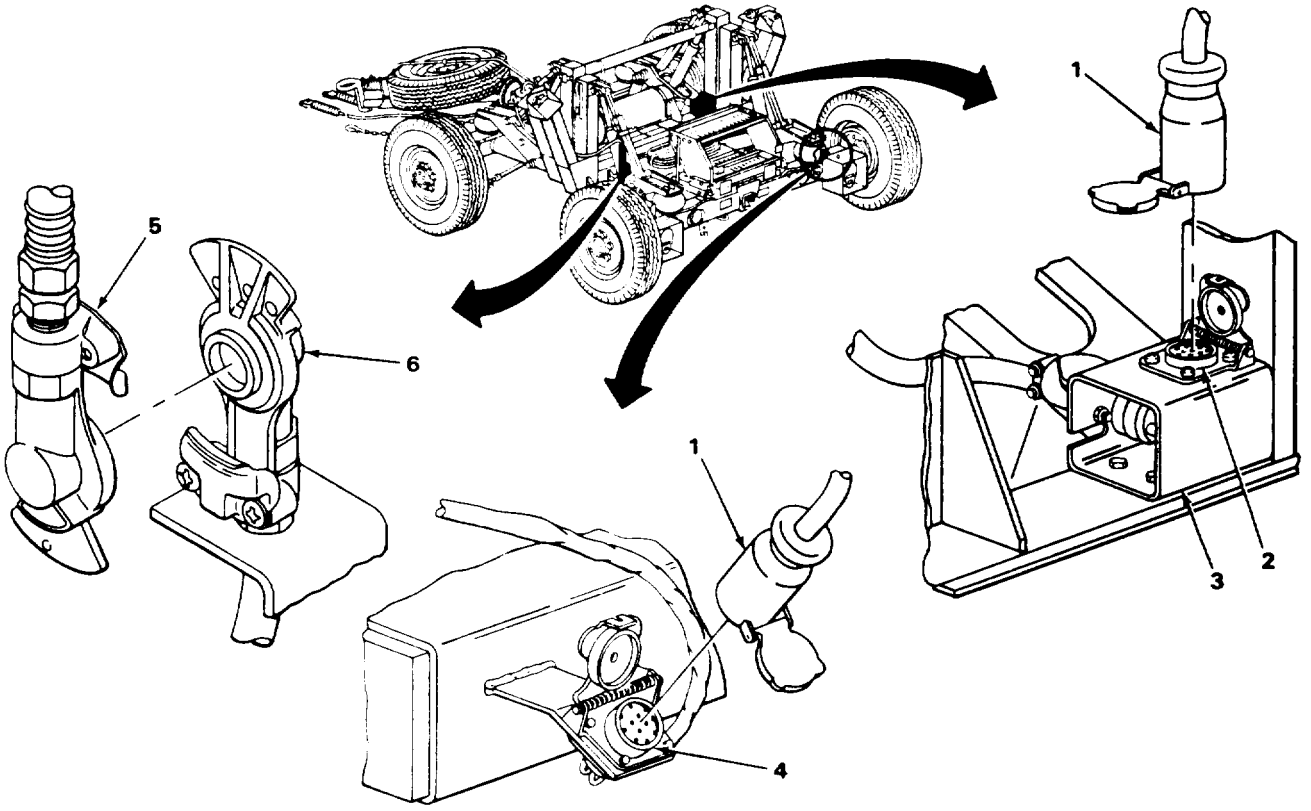


TA 221630

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Without A Shelter - Continued

8. Remove interdolly cable (1) from stowed position on toolbox.
9. Connect interdolly cable (1) to receptacle (2) on junction box (3) on front dolly.
10. Connect interdolly cable (1) to receptacle (4) on rear dolly.
11. Connect interdolly airhose (5) to gladhand fitting (6) located on rear dolly.
12. Connect dolly set to towing vehicle (see page 2-27).



TA 221631

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter

1. Apply parking brake (1) at rear trailer dolly.

CAUTION

Remove interdolly cable from stowed position to prevent pinching cable between dolly frame and tool box when raising or lowering dolly.

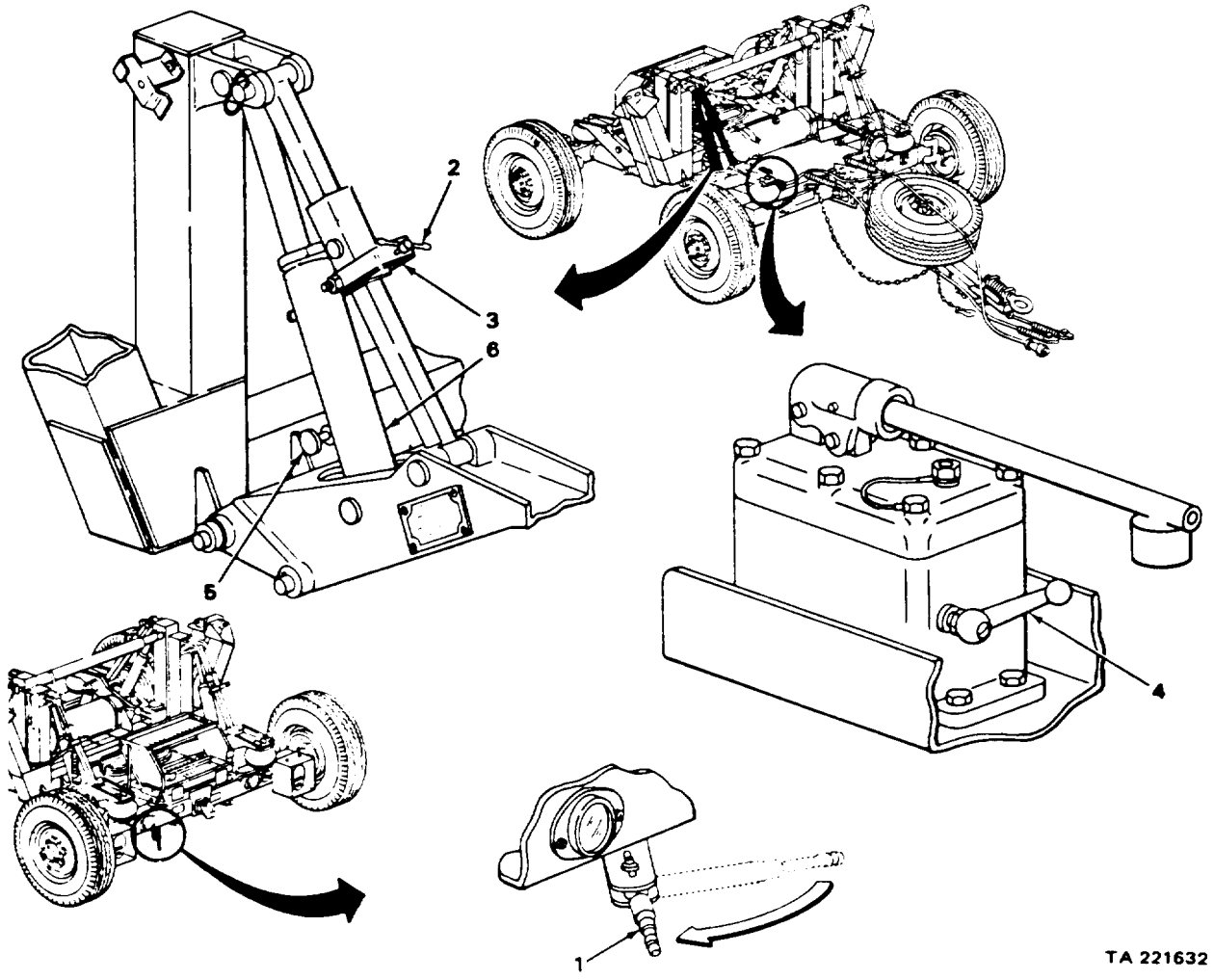
NOTE

If dolly set is in the raised position, perform steps 2 thru 5. If dolly set is in the lowered position, go to step 6.

2. Loosen wingnuts (2) on four strut clamps (3).

3. Place two hydraulic pump levers (4) in RAISE position

4. Open four manual control valves (5) at hydraulic cylinders (6).



PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

WARNING

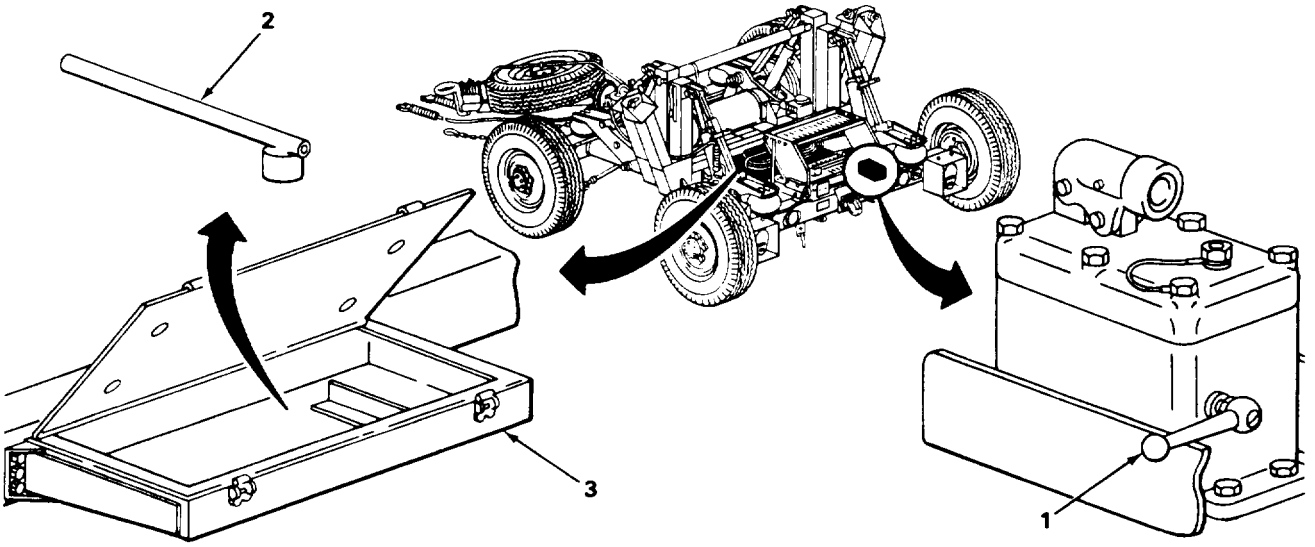
All personnel not involved with task should stay clear, When dolly set is lowered, personnel performing task should keep limbs from under it.

NOTE

Have a helper operate one pump lever while you operate the other. This will allow the dolly set to lower evenly.

5. Slowly turn hydraulic pump levers (1) to the LOWER position, lowering dolly set to the ground.

6. Remove two jack handles (2) from their stowed position in the toolbox (3).



TA 221633

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

7. Remove two binder bolts (1) by using jack handle (2) as a wrench.

8. Separate dollies by unhooking lifting lips (3) from each other.

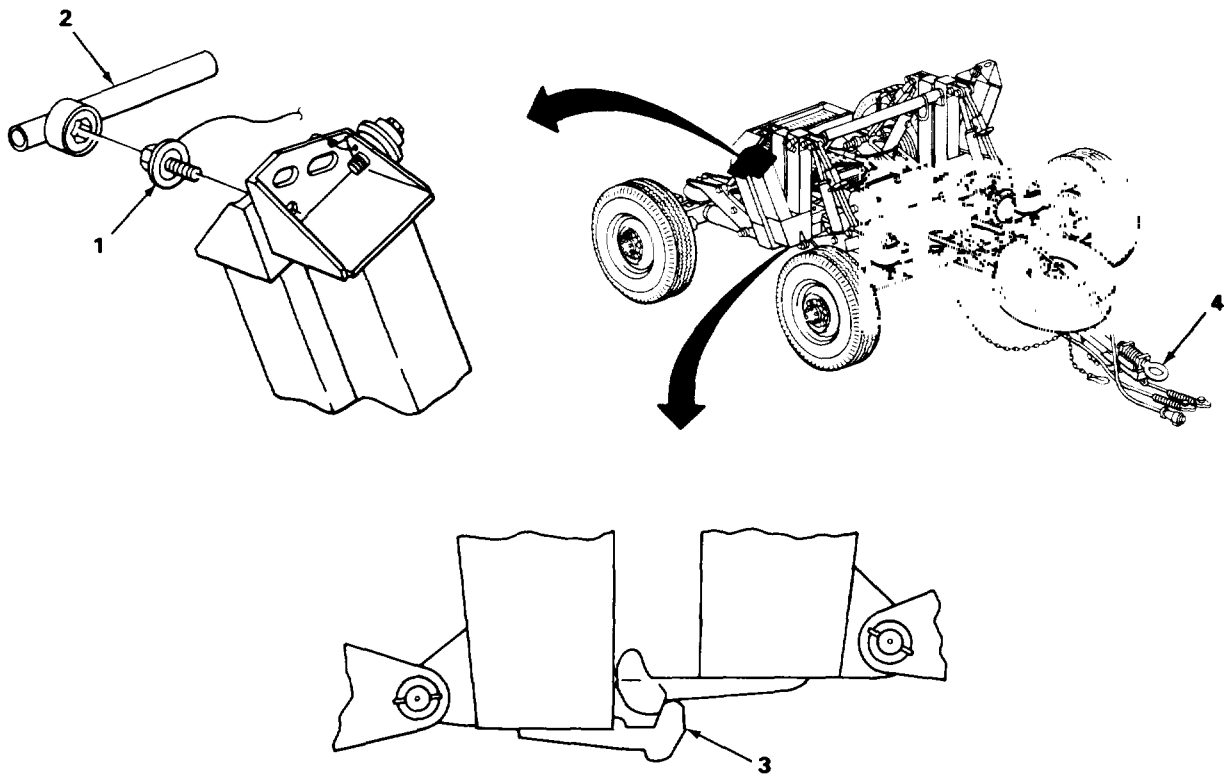
CAUTION

Be sure that interdolly cable and airhose is not connected before attempting to separate dollies.

NOTE

Front dolly should normally be positioned at the end of the shelter that is furthest from door.

9. Using towbar (4) as a positioning lever, roll the front dolly into position at the front of the shelter.



TA 221634

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

10. Secure dolly to the shelter with two binder bolts (1). Use pump handle (2) to tighten.

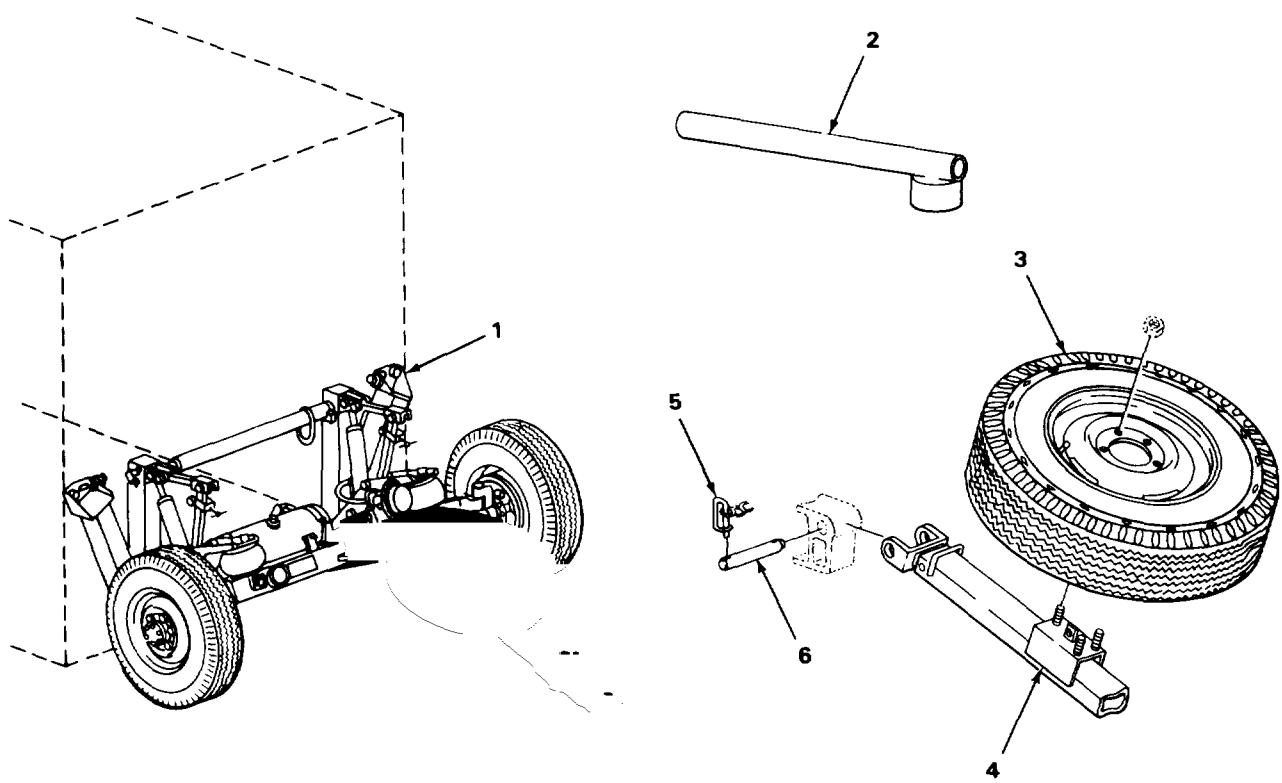
NOTE

Later models are equipped with a separate positioning bar. If you are using a later model, skip steps 11 thru 13.

11. Remove spare tire (3) from towbar (4) (see page 3-6).

12. Remove locking pin (5) from pivot pin (6).

13. Remove pivot pin (6) and take off towbar (4).



TA 221635

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

14. Release handbrake lever (1) on rear dolly.

NOTE

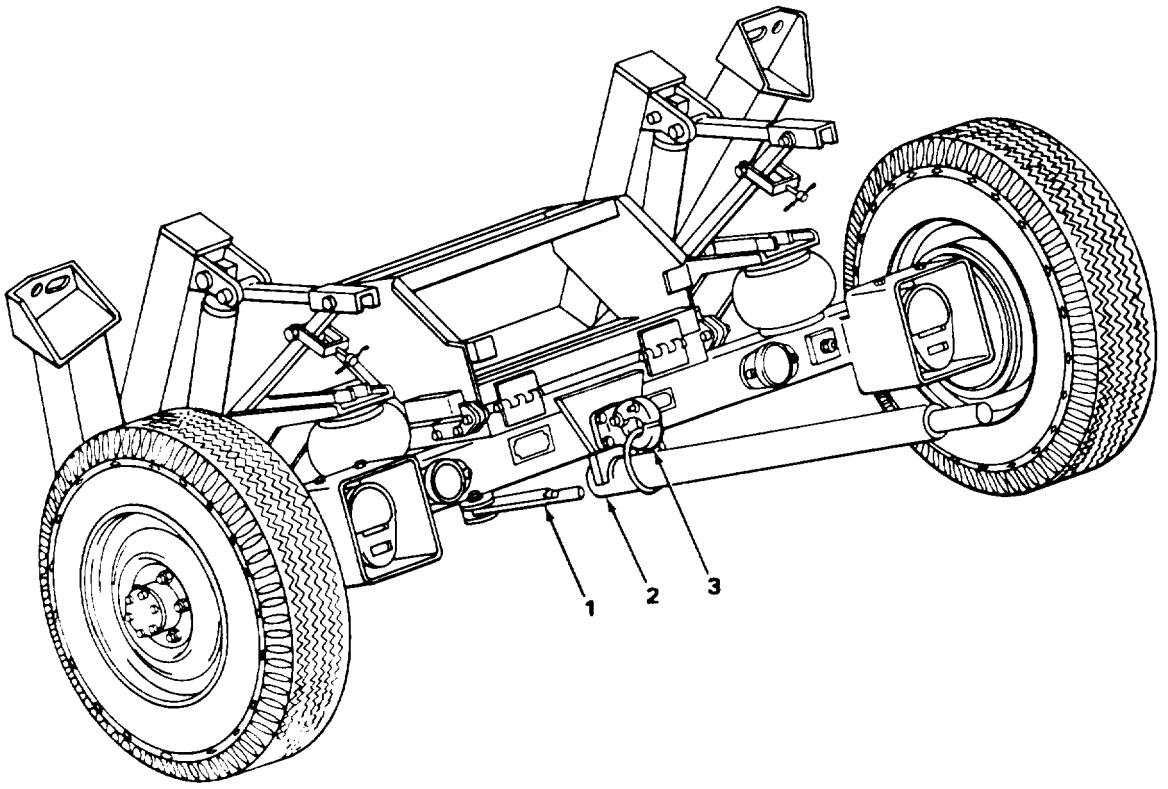
In steps 15 thru 18, the positioning bar (2) will be the towbar if you are working with an early model.

15. Hook positioning bar (2) in pintle (3) of rear dolly so that it can be used as a positioning lever.

16. Using positioning bar (2), roll rear dolly into position at the other end of the shelter.

17. Attach the dolly to the shelter (repeat step 10).

18. Unhook positioning bar (2) from pintle (3) and stow it.



TA 221636

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

19. Apply handbrake by pulling lever (1) on rear dolly.

CAUTION

Inflate the air cushions to the psi specified on the data plate (figure 31, item 5). This must be done before lifting the load as stated on the data plate (figure 32, item 2).

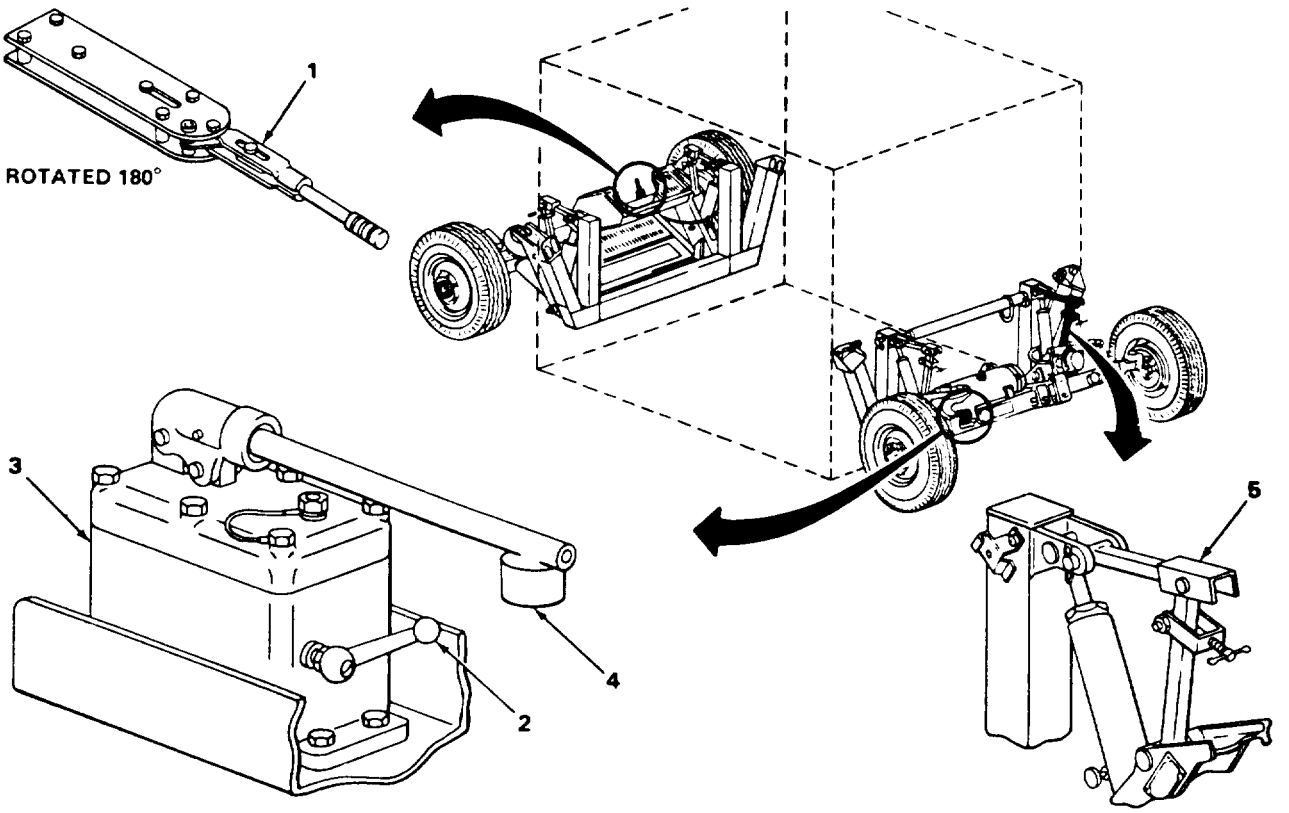
20. Move levers (2) on the front and rear hydraulic pumps (3) to the RAISE position.

21. Position the two pump handles (4) in the hydraulic pumps (3).

NOTE

When raising the shelter, have a helper operate one pump while you operate the other. This will raise the shelter evenly.

22. Using pump handles (4), raise shelter until all struts (5) are straight.

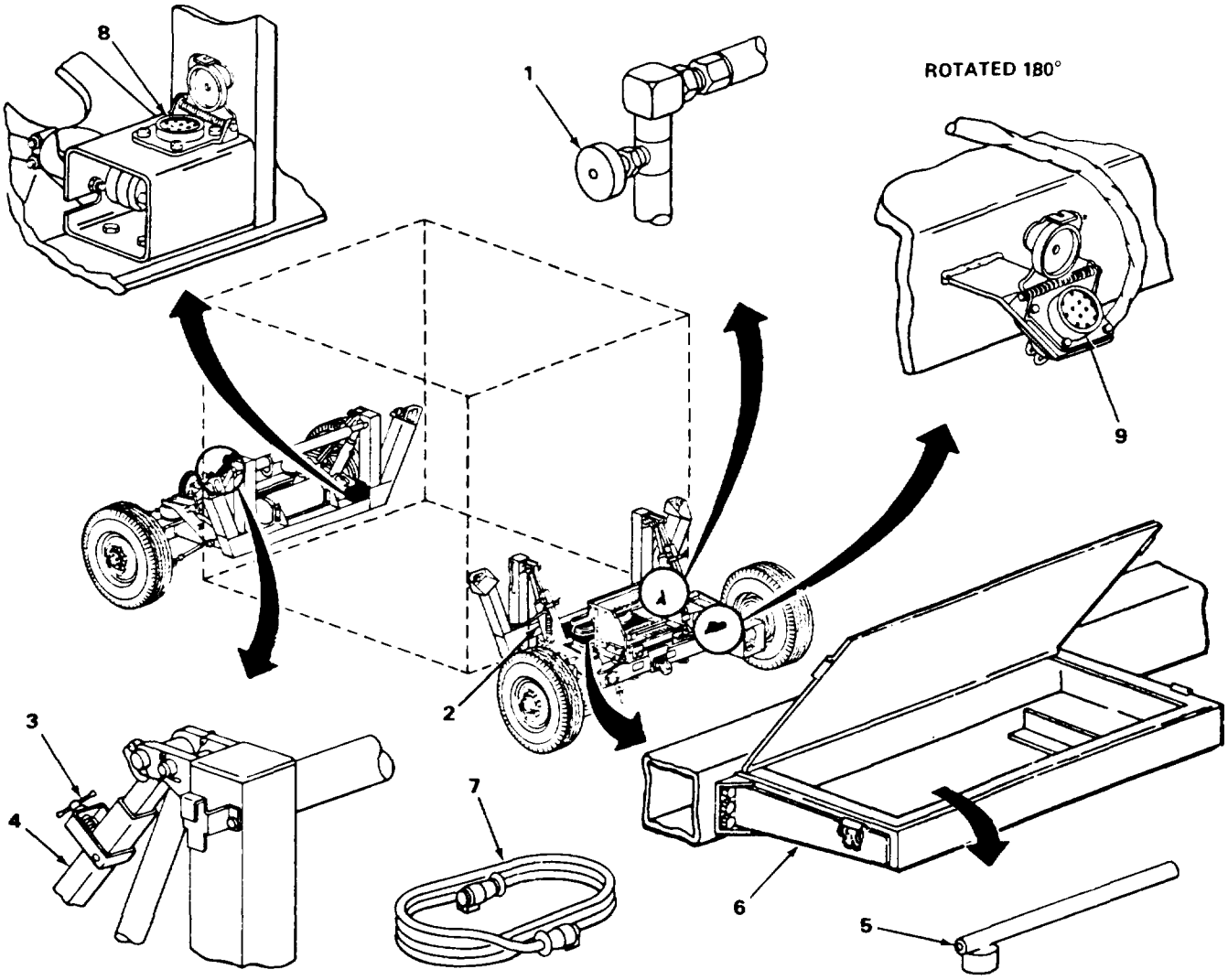


TA 221637

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

23. Close manual control valves (1) at base at each cylinder (2).
24. Position and tighten strut clamps (3) located on each strut (4).
25. Stow two pump handles (5) in toolbox (6).
26. Remove interdolly cable (7) from stowed position on top of toolbox (6).
27. Connect interdolly cable (7) to front (8) and rear (9) dolly receptacles.

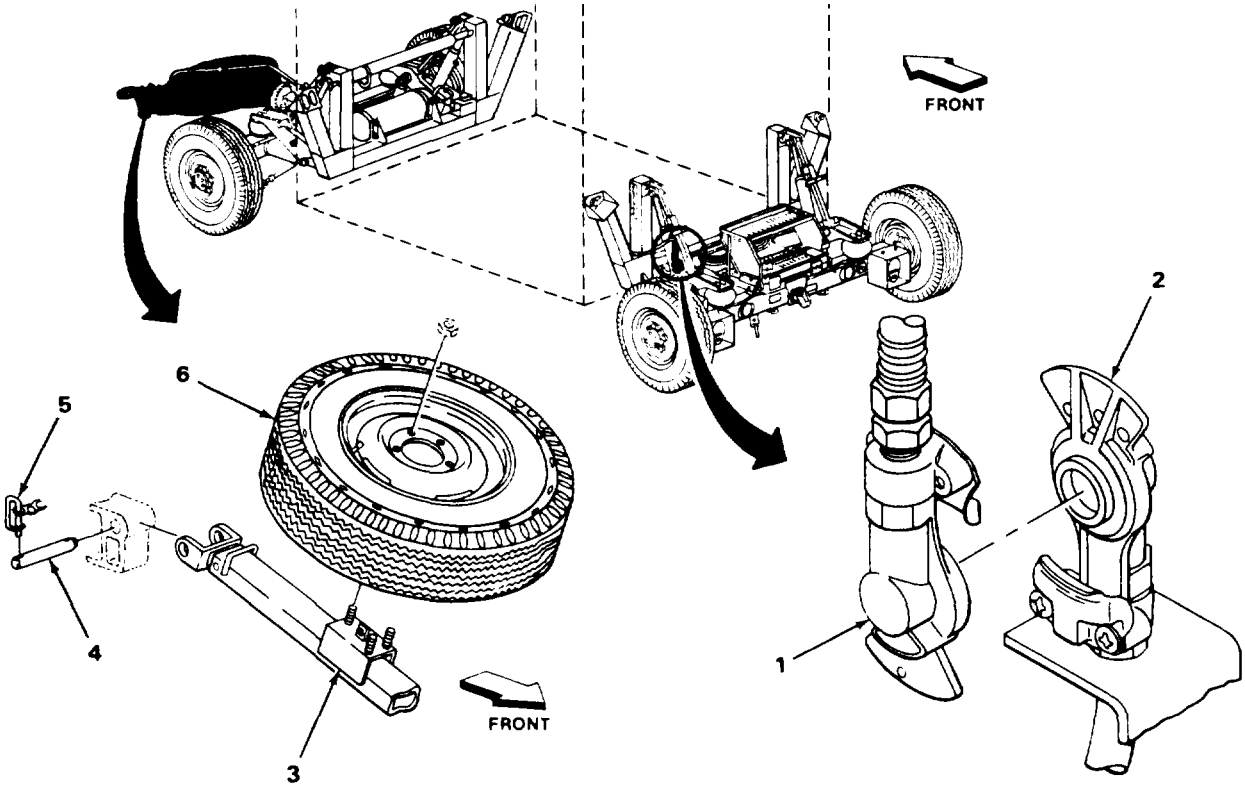


TA 221638

PREPARATION FOR USE - CONTINUED

Preparing Dolly Set For Transport Of A Shelter - Continued

28. Connect interdolly airhose (1) to gladhand coupling (2) on rear dolly.
29. Put towbar (3) back on front dolly and secure with pin (4).
30. Secure pin (4) with locking pin (5).
31. Put the spare tire (6) back on towbar (3) (see page 3-8).
32. Connect dolly set to towing vehicle (see page 2-27).



TA 221639

PREPARATION FOR USE - CONTINUED

Attaching Dolly Set To Towing Vehicle

1. With an assistant guiding you, back towing vehicle up to aline pintle (1) with lunette (2).

2. Place lunette (2) into pintle (1).

3. Connect two safety chains (3) to towing vehicle.

NOTE

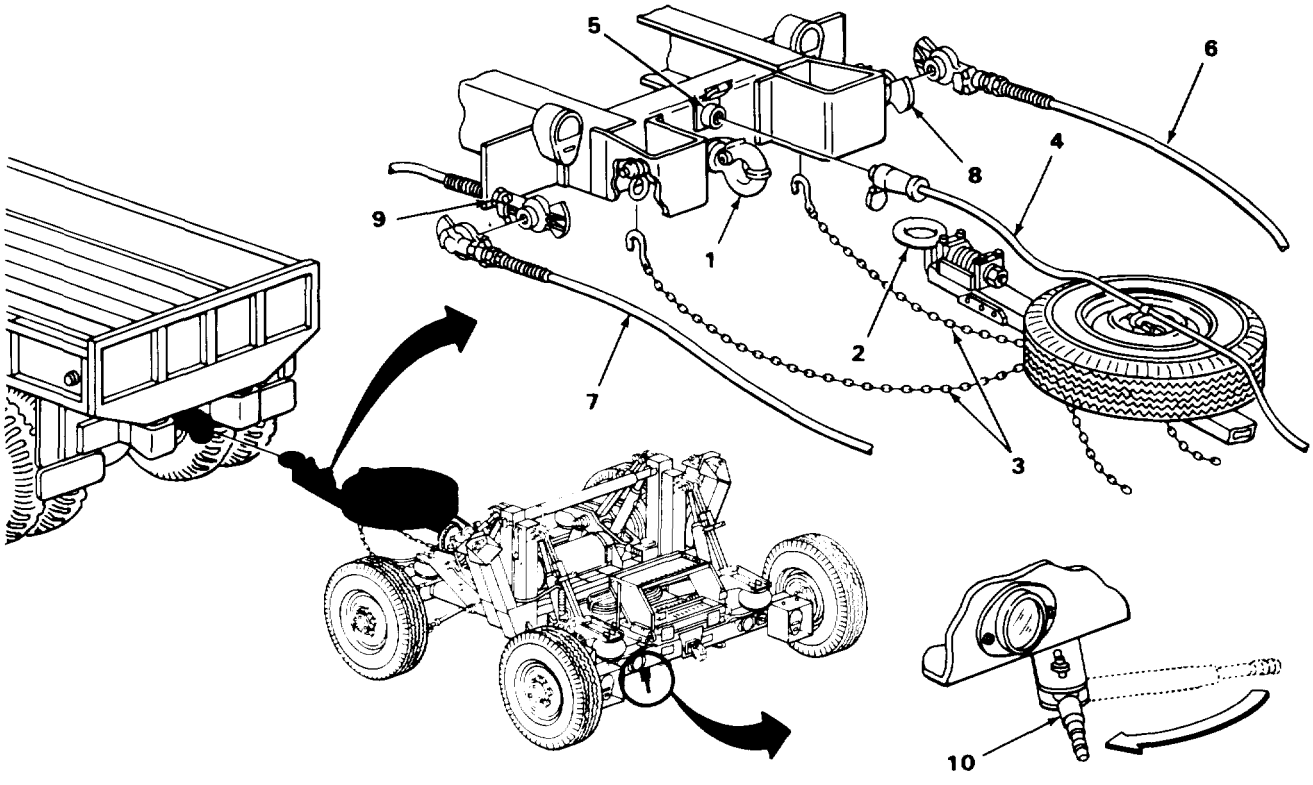
Early model dolly sets are equipped to operate on a 12- or 24-volt electrical system. A seven-pin connector is provided to plug into a 24-volt electrical system and a 12-pin connector is provided to plug into a 12-volt electrical system.

4. Connect intervehicular cable (4) to receptacle (5) on towing vehicle.

5. Connect the service (6) and emergency (7) intervehicular airhoses to gladhand fittings (8) and (9) on the towing vehicle.

6. Check the operation of brakes and lights.

7. Release the parking brake lever (10).



TA 221640

OPERATION

Driving

When driving towing vehicle with dolly set coupled, the overall length of the unit must be kept in mind when passing other vehicles or turning.

Turning

When turning corners, allow for the fact that dolly wheels turn inside the turning radius of the towing vehicle. Make a right turn at a road intersection by driving the towing vehicle about halfway into the intersection and then cut sharply to the right. This will keep dolly wheels off the curb.

Stopping

The brakes of the towing vehicle and dolly set are applied at the same time when stopping. Pressure to the brake pedal must be applied gradually and smoothly.

Parking

When leaving the towing vehicle and dolly set unattended, set the parking brakes on the towing vehicle and rear dolly. Turn off engine before leaving cab.

Backing

CAUTION

Avoid reverse motion (backing up) of the dolly set whenever possible. When backing is necessary, move a short distance backward while watching dolly set to be sure not to misaline vehicles. Misalinement will cramp the towbar beyond its design rotation, causing damage.

OPERATION - CONTINUED

Leveling The Shelter

WARNING

Operating the dolly set on the highway without struts and clamps attached could cause loss of control and serious injury to personnel.

CAUTION

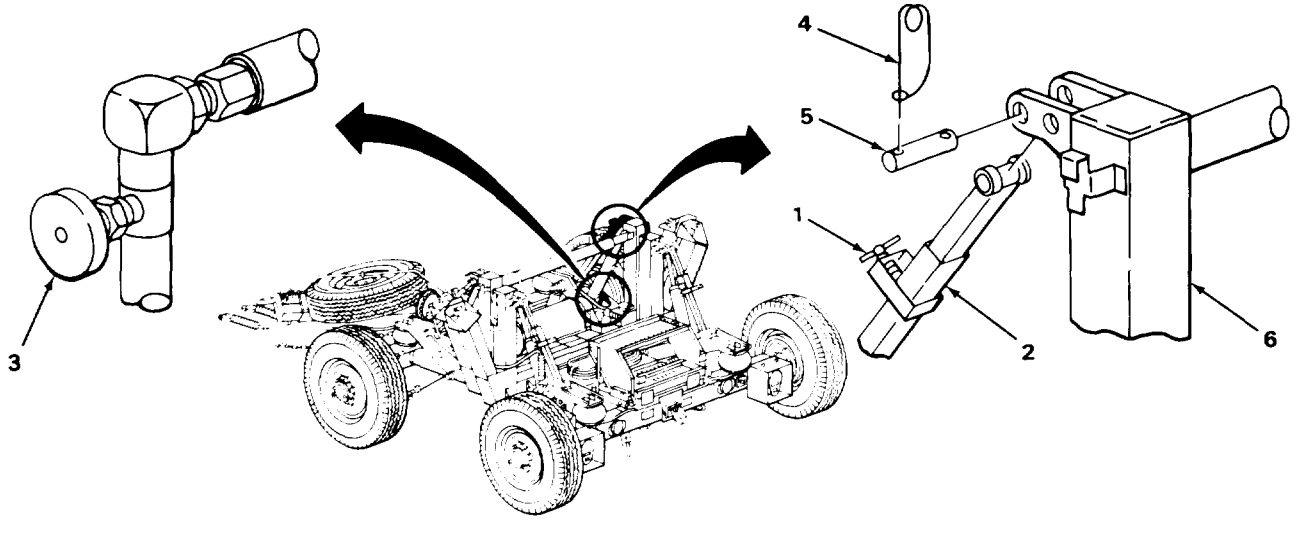
This configuration is for temporary or emergency use. Using this configuration over extended periods could damage hydraulic cylinders.

NOTE

The following procedure begins with the shelter fully raised on the dolly set. The pump levers must be in the RAISED position.

1. Loosen the strut clamp (1) located on each of four strut assemblies (2).

2. With manual valves (3) closed, remove lockpins (4) and hitch pins (5) securing the ends of four strut assemblies (2) to adapters (6).



TA 221641

OPERATION - CONTINUED

Leveling The Shelter - Continued

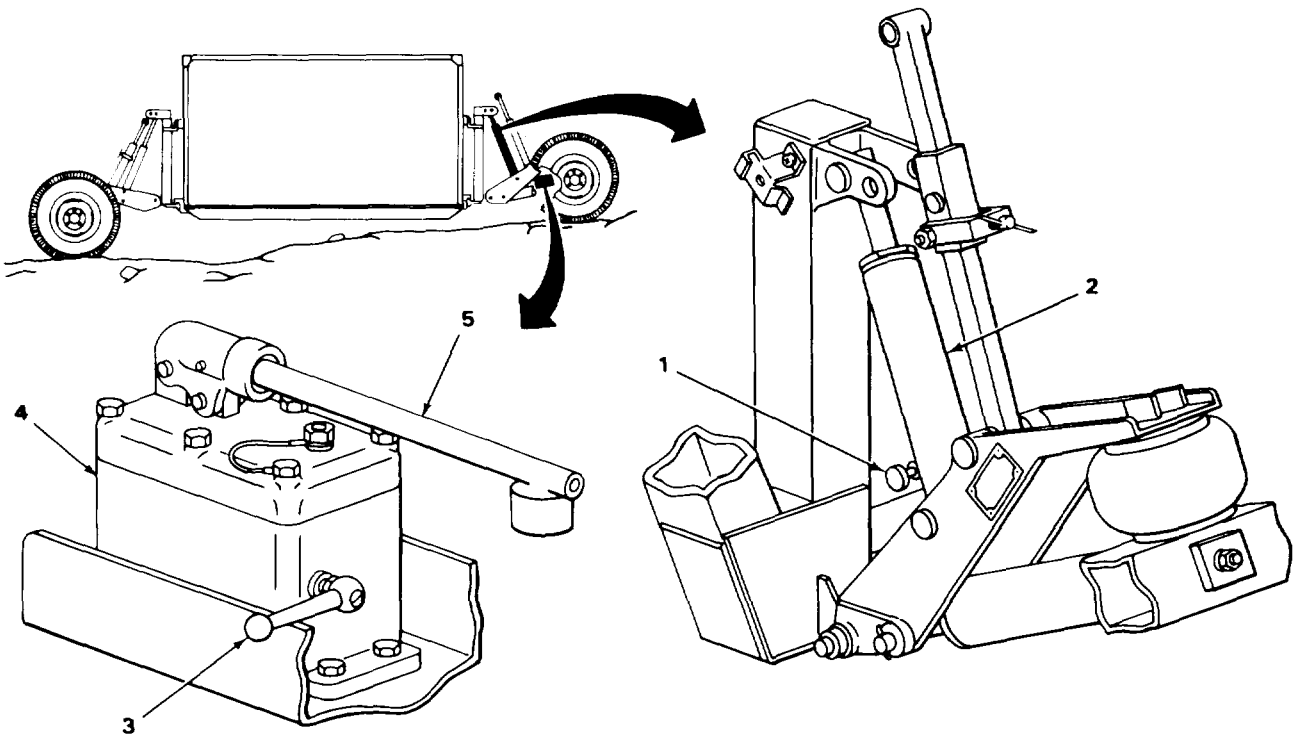
3. Open manual valve (1) on any one cylinder (2) which must be extended or retracted to level one end of the shelter.

4. To retract the cylinder (2), slowly move lever (3) of the associated pump (4) to the RELEASE position. Allow cylinder to retract until the end of the shelter is level. Move pump lever to RAISE position.

5. To extend cylinder (2), place pump handle (5) into pump (4) and raise cylinder (2) until the end of the shelter is level.

6. Repeat steps 1 thru 5 until shelter is level.

7. Close all manual valves (1) to lock the shelter in a level position.



TA 221642

AFTER USE

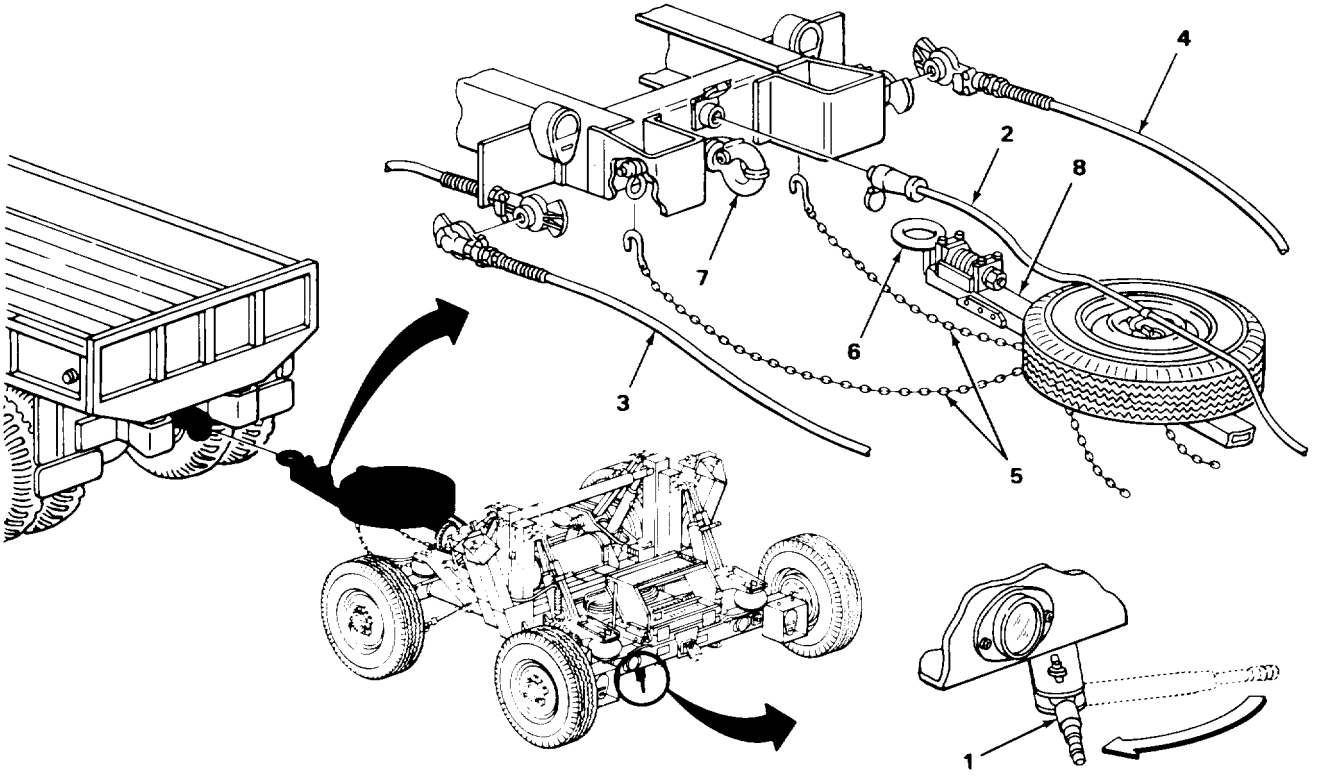
Disconnecting Dolly From Towing Vehicle

1. Apply parking brake lever (1) on rear dolly.
2. Unhook intervehicular cable (2) from towing vehicle.
3. Disconnect service (3) and emergency (4) intervehicular airhoses.
4. Disconnect two safety chains (5) from towing vehicle.

CAUTION

Do not place towbar in the vertical position when a shelter is attached to the dolly set. The towbar will cause serious damage to the shelter when the shelter is lowered.

5. Disconnect the Iunette (6) from the pintle (7). Push towbar (8) to the side and lay on ground.
6. Drive towing vehicle forward.



TA 221643

AFTER USE - CONTINUED

Uncoupling Dolly Set From Shelter

1. Disconnect interdolly cable (1) from front (2) and rear (3) receptacles. Stow cable in the straps located on toolbox lid.

2. Disconnect intertrailer airhose (4) at gladhand coupling (5) on rear dolly. Stow the hose on front dolly.

3. Loosen wingnuts (6) located on the four strut clamps (7).

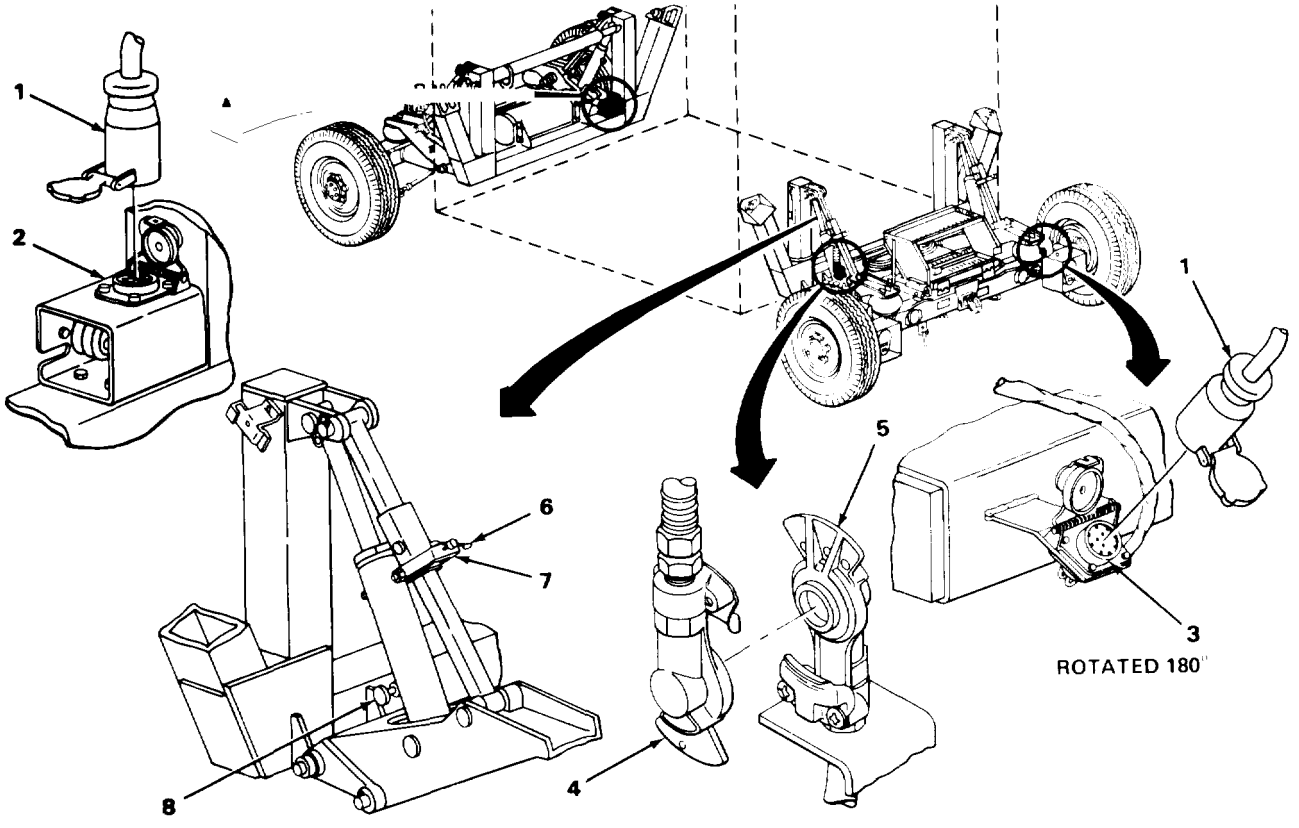
4. Open four manual control valves (8) by turning counterclockwise.

WARNING

Hands and feet should be kept clear of dolly and shelter when dolly is lowered.

CAUTION

Shelter should be lowered slowly to prevent damage to the equipment.



TA 221644

AFTER USE - CONTINUED

Uncoupling Dolly Set From Shelter - Continued

NOTE

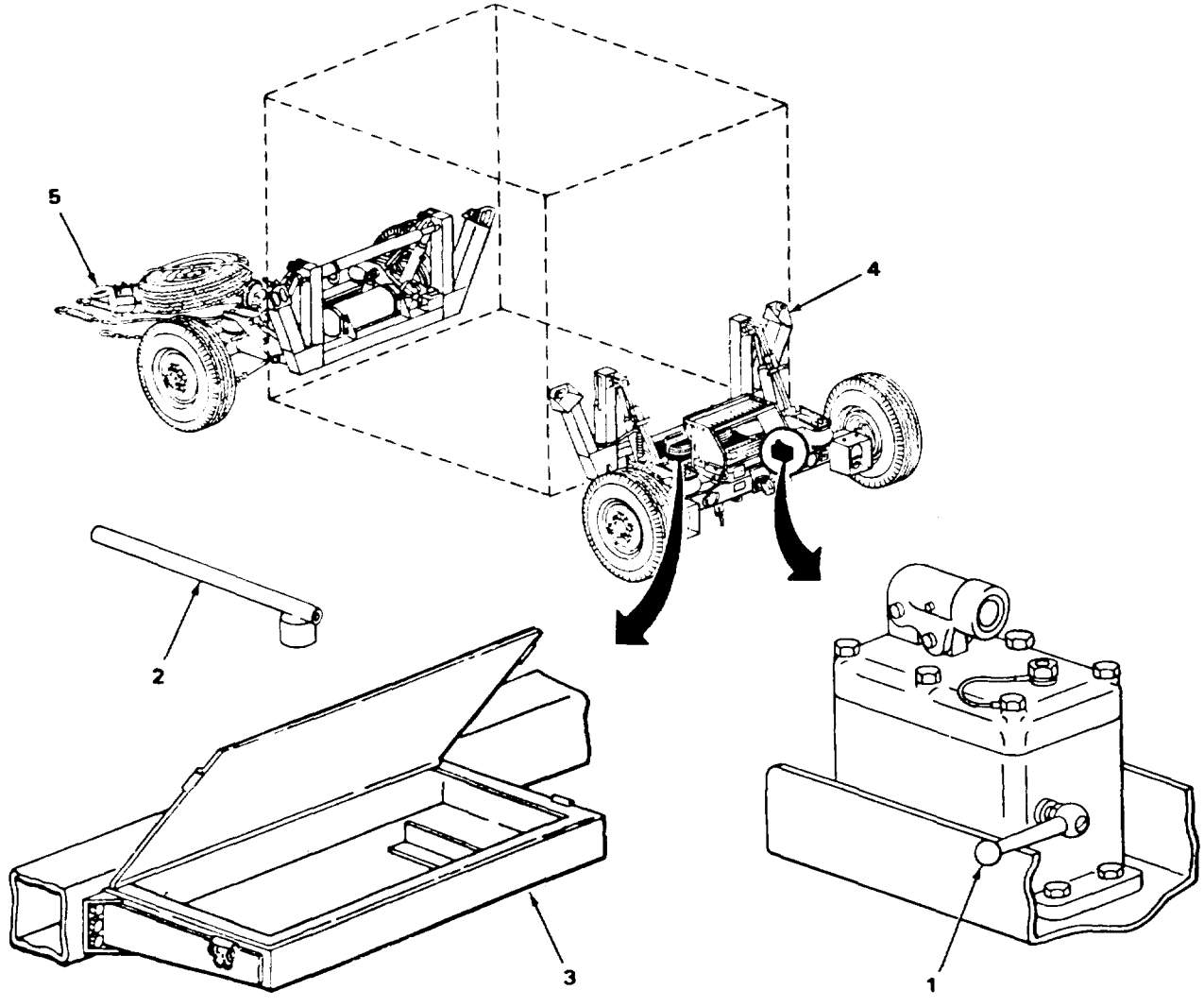
Have an assistant operate one pump lever while you operate the other. This will allow the shelter to be lowered evenly.

5. Move two pump levers (1) slowly and together to the LOWER position, lowering the shelter to the ground.

6. Remove pump handle (2) from toolbox (3).

7. Using pump handle (2), remove eight binder bolts (4) securing the front and rear dollies to the shelter.

8. Using towbar (5), roll front dolly free of the shelter.



TA 221645

AFTER USE - CONTINUED

Uncoupling Dolly Set From Shelter - Continued

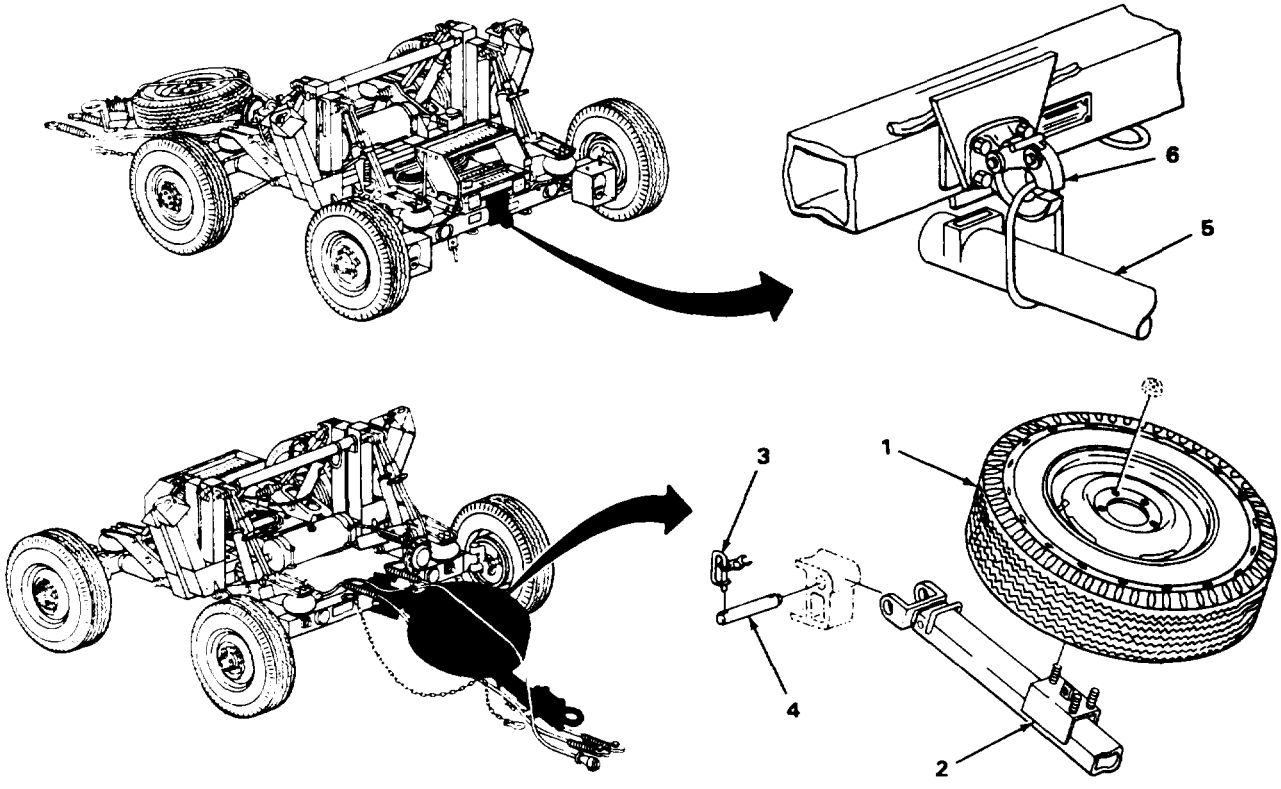
NOTE

On earlier configurations the towbar is used as the positioning bar and must be removed. If you are working with a later configuration, skip steps 9 and 10 and use the positioning bar located between the adapter arms.

9. Remove spare tire (1) (see page 3-6).

10. Take off towbar (2) by taking out lockpin (3) and pivot pin (4).

11. Hook positioning bar (5) into pintle (6) on the rear dolly. Use it as a lever to move dolly from the shelter into position with the front dolly for coupling.



TA 221646

AFTER USE - CONTINUED

Coupling Front And Rear Dollies Together

1. Aline two lifting lips (1) of front dolly over the two lifting lips (1) of rear dolly.

2. Secure front and rear dollies with two binder bolts (2).

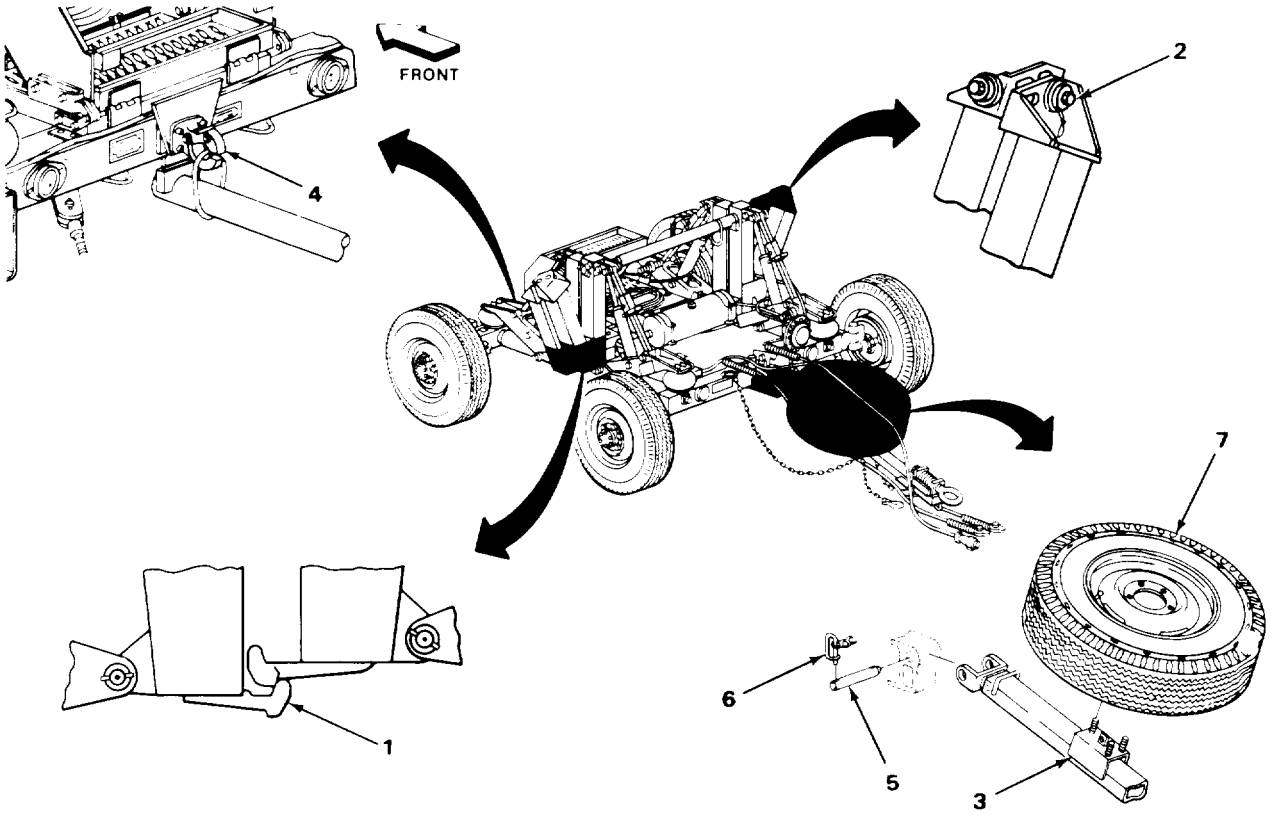
NOTE

If towbar was not used as a positioning bar, skip steps 3 thru 5 and stow positioning bar instead.

3. Take towbar (3) out of pintle (4) on the rear dolly.

4. Put towbar (3) back on front dolly and secure with pivot pin (5) and lockpin (6).

5. Put spare tire (7) back on towbar (3) (see page 3-8).



TA 221647

Section IV OPERATION UNDER UNUSUAL CONDITIONS

OPERATION IN EXTREME HEAT

Do not park dolly set in sunlight for long periods of time. Heat and sunlight shorten the life of tires. If possible, shelter or cover dolly set.

OPERATION IN EXTREME COLD

1. Extreme cold can cause lubricants to thicken or congeal, insulation to crack and cause electrical short circuits, and construction materials to become hard, brittle, and easily damaged or broken.

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

3. Brake shoes may freeze to the brake drums and need to be heated to prevent damage to mating surfaces.

4. Refer to FM 9-207 and FM 21-305 for special instructions on driving hazards in extreme cold.

5. When parking short term, if high, dry ground is not available, place a footing of planks or brush under dolly wheels.

OPERATION IN SALTWATER AREAS

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

OPERATION ON ROCKY TERRAIN

1. Tires must be fully inflated to 40 psi (276 kPa) when moving on rough or rocky terrain. Underinflation will cause internal ruptures of the tires and damage to the tubes.

2. Before driving over stumps or rocks, make sure the dolly set can clear them. Such objects can damage components on the under side of the dolly set. Beware of low hanging tree limbs that can cause damage to the shelter.

3. Be sure you have a serviceable spare tire and wheel assembly because there is a greater chance of tire puncture.

FORDING

Before Fording

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

After Fording

2. After coming out of water, apply the brake a few times to help dry out the brake linings. Make sure that the dolly brakes are working properly before driving at normal speeds.

3. Drain or dry all areas where water is lying.

4. Lubricate all unpainted surfaces. See lubrication chart, page 4-2,

5. Dry all lubricating points and lubricate them. See lubrication chart, page 4-2.

OPERATION IN RAINY OR HUMID CONDITIONS

Inspect, clean, and lubricate inactive equipment often to stop rust and fungus.

OPERATION IN SANDY OR DUSTY AREAS

1. Clean, inspect, and lubricate more often in dusty or sandy areas.

2. Reduce tire inflation to 15 psi (102 kPa) for operation in beach and desert sand.

3. Be sure to return tire air pressure to normal after sand operation (50 psi/341 kPa).

OPERATION IN SNOW

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

OPERATION IN MUD

1. Reduce tire inflation to 30 psi (205 kPa) while operating in soft mud, if practical,

2. If one or more wheels sink into the mud, you may need to jack up the mired wheel and put planking or matting under it.

3. Clean off all mud after operation.

CHAPTER 3

OPERATOR MAINTENANCE

OVERVIEW

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

Section I LUBRICATION INSTRUCTIONS

Lubrication under usual and unusual conditions and the lubrication chart for the dolly set are contained in organizational maintenance, chapter 4.

Section II OPERATOR TROUBLESHOOTING PROCEDURES

INTRODUCTION

This section lists the common malfunctions which you may find during operation of the dolly set or its components. Perform the tests/inspections and corrective maintenance in the order listed.

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

EXPLANATION OF COLUMNS

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

SYMPTOM INDEX

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

OPERATOR TROUBLESHOOTING

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ONE OR MORE LAMPS DO NOT LIGHT, ARE DIM, OR FLICKER

Step 1. Turn on towing vehicle lights. (See operator's manual for towing vehicle.)

a. If lamps on the towing vehicle light, go to step 2.
b. If lamps on the towing vehicle do not light, notify organizational maintenance.

Step 2. Disconnect intervehicular cable from towing vehicle. Check for damaged or corroded pins.

a. If connector pins are damaged or corroded, notify organizational maintenance.
b. If connector pins are not damaged or corroded, reconnect them. If lamps still malfunction, go to step 3.

Step 3. Disconnect the interdolly cable. Check connectors for damaged or corroded pins.

a. If connector pins are damaged or corroded, notify organizational maintenance.
b. If connector pins are not damaged or corroded, reconnect them. If lamps still malfunction, notify organizational maintenance.

OPERATOR TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES

2. BRAKES WILL NOT HOLD OR BRAKES ARE LOCKED

Step 1. Check pressure gage in towing vehicle for a minimum of 60 psi (413.7 kPa).

a. If pressure is sufficient, go to step 2.
b. If pressure is too low and will not build up, notify organizational maintenance,

Step 2. If towing vehicle is equipped with airline shut off valves at the gladhands, check to make sure they are turned on all the way. (Refer to operator's manual for towing vehicle.)

a. If towing vehicle is not equipped with airline shut off valves, go to step 3.
b. If airline shut off valves are turned on all the way, go to step 3.

Step 3. Make sure that intervehicular hoses are properly connected to the towing vehicle.

a. If hoses are not connected properly, disconnect and reconnect the gladhands.
b. If hoses are properly connected, notify organizational maintenance.

3. PARKING BRAKE WILL NOT HOLD

Check parking brake for correct adjustment.

a. Adjust parking brake (page 3-4).
b. If unable to adjust, notify organizational maintenance.

TIRES

4. TIRES ARE SCUFFED OR EXCESSIVELY WORN

Check that tire pressure is 40 psi (275.8 kPa) for cross-country and 50 psi (344.8 kPa) for highway.

a. If tire pressure is incorrect, inflate or deflate tires to the correct pressure.
b. If the tire pressure is correct, notify organizational maintenance.

Section II OPERATOR MAINTENANCE PROCEDURES

INTRODUCTION

This section contains the maintenance procedures which maybe accomplished by the operator.

PARKING BRAKES

This task covers:

Adjustment

INITIAL SETUP

Personnel Required

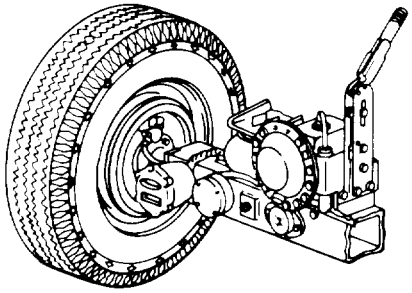
One

LOCATION	ITEM	ACTION / REMARKS
Rear dolly set	Parking brake lever	a. Release parking brake lever(l). b. Turn handle cap (2) clockwise to increase, or counterclockwise to decrease braking. c. Apply parking brake lever(l).

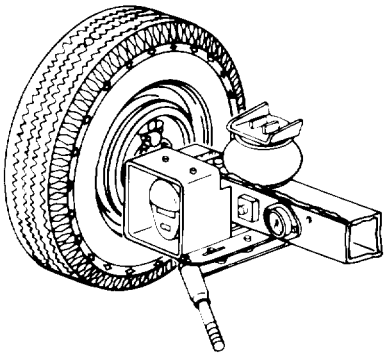
NOTE

Correct adjustment is indicated when, after applying the parking brakes, the lever assembly locks in actuated position.

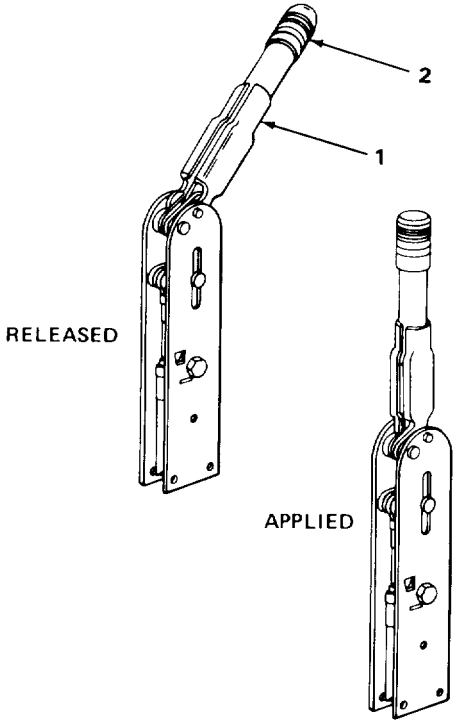
PARKING BRAKES - CONTINUED



EARLY MODELS



LATE MODELS



TASK ENDS HERE

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WHEEL AND TIRE

This task covers:

a. Removal
b. Installation

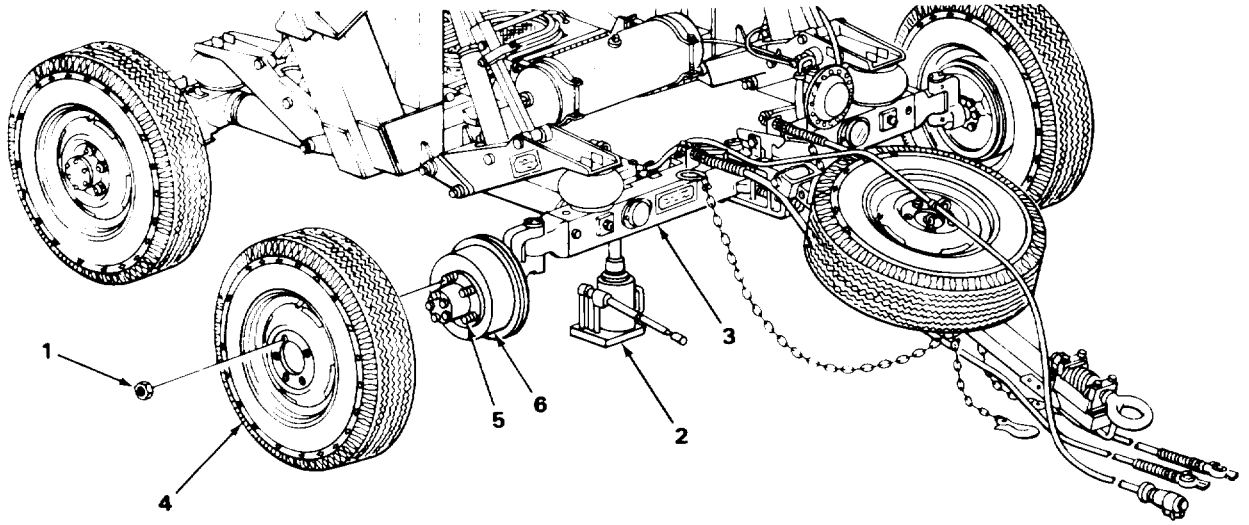
INITIAL SETUP

Tools	Personnel Required
Hydraulic jack Wheel nut socket wrench	One

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1 Axle	Five nuts (1)	Using wheel nut socket wrench, loosen nuts (l). Do not remove at this time.
2	Hydraulic jack (2)	Using hydraulic jack (2) placed under axle (3), raise axle (3) until wheel (4) is off the ground.
3	Five nuts (1)	Using wheel nut socket wrench, take off nuts (1) from hub studs (5).
4	Wheel and tire (4)	Take off wheel and tire (4).
INSTALLATION		
5	Wheel and tire (4)	Place wheel and tire (4) on hub (6).
6	Five nuts (1)	Using wheel nut socket wrench, screw nuts (1) on hub studs (5) until snug.
7	Hydraulic jack (2)	a. Using hydraulic jack (2) lower axle. b. Take hydraulic jack (2) from under axle (3).

WHEEL AND TIRE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
8 Axle	Five nuts (1)	Using wheel nut wrench, tighten nuts (l).
		NOTE
		Have organizational maintenance torque nuts (1) to 71-78 lb ft (54.2 N•m) as part of your after operation PMCS.



TASK ENDS HERE

SPARE TIRE

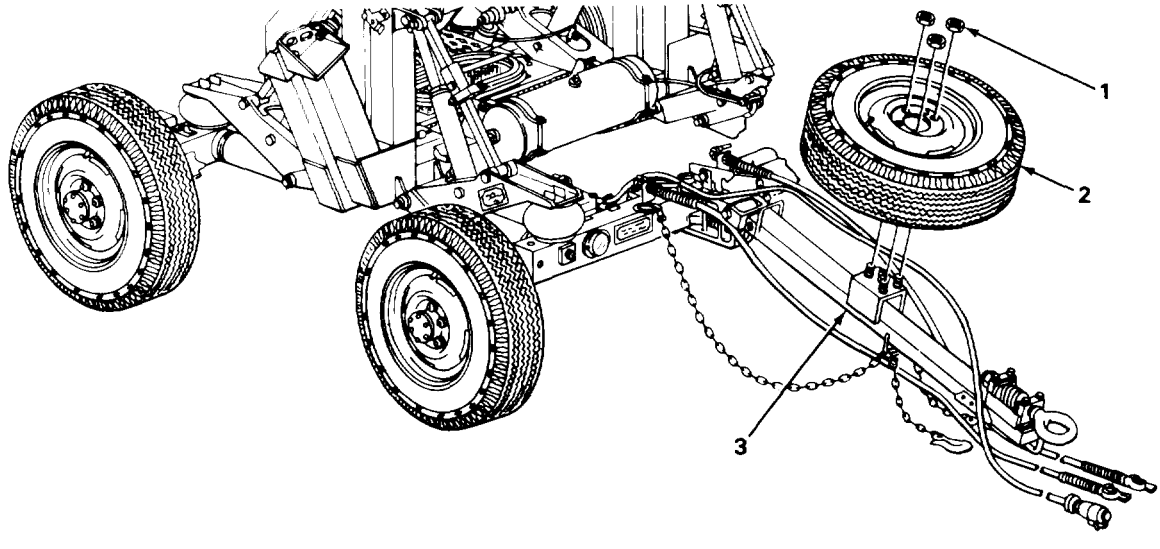
This task covers:

a. Removal
b. Installation

INITIAL SETUP

Tools	Personnel Required
Wheel nut socket wrench	One

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1 Towbar	Nuts (1) and spare tire (2)	a. Using wheel nut socket wrench, take off nuts (l). b. Take off spare tire (2) from towbar (3).
INSTALLATION		
2	Nuts (1) and spare tire (2)	a. Place spare tire (2) on towbar (3). b. Using wheel nut socket wrench, screw on nuts (1) and tighten.



TASK ENDS HERE

TA 221650

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

OVERVIEW

This chapter contains all the maintenance authorized to be performed by organizational maintenance.

Section I LUBRICATION INSTRUCTIONS

LUBRICATION INSTRUCTIONS

General

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

Cleaning

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

Lubrication Interval

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

LUBRICATION CHART

1. For lubrication under normal conditions, refer to the lubrication chart on the following page.
2. For instructions on lubrication in weather below 0°F (-18°C), refer to FM 9-207.
3. For lubrication before and after fording, refer to TM 9-238.
4. After operating in mud, dust, sand, or other unusual conditions, clean and inspect all lubrication points. Lubricate dolly set in accordance with the lubrication chart.

LUBRICATION CHART

D O L L Y S E T , T R A N S P O R T A B L E S H E L T E R M 7 2 0

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

NOTE

LV is Localized View.

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

WARNING

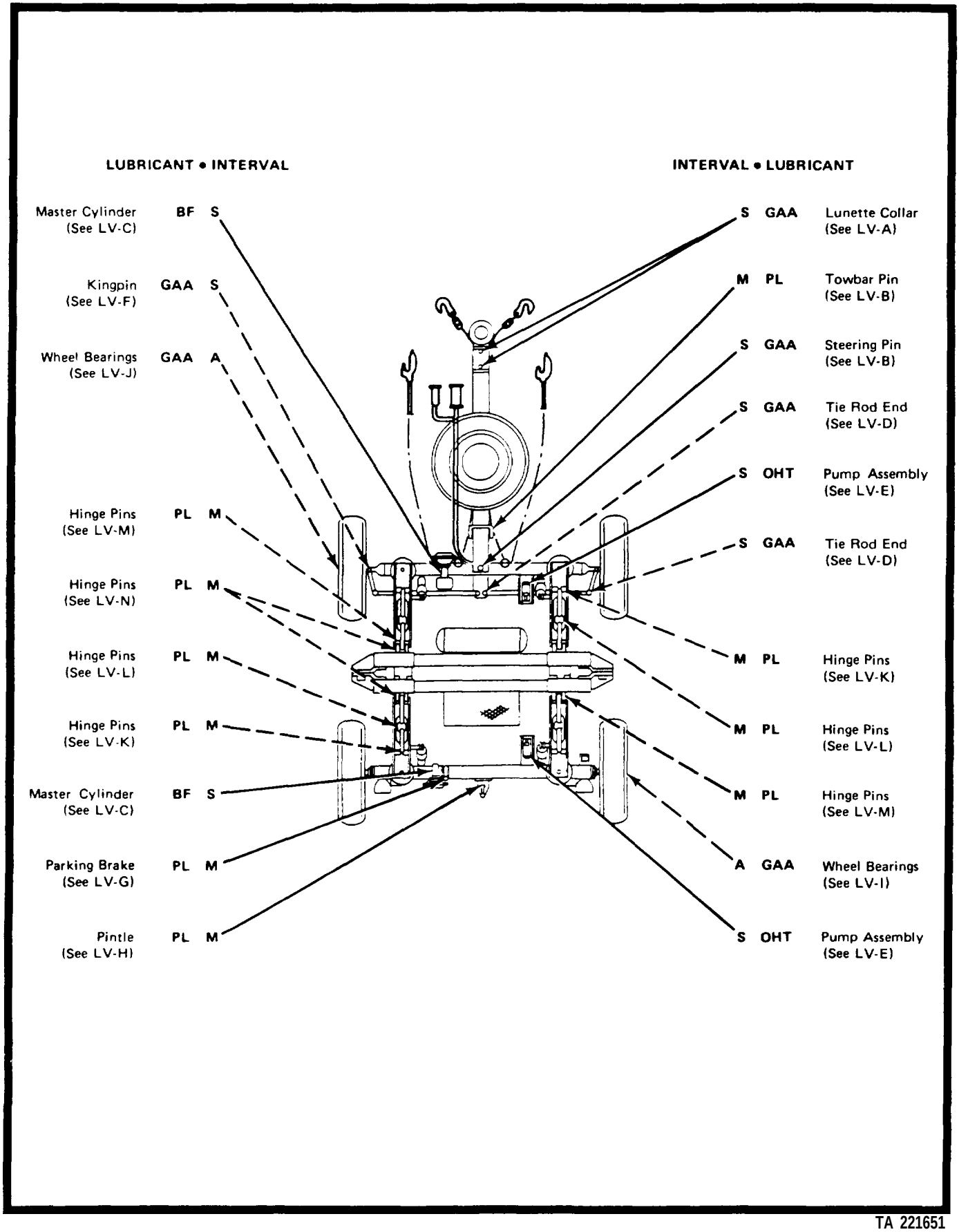
Drycleaning solvent PD-680 used to clean parts is potentially dangerous. Do not use near an open flame or excessive heat. Flash point of solvent is 138° F (58”C).

Clean all fittings and the area around lube points with drycleaning solvent PD-680 or equivalent, before lubricating.

TOTAL MAN-HOURS*

INTERVAL	MAN-HOURS
M	1.5
S	2.5
A	6.0

‘The time specified is the time required to perform all services at the particular level.


LUBRICANT • INTERVAL
INTERVAL • LUBRICANT
Master Cylinder (See LV-C) BF S
Kingpin (See LV-F) GAA S
Wheel Bearings (See LV-J) GAA A
Hinge Pins (See LV-M) PL M
Hinge Pins (See LV-N) PL M
Hinge Pins (See LV-L) PL M
Hinge Pins (See LV-K) PL M
Master Cylinder (See LV-C) BF S
Parking Brake (See LV-G) PL M
Pintle (See LV-H) PL M
S GAA Lunette Collar (See LV-A)
M PL Towbar Pin (See LV-B)
S GAA Steering Pin (See LV-B)
S GAA Tie Rod End (See LV-D)
S OHT Pump Assembly (See LV-E)
S GAA Tie Rod End (See LV-D)
M PL Hinge Pins (See LV-K)
M PL Hinge Pins (See LV-L)
M PL Hinge Pins (See LV-M)
A GAA Wheel Bearings (See LV-I)
S OHT Pump Assembly (See LV-E)

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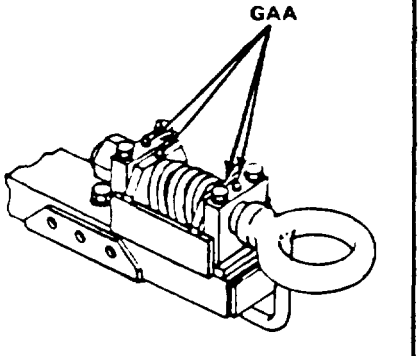
-KEY-

LUBRICANTS		EXPECTED TEMPERATURES				INTERVALS
		ABOVE -32°F	-40°F TO 10°F	0°F TO 65°F	For arctic operations, refer to FM 9-207	
GAA	Grease, lubr, automotive and artillery	GAA	GAA	GAA		M – Monthly S – Semiannually A – Annually
BFS	Hydraulic fluid, non-petroleum base, automotive	BFS	BFS	BFS		
OHT	Hydraulic fluid, petroleum base, corrosion inhibited	OHT	OHT	OHT		
PL	Lubricating oil, general purpose	PL (Medium)	PL (Special)	PL (Special)		

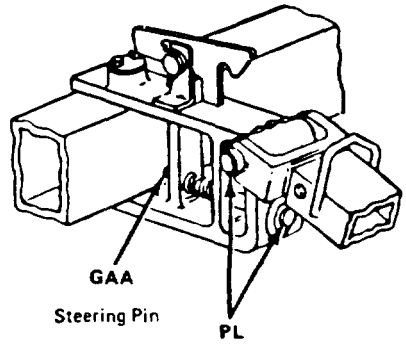
NOTES:

1. OILCAN POINTS. Lubricate brake linkage, handbrake lever, tailgate hinges, latches, and hydraulic brake actuator pivot and slide points with OE lubricating oil.
2. Do not lubricate springs.
3. See page 4-134, Wheel Bearing Removal and Installation.
4. Lubrication instructions are mandatory requirements.



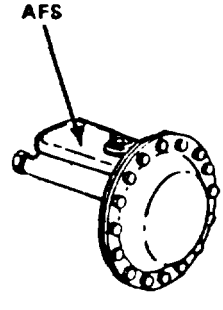
Lunette Collar

LV-A



Towbar Pin

LV-B



Master Cylinder

LV-C

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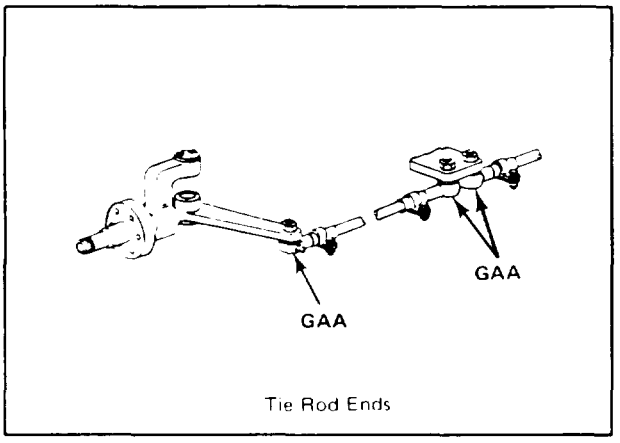
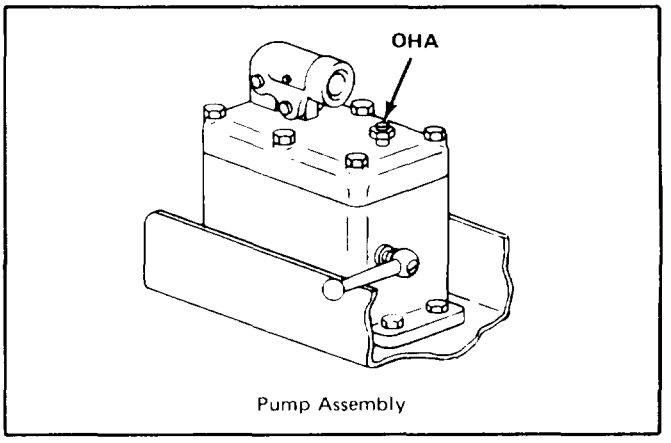


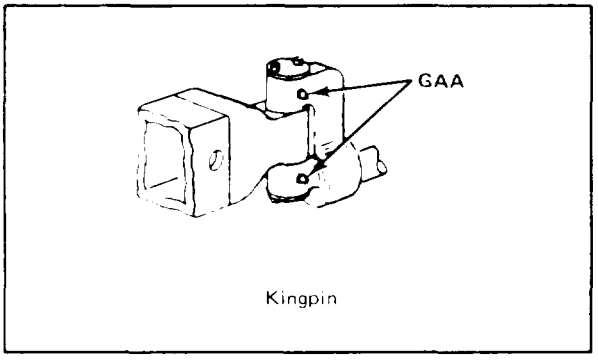
Tie Rod Ends

LV-D



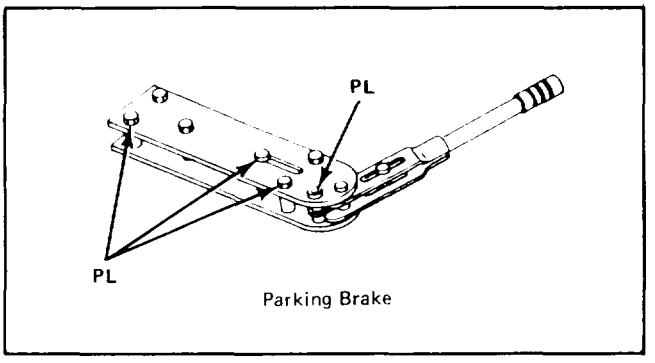
Pump Assembly

LV-E



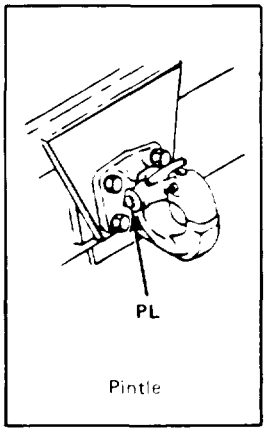
Kingpin

LV-F



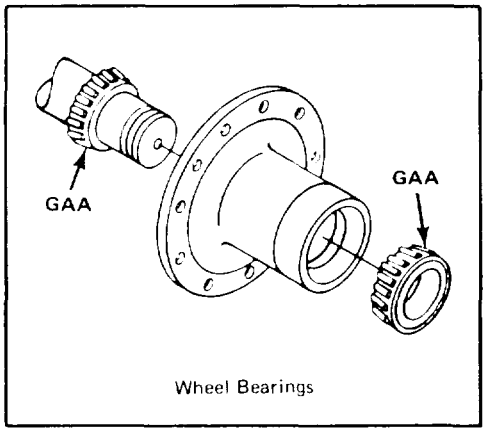
Parking Brake

LV-G



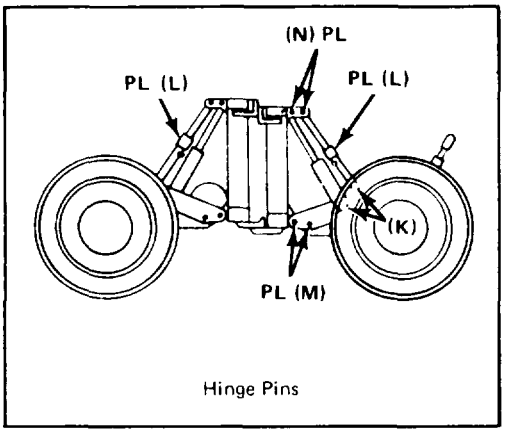
Pintle

LV-H



Wheel Bearings

LV-J



Hinge Pins

LV-K, L, M, AND N

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

COMMON TOOLS AND EQUIPMENT

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

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

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

REPAIR PARTS

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

Section III SERVICE UPON RECEIPT

SERVICE UPON RECEIPT OF MATERIEL

LOCATION	ITEM	ACTION REMARKS
1 Attached to conspicuous part of dolly set	DD Form 1397	Read and follow all instructions.
2	Metal strapping, plywood, tapes, seals, and wrappings	Remove.

SERVICE UPON RECEIPT OF MATERIEL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
		WARNING Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Use only in well ventilated area and keep away from open flame. Flash point of solvent is 138°F (58.8 C). Serious injury or death could result.
3	Coated exterior parts	Remove rust preventive compound with dry-cleaning solvent.
4	Dolly set	a. Inspect for damage that may have occurred during shipping. b. If damage is found, submit DD Form 6, Package Improvement Report.
5	Equipment packing slip	a. Check against equipment to see if shipment is complete. b. Report all discrepancies in accordance with instructions in TM 38-750.

PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT

Perform the operator and organizational maintenance preventive maintenance checks and services contained in chapters 2 and 4.

Lubricate all points as shown in the Lubrication Chart (page 4-2) regardless of interval.

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

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

Perform a break-in road test of 25 miles (40.23 km) on new or reconditioned materiel, or a sufficient number of miles on used materiel to completely check operation.

Section IV ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

GENERAL

The dolly set must be inspected systematically to ensure that it is ready for operation at all times. Inspection will allow defects to be discovered and corrected before they result in serious damage or failure. This section contains a tabulated list of preventive maintenance checks and services to be performed by organizational maintenance personnel. All deficiencies and corrective actions taken will be recorded on DA Form 2404.

1. Do your quarterly (Q) PMCS once every 3 months,

2. Do your semiannual (S) PMCS once every 6 months.

3. Do your annual (A) PMCS once every year.

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

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

SPECIAL INSTRUCTIONS

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

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Use only in well ventilated areas and keep away from open flame or excessive heat. Flash point of solvent is 138°F (58.8"C).

1. Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed, Use drycleaning solvent PD-680 to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

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

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

SPECIAL INSTRUCTIONS - CONTINUED

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

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

It is necessary for you to know how fluid leaks affect the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them and remember - when in doubt, notify your supervisor.

Leakage Definitions for Organizational PMCS

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

CAUTION

When operating with class I or II leaks, continue to check fluid levels in addition to that required in PMCS. Parts without fluid will stop working and/or cause damage to the parts.

NOTE

Equipment operation is allowable with minor leakage (class I or II). Consideration must be given to the fluid capacity in the item being checked/inspected. When in doubt, notify your supervisor.

PMCS COLUMN DESCRIPTION

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

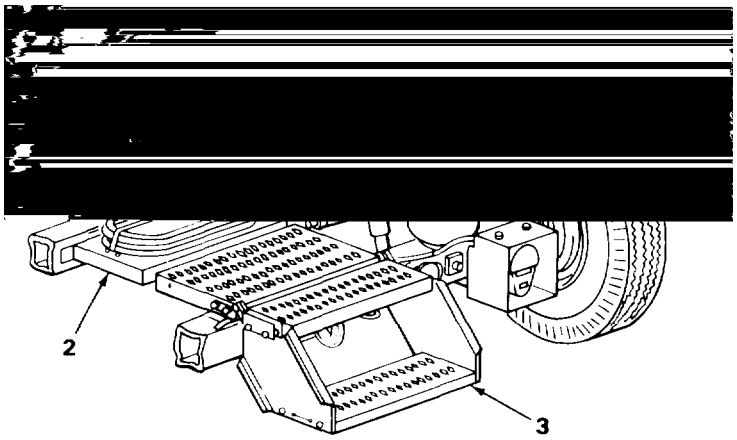
Interval - Tells when each check should be performed.

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

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Q-Quarterly S-Semiannually A-Annually

ITEM NO.	INTERVAL Q	S	A	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED
				NOTE Perform operator/crew PMCS prior to, or in conjunction with, organizational PMCS.
1	•			FRAME (1) Look for cracks, bent members, or broken welds.
2	•			TOOLBOX (2) Look for cracks, dents, and good security.
3	•			FOLDING STEPS (3) Look for cracks, bent members, or broken welds.
4	•			BRAKE MASTER CYLINDERS Check fluid level in master cylinder. Fill to within 1/2 inch of opening.
5			•	WHEEL BEARINGS a. Take off the wheel hubs and wheel bearings (page 4-132). b. Clean, look at, and repack wheel bearings (page 4-132).
6			•	BRAKE ASSEMBLIES a. Clean, look at, and repair or replace internal brake parts (page 4-90). b. Adjust brake shoes (page 4-90).



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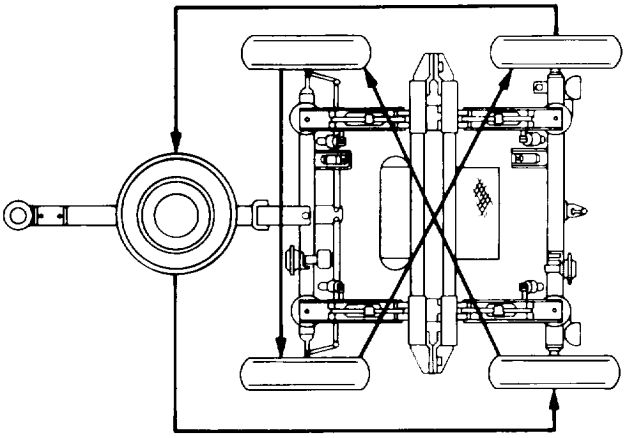
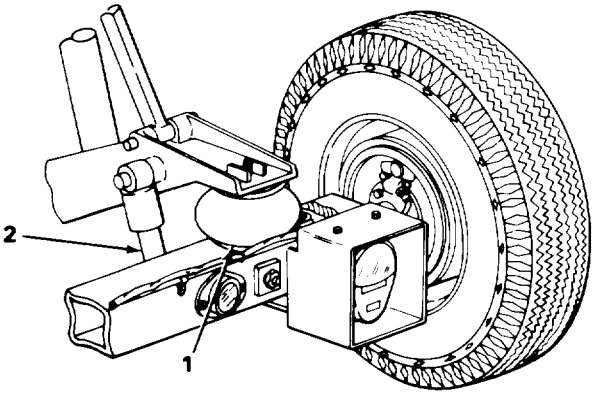
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

Q-Quarterly S-Semiannually A-Annually

ITEM NO.	INTERVAL Q	S	A	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED
7		•		WHEELS AND TIRES a. Rotate and match tires according to tread design and degree of wear.
		•		b. Using a torque wrench, tighten lugnuts to 71-78 lb ft (96.3 -101.7 N•m).



8	•			SUSPENSION a. Check suspension for bent or cracked parts, loose mountings, or worn bushings.
	•			b. Check air springs (1) for cracks or damage.
	•			c. Check shock absorbers (2) for damage or leakage.



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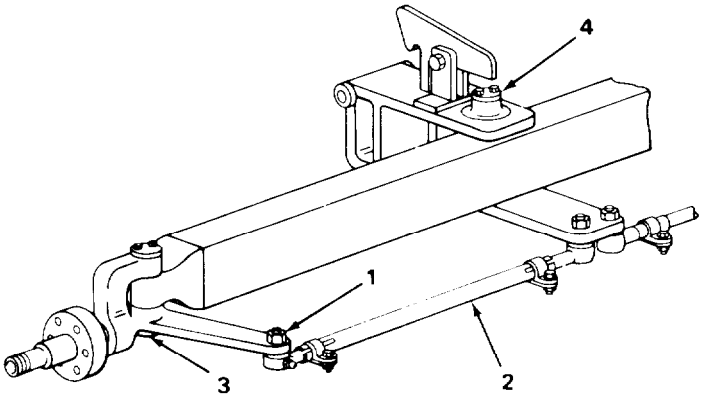
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

Q-Quarterly S-Semiannually A-Annually

ITEM NO.	INTERVAL Q	S	A	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, REPLACED, OR ADJUSTED AS NEEDED
9	•			STEERING a. Check tie rod ends (1) for broken seals or looseness. b. Check tie rod (2) for bends. c. Check kingpins (3) for looseness. d. Check steering arm pivot pin (4) for looseness.
10	•			ELECTRICAL SYSTEM a. Replace or repair inoperative or damaged lights. b. See page 4-26 for composite light. c. See page 4-36 for stoplight taillight. d. See page 4-38 for commercial light. e. See page 4-40 for blackout stoplight.



Section V ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

INTRODUCTION

This section lists the common malfunctions that may be found during the operation or maintenance of the dolly set or components. Perform the test/inspection and corrective action in the order listed.

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

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EXPLANATION OF COLUMNS

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

SYMPTOM INDEX

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

ORGANIZATIONAL TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS FAIL TO LIGHT, ARE DIM, OR FLICKER

Step 1. Check fuses and circuit breakers in towing vehicle.

Replace any bad fuses or reset any tripped circuit breakers (refer to TM applicable to towing vehicle). If fuses and circuit breakers are good, go to step 2.

Step 2. Check for power at the towing vehicle receptacle.

Connect black lead of multi meter to pin D of towing vehicle receptacle. Use red lead to probe all other pins in receptacle. If multimeter shows that power is present at the receptacle with the lights on, go to step 3. If no power is available at the towing vehicle receptacle, repair towing vehicle (refer to applicable TM).

Step 3. Check for corroded or damaged cable connectors.

a. Check the condition of the receptacles and connectors on the following:
   1. Both intervehicular cable connectors.
   2. Both junction box receptacles.
   3. Both intertrailer cable connectors.
   4. Rear receptacle.

b. Repair any bad connectors or receptacles (page 4-62). If no bad connectors or receptacles are found, go to step 4.

NOTE

See page 4-60 for proper pin connector to wire identification.

Step 4. Check ground wire 90 for continuity between front intervehicular cable connector plug and rear dolly frame (page 4-60).

a Repair break in 90 in the intervehicular cable, junction box, interdolly cable or rear harness (page 4-62).

b. Repair broken or faulty connection between the rear dolly frame and 90 in the rear harness (page 4-62).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

2. ONE OR MORE (BUT NOT ALL) LAMPS FAIL TO LIGHT, ARE DIM, OR FLICKER

Step 1. Check fuses and circuit breakers in the towing vehicle.

Replace bad fuses or reset tripped circuit breakers (refer to applicable TM). If fuses and circuit breakers are good, go to step 2.

NOTE

The following references are needed for step 2:
Composite light - page 4-24.
Blackout stoplight - page 4-38.
Commercial stoplight - page 4-36.
Taillight-turn signal - page 4-34.

Step 2. Check for faulty lamps or corroded lamp sockets.

a. Remove affected lamp(s) from light(s) and test with a multimeter (page 4-58).

b. Replace faulty lamp(s). If lamp(s) are good, leave the light(s) disassembled and go to (c).

c. Clean corroded lamp sockets (page 4-22). If sockets are clean, go to step 3.

Step 3. Check the line that powers the affected lamp(s) for continuity between the intervehicular cable, junction box, resistors, interdolly cable, rear harness, and through the lamp assembly (page 4-58).

a. Repair open circuit in wiring (page 4-82).

b. Replace faulty lamp assemblies (page 4-30).

c. Replace open resistors (page 4-40).

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES

3. HANDBRAKE WILL NOT HOLD

Step 1. Check for broken handbrake cables.

a. Replace broken handbrake cables (page 4-90).

b. If handbrake cables are good, go to step 2.

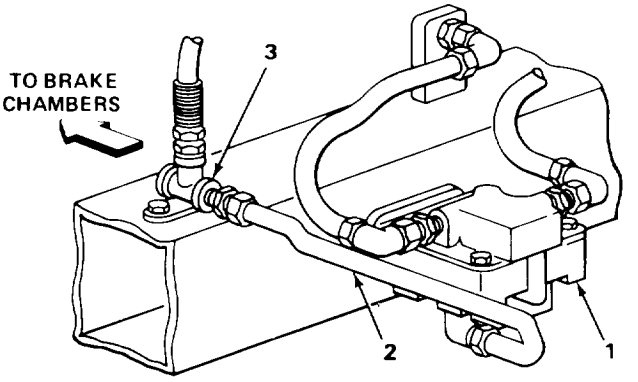
Step 2. Check for broken parts in service brakes (page 4-96).

Replace bad parts in service brake assemblies (page 4-96).

4. BRAKES WILL NOT RELEASE - BOTH DOLLIES

Check for bad relay valve (1).

Loosen line (2) on relay valve (). If air escapes and brakes release, replace relay valve. If brakes don't release, repair restriction in line (2) to brake chamber tee (3).



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ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

5. SERVICE BRAKES DO NOT HOLD ON FRONT AND REAR DOLLIES

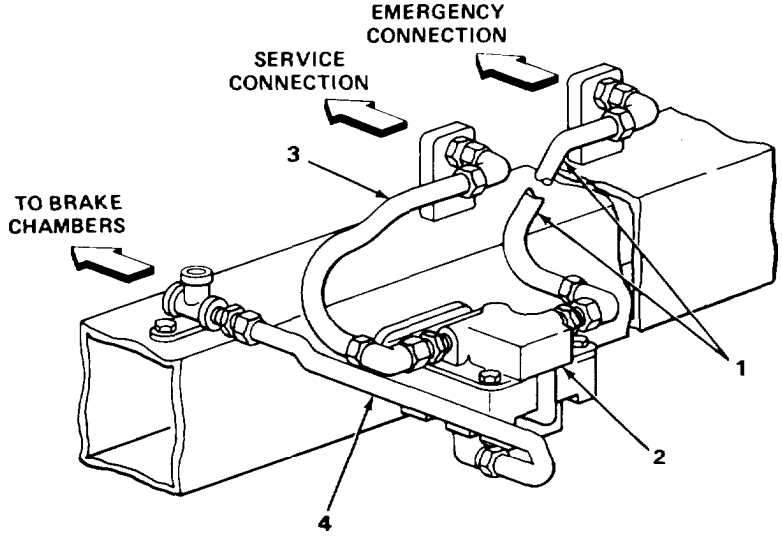
Step 1. Check air system up to the relay valve.

a. Loosen air line (1) slightly at the relay valve (2). If air escapes, tighten line (1) and go on to (b). If no air escapes, repair restricted emergency line (1).

b. Loosen air line (3) slightly at the relay valve. Apply brakes on towing vehicle. If air escapes from line (3), tighten and go to step 2. If no air escapes, repair restricted service line (3).

Step 2. Check relay valve.

Loosen air line (4) slightly at the relay valve. Apply brakes on towing vehicle. If air escapes, repair restricted brake chamber line 4. If no air escapes, replace the relay valve (page 4-120).



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ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

6. BRAKES DO NOT HOLD - FRONT OR REAR DOLLY ONLY

Step 1. Check brake fluid level.

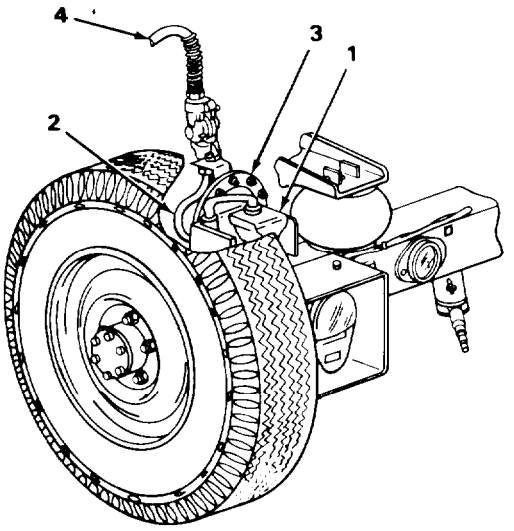
Check level of brake fluid in the master cylinder (1). If level is low, add fluid, bleed brakes (page 4-112), and check for leaks. If fluid level is okay, go to step 2.

Step 2. Check for restricted air lines.

Loosen line (2) at brake chamber (3). Apply brakes. If air escapes, go on to step 3. If no air escapes, repair restricted line feeding brake chamber (3). If problem is on the rear dolly, also check for restricted interdolly hose (4).

Step 3. Check for bad master cylinder or brake chamber.

Slightly loosen master cylinder (1) to brake chamber (3) mounting nuts. Gently apply brakes. If the units move apart it indicates that the brake chamber is working. In this case, replace the master cylinder (1) (page 4-116). If there is no movement in the units or there is air leakage, replace the brake chamber (3) (page 4-120).



TA 221659

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

7. BRAKES GRAB OR ARE LOCKED - ONE WHEEL

NOTE

If wheel is locked, go to step 1. If brake is grabbing on affected wheel, go directly to step 2.

Step 1. Check brake adjustment (page 4-96).

Adjust brake on locked wheel to free it. If unable to free wheel, go on to step 2.

Step 2. Check for malfunction in service brake assembly (page 4-96).

a. Check service brake assembly for:
1. Cracked, broken, or contaminated linings.
2. Frozen wheel cylinder.
3. Broken return springs.

b. Repair service brake assembly (page 4-96).

TIRES

8. ONE OR MORE TIRES WEAR UNEVENLY

NOTE

If the rear dolly is wearing tires unevenly, proceed directly to step 3.

Step 1. Check front wheel toe-in and aline if necessary (page 4-66). If alinement is good, go to step 2. If unable to aline, go to step 3.

Step 2. Check for loose kingpins, tie rod ends and steering arm pivot bushing (page 4-74).

Repair any loose parts in front axle (page 4-82). If no parts are loose, go on to step 3.

Step 3. Check for bent axle, knuckles, spindles, etc.

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WHEELS

9. FRONT WHEELS SHIMMY

Step 1. Check for loose wheel bearings.

Adjust wheel bearings (page 4-132). If wheel bearings were properly adjusted, go on to step 2.

Step 2. Check for loose kingpins, tie rod ends or steering arm pivot bushing (page 4-74).

Replace any bad parts in steering system (page 4-66), If all parts are good, go on to step 3.

Step 3. Check front wheel alinement.

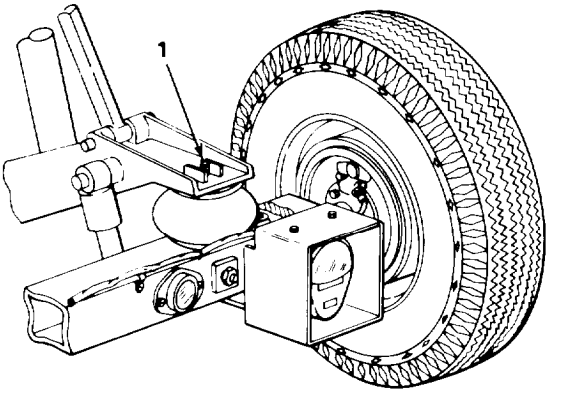
Aline front wheels (page 4-66).

SUSPENSION SYSTEM

10. AIR SPRING LOSES PRESSURE

Test for leakage.

Using soapy water, test for leaks. If leak is at valve core (1), tighten or replace it. If the air spring is leaking, replace it (page 4-150).



TA 221660

ORGANIZATIONAL TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

HYDRAULIC SYSTEM

11. CYLINDER DOES NOT HOLD PRESSURE WHEN HAND VALVE IS CLOSED

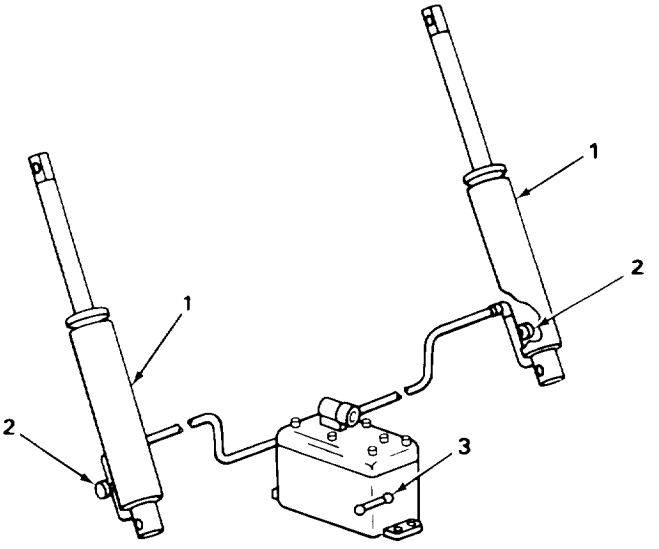
Step 1. Check for leaks at cylinder (1).

Replace cylinder (page 4-166).

Step 2. Check for bypassing hand valve (2).

a. Raise adapter and close hand valve (2). Open pump release lever (3).

b. If adapter lowers and fluid level in reservoir raises, valve is bad. Replace valve (page 4-166).



12. HYDRAULIC PUMP ACTION SOFT OR WILL NOT RAISE ADAPTER TO FULL HEIGHT

Step 1. Check fluid level in reservoir (page 4-163).

a. If fluid level is low, fill to proper level and visually inspect for external leakage.

b. If fluid level is good, proceed to step 2.

Step 2. Check for air in the system.

Bleed the system (page 4-168). If no air is found in system, replace the pump (page 4-163).

TA 221661

Section VI CLEANING AND INSPECTION INSTRUCTIONS

WARNING

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

CLEANING INSTRUCTIONS

a. The cleaning instructions will be the same for the majority of parts and components which make up the M720 dolly set.

b. The importance of cleaning must be thoroughly understood by maintenance personnel. Great care and effort are required in cleaning. Dirt and foreign material are a constant threat to satisfactory maintenance. The following should apply to all cleaning, inspection, repair, and assembly operations.

1. Clean all parts before inspection, after repair, and before assembly.

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

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

Steam Cleaning

a. Protect all electrical equipment which could be damaged by the steam or moisture, before steam cleaning the exterior of the dolly set.

b. Place disassembled parts in a suitable container to steam clean.

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

Castings, Forgings, And Machined Metal Parts

WARNING

Drycleaning solvent PD-680 is both toxic and flammable. Avoid prolonged breathing of vapors and avoid skin contact. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C). Serious injury or death could result.

a. Clean inner and outer surfaces with drycleaning solvent.

b. Remove grease and accumulated deposits with a stiff bristle brush.

CLEANING INSTRUCTIONS - CONTINUED

WARNING

Particles blown by compressed air are hazardous. Do not exceed 30 psi (207 kPa) air pressure. Make certain the air stream is directed away from user and other personnel in the area. To prevent injury, user must wear safety eye goggles or face shield when using compressed air.

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

Electrical Cables, Flexible Hose, And Oil Seals

CAUTION

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

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

Bearings

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

INSPECTION INSTRUCTIONS

All components and parts must be carefully checked to determine:

a. If they are serviceable for reuse.

b. If they can be repaired,

c. If they must be scrapped.

Drilled And Tapped (Threaded) Holes

a. Inspect for wear, distortion, cracks, or any other damage in or around holes.

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

c. Mark all damaged areas for repair or replacement.

Metal Lines, Flexible Lines (Hoses), And Metal Fittings

a. Inspect metal lines for sharp kinks, cracks, bad bends, or if badly dented.

b. Inspect flexible lines for fraying, evidence of leakage, or loose metal fittings or connectors.

Section VII ELECTRICAL SYSTEM MAINTENANCE

COMPOSITE LIGHT

This task covers:

a. Lamp and lens removal (page 4-24)
b. Cleaning and inspection (page 4-25)
c. Lamp and lens installation (page 4-25)

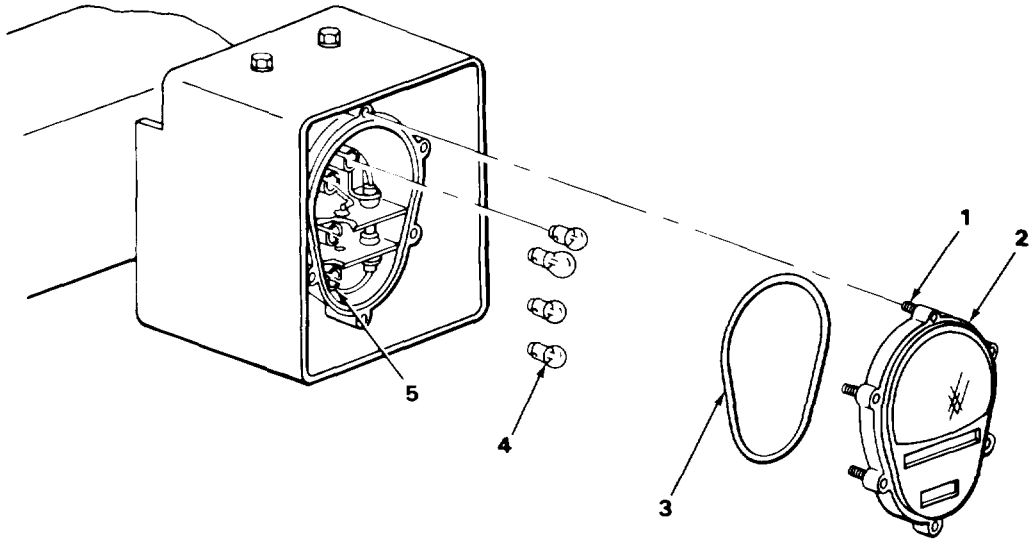
INITIAL SETUP

Tools	Materials/Parts
Flat-tip screwdriver	Lamps (as required) Preformed packing (if required) Sandpaper, 00

LOCATION	ITEM	ACTION **REMARKS**
LAMP AND LENS REMOVAL		
1 Composite light	Six screws (1) and door and lens (2)	Unscrew and take off using flat-tip screwdriver. **Screws (1) are captive in door and lens (2).**
2 Door and lens (2)	Preformed packing (3)	Inspect for damage. **If damaged, take it out of groove and throw away.**
		NOTE Only remove lamps that do not work.
3 Composite light	Four lamps (4)	a. Push in and turn counterclockwise. b. Take out lamp.

COMPOSITE LIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING AND INSPECTION		
4 Light assembly	Lamp sockets (5)	Inspect for corrosion after the lamp is removed. **If corroded, clean with 00 sandpaper.**
5	Removed lamps (4)	Test lamps using a multimeter (page 4-58). **Get rid of bad lamps.**
LAMP AND LENS INSTALLATION		
6 Composite light	Removed lamps (4) (new lamps as necessary)	Put lamps (4) into the socket, push in and turn clockwise to lock.
7 Door and lens (2)	Preformed packing (3)	Put back into the groove in the door and lens (2).
8 Composite lamp	Door and lens (2) and six screws (1)	Put on using a screwdriver.



TA 221662

COMPOSITE LIGHT ASSEMBLY

This task covers:

a. Removal (page 4-26)
b. Installation (page 4-27)

INITIAL SETUP

Tools

Cross-tip screwdriver
7/16-inch open end wrench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Bracket (1)	Two screws (2) and two washers (3)	Take out using a 7/16-inch wrench.
		NOTE Make sure that the identification tags are not missing from the wiring and that they are readable before taking electrical connectors apart. Tag if necessary.
2 Bracket (1)	Four connectors (5)	a. Pull from clip (4). b. Separate halves of connectors (5).
3 Composite light (6)	Two screws (7), two washers (8) and bracket (1)	Take off using a 7/16-inch wrench.
		NOTE Do step 4 only if clip (4) is damaged.
4 Bracket (1)	Clip (4), two screws (9), two washers (10) and two nuts (11)	Take off using a cross-tip screwdriver and a 7/16-inch wrench.

COMPOSITE LIGHT ASSEMBLY - CONTINUED

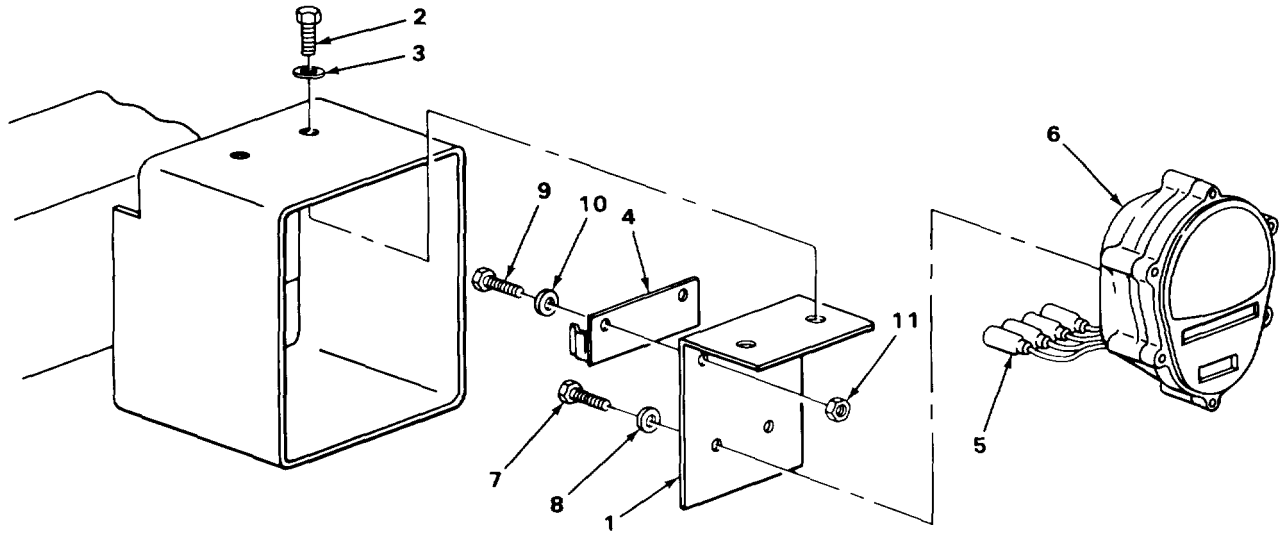
LOCATION	ITEM	ACTION **REMARKS**

INSTALLATION

NOTE

Omit step 5 if clip (4) was not previously removed.

5 Bracket (1)	Clip (4), two screws (9), two washers (10) and two nuts (11)	Put on using a cross-tip screwdriver and a 7/16-inch wrench.
6 Composite light (6)	Two screws (7), two washers (8) and bracket (1)	Put on using 7/16-inch wrench.
7 Clip (4)	Four connectors (5)	a. Match identification tags and snap together. b. Snap into clip (4).
8 Bracket (1)	Two screws (2) and two washers (3)	Put on using a 7/16-inch wrench.



TASK ENDS HERE

TA 221663

BLACKOUT STOPLIGHT REPLACEMENT

This task covers:

a. Removal (page 4-28)
b. Installation (page 4-28)

INITIAL SETUP

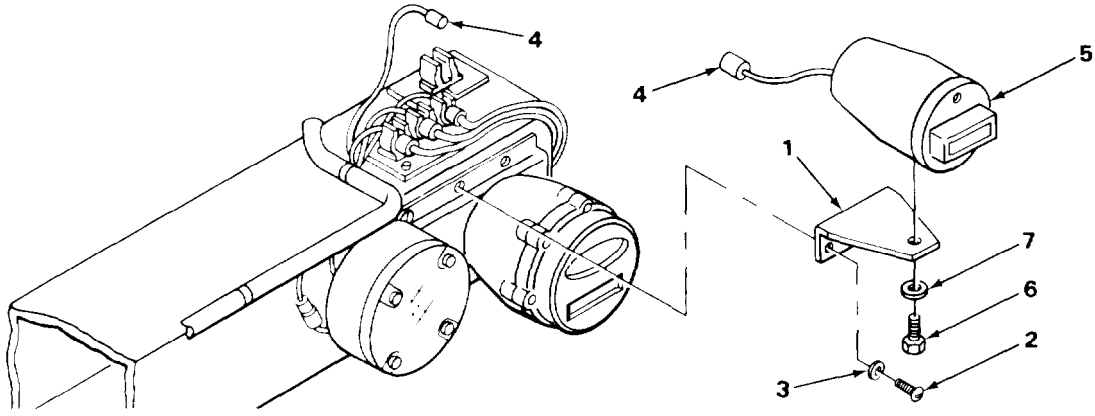
Tools

Flat-tip screwdriver
9/16-inch wrench

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1 Mounting bracket (1) to rear axle	Two screws (2) and two washers (3)	Take out using a flat-tip screwdriver.	
		NOTE	
		If lamp is being removed as an equipment condition for other lamp removals, omit steps 2 and 3 and set the assembly on top of the axle with the wire intact.	
2 Rear axle	Connector (4)	Pull the halves apart.	
3 Light assembly (5) to mounting bracket (1)	Screw (6) and washer (7)	Take off using a 9/16-inch wrench.	
INSTALLATION			
		NOTE	
		If the lamp is being installed as follow-on maintenance for other lamp installations, omit steps 4 and 5 and go directly to step 6.	
4 Light assembly (5) to mounting bracket (1)	Screw (6) and washer (7)	Put in using a 9/16-inch wrench.	

BLACKOUT STOPLIGHT REPLACEMENT - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION - CONTINUED		
5 Rear axle	Connector (4)	Snap halves of connector (4) together.
6 Mounting bracket (1) to rear axle	Two screws (2) and two washers (3)	Put mounting bracket (1) on the rear axle using a flat-tip screwdriver.



TASK ENDS HERE

LIGHT ASSEMBLIES

This task covers:

a. Mounting bracket removal (page 4-30)
b. Taillight removal (page 4-31)
c. Commercial stoplight removal (page 4-31)
d. Taillight installation (page 4-32)
e. Commercial stoplight installation (page 4-32)
f. Mounting bracket installation (page 4-33)

INITIAL SETUP

Tools	Equipment Condition
Flat-tip screwdriver Cross-tip screwdriver	Blackout stoplight removed (page 4-28). (Applies to right side only.)

LOCATION	ITEM	ACTION	REMARKS

MOUNTING BRACKET REMOVAL

NOTE

Make sure that the wiring on the rear axle and the light assemblies are properly identified before separating wire connectors.

1	Rear axle	Clips (1) and (2) and four. connectors (3)	Pull connectors (3) from clips (1) and (2) and separate.

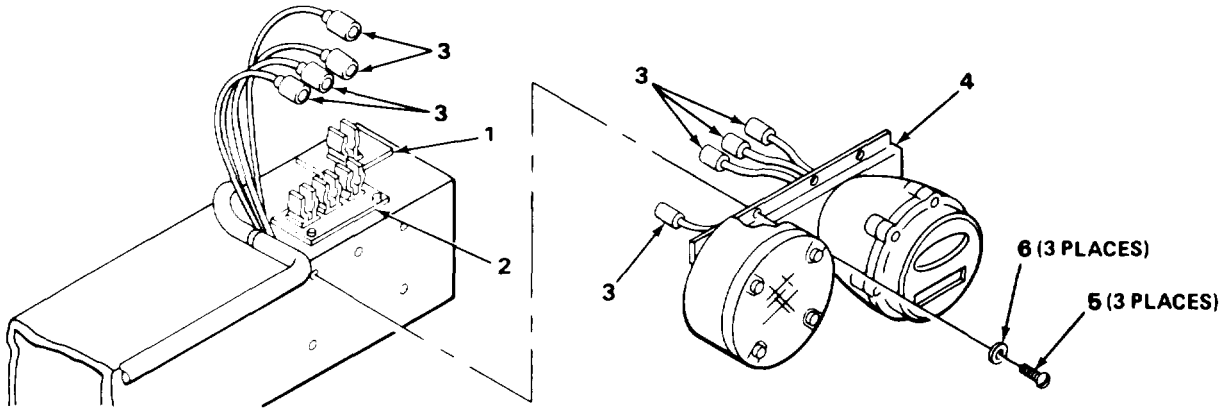
NOTE

The right side mounting bracket will only have three screws.

2	Mounting bracket (4) to rear axle	Four screws (5) and four washers (6)	Take out using flat-tip screwdriver. Take assembly from dolly.

LIGHT ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	**REMARKS**

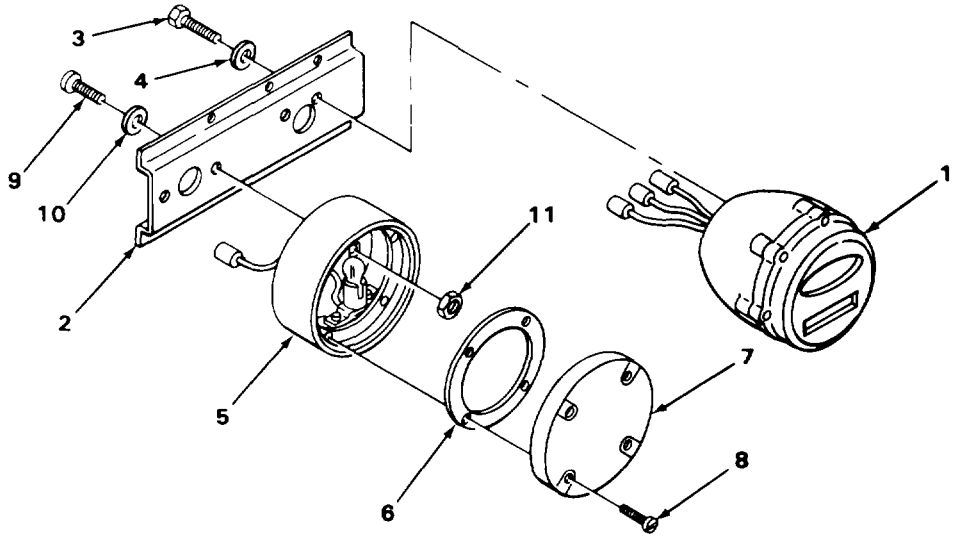


TAILLIGHT REMOVAL

3	Taillight (1) to mounting bracket (2)	Two screws (3) and two washers (4)	Take out using a 9/16-inch wrench. Remove taillight (1) from mounting bracket (2).

COMMERCIAL STOPLIGHT REMOVAL

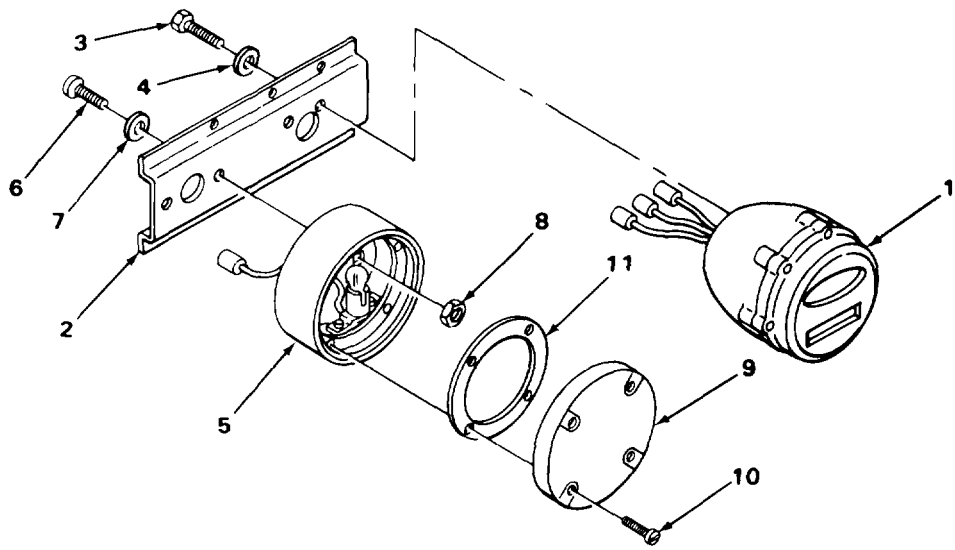
4	Housing (5) to lens (7)	Four screws (8), lens (7) and gasket (6)	Take off using a cross-tip screwdriver.
5	Housing (5) to mounting bracket (2)	Two screws (9), two washers (10) and two nuts (11)	Take off using a cross-tip screwdriver and 9/16-inch wrench.



TA 221665

LIGHT ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
TAILLIGHT INSTALLATION		
6 Taillight (1) to mounting bracket (2)	Two screws (3) and two washers (4)	Secure taillight (1) to mounting bracket (2) using a 9/16-inch wrench.
COMMERCIAL STOPLIGHT INSTALLATION		
7 Housing (5) to mounting bracket (2)	Two screws (6), two washers (7) and two nuts (8)	Secure housing (5) to mounting bracket (2) using a 9/16-inch wrench.
8 Housing (5) to lens (9)	Four screws (10), lens (9) and gasket (11)	Secure lens (9) and gasket (11) to housing (5) using a cross-tip screwdriver.



TA 221666

LIGHT ASSEMBLIES - CONTINUED

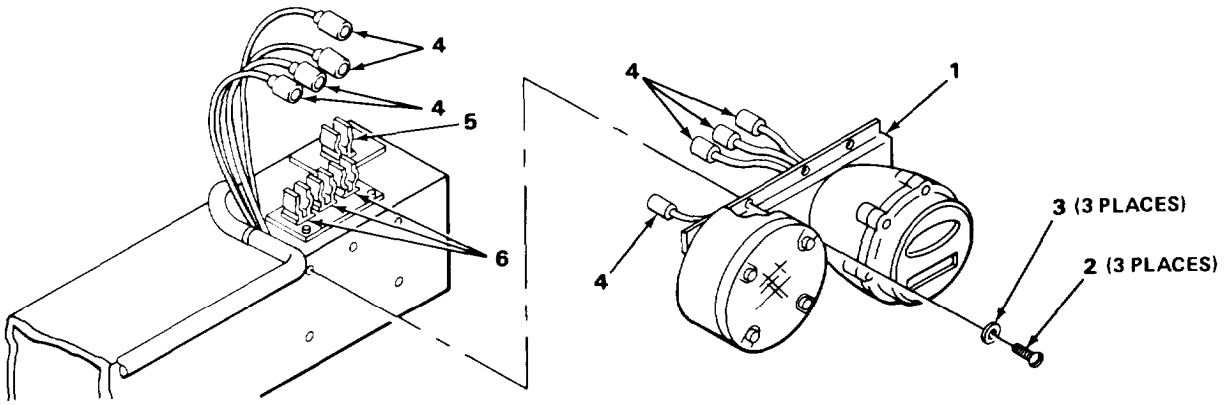
LOCATION	ITEM	ACTION **REMARKS**

MOUNTING BRACKET INSTALLATION

NOTE

Only three mounting bracket screws will be installed in the right side at this time.

9	Mounting bracket (1) to rear axle	Four screws (2) and four washers (3)	Mount bracket (1) to the rear axle using a flat-tip screwdriver.
10	Rear axle	Four connectors (4)	Plug together.
11		Clips (5) and (6)	Secure connectors (4).



NOTE

FOLLOW-ON MAINTENANCE: Install blackout stoplight (right side only (page 4-28)).

TASK ENDS HERE

TA 221667

TAILLIGHT

This task covers:

a. Lamp and door removal (page 4-34)
b. Cleaning and inspection (page 4-34)
c. Lamp and door installation (page 4-35)

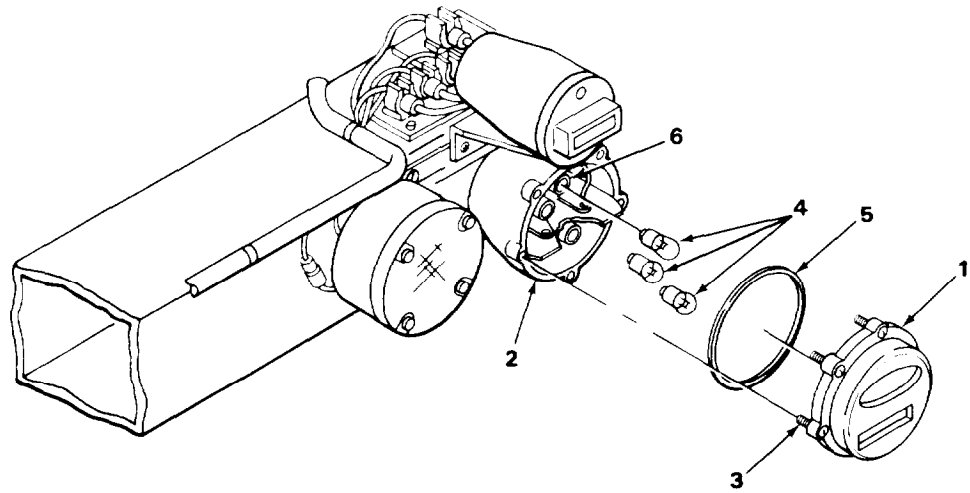
INITIAL SETUP

Tools	Materials/Parts
Flat-tip screwdriver	New lamps (as required) New door packing (if required) Sandpaper, 00

LOCATION	ITEM	ACTION **REMARKS**
LAMP AND DOOR REMOVAL		
1 Door (1) to housing (2)	Six screws (3) and door and lens (1)	Take out using a flat-tip screwdriver. Remove door (1). **Six screws (3) are captive in the door (1).**
		NOTE Only remove the lamps that do not work.
2 Taillight	Three lamps (4)	Push in and turn counterclockwise to remove.
CLEANING AND INSPECTION		
3 Door (1)	Preformed packing (5)	Inspect for damage. **If damaged, take it out of the groove and throw it away.**
4 Taillight	Three sockets (6)	Inspect for corrosion if the lamp is removed. **If corroded, clean with 00 sandpaper.**
5	Lamps (4)	Test lamps using a multimeter (page 4-58). **Throw away lamps if bad.**

TAILLIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
LAMP AND DOOR INSTALLATION		
6 Door (1)	New preformed packing (5)	Put into groove in door (1).
7 Housing (2)	Three lamps (4)	Put in by pushing in and turning clockwise. Bulbs are put in and replaced as necessary.
8 Housing (2) to door (1)	Six screws (3) and door (1)	Put on door (1) using a flat-tip screwdriver.



TASK ENDS HERE

TA 221668

COMMERCIAL STOPLIGHT

This task covers:

a. Lamp and lens removal (page 4-36)
b. Cleaning and inspection (page 4-36)
c. Lamp and lens installation (page 4-37)

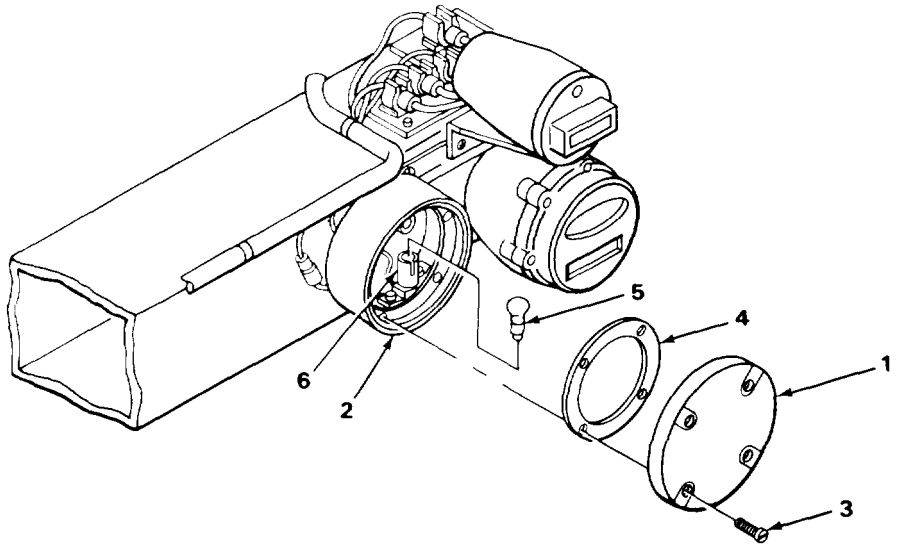
INITIAL SETUP

Tools	Materials/Parts
Cross-tip screwdriver	New packing (if required) New lamps (if required) Sandpaper, 00

LOCATION	ITEM	ACTION / REMARKS
LAMP AND LENS REMOVAL		
1 Lens (1) to housing (2)	Four screws (3), gasket (4) and lens (1)	Take off using a cross-tip screwdriver.
2 Housing (2)	Lamp (5)	Take out by pushing in and turning counter-clockwise.
CLEANING AND INSPECTION		
3	Gasket (4)	Inspect for damage. **Throw away gasket if damaged.**
4	Socket (6)	Inspect for corrosion. **If socket is corroded, clean with 00 sandpaper.**
5	Lamp (5)	Test lamp using a multimeter (page 4-58). **Throw away lamp if bad.**

COMMERCIAL STOPLIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
LAMP AND LENS INSTALLATION		
6 Housing (2)	Lamp (5)	Put in by pushing in and turning clockwise.
7 Housing (2) to lens (1)	Lens (1), gasket (4) and four screws (3)	Put on using a cross-tip screwdriver.



TASK ENDS HERE

BLACKOUT STOPLIGHT

This task covers:

a. Lamp and door removal (page 4-38)
b. Cleaning and inspection (page 4-38)
c. Lamp and door installation (page 4-39)

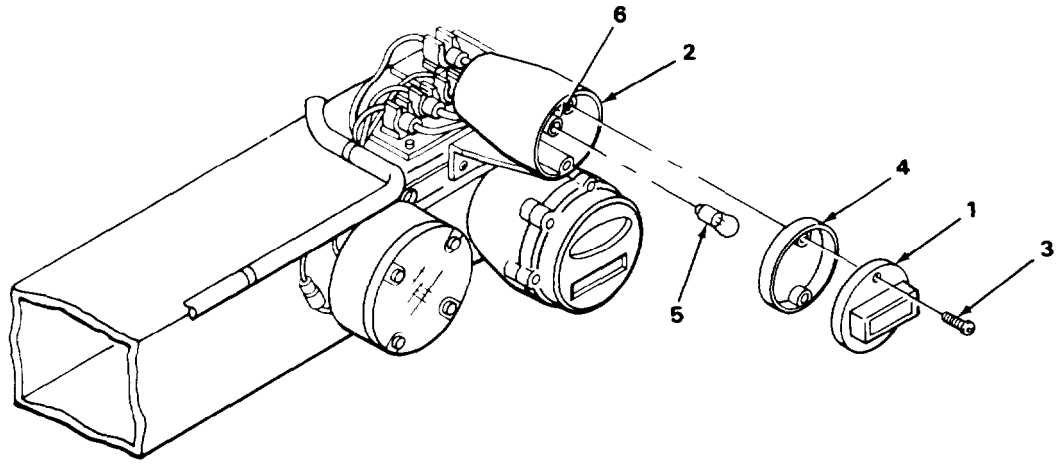
INITIAL SETUP

Tools	Materials/Parts
Cross-tip screwdriver	New gasket (if required) New lamp (if required) Sandpaper, 00

LOCATION	ITEM	ACTION / REMARKS
LAMP AND DOOR REMOVAL		
1 Door (1) to housing (2)	Two screws (3), door (1) and gasket (4)	Take off using a cross-tip screwdriver.
2 Housing (2)	Lamp (5)	Take out by pushing in and turning counter-clockwise.
CLEANING AND INSPECTION		
3	Gasket (4)	Inspect for damage. **Throw away gasket if damaged.**
4	Socket (6)	Inspect for corrosion. **If socket is corroded, clean with 00 sandpaper.**
5	Lamp (5)	Test lamp using a multimeter (page 4-58). **Throw away lamp if bad.**

BLACKOUT STOPLIGHT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
LAMP AND DOOR INSTALLATION		
6 Housing (2)	Lamp (5)	Put in by pushing and turning clockwise.
7 Housing (2) to door (1)	Door (1), gasket (4) and two screws (3)	Put on using a cross-tip screwdriver.



TASK ENDS HERE

FRONT HARNESS AND JUNCTION BOX

This task covers:

a. Junction box cover removal (page 4-40)
b. Disassembly of components (page (4-41)
c. Assembly of components (page 4-44)
d. Junction box cover installation (page 4-48)

INITIAL SETUP

Tools

Flat-tip screwdriver
Cross-tip screwdriver
7/16-inch open end wrench
318-inch open end wrench
7/64-inch socket head wrench

Materials/Parts

Resistors (as required)

Applicable Configurations

Early models

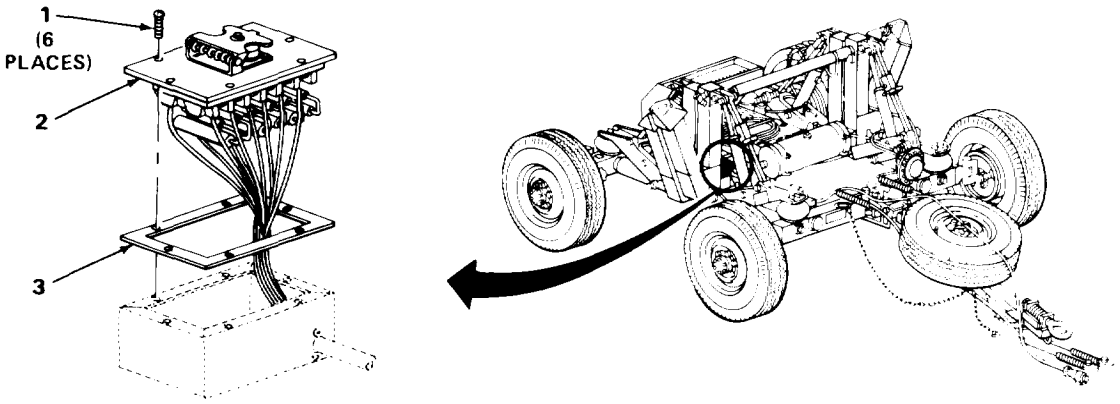
NOTE

Perform only the steps in this task that are necessary to do what is needed on your particular equipment.

LOCATION	ITEM	ACTION	REMARKS

JUNCTION BOX COVER REMOVAL

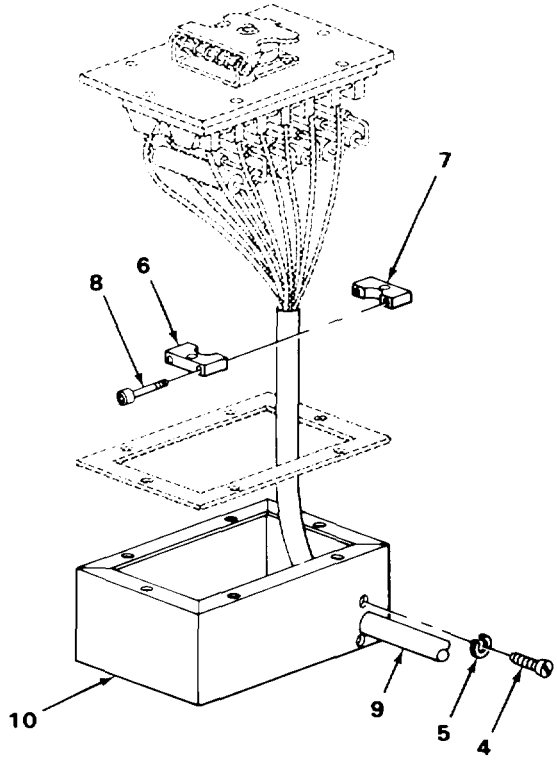
1	Junction box	Six screws (1)	Take out using cross-tip screwdriver.
2		Cover (2) and gasket (3)	Lift cover off as far as wiring will allow it to go.

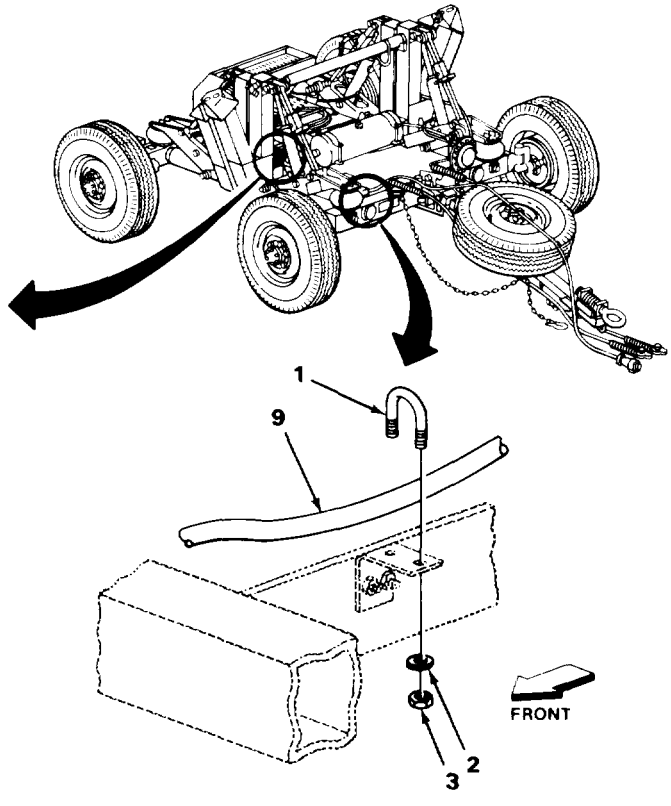


TA 221671

FRONT HARNESS AND JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY OF COMPONENTS		
3 Front axle	U-bolt (l), two washers (2), and two nuts (3)	Take off using a 7/16-inch wrench.
4 Junction box to harness clamp	Two screws (4) and two washers (5)	Take out using a flat-tip screwdriver.
5 Front harness	Clamp halves (6) and (7), and two screws (8)	Pull harness (9) through junction box (10) to gain access to clamp halves (6) and (7). Take off using a 7/64-inch socket head wrench.





TA 221672

FRONT HARNESS AND JUNCTION BOX - CONTINUED

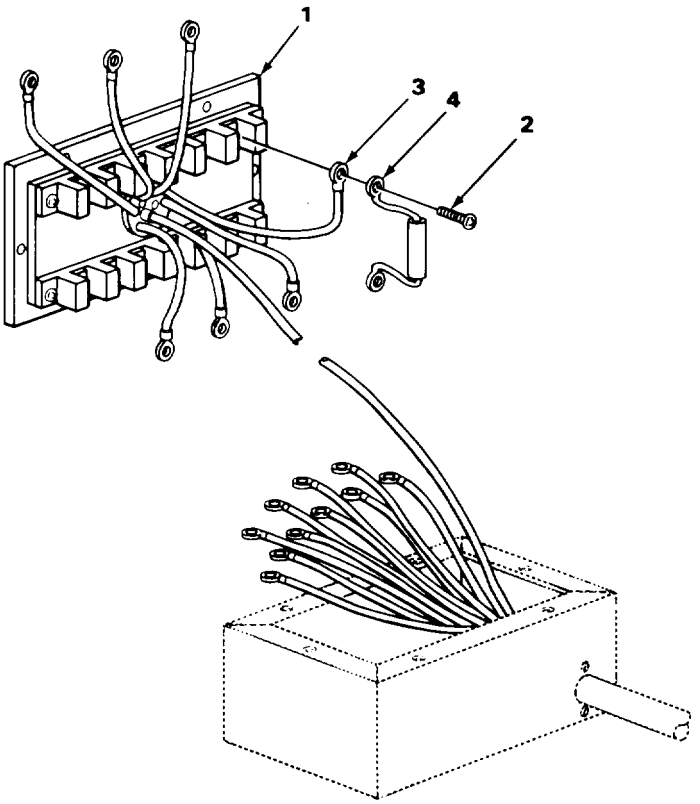
LOCATION	ITEM	ACTION REMARKS

DISASSEMBLY OF COMPONENTS - CONTINUED

NOTE

If the harness is to be used again, check that identification tags are not missing before removing wires from terminal blocks. If any are missing, be sure to tag wires before taking them off (page 4-62).

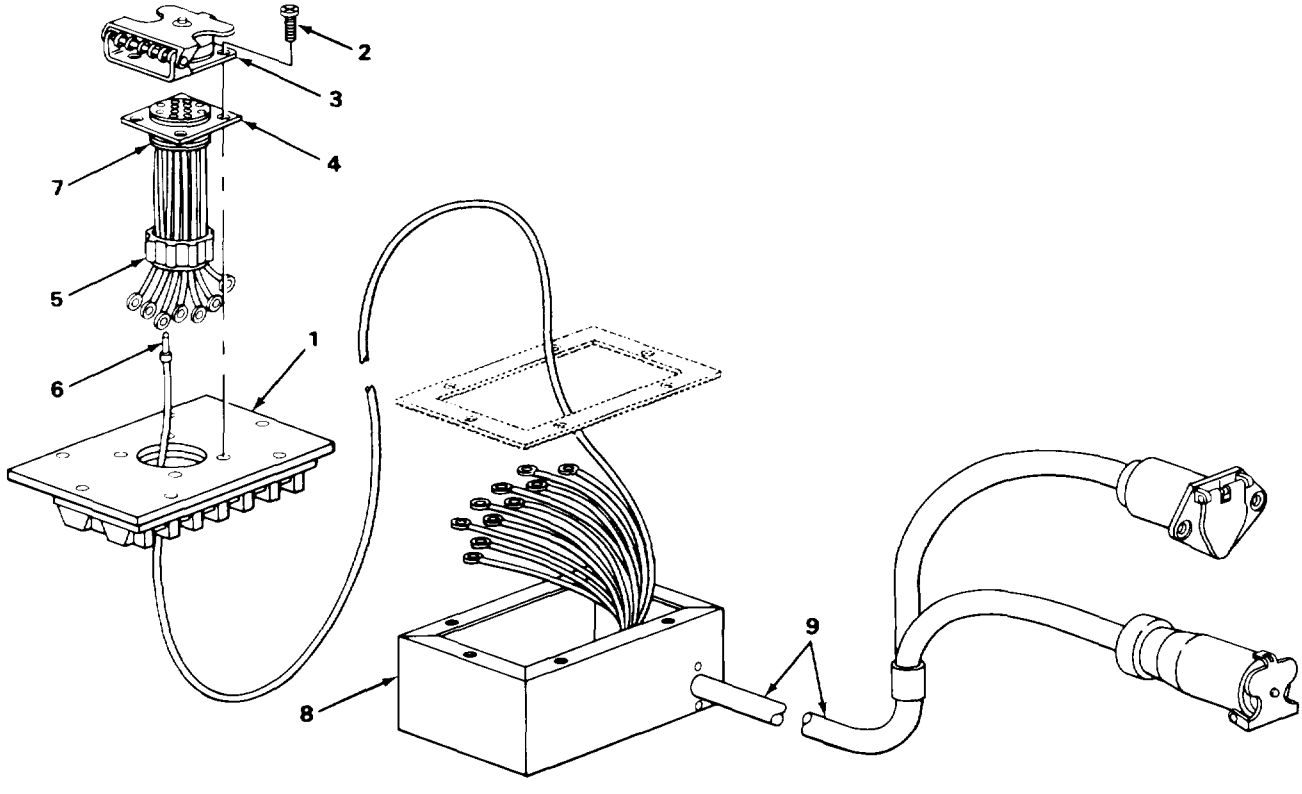
6 Junction box cover (1)	Twelve screws (2), fourteen terminals (3) and six resistors (4)	Take off using a flat-tip screwdriver.



TA 221673

FRONT HARNESS AND JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY OF COMPONENTS - CONTINUED		
7 Junction box cover (1)	Four screws (2), cover (3) and receptacle (4)	Take off using a cross-tip screwdriver.
8 Receptacle (4)	Nut (5) and pin connector (6)	a. Take off nut using pliers. b. Pull the pin connector (6) out of grommet (7).
9 Junction box (8)	Front harness (9)	Slide front harness (9) out of junction box (8).



TA 221674

FRONT HARNESS AND JUNCTION BOX - CONTINUED

ASSEMBLY OF COMPONENTS

NOTE

Use this chart to properly locate the front harness leads.

WIRE IDENTIFICATION TAG	NUMBER ON TERMINAL BOARDS	
	TB-2	TB-1
C-6	4	
C-5	2	
C-3	6	
24-284		1
22-460		2
23		3
21-489		4
24-483		5
22-461		6
90-C-1	Ground lug (X). “K” on inner harness receptacle	
C-4		

NOTE

Use this chart to properly locate the receptacle leads.

WIRE IDENTIFICATION TAG	NUMBER ON TERMINAL BOARDS	
	TB-2	TB-1
24-284	1	
22-460-C-5	2	
23	3	
21-489	4	
24-483	5	
22-461	6	
90-C-1	Ground lug (x). “K” on inner harness receptacle.	
C-4 (front harness)		

FRONT HARNESS AND JUNCTION BOX - CONTINUED

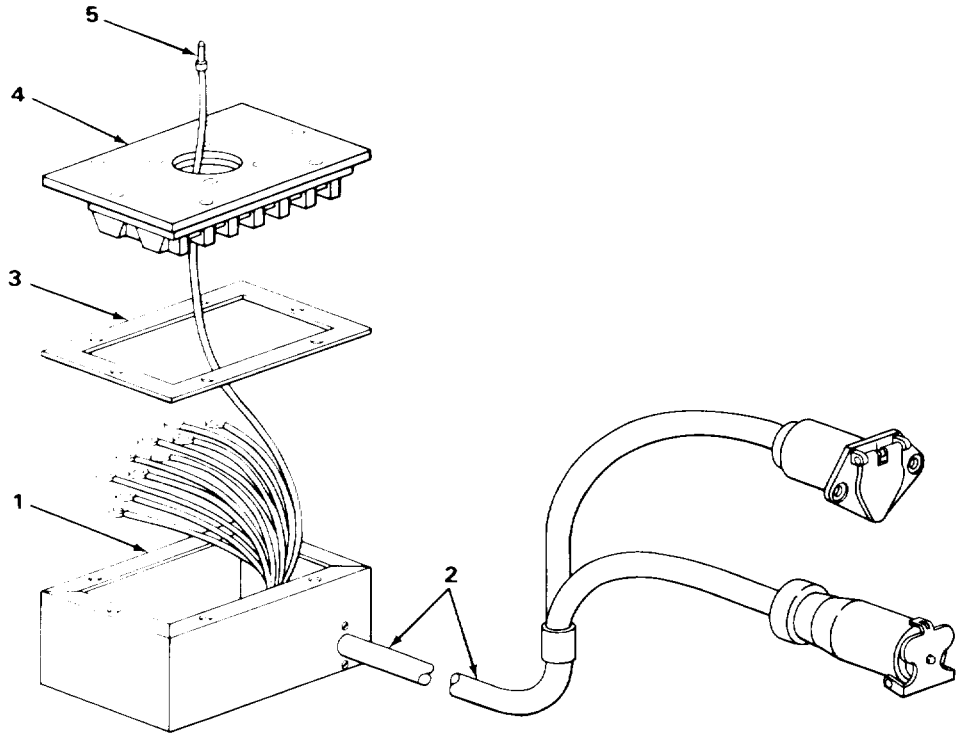
ASSEMBLY OF COMPONENTS - CONTINUED

NOTE

Use this chart to properly locate the resistors to the terminal boards.

RESISTOR PART NUMBER	TERMINAL BOARD LOCATION	
	TB-2	TB-1
11682104-1	1	1
11682104-2	2	2
11682104-3	3	3
11682104-2	4	4
11682104-1	5	5
11682104-2	6	6

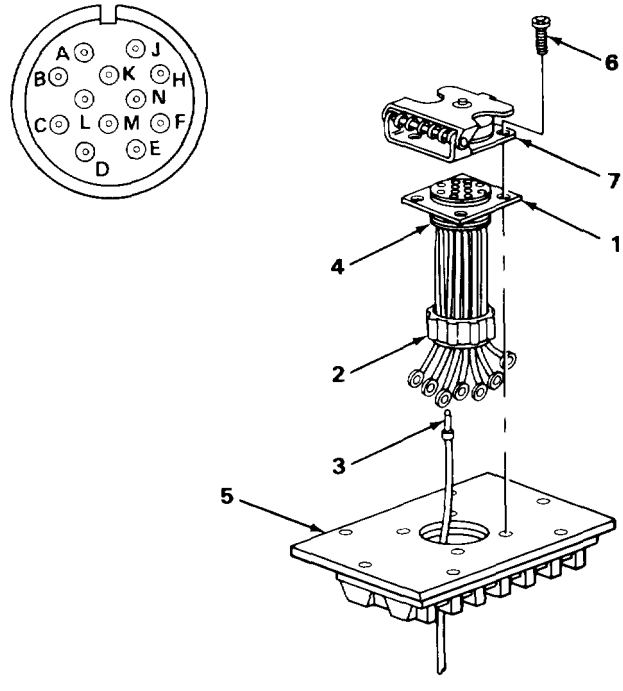
LOCATION	ITEM	ACTION	REMARKS
10 Junction box (1)	Front harness (2), gasket (3) and junction box cover (4)	a. Slide front harness (2) into the junction box (1). b. Position gasket (3) and junction box cover (4) over lead and pin connector (5).	



TA 221675

FRONT HARNESS AND JUNCTION BOX - CONTINUED

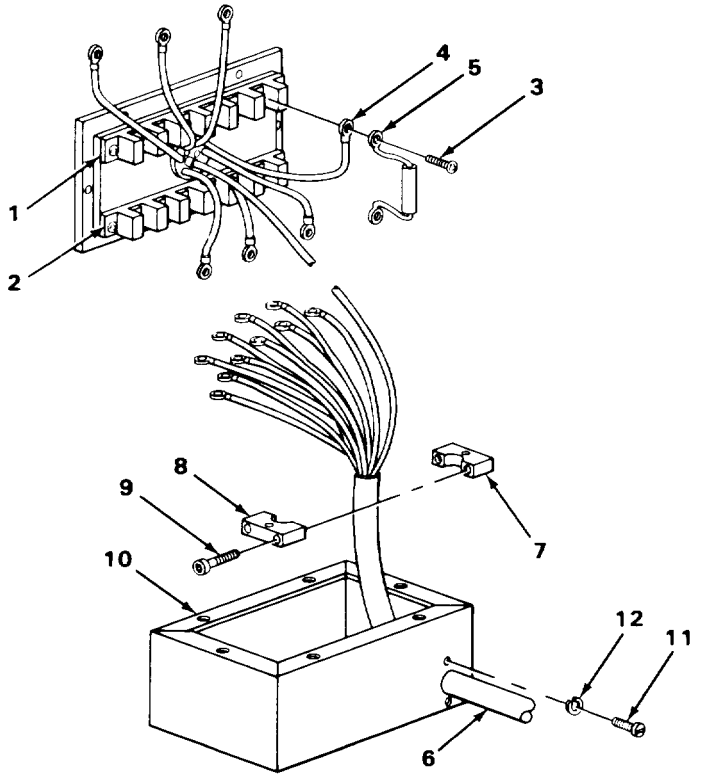
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY OF COMPONENTS - CONTINUED		
11 Receptacle (1)	Nut (2) and pin connector (3)	a. Place nut (2) over pin connector (3). b. Push pin connector (3) into hole (K) of grommet (4) in receptacle (1). c. Screw nut (2) onto receptacle (1) using pliers.
12 Junction box cover (5)	Four screws (6), receptacle (1) and cover (7)	Secure receptacle (1) and cover (7) to junction box cover (5) with four screws (6) using a cross-tip screwdriver.



TA 221676

FRONT HARNESS AND JUNCTION BOX - CONTINUED

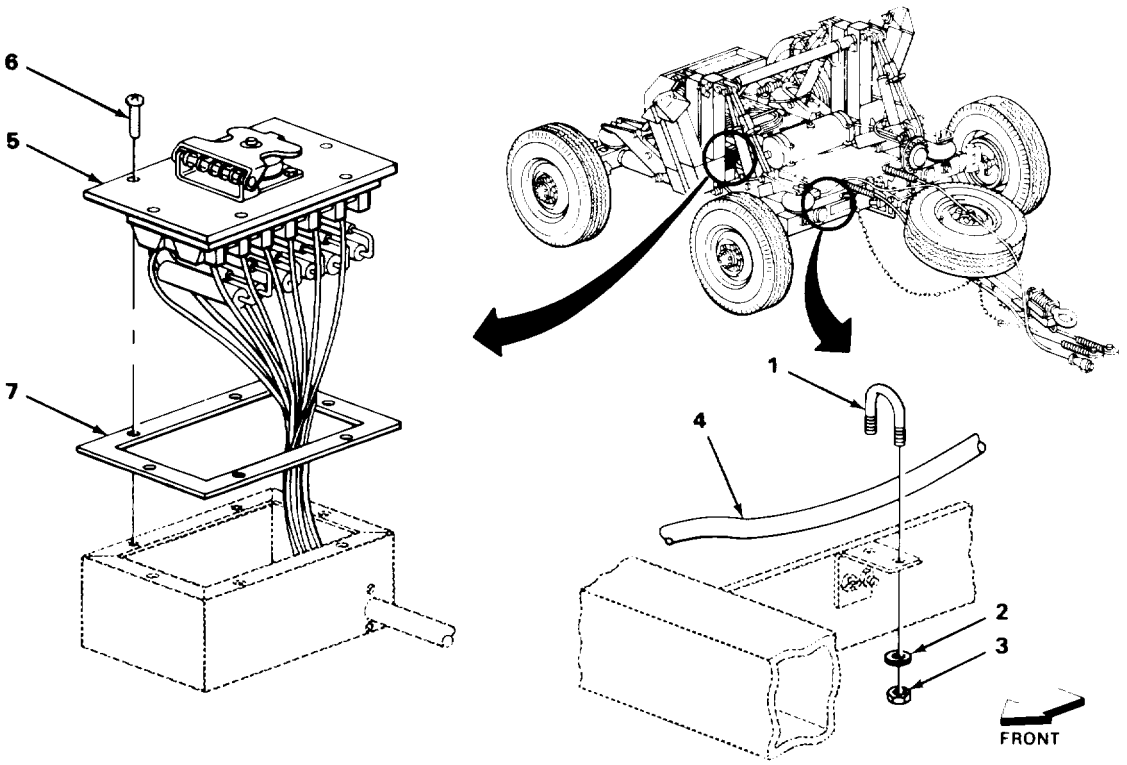
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY OF COMPONENTS - CONTINUED		
13 Terminal boards (1) and (2)	Twelve screws (3), fourteen terminals (4) and six resistors (5)	Secure resistors (5) and terminals (4) with screws (3) using a cross-tip screwdriver.
14 Front harness (6)	Clamp halves (7) and (8) and two screws (9)	Secure clamp halves (7) and (8) with screws (9) using a 7/64-inch socket head wrench.
15 Junction box (10)	Clamp halves (7) and (8), two screws (11) and two washers (12)	Secure clamp halves (7) and (8) to junction box with screws (11) using a flat-tip screwdriver.



TA 221677

FRONT HARNESS AND JUNCTION BOX - CONTINUED

LOCATION	ITEM	ACTION



JUNCTION BOX AND INTERVEHICULAR CABLE

This task covers:

a. Removal (page 4-49)
b. Junction box disassembly (page 4-50)
c. Junction box assembly (page 4-50)
d. Installation (page 4-52)

INITIAL SETUP

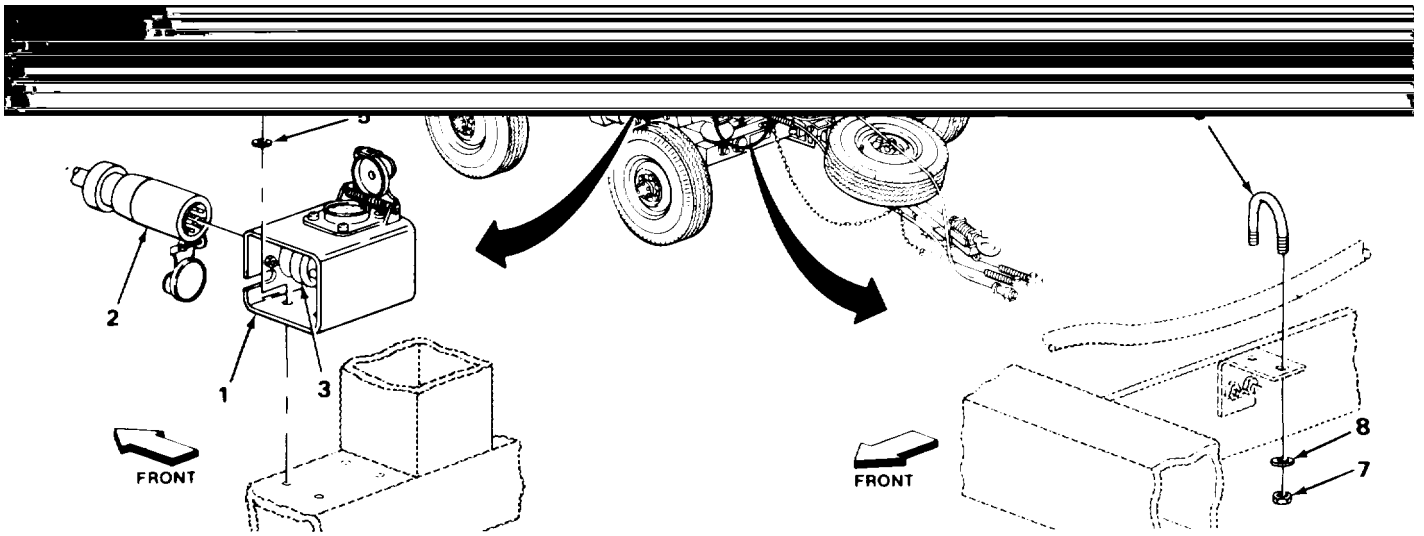
Tool S

7/16-inch wrench
Flat-tip screwdriver
11/32-inch wrench

Applicable Configurations

Early models

LOCATION	ITEM	ACTION / REMARKS
REMOVAL		
1 Junction box (1)	Intervehicular cable plug (2)	Pull out of receptacle (3).
2	Four screws (4) and four washers (5)	Take out using a 7/16-inch wrench. Take box off of equipment.
3 Front axle	U-bolt (6), two nuts (7) and two washers (8)	Take off using a 7/16-inch wrench. Take the cable off of the equipment.

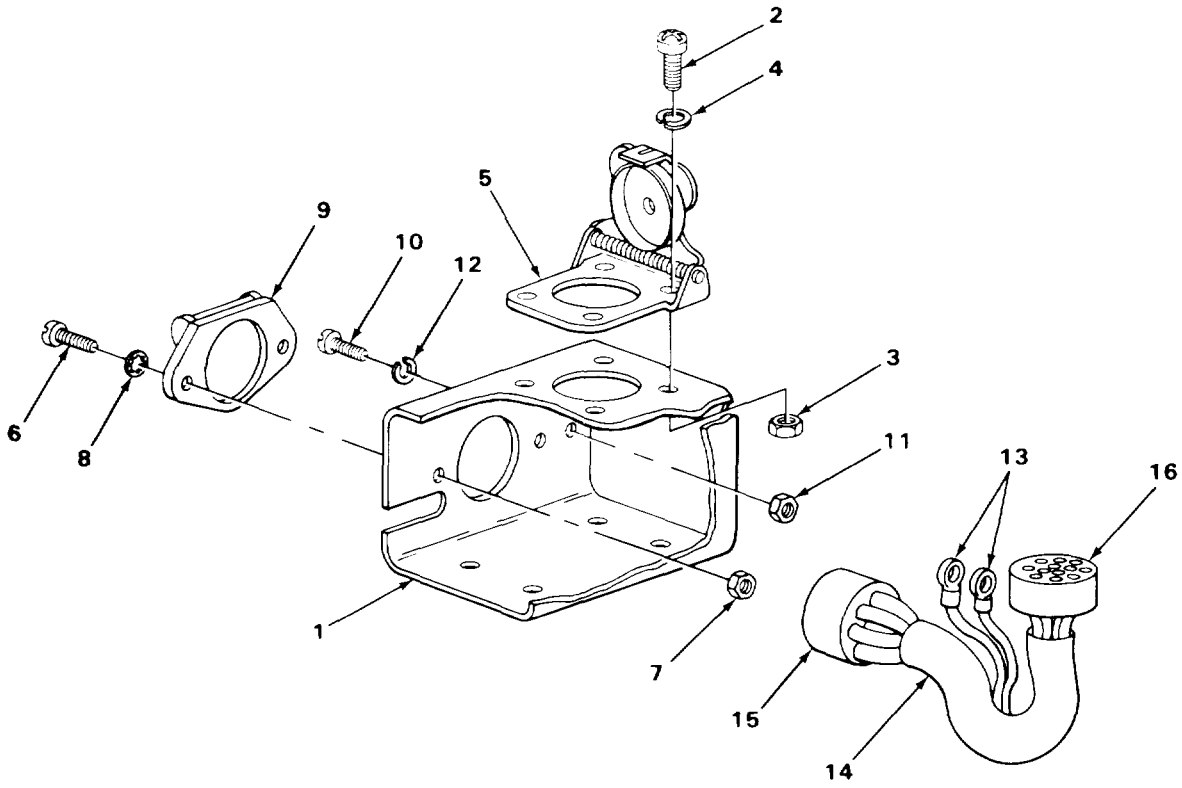


TA 221679

JUNCTION BOX AND INTERVEHICULAR CABLE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
JUNCTION BOX DISASSEMBLY		
4 Junction box (1)	Four screws (2), four nuts (3), four washers (4) and cover (5)	Take off using a flat-tip screwdriver and a 7/16-inch wrench.
5	Two screws (6), two nuts (7), two washers (8) and cover (9)	Take off using a flat-tip screwdriver and a 7/16-inch wrench.
6	Screw (10), nut (11), washer (12) and two terminals (13)	Take off using a flat-tip screwdriver and an 11/32-inch wrench.
7	Harness assembly (14)	Take out of junction box (l).
JUNCTION BOX ASSEMBLY		
8 Junction box (1)	Harness assembly (14)	Position inside of junction box (l).
9	Two screws (6), two washers (8), two nuts (7), cover (9) and receptacle (15)	Secure receptacle (15) and cover (9) with screws (6) and nuts (7) using a flat-tip screwdriver and a 7/16-inch wrench.
10	Four screws (2), four washers (4), four nuts (3), cover (5) and receptacle (16)	Secure receptacle (16) and cover (5) to junction box (1) with screws (2) and nuts (3) using a flat-tip screwdriver and a 7/16-inch wrench.
11	Screw (10), nut (11), washer (12) and two terminals (13)	Secure two terminals (13) with screw (10) and nut (11) using a flat-tip screwdriver and an 11/32-inch wrench.

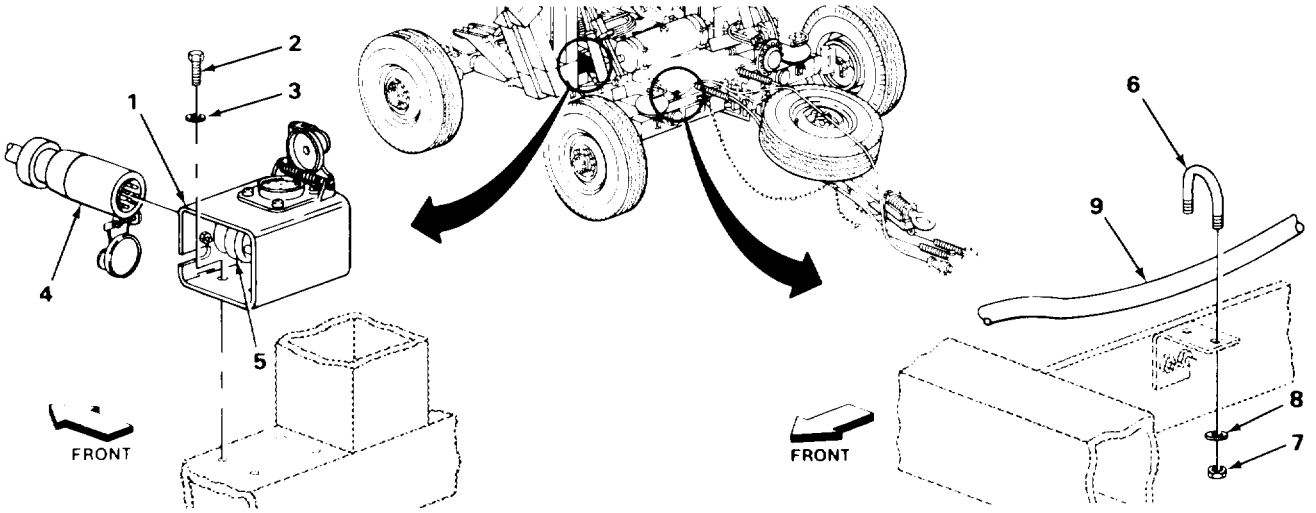
JUNCTION BOX AND INTERVEHICULAR CABLE - CONTINUED



TA 221680

JUNCTION BOX AND INTERVEHICULAR CABLE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
12 Frame	Junction box (1)	Position on frame.
13	Four screws (2) and four washers (3)	Secure junction box (1) with screws (2) using a 7/16-inch wrench.
14	Intervehicular cable plug (4)	Plug into receptacle (5).
15 Front axle	U-bolt (6), two nuts (7) and two washers (8)	Secure intervehicular cable (9) to front axle with U-bolt (6) using a 7/16-inch wrench.



TASK ENDS HERE

TA 221681

REAR HARNESS AND RECEPTACLE - EARLY MODELS

This task covers:

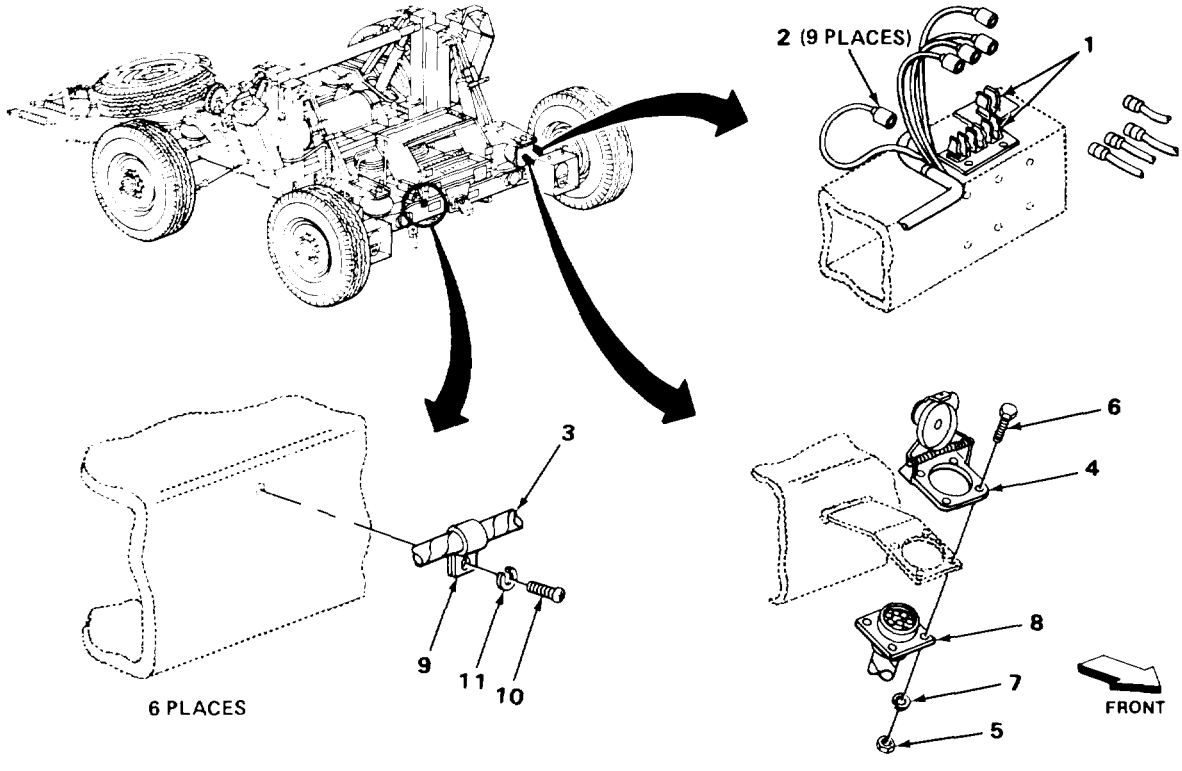
INITIAL SETUP

Tools	Applicable Configurations
Cross-tip screwdriver 7/16-inch wrench (two required)	Early models

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
		NOTE Make sure that the rear harness and the light harness leads are properly identified before unplugging the connectors.
1 Rear axle	Four terminal clips (1) and nine harness terminals (2)	a. Snap harness terminals (2) out of clips (l). b. Disconnect all lights from rear harness (3) at the terminals (2).
2	Cover (4), four nuts (5), four screws (6), four washers (7) and receptacle (8)	Take off using two 7/16-inch wrenches.
3	Six clamps (9), six screws (10) and six washers (11)	Take off using a cross-tip screwdriver. Remove the harness (3) from the axle.
INSTALLATION		
4 Rear axle	Rear harness (3)	Position on the axle.
5	Six clamps (9), six screws (10) and six washers (11)	Secure rear harness (3) to the axle using a cross-tip screwdriver.

REAR HARNESS AND RECEPTACLE - EARLY MODELS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
6 Rear axle	Four terminal clips (1) and nine harness terminals (2)	a. Plug the halves of the harness terminals together. b. Snap the terminals (2) into the harness clip (1).
	Cover (4), four nuts (5), four screws (6), four washers (7) and receptacle (8)	Secure the receptacle (8) and the cover (4) to the rear axle using two 7/16-inch wrenches.



TASK ENDS HERE

REAR HARNESS AND RECEPTACLE - LATE MODELS

This task covers:

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

INITIAL SETUP

Tools

7/16-inch wrench (two required)
Cross-tip screwdriver
Diagonal cutting pliers

Materials/Parts

Plastic wire ties (ten required)

Applicable Configurations

Late models

Equipment Condition

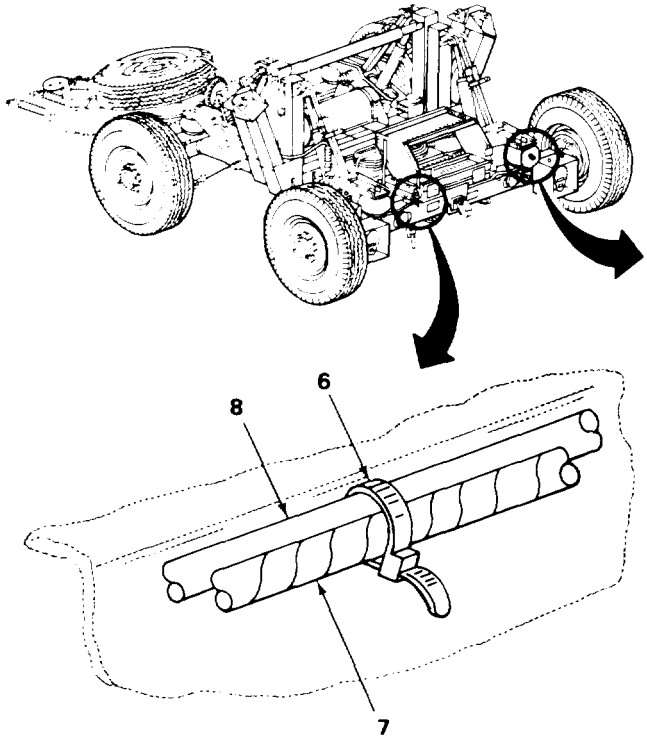
Composite lights removed (page 4-24).

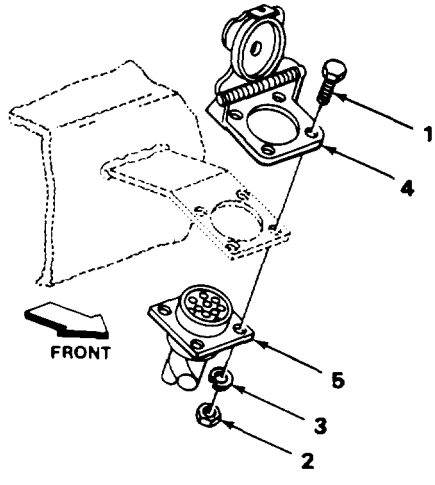
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Rear axle	Four screws (1), four nuts (2), four washers (3), cover (4) and receptacle (5)	Take off using two 7/16-inch wrenches.
2	Ten plastic wire ties (6)	Cut off using cutting pliers. **Throw away wire ties.**
3	Harness (7)	Take off of rear axle.
INSTALLATION		
4 Rear axle	Harness (7)	Position on rear axle.
5	Ten new plastic wire ties (6)	Secure harness (7) to brake line (8) with wire ties (6).
6	Four screws (1), four nuts (2), four washers (3), cover (4) and receptacle (5)	Secure receptacle (5) and cover (4) with screws (1) and nuts (2) using two 7/16-inch wrenches.

REAR HARNESS AND RECEPTACLE - LATE MODELS - CONTINUED

LOCATION	ITEM	ACTION REMARKS

INSTALLATION - CONTINUED





NOTE

FOLLOW-ON MAINTENANCE: Install composite lights (page 4-24).

TASK ENDS HERE

TA 221683

COMPONENT TESTING

This task covers:

a. Testing lamps (page 4-58)
b. Testing resistors (page 4-59)
c. Testing harnesses (page 4-60)

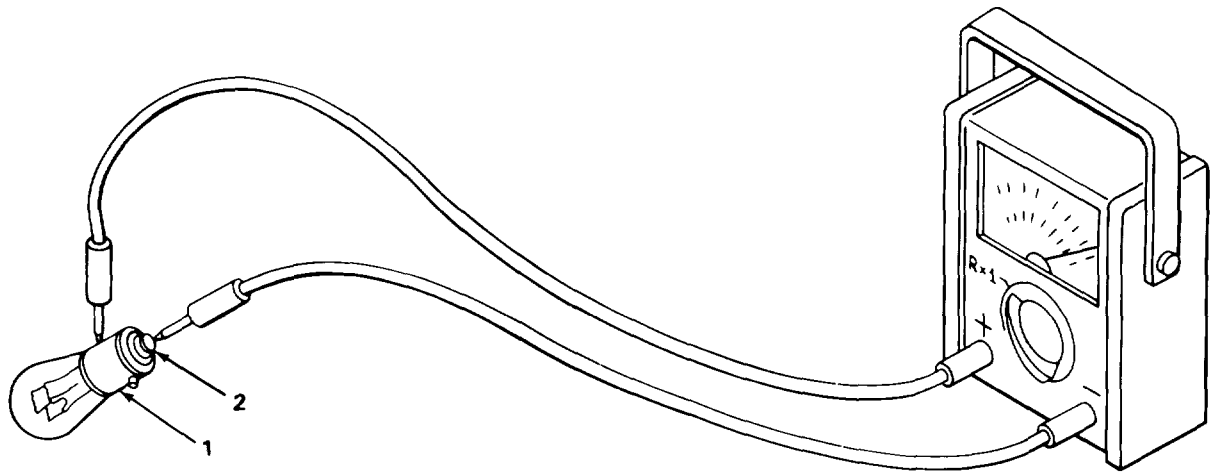
INITIAL SETUP

Tools	Equipment Condition
Multimeter	Lamps removed (page 4-30). Harnesses removed (page 4-40). Resistor removed (page 4-41). All power sources disconnected. Multimeter set to ohms position.

LOCATION	ITEM	ACTION **REMARKS**

TESTING LAMPS

1	Lamp	Base (1) and contact (2)	Attach one lead of multimeter to base (1) and one to contact (2). Read ohms. **If multimeter shows infinite resistance, throw away lamp.**



TA 221684

COMPONENT TESTING - CONTINUED

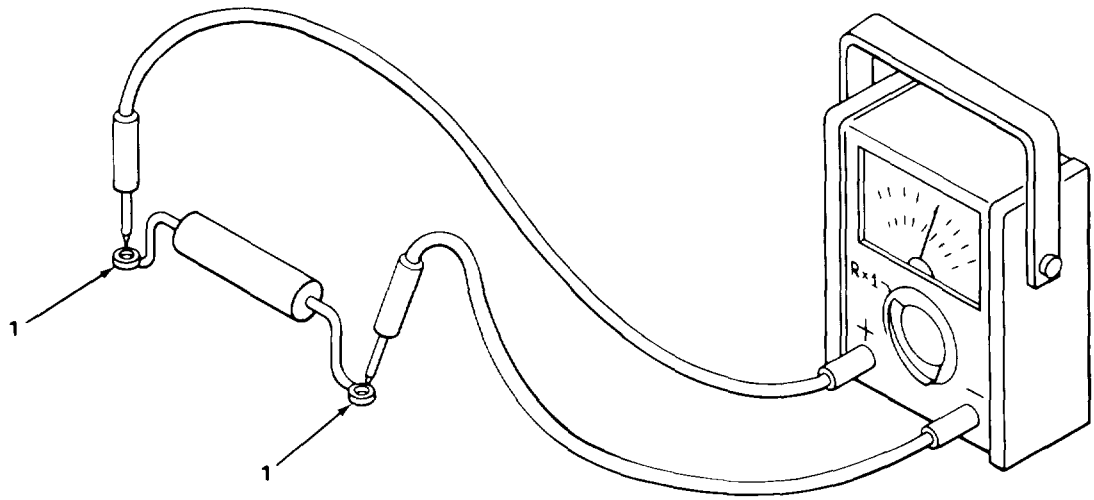
LOCATION	ITEM	ACTION REMARKS

TESTING RESISTORS

NOTE

There are no resistors used in later configurations.

2 Resistor	Two terminals (1)	a. Attach one lead of multi meter to each terminal (1) of resistor. b. Read multi meter. **If meter shows infinite resistance, discard and replace.**



TA 221685

COMPONENT TESTING - CONTINUED

LOCATION	ITEM	ACTION REMARKS

TESTING HARNESSES

NOTE

This is a typical test procedure for a wiring harness. Refer to troubleshooting (page 4-12) and wiring schematics (pages FO-1 and FO-2) to properly use these harness test procedures.

Step 3 is a continuity check. Use the following charts to identify each individual wire in the harness.

Commercial (12-Volt) Wiring

TERMINAL DESIGNATION	CIRCUIT NUMBER	CONNECTS TO
#1	C-1	Ground
#3	C-3	Left directional
#4	C-4	Stoplights
#5	C-5	Right directional
#6	C-6	Taillights

Military (24-Volt) Wiring

TERMINAL DESIGNATION	CIRCUIT NUMBER	CONNECTS TO
A	24-484	Left blackout taillight
B	22-461	Left stop and directional light
C	24-483	Right blackout taillight
D	90	Ground
E	21-489	Service taillight
F	23	Blackout stoplight
J	22-460	Right stop and directional light

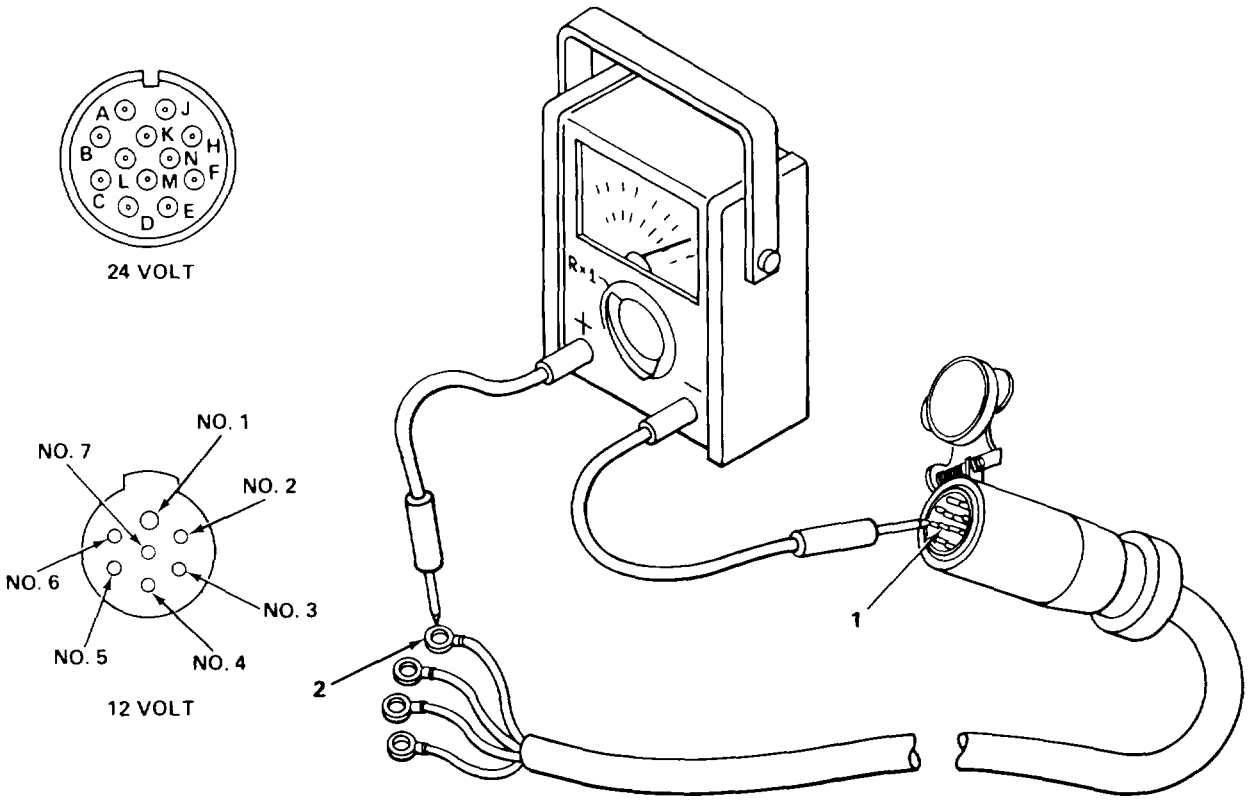
3 Wiring harness	Harness terminals (1) and (2)	a. Attach one lead of the multi meter to each common terminal (1) and (2). If the needle does not move for every wire, the harness is bad. b. Repeat (a) while bending and twisting the harness. If the needle fluctuates for any wire, the harness is bad.

COMPONENT TESTING - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

TESTING HARNESSES - CONTINUED

4 Wiring harness	Harness terminals (1) and (2)	a. Attach one lead of the multi meter to one terminal (1). Probe all other terminals (1) with the other lead of the multimeter. **If the needle of the multimeter moves, it indicates that the harness is shorted.** b. Repeat (a) while bending and twisting the harness. **If the multimeter needle moves, the harness is bad.** c. Repeat steps (a) and (b) for each terminal (1).



TASK ENDS HERE

TA 221686

WIRING HARNESS REPAIR

This task covers:

a. Male connector repair (page 4-62)
b. Female connector repair (page 4-63)
c. Ring terminal replacement (page 4-64)
d. Circuit band replacement (page 4-64)
e. Receptacle repair (page 4-65)

INITIAL SETUP

Tools

Crimping tool
Cutting pliers
Engraving tool
Flat-tip screwdriver
Hand wire strippers
Slip joint pliers
Soldering iron

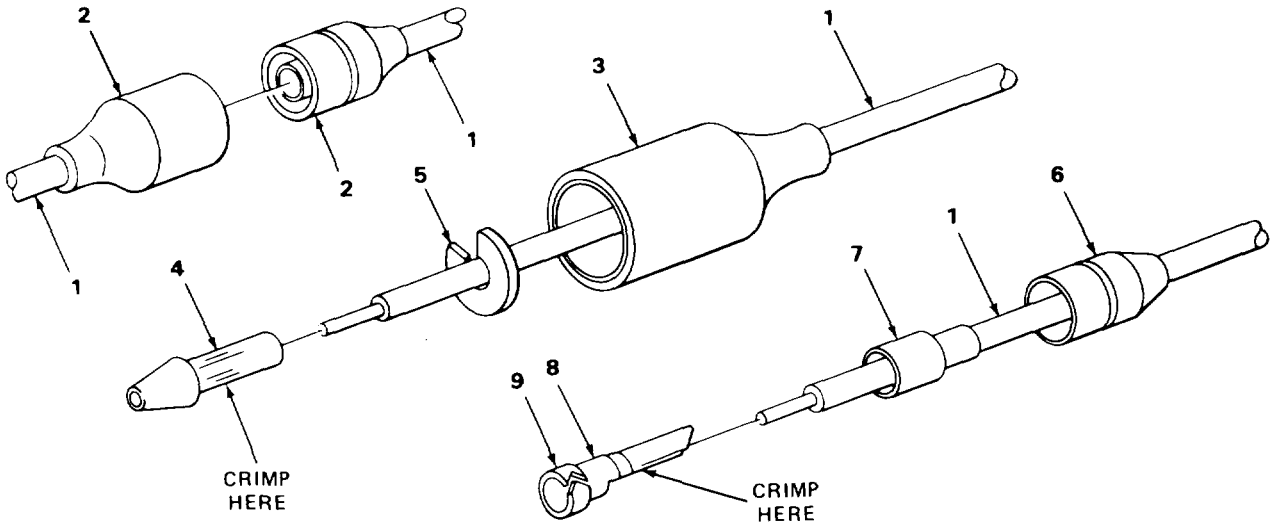
Materials/Parts

Terminals (as required)
Shells (as required)
New marker band

LOCATION	ITEM	ACTION **REMARKS**
MALE CONNECTOR REPAIR		
1 Wire leads (1)	Connector assembly (2)	Separate.
2 Male half of connector	Shell (3)	Slide back on wire lead (1).
3 Wire lead (1)	Washer (5)	Take off.
4	Shell (3)	Slide off over contact (4). **Throw away shell (3).**
5	Contact (4)	Cut off using cutting pliers. **Throw away contact (4).**
6	Wire lead (1)	Strip off insulation equal to the depth of the new contact (4).
7 Wire lead (1)	Shell (3)	Slide onto wire lead (1).
8	Contact (4)	Slide onto wire lead (1) and crimp using crimping tool.

WIRING HARNESS REPAIR - CONTINUED

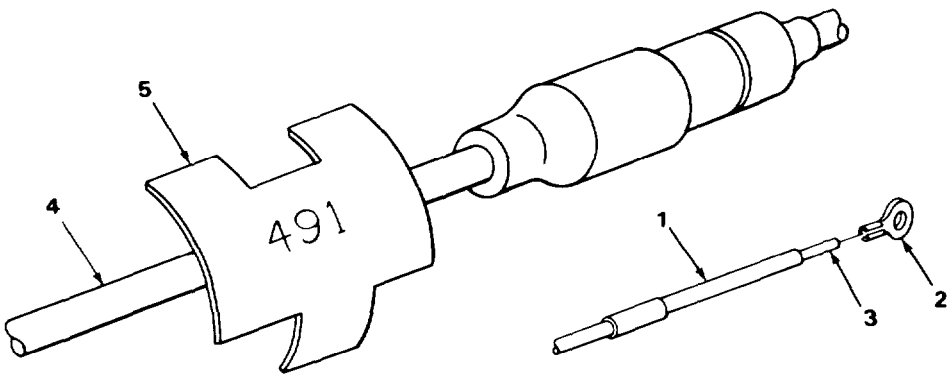
LOCATION		ITEM	ACTION REMARKS
MALE CONNECTOR REPAIR - CONTINUED			
9		Retaining washer (5)	a. Slide onto lead (1). b. Slide shell (3) over washer (5) and contact (4).
FEMALE CONNECTOR REPAIR			
10	Wire lead (1)	Shell (6) and sleeve (7)	Slide back on wire lead (1).
11		Contact (8)	Cut off using cutting pliers. **Throw away contact (8).**
12		Wire lead (1)	Strip off insulation equal to the depth of the new contact (8).
13		Shell (6) and sleeve (7)	Slide onto wire lead (1).
14		Contact (8), shell (6) and sleeve (7)	a. Slide onto wire lead (1) and crimp using a crimping tool. b. Slide shell (6) and sleeve (7) over contact (8).
15		Contact , assembly (2)	Plug halves together.



TA 221687

WIRING HARNESS REPAIR - CONTINUED

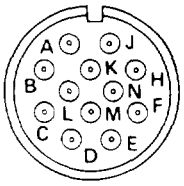
LOCATION	ITEM	ACTION **REMARKS**
RING TERMINAL REPLACEMENT		
16 Wire lead (1)	Terminal (2)	Cut off using cutting pliers. **Throw away terminal (2).**
17	Wire (3)	Strip off insulation equal to the depth of the new terminal (2).
18 Wire lead (1)	Terminal (2)	a. Slide onto the end of wire (3), b. Crimp using crimping tool.
CIRCUIT BAND MARKER REPLACEMENT		
19 Wire lead (4)	Marker band (5)	Open tabs and remove using a flat-tip screwdriver. **Note number on the band and throw the band away.**
20	New marker band (5)	Engrave the number using the engraving tool.
21	New marker band (5)	Put on wire lead (4) and bend tabs over using crimping tool.

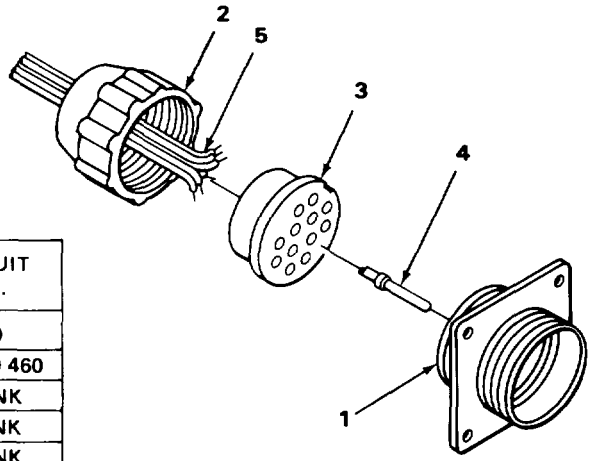


TA 221688

WIRING HARNESS REPAIR - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
RECEPTACLE REPAIR		
22 Connector (1)	Nut (2)	Take off using pliers.
23	Grommet (3)	Take out.
24 Grommet (3)	Pins (4)	Pull out of grommet.
25 pins (4)	Wire leads (5)	Remove by melting solder with soldering iron.
		NOTE Only unsolder the leads that need to be repaired.
26 pins (4)	Wire leads (5)	a. Heat the solder well in pin (4). b. While solder is hot, insert wire lead (5) into it.
27 Grommet (3)	Pin (4)	Insert pin (4) into the grommet (3). **Follow chart to put pins in the proper location.**
28 Connector (1)	Grommet (3)	Put grommet (3) into connector (1).
29	Nut (4)	Screw on using pliers.





TERMINAL DESIGNATION	CIRCUIT NO.	TERMINAL DESIGNATION	CIRCUIT NO.
A	24 AND 484	H	490
B	22 AND 461	J	22 AND 460
C	24 AND 483	K	BLANK
D	90	L	BLANK
E	21 AND 489	M	BLANK
F	23	N	BLANK

TASK ENDS HERE

TA 221689

Section VIII AXLE MAINTENANCE

FRONT WHEEL TOE-IN

This task covers:

Adjustment (page 4-66)

INITIAL SETUP

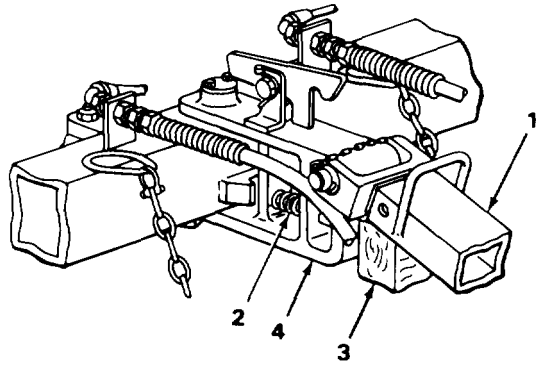
Tools

Pipe wrench
9/16-inch wrench
Socket, 9/16-inch by 1/2-inch drive
Ratchet handle, socket wrench, 1/2-inch drive
Toe-in bar

Equipment Condition

Spare tire removed (page 3-8).

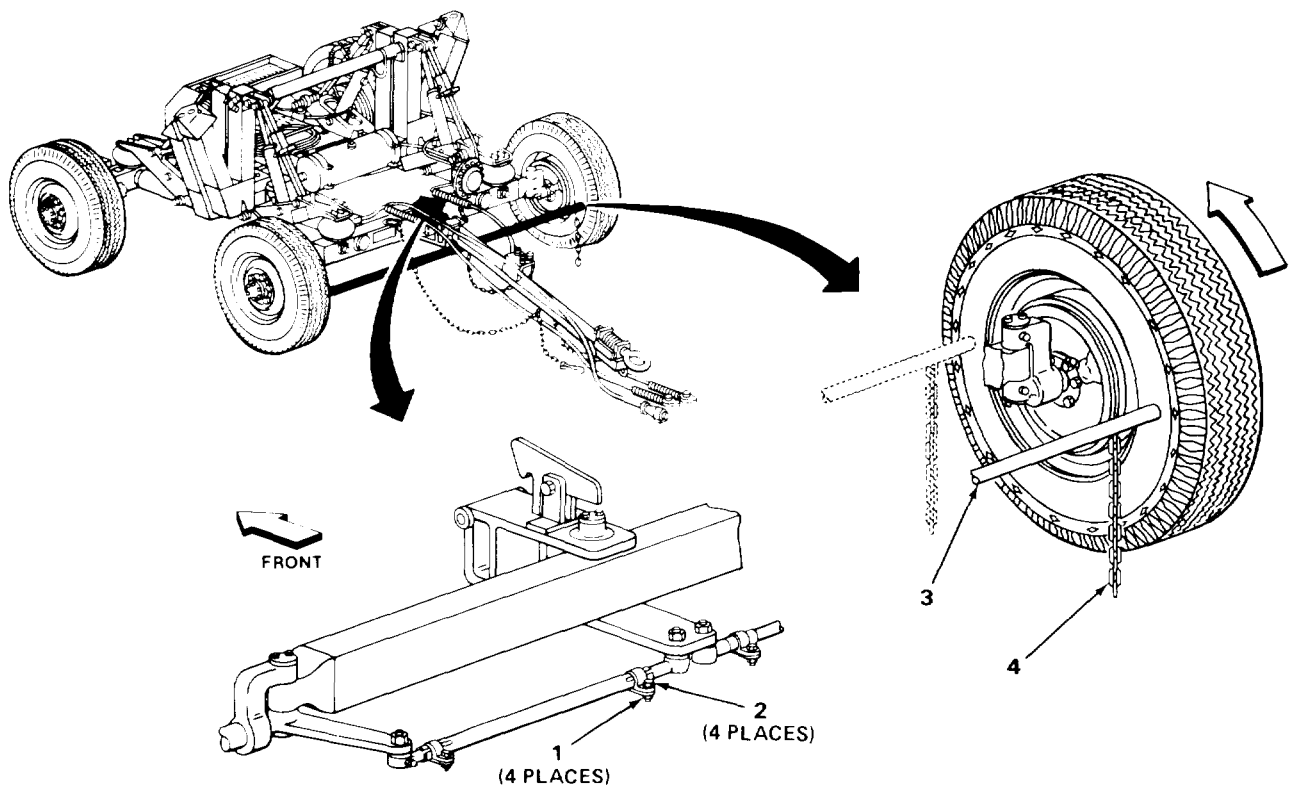
LOCATION	ITEM	ACTION **REMARKS**
1 Front axle	Towbar (1), centering pin (2) and woodblock (3)	a. Visually center steering arm (4). b. Lift towbar (1). c. Place woodblock (3) on centering pin (2). d. Have an assistant lower the towbar so that it engages the centering pin through the woodblock (3).



TA 221690

FRONT WHEEL TOE-IN - CONTINUED

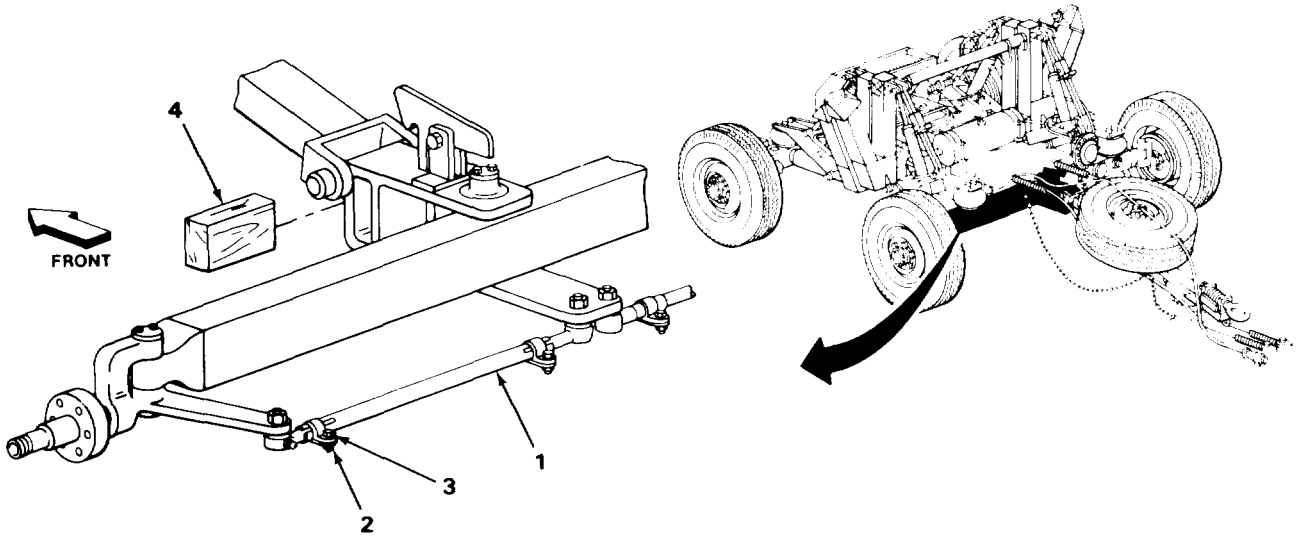
LOCATION	ITEM	ACTION REMARKS
2 Left and right side tie rods	Four nuts (1) and four screws (2)	Loosen using a 9/16-inch wrench and a 9/16-inch socket wrench.
3 Rear inside edges of front tires	Toe-in bar (3)	Attach toe-in bar (3) to rear inside edges of tire. Bar should be situated so that two reference chains (4) just touch the ground. Record toe-in bar reading.
4 Dolly set	Toe-in bar (3)	Slowly roll the dolly set backwards until the toe-in bar (3) is in front of the axle. The bar should be at the height where the reference chains (4) just touch the ground. The reading on the toe-in bar should be 1/4 inch less in front of the axle than it was behind the axle.



TA 221691

FRONT WHEEL TOE-IN - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
5 Left and right tie rods	Two tubes (1)	Turn the tubes (1) using a pipe wrench to adjust the toe-in. **The wheels should toe in 1/4 inch.**
6	Four nuts (2) and four screws (3)	Tighten using a 9/16-inch wrench and a 9/16-inch socket wrench.
7 Towbar to centering pin	Wood block (4)	Take out.



NOTE

FOLLOW-ON MAINTENANCE: Install spare tire (page 3-8).

TASK ENDS HERE

TA 221692

STEERING KNUCKLES

This task covers:

a. Removal (page 4-69)
b. Installation (page 4-72)

INITIAL SETUP

Tools

Hammer
5/32-inch socket head wrench
Tie rod separator
Cutting pliers
Punch
9/16-inch wrench
Ratchet handle, 1/2-inch drive
1/2-inch wrench
5/8-inch wrench

Tools - Continued

Socket, 9/16-inch by 1/2-inch drive
3/4-inch wrench
7/16-inch wrench

Materials/Parts

New cotter pin

Equipment Condition

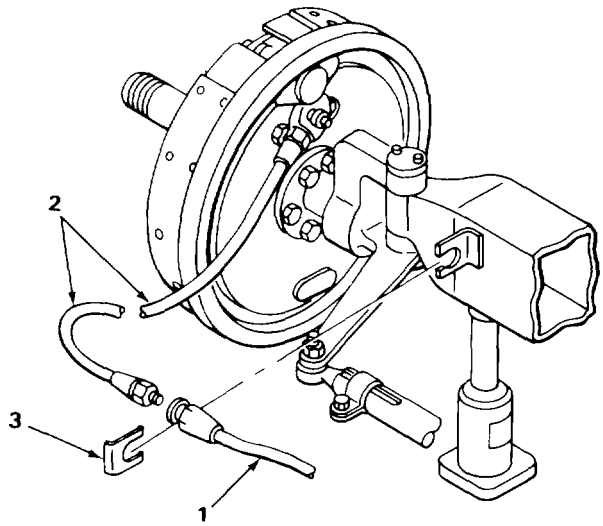
Hub and brake drum removed (page 4-132).

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
		NOTE Procedure is for the removal of one knuckle. The procedure for both sides is identical.	
1 Front axle	Hydraulic tube (1), brake hose (2) and clip (3)	a. Snap out clip using a flat-tip screwdriver. b. Take tube (1) out of hose (2) using 5/8-inch and 7/16-inch wrenches.	

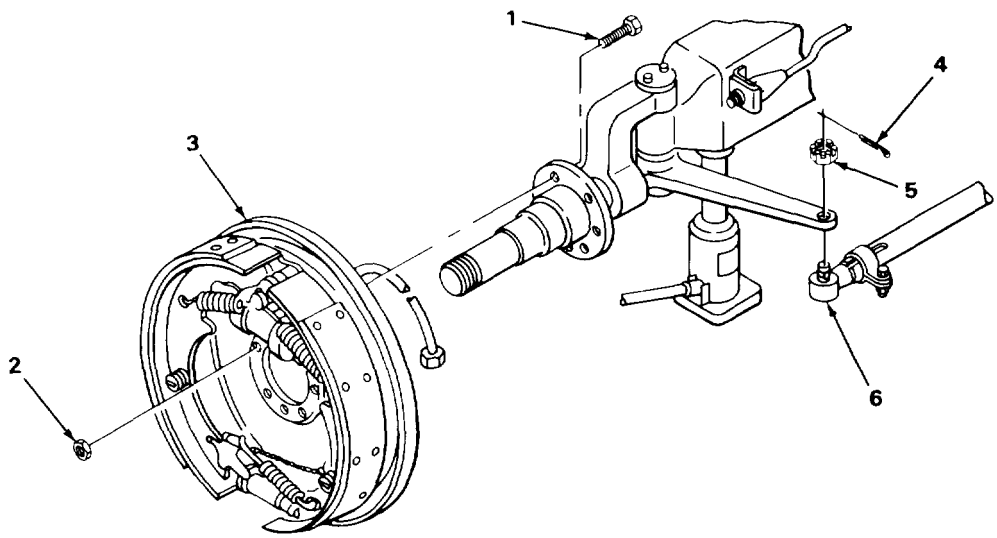
STEERING KNUCKLES - CONTINUED

LOCATION	ITEM	ACTION	**REMARKS**

REMOVAL - CONTINUED



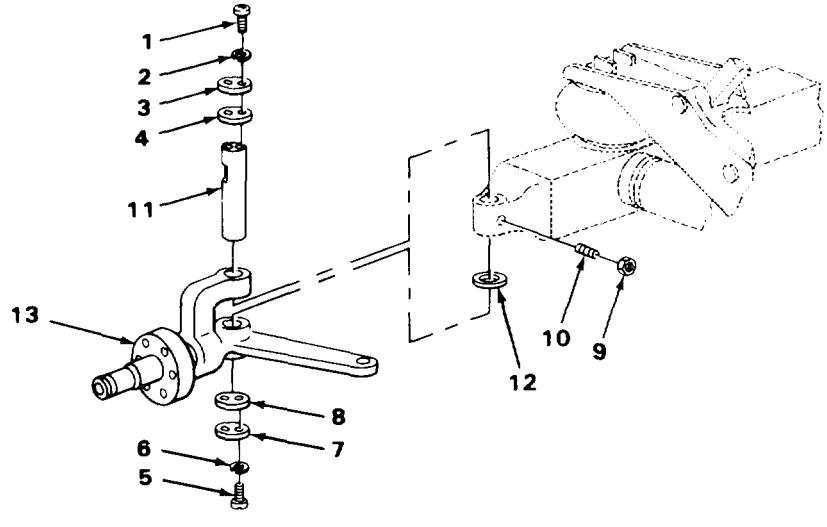
2	Steering knuckle to backing plate	Six screws (1) and six nuts (2)	Take out using a 9/16-inch box wrench and a 9/16-inch socket wrench.
3	Steering knuckle	Backing plate (3)	Take off.
4	Steering knuckle and tie rod socket	Cotter pin (4) and nut (5)	a. Using pliers take off cotter pin (4). b. Using 3/4-inch box wrench, unscrew nut (5) and take off. **Get rid of cotter pin.**
5	Steering knuckle	Tie rod socket (6)	Using hammer and tie rod separator, take off tie rod socket.



TA 221693

STEERING KNUCKLES - CONTINUED

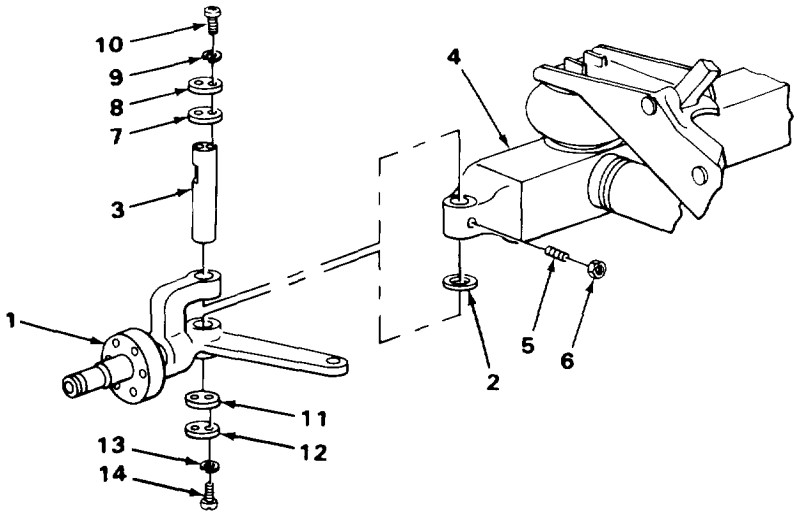
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL - CONTINUED		
6 Steering knuckle, top side	Two screws (1) two lockwashers (2), cover plate (3) and gasket (4)	a. Using 5/32-inch key, unscrew screws and take off. b. Take off remaining parts.
7 Steering knuckle, bottom side	Two screws (5), two lockwashers (6), cover plate (7) and gasket (8)	a. Using 5/32-inch key, unscrew and take off screws (5). b. Take off remaining parts,
8 Steering knuckle	Nut (9), and setscrew (10)	a. Using 1/2-inch box wrench, unscrew nut (9) part way. b. Using 5/32-inch key, unscrew and take off setscrew (10) and nut.
9 Axle beam	Kingpin (11), thrust washer (12) and steering knuckle (13)	a. Using hammer and punch, take out kingpin (11). b. Take off remaining parts.



TA 221694

STEERING KNUCKLES - CONTINUED

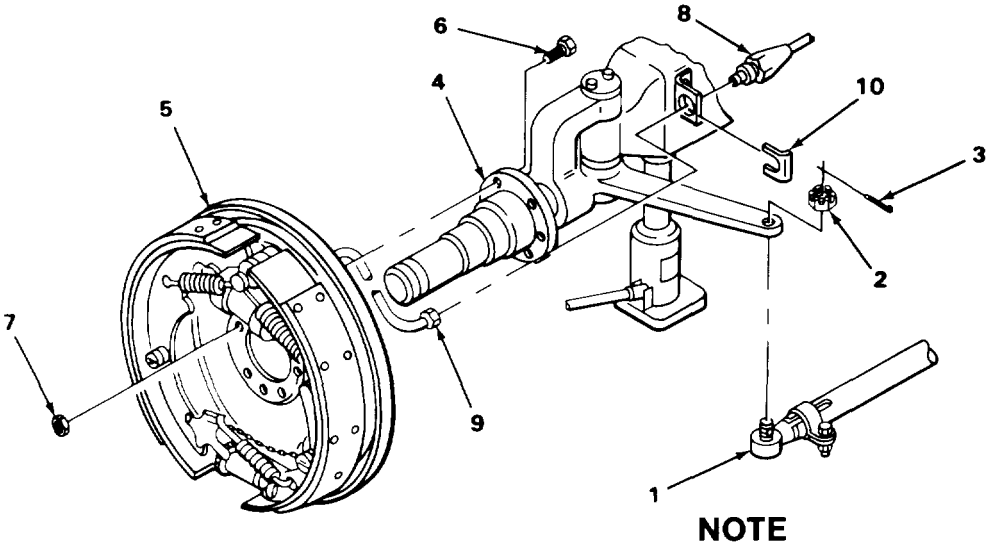
LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
10 Axle beam	Steering knuckle (1), thrust washer (2) and kingpin (3)	a. Place steering knuckle (1) and thrust washer (2) in position on axle beam (4). b. Put in kingpin (3). **Make sure flat on kingpin is alined to setscrew.**
11 Steering knuckle	Setscrew (5) and nut (6)	a. Using 5/32-inch socket head wrench, screw in setscrew (5) and tighten. b. Using 1/2-inch box wrench, screw in nut (6) and tighten,
12 Steering knuckle, top side	Gasket (7), plate (8), two washers (9) and two screws (10)	Position plate (8) and gasket (7) on top of knuckle and secure with two screws (10) using a 5/32-inch socket head wrench.
13 Steering knuckle, bottom side	Gasket (11), plate (12), two washers (13) and two screws (14)	Position plate (12) and gasket (11) on bottom of knuckle and secure with two screws (14) using a 5/32-inch socket head wrench.



TA 221695

STEERING KNUCKLES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION - CONTINUED		
14 Steering knuckle	Tie rod socket (1), nut (2) and cotter pin (3)	a. Push socket (1) into steering knuckle (4). b. Using 3/4-inch box wrench, screw on nut (2) and tighten. c. Using pliers, put in new cotter pin (3).
15 Steering knuckle (4)	Backing plate (5), six screws (6) and six nuts (7)	a. Put backing plate (5) on. b. Secure with six screws (6) and six nuts (7) using a 9/16-inch box wrench and a 9/16-inch socket wrench.
16 Front axle	Brake tube (8), brake hose (9) and clip (10)	a. Secure brake tube (8) to brake hose (9) using 5/8-inch and 7/16-inch wrenches. b. Snap in clip (10).



NOTE

FOLLOW-ON MAINTENANCE:

1. Lubricate kingpin (page 4-2).
2. Install hub and drum (page 4-132).
3. Bleed brakes (page 4-112).

TASK ENDS HERE

TA 221696

TIE ROD ASSEMBLY

This task covers:

a. Removal (page 4-74)
b. Installation (page 4-74)

INITIAL SETUP

Tools

Hammer, hand, 2 pounds
Diagonal cutting pliers
Tie rod separator
3/4-inch box wrench

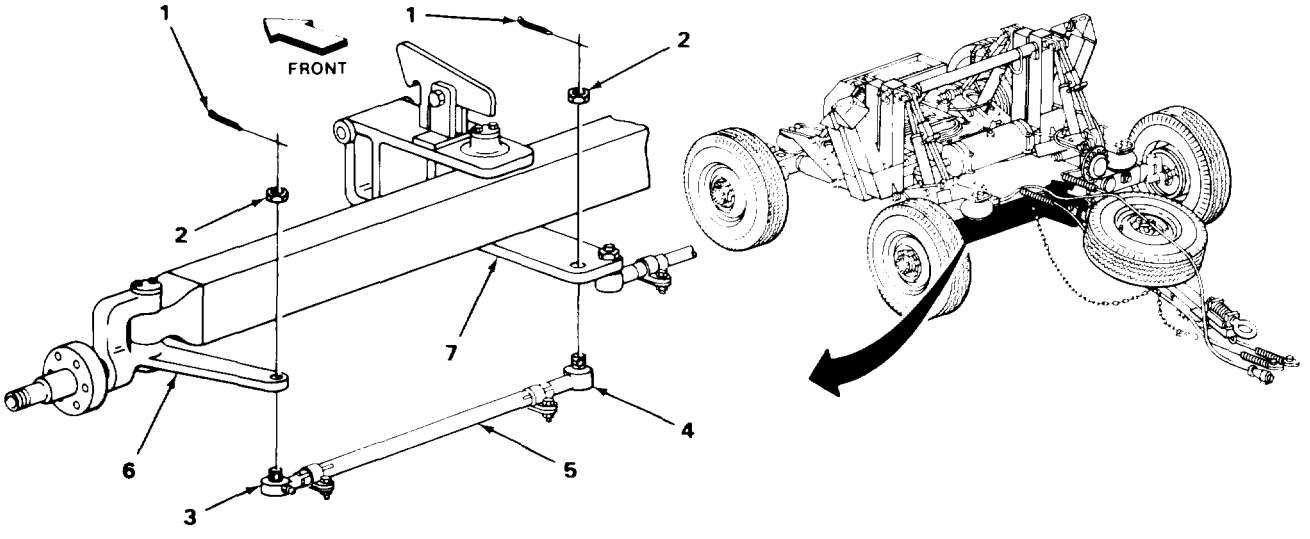
Materials/Parts

Cotter pin (two required)

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
		NOTE Removal and installation procedures are given for one tie rod.
1 Steering knuckle	Cotter pin (1) and nut (2)	a. Using pliers, pull out cotter pin (1). b. Using 3/4-inch box wrench, unscrew nut (2) and take off. **Get rid of cotter pin.**
2	Tie rod socket (3)	Using a tie rod separator and hammer, take off tie rod socket (3).
3 Steering arm	Tie rod socket (4)	a. Repeat steps 1 and 2 for tie rod socket (4). b. Take off tie rod assembly (5).
INSTALLATION		
4 Steering knuckle and steering arm	Tie rod assembly (5)	Place tie rod assembly (5) in position at steering knuckle (6) and steering arm (7).

TIE ROD ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
5 Steering knuckle (6)	Tie rod socket (3), nut (2) and cotter pin (1)	a. Push socket (3) into steering knuckle (6). b. Using 3/4-inch box wrench, screw on nut (2) and tighten. c. Using pliers, put in cotter pin (1).
6 Steering arm (7)	Tie rod socket (4), nut (2) and cotter pin (1)	a. Push stud (4) into steering arm (7). b. Using 3/4-inch box wrench, screw on nut (2) and tighten. c. Using pliers, put in cotter pin (1).



NOTE

FOLLOW-ON MAINTENANCE: Aline front wheels (page 4-66).

TASK ENDS HERE

TA 221697

STEERING ARM

This task covers:

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

INITIAL SETUP

Tools

5/32-inch socket head wrench
Hammer, hand
Punch
Tie rod end separator
Diagonal cutting pliers
3/4-inch wrench

Materials/Parts

New cotter pins

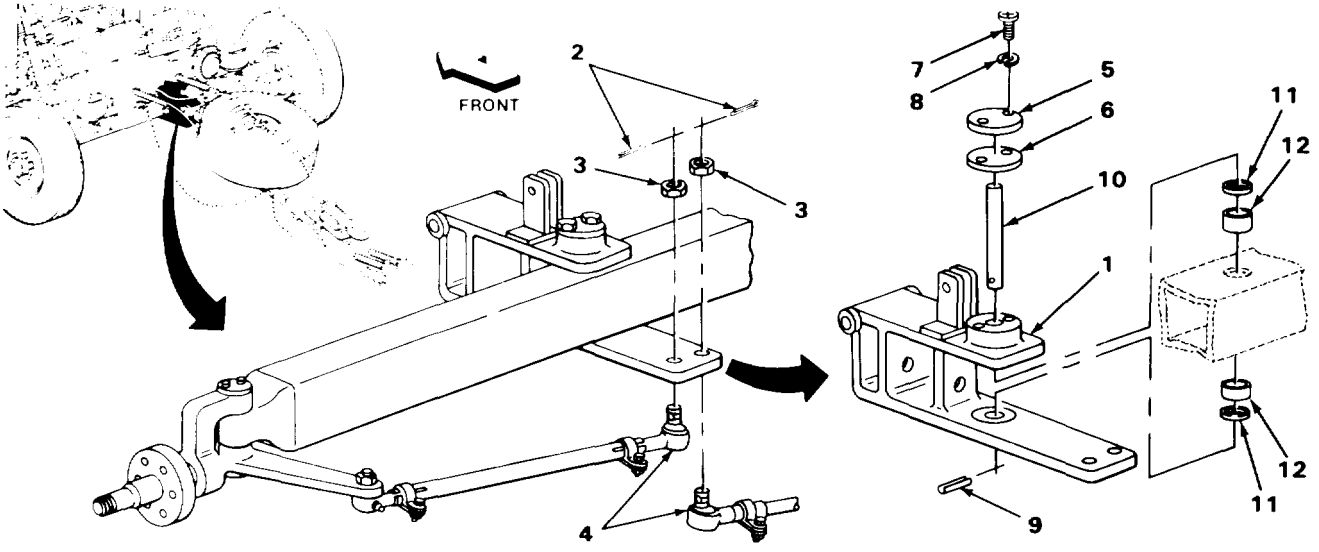
Equipment Condition

Towbar removed (page 4-143).
Towbar uplatch removed (page 4-147).

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Steering arm (1)	Two cotter pins (2) and two nuts (3)	a. Remove cotter pins (2) using diagonal pliers. b. Remove nuts (3) using a 3/4-inch wrench. **Throw away old cotter pins.**
2	Two tie rod sockets (4)	Remove from steering arm (1) using tie rod end separator.
3	Cover (5), gasket (6), two screws (7) and two washers (8)	Remove using a 5/32-inch socket head wrench
4	Headless pin (9)	Remove using a hammer and punch.
5	Pivot pin (10), two bearings (11) and two bearings (12)	Remove using a hammer and punch. **Remove steering arm (1).**
INSTALLATION		
6 Front axle	Steering arm (1) and pivot pin (10)	a. Position steering arm (1) on axle. b. Install bearings (11) and (12). c. Install pivot pin (10).

STEERING ARM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION - CONTINUED		
7 Steering arm (1)	Headless pin (9)	Tap into steering arm to secure pivot pin (10).
8	Cover (5), gasket (6), two screws (7) and two washers (8)	Secure cover (5) and gasket (6) with two screws (7) using a 5/32-inch socket head wrench.
9	Two tie rod sockets (4), two nuts (3) and two cotter pins (2)	a. Push tie rod sockets (4) into holes in steering arms. b. Install two nuts (3) using a 3/4-inch wrench. c. Install two new cotter pins (2) using diagonal pliers.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install towbar (page 4-143).
2. Install towbar uplatch (page 4-147).
3. Lubricate related fittings (page 4-2).

TASK ENDS HERE

TA 221698

FRONT AND REAR AXLE ARMS

This task covers:

a. Removal (page 4-78)
b. Installation (page 4-79)

INITIAL SETUP

Tools

1-inch wrench
Hammer, hand
Punch, pin
Socket, 1-inch by 3/4-inch drive
Extension, 16 inches by 3/4-inch drive
Flat-tip screwdriver
Diagonal cutting pliers

Materials/Parts

New cotter pins (if required)

Equipment Condition

Handbrake applied.
Wheels chocked.

LOCATION	ITEM	ACTION **REMARKS**

REMOVAL

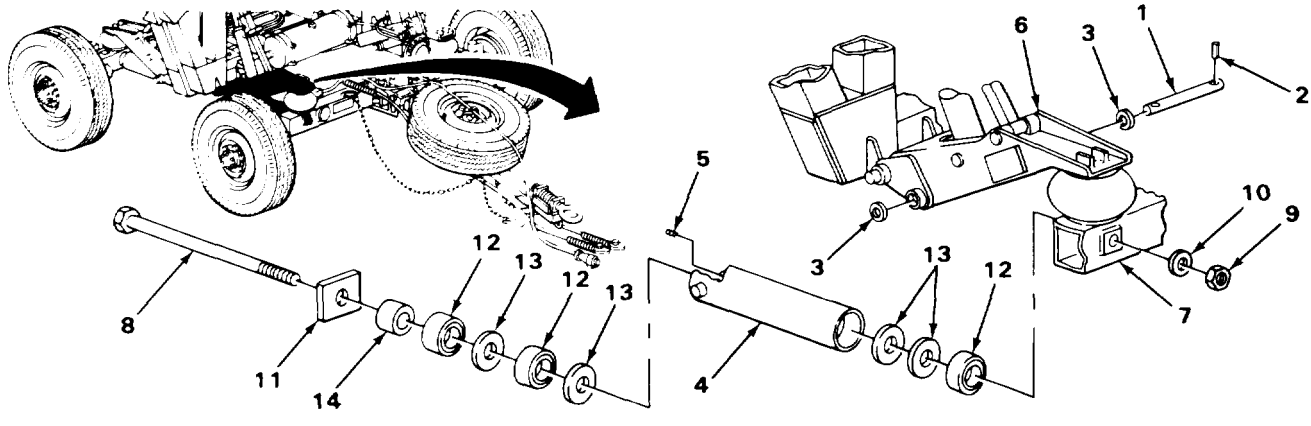
CAUTION

Make sure that the wheels are securely chocked from both the front and rear. If the dolly set moves with an axle arm removed it will destroy one or more of the air mounts.

1 Pin (1)	Two roll pins (2) and two washers (3)	Remove roll pin (2) using a hammer and punch. Take off washers (3).
2 Axle arm (4) to pin (1)	Setscrew (5)	Remove using a flat-tip screwdriver.
3 Axle arm (4) to rocker arm (6)	Pin (1)	Tap out with a hammer and punch.

FRONT AND REAR AXLE ARMS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
4 Axle arm (4) to axle beam (7)	Screw (8), nut (9), washer (10), washer (11), three insulators (12), four washers (13) and rubber washer (14)	Remove using a 1-inch wrench and a l-inch socket wrench. Remove axle arm (4).
INSTALLATION		
5 Axle beam (7)	Screw (8), nut (9), washer (10), washer (11), three insulators (12), four washers (13) and rubber washer (14)	a. Assemble parts to axle arm (4) in the order shown. b. Secure axle arm (4) to axle beam (7) using a 1-inch wrench and a 1-inch socket wrench.
6 Axle arm (4) to rocker arm (6)	Pin (1)	Tap into place using a hammer.
7 Axle arm (4) to pin (1)	Setscrew (5)	Install using a flat-tip screwdriver.
8 pin (1)	Roll pin (2)	a. Install washers (3). b. Install roll pin (2) using a hammer and punch.



TASK ENDS HERE

TA 221699

REAR SPINDLES

This task covers:

a. Removal (page 4-80)
b. Installation (page 4-80)

INITIAL SETUP

Tools

9/16-inch wrench
Socket, 9/16-inch by 3/8-inch drive
Handle, reversible ratchet, 1/2-inch Square drive
5/8-inch wrench
3/8-inch wrench

Tools - Continued

3/4-inch wrench

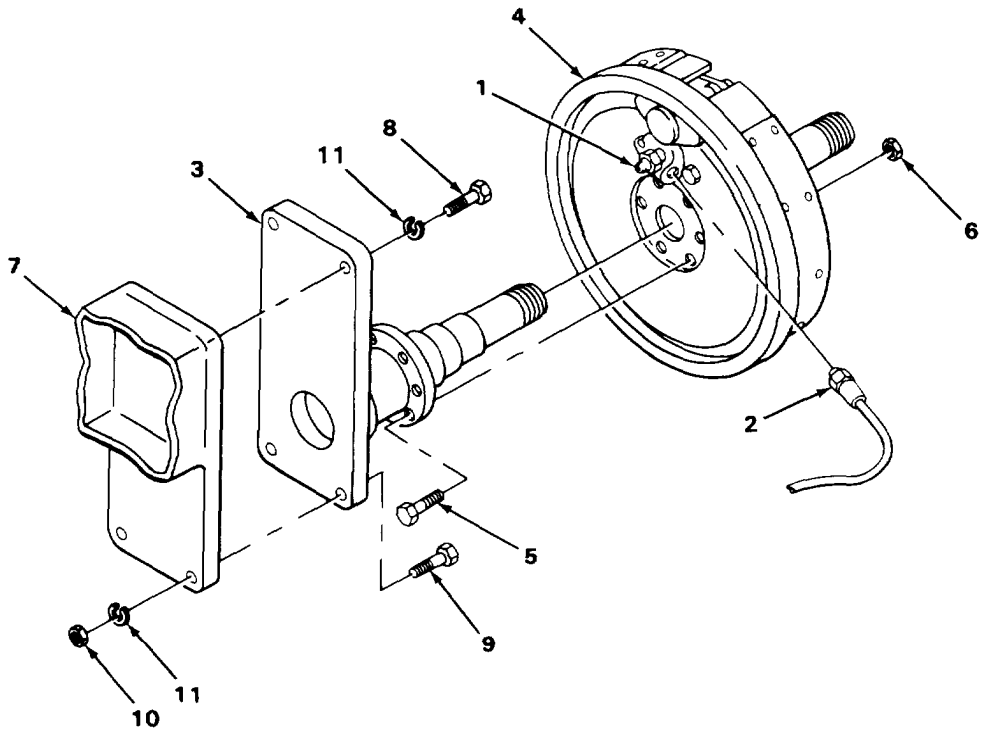
Equipment Condition

Hub and brake drum removed (page 4-1 32).

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Wheel cylinder (1)	Brake hose (2)	Remove using 3/8-inch and 5/8-inch wrenches.
2 Spindle (3) to backing plate (4)	Six screws (5) and six nuts (6)	Remove using a 9/16-inch wrench and a 9/16-inch socket wrench.
3 Spindle (3) to axle beam (7)	Two screws (8), two screws (9), two nuts (10) and four washers (11)	a. Remove two screws (9), two washers (11) and two nuts (10) using two 3/4-inch wrenches. b. Remove two screws (8) and two washers (11) using a 3/4-inch wrench. c. Remove spindle (3) from between backing plate (4) and axle beam (7). Backing plate (4) will remain attached to the handbrake cable.
INSTALLATION		
4 Backing plate (4) and axle beam (7)	Spindle (3)	Position into backing plate (4) and on axle beam (7).
5 Spindle (3) to axle beam (7)	Two screws (8), two screws (9), two nuts (10) and four washers (11)	a. Install two screws (8) and two washers (11) using a 3/4-inch wrench. b. Install two screws (9), two nuts (10) and two washers (11) using two 3/4-inch wrenches.

REAR SPINDLES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION - CONTINUED		
6 Spindle (3) to backing plate (4)	Six screws (5) and six nuts (6)	Install using a 9/16-inch wrench and 9/16-inch socket wrench.
7 Wheel cylinder (1)	Brake hose (2)	Install using 3/8-inch and 5/8-inch wrenches.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install hub and drum (page 4-132).
2. Bleed brakes (page 4-112).

TASK ENDS HERE

FRONT AXLE BEAM

This task covers:

a. Removal (page 4-82)
b. Installation (page 4-84)

INITIAL SETUP

Tools

1/2-ton hydraulic floor jack
Jackstands (two required)
7/16-inch wrench

Personnel Required

Two

Equipment Condition

Dolly set coupled together (page 2-19).
Handbrake applied.
Steering arm removed (page 4-76).
Intervehicular air hoses removed (page 4-1 20).

Equipment Condition - Continued

Safety chains removed (page 4-148).
Data plates removed (page 4-162).
Reflectors removed (page 4-158).
Hydraulic pump removed (page 4-163).
Brake chamber tee removed (page 4-1 26).
Front axle hydraulic brake lines removed (page 4-104).
Master cylinder removed (page 4-116).
Air chamber removed (page 4-120).
Shock absorbers removed (page 4-152).
Steering knuckles removed (page 4-69).

LOCATION	ITEM	ACTION **REMARKS**

REMOVAL

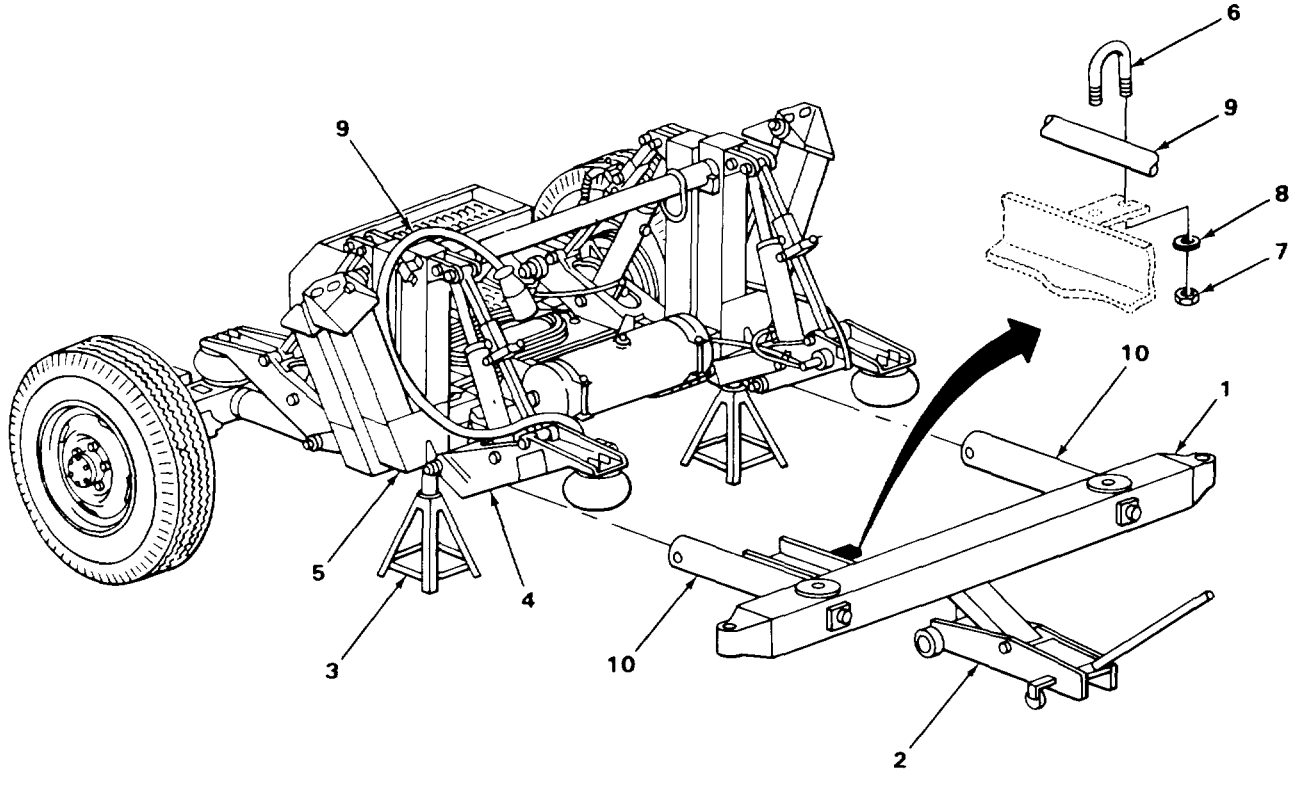
NOTE

Since this procedure will begin with the steering knuckles removed, the dolly set will be supported under the front axle by two jackstands.

1 Front axle beam (1)	Hydraulic floor jack (2) and two jackstands (3)	a. Raise dolly set by placing hydraulic jack (2) under axle beam (1). b. Place two jackstands (3) under rocker arms (4) at the point where the frame adapter (5) pivots. c. Lower the floor jack (2) until the rocker arms (4) just touch the jackstands (3). **Do not lower the floor jack all the way at this time.**

FRONT AXLE BEAM - CONTINUED

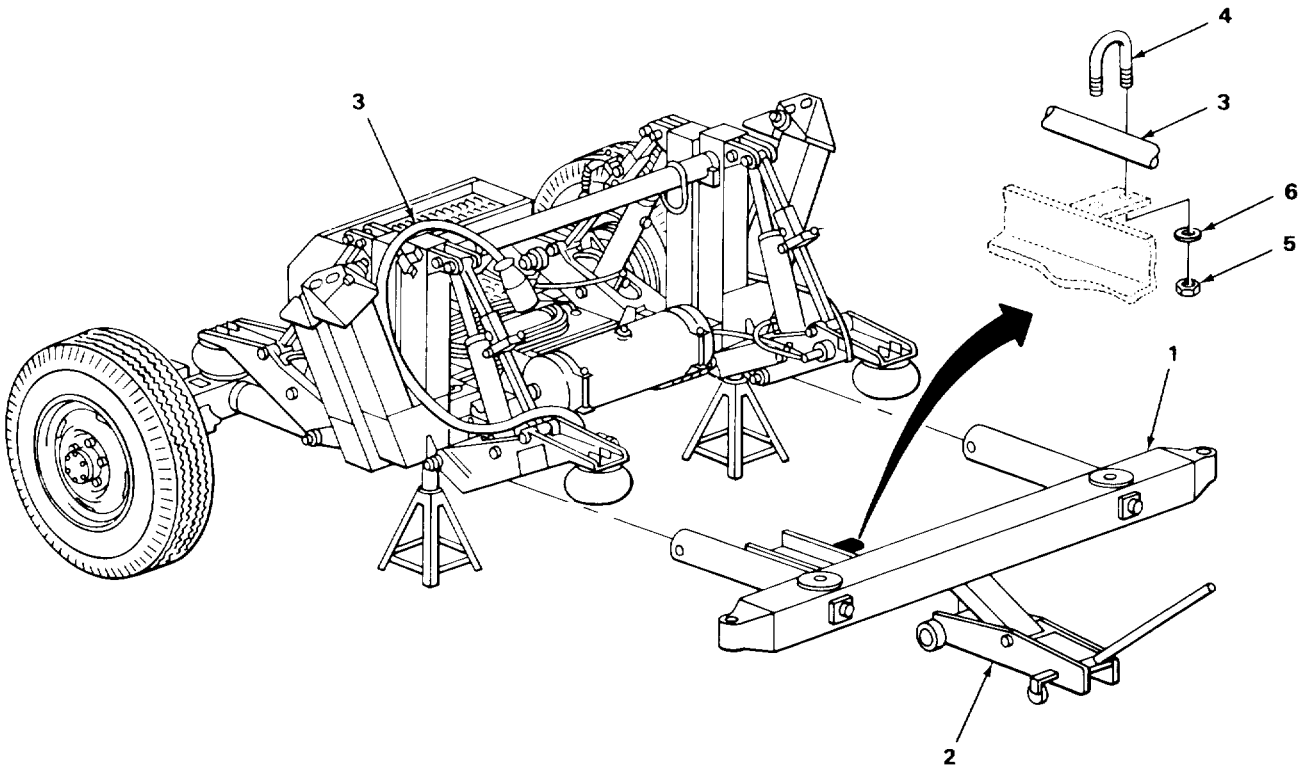
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL - CONTINUED		
2 Front axle beam (1)	U-bolt (6), two nuts (7) and two washers (8)	Remove using a 7/16-inch wrench. **Temporarily stow intervehicular cable (9) on the frame adapter (5).**
3	Hydraulic floor jack (2)	a. Slowly lower axle to the floor. **Axle will pivot on the axle arms (10).** b. Remove axle arms (10) (page 4-78). **Axle should now be fully removed.**



TA 221701

FRONT AXLE BEAM - CONTINUED

LOCATION	ITEM	ACTION / REMARKS
INSTALLATION		
4 Floor under front of dolly set	Axle beam (1) and hydraulic floor jack (2)	a. Position parts for installation. b. Install axle arms (page 4-78). c. Raise axle beam (1) into position using hydraulic jack (2).
5 Front axle beam (1) to inter-vehicular cable (3)	U-bolt (4), two nuts (5) and two washers (6)	Secure intervehicular cable (3) with U-bolt (4), two nuts (5) and two washers (6) using a 7/16-inch wrench.
6 Front axle beam (1)	Hydraulic floor jack (2) and two jackstands (3)	a. Raise the dolly set off of two jackstands (3) using hydraulic floor jack (2) under the front axle beam (1). b. Place the jackstands (3) under the front axle beam (1). c. Lower the dolly set onto jackstands (3).



TA 221702

FRONT AXLE BEAM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

NOTE

FOLLOW-ON MAINTENANCE:

1. Install steering knuckles (page 4-69).
2. Install shock absorbers (page 4-152).
3. Install steering arm (page 4-76).
4. Install air chamber (page 4-120).
5. Install master cylinder (page 4-1 16).
6. Install hydraulic brake lines (page 4-104).
7. Install hydraulic pump (page 4-163).
8. Install relay valve (page 4-120).
9. Install brake chamber tee (page 4-126).
10. Install intervehicular air hoses (page 4-120).
11. Install safety chains (page 4-148).
12. Install data plates (page 4-162).
13. Install reflectors (page 4-158).

TASK ENDS HERE

REAR AXLE BEAM

This task covers:

a. Removal (page 4-86)
b. Installation (page 4-88)

INITIAL SETUP

Tools

1 1/2-ton hydraulic floor jack
Jackstands (two required)

Personnel Required

Two

Equipment Condition

Spindles removed (page 4-80).
Hydraulic pump removed (page 4-163).
Brake chamber removed (page 4-1 20).
Master cylinder removed (page 4-1 16).
Handbrake lever removed (page 4-90).
Handbrake cables removed (page 4-90).
Shock absorbers removed (page 4-152).

Equipment Condition - Continued

Composite lights removed - late models only (page 4-24).
Light assemblies removed (page 4-30).
Rear harness removed -
early models (page 4-54).
late models (page 4-56).
Folding stairway removed (page 4-1 56),
Pintle removed (page 4-146).
Data plates removed (page 4-1 62).
Reflectors removed (page 4-1 58).
Rear axle hydraulic brake lines removed (page 4-104).

LOCATION	ITEM	ACTION	**REMARKS**

REMOVAL

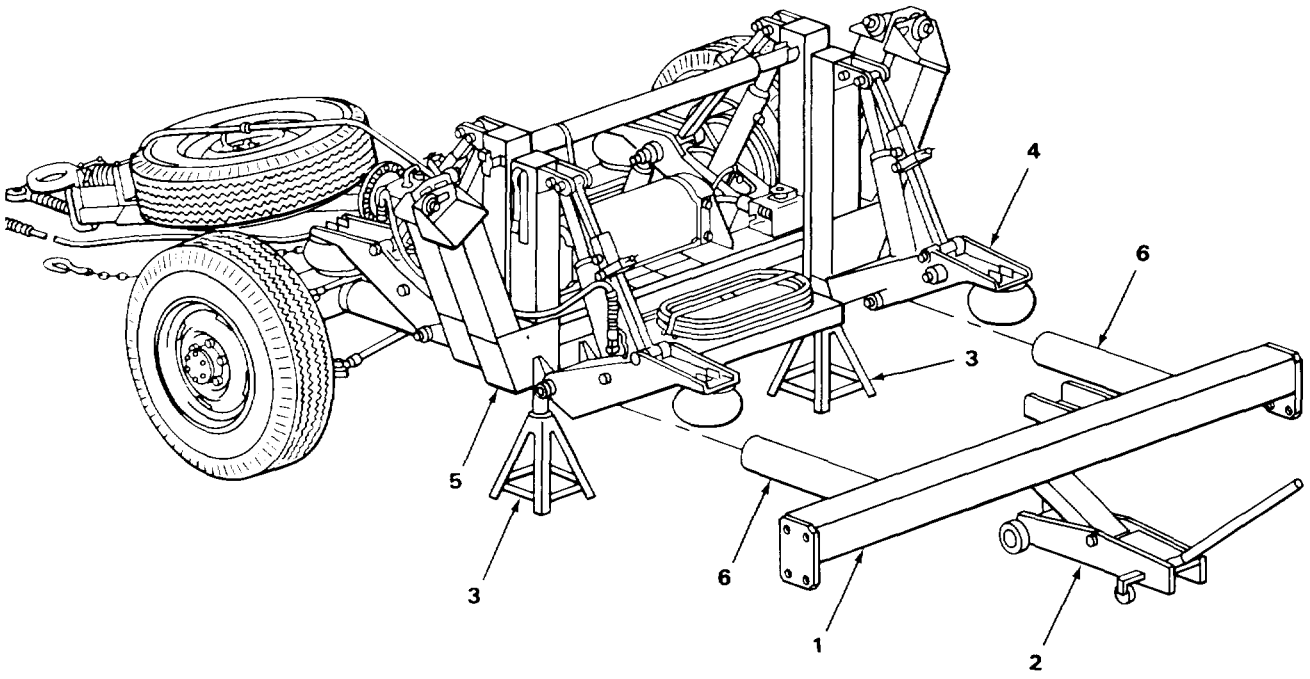
NOTE

Since this procedure will begin with the spindles removed, the dolly set will be supported under the rear axle by two jackstands.

1	Rear axle beam (1)	Hydraulic floor jack (2) and two jackstands (3)	a. Raise dolly set by placing hydraulic jack (2) under axle beam (1). b. Place two jackstands (3) under rocker arms (4) at the point where the frame adapter (5) pivots.

REAR AXLE BEAM - CONTINUED

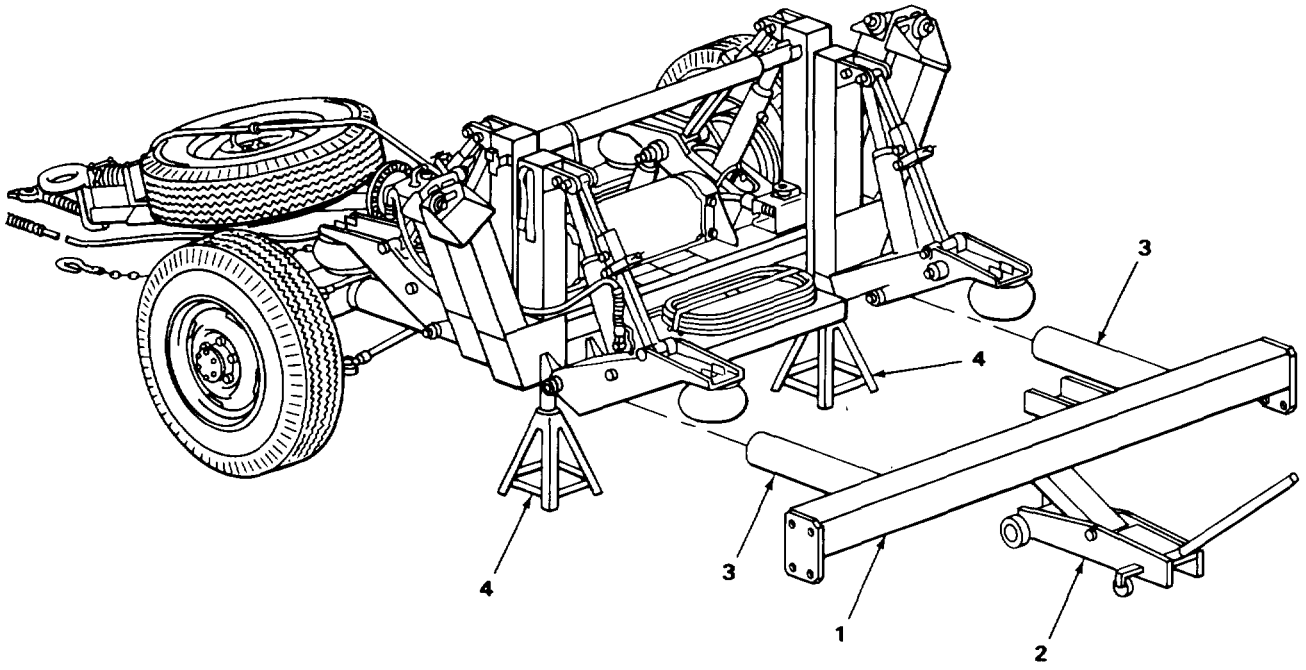
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL - CONTINUED		
2 Rear axle beam (1)	Hydraulic floor jack (2)	a. Slowly lower the floor jack (2) to the ground. **The axle will come down, pivoted on the axle arms (6).** b. Remove the axle arms (6) (page 4-80). **The axle beam (1) should now be free for removal.**



TA 221703

REAR AXLE BEAM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
3 Floor under rear of dolly set	Axle beam (1) and hydraulic floor jack (2)	a. Position parts for installation. b. Install axle arms (3) (page 4-80). c. Raise axle beam (1) into position using hydraulic jack (2).
4 Axle beam (1)	Hydraulic floor jack (2) and two jackstands (4)	a. Raise dolly set until the jackstands (4) are free. b. Place jackstands (4) under front axle beam (l). c. Lower jack (2) so that jackstands (4) are supporting the dolly.



TA 221704

REAR AXLE BEAM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

NOTE

FOLLOW-ON MAINTENANCE:

1. Install spindles (page 4-80).
2. Install hydraulic pump (page 4-163).
3. Install brake chamber (page 4-120).
4. Install master cylinder (page 4-116).
5. Install hydraulic brake lines (4-104).
6. Install rear harness - early models (page 4-54); late models (page 4-56).
7. Install shock absorbers (page 4-152).
8. Install composite lights - late models only (page 4-24).
9. Install light assemblies - early models only (page 4-30).
10. Install pintle (page 4-146).
11. Install handbrake lever (page 4-90).
12. Install handbrake cables (page 4-90).
13. Install folding stairway (page 4-156).
14. Install data plates (page 4-162).
15. Install reflectors (page 4-158).

TASK ENDS HERE

Section IX BRAKE SYSTEM MAINTENANCE

HANDBRAKESYSTEM

This task covers:

a. Lever removal (page 4-90)
b. Cable removal (page 4-92)
c. Cable installation (page 4-92)
d. Lever installation (page 4-94)

INITIAL SETUP

Tools

1/2-inch wrench (two required)
Cross-tip screwdriver
Diagonal cutting pliers
7/8-inch wrench (two required)

Materials/Parts

New cotter pins

Equipment Condition

Service brake disassembled (page 4-96).

LOCATION	ITEM	ACTION **REMARKS**

LEVER REMOVAL

NOTE

Step 1 applies to late models only. Step 2 applies to early models only.

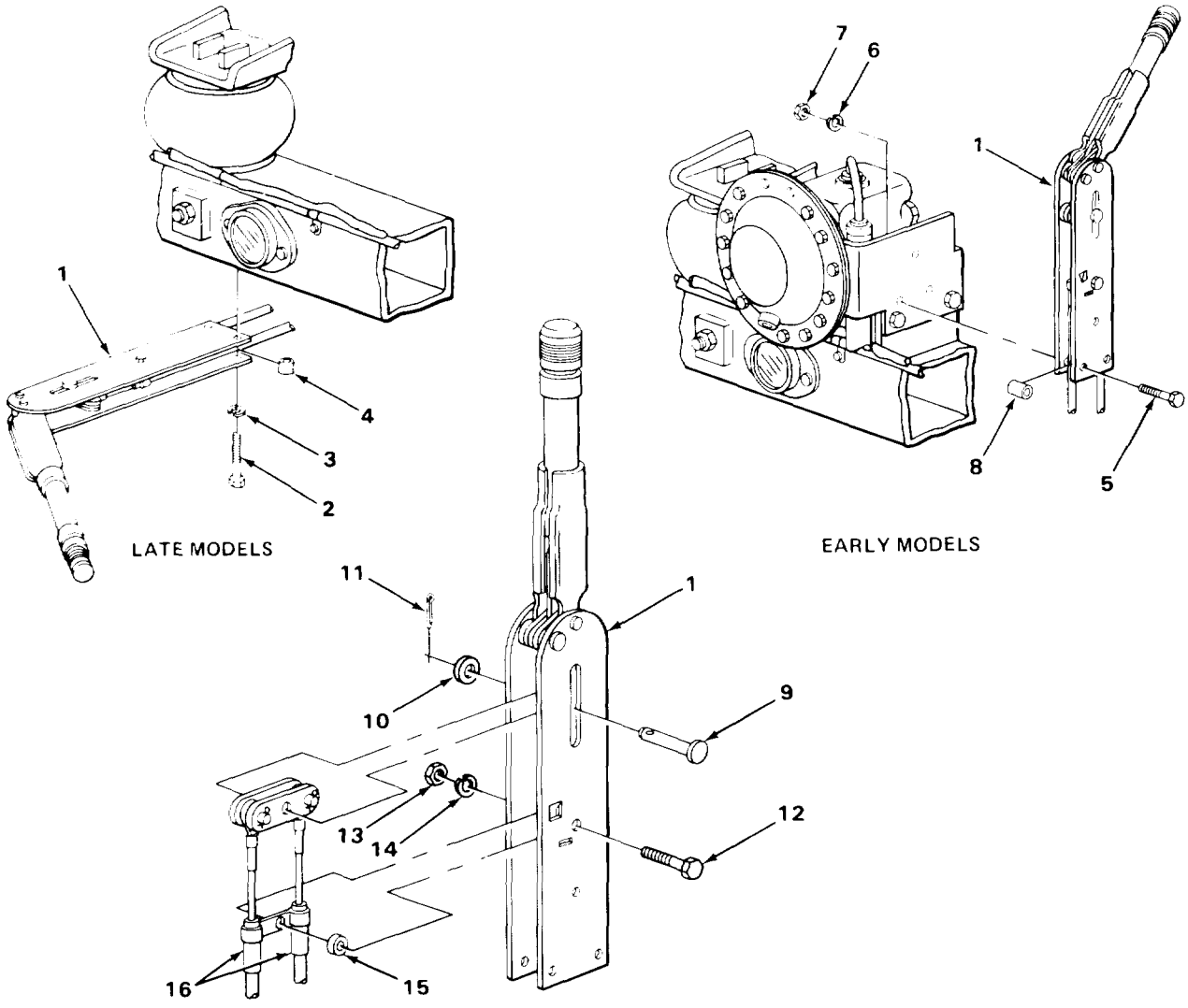
1 Bottom side of rear axle beam	Lever (1), three screws (2), three washers (3) and three spacers (4)	Remove using a 1/2-inch wrench. **Catch spacers (4) as they fall out of lever (1).**
2 Rear brake chamber bracket	Lever (1), three screws (5), three washers (6), three nuts (7) and three spacers (8)	Remove using two 1/2-inch wrenches. **Catch spacers (8) as they fall out of lever.**

NOTE

Steps 3 and 4 apply to all models.

HANDBRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
LEVER REMOVAL - CONTINUED		
3 Lever (1)	Pin (9), washer (10) and cotter pin (11)	a. Remove cotter pin (11) using cutting pliers. b. Remove pin (9) and washer (10). **Throw away cotter pin (11).**
4	Screw (12), nut (13), washer (14) and spacer (15)	a. Remove using two 1/2-inch wrenches. b. Remove lever assembly (1) from the cables (16).



TA 221705

HANDBRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION	**REMARKS**

CABLE REMOVAL

NOTE

The following procedure is for the removal of one cable. The procedure for the left or right side is the same. The procedure for early or late model cables is also the same. The only difference is the number of clamps holding the cable to the axle beam. The following chart gives this information:

APPLICATION	CLAMPS
Left side - early	2
Right side - early	3
Left side - late	0
Right side - late	1

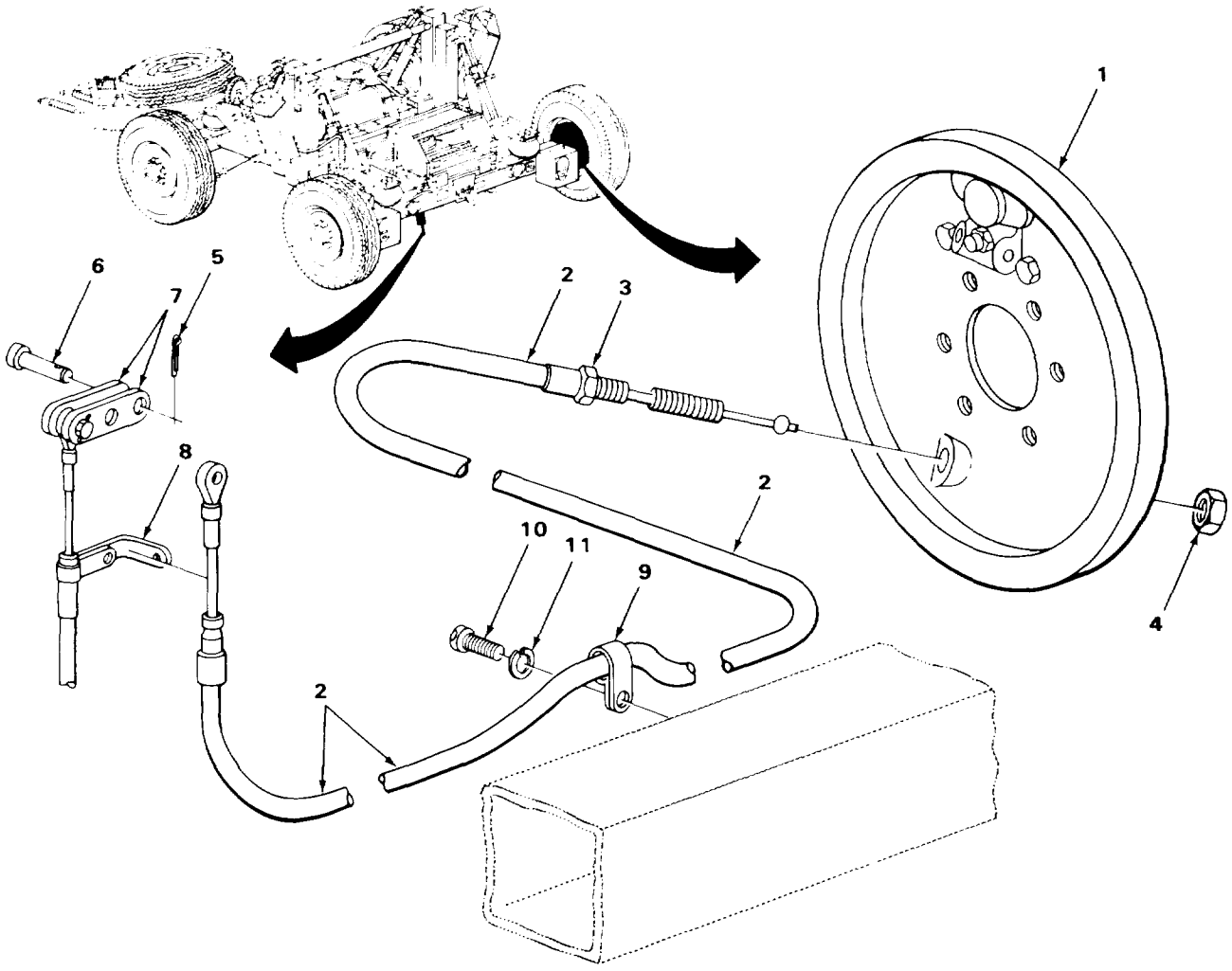
5	Left or right side backing plate (1)	Cable (2), nut (3) and nut (4)	a. While holding nut (3), remove nut (4) using two 7/8-inch wrenches. b. Pull cable (2) from backing plate (1).
6	Lever end of cable	Cotter pin (5), pin (6) and two links (7)	a. Remove cotter pin (5) using cutting pliers. b. Remove pin (6) and pull end of cable (2) free of two links (7). c. Remove clamp (8) from cable (2). **Throw away cotter pin (5).**
7’	Rear axle beam	Clamps (9), screws (10) and washers (11)	a. Remove from axle beam using a cross-tip screwdriver. b. Spread clamps (9) and remove from cable (2).

CABLE INSTALLATION

8	Left or right side backing plate (1)	Cable (2), nut (3) and nut (4)	a. Push cable (2) through backing plate (1). b. While holding nut (3), install nut (4) using two 7/8-inch wrenches.
9	Lever end of cable	Cotter pin (5), pin (6) and two links (7)	a. Secure cable (2) to links (7) with pin (6). b. Install new cotter pin (5) using cutting pliers.

HANDBRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
CABLE INSTALLATION - CONTINUED		
10 Rear axle beam	Clamps (9), screws (10) and washers (11)	a. Place clamps (9) on cable (2). b. Secure to axle beam with screws (10) and washers (11). c. Install clamp (8) on cable (2).



TA 221706

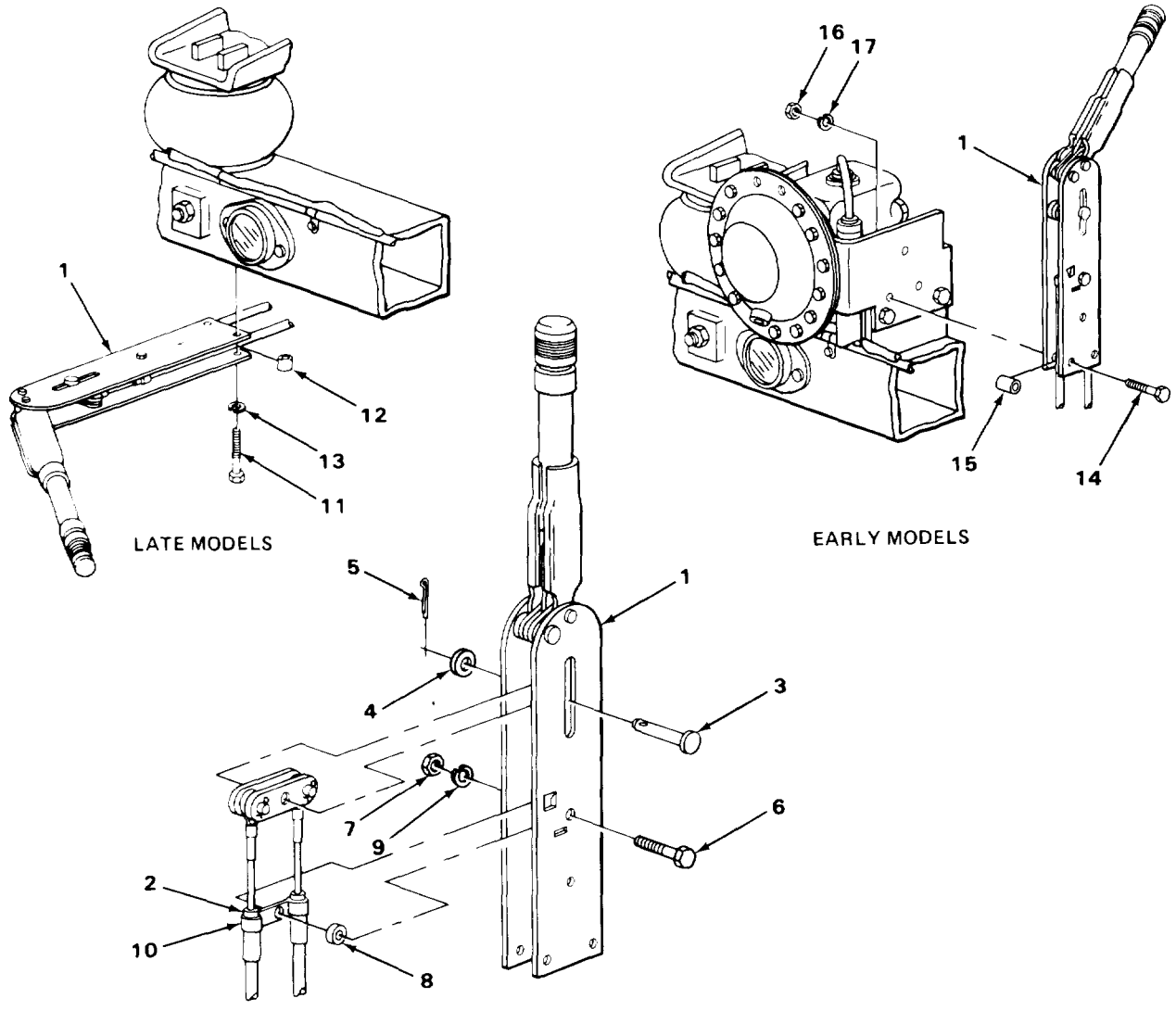
HANDBRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
LEVER INSTALLATION		
11 Lever (1)	Cable and link assembly (2), pin (3), washer (4) and cotter pin (5)	a. Position assembly (2) in lever (1). b. Secure with pin (3). c. Secure pin (3) with washer (4) and a new cotter pin (5).
12	Screw (6), nut (7), spacer (8) and washer (9)	a. Secure assembly (2) to lever (1) screw (6) and spacer (8). **Screw goes through two clamps (10).** b. Secure screw (6) with nut (7) and washer (9) using two 1/2-inch wrenches.
		NOTE Step 13 applies to late models only. Step 14 applies to early models only.
13 Bottom side of rear axle beam	Lever (1), three screws (11), three spacers (12) and three washers (13)	Secure lever (1) with screws (11) and washers (13) using a 1/2-inch wrench. **Spacers (12) are in between the legs of lever (1).**
14 Rear brake chamber bracket	Lever (1), three screws (14), three spacers (15), three nuts (16) and three washers (17)	Secure lever (1) with screws (14), nuts (16) and washers (17). **Spacers (15) are in between legs of lever (1).**

HANDBRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

LEVER INSTALLATION - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Assemble service brake (page 4-96).

TASK ENDS HERE

SERVICE BRAKE

This task covers:

a. Disassembly (page 4-96)
b. Inspection criteria (page 4-98)
c. Assembly (page 4-98)
d. Adjustment (page 4-102)

INITIAL SETUP

Tools

Brake spring pliers
Brake shoe adjusting tool
Slip joint pliers
Diagonal cutting pliers
Brake shoe retaining spring tool
Flat-tip screwdriver

Materials/Parts

Horseshoe clip, handbrake lever retaining

Equipment Condition

Hub and brake drum removed (page 4-132).

LOCATION	ITEM	ACTION	**REMARKS**

DISASSEMBLY

WARNING

Brake lining material contains asbestos. Breathing of dust from lining; is extremely hazardous. Wear a filter-mask whenever working with brake shoes.

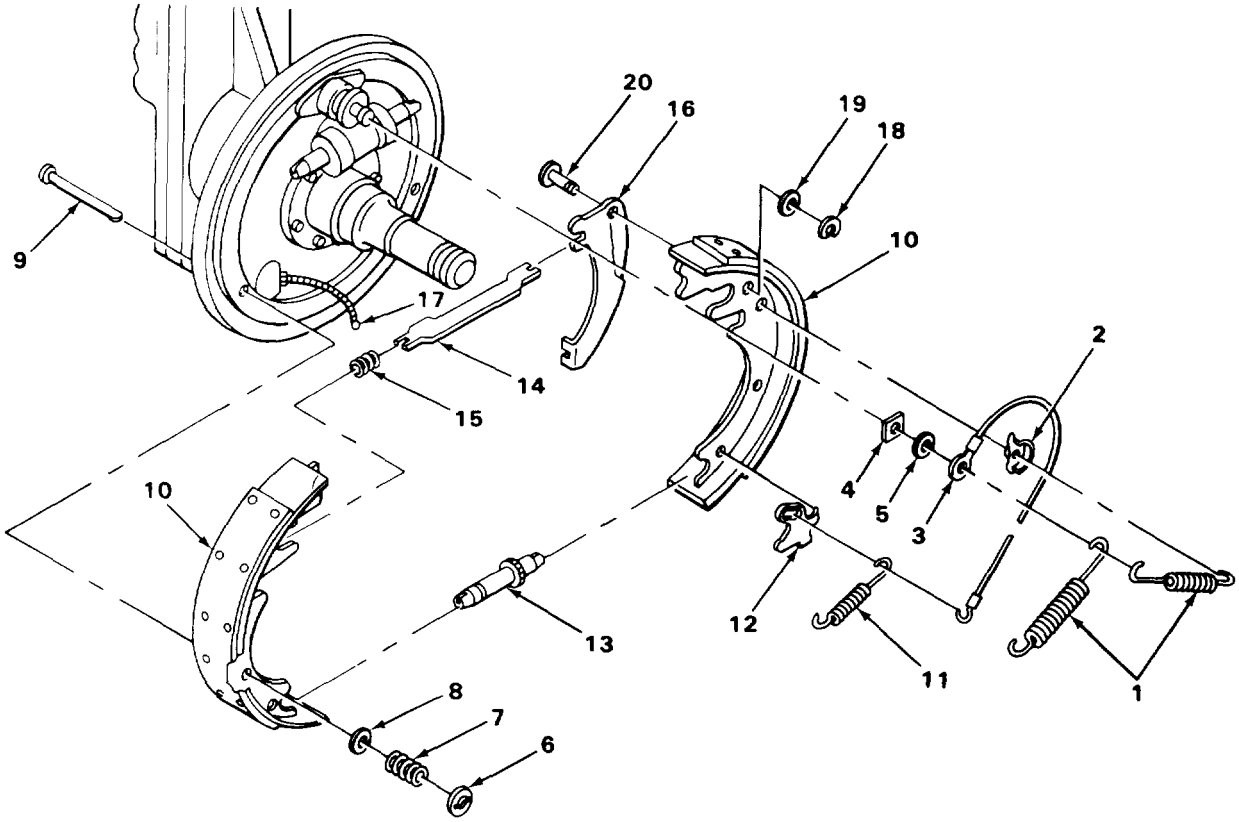
1	Service brake assembly	Two springs (1)	Remove using brake spring pliers.
2		Guide (2), cable (3), retainer (4) and washer (5)	a. Pull out guide (2) and remove together with cable (3). b. Take off retainer (4) and washer (5).
3		Two washers (6), two springs (7), two washers (8) and two pins (9)	Remove parts. a. Push in on washer (6) using spring retainer tool. b. Rotate washer (6) about 90 degrees and release it. c. Take pins (9) out from the rear.

NOTE

Since the front dolly does not have a handbrake system, the two front service brakes will not contain struts (14), spring (15) and lever (16). If working on the front, dolly service brakes, omit steps 5 and 6.

SERVICE BRAKE - CONTINUED

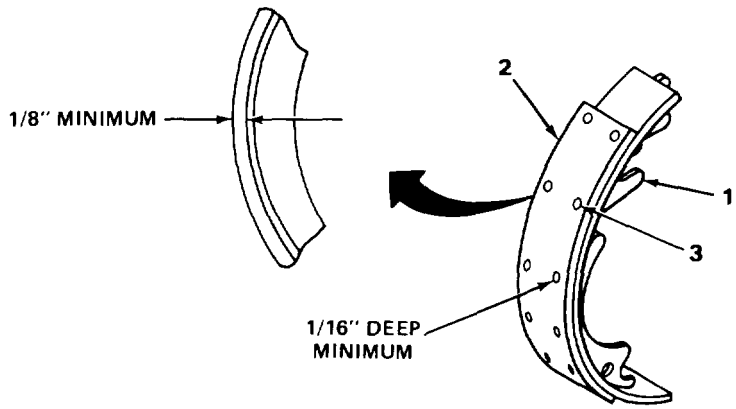
LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY - CONTINUED		
4	Two brake shoes (10), spring (11), lever (12), adjuster (13), strut (14) and spring (15)	Remove parts from backing plate. a. Spread shoes (10) apart from the top freeing them from the wheel cylinder pins. Take out strut (13) and spring (14). b. Remove shoes (10), spring (11), lever (12) and adjuster (13) as an assembly. c. Disassemble all parts from shoes (10).
5 Brake shoe lever (16)	End of cable (17)	Remove using diagonal pliers. **Use pliers to retract spring on cable (17) and take off.**
6 Brake shoe (10)	Lever (16), horseshoe clip (18), washer (19) and pin (20)	Remove parts using fiat-tip screwdriver and slip joint pliers. **Throw away horseshoe clip (18).**



TA 221708

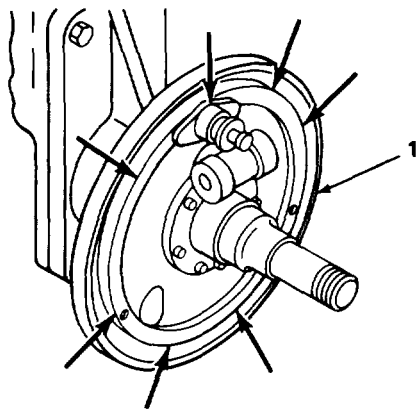
SERVICE BRAKE - CONTINUED

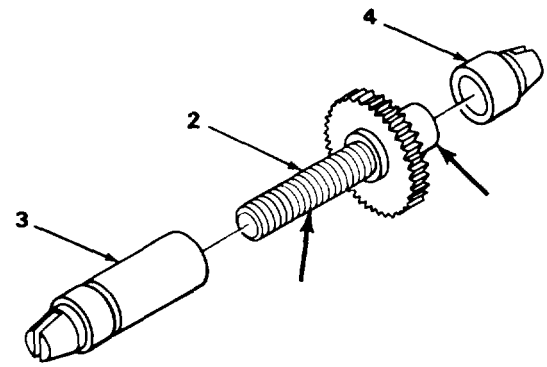
LOCATION	ITEM	ACTION **REMARKS**
INSPECTION CRITERIA		
7. Brake shoe assemblies	Shoe (1), lining (2) and rivets (3)	Inspect: a. Shoes (1) for cracks. b. Linings (2) for cracks, looseness to shoes (1), or a thickness of at least 1/8 inch (3.2 millimeters). c. Rivets (3) for looseness. Rivets (3) should also be at least 1/16 inch (1.6 millimeters) below the surface of the lining (2).



ASSEMBLY

8 Bearing surfaces	Backing plate (1)	Apply GAA grease to indicated surfaces.
9 Adjuster assembly	Screw (2), nut (3) and pivot (4)	Apply GAA grease to indicated areas.

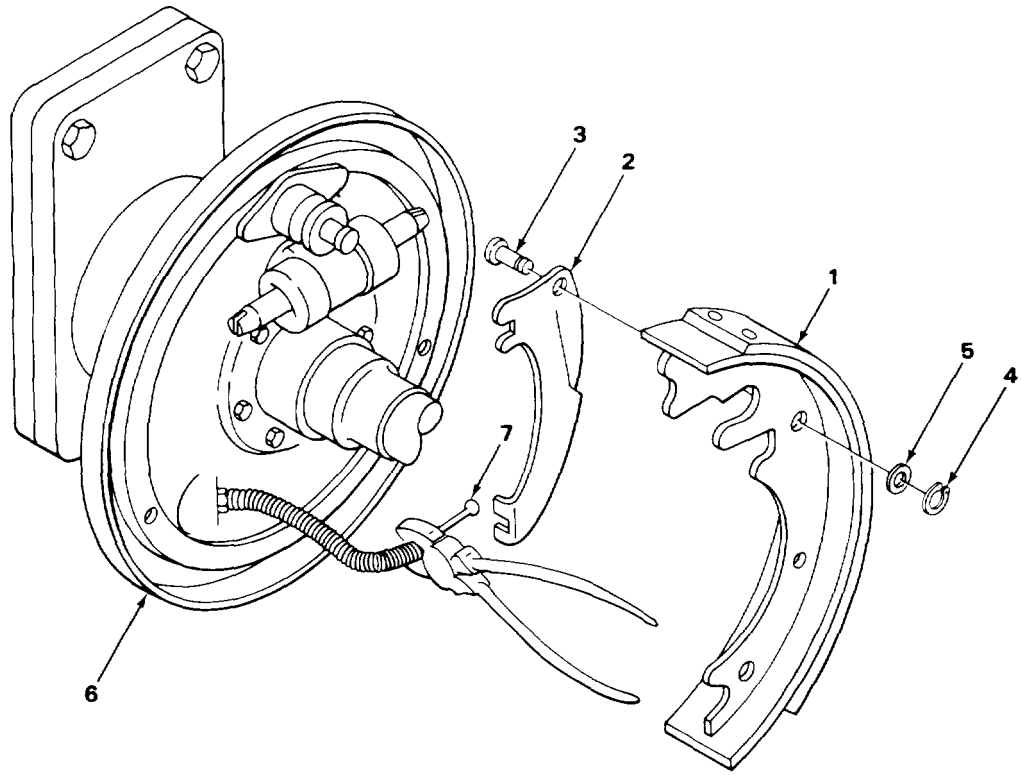




TA 221709

SERVICE BRAKE - CONTINUED

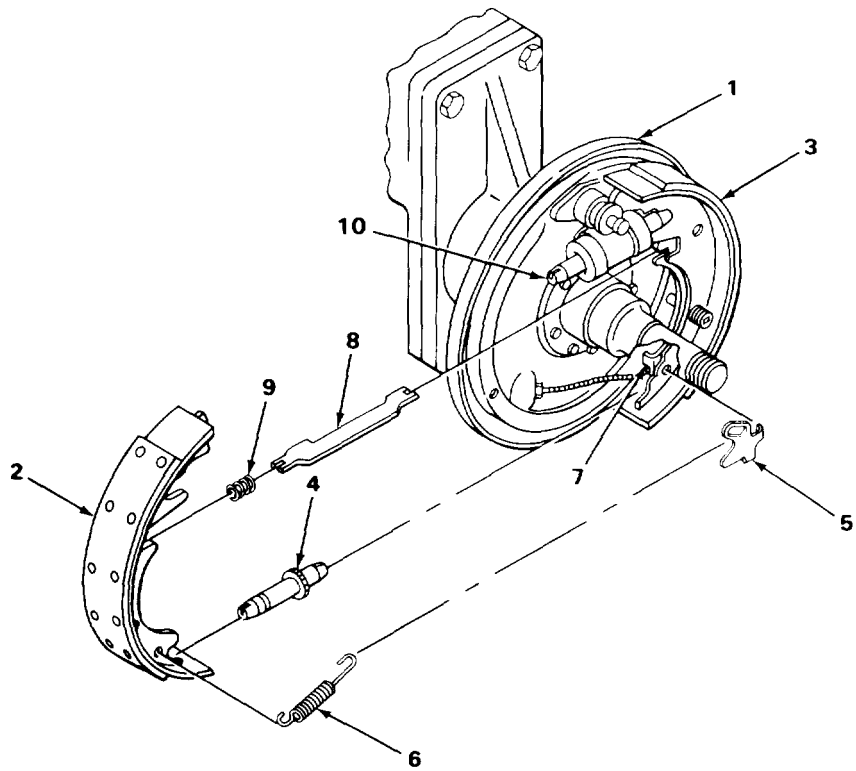
LOCATION	ITEM	ACTION **REMARKS**
ASSEMBLY - CONTINUED		
		NOTE Steps 10 and 11 should be omitted if the front dolly service brakes are being worked on.
10 Brake shoe (1)	Lever (2), pin (3), horseshoe clip (4) and washer (5)	a. Secure lever (2) to brake shoe (1) with pin (3). b. Secure pin (3) with horseshoe clip (4) and washer (5). **Squeeze horseshoe clip (4) with pliers to tighten.**
11 Backing plate (6)	End of handbrake cable (7) and lever (2)	Secure lever (2) to handbrake cable (7) using diagonal pliers. a. Use pliers to pull back spring on cable. Squeeze pliers to hold. b. Insert lever (2) and release pliers.



TA 221710

SERVICE BRAKE - CONTINUED

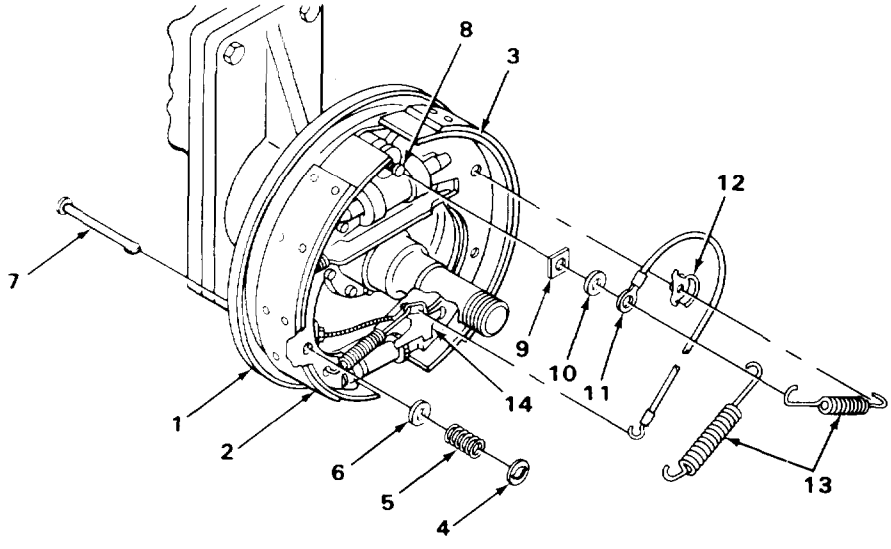
LOCATION	ITEM	ACTION **REMARKS**
ASSEMBLY - CONTINUED		
12 Backing plate (1)	Front shoe (2), rear shoe (3), adjuster assembly (4), lever (5) and spring (6)	a. Hook lever (5) into rear shoe (3). b. Hook spring (6) between lever (5) and front shoe (2). c. Spread shoes (2) and (3) apart at the bottom far enough to insert adjuster assembly (4).
		NOTE Step 13 should be omitted if the front dolly service brakes are being worked on.
13 Lever (7) and front shoe (2)	Strut (8) and spring (9)	a. Place spring (9) over end of strut (8). b. Position parts between lever (7) and front shoe (8). c. Hook shoes (2) and (3) into two wheel cylinder links (10).



TA 221711

SERVICE BRAKE - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
ASSEMBLY - CONTINUED		
14 Backing plate (1) to front shoe (2) and rear shoe (3)	Two washers (4), two springs (5), two washers (6) and two pins (7)	Insert pins (7) through backing plate (1) and shoes (2) and (3). Secure shoes (2) and (3) with washers (4), springs (5) and washers (6) using spring retaining tool.
15 Anchor pin (8)	Retainer (9), washer (10) and cable (11)	a. Install retainer (9) and washer (10). b. Install end of cable (11) with the ring on it.
16 Shoes (2) and (3) to anchor pin (8)	Guide (12) and two springs (13)	a. Install guide (12) on rear shoe (3). b. Hang cable (11) over guide (12). c. Install springs (13) using brake spring pliers.
17 Lever (14)	Cable (11)	a. Pry lever (14) upward using a flat-tip screwdriver. b. Install hooked end of cable (11) into lever (14).



TA 221712

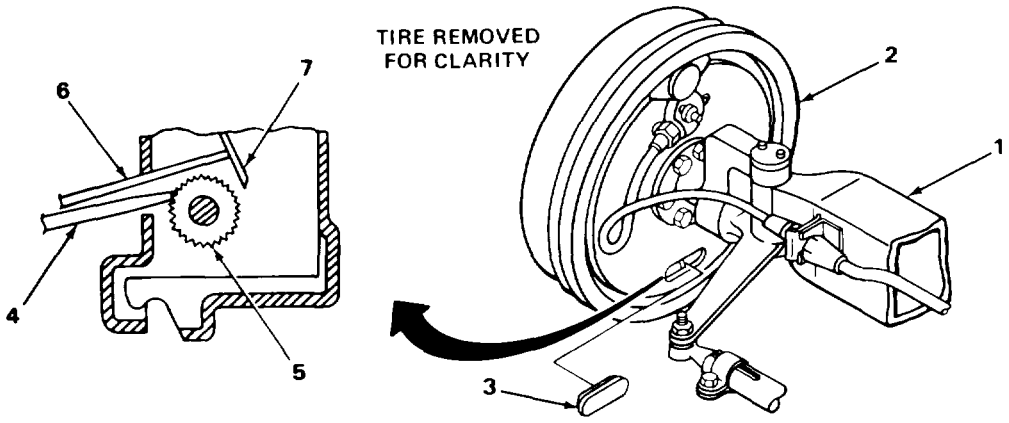
SERVICE BRAKE - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
ADJUSTMENT		
18 Axle (1)	Hub and drum	Install (page 4-132).
19 Backing plate (2)	Adjusting hole cover (3)	Pry out using a flat-tip screwdriver.
		NOTE Do step 20 if the brakes need to be tightened. Do step 21 if the brakes need to be loosened.
20	Brake adjusting tool (4)	a. Insert tool (4) to engage adjusting wheel (5). b. Pull down on tool (4) to rotate wheel (5) in the desired direction. **Tighten the brake until a slight drag is felt when rotating the wheel.**
21	Brake adjusting tool (4) and flat-tip screw-driver (6)	a. Insert screwdriver (6) to engage adjusting lever (7). Use screwdriver (6) to push the lever (7) clear of adjusting wheel (5). b. Insert adjusting tool (4) to engage adjusting wheel (5). c. Pull up on tool (4) to rotate wheel (5) in the desired direction. **Loosen the brake until the wheel rotates with a slight drag.**

SERVICE BRAKE - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

ADJUSTMENT - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Adjust handbrake - rear dolly only (page 3-4).

TASK ENDS HERE

TA 221713

HYDRAULIC BRAKE LINES

This task covers:

a. Hose removal - front dolly (page 4-104)
b. Hose removal - rear dolly (page 4-105)
c. Tube removal - front dolly (page 4-106)
d. Tube removal - rear dolly (page 4-107)
e. Tube installation - rear dolly (page 4-108)
f. Tube installation - front dolly (page 4-109)
g. Hose installation - rear dolly (page 4-110)
h. Hose installation - front dolly (page 4-111)
i. Bleed brakes - manual (page 4-112)
j. Bleed brakes - pressure bleeder (page 4-114)

INITIAL SETUP

Tools

7/16-inch wrench
5/8-inch wrench
Cross-tip screwdriver
Diagonal cutting pliers
Flat-tip screwdriver

Materials/Parts

Wire ties (as required)
Brake fluid, type BFS
3/16 I.D. hose

LOCATION	ITEM	ACTION	**REMARKS**

HOSE REMOVAL - FRONT DOLLY

NOTE

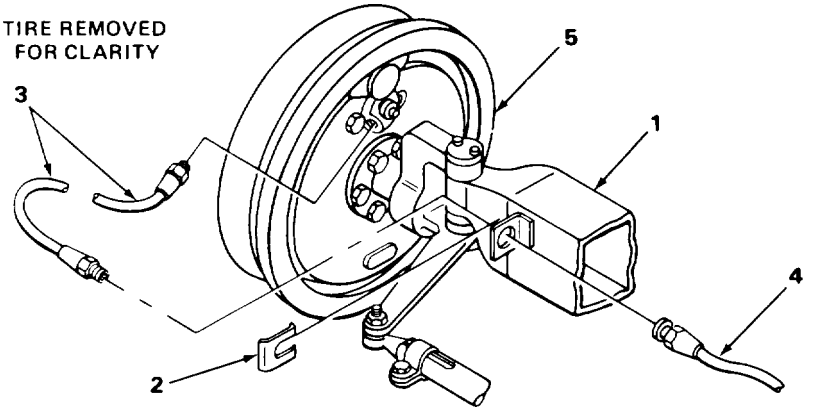
This is a typical procedure for the left or the right side brake.

1	Axle beam (1)	Clip (2)	Pry off using a flat-tip screwdriver.
2		Hose (3) and tube (4)	Take apart using 7/16- and 5/8-inch wrenches.
3	Brake assembly (5)	Hose (3)	a. Hold using a 5/8-inch wrench. b. Take off using a 7/16-inch wrench.

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION	**REMARKS**

HOSE REMOVAL - FRONT DOLLY - CONTINUED



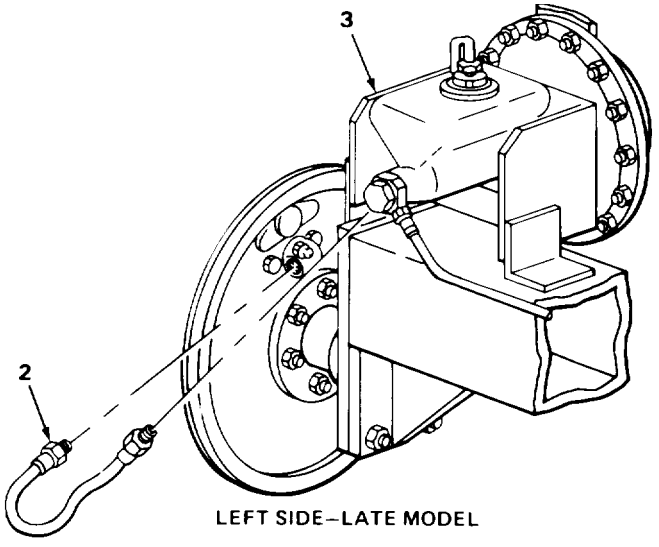
HOSE REMOVAL - REAR DOLLY

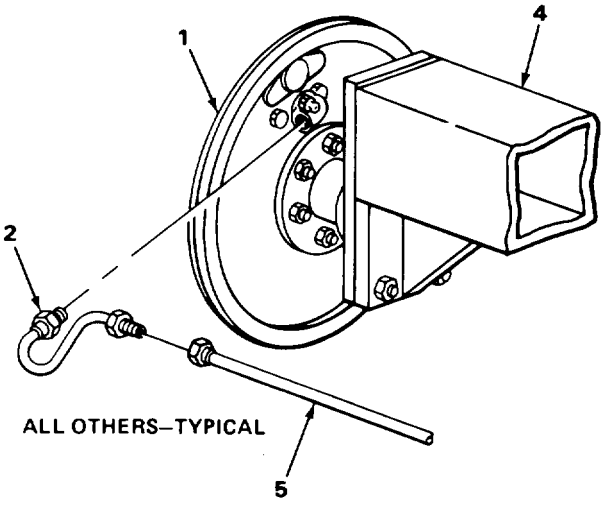
A	Brake assembly (1)	Hose (2)	Take off using 7/16- and 5/8-inch wrenches.

NOTE

Use step 5 and omit step 6 if the left side hose is being removed on a late model dolly set. Use step 6 and omit step 5 for all other applications.

5	Master cylinder (3)	Hose (2)	Take off using a 5/8-inch wrench.
6	Axle beam (4)	Hose (2) and tube (5)	Take apart using 7/16- and 5/8-inch wrenches.





TA 221714

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

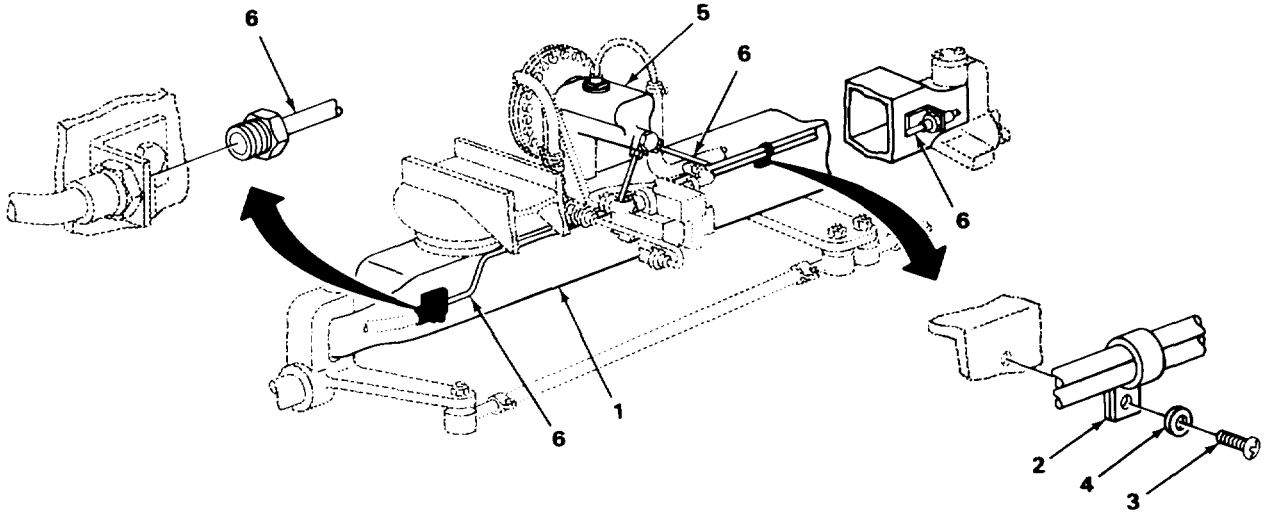
TUBE REMOVAL - FRONT DOLLY

NOTE

This is a typical procedure for the left or the right side brake.

If the left side brake tube is being removed, omit step 7.

7 Axle beam (1)	Two clamps (2), two screws (3) and two washers (4)	Take out using a cross-tip screwdriver.
8 Master cylinder (5)	Tube (6)	Disconnect using a 7/16-inch wrench. **Remove tube (6) from dolly set.**



TA 221715

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

TUBE REMOVAL - REAR DOLLY

NOTE

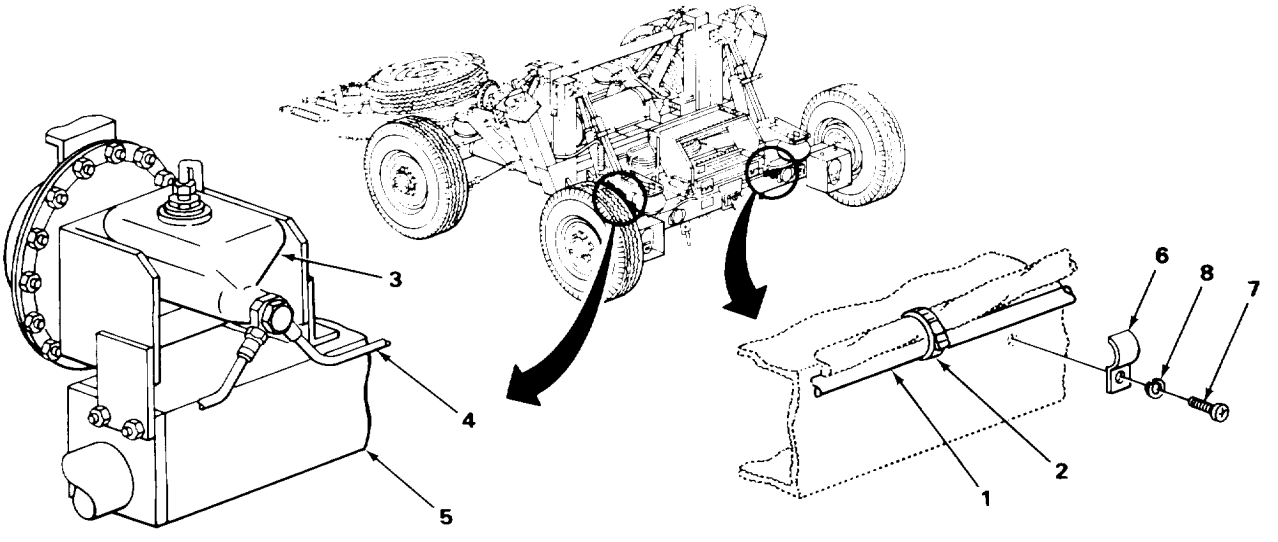
This is a typical procedure for the left or right side brakes.

For late model dolly sets there is no left side brake tube. There are two clamps holding the right side tube.

For early model dolly sets there are two clamps on the right side brake tube. There are no clamps holding the left side tube.

Step 9 applies only to late models, right side.

9	Brake tube (1)	Ten wire ties (2)	Cut off using cutting pliers.
10	Master cylinder (3)	Tube (4)	Disconnect using a 7/16-inch wrench.
11	Axle beam (5)	Clamps (6), screws (7) and washers (8)	Take off using a cross-tip screwdriver (if applicable).



TA 221716

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION	**REMARKS**

TUBE INSTALLATION - REAR DOLLY

NOTE

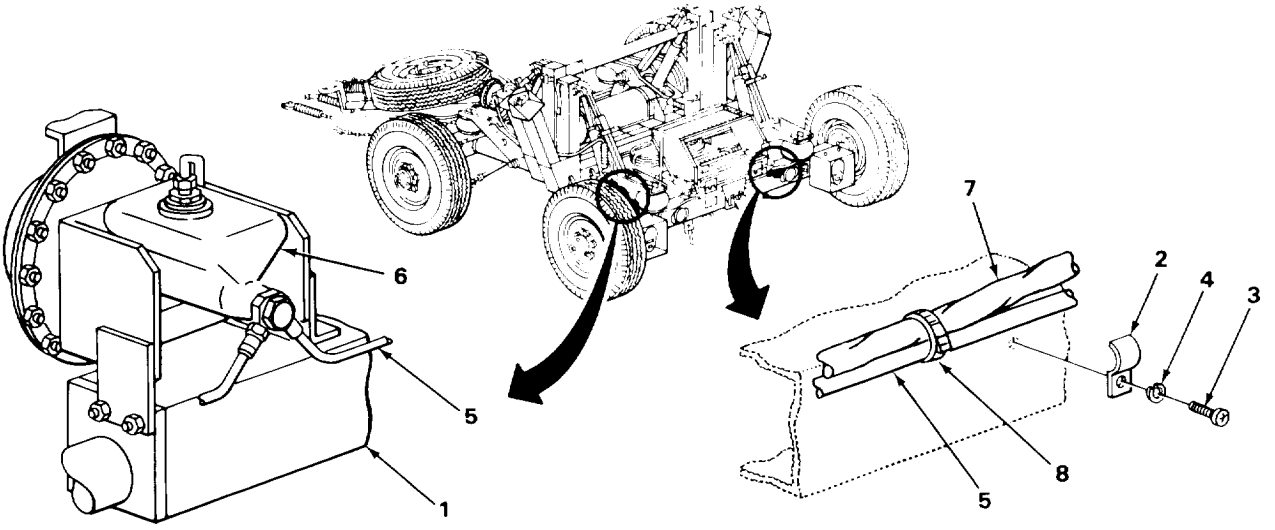
This is a typical procedure for the left or the right side brakes.

For late model dolly sets there is no left side brake tube. There are two clamps holding the right side tube.

For early model dolly sets there are two clamps on the right side brake tube. There are no clamps holding the left side tube.

Step 14 applies only to late models, right side.

12	Axle beam (1)	Clamps (2), screws (3) and washers (4)	a. Position tube (5) on axle beam (1). b. Secure with clamps (2), screws (3) and washers (4) (if applicable).
13	Master cylinder (6)	Tube (5)	Connect using a 7/16-inch wrench.
14	Wiring harness (7)	Ten wire ties (8)	Secure harness (7) to tube (5) with wire ties (8).



TA 221717

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

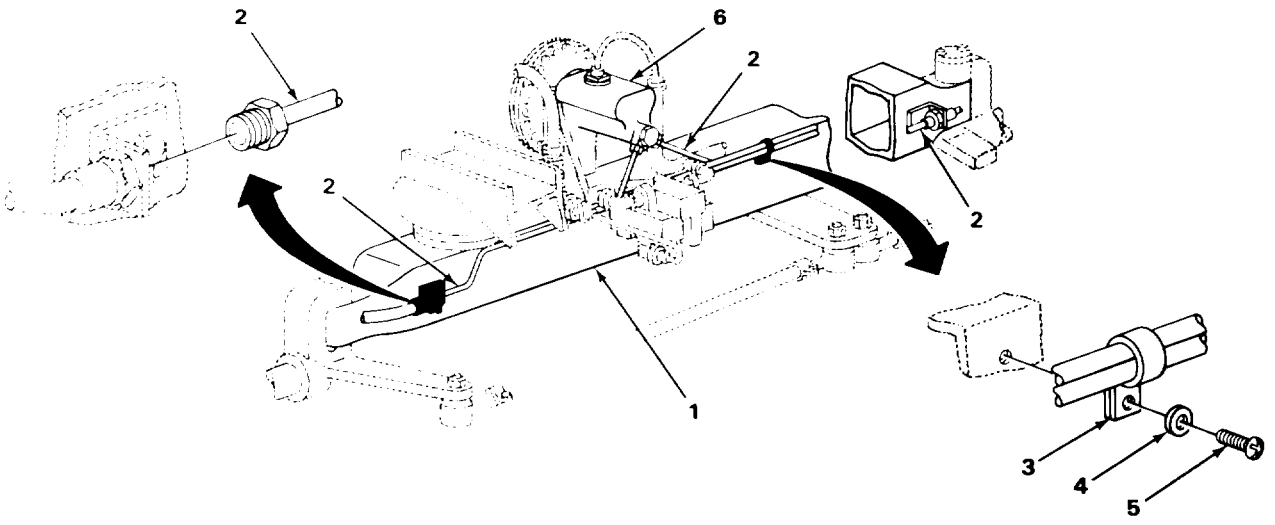
TUBE INSTALLATION - FRONT DOLLY

NOTE

This is a typical procedure for the left or the right side brake.

If the left side tube is being installed, omit step 15b.

15 Axle beam (1)	Brake tube (2), two clamps (3), two screws (4) and two washers (5)	a. Position tube (2) on axle beam (1). b. Secure with clamps (3), screws (4) and washers (5) using a cross-tip screwdriver.
16 Master cylinder (6)	Brake tube (2)	Connect using a 7/16-inch wrench.



TA 221718

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

HOSE INSTALLATION - REAR DOLLY

NOTE

This is a typical procedure for the left or the right side brake.

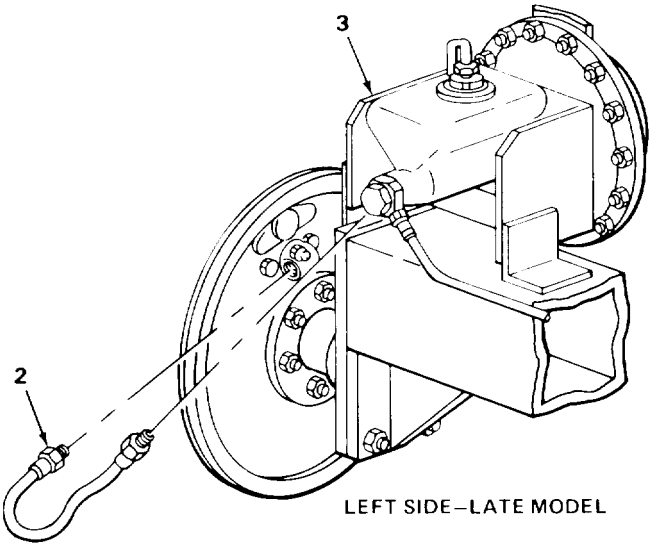
17 Brake assembly (1)	Hose (2)	Connect using 7/16- and 5/8-inch wrenches.

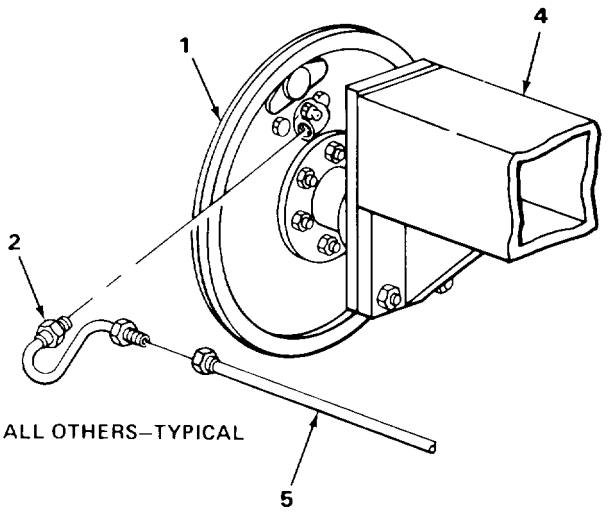
NOTE

Use step 18 and omit step 19 when installing left side hose on late model dolly sets.

Use step 19 and omit step 18 for all other applications.

18 Master cylinder (3)	Hose (2)	Connect using a 7/16-inch wrench.
1 g Axle beam (4)	Hose (2) and tube (5)	Connect using 7/16- and 5/8-inch wrenches.





TA 221719

HYDRAULIC BRAKE LINES - CONTINUED

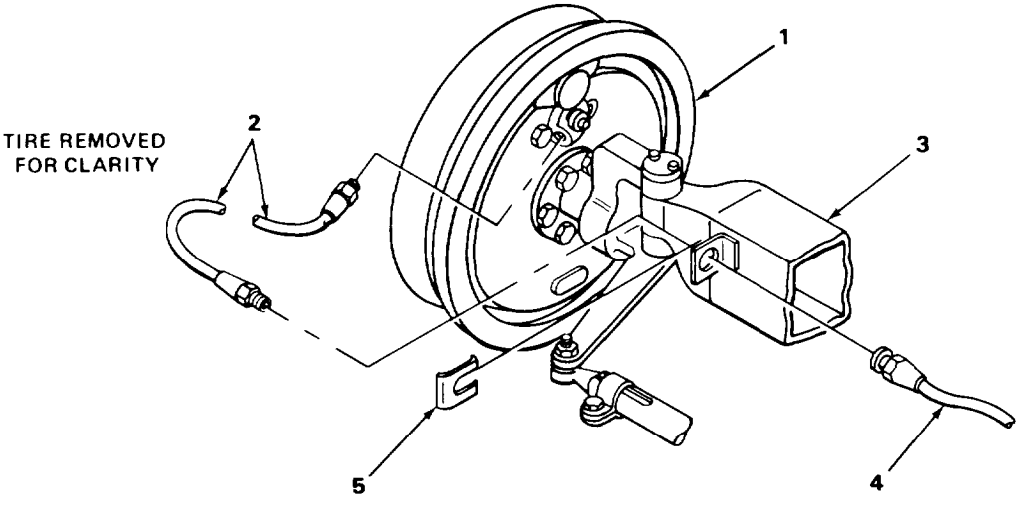
LOCATION	ITEM	ACTION **REMARKS**

HOSE INSTALLATION - FRONT DOLLY

NOTE

This is a typical procedure for the left or the right side brake.

20 Brake assembly (1)	Hose (2)	Connect using 7/16- and 5/8-inch wrenches.
21 Axle beam (3)	Hose (2) and tube (4)	Connect using 7/16- and 5/8-inch wrenches.
22	Hose (2) and clip (5)	Use clip (5) to secure hose (2) to axle beam (3).



TA 221720

HYDRAULIC BRAKE LINES - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

BLEED BRAKES - MANUALLY

NOTE

This procedure should be used only when a pressure bleeder is not available. If a pressure bleeder is available go to page 4-114.

To bleed the brakes manually, the dolly set must be connected to a towing vehicle.

This is a typical procedure for the front or the rear brake system.

Keep a constant check on the fluid level of the master cylinder while bleeding the brakes. Failure to do so could cause air to enter system.

23 Two brake assemblies (1)	Two bleeder screws (2)	Open by turning counterclockwise approximately one full turn using a 7/16-inch wrench.
24	Two hoses (3)	Push one length of hose (3) onto each bleeder screw (2). **Hoses should be approximately 18 inches in length each.**
25	Two jars (4)	a. Fill two jars (4) approximately halfway. b. Place the free end of one hose (3) into each jar (4). **The free end of the hose must be fully submersed in the brake fluid.**

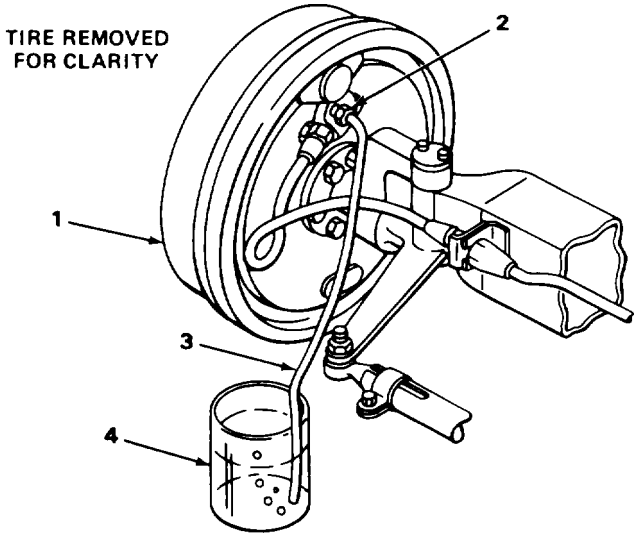
NOTE

Have an assistant pump the brake pedal in the tow vehicle.

26 Tow vehicle		Pump the brake pedal in the tow vehicle until the brake fluid in the two jars (4) is free of all air bubbles.
27 Two brake assemblies (1)	Two bleeder screws (2)	a. Close bleeder screws (2) using a 7/16-inch wrench. b. Remove two hoses (3).

HYDRAULIC BRAKE LINES - CONTINUED

BLEED BRAKES - MANUALLY - CONTINUED



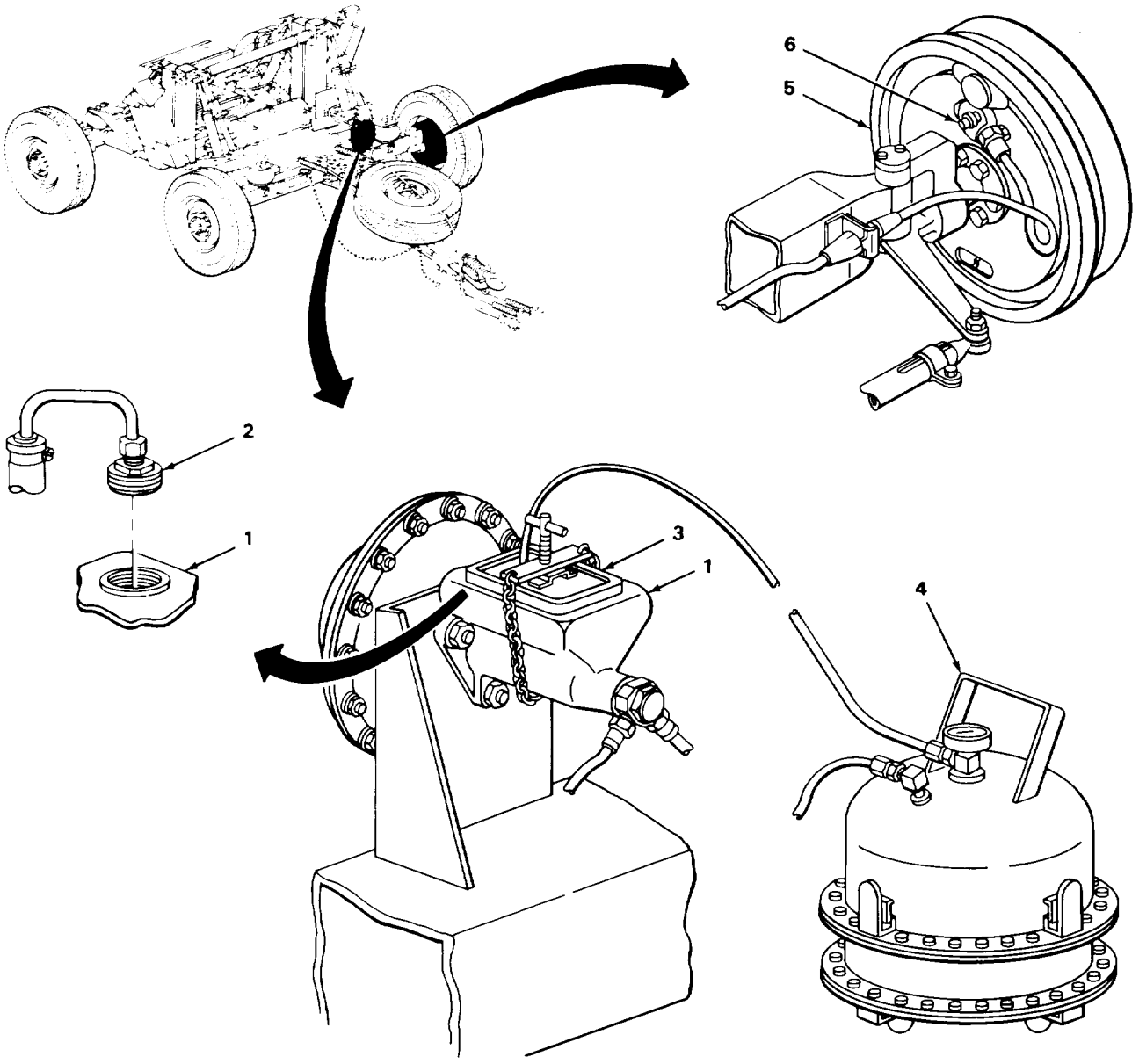
TA 221721

HYDRAULIC BRAKE LINES - CONTINUED

	LOCATION	ITEM	ACTION **REMARKS**
BLEED BRAKES - PRESSURE BLEEDER			
			NOTE This procedure should be used whenever a pressure bleeder unit is available. If this unit is unavailable, bleed brakes manually (page 4-112). This procedure is typical of both the front and rear dollies. For specific instructions for operation of the pressure bleeder refer to applicable operator's instructions.
28	Master cylinder (1)	Cap (2)	Remove using 5/8- and 1-inch wrenches.
29	Pressure bleeder	Adapter (3)	Attach to master cylinder (1).
30		Tank (4)	a. Check or add brake fluid. b. Pressurize to 10 to 20 psi (13.6 to 27.1 N·m).
			NOTE Bleed the brake assembly which is furthest from the master cylinder first.
31	Brake assembly (5)	Bleeder screw (6)	a. Open by turning 1/2 to 3/4 turn counter-clockwise using a 7/16-inch wrench. b. Leave open until there are no air bubbles in the brake fluid. c. When fluid is running as a solid mass, close the bleeder screw. d. Repeat procedure for the opposite brake assembly.
32	Pressure bleeder	Tank (4)	Remove pressure.
33		Adapter (3)	Remove from master cylinder (1).
34	Master cylinder (1)	Cap (2)	Install using l-inch and 5/8-inch wrenches.

HYDRAULIC BRAKE LINES - CONTINUED

BLEED BRAKES - PRESSURE BLEEDER - CONTINUED



TASK ENDS HERE

TA 221722

MASTER CYLINDER

This task covers:

a. Removal (page 4-116)
b. Installation (page 4-116)
c. Servicing (page 4-117)

INITIAL SETUP

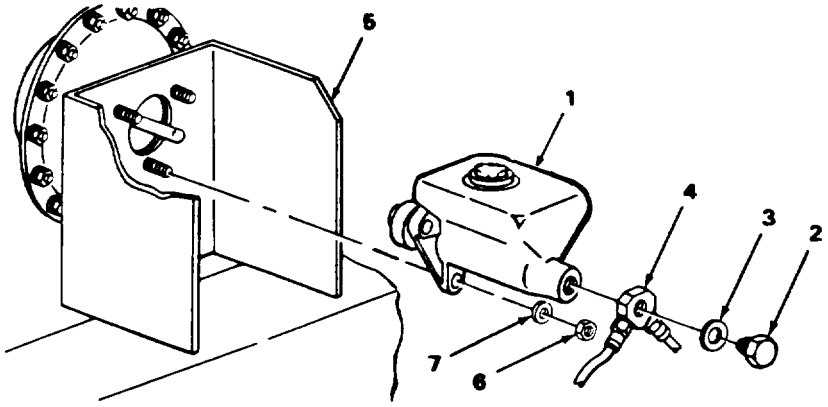
Tools	Materials/Parts
9/16-inch wrench 1-inch open end wrench 5/8-inch wrench 3/4-inch wrench	Brake fluid, type BFS

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
		NOTE This procedure is typical for the front and rear brake systems.	
1	Master cylinder (1)	Screw (2), washer (3) and tee (4)	Remove using a 3/4-inch wrench.
2	Mounting bracket (5)	Three nuts (6) and three washers (7)	Remove using a 9/16-inch wrench. **Remove master cylinder, being careful that the brake chamber does not come off.**
INSTALLATION			
3	Mounting bracket (5)	Master cylinder (1)	Slide onto three studs (8).
4		Three nuts (6) and three washers (7)	Secure master cylinder (1) using a 9/16-inch wrench.
5	Master cylinder (1)	Tee (4), screw (2) and washer (3)	Install parts using a 3/4-inch wrench.

MASTER CYLINDER - CONTINUED

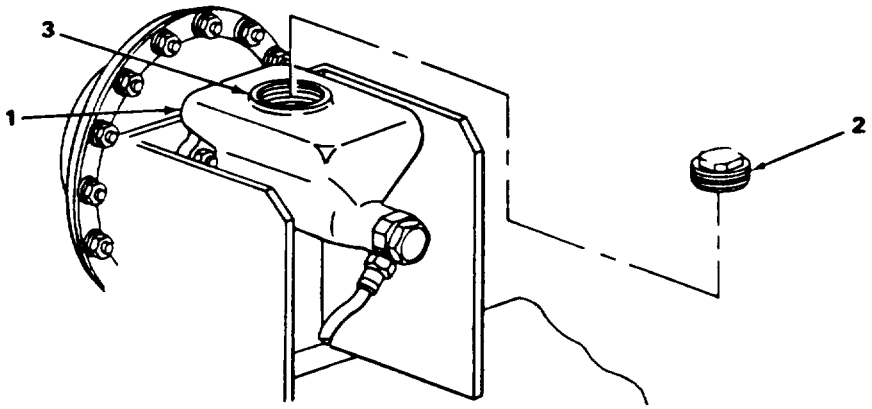
LOCATION	ITEM	ACTION	**REMARKS**

INSTALLATION - CONTINUED



SERVICING

6	Master cylinder (1)	Cap (2)	Remove using 5/8- and 1-inch wrenches.
7		Reservoir (3)	Check that the fluid level is within 1/2 inch (13 mm) of the top. **Add fluid if necessary.**
8		Cap (2)	Install using 5/8- and 1-inch wrenches.



NOTE

FOLLOW-ON MAINTENANCE: Bleed brakes (page 4-112).

TASK ENDS HERE

TA 221723

WHEEL CYLINDER

This task covers:

a. Removal (page 4-118)
b. Installation (page 4-118)

INITIAL SETUP

Tools	Equipment Condition
9/16-inch wrench	Service brake disassembled (page 4-96). Front brake hose removed (page 4-104). Rear brake hose removed (page 4-104).

LOCATION	ITEM	ACTION	REMARKS

REMOVAL

NOTE

This procedure is typical for all four brake assemblies.

1	Backing plate (1)	Two screws (2) and two washers (3)	Remove using a 9/16-inch wrench.
2		Wheel cylinder (4)	Remove from backing plate (1).
3	Wheel cylinder (4)	Two links (5)	Pull out of wheel cylinder (4).

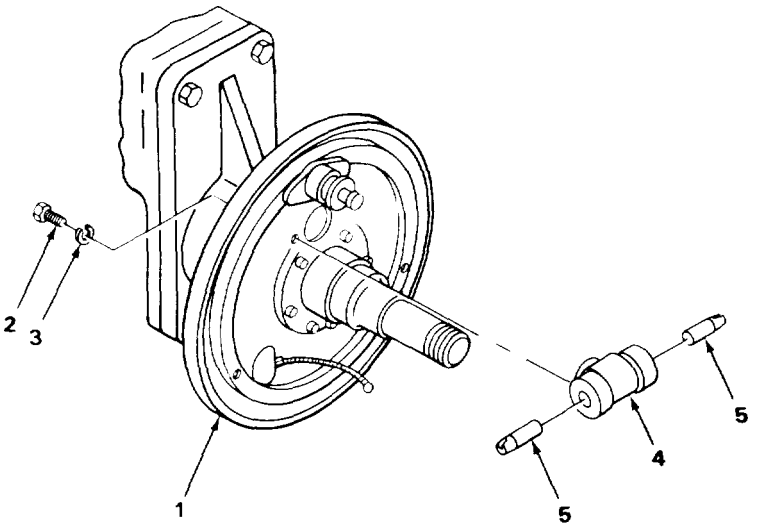
INSTALLATION

4	Backing plate (1)	Two links (5)	Push into wheel cylinder (4).
5		Wheel cylinder (4)	Position on backing plate (1).
6		Two screws (2) and two washers (3)	Secure wheel cylinder (4) using a 9/16-inch wrench.

WHEEL CYLINDER - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

INSTALLATION - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Assemble service brake (page 4-96).
2. Bleed brakes (page 4-104).

TASK ENDS HERE

AIR BRAKE SYSTEM

This task covers:

a. Intervehicular hose removal (page 4-120)
b. Relay valve removal (page 4-122)
c. Air reservoir removal (page 4-123)
d. Draincock removal (page 4-124)
e. Brake chamber tee removal (page 4-124)
f. Brake chamber removal (page 4-125)
g. Brake chamber installation (page 4-126)
h. Brake chamber tee installation (page 4-1 28)
i. Draincock installation (page 4-128)
j. Air reservoir installation (page 4-129)
k. Relay valve installation (page 4-129)
l. Intervehicular hose installation (page 4-131)

INITIAL SETUP

Tools

9/16-inch wrench (two required)
5/8-inch wrench
l-inch wrench (two required)
1 1/8-inch wrench
1/2-inch wrench (two required)

Tools - Continued

3/4-inch wrench
7/8-inch wrench
7/16-inch wrench
13/16-inch wrench

LOCATION	ITEM	ACTION	**REMARKS**

INTERVEHICUIAR HOSE REMOVAL

NOTE

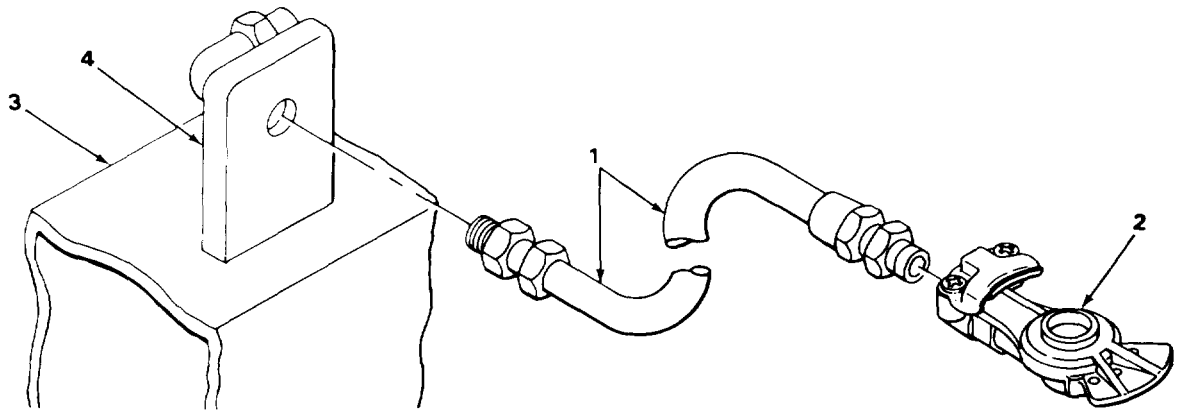
This procedure is typical for the service or the emergency intervehicular hoses.

1	Hose (1)	Gladhand coupling (2)	Remove using 1- and 1 1/8-inch wrenches.
2	Axle (3)	Hose (1)	Remove from adapter (4) using two 1-inch wrenches.

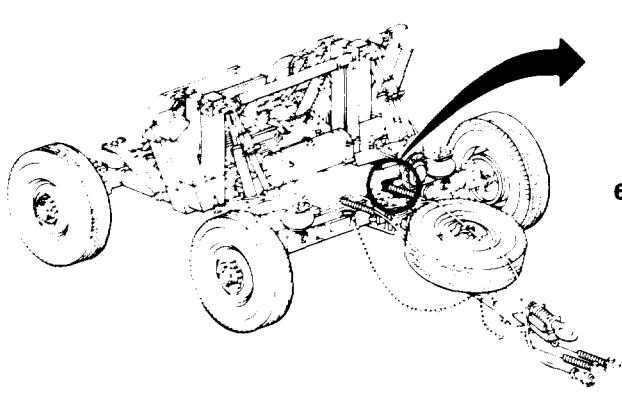
AIR BRAKE SYSTEM - CONTINUED

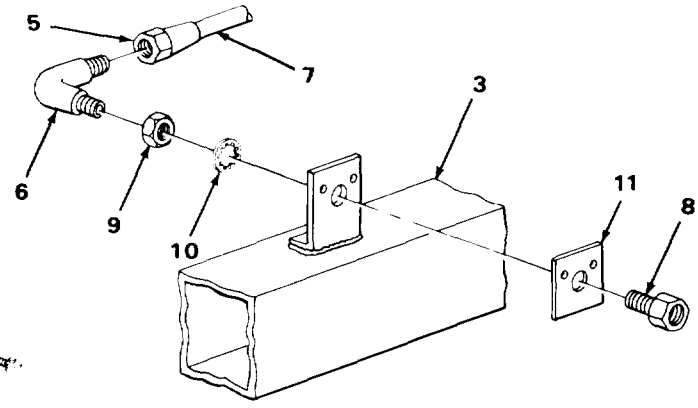
LOCATION	ITEM	ACTION **REMARKS**

INTERVEHICULAR HOSE REMOVAL - CONTINUED



3 Axle (3)	Union (5), elbow (6) and line (7)	Disconnect line (7) from elbow (6) at union (5) using a 5/8-inch wrench.
4	Elbow (6)	Remove from adapter (8) using 5/8- and l-inch wrenches.
5	Adapter (8), nut (9), washer (10) and tag (11)	Remove using 5/8- and 1-inch wrenches.





TA 221725

AIR BRAKE SYSTEM - CONTINUED

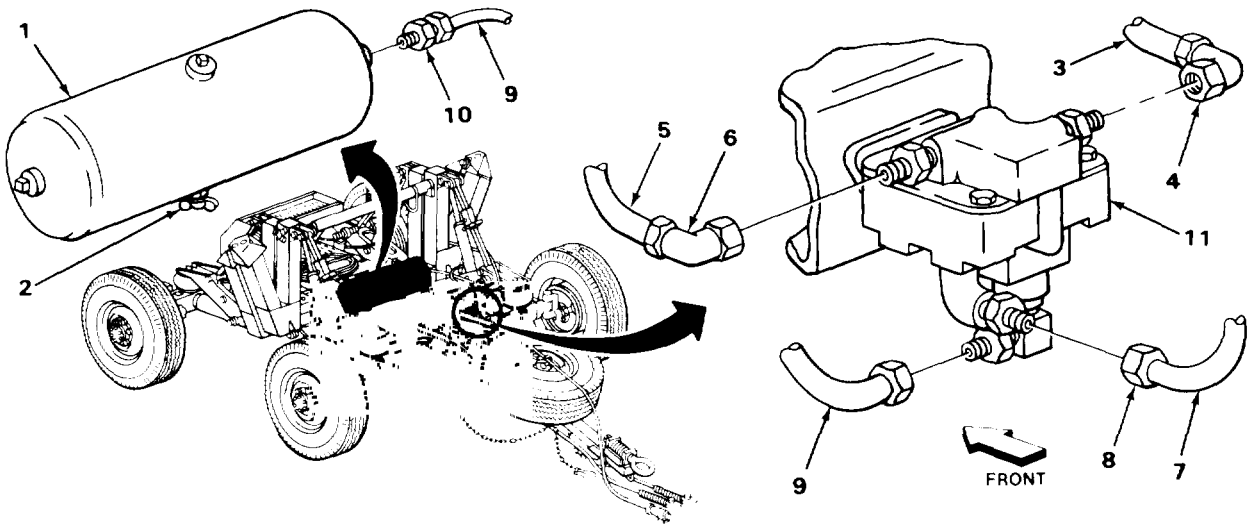
LOCATION	ITEM	ACTION **REMARKS**

RELAY VALVE REMOVAL

WARNING

Wear goggles when releasing air from air reservoir.

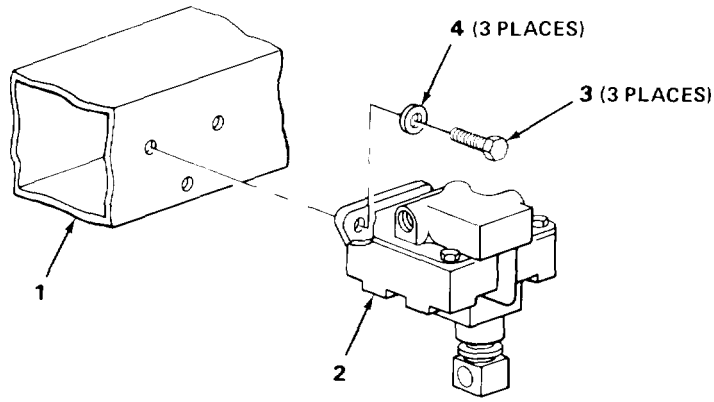
6	Air reservoir (1) -	Draincock (2)	Open slowly. Leave draincock (2) open and allow all pressure to escape.
7	Intervehicular emergency line (3)	Union (4)	Disconnect union (4) using a 5/8-inch wrench.
8	Intervehicular service line (5)	Union (6)	Disconnect union (6) using a 5/8-inch wrench.
9	Brake chamber line (7)	Union (8)	Disconnect union (8) using a 5/8-inch wrench.
10	Air reservoir (1)	Hose (9)	Disconnect at union (10) using 3/4- and 7/8-inch wrenches. Hold with 3/4-inch wrench and unscrew fitting using 7/8-inch wrench.
11	Relay valve (11)	Hose (9)	Disconnect using a 7/8-inch wrench.



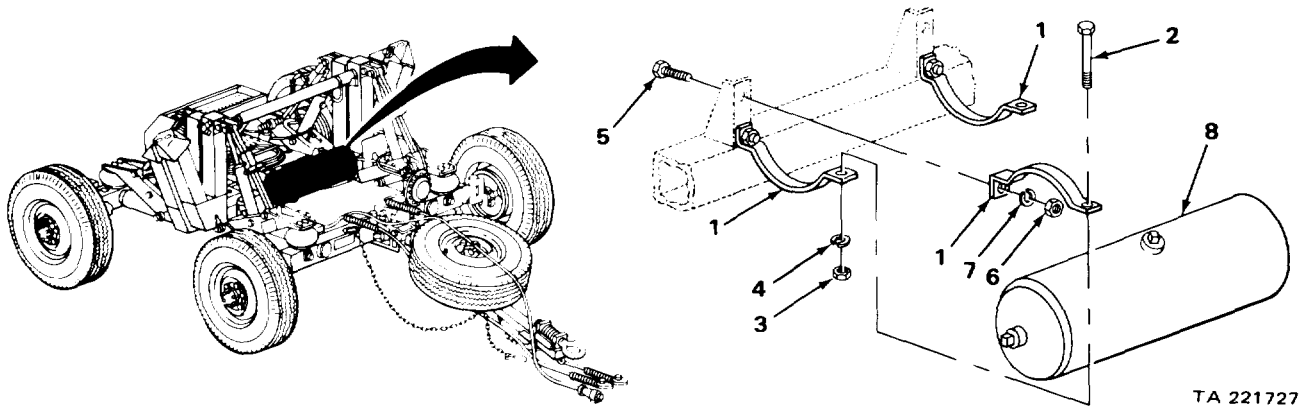
TA 221726

AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
RELAY VALVE REMOVAL - CONTINUED		
12 Axle beam (1)	Relay valve (2), three screws (3) and three washers (4)	Remove using a 1/2-inch wrench.

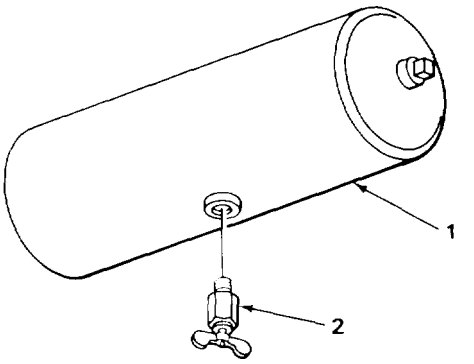


AIR RESERVOIR REMOVAL		
13 Reservoir brackets (1)	Two screws (2), two nuts (3) and two washers (4)	Remove using two 9/16-inch wrenches.
14	Two top reservoir brackets (1), two screws (5), two nuts (6) and two washers (7)	Remove using two 9/16-inch wrenches.
15 Bottom reservoir brackets (1)	Reservoir (8)	Lift out and remove.

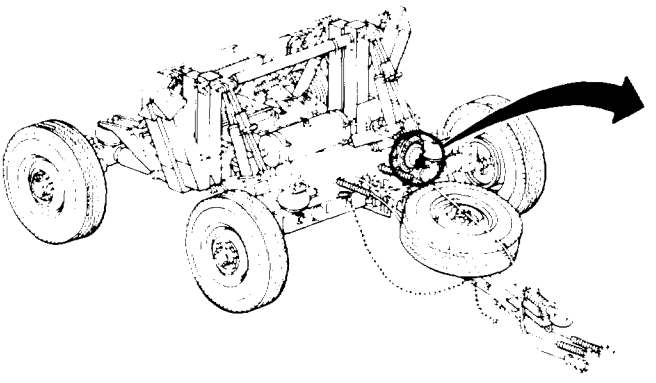


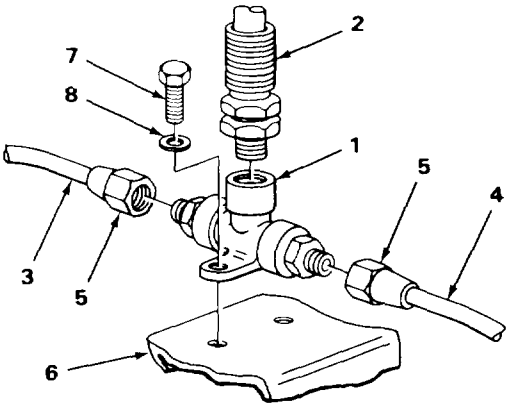
AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
DRAINCOCK REMOVAL		
16 Air reservoir (1)	Draincock (2)	Remove using a 5/8-inch wrench. **Turn counterclockwise.**



BRAKE CHAMBER TEE REMOVAL		
17 Brake chamber tee (1)	Interdolly hose (2)	Remove using a l-inch wrench.
18	Lines (3) and (4)	Remove lines at two unions (5) using a 5/8-inch wrench.
19 Front axle (6)	Brake chamber tee (1), two screws (7) and two washers (8)	Remove using a 7/16-inch wrench.

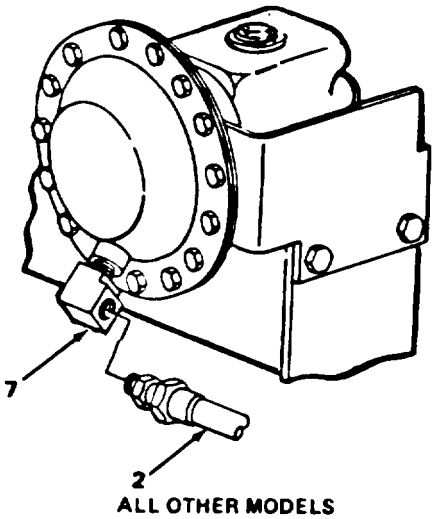




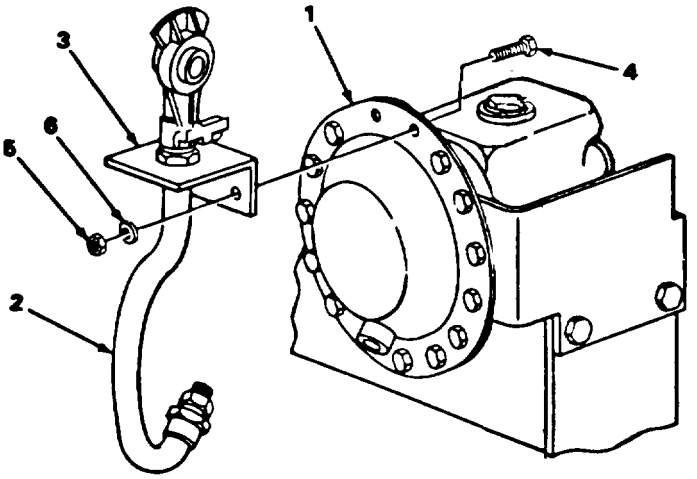
TA 221728

AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
BRAKE CHAMBER REMOVAL		
		NOTE This Is a typical procedure for the front and rear brake systems. Steps 20 and 21 apply to late model, rear brake system only.
20 Rear brake chamber (1)	Hose (2)	Remove using 13/16- and 3/4-inch wrenches.
21	Bracket (3), two screws (4), two nuts (5) and two washers (6)	Remove using two 1/2-inch wrenches.
		NOTE Step 22 applies to all other models.
22 Brake chamber (1)	Line (2)	Remove at union (7) using a W-Inch wrench.



ALL OTHER MODELS



LATE MODELS (REAR)

TA 221726

AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

BRAKE CHAMBER REMOVAL - CONTINUED

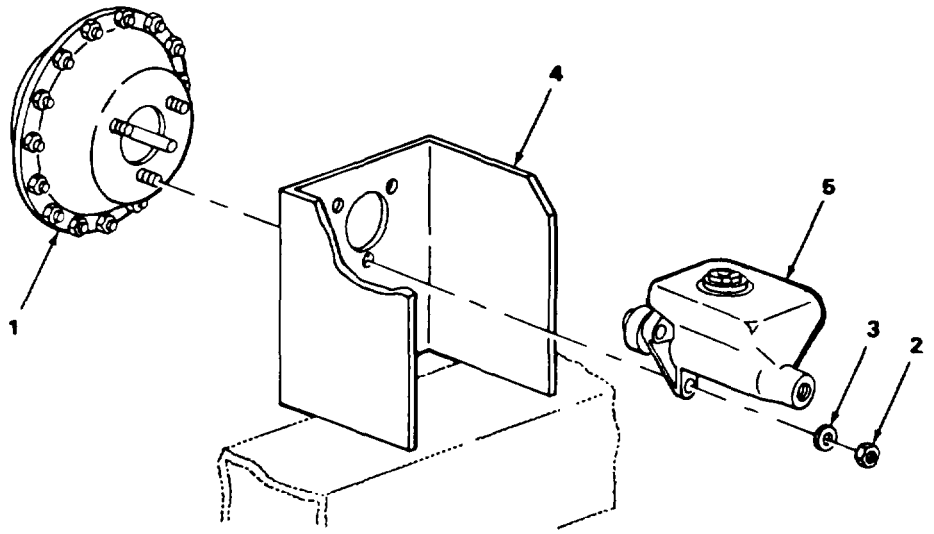
CAUTION

Be sure to provide some means of supporting the master cylinder when removing the brake chamber.

23 Brake chamber (1)	Three nuts (2) and three washers (3)	Remove using a 9/16-inch wrench.
24 Bracket (4)	Brake chamber (1)	Carefully slide the brake chamber (1) from the bracket (4) and the master cylinder (5).

BRAKE CHAMBER INSTALLATION

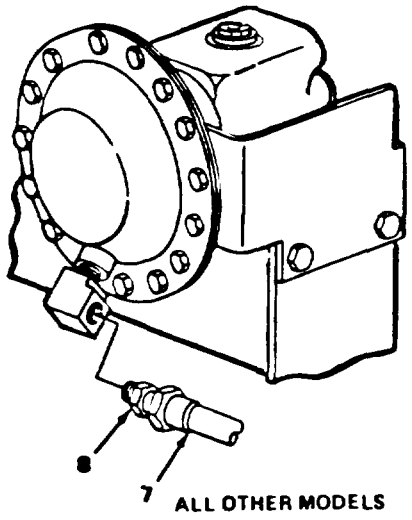
25 Bracket (4)	Brake chamber (1)	Carefully slide the brake chamber (1) into the bracket (4) and the master cylinder (5).
26 Brake chamber (1)	Three nuts (2) and three washers (3)	Secure brake chamber (1) with nuts (2) using a 9/16-inch wrench.



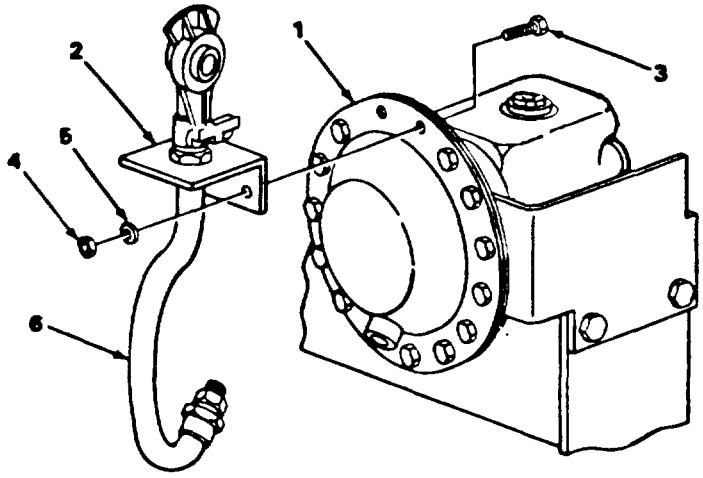
TA 221730

AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION / **REMARKS**
BRAKE CHAMBER INSTALLATION - CONTINUED		
		NOTE
		Steps 27 and 28 apply to late model, rear brake system only.
27 Brake chamber (1)	Bracket (2), two screws (3), two nuts (4) and two washers (5)	Install using two 1/2-inch wrenches.
28	Hose (6)	Install using 13/18- and 3/4-inch wrenches.
		NOTE
		Step 29 applies to all other applications.
29 Brake chamber (1)	Line (7)	Install by connecting union (8).



ALL OTHER MODELS

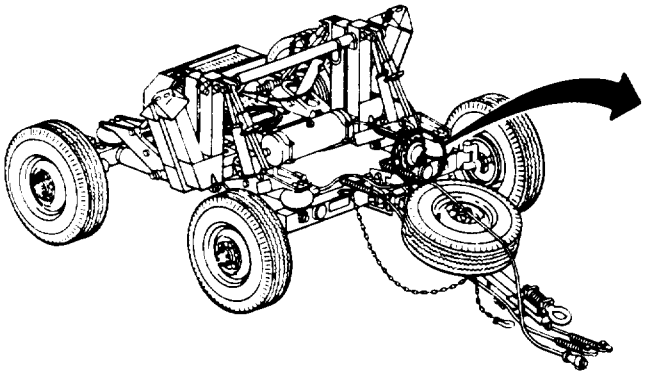


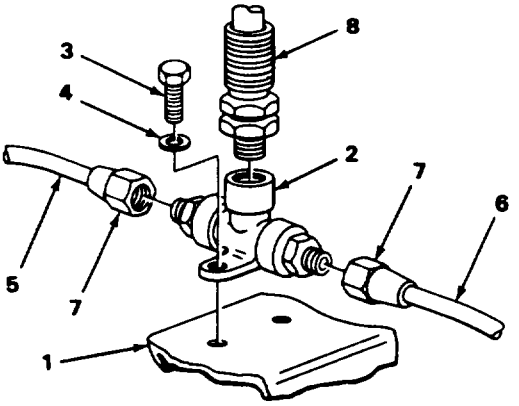
LATE MODELS (REAR)

TA 221731

AIR BRAKE SYSTEM - CONTINUED

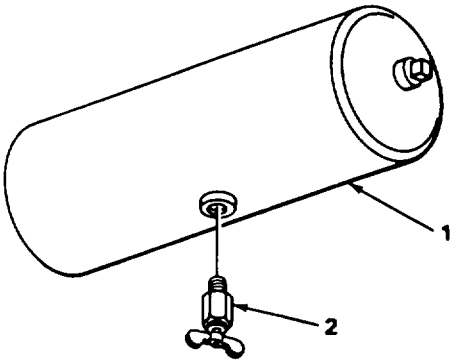
LOCATION	ITEM	ACTION **REMARKS**
BRAKE CHAMBER TEE INSTALLATION		
30 Front axle (1)	Brake chamber tee (2), two screws (3) and two washers (4)	Install using a 7/16-inch wrench.
31 Brake chamber tee (2)	Lines (5) and (6)	Install by connecting unions (7') using a 5/8-inch wrench.
32	Interdolly hose (8)	Install using a 1-inch wrench.





DRAINCOCK INSTALLATION

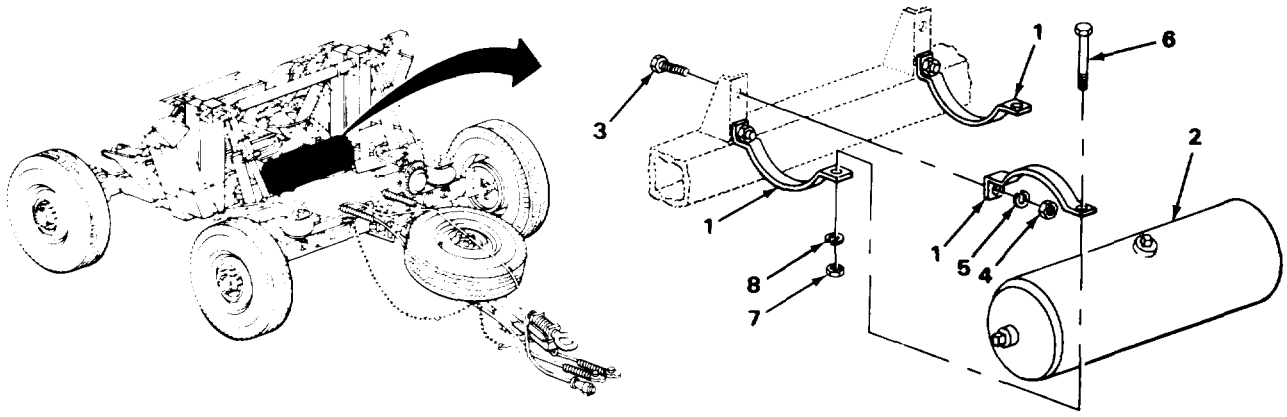
33 Air reservoir (1)	Draincock (2)	Install using a 5/8-inch wrench.



TA 221732

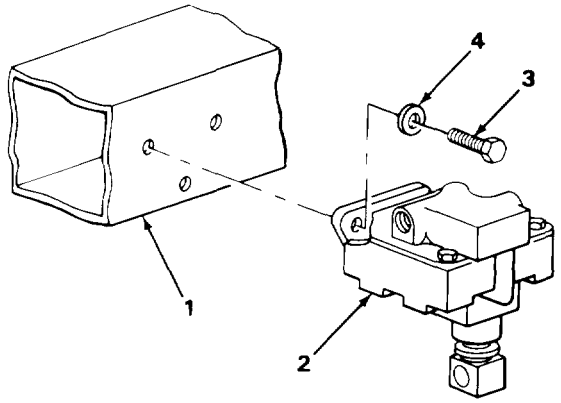
AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
AIR RESERVOIR INSTALLATION			
34	Bottom reservoir brackets (1)	Reservoir (2)	Set into position.
35		Two top reservoir brackets (1), two screws (3), two nuts (4) and two washers (5)	Secure brackets (1) with screws (4) and nuts (5) using two 9/16-inch wrenches.
36		Two screws (6), two nuts (7) and two washers (8)	Secure reservoir (2) with screws (7) and nuts (8) using two 9/16-inch wrenches.



RELAY VALVE INSTALLATION

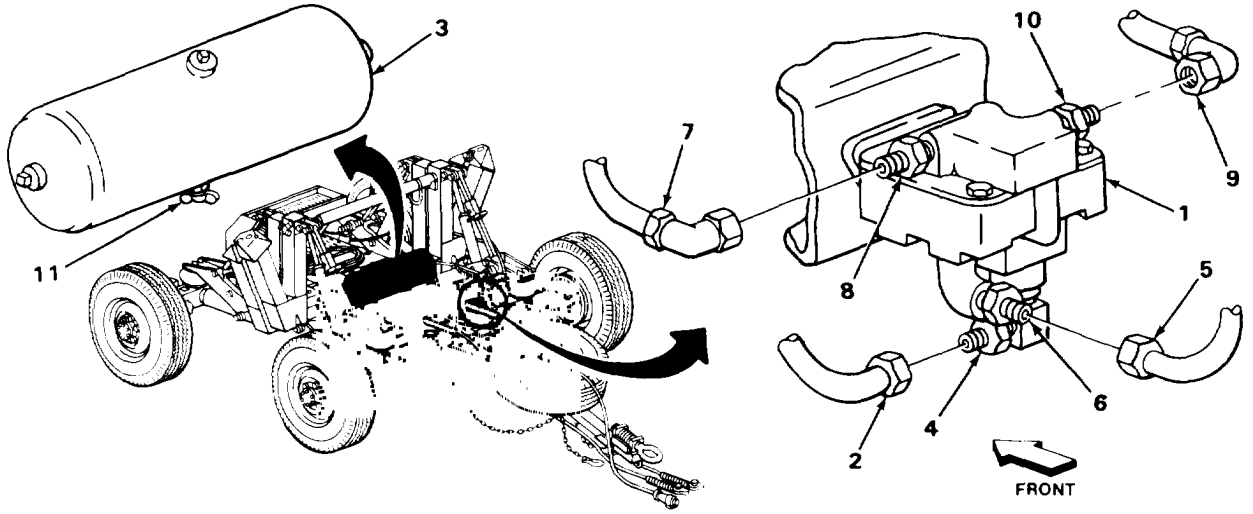
37	Axle beam (1)	Relay valve (2), three screws (3) and three washers (4)	Install using a 1/2-inch wrench.



TA 221733

AIR BRAKE SYSTEM - CONTINUED

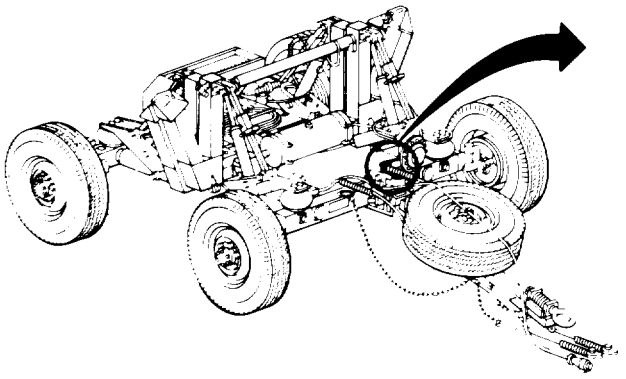
LOCATION	ITEM	ACTION **REMARKS**
RELAY VALVE INSTALLATION - CONTINUED		
38 Relay valve (1)	Hose (2)	Connect using a 7/8-inch wrench.
39 Air reservoir (3)	Hose (2)	Connect at union (4) using 3/4- and 7/8-inch wrenches. **Hold with 3/4-inch wrench and connect using a 7/8-inch wrench.**
40 Brake chamber line (5)	Union (6)	Connect using a 5/8-inch wrench.
41 Intervehicular service line (7)	Union (8)	Connect using a 5/8-inch wrench.
42 Intervehicular emergency line (9)	Union (10)	Connect using a 5/8-inch wrench.
43 Air reservoir (3)	Draincock (11)	Close.

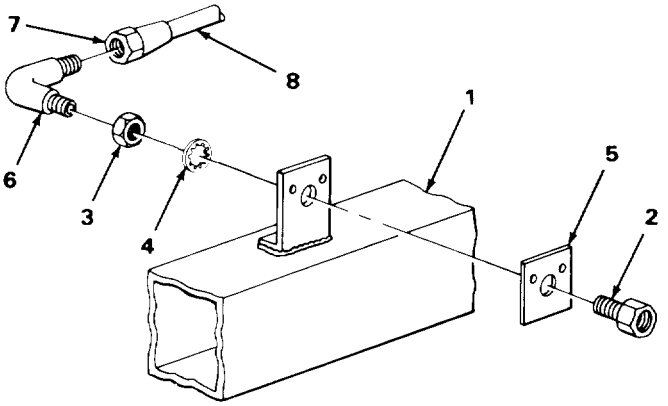


TA 221734

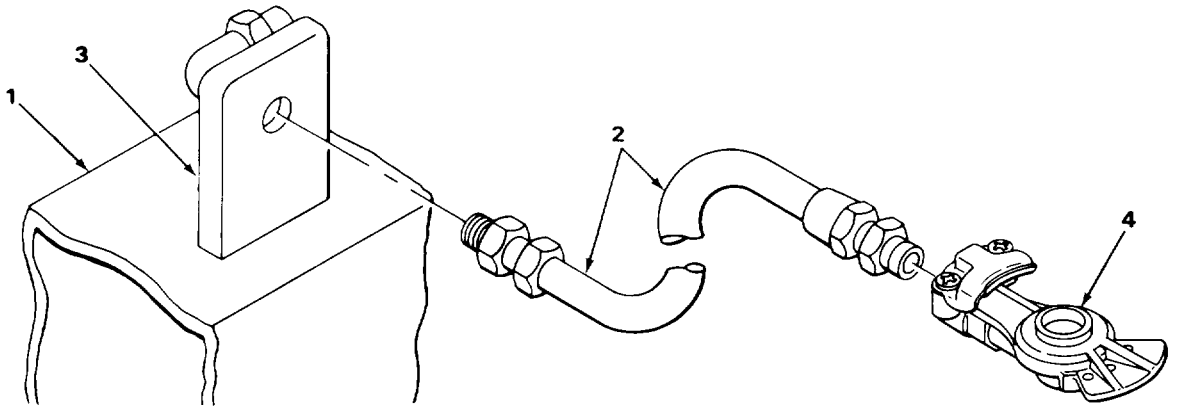
AIR BRAKE SYSTEM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INTERVEHICUIAR HOSE INSTALLATION		
44 Axle (1)	Adapter (2), nut (3), washer (4) and tag (5)	Install using 5/8- and 1-inch wrenches.
45	Elbow (6)	Install using 5/8- and 1-inch wrenches.
46	Union (7), elbow (6) and line (8)	Connect line (8) to elbow (6) at union (7) using a 5/8-inch wrench.





47 Axle (1)	Hose (2)	Install on adapter (3) using two l-inch wrenches.
48 Hose (2)	Gladhand coupling (4)	Install using 1- and 1 1/8-inch wrenches.



TASK ENDS HERE

TA 221735

Section X HUB AND BRAKE DRUM MAINTENANCE

HUB AND BRAKE DRUM

This task covers:

a. Hub and brake drum removal (page 4-132)
b. Wheel bearing removal (page 4-134)
c. Wheel bearing installation (page 4-134)
d. Hub and brake drum installation (page 4-135)
e. Wheel bearing adjustment (page 4-136)

INITIAL SETUP

Tools

Hammer
Drift
Wheel bearing socket
Socket wrench, ratchet handle, 1/2-inch drive
9/16-inch by 1/2-inch drive socket

Materials/Parts

New axle cover gasket
New grease retainer

Materials/Parts - Continued

New inner bearing cone
New outer bearing cone

Equipment Condition

Wheel and tire removed (page 3-6).
Air removed from brake system.

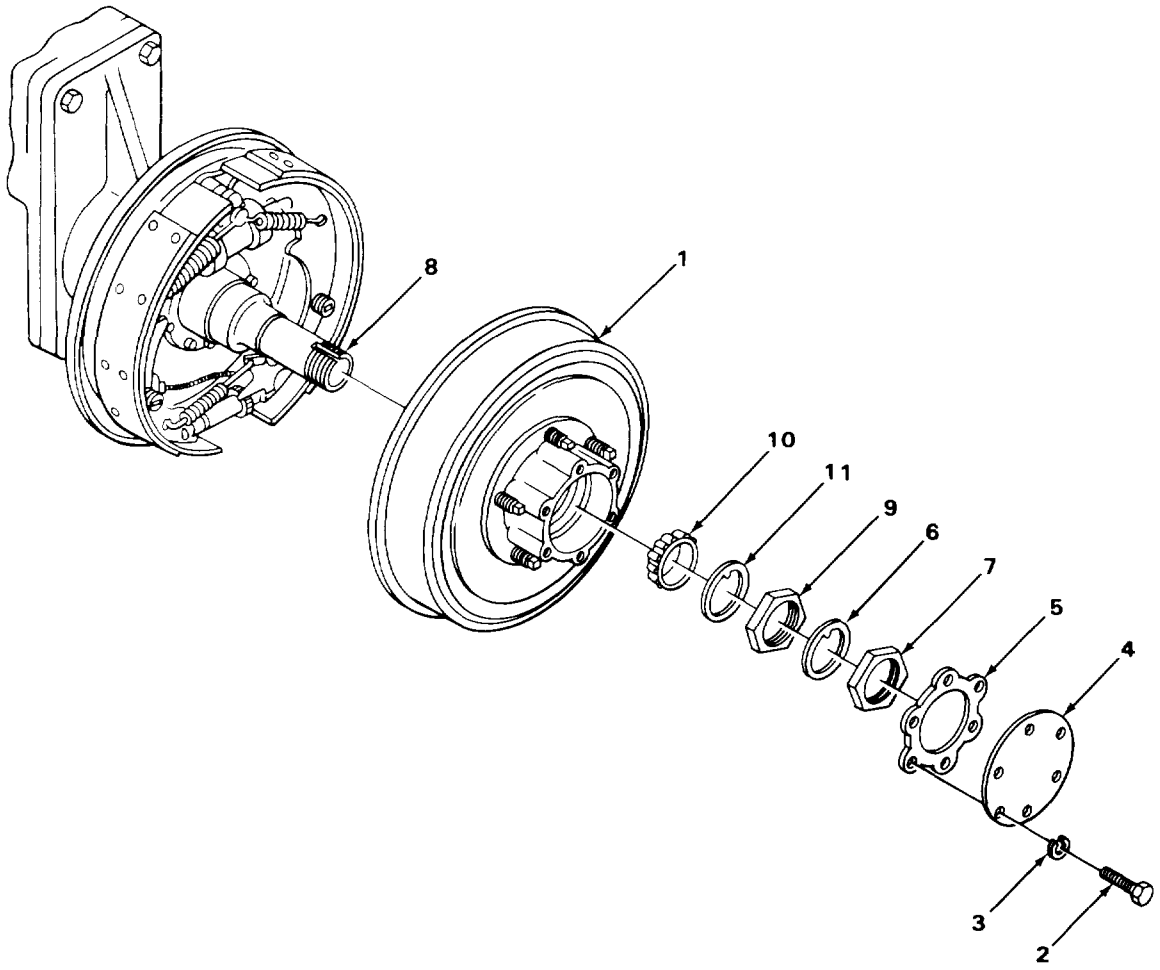
References

TM 9-214, Care and Maintenance of Anti-friction Bearings.

LOCATION	ITEM	ACTION	REMARKS
HUB AND BRAKE DRUM REMOVAL			
1	Hub and brake drum (1)	Six screws (2) and six washers (3)	Take off using a 9/16-inch socket wrench.
2		Hub cover (4) and gasket (5)	Take off. **Discard gasket (5).**
3		Lockwasher (6)	Using a hammer and drift, bend back lockwasher to release locknut (7).
4	Spindle (8)	Locknut (7)	Take off using a wheel bearing socket.
5		Lockwasher (6)	Take off.

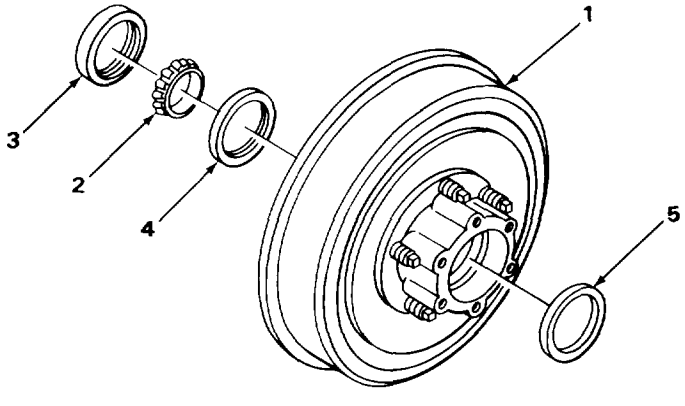
HUB AND BRAKE DRUM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
HUB AND BRAKE DRUM REMOVAL - CONTINUED		
6 Spindle (8)	Adjusting nut (9)	Remove using wheel bearing socket.
7 Hub and drum (1)	Bearing cone (10) and washer (11)	Remove.
8 Spindle (8)	Hub and drum (1)	Slide off.



HUB AND BRAKE DRUM - CONTINUED

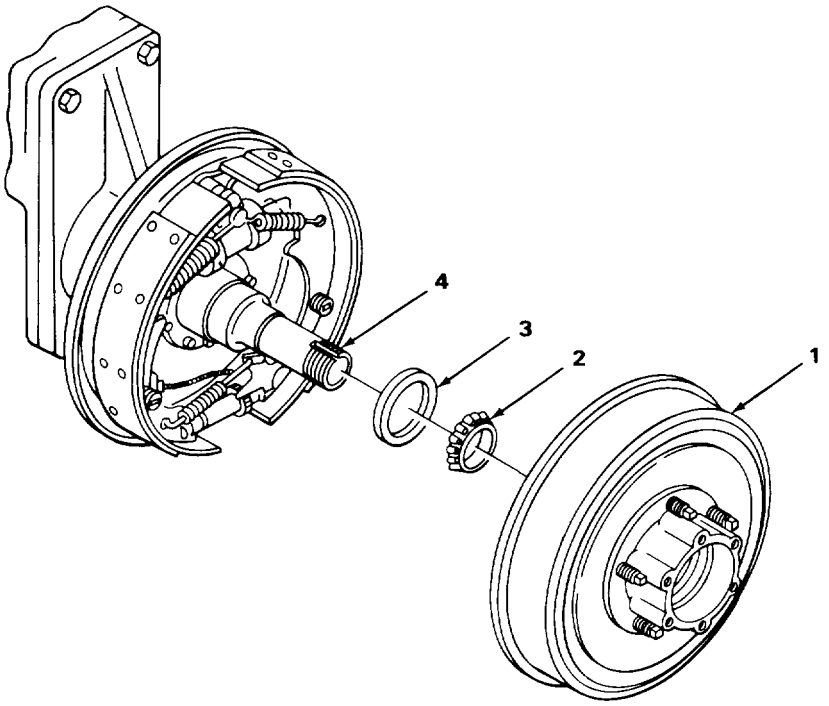
LOCATION	ITEM	ACTION **REMARKS**
WHEEL BEARING REMOVAL		
9 Hub and drum (1)	Inner bearing cone and roller (2) and inner bearing seal (3)	Take out using a hammer and drift, **Discard inner grease seal.**
		NOTE Do not perform steps 10 and 11 unless new bearing cups are being installed.
10	Inner bearing cup (4)	Remove using a hammer and drift.
11	Outer bearing cup (5)	Remove using a hammer and drift.
WHEEL BEARING INSTALLATION		
12 Hub and drum (1)	New inner bearing cup (4)	Install using a hammer and drift.
13	New outer bearing cup (5)	Install using a hammer and drift.



TA 221737

HUB AND BRAKE DRUM - CONTINUED

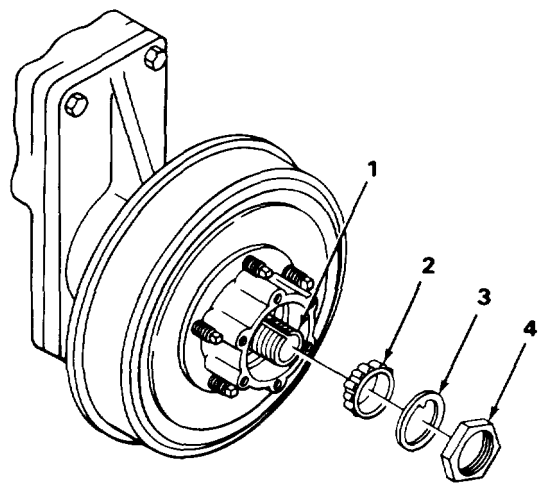
LOCATION	ITEM	ACTION / **REMARKS**
HUB AND BRAKE DRUM INSTALLATION		
14 Hub and drum (1)	Inner and outer bearings	Clean parts and repack bearings. **Refer to TM 9-214, Care and Maintenance of Anti-friction Bearings.**
15	Inner bearing cone (2)	Place into hub.
16	New inner bearing seal (3)	Using a hammer and drift, tap into rear of hub and drum (1).
17 Spindle (4)	Hub and drum assembly (1)	Slide on.



TA 221738

HUB AND BRAKE DRUM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
HUB AND BRAKE DRUM INSTALLATION - CONTINUED		
18 spindle (1)	Outer bearing cone (2)	Put onto spindle.
19	Bearing washer (3)	Put onto spindle.
20	Adjusting nut (4)	Put onto spindle using wheel bearing socket **Do not tighten.**

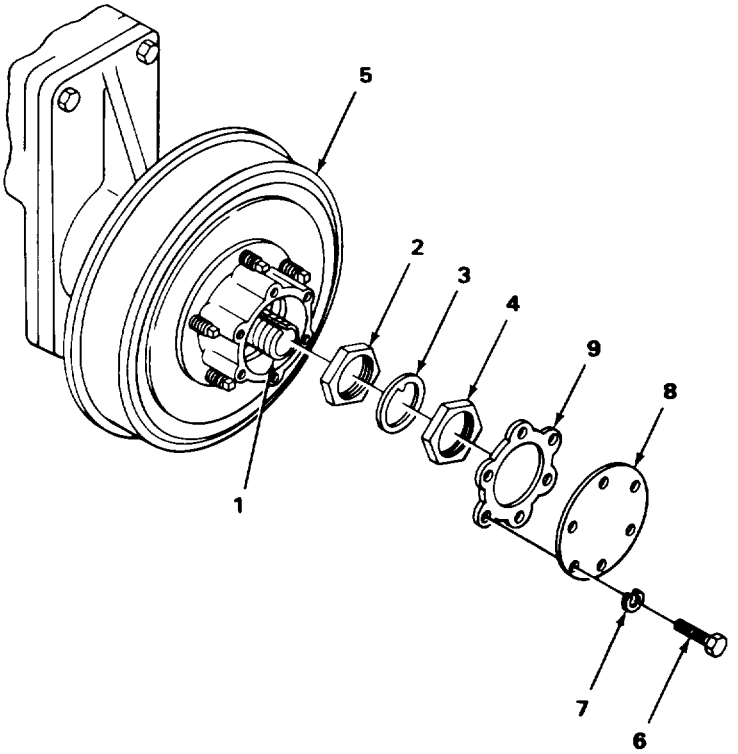


WHEEL BEARING ADJUSTMENT		
21 Spindle (1)	Adjusting nut (2)	Using wheel bearing wrench, adjust the bearings. a. Tighten the adjusting nut (2) until wheel drags slightly. b. Back the nut off until the wheel spins free and there is no looseness felt when the wheel is rocked.
22 Spindle (1)	Lockwasher (3)	Slide on.

TA 221739

HUB AND BRAKE DRUM - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
WHEEL BEARING ADJUSTMENT - CONTINUED		
23	Locknut (4)	Install locknut (4) on the spindle (1) using a wheel bearing wrench.
24	Lockwasher (3)	Using a hammer and drift, bend lockwasher (3) edges over locknut (4).
25 Hub and drum (5)	Six screws (6), six washers (7), hub cover (8) and new gasket (9)	Using a 9/16-inch socket wrench, install parts.



NOTE

FOLLOW-ON MAINTENANCE:

1. Adjust service brake (page 4-96).
2. Install wheel and tire (page 3-6).

TASK ENDS HERE

TA 221740

Section XI FRAME AND TOWING ATTACHMENT MAINTENANCE

ROCKER ARMS AND STRUTS

This task covers:

a. Strut removal (page 4-138)
b. Disassembly of strut (page 4-139)
c. Rocker arm removal (page 4-140)
d. Rocker arm installation (page 4-140)
e. Assembly of strut (page 4-142)
f. Strut installation (page 4-142)

INITIAL SETUP

Tools

Diagonal cutting pliers
Hand hammer
Pin punch
9/16-inch wrench (two required)
Cross-tip screwdriver
Flat-tip screwdriver

Materials/Parts

Cotter pins (as required)

Equipment Condition

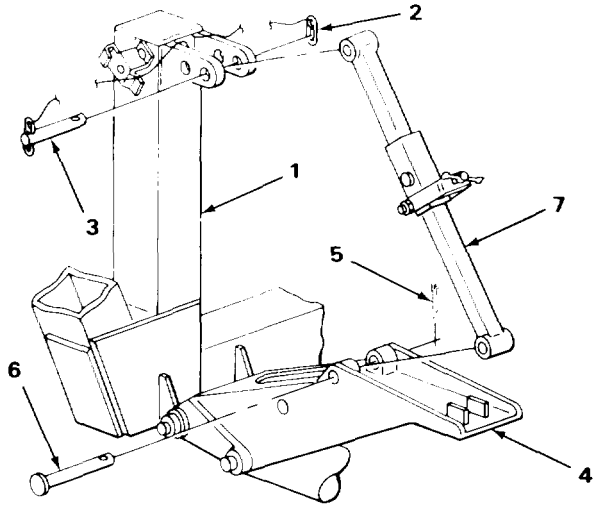
Air mount removed (page 4-150).
Shock absorber removed (page 4-152).
Air mount bumper removed (page 4-151).

LOCATION	ITEM	ACTION **REMARKS**
STRUT REMOVAL		
1 Frame adapter (1)	Lockpin (2) and pin (3)	a. Pull out lockpin (2). b. Remove pin (3).
2 Rocker arm (4)	Cotter pin (5) and pin (6)	a. Remove cotter pin (5) using diagonal cutting pliers. **Throw away cotter pin.** b. Remove pin (6).
3	Strut (7)	Remove.

ROCKER ARMS AND STRUTS - CONTINUED

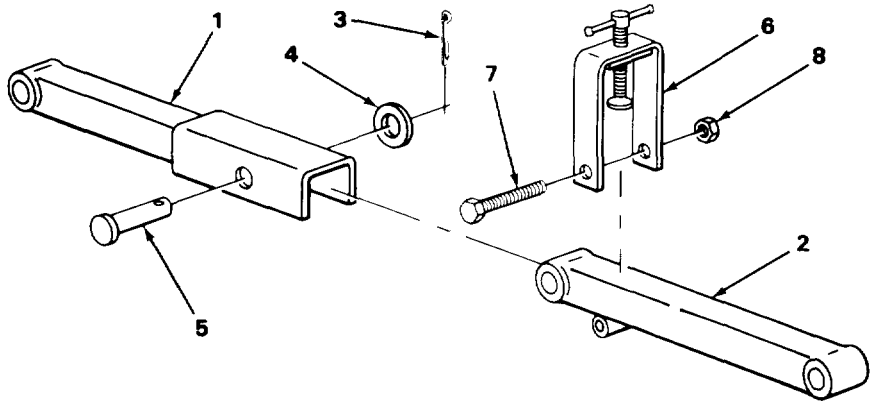
LOCATION	ITEM	ACTION **REMARKS**

STRUT REMOVAL - CONTINUED



DISASSEMBLY OF STRUT

4 Upper strut (1) to lower strut (2)	Cotter pin (3), washer (4) and pin (5)	a. Remove cotter pin (3) using diagonal cutting pliers. b. Remove washer (4) and pin (5).
5 Lower strut (2)	Clamp (6), screw (7) and nut (8)	a. Remove screw (7) and nut (8) using two 9/16-inch wrenches. b. Remove clamp (6).



TA 221741

ROCKER ARMS AND STRUTS - CONTINUED

LOCATION	ITEM	ACTION / **REMARKS**
ROCKER ARM REMOVAL		
6 Rocker arm (1) to frame adapter (2)	Cotter pin (3), two washers (4) and pin (5)	a. Remove cotter pin (3). b. Remove two washers (4) and pin (5).
7 Axle arm (6)	Screw (7)	Remove using a flat-tip screwdriver,
8 Rocker arm (1) to axle arm (6)	Cotter pin (8), two washers (9) and pin (10)	a. Remove cotter pin (8). b. Remove two washers (9) and pin (10).
9 Rocker arm (1) to hydraulic cylinder (11)	Cotter pin (12) and pin (13)	a. Remove cotter pin (12) using cutting pliers. b. Remove pin (13). **Throw away cotter pins.**
		NOTE When removing the left front rocker arm, step 10 must be done. It is omitted in all other cases.
10 Rocker arm (1) to clamp (14)	Screw (15)	Remove using a cross-tip screwdriver.
11	Rocker arm (1)	Remove from dolly set.
ROCKER ARM INSTALLATION		
12	Rocker arm (1)	Position on the dolly set.
13 Rocker arm (1) to hydraulic cylinder (11)	Cotter pin (12) and pin (13)	a. Install pin (13). b. Secure with new cotter pin (12) using cutting pliers.
14 Axle arm (6)	Screw (7)	Install using flat-tip screwdriver.
15 Rocker arm (1) to axle arm (6)	Cotter pin (8), two washers (9) and pin (10)	a. Install pin (10) and two washers (9). b. Install cotter pin (8).
16 Rocker arm (1) to frame adapter (2)	Cotter pin (3), two washers (4) and pin (5)	a. Install pin (5) and two washers (4). b. Install cotter pin (3).

ROCKER ARMS AND STRUTS - CONTINUED

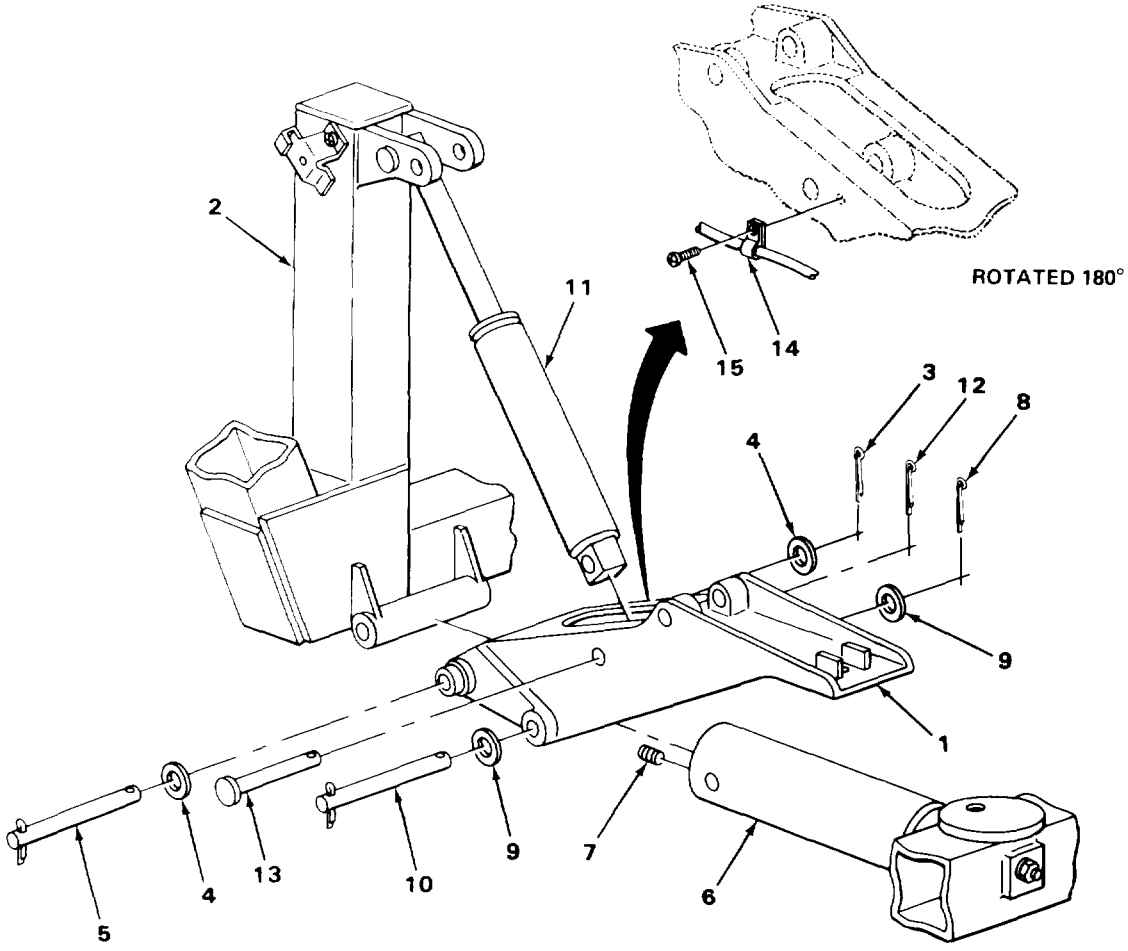
LOCATION	ITEM	ACTION **REMARKS**

ROCKER ARM INSTALLATION - CONTINUED

NOTE

When installing the left front rocker arm, step 17 must be done. It is omitted in all other cases.

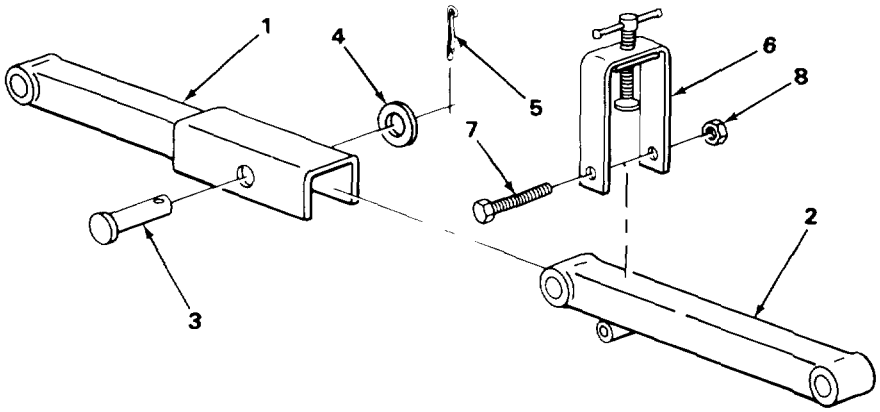
17	Rocker arm (1) to clamp (14)	Screw (15)	Install using a cross-tip screwdriver.



TA 221742

ROCKER ARMS AND STRUTS - CONTINUED

LOCATION	ITEM	ACTION / REMARKS
ASSEMBLY OF STRUT		
18 Upper strut (1) to lower strut (2)	Pin (3), washer (4) and cotter pin (5)	a. Install pin (3) and washer (4). b. Secure with new cotter pin (5) using cutting pliers.
19	Clamp (6), screw (7) and nut (8)	a. Position clamp (6) on strut. b. Secure with screw (7) and nuts (8) using two 9/16-inch wrenches.



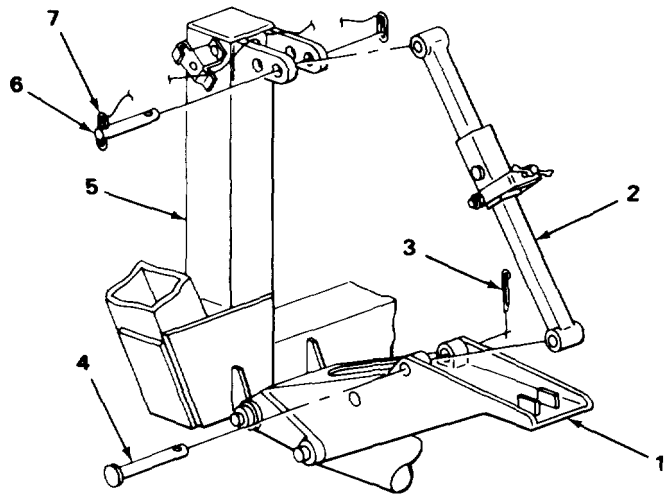
STRUT INSTALLATION		
20 Rocker arm (1) to strut (2)	Cotter pin (3) and pin (4)	a. Install pin (3). b. Secure with new cotter pin (4) using cutting pliers.
21 Frame adapter (5) to strut (2)	Pin (6) and lockpin (7)	a. Install pin (6). b. Secure with lockpin (7).

TA 221743

ROCKER ARMS AND STRUTS - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

STRUT INSTALLATION - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install air mount (page 4-150).
2. Install shock absorber (page 4-152).
3. Install air mount bumper (page 4-151).

TASK ENDS HERE

TOWBAR

This task covers:

a. Disassembly (page 4-144)
b. Assembly (page 4-144)

INITIAL SETUP

Tools

Socket, 3/4-inch by 1/2-inch drive
Ratchet handle, 1/2-inch drive
Pliers
2 1/4-inch box wrench

Materials/Parts

Cotter pin

Equipment Condition

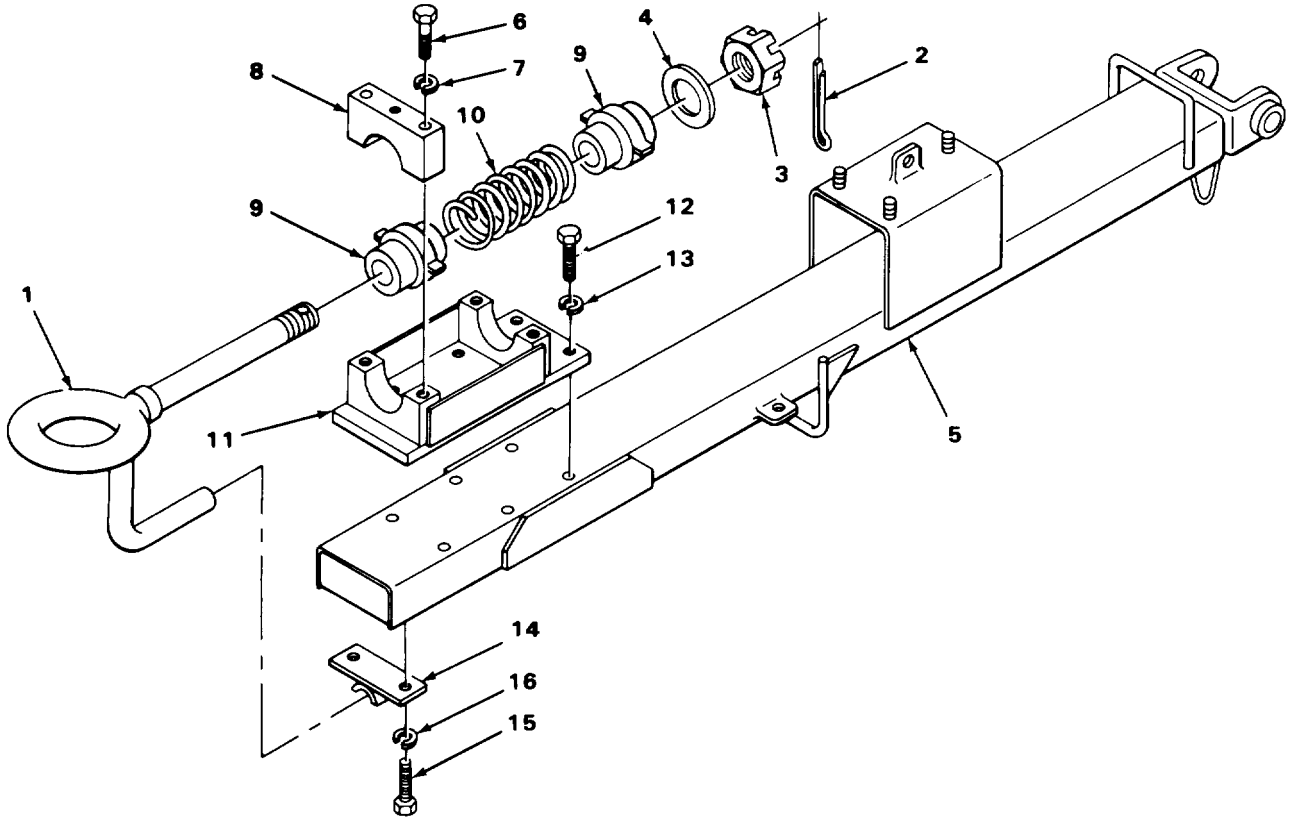
Towbar removed (page 2-22).

TOWBAR - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY		
1 Lunette (1)	Cotter pin (2)	Take out using pliers. **Get rid of cotter pin (2).**
2	Nut (3) and washer (4)	Remove using a 2 1/4-inch box wrench.
3 Towbar (5)	Four screws (6) and four washers (7)	Take out using a 3/4-inch socket wrench.
4	Two caps (8)	Lift off.
5	Lunette (1)	Take out.
6	Two guides (9) and spring (10)	Take out.
7	Block (1 1), six screws (12) and six washers (13)	Remove using a 3/4-inch socket wrench.
8	Guide (14), two screws (15) and two washers (16)	Remove using a 3/4-inch socket wrench.
ASSEMBLY		
9 Towbar (5)	Guide (14), two screws (15) and two washers (16)	Install using a 3/4-inch socket wrench,
10	Block (1 1), six screws (12) and six washers (13)	Install using a 3/4-inch socket wrench.
11 Towbar (5)	Two guides (9) and spring (10)	Put into position.
12	Lunette (1)	Put in.

TOWBAR - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
ASSEMBLY - CONTINUED		
13	Two caps (8)	Put on.
14	Four screws (6) and four washers (7)	Put in using a 3/4-inch socket wrench.
15 Lunette (1)	Nut (3) and washer (4)	Put on using a 2 1/4-inch box wrench.
16	New cotter pin (2)	a. Aline hole in lunette (1) with one of the slots in nut (3). b. Install new cotter pin (2) using pliers.



NOTE

FOLLOW-ON MAINTENANCE: Install towbar (page 2-26).

TASK ENDS HERE

TA 221745

PINTLE

This task covers:

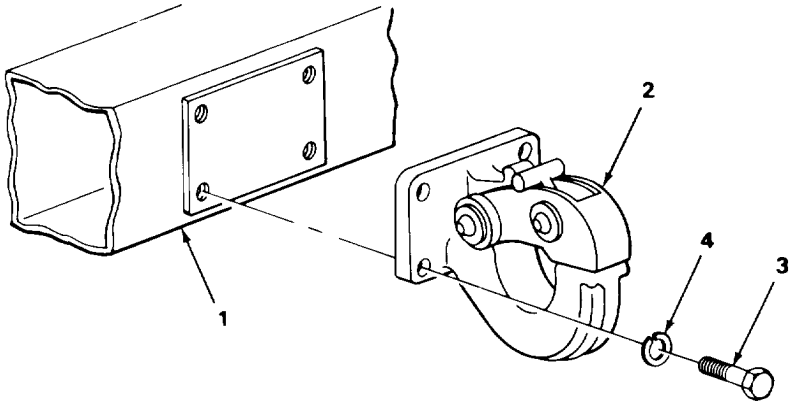
a. Removal
b. Installation

INITIAL SETUP

Tools

3/4-inch wrench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Rear axle beam (1)	Pintle (2), four screws (3) and four washers (4)	Remove using a 3/4-inch wrench.
INSTALLATION		
2 Rear axle beam (1)	Pintle (2), four screws (3) and four washers (4)	Install using a 3/4-inch wrench.



TASK ENDS HERE

TA 221746

TOWBAR UPLATCH

This task covers:

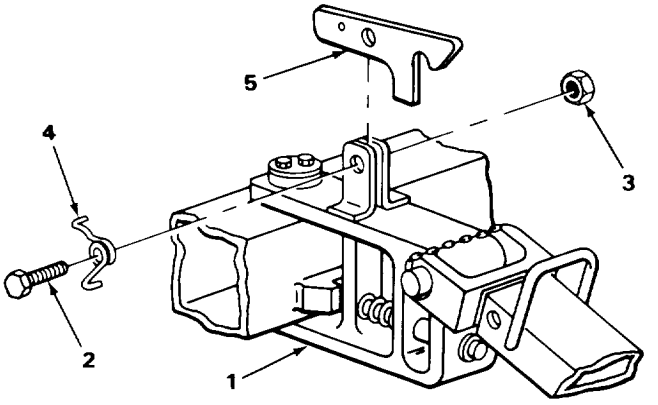
a. Removal
b. Installation

INITIAL SETUP

Tools

3/4-inch wrench (two required)

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Steering arm (1)	Screw (2), nut (3) and spring (4)	Remove using two 3/4-inch wrenches.
2	Latch (5)	Take off.
INSTALLATION		
3 Steering arm (1)	Latch (5)	Put into position.
4	Screw (2) and spring (4)	Slide through steering arm (1) and latch (5).
5	Nut (3)	Install using a 3/4-inch wrench.



TASK ENDS HERE

TA 221747

SAFETY CHAINS

This task covers:

a. Removal
b. Installation

INITIAL SETUP

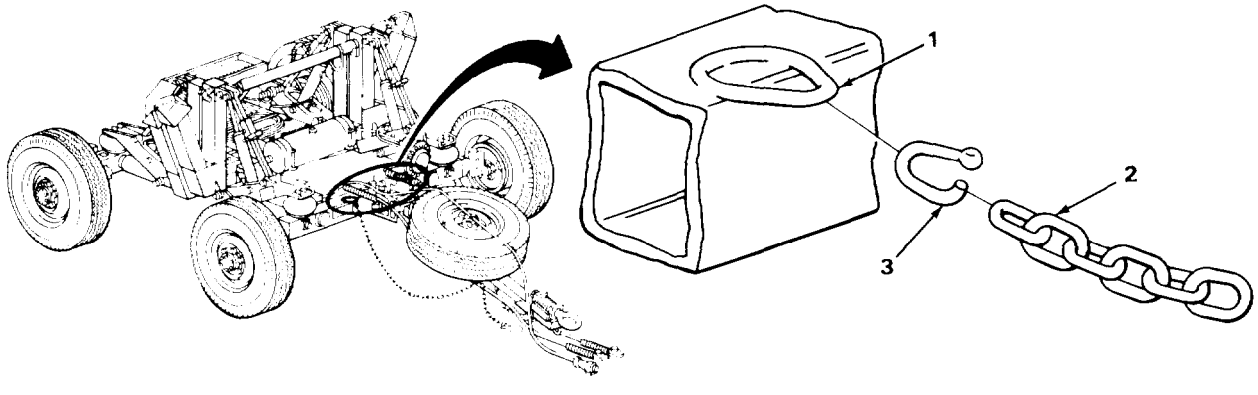
Tools

Hacksaw
Electric welder
Pliers

Materials/Parts

New connector link

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Attaching eye (1)	Safety chain (2)	Cut link (3) using a hacksaw. **Throw away link (3).**
INSTALLATION		
2 Attaching eye (1) to safety chain (2)	New connector link (3)	Position parts and close connector link (3) using pliers.
3	New connector link (3)	Weld ends together using electric welder.



TASK ENDS HERE

TA 221748

LIFTING EYE

This task covers:

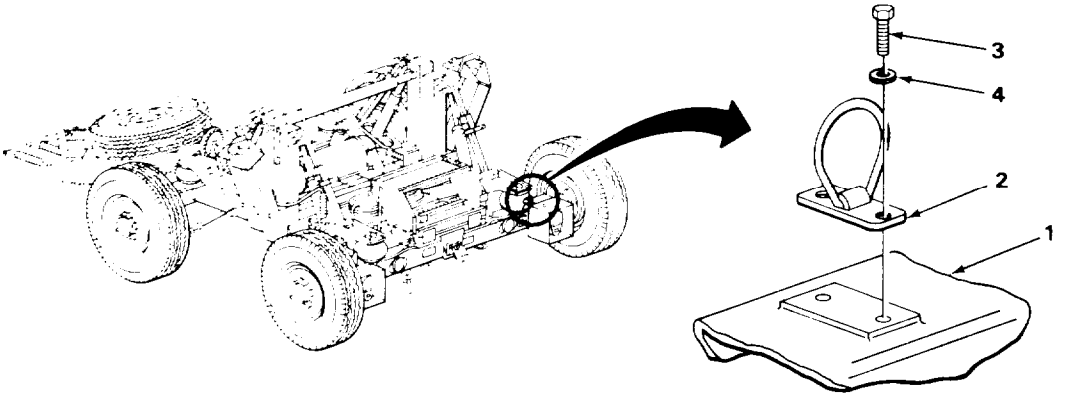
a. Removal
b. Installation

INITIAL SETUP

Tools

9/16-inch wrench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Axle beam (1) to lifting eye (2)	Two screws (3) and two washers (4)	Remove using a 9/16-inch wrench.
2 Axle beam (1)	Lifting eye (2)	Remove.
INSTALLATION		
3 Axle beam (1)	Lifting eye (2)	Place in position.
4 Axle beam (1) to lifting eye (2)	Two screws (3) and two washers (4)	Install using a 9/16-inch wrench.



TASK ENDS HERE

TA 221749

Section XII SUSPENSION SYSTEM MAINTENANCE

AIR MOUNT

This task covers:

a. Removal (page 4-150)
b. Installation (page 4-150)

INITIAL SETUP

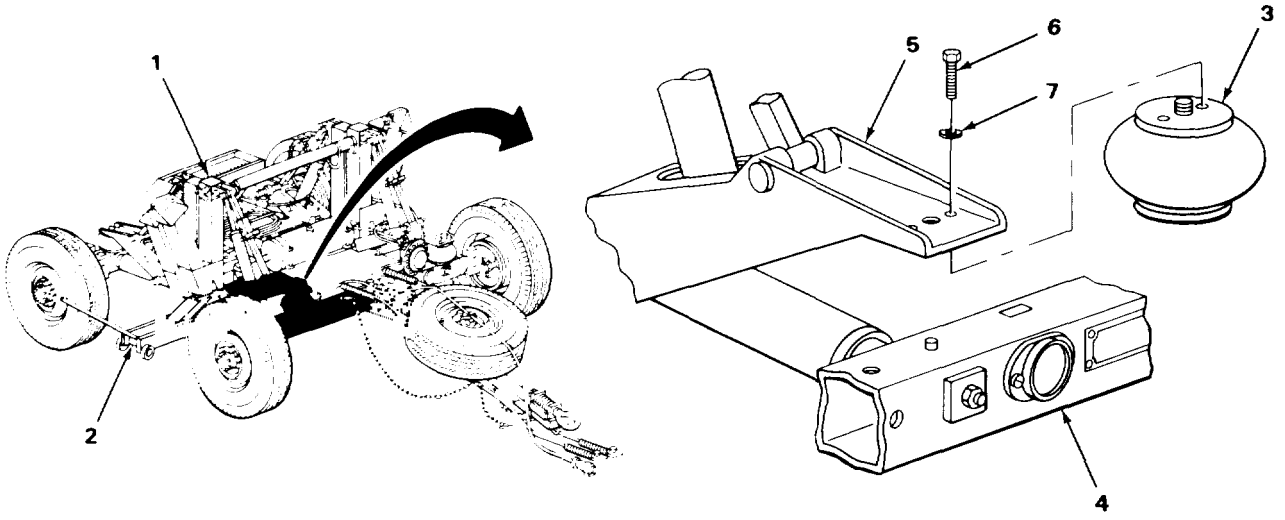
Tools

9/16-inch wrench
1 1/2-ton floor type jack

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Frame adapter (1)	Jack (2)	Raise dolly set so that base of air mount (3) clears the axle beam (4).
2 Air mount (3) to rocker arm (5)	Two screws (6) and two washers (7)	Remove using a 9/16-inch wrench.
3	Air mount (3)	Remove from between rocker arm (5) and axle beam (4).
INSTALLATION		
4 Rocker arm (5)	Air mount (3)	Place in position.
5 Rocker arm (5) to air mount (3)	Two screws (6) and two washers (7)	Install using a 9/16-inch wrench.
6 Frame adapter (1)	Jack (2)	Lower and remove.

AIR MOUNT - CONTINUED

INSTALLATION - CONTINUED



TASK ENDS HERE

AIR MOUNT BUMPER

This task covers:

a. Removal (page 4-152)
b. Installation (page 4-152)

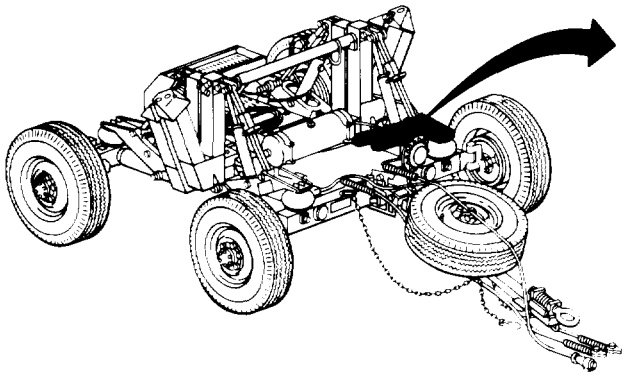
INITIAL SETUP

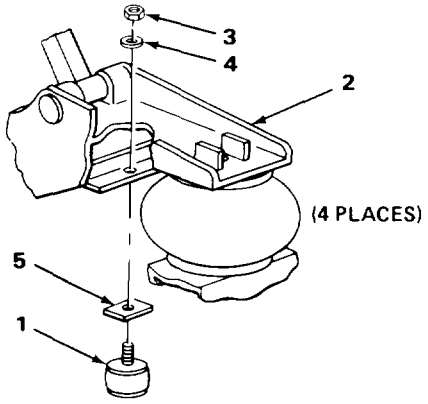
Tools

9/16-inch wrench

AIR MOUNT BUMPER - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Air mount bumper (1) to rocker arm (2)	Nut (3), washer (4) and washer (5)	Remove using a 9/16-inch wrench,
2 Rocker arm (2)	Air mount bumper (1)	Remove.
INSTALLATION		
3 Rocker arm (2)	Air mount bumper (1)	Place in position.
4 Air mount bumper (1) to rocker arm (2)	Nut (3), washer (4) and washer (5)	Install using a 9/16-inch wrench.





TASK ENDS HERE

SHOCK ABSORBER

This task covers:

a. Removal (page 4-153)
b. Installation (page 4-153)

INITIAL SETUP

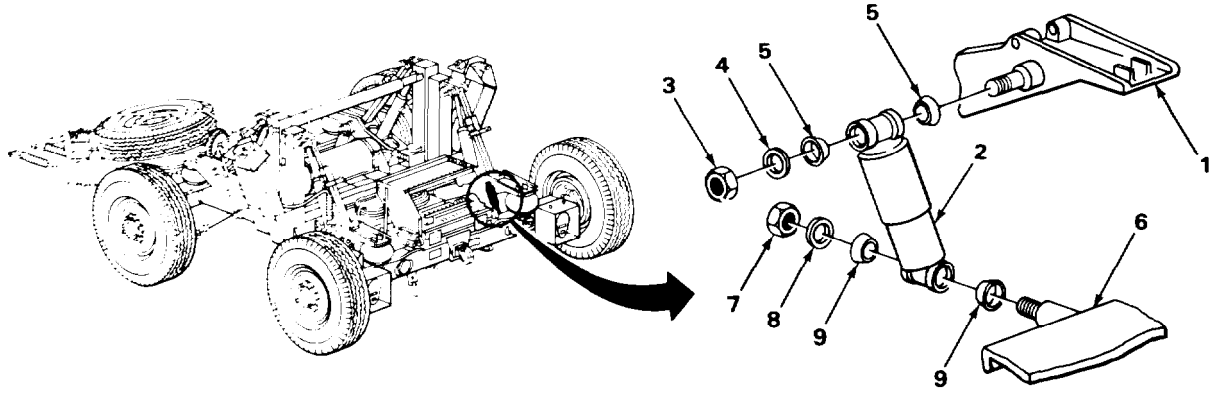
Tools

3/4-inch wrench

TA 221751

SHOCK ABSORBER - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Rocker arm (1) to shock absorber (2)	Nut (3), washer (4) and two washers (5)	Remove using a 3/4-inch wrench.
2 Axle beam (6) to shock absorber (2)	Nut (7), washer (8) and two washers (9)	Remove using a 3/4-inch wrench.
3 Rocker arm (1) and axle beam (6)	Shock absorber (2)	Remove.
INSTALLATION		
4 Rocker arm (1) and axle beam (6)	Shock absorber (2)	Install.
5 Axle beam (6) to shock absorber (2)	Nut (7), washer (8) and two washers (9)	Install using a 3/4-inch wrench.
6 Rocker arm (1) to shock absorber (2)	Nut (3), washer (4) and two washers (5)	Install using a 3/4-inch wrench.



TASK ENDS HERE

TA 221752

Section XIII ACCESSORY ITEM MAINTENANCE

TOOLBOX

This task covers:

a. Removal (page 4-154)
b. Storage strap removal (page 4-154)
c. Storage strap installation (page4-155)
d. installation (page 4-155)

INITIAL SETUP

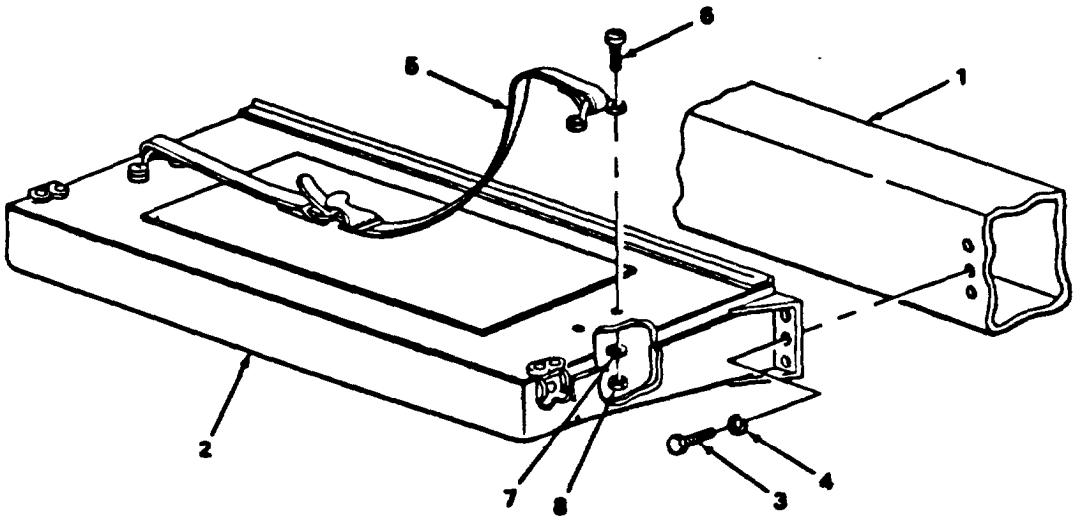
Tools

9/16-inch wrench
Cross-tip screwdriver
3/8-inch wrench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Frame adapter(l) to toolbox (2)	Four screws (3) and four washers (4)	Remove using a 9/16-inch wrench. **Toolbox (2) will come off of frame adapter (1).**
STORAGE STRAP REMOVAL		
2 Two straps (5) to toolbox (2)	Four screws (6), four washers (7) and four nuts (8)	Remove using a cross-tip screwdriver and a 3/8-inch wrench.
3 Toolbox (2)	Two straps (5)	Remove.

TOOLBOX - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
STORAGE STRAP INSTALLATION		
4 Toolbox (2)	Two straps (5)	Put in position.
5 Two straps (5) to toolbox (2)	Four screws (6), four washers (7) and four nuts (8)	Install using a cross-tip screwdriver and 3/8-inch wrench.
INSTALLATION		
6 Frame adapter (1) to toolbox (2)	Four screws (3) and four washers (4)	a. Position and hold toolbox (2). b. Secure with screws (3) using a 9/16-inch wrench.



TASK ENDS HERE

TA 221753

FOLDING STAIRWAY

This task covers:

a. Removal (page 4-156)
b. Strap removal (page 4-156)
c. Strap installation (page 4-156)
d. Installation (page 4-157)

INITIAL SETUP

Tools

9/16-inch wrench
3/8-inch wrench
Cross-tip screwdriver

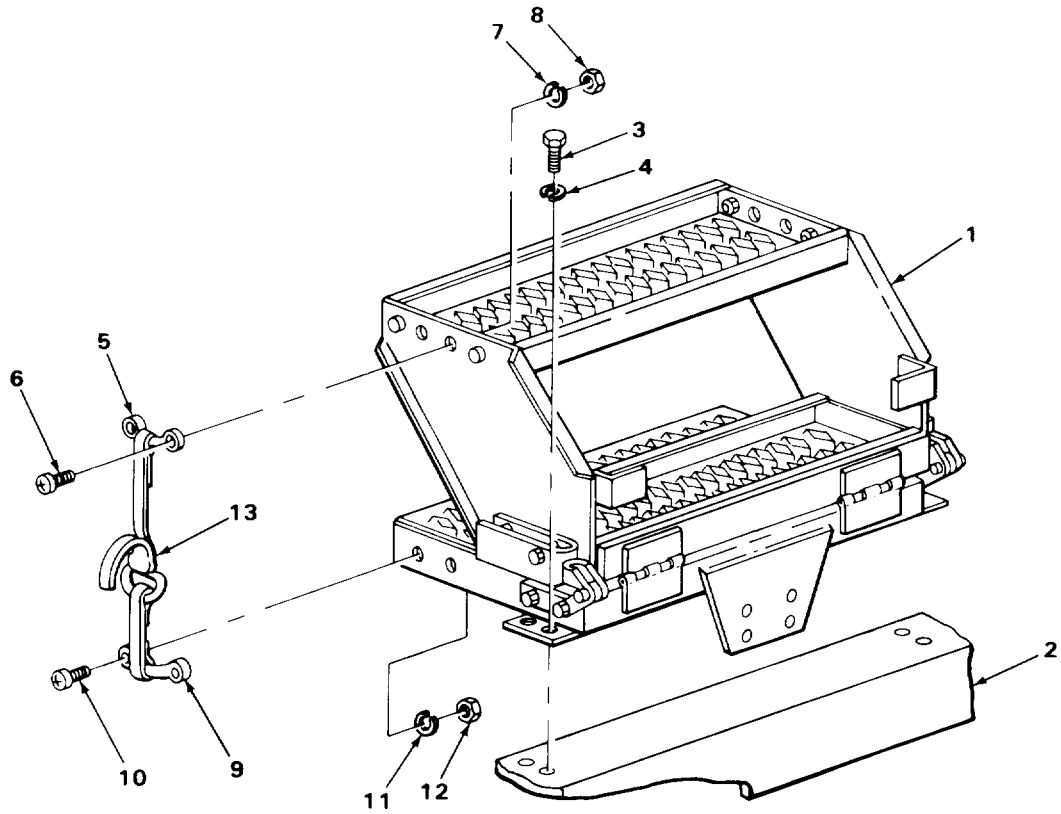
Equipment Condition

Pintle removed (page 4-146).

LOCATION	ITEM	ACTION / **REMARKS**
REMOVAL		
1 Stairway (1) to axle (2)	Four screws (3) and four washers (4)	Remove using a 9/16-inch wrench.
2 Axle (2)	Stairway (1)	Remove.
STRAP REMOVAL		
3 Stairway (1) to top loop (5)	Two screws (6), two washers (7) and two nuts (8)	Remove using a cross-tip screwdriver and a 3/8-inch wrench.
4 Stairway (1) to bottom loop (9)	Two screws (10), two washers (11) and two nuts (12)	Remove using a cross-tip screwdriver and a 3/8-inch wrench.
5 Stairway (1)	Strap (13)	Remove.
STRAP INSTALLATION		
6 Stairway (1)	Strap (13)	Put into position.
7 Stairway (1) to top loop (5)	Two screws (6), two washers (7) and two nuts (8)	Install using a cross-tip screwdriver and a 3/8-inch wrench.

FOLDING STAIRWAY - CONTINUED

LOCATION	ITEM	ACTION / **REMARKS**
STRAP INSTALLATION - CONTINUED		
8 Stairway (1) to bottom loop (9)	Two screws (10), two washers (11) and two nuts (12)	Install using a cross-tip screwdriver and a 3/8-inch wrench.
INSTALLATION		
9 Axle (2)	Stairway (1)	Put in position.
10 Stairway (1) to axle (2)	Four screws (3) and four washers (4)	Install using a 9/16-inch wrench.



NOTE

FOLLOW-ON MAINTENANCE: Install pintle (page 4-146).

TASK ENDS HERE

TA 221754

REFLECTORS

This task covers:

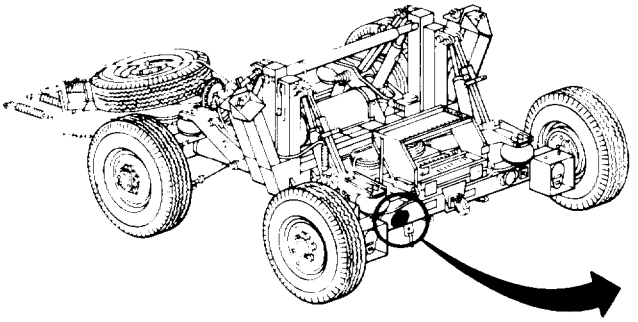
a. Removal
b. Installation

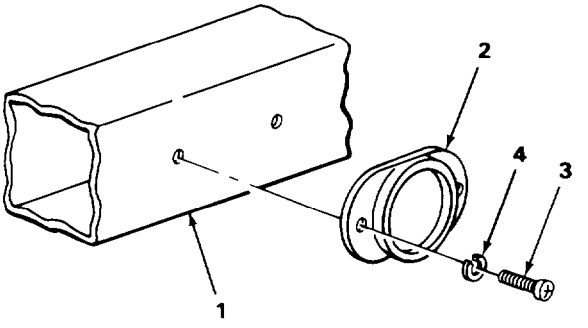
INITIAL SETUP

Tools

Cross-tip screwdriver

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Axle (1) to reflector (2)	Two screws (3) and two washers (4)	Remove using a cross-tip screwdriver,
2 Axle (1)	Reflector (2)	Remove.
INSTALLATION		
3 Axle (1)	Reflector (2)	Put into position.
4 Axle (1) to reflector (2)	Two screws (3) and two washers (4)	Install using a cross-tip screwdriver.





TASK ENDS HERE

TA 221755

GLADHAND STORAGE BRACKETS

This task covers:

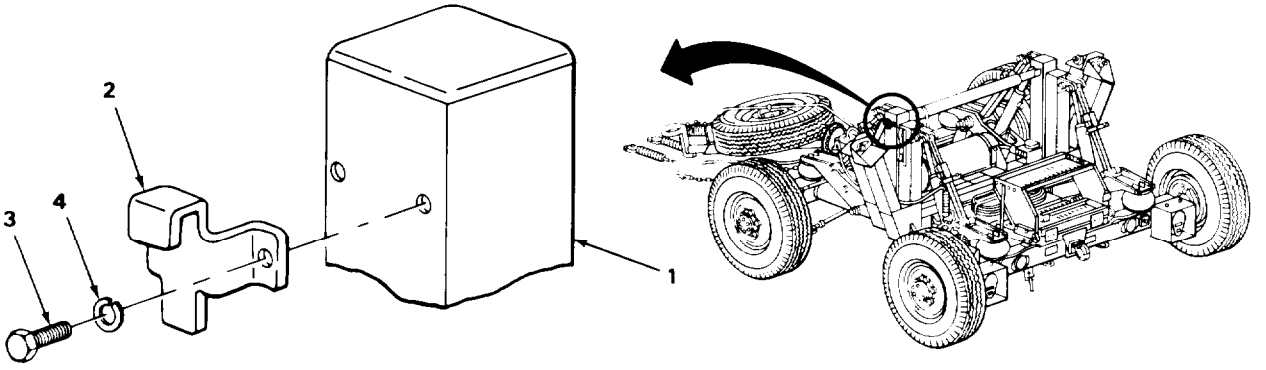
a. Removal
b. Installation

INITIAL SETUP

Tools

1/2-inch wrench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Bracket (1) to frame adapter (2)	Screw (3) and washer (4)	Remove using a 1/2-inch wrench.
2 Frame adapter (2)	Bracket (1)	Remove.
INSTALLATION		
3 Frame adapter (2)	Bracket (1)	Place in position.
4 Bracket (1) to frame adapter (2)	Screw (3) and washer (4)	Install using a 1/2-inch wrench.



TASK ENDS HERE

TA 221756

BINDER BOLTS

This task covers:

a. Removal
b. Installation

INITIAL SETUP

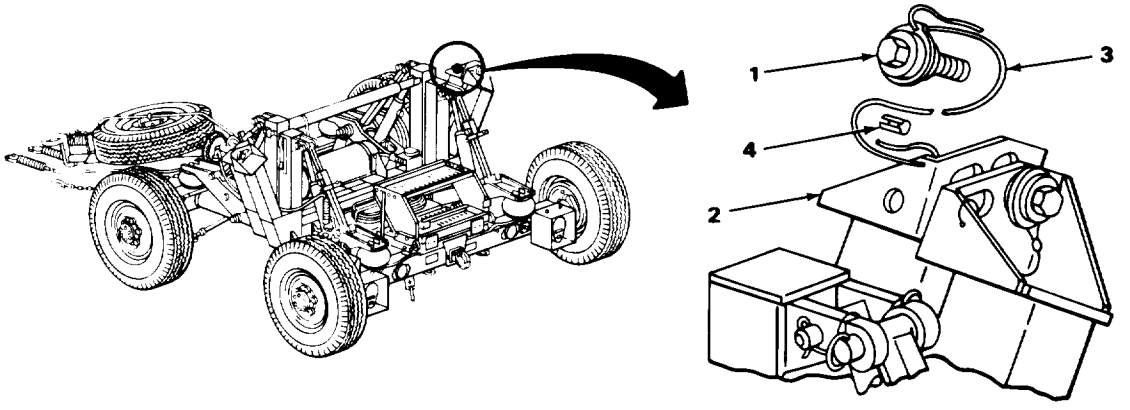
Tools

Crimping tool
Diagonal cutting pliers

Materials/Parts

New swaging, 8537648-two required
Wire, MILW1511A-14 inches (35.56 cm) per bolt

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Bolt (1) and frame adapter (2)	Wire (3)	Cut off using cutting pliers. **Throw away wire (3).**
INSTALLATION		
2 Bolt (1)	Wire (3) and swaging (4)	Secure wire (3) to bolt (1) with swaging (4) using crimping tool.
3 Frame adapter (2)	Wire (3) and swaging (4)	Secure wire (3) to frame adapter (2) with swaging (4) using crimping tool.



TASK ENDS HERE

TA 221757

INTERVEHICULAR HOSE STRAPS

This task covers:

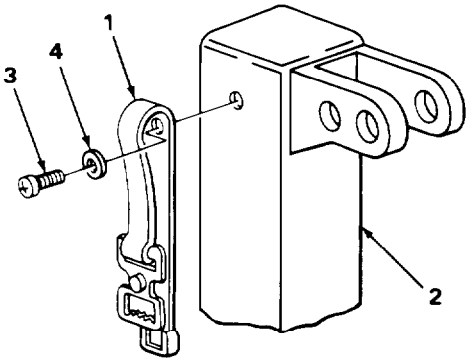
a. Removal
b. Installation

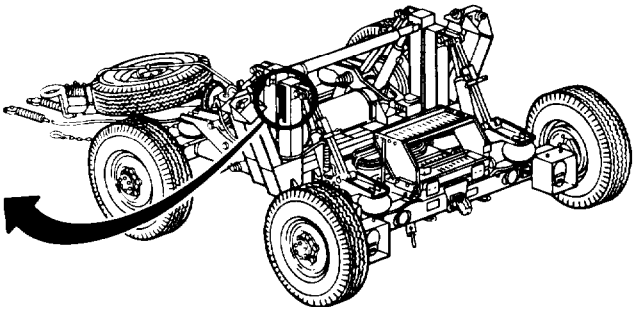
INITIAL SETUP

Tool S

Cross-tip screwdriver

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Strap (1) to frame adapter (2)	Screw (3) and washer (4)	Remove using a cross-tip screwdriver.
2 Frame adapter (2)	Strap (1)	Remove.
INSTALLATION		
3 Frame adapter (2)	Strap (1)	Put in position.
4 Strap (1) to frame adapter (2)	Screw (3) and washer (4)	Install using a cross-tip screwdriver.





TASK ENDS HERE

TA 221758

DATA PLATES

This task covers:

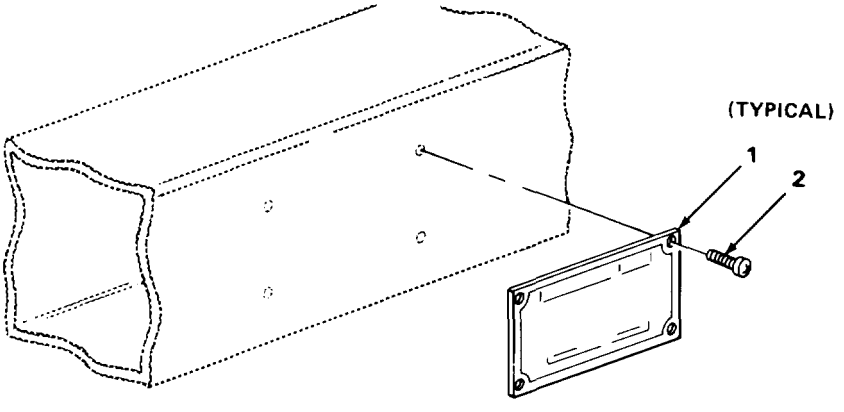
a. Removal
b. Installation

INITIAL SETUP

Tools

Cross-tip screwdriver

LOCATION	ITEM	ACTION	REMARKS
			NOTE
			This procedure is typical for all data plates on the equipment. The amount of retaining screws will vary between data plates.
REMOVAL			
1 Data plate (1)	Screws (2)	Remove using a cross-tip screwdriver.	
2	Data plate (1)	Remove.	
INSTALLATION			
3	Data plate (1)	Put in position.	
4 Data plate (1)	Screws (2)	Install using a cross-tip screwdriver.	



TASK ENDS HERE

TA 221759

Section XIV HYDRAULIC LIFT SYSTEM MAINTENANCE

PUMP

This task covers:

a. Servicing (page 4-163)
b. Removal (page 4-164)
c. installation (page 4-164)

INITIAL SETUP

Tools

5/8-inch open end wrench (two required)
1/2-inch box wrench
Socket, 1/2-inch by 1/2-inch drive

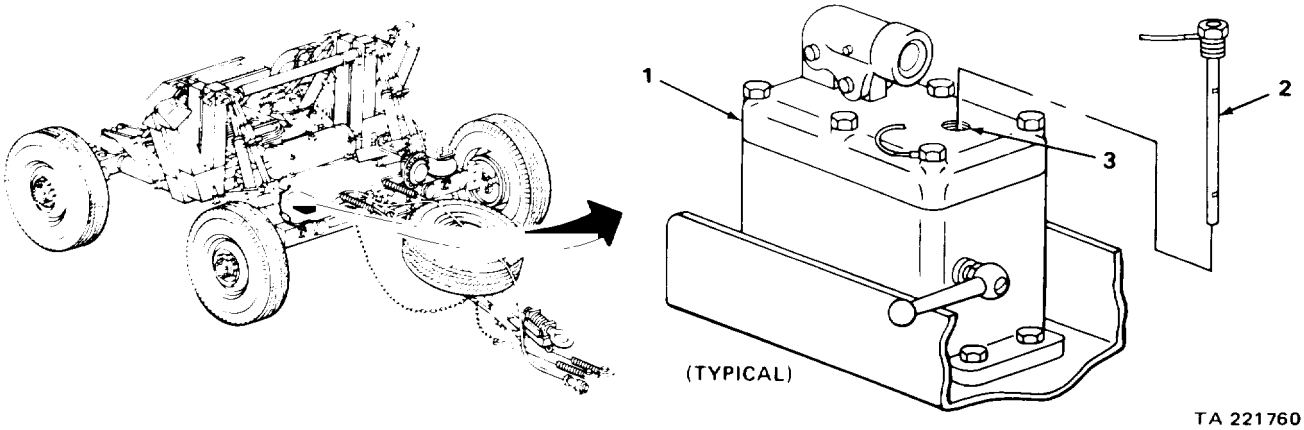
Tools - Continued

1/2-inch drive ratchet handle
9/16-inch open end wrench

LOCATION	ITEM	ACTION **REMARKS**

SERVICING

1 Hydraulic pump (1)	Filler cap (2)	Take off using 5/8-inch open end wrench.
2	Reservoir (3)	Look into reservoir. Make sure oil level is at least 1/2 inch (1.27 cm) from the top. **Add oil if necessary. (See page 4.2.)**
3	Filler cap (2)	Put on using a 5/8-inch open end wrench.



PUMP - CONTINUED

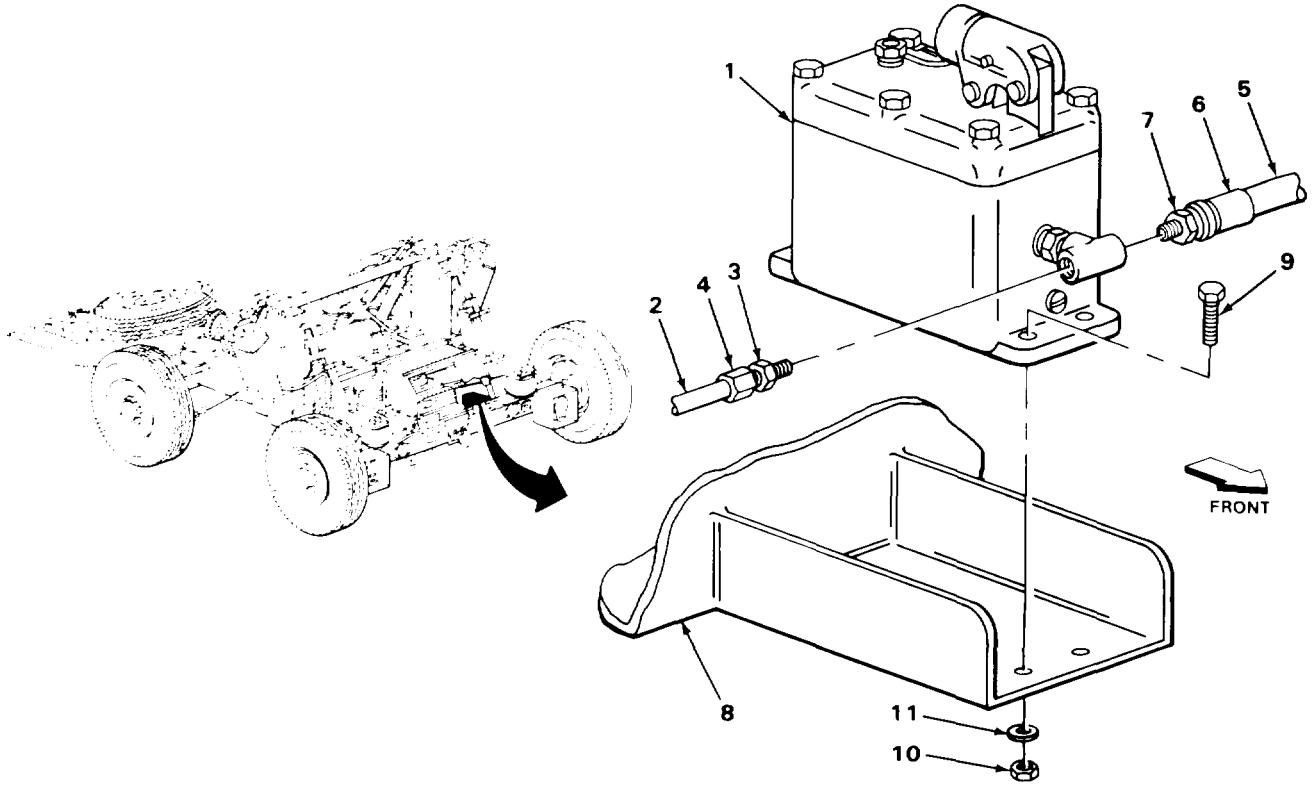
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
		NOTE This is a typical procedure for the front or the rear system.
4 Hydraulic pump (1)	Line (2)	Take off by holding fitting (3) using a 5/8-inch open end wrench and unscrewing nut (4) using another 5/8-inch open end wrench.
5	Hose (5)	Take off by holding fitting (6) using a 9/16-inch open end wrench and unscrewing nut (7) using a 5/8-inch open end wrench.
6 Axle beam (8) to hydraulic pump (1)	Four screws (9), four nuts (10) and four washers (11)	Take out using a 1/2-inch box wrench and a 1/2-inch socket wrench.
7 Axle beam (8)	Hydraulic pump (1)	Take off of chassis.
INSTALLATION		
8 Axle beam (8)	Hydraulic pump (1)	Place in position on chassis.
9 Axle beam (8) to hydraulic pump (1)	Four screws (9), four nuts (10) and four washers (11)	Put in using a 1/2-inch box wrench and a 1/2-inch socket wrench.
10 Hydraulic pump (1)	Line (2)	Put on by holding fitting (3) with a 5/8-inch open end wrench, and screwing on nut (4) using another 5/8-inch open end wrench.

PUMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS

INSTALLATION - CONTINUED

11	Hydraulic pump (1)	Hose (5)	Put in by holding fitting (6) with a 9/16-inch open end wrench, and screw in fitting (7) using a 5/8-inch open end wrench.



NOTE

FOLLOW-ON MAINTENANCE: Bleed system (page 4-168).

TASK ENDS HERE

TA 221761

LIFT CYLINDER

This task covers:

a. Removal (page 4-166)
b. Manual valve removal (page 4-166)
c. Manual valve installation (page 4-166)
d. Installation (page 4-167)

INITIAL SETUP

Tools

5/8-inch wrench (two required)
Diagonal cutting pliers

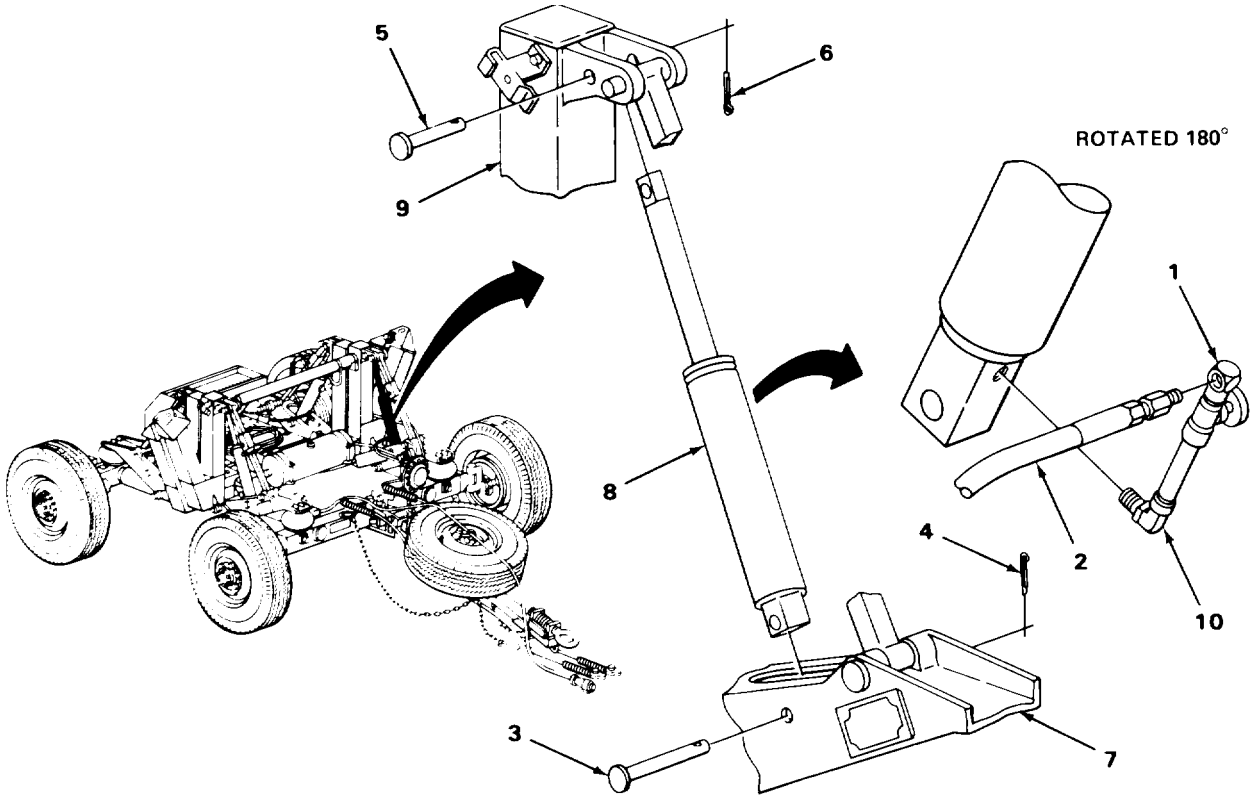
Materials/Parts

New cotter pins

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1 Manual valve (1)	Hose (2)	Remove using two 5/8-inch wrenches.
2 Pin (3)	Cotter pin (4)	Take out using pliers. Throw cotter pin (4) away.
3 Pin (5)	Cotter pin (6)	Take out using pliers. Throw cotter pin (6) away.
4 Rocker arm (7) to cylinder (8)	Pin (3)	Slide out,
5 Frame adapter (9) to cylinder (8)	Pin (5)	Slide out.
6	Cylinder (8)	Take out.
MANUAL VALVE REMOVAL		
7 Cylinder (8)	Elbow (1 O)	Remove with manual valve (1) attached using a 5/8-inch wrench.
MANUAL VALVE INSTALLATION		
8 Cylinder (8)	Elbow (10)	install with manual valve (1) attached using a 5/8-inch wrench. Manual valve and piping should face upward in line with cylinder.

LIFT CYLINDER - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
9	Cylinder (8)	Place in position.
10 Frame adapter (9) to cylinder (8)	Pin (5)	Slide in.
11 Rocker arm (7) to cylinder (8)	Pin (3)	Slide in.
12 Pin (5)	New cotter pin (6)	Put in using pliers
13 Pin (3)	New cotter pin (4)	Put in using pliers,
14 Manual valve (1)	Hose (2)	Connect using two 5/8-inch wrenches.



NOTE

FOLLOW-ON MAINTENANCE: Bleed hydraulic system (page 4-168).

TA 221762

TASK ENDS HERE

SYSTEM BLEEDING

This task covers:

Bleeding

INITIAL SETUP

Tools	Materials/Parts
7/16-inch wrench	Small jar Hose, 5/16-inch I.D. by 24 inches (61 cm.) - oil resistant Oil, hydraulic type OHT

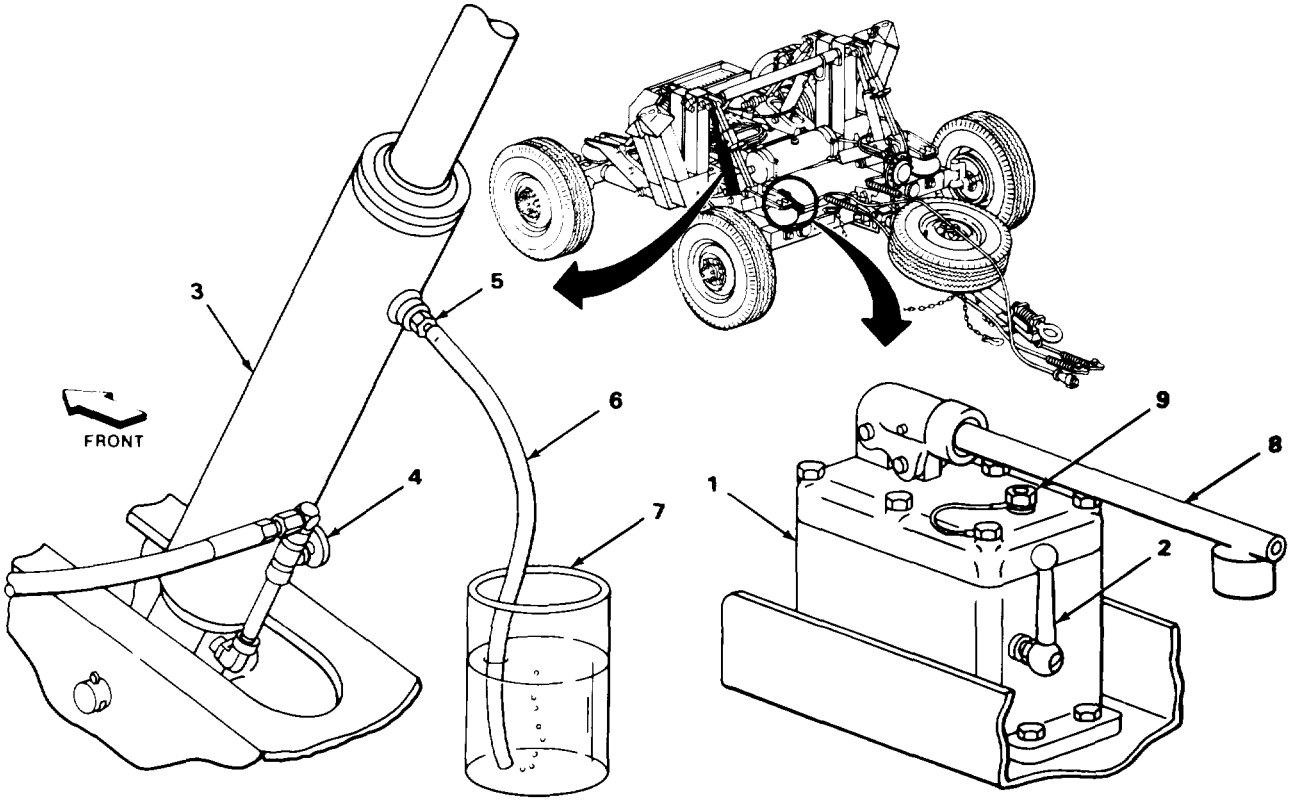
LOCATION	ITEM	ACTION **REMARKS**
		NOTE This procedure is typical for the front and the rear hydraulic lift systems. Begin the bleeding procedures with the cylinder which is furthest from the pump.
1 Hydraulic pump (1)	Control valve (2)	Move to the RAISE position.
2 Two cylinders (3)	Two manual control valves (4)	Open.
3 Hydraulic cylinder (3)	Bleeder valve (5)	Open using a 7/16-inch box wrench.
4 Bleeder valve (5)	Length of hose (6)	Push onto the end of bleeder valve (5).
5	Jar (7)	a. Fill halfway with oil, type OHT hydraulic. b. Submerge free end of hose (6) in oil in jar (7).
6 Hydraulic pump (1)	Handle (8)	Pump handle until bubbles stop coming from the end of hose (6) that is submerged in oil in jar.
7 Hydraulic cylinder (3)	Bleeder valve (5)	Close using a 7/16-inch box wrench.

SYSTEM BLEEDING - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
8 Hydraulic pump (1)	Reservoir (9)	Service (page 4-163).

NOTE

Repeat steps 3 thru 8 on the other lift cylinder in the system.



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TA 221763

CHAPTER 5

DIRECT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

OVERVIEW

This chapter contains all the maintenance authorized to be performed by direct support and general support maintenance.

Section I REPAIR PARTS; SPECIAL TOOLS; TMDE; AND SUPPORT EQUIPMENT

COMMON TOOLS AND EQUIPMENT

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

SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

No special tools, TMDE, or support equipment are required to maintain the M720 dolly set.

REPAIR PARTS

Repair parts are listed in appendix F of this manual.

Section II FRONT AXLE MAINTENANCE

STEERING KNUCKLE

This task covers:

a. Bushing removal (page 5-2)
b. Bushing installation (page 5-3)

INITIAL SETUP

Tools

Arbor press
Bushing driver fixture
Kingpin bushing reamer
5/16-inch wrench

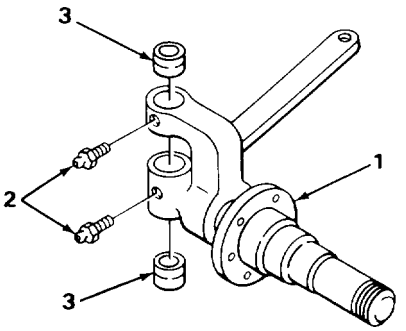
Materials/Parts

New knuckle bushings
New kingpin

Equipment Condition

Knuckle removed (page 4-69).

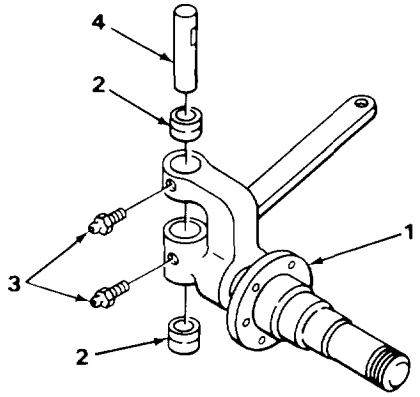
LOCATION	ITEM	ACTION **REMARKS**
BUSHING REMOVAL		
1 Knuckle (1)	Two fittings (2)	Remove using a 5/16-inch wrench.
2	Two bushings (3)	Remove using an arbor press and bushing driver fixture.



TA 221764

STEERING KNUCKLE - CONTINUED

LOCATION	ITEM	ACTION / REMARKS
BUSHING INSTALLATION		
3 Knuckle (1)	Two bushings (2)	Install bushings using an arbor press and bushing driver fixture. **Be sure that holes in bushings are alined with holes in knuckle where the grease fittings (3) go.**
		NOTE The bushings (2) supplied are somewhat smaller than the kingpin (4). After step 3, the bushings must be reamed and fitted to the kingpin (4). After fitting the bushings (2) to the kingpin (4) all parts must not be interchanged but rather supplied to organizational maintenance as a matched set for installation on the dolly set.
4	Two bushings (2) and kingpin (4)	Using a reamer, fit bushings (2) to kingpin (4). **The kingpin (4) should slide freely into the bushings with no noticeable looseness from side to side.**
5	Two fittings (3)	Install using a 5/16-inch wrench.



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TA 221765

TIE ROD ASSEMBLY

This task covers:

a. Socket removal (page 5-4)
b. Socket installation (page 5-5)

INITIAL SETUP

Tools	Equipment Condition
9/16-inch wrench (two required) 5/16-inch wrench	Tie rod assembly removed (page 4-74).

LOCATION	ITEM	ACTION **REMARKS**

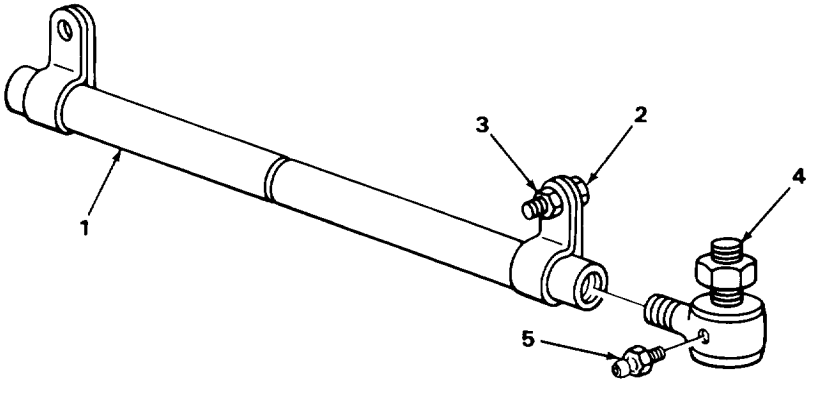
SOCKET REMOVAL

1 Tie rod assembly (1)	Screw (2) and nut (3)	Loosen using two 9/16-inch wrenches.

NOTE

There are two sockets (4) on each tie rod assembly. One is right-hand threaded; it is removed by turning counterclockwise. The other is left-hand threaded; it is removed by turning clockwise.

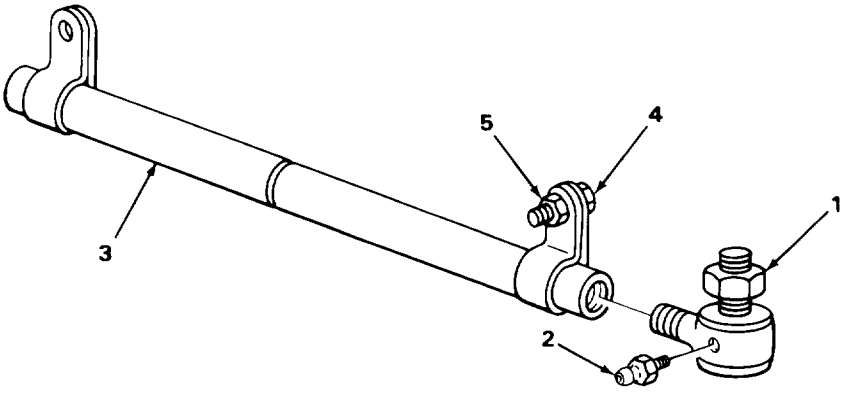
2	Tie rod socket (4)	Remove by unscrewing in the proper direction.
3 Tie rod socket (4)	Fitting (5)	Remove using a 5/16-inch wrench.



TA 221766

TIE ROD ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
SOCKET INSTALLATION		
4 Tie rod socket (1)	Fitting (2)	Install using a 5/16-inch wrench.
5 Tie rod assembly (3)	Tie rod socket (1)	Install by screwing in.
6	Screw (4) and nut (5)	Tighten using two 9/16-inch wrenches.



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TA 221767

Section III BRAKE SYSTEM MAINTENANCE

Page

BRAKE CHAMBER

This task covers:

a. Disassembly (page 5-6)
b. Assembly (page 5-7)

INITIAL SETUP

Tools

1/2-inch wrench (two required)

Materials/Parts

New diaphragm
Woodblocks, 2 x 4 x 6 inches (two required)

Equipment Condition

Brake chamber removed (page 4-120).

LOCATION	ITEM	ACTION	REMARKS

DISASSEMBLY

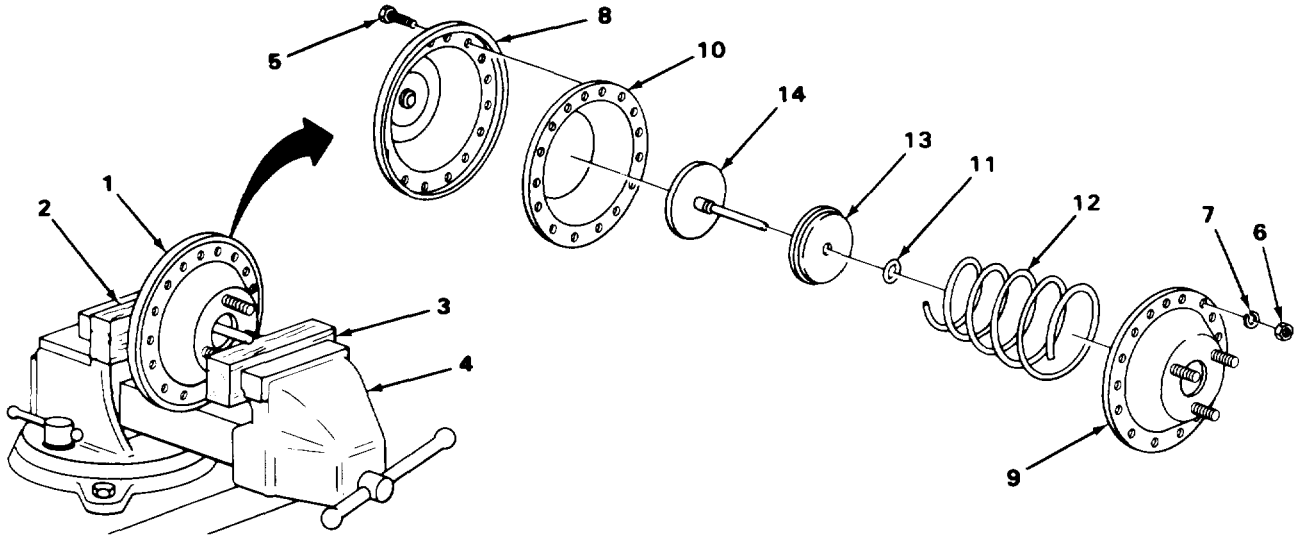
WARNING

The return spring inside the brake chamber is under very heavy tension. The two halves of the chamber must be clamped together in a vise before removing all of the screws and nuts which hold it together. Failure to do so could cause serious injury.

1	Brake chamber (1)	Two woodblocks (2) and (3) and vise (4)	Position brake chamber (1) in vise (4) in between two woodblocks (2) and (3).
		Sixteen screws (5), sixteen nuts (6) and sixteen washers (7)	Remove using two 1/2-inch wrenches.
3	Vise (4)	Chamber halves (8) and (9)	Slowly open the vise and separate the chamber halves (8) and (9).

BRAKE CHAMBER - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY - CONTINUED		
4 Chamber halves (8) and (9)	Diaphragm (10), O-ring (11), spring (12), retainer (13) and piston (14)	Remove. **Throw away diaphragm (10).**
ASSEMBLY		
5 Chamber halves (8) and (9)	New diaphragm (10), O-ring (11), spring (12), retainer (13) and piston (14)	Assemble parts.
6	Vise (4) and two woodblocks (2) and (3)	Use vise (4) to compress spring (12) bringing chamber halves (8) and (9) together.
7	Sixteen screws (5), sixteen nuts (6) and sixteen washers (7)	Install using two 1/2-inch wrenches.



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TA 221768

Section IV HUB AND BRAKE DRUM MAINTENANCE

HUB AND BRAKE DRUM

This task covers:

a. Disassembly (page 5-8)
b. Assembly (page 5-8)
c. Resurfacing (page 5-9)

INITIAL SETUP

Tools

Arbor press
Stud removal and installation fixtures
Inside micrometer (11 - 12 inch)

Materials/Parts

New studs- five per wheel
Emery cloth

Equipment Condition

Hub and drum removed (page 4-132).

LOCATION	ITEM	ACTION	REMARKS

DISASSEMBLY

WARNING

The hub and brake drum assembly will be full of asbestos dust from the brake linings. Breathing asbestos dust is extremely hazardous. A filter mask should be worn whenever working on the hub and brake drum assembly.

1	Hub (1) to brake drum (2)	Five studs (3)	Remove using arbor press and stud fixtures. **Throw away studs (3).**
2	Hub (1)	Brake drum (2)	Remove.

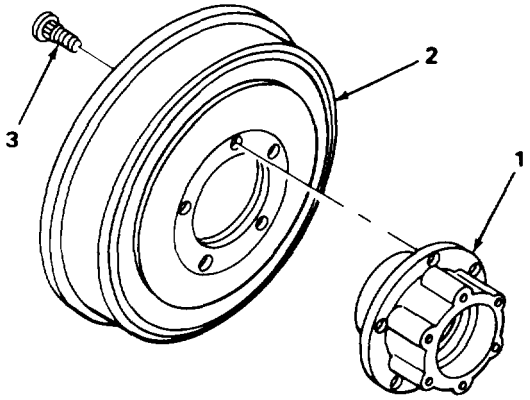
ASSEMBLY

3	Hub (1)	Brake drum (2)	Place in position. **Aline stud holes.**
4	Hub (1) to brake drum (2)	Five new studs (3)	Install using arbor press and stud fixtures.

HUB AND BRAKE DRUM - CONTINUED

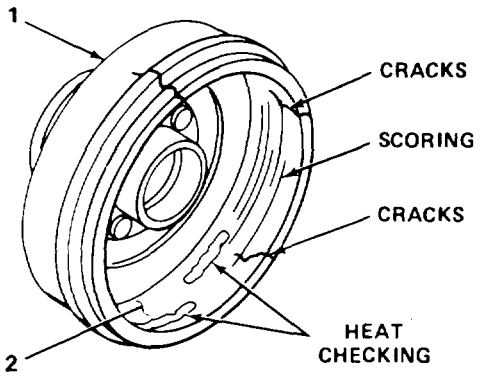
LOCATION	ITEM	ACTION **REMARKS**

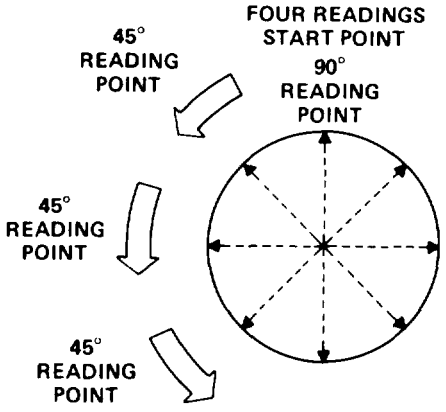
ASSEMBLY - CONTINUED



RESURFACING

5 Brake drum (1)	Inner braking surface (2)	a. Inspect for scoring, cracks or heat checking. **Any drums which are cracked or heat checked must be replaced.** b. Check diameter using inside micrometer. **Take measurements every 45°. Runout may not exceed .006 inch (.1588 mm). Drums exceeding runout limits must be "trued" on lathe. Drums which exceed 11.060 inches In diameter at any point must be replaced.**





TASK ENDS HERE

Section V HYDRAULIC LIFT SYSTEM MAINTENANCE

HYDRAULIC PUMP

This task covers:

a. Disassembly (page 5-10)
b. Assembly (page 5-14)

INITIAL SETUP

Tools

Pliers
Flat-tip screwdriver
9/16-inch box wrench
5/8-inch box wrench
1/2-inch box wrench
Torque wrench

Materials/Parts

Parts Kit, KU2000
Lubricating oil, PL

Equipment Condition

Pump removed (page 4-163).

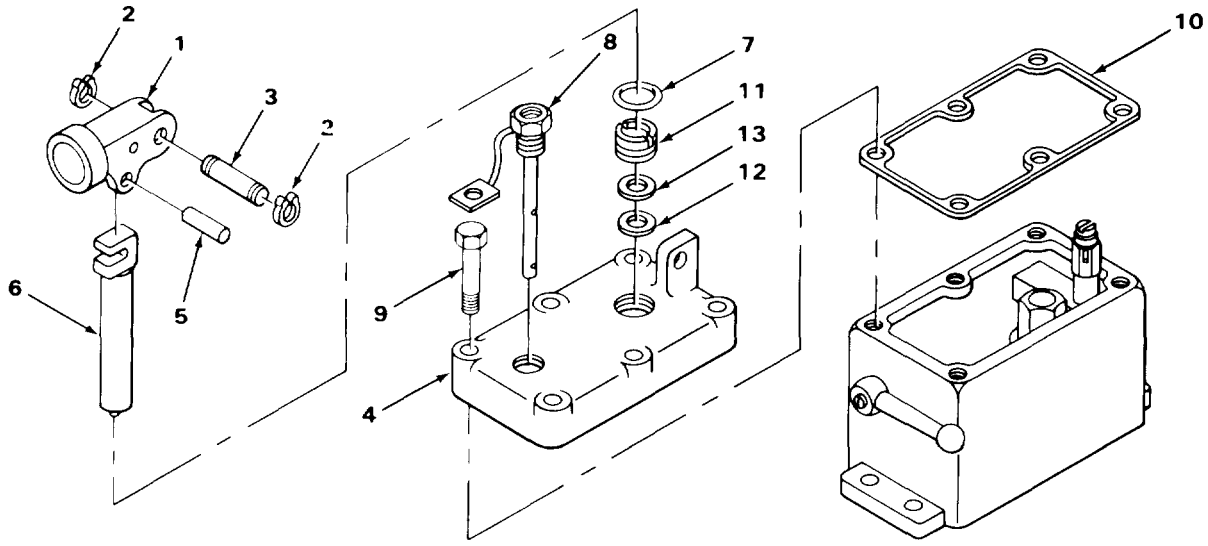
LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY		
1 Beam (1)	Two clips (2)	Take off using pliers. **Get rid of clips.**
2	Pin (3)	Slide out.
3 Pump cover (4)	Beam (1) and pin (5)	Take off.
4	Piston (6)	Take out. **Get rid of piston (6).**
5	Gasket (7)	Take out. **Get rid of gasket (7).**
6	Plug and vent (8)	Take out using a 5/8-inch box wrench.
7	Six screws (9), cover (4) and gasket (10)	Take off using a 9/16-inch box wrench. **Get rid of gasket (10).**

HYDRAULIC PUMP - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

DISASSEMBLY - CONTINUED

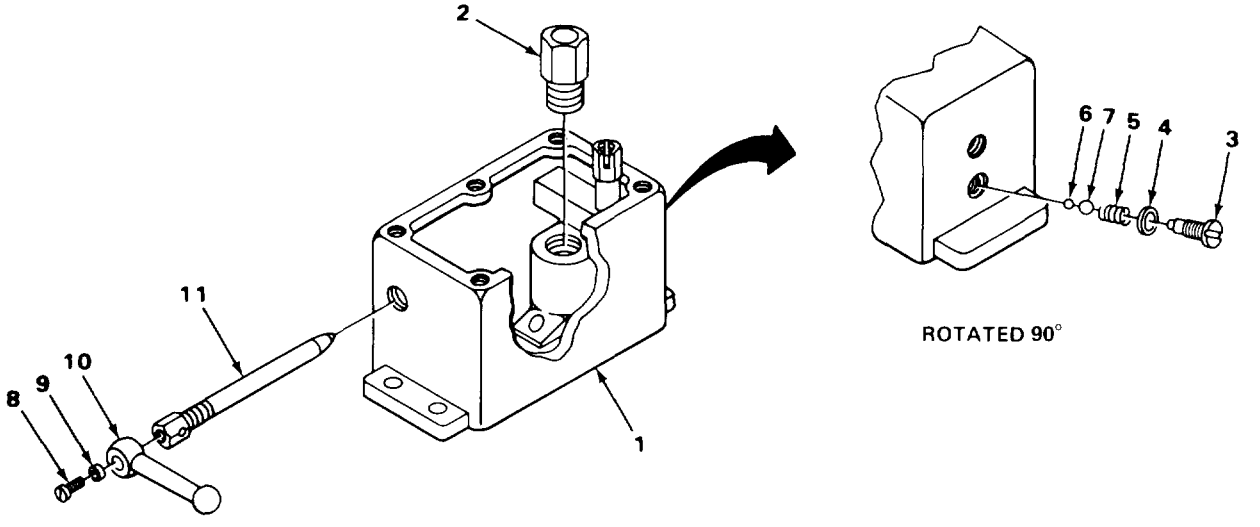
8 Cover (4)	Nut (11), washer (12) and wiper (13)	Take out using a flat-tip screwdriver. **Get rid of washer (12) and wiper (13).**



TA 221770

HYDRAULIC PUMP - CONTINUED

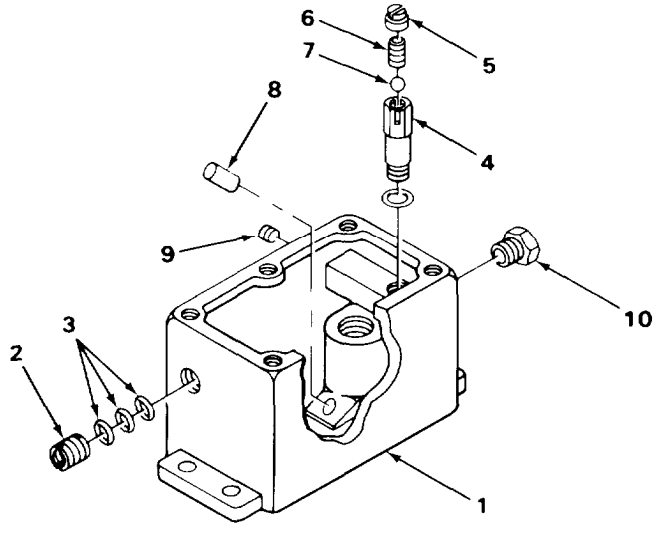
LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY - CONTINUED		
9 Pump body (1)	Cylinder (2)	Take out using a 9/16-inch box wrench. **Get rid of cylinder (2).**
10	Screw (3) and packing (4)	Take out using a fiat-tip screwdriver.
11	Spring (5) and two balls (6) and (7)	Take out. **Get rid of spring (5) and two balls (6) and (7).**
12	Screw (8) and washer (9)	Take out using flat-tip screwdriver.
13	Lever (10)	Take off.
14	Spindle (11)	Screw out.



TA 221771

HYDRAULIC PUMP - CONTINUED

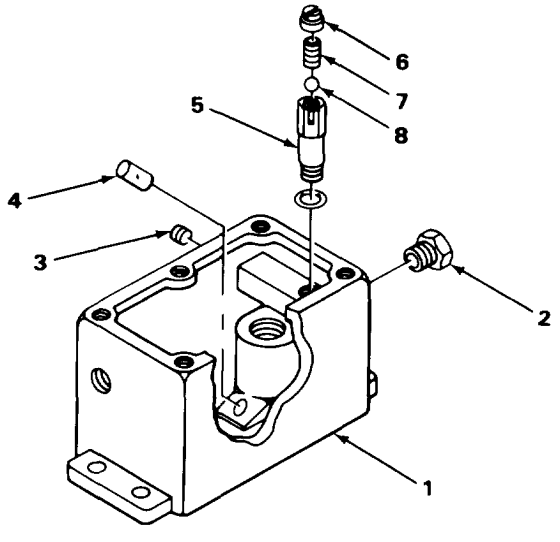
LOCATION	ITEM	ACTION **REMARKS**
DISASSEMBLY - CONTINUED		
15 Pump body (1)	Nut (2) and three valve disks (3)	Take out using a flat-tip screwdriver. **Get rid of three valve disks (3).**
16 Valve body (4)	Plug (5), spring (6) and ball (7)	Take out using a flat-tip screwdriver.
17 Pump body (1)	Valve body (4)	Take out using a 1/2-inch box wrench.
18	Strainer (8)	Pull out.
19	Pipe plug (9)	Take out using a flat-tip screwdriver.
20	Pipe plug (10)	Take out using a 9/16-inch box wrench,



TA 221772

HYDRAULIC PUMP - CONTINUED

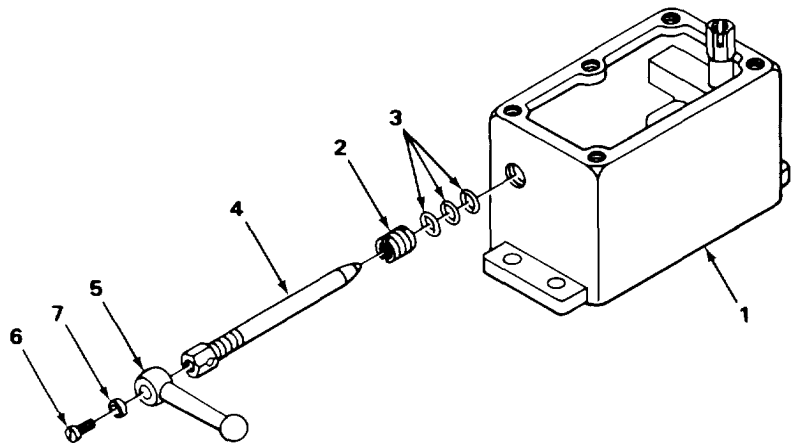
LOCATION	ITEM	ACTION **REMARKS**
ASSEMBLY		
		NOTE Coat all parts with PL oil before assembly.
21 Pump body (1)	Pipe plug (2)	Put in using a 9/16-inch box wrench,
22	Pipe plug (3)	Put in using a flat-tip screwdriver.
23	Strainer (4)	Put into position.
24	Valve body (5)	Put in using a 1/2-inch box wrench.
25	Plug (6), spring (7) and ball (8)	Put in using a flat-tip screwdriver.



TA 221773

HYDRAULIC PUMP - CONTINUED

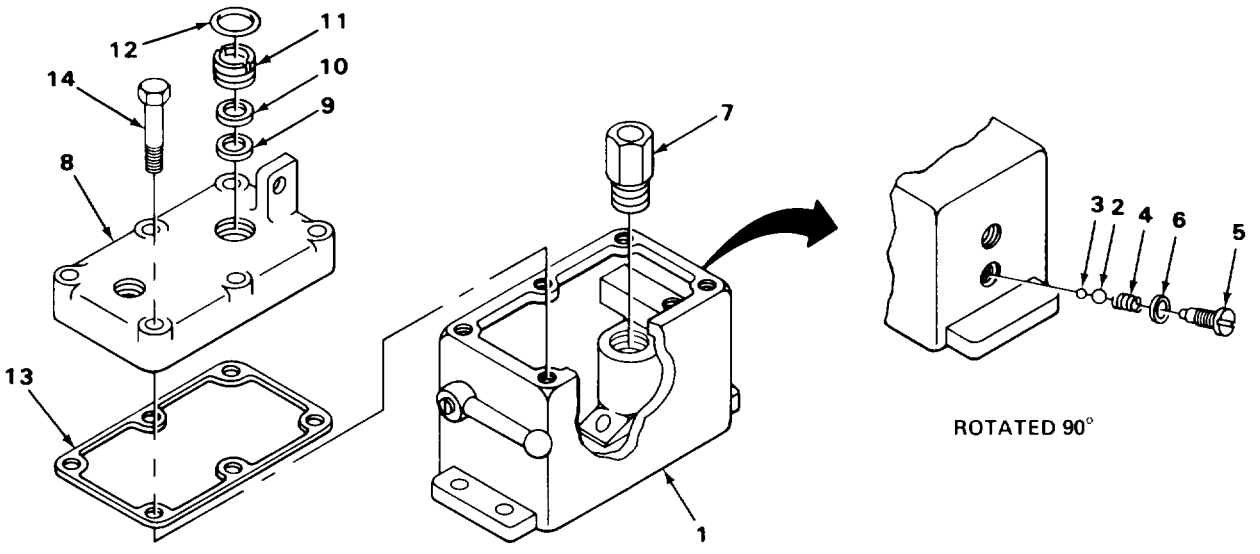
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
26 Pump body (1)	Nut (2) and three new valve disks (3)	Put in using a flat-tip screwdriver. **Do not tighten nut (2) at this time.**
27	Spindle (4)	a. Screw in part way. b. Tighten nut (2) using flat-tip screwdriver.
28	Handle (5)	a. Turn spindle (4) clockwise until end is firmly seated. You may use handle (5) to turn the spindle (4). **Do not tighten.** b. Put handle (5) on spindle in the RAISE position.
29	Screw (6) and washer (7)	Put in using flat-tip screwdriver.



TA 221774

HYDRAULIC PUMP - CONTINUED

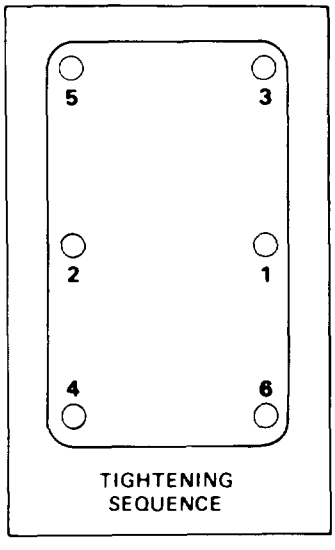
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
30 Pump body (1)	Two new balls (2) and (3), and new spring (4)	Put into position.
31	Screw (5) and washer (6)	Put in using a flat-tip screwdriver.
32	New cylinder (7)	Put in using a 9/16-inch box wrench.
33 Pump cover (8)	New washer (9), new wiper (10), nut (1 1), and new gasket (12)	Put in using a flat-tip screwdriver.
34 Pump body (1)	New gasket (13) and pump cover (8)	Put in position.
35	Six screws (14)	Screw in until flush. **Do not tighten at this time.**

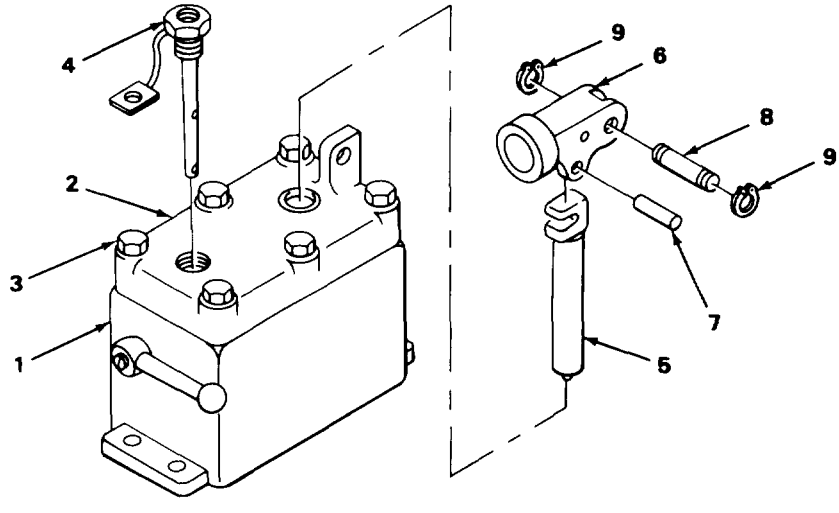


TA 221775

HYDRAULIC PUMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
36 Pump body (1) to pump cover (2)	Six screws (3)	Tighten to 20 lb ft (27.1 N•m). **Use the indicated sequence.**
37 Pump cover (2)	Vent and filler plug (4)	Put in using a 5/8-inch box wrench.
38	New piston (5)	Put in.
39	Beam (6) and two pins (7) and (8)	a. Slide pin (7) into beam (6). b. Put beam (6) into position by hooking pin (7) into slot in piston (5). c. Aline holes and slide in pin (8).
40	Two new clips (9)	Install using pliers.





NOTE

FOLLOW-ON MAINTENANCE: Install hydraulic pump (page 4-163).

TASK ENDS HERE

TA 221776

HYDRAULIC CYLINDER

This task covers:

a. Disassembly (page 5-18)
b. Assembly (page 5-18)

INITIAL SETUP

Tools

Adjustable wrench
Internal retaining ring pliers
7/16-inch box wrench

Materials/Parts

Parts package KC1510-73-05
Lubricating oil, PL

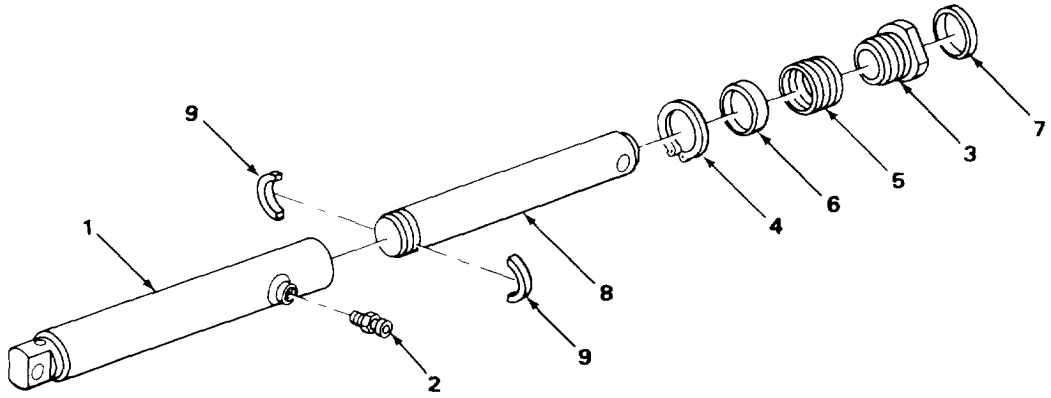
Equipment Condition

Hydraulic cylinder removed (page 4-166).

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
1 Tube (1)	Bleeder valve (2)	Take out using a 7/16-inch box wrench.	
2	Cap (3)	Take off using an adjustable wrench.	
3 Cap (3)	Ring (4)	Take out using internal retaining ring pliers.	
4	Packing (5), ring (6) and scraper (7)	Take out.	**Get rid of packing (5) and scraper (7).**
5 Tube (1)	Rod (8)	Take out.	
6 Rod (8)	Two guides (9)	Take off.	
ASSEMBLY			
		NOTE Coat all parts with PL oil before assembly.	
7 Rod (8)	Two guides (9)	Put on.	

HYDRAULIC CYLINDER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
8 Tube (1)	Rod (8)	Put in.
9 Cap (3)	New packing (5), new scraper (7), ring (6) and retaining ring (4)	Put together using internal retaining ring pliers.
10 Hydraulic cylinder	Cap (3)	Put on using an adjustable wrench.
11	Valve (2)	Put in using a 7/16-inch box wrench.



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TA 221777

Section VI SERVICEABILITY STANDARDS AND WEAR LIMITS

GENERAL

The following table lists the points of measurement of critically dimensioned parts together with the limiting dimensions for new or rebuilt parts and the extent of wear that can be tolerated. Wear limits for mating parts are given as the total combined limit of wear of both parts. Both mating parts should be replaced unless the extent of wear of one part is less than 25 percent of the combined wear, in which case only the most worn part need be replaced.

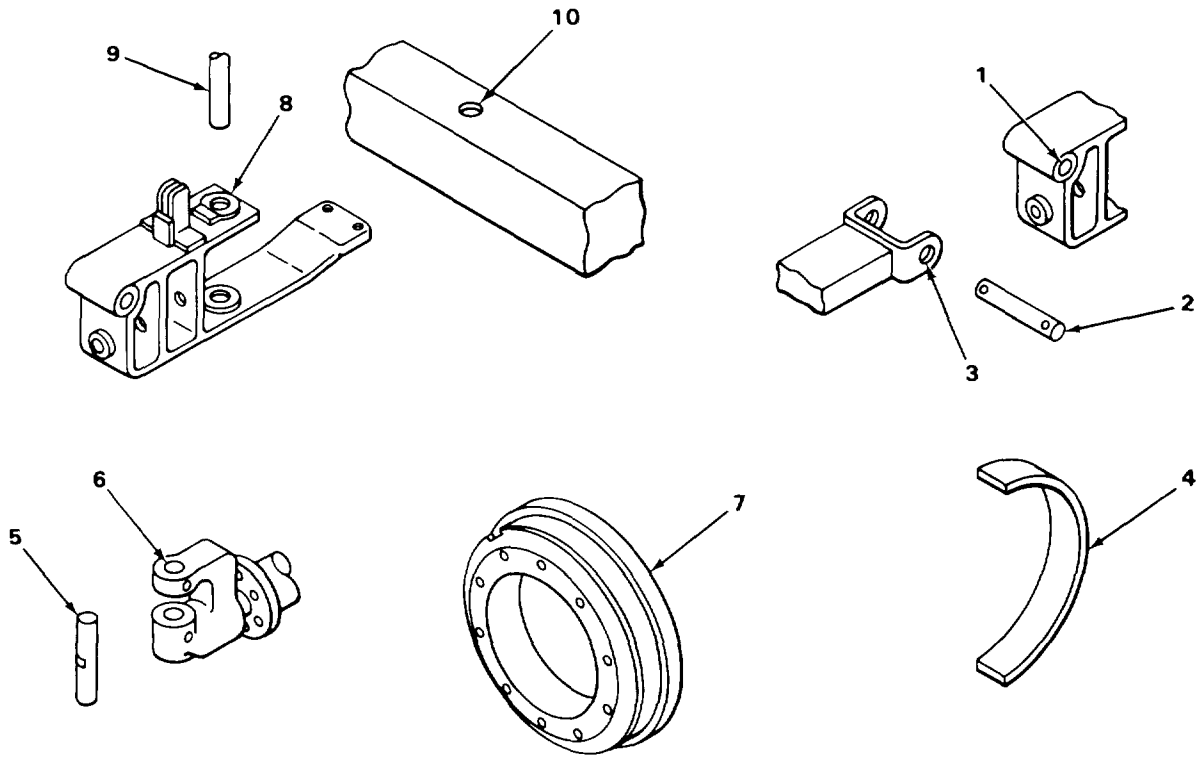
POINTS OF MEASUREMENT

The points at which critical dimensions require measurement are illustrated in the accompanying figure.

ITEM	POINT OF MEASUREMENT	SIZE OR FIT OF NEW PARTS	FIELD WEAR LIMITS
1	Inside diameter of steering arm bushing	0.748 to 0.750 in. (1.899 to 1.905 cm)	0.30 in. (0.762 mm) combined with (2)
2	Outside diameter of towbar pivot pin	0.745 to 0.747 in. (1.892 to 1.897 cm)	0.030 in. (0.762 mm) combined with (1) 0.045 in. (1.143 mm) combined with (2)
3	Inside diameter of towbar pivot pin hole	0.760 to 0.770 in. (1.930 to 1.956 cm)	0.0625 in. (0.159 cm) combined with (2)
4	Thickness of brake lining	0.323 to 0.343 in. (0.820 to 0.871 cm)	0.125 in. (0.318 cm)
5	Outside diameter of kingpin	0.995 to 1.005 in. (2.527 to 2.552 cm)	.015 in. (0.381 mm) combined with (6)
6	Inside diameter of knuckle bushing	0.999 to 1.001 in. (2.537 to 2.542 cm)	0.15 in. (0.381 mm) combined with (5)
7	Inside diameter of brake-drum	10.995 to 11.005 in. (27.927 to 27.952 cm)	.080 in. (0.2032 cm)
8	Inside diameter of steering arm bushing hole	1.001 to 1.003 in. (2.542 to 2.548 cm)	.0312 in. (0.792 mm) combined with (9)

POINTS OF MEASUREMENT - CONTINUED

ITEM	POINT OF MEASUREMENT	SIZE OR FIT OF NEW PARTS	FIELD WEAR LIMITS
9	Outside diameter of steering arm pivot pin	0.9985 to 1.000 in. (2.536 to 2.540 cm)	.0312 in. (.792 mm) combined with (8) or (10)
10	Inside diameter of steering arm pivot pin hole in axle bracket	1.000 to 1.00 in. (2.54 to 2.542 cm)	.0312 in. (.792 mm) combined with (9)



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APPENDIX A

REFERENCES

PUBLICATION INDEX

This index should be consulted frequently for latest changes or revisions and for new publications relating to materiel covered in this technical manual.

DEPARTMENT OF THE ARMY PAMPHLETS

Consolidated Index of Army Publications and Blank Forms . . . . . .DA Pam 25-30
Using Unit Supply System (Manual Procedures) . . . . . DA Pam 710-2-l
The Army Maintenance Management System (TAMMS) . . . . . .DA Pam 738-750

FORMS

Recommended Changes to Publications and Blank Forms . . . . . .DA Form 2028
Recommended Changes to Equipment Technical Publications . . . . . DA Form 2028-2
Organizational Control Record for Equipment . . . . . DA Form 2401
Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Maintenance Request . . . . . DA Form 2407
Preventive Maintenance Schedule and Record . . . . . DD Form 314
Product Quality Deficiency Report (NSN 7540-00-105-0078) . . . . . .SF 368

FIELD MANUALS

NBC Contamination Avoidance . . . . . FM 3-3
NBC Protection . . . . . FM 3-4
NBC Decontamination FM3-5
Field Behavior of NBC Agents (including Smoke and incendiaries) FM3-6
Camouflage . . . . . .FM 5-20
Ammunition Handbook . . . . . .FM 9-13
Operation and Maintenance of Ordnance Materiel in Cold Weather
(O Deg to Minus 65 Deg F). FM9-207
Vehicle Recovery Operations. . . . . FM 20-22
First Aid for Soldiers . . . . . FM 21-11
Manual for the Wheeled Vehicle Driver . . . . . FM 21-305
Basic Cold Weather Manual.. . . . . .FM 31-70
Northern Operations . . . . . FM 31-71
Army Motor Transport Units and Operations . . . . . .FM 55-30
Desert Operations . . . . . .FM 90-3
Mountain Operations (How To Fight) . . . . . .FM 90-6
Operational Symbols . . . . . FM 101-5-1

SUPPLY BULLETIN

Storage Serviceability Standard - Tracked Vehicles,
Wheeled Vehicles, and Component Parts SB740-98-1

TECHNICAL BULLETINS

Tactical Wheeled Vehicles: Repair of Frames . . . . . TB 9-2300-247-30
Equipment Improvement Report and Maintenance Digest (US Army
Tank-Automotive Command) Tank-Automotive Equipment . . . . . TB 43-0001-39 series
Color, Marking, and Camouflage Painting of Military Vehicles,
Construction Equipment, and Materiels Handling Equipment . . . . . TB 43-0209
Maintenance in the Desert . . . . . TB 43-0239
Description, Use, Bonding Techniques, and Properties of Adhesives . . . . . TB ORD 1032

TECHNICAL MANUALS

Inspection, Care, and Maintenance of Antifriction Bearings . . . . . .TM 9-214
Operator's Manual for Welding Theory and Application . . . . . .TM 9-237
Deepwater Fording of Ordnance Materiel . . . . . TM 9-238
Materials Used for Cleaning, Preserving, Abrading, and Cementing
Ordnance Materiel and Related Items Including Chemicals . . . . . .TM 9-247
Organizational, Direct Support and General Support, Care, Maintenance,
and Repair of Pneumatic Tires and Inner Tubes . . . . . TM 9-2610-200-24
Painting instructions for Field Use.... . . . . TM 43-0139
Procedures for Destruction of Tank-Automotive Equipment
to Prevent Enemy Use . . . . TM 750-244-6

OTHER PUBLICATIONS

Army Medical Department Expendable/Durable Items . . . . . .CTA 8-100
Expendable/Durable Items (Except Medical, Class V, Repair Parts,
and Heraldic items) . . . . . CTA 50-970

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I INTRODUCTION

B-1. GENERAL

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section Ill 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 adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. 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.

B-2. MAINTENANCE FUNCTIONS - CONTINUED

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 3rd position code of the SMR code.

i. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

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

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

B-3. EXPLANATION OF 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 detailed explanation of these functions, see paragraph B-2.)

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. 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 categories are as follows:

C - Operator or crew
O - Organizational
F - Direct Support
H - General Support
D - Depot

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II - CONTINUED

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TM DE, 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, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, section 11, column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The National stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

Section II MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT	(6) REMARKS
0609	Lamp, Incandescent	Replace		0.2					
0609	Light Assemblies	Replace		0.2					
0613	Wiring Harness	Repair Replace		0.5 0.5					
1000	Front Axle Assembly	Replace		2.5					
1004	Knuckle Assembly	Repair Replace		 1.0	1.5				
1100	Spindles	Replace			1.0				
1101	Rear Axle Beam	Replace		2.0					
1201	Handbrake Lever	Replace Adjust	 0.2	0.5					

MAINTENANCE ALLOCATION CHART - CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT	(6) REMARKS
1202	Service Brake Assembly	Repair		1.5					
1204	Wheel Cylinder	Replace		1.0					
1204	Master Cylinder	Replace		1.0					
1204	Lines and Fittings	Replace		1.0					
1208	Air Brake Chamber	Replace Repair		2.0	 1.0				
1208	Air Lines and Fittings	Replace		2.0					
1208	Emergency-Relay Valve	Replace		0.2					
1208	Reservoir, Air Tank	Replace		2.0					
1311	Hub and Brake Drum	Replace Repair		.5	 1.5				
1311	Wheel Bearings	Replace Service Adjust		0.7 0.7 0.2					
1311	Wheels	Replace		.5					
1313	Tires	Replace Repair Service	 0.2	.5 1.0					
1313	Tubes	Replace		.5					
1401	Steering Arm	Replace Repair		.7 .2					
1401	Tie Rod	Replace Repair		.4 .4					

MAINTENANCE ALLOCATION CHART - CONTINUED

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT	(6) REMARKS
1501	Strut Assemblies	Replace Repair		.3 .3					
1501	Rocker Arm Assemblies	Replace		1.0					
1503	Pintle	Replace		.3					
1503	Towbar	Replace Repair		1.0 1.0					
1601	Air Spring	Replace		1.0					
1604	Shock Absorber	Replace		0.5					
1605	Radius Tube	Replace		1.0					
2202	Reflectors	Replace		0.2					
2202	Toolbox	Replace		0.4					
2202	Folding Stairway	Replace		0.4					
2210	Data Plates	Replace		0.2					
2401	Hydraulic Pump	Replace Repair		1.0	 1.5				
2406	Hydraulic Lines	Replace		1.0					
2407	Hydraulic Cylinder	Replace Repair		0.5	 1.0				

APPENDIX C

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I INTRODUCTION

SCOPE

This appendix lists components of end item and basic issue items for the dolly set to help you inventory items required for safe and efficient operation.

GENERAL

The Components of End Item and Basic Issue Items Lists are divided into the following sections:

Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

Section III. Basic Issue Items. These are the minimum essential items required to place the dolly set in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the dolly set during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

EXPLANATION OF COLUMNS

The following provides an explanation of columns found in the tabular listings:

Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

Column (2) - National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

Column (3) - Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

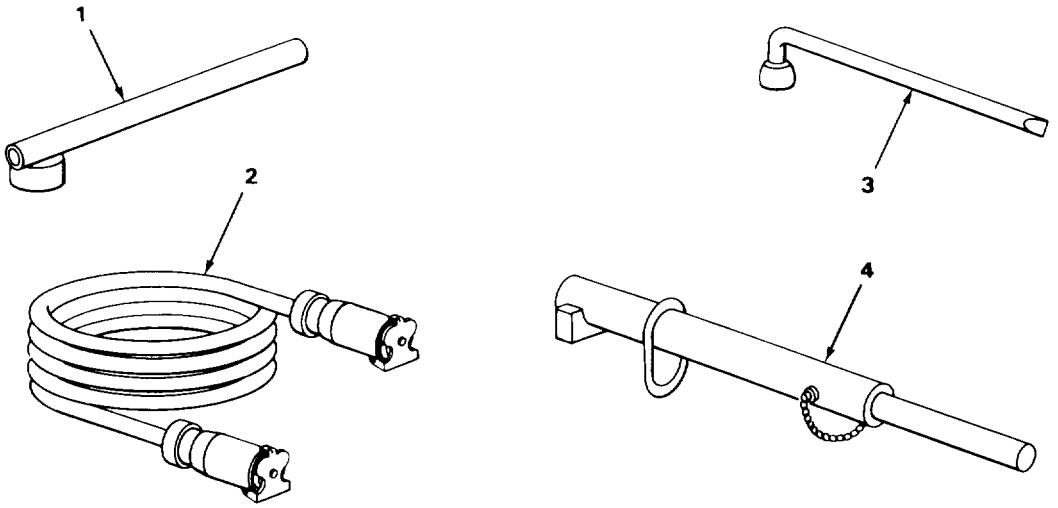
Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr).

Column (5) - Quantity required (Qty rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II COMPONENTS OF END ITEM

None authorized.

Section III BASIC ISSUE ITEMS



(1) ITEM NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	USABLE ON CODE	(4) U/M U/M	(5) QTY REQR.
1	2590-00-930-5669	HANDLE, PUMP LEVELING JACK WITH FIXED SOCKET WRENCH 11612385 (19207)		Ea	
2	2590-00-930-5661	HARNESS ASSEMBLY, INTERDOLLY, 29 FEET LONG WITH CONNECTOR 11612225 (19207)		Ea	
3	5120-00-935-4651	WRENCH, SOCKET, WHEEL STUD N U T 11595182 (19207)		Ea	
4	2540-01-021-2864	BAR, REAR DOLLY POSITIONING 12250482 (19207)		Ea	

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APPENDIX D

ADDITIONAL AUTHORIZATION LIST

Section I INTRODUCTION

SCOPE

This appendix lists additional items you are authorized for the support of the M720 Dolly Set.

GENERAL

This list identifies items that do not have to accompany the M720 Dolly Set and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

EXPLANATION OF LISTING

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorizes the item(s) to you.

Section II ADDITIONAL AUTHORIZATION LIST

None authorized.

APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I INTRODUCTION

SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the M720 Dolly Set, These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

EXPLANATION OF COLUMNS

a. Column (1) - Item number, This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., Use cleaning compound, item 5, App. D).

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item. use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function, This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	o	9150-01-102-3658	Brake fluid, silicone (BFS) MIL-B-46176 1 quart can	ea
2	0	9150-00-190-0904	Grease, automotive and artillery, GAA, M IL-G-1 0924 (81 349) 1 pound can	ea

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST - CONTINUED

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
3	o		Hydraulic fluid, petroleum base, OHT Mil-H-6083 (81349)	
		9150-00-159-4472	16 oz can	ea
		9150-00-935-9807	1 qt can	ea
		9150-00-935-9808	1 gallon can	ea
		9150-00-935-9809	5 gallon can	ea
		9150-00-935-9810	55 gallon can	ea
4	0		Oil, lubricating general purpose MIL-L-644A	
		9150-00-185-0629	2 oz (oblong screw-top can)	ea
		9150-00-257-5436	4 oz (oblong screw-top can)	ea
		9150-00-231-6689	1 qt can	ea
5	c	6850-00-664-5685	Solvent, drycleaning type 11, federal specification (PD-680) (81348) 1 gallon can	gl
6	o		Tape, electrical Roll	ea
7	0		Tape, masking Roll	ea
8	0	4710-00-289-8165	Tubing	ft
9	0	4710-00-162-1018	Tubing	ft

APPENDIX F
UNIT MAINTENANCE,
DIRECT SUPPORT
AND
GENERAL SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION

1. Scope.

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Unit Maintenance, Direct Support and General Support Maintenance of the Dolly Set. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

2. General.

In addition to Section 1. Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. *Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in the section. Items listed are shown on the associated illustration(s)/figure(s).

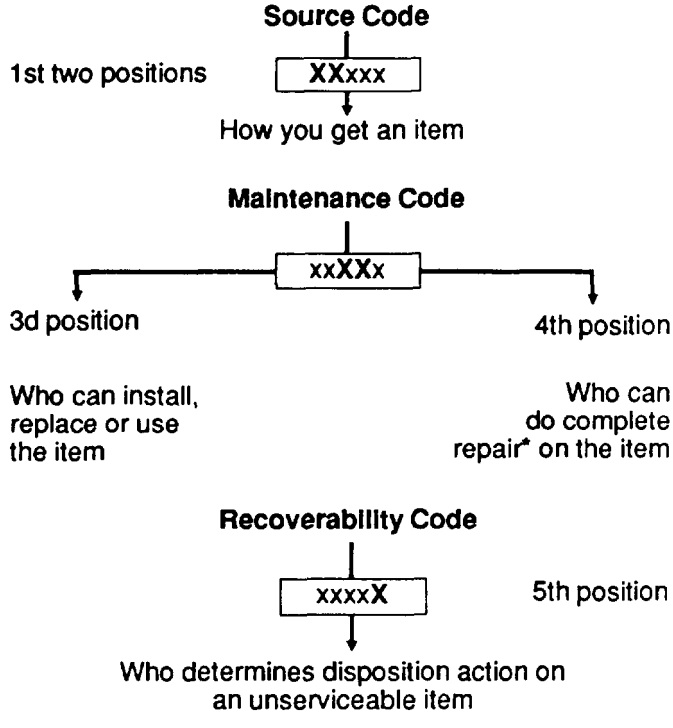
b. *Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. *Cross-reference Indexes.* A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing; in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, FSCM, and part numbers.

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 instructions, as shown in the following breakout:



Complete Repair. Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) *Source Code.* The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

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. **Iterns 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/ AVLJM Level) *MF-(Made at IDS/ AVUM Level)* *MH-(Made at IGS Level)* *ML-(Made at Specialized Repair Act (SRA))* *MD-(Made at Depot)*	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO-(Assembled by UM/AVUM Level) *AF-(Assembled by IDS/AVIM Level)* *AH-(Assembled by /GS Category* *AL-(Assembled by SRA)* *AD-(Assembled by Depot)*	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA -	Do not requisition an "XA"-coded item.Order its next higher assembly. (Also, refer to the NOTE below.)
XB -	If an "XB" item is not available from salvage, order it using the FSCM and part number given.
xc -	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by the manufacturer's part number.
XD -	Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, it no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized, may be used as source of supply for items with the above source codes, except for those source coded "XA or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the t bird 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 category can remove, replace, and use the item.
F -	Intermediate Direct support or aviation intermediate level can remove, replace, and use the item.
H -	Intermediate General support level can remove, replace, and use the item.
L -	Specialized repair activity can remove, replace, and use the item.
D -	Depot level can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions.) (NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes:

Code	Application/Explanat ion
O -	Unit maintenance or Aviation unit is the lowest level that can do complete repair of the item.
F -	Intermediate Direct support or aviation intermediate is the lowest level that can do complete repair of the item.
H -	Intermediate General support is the lowest level that can do complete repair of the item.
L -	Specialized repair activity is the lowest level that can do complete repair of the item.
D -	Depot is the lowest level that can do complete repair of the item.
Z -	Nonreparable. No repair is authorized.
B -	No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubrication, etc., at the user level.

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

Code	Application/Explanation
Z -	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of 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 intermediate direct supporl or aviation intermediate level.
H -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the intermediate general support level.
D -	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L -	Reparable item. Condemnation and disposal of item not authorized below specialized repair activity (SRA).
A -	Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. *FSCM (Column (3)).* The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. *PART NUMBER (Column (4)).* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE: When you use a NSN to requisition an item, the item you receive may have a different part number form the part ordered.

e. *DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)).* This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) Physical security classification. Not applicable

(3) Items that are included in kits and sets are listed below the name of the kit or set on Figure KIT.

(4) Spare/repair parts that make up and assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC). Not applicable.

(7) The usable on code, when applicable (see paragraph 5, Special information)

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

(9) The statement "'END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section Ill.

f. *QTY (Column (6)).* The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

4. Explanation of Columns (Section IV).

a. *NATIONAL STOCK NUMBER (NSN) INDEX.*

(1) *STOCK NUMBER column.* This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine

NSN
|
digits of the NSN (i.e., 5305-01-674-1467.) When using
NIIN

this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) *FIG. colunm* 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 Ill.

(3) *ITEM column.* The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. *PART NUMBER INDEX.* Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order.)

(1) *FSCM column.* The Federal Supply Code for Manufacturer (FSCM) is a 5 digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) *PART NUMBER column.* Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

(3) *STOCK NUMBER column.* This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.

(4) *FIG. column.* This column lists the number of the figure where the item is identified/located in Section II and Ill.

(5) *ITEM column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. *FIGURE AND ITEM NUMBER INDEX.*

(1) *FIG. column.* This column lists the number of the figure where the item is identified/located in Section II and Ill.

(2) *ITEM column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) *STOCK NUMBER column.* This column lists the NSN for the item.

(4) *FSCM column.* The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(5) *PART NUMBER column.* Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

5. Special Information.

Use the following subparagraphs as applicable:

a. *USABLE ON CODE.* Not Applicable.

b. *FABRICATION INSTRUCTIONS.* Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of this RPSTL. Part numbers for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in the appropriate appendices of this manual.

c. ASSEMBLY INSTRUCTION. Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in the appropriate appendices of this manual. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. *KITS.* Line item entries for repair parts kits appear in group 9401 in Section II.

e. *INDEX NUMBERS.* Items which have the word BULK in the figure column will have and index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II.

6. How to locate Repair Parts.

a. When National Stock Number or Part Number is Not Known.

(1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the some groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

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

(1) *First.* Using the National Stock Number or the Part Number Index, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see 4.1 (1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see 4. b). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) *Second.* Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

7. Abbreviations.

For standard abbreviations see MIL-STD-12D, Military Standard Abbreviations For Use On Drawings, Specifications, Standards And In Technical Documents.

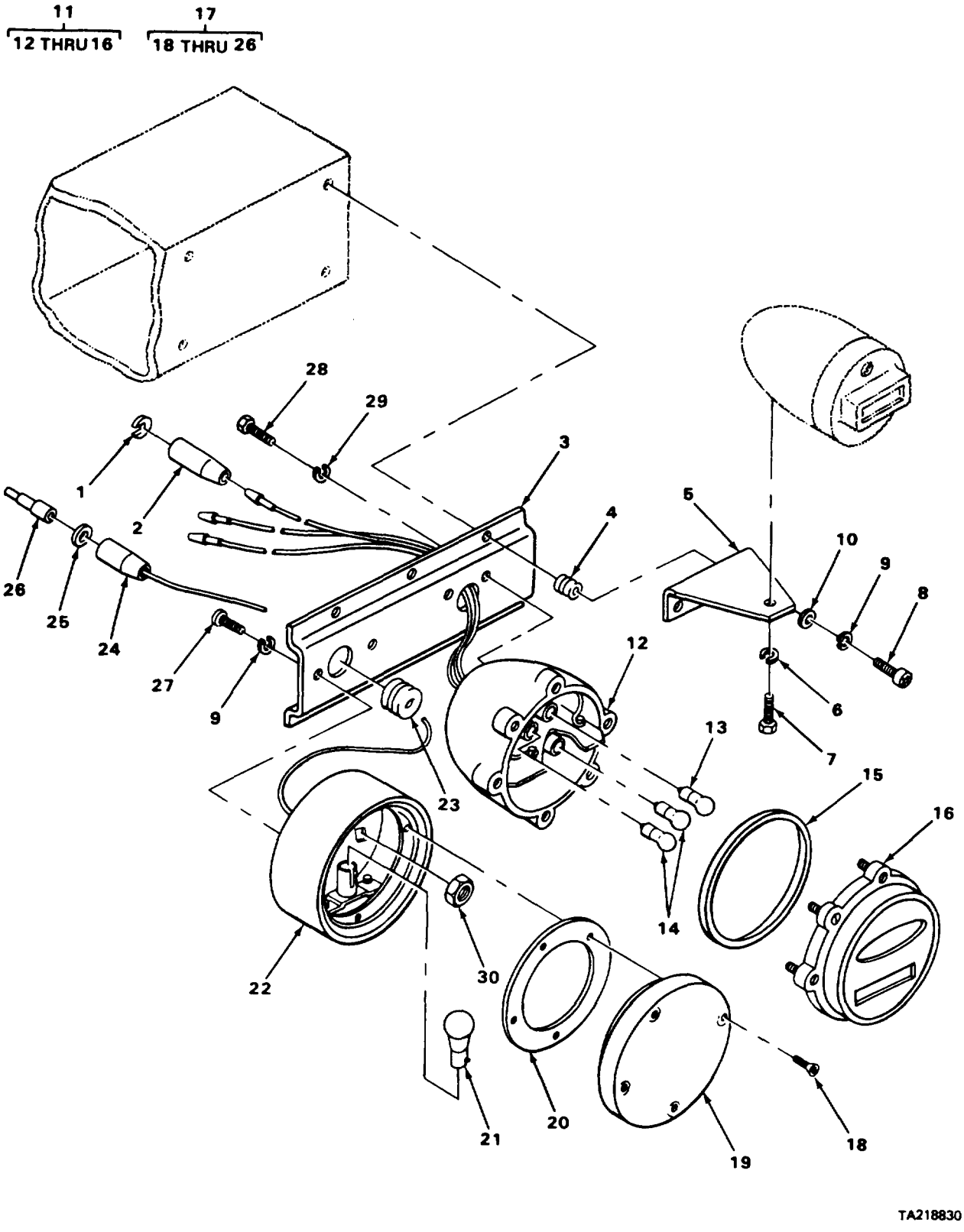


FIGURE 1. TAILLIGHT AND STOPLIGHT (EARLY MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 06 ELECTRICAL SYSTEM	
				0609 LIGHTS	
				FIG.1. TAILLIGHT AND STOPLIGHT (EARLY MODEL)	
1	PAOZZ	19207	8724497	WASHER,SLOTTED.....	6
2	PAOZZ	19207	8338566	SHELL,ELECTRICAL CO.....	6
3	XBOZZ	19207	11612174	BRACKET LIGHT MOUNTING,RIGHT SIDE..	1
3	XBOZZ	19207	11612175	BRACKET LIGHT MOUNTING,LEFT SIDE...	1
4	PAOZZ	96906	MS35489-35	GROMMET,NONMETALLIC.....	9
5	XBOZZ	19207	11612116	BRACKET.....	1
6	PAOZZ	96906	MS35338-45	WASHER,LOCK.....	1
7	PAOZZ	96906	MS90727-69	SCREW,CAP,HEXAGON H.....	1
8	PAOZZ	96906	MS35206-281	SCREW,MACHINE.....	9
9	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	13
10	PAOZZ	88044	AN960-416	WASHER,FLAT.....	9
11	PAOZZ	96906	MS51329-1	STOP LIGHT-TAILLIGH.....	2
12	PAOZZ	96906	MS53047-1	.LIGHT,PARKING.....	1
13	PAOZZ	96906	MS35478-1683	.LAMP,INCANDESCENT STOP.....	1
14	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT TAILLIGHT.....	2
15	PAOZZ	19207	7320658	.PACKING,PREFORMED.....	1
16	PAOZZ	19207	7526020	.RETAINER,LENS.....	1
17	PAOZZ	24835	5300082	STOP LIGHT-TAILLIGH.....	2
18	PAOZZ	96906	MS24629-25	.SCREW,TAPPING,THREA.....	4
19	PAOZZ	19207	11620987	.LENS,LIGHT.....	1
20	XDOZZ	19207	11620983	.GASKET.....	1
21	PAOZZ	81348	W-L-00111/60	.LAMP,INCANDESCENT.....	1
22	XAOZZ	19207	11612291	.BODY ASSEMBLY.....	1
23	XAOZZ	19207	11620979	.GROMMET,RUBBER.....	1
24	PAOZZ	19207	8724495	.SHELL,ELECTRICAL CO.....	1
25	PAOZZ	19207	8724497	.WASHER,SLOTTED.....	1
26	PAOZA	96906	MS27148-3	.CONTACT,ELECTRICAL.....	1
27	PAOZZ	96906	MS35207-281	SCREW,MACHINE.....	4
28	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON H.....	4
29	PAOZZ	96906	MS35335-41	WASHER,LOCK.....	4
30	PAOZZ	96906	MS51968-2	NUT,PLAIN,HEXAGON.....	4

END OF FIGURE

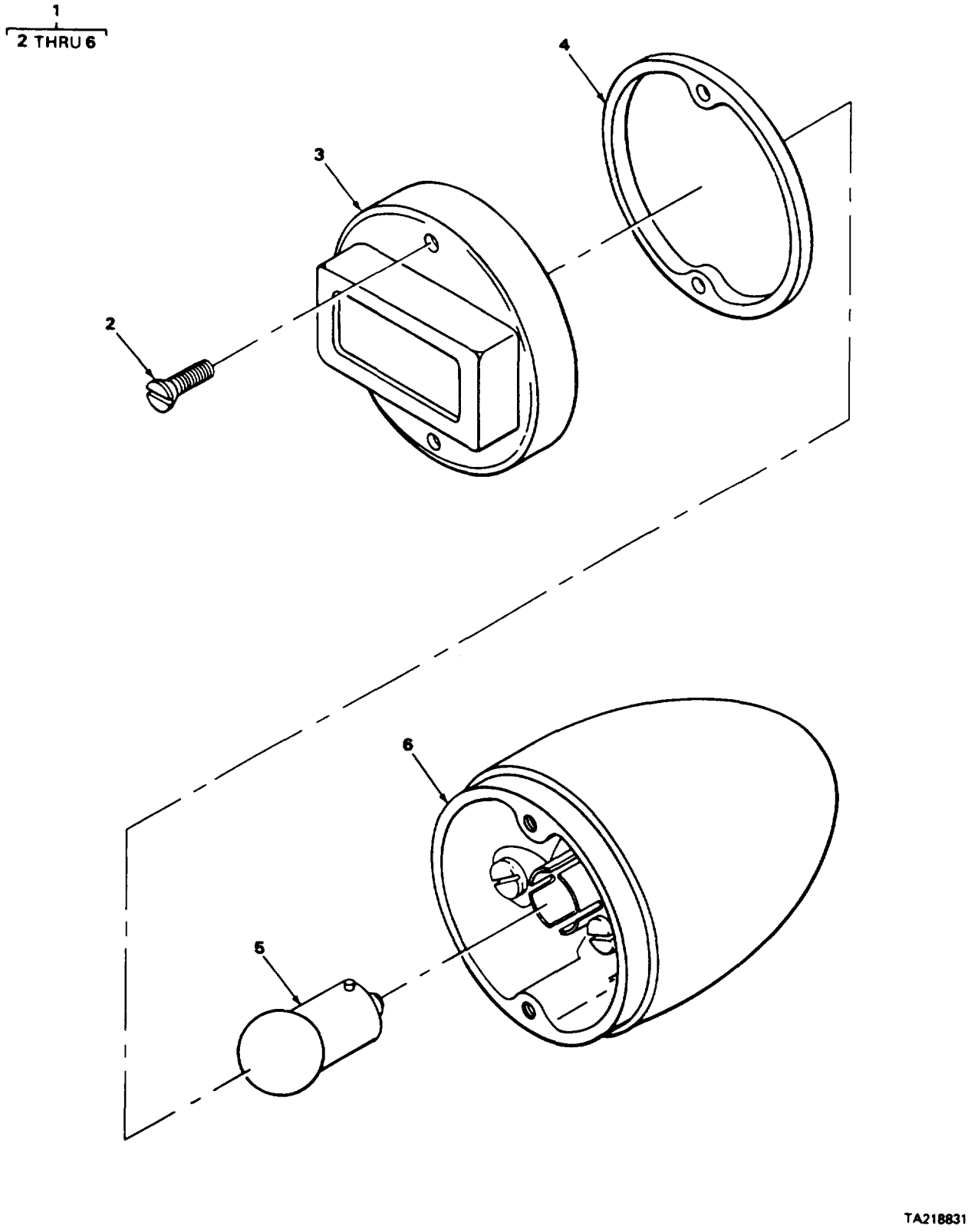


FIGURE 2. BLACKOUT STOPLIGHT ASSEMBLY (EARLY MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0609 LIGHTS FIG .2. BLACKOUT STOPLIGHT ASSEMBLY (EARLY MODEL)	
1	XBOZO	19207	8741645	STOP LIGHT,VEHICULA BLACKOUT.....	1
2	PAOZZ	96906	MS51959-46	.SCREW,MACHINE.....	2
3	PAOZZ	19207	8741646	.RETAINER,LENS.....	1
4	PAOZZ	19207	8694464	.GASKET.....	1
5	PAOZZ	81348	W-L-00111/60	.LAMP,INCANDESCENT.....	1
6	PAOZZ	19207	8741650	.HOUSING,LIGHT.....	1

END OF FIGURE

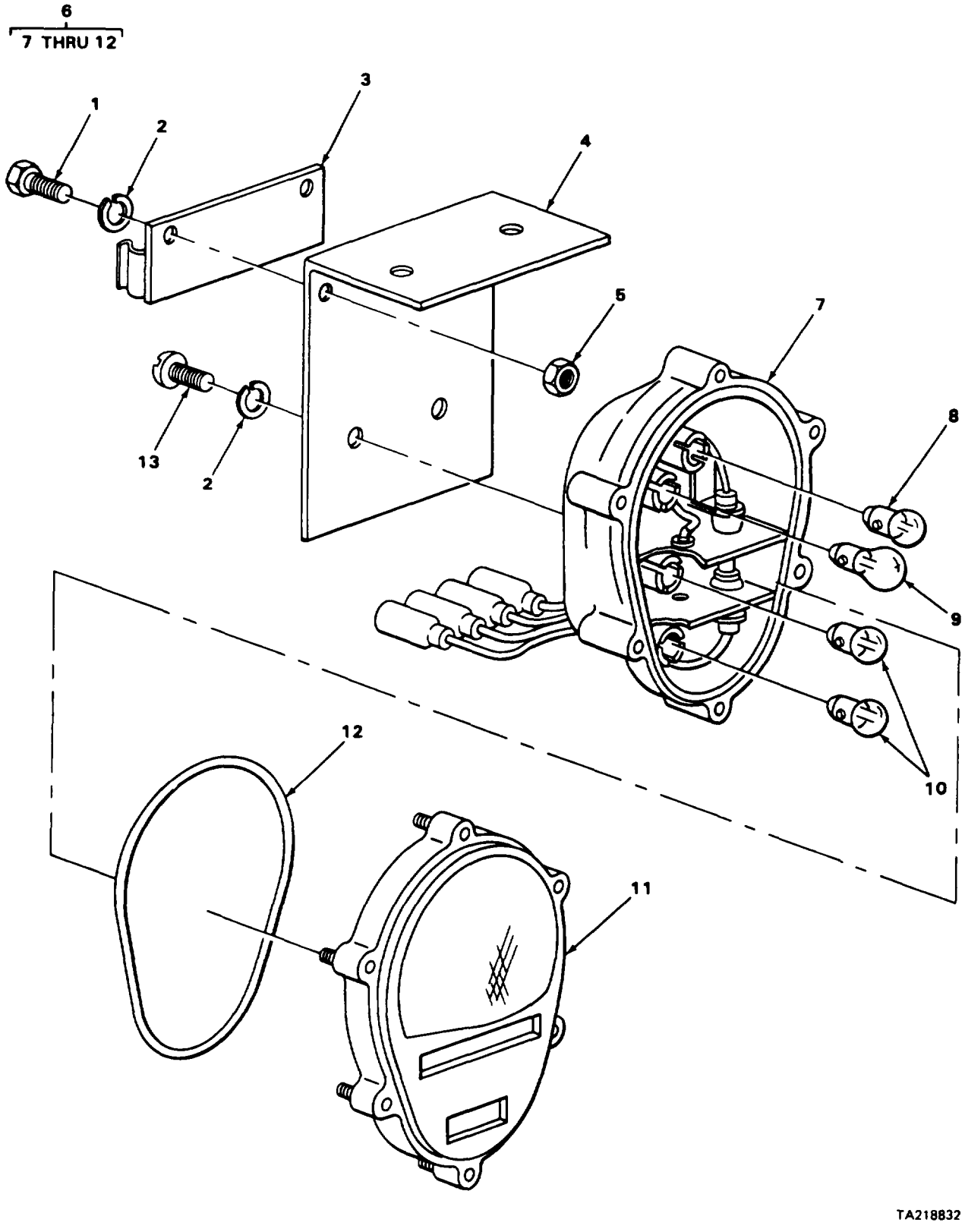


FIGURE 3. COMPOSITE MARKER LIGHT (LATE MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0609 LIGHTS FIG.3. COMPOSITE MARKER LIGHT (LATE MODEL)	
1	PAOZZ	96906	MS90727-4	SCREW,CAP,HEXAGON H.....	4
2	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	8
3	PAOZZ	19207	8747908-1	CLIP ASSEMBLY.....	2
4	PFOZZ	19207	12255388	BRACKET,ANGLE.....	2
5	PFOZZ	96906	MS51968-2	NUT,PLAIN,HEXAGON.....	4
6	PAOOO	96906	MS52125-2	STOP LIGHT-TAILLIGH.....	2
7	PAOZZ	19207	11639520	.BODY ASSEMBLY.....	1
8	PAOZZ	96906	MS15570-623	.LAMP,INCANDESCENT.....	1
9	PAOZZ	96906	MS35478-1683	.LAMP,INCANDESCENT.....	1
10	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT.....	2
11	PAOZZ	19207	11639535	.LENS,LIGHT.....	1
12	PAOZZ	19207	11639519-2	.PACKING,PREFORMED.....	1
13	PAOZZ	96906	MS35207-281	SCREW,MACHINE.....	4
				END OF FIGURE	

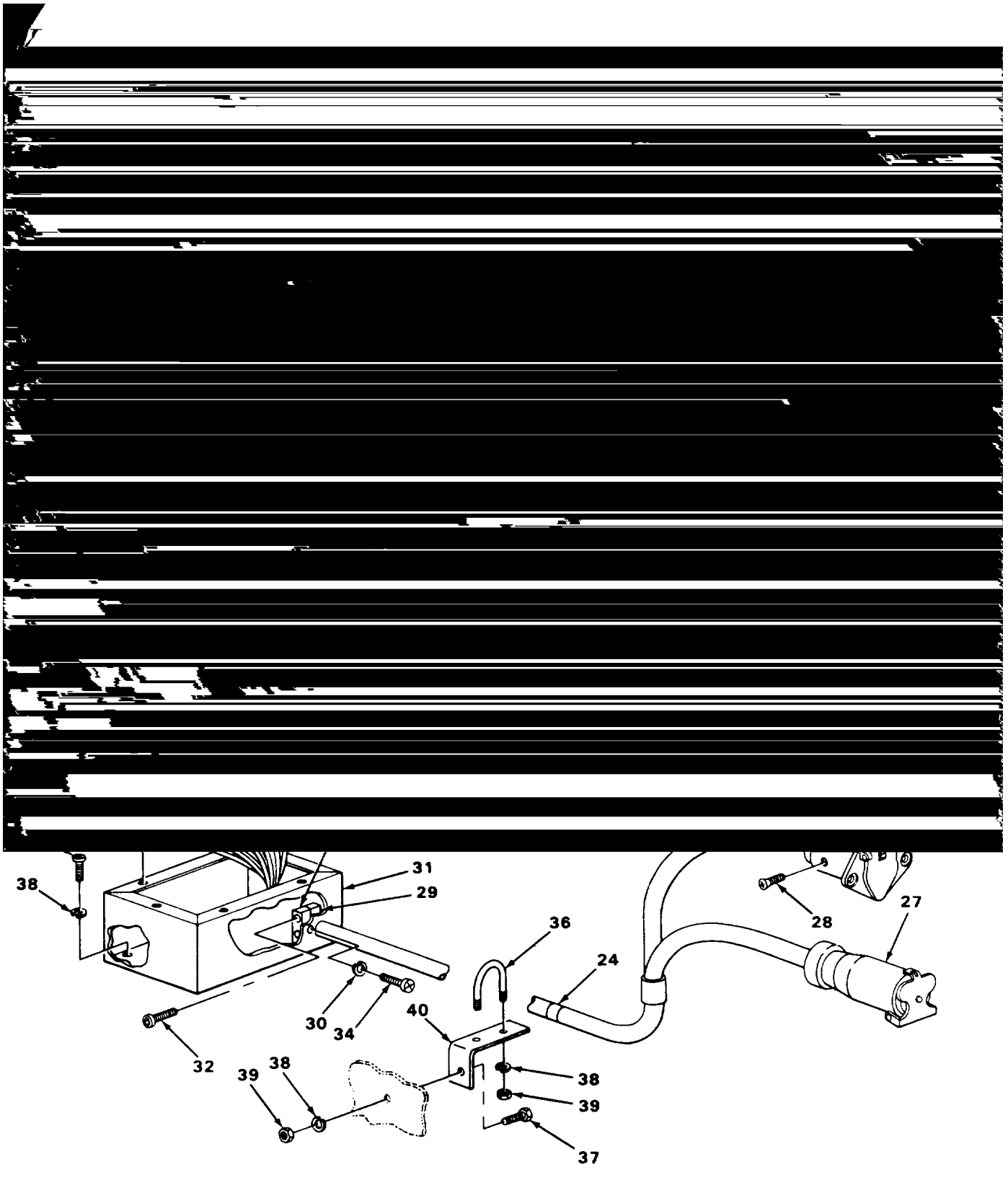


FIGURE 4. INTERVEHICULAR CABLE HARNESS AND JUNCTION BOX (EARLY MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY

FIG.4. INTERVEHICULAR CABLE HARNESS AND JUNCTION BOX (EARLY MODEL)

1	PAOFF	16128	11612283	TERMINAL BOX,SPECIA FRONT DOLLY, EARLY MODEL	1
2	XBOOO	19207	11612293	.JUNCTION BOX COVER	1
3	PAOZZ	96906	MS35206-245	..SCREW,MACHINE	10
4	PAOFH	19207	12255353	..WIRING HARNESS,BRAN INNER, JUNCTION BOX	1
5	PAOZZ	96906	MS75021-1	...CONNECTOR,RECEPTACL	1
6	PAOZZ	96906	MS39020-1	...BAND,MARKER	16
7	PAOZZ	21450	506207	...TERMINAL,LUG	7
8	XBOZZ	19207	11612162	.COVER	1
9	XDOZZ	19207	11682104-1	.RESISTOR,FIXED	2
10	XDOZZ	19207	11682104-2	.RESISTOR,FIXED	3
11	XDOZZ	19207	11682104-3	.RESISTOR,FIXED	1
12	PAOZZ	96906	MS35338-44	.WASHER,LOCK	4
13	PAOZZ	96906	MS51967-2	.NUT,PLAIN,HEXAGON	4
14	XDOZZ	19207	11621410	.MARKER,STRIP	2
15	PAOZZ	96906	MS35206-265	.SCREW,MACHINE	4
16	XBOZZ	19207	11602369	.BLOCK,TERMINAL	2
17	PAOZZ	96906	MS35338-42	.WASHER,LOCK	4
18	PAOZZ	96906	MS35649-202	.NUT,PLAIN,HEXAGON	4
19	PAOZZ	19207	7731428	.COVER,ELECTRICAL CO	1
20	PAOZZ	19207	12255351	TERMINAL BOX AND HA	1
21	PAOZZ	16128	11612224	.WIRING HARNESS 12 AND 24 VOLT CONNECTORS	1
22	PAOZZ	96906	MS39020-1	..BAND,MARKER	17
23	PAOZZ	21450	506207	..TERMINAL,LUG	10
24	PAOZZ	81349	M43436-1-3	..BAND,MARKER	1
25	PAOZZ	19207	11602311	..CONNECTOR,RECEPTACL 12 VOLTS	1
26	XBOZZ	19207	11602310	..CAP ASSEMBLY,DUST	1
27	PAOZZ	96906	MS75020-1	..CONNECTOR,PLUG,ELEC	1
28	PAOZZ	96906	MS35190-233	..SCREW,MACHINE	1
29	XBOZZ	19207	11612292-2	.CLAMP,CABLE	1
30	PAOZZ	96906	MS35338-42	.WASHER, LOCK	5
31	XBOZZ	19207	11612165	.BOX,JUNCTION	1
32	PAOZZ	96906	MS16997-24	.SCREW,CAP,SOCKET HE	2
33	XBOZZ	19207	11612292-1	.CLAMP,CABLE	1
34	PAOZZ	96906	MS35206-248	.SCREW,MACHINE	3
35	PAOZZ	19207	11612164	GASKET	1
36	XBOZZ	19207	11612336	BOLT,U	1
37	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H	1
38	PAOZZ	96906	MS35338-44	WASHER,LOCK	7
39	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON	3
40	XBOZZ	19207	11612309	BRACKET	1
41	PAOZZ	96906	MS35206-279	SCREW,MACHINE	4

END OF FIGURE

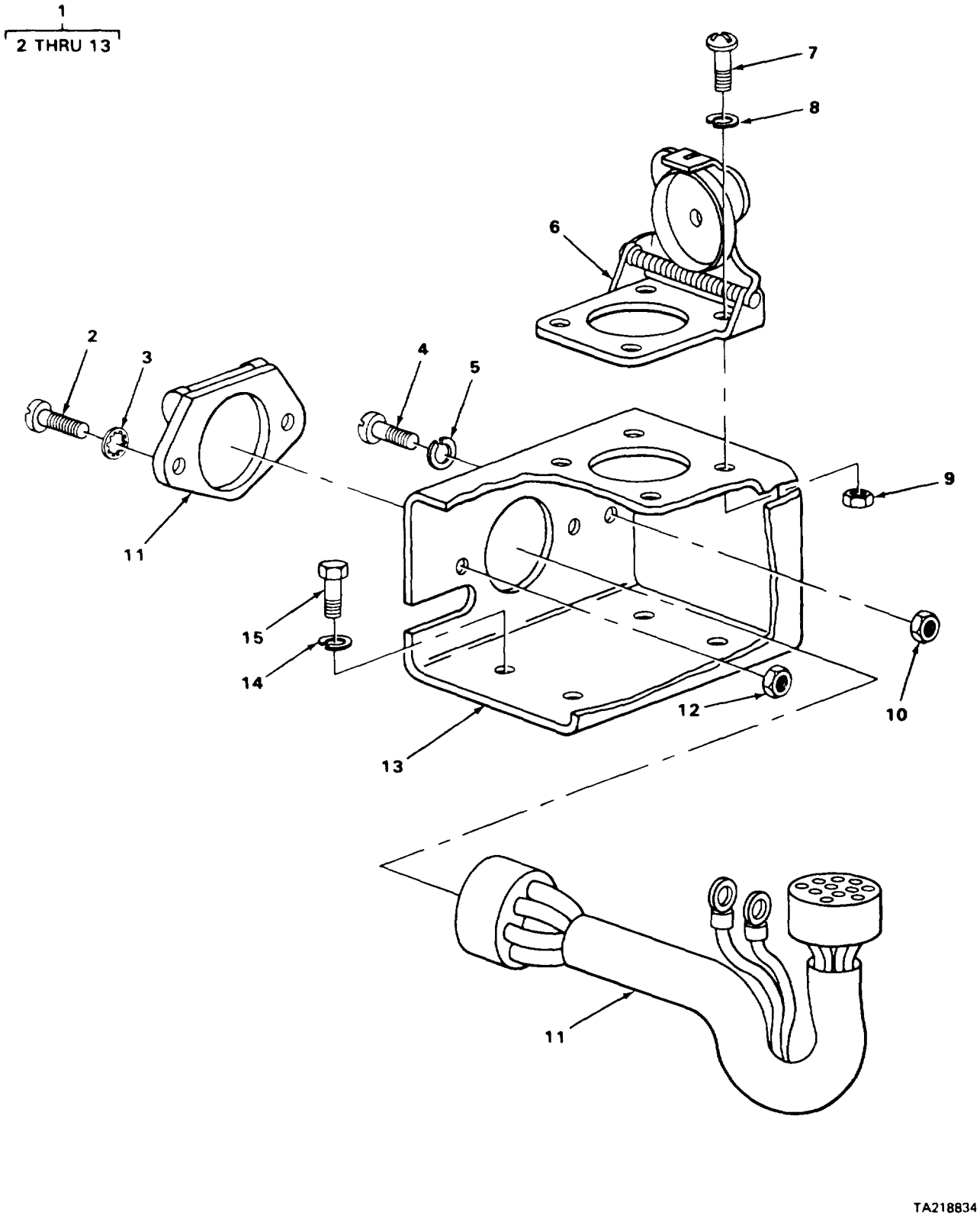


FIGURE 5. JUNCTION BOX (LATE MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0613 CHASSIS WIRING HARNESS	
				FIG.5. JUNCTION BOX (LATE MODEL)	
1	PAOZZ	19207	12255351	TERMINAL BOX AND HA FRONT DOLLY, LATE MODEL	1
2	PAOZZ	96906	MS35266-80	.SCREW,MACHINE	2
3	PAOZZ	96906	MS35333-40	.WASHER,LOCK	2
4	PAOZZ	96906	MS35206-245	.SCREW,MACHINE	1
5	PAOZZ	96906	MS35338-42	.WASHER,LOCK	1
6	PAOZZ	19207	7731428	.COVER,ELECTRICAL CO	1
7	PAOZZ	96906	MS35206-231	.SCREW,MACHINE	4
8	PAOZZ	96906	MS35338-44	.WASHER,LOCK	4
9	PAOZZ	96906	MS51967-2	.NUT,PLAIN,HEXAGON	4
10	PAOZZ	96906	MS35649-282	.NUT,PLAIN,HEXAGON	1
11	PAOFH	19207	12255353	.WIRING HARNESS,BRAN	1
12	PAOZZ	96906	MS51967-2	.NUT,PLAIN,HEXAGON	2
13	XDOZZ	19207	12255352	.TERMINAL BOX	1
14	PAOZZ	96906	MS35338-44	WASHER,LOCK	4
15	PAOZZ	96906	MS90725-5	SCREW,CAP,HEXAGON H	4

END OF FIGURE

1
2 THRU 5

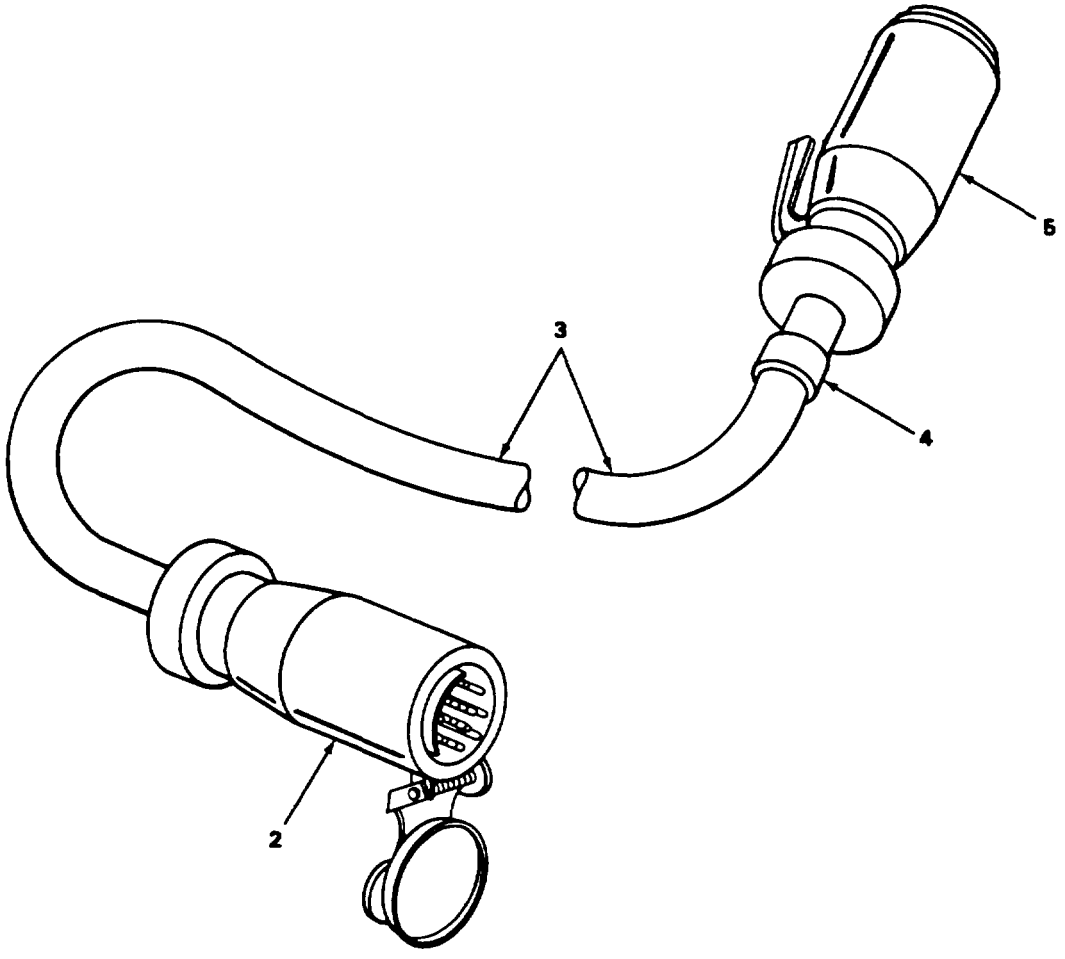


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FIGURE 6. INTER DOLLY CABLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0613 CHASSIS WIRING HARNESS FIG.6. INTERVEHICLULAR CABLE	
1	PAOZZ	19207	11682073	CABLE ASSEMBLY,SPEC LATE MODEL.....	1
2	PAOZZ	96906	MS75020-1	.CONNECTOR,PLUG,ELEC.....	1
3	MOOZZ	19207	7056684-25	.CABLE,ELECTRICAL MAKE FROM P/N M13486/10-1 (81349).....	1
4	PAOZZ	81349	M43436-1-3	.BAND,MARKER.....	1
5	PAOZZ	96906	MS75020-2	.CONNECTOR,PLUG,ELEC.....	1

END OF FIGURE

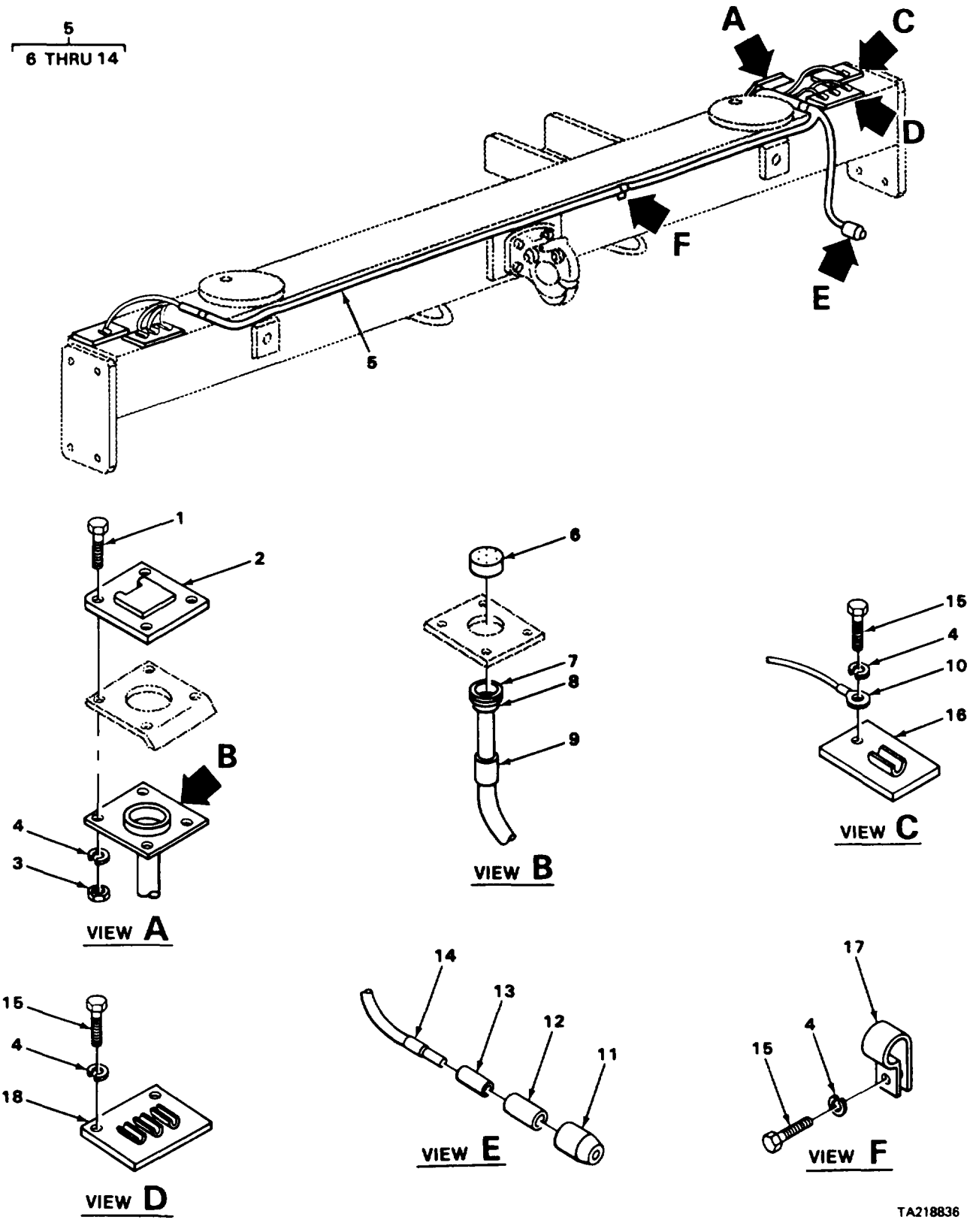

FIGURE 7. WIRING HARNESS, REAR TRAILER DOLLY (EARLY MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0613 CHASSIS WIRING HARNESS	
				FIG.7. WIRING HARNESS, REAR TRAILER DOLLY (EARLY MODEL)	
1	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	4
2	PAOZZ	19207	7731428	COVER,ELECTRICAL CO.....	1
3	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON.....	4
4	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	16
5	PAOZZ	24835	6600045	WIRING HARNESS,BRAN REAR DOLLY, EARLY MODEL.....	1
6	PAOZZ	96906	MS75021-2	.CONNECTOR,RECEPTACL.....	1
7	PAOZZ	19207	7722333	.BUSHING,RUBBER.....	1
8	PAOZZ	19207	7723309	.NUT,PLAIN,KNURLED.....	1
9	PAOZZ	81349	M43436/1-3	.BAND,MARKER.....	1
10	PAOZZ	21450	506209	.TERMINAL,LUG.....	1
11	PAOZZ	19207	8338561	.SHELL,ELECTRICAL CO.....	9
12	PAOZZ	19207	8338562	.INSULATOR,BUSHING.....	9
13	PAOZZ	19207	8338563	.FERRULE,ELECTRICAL.....	9
14	PAOZZ	81349	M43436/1-1	.BAND,MARKER.....	21
15	PAOZZ	96906	MS35206-279	SCREW,MACHINE.....	12
16	PAOZZ	19207	8722944	CLIP ASSEMBLY,WIRE.....	2
17	PAOZZ	96906	MS9025-07	CLAMP,LOOP.....	6
18	PAOZZ	19207	8722870	CLIP ASSEMBLY,WIRIN.....	2

END OF FIGURE

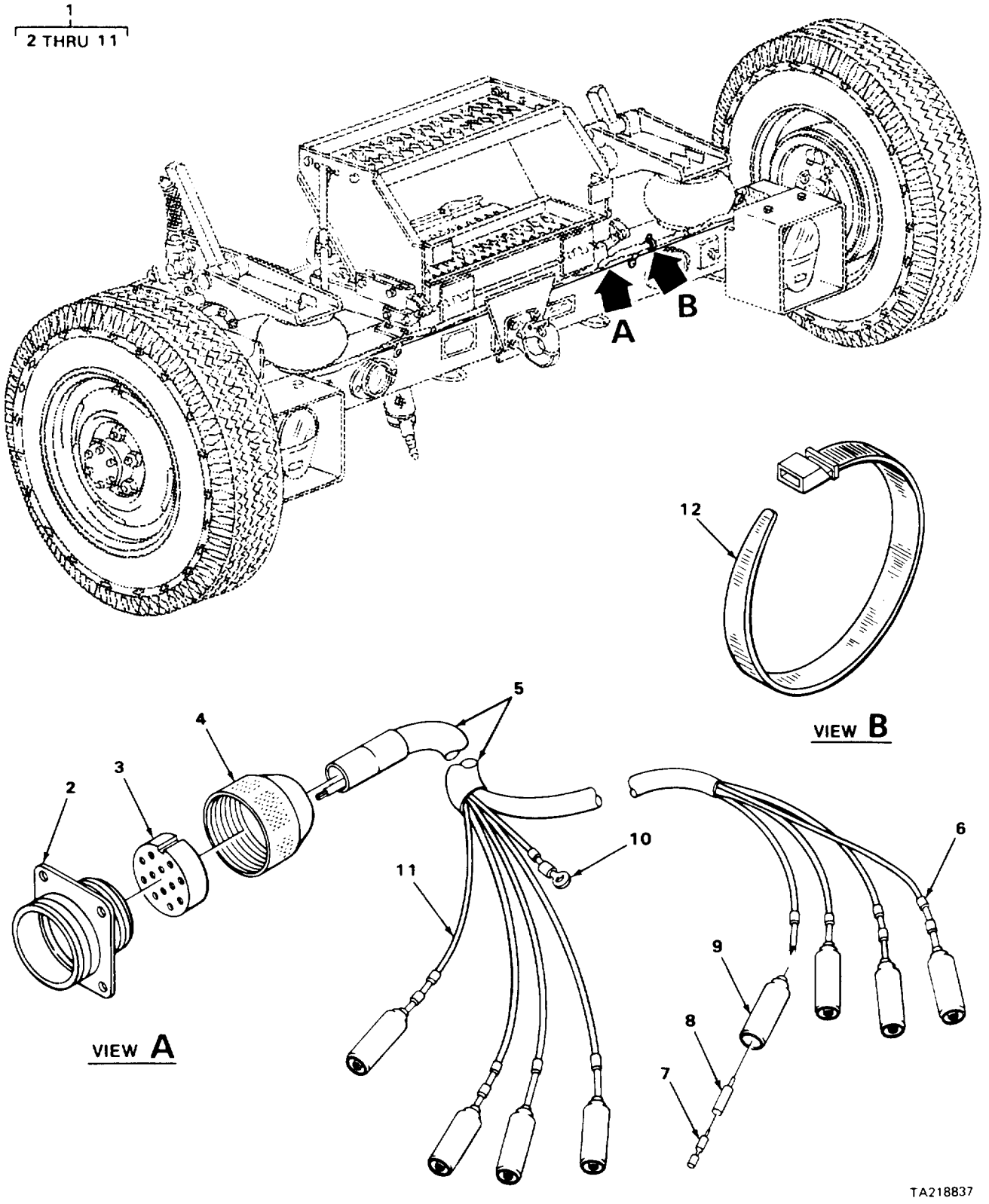

FIGURE 8. WIRING HARNESS, REAR TRAILER DOLLY (LATE MODEL).

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				0613 CHASSIS WIRING HARNESS FIG.8. WIRING HARNESS, REAR TRAILER DOLLY (LATE MODEL)	
1	PAOZZ	19207	11682075	WIRING HARNESS,BRAN REAR TRAILER, DOLLY,LATE MODEL.....	1
2	PAOZZ	96906	MS75021-2	.CONNECTOR,RECEPTACL.....	1
3	PAOZZ	19207	7722333	.BUSHING,RUBBER.....	1
4	PAOZZ	19207	7723309	.NUT,PLAIN,KNURLED.....	1
5	PAOZZ	81349	M43436/1-3	.BAND,MARKER.....	1
6	PAOZZ	81349	M43436/1-1	.BAND,MARKER.....	1
7	PAOZZ	04939	8338564	.TERMINAL ASSEMBLY.....	8
8	PAOZZ	19207	8338562	.INSULATOR,BUSHING.....	8
9	PAOZZ	04939	8338561	.SHELL,ELECTRICAL CO.....	8
10	PAOZZ	21450	506209	.TERMINAL,LUG.....	1
11	PAOZZ	81349	M13486-1-5	.WIRE,ELECTRICAL.....	1
12	PAOZZ	79500	921B211-1	STRAP,TIEDOWN,ELECT.....	10
				END OF FIGURE	

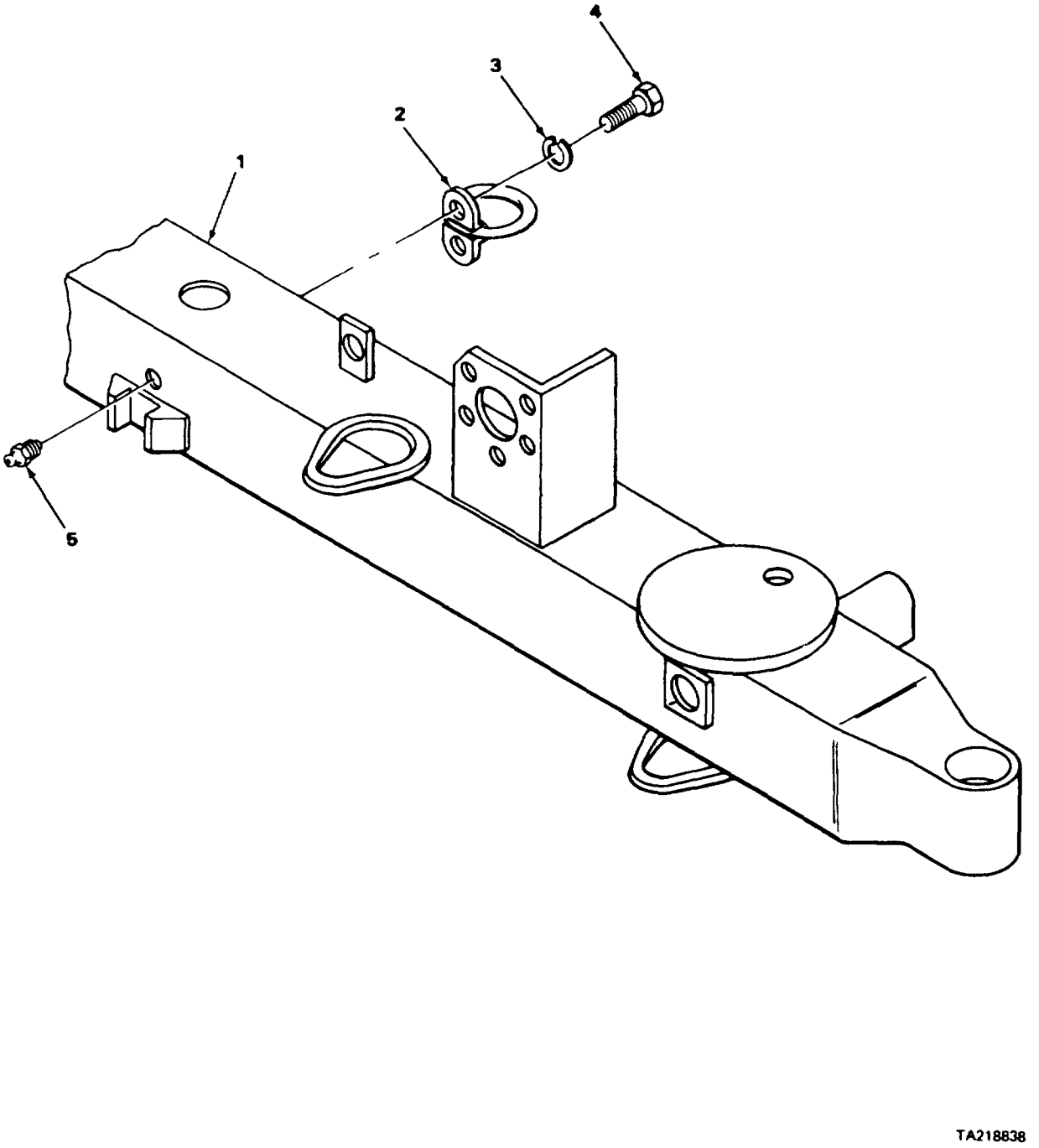

FIGURE 9. FRONT AXLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 10 FRONT AXLE 1000 FRONT AXLE ASSEMBLY FIG.9. FRONT AXLE ASSEMBLY	
1	PAOZZ	19207	11612268	AXLE,VEHICULAR,NOND.....	1
2	PAOZZ	98313	FDK2850	RING,DEE LIFTING,FRONT AXLE.....	1
3	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	2
4	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	2
5	PAOZZ	96906	MS15001-1	FITTING,LUBRICATION.....	1
				END OF FIGURE	

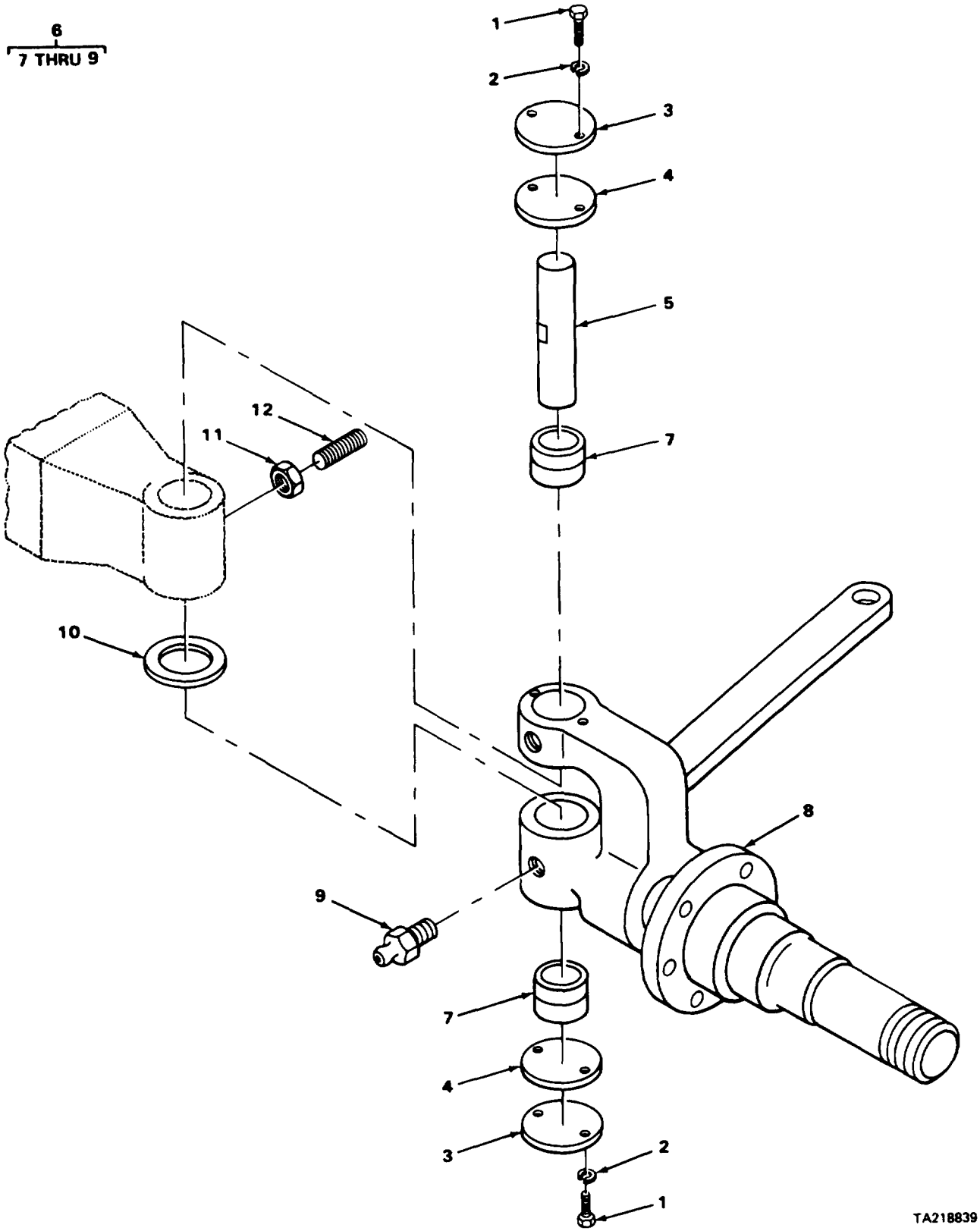

FIGURE 10. KNUCKLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1004 STEERING	
				FIG.10. KNUCKLE ASSEMBLY	
1	PAOZZ	96906	MS16997-43	SCREW,CAP,SOCKET HE.....	8
2	PAOZZ	96906	MS35338-42	WASHER,LOCK.....	8
3	PAOZZ	19207	11612331	SPACER,PLATE.....	4
4	PAOZZ	19207	11612332	GASKET.....	4
5	PFFZZ	19207	11612182	PIN,KING.....	2
6	PAOZZ	19207	11612279-1	SPINDLE,WHEEL,NONDR RIGHT HAND.....	1
6	PAOZZ	19207	11612279-2	SPINDLE,WHEEL,NONDR LEFT HAND.....	1
7	PAFZZ	19207	11612110-1	.BEARING,SLEEVE.....	2
8	XDOZZ	19207	11612259-3	.KNUCKLE ASSEMBLY ST LEFT HAND.....	1
8	PAOZZ	19207	11612259-1	.SPINDLE,WHEEL,DRIVI RIGHT HAND....	1
9	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION.....	2
10	PAOZZ	19207	11612184	BEARING,WASHER,THRU.....	2
11	PAOZZ	96906	MS51968-5	NUT,PLAIN,HEXAGON.....	2
12	PAOZZ	96906	MS51964-84	SETSCREW.....	2

END OF FIGURE

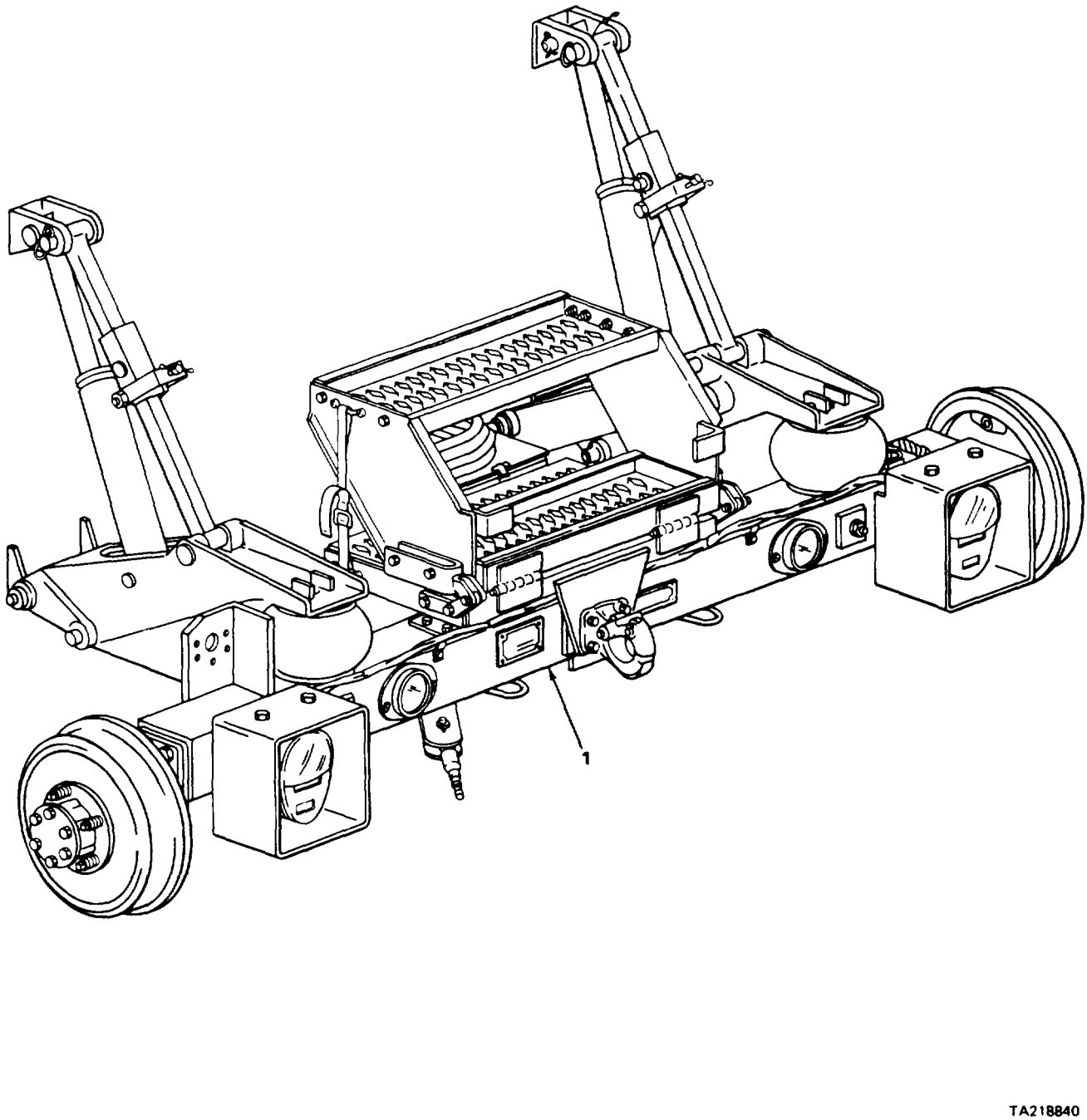

FIGURE 11. REAR AXLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 11 REAR AXLE 1100 REAR AXLE ASSEMBLY FIG. 11. REAR AXLE ASSEMBLY	
1	XDOZZ	19207	11612274	AXLE ASSEMBLY,REAR.....	1
				END OF FIGURE	

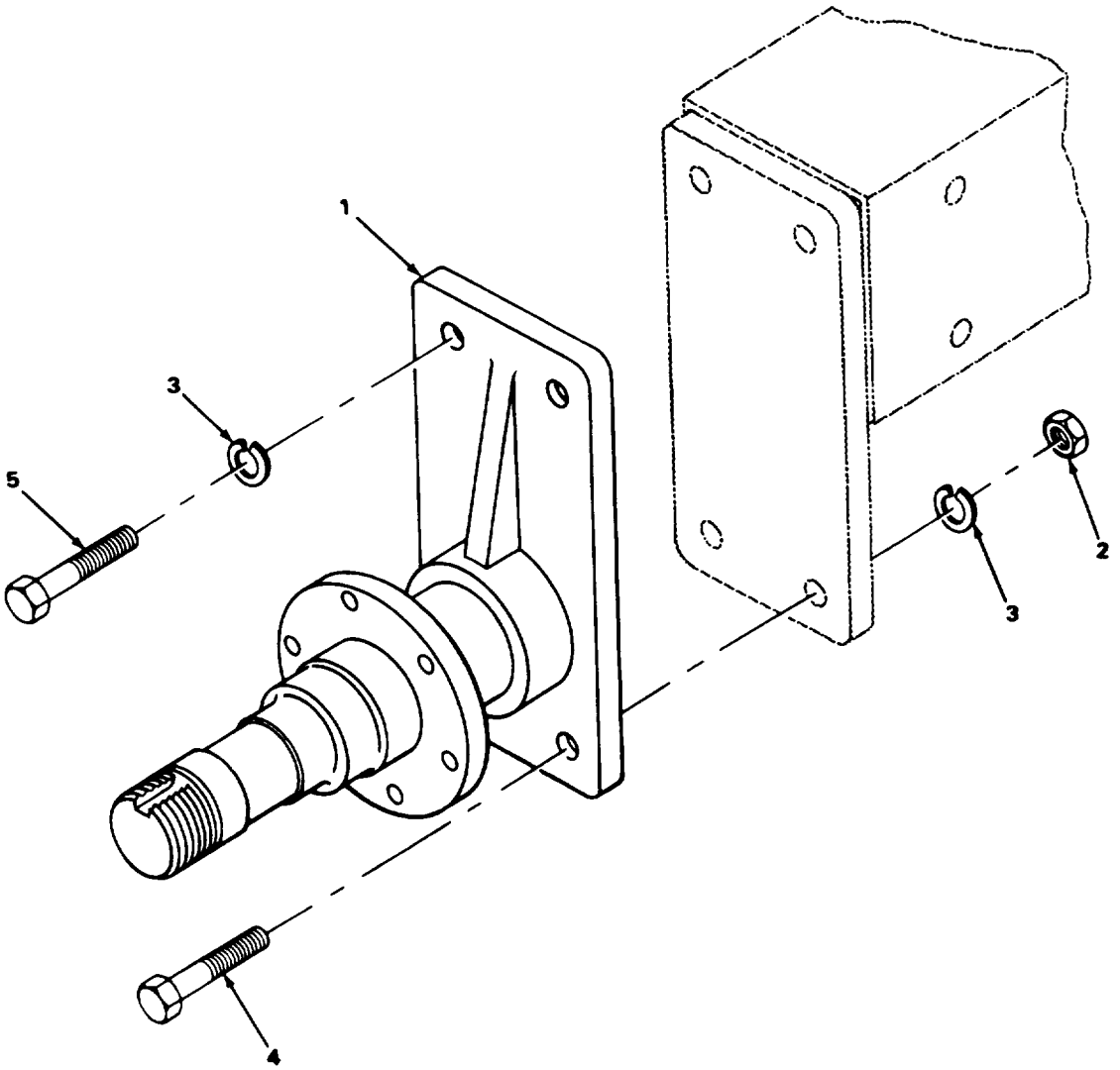

FIGURE 12. REAR SPINDLES.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1100 REAR AXLE ASSEMBLY FIG. 12. REAR SPINDLES	
1	PAFZZ	19207	11612220-1	SPINDLE,WHEEL,NONDR RIGHT HAND.....	1
1	PAFZZ	19207	11612220-2	SPINDLE,WHEEL,NONDR LEFT HAND.....	1
2	PAFZZ	96906	MS51968-14	NUT,PLAIN,HEXAGON.....	4
3	PAFZZ	96906	MS35338-48	WASHER,LOCK.....	8
4	PAFZZ	96906	MS90727-114	SCREW,CAP,HEXAGON H.....	4
5	PAFZZ	96906	MS90727-11	SCREW,CAP,HEXAGON H.....	4
				END OF FIGURE	

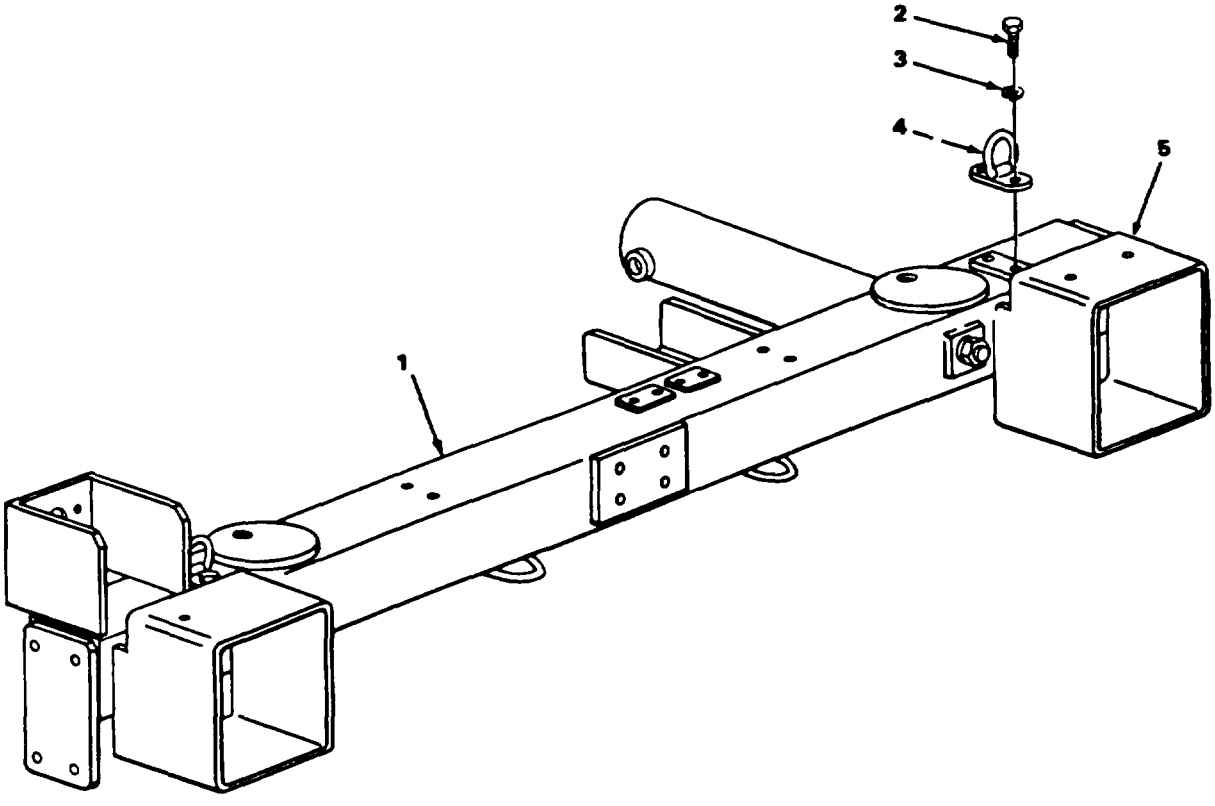

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FIGURE 13. REAR AXLE BEAM.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1101 HOUSING AND BEAM FIG. 13 REAR AXLE BEAM	
1	PFFFF	19207	11612267	AXLE ASSEMBLY.....	1
2	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	4
3	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	4
4	PAOZZ	19207	11602355	RING,CONNECTING,ROU.....	2
5	PFFZZ	19207	12255389	SUPPORT, REAR LIGHT.....	2
				END OF FIGURE	

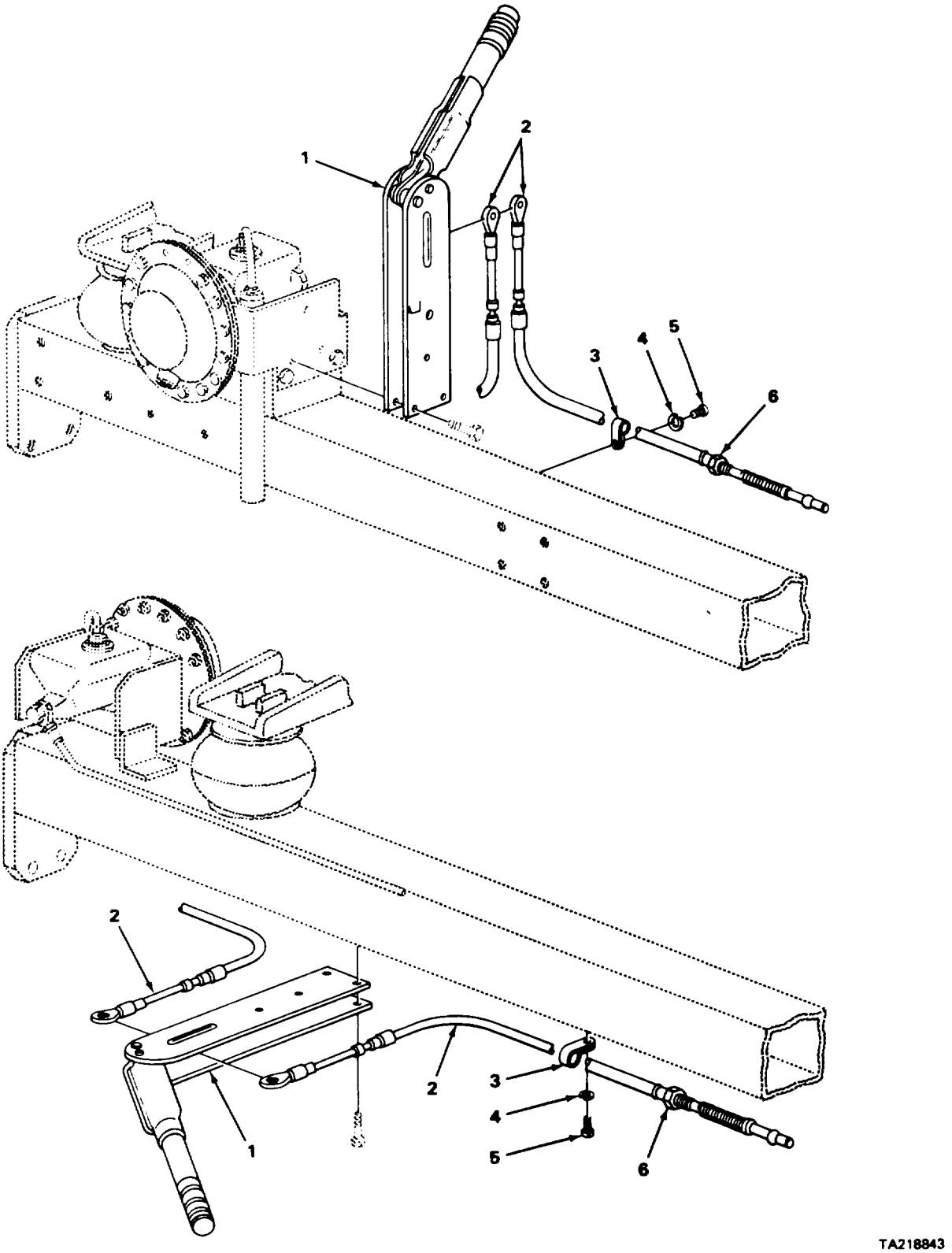

FIGURE 14. HAND BRAKE.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 12 BRAKES 1201 HAND BRAKES FIG. 14 HAND BRAKE	
1	PAOZZ	92867	01060500	LEVER,MANUAL CONTRO.....	1
2	PAOZZ	19207	11602357-1	CONTROL ASSEMBLY,PU RIGHT SIDE, EARLY MODEL.....	1
2	PAOZZ	19207	11602357-2	CONTROL ASSEMBLY,PU LEFT SIDE,LATE MODEL.....	1
3	PAOZZ	96906	MS9025-07	CLAMP,LOOP CABLE MOUNTING,EARLY MODEL.....	5
3	PAOZZ	96906	MS9025-07	CLAMP,LOOP CABLE MOUNTING,LATE MODEL.....	6
4	PAOZZ	96906	MS35338-44	WASHER,LOCK CABLE CLAMP MOUNTING, EARLY MODEL.....	5
4	PAOZZ	96906	MS35338-44	WASHER,LOCK CABLE CLAMP MOUNTING, LATE MODEL.....	6
5	PAOZZ	96906	MS35206-279	SCREW,MACHINE CABLE CLAMP MOUNTING, EARLY MODEL.....	5
5	PAOZZ	96906	MS35206-279	SCREW,MACHINE CABLE CLAMP MOUNTING, LATE MODEL.....	6
6	PAOZZ	96906	MS35691-41	NUT,PLAIN,HEXAGON.....	8

END OF FIGURE

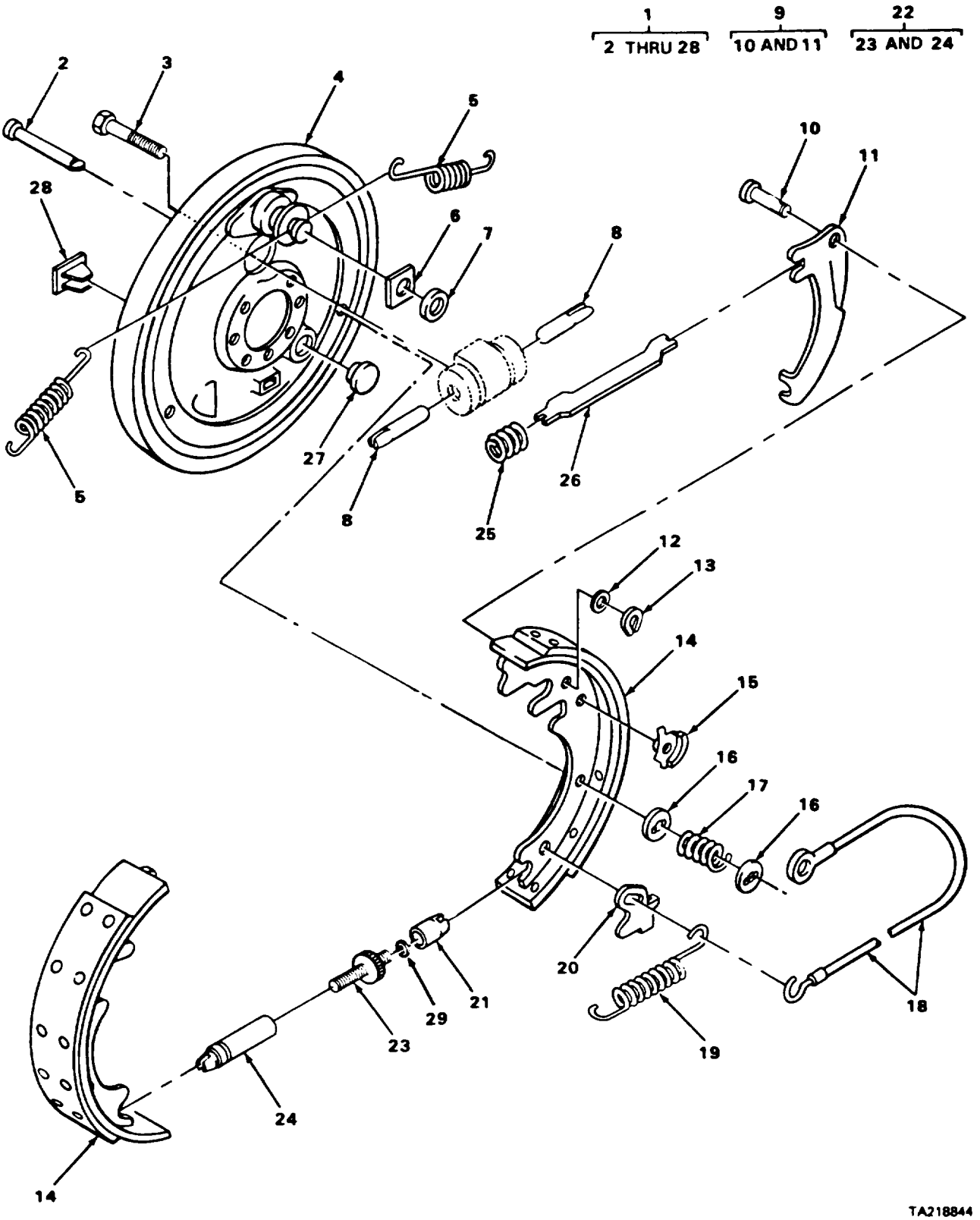

FIGURE 15. SERVICE BRAKE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1202 SERVICE BRAKES	
				FIG. 15. SERVICE BRAKE ASSEMBLY	
1	PAOOO	14892	322768	BRAKE,SHOE TYPE RIGHT SIDE.....	2
1	PAOOO	14892	322767	BRAKE, SHOE TYPE LEFT SIDE.....	2
2	KFOZZ	19207	5303476	.PIN,RETAINING SHOE PART OF KIT P/N 937952.....	2
3	PAOZZ	24617	423560	.SCREW,ASSEMBLED WAS.....	2
4	PAOZZ	06853	318459	.PLATE,BACKING,BRAKE USE WITH P/N 11602367-1.....	2
4	PAOZZ	06853	315684R	.PLATE,BACKING,BRAKE USE WITH P/N 11602367-2.....	2
5	PAOZZ	06853	31629	.SPRING,HELICAL,EXTE.....	2
6	PFOZZ	14892	41029	.RETAINER,BRAKE,LEVE.....	1
7	PFOZZ	19207	11686280	.WASHER,SPRING TENSI.....	1
8	PAOZZ	19207	11602496	.LINK,WHEEL CYLINDER.....	2
9	PAOZZ	14892	307651	.LEVER ASSEMBLY PARK USE WITH P/N 11602367-1.....	1
9	XDOZZ	14892	307652	.LEVER ASSEMBY PARK USE WITH P/N 11602367-2.....	1
10	XAOZZ	19207	11602497	..PIN.....	1
11	XAOZZ	06853	307653	..LEVER USE WITH P/N 11602367-1....	1
11	XAOZZ	06853	307654	..LEVER USE WITH P/N 11602367-2....	1
12	PFOZZ	19207	11686280	.WASHER,SPRING TENSI.....	1
13	PAOZZ	89346	100202HA	.RETAINER,BRAKE,LEVE.....	1
14	PAOZZ	06853	315898	.BRAKE SHOE.....	2
15	PFOZZ	14892	309992	.GUIDE,CABLE.....	1
16	KFOZZ	19207	11602492	.CUP,SPRING PART OF KIT P/N 937952..	2
17	KFOZZ	19207	5304039	.SPRING,HELICAL,COMP PART OF KIT P/N 937952.....	1
18	PAOZZ	06853	315256	.WIRE ROPE ASSEMBLY,.....	1
19	PAOZZ	06853	311309	.SPRING,HELICAL,EXTE.....	1
20	PFOZZ	14892	315231	.LEVER,BRAKE ADJUSTI USE WITH P/N 11602367-1.....	1
20	PFOZZ	14892	315232	.LEVER,BRAKE ADJUSTI USE WITH P/N 11602367-2.....	1
21	PAOZZ	14892	312168	.SOCKET,BRAKE ADJUST.....	1
22	PFOZZ	14894	3203007	.BRAKE,ADJUSTING SCR USE WITH P/N 11602367-2.....	1
22	PFOZZ	14892	3203006	.BRAKE,ADJUSTING SCR USE WITH P/N 11602367-1.....	1
23	PAOZZ	06853	311538L	..ADJUSTER,SLACK,BRAK USE WITH P/N 11602367-1.....	1
23	PAOZZ	14894	3203006	..ADJUSTER,SLACK,BRAK USE WITH P/N 11602367-2.....	1
24	XDOZZ	06853	312165	..PIVOT NUT ADJUSTING USE WITH P/N 11602367-1, LH.....	1
24	XDOZZ	06853	312166	..PIVOT NUT ADJUSTING USE WITH P/N 11602367-2, RH.....	1
25	PAOZZ	06853	39244	.SPRING,HELICAL,COMP.....	1
26	PFOZZ	06853	322771	.CONNECTING LINK,RIG LH.....	1
26	PFOZZ	06853	322772	.LINK,ANCHOR,BRAKES RH.....	1

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
27	PAOZZ	14894	301055	.COVER,ADJUSTER FRONT BRAKE ASSEMBLY ONLY.....	1
28	PAOZZ	19207	7001423	.PLUG,PROTECTIVE,DUS.....	1
29	XDOZZ	06853	316816	.WASHER.....	1

END OF FIGURE

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2 AND 3

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5

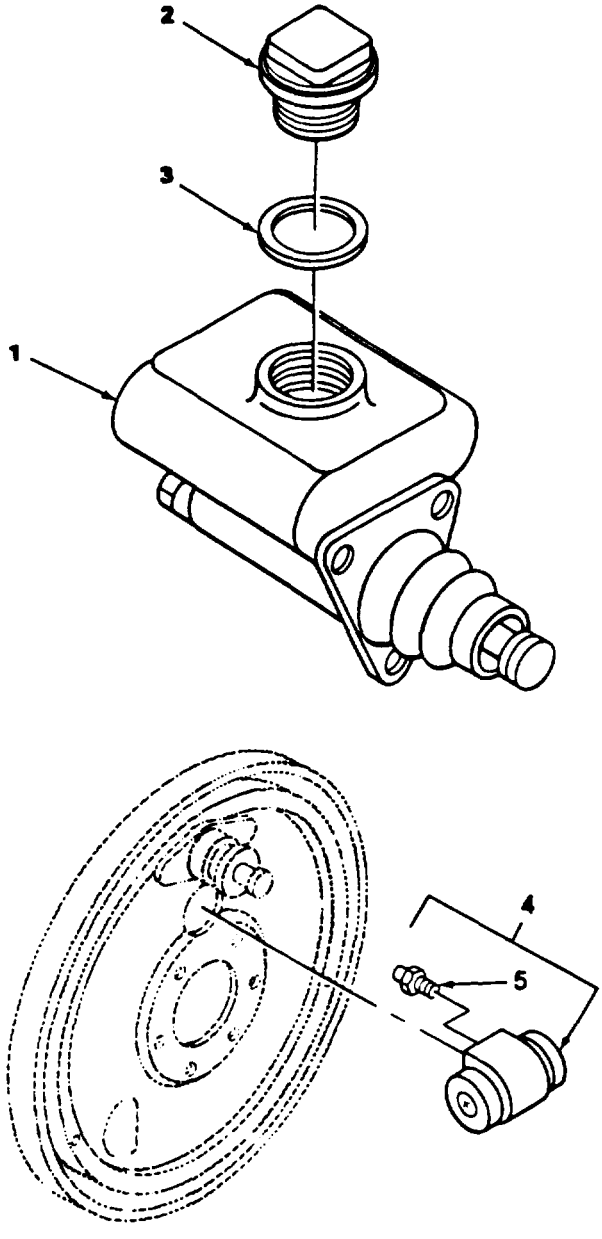

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FIGURE 16. HYDRAULIC MASTER CYLINDER AND WHEEL CYLINDER.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1204 HYDRAULIC BRAKE SYSTEM	
				FIG. 16 HYDRAULIC MASTER CYLINDER AND WHEEL CYCLINDER	
1	PA000	19207	8357980	CYLINDER ASSEMBLY,H.....	2
1	PAOZZ	19207	8365426	TUBE ASSEMBLY,METAL.....	2
2	PAOZZ	63477	7979691	.CAP,FILLER OPENING.....	1
2	PAOZZ	96906	MS35842-12	CLAMP,HOSE.....	2
2	PAOZZ	80205	NAS1611-123	PACKING,PREFORMED.....	1
3	PAOZZ	19207	7373354	.SPACER,RING.....	1
3	PAOZZ	96906	MS521301A20412	HOSE,NONMETALLIC.....	2
4	PAOZZ	06853	2230701	CYLINDER ASSEMBLY,H RIGHT HAND.....	1
4	PAOZZ	06853	2230700	CYLINDER ASSEMBLY,H LEFT HAND.....	1
5	PAOZZ	19207	10861507	.BLEEDER VALVE,HYDRA.....	1

END OF FIGURE

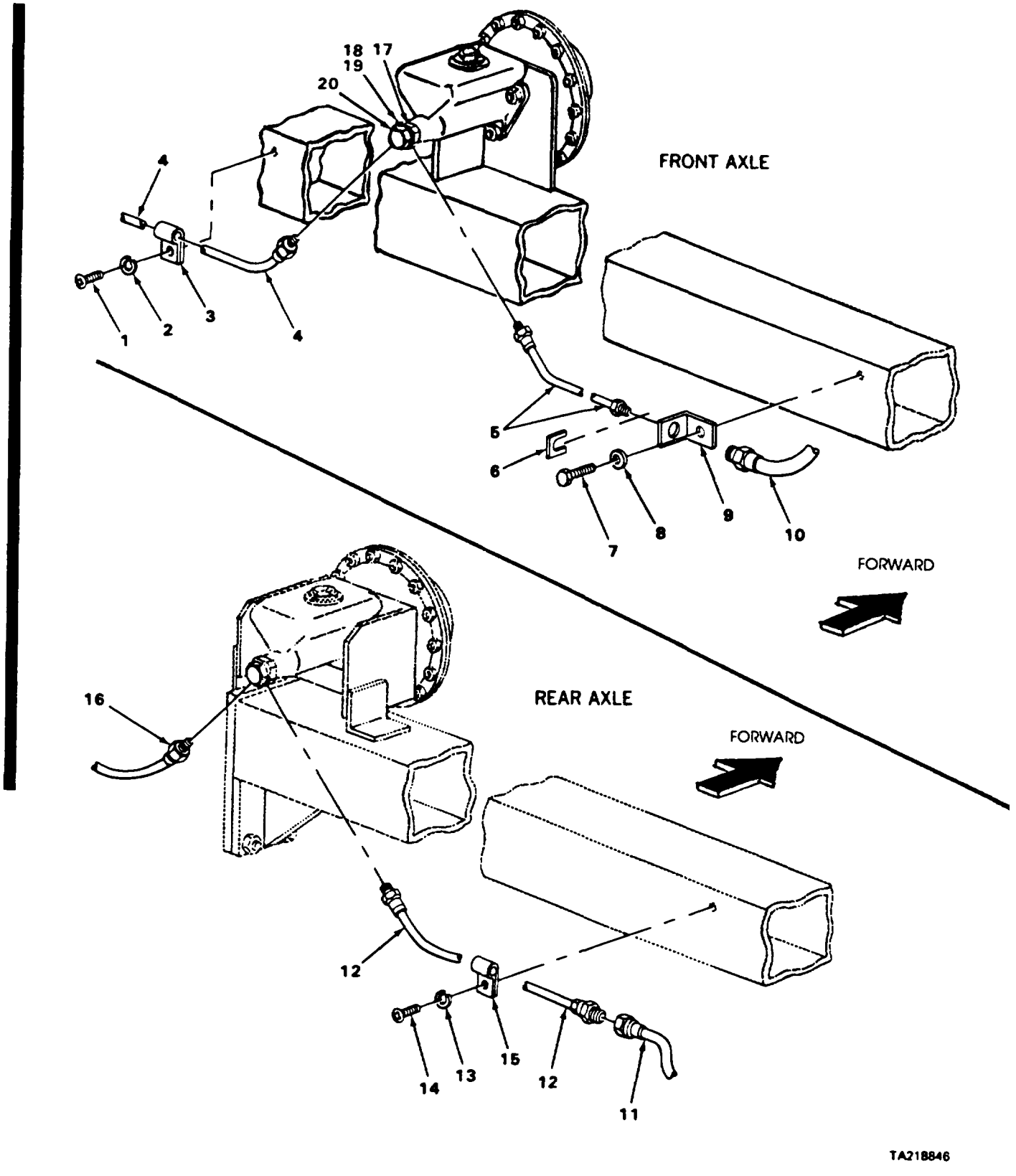

FIGURE 17. MASTER CYLINDER LINES AND FITTINGS.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1204 HYDRAULIC BRAKE SYSTEM FIG. 17 MASTER CYLINDER LINES AND FITTINGS	
1	PAOZZ	96906	MS35206-281	SCREW,MACHINE.....	8
2	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	8
3	PAOZZ	96906	MS9025-07	CLAMP,LOOP.....	8
4	PAOZZ	19207	11612243	TUBE ASSEMBLY,METAL FRONT,LEFT.....	1
4	PAOZZ	19207	11682076	TUBE ASSEMBLY,METAL REAR,LEFT, EARLY MODEL.....	1
5	PAOZZ	19207	11612242	TUBE ASSEMBLY,METAL FRONT,RIGHT....	1
5	PAOZZ	19207	11682076	TUBE ASSEMBLY,METAL REAR,RIGHT, EARLY MODEL.....	1
6	PAOZZ	19207	7735289	RING,RETAINING.....	4
7	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	4
8	PAOZZ	88044	AN960-416	WASHER,FLAT.....	4
9	PAOZZ	19207	11612209	BRACKET,ANGLE.....	4
10	PAOZZ	19207	11602666	HOSE ASSEMBLY,NONME FRONT.....	2
11	PAOZZ	19207	11677565	HOSE ASSEMBLY,NONME REAR,RIGHT, LATE MODEL.....	1
12	PAOZZ	19207	11682076	TUBE ASSEMBLY,METAL REAR,RIGHT, LATE MODEL.....	1
13	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	6
14	PAOZZ	96906	MS35206-279	SCREW,MACHINE.....	6
15	PAOZZ	96906	MS9025-07	CLAMP,LOOP.....	6
16	PAOZZ	19207	11648010	HOSE ASSEMBLY,NONME REAR,LEFT OR RIGHT.....	1
17	PAOZZ	19207	10900442	CONNECTOR.....	1
18	PAOZZ	19204	5214539	WASHER, FLAT.....	1
19	PAOZZ	19207	5160323	WASHER, FLAT.....	1
20	PAOZZ	19207	8762000	BOLT, FLUID.....	1

END OF FIGURE

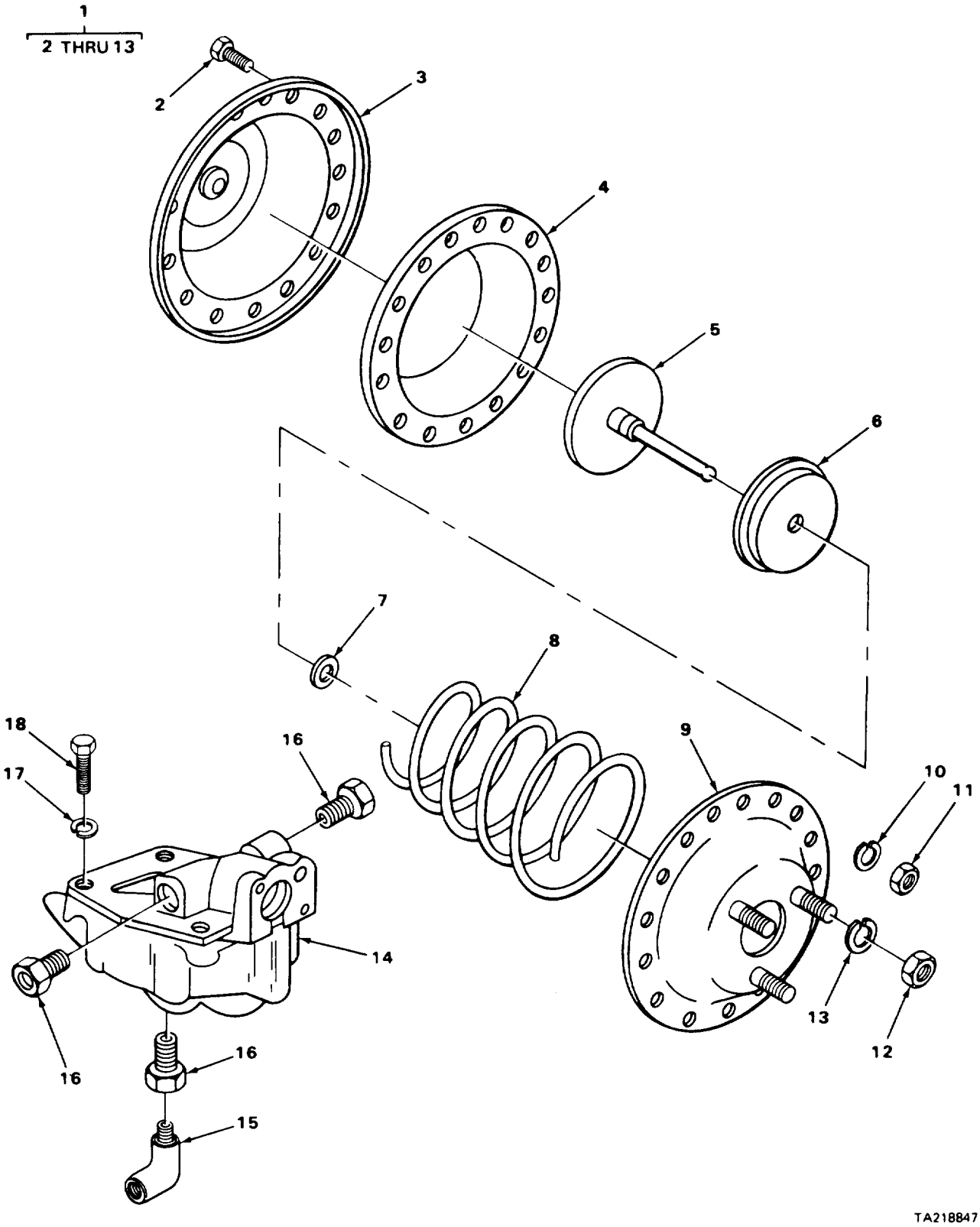

FIGURE 18. AIR CHAMBER ASSEMBLY AND EMERGENCY RELIEF VALVE.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1208 AIR BRAKE SYSTEM	
				FIG. 18 AIR CHAMBER ASSEMBLY AND EMERGENCY RELIEF VALVE	
1	PAOFF	19207	8357981	CHAMBER,AIR BRAKE FRONT AND REAR...	2
2	PAFZZ	96906	MS90726-33	.BOLT,MACHINE.....	16
3	PAFZZ	97554	7979602	.COVER ASSEMBLY.....	1
4	PAFZZ	19207	7377783	.DIAPHRAGM,CHAMBER,B.....	1
5	PAFZZ	19207	7979599	.ROD,CHAMBER ASSEMBL.....	1
6	PAFZZ	19207	7979610	.RETAINER,HELICAL CO.....	1
7	PAFZZ	96906	MS28775-012	.PACKING,PREFORMED.....	1
8	PAFZZ	19207	7979608	.SPRING,HELICAL,COMP.....	1
9	PAFZZ	19207	7979605	.BODY ASSEMBLY,CHAMB.....	1
10	PAFZZ	96906	MS35338-45	.WASHER,LOCK.....	16
11	PAFZZ	96906	MS51968-5	.NUT,PLAIN,HEXAGON.....	16
12	PAFZZ	96906	MS51967-8	.NUT,PLAIN,HEXAGON.....	3
13	PAFZZ	96906	MS35338-46	.WASHER,LOCK.....	3
14	PAOZZ	96906	MS53004-2	PARTS KIT,RELAY VAL.....	1
15	PAOZZ	19207	10900257	ELBOW,PIPE RELAY VALVE AND REAR TUBE TO AIR CHAMBER.....	3
16	PAOZZ	19204	7350907	BUSHING,PIPE.....	3
17	PAOZZ	96906	MS35338-45	WASHER,LOCK.....	3
18	PAOZZ	96906	MS90726-34	BOLT,MACHINE.....	3

END OF FIGURE

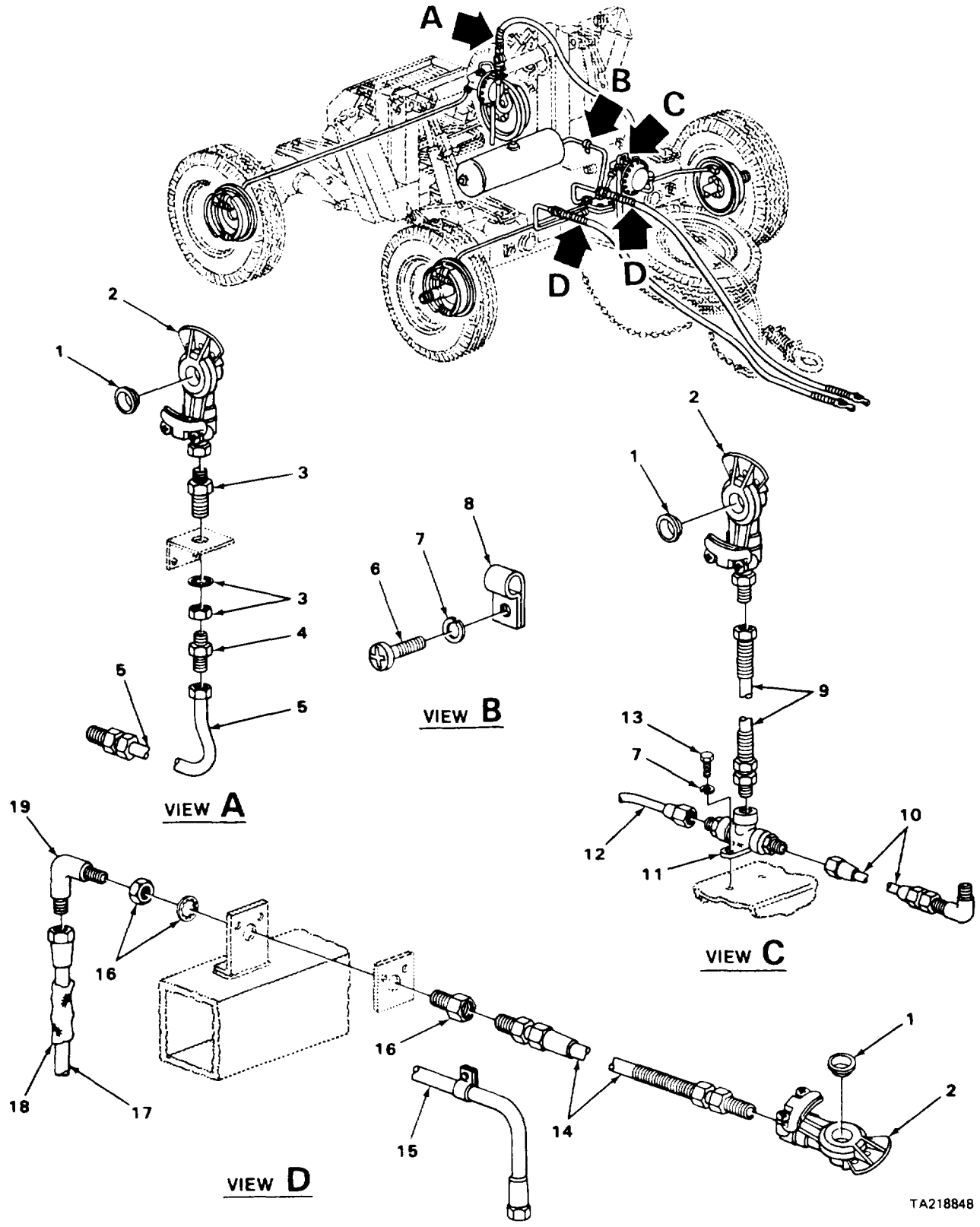

FIGURE 19. AIR TANK LINES AND FITTINGS.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1208 AIR BRAKE SYSTEM FIG.19. AIR TANK LINES AND FITTINGS	
1	PAOZZ	96906	MS35748-1	PACKING,PREFORMED.....	4
2	PAOZZ	96906	MS35746-1	COUPLING HALF,QUICK.....	4
3	PAOZZ	19207	7536271	REDUCER,PIPE REAR.....	1
4	PAOZZ	19207	11602478	NIPPLE,PIPE.....	1
5	PAOZZ	19207	11682089	HOSE ASSEMBLY,NONME.....	1
6	PAOZZ	96906	MS35206-279	SCREW,MACHINE.....	1
7	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	3
8	PAOZZ	96906	MS9025-07	CLAMP,LOOP.....	1
9	PAOZZ	19207	11612253-2	HOSE ASSEMBLY,NONME FRONT.....	1
10	PAOZZ	19207	11612190	TUBE ASSEMBLY,METAL.....	1
11	PAOZZ	19207	11602348	TEE,PIPE FRONT.....	1
12	XBOZZ	19207	11612192	TUBE ASSEMBLY.....	1
13	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	2
14	PAOZZ	19207	11612253-1	HOSE ASSEMBLY,NONME.....	2
15	PAOZZ	24835	6967006-009	HOSE ASSEMBLY,NONME.....	1
16	PAOZZ	19207	8328782	COUPLING,PIPE.....	2
17	MOOZZ	19207	11612241	TUBE ASSEMBLY FRONT,EMERGENCY, MAKE FROM P/N 8689208 (19207).....	1
17	MOOZZ	19207	11612193	TUBE ASSEMBLY FRONT,SERVICE, MAKE FROM P/N 8689208 (19207).....	1
18	PAOZZ	97030	LOOM 3/8 ID	CONDUIT,NONMETALLIC.....	2
19	PAOZZ	81343	6-4 120202BA(LONG NUT)	ELBOW,PIPE TO TUBE.....	2

END OF FIGURE

1
2 THRU 5

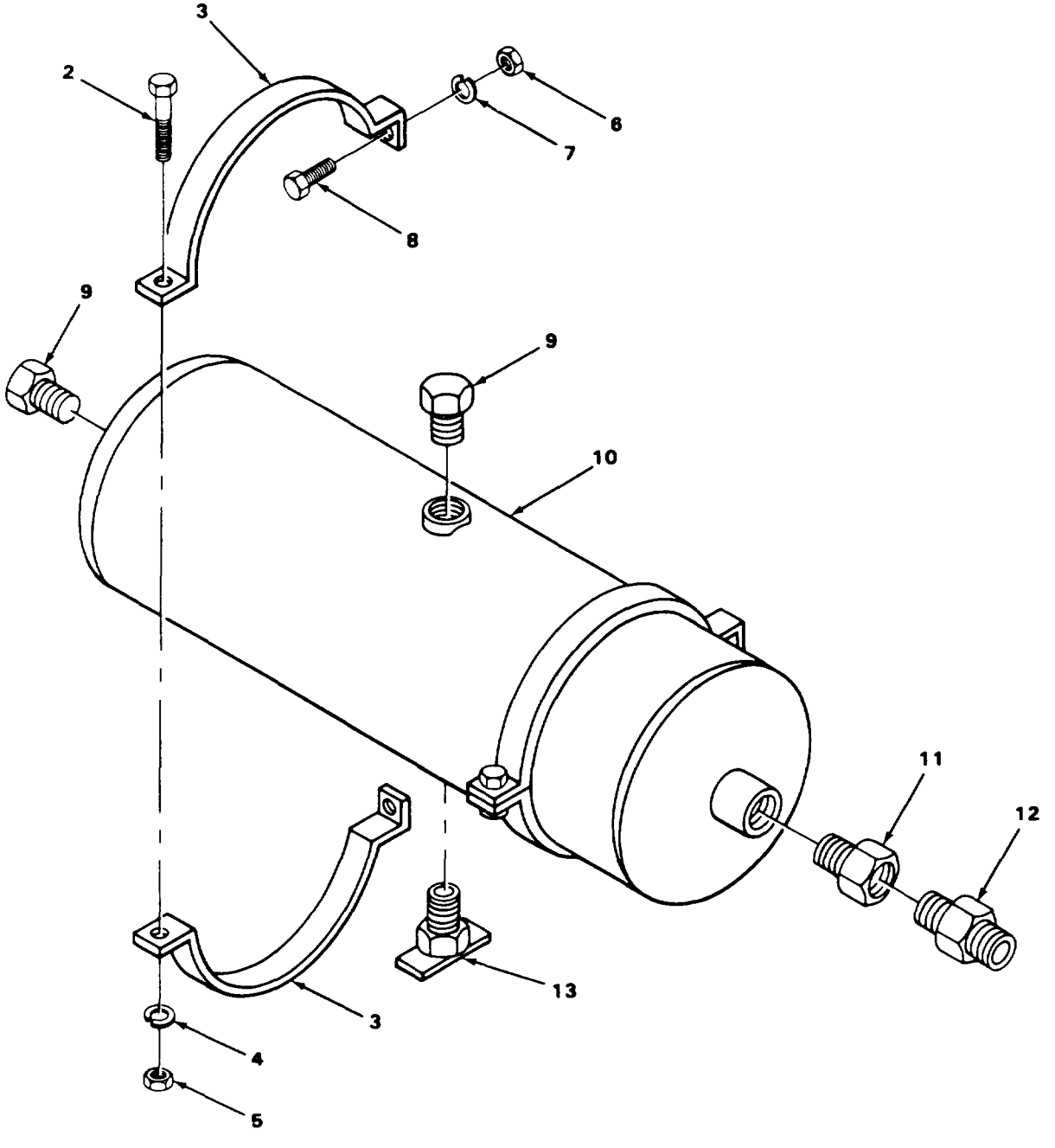

FIGURE 20. AIR TANK.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				1208 AIR BRAKE SYSTEM FIG. 20 AIR TANK	
1	PFOZZ	19207	7014963	CLAMP,LOOP.....	2
2	PAOZZ	06853	214884	.SCREW,CAP,HEXAGON H.....	1
3	PAOZZ	06853	202586	.BRACKET,SPECIAL.....	2
4	PAOZZ	23382	4303	.WASHER,LOCK.....	1
5	PAOZZ	06853	203888	.NUT,PLAIN,HEXAGON.....	1
6	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON.....	4
7	PAOZZ	96906	MS35338-46	WASHER,LOCK.....	4
8	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON H.....	4
9	PAOZZ	96906	MS20913-4S	PLUG,PIPE.....	2
10	PAOZZ	19207	11602362	TANK,PRESSURE.....	1
11	PAOZZ	19207	8743065	BUSHING,PIPE.....	1
12	PAOZZ	19207	11602478	NIPPLE,PIPE.....	1
13	PAOZZ	96906	MS35782-3	COCK,DRAIN.....	1

END OF FIGURE

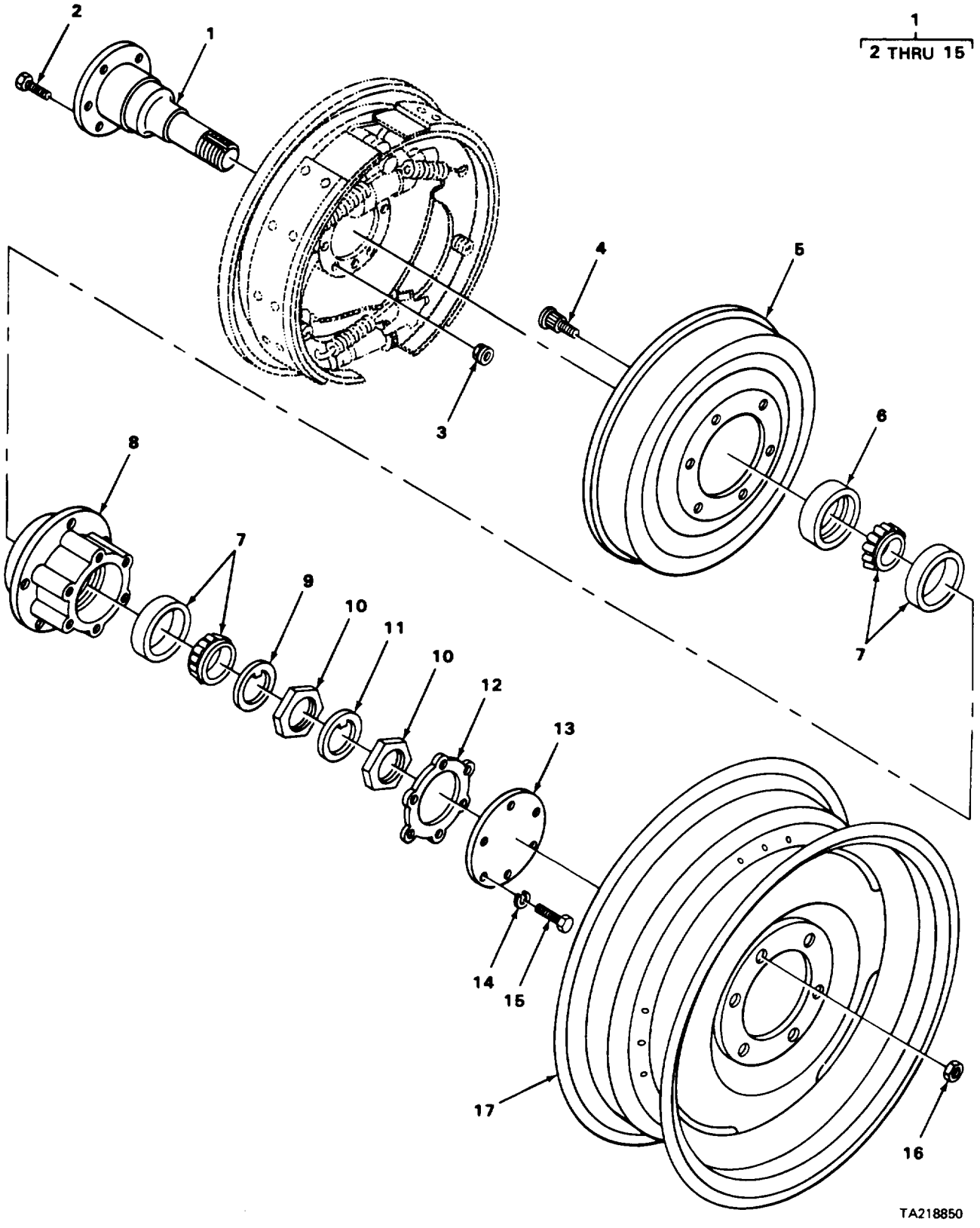

FIGURE 21. WHEEL AND HUB ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 13 WHEELS, HUBS AND DRUMS	
				1311 WHEEL, HUB AND DRUM	
				FIG. WHEEL AND HUB ASSEMBLY	
1	PAOZZ	19207	11612280-2	HUB AND SPINDLE ASS LEFT REAR.....	1
1	PAOZZ	19207	11612280-1	HUB AND SPINDLE ASS RIGHT REAR.....	1
1	PAOZZ	19207	11612281-1	HUB AND KNUCKLE RH RIGHT FRONT.....	1
1	PAOZZ	19207	11612281-2	HUB,WHEEL,VEHICULAR LEFT FRONT.....	1
2	PAOZZ	96906	MS18154-60	.SCREW,CAP,HEXAGON H.....	6
3	PAOZZ	96906	MS51922-21	.NUT,SELF-LOCKING,HE.....	6
4	PAOZZ	19207	7375863	.BOLT,RIBBED NECK LEFT.....	5
4	PAOZZ	19207	7375862	.BOLT,RIBBED NECK RIGHT.....	5
5	PAOFF	99343	642775	.BRAKE DRUM.....	1
6	PAOZZ	96906	MS51920-21-2	.SEAL,PLAIN ENCASED.....	1
7	PAOZZ	96906	MS19081-58	.BEARING,ROLLER,TAPE.....	2
8	PAOZZ	19207	7331739	.HUB,BODY.....	1
9	PAOZZ	19207	7696520	.WASHER,KEY.....	1
10	PAOZZ	19207	7371106	.NUT,PLAIN,HEXAGON.....	2
11	PAOZZ	19207	7696521	.WASHER,KEY.....	1
12	PAOZZ	19207	7371109	.GASKET.....	1
13	PAOZZ	19206	7735821	.COVER,ACCESS.....	1
14	PAOZZ	96906	MS35338-46	.WASHER,LOCK.....	6
15	PAOZZ	96906	MS18154-58	.SCREW,CAP,HEXAGON H.....	6
16	PAOZZ	33116	X1023R	NUT,SELF-LOCKING,CO RIGHT SIDE.....	10
16	PAOZZ	33116	20441	NUT,SELF-LOCKING,CO LEFT SIDE.....	10
17	PAOZZ	22852	934490	WHEEL,PNEUMATIC TIR (OLD MODELS-84 AND EARLIER).....	5
17	PAOZZ	40121	081387-12	WHEEL,PNEUMATIC TIR (NEW MODELS-85 AND LATER).....	5
				END OF FIGURE	

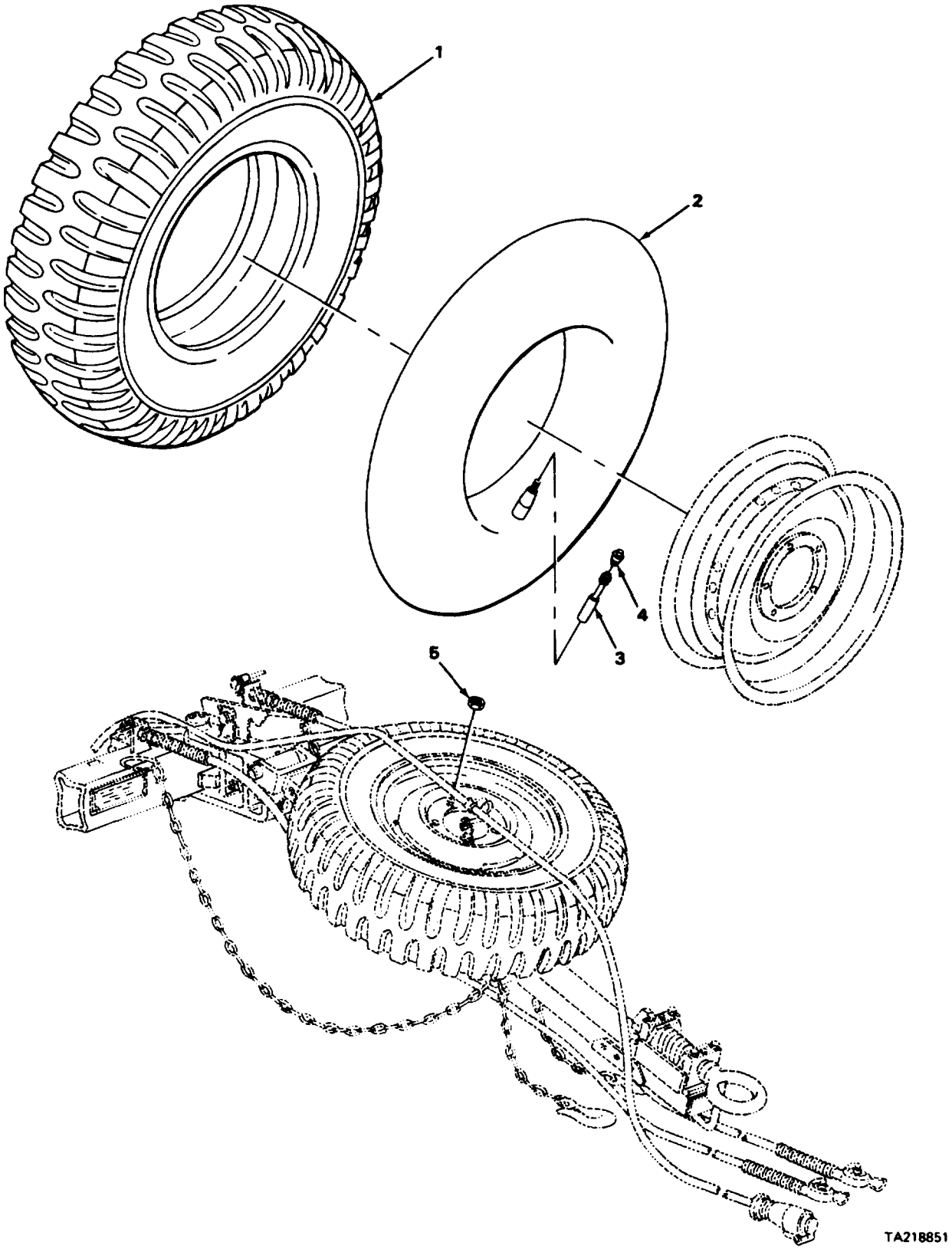

FIGURE 22. TIRES AND TUBES.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1313 TIRES AND TUBES FIG. 22 TIRES AND TUBES	
1	PAOFF	73842	120-099-620	TIRE,PNEUMATIC (MODELS 1985 AND LATER).....	5
1	PAOFF	81348	ZZ-T-381-M/GP2/7.00-16/D/LTMS	TIRE,PNEUMATIC,7.00 (MODELS 1984 AND EARLIER).....	5
2	PAOZZ	81348	ZZ-I-550/GP3/7.00-16/TR15CW/OFFC	INNER TUBE,PNEUMATI.....	5
3	PAOZZ	96906	MS51377-1	VALVE CORE.....	5
4	PAOZZ	73842	TRVC2	CAP,PNEUMATIC VALVE.....	5
5	PAOZZ	96906	MS51984-2	NUT,PLAIN,CONE SEAT SPARE WHEEL MOUNTING.....	3

END OF FIGURE

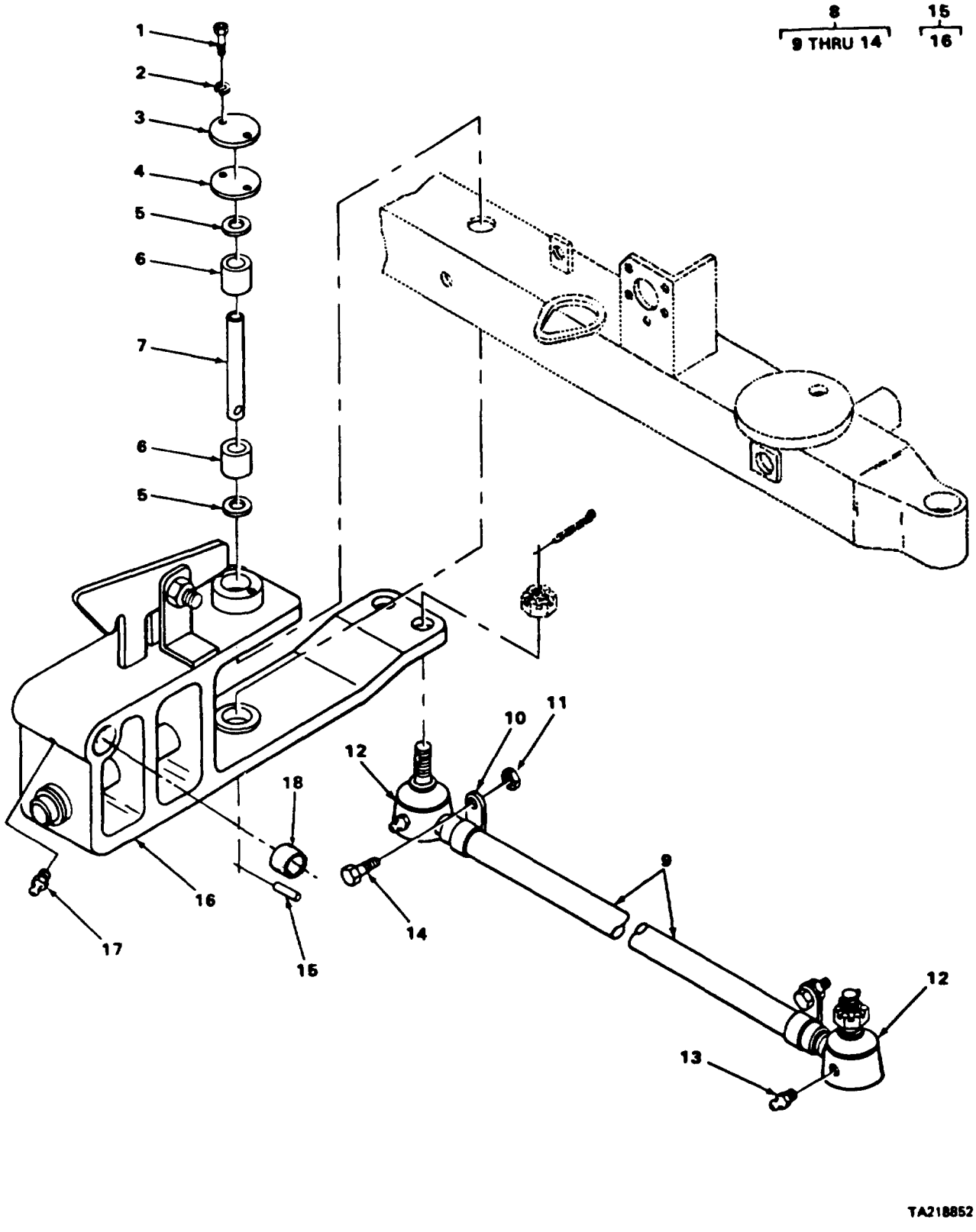

FIGURE 23. STEERING ARM AND TIE ROD ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 14 STEERING	
				1401 MECHANICAL STEERING GEAR	
				FIG. 23 STEERING ARM AND TIE ROD ASSEMBLY	
1	PAOZZ	96906	MS16997-43	SCREW,CAP,SOCKET HE.....	2
2	PAOZZ	96906	MS35338-42	WASHER,LOCK.....	2
3	PAOZZ	19207	11612331	SPACER,PLATE.....	1
4	PAOZZ	19207	11612332	GASKET.....	1
5	PAOZZ	19207	11612334	BEARING,WASHER,THRU.....	2
6	PAOZZ	19207	11612110-1	BEARING,SLEEVE.....	2
7	PAOZZ	19207	11612113	PIN,STRAIGHT,HEADLE.....	1
8	PAOZZ	19207	11612255	DRAG LINK,STEERING.....	2
9	XAFZZ	19207	11612196	.TUBE.....	1
10	XDOZZ	19207	11612234	.CLAMP,LOOP.....	2
11	PAOZZ	96906	MS21044N6	.NUT,SELF-LOCKING,HE.....	2
12	PAFZZ	81285	ES150R	.TIE ROD END,STEERIN TIE ROD,RIGHT HAND.....	1
12	PAFZZ	81285	ES150L	.TIE ROD END,STEERIN LEFT HAND.....	1
13	PAOZZ	96906	MS15003-1	.FITTING,LUBRICATION.....	2
14	PAOZZ	96906	MS18153-63	.SCREW,CAP,HEXAGON H.....	2
15	PAOZZ	80205	NAS561P6-32	PIN,SPRING.....	1
16	PAOZZ	19207	12250163	ARM,STEERING GEAR.....	1
17	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION.....	1
18	PAOZZ	19207	11612110-3	.BUSHING.....	1

END OF FIGURE

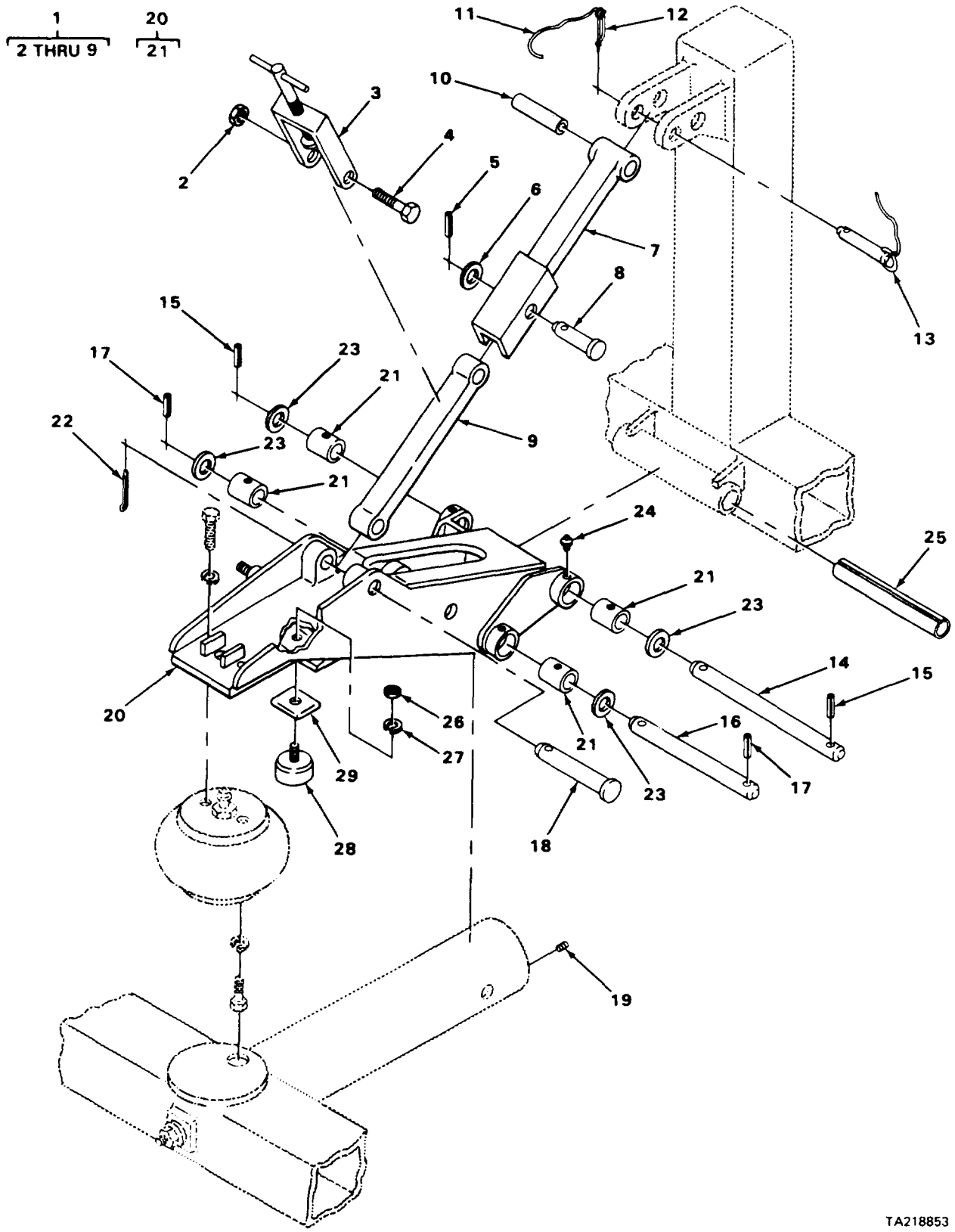

FIGURE 24. STRUT AND ROCKER ARM ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 15 FRAME AND TOWING ATTACHMENTS	
				1501 FRAME ASSEMBLY	
				FIG. 24 STRUT AND ROCK ARM ASSEMBLY	
1	PAOZZ	19207	11652336	STRUT ASSEMBLY,ROAD.....	4
2	PAOZZ	96906	MS21044-N6	.NUT,SELF-LOCKING,HE.....	1
3	PAOZZ	19207	11652332	.BRACKET,DOUBLE ANGL.....	1
4	PAOZZ	96906	MS90727-70	.SCREW,CAP,HEXAGON H.....	1
5	XBOZZ	96906	MS9048-172	.PIN,SPRING.....	1
6	PAOZZ	88044	AN960-1216	.WASHER,FLAT.....	1
7	XBOZZ	19207	11612230	.BRACE UPPER STRUT.....	1
8	PAOZZ	19207	11602350-1	.PIN,STRAIGHT,HEADED.....	1
9	XBOZZ	19207	11612228	.BRACE LOWER STRUT.....	1
10	PAOZZ	19207	8537648	SWAGING SLEEVE,WIRE.....	6
11	XBOZZ	81349	MIL-W-1511A	CABLE.....	2
12	PAOZZ	19207	11636686-1	PIN,RETAINING.....	2
13	PAOZZ	19207	11612191	PIN,STRAIGHT,HEADLE.....	4
14	PAOZZ	19207	11612123-2	PIN,STRAIGHT,HEADLE.....	4
15	PAOZZ	96906	MS9048-143	PIN,SPRING.....	8
17	PAOZZ	96906	MS16562-66	PIN,STRAIGHT.....	4
18	PAOZZ	19207	11602350-2	PIN,STRAIGHT,HEADED.....	4
19	XBOZZ	19207	11602521	SETSCREW.....	4
20	PAOZZ	19207	11612271-2	ARM,CONTROL,VEHICUL RIGHT FRONT AND LEFT REAR.....	2
20	PAOZZ	19207	1161227-1	ARM,CONTROL,VEHICUL LEFT FRONT AND RIGHT REAR.....	2
21	PAOZZ	19207	11647935	.BUSHING,SLEEVE.....	8
22	PAOZZ	96906	MS24665-357	PIN,COTTER.....	4
23	PAOZZ	88044	AN960-1416	WASHER,FLAT.....	8
24	PAOZZ	96906	MS35755-1	CUP,OIL,LUBRICATING.....	16
25	PAOZZ	19207	11612307	BUSHING,SLEEVE.....	4
26	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON.....	4
27	PAOZZ	96906	MS35338-46	WASHER,LOCK.....	4
28	PAOZZ	19207	11602364	BUSHING,RUBBER.....	4
29	PAOZZ	19207	11612202	SPACER,PLATE.....	4

END OF FIGURE

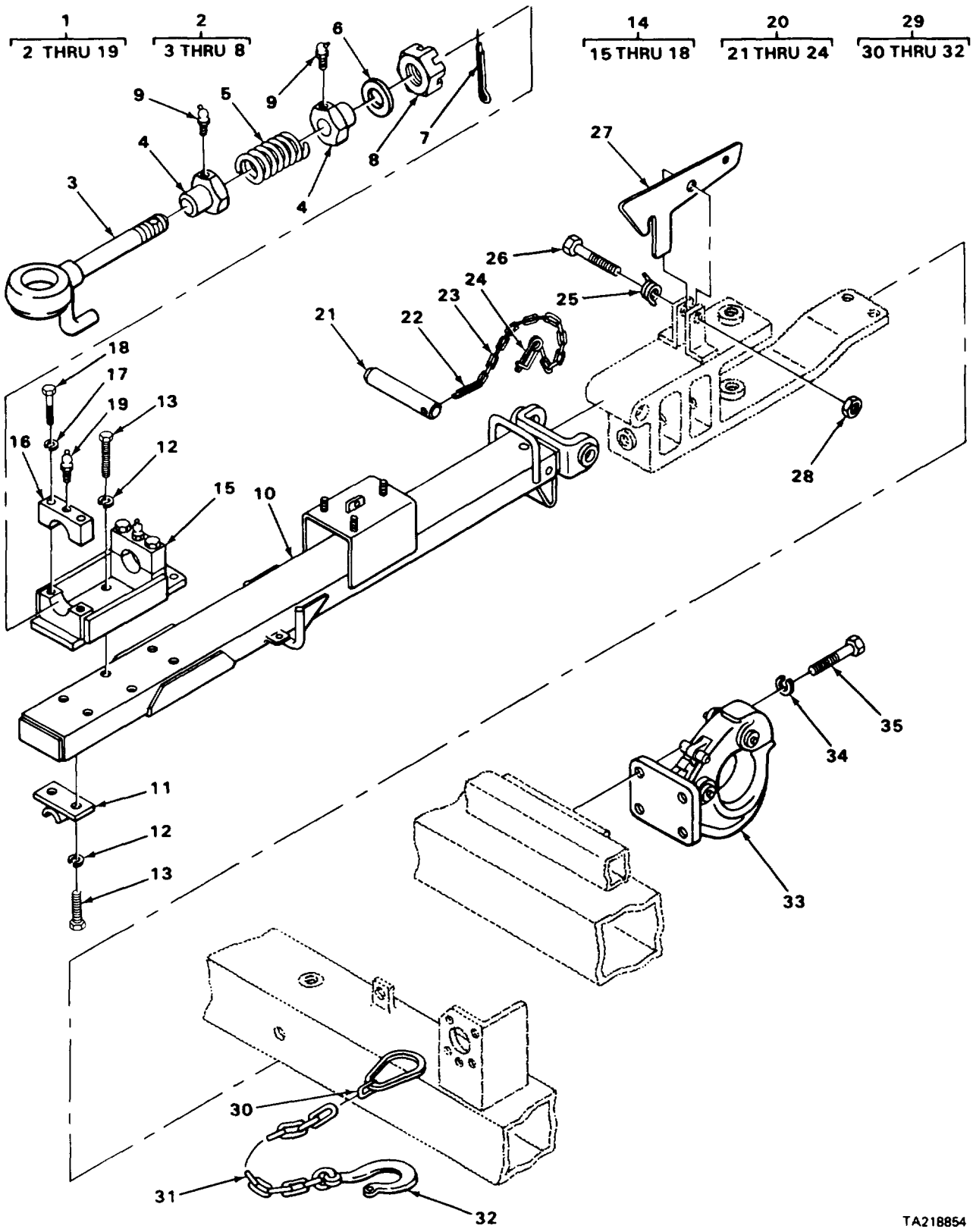

FIGURE 25. TOWBAR ASSEMBLY AND PINTLE.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1503 TOWING ATTACHMENTS FIG. 25 TOMBAR ASSEMBLY AND PINTLE	
1	PAOZZ	19207	12250162	TOWBAR,MOTOR VEHICL.....	1
2	PAOZZ	19207	11612317	.COUPLER,DRAWBAR,RIN.....	1
3	XAOZZ	19207	11612316	..LUNETTE.....	1
4	XBOZZ	19207	11612318	..COLLAR.....	2
5	XBOZZ	19207	11612320	..SPRING,HELICAL,COMP.....	1
6	PAOZZ	96906	MS27183-31	..WASHER,FLAT.....	1
7	PAOZZ	96906	MS24665-628	..PIN,COTTER.....	1
8	PAOZZ	96906	MS35692-105	..NUT,PLAIN,SLOTTED,H.....	1
9	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION.....	2
10	PAOZZ	19207	12250150	.TOWBAR,MOTOR VEHICL.....	1
11	XBOZZ	19207	11612323	.BRACKET.....	1
12	PAOZZ	96906	MS35338-48	.WASHER,LOCK.....	8
13	PAOZZ	96906	MS90727-111	.SCREW,CAP,HEXAGON H.....	8
14	XAOOO	19207	11612313	.BRACKET ASSY.....	1
15	XBOZZ	19207	11612312-2	..BLOCK,LUNETTE MOUNT.....	1
16	XBOZZ	19207	11612312-1	..BLOCK,LUNETTE MOUNT.....	2
17	PAOZZ	96906	MS35338-48	..WASHER,LOCK.....	4
18	PAOZZ	96906	MS90727-119	..SCREW,CAP,HEXAGON H.....	4
19	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION.....	2
20	PAOZZ	19207	11612194-2	CHAIN ASSEMBLY,TOWB.....	1
21	PAOZZ	19207	12250089-1	.PIN,STRAIGHT,HDLESS.....	1
22	PAOZZ	96906	MS24665-624	.PIN,COTTER.....	1
23	XDOZZ	81348	RR-C-271TYPEI 7/64	.LINK,CHAIN,CONNECTI.....	1
24	XBOZZ	19207	11636686-2	.HAIRPIN.....	1
25	PAOZZ	19207	11612195	SPRING,HELICAL,TORS.....	1
26	PAOZZ	96906	MS90727-114	SCREW,CAP,HEXAGON H.....	1
27	PAOZZ	19207	11612244	RING,LOCK ASSEMBLY.....	1
28	PAOZZ	96906	MS21044N8	NUT,SELF-LOCKING,HE.....	1
29	PAOZZ	24835	6600057	CHAIN ASSEMBLY,SING.....	2
30	XDOZZ	81348	RR-C-271-2TYPEII 3/8	.LINK,CHAIN,CONNECTI.....	2
31	XAOZZ	81349	RRC281AGRCCL3	.CHAIN.....	1
32	XDOZZ	97499	204-070-481-1	.HOOK,HOIST.....	2
33	PAOZZ	19207	7073209	PINTLE ASSEMBLY,TOW.....	1
34	PAOZZ	96906	MS35338-48	WASHER,LOCK.....	4
35	PAOZZ	96906	MS90726-113	SCREW,CAP,HEXAGON H.....	4

END OF FIGURE

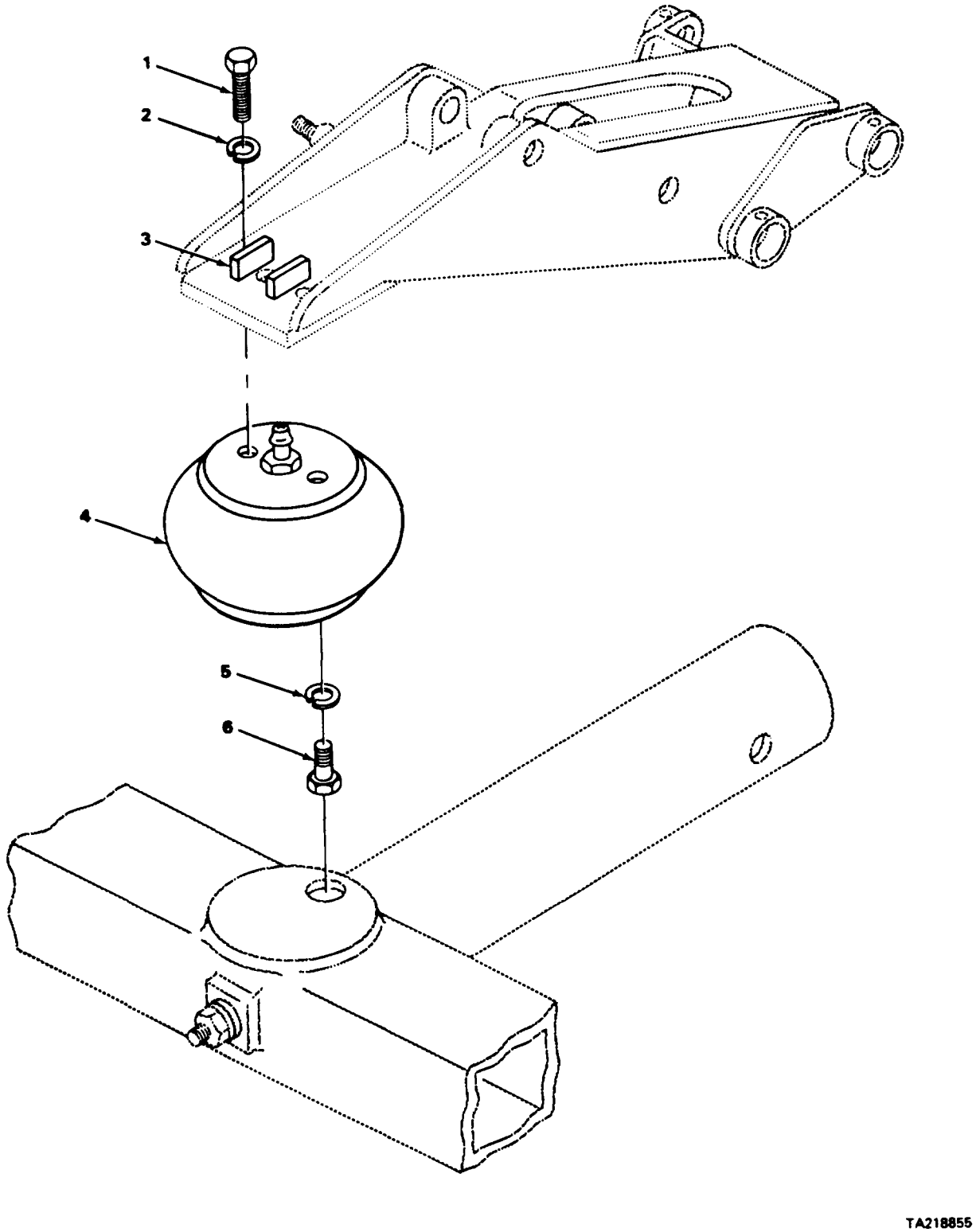

FIGURE 26. SPRING ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 16 SPRINGS AND SHOCK ABSORBERS 1601 SPRINGS FIG. 26 SPRING ASSEMBLY	
1	PAOZZ	96906	MS18154-60	SCREW,CAP,HEXAGON H.....	8
2	PAOZZ	96906	MS35338-46	WASHER,LOCK.....	8
3	MOOZZ	19207	12313038	GUARD,AIR VALVE MAKE FROM P/N ASTM A569 (81346).....	2
4	PAOZZ	19207	11602365	CUSHION AIR VEHICUL.....	4
5	PAOZZ	96906	MS35338-46	WASHER,LOCK.....	4
6	PAOZZ	96906	MS16997-95	SCREW,CAP,SOCKET HE.....	4

END OF FIGURE

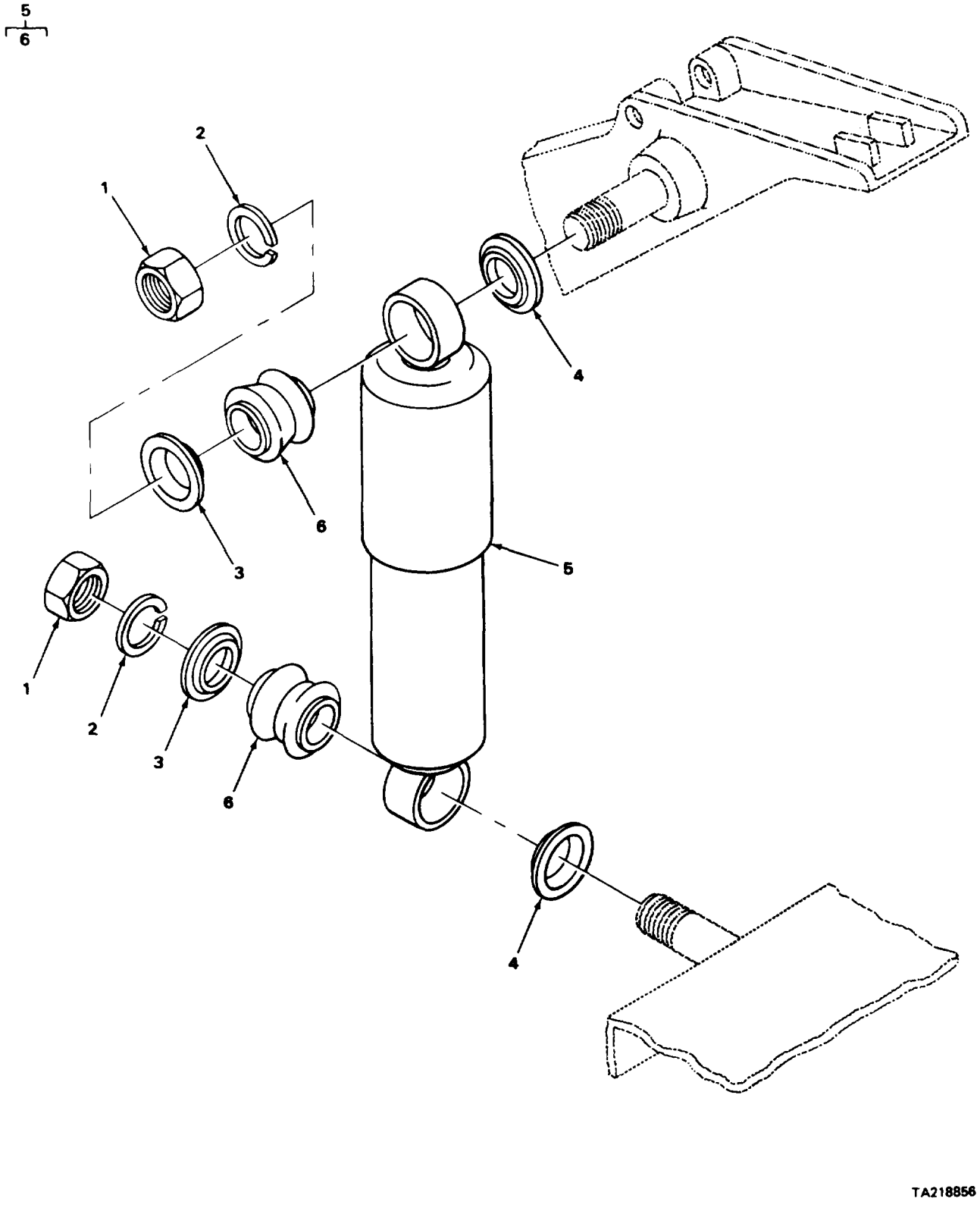

FIGURE 27. SHOCK ABSORBER,

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1604 SHOCK ABSORBER FIG. 27 SHOCK ABSORBER	
1	PAOZZ	96906	MS51968-14	NUT,PLAIN,HEXAGON.....	8
2	PAOZZ	96906	MS35338-48	WASHER,LOCK.....	8
3	PAOZZ	76110	401265	WASHER,SADDLE.....	8
4	PAOZZ	19207	7059149	WASHER,SPRING TENSI.....	8
5	PAOZZ	76110	57091	SHOCK ABSORBER,DIRE.....	4
6	PAOZZ	19207	11647976	.BUSHING,RUBBER.....	8
				END OF FIGURE	

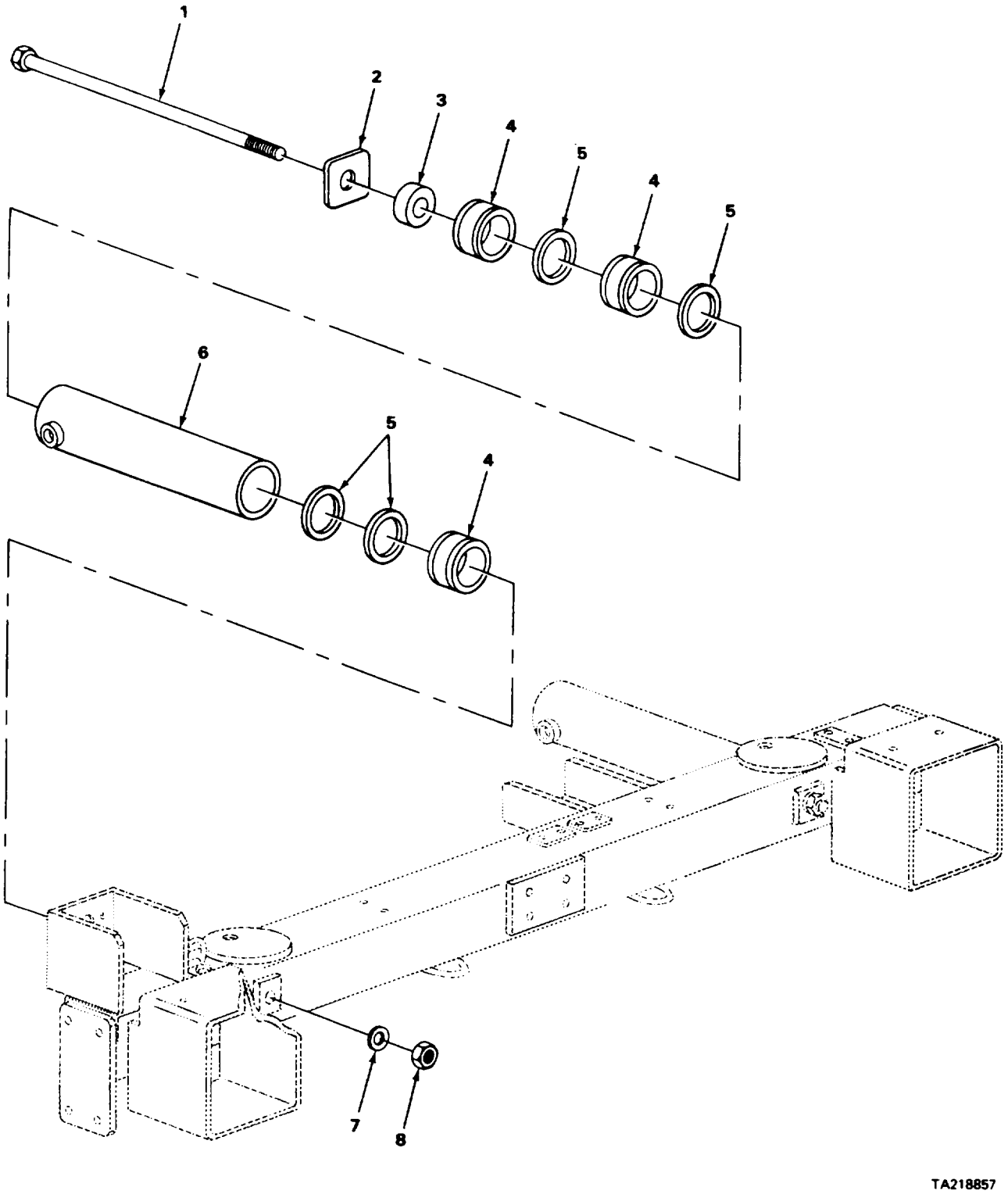

FIGURE 28. RADIUS TUBE.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				1605 RADIUS TUBE FIG. 28 RADIUS TUBE	
1	PAOZZ	19207	11682097	BOLT,MACHINE.....	4
2	XDOZZ	19207	11612108	WASHER,FLAT.....	4
3	PAOZZ	19207	11652340	BUSHING,RUBBER.....	4
4	PAOZZ	19207	11602349	MOUNT,RESILIENT.....	12
5	PAOZZ	19207	11612143	WASHER,FLAT.....	16
6	PAOZZ	19207	11612221	ARM,VEHICULAR.....	4
7	PAOZZ	19207	11647936	WASHER,SPRING TENSI.....	4
8	PAOZZ	96906	MS21044N10	NUT,SELF-LOCKING,HE.....	4

END OF FIGURE

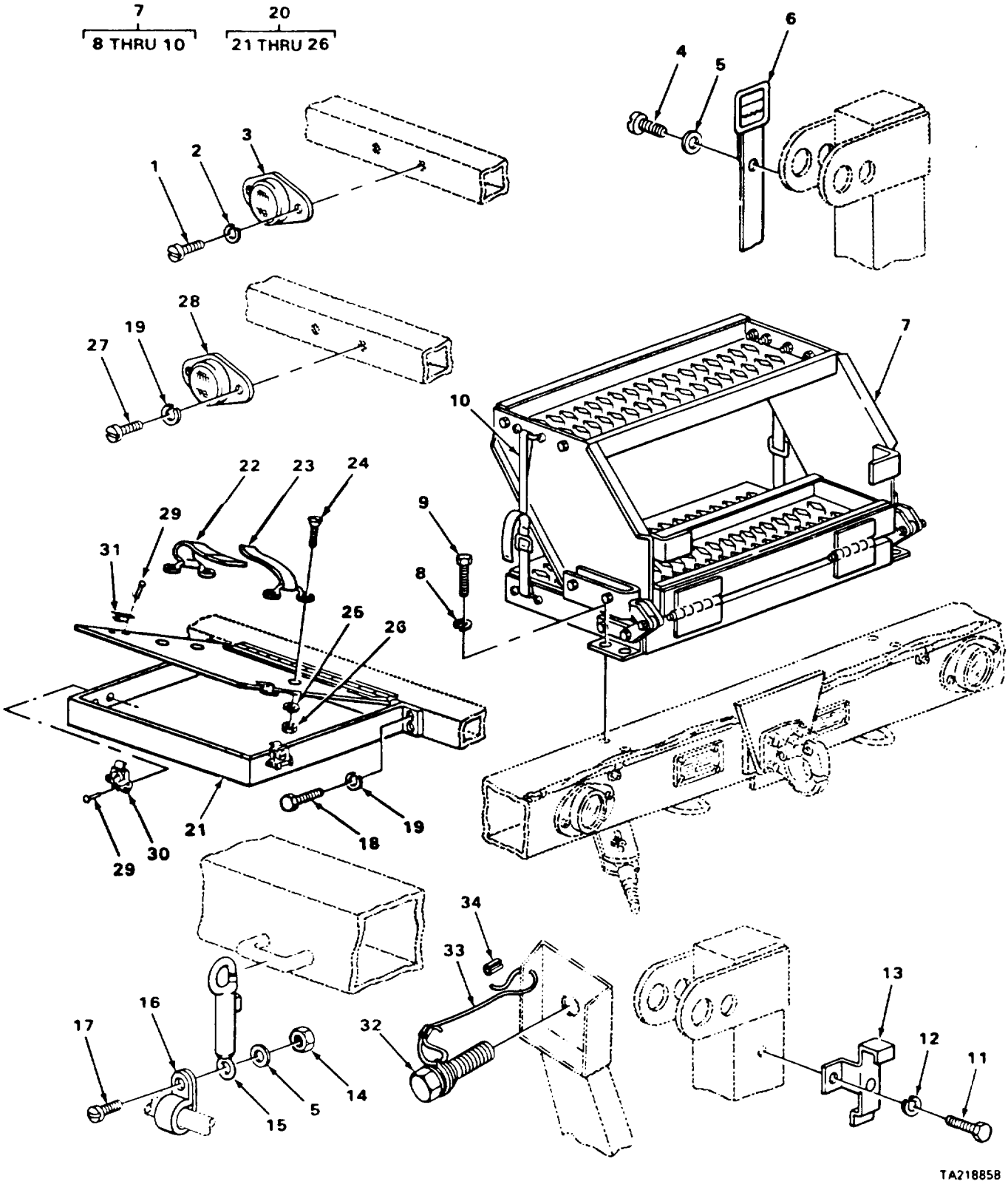

FIGURE 29. ACCESSORY ITEMS.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 22 BODY AND CHASSIS ACCESSORY ITEMS	
				2202 ACCESSORY ITEMS	
				FIG. 29 ACCESSORY ITEMS	
1	PAOZZ	96906	MS35206-279	SCREW,MACHINE.....	4
2	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	4
3	PAOZZ	96906	MS35387-1	REFLECTOR,INDICATIN REAR,RED.....	2
4	PAOZZ	96906	MS35206-281	SCREW,MACHINE.....	1
5	PAOZZ	88044	AN960-416	WASHER,FLAT.....	1
6	PAOZZ	19207	11612262	STRAP,WEBBING.....	1
7	PAOZZ	19207	12250480	STEP AND PLATFORM A.....	1
8	PAOZZ	96906	MS35338-45	.WASHER,LOCK.....	4
9	PAOZZ	96906	MS90727-32	.BOLT,MACHINE.....	4
10	PAOZZ	19207	11682039	.STRAP,WEBBING.....	2
11	PAOZZ	96906	MS90727-32	BOLT,MACHINE.....	1
12	PAOZZ	96906	MS35338-45	WASHER,LOCK.....	1
13	PAOZZ	19207	7979851	BRACKET,PIPE.....	1
14	PAOZZ	96906	MS21044-N4	NUT,SELF-LOCKING,HE.....	3
15	XBOZZ	81349	MILH15021	SNAP,HOOK.....	3
16	PAOZZ	96906	MS21333-105	CLAMP,LOOP.....	3
17	PAOZZ	96906	MS35207-281	SCREW,MACHINE.....	3
18	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON H.....	6
19	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	10
20	PFOZZ	19207	11612290	BOX,ACCESSORIES STO.....	1
21	PAOZZ	19207	11612251	.TOOL BOX,VEHICULAR.....	1
22	PFOZZ	19207	11612276	.STRAP,WEBBING.....	1
23	PFOZZ	19207	11612289	.STRAP,WEBBING.....	1
24	PAOZZ	96906	MS35190-273	.SCREW,MACHINE.....	4
25	PAOZZ	96906	MS35338-43	.WASHER,LOCK.....	4
26	PAOZZ	96906	MS35649-202	.NUT,PLAIN,HEXAGON.....	4
27	PAOZZ	96906	MS35206-281	SCREW,MACHINE.....	4
28	PAOZZ	96906	MS35387-2	REFLECTOR,INDICATIN FRONT,AMBER....	2
29	PAOZZ	96906	MS20470A4-5	RIVET,SOLID.....	6
30	PAOZZ	82240	B1900-377	CATCH,CLAMPING.....	2
31	PAOZZ	82240	B-1900-613	CATCH,CLAMPING.....	2
32	PAOZZ	19207	11612169	BINDER,STABILIZER R.....	2
33	XBOZZ	81349	MILW1511A	CABLE,WIRE BINDER BOLT RETAINING...	4
34	PAOZZ	19207	8537648	SWAGING SLEEVE,WIRE ROPE.....	8

END OF FIGURE

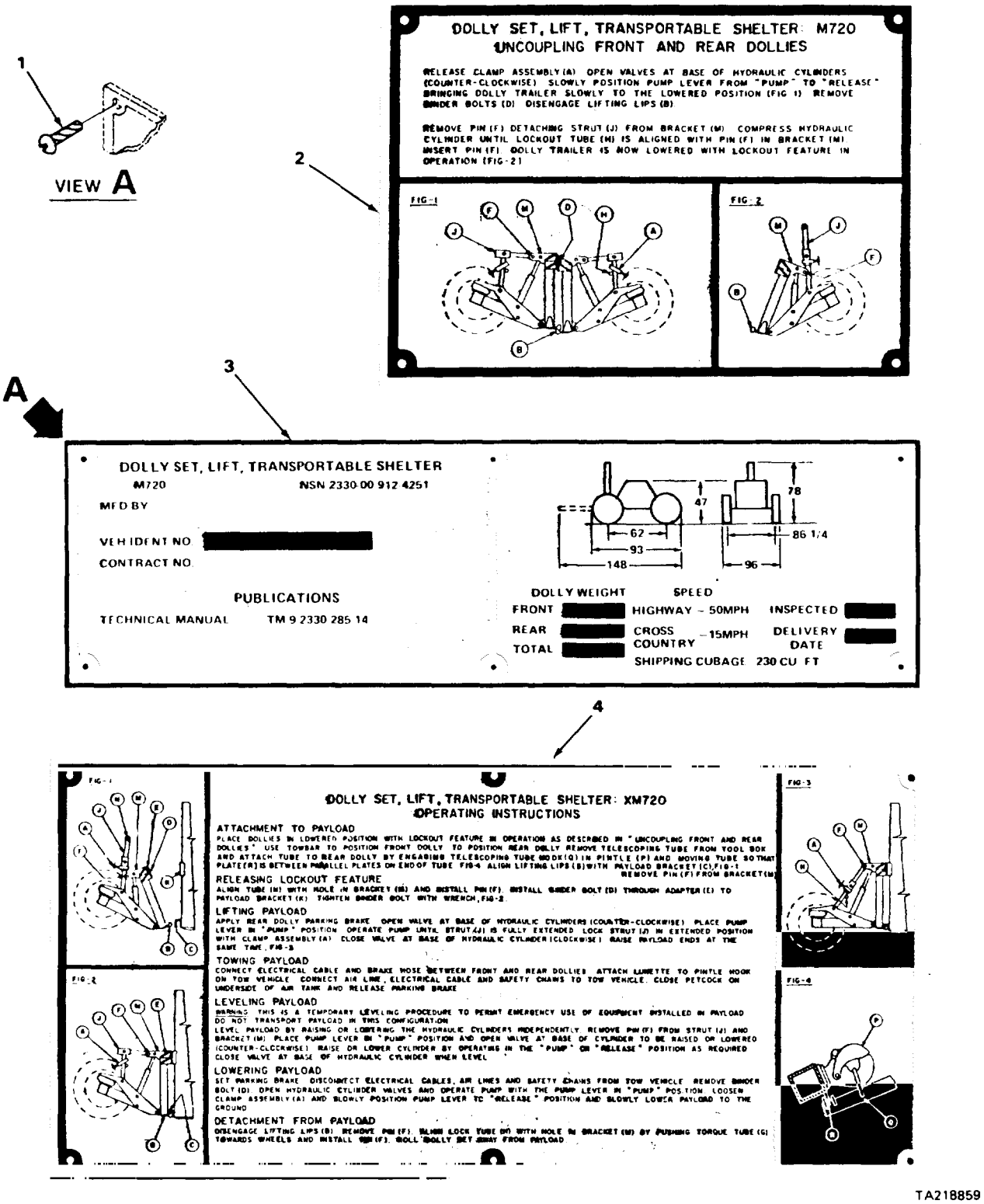

FIGURE 30. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				2210 DATA PLATES FIG. 30 DATA PLATES	
1	PAOZZ	96906	MS21318-21	SCREW,DRIVE DATA PLATE MOUNTING....	16
2	PAOZZ	19207	11647985	PLATE,IDENTIFICATIO.....	1
3	PAOZZ	19207	11647981	PLATE,IDENTIFICATIO.....	1
4	PAOZZ	19207	11647986	PLATE,INSTRUCTION.....	1

END OF FIGURE

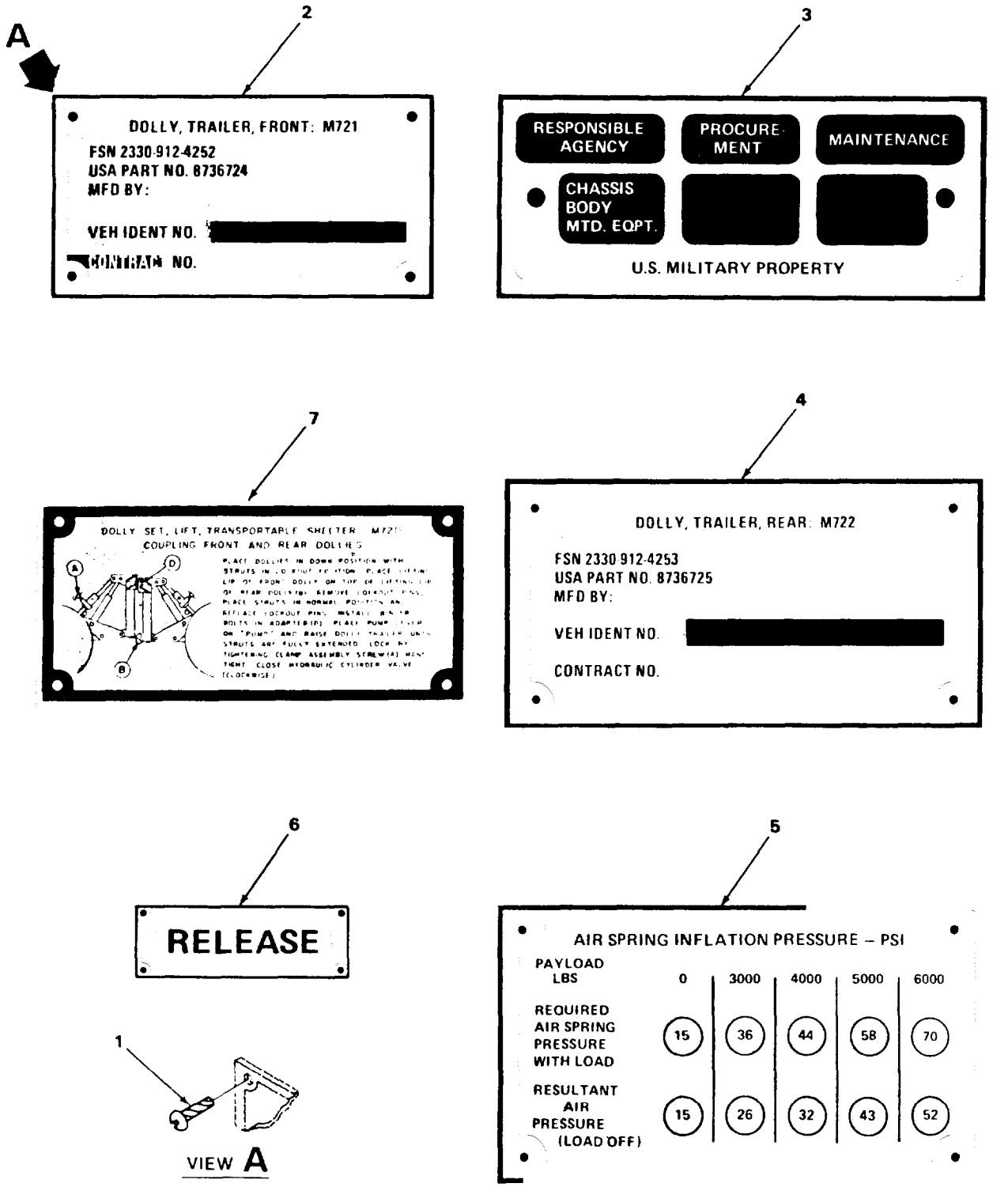

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FIGURE 31. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				2210 DATA PLATES FIG. 31 DATA PLATES	
1	PAOZZ	96906	MS21318-21	SCREW,DRIVE.....	20
2	PAOZZ	19207	11647982	PLATE,IDENTIFICATIO.....	1
3	PAOZZ	19207	7979373	PLATE,IDENTIFICATIO.....	1
4	PAOZZ	19207	11647983	PLATE,IDENTIFICATIO.....	1
5	XBOZZ	19207	11647987	PLATE,INSTRUCTION.....	1
6	XDOZZ	19207	11612101	TAG,INSTRUCTION.....	1
7	PAOZZ	19207	11647984	PLATE,IDENTIFICATIO.....	1

END OF FIGURE

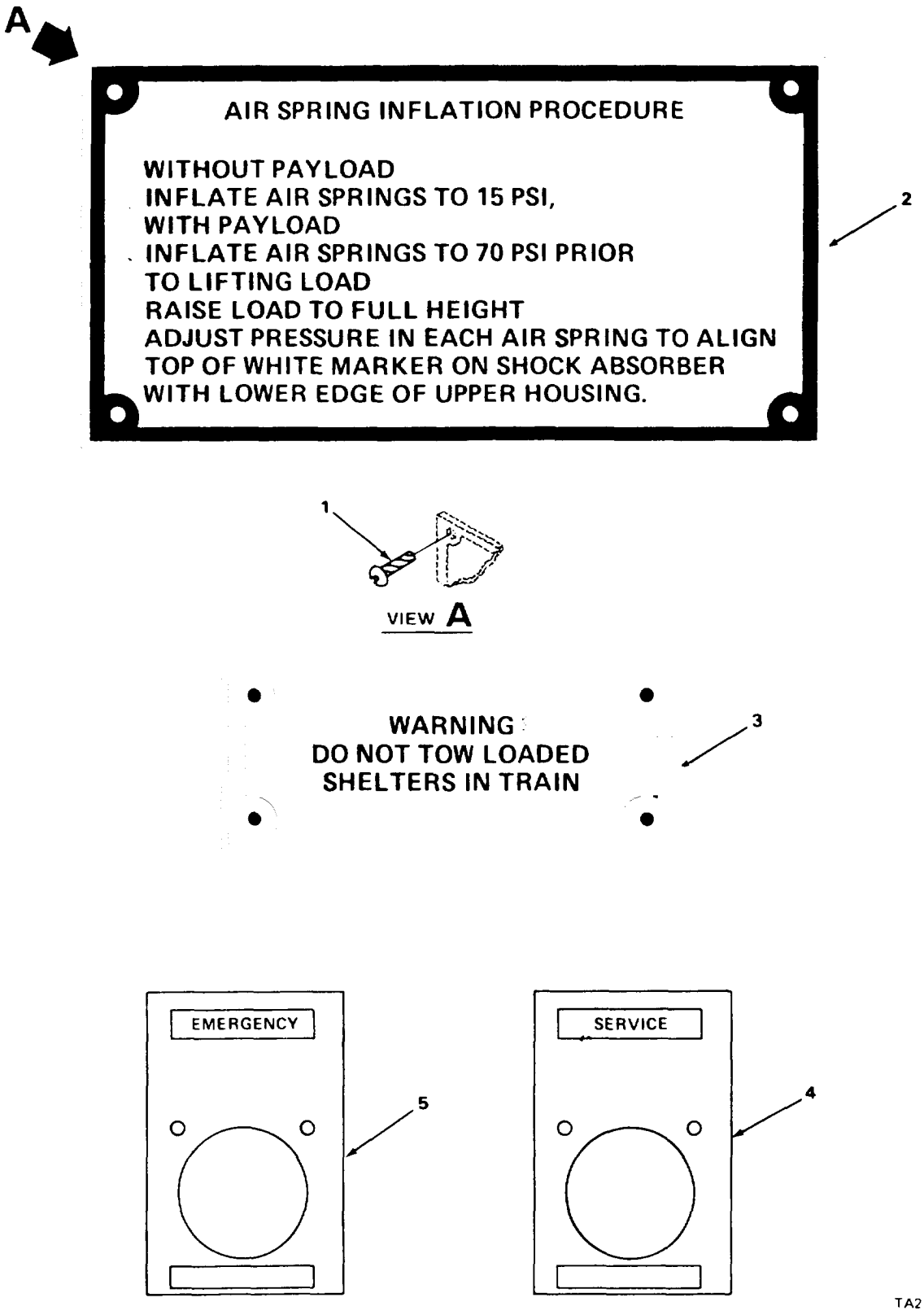


FIGURE 32. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				2210 DATA PLATES FIG. 32 DATA PLATES	
1	PAOZZ	96906	MS21318-21	SCREW,DRIVE.....	8
2	PAOZZ	19207	11682100	PLATE,INSTRUCTION.....	1
3	PAOZZ	19207	11612247	PLATE,INSTRUCTION.....	1
4	PAOZZ	96906	MS53007-1	PLATE,IDENTIFICATIO SERVICE AIR....	1
5	PAOZZ	96906	MS53007-2	PLATE,IDENTIFICATIO EMERGENCY AIR..	1

END OF FIGURE

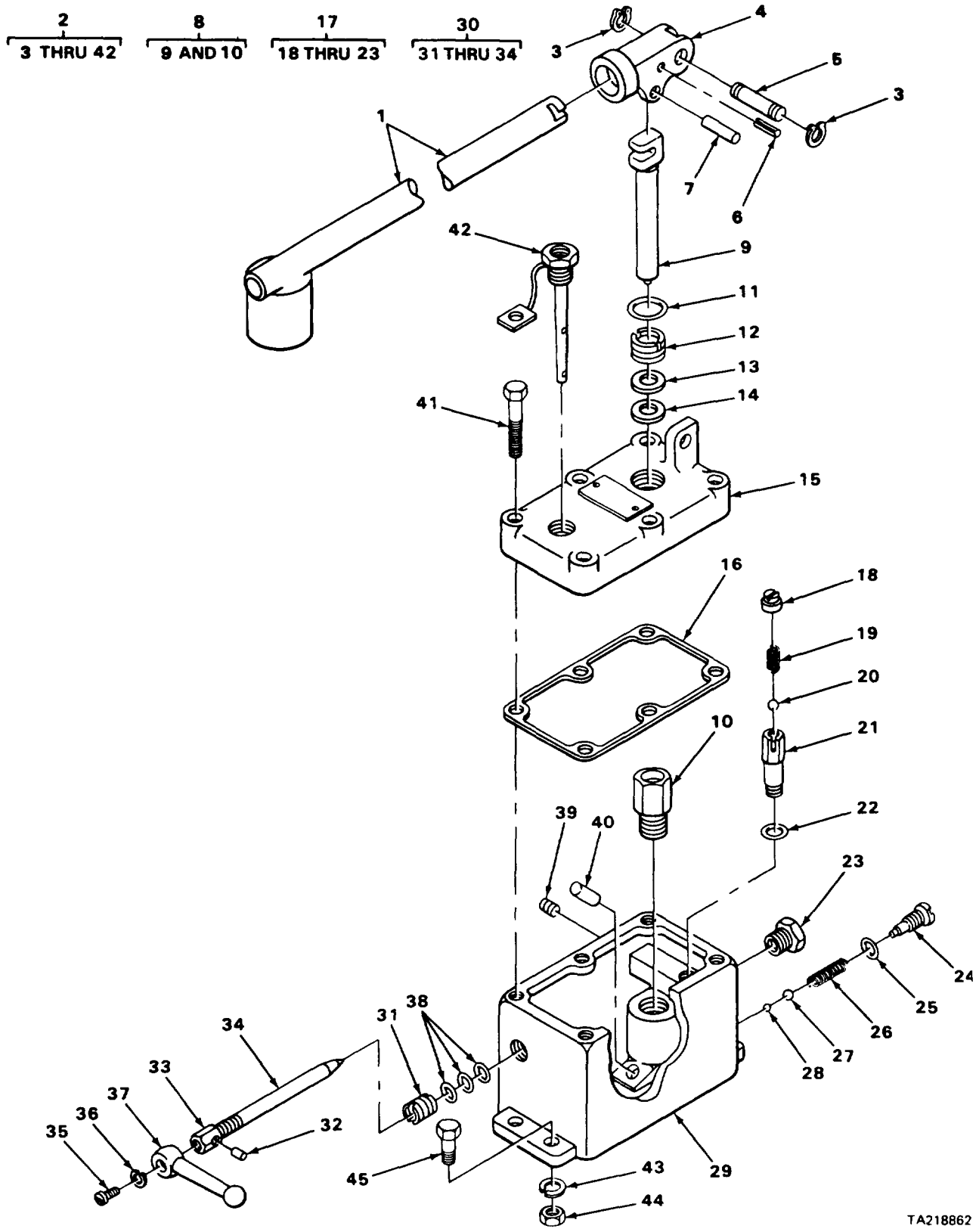


FIGURE 33. HYDRAULIC PUMP ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 24 HYDRAULIC AND FLUID SYSTEMS	
				2401 HYDRAULIC PUMP	
				FIG. 33 HYDRAULIC PUMP ASSEMBLY	
1	PAOZZ	24835	5600099	LEVER,MANUAL CONTRO.....	2
2	PAOFF	26952	HP-6001-51-11	PUMP,HYDRAULIC RAM,.....	2
3	XDFZZ	20805	A8008-49	.RING,RETAINING.....	2
4	PAFZZ	26952	B8008-060	.BEAM,HYDRAULIC PUMP.....	1
5	PAFZZ	26952	A8018-061	.PIN,STRAIGHT,HEADLE.....	1
6	PAFZZ	26952	A8001-057	.PIN STRAIGHT HEAD.....	1
7	XDFZZ	26952	A8019-061	.PIN,PUMP PLUNGER.....	1
8	PAFZZ	26952	A8087-900	.CYLINDER,SUBASSEMBL.....	1
9	XAFZZ	20805	A8059-040	..PISTON.....	1
10	XAFZZ	20805	P146-50	..CYLINDER,PISTON.....	1
11	PAFZZ	26952	A8009.037	.GASKET.....	1
12	PAFZZ	26952	A8018-021	.PACKING NUT.....	1
13	PAFZZ	07505	P146-75	.PACKING MATERIAL.....	1
14	PAFZZ	05842	P146-11B	.RETAINER,PACKING.....	1
15	PAFZZ	26952	C8007-098	.COVER,ACCESS.....	1
16	PAFZZ	26952	A1018-037	.GASKET.....	1
17	PAFZZ	07505	P307-900	.VALVE,SAFETY RELIEF.....	1
18	XAFZZ	20805	B164-232	..PLUG.....	1
19	XAFZZ	20805	B162-206	..SPRING,HELICAL,COMP.....	1
20	PAFZZ	05842	B1008-016	..BALL,BEARING.....	1
21	XAFZZ	20805	P307-190	..BODY,VALVE.....	1
22	PAFZZ	26952	B159-167	..SPACER,RING.....	1
23	XBFZZ	20805	A8000-212	..PLUG,PIPE.....	1
24	PAFZZ	18876	11030936-1	.SCREW,EXTERNALLY RE.....	1
25	PAFZZ	00198	93938	.WASHER,FLAT.....	1
26	XDFZZ	20805	H613-183	.SPRING,HELICAL,COMP.....	1
27	PAFZZ	05842	W12-16	.BALL,BEARING VALVE.....	1
28	PAFZZ	05842	B1008-016	.BALL,BEARING SMALL.....	1
29	XBFZZ	20805	C8031-005	.HOUSING,PUMP.....	1
30	PAFZZ	07505	H7-900	.SPINDLE,RELEASE VAL.....	1
31	PAFZZ	26952	P60-11	..INSERT,SCREW THREAD.....	1
32	XAFZZ	20805	H11-261	..PIN,STRAIGHT,HEADLE.....	1
33	XAFZZ	20805	H8-010	..VALVE,RELEASE.....	1
34	XAFZZ	20805	H6-199	..SPINDLE.....	1
35	XBFZZ	20805	A8016-048	.SCREW,MACHINE.....	1
36	XBFZZ	20805	A8000-066	.WASHER,LOCK.....	1
37	PAFZZ	07505	P60-12	.LEVER,MANUAL CONTRO.....	1
38	PAFZZ	94404	995-262	.WASHER,FLAT.....	3
39	PAFZZ	05842	P307-18	.SCREEN,STAND PUMP.....	1
40	XBFZZ	20805	A8018-006	.PLUG,PIPE.....	1
41	PAFZZ	26952	A8017-048	.BOLT,MACHINE.....	6
42	PAFZZ	19207	11612205	.CAP,BRAKE,AIR HYDRA.....	1
43	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	8
44	PFOZZ	96906	MS51968-5	NUT,PLAIN,HEXAGON.....	8
45	PAOZZ	96906	MS90726-36	SCREW,CAP,HEXAGON H.....	8

END OF FIGURE

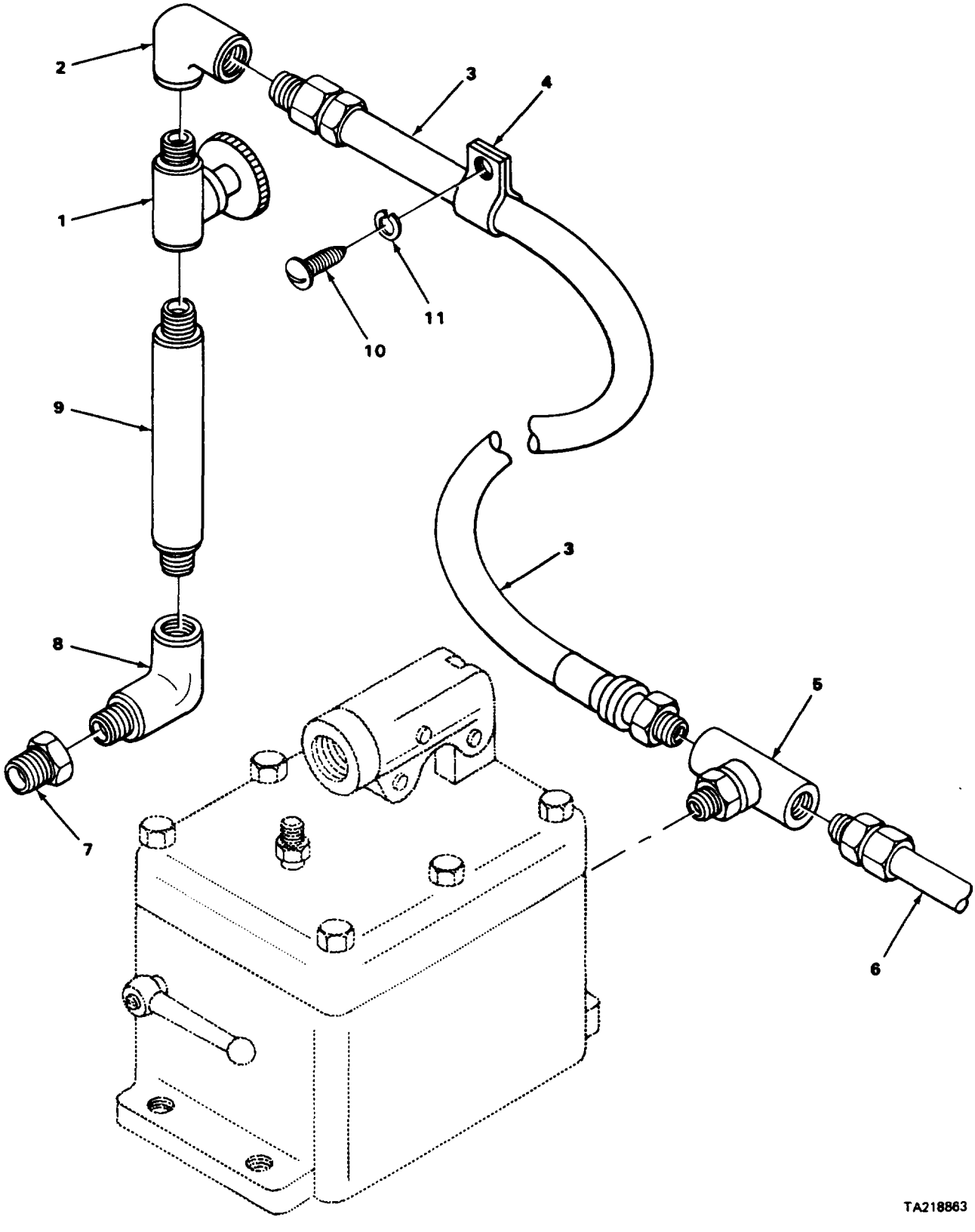


FIGURE 34. HYDRAULIC LINES AND FITTINGS.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				2406 HYDRAULIC LINES AND FITTINGS	
				FIG. 34 HYDRAULIC LINES AND FITTINGS	
1	PAOFF	19207	11602353	VALVE,GLOBE.....	4
2	PAOZZ	19207	11602476	ELBOW,PIPE TO TUBE.....	4
3	PAOZZ	19207	11612252	HOSE ASSEMBLY,NONME.....	4
4	PAOZZ	96906	MS9025-03	CLAMP,LOOP.....	8
5	PAOZZ	87373	212T-4-4	TEE,PIPE.....	2
6	PAOZZ	19207	11612239	TUBE ASSEMBLY,METAL.....	2
7	PAOZZ	15434	8169006	BUSHING,PIPE.....	4
8	PAOZZ	19207	8365771	ELBOW,PIPE.....	4
9	PAOZZ	96906	MS51953-33	NIPPLE,PIPE.....	4
10	PAOZZ	96906	MS35206-281	SCREW,MACHINE.....	8
11	PAOZZ	96906	MS35338-44	WASHER,LOCK.....	8

END OF FIGURE

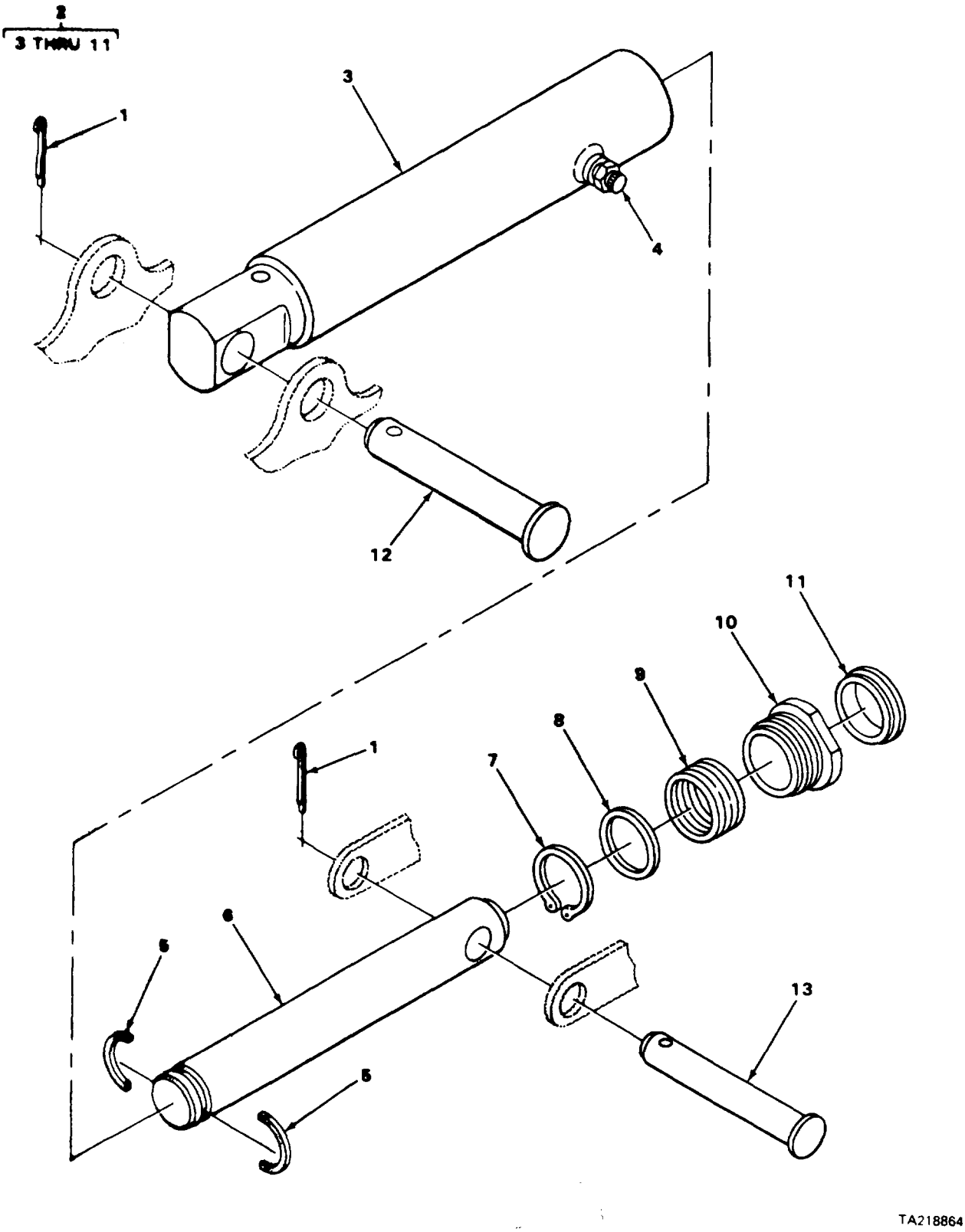


FIGURE 35. HYDRAULIC CYLINDER.

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				2407 HYDRAULIC CYLINDERS FIG. 35 HYDRAULIC CYLINDER	
1	PAOZZ	96906	MS24665-357	PIN,COTTER.....	8
2	PAOFH	19207	11652335	CYLINDER ASSEMBLY,A.....	4
3	XAFZZ	16128	5600312-501	.TUBE ASSEMBLY.....	1
4	PAOZZ	24835	B3373-31	.VALVE,AIR VENT.....	1
5	PAFZZ	16128	5600317-001	.GUIDE.....	1
6	XAFZZ	16128	5600316-001	.ROD.....	1
7	PAFZZ	58104	A1006-049	.RING,RETAINING.....	1
8	PAFZZ	16128	5600315-001	.RING,GUIDE,PISTON.....	1
9	KFFZZ	16128	5600314-501	.PACKING,PREFORMED PART OF KIT P/N KC1510-73-05.....	1
10	PAFZZ	16128	5600313-001	.PACKING NUT.....	1
11	PAFZZ	80201	504268	.SEAL,PLAIN ENCASED PART OF KIT P/N KC1510-73-05.....	1
12	PAOZZ	19207	11602350-4	PIN,STRAIGHT,HEADED.....	4
13	PAOZZ	19207	11602350-3	PIN,STRAIGHT,HEADED.....	4

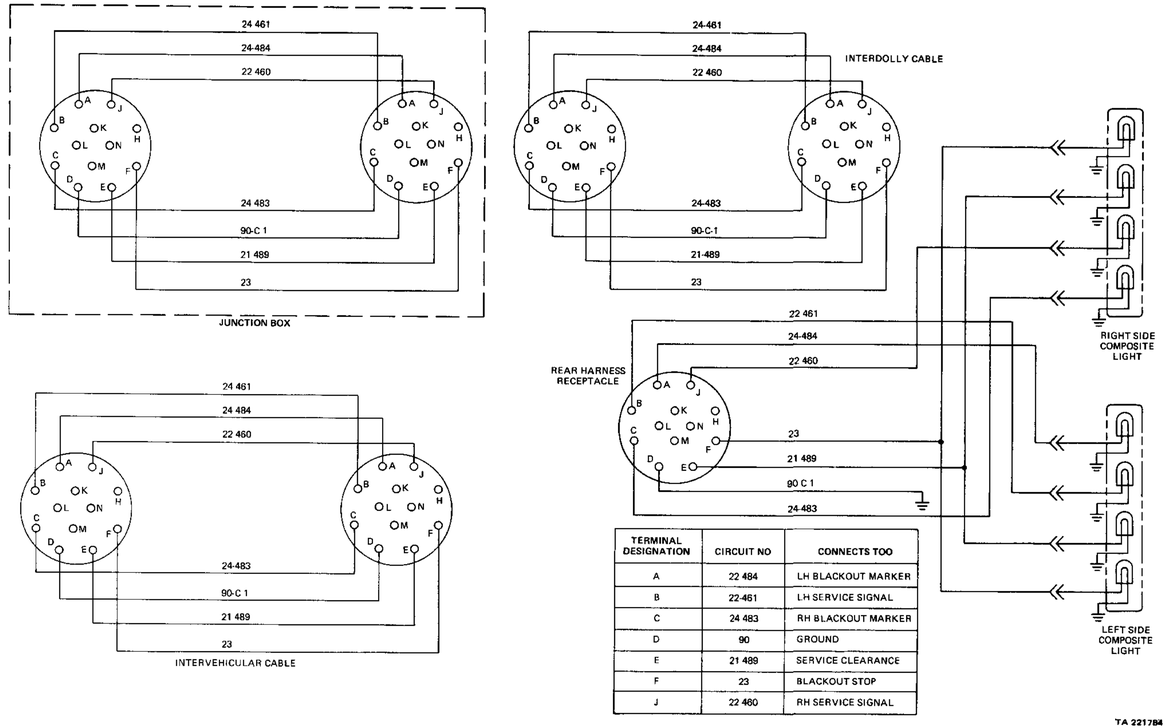
END OF FIGURE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 94 KITS	
				9401 KITS	
	PAFZZ	26952	KC1510-73-05	PARTS KIT,CYLINDER.....	V
				PACKING,PREFORMED (1) 35-9	
				SEAL,PLAIN ENCASED (1) 35-11	
	PCFZZ	26952	KH2000	REPAIR KIT,HYDRAULI.....	1
	PAOZZ	34623	937952	KIT,BRAKE SHOE HOLD.....	1
				CUP,SPRING (2) 15-16	
				PIN,RETAINING (2) 15-2	
				SPRING,HELICAL,COMP(1) 15-17	

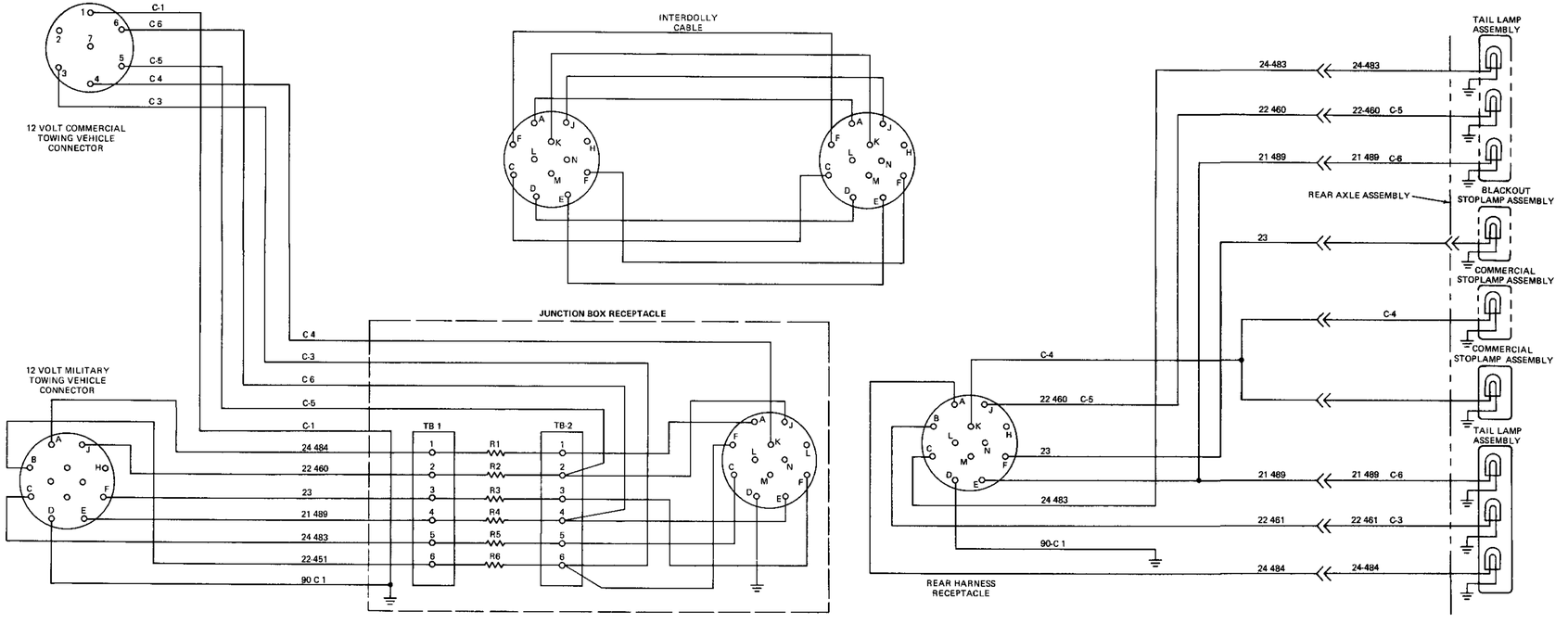
END OF FIGURE

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP 95 GENERAL USE STANDARDIZED PARTS	
				9501 BULK MATERIAL	
1	XDOZZ	19207	8689208	TUBE,METALLIC.....	25
2	PAOZZ	81349	M13486/10-1	CABLE,SPECIAL PURPO.....	V
3	PAOZZ	81346	ASTM A569	STRIP,METAL.....	1

END OF FIGURE



TERMINAL DESIGNATION	CIRCUIT NO	CONNECTS TOO
A	22 484	LH BLACKOUT MARKER
B	22-461	LH SERVICE SIGNAL
C	24 483	RH BLACKOUT MARKER
D	90	GROUND
E	21 489	SERVICE CLEARANCE
F	23	BLACKOUT STOP
J	22 460	RH SERVICE SIGNAL



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APPENDIX G

MANUFACTURED ITEMS LIST

G-1. INTRODUCTION

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational maintenance.

A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.

All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

G-2. PART NUMBER INDEX

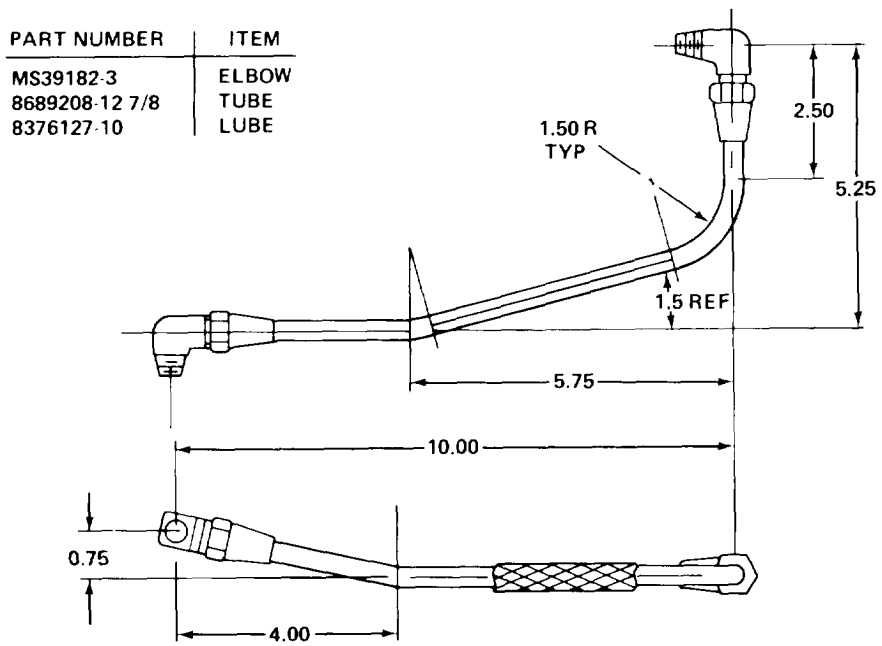

Figure 1. Tube assembky

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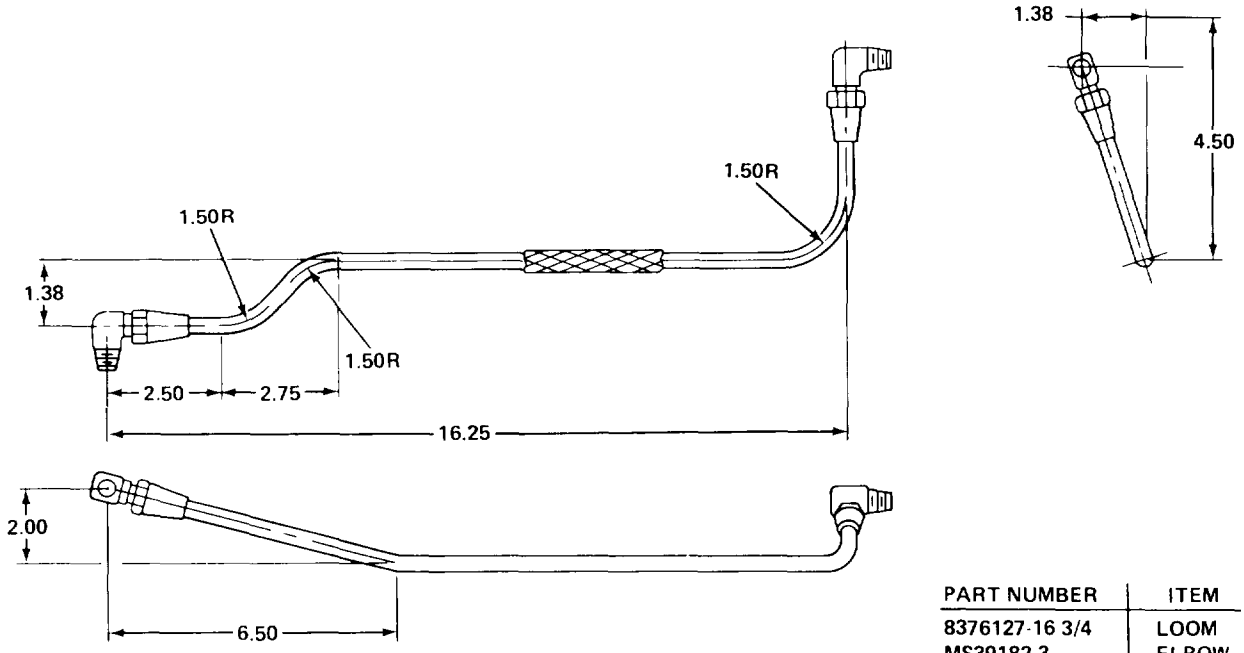
G-2. PART NUMBER INDEX - CONTINUED



PART NUMBER	ITEM
8376127-16 3/4	LOOM
MS39182-3	ELBOW
8689208-19 3/4	TUBING

Figure 2. Tube assembly

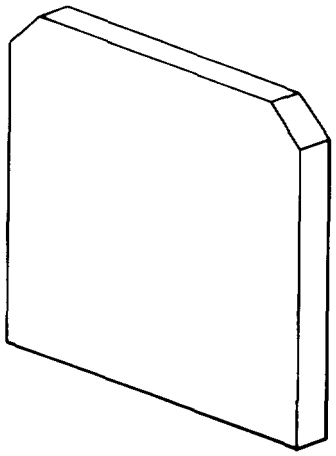
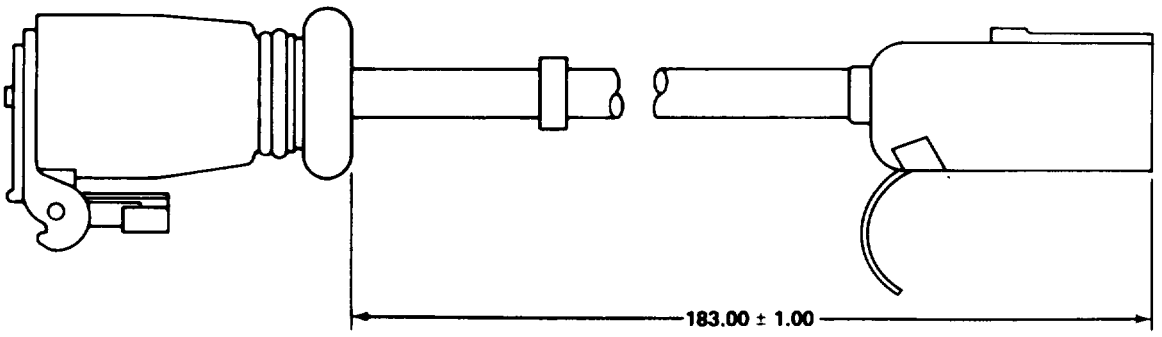


Figure 3. Air spring guard

TA 221781

G.2. PART NUMBER INDEX - CONTINUED



PART NUMBER	ITEM
M13486/10-1	CABLE, BULK
MS75020-1	CONNECTOR
11663376	CONNECTOR
MS39020-3	MARKER

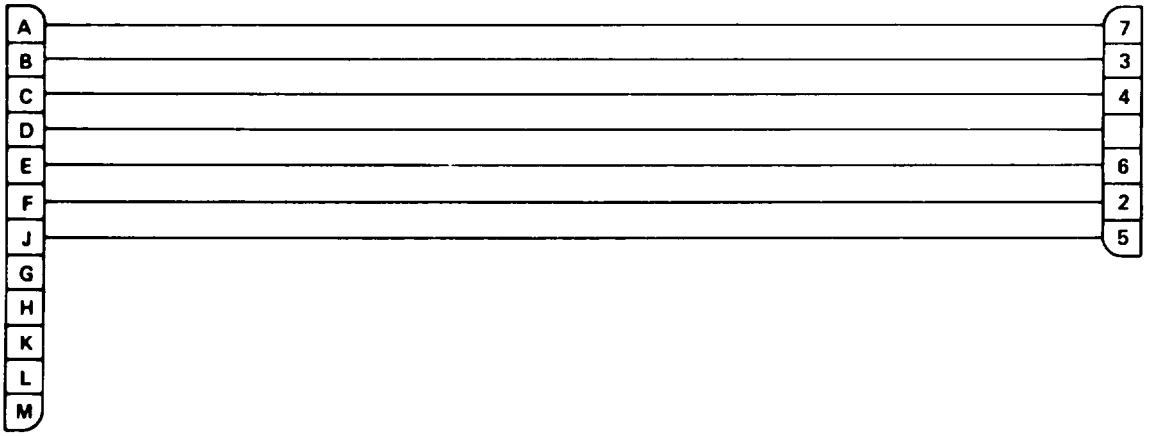


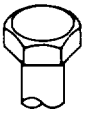
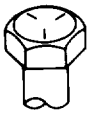
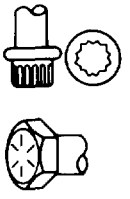
Figure 4. Intervehicular Cable

TA 221782

APPENDIX H

TORQUE LIMITS

CAPSCREW MARKING

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings				
Manufacturer's marks may vary				
These are all SAE Grade 5 (3 line)				

CAUTION

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for that placement. This will prevent equipment damage due to over torquing.

Capscrew Body Size (Inches) - (Thread)		Torque Ft Lb (N·m)		Torque Ft Lb (N·m)		Torque Ft Lb (N·m)		Torque Ft Lb (N·m)	
1/4	20	5	(7)	8	(11)	10	(14)	12	(16)
	28	6	(8)	10	(14)			14	(19)
5/16	18	11	(15)	17	(23)	19	(26)	24	(33)
	24	13	(18)	19	(26)			27	(37)
3/8	16	18	(24)	31	(42)	34	(46)	44	(60)
	24	20	(27)	35	(47)			49	(66)
7/16	14	29	(38)	49	(66)	55	(75)	70	(95)
	20	30	(41)	55	(75)			78	(106)
1/2	13	39	(53)	75	(102)	85	(115)	105	(142)
	20	41	(56)	85	(115)			120	(163)
9/16	12	51	(69)	110	(149)	120	(163)	155	(210)
	18	55	(75)	120	(163)			170	(231)
5/8	11	83	(113)	150	(203)	167	(226)	210	(285)
	18	95	(1 29)	170	(231)			240	(325)
3/4	10	105	(142)	270	(366)	280	(380)	375	(508)
	16	115	(156)	295	(400)			420	(569)
7/8	9	160	(21 7)	395	(536)	440	(597)	605	(820)
	14	175	(237)	435	(590)			675	(915)
1	8	235	(31 9)	590	(800)	660	(895)	910	(1234)
	14	250	(339)	660	(895)			990	(1342)

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TORQUE VALUES - CONTINUED

NOTE

Always use the torque values listed above when specific torque values are not available.

Do not use above values in place of those specified in other sections of this manual; special attention should be observed when using SAE Grade 6, 7 and 8 capscrews.

The above is based on use of clean, dry threads.

Reduce torque by 10 percent when engine oil is used as a lubricant.

Reduce torque by 20 percent if new plated capscrews are used.

Capscrews threaded into aluminum may require reductions in torque of 30 percent or more of Grade 5 capscrews torque and must attain two capscrew diameters of thread engagement.

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
6240-00-019-0877	1	14
	3	10
6240-00-019-3093	3	8
2530-00-021-2366	18	14
5340-00-033-6209	21	13
2590-00-035-6281	4	21
4730-00-035-8036	34	8
5305-00-042-3560	15	3
6240-00-044-6914	1	13
	3	9
5310-00-045-3296	29	25
5310-00-045-3299	4	17
	4	30
	5	5
	10	2
	23	2
2530-00-045-9425	21	5
5306-00-050-1238	29	9
	29	11
4730-00-050-4203	9	5
	10	9
	23	17
	25	9
	25	19
4730-00-050-4208	23	13
5940-00-050-6207	4	7
	4	23
5940-00-050-6209	7	10
	8	10
5340-00-051-2668	7	17
	14	3
	14	3
	17	3
	17	15
	19	8
5315-00-059-0217	25	22
5935-00-059-2841	4	27
	6	2
2640-00-060-3550	22	4
5305-00-068-0501	5	15
5305-00-068-0502	4	37
	7	1
	9	4
	13	2
	17	7
	19	13
	29	18
5305-00-068-0512	3	1
2530-00-068-6570	23	12
2530-00-068-6571	23	12
4730-00-069-1187	19	19
2530-00-069-9427	14	1
4710-00-070-9809	17	4
4710-00-070-9812	19	10
4720-00-071-1449	17	16
4720-00-071-1450	17	11
4710-00-071-1507	17	4
	17	5
	17	12
5975-00-074-2072	8	12
2530-00-076-5045	12	1
2530-00-076-5178	12	1
2510-00-076-6971	13	1
2530-00-076-8599	9	1
2540-00-076-8621	25	2
3040-00-076-8670	35	2
2590-00-077-0447	14	2
2590-00-077-0448	14	2
2590-00-078-2929	6	1
2590-00-078-2930	8	1
5330-00-090-2128	19	1
5365-00-090-5426	7	7
	8	3
3110-00-100-6155	33	27
9905-00-108-6205	31	7
9905-00-108-6215	32	3
9905-00-108-6216	31	4
9905-00-108-6219	31	2
9905-00-114-4630	30	3
5305-00-115-9526	21	15
9905-00-117-0257	30	4
2530-00-119-3725	16	5
5310-00-119-4801	20	5
3120-00-122-5002	23	18
5330-00-123-8671	33	11
2540-00-124-9157	25	20
2540-00-132-1307	25	10
5310-00-136-1467	22	5
2530-00-138-8172	15	21
2530-00-138-8591	23	16
2530-00-139-3496	10	6
2530-00-139-3497	10	6
5310-00-141-1795	1	10
	17	8
	29	5
5365-00-147-9142	35	7
5310-00-148-4757	33	25
6145-00-152-6499	8	11
6240-00-155-8717	1	21
	2	5

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
9905-00-159-0023	30	2
5306-00-165-8284	28	1
5315-00-165-8480	35	13
5315-00-165-8481	35	12
5310-00-167-0826	24	6
5310-00-167-0827	24	23
4320-00-172-1817	33	2
4820-00-174-0339	20	13
5340-00-178-1441	18	6
6220-00-179-4324	3	11
3110-00-183-9946	21	7
5325-00-185-0012	1	4
4940-00-186-3199	KIT	
2530-00-192-8824	18	3
2530-00-192-8928	18	9
4730-00-196-1486	34	9
2590-00-201-3085	4	1
9905-00-202-3639	29	28
9515-00-204-3967	BULK	3
2610-00-204-4228	22	1
2530-00-204-4800	16	1
9905-00-205-2795	29	3
5310-00-209-1761	17	19
5330-00-220-6994	33	14
4730-00-221-2139	20	9
6220-00-221-5899	1	19
5306-00-225-9088	18	2
5306-00-225-9089	18	18
5305-00-225-9091	33	45
5305-00-253-5615	30	1
	31	1
	32	1
5305-00-267-8955	12	5
5305-00-269-3245	1	7
5305-00-269-3246	24	4
2610-00-269-7332	22	2
5310-00-275-6635	17	18
4730-00-278-3912	18	16
	34	7
4730-00-278-6318	19	16
2510-00-279-8429	24	1
9905-00-282-7489	31	3
5975-00-285-0907	19	18
2530-00-293-5139	18	1
5330-00-297-7106	1	15
5315-00-298-1481	24	22
	35	1
5310-00-298-5502	33	38
1730-00-303-1089	33	39
5310-00-311-4304	27	3
4820-00-349-8952	33	17
5340-00-371-6507	33	31
5330-00-377-5503	33	16
5310-00-391-0687	21	16
5310-00-391-0688	21	16
5310-00-393-6685	7	8
	8	4
5940-00-399-6676	8	7
5310-00-407-9566	1	6
	18	10
	18	17
	29	8
	29	12
2590-00-418-0893	7	16
4030-00-431-5536	24	10
	29	34
6220-00-433-5966	2	6
2530-00-456-9326	KIT	
5330-00-462-0907	3	12
2530-00-463-3648	21	17
5315-00-480-3578	24	14
3120-00-486-0413	23	5
5360-00-486-0415	25	25
5340-00-496-2587	20	1
6220-00-500-0437	1	12
4710-00-501-7264	17	5
5330-00-501-9486	10	4
	23	4
4710-00-511-1692	16	1
2590-00-529-6199	3	3
5310-00-550-1130	5	3
5935-00-572-9180	1	2
4730-00-580-7417	20	11
2540-00-582-5407	25	1
5310-00-582-5965	1	9
	3	2
	4	12
	4	38
	5	8
	5	14
	7	4
	9	3
	13	3
	14	4
	14	4
	17	2
	17	13
	19	7
	29	2
	29	19

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-582-5965	33	43	5306-00-737-5862	21	4
	34	11	5306-00-737-5863	21	4
5330-00-584-0265	18	7	2530-00-737-7783	18	4
5310-00-584-5272	12	3	9905-00-752-4649	4	6
	25	12		4	22
	25	17		7	14
	25	34		8	6
	27	2	6220-00-752-6020	1	16
4730-00-595-0083	19	2	4730-00-753-6271	19	3
2530-00-600-9158	33	42	5365-00-759-7412	33	22
5310-00-616-3056	1	29	5310-00-761-6882	4	13
2530-00-621-6330	15	6		4	39
	15	13		5	9
5310-00-637-9541	18	13		5	12
	20	7		7	3
	21	14	5305-00-764-0070	2	2
	24	27	5310-00-768-0319	1	30
	26	2		3	5
	26	5	5310-00-769-6520	21	9
2610-00-640-3968	22	1	5310-00-769-6521	21	11
1730-00-651-8476	33	30	5935-00-773-1428	4	19
5310-00-655-9542	27	4		5	6
5310-00-656-0067	1	1		7	2
	1	25	4730-00-773-2163	16	2
6220-00-669-5623	1	11	6220-00-775-2384	2	3
5330-00-677-2359	33	13	2510-00-782-1896	26	4
5330-00-678-9047	2	4	5340-00-809-1494	29	16
5310-00-680-7297	20	4	4720-00-809-2750	16	3
5315-00-687-3790	24	15	2640-00-810-5861	22	3
5935-00-691-5591	1	24	5305-00-810-6653	20	2
5340-00-700-1423	15	28	5340-00-811-3025	34	4
5360-00-700-4429	18	8	3110-00-812-7349	33	20
6145-00-705-6684	BULK	2		33	28
4730-00-707-3068	24	24	5315-00-816-5813	23	15
5305-00-719-5219	25	13	5340-00-821-0304	29	30
5305-00-719-5235	12	4	5305-00-824-2279	5	2
	25	26	5935-00-833-8561	7	11
5305-00-719-5243	25	18		8	9
5320-00-721-5210	29	29	5970-00-833-8562	7	12
5305-00-725-3525	10	12		8	8
5305-00-725-4183	25	35	2540-00-835-9039	25	33
5310-00-732-0558	18	12	5315-00-838-4584	24	17
5310-00-732-0559	20	6	5310-00-842-7616	25	8
	24	26	5315-00-846-0126	25	7
5310-00-732-0560	12	2	5935-00-846-3883	4	5
	27	1	5935-00-846-3884	7	6
2530-00-733-1739	21	8		8	2
5310-00-737-1106	21	10	5940-00-846-5012	7	13
5330-00-737-1109	21	12	5305-00-855-0974	1	18
5330-00-737-3354	16	3	5340-00-860-0555	7	18

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STOCK NUMBER	FIG.	ITEM
5365-00-864-2993	17	6
5310-00-874-2922	15	7
	15	12
5310-00-877-5795	25	28
5310-00-877-5796	29	14
5310-00-880-7746	10	11
	18	11
	33	44
5305-00-889-3001	5	7
9905-00-893-3570	4	24
	6	4
	7	9
	8	5
5310-00-899-1957	14	6
4730-00-908-3193	16	2
2590-00-911-5287	35	4
4730-00-911-5645	18	15
5935-00-914-0822	6	5
5305-00-914-6131	23	14
5330-00-923-2413	35	11
5999-00-926-3144	1	26
2530-00-930-4859	15	15
3120-00-930-5616	10	10
2530-00-930-5618	15	23
2530-00-930-5624	15	9
4720-00-930-5628	19	15
2530-00-930-5633	15	4
2540-00-930-5634	27	5
2530-00-930-5638	15	14
4010-00-930-5641	15	18
5360-00-930-5644	15	25
5360-00-930-5645	15	5
2530-00-930-5648	15	4
5360-00-930-5649	15	19
3040-00-930-5650	KIT	
4010-00-930-5651	25	29
5365-00-930-5654	9	2
2590-00-930-5662	7	5
5340-00-930-5669	33	1
6220-00-930-5678	1	17
5310-00-934-9757	5	10
5310-00-934-9758	4	18
	29	26
5305-00-942-2196	1	28
	20	8
	21	2
	26	1
5310-00-950-0039	23	11
5310-00-950-1309	25	6
5305-00-952-4721	33	24
5305-00-957-6645	4	28
5305-00-958-5471	29	24
5310-00-959-1488	21	3
5340-00-966-8234	29	31
5305-00-978-9352	4	32
5305-00-978-9353	10	1
	23	1
5305-00-978-9390	26	6
5310-00-982-6809	28	8
5305-00-984-6193	4	3
	5	4
5305-00-984-6196	4	34
5305-00-984-6212	4	15
5305-00-988-1723	4	41
	7	15
	14	5
	14	5
	17	14
	19	6
	29	1
5305-00-988-1725	1	8
	17	1
	29	4
	29	27
	34	10
5305-00-993-2461	1	27
	3	13
	29	17
9905-00-999-7369	32	5
9905-00-999-7370	32	4
2540-01-020-6084	29	7
5340-01-020-6110	20	3
2530-01-024-6887	15	8
5340-01-025-5187	24	3
4820-01-026-9997	34	1
2530-01-037-4978	21	1
2530-01-040-4208	29	32
2530-01-042-3693	23	8
5330-01-042-8881	4	35
2590-01-043-8301	4	4
	5	11
5365-01-044-3502	27	6
4320-01-044-7261	33	4
3040-01-044-8319	35	5
4320-01-044-9282	33	15
4730-01-044-9454	35	10
3040-01-045-2270	35	8
2590-01-046-0903	4	20
	5	1
4320-01-046-6797	33	8

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STOCK NUMBER	FIG.	ITEM
5315-01-046-7953	33	5
5306-01-047-0318	33	41
5315-01-047-2784	33	6
2540-01-048-6241	29	21
5340-01-048-8660	3	4
4730-01-049-2696	19	11
4730-01-049-5339	19	4
	20	12
5340-01-051-3444	28	4
4720-01-053-5120	19	14
4730-01-053-8468	17	20
4730-01-053-8749	33	12
2530-01-054-4305	28	6
3120-01-055-3956	24	21
5315-01-055-4478	23	7
4730-01-055-8314	17	17
5340-01-055-8837	17	9
5365-01-056-3317	28	3
5310-01-056-5125	28	7
5310-01-057-0402	28	5
2530-01-057-6225	13	5
5340-01-060-7217	24	13
5315-01-061-4972	24	12
2510-01-067-4717	3	7
5330-01-067-9691	21	6
6220-01-093-4439	3	6
5330-01-094-5104	16	2
2530-01-094-9005	15	23
2530-01-094-9006	15	22
3120-01-098-1613	10	7
	23	6
5315-01-098-1791	10	5
4720-01-098-3277	17	10
4720-01-098-3278	34	3
4720-01-099-9625	19	9
2530-01-109-4751	20	10
4730-01-110-4773	34	2
5365-01-111-1521	10	3
	23	3
3120-01-113-0648	24	25
5935-01-115-5101	4	25
2530-01-115-8128	15	1
2530-01-124-5454	15	27
2530-01-132-1383	21	1
2530-01-132-9085	15	1
5365-01-134-0922	13	4
5315-01-136-7182	24	18
5340-01-142-9728	29	10
2530-01-150-4998	21	1
2530-01-150-4999	21	1
5315-01-156-8849	24	16
1095-01-162-0352	18	5
5340-01-168-4200	29	6
2530-01-180-8654	16	4
5365-01-180-9924	24	28
5365-01-180-9955	24	29
2530-01-183-2647	15	20
2530-01-183-2648	15	20
2530-01-183-2718	16	4
3040-01-183-2761	15	26
5340-01-189-6405	29	13
9905-01-191-6032	32	2
5315-01-195-8025	24	8
2530-01-254-4962	24	20
2530-01-257-1609	15	26
2540-01-257-3863	29	20
2530-01-258-8093	10	8
5340-01-259-7613	29	23
4720-01-269-8389	19	5
2530-01-270-7967	21	17
5340-01-278-6283	29	22
4710-01-296-0469	34	6

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
88044	AN960-1216	5310-00-167-0826	24	6
88044	AN960-1416	5310-00-167-0827	24	23
88044	AN960-416	5310-00-141-1795	1	10
			17	8
			29	5
81346	ASTM A569	9515-00-204-3967	BULK	3
58104	A1006-049	5365-00-147-9142	35	7
26952	A1018-037	5330-00-377-5503	33	16
20805	A8000-066		33	36
20805	A8000-212		33	23
26952	A8001-057	5315-01-047-2784	33	6
20805	A8008-49		33	3
26952	A8009.037	5330-00-123-8671	33	11
20805	A8016-048		33	35
26952	A8017-048	5306-01-047-0318	33	41
20805	A8018-006		33	40
26952	A8018-021	4730-01-053-8749	33	12
26952	A8018-061	5315-01-046-7953	33	5
26952	A8019-061		33	7
20805	A8059-040		33	9
26952	A8087-900	4320-01-046-6797	33	8
82240	B-1900-613	5340-00-966-8234	29	31
05842	B1008-016	3110-00-812-7349	33	20
			33	28
26952	B159-167	5365-00-759-7412	33	22
20805	B162-206		33	19
20805	B164-232		33	18
82240	B1900-377	5340-00-821-0304	29	30
24835	B3373-31	2590-00-911-5287	35	4
26952	B8008-060	4320-01-044-7261	33	4
26952	C8007-098	4320-01-044-9282	33	15
20805	C8031-005		33	29
81285	ES150L	2530-00-068-6570	23	12
81285	ES150R	2530-00-068-6571	23	12
98313	FDK2850	5365-00-930-5654	9	2
26952	HP-6001-51-11	4320-00-172-1817	33	2
20805	H11-261		33	32
20805	H6-199		33	34
20805	H613-183		33	26
07505	H7-900	1730-00-651-8476	33	30
20805	H8-010		33	33
26952	KC1510-73-05	3040-00-930-5650	KIT	
26952	KH2000	4940-00-186-3199	KIT	
97030	LOOM 3/8 ID	5975-00-285-0907	19	18
81349	MIL-W-1511A		24	11
81349	MILH15021		29	15
81349	MILW1511A		29	33
96906	MS15001-1	4730-00-050-4203	9	5
			10	9
			23	17
			25	9

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS15001-1	4730-00-050-4203	25	19
96906	MS15003-1	4730-00-050-4208	23	13
96906	MS15570-1251	6240-00-019-0877	1	14
			3	10
96906	MS15570-623	6240-00-019-3093	3	8
96906	MS16562-66	5315-00-838-4584	24	17
96906	MS16997-24	5305-00-978-9352	4	32
96906	MS16997-43	5305-00-978-9353	10	1
			23	1
96906	MS16997-95	5305-00-978-9390	26	6
96906	MS18153-63	5305-00-914-6131	23	14
96906	MS18154-58	5305-00-115-9526	21	15
96906	MS18154-60	5305-00-942-2196	1	28
			20	8
			21	2
			26	1
96906	MS19081-58	3110-00-183-9946	21	7
96906	MS20470A4-5	5320-00-721-5210	29	29
96906	MS20913-4S	4730-00-221-2139	20	9
96906	MS21044-N4	5310-00-877-5796	29	14
96906	MS21044-N6		24	2
96906	MS21044N10	5310-00-982-6809	28	8
96906	MS21044N6	5310-00-950-0039	23	11
96906	MS21044N8	5310-00-877-5795	25	28
96906	MS21318-21	5305-00-253-5615	30	1
			31	1
			32	1
96906	MS21333-105	5340-00-809-1494	29	16
96906	MS24629-25	5305-00-855-0974	1	18
96906	MS24665-357	5315-00-298-1481	24	22
			35	1
96906	MS24665-624	5315-00-059-0217	25	22
96906	MS24665-628	5315-00-846-0126	25	7
96906	MS27148-3	5999-00-926-3144	1	26
96906	MS27183-31	5310-00-950-1309	25	6
96906	MS28775-012	5330-00-584-0265	18	7
96906	MS35190-233	5305-00-957-6645	4	28
96906	MS35190-273	5305-00-958-5471	29	24
96906	MS35206-231	5305-00-889-3001	5	7
96906	MS35206-245	5305-00-984-6193	4	3
			5	4
96906	MS35206-248	5305-00-984-6196	4	34
96906	MS35206-265	5305-00-984-6212	4	15
96906	MS35206-279	5305-00-988-1723	4	41
			7	15
			14	5
			14	5
			17	14
			19	6
			29	1
96906	MS35206-281	5305-00-988-1725	1	8

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35206-281	5305-00-988-1725	17	1
			29	4
			29	27
			34	10
96906	MS35207-281	5305-00-993-2461	1	27
			3	13
			29	17
96906	MS35266-80	5305-00-824-2279	5	2
96906	MS35333-40	5310-00-550-1130	5	3
96906	MS35335-41	5310-00-616-3056	1	29
96906	MS35338-42	5310-00-045-3299	4	17
			4	30
			5	5
			10	2
			23	2
96906	MS35338-43	5310-00-045-3296	29	25
96906	MS35338-44	5310-00-582-5965	1	9
			3	2
			4	12
			4	38
			5	8
			5	14
			7	4
			9	3
			13	3
			14	4
			14	4
			17	2
			17	13
			19	7
			29	2
			29	19
			33	43
			34	11
96906	MS35338-45	5310-00-407-9566	1	6
			18	10
			18	17
			29	8
			29	12
96906	MS35338-46	5310-00-637-9541	18	13
			20	7
			21	14
			24	27
			26	2
			26	5
96906	MS35338-48	5310-00-584-5272	12	3
			25	12
			25	17
			25	34
			27	2
96906	MS35387-1	9905-00-205-2795	29	3

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35387-2	9905-00-202-3639	29	28
96906	MS35478-1683	6240-00-044-6914	1	13
			3	9
96906	MS35489-35	5325-00-185-0012	1	4
96906	MS35649-202	5310-00-934-9758	4	18
			29	26
96906	MS35649-282	5310-00-934-9757	5	10
96906	MS35691-41	5310-00-899-1957	14	6
96906	MS35692-105	5310-00-842-7616	25	8
96906	MS35746-1	4730-00-595-0083	19	2
96906	MS35748-1	5330-00-090-2128	19	1
96906	MS35755-1	4730-00-707-3068	24	24
96906	MS35782-3	4820-00-174-0339	20	13
96906	MS35842-12	4730-00-908-3193	16	2
96906	MS39020-1	9905-00-752-4649	4	6
			4	22
96906	MS51329-1	6220-00-669-5623	1	11
96906	MS51377-1	2640-00-810-5861	22	3
96906	MS51920-21-2	5330-01-067-9691	21	6
96906	MS51922-21	5310-00-959-1488	21	3
96906	MS51953-33	4730-00-196-1486	34	9
96906	MS51959-46	5305-00-764-0070	2	2
96906	MS51964-84	5305-00-725-3525	10	12
96906	MS51967-2	5310-00-761-6882	4	13
			4	39
			5	9
			5	12
			7	3
96906	MS51967-8	5310-00-732-0558	18	12
96906	MS51968-14	5310-00-732-0560	12	2
			27	1
96906	MS51968-2	5310-00-768-0319	1	30
			3	5
96906	MS51968-5	5310-00-880-7746	10	11
			18	11
			33	44
96906	MS51968-8	5310-00-732-0559	20	6
			24	26
96906	MS51984-2	5310-00-136-1467	22	5
96906	MS52125-2	6220-01-093-4439	3	6
96906	MS521301A20412	4720-00-809-2750	16	3
96906	MS53004-2	2530-00-021-2366	18	14
96906	MS53007-1	9905-00-999-7370	32	4
96906	MS53007-2	9905-00-999-7369	32	5
96906	MS53047-1	6220-00-500-0437	1	12
96906	MS75020-1	5935-00-059-2841	4	27
			6	2
96906	MS75020-2	5935-00-914-0822	6	5
96906	MS75021-1	5935-00-846-3883	4	5
96906	MS75021-2	5935-00-846-3884	7	6
			8	2

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS9025-03	5340-00-811-3025	34	4
96906	MS9025-07	5340-00-051-2668	7	17
			14	3
			14	3
			17	3
			17	15
			19	8
96906	MS9048-143	5315-00-687-3790	24	15
96906	MS9048-172		24	5
96906	MS90725-5	5305-00-068-0501	5	15
96906	MS90725-6	5305-00-068-0502	4	37
			7	1
			9	4
			13	2
			17	7
			19	13
			29	18
96906	MS90726-113	5305-00-725-4183	25	35
96906	MS90726-33	5306-00-225-9088	18	2
96906	MS90726-34	5306-00-225-9089	18	18
96906	MS90726-36	5305-00-225-9091	33	45
96906	MS90727-11	5305-00-267-8955	12	5
96906	MS90727-111	5305-00-719-5219	25	13
96906	MS90727-114	5305-00-719-5235	12	4
			25	26
96906	MS90727-119	5305-00-719-5243	25	18
96906	MS90727-32	5306-00-050-1238	29	9
			29	11
96906	MS90727-4	5305-00-068-0512	3	1
96906	MS90727-69	5305-00-269-3245	1	7
96906	MS90727-70	5305-00-269-3246	24	4
81349	M13486-1-5	6145-00-152-6499	8	11
81349	M13486/10-1	6145-00-705-6684	BULK	2
81349	M43436-1-3	9905-00-893-3570	4	24
			6	4
81349	M43436/1-1	9905-00-752-4649	7	14
			8	6
81349	M43436/1-3	9905-00-893-3570	7	9
			8	5
80205	NAS1611-123	5330-01-094-5104	16	2
80205	NAS561P6-32	5315-00-816-5813	23	15
05842	P146-11B	5330-00-220-6994	33	14
20805	P146-50		33	10
07505	P146-75	5330-00-677-2359	33	13
05842	P307-18	1730-00-303-1089	33	39
20805	P307-190		33	21
07505	P307-900	4820-00-349-8952	33	17
26952	P60-11	5340-00-371-6507	33	31
07505	P60-12		33	37
81348	RR-C-271-2TYPEII 3/8		25	30

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81348	RR-C-271TYPE I 7/64		25	23
81349	RRC281AGRCCL3		25	31
73842	TRVC2	2640-00-060-3550	22	4
81348	W-L-00111/60	6240-00-155-8717	1	21
			2	5
05842	W12-16	3110-00-100-6155	33	27
33116	X1023R	5310-00-391-0687	21	16
81348	ZZ-I-550/GP3/7.00-16/TR15CW/OFFC	2610-00-269-7332	22	2
81348	ZZ-T-381-M/GP2/7.00-16/D/LTMS	2610-00-204-4228	22	1
92867	01060500	2530-00-069-9427	14	1
40121	081387-12	2530-01-270-7967	21	17
89346	100202HA	2530-00-621-6330	15	13
19207	10861507	2530-00-119-3725	16	5
19207	10900257	4730-00-911-5645	18	15
19207	10900442	4730-01-055-8314	17	17
18876	11030936-1	5305-00-952-4721	33	24
19207	11602310		4	26
19207	11602311	5935-01-115-5101	4	25
19207	11602348	4730-01-049-2696	19	11
19207	11602349	5340-01-051-3444	28	4
19207	11602350-1	5315-01-195-8025	24	8
19207	11602350-2	5315-01-136-7182	24	18
19207	11602350-3	5315-00-165-8480	35	13
19207	11602350-4	5315-00-165-8481	35	12
19207	11602353	4820-01-026-9997	34	1
19207	11602355	5365-01-134-0922	13	4
19207	11602357-1	2590-00-077-0447	14	2
19207	11602357-2	2590-00-077-0448	14	2
19207	11602362	2530-01-109-4751	20	10
19207	11602364	5365-01-180-9924	24	28
19207	11602365	2510-00-782-1896	26	4
19207	11602369		4	16
19207	11602476	4730-01-110-4773	34	2
19207	11602478	4730-01-049-5339	19	4
			20	12
19207	11602492		15	16
19207	11602496	2530-01-024-6887	15	8
19207	11602497		15	10
19207	11602521		24	19
19207	11602666	4720-01-098-3277	17	10
19207	11612101		31	6
19207	11612108		28	2
19207	11612110-1	3120-01-098-1613	10	7
			23	6
19207	11612110-3	3120-00-122-5002	23	18
19207	11612113	5315-01-055-4478	23	7
19207	11612116		1	5
19207	11612123-2	5315-00-480-3578	24	14

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	11612143	5310-01-057-0402	28	5
19207	11612162		4	8
19207	11612164	5330-01-042-8881	4	35
19207	11612165		4	31
19207	11612169	2530-01-040-4208	29	32
19207	11612174		1	3
19207	11612175		1	3
19207	11612182	5315-01-098-1791	10	5
19207	11612184	3120-00-930-5616	10	10
19207	11612190	4710-00-070-9812	19	10
19207	11612191	5340-01-060-7217	24	13
19207	11612192		19	12
19207	11612193		19	17
19207	11612194-2	2540-00-124-9157	25	20
19207	11612195	5360-00-486-0415	25	25
19207	11612196		23	9
19207	11612202	5365-01-180-9955	24	29
19207	11612205	2530-00-600-9158	33	42
19207	11612209	5340-01-055-8837	17	9
19207	11612220-1	2530-00-076-5045	12	1
19207	11612220-2	2530-00-076-5178	12	1
19207	11612221	2530-01-054-4305	28	6
16128	11612224	2590-00-035-6281	4	21
19207	11612228		24	9
19207	11612230		24	7
19207	11612234		23	10
19207	11612239	4710-01-296-0469	34	6
19207	11612241		19	17
19207	11612242	4710-00-501-7264	17	5
19207	11612243	4710-00-070-9809	17	4
19207	11612244		25	27
19207	11612247	9905-00-108-6215	32	3
19207	11612251	2540-01-048-6241	29	21
19207	11612252	4720-01-098-3278	34	3
19207	11612253-1	4720-01-053-5120	19	14
19207	11612253-2	4720-01-099-9625	19	9
19207	11612255	2530-01-042-3693	23	8
19207	11612259-1	2530-01-258-8093	10	8
19207	11612259-3		10	8
19207	11612262	5340-01-168-4200	29	6
19207	11612267	2510-00-076-6971	13	1
19207	11612268	2530-00-076-8599	9	1
19207	1161227-1		24	20
19207	11612271-2	2530-01-254-4962	24	20
19207	11612274		11	1
19207	11612276	5340-01-278-6283	29	22
19207	11612279-1	2530-00-139-3496	10	6
19207	11612279-2	2530-00-139-3497	10	6
19207	11612280-1	2530-01-037-4978	21	1
19207	11612280-2	2530-01-132-1383	21	1
19207	11612281-1	2530-01-150-4998	21	1

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	11612281-2	2530-01-150-4999	21	1
16128	11612283	2590-00-201-3085	4	1
19207	11612289	5340-01-259-7613	29	23
19207	11612290	2540-01-257-3863	29	20
19207	11612291		1	22
19207	11612292-1		4	33
19207	11612292-2		4	29
19207	11612293		4	2
19207	11612306	5315-01-156-8849	24	16
19207	11612307	3120-01-113-0648	24	25
19207	11612309		4	40
19207	11612312-1		25	16
19207	11612312-2		25	15
19207	11612313		25	14
19207	11612316		25	3
19207	11612317	2540-00-076-8621	25	2
19207	11612318		25	4
19207	11612320		25	5
19207	11612323		25	11
19207	11612331	5365-01-111-1521	10	3
			23	3
19207	11612332	5330-00-501-9486	10	4
			23	4
19207	11612334	3120-00-486-0413	23	5
19207	11612336		4	36
19207	11620979		1	23
19207	11620983		1	20
19207	11620987	6220-00-221-5899	1	19
19207	11621410		4	14
19207	11636686-1	5315-01-061-4972	24	12
19207	11636686-2		25	24
19207	11639519-2	5330-00-462-0907	3	12
19207	11639520	2510-01-067-4717	3	7
19207	11639535	6220-00-179-4324	3	11
19207	11647935	3120-01-055-3956	24	21
19207	11647936	5310-01-056-5125	28	7
19207	11647976	5365-01-044-3502	27	6
19207	11647981	9905-00-114-4630	30	3
19207	11647982	9905-00-108-6219	31	2
19207	11647983	9905-00-108-6216	31	4
19207	11647984	9905-00-108-6205	31	7
19207	11647985	9905-00-159-0023	30	2
19207	11647986	9905-00-117-0257	30	4
19207	11647987		31	5
19207	11648010	4720-00-071-1449	17	16
19207	11652332	5340-01-025-5187	24	3
19207	11652335	3040-00-076-8670	35	2
19207	11652336	2510-00-279-8429	24	1
19207	11652340	5365-01-056-3317	28	3
19207	11677565	4720-00-071-1450	17	11
19207	11682039	5340-01-142-9728	29	10

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	11682073	2590-00-078-2929	6	1
19207	11682075	2590-00-078-2930	8	1
19207	11682076	4710-00-071-1507	17	4
			17	5
			17	12
19207	11682089	4720-01-269-8389	19	5
19207	11682097	5306-00-165-8284	28	1
19207	11682100	9905-01-191-6032	32	2
19207	11682104-1		4	9
19207	11682104-2		4	10
19207	11682104-3		4	11
19207	11686280	5310-00-874-2922	15	7
			15	12
73842	120-099-620	2610-00-640-3968	22	1
19207	12250089-1		25	21
19207	12250150	2540-00-132-1307	25	10
19207	12250162	2540-00-582-5407	25	1
19207	12250163	2530-00-138-8591	23	16
19207	12250480	2540-01-020-6084	29	7
19207	12255351	2590-01-046-0903	4	20
			5	1
19207	12255352		5	13
19207	12255353	2590-01-043-8301	4	4
			5	11
19207	12255388	5340-01-048-8660	3	4
19207	12255389	2530-01-057-6225	13	5
19207	12313038		26	3
06853	202586	5340-01-020-6110	20	3
06853	203888	5310-00-119-4801	20	5
97499	204-070-481-1		25	32
33116	20441	5310-00-391-0688	21	16
87373	212T-4-4		34	5
06853	214884	5305-00-810-6653	20	2
06853	2230700	2530-01-183-2718	16	4
06853	2230701	2530-01-180-8654	16	4
14894	301055	2530-01-124-5454	15	27
14892	307651	2530-00-930-5624	15	9
14892	307652		15	9
06853	307653		15	11
06853	307654		15	11
14892	309992	2530-00-930-4859	15	15
06853	311309	5360-00-930-5649	15	19
06853	311538L	2530-00-930-5618	15	23
06853	312165		15	24
06853	312166		15	24
14892	312168	2530-00-138-8172	15	21
14892	315231	2530-01-183-2647	15	20
14892	315232	2530-01-183-2648	15	20
06853	315256	4010-00-930-5641	15	18
06853	315684R	2530-00-930-5633	15	4
06853	315898	2530-00-930-5638	15	14

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
06853	31629	5360-00-930-5645	15	5
06853	316816		15	29
06853	318459	2530-00-930-5648	15	4
14892	3203006		15	22
		2530-01-094-9005	15	23
14894	3203007	2530-01-094-9006	15	22
14892	322767	2530-01-132-9085	15	1
14892	322768	2530-01-115-8128	15	1
06853	322771	3040-01-183-2761	15	26
06853	322772	2530-01-257-1609	15	26
06853	39244	5360-00-930-5644	15	25
76110	401265	5310-00-311-4304	27	3
14892	41029	2530-00-621-6330	15	6
24617	423560	5305-00-042-3560	15	3
23382	4303	5310-00-680-7297	20	4
80201	504268	5330-00-923-2413	35	11
21450	506207	5940-00-050-6207	4	7
			4	23
21450	506209	5940-00-050-6209	7	10
			8	10
19207	5160323	5310-00-209-1761	17	19
19204	5214539	5310-00-275-6635	17	18
24835	5300082	6220-00-930-5678	1	17
19207	5303476		15	2
19207	5304039		15	17
24835	5600099	5340-00-930-5669	33	1
16128	5600312-501		35	3
16128	5600313-001	4730-01-044-9454	35	10
16128	5600314-501		35	9
16128	5600315-001	3040-01-045-2270	35	8
16128	5600316-001		35	6
16128	5600317-001	3040-01-044-8319	35	5
76110	57091	2540-00-930-5634	27	5
81343	6-4 120202BA(LON G NUT)	4730-00-069-1187	19	19
99343	642775	2530-00-045-9425	21	5
24835	6600045	2590-00-930-5662	7	5
24835	6600057	4010-00-930-5651	25	29
24835	6967006-009	4720-00-930-5628	19	15
19207	7001423	5340-00-700-1423	15	28
19207	7014963	5340-00-496-2587	20	1
19207	7056684-25		6	3
19207	7059149	5310-00-655-9542	27	4
19207	7073209	2540-00-835-9039	25	33
19207	7320658	5330-00-297-7106	1	15
19207	7331739	2530-00-733-1739	21	8
19204	7350907	4730-00-278-3912	18	16
19207	7371106	5310-00-737-1106	21	10
19207	7371109	5330-00-737-1109	21	12
19207	7373354	5330-00-737-3354	16	3
19207	7375862	5306-00-737-5862	21	4

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7375863	5306-00-737-5863	21	4
19207	7377783	2530-00-737-7783	18	4
19207	7526020	6220-00-752-6020	1	16
19207	7536271	4730-00-753-6271	19	3
19207	7696520	5310-00-769-6520	21	9
19207	7696521	5310-00-769-6521	21	11
19207	7722333	5365-00-090-5426	7	7
			8	3
19207	7723309	5310-00-393-6685	7	8
			8	4
19207	7731428	5935-00-773-1428	4	19
			5	6
			7	2
19207	7735289	5365-00-864-2993	17	6
19206	7735821	5340-00-033-6209	21	13
19207	7979373	9905-00-282-7489	31	3
19207	7979599	1095-01-162-0352	18	5
97554	7979602	2530-00-192-8824	18	3
19207	7979605	2530-00-192-8928	18	9
19207	7979608	5360-00-700-4429	18	8
19207	7979610	5340-00-178-1441	18	6
63477	7979691	4730-00-773-2163	16	2
19207	7979851	5340-01-189-6405	29	13
15434	8169006	4730-00-278-3912	34	7
19207	8328782	4730-00-278-6318	19	16
19207	8338561	5935-00-833-8561	7	11
			8	9
19207	8338562	5970-00-833-8562	7	12
			8	8
19207	8338563	5940-00-846-5012	7	13
04939	8338564	5940-00-399-6676	8	7
19207	8338566	5935-00-572-9180	1	2
19207	8357980	2530-00-204-4800	16	1
19207	8357981	2530-00-293-5139	18	1
19207	8365426	4710-00-511-1692	16	1
19207	8365771	4730-00-035-8036	34	8
19207	8537648	4030-00-431-5536	24	10
			29	34
19207	8689208		BULK	1
19207	8694464	5330-00-678-9047	2	4
19207	8722870	5340-00-860-0555	7	18
19207	8722944	2590-00-418-0893	7	16
19207	8724495	5935-00-691-5591	1	24
19207	8724497	5310-00-656-0067	1	1
			1	25
19207	8741645		2	1
19207	8741646	6220-00-775-2384	2	3
19207	8741650	6220-00-433-5966	2	6
19207	8743065	4730-00-580-7417	20	11
19207	8747908-1	2590-00-529-6199	3	3
19207	8762000	4730-01-053-8468	17	20

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
79500	9218211-1	5975-00-074-2072	8	12
22852	934490	2530-00-463-3648	21	17
34623	937952	2530-00-456-9326	KIT	
00198	93938	5310-00-148-4757	33	25
94404	995-262	5310-00-298-5502	33	38

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FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
BULK	1		19207	8689208
BULK	2	6145-00-705-6684	81349	M13486/10-1
BULK	3	9515-00-204-3967	81346	ASTM A569
KIT		2530-00-456-9326	34623	937952
KIT		3040-00-930-5650	26952	KC1510-73-05
KIT		4940-00-186-3199	26952	KH2000
1	1	5310-00-656-0067	19207	8724497
1	2	5935-00-572-9180	19207	8338566
1	3		19207	11612174
1	3		19207	11612175
1	4	5325-00-185-0012	96906	MS35489-35
1	5		19207	11612116
1	6	5310-00-407-9566	96906	MS35338-45
1	7	5305-00-269-3245	96906	MS90727-69
1	8	5305-00-988-1725	96906	MS35206-281
1	9	5310-00-582-5965	96906	MS35338-44
1	10	5310-00-141-1795	88044	AN960-416
1	11	6220-00-669-5623	96906	MS51329-1
1	12	6220-00-500-0437	96906	MS53047-1
1	13	6240-00-044-6914	96906	MS35478-1683
1	14	6240-00-019-0877	96906	MS15570-1251
1	15	5330-00-297-7106	19207	7320658
1	16	6220-00-752-6020	19207	7526020
1	17	6220-00-930-5678	24835	5300082
1	18	5305-00-855-0974	96906	MS24629-25
1	19	6220-00-221-5899	19207	11620987
1	20		19207	11620983
1	21	6240-00-155-8717	81348	W-L-00111/60
1	22		19207	11612291
1	23		19207	11620979
1	24	5935-00-691-5591	19207	8724495
1	25	5310-00-656-0067	19207	8724497
1	26	5999-00-926-3144	96906	MS27148-3
1	27	5305-00-993-2461	96906	MS35207-281
1	28	5305-00-942-2196	96906	MS18154-60
1	29	5310-00-616-3056	96906	MS35335-41
1	30	5310-00-768-0319	96906	MS51968-2
2	1		19207	8741645
2	2	5305-00-764-0070	96906	MS51959-46
2	3	6220-00-775-2384	19207	8741646
2	4	5330-00-678-9047	19207	8694464
2	5	6240-00-155-8717	81348	W-L-00111/60
2	6	6220-00-433-5966	19207	8741650
3	1	5305-00-068-0512	96906	MS90727-4
3	2	5310-00-582-5965	96906	MS35338-44
3	3	2590-00-529-6199	19207	8747908-1
3	4	5340-01-048-8660	19207	12255388
3	5	5310-00-768-0319	96906	MS51968-2
3	6	6220-01-093-4439	96906	MS52125-2
3	7	2510-01-067-4717	19207	11639520
3	8	6240-00-019-3093	96906	MS15570-623

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FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
3	9	6240-00-044-6914	96906	MS35478-1683
3	10	6240-00-019-0877	96906	MS15570-1251
3	11	6220-00-179-4324	19207	11639535
3	12	5330-00-462-0907	19207	11639519-2
3	13	5305-00-993-2461	96906	MS35207-281
4	1	2590-00-201-3085	16128	11612283
4	2		19207	11612293
4	3	5305-00-984-6193	96906	MS35206-245
4	4	2590-01-043-8301	19207	12255353
4	5	5935-00-846-3883	96906	MS75021-1
4	6	9905-00-752-4649	96906	MS39020-1
4	7	5940-00-050-6207	21450	506207
4	8		19207	11612162
4	9		19207	11682104-1
4	10		19207	11682104-2
4	11		19207	11682104-3
4	12	5310-00-582-5965	96906	MS35338-44
4	13	5310-00-761-6882	96906	MS51967-2
4	14		19207	11621410
4	15	5305-00-984-6212	96906	MS35206-265
4	16		19207	11602369
4	17	5310-00-045-3299	96906	MS35338-42
4	18	5310-00-934-9758	96906	MS35649-202
4	19	5935-00-773-1428	19207	7731428
4	20	2590-01-046-0903	19207	12255351
4	21	2590-00-035-6281	16128	11612224
4	22	9905-00-752-4649	96906	MS39020-1
4	23	5940-00-050-6207	21450	506207
4	24	9905-00-893-3570	81349	M43436-1-3
4	25	5935-01-115-5101	19207	11602311
4	26		19207	11602310
4	27	5935-00-059-2841	96906	MS75020-1
4	28	5305-00-957-6645	96906	MS35190-233
4	29		19207	11612292-2
4	30	5310-00-045-3299	96906	MS35338-42
4	31		19207	11612165
4	32	5305-00-978-9352	96906	MS16997-24
4	33		19207	11612292-1
4	34	5305-00-984-6196	96906	MS35206-248
4	35	5330-01-042-8881	19207	11612164
4	36		19207	11612336
4	37	5305-00-068-0502	96906	MS90725-6
4	38	5310-00-582-5965	96906	MS35338-44
4	39	5310-00-761-6882	96906	MS51967-2
4	40		19207	11612309
4	41	5305-00-988-1723	96906	MS35206-279
5	1	2590-01-046-0903	19207	12255351
5	2	5305-00-824-2279	96906	MS35266-80
5	3	5310-00-550-1130	96906	MS35333-40
5	4	5305-00-984-6193	96906	MS35206-245
5	5	5310-00-045-3299	96906	MS35338-42

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
5	6	5935-00-773-1428	19207	7731428
5	7	5305-00-889-3001	96906	MS35206-231
5	8	5310-00-582-5965	96906	MS35338-44
5	9	5310-00-761-6882	96906	MS51967-2
5	10	5310-00-934-9757	96906	MS35649-282
5	11	2590-01-043-8301	19207	12255353
5	12	5310-00-761-6882	96906	MS51967-2
5	13		19207	12255352
5	14	5310-00-582-5965	96906	MS35338-44
5	15	5305-00-068-0501	96906	MS90725-5
6	1	2590-00-078-2929	19207	11682073
6	2	5935-00-059-2841	96906	MS75020-1
6	3		19207	7056684-25
6	4	9905-00-893-3570	81349	M43436-1-3
6	5	5935-00-914-0822	96906	MS75020-2
7	1	5305-00-068-0502	96906	MS90725-6
7	2	5935-00-773-1428	19207	7731428
7	3	5310-00-761-6882	96906	MS51967-2
7	4	5310-00-582-5965	96906	MS35338-44
7	5	2590-00-930-5662	24835	6600045
7	6	5935-00-846-3884	96906	MS75021-2
7	7	5365-00-090-5426	19207	7722333
7	8	5310-00-393-6685	19207	7723309
7	9	9905-00-893-3570	81349	M43436/1-3
7	10	5940-00-050-6209	21450	506209
7	11	5935-00-833-8561	19207	8338561
7	12	5970-00-833-8562	19207	8338562
7	13	5940-00-846-5012	19207	8338563
7	14	9905-00-752-4649	81349	M43436/1-1
7	15	5305-00-988-1723	96906	MS35206-279
7	16	2590-00-418-0893	19207	8722944
7	17	5340-00-051-2668	96906	MS9025-07
7	18	5340-00-860-0555	19207	8722870
8	1	2590-00-078-2930	19207	11682075
8	2	5935-00-846-3884	96906	MS75021-2
8	3	5365-00-090-5426	19207	7722333
8	4	5310-00-393-6685	19207	7723309
8	5	9905-00-893-3570	81349	M43436/1-3
8	6	9905-00-752-4649	81349	M43436/1-1
8	7	5940-00-399-6676	04939	8338564
8	8	5970-00-833-8562	19207	8338562
8	9	5935-00-833-8561	04939	8338561
8	10	5940-00-050-6209	21450	506209
8	11	6145-00-152-6499	81349	M13486-1-5
8	12	5975-00-074-2072	79500	9218211-1
9	1	2530-00-076-8599	19207	11612268
9	2	5365-00-930-5654	98313	FDK2850
9	3	5310-00-582-5965	96906	MS35338-44
9	4	5305-00-068-0502	96906	MS90725-6
9	5	4730-00-050-4203	96906	MS15001-1
10	1	5305-00-978-9353	96906	MS16997-43

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
10	2	5310-00-045-3299	96906	MS35338-42
10	3	5365-01-111-1521	19207	11612331
10	4	5330-00-501-9486	19207	11612332
10	5	5315-01-098-1791	19207	11612182
10	6	2530-00-139-3496	19207	11612279-1
10	6	2530-00-139-3497	19207	11612279-2
10	7	3120-01-098-1613	19207	11612110-1
10	8		19207	11612259-3
10	8	2530-01-258-8093	19207	11612259-1
10	9	4730-00-050-4203	96906	MS15001-1
10	10	3120-00-930-5616	19207	11612184
10	11	5310-00-880-7746	96906	MS51968-5
10	12	5305-00-725-3525	96906	MS51964-84
11	1		19207	11612274
12	1	2530-00-076-5045	19207	11612220-1
12	1	2530-00-076-5178	19207	11612220-2
12	2	5310-00-732-0560	96906	MS51968-14
12	3	5310-00-584-5272	96906	MS35338-48
12	4	5305-00-719-5235	96906	MS90727-114
12	5	5305-00-267-8955	96906	MS90727-11
13	1	2510-00-076-6971	19207	11612267
13	2	5305-00-068-0502	96906	MS90725-6
13	3	5310-00-582-5965	96906	MS35338-44
13	4	5365-01-134-0922	19207	11602355
13	5	2530-01-057-6225	19207	12255389
14	1	2530-00-069-9427	92867	01060500
14	2	2590-00-077-0447	19207	11602357-1
14	2	2590-00-077-0448	19207	11602357-2
14	3	5340-00-051-2668	96906	MS9025-07
14	3	5340-00-051-2668	96906	MS9025-07
14	4	5310-00-582-5965	96906	MS35338-44
14	4	5310-00-582-5965	96906	MS35338-44
14	5	5305-00-988-1723	96906	MS35206-279
14	5	5305-00-988-1723	96906	MS35206-279
14	6	5310-00-899-1957	96906	MS35691-41
15	1	2530-01-115-8128	14892	322768
15	1	2530-01-132-9085	14892	322767
15	2		19207	5303476
15	3	5305-00-042-3560	24617	423560
15	4	2530-00-930-5633	06853	315684R
15	4	2530-00-930-5648	06853	318459
15	5	5360-00-930-5645	06853	31629
15	6	2530-00-621-6330	14892	41029
15	7	5310-00-874-2922	19207	11686280
15	8	2530-01-024-6887	19207	11602496
15	9		14892	307652
15	9	2530-00-930-5624	14892	307651
15	10		19207	11602497
15	11		06853	307653
15	11		06853	307654
15	12	5310-00-874-2922	19207	11686280

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
15	13	2530-00-621-6330	89346	100202HA
15	14	2530-00-930-5638	06853	315898
15	15	2530-00-930-4859	14892	309992
15	16		19207	11602492
15	17		19207	5304039
15	18	4010-00-930-5641	06853	315256
15	19	5360-00-930-5649	06853	311309
15	20	2530-01-183-2647	14892	315231
15	20	2530-01-183-2648	14892	315232
15	21	2530-00-138-8172	14892	312168
15	22		14892	3203006
15	22	2530-01-094-9006	14894	3203007
15	23	2530-00-930-5618	06853	311538L
15	23	2530-01-094-9005	14894	3203006
15	24		06853	312165
15	24		06853	312166
15	25	5360-00-930-5644	06853	39244
15	26	2530-01-257-1609	06853	322772
15	26	3040-01-183-2761	06853	322771
15	27	2530-01-124-5454	14894	301055
15	28	5340-00-700-1423	19207	7001423
15	29		06853	316816
16	1	2530-00-204-4800	19207	8357980
16	1	4710-00-511-1692	19207	8365426
16	2	4730-00-773-2163	63477	7979691
16	2	4730-00-908-3193	96906	MS35842-12
16	2	5330-01-094-5104	80205	NAS1611-123
16	3	4720-00-809-2750	96906	MS521301A2041
16	3	5330-00-737-3354	19207	7373354
16	4	2530-01-180-8654	06853	2230701
16	4	2530-01-183-2718	06853	2230700
16	5	2530-00-119-3725	19207	10861507
17	1	5305-00-988-1725	96906	MS35206-281
17	2	5310-00-582-5965	96906	MS35338-44
17	3	5340-00-051-2668	96906	MS9025-07
17	4	4710-00-070-9809	19207	11612243
17	4	4710-00-071-1507	19207	11682076
17	5	4710-00-071-1507	19207	11682076
17	5	4710-00-501-7264	19207	11612242
17	6	5365-00-864-2993	19207	7735289
17	7	5305-00-068-0502	96906	MS90725-6
17	8	5310-00-141-1795	88044	AN960-416
17	9	5340-01-055-8837	19207	11612209
17	10	4720-01-098-3277	19207	11602666
17	11	4720-00-071-1450	19207	11677565
17	12	4710-00-071-1507	19207	11682076
17	13	5310-00-582-5965	96906	MS35338-44
17	14	5305-00-988-1723	96906	MS35206-279
17	15	5340-00-051-2668	96906	MS9025-07
17	16	4720-00-071-1449	19207	11648010
17	17	4730-01-055-8314	19207	10900442

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
17	18	5310-00-275-6635	19204	5214539
17	19	5310-00-209-1761	19207	5160323
17	20	4730-01-053-8468	19207	8762000
18	1	2530-00-293-5139	19207	8357981
18	2	5306-00-225-9088	96906	MS90726-33
18	3	2530-00-192-8824	97554	7979602
18	4	2530-00-737-7783	19207	7377783
18	5	1095-01-162-0352	19207	7979599
18	6	5340-00-178-1441	19207	7979610
18	7	5330-00-584-0265	96906	MS28775-012
18	8	5360-00-700-4429	19207	7979608
18	9	2530-00-192-8928	19207	7979605
18	10	5310-00-407-9566	96906	MS35338-45
18	11	5310-00-880-7746	96906	MS51968-5
18	12	5310-00-732-0558	96906	MS51967-8
18	13	5310-00-637-9541	96906	MS35338-46
18	14	2530-00-021-2366	96906	MS53004-2
18	15	4730-00-911-5645	19207	10900257
18	16	4730-00-278-3912	19204	7350907
18	17	5310-00-407-9566	96906	MS35338-45
18	18	5306-00-225-9089	96906	MS90726-34
19	1	5330-00-090-2128	96906	MS35748-1
19	2	4730-00-595-0083	96906	MS35746-1
19	3	4730-00-753-6271	19207	7536271
19	4	4730-01-049-5339	19207	11602478
19	5	4720-01-269-8389	19207	11682089
19	6	5305-00-988-1723	96906	MS35206-279
19	7	5310-00-582-5965	96906	MS35338-44
19	8	5340-00-051-2668	96906	MS9025-07
19	9	4720-01-099-9625	19207	11612253-2
19	10	4710-00-070-9812	19207	11612190
19	11	4730-01-049-2696	19207	11602348
19	12		19207	11612192
19	13	5305-00-068-0502	96906	MS90725-6
19	14	4720-01-053-5120	19207	11612253-1
19	15	4720-00-930-5628	24835	6967006-009
19	16	4730-00-278-6318	19207	8328782
19	17		19207	11612193
19	17		19207	11612241
19	18	5975-00-285-0907	97030	LOOM 3/8 ID
19	19	4730-00-069-1187	81343	6-4 120202BA(LONG NUT)
20	1	5340-00-496-2587	19207	7014963
20	2	5305-00-810-6653	06853	214884
20	3	5340-01-020-6110	06853	202586
20	4	5310-00-680-7297	23382	4303
20	5	5310-00-119-4801	06853	203888
20	6	5310-00-732-0559	96906	MS51968-8
20	7	5310-00-637-9541	96906	MS35338-46
20	8	5305-00-942-2196	96906	MS18154-60
20	9	4730-00-221-2139	96906	MS20913-4S

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
20	10	2530-01-109-4751	19207	11602362
20	11	4730-00-580-7417	19207	8743065
20	12	4730-01-049-5339	19207	11602478
20	13	4820-00-174-0339	96906	MS35782-3
21	1	2530-01-037-4978	19207	11612280-1
21	1	2530-01-132-1383	19207	11612280-2
21	1	2530-01-150-4998	19207	11612281-1
21	1	2530-01-150-4999	19207	11612281-2
21	2	5305-00-942-2196	96906	MS18154-60
21	3	5310-00-959-1488	96906	MS51922-21
21	4	5306-00-737-5862	19207	7375862
21	4	5306-00-737-5863	19207	7375863
21	5	2530-00-045-9425	99343	642775
21	6	5330-01-067-9691	96906	MS51920-21-2
21	7	3110-00-183-9946	96906	MS19081-58
21	8	2530-00-733-1739	19207	7331739
21	9	5310-00-769-6520	19207	7696520
21	10	5310-00-737-1106	19207	7371106
21	11	5310-00-769-6521	19207	7696521
21	12	5330-00-737-1109	19207	7371109
21	13	5340-00-033-6209	19206	7735821
21	14	5310-00-637-9541	96906	MS35338-46
21	15	5305-00-115-9526	96906	MS18154-58
21	16	5310-00-391-0687	33116	X1023R
21	16	5310-00-391-0688	33116	20441
21	17	2530-00-463-3648	22852	934490
21	17	2530-01-270-7967	40121	081387-12
22	1	2610-00-204-4228	81348	ZZ-T-381-M/GP2/7.00-16/D/LTMS
22	1	2610-00-640-3968	73842	120-099-620
22	2	2610-00-269-7332	81348	ZZ-I-550/GP3/7.00-16/TR15CW/OFFC
22	3	2640-00-810-5861	96906	MS51377-1
22	4	2640-00-060-3550	73842	TRVC2
22	5	5310-00-136-1467	96906	MS51984-2
23	1	5305-00-978-9353	96906	MS16997-43
23	2	5310-00-045-3299	96906	MS35338-42
23	3	5365-01-111-1521	19207	11612331
23	4	5330-00-501-9486	19207	11612332
23	5	3120-00-486-0413	19207	11612334
23	6	3120-01-098-1613	19207	11612110-1
23	7	5315-01-055-4478	19207	11612113
23	8	2530-01-042-3693	19207	11612255
23	9		19207	11612196
23	10		19207	11612234
23	11	5310-00-950-0039	96906	MS21044N6
23	12	2530-00-068-6570	81285	ES150L
23	12	2530-00-068-6571	81285	ES150R
23	13	4730-00-050-4208	96906	MS15003-1
23	14	5305-00-914-6131	96906	MS18153-63
23	15	5315-00-816-5813	80205	NAS561P6-32

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
23	16	2530-00-138-8591	19207	12250163
23	17	4730-00-050-4203	96906	MS15001-1
23	18	3120-00-122-5002	19207	11612110-3
24	1	2510-00-279-8429	19207	11652336
24	2		96906	MS21044-N6
24	3	5340-01-025-5187	19207	11652332
24	4	5305-00-269-3246	96906	MS90727-70
24	5		96906	MS9048-172
24	6	5310-00-167-0826	88044	AN960-1216
24	7		19207	11612230
24	8	5315-01-195-8025	19207	11602350-1
24	9		19207	11612228
24	10	4030-00-431-5536	19207	8537648
24	11		81349	MIL-W-1511A
24	12	5315-01-061-4972	19207	11636686-1
24	13	5340-01-060-7217	19207	11612191
24	14	5315-00-480-3578	19207	11612123-2
24	15	5315-00-687-3790	96906	MS9048-143
24	16	5315-01-156-8849	19207	11612306
24	17	5315-00-838-4584	96906	MS16562-66
24	18	5315-01-136-7182	19207	11602350-2
24	19		19207	11602521
24	20		19207	1161227-1
24	20	2530-01-254-4962	19207	11612271-2
24	21	3120-01-055-3956	19207	11647935
24	22	5315-00-298-1481	96906	MS24665-357
24	23	5310-00-167-0827	88044	AN960-1416
24	24	4730-00-707-3068	96906	MS35755-1
24	25	3120-01-113-0648	19207	11612307
24	26	5310-00-732-0559	96906	MS51968-8
24	27	5310-00-637-9541	96906	MS35338-46
24	28	5365-01-180-9924	19207	11602364
24	29	5365-01-180-9955	19207	11612202
25	1	2540-00-582-5407	19207	12250162
25	2	2540-00-076-8621	19207	11612317
25	3		19207	11612316
25	4		19207	11612318
25	5		19207	11612320
25	6	5310-00-950-1309	96906	MS27183-31
25	7	5315-00-846-0126	96906	MS24665-628
25	8	5310-00-842-7616	96906	MS35692-105
25	9	4730-00-050-4203	96906	MS15001-1
25	10	2540-00-132-1307	19207	12250150
25	11		19207	11612323
25	12	5310-00-584-5272	96906	MS35338-48
25	13	5305-00-719-5219	96906	MS90727-111
25	14		19207	11612313
25	15		19207	11612312-2
25	16		19207	11612312-1
25	17	5310-00-584-5272	96906	MS35338-48
25	18	5305-00-719-5243	96906	MS90727-119

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FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
25	19	4730-00-050-4203	96906	MS15001-1
25	20	2540-00-124-9157	19207	11612194-2
25	21		19207	12250089-1
25	22	5315-00-059-0217	96906	MS24665-624
25	23		81348	RR-C-271TYPEI 7/64
25	24		19207	11636686-2
25	25	5360-00-486-0415	19207	11612195
25	26	5305-00-719-5235	96906	MS90727-114
25	27		19207	11612244
25	28	5310-00-877-5795	96906	MS21044N8
25	29	4010-00-930-5651	24835	6600057
25	30		81348	RR-C-271-2TYPEII 3/8
25	31		81349	RRC281AGRCCL3
25	32		97499	204-070-481-1
25	33	2540-00-835-9039	19207	7073209
25	34	5310-00-584-5272	96906	MS35338-48
25	35	5305-00-725-4183	96906	MS90726-113
26	1	5305-00-942-2196	96906	MS18154-60
26	2	5310-00-637-9541	96906	MS35338-46
26	3		19207	12313038
26	4	2510-00-782-1896	19207	11602365
26	5	5310-00-637-9541	96906	MS35338-46
26	6	5305-00-978-9390	96906	MS16997-95
27	1	5310-00-732-0560	96906	MS51968-14
27	2	5310-00-584-5272	96906	MS35338-48
27	3	5310-00-311-4304	76110	401265
27	4	5310-00-655-9542	19207	7059149
27	5	2540-00-930-5634	76110	57091
27	6	5365-01-044-3502	19207	11647976
28	1	5306-00-165-8284	19207	11682097
28	2		19207	11612108
28	3	5365-01-056-3317	19207	11652340
28	4	5340-01-051-3444	19207	11602349
28	5	5310-01-057-0402	19207	11612143
28	6	2530-01-054-4305	19207	11612221
28	7	5310-01-056-5125	19207	11647936
28	8	5310-00-982-6809	96906	MS21044N10
29	1	5305-00-988-1723	96906	MS35206-279
29	2	5310-00-582-5965	96906	MS35338-44
29	3	9905-00-205-2795	96906	MS35387-1
29	4	5305-00-988-1725	96906	MS35206-281
29	5	5310-00-141-1795	88044	AN960-416
29	6	5340-01-168-4200	19207	11612262
29	7	2540-01-020-6084	19207	12250480
29	8	5310-00-407-9566	96906	MS35338-45
29	9	5306-00-050-1238	96906	MS90727-32
29	10	5340-01-142-9728	19207	11682039
29	11	5306-00-050-1238	96906	MS90727-32
29	12	5310-00-407-9566	96906	MS35338-45

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
29	13	5340-01-189-6405	19207	7979851
29	14	5310-00-877-5796	96906	MS21044-N4
29	15		81349	MILH15021
29	16	5340-00-809-1494	96906	MS21333-105
29	17	5305-00-993-2461	96906	MS35207-281
29	18	5305-00-068-0502	96906	MS90725-6
29	19	5310-00-582-5965	96906	MS35338-44
29	20	2540-01-257-3863	19207	11612290
29	21	2540-01-048-6241	19207	11612251
29	22	5340-01-278-6283	19207	11612276
29	23	5340-01-259-7613	19207	11612289
29	24	5305-00-958-5471	96906	MS35190-273
29	25	5310-00-045-3296	96906	MS35338-43
29	26	5310-00-934-9758	96906	MS35649-202
29	27	5305-00-988-1725	96906	MS35206-281
29	28	9905-00-202-3639	96906	MS35387-2
29	29	5320-00-721-5210	96906	MS20470A4-5
29	30	5340-00-821-0304	82240	B1900-377
29	31	5340-00-966-8234	82240	B-1900-613
29	32	2530-01-040-4208	19207	11612169
29	33		81349	MILW1511A
29	34	4030-00-431-5536	19207	8537648
30	1	5305-00-253-5615	96906	MS21318-21
30	2	9905-00-159-0023	19207	11647985
30	3	9905-00-114-4630	19207	11647981
30	4	9905-00-117-0257	19207	11647986
31	1	5305-00-253-5615	96906	MS21318-21
31	2	9905-00-108-6219	19207	11647982
31	3	9905-00-282-7489	19207	7979373
31	4	9905-00-108-6216	19207	11647983
31	5		19207	11647987
31	6		19207	11612101
31	7	9905-00-108-6205	19207	11647984
32	1	5305-00-253-5615	96906	MS21318-21
32	2	9905-01-191-6032	19207	11682100
32	3	9905-00-108-6215	19207	11612247
32	4	9905-00-999-7370	96906	MS53007-1
32	5	9905-00-999-7369	96906	MS53007-2
33	1	5340-00-930-5669	24835	5600099
33	2	4320-00-172-1817	26952	HP-6001-51-11
33	3		20805	A8008-49
33	4	4320-01-044-7261	26952	B8008-060
33	5	5315-01-046-7953	26952	A8018-061
33	6	5315-01-047-2784	26952	A8001-057
33	7		26952	A8019-061
33	8	4320-01-046-6797	26952	A8087-900
33	9		20805	A8059-040
33	10		20805	P146-50
33	11	5330-00-123-8671	26952	A8009.037
33	12	4730-01-053-8749	26952	A8018-021
33	13	5330-00-677-2359	07505	P146-75

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
33	14	5330-00-220-6994	05842	P146-118
33	15	4320-01-044-9282	26952	C8007-098
33	16	5330-00-377-5503	26952	A1018-037
33	17	4820-00-349-8952	07505	P307-900
33	18		20805	B164-232
33	19		20805	B162-206
33	20	3110-00-812-7349	05842	B1008-016
33	21		20805	P307-190
33	22	5365-00-759-7412	26952	B159-167
33	23		20805	A8000-212
33	24	5305-00-952-4721	18876	11030936-1
33	25	5310-00-148-4757	00198	93938
33	26		20805	H613-183
33	27	3110-00-100-6155	05842	W12-16
33	28	3110-00-812-7349	05842	B1008-016
33	29		20805	C8031-005
33	30	1730-00-651-8476	07505	H7-900
33	31	5340-00-371-6507	26952	P60-11
33	32		20805	H11-261
33	33		20805	H8-010
33	34		20805	H6-199
33	35		20805	A8016-048
33	36		20805	A8000-066
33	37		07505	P60-12
33	38	5310-00-298-5502	94404	995-262
33	39	1730-00-303-1089	05842	P307-18
33	40		20805	A8018-006
33	41	5306-01-047-0318	26952	A8017-048
33	42	2530-00-600-9158	19207	11612205
33	43	5310-00-582-5965	96906	MS35338-44
33	44	5310-00-880-7746	96906	MS51968-5
33	45	5305-00-225-9091	96906	MS90726-36
34	1	4820-01-026-9997	19207	11602353
34	2	4730-01-110-4773	19207	11602476
34	3	4720-01-098-3278	19207	11612252
34	4	5340-00-811-3025	96906	MS9025-03
34	5		87373	212T-4-4
34	6	4710-01-296-0469	19207	11612239
34	7	4730-00-278-3912	15434	8169006
34	8	4730-00-035-8036	19207	8365771
34	9	4730-00-196-1486	96906	MS51953-33
34	10	5305-00-988-1725	96906	MS35206-281
34	11	5310-00-582-5965	96906	MS35338-44
35	1	5315-00-298-1481	96906	MS24665-357
35	2	3040-00-076-8670	19207	11652335
35	3		16128	5600312-501
35	4	2590-00-911-5287	24835	B3373-31
35	5	3040-01-044-8319	16128	5600317-001
35	6		16128	5600316-001
35	7	5365-00-147-9142	58104	A1006-049
35	8	3040-01-045-2270	16128	5600315-001

CROSS-REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	FSCM	PART NUMBER
35	9		16128	5600314-501
35	10	4730-01-044-9454	16128	5600313-001
35	11	5330-00-923-2413	80201	504268
35	12	5315-00-165-8481	19207	11602350-4
35	13	5315-00-165-8480	19207	11602350-3

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FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
Commander
HQ 397th Supply and Service Battalion
Attn. Sgt. John P. Doe
Corpus Cristy, Texas 78400

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XX-XX-XX

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM X-XXXX-XXX-XX	XX-XX-XX	(nomenclature)

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
4-134			
4-100			

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The callout for the hub and brakedrum should be (1).

The thickness dimension for the brake lining should be 1/8 inch.

SAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
John P. Doe, Ssg., Motor Sgt. 868-3421

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John P. Doe

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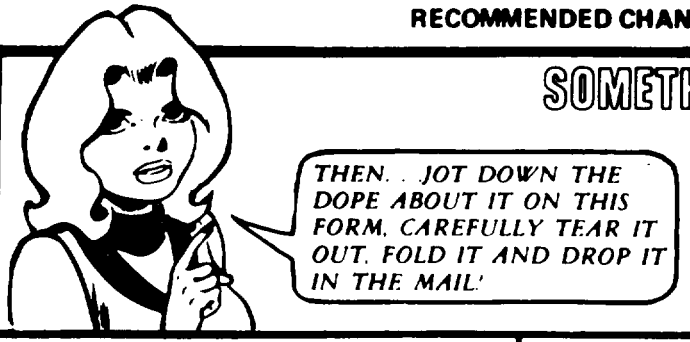

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