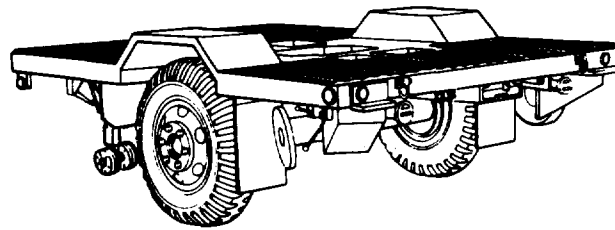
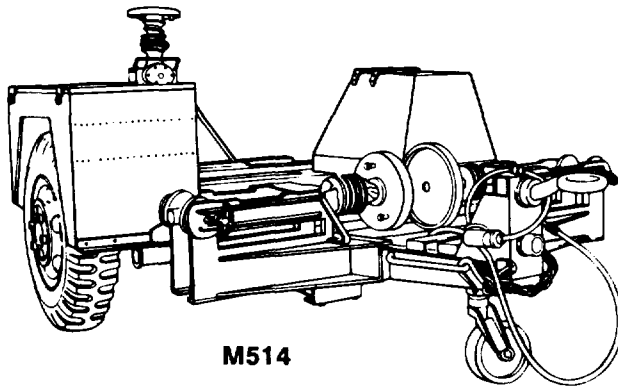


**TECHNICAL MANUAL
 OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,
 AND GENERAL SUPPORT MAINTENANCE MANUAL
 (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)
 FOR
 TRAILER, CHASSIS: 1-TON, 2-WHEEL
 M514 (NSN 2330-00-542-5753)
 AND
 TRAILER, CHASSIS: 2-TON, 2-WHEEL
 M390C (NSN 2330-00-542-3491)**



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This manual supersedes TM 9-2330-235-14&P, dated 26 October 1990.

Approved for public release; distribution is unlimited.

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

WARNING

ASBESTOS HAZARD

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

WARNING

COMPRESSED AIR

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

WARNING

COUPLING AND UNCOUPLING TRAILER

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

WARNING

DRY CLEANING SOLVENT

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

WARNING

ELECTRICAL SYSTEM

When troubleshooting an electrical malfunction or performing electrical maintenance, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electrical shock.

WARNING

IMPROPER USE OF LEVELING JACKS

DO NOT attempt to raise trailer with leveling jacks. Extend leveling jacks until shoes just touch ground. Failure to do so could cause injury to personnel or damage to equipment.

WARNING

SECURING TRAILER

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

WARNING

SUPPORTING M390C TRAILER

- **DO NOT** raise rear leveling jacks on the M390C trailer until after trailer is coupled to towing vehicle. If rear leveling jacks are raised before coupling is complete, weight distribution could cause trailer to tip, causing injury to personnel and damage to equipment.
- Weight distribution on the M390C trailer requires that rear leveling jacks be lowered to support position before disconnecting trailer from towing vehicle. Failure to do so could cause trailer to tip, causing injury to personnel and damage to equipment.

WARNING

USING UNAUTHORIZED CLEANING METHODS

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

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,
AND GENERAL SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)
FOR
TRAILER, CHASSIS: 1-TON, 2-WHEEL
M514 (2330-00-542-5753)
AND
TRAILER, CHASSIS: 2-TON, 2-WHEEL
M390C (2330-00-542-3491)
Current as of 21 February 1992**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 20282, located in the back of this manual, direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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* This manual supersedes TM 9-2330-235-14&P, dated 26 October 1990.

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**CHAPTER 1
INTRODUCTION**

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Maintenance Forms, Records, and Reports	1-1
Preparation for Storage or Shipment.....	1-1
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1-1. SCOPE.

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

b. **Model Numbers and Equipment Names.**

(1) Trailer, Chassis: 1-Ton, 2-Wheel, M514.

(2) Trailer, Chassis: 2-Ton, 2-Wheel, M390C.

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

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

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

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

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

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

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

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

Section II. EQUIPMENT DESCRIPTION AND DATA

Paragraph Title	Page Number
Differences Between Models	1-7
Equipment Characteristics, Capabilities, and Features	1-2
Equipment Data	1-7
Location and Contents of Plates	1-5
Location and Description of Major Components	1-3

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

a. The M514 and M390C Chassis Trailers are designed to be towed by a towing vehicle with a minimum air supply of 100 psi (690 kPa) and a 24volt electrical system.

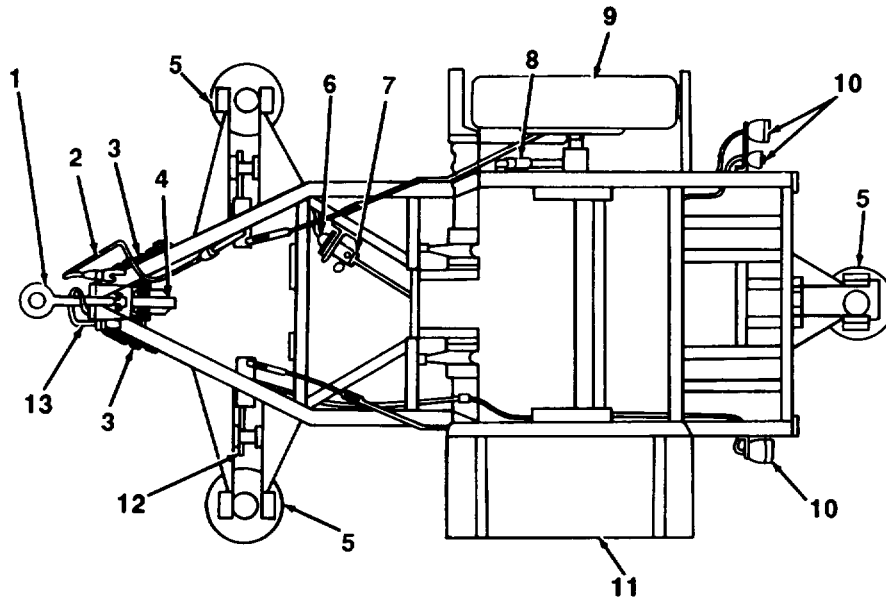
b. Maximum towing speed is 50 mi/h (80 km/h) highway and 25 mi/h (40 km/h) cross-country.

c. Major features of the trailers include:

- (1) Electrical system operates in standard and blackout modes.
- (2) Leveling jacks provide a method of leveling and stabilizing the trailer.
- (3) Air-over-hydraulic service brakes use air pressure from the towing vehicle.
- (4) Retractable support assembly supports the front of the trailer when not coupled to the towing vehicle.
- (5) Stepladder allows the operator to board the trailer (M390C).

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

a. M514.

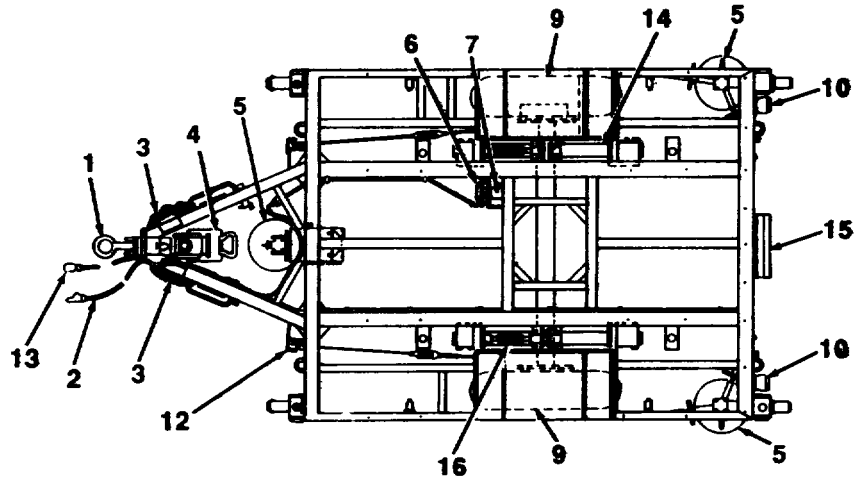


Key	Component	Description
1	Drawbar Coupler	Couples trailer to the towing vehicle pintle.
2	Intervehicular Air Hose	Connects towing vehicle airbrake system to the trailer.
3	Safety Chains	Reinforce trailer-to-towing vehicle coupling.
4	Retractable Support Assembly	Supports the front of the trailer when not coupled to the towing vehicle.
5	Leveling Jacks	Level and stabilize the trailer.
6	Airbrake Chamber	Converts air pressure to mechanical force to actuate the brakes.
7	Master Cylinder	Converts mechanical force to hydraulic pressure to actuate the brakes.
8	Shock Absorbers	Cushion road shock.
9	Tires	Support trailer load.
10	Lights	Consist of stoplight-taillight assemblies or composite light assemblies.
11	Toolboxes	Store tools. Part of trailer fenders.
12	Handbrake Levers	Actuate the brakes when trailer is stopped or parked.
13	Intervehicular Cable	Connects towing vehicle electrical system to the trailer.

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

b. M390C.



Key	Component	Description
14	Springs	Cushion road shock.
15	Stepladder	Allows operator to board the trailer. A hinged latch holds stepladder under the frame when not in use.
16	Radius Rods	Maintain correct axle alignment and transmit stopping stresses to the frame.
1	Drawbar Coupler	Couples trailer to the towing vehicle pintle.
2	Intervehicular Air Hose	Connects towing vehicle airbrake system to the trailer.
3	Safety Chains	Reinforce trailer-to-towing vehicle coupling.
4	Retractable Support Assembly	Supports the front of the trailer when not coupled to the towing vehicle.
5	Leveling Jacks	Level and stabilize the trailer.
6	Airbrake Chamber	Converts air pressure to mechanical force to actuate the brakes.
7	Master Cylinder	Converts mechanical force to hydraulic pressure to actuate the brakes.
9	Tires	Support trailer load.

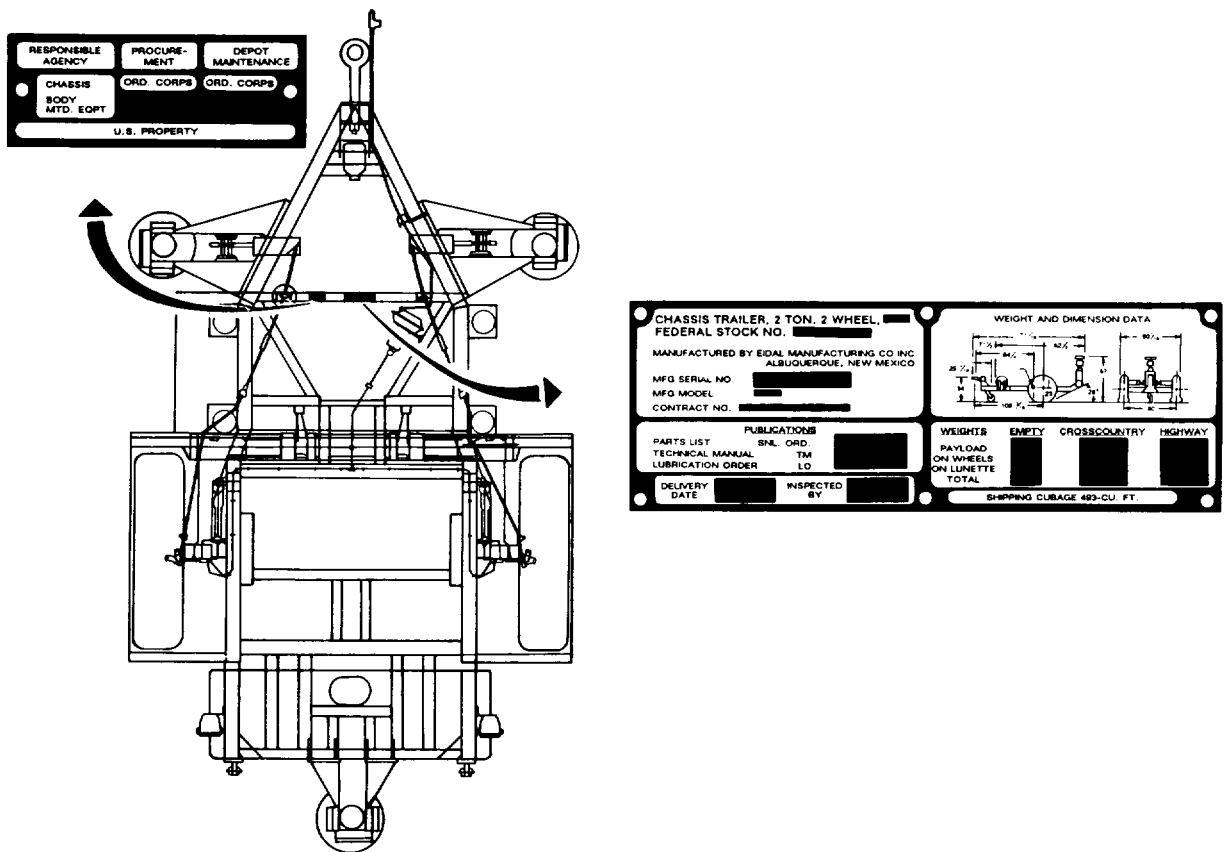
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

Key	Component	Description
10	Lights	Consist of stoplight-taillight assemblies or composite light assemblies.
12	Handbrake Levers	Actuate the brakes when trailer is stopped or parked.
13	Intervehicular Cable	Connects towing vehicle electrical system to the trailer.

1-8. LOCATION AND CONTENTS OF PLATES.

a. **General.** Maintain all plates so that all information remains legible. If any plate is missing or no longer legible, notify Organizational Maintenance.

b. **M514.**



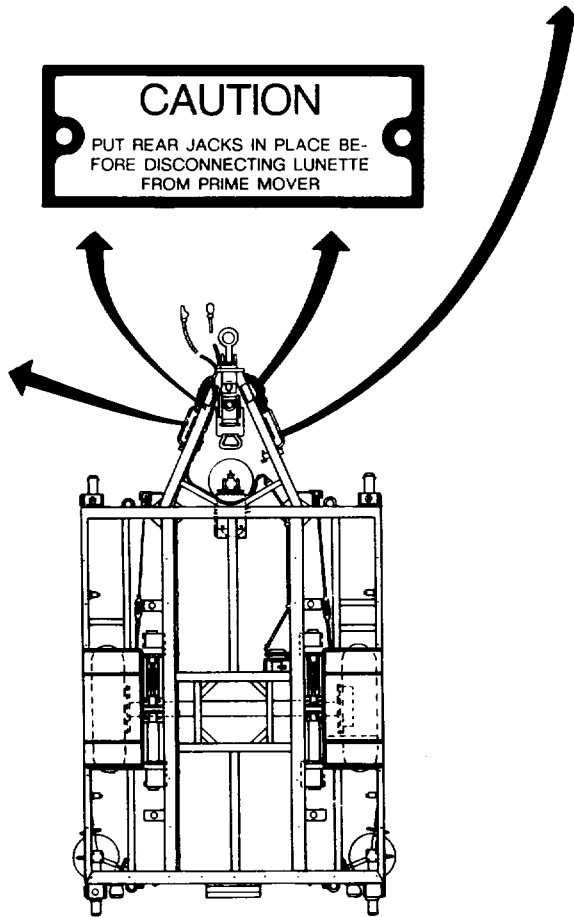
1-8. LOCATION AND CONTENTS OF PLATES (Con't).

c. M390C.

CHASSIS TRAILER, 2 TON, 2 WHEEL. FEDERAL STOCK NO. [REDACTED]		WEIGHT AND DIMENSIONAL DATA 	
MANUFACTURED BY EIDAL MANUFACTURING CO INC ALBUQUERQUE, NEW MEXICO			
MFG. SERIAL NO. [REDACTED] MFG. MODEL [REDACTED] CONTRACT NO. [REDACTED]			
PUBLICATIONS PARTS LIST SNL. ORD. [REDACTED] TECHNICAL MANUAL TM [REDACTED] LUBRICATION ORDER LO [REDACTED]		WEIGHTS PAYLOAD ON WHEELS [REDACTED] ON LUNETTE [REDACTED] TOTAL [REDACTED]	
DELIVERY DATE [REDACTED] INSPECTED BY [REDACTED]		SHIPPING CUBAGE 493-CU. FT.	

CAUTION
 PUT REAR JACKS IN PLACE BEFORE DISCONNECTING LUNETTE FROM PRIME MOVER

RESPONSIBLE AGENCY	PROCUREMENT	DEPOT MAINTENANCE
CHASSIS	ORD. CORPS	ORD. CORPS
BODY		
MTD. EQPT		
U.S. PROPERTY		



1-9. DIFFERENCES BETWEEN MODELS.

Differences between the M514 and M390C Chassis Trailers are limited to variations in the frame, suspension system, retractable support assembly, and leveling jacks.

1-10. EQUIPMENT DATA.

	<u>M514</u>	<u>M390C</u>
Manufacturer:	Fruehauf Trailer Co.	Eidal Manufacturing Co.
Weights:		
Chassis.....	2430 lb (1103 kg)	3650 lb (1657 kg)
Payload.....	2500 lb (1135 kg)	4000 lb (1816 kg)
Total.....	4930 lb (2238 kg)	7650 lb (3473 kg)
Dimensions (overall):		
Ground Clearance	17 in. (43.2 cm)	104 in. (27.3 cm)
Floor Height (loaded)	36 3/4 in. (93.3 cm)	22 in. (55.9 cm)
Width	974 in (247.0 cm)	90716 in. (229.7 cm)
Length	1851/8 in. (470.2 cm)	171 in. (434.3 cm)
Angle of Departure	30°	28°
Suspension:	Torsion Bar	Leaf Springs
Brakes:		
Handbrake Actuation.....	Mechanical	
Service Brakes:		
Actuation	Air-over-hydraulic	
Operating Pressure.....	100 psi (690 kPa)	
Wheels:		
Type	Military Offset Disk	
Rim Size	20 x 7.5	
Tires:		
Type	Military 8-ply Nondirectional Tread	
Size	9.00-20	
Inflation Pressure:		
Highway	50 psi (345 kPa)	
Cross-country.....	35 psi (241 kPa)	
Mud, Sand, or Snow	15 psi (103 kPa)	
Maximum Towing Speed:		
Highway	50 mi/h (80 km/h)	
Cross-country	25 mi/h (40 km/h)	
Number of Leveling Jacks	3	
Electrical System.....	24-volts	

**CHAPTER 2
OPERATING INSTRUCTIONS**

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

Paragraph Title	Page Number
General.....	2-1
Handbrake Levers	2-1
Retractable Support Assemblies	2-1

2-1. GENERAL.

This section describes the function of all operator's controls and indicators on the M514 and M390C Chassis Trailers. Review this section thoroughly before operating the trailer. Refer to paragraph 1-7 for illustrations showing the location of operator controls.

2-2. HANDBRAKE LEVERS.

a. **M514.** The two handbrake levers are located near the front of the trailer, one beneath each front leveling jack support assembly. Pull handbrake levers toward front of trailer to apply brakes. Push handbrake levers toward rear of trailer to release brakes.

b. **M390C.** The two handbrake levers are located near the front of the trailer, one on each side of the trailer drawbar. Raise handbrake levers to vertical position to apply brakes. Lower handbrake levers to horizontal position to release brakes.

2-3. RETRACTABLE SUPPORT ASSEMBLIES.

a. **M514.**

(1) The retractable support assembly is used for supporting the front of the trailer when not coupled to a towing vehicle. There is no height adjustment on the M514 retractable support assembly.

(2) Pull out on spring-loaded lockpin to allow retractable support assembly to be raised or lowered.

(3) Lock in raised position with gravity pin inserted through support and frame clevis.

b. **M390C.**

(1) The retractable support assembly is used for supporting the front of the trailer when not coupled to a towing vehicle.

(2) The retractable support assembly consists of a handcrank-operated, screw-type square leg equipped with two metal wheels.

(3) The retractable support assembly handcrank, located on the back side of the support leg, is bolted to the retractable support assembly input bevel gear. A handcrank is turned to raise or lower the support leg and is stowed when not in use on a retaining clip on the support leg.

2-3. RETRACTABLE SUPPORT ASSEMBLIES (Con't).

(4) The retractable support assembly is locked in either the raised or lowered position by the spring-loaded release handle.

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

Paragraph Title	Page Number
General.....	2-2
Maintenance Forms and Records	2-2
Operator/Crew Preventive Maintenance Checks and Services (PMCS), Table 2-1	2-4
PMCS Procedures.....	2-2

2-4. GENERAL

a. Preventive maintenance is detecting/correcting problems before they happen, or fixing minor problems before they become major problems.

b. Table 2-1 contains a list of preventive maintenance checks and services to be performed by the operator/crew. Attention to these checks and services will increase the useful life of the equipment.

c. Every possible problem cannot be covered in the PMCS. Be alert for anything that might cause a problem.

2-5. MAINTENANCE FORMS AND RECORDS.

Every mission begins and ends with paperwork. There is not much of it, but you have to keep it up. The forms and records you fill out have several uses. They are a permanent record of the service, repairs, and modifications made on your trailer. They are reports to Organizational Maintenance and to your commander. They are a check list for you when you want to know what is wrong with the trailer after its last use, and whether those faults have been fixed. For the information you need on forms and records, refer to DA Pam 738750.

2-6. PMCS PROCEDURES.

a. While performing your PMCS, pay attention to all WARNINGS and CAUTIONS.

b. Table 2-1 lists the inspections and services required to keep the trailer in good operating condition. Perform these inspections and services at the following intervals:

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

c. If something doesn't work, troubleshoot it with the instructions in Chapter 3, Section II of this manual and notify your supervisor.

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

d. Always do your PMCS 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.

e. If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, IMMEDIATELY report it to Organizational Maintenance.

f. When you perform PMCS, take along the tools you need to make all the checks. You'll always need a rag (Item 12, Appendix E) or two.

WARNING

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

(1) **Keep it Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 13, Appendix E) on all metal surfaces. Use detergent (Item 5, Appendix E) and water when you clean rubber or plastic.

(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, of course, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it or report it to Organizational Maintenance if you can't tighten it.

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

(4) **Electric Wire 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 condition.

(5) **Air and Hydraulic Hoses and Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate 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, report it to Organizational Maintenance.

(6) **Fluid Leakage** It is necessary for you to know how fluid leakage affects the status of your trailer. The following are definitions of the type/classes of leakage you need to know to be able to determine the status of your trailer. 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 great enough to cause drops to drip from item being inspected.
Class III	Leakage of fluid great enough to form drops that fall from the item being inspected.

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

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 or may be damaged.

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

(b) IMMEDIATELY report Class III leaks to Organizational Maintenance.

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

(1) Item No. The number in this column shall be used as a source of item numbers for the "TM ITEM NO." column on DA Form 2404 in recording results of PMCS.

(2) Interval. Tells you when to do a certain check or service.

(3) Item To Be Inspected. Lists system and common names of items that are to be inspected. Included in this column are specific servicing, inspection, replacement, or adjustment procedures to be followed. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have Organizational Maintenance do the work.

(4) Equipment is Not Ready/Available If. This column tells you when and why the trailer cannot be used.

NOTE

The terms "ready/available" and "mission-capable" refer to the same status: Trailer is on hand and is able to perform its combat missions (AR 700-138).

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

B-Before		D-During		A-After		W-Weekly
ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR adjusted as needed.	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
1	•				<p>NOTE Perform Weekly (W) as well as Before (B) PMCS if:</p> <p>a. You are the assigned operator but have not used semitrailer since the last weekly check.</p> <p>b. You are operating the trailer for the first time.</p> <p>TIRES Check tires for obviously low pressure, deep cuts, foreign objects, unusual tread wear and proper inflation (para 1-10).</p>	One or more tires flat, missing, or unserviceable.

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

B-Before

D-During

A-After

W-Weekly

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR adjusted as needed.	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
2	•				WHEELS Check wheels for damage. Ensure that all wheel stud nuts are present and secure. If wheel stud nuts are obviously loose, notify Organizational Maintenance to apply proper torque.	Two or more wheel stud nuts missing on one wheel.
3	•				INTERVEHICULAR AIR HOSE Ensure that intervehicular air hose is in good condition and securely connected. Check for missing or damaged air coupling preformed packing.	Missing or damaged air hose or air coupling preformed packing.
4	•				INTERVEHICULAR CABLE Ensure that intervehicular cable is in good condition and connectors are correctly connected and secured in mounting clips.	
5	•				HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS Check under trailer and around fittings for signs of leaks.	Any leaks are found.
6	•				FRAME AND TOWING ATTACHMENTS a. Visually check frame for cracks or broken welds. b. Visually check for obviously loose, damaged, or missing drawbar coupler and safety chains.	Frame is cracked or has a broken weld. Drawbar coupler or safety chains loose, damaged, or missing.
7	•				BRAKES a. Couple trailer to towing vehicle (para 2-8) and fully charge airbrake system. Listen for air leaks. b. Check brakes for proper operation. Engage brakes and attempt to pull trailer forward. c. Check handbrakes for proper operation. Adjust handbrake lever as required (para 3-7).	Any signs of leakage are found. Brakes fail to operate.
8	•				LIGHTS Connect intervehicular cable and check lights for proper operation. Check for damage to intervehicular cable and lights.	
9	•				LEVELING JACKS AND RETRACTABLE SUPPORT ASSEMBLY Check leveling jacks and retractable support assembly for proper operation, secure mounting, and loose or missing parts.	Leveling jacks and retractable support assembly do not operate or have loose or missing parts.

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

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR adjusted as needed.	EQUIPMENT IS NOT READY/AVAILABLE IF
	B	D	A	W		
10					REFLECTORS • Check condition of all reflectors. SUSPENSION SYSTEM • Visually inspect suspension system and mounting parts for obvious looseness and damage.	
11						

Section III. OPERATION UNDER USUAL CONDITIONS

Paragraph Title	Page Number
Coupling Trailer to Towing Vehicle	2-6
General	2-6
Leveling the Trailer	2-10
Towing the Trailer	2-11
Uncoupling Trailer From Towing Vehicle	2-8

2-7. GENERAL.

- a. This section contains instructions for safely operating the M514 and M390C Chassis Trailers under usual conditions. Unusual operating conditions are defined and described in Section IV of this chapter.
- b. DO NOT attempt to operate the trailers without first becoming familiar with information found in Section II of Chapter 1 and Section I of this chapter.
- c. Read and follow all WARNINGS found in the Warning Summary at the front of this manual.
- d. Perform all Before (B) PMCS before operating the trailer.

2-8. COUPLING TRAILER TO TOWING VEHICLE.

WARNING

All personnel must stand clear of towing vehicle and trailer during coupling operation. Failure to follow this warning may result in serious injury or death to personnel.

2-8. COUPLING TRAILER TO TOWING VEHICLE (Con't).

WARNING

DO NOT raise rear leveling jacks on the M390C trailer until after trailer is coupled to towing vehicle. If rear leveling jacks are raised before coupling is complete, weight distribution could cause trailer to tip, causing injury to personnel and damage to equipment.

- a. Raise leveling jacks and stow for traveling. If coupling an M390C, DO NOT raise rear leveling jacks.
- b. Couple trailer to towing vehicle.

(1) **M514.**

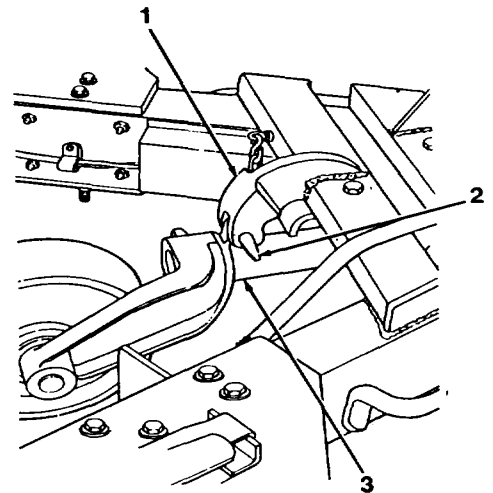
- (a) Position trailer drawbar coupler in towing vehicle pintle.
- (b) Close and secure pintle latch.
- (c) Cross safety chains under drawbar and hook to towing vehicle.

(2) **M390C.**

- (a) Position trailer drawbar coupler in towing vehicle pintle.
- (b) Use handcrank to raise retractable support assembly wheels off ground until weight of trailer is supported by towing vehicle pintle.
- (c) Close and secure pintle latch.
- (d) Cross safety chains under drawbar coupler and hook to towing vehicle.
- (e) Raise rear leveling jacks and stow for traveling.

1) **M514.**

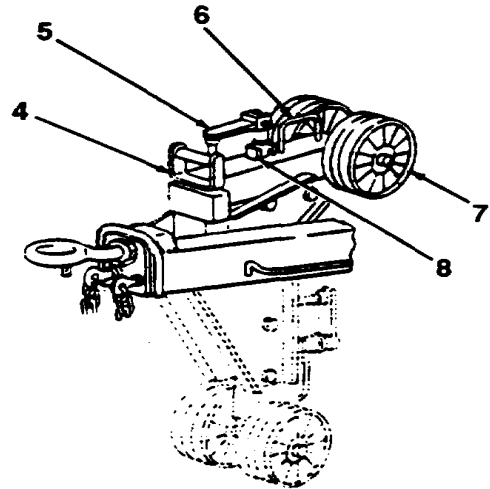
- (a) Pull out spring-loaded lockpin in upper end of retractable support assembly (3).
- (b) Raise retractable support assembly (3) until lockpin enter upper locking hole.
- (c) Install gravity pin (2) through holes in retractable support assembly (3) and frame clevis (1).



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2-8. COUPLING TRAILER TO TOWING VEHICLE (Con't)**(2) M390C.**

- (a) Use handcrank (5) to raise retractable support assembly wheels (7) as high as possible.
- (b) Secure handcrank (5) in retaining clip (8).
- (c) Pull spring-loaded release handle (4) toward rear of trailer and pull ground pad (6) upward.
- (d) Raise retractable support assembly until ends of release handle (4) lock retractable support assembly in position. Ensure that release handle is fully engaged.



- d. Connect air coupling of intervehicular air hose to towing vehicle air coupling.
- e. Connect intervehicular cable to towing vehicle receptacle.
- f. Release handbrakes (para 2-2).

2-9. UNCOUPLING TRAILER FROM TOWING VEHICLE.**WARNING**

All personnel must stand clear of towing vehicle and trailer during uncoupling operation. Failure to follow this warning may result in serious injury or death to personnel.

- a. Apply handbrakes (para 2-2).
- b. Disconnect intervehicular cable from towing vehicle receptacle.
- c. Disconnect air coupling of intervehicular air hose from towing vehicle air coupling.

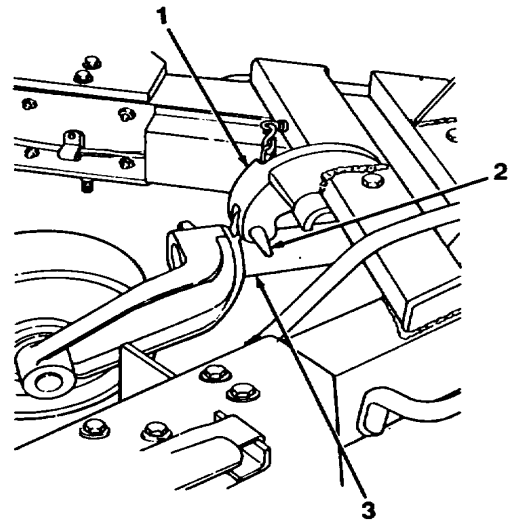
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2-9. UNCOUPLING TRAILER FROM TOWING VEHICLE (Con't).

d. Lower retractable support assembly.

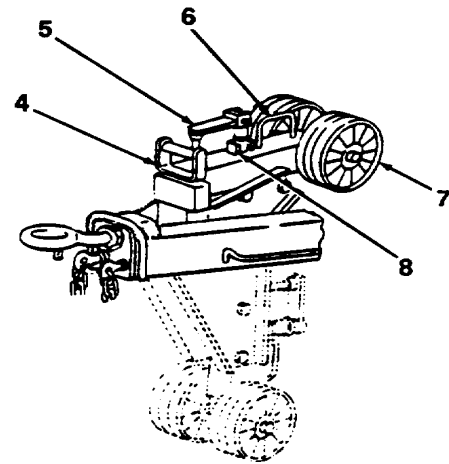
(1) **M514.**

- (a) Remove gravity pin (2) from holes in retractable support assembly (3) and frame clevis (1).
- (b) While supporting retractable support assembly (3), pull out spring-loaded lockpin as far as possible and allow retractable support assembly to swing down to lowered position.
- (c) Release lockpin to lock retractable support assembly (3) in lowered position.



(2) **M390C.**

- (a) Support retractable support assembly and, at the same time, pull out spring-loaded release handle (4) and release from holes in top of drawbar coupler mounting bracket.
- (b) While support ground pad (6), lower retractable support assembly to vertical position. Lock retractable support assembly by ensuring that ends of release handle (4) engage in holes in top of drawbar coupler mounting bracket.
- (c) Remove handcrank (5) from retaining clip (8) and lower wheels (7) to ground.



e. Unhook safety chains from towing vehicle and stow on trailer.

2-9. UNCOUPLING TRAILER FROM TOWING VEHICLE (Con't).**WARNING**

Weight distribution on the M390C trailer requires that rear leveling jacks be lowered to support position before disconnecting trailer from towing vehicle. Failure to do so could cause trailer to tip, causing Injury to personnel and damage to equipment.

- f. If uncoupling an M390C, lower rear leveling jacks (para 2-10).
- g. Raise pintle latch and unhook trailer drawbar coupler from towing vehicle pintle.

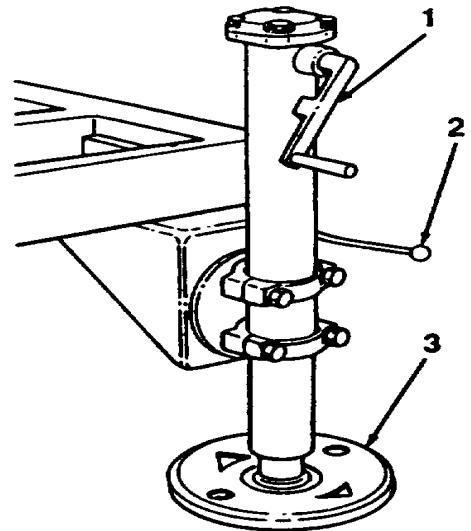
2-10. LEVELING THE TRAILER.

- a. M514.
 - (1) Install leveling jack handcrank on one front leveling jack drive shaft.
 - (2) Turn handcrank clockwise until leveling jack shoe firmly contacts ground and desired height is obtained.
 - (3) Repeat steps 1 and 2 for second front leveling jack.
 - (4) Remove support pin from supports on each side of rear leveling jack. Allow supports to rest on trailer.
 - (5) Pull spring-loaded retractor out and rotate one-half turn to hold in released position.
 - (6) Move rear leveling jack to vertical position.
 - (7) Adjust leveling jack heights as required to level trailer.

CAUTION

Handbrakes must be released after emplacing trailer. Failure to release handbrakes

- (8) Release handbrakes (para 2-2).
- b. M390C.
 - (1) Using control lever (2), unlock each double-swiveling leveling jack support assembly.
 - (2) Rotate support assembly until control lever (2) locks in place.
 - (3) Using control lever (2), swing leveling jack to vertical position.
 - (4) Turn handcrank (1) to lower shoe (3) to ground.
 - (5) Adjust leveling jack heights as required to level trailer.



2-10. LEVELING THE TRAILER (Con't).**CAUTION**

Handbrakes must be released after emplacing trailer. Failure to release handbrakes may cause brakeshoes to freeze to brakedrums.

- (6) Release handbrakes (para 2-2).
- c. Wheel Rotation After Emplacing Trailer.

CAUTION

To avoid wheel bearing damage, wheels on emplaced trailer must be rotated daily. If wheels are not rotated daily, wheel bearing grease settles to the bottom and wheel bearings will be damaged when trailer is put in motion.

- (1) When trailers are up on leveling jacks, rotate wheels daily.
- (2) A good way to help remember to rotate tires is to mark the top of the rim with a "1" and the bottom of the rim with a "2". Keep the "2" up on even-numbered days, and the "1" up on odd-numbered days.

2-11. TOWING THE TRAILER.

a. Driving.

- (1) Keep in mind the overall length of the towing vehicle and trailer when passing other vehicles, turning, and backing.
- (2) Always drive at safe speeds and note any irregularities.

b. Turning.

- (1) When turning corners, remember that the trailer wheel turn inside the turning radius of the towing vehicle.
- (2) When making a right turn at an intersection, drive the towing vehicle about halfway into the intersection and then cut sharply to the right. This will allow for the shorter turning radius of the trailer and will keep trailer wheels off the curb.

c. Braking. During normal operations, the brakes of the towing vehicle and trailer are applied at the same time when the brake pedal is applied. Brake pedal pressure must be smooth and gradual.

d. Parking. Normally the towing vehicle brakes will provide adequate control of the trailer when stopped temporarily. When the towing vehicle and trailer are to be parked and left unattended, apply the towing vehicle and trailer handbrakes.

e. Backing.

- (1) Adjust all towing vehicle mirrors before backing.
- (2) When backing, the rear of the trailer will always move in a direction opposite to the front wheels of the towing vehicle.
- (3) If the trailer is to be backed to the right, turn the steering wheel to the left. If the trailer is to be backed to the left, turn the steering wheel to the right.
- (4) When the trailer has turned and backing in a straight line is required, turn the towing vehicle wheels in the direction that the trailer is moving. This will slowly bring the towing vehicle and trailer into a straight line.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

Paragraph Title	Page Number
Fording	2-13
General	2-12
Operation in Dusty or Sandy Areas	2-12
Operation in Extreme Cold or Snow	2-12
Operation In Extreme Heat	2-12
Operation in Rough or Rocky Terrain	2-13

2-12. GENERAL.

a. This section contains instructions for safely operating the M514 and M390C Chassis Trailers under unusual conditions. In addition to normal preventive maintenance and service, special care must be taken to keep the trailers mission-capable in extreme temperatures and humidity.

- b. For information on special driving instructions under unusual conditions, refer to FM 21-305.
- c. For information on operation in cold weather, refer to FM 9-207.
- d. For information on operation in extreme heat, dusty, or sandy conditions, refer to FM 90-3.

2-13. OPERATION IN EXTREME COLD OR SNOW.

a. Operation in extreme cold causes lubricants to thicken or freeze and various trailer components to, become hard and brittle, and therefore easily damaged or broken. The operator must be alert to the effects of extreme cold on the trailer.

- b. When stopped or parked, clean ice, snow, or mud from underneath trailer and from hoses, lines, tubes, and electrical connections.
- c. When operating in snow, ensure that the tires are inflated to 15 psi (103 kPa) (para 1-10).
- d. Use caution when placing trailer in motion.
 - (1) Thickened lubricants may cause failure of trailer components.
 - (2) Tires may be frozen to the ground. If tires were under-inflated, they may have flat spots.
 - (3) If brakeshoes are frozen to brakedrums, heat must be applied to brakedrums.

2-14. OPERATION IN EXTREME HEAT.

a. Do not park trailer in the sun for long periods of time as heat and sunlight will shorten the life of tires and lead to deterioration of painted surfaces.

b. Trailers, inactive for long periods in hot and humid weather, are subject to rapid rusting and accumulation of fungus. Frequently inspect, clean, and lubricate to prevent deterioration (Chapter 3, Section I).

2-15. OPERATION IN DUSTY OR SANDY AREAS.

Frequently inspect, clean, and lubricate to prevent damage to trailer components due to contamination from dust or sand (Chapter 3, Section I).

2-16. OPERATION IN ROUGH OR ROCKY TERRAIN.

- a. Use care when moving trailer over rough or rocky ground to minimize shock to trailer.
- b. Ensure that the tires are properly inflated (para 1-10).

2-17. FORDING.

- a. Shallow Water Fording. Cover the trailer with tarpaulin to protect it from splashing water.
- b. After-fording Services.

(1) If tactical situation permits, immediately perform the following services:

- (a) Clean and dry all surfaces.
- (b) Lubricate in accordance with lubrication instructions (Chapter 3, Section I).
- (c) Notify Organizational Maintenance that wheel bearings must be packed, brakedrums and hubs must be cleaned, and all organizational lubrication performed.

(2) If the services listed above cannot be performed immediately, apply oil or preservative to badly splashed or submerged areas of the trailer. Notify Organizational Maintenance so that complete disassembly, cleaning, and lubrication can be performed as soon as possible.

(3) Saltwater immersion greatly increases rusting and corrosion, especially on unpainted surfaces. Remove all traces of saltwater and salt deposits. Apply oil or preservative to badly splashed or submerged areas. Notify Organizational Maintenance so that complete disassembly, cleaning, and lubrication can be performed as soon as possible.

2-13/(2-14 Blank)

**CHAPTER 3
OPERATOR MAINTENANCE**

Section I. LUBRICATION INSTRUCTIONS

Paragraph Title	Page Number
General	3-1
Lubrication Chart	3-3
Lubrication Instructions Under Unusual Conditions	3-2
Specific Lubrication Instructions.....	3-1

3-1. GENERAL.

NOTE

These instructions are MANDATORY.

- a. The M514 and M390C Chassis Trailers must receive lubrication with approved lubricants at recommended intervals in order to be mission-ready at all times.
- b. The KEY lists lubricants to be used in all temperature ranges and shows the interval.
- c. The lubrication chart shows lubrication points, names items to be lubricated, the required lubricant, and recommended interval for lubrication. Any special lubricating instructions required for specific components are contained in the NOTES section of the chart.
- d. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

3-2. SPECIFIC LUBRICATION INSTRUCTIONS.

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

WARNING

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

- b. Use dry cleaning solvent (Item 13, Appendix E) to clean grease fittings, lubrication points, and surrounding areas before lubricating.
- c. When lubricating at a grease fitting, apply enough grease to purge old grease from the lubricated area. When old grease oozes from the grease fitting, purging and lubrication are adequate.

3-2. SPECIFIC LUBRICATION INSTRUCTIONS (Con't).**WARNING**

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

- d. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

3-3. LUBRICATION UNDER UNUSUAL CONDITIONS.

a. Lubricate more frequently to compensate for abnormal or extreme conditions such as high or low temperatures, prolonged periods of high-speed operations, continued operation in sand or dust, immersion in water, or exposure to moisture. Any one of these conditions may cause contamination and quickly destroy protective qualities of lubricants.

- b. Intervals may be extended during inactive periods commensurate with adequate preservation.

- c. For lubrication instructions during continued operation below 0°F (-180C), refer to FM 9-207.

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

LUBRICATION CHART

**TRAILER, CHASSIS: 1-TON, 2-WHEEL
M 514 (NSN 2330-00-542-5733)
AND
TRAILER, CHASSIS: 2-TON, 2-WHEEL
M390C (NSN 2330-00-542-3491)**

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

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

WARNING

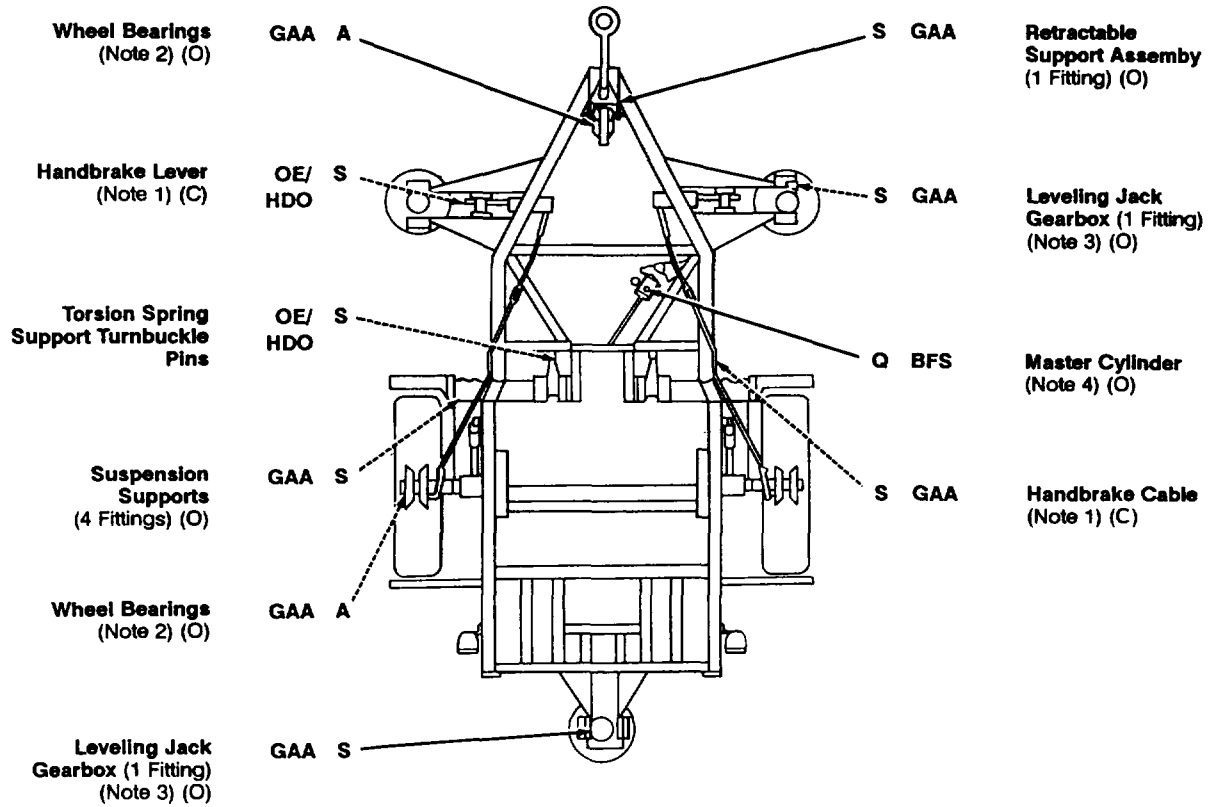
Dry cleaning solvent, PD680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated

area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F/38°C (38°C/59 C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

Clean all fittings and area around lubrication points with dry cleaning solvent PD680 (Item 13, Appendix E) or equivalent before lubricating equipment. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

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

M514



TOTAL MAN-HOURS•

INTERVAL	MAN-HOUR
Q	0.1
S	0.6
A	1.5

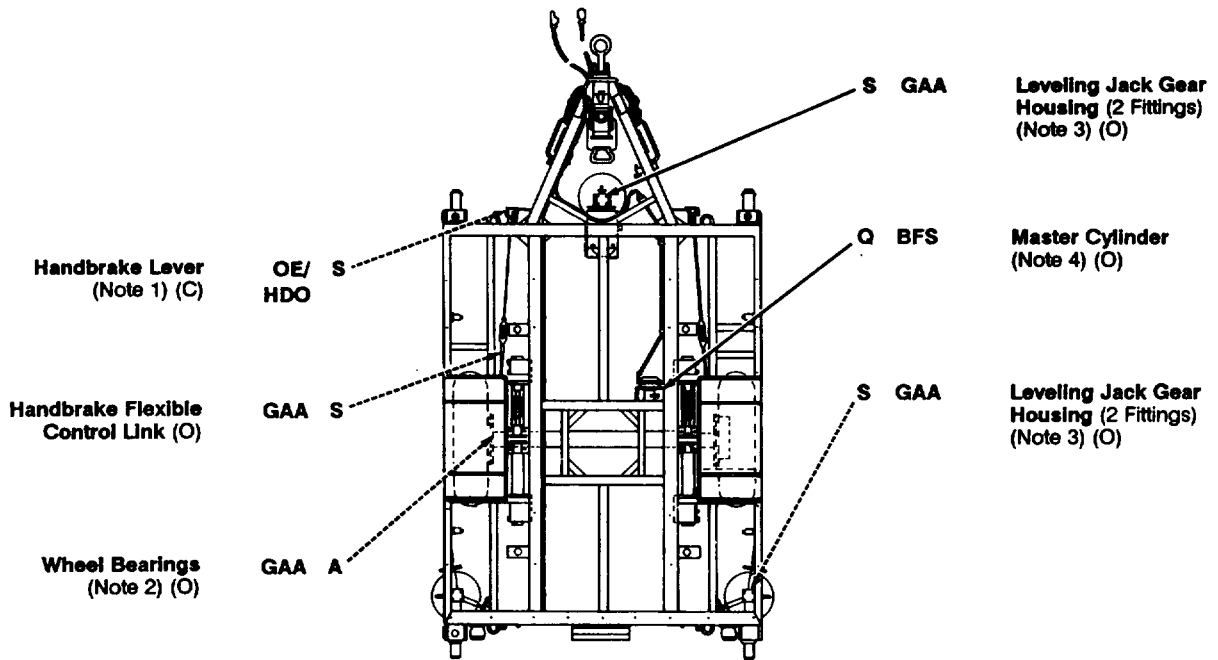
• The man-hour time specified is the time you need to do all services prescribed for a particular interval.

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LUBRICANT INTERVAL

M390C

INTERVAL LUBRICANT



TOTAL MAN-HOURS*

INTERVAL	MAN-HOUR
Q	0.1
S	0.6
A	1.5

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

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LUBRICANTS	EXPECTED TEMPERATURES			INTERVALS
	ABOVE +32°F (ABOVE 0°C)	+40°F to -10°F (+4°C to -23°C)	+40°F to -65°F (-18°C to -54°C)	
OE/HDO (MIL-L-2104) Lubricating Oil, Internal Combustion Engine, Tactical Service	OE/HDO-30	OE/HDO-10	—	Q—Quarterly S—Semiannual A—Annual
OEA (MIL-L-46167) Lubricating Oil, Internal Combustion Engine, Arctic	—	—	OEA	
BFS (MIL-B-46167) Brake Fluid Silicone, Automotive	All Temperatures			
GAA (MIL-G-10924) Grease, Automotive and Artillery	All Temperatures			
FOR ARCTIC OPERATIONS, REFER TO FM 9-207				

NOTES:

1. OIL CAN POINTS.

M514. Quarterly, or at interval specified, lubricate handbrake assembly and linkage, handbrake cable turnbuckles, receptacle cover hinge, traveling lockpins, and toolbox locks and hinges.

M390C. Quarterly, or at interval specified, lubricate handbrake assembly and linkage, leveling jack adjusting nut and swivel housing mating surfaces, staybars, foot pad pins, inner tubes, retractable support inner tube, spring-loaded handle, wheel assembly, and hinges and brackets.

2. WHEEL BEARINGS. Annually, remove, clean, inspect, and pack with GAA (TM 9-214).

3. LEVELING JACKS. After lubrication, operate leveling jacks up and down to distribute the GAA.

4. MASTER CYLINDER. Fill to within X in. (13 mm) from top.

5. SPRINGS (M390C). DO NOT lubricate.

Section II. OPERATOR/CREW TROUBLESHOOTING PROCEDURES

Paragraph Title	Page Number
General.....	3-7
Operator/Crew Troubleshooting, Table 3-1	3-8
Troubleshooting Symptom Index.....	3-8

3-4. GENERAL.

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

b. The Troubleshooting Symptom Index in paragraph 35 lists common malfunctions which may occur, and refers you to the proper page in Table 31 for a troubleshooting procedure.

c. If you are unsure of the location of an item mentioned in troubleshooting, refer to paragraph 17 or to the maintenance task where the item is replaced.

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

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

f. When troubleshooting a malfunction:

(1) Locate the symptom or symptoms in paragraph 35 that best describe the malfunction.

(2) Turn to the page in Table 31 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: MALFUNCTION, TEST OR INSPECTION (in step number order), and CORRECTIVE ACTION.

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

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

(1) MALFUNCTION. A visual or operational indication that something is wrong with the trailer.

(2) TEST OR INSPECTION. A procedure to isolate the problem in a component or system.

(3) CORRECTIVE ACTION. A procedure to correct the problem.

3-5. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
BRAKES	
Brakes:	
Drag (One or Both Brakes Running Hot)	3-10
No Brakes	3-10
Will Not Release	3-10
Weak Brakes	3-10
Handbrakes Will Not Hold Trailer	3-10
ELECTRICAL SYSTEM	
Lamps:	
All Do Not Light	3-8
Dim or Flickering	3-9
One or More (But Not All) Fail to Light	3-9
LEVELING JACKS	
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Table 3-1. Operator/Crew Troubleshooting.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS DO NOT LIGHT.
 Step 1. Check setting and operation of towing vehicle light switches. Refer to towing vehicle technical manual.

 If towing vehicle lights do not light, notify Organizational Maintenance.

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
Step 2.	Check intervehicular cable and chassis wiring harness for proper connections.	Properly connect intervehicular cable and chassis wiring harness.
Step 3.	Check intervehicular cable for dirty, corroded, or damaged pins.	If intervehicular cable pins are dirty or corroded, clean pins (para 36).
		If intervehicular cable pins are damaged, notify Organizational Maintenance.
Step 4.	Check chassis wiring harness for broken wires or insulation and other damage. Notify Organizational Maintenance.	
2.	ONE OR MORE LAMPS (BUT NOT ALL) WILL NOT LIGHT.	
Step 1.	Check light assembly for defects or damage.	If light assembly is defective or damaged, notify Organizational Maintenance.
Step 2.	Check chassis wiring harness and taillight connectors for proper connection.	If chassis wiring harness and taillight connectors are not properly connected, disconnect and connect properly.
Step 3.	Check chassis wiring harness for broken wires or insulation and other damage. Notify Organizational Maintenance.	
3.	DIM OR FLICKERING LAMPS.	
Step 1.	Check for loose, dirty, or corroded terminals at taillight connectors.	Clean dirty or corroded terminals (para 3-6).
Step 2.	Check taillight for obvious defects or damage.	If light is defective or damaged, notify Organizational Maintenance.
Step 3.	Check intervehicular cable for dirty or corroded pins.	Clean dirty or corroded pins (para 3-6).
Step 4.	Check chassis wiring harness for broken wires or insulation and other damage. Notify Organizational Maintenance.	

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

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

BRAKES

4. BRAKES DRAG (ONE OR BOTH BRAKES RUNNING HOT).

Check to see if handbrakes are applied (para 2-2).

Release handbrakes if applied (para 2-2).

If handbrakes are not applied, notify Organizational Maintenance.

5. BRAKES WILL NOT RELEASE.

Step 1. Check that intervehicular air hose is properly connected to towing vehicle.

If intervehicular air hose is not connected properly, shut off towing vehicle air supply.
Disconnect intervehicular air hose and connect properly.

Step 2. Check if brake valve in towing vehicle is in applied position. Refer to towing vehicle technical manual.

If brake valve is applied, release.

Step 3. Check for restrictions or kinks in intervehicular air hose.

Remove restrictions or kinks.

If restrictions or kinks cannot be removed, notify Organizational Maintenance.

6. HANDBRAKES WILL NOT HOLD TRAILER.

Check handbrake cable for too much slack.

Adjust handbrake lever (para 3-7).

If handbrake lever still does not hold trailer, notify Organizational Maintenance.

7. NO BRAKES OR WEAK BRAKES.

Step 1. Check for closed shut-off valve on towing vehicle. Refer to towing vehicle technical manual.

If shut-off valve is closed, open.

Step 2. Check that intervehicular air hose is properly connected to towing vehicle.

If intervehicular air hose is not properly connected, shut off towing vehicle air supply.
Disconnect intervehicular air hose and connect properly.

If intervehicular air hose is properly connected and malfunction still exists, notify Organizational Maintenance.

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<i>TIRES</i>		
8.	ABNORMAL TIRE WEAR.	<p>Step 1. Check tires for correct pressure (para 1-10).</p> <p style="padding-left: 40px;">Inflate tires to correct pressure.</p> <p>Step 2. Check for loose wheel hub nuts.</p> <p style="padding-left: 40px;">Tighten loose wheel hub nuts. Notify Organizational Maintenance to apply proper torque.</p> <p>Step 3. Check for a loose, cracked, bent, or broken rim or wheel.</p> <p style="padding-left: 40px;">Notify Organizational Maintenance.</p>
<hr/> <i>RETRACTABLE SUPPORT ASSEMBLY (M514)</i>		
9.	CASTER DOES NOT MOVE EASILY.	<p>Check for insufficient lubrication.</p> <p>If lubrication is insufficient, notify Organizational Maintenance.</p>
<hr/> <i>RETRACTABLE SUPPORT ASSEMBLY (M390C)</i>		
10.	HANDCRANK WILL NOT TURN OR WILL NOT TURN FREELY.	<p>Check for indication of damaged parts (such as grinding sound in leg).</p> <p>If damage is indicated, notify Organizational Maintenance.</p>
11.	SUPPORT ASSEMBLY WILL NOT SWIVEL OR TURN FREELY IN DRAWBAR COUPLER MOUNTING BRACKET (WHEN STEERING).	<p>Step 1. Check for insufficient lubrication.</p> <p style="padding-left: 40px;">If lubrication is insufficient, notify Organizational Maintenance.</p> <p>Step 2. Check for bent bracket and spindle assembly.</p> <p style="padding-left: 40px;">If bracket and spindle assembly is bent, notify Organizational Maintenance.</p>

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

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

LEVELING JACKS

12. HANDCRANK WILL NOT TURN OR WILL NOT TURN FREELY.

Step 1. Check for insufficient lubrication.

If lubrication is insufficient, notify Organizational Maintenance.

Step 2. Check for indication of damaged parts (such as grinding sound in leg).

If damage is indicated, notify Organizational Maintenance.

Section III. MAINTENANCE PROCEDURES

Paragraph Title	Page Number
Electrical Connector Cleaning	3-12
Handbrake Lever Adjustment.....	3-12

3-6. ELECTRICAL CONNECTOR CLEANING.

- a. Disconnect electrical connector.
- b. Remove any buildup of dirt or grease with a soft rag (Item 12, Appendix E).
- c. Connect electrical connector and check operation of lights. If cleaning does not correct malfunction, notify Organizational Maintenance.

3-7. HANDBRAKE LEVER ADJUSTMENT.

- a. Turn adjusting knob on handbrake lever clockwise to increase braking action.
- b. Turn adjusting knob on handbrake lever counterclockwise to decrease braking action.
- c. If braking action is still not adequate to hold trailer, notify Organizational Maintenance to adjust handbrake cable.

**CHAPTER 4
ORGANIZATIONAL MAINTENANCE**

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

Paragraph Title	Page Number
Common Tools and Equipment.....	4-1
Repair Parts.....	4-1
Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment.....	4-1

4-1. COMMON TOOLS AND EQUIPMENT.

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

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

Special tools, TMDE, and support equipment required to maintain the trailer are listed in Appendixes B and F of this manual.

4-3. REPAIR PARTS.

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

Section II. SERVICE UPON RECEIPT

Paragraph Title	Page Number
General.....	4-2
Preliminary Inspections and Services.....	4-2

4-4. GENERAL.

When a new, used, or reconditioned M514 or M390C Chassis Trailer is received, determine whether it has been properly prepared for service and is in condition to perform its mission. Perform the preliminary inspections and services listed in paragraph 4-5.

4-5. PRELIMINARY INSPECTIONS AND SERVICES.

WARNING

Dry cleaning solvent, PD680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F/138°F (38°C/59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

- a. Use dry cleaning solvent (Item 13, Appendix E) and rags (Item 12, Appendix E) to clean all exterior surfaces coated with rust preventive compounds. Refer to DD Form 1397 and follow all instructions carefully.
- b. Remove any protective materials used on the trailer during shipment. Unpack and properly stow all Basic Issue Items (BI).
- c. Perform Quarterly (Q) PMCS as shown in Table 41. Correct any deficiency if authorized by the Maintenance Allocation Chart (MAC) in Appendix B. If not authorized, notify your supervisor.
- d. Make a complete visual inspection of the trailer to ensure that all accessories and required publications are present.
- e. Lubricate all lubrication points, regardless of interval (Chapter 3, Section I).
- f. Schedule the next PMCS on DD Form 314.
- g. Make a final, complete inspection of the trailer.
- h. Perform a break-in road test of 25 mi (40 km) at a maximum speed of 50 mi/h (80 km/h).

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

Paragraph Title	Page Number
General.....	4-3
Organizational Preventive Maintenance Checks and Services (PMCS), Table 4-1.....	4-4
PMCS Procedures.....	4-3

4-6. GENERAL.

a. Preventive maintenance is detecting/correcting problems before they happen or fixing minor problems before they become major problems.

b. Table 41 contains a list of preventive maintenance checks and services to be performed by Organizational Maintenance personnel. Attention to these checks and services will increase the useful life of the equipment.

c. Every possible problem cannot be covered in the PMCS. Be alert for anything that might cause a problem. If anything does look wrong, and you can't fix it, write it on a DA Form 2404 and report it to your supervisor. Be sure to record any corrective action taken.

4-7. PMCS PROCEDURES.

a. While performing PMCS, always keep in mind all WARNING s and CAUTIONS.

b. Perform the checks and services at the intervals shown in Table 41.

- (1) Perform Quarterly (Q) PMCS once every three months.
- (2) Perform Semiannual (S) PMCS twice a year, or once every six months.
- (3) Perform Annual (A) PMCS once each year.

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

d. If the trailer doesn't work properly and you can't see what is wrong, refer to Section IV of this chapter for troubleshooting Instructions.

WARNING

Dry cleaning solvent, PD680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F/138°F (38°C/590C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

e. Make cleanup a part of your preventive maintenance. Dirt, grease, oil, and debris may cover up a serious problem. Wipe off excess grease and spilled oil. Use dry cleaning solvent (Item 13, Appendix E) to clean metal surfaces. Use detergent (Item 5, Appendix E) and water when you clean rubber or plastic material.

4-7. PMCS PROCEDURES (Con't).

f. Watch for and correct anything that might cause a problem with the equipment. Some things you should watch for are:

- (1) Bolts, nuts, and screws that loose, missing, bent, or broken.
- (2) Welds that are bad or broken.
- (3) Electric wires and connectors that are bare, broken, or loose.
- (4) Air and hydraulic hoses and lines that leak or show signs of damage or wear.

g. For a classification of fluid leakage, refer to paragraph 2-6.

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

(1) Item No. The number in this column shall be used as a source of item numbers for the "TM ITEM NO." column on DA Form 2404 in recording results of PMCS.

- (2) Interval. Tells you when to do a certain check or service.
- (3) Item To Be Inspected. Lists system and common name of items that are to be inspected.
- (4) Procedures. Tells you how to do the required checks and services.

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

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	Q	S	A		
1				FRAME AND TOWING ATTACHMENTS	<p>NOTE Perform operator/crew PMCS prior to or in conjunction with organizational PMCS.</p> <p>Inspect frame, tool boxes, deck plates, stepladder, folding steps, drawbar coupler, and leveling jacks for evidence of damage (breaks, cracks, bent members, or broken welds).</p> <p>a. Check fluid level in master cylinder. Fluid level should be within 1/2 in. (13 mm) from the filler opening (Chapter 3, Section I).</p> <p>b. Adjust handbrake cable as required (para 4-20 or 4-21).</p> <p>c. Inspect hoses and fittings for leakage, security, and condition.</p> <p>d. Remove plug from bottom of air filter and allow all fluid to drain.</p> <p>e. Remove and inspect air filter element. Replace air filter if clogged or damaged (para 435).</p> <p>4-4</p>
2	•			BRAKES	
element i		•		•	

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

Q-Quarterly

S-Semiannual

A-Annual

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	Q	S	A		
2			•	BRAKES (Con't)	f. Clean, inspect, and replace brake internal components as required (para 4-26 or 4-27). g. Test airbrake chamber pushrod travel (para 422). Adjust brakes as required (para 423 or 4-24). Remove wheels, hubs, and wheel bearings. Clean, inspect, and pack wheel bearings. Replace wheel bearings as required (para 440 or 441). Torque wheel stud nuts to 450-500 lb.-ft. (610-678 N.m). Check torsion bars or springs, shock absorbers, and radius rods for damage. Tighten all assemblies and mounting hardware. a. Check chassis wiring harness, clips, shells, grommets, and tion box for damage. b. Check intervehicular cable for damage. c. Replace/repair inoperative/damaged lights or components.
3			•	WHEEL BEARINGS	
4				WHEELS	
5	•			SUSPENSION SYSTEM	
6				ELECTRICAL SYSTEM	
unc-	•				
	•				4-5
	•				

Section IV. ORGANIZATIONAL TROUBLESHOOTING PROCEDURES

Paragraph Title	Page Number
General.....	4-6
Organizational Troubleshooting, Table 4-2	4-8
Troubleshooting Symptom Index.....	4-7

4-8. GENERAL.

a. This section contains troubleshooting information and tests for locating and correcting some of the troubles that may develop in the trailers.

b. The Troubleshooting Symptom Index in paragraph 49 lists common malfunctions which may occur and refer you to the proper page in Table 42 for a troubleshooting procedure.

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

d. When troubleshooting a malfunction:

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

(2) Locate the symptom or symptoms in paragraph 49 that best describe the malfunction. If the appropriate symptom is not listed, notify your supervisor.

(3) Turn to the page in Table 42 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: MALFUNCTION, TEST OR INSPECTION (in step number order) and CORRECTIVE ACTION.

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

4-9. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
BRAKES	
Brakes:	
Drag (One or Both Brakes Running Hot)	4-10
Grab	4-10
No Brakes	4-11
Slow Application or Slow Release.....	4-11
Weak.....	4-11
Will Not Release	4-10
Handbrakes Will Not Hold Trailer	4-10
ELECTRICAL SYSTEM	
All Lamps Do Not Light	4-8
Dim or Flickering Lamps	4-8
One or More Lamps (But Not All) Fail To Light.....	4-9
LEVELING JACKS	
Handcrank Will Not Turn	4-13
RETRACTABLE SUPPORT ASSEMBLIES	
Handcrank Will Not Turn or Will Not Turn Freely (M390C).....	4-12
Support Assembly Will Not Swivel or Turn Freely.....	4-13
SUSPENSION SYSTEM	
Improper Spring Action	4-12
Trailer Pulls to One Side	4-12
TIRES	
Abnormal Wear	4-11

Table 4-2. Organizational Troubleshooting.

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

ELECTRICAL SYSTEM

1. ALL LAMPS DO NOT LIGHT.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect Intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-16 to determine routing of electrical wires and location of electrical components.

Step 1. Check operation of light switch in towing vehicle.

Replace defective light switch. Refer to towing vehicle technical manual.

Step 2. Check circuit breakers and fuses in towing vehicle.

Reset circuit breakers and replace bad fuses. Refer to towing vehicle technical manual.

Step 3. Check chassis wiring harness for broken insulation or contacts causing short circuits.

Replace chassis wiring harness (para 4-12 or 4-13).

Step 4. Replace intervehicular cable (para 4-14 or 4-15).

2. DIM OR FLICKERING LAMPS.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect Intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-16 to determine routing of electrical wires and location of electrical components.

Step 1. Check Intervehicular cable, chassis wiring harness, and lights for loose, dirty, or corroded connectors.
Clean dirty connectors (para 3-6). Connect all cables.

Replace intervehicular cable (para 4-14 or 4-15), chassis wiring harness (para 4-12 or 4-13), or affected lights (para 4-10 or 4-11).

Step 2. Check intervehicular cable for proper grounding.

Remove screw and washer securing ground terminal to connector clip assembly (para 414 or 415). Clean ground terminal and surface of connector clip assembly. Using screw and washer, connect ground terminal securely to connector clip assembly.

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

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

- Step 3. Check lights for proper grounding.
Remove lights (para 4-10 or 4-11). Clean screws and mounting brackets. Install lights and tighten screws securely.
- Step 4. Check lamps or LEDs.
Replace lamps or LEDs as required (para 4-10 or 4-11).

3. ONE OR MORE LAMPS (BUT NOT ALL) FAIL TO LIGHT.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-16 to determine routing of electrical wires and location of electrical components.

- Step 1. Check lamps or LEDs.
Replace lamps or LEDs as required (para 4-10 or 4-11).
- Step 2. Check continuity between edge of lamp socket and light assembly housing, and center post of lamp socket and related light assembly plug connector.
If no continuity exists, replace light assembly (para 4-10 or 4-11).
- Step 3. Check continuity between edge of lamp socket and trailer frame.
If no continuity exists, remove and clean mating surfaces.
- Step 4. Disconnect chassis wiring harness from intervehicular cable. While assistant operates lights, check voltage in affected lines of intervehicular cable.
If 24 volts are present in all affected lines of intervehicular cable, replace chassis wiring harness (para 4-12 or 4-13).
- Step 5. Disconnect intervehicular cable from towing vehicle receptacle. While assistant operates lights, check voltage at towing vehicle receptacle.
If voltage is present at all sockets of towing vehicle receptacle, replace intervehicular cable (para 4-14 or 4-15).
If voltage is not present at all sockets of towing vehicle receptacle, troubleshoot towing vehicle electrical system. Refer to towing vehicle technical manual.

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<i>BRAKES</i>		
4.	BRAKES DRAG (ONE OR BOTH BRAKES RUNNING HOT).	
	Step 1.	Check brake adjustment. Adjust brakes (para 4-23 or 4-24).
	Step 2.	Check for weak or broken brakeshoe return spring. Replace brakeshoe return spring (para 4-26 or 4-27).
5.	BRAKES GRAB.	
	Step 1.	Check brake adjustment. Adjust brakes (para 4-23 or 4-24).
	Step 2.	Check for grease on brakeshoe linings. Replace brakeshoes (para 4-26 or 4-27). Replace wheel oil seal if leaks are evident (para 440 or 441).
	Step 3.	Check for loose wheel bearings. Adjust wheel bearings (para 4-40 or 4-41). If wheel bearings cannot be properly adjusted, replace..
	Step 4.	Check for cracked, scored, or deformed brakedrum. Replace brakedrum (para 4-40 or 4-41).
	Step 5.	Check for worn or loose brakeshoe linings. Thickness of linings should be at least X in. (3.2 mm). Replace brakeshoes (para 4-26 or 4-27).
	Step 6.	Check for moisture in air filter. Remove plug from bottom of air filter and allow all fluid to drain. Replace airfilter as required (para 4-33 or 4-34) or air filter element (para 4-35) as required.
6.	BRAKES WILL NOT RELEASE.	
	Step 1.	Check for restriction in service air line or intervehicular air hose. Remove restriction or replace air line or intervehicular air hose (para 4-33 or 4-34).
	Step 2.	Check for weak or broken brakeshoe return spring. Replace brakeshoe return spring (para 4-26 or 4-27).
7.	HANDBRAKES WILL NOT HOLD TRAILER.	
		Check adjustment of handbrake cable and linkage (para 4-20 or 4-21). Adjust handbrake cable and linkage (para 4-20 or 4-21).

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
8. NO BRAKES OR WEAK BRAKES.	Step 1. Check for excessive airbrake chamber pushrod travel (para 4-22).	Adjust brakes (para 4-23 or 4-24).
	Step 2. Check for clogged air filter.	Replace air filter (para 4-33 or 434) or air filter element (para 4-35) as required.
	Step 3. Check for air in hydraulic brake lines.	Bleed brakes (para 425).
	Step 4. Check for leaks in hydraulic brake system.	Tighten loose connections or replace leaking lines or tubes (para 4-31 or 4-32).
	Step 5. Check for grease on brakeshoe linings.	Replace brakeshoes (para 426 or 4-27). Replace wheel oil seal if leaks are evident para 4-40 or 441).
	Step 6. Check for worn or damaged brakeshoe linings. Thickness of linings should be at least X in.(3.2 mm).	Replace brakeshoes (para 4-26 or 4-27).
9. SLOW APPLICATION OR SLOW RELEASE OF BRAKES.	Step 1. Check air pressure gage in towing vehicle for low air pressure.	Perform air system lines and hose leakage test (para 4-22). Replace defective components as required (para 4-33 or 434).
	Step 2. Check for clogged air filter.	Replace air filter (para 4-33 or 434) or air filter element (para 435) as required.
	Step 3. Check for weak or broken brakeshoe return spring.	Replace brakeshoe return spring (para 4-26 or 4-27).
<hr/> <i>TIRES</i>		
10. ABNORMAL TIRE WEAR.	Step 1. Check for improper wheel bearing adjustment.	Adjust wheel bearings (para 4-40 or 4-41).

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	Step 2.	Check for bent rim or wheel. Replace rim or wheel as required (para 439).
	Step 3.	Check suspension system for a bent or broken suspension arm (M514) or axle assembly (M390C). Replace suspension arm (M514) or axle assembly (M390C) as required (para 4-37 or 4-17).
	Step 4.	Check for bent or broken U-bolts, spring leaves, spring center bolt, or spring clips (M390C). Replace spring (para 4-58).

SUSPENSION SYSTEM

11. IMPROPER SPRING ACTION.

- Step 1. Check for loose suspension mounting (M514).
Tighten suspension mounting (para 437).
- Step 2. Check for insufficient lubrication (M514).
Lubricate suspension (Chapter 3, Section I).
- Step 3. Check for loose U-bolts (M390C).
Tighten U-bolts.
- Step 4. Check for broken spring leaves, spring center bolt, or spring clips (M390C).
Replace spring (para 4-58).

12. TRAILER PULLS TO ONE SIDE.

- Step 1. Check for improper wheel bearing adjustment.
Adjust wheel bearings (para 4-40 or 441).
- Step 2. Check for bent suspension arm (M514).
Replace suspension arm (para 4-37).
- Step 3. Check for bent or broken axle assembly (M390C).
Replace axle assembly (para 4-17).

RETRACTABLE SUPPORT ASSEMBLIES

13. HANDCRANK WILL NOT TURN OR WILL NOT TURN FREELY (M390C).

- Check for damaged gears or bearings.

Repair or replace retractable support assembly (M390C) (para 4-49).

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

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
14.	SUPPORT ASSEMBLY WILL NOT SWIVEL OR TURN FREELY.	<p>Check retractable support assembly and frame for damage.</p> <p>Replace or repair retractable support assembly (para 4-48 or 4-49).</p> <p>If frame is damaged, notify Direct Support Maintenance.</p>

LEVELING JACKS

- 15. HANDCRANK WILL NOT TURN.**
- Step 1. Check for insufficient lubrication.
- Lubricate leveling jack (Chapter 3, Section I).
- Step 2. Check for damage to leveling jack.
- Replace or repair leveling jack (M514) (para 4-50 or 4-51).
- Replace or repair leveling jack (M390C) (para 4-55 or 4-56).

Section V. ELECTRICAL SYSTEM MAINTENANCE

Paragraph Title	Page Number
Chassis Wiring Harness Replacement (M390C)	4-20
Chassis Wiring Harness Replacement (M514)	4-18
Composite Light Assembly Maintenance	4-16
Intervehicular Cable Replacement (M390C)	4-24
Intervehicular Cable Replacement (M514).....	4-22
Stoplight-Taillight Maintenance	4-14
Wiring Diagrams	4-26

4-10. STOPLIGHT-TAILLIGHT MAINTENANCE.

This Task Covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Repair b. Removal | <ul style="list-style-type: none"> c. Installation |
|---|---|

Initial Setup:

Equipment Conditions:

- Intervehicular cable disconnected from towing vehicle (para 2-9)

Materials/Parts:

- Marker tags (Item 14, Appendix E)
- Two lockwashers

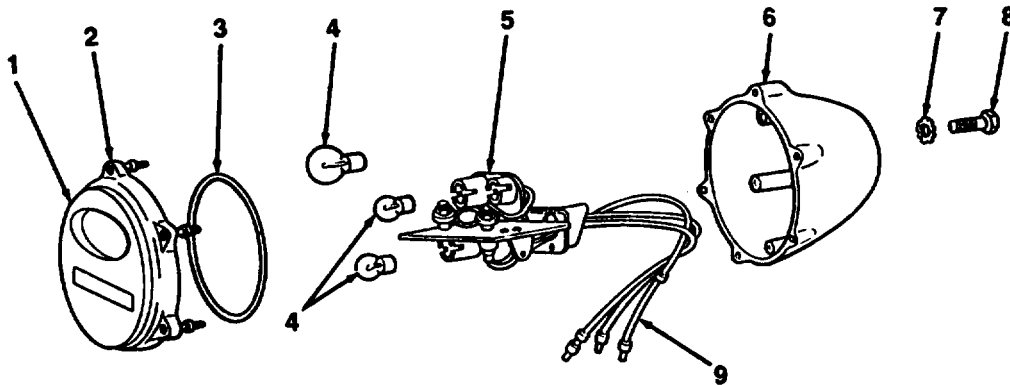
Tools/Test Equipment:

- General mechanic's tool kit

a. REPAIR

1. six captive screws (2) and remove lens retainer (1) from body (6). Inspect preformed packing (3) for damage. If damaged, remove and discard.
2. lamps (4) from sockets (5).
3. lamps (4) in sockets (5).
4. removed, install new preformed packing (3) in lens retainer (1).
5. lens retainer (1) on body (6) and tighten six captive screws (2).

4-10. STOPLIGHT-TAILLIGHT MAINTENANCE (Con't).

**b. REMOVAL I****NOTE**

Tag wires before disconnecting.

1. Disconnect light wiring (9) from chassis wiring harness.
2. Remove two screws (8), lockwashers (7), and body (6) from trailer. Discard lockwashers.

c. INSTALLATION I

1. Install body (6) on trailer with two new lockwashers (7) and screws (8).
2. Connect light wires (9) to chassis wiring harness.

FOLLOW-ON TASKS:

- Connect Intervehicular cable to towing vehicle (para 2-8).
- Check operation of light.

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4-11. COMPOSITE LIGHT ASSEMBLY MAINTENANCE.

This Task Covers:

- | | |
|------------|-----------------|
| a. Repair | c. Installation |
| b. Removal | |
-

Initial Setup:

Equipment Conditions:

- Intervehicular cable disconnected from towing vehicle (para 2-9).

Materials/Parts:

- Marker tags (Item 14, Appendix E)
- Two lockwashers

Tools/Test Equipment:

- General mechanic's tool kit
-

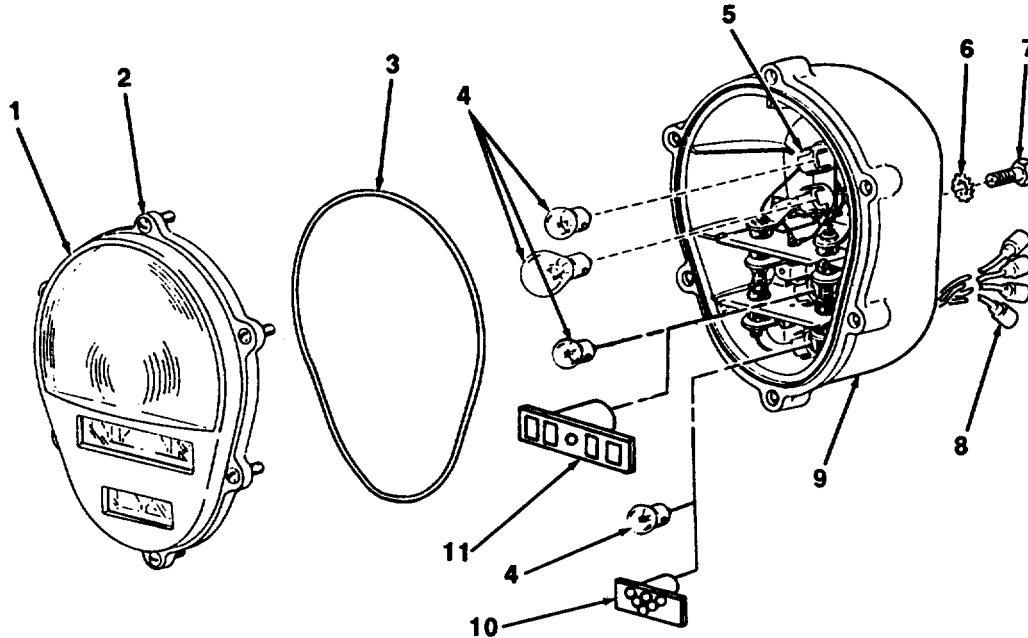
a. REPAIR

1. Loosen six captive screws (2) and remove lens (1) from body (9). Inspect preformed packing (3) for damage. If damaged, remove and discard.
2. Remove lamps (4) from sockets (5).

NOTE**To replace LEDs, perform steps 3 through 5.**

3. Insert a small flat-tipped screwdriver into slot inside center hole in LED (11). Firmly push in, turn counterclockwise slightly, and remove LED.
4. Insert a small flat-tipped screwdriver into slot on left side of LED (10) and remove cover, allowing access to slot in center hole. Firmly push in with screwdriver in center hole slot, turn counterclockwise slightly, and remove LED.
5. Install LEDs (10 and 11) by snapping into place with hand application.
6. Install lamps (4) in sockets (5).
7. I removed, Install new preformed packing (3) In lens (1).
8. Install lens (1) on body (9) and tighten six captive screws (2).

4-11. COMPOSITE LIGHT ASSEMBLY MAINTENANCE (Con't).

**b. REMOVAL****NOTE**

Tag wires before disconnecting.

1. Disconnect light wiring (8) from chassis wiring harness.
2. Remove two screws (7), lockwashers (6), and body (9) from trailer. Discard lockwashers.

c. INSTALLATION

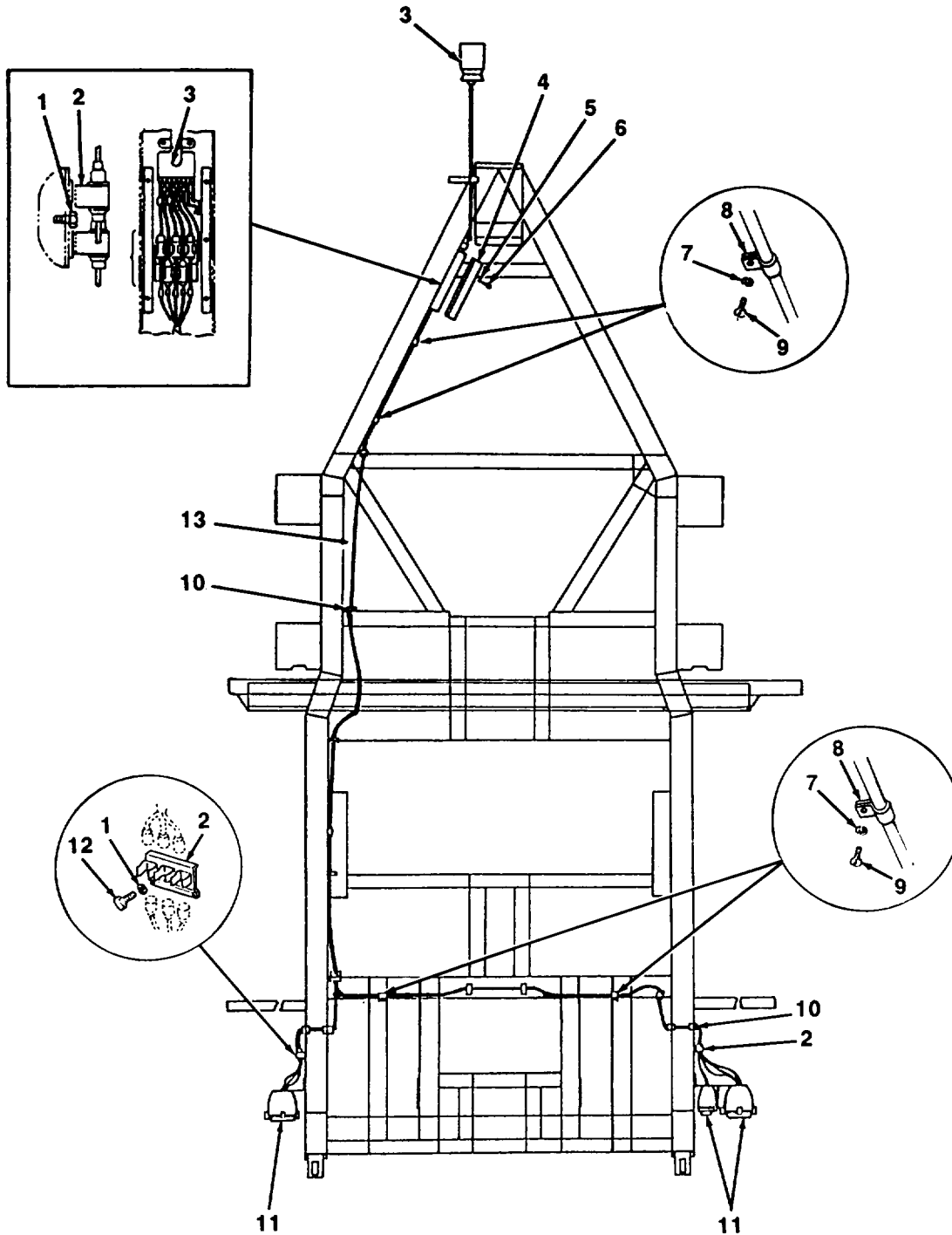
1. Install body (9) on trailer with two new lockwashers (6) and screws (7).
2. Connect light wiring (8) to chassis wiring harness.

FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-8).
- Check operation of light.

TA704307

4-12. CHASSIS WIRING HARNESS REPLACEMENT (M514) (Con't).



FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-8).
- Check operation of lights.

TA504987

4-13. CHASSIS WIRING HARNESS REPLACEMENT (M390C).*This Task Covers:*

- a. Removal b. Installation

*Initial Setup:***Equipment Conditions:**

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Intervehicular cable disconnected from towing vehicle (para 2-9).

Materials/Parts:

- Marker tags (Item 14, Appendix E)
- Eleven lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

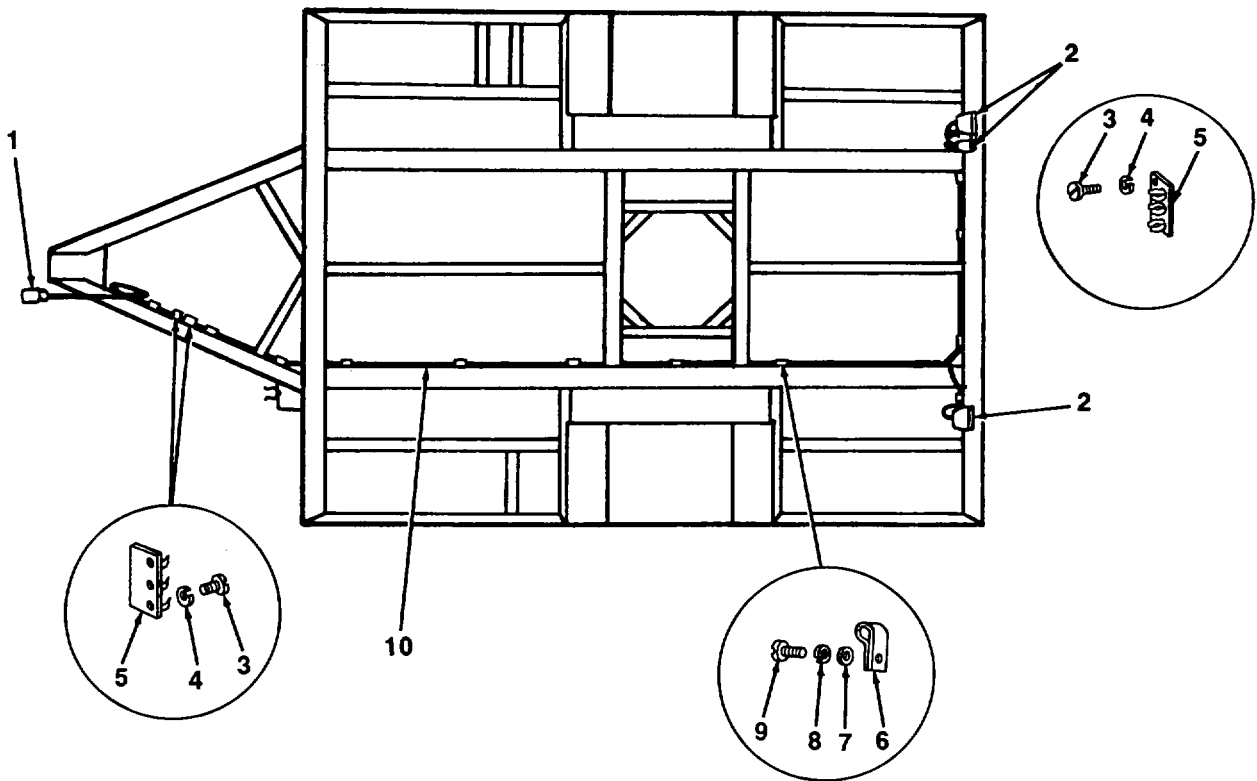
a. REMOVAL**NOTE****Tag wires before disconnecting.**

1. Disconnect chassis wiring harness (10) from intervehicular cable (1).
2. Disconnect chassis wiring harness (10) from lights (2).
3. Remove 11 screws (9), lockwashers (8), flatwashers (7), and straps (6). Remove chassis wiring harness (10) from frame. Discard lockwashers.
4. Inspect three spring clips (5) for damage and corrosion. If spring clip is damaged or corrosion cannot be removed, remove three screws (3), lockwashers (4), and spring clip. Discard lockwashers.

b. INSTALLATION

1. If removed, install spring clips (5) to frame with three new lockwashers (4) and screws (3).
2. Position chassis wiring harness (10) on frame and install with 11 straps (6), flatwashers (7), new lockwashers (8), and screws (9).
3. Connect chassis wiring harness (10) to lights (2).
4. Connect wiring harness (10) to intervehicular cable (1).

4-13. CHASSIS WIRING HARNESS REPLACEMENT (M390C) (Con't).



FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-8).
- Check operation of lights.

TA504988

4-14. INTERVEHICULAR CABLE REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2).

Intervehicular cable disconnected from towing vehicle (para 2-9).

Materials/Parts:

- Marker tags (Item 14, Appendix E)
- Eight lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

1. Remove four screws (12), lockwashers (11), and cover (13). Discard lockwashers.

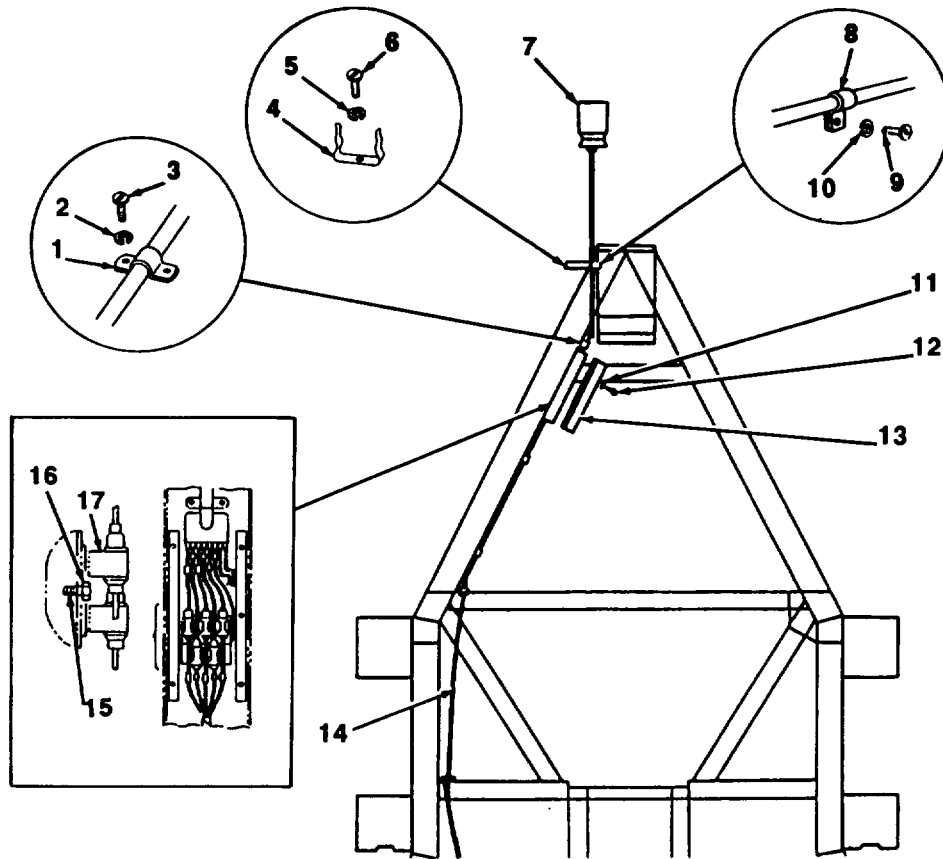
NOTE**Tag wires before disconnecting.**

2. Disconnect chassis wiring harness (14) from intervehicular cable (7).
3. Remove two screws (3), lockwashers (2), and clip (1). Discard lockwashers.
4. Remove screw (9), lockwashers (10), and strap (8). Discard lockwashers.
5. Remove screw (6), lockwashers (5), and clip (4). Remove intervehicular cable (7) ground terminal from clip assembly (17). Remove intervehicular cable. Discard lockwashers.
6. Inspect clip assembly (17) for damage or corrosion. If clip assembly is damaged or corrosion cannot be removed, remove two screws (15), lockwashers (16), and clip assembly. Discard lockwashers.

b. INSTALLATION

1. If removed, install clip assembly (17) with two new lockwashers (16) and screws (15).
2. Position intervehicular cable (7) for installation. Install intervehicular cable ground terminal to clip assembly (17).
3. Install clip (4) with new lockwashers (5) and screw (6).
4. Install strap (8) with new lockwashers (10) and screw (9).
5. Install clip (1) with two new lockwashers (2) and screws (3).
6. Connect chassis wiring harness (14) to intervehicular cable (7).
7. Install cover (13) with four new lockwashers (11) and screws (12).

4-14. INTERVEHICULAR CABLE REPLACEMENT (M514) (Con't).



FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-8).
- Check operation of lights.

TA504989

4-15. INTERVEHICULAR CABLE REPLACEMENT (M390).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Intervehicular cable disconnected from towing vehicle (para 2-9).

Materials/Parts:

- Marker tags (Item 14, Appendix E)
- Two lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL**NOTE**

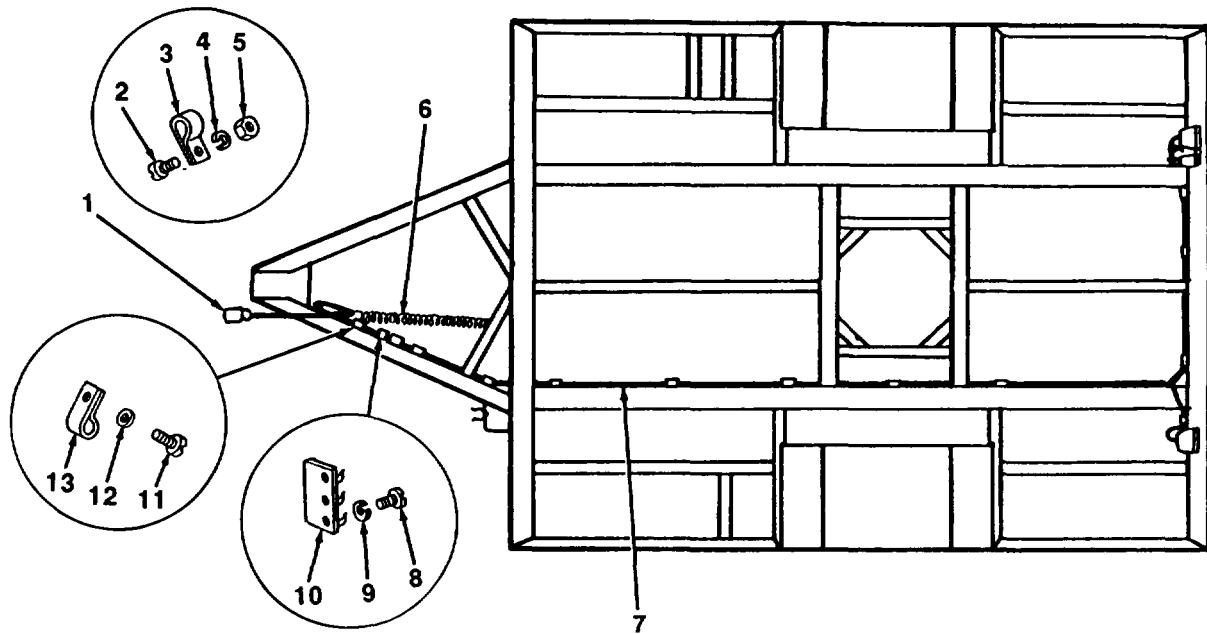
Tag wires before disconnecting.

1. Disconnect chassis wiring harness (7) from intervehicular cable (1).
2. Remove spring (6).
3. Remove nut (5), lockwashers (4), screw (2), and clamp (3). Discard lockwashers.
4. Remove screw (11), lockwashers (12), and clamp (13). Remove intervehicular cable (1) ground terminal from spring clip (10). Remove intervehicular cable. Discard lockwashers.
5. Inspect spring clip (10) for damage or corrosion. If spring clip is damaged or corrosion cannot be removed, remove three screws (8), lockwashers (9), and spring clip. Discard lockwashers.

b. INSTALLATION

1. If removed, install spring clip (10) with three new lockwashers (9) and screws (8).
2. Position intervehicular cable (1) and install clamp (13) with new lockwashers (12) and screw (11).
3. Install clamp (3) with screw (2), new lockwashers (4), and nut (5).
4. Install spring (6).
5. Install intervehicular cable (1) ground terminal to spring clip (10).
6. Connect chassis wiring harness (7) to intervehicular cable (1).

4-15. INTERVEHICULAR CABLE REPLACEMENT (M390) (Con't).



FOLLOW-ON TASKS:

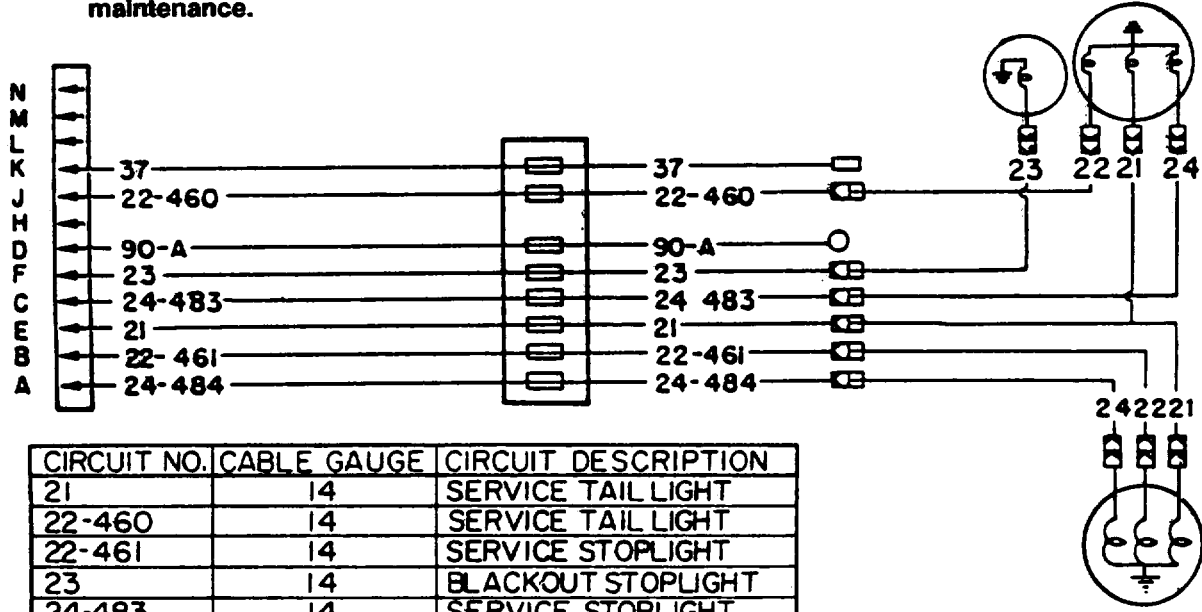
- Connect intervehicular cable to towing vehicle (para 2-8).
- Check operation of lights.

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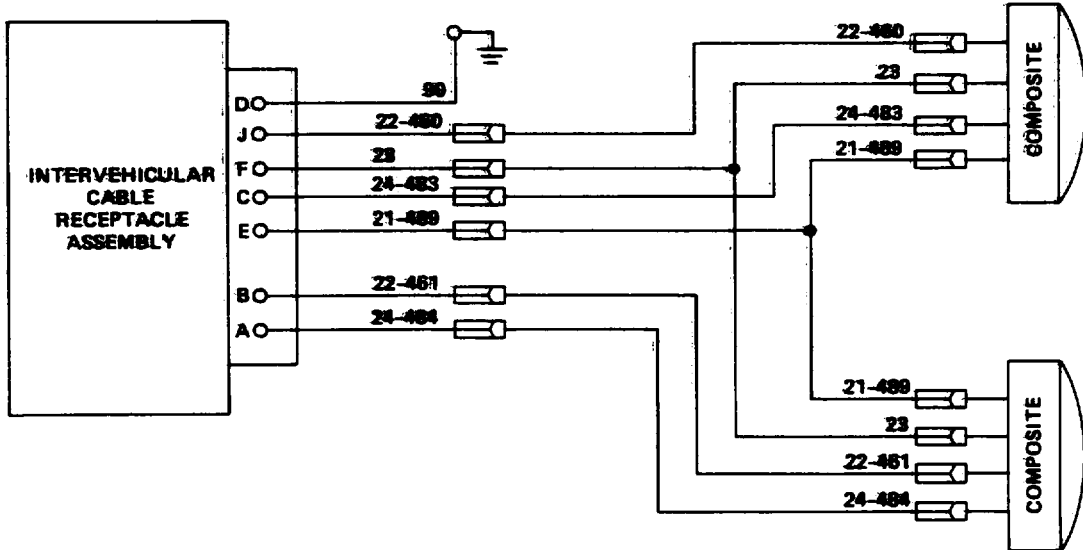
4-16. WIRING DIAGRAMS.

NOTE

Refer to these wiring diagrams when performing electrical troubleshooting and maintenance.



M514



M390C

TA504004

Section VI. REAR AXLE ASSEMBLY MAINTENANCE

4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer uncoupled from towing vehicle and leveled paras 2-9 and 2-10).
- Tools/Test Equipment:
- General mechanic's tool kit
- Common no.1 shop set
- Drain pan
- Two jackstands

Materials/Parts:

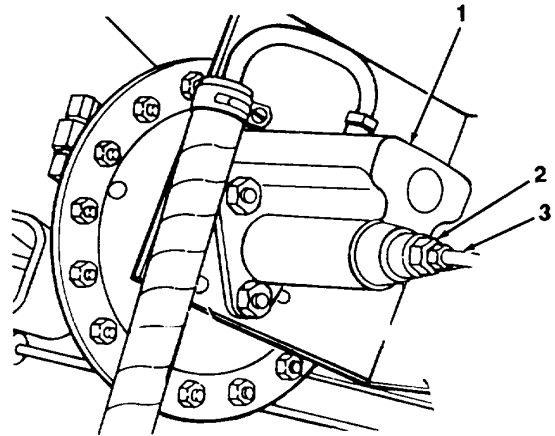
- Rags (Item 12, Appendix E)
- Thirty-one lockwashers

Personnel Required: Two

a. REMOVAL**NOTE**

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

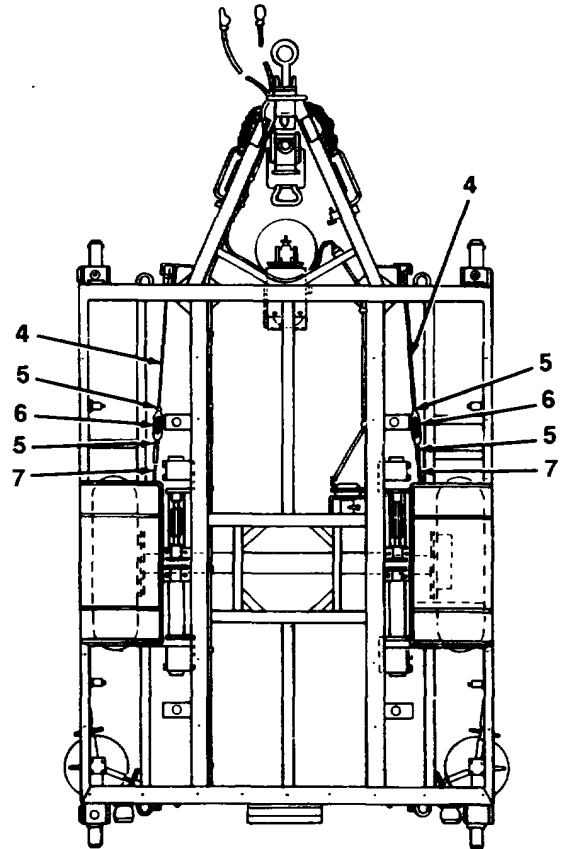
1. Place a suitable container under master cylinder
- (1) Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.



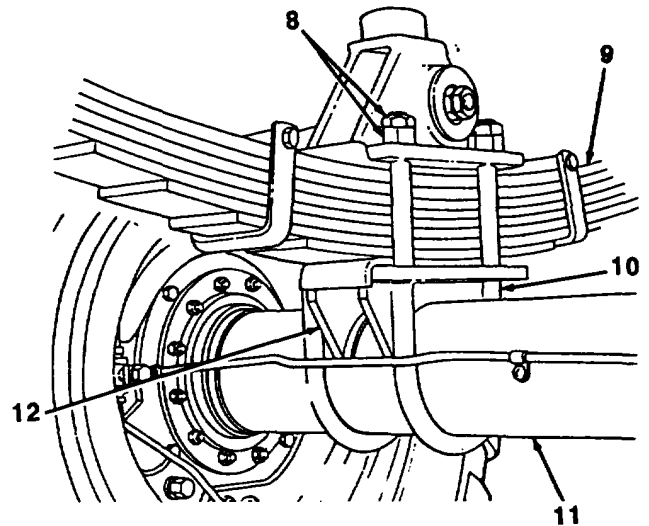
TA504992

4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

2. Loosen two nuts (5) at each turnbuckle (6).
Remove turnbuckles from push-pull control assemblies (7) and rods (4).



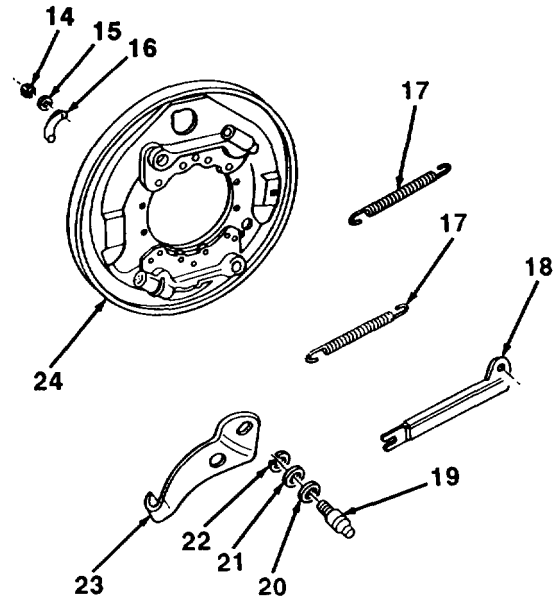
3. Raise retractable support assembly (para 2-8).
4. Remove eight nuts (8) and two U-bolts (10) securing each end of axle (11) to springs (9).



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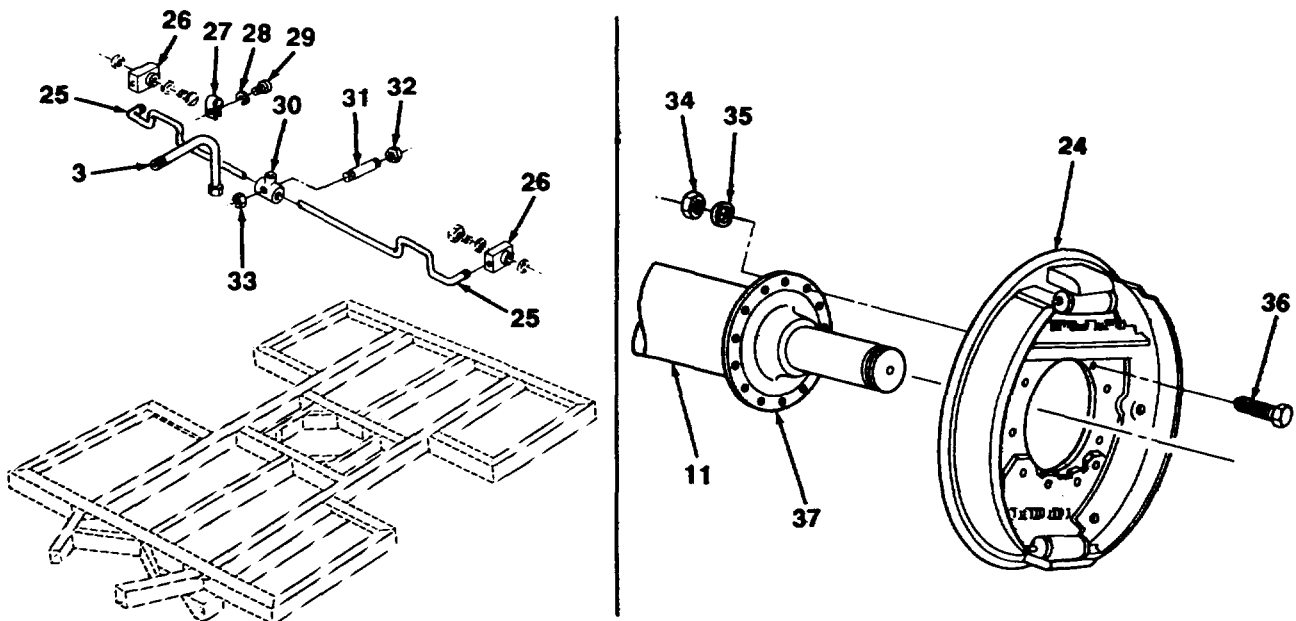
4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).**WARNING**

- Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.
 - Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during removal. Failure to follow this warning may result in serious injury to personnel.
5. Use a suitable lifting device to raise front of trailer high enough for wheels to clear frame. Roll wheels and axle (11) from beneath trailer. Lower trailer and support on two jackstands.
 6. Turn axle (11) so that spring pads (12) are down. Block axle under spring pads so that wheels are off ground.
 7. Remove wheels (para 4-39).
 8. Remove hubs and brakedrums (para 4-41).
 9. Remove two nuts (14), lockwashers (15), and cable guide bracket (16) securing each push-pull control assembly (7) to back side of backing plates (24). Disconnect push-pull control assembly from lever (23) and remove from rear of backing plate. Discard lockwashers.
 10. Remove brakeshoe return springs (17).
 11. Remove slotted washer (20), flatwashers (21), and spring washer (22) securing link (18) to pin (19). Remove link from pin.



4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

12. Disconnect two tubes (25) from connector (30) attached to axle (11).
13. Disconnect hose (3) from connector (30).
14. Disconnect two tubes (25) from connectors (26) attached to backing plates (24).
15. Remove three screws (29), lockwashers (28), and clamps (27) securing tubes (25) to axle (11). Remove tubes. Discard lockwashers.
16. Remove nut (33) securing connector (30) to axle (11). Remove connector.
17. Remove nut (32) and stud (31) from axle (11).
18. Remove 12 nuts (34) and lockwashers (35) from mounting screws (36) securing each backing plate (24) to axle flange (37). Remove backing plates with brakeshoes and wheel cylinders as an assembly from axle (11). Discard lockwashers.



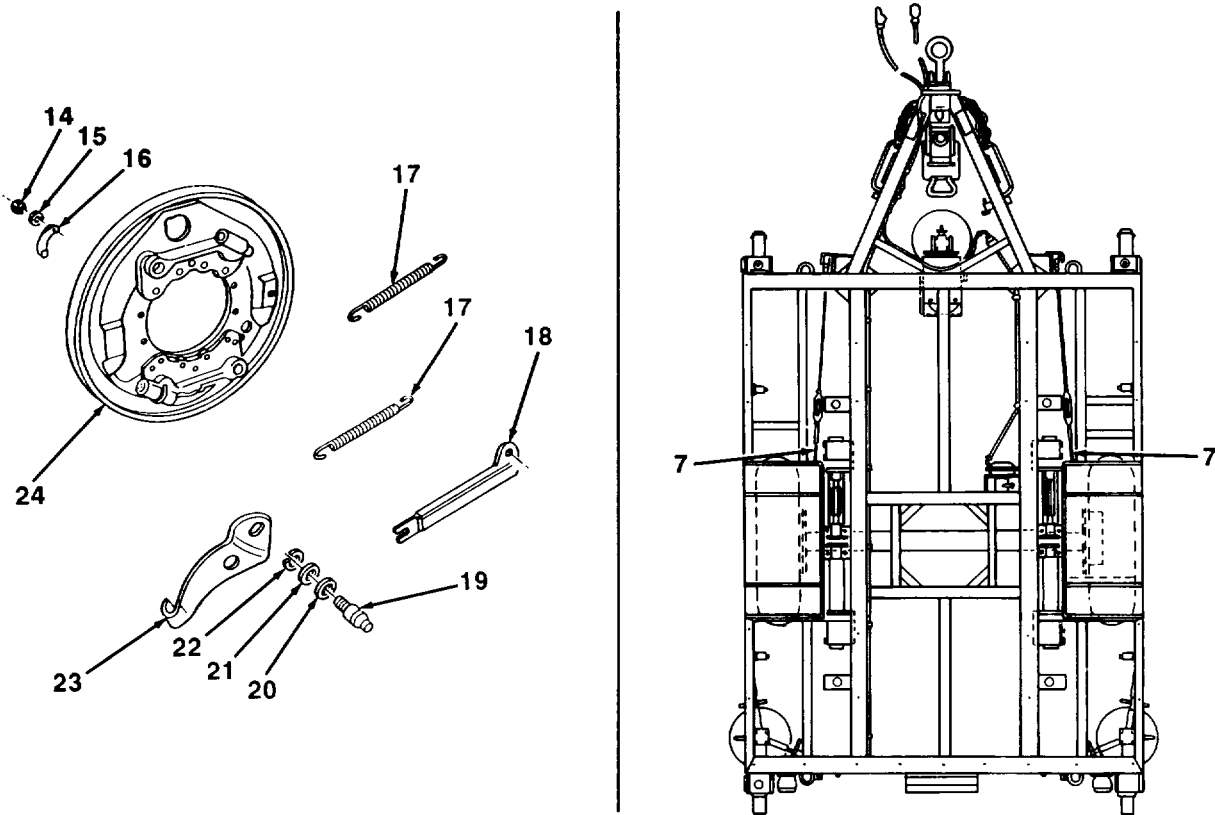
TA704310

b. INSTALLATION

1. Position backing plates (24), with attached brakeshoes and wheel cylinders, on axle flanges (37). Secure each backing plate to axle flange with 12 mounting screws (36), new lockwashers (35), and nuts (34).
2. Install stud (31) in tapped hole in axle (11) and secure with nut (32).
3. Install connector (30) on stud (31) with nut (33).
4. Position two tubes (25) on axle and connect to connector (30).
5. Secure two tubes (25) to axle with three clamps (27), new lockwashers (28), and screws (29).

4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

6. Connect tubes (25) to connectors (26) at backing plates (24).
7. Connect hose (3) to connector (30).
8. Install link (18) on pin (19) attached to upper end of rear brakeshoes, making sure that pin on back side of lever engages slot in end of link. Secure each link to pin using spring washer (22), flatwashers (21), and slotted washer (20).
9. Install brakeshoe return springs (17).
10. Thread ball end of each push-pull control assembly (7) through hole in backing plate (24) and attach to low end of lever (23).
11. Secure each push-pull control assembly (7) to back side of backing plate (24) with cable guide bracket (16), two new lockwashers (15), and nuts (14).
12. Install wheel hubs and brakedrums (para 4-41).
13. Install wheels (para 4-39).



4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).**WARNING**

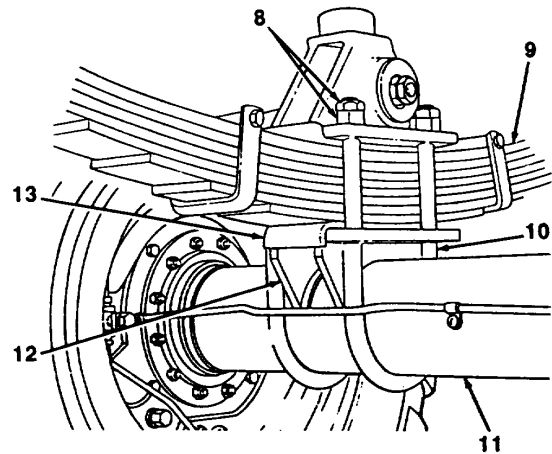
Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.

14. Use a suitable lifting device to raise front end of trailer enough for wheels and tires to clear frame. Remove two jackstands.

WARNING

Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during installation. Failure to follow this warning may result in serious injury to personnel.

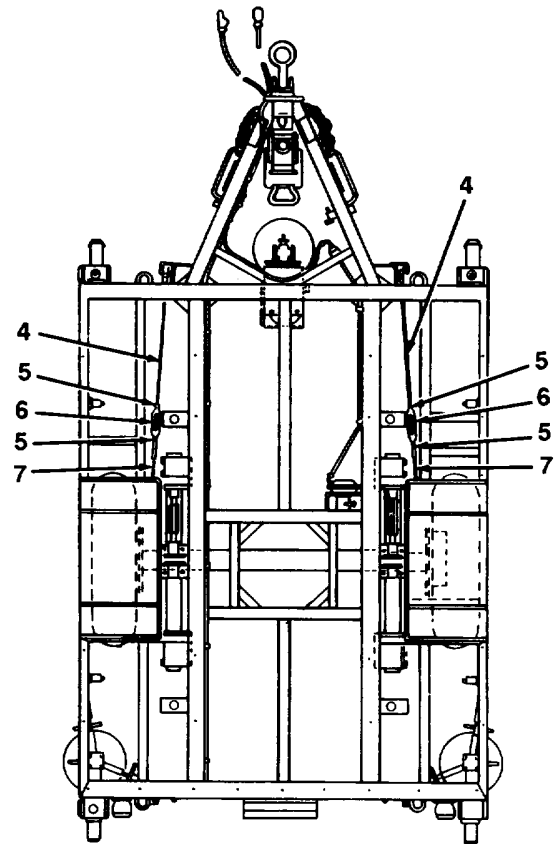
15. Roll wheels and axle assembly under trailer and into position under springs (9). Turn axle (11) so that spring pads (12) are aligned with spring plates (13).
16. Slowly lower trailer so that spring plates (13) engage spring pads (12) on axle (11). Secure each end of axle to springs (9) with two U-bolts (10) and eight nuts (8).



TA704312

4-17. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

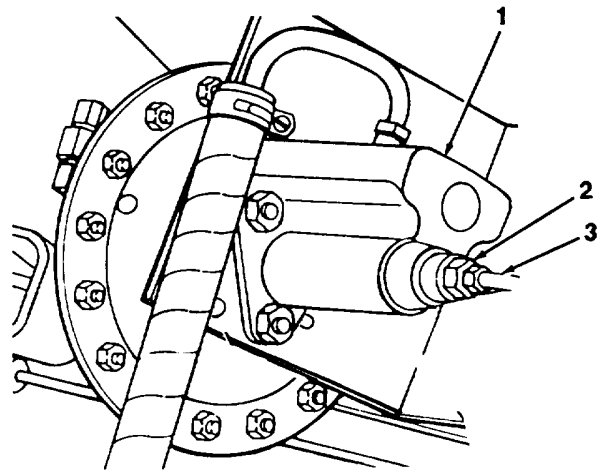
17. Lower retractable support assembly to support position (para 2-9).
18. Install each turnbuckle (6) onto rod (4) and push-pull control assembly (7). Do not tighten nuts (5).



19. Connect hose (3) to reducer (2) at master cylinder (1).

FOLLOW-ON TASKS:

- Bleed brakes (para 4-25).
- Adjust handbrake cables (para 4-21).



Section VII. BRAKE SYSTEM MAINTENANCE

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4-18 HANDBRAKE LEVER REPLACEMENT (M514).

This Task Covers:

a Removal

b Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- One cotter pin
- Six lockwashers

a. REMOVAL

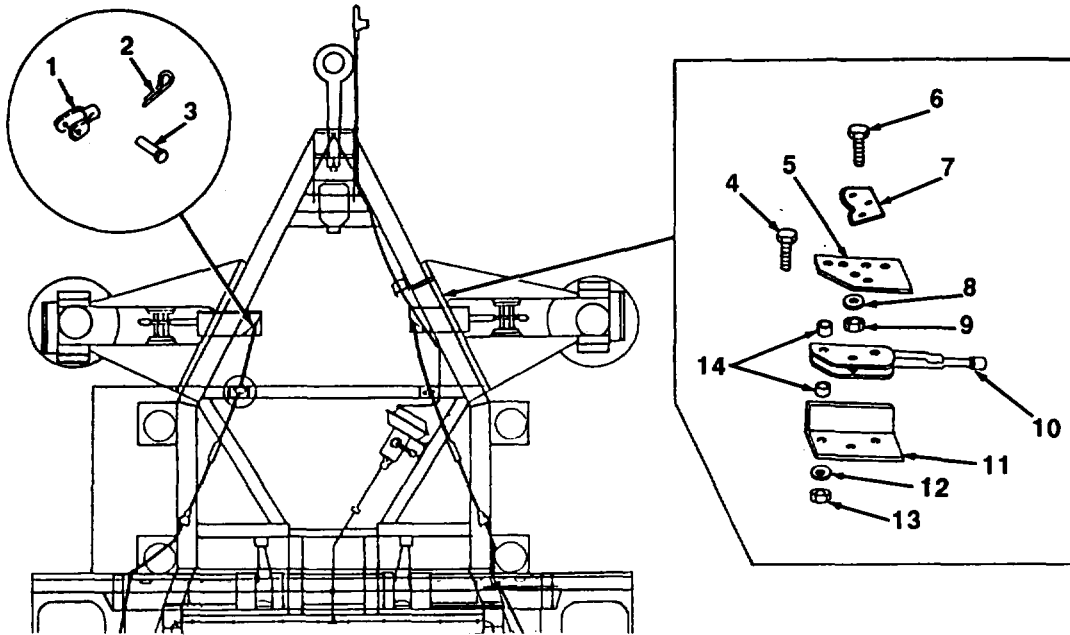
WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely choked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Release handbrake lever (10) being removed.

4-18. HANDBRAKE LEVER REPLACEMENT (M514) (Con't).

2. Remove cotter pin (2), straight pin (3), and disconnect clevis (1) from handbrake lever (10). Discard cotter pin.
3. Remove three nuts (9), lockwashers (8), and screws (6) securing handbrake lever (10) to frame. Remove handbrake lever and two spacer plates (7). Discard lockwashers.
4. Remove three nuts (13), lockwashers (12), and screws (4) securing plate (5) and bracket (11) to handbrake lever (10). Remove plate, bracket, and six spacers (14). Discard lockwashers.

**b. INSTALLATION****WARNING**

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Assemble handbrake lever (10), six spacers (14), bracket (11), and plate (5) with three screws (4), new lockwashers (12), and nuts (13).
2. Install handbrake lever (10) and two spacer plates (7) on frame with three screws (6), new lockwashers (8), and nuts (9).
3. Connect clevis (1) to handbrake lever (10) with straight pin (3) and new cotter pin (2).
4. Adjust handbrake lever (para 3-7). Adjust handbrake cable (para 4-20).

FOLLOW-ON TASKS:

- Lubricate handbrake lever (Chapter 3, Section I).

TA504998

4-19. HANDBRAKE LEVER REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

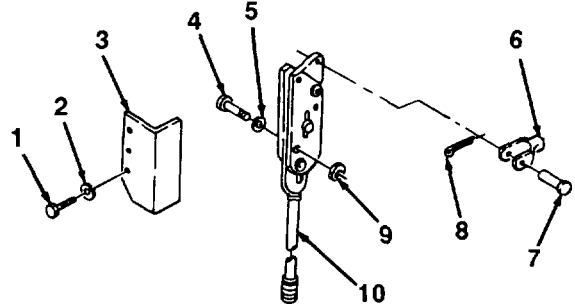
- One cotter pin
- Three locknuts
- Three lockwashers

a. REMOVAL

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Release handbrake lever (10) being removed.
2. Remove cotter pin (8), straight pin (7), and disconnect clevis (6) from handbrake lever (10). Discard cotter pin.
3. Remove three screws (1), lockwashers (2), and guard (3) from frame. Discard lockwashers.
4. Remove three locknuts (9), screws (4), spacers (5), and handbrake lever (10) from frame. Discard locknuts.



b. INSTALLATION

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Install handbrake lever (10) on frame with three screws (4), spacers (5), and new locknuts (9).
2. Install guard (3) on frame with three new lockwashers (2) and screws (1).

TA504999

4-19. HANDBRAKE LEVER REPLACEMENT (M390C) (Con't).

3. Connect clevis (6) to handbrake lever (10) with straight pin (7) and new cotter pin (8).
4. Adjust handbrake lever (para 3-7). Adjust handbrake cable (para 4-21).

FOLLOW-ON TASKS:

- Lubricate handbrake lever (Chapter 3, Section I).

4-20. HANDBRAKE CABLE MAINTENANCE (M514).

This Task Covers:

- | | |
|---------------|-----------------|
| a. Removal | c. Installation |
| b. Inspection | d. Adjustment |

Initial Setup:

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

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

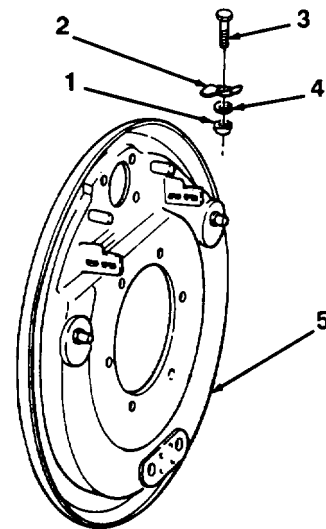
Materials/Parts:

- Two cotter pins
- Two lockwashers

a. REMOVAL**WARNING**

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

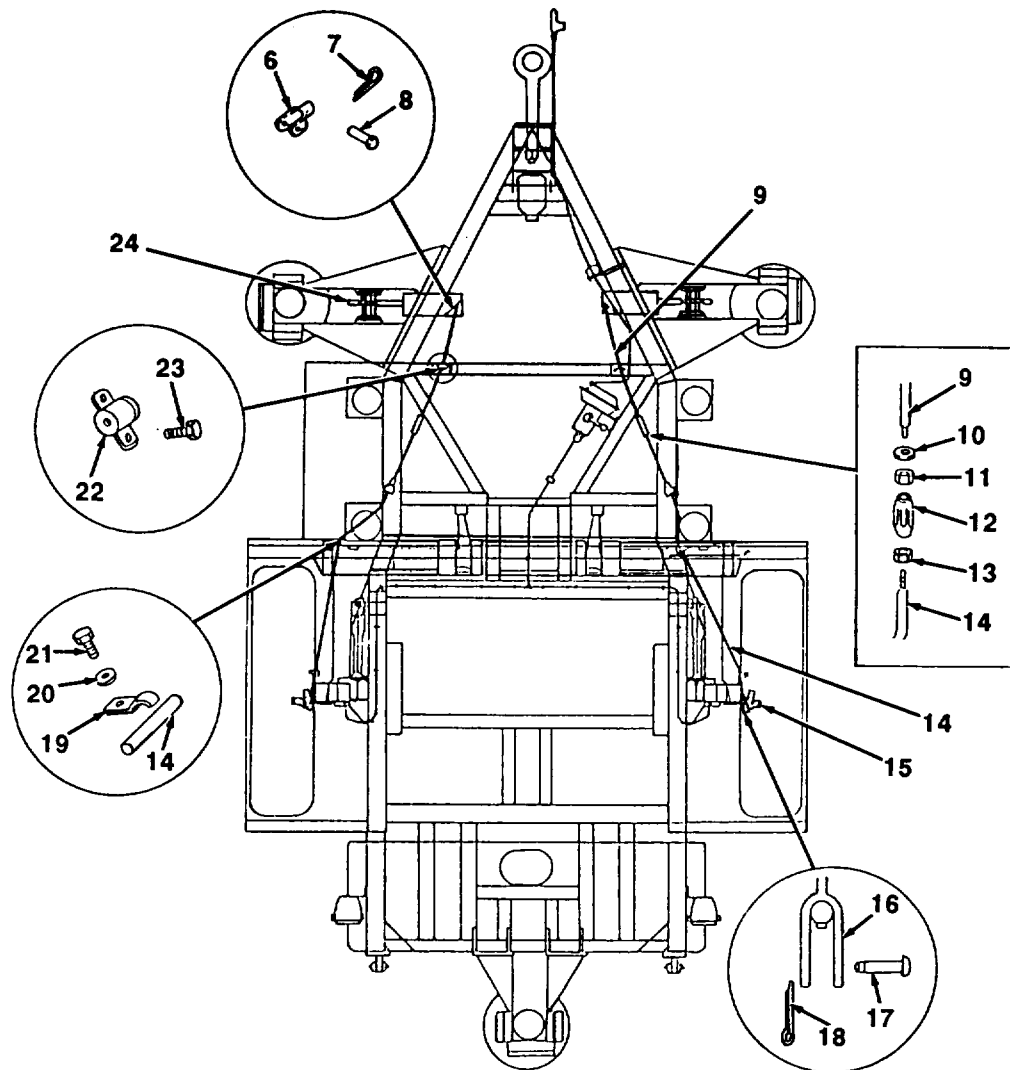
1. Release handbrake lever (24) for handbrake cable being removed.
2. Remove cotter pin (7), straight pin (8), and disconnect clevis (6) from toggle link (24). Discard cotter pin. Disconnect clevis (16) from toggle link (15). Discard cotter pin.
3. Remove cotter pin (18), straight pin (17) and disconnect clevis (16) from toggle link (15). Discard cotter pin.
4. Remove two bolts (23) and strap (22).
5. Remove screw (21), lockwashers (20), and clamp (19). Discard lockwashers.
6. Remove nut (1), lockwashers (4), bolt (3), and clamp (2) from backing plate (5). Remove front and rear wire rope assemblies (9 and 14) from frame. Discard lockwashers.
7. Loosen two nuts (11 and 13). Remove turnbuckle (12) from front wire rope assembly (9) and rear wire rope assembly (14).
8. Remove nut (11) and slotted washer (10) from front wire rope assembly (9). Remove nut (13) from rear wire rope assembly (14).

**b. INSPECTION**

Inspect wire rope assemblies for frayed or broken strands. Replace wire rope assemblies if strands are frayed or broken.

TA505000

4-20. HANDBRAKE CABLE MAINTENANCE (M514) (Con't).



c. INSTALLATION I

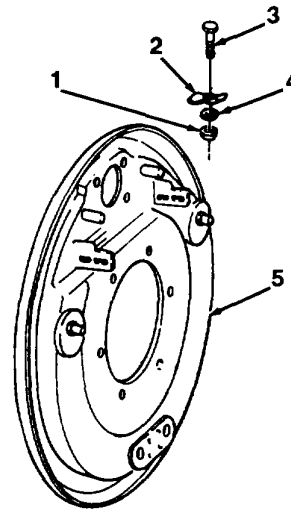
WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

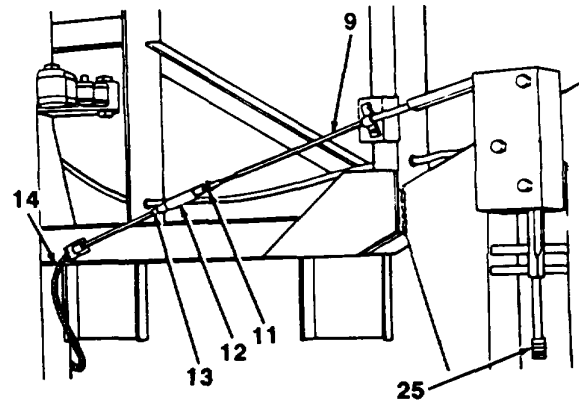
1. Install slotted washer (10) and nut (11) on front wire rope assembly (9). Install nut (13) on rear wire rope assembly (14).
2. Connect front and rear wire rope assemblies (9 and 14) with turnbuckle (12).

4-20. HANDBRAKE CABLE MAINTENANCE (1)

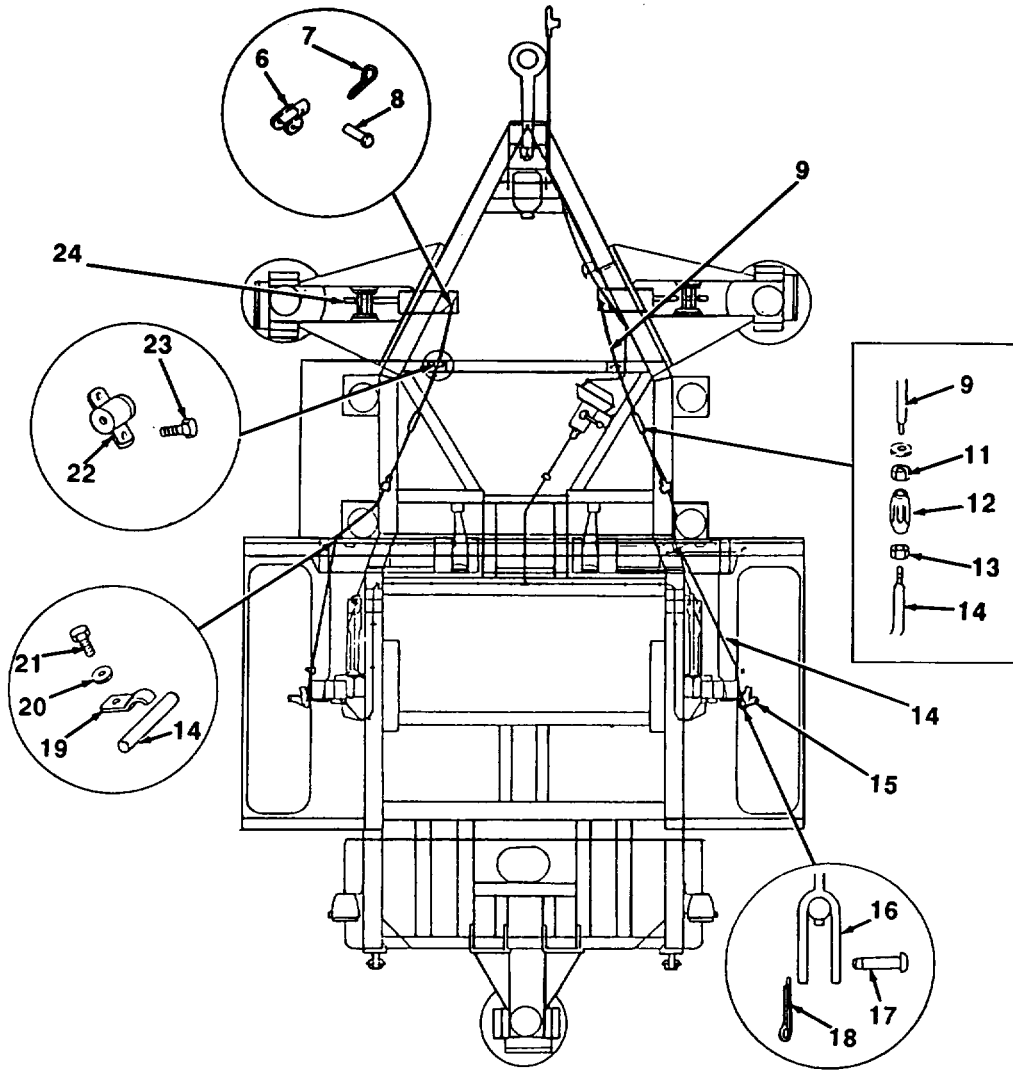
3. Connect rear wire rope assembly (14) to backing plate (5) with clamp (2), bolt (3), new lockwashers (4), and nut (1).
4. Install rear wire rope assembly (14) to frame with clamp (19), new lockwashers (20), and screw (21).
5. Install front wire rope assembly (9) and strap (22) to frame with two bolts (23).
6. Connect clevis (16) to toggle link (15) with straight pin (17) and new cotter pin (18).
7. Connect clevis (6) to handbrake lever (24) with straight pin (8) and new cotter pin (7).
8. Perform ADJUSTMENT (subpara d).

**d. ADJUSTMENT**

1. Turn adjusting knob (25) counterclockwise until link pin is almost touching end of slots. Ensure that handbrake lever (24) is fully released.
2. Raise side of trailer where handbrake cable is being adjusted until wheel is off ground.
3. Loosen nuts (11 and 13) at each end of turnbuckle (12). Turn turnbuckle counterclockwise (as viewed from rear of trailer) until brakeshoes drag slightly when wheel is rotated by hand. Do not allow front and rear wire rope assemblies (9 and 14) to twist.
4. Turn turnbuckle (12) clockwise until brakeshoes no longer drag when wheel is rotated by hand.



4-20. HANDBRAKE CABLE MAINTENANCE (M514) (Con't).



5. Apply handbrake lever (24). If handbrake lever will not fully apply, turn turnbuckle (12) to obtain correct lever action.
6. Tighten nuts (11 and 13) against turnbuckle (12).
7. Lower trailer.

FOLLOW-ON TASKS:

- Lubricate handbrake cable (Chapter 3, Section I).

4-21. HANDBRAKE CABLE MAINTENANCE (M390C).

This Task Covers:

- a. Removal
- b. Installation

c. Adjustment

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Hub and brakedrum removed (para 4-41).

Tools/Test Equipment:

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

Materials/Parts:

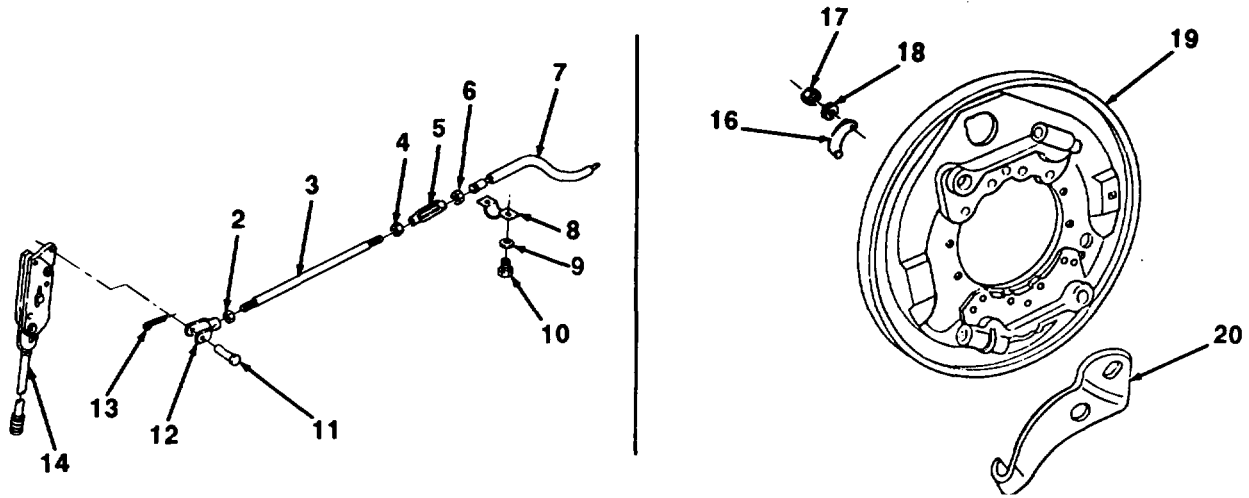
- One cotter pin
- Four lockwashers

a. REMOVAL**WARNING**

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Remove cotter pin (13), straight pin (11) and disconnect clevis (12) from handbrake lever (14). Discard cotter pin.
2. Remove two nuts (17) and lockwashers (18) from cable guide bracket (16) securing push-pull control assembly (7) to back side of backing plate (19). Discard lockwashers.
3. Disconnect push-pull control assembly (7) from lever (20). Pull push-pull control assembly from rear of backing plate (19).
4. Remove two screws (10), lockwashers (9), and bracket (8). Remove rod (3) and push-pull control assembly (7) from trailer. Discard lockwashers.
5. Loosen two nuts (4 and 6) and remove turnbuckle (5) from push-pull control assembly (7) and rod (3).
6. Remove nut (6) from push-pull control assembly (7). Remove nut (4) from rod (3).
7. Loosen nut (2) and remove clevis (12) and nut from rod (3).

4-21. HANDBRAKE CABLE MAINTENANCE (M390C) (Con't).



b. INSTALLATION

WARNING

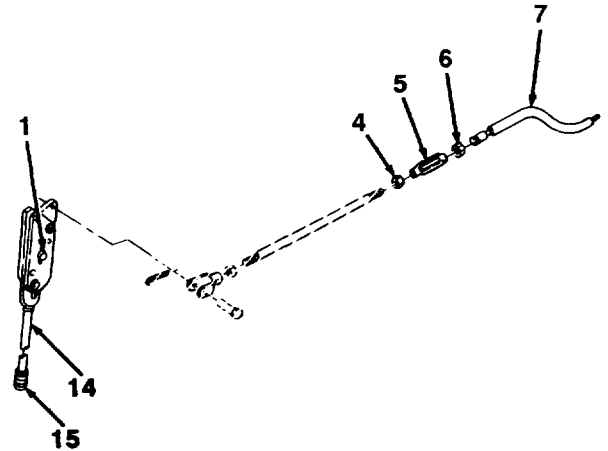
If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Install nut (2) and clevis (12) on rod (3). Tighten nut against clevis.
2. Install nut (4) on rod (3). Install nut (6) on push-pull control assembly (7).
3. Connect rod (3) and push-pull control assembly (7) with turnbuckle (5).
4. Secure push-pull control assembly (7) to frame with bracket (8), two new lockwashers (9), and screws (10).
5. Thread ball end of push-pull control assembly (7) through hole in backing plate (19) and connect to low end of lever (20).
6. Secure push-pull control assembly (7) to back side of backing plate (19) with cable guide bracket (16), two new lockwashers (18), and nuts (17).
7. Install hub and brakedrum (para 4-41).
8. Install wheel (para 4-39).
9. Connect clevis (12) to handbrake lever (14) with straight pin (11) and new cotter pin (13).
10. Perform ADJUSTMENT (subpara c).

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4-21. HANDBRAKE CABLE MAINTENANCE (M390C) (Con't).**c. ADJUSTMENT**

1. Turn adjusting knob (15) counterclockwise until link pin (1) is almost touching end of slots. Ensure that handbrake lever (14) is fully released.
2. Raise side of trailer where handbrake cable is being adjusted until wheel is off ground.
3. Loosen nuts (4 and 6). Turn turnbuckle (5) counterclockwise (as viewed from rear of trailer) until brakeshoes drag slightly when wheel is rotated by hand. Do not allow push-pull control assembly (7) to twist.
4. Turn turnbuckle (5) clockwise until brakeshoes no longer drag when wheel is rotated by hand.
5. Apply handbrake lever (14). If handbrake lever will not fully apply, turn turnbuckle (5) to obtain correct lever action.
6. Tighten nuts (4 and 6) against turnbuckle (5).
7. Lower trailer.

**FOLLOW-ON TASKS:**

- Lubricate handbrake cable (Chapter 3, Section I)

4-22. BRAKE SYSTEM TESTS.

This Task Covers:

a. Air System Lines and Hose Leakage Test

b. Airbrake Chamber Pushrod Travel Test

Initial Setup:

Equipment Conditions:

- Trailer coupled to towing vehicle (para 2-8).

Materials/Parts:

- Detergent (Item 5, Appendix E)
- Rags (Item 12, Appendix E)

Tools/Test Equipment:

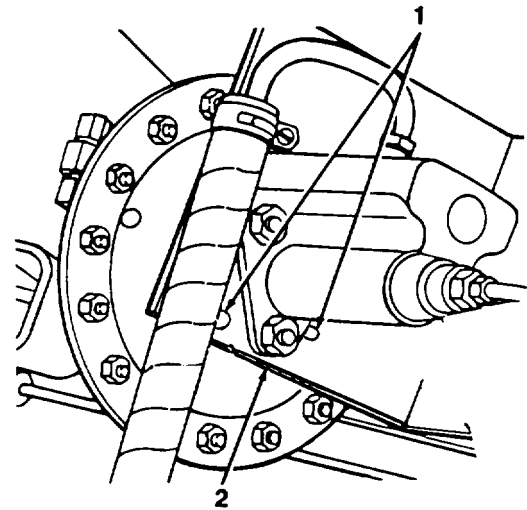
- General mechanic's tool kit

a. AIR SYSTEM LINES AND HOSE LEAKAGE TEST

1. With compressed air system fully charged, coat exterior of components and connections with soapy water. Formation of bubbles indicates air leaks.
2. Tighten connections and repeat step 1. If leaks cannot be eliminated, replace defective components (Para 4-33 or 434 .

b. AIRBRAKE CHAMBER PUSHROD TRAVEL TEST

1. With brakes released, insert a small testing rod in one of two inspection holes (1) in airbrake chamber mounting bracket (2). Mark testing rod at surface of bracket when rod is inserted as far as it will go.
2. Apply brakes and mark testing rod at surface of bracket.
3. Measure distance between two marks. Marks should be between X in. and $\frac{7}{8}$ in. (13 mm and 22 mm) apart. If marks are less than X in. (13 mm) or greater than X in. (22 mm) apart, adjust brakes (para 4-23 or 4-24).



4-23. SERVICE BRAKE ADJUSTMENT (M514).

This Task Covers:

a. Minor Adjustment

b. Major Adjustment

Initial Setup:

Equipment Conditions:

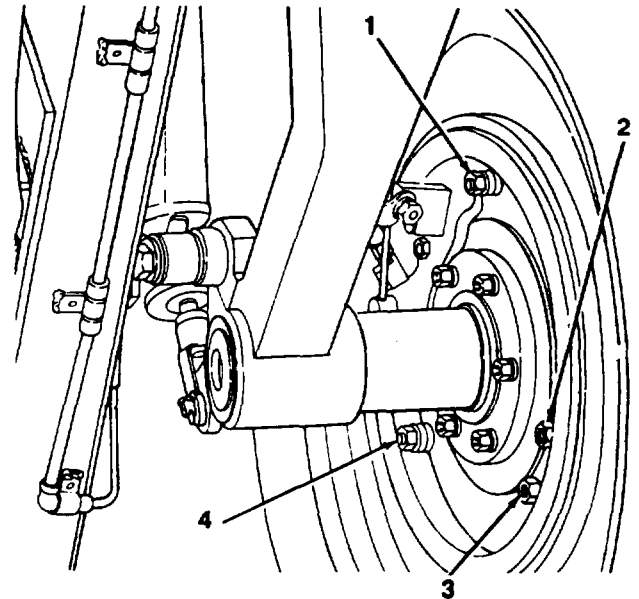
- Trailer leveled (para 2-10).
- Handbrakes released (para 2-2).

Tools/Test Equipment:

- General mechanic's tool kit

a. MINOR ADJUSTMENT I

1. To adjust left brake assembly:
 - (a) Turn front brakeshoe adjusting cam (1) clockwise until wheel locks. Turn adjusting cam counterclockwise until a slight drag is felt when turning wheel.
 - (b) Turn rear brakeshoe adjusting cam (4) counterclockwise until wheel locks. Turn adjusting cam clockwise until a slight drag is felt when turning wheel.
2. To adjust right brake assembly:
 - (a) Turn front brakeshoe adjusting cam (1) counterclockwise until wheel locks. Turn adjusting cam clockwise until a slight drag is felt when turning wheel.
 - (b) Turn rear brakeshoe adjusting cam (4) clockwise until wheel locks. Turn adjusting cam counterclockwise until a slight drag is felt when turning wheel.

**b. MAJOR ADJUSTMENT**

1. To adjust left brake assembly:
 - (a) Loosen nuts on front and rear brakeshoe anchor pins (2 and 3).
 - (b) Install wrench in socket inside end of front brakeshoe anchor pin (2) and turn clockwise until wheel locks.
 - (c) Turn anchor pin (2) counterclockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.

4-22. SERVICE BRAKE ADJUSTMENT (M514) (Con't).

- (d) Turn rear brakeshoe anchor pin (3) counterclockwise until wheel locks.
- (e) Turn anchor pin (3) clockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.
- (f) Perform MINOR ADJUSTMENT (subpara a).

2.To adjust right brake assembly:

- (a) Loosen nuts on front and rear brakeshoe anchor pins (2 and 3).
- (b) Install wrench in socket inside end of front brakeshoe anchor pin (2) and turn counterclockwise until wheel locks.
- (c) Turn anchor pin (2) clockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.
- (d) Turn rear brakeshoe anchor pin (3) clockwise until wheel locks.
- (e) Turn anchor pin (3) counterclockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.
- (f) Perform MINOR ADJUSTMENT (subpara a).

4-24. SERVICE BRAKE ADJUSTMENT (M390C).

This Task Covers:

a. Left Brake Assembly Adjustment

b. Right Brake Assembly Adjustment

Initial Setup:

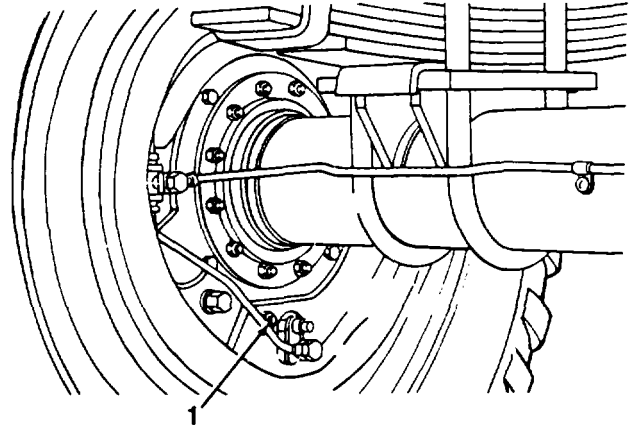
Equipment Conditions: Tools/Test Equipment:

* Trailer leveled (para 2-10). * General mechanic's tool kit

* Handbrakes released (para 2-2).

a. LEFT BRAKE ASSEMBLY ADJUSTMENT I

1. Turn lower adjusting stud (1) on back side of left brake assembly clockwise until rear brakeshoe drags slightly when wheel is rotated by hand.
2. Turn lower adjusting stud (1) counterclockwise just enough to allow wheel to turn freely without drag.
3. Repeat steps 1 and 2 at upper adjusting stud on back side of left brake assembly to adjust front brakeshoe.

**b. RIGHT BRAKE ASSEMBLY ADJUSTMENT**

1. Turn lower adjusting stud (1) on back side of right brake assembly counterclockwise until rear brakeshoe drags slightly when wheel is rotated by hand.
2. Turn lower adjusting stud (1) clockwise just enough to allow wheel to turn freely without drag.
3. Repeat steps 1 and 2 at upper adjusting stud on back side of right brake assembly to adjust front brakeshoe.

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4-25. BLEEDING HYDRAULIC BRAKE SYSTEM.

This Task Covers:

a. Manual Bleeding

b. Pressure Bleeding

Initial Setup:

Equipment Conditions:

Trailer coupled to towing vehicle (manual bleeding only) (ara 2-8).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no.1 shop set
- Drain pan
- Pressure bleeder

Materials/Parts:

- Brake fluid (Item 6, Appendix E)
- Rags (item 12, Appendix E)

Personnel Required: Two**a. MANUAL BLEEDING****NOTE**

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Clean wheel cylinder bleeder valves at top and bottom of brake backing plate.
2. Attach bleeder tube to lower bleeder valve.
3. Submerge free end of bleeder tube in approximately 3 in. (7.6 cm) of clean brake fluid. Use a clean, clear jar or bottle to hold brake fluid.

NOTE

Master cylinder must be kept full during bleeding operation to prevent air from entering the system.

4. Remove filler plug from top of master cylinder and fill with brake fluid to within X in. (13 mm) from top.
5. Have assistant depress brake pedal of towing vehicle and hold until instructed to release.
6. While assistant depresses brake pedal, open bleeder valve 4 turn counterclockwise.
7. Close bleeder valve by turning clockwise.
8. Instruct assistant to release brake pedal, then pump brake pedal to maximum height, then depress and hold brake pedal until instructed to release it.
9. Repeat steps 5 through 8 until all air is purged from the line (approximately four times after last bubbles are discharged from bleeder tube).
10. Remove bleeder tube from lower bleeder valve and attach to upper bleeder valve of same wheel.
11. Fill master cylinder with brake fluid to within X in. (13 mm) from top.
12. Repeat steps 5 through 8 for upper bleeder valve.

4-25. BLEEDING HYDRAULIC BRAKE SYSTEM (Con't).

13. Remove bleeder tube from upper bleeder valve.
14. Repeat steps 1 through 13 for other wheel.
15. Fill master cylinder with brake fluid to within X in. (13 mm) from top and install filler plug.

b. PRESSURE BLEEDING

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Clean wheel cylinder bleeder valves at top and bottom of brake backing plate.
2. Attach bleeder tube to lower bleeder valve.
3. Submerge free end of bleeder tube in approximately 3 in. (7.6 cm) of clean brake fluid. Use a clean, clear jar or bottle to hold brake fluid.
4. Remove filler plug from top of master cylinder. With proper size adapter, connect pressure feeder hose to filler port in top of master cylinder.
5. Open bleeder valve $\frac{1}{2}$ turn counterclockwise.
6. Observe air bubbles discharged from free end of bleeder tube. When flow of air bubbles stops, close bleeder valve by turning clockwise.
7. Remove bleeder tube from lower bleeder valve and attach to upper bleeder valve of same wheel.
8. Repeat steps 5 and 6 for upper cylinder.
9. Remove bleeder tube from upper bleeder valve.
10. Repeat steps 1 through 3 and 5 through 9 for other wheel.
11. Disconnect pressure feeder hose from master cylinder filler port.
12. Fill master cylinder with brake fluid to within X in. (13 mm) from top and install filler plug.

4-26. BRAKESHOE REPLACEMENT (M514).

This Task Covers:

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

Initial Setup:

Equipment Conditions:

- Hub and brakedrum removed (para 4-40).

Tools/Test Equipment:

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

Materials/Parts:

- Dry cleaning solvent (Item 13, Appendix E)
 - Two cotter pins
 - Eight lockwashers
-

a. REMOVAL

WARNING

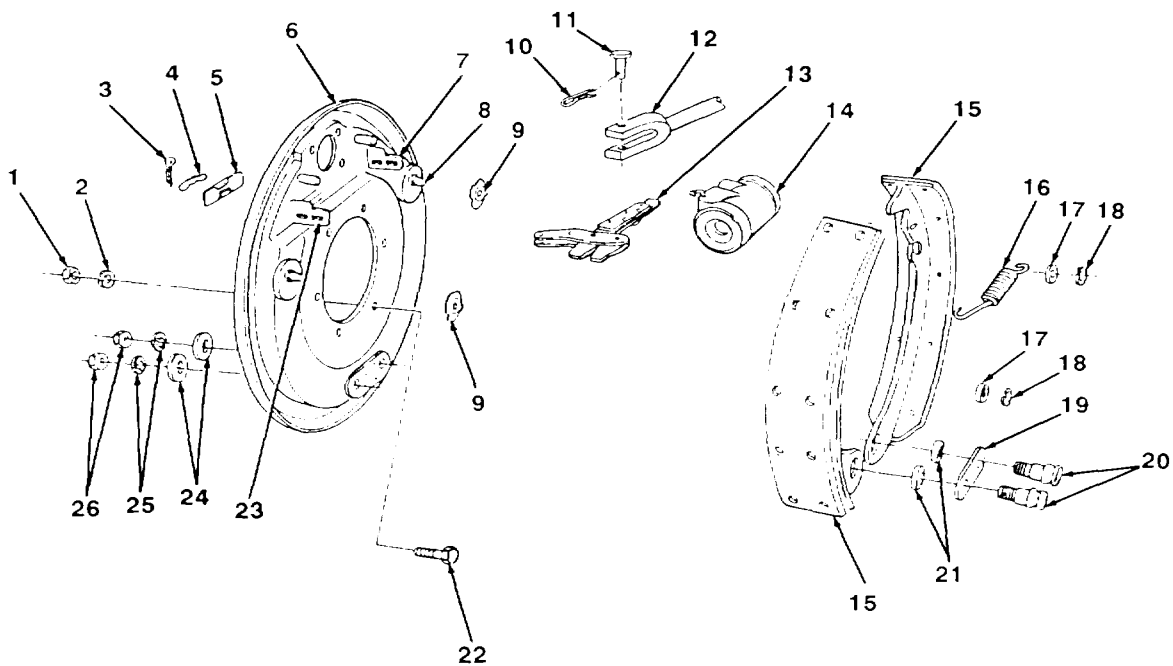
DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components.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

NOTE

If removing brakeshoes, perform steps 1 through 3.

4-26. BRAKESHOE REPLACEMENT (M514) (Con't).

1. Position a C-clamp over ends of wheel cylinder (14) to retain cups and pistons In cylinder Remove brakeshoe return spring (16).
2. Remove two nuts (26), lockwashers (25), and flatwashers (24) securing anchor pins (20) to backing plate (6).
Remove two anchor pins and anchor plate (19). Remove anchor pin bushings (21) Discard lockwashers
3. Remove two C-washers (18) and flatwashers (17) securing brakeshoes (15) to adjusting cam pins (8) Remove two brakeshoes and flatwashers (9) from adjusting cam pins.
4. Remove cotter pin (10), straight pin (11), and disconnect handbrake cable clevis (12) from toggle link (13) Discard cotter pin.
5. Remove cotter pin (3), spring (4), and guard (5) from toggle link (13). Pull toggle link toward rear until free of front slide guide (23) then pull outward and forward out of rear slide guide (7) Discard cotter pin
6. Remove wheel cylinder (14) (para 4-29).
7. Remove six nuts (1), lockwashers (2), and screws (22) securing backing plate (6) to suspension arm.
Remove backing plate. Discard lockwashers.



4-26. BRAKESHOE REPLACEMENT (M514) (Con't).

b. CLEANING AND INSPECTION**WARNING**

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

- 1 Measure thickness of brakeshoe linings. Thickness should be at least $\frac{1}{8}$ in. (3.2 mm) If thickness is not at least $\frac{1}{8}$ in. (3.2 mm), replace both brakeshoes

WARNING

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

2. Clean all removed components with dry cleaning solvent and dry thoroughly.
3. Inspect anchor pins and bushings for damage. Install anchor pin inside bushing. Anchor pin should slide smoothly inside bushing.
4. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts

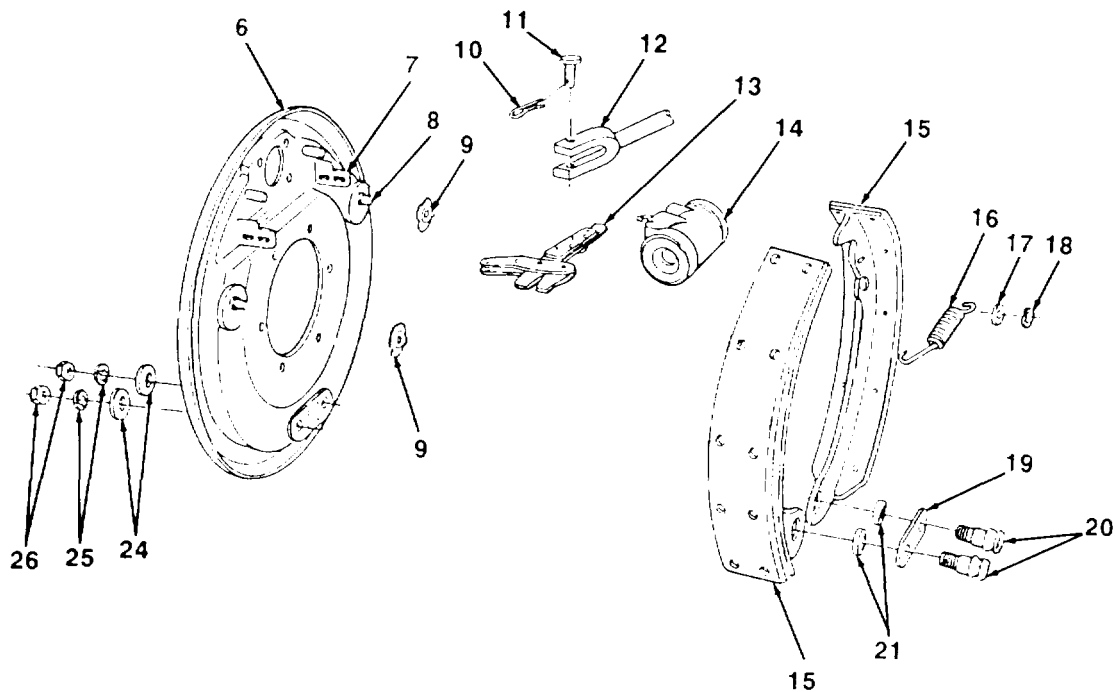
c. INSTALLATION**NOTE**

If installing brakeshoes, perform steps 6 through 9.

1. Install backing plate (6) on suspension arm with six screws (22), new lockwashers (2), and nuts (1).
2. Install wheel cylinder (14) (para 4-29). Position a C-clamp over ends of wheel cylinder to retain cups and pistons in cylinder.
3. Install toggle link (13) through rear slide guide (7) and front slide guides (23).
4. Install spring (4) and guard (5) on toggle link (13) with new cotter pin (3).

4-26. BRAKESHOE REPLACEMENT (M514) (Con't).

- 5 Connect handbrake cable clevis (12) to toggle link (13) with straight pin (11) and new cotter pin (10)
- 6 Install two flatwashers (9), brakeshoes (15), flatwashers (17), and C-washers (18) on adjusting cam pins (8)
- 7 Install two anchor pin bushings (21) on backing plate (6).
- 8 Install anchor plate (19) and two anchor pins (20) with two flatwashers (24), new lockwashers (25), and nuts (26).
- 9 Install brakeshoe return spring (16). Remove C-clamp from wheel cylinder (14).

**FOLLOW-ON TASKS:**

- Install hub and brakedrum (para 4-40).
- Install wheel (para 4-39).
- Bleed brakes (para 4-25)
- Adjust brakes (para 4-23).

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4-27. BRAKESHOE REPLACEMENT (M390C).

This Task Covers,

- a. Removal
- b. Cleaning and Inspection

c. Installation

Initial Setup:

Equipment Conditions:

* Hub and brakedrum removed (para 4-41)

Tools/Test Equipment:

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

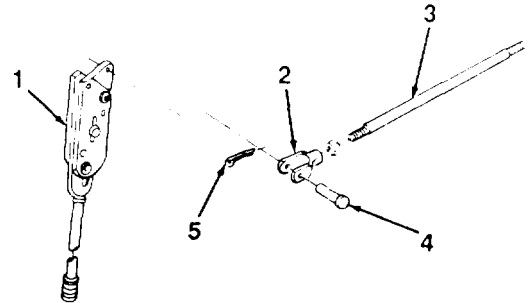
Materials/Parts:

- Dry cleaning solvent (Item 13, Appendix E)
- One cotter pin
- Two lockwashers

Personnel Required: Two**a. REMOVAL****WARNING**

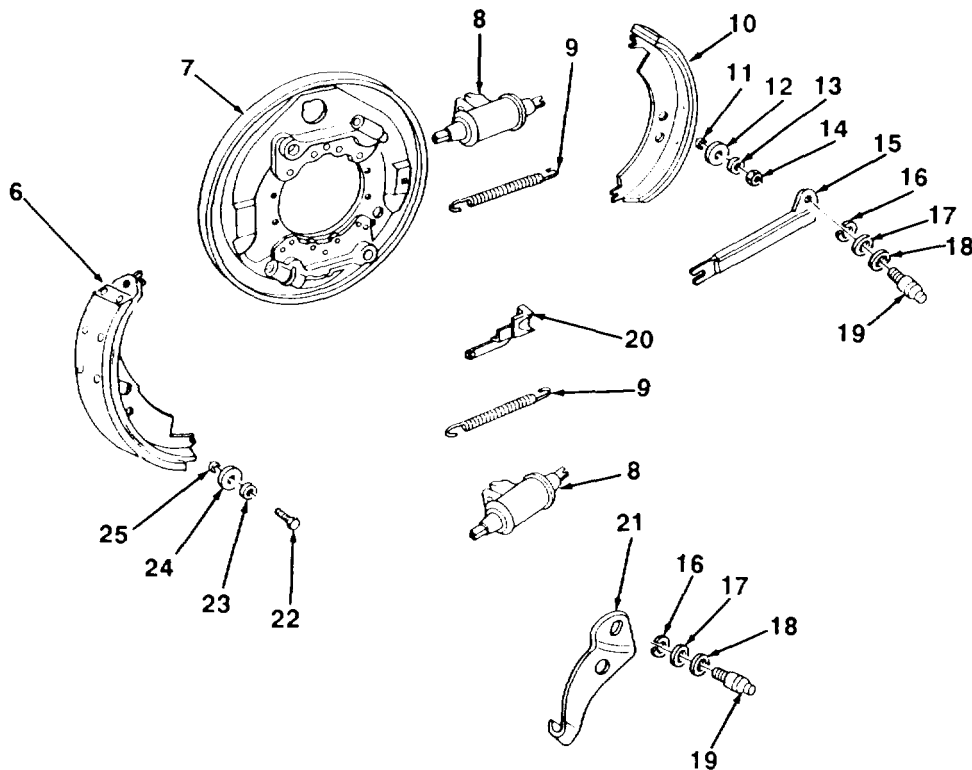
DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components.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

1. Remove cotter pin (5), straight pin (4), and disconnect clevis (2) on front end of rod (3) from handbrake lever (1). Discard cotter pin.



4-27. BRAKESHOE REPLACEMENT (M390C) (Con't).

2. Position a C-clamp over ends of each wheel cylinder (8) to retain cups and pistons in cylinder Remove two return springs (9).
3. Remove two slotted washers (18), flatwashers (17), and spring washers (16) from pins (19) on upper ends of both front and rear brakeshoes (10 and 6). Remove brake lever (21), cable ramp (20), and link (15) from pins
4. Remove nut (14), lockwashers (13), flatwashers (12), and spacer (11) securing front brakeshoe (10) to backing plate (7). Remove front brakeshoe. Discard lockwashers.
5. Remove screw (22), lockwashers (23), flatwashers (24), and spacer (25) securing rear brakeshoe (6) to backing plate (7). Remove rear brakeshoe Discard lockwashers.
6. If damaged, remove wheel cylinders (8) (para 4-30).



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4-27. BRAKESHOE REPLACEMENT (M390C) (Con't).

b. CLEANING AND INSPECTION**WARNING**

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

- 1 Measure thickness of brakeshoe linings. Thickness should be at least X in (3.2 mm) If thickness is not at least X in. (3.2 mm), replace both brakeshoes

WARNING

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

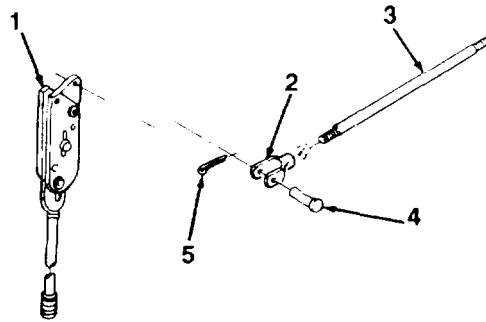
- 2 Clean all removed components with dry cleaning solvent and dry thoroughly.
- 3 Inspect all other parts for cracks, breaks, corrosion, or other damage Replace all damaged parts

c. INSTALLATION

1. If removed, install wheel cylinders (8) (para 4-30). Position a C-clamp over ends of each wheel cylinder to retain cups and pistons in cylinder.
2. Install rear brakeshoe (6) on backing plate (7) with spacer (25), flatwashers (24), new lockwashers (23), and screw (22).
3. Install front brakeshoe (10) on backing plate (7) with spacer (11), flatwashers (12), new lockwashers (13), and nut (14).
4. Install brake lever (21), cable ramp (20), and link (15) on pins (19) on upper ends of both front and rear brakeshoes (6 and 10) with two spring washers (16), flatwashers (17), and slotted washers (18).
5. Install two return springs (9). Remove C-clamp from wheel cylinders (8).

4-27. BRAKESHOE REPLACEMENT (M390C) (Con't).

6. Connect clevis (2) on front end of rod (3) to handbrake lever (1) with straight pin (4) and new cotter pin (5).

**FOLLOW-ON TASKS:**

- Install hub and brakedrum (para 4-41).
- Install wheel (para 4-39).
- Bleed brakes (para 4-25).
- Adjust brakes (para 4-24).

4-28. MASTER CYLINDER REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2)

Tools/Test Equipment:

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

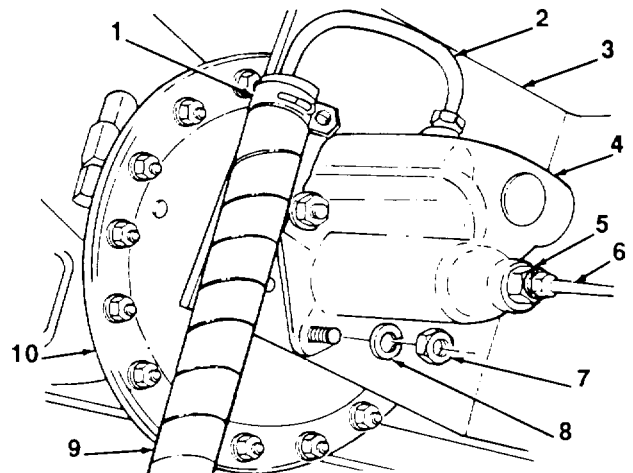
Materials/Parts:

- Rags (Item 12, Appendix E)
- One gasket
- Three lockwashers

a. REMOVAL**NOTE**

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

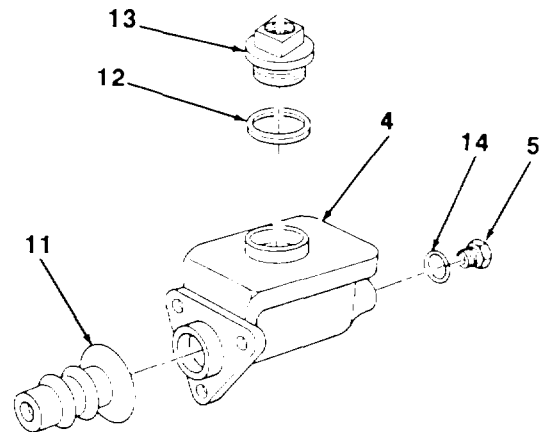
1. Place a suitable container under master cylinder (4).
2. Disconnect hose (6) from reducer (5) and allow brake fluid to drain from master cylinder (4).
3. Remove three nuts (7) and lockwashers (8) securing master cylinder (4) to airbrake chamber (10) and bracket (3). Remove master cylinder from bracket and airbrake chamber. Discard lockwashers.
4. Loosen clamp (1) and remove hose (9) from vent tube (2).



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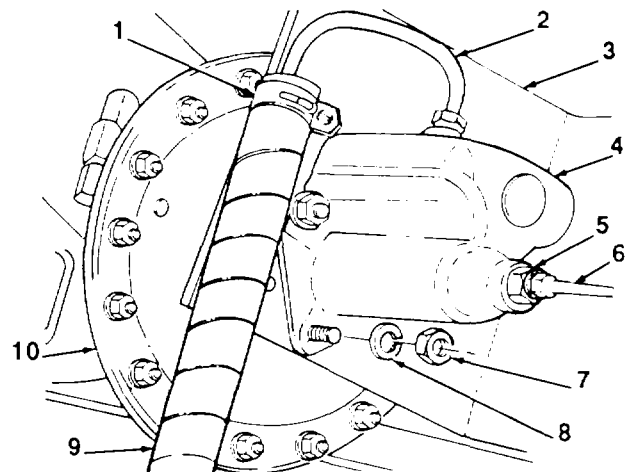
4-28. MASTER CYLINDER REPLACEMENT (C)

5. Remove reducer (5) and gasket (14) from master cylinder (4). Discard gasket
6. Remove vent tube (2) from cap (13).
7. Remove cap (13) and spacer (12) from master cylinder (4)
8. Remove boot (11) from master cylinder (4).



b. INSTALLATION I

1. Install boot (11) on master cylinder (4).
2. Install spacer (12) and cap (13) on master cylinder (4)
3. Install new gasket (14) and reducer (5) in master cylinder (4)
4. Install vent tube (2) in cap (13).
5. Install hose (9) on vent tube (2) and tighten clamp (1).
6. Install master cylinder (4) on bracket (3) and airbrake chamber (10) with three new lockwashers (8) and nuts (7).
7. Connect hose (6) to reducer (5).



FOLLOW-ON TASKS:

- Bleed brakes (para 4-25).

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4-29. WHEEL CYLINDER REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Brakeshoes removed (para 4-26).

Tools/Test Equipment:

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

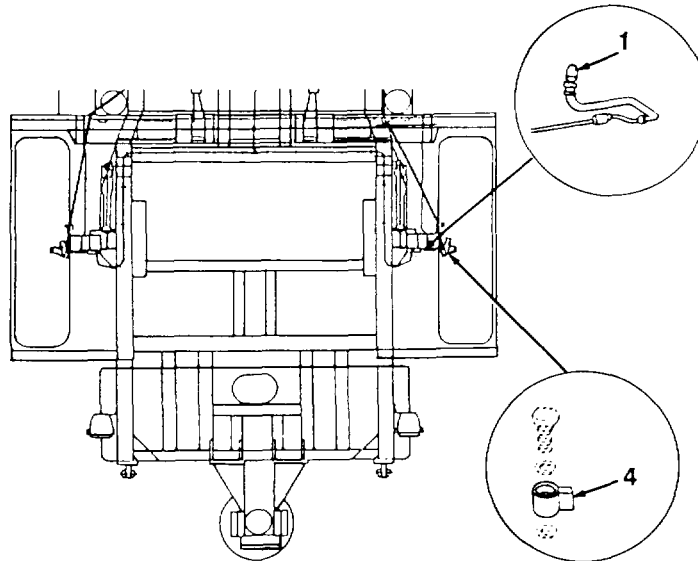
Materials/Parts:

- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- Three lockwashers

a. REMOVAL**NOTE**

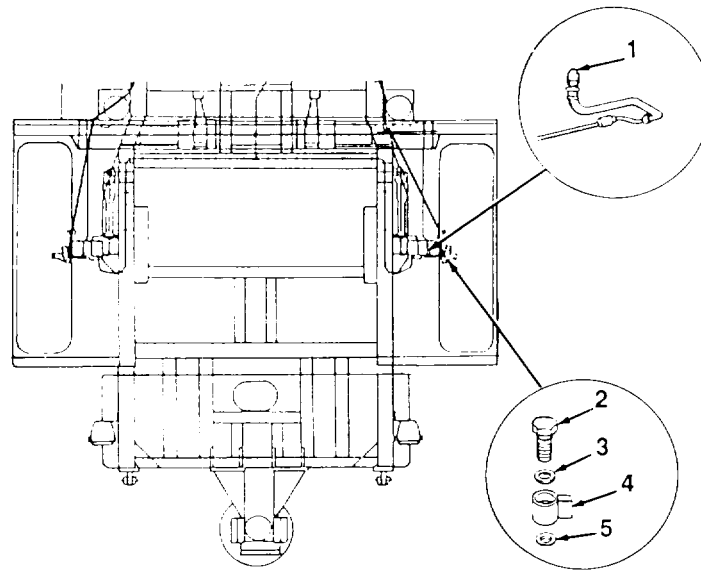
A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Place a suitable container under hose (1). Disconnect hose from tee (4) and allow brake fluid to drain into container.

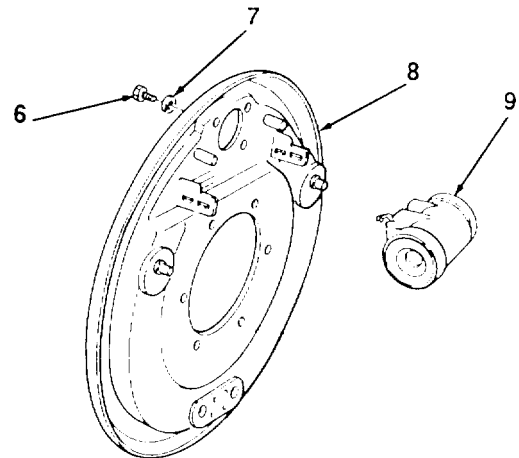


4-29. WHEEL CYLINDER REPLACEMENT (M514) (Con't).

2. Remove fluid passage bolt (2), spacer (3), tee (4), and flatwasher (5) from wheel cylinder (9)



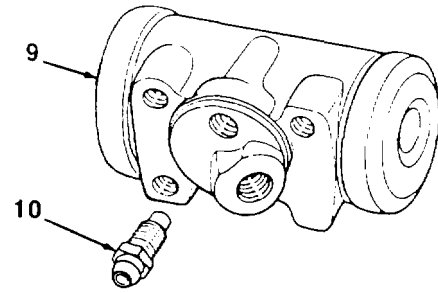
3. Remove three screws (6), lockwashers (7). And wheel cylinder (9) from backing plate (8) Discard lockwashers



TA704321

4-29. WHEEL CYLINDER REPLACEMENT (M514) (Con't).

4. Remove bleeder valve (10) from wheel cylinder (9).

**b. INSTALLATION**

1. Install bleeder valve (10) in wheel cylinder (9).
2. Install wheel cylinder (9) on backing plate (8) with three new lockwashers (7) and screws (6).
3. Install fluid passage bolt (2), spacer (3), tee (4), and flatwashers (5) on wheel cylinder (9).
4. Connect hose (1) to tee (4).

FOLLOW-ON TASKS:

- Install brakeshoes (para 4-26).
- Bleed brakes (para 4-25).

TA505018

4-30. WHEEL CYLINDER REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Brakeshoes removed (para 4-27).

Tools/Test Equipment:

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

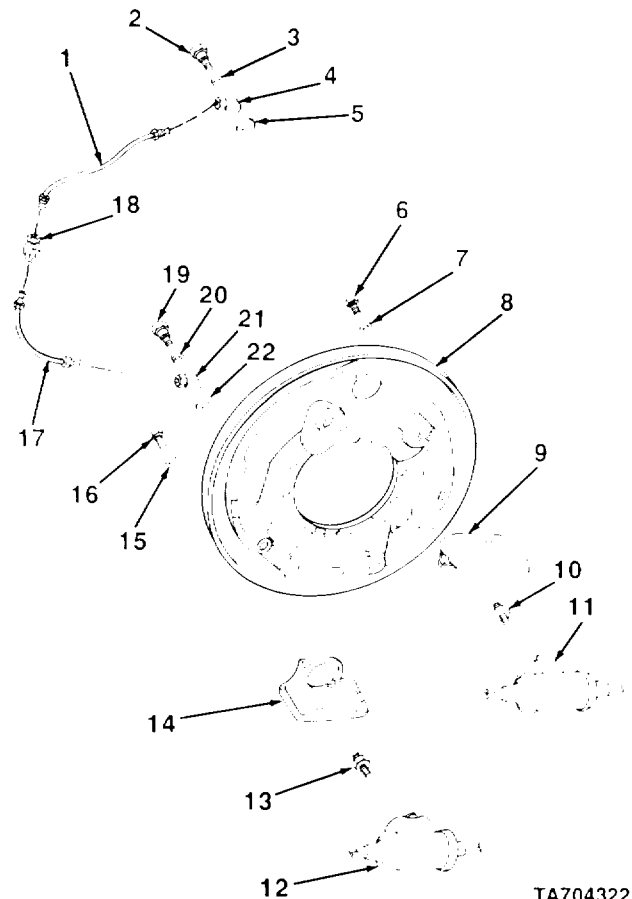
Materials/Parts:

- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- Four lockwashers

a. REMOVAL**NOTE**

A suitable container should be used to catch spills are cleaned up.

1. Place a suitable container under multiple connector (18) at back side of wheel cylinder (12). Loosen fitting on multiple connector end of tube assembly (17). Allow brake fluid to drain into container.
2. Remove fluid passage bolt (19), spacer (20), tee (21), and shouldered washer (22) from wheel cylinder (12)
3. Remove tube assembly (17) from tee (21).
4. Remove two bolts (16) and lockwashers (15) securing wheel cylinder (12) to backing plate (8).
Remove wheel cylinder and shield (14)
Discard lockwashers
5. Remove fluid passage bolt (2), spacer (3), tee (4), and shouldered washer (5) from wheel cylinder (11)
6. Remove two bolts (6) and lockwashers (7) securing wheel cylinder (11) to backing plate (8). Remove wheel cylinder and shield (9) from backing plate. Discard lockwashers
7. Remove tube assembly (1) from tee (4)
8. Remove multiple connector (18) from tube assembly (1)



TA704322

4-30. WHEEL CYLINDER REPLACEMENT (M390C) (Con't).

9. Remove bleeder valves (10 and 13) from wheel cylinders (11 and 12)

b. **INSTALLATION**

1. Install bleeder valves (10 and 13) in wheel cylinders (11 and 12)

2. Install shield (9) and wheel cylinder (11) on backing plate (8) with two new lockwashers (7) and bolts (6)

3. Install shouldered washer (5), tee (4), spacer (3), and fluid passage bolt (2) in wheel cylinder (11).

4. Install shield (14) and wheel cylinder (12) on backing plate (8) with two new lockwashers (15) and bolts (16)

5. Install shouldered washer (22), tee (21), spacer (20), and fluid passage bolt (19) in wheel cylinder (12)

6. Connect two tube assemblies (17 and 1) to multiple connector (18). Tighten fittings.

7. Connect tube assembly (17) to tee (21) and tighten fitting.

8. Connect tube assembly (1) to tee (4) and tighten fitting.

FOLLOW-ON TASKS:

- Install brakeshoes (para 4-27).
- Bleed brakes (para 4-25).

4-31. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

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

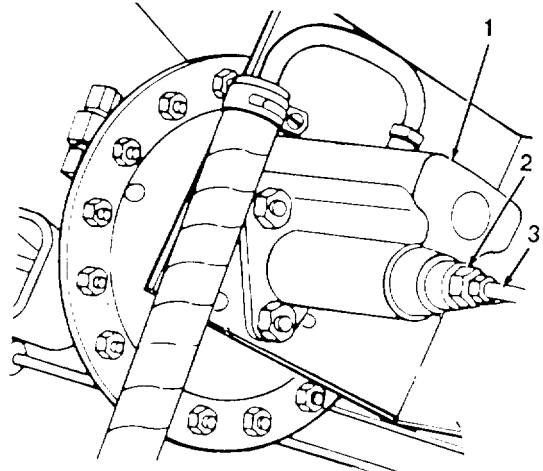
Materials/Parts:

- Rags (Item 12, Appendix E)
- Seven lockwashers

a. REMOVAL**NOTE**

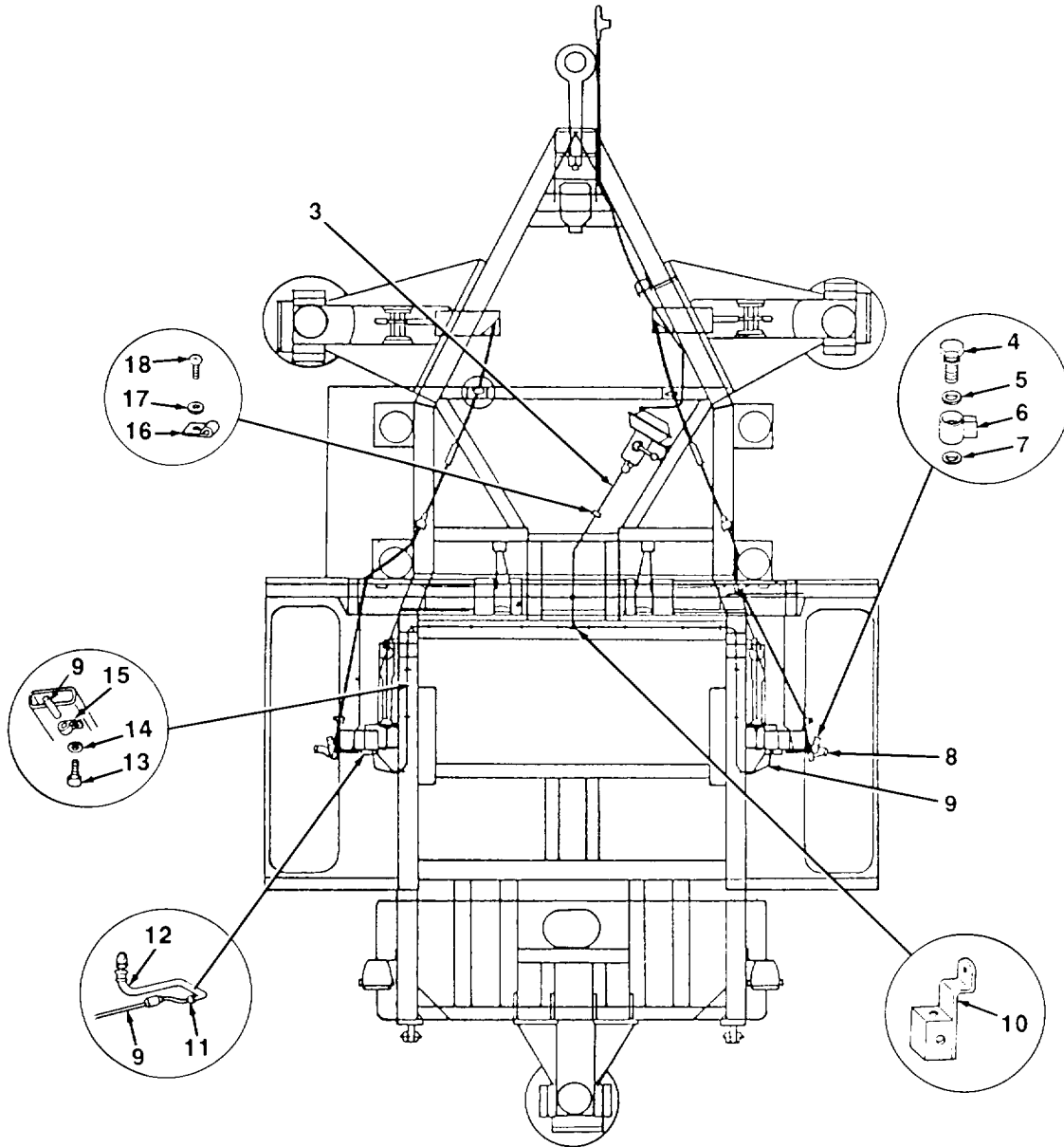
- If removing hose from master cylinder to tee at midpoint of trailer, perform steps 1 through 3.
- If removing lines from tee at midpoint of trailer to wheel, perform steps 4 through 8.
- A suitable container should be used to catch any draining brake fluid. Ensure that all spoils are cleaned up.

- 1 Place a suitable container under master cylinder (1). Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.
2. Remove screw (18), lockwashers (17), and clamp (16) Discard lockwashers.
- 3 Disconnect hose (3) from tee (10).
Remove hose
- 4 Place a suitable container under hose (12) at rear of backing plate. Disconnect hose from tee (6) at wheel cylinder (8) and allow brake fluid to drain into container.
- 5 Remove hose (12) from elbow (11) Remove elbow from tube assembly (9).
6. Remove bolt (4), spacer (5), tee (6), and flat washer (7) from wheel cylinder (8)
- 7 Disconnect tube assembly (9) from tee (10)



4-31. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).

8. Remove six screws (13), lockwashers (14), and straps (15) securing tube assembly (9) to frame Remove tube assembly Discard lockwashers



TA704323

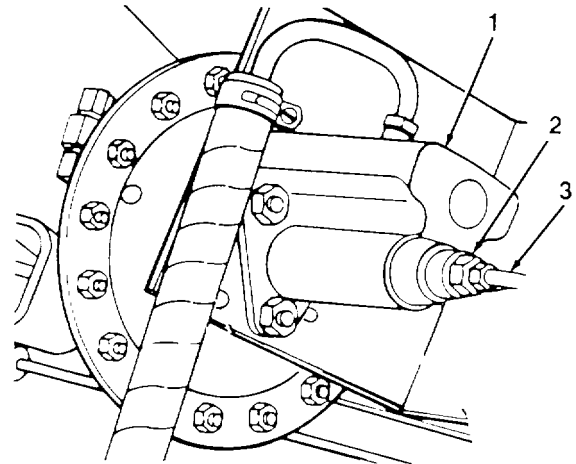
4-31. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).

b. INSTALLATION

NOTE

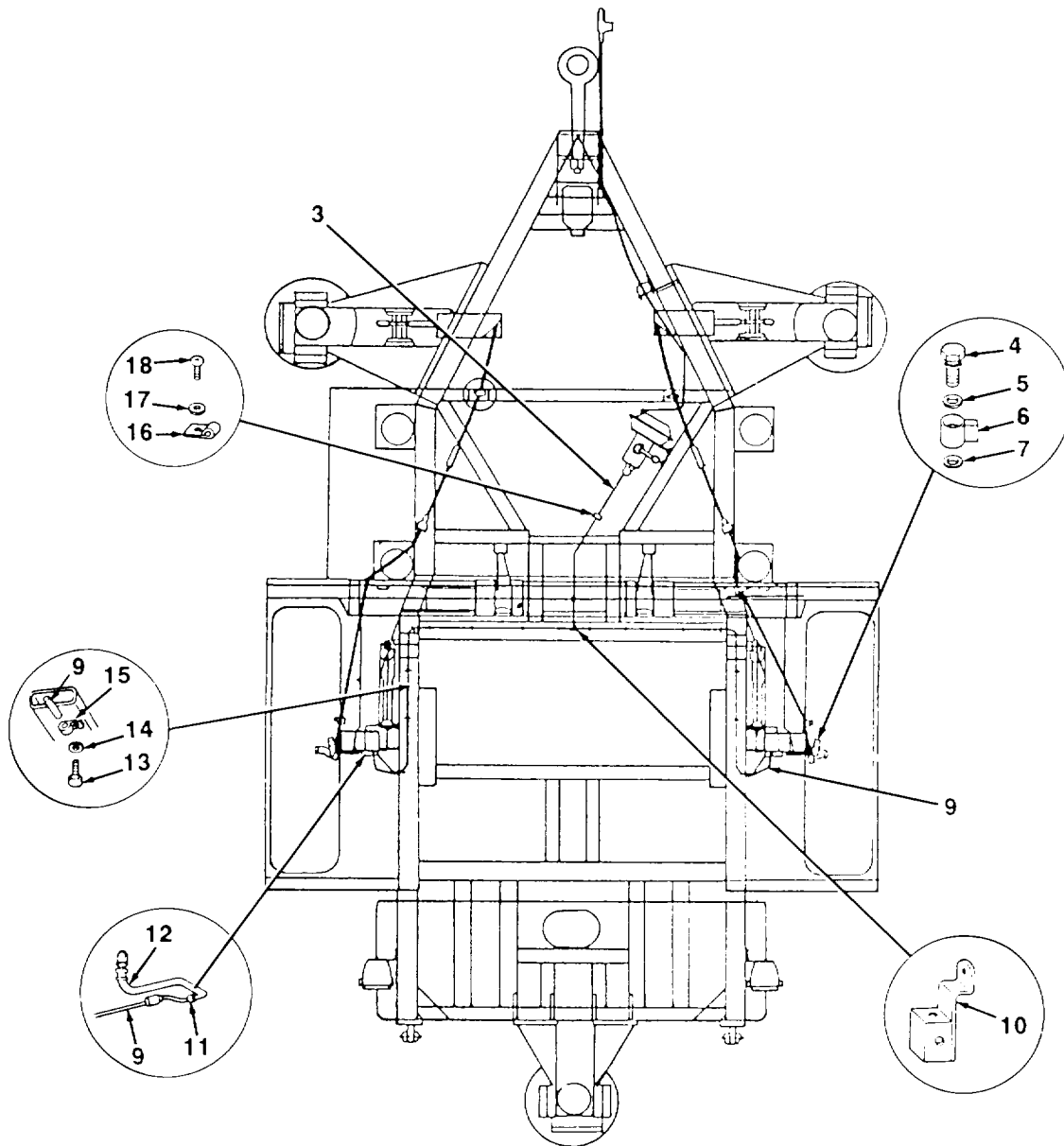
- If installing lines from tee at midpoint of trailer to wheel, perform steps 1 through 5.
- If Installing hose from master cylinder to tee at midpoint of trailer, perform steps 6 through 8.

1. Position tube assembly (9) for installation. Secure tube assembly to frame with six screws (13), new lockwashers (14), and six straps (15).
2. Connect tube assembly (9) to tee (10).
3. Install flatwashers (7), tee (6), flatwashers (5), and bolt (4).
4. Install elbow (11) to tube assembly (9).
5. Connect hose (12) to elbow (11) and tee (6)
6. Position hose (3) for installation Secure hose to frame with screw (18), new lockwashers (17), and clamp (16)
7. Connect hose (3) to tee (10).
8. Connect hose (3) to reducer (2) at master cylinder (1).



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4-31. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).



FOLLOW-ON TASKS:

- Bleed brakes (para 4-25).

TA704324

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup.

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2)

Tools/Test Equipment:

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

Materials/Parts:

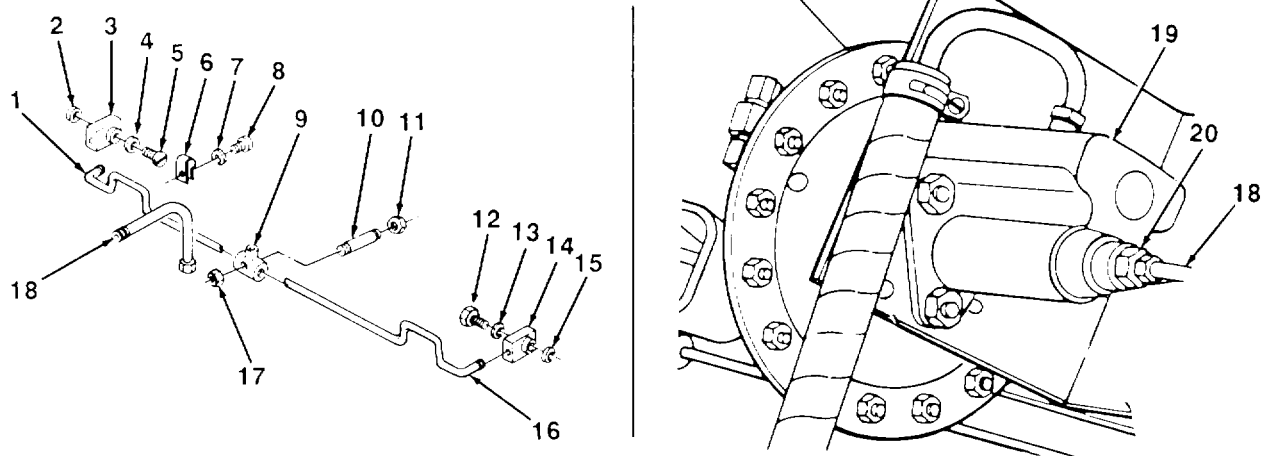
- Rags (Item 12, Appendix E)
- Three lockwashers

a. REMOVAL**NOTE**

- If removing lines from multiple connector on axle to wheels, perform steps 1 through 8, 11, and 12.
- If removing hose from master cylinder to multiple connector on axle, perform steps 9 and 10.
- A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Place a suitable container under tube assembly (1) at rear of backing plate. Disconnect tube assembly from multiple connector (3) and allow brake fluid to drain into container
2. Place a suitable container under tube assembly (16) at rear of backing plate Disconnect tube assembly from multiple connector (14) and allow brake fluid to drain into container.
3. Disconnect tube assembly (1) from multiple connector (9) on axle.
4. Remove screw (8), lockwashers (7), and clamp (6) securing tube assembly (1) to axle Remove tube assembly Discard lockwashers.
5. Disconnect tube assembly (16) from multiple connector (9) on axle.
6. Remove two screws (8), lockwashers (7), and clamps (6) securing tube assembly (16) to axle Remove tube assembly Discard lockwashers.
7. Remove fluid passage bolt (5), shouldered washer (4), multiple connector (3), and spacer (2) from multiple connector on backing plate.
8. Remove fluid passage bolt (12), shouldered washer (13), multiple connector (14), and spacer (15) from multiple connector on backing plate
9. Place a suitable container under master cylinder (19) Disconnect hose (18) from reducer (20) and allow brake fluid to drain into container.
10. Disconnect hose (18) from connector (9) and remove hose.

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M390C) (Con't).



11. Remove nut (17) and multiple connector (9) from stud (10).
12. If damaged, remove stud (10) and nut (11) from axle.

b. INSTALLATION

NOTE

- If installing lines from multiple connector on axle to wheels, perform steps 1 through 8.
- If installing hose from master cylinder to multiple connector on axle, perform steps 9 and 10.

1. If removed, install stud (10) through hole in axle. Secure stud to axle with nut (11)
 2. Install multiple connector (9) on stud (10) with nut (17).
 3. Install multiple connector (14) and spacer (15) on backing plate multiple connector with shouldered washer (13) and fluid passage bolt (12)
 4. Install multiple connector (3) and spacer (2) on backing plate multiple connector with shouldered washer (4) and fluid passage bolt (5)
 5. Connect tube assembly (16) to multiple connector (14) and multiple connector (9).
 6. Secure tube assembly (16) to axle with two clamps (6), new lockwashers (7), and screws (8)
 7. Connect tube assembly (1) to connector (3) and multiple connector (9).
 8. Secure tube assembly (1) to axle with clamp (6), new lockwashers (7). and screw (8)
 9. Connect hose (18) to multiple connector (9) on axle.
 10. Connect hose (18) to reducer (20) at master cylinder (19)
- FOLLOW-ON TASKS:**
- Bleed brakes (para 4-25)

4-33. AIRBRAKE SYSTEM MAINTENANCE (M514).

This Task Covers:

- | | |
|--|-------------------------------------|
| a. Removal | c. Intervehicular Air Hose Assembly |
| b. Intervehicular Air Hose Disassembly | d. Installation |

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

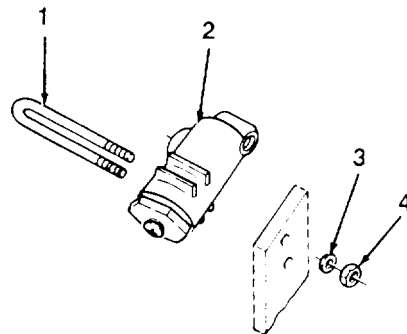
- **General mechanic's tool kit**

Materials/Parts:

- Antiseizing tape (Item 15, Appendix E)
- One performed packing
- Five lockwashers

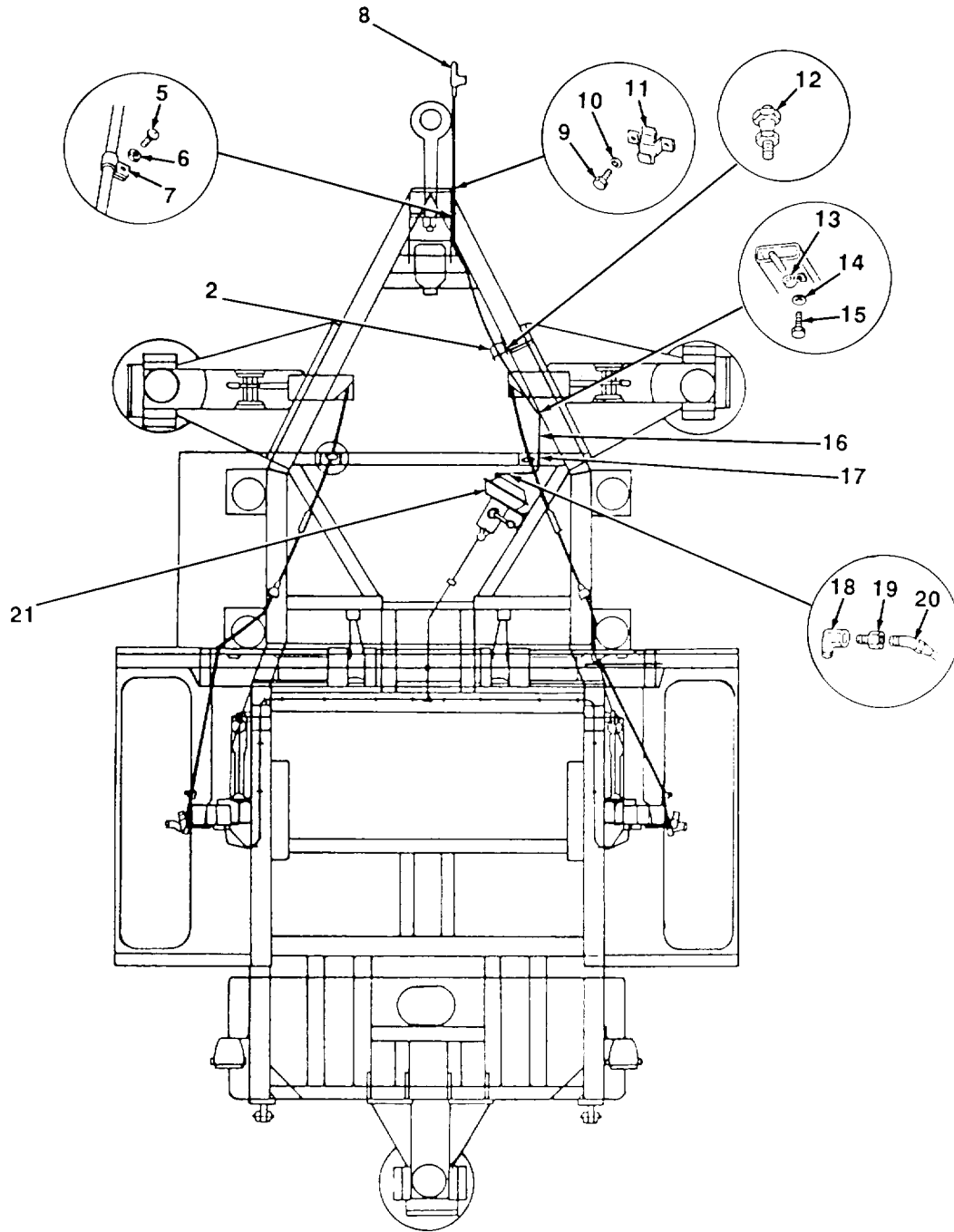
a. REMOVAL

1. Remove screw (5), lockwasher (6), and strap (7) securing intervehicular air hose (8) to frame Discard lockwasher.
2. Remove bolt (9), lockwasher (10), and adapter (11) from frame Discard lockwasher.
3. Disconnect intervehicular air hose (8) from air filter (2) and remove.
4. Disconnect tube (16) from adapter (12). Remove adapter from air filter (2)
5. Remove screw (15), lockwasher (14), and strap (13) securing tube (16) to frame Discard lockwasher
6. Disconnect tube (16) from elbow (20) Pull tube through grommet (17) and remove from frame.
7. Remove elbow (20), coupling (19), and elbow (18) from airbrake chamber (21)
8. Remove master cylinder (para 4-28). Remove airbrake chamber (21) from bracket.
9. Remove two nuts (4) and lockwashers (3) from U-bolt (1) Remove U-bolt and air filter (2) from frame Discard lockwashers.



TA50525

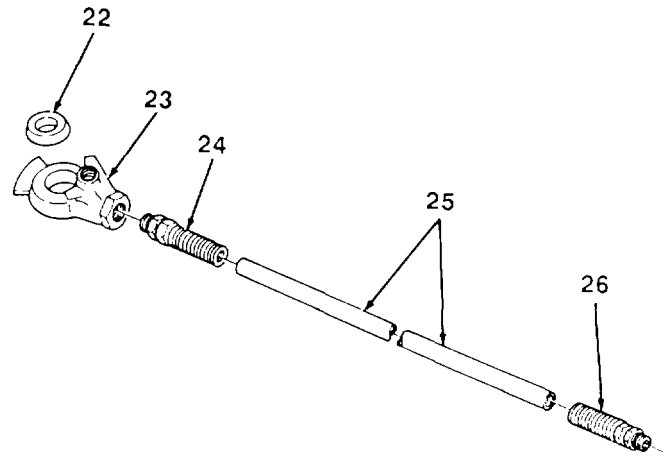
4-33. AIRBRAKE SYSTEM MAINTENANCE (M514) (Con't).



4-33. AIRBRAKE SYSTEM MAINTENANCE (M'

b. INTERVEHICULAR AIR HOSE DISASSEMBLY

1. Remove body (23) from adapter (24).
2. Remove performed packing (22) from body (23). Discard performed packing.
3. Remove two adapters (24 and 26) from hose (25).



c. INTERVEHICULAR AIR HOSE ASSEMBLY

NOTE

Apply antlseizng tape to all male threads of air line fittings.

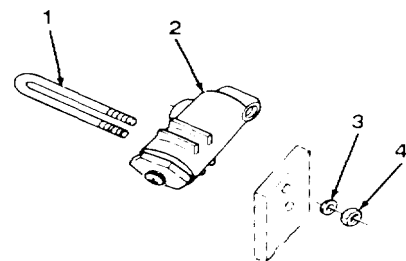
1. Install two adapters (24 and 26) on hose (25).
2. Install body (23) on adapter (24).
3. Install new performed packing (22) In body (23) Ensure that performed packing lies flat In body, with no twist or bulge.

d. INSTALLATION

NOTE

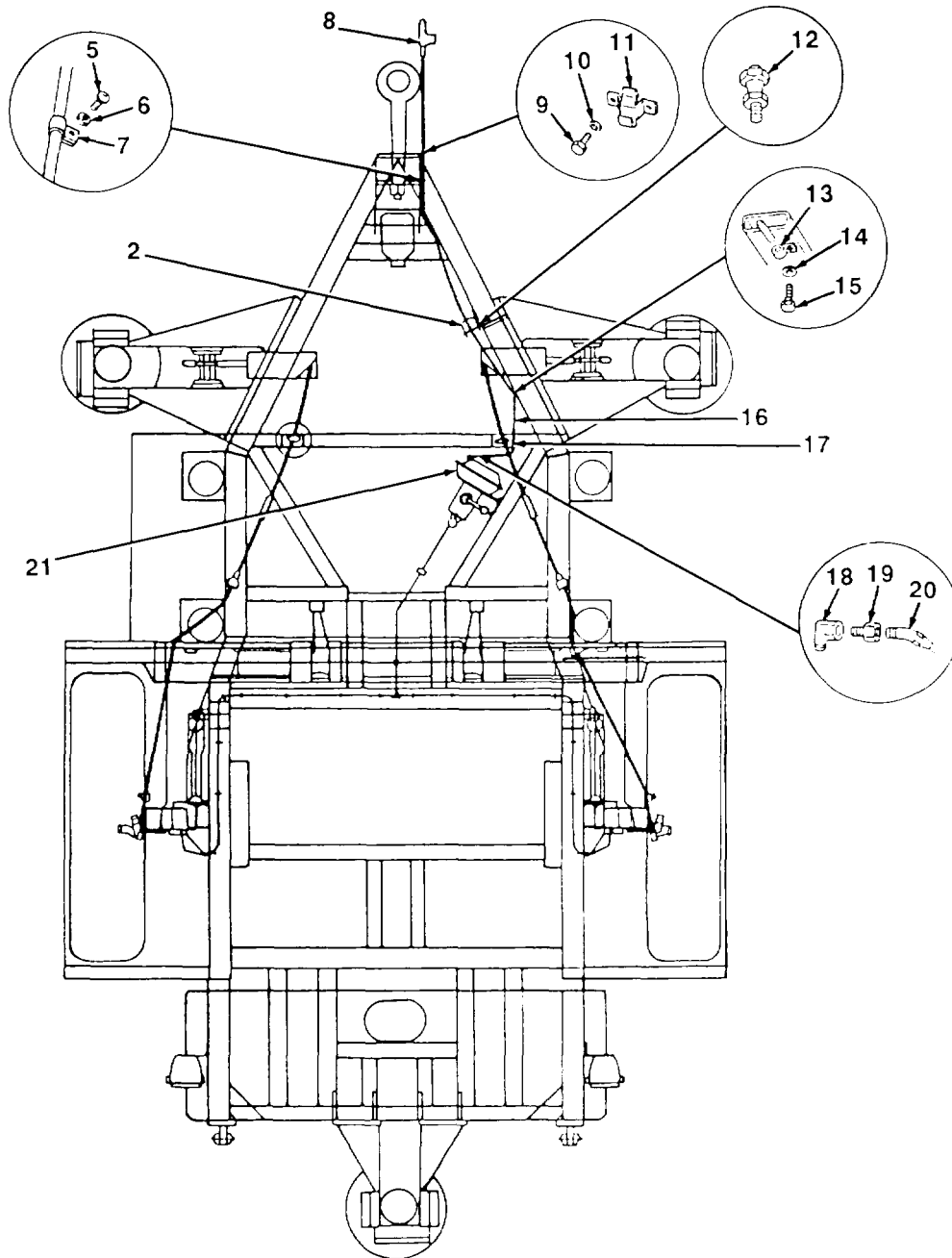
Apply antiseizing tape to all male threads of air line fittings.

1. Install air filter (2) on frame with U-bolt (1), two new lockwashers (3), and nuts (4)
2. Install airbrake chamber (21) on bracket Install master cylinder (para 4-28)
3. Install elbow (18), coupling (19), and elbow (20) on airbrake chamber (21)
4. Thread tube (16) through grommet (17) in frame wall Connect tube to elbow (20).
5. Secure tube (16) to frame with strap (13), new lockwasher (14), and screw
6. Install adapter (12) to air filter (2). Connect tube (16) to adapter.
7. Connect intervehicular air hose (8) to air filter (2).



4-33. AIRBRAKE SYSTEM MAINTENANCE (M514) (Con't).

8. Install adapter (11) on frame with new lockwasher (10) and bolt (9)
9. Secure intervehicular air hose (8) to frame with strap (7), new lockwasher (6), and screw (5)



FOLLOW-ON TASKS:

- Perform air system lines and hose leakage test (para 4-22)

TA505028

4-34. AIRBRAKE SYSTEM MAINTENANCE (M390C).

This Task Covers:

a Removal

b intervehicular Air Hose Disassembly

c. Intervehicular Air Hose Assembly

d . Installation

Initial Setup

Equipment Conditions:

Trailer parked on level surface with handbrakes applied (para 2-2).

Materials/Parts:

- Antiseizing tape (Item 15, Appendix E)
- One performed packing
- Six lockwashers

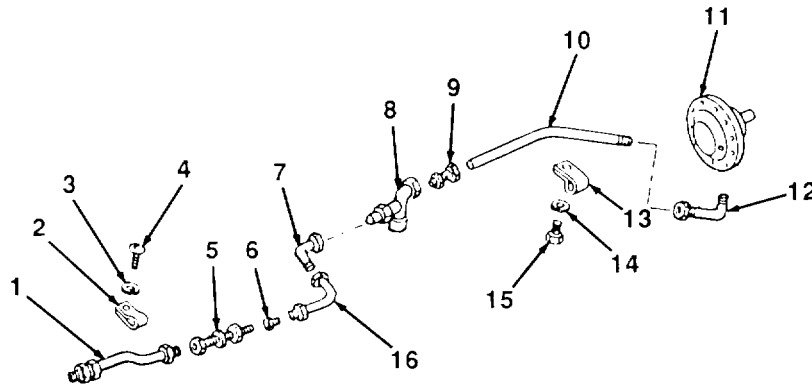
Tools/Test Equipment:

- General mechanic's tool kit
-

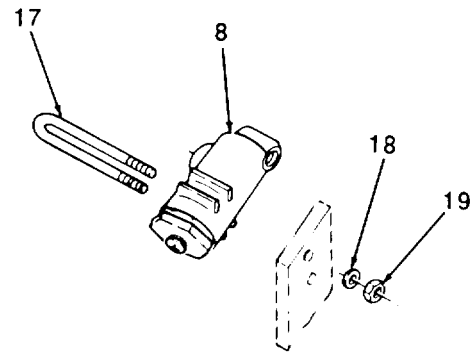
a. REMOVAL

- 1 Disconnect intervehicular air hose (1) from coupling (5)
- 2 Remove two screws (4), lockwashers (3), clamps (2), and remove intervehicular air hose (1) from frame Discard lockwashers
- 3 Remove coupling (5) and adapter (6) from tube (16)
- 4 Remove tube (16) from elbow (7).
- 5 Remove elbow (7) from air filter (8).
6. Disconnect tube (10) from adapter (9) at air filter (8)
- 7 Remove adapter (9) from air filter (8)
- 8 Remove tube (10) from elbow (12) at airbrake chamber (11)
9. Remove elbow (12) from airbrake chamber (11).
- 10 Remove two screws (15), lockwashers (14), clamps (13), and remove tube (10) from frame Discard lockwashers
- 11 Remove master cylinder (para 4-28) Remove airbrake chamber from frame

4-34. AIRBRAKE SYSTEM MAINTENANCE (M390C) (Con't).

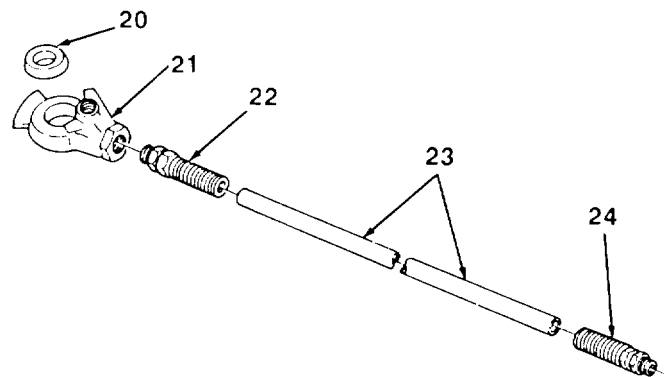


12. Remove two nuts (19) and lockwashers (18) from U-bolt (17). Remove U-bolt and air filter (8) from frame. Discard lockwashers.



b. INTERVEHICULAR AIR HOSE DISASSEMBLY

1. Remove body (21) from adapter (22).
2. Remove performed packing (20) from body (21). Discard performed packing
3. Remove two adapters (22 and 24) from hose (23).



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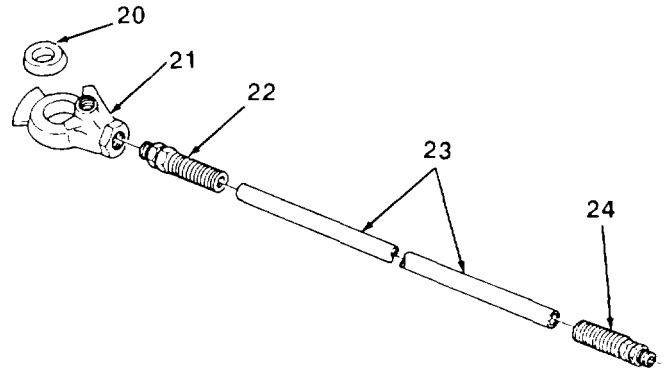
4-34. AIRBRAKE SYSTEM MAINTENANCE (M390C) (Con't).

C. INTERVEHICULAR AIR HOSE ASSEMBLY I

NOTE

Apply antiseizing tape to all male threads of air line fittings.

1. Install two adapters (22 and 24) on hose (23).
2. Install body (21) on adapter (22)
3. Install new performed packing (20) in body (21)
Ensure that performed packing lies flat in body, with no twist or bulge

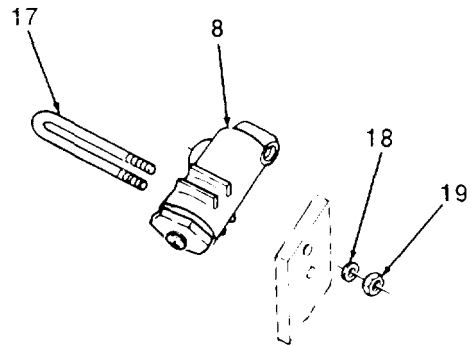


d. INSTALLATION

NOTE

Apply antiseizing tape to all male threads of air line fittings.

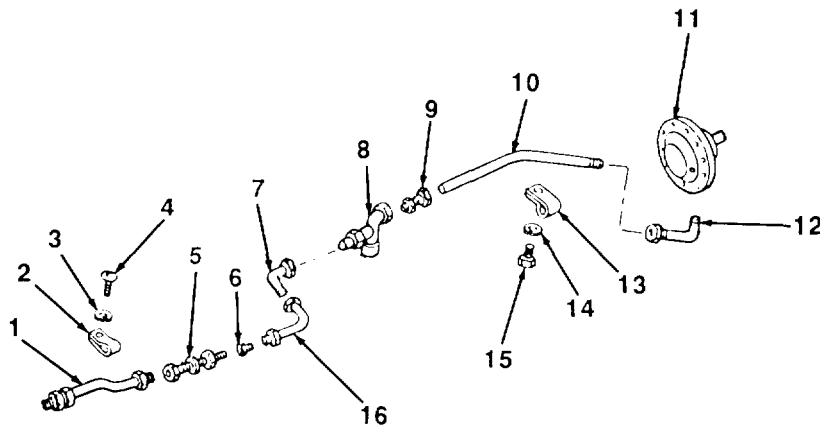
1. Install air filter (8) on frame with U-bolt (17), two new lockwashers (18), and nuts (19)



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4-34. AIRBRAKE SYSTEM MAINTENANCE (M390C) (Con't).

2. Install airbrake chamber (11) on frame. Install master cylinder (para 4-28).
3. Install adapter (9) on air filter (8) and elbow (12) on airbrake chamber (11).
4. Position tube (10) on frame and secure with two clamps (13), new lockwashers (14), and screws (15).
5. Connect tube (10) to elbow (12) at airbrake chamber (11).
6. Connect tube (10) to adapter (9) at air filter (8).
7. Install elbow (7), adapter (6), and coupling (5) to tube (16)
8. Install elbow (7) to air filter (8).
9. Install intervehicular air hose (1) on frame with two clamps (2), new lockwashers (3), and screws (4).
10. Connect intervehicular air hose (1) to coupling (5).

**FOLLOW-ON TASKS:**

- Perform air system lines and hose leakage test (para 4-22).

4-35. AIR FILTER REPAIR.

This Task Covers:

- a. Disassembly
- b. Cleaning and Inspection

c. Assembly

Initial Setup.

Equipment Conditions:

- Air filter removed (para 4-33 or 4-34)

Tools/Test Equipment:

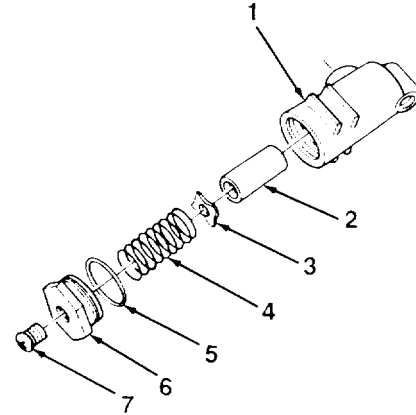
- General mechanic's tool kit

Materials/Parts:

- Dry clearing solvents (Item 13, Appendix E)
- Antiseizing tape (Item 15, Appendix E)
- One filter element
- One gasket

a. DISASSEMBLY

1. Remove plug (7) from adapter bushing (6).
2. Remove adapter bushing (6) and gasket (5) from elbow body (1). Discard gasket.
3. Remove spring (4), spring tension washer (3), and filter element (2) from elbow body (1). Discard filter element.

**b. CLEANING AND INSPECTION****WARNING**

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

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace if damaged.

4-35. AIR FILTER REPAIR (Con't).

c. ASSEMBLY

1. Install new filter element (2), spring tension washer (3), and spring (4) in elbow body (1).
2. Install new gasket (5) and adapter bushing (6) on elbow body (1).
3. Apply antiseizing tape to threads of plug (7). Install plug in adapter bushing (6).

FOLLOW-ON TASKS:

- Install air filter (para 4-33 or 4-34).
- Perform air system lines and hose leakage test (para 4-22).

4-36. AIRBRAKE CHAMBER REPAIR.*This Task Covers:*

- | | |
|----------------|-------------|
| a. Disassembly | c. Assembly |
| b. Inspection | |

*Initial Setup:***Equipment Conditions:**

- Airbrake chamber removed (para 4-33 or 4-34)

Materials/Parts:

- One preformed packing
- Sixteen lockwashers

Tools/Test Equipment:

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

a. DISASSEMBLY

1. Remove collar (1) from airbrake chamber.

WARNING

Use caution when disassembling airbrake chamber Spring inside airbrake chamber is under tension Failure to follow this warning may cause components inside airbrake chamber to fly apart, causing injury to personnel.

2. Place airbrake chamber in a vise. Remove 16 nuts (2), lockwashers (3), and bolts (8) securing cover (7) to body (4). Discard lockwashers.
3. Separate body (4), cover (7), and diaphragm (6) Remove spring (5) and rod (9).
4. Remove preformed packing (11) and spring retainer (10) from rod (9) Discard preformed packing.

b. INSPECTION

1. Inspect all parts for cracks, breaks, corrosion, or other damage.
2. Replace all damaged parts.

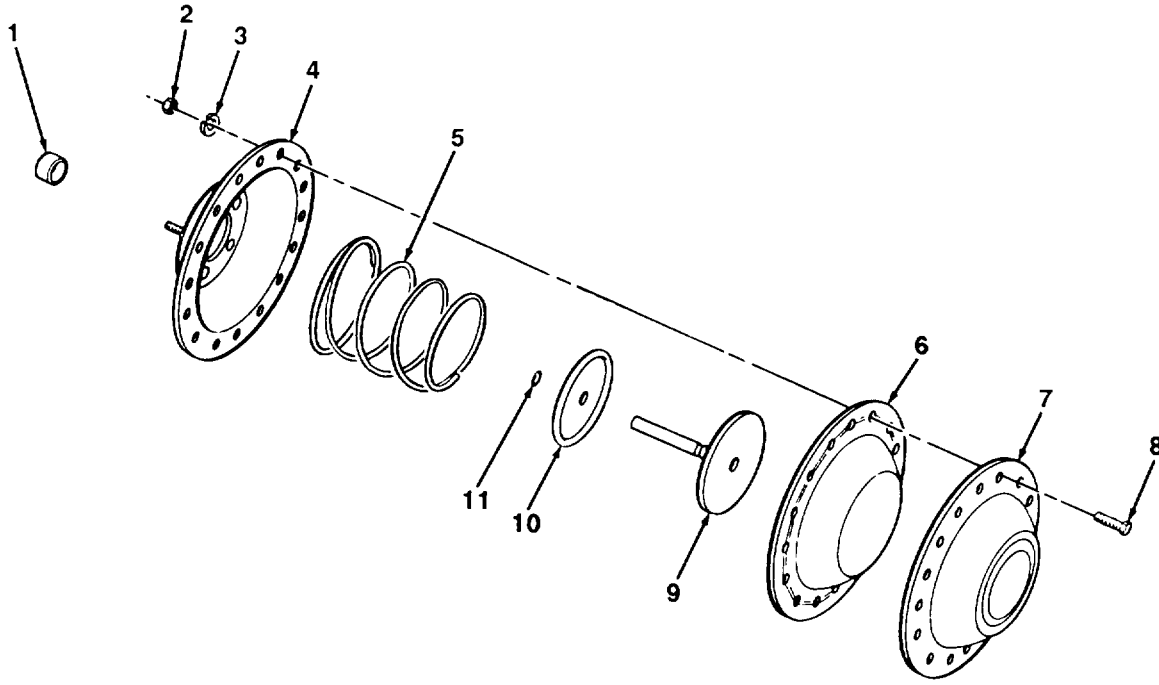
c. ASSEMBLY**WARNING**

Use caution when assembling airbrake chamber Spring inside airbrake chamber will be placed under tension Failure to follow this warning may cause components inside airbrake chamber to fly apart, causing injury to personnel.

1. Install spring retainer (10) and new preformed packing (11) on rod (9)
2. Assembly body (4), spring (5), rod (9) with assembled parts, diaphragm (6), and cover (7) Secure in a vise

4-36. AIRBRAKE CHAMBER REPAIR (Con't).

3. Secure cover (7) to body (4) with 16 bolts (8), new lockwashers (3), and nuts (2).
4. Install collar (1) on airbrake chamber.

**FOLLOW-UP TASKS:**

- Install airbrake chamber (para 4-33 or 4-34).
- Perform air system lines and hose leakage test (para 4-22).

Section VIII. WHEELS, HUBS, AND BRAKEDRUMS MAINTENANCE

Paragraph Title	Page Number
Hub, Wheel Bearing, and Brakedrum Maintenance (M390C)	4-98
Hub, Wheel Bearing, and Brakedrum Maintenance (M514)	4-95
Suspension Arm Maintenance (M514)	4-84
Torsion Bar Adjustment (M514)	4-90
Wheel and Tire Maintenance	4-94

4-37. SUSPENSION ARM MAINTENANCE (M514).

This Task Covers:

- | | |
|--|--|
| <ul style="list-style-type: none"> a. Removal b. Disassembly c. Cleaning and Inspection | <ul style="list-style-type: none"> d. Assembly e. Installation |
|--|--|

Initial Setup:

Equipment Conditions:

- Hub and brakedrum removed (para 4-40).
- Brakeshoes removed (para 4-26).
- Shock absorber removed (para 4-59).
- One expansion plug

Materials/Parts:

- Marking chalk (Item 3, Appendix E)
- Grease (Item 7, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One expansion plug
- One locknut
- Five cotter pins
- Fifteen lockwashers

Tools/Test Equipment:

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

a. REMOVAL

1. Remove locknut (1), two flat washers (2 and 3), and rubber bushing (4). Discard locknut.
2. Remove cotter pin (44), straight pin (45), and disconnect clevis (8) from suspension arm (9). Discard cotter pin.
3. Remove rubber bushing (5) and shaft (6).
4. Loosen nut (7) and remove clevis (8) from shaft (6).
5. Remove cotter pin (22), straight pin (23), and disconnect clevis (21) from frame. Discard cotter pin.
6. Mark outer, center, and inner bearing supports (48, 51, and 52) and support bracket (46) for installation.

4-37. SUSPENSION ARM MAINTENANCE (M514) (Con't).**CAUTION**

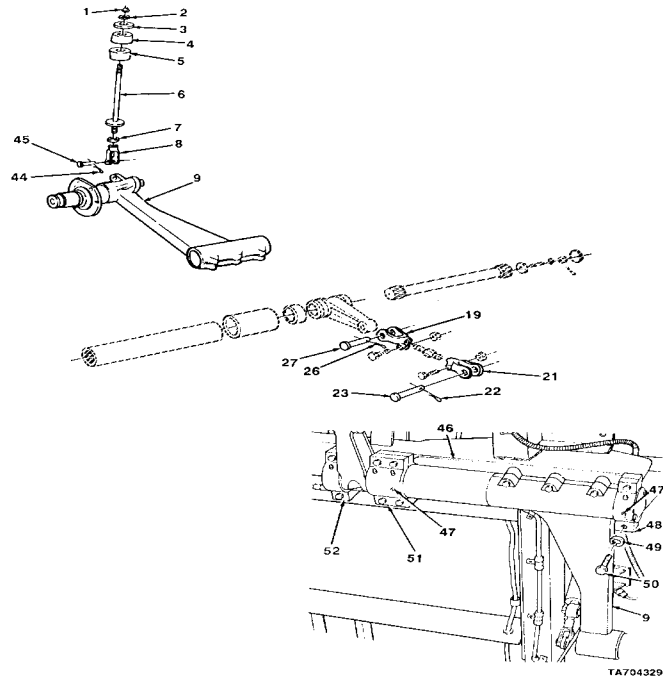
Before removing or disconnecting attaching parts, support rear end of suspension arm to release pressure on torsion bar support.

7. Support suspension arm (9) with a suitable jackstand. Remove eight screws (50) and lockwashers (49) securing outer, center, and inner bearings supports (48, 51, and 52) to support bracket (46). Remove suspension arm and bearing supports from frame. Discard lockwashers.

b. DISASSEMBLY

1. Remove setscrews (47), outer bearing support (48), and center bearing support (51) from suspension arm (9).

2. Remove cotter pin (26) and straight pin (27) from clevis (19). Discard cotter pin.



4-37. SUSPENSION ARM MAINTENANCE (M514) (Con't).

3. Remove two nuts (20) and screws (24). Disassemble clevis (19), clevis (21), and adjusting screw (25).
4. Remove two screws (43), lockwashers (42), cover (41), and gasket (40) from suspension arm (9). Discard lockwashers and gasket.
5. Remove cotter pin (38), nut (39), lockwasher (37), stud (36), and flat washer (35) from torsion bar (12). Discard cotter pin and lockwasher.
6. Use a brass drift to drive outer end of torsion bar (12) until expansion plug (17) is driven out of support (11). Discard expansion plug.
7. Remove cotter pin (18), nut (16), lockwasher (15), flat washer (13), and stud (14) from inner end of torsion bar (12). Discard cotter pin and lockwasher.
8. Remove support (11) from cover (29).
9. Use a brass drift to drive torsion bar (12) from cover (29).
10. Remove three screws (33) and lockwashers (10) from suspension arm (9). Discard lockwashers.
11. Remove four screws (31) from machine keys (30 and 32).
12. Remove sleeve bearings (28 and 34) from each end of cover (29).
13. Remove cover (29) and two machine keys (30 and 32) from suspension arm (9).

c. CLEANING AND INSPECTION

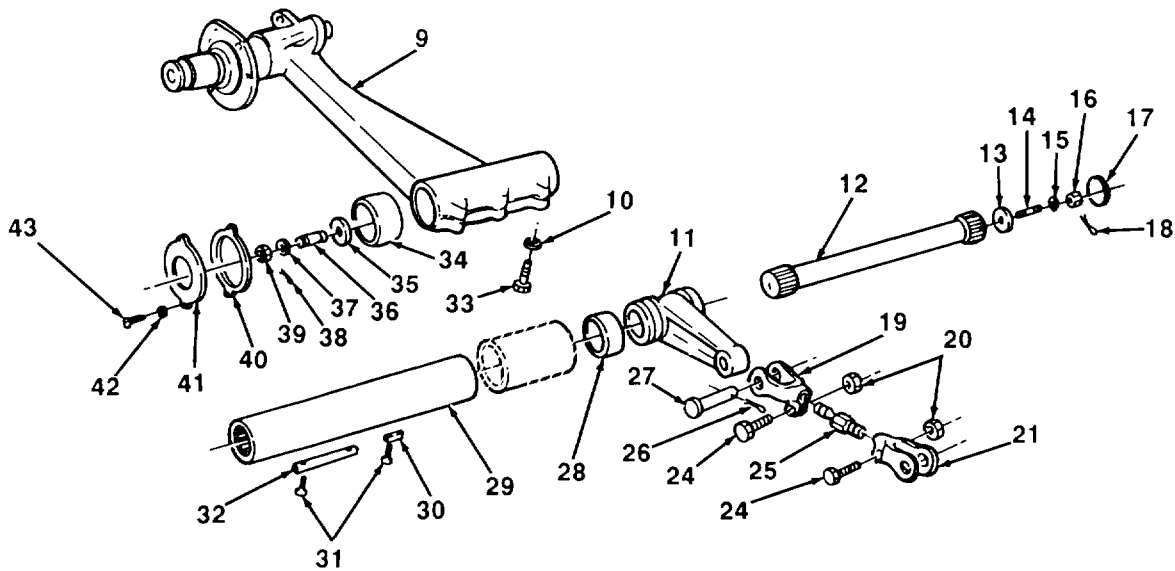
WARNING

Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area.. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-590°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Check fit of sleeve bearings on cover Sleeve bearings should fit smoothly without binding or excessive free play.
3. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

d. ASSEMBLY

1. Install two machine keys (30 and 32) and cover (29) in suspension arm (9).
2. Install four screws (31) to secure machine keys (30 and 32).
3. Coat cover (29) with grease. Install sleeve bearings (28 and 34) on each end of cover.
4. Install three new lockwashers (10) and screws (33) in suspension arm (9).

4-37. SUSPENSION ARM MAINTENANCE (M514) (Con't).

5. Coat torsion bar (12) with grease. Use a brass drift to drive torsion bar into cover (29).
6. Install support (11) on cover (29).
7. Install stud (14), flat washer (13), new lockwasher (15), nut (16), and new cotter pin (18) on inner end of torsion bar (12).
8. Install new expansion plug (17) in support (11).
9. Install stud (36), flat washer (35), new lockwasher (37), nut (39), and new cotter pin (38) in outer end of torsion bar (12).
10. Install new gasket (40) and cover (41) on suspension arm (9) with two new lockwashers (42) and screws (43).
11. Assemble clevis (19), clevis (21), and adjusting screw (25). Install two screws (24) and nuts (20). Do not fully tighten nuts.
12. Install clevis (19) on support (11) with straight pin (27) and new cotter pin (26).

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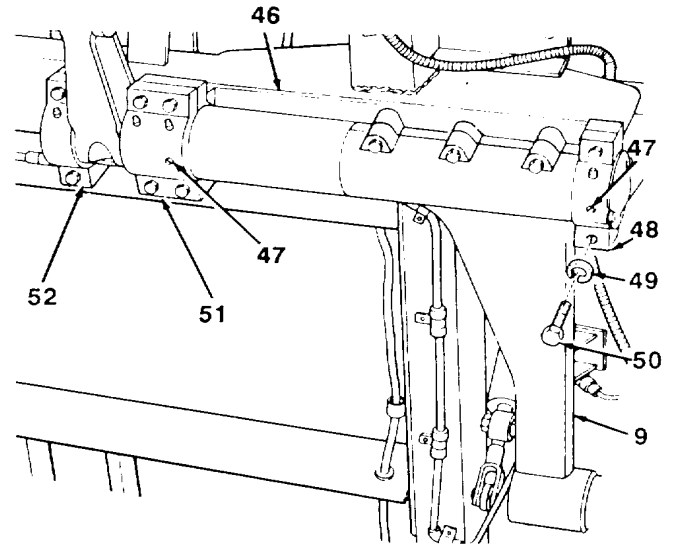
4-37. SUSPENSION ARM MAINTENANCE (Con't)

13. Install outer bearing support (48) and center bearing support (51) on suspension arm (9) with setscrews (47).

e. INSTALLATION**NOTE**

Ensure that outer, center, and inner bearing supports are installed as marked.

1. Position suspension arm (9) for installation. Install outer, center, and inner bearing supports (48, 51, and 52) on support bracket (46) with eight new lockwashers (49) and screws (50)



2. Connect clevis (21) to frame with straight pin (23) and new cotter pin (22).

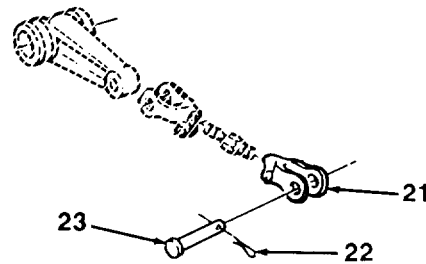
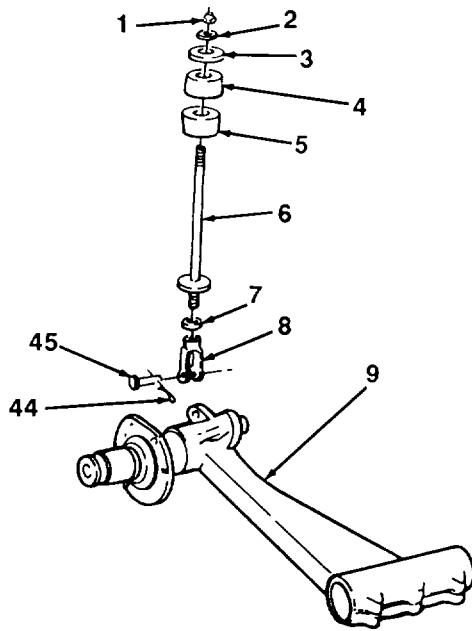
3. Install nut (7) and clevis (8) on shaft (6). Tighten nut against clevis.

4. Install rubber bushing (5) on shaft (6). Position shaft for installation. Connect clevis (8) to suspension arm (9) with straight pin (45) and new cotter pin (44).

5. Install rubber bushing (4), two flatwashers (2 and 3), and new locknut (1) on shaft (6).

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4-37. SUSPENSION ARM MAINTENANCE (M514) (Con't).



FOLLOW-ON TASKS:

- Install shock absorber (para 4-59).
- Install brakeshoes (para 4-26).
- Install hub and brakedrum (para 4-40).
- Install wheel (para 4-39).
- Adjust torsion bars (para 4-38)
- Lubricate suspension arm (Chapter 3, Section I).

TA704331

4-38. TORSION BAR ADJUSTMENT (M514).*This Task Covers:*

a. Minor Adjustment

b. Major Adjustment

*Initial Setup:***Equipment Conditions:**

- Trailer loaded and level (para 2-10).

Tools/Test Equipment:

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

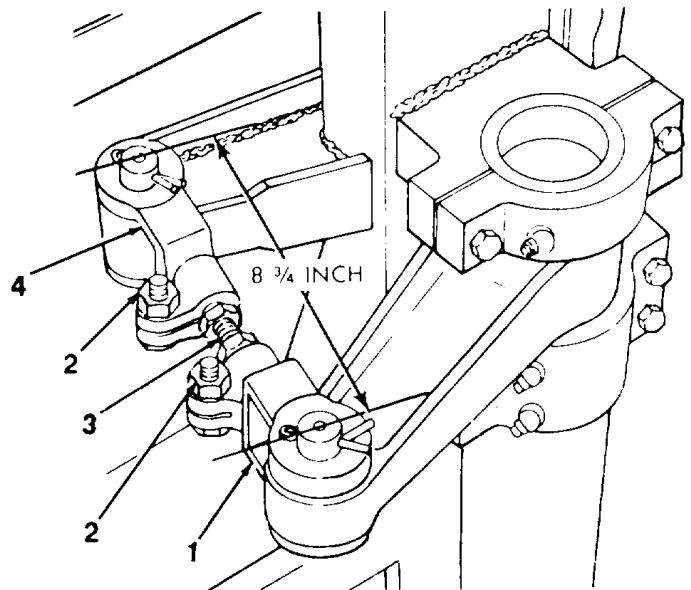
Materials/Parts (required for Major Adjustment only):

- One expansion plug
- One gasket
- Three cotter pins
- Four lockwashers

a. MINOR ADJUSTMENT**NOTE**

Minor adjustments to compensate from slight variations in the strength of different torsion bars can be made using adjusting screw.

1. With trailer loaded and level, measure distance from top of frame to ground. Measurement should be 22 in. (55.9 cm). If height is not correct, adjust as follows:
 - (a) Loosen nuts (2) on each clevis (1 and 4).
 - (b) Turn adjusting screw (3) to adjust height. To raise trailer frame, clevis assembly must be shortened. To lower trailer frame, clevis assembly must be lengthened.
 - (c) When trailer height is correct, tighten nuts (2) on each clevis (1 and 4).
2. If trailer height cannot be corrected by this adjustment, turn adjusting screw (3) until distance between clevis pin centers is at nominal length of 84 in (22. cm) Perform MAJOR ADJUSTMENT (subpara b).



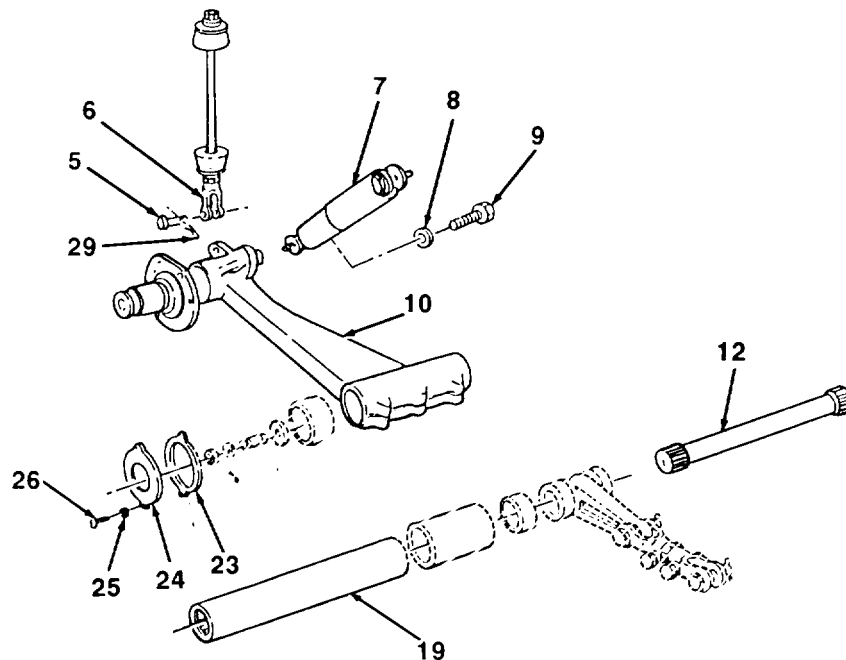
4-38. TORSION BAR ADJUSTMENT (M514) (Con't).

b. MAJOR ADJUSTMENT

NOTE

- Major or initial adjustment of the relative position of the suspension arm, to give correct vehicle height, can be made by changing the relative positions of the support and cover (19) on the splines of the torsion bar (12).
- Before beginning, ensure that the adjusting screw has been adjusted to nominal length of 8B in (22.2 cm) (subpara a).

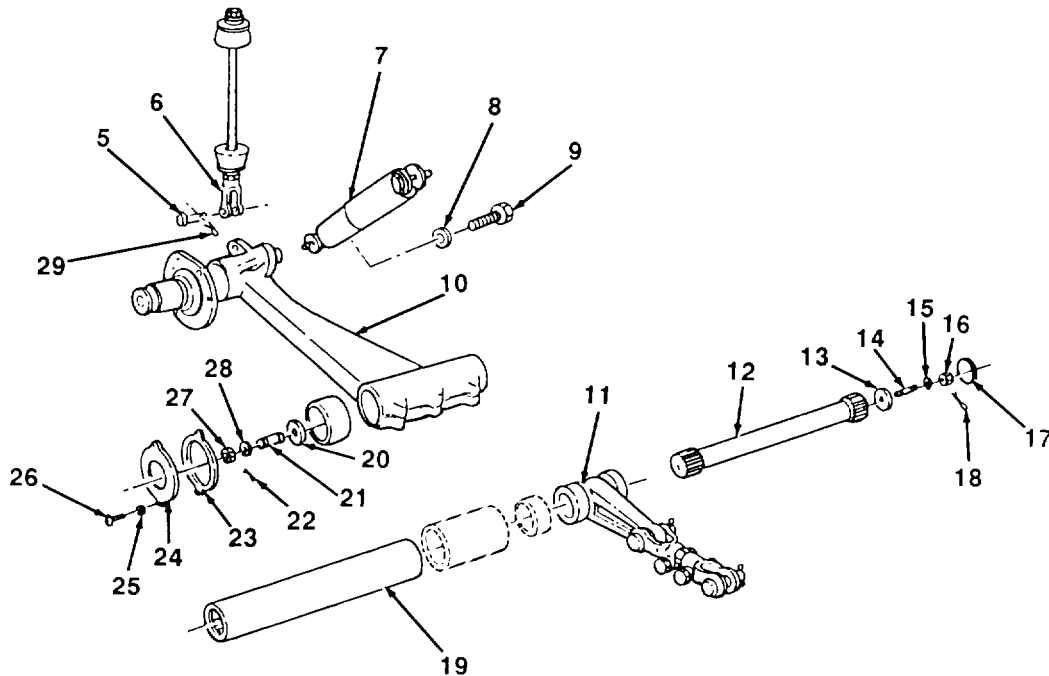
1. With trailer loaded and level, measure distance from top of frame to ground. Record the amount this measurement varies above or below the required 22 in. (55.9 cm).
2. Remove cotter pin (29), straight pin (5), and disconnect clevis (6) from suspension arm (10). Discard cotter pin.
3. Remove bolt (9), flatwasher (8), and disconnect shock absorber (7) from suspension arm (10).
4. Raise frame until wheel is about to leave ground and torsion has been relieved in torsion bar (12).
5. Remove two screws (26), lockwashers (25), cover (24), and gasket (23). Discard lockwashers and gasket.



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4-38. TORSION BAR ADJUSTMENT (M514) (Con't).

6. Remove cotter pin (22), nut (27), lockwasher (28), flatwasher (20), and stud (21) from outer end of torsion bar (12). Discard cotter pin and lockwasher.
7. Use a brass drift to drive torsion bar (12) until expansion plug (17) is driven out of support (11). Discard expansion plug.
8. Remove cotter pin (18), nut (16), lockwasher (15), and flatwasher (13) from stud (14) in inner end of torsion bar (12). Discard cotter pin and lockwasher.
9. Use a brass drift to drive inward on torsion bar (12) until splines on bar are out of splines on cover (19) and support (11).
10. Refer to amount frame was high or low as recorded in step 1.
 - (a) If frame was recorded low, carefully raise frame approximately the amount it was low until splines in cover (19) and support (11) are alined. Drive torsion bar (12) outward into support and cover until splines are centered.
 - (b) If frame was recorded high, carefully lower frame approximately the amount it was high until splines in support (11) and cover (19) are alined. Drive torsion bar (12) outward into support and cover until splines are centered.



4-38. TORSION BAR ADJUSTMENT (M514) (Con't).

11. Lower frame until all weight of trailer is on wheels. Measure distance from top of frame to ground. If this distance is near enough to 22 in. (55.9 cm) that a minor adjustment will correct the error, complete this procedure then perform MINOR ADJUSTMENT (subpara a). If this distance is not near enough that a minor adjustment will correct the error, repeat step 10 until adjustment is correct.
12. Install flatwasher (13), new lockwasher (15), and nut (16) on inner stud (14). Secure with new cotter pin (18).
13. Install new expansion plug (17) in support (11).
14. Install stud (21) in torsion bar (12).
15. Install flatwasher (20), new lockwasher (28), and nut (27) on stud (21). Secure with new cotter pin (22).
16. Install new gasket (23) and cover (24) with two new lockwashers (25) and screws (26).
17. Connect shock absorber (7) to suspension arm (10) with flatwasher (8) and bolt (9).
18. Connect clevis (6) to suspension arm (10) with straight pin (5) and new cotter pin (29).

4-39. WHEEL AND TIRE MAINTENANCE.

This Task Covers:

- a. Removal
- b. Repair
- c. Installation

Initial Setup.

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Floor jack

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Floor jack
- Torque wrench

References:

- TM 9-2610-200-14
-

a. REMOVAL

1. Loosen six wheel stud nuts.
2. Raise wheel clear of ground.
3. Remove wheel stud nuts. Remove wheel.

b. REPAIR

Refer to TM 9-2610-200-14 for instructions on dismounting and mounting tire and tube from wheel, and for repairing tube.

c. INSTALLATION

1. Position wheel on studs.
2. Install six wheel stud nuts and tighten fingertight.
3. Lower trailer to ground.
4. Torque six wheel stud nuts to 400-500 lb. ft. (542-678 Norm).

4-40. HUB, WHEEL BEARINGS, AND BRAKEDRUM MAINTENANCE (M514).*This Task Covers:*

- a. Disassembly
- b. Cleaning and Inspection
- c. Assembly and Adjustment

*Initial Setup:***Equipment Conditions:**

- Wheel removed (para 4-39).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Wheel bearing adjusting socket wrench

Materials/Parts:

- Grease (Item 7, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One gasket
- One keywasher
- One oil seal
- Three lockwashers

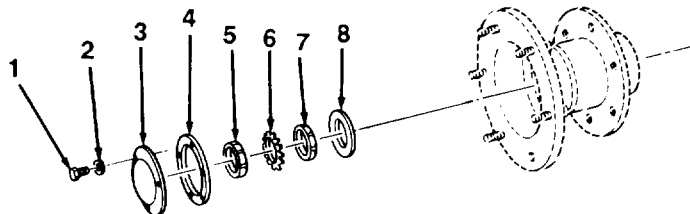
References:

- TM 9-214

a. DISASSEMBLY**WARNING**

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

1. Remove three screws (1), lockwashers (2), cover (3), and gasket (4). Discard lockwashers and gasket.
2. Remove nut (5), keywasher (6), nut (7), and keywasher (8). Discard keywasher (6).

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4-40. HUB, WHEEL BEARINGS, AND BRAKEDRUM MAINTENANCE (M514) (Con't).

3. Remove hub (12) and brakedrum (17) assembly from suspension arm (13).
4. Remove outer bearing (9) from hub (12).
5. Remove retaining ring (14), oil seal (15), and inner bearing (16) from hub (12). Discard oil seal.
6. Remove six nuts (11) and screws (19). Separate brakedrum (17) from hub (12).
7. Remove two bearing cups (10 and 18) from hub (12).

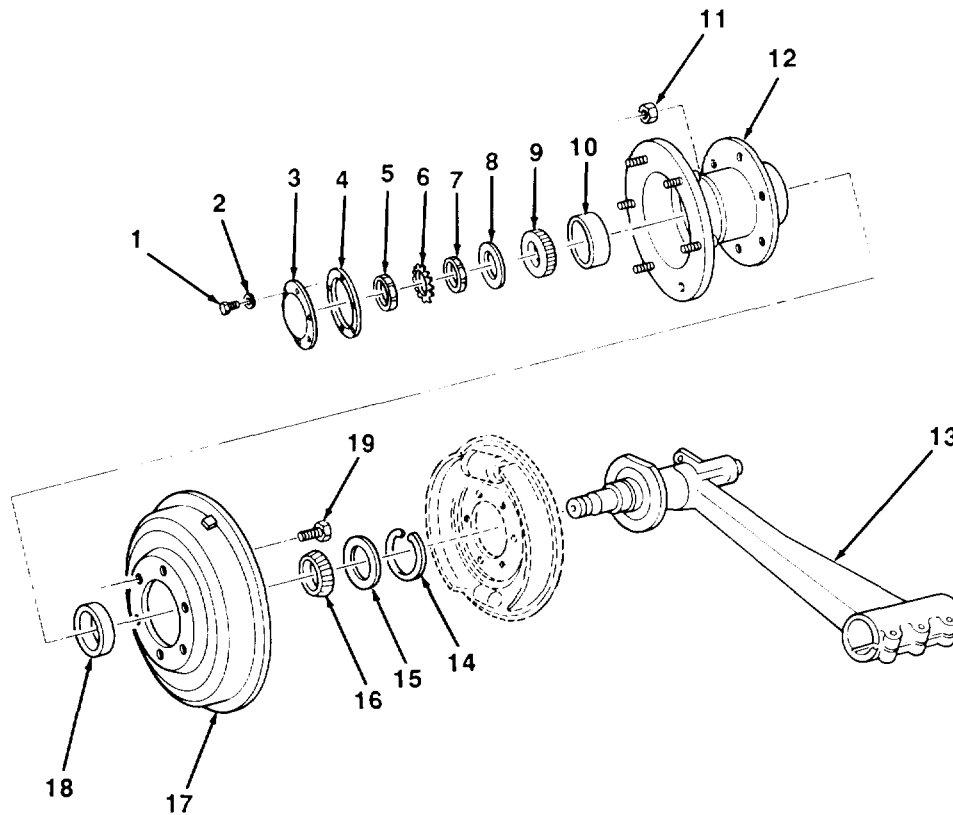
b. CLEANING AND INSPECTION**WARNING**

- **DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.**
- **Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid Contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (380C-590C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent Contacts eyes, immediately wash your eyes and get medical aid.**

1. Use dry cleaning solvent to remove grease and oil from all metal parts. Dry thoroughly.
2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
3. Inspect brakedrum and hub for cracks or other signs of damage.
4. Inspect braking surface of brakedrum for scoring, heat checking, or uneven wear.

c. ASSEMBLY AND ADJUSTMENT

1. Press bearing cups (10 and 18) into hub (12) until squarely seated on shoulders.
2. Install brakedrum (17) on hub (12) with six screws (19) and nuts (11).
3. Pack inner and outer bearings (16 and 9) with grease in accordance with TM 9-214.
4. Install inner bearing (16) and new oil seal (15) in inner end of hub (12). Secure with retaining ring (14).
5. Install hub (12) and brakedrum (17) assembly on suspension arm (13).
6. Install outer bearing (9), keywasher (8), and nut (7) with flat side in.
7. While rotating hub (12) and brakedrum (17), tighten nut (7) until a distinct drag is felt Loosen nut until hub and brakedrum turn freely.

4-40. HUB, WHEEL BEARINGS, AND BRAKEDRUM MAINTENANCE (M514) (Con't).

8. Install new keywasher (6) and nut (5) with flat side out. While rotating hub (12) and brakedrum (17), tighten nut until a distinct drag is felt. Loosen nut until hub and brakedrum turn freely. Bend tab on keywasher into groove on nut.
9. Pack hub (12) with grease.
10. Install new gasket (4) and cover (3) with three new lockwashers (2) and screws (1).

FOLLOW-ON TASKS:

- Install wheel (para 4-39).

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4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C).*This Task Covers:*

- | | |
|----------------------------|----------------------------|
| a. Disassembly | c. Assembly and Adjustment |
| b. Cleaning and Inspection | |

*Initial Setup:***Equipment Conditions:**

- Wheel removed (para 4-39).
- Lubricating oil (Item 10, Appendix E)

Tools/Test Equipment:

General mechanic's tool kit

- Common no. 1 shop set
- Wheel bearing adjusting socket wrench
- One oil seal

References:

- TM 9-214

Materials/Parts:

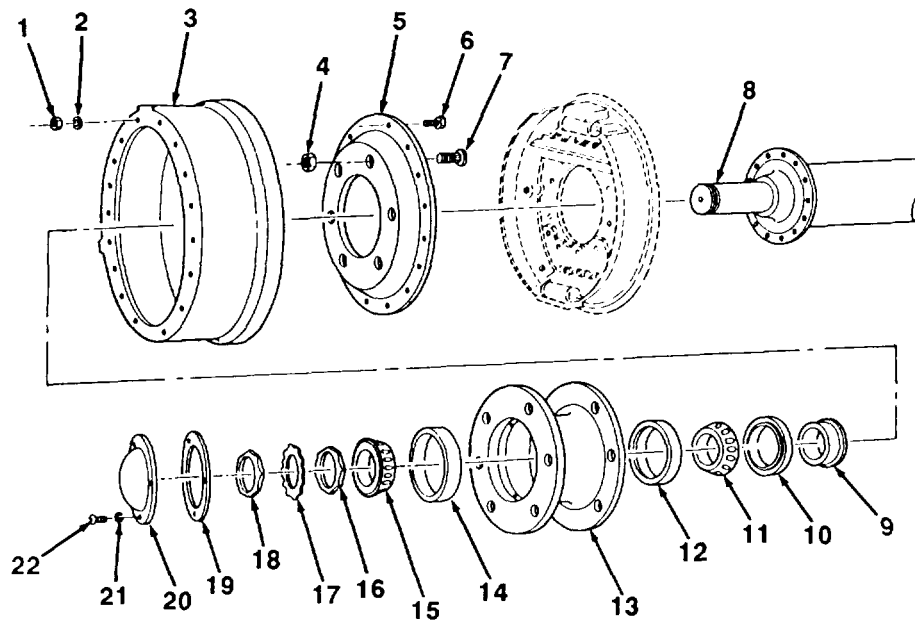
- Grease (Item 7, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One gasket
- One keywasher
- Three lockwashers

a. DISASSEMBLY**WARNING**

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

1. Remove three screws (22), lockwashers (21), hubcap (20), and gasket (19). Discard lockwashers and gasket.
2. Straighten tab on keywasher (17) bent over nut (18). Remove nut.
3. Straighten tab on keywasher (17) bent over nut (16). Remove and discard keywasher. Remove nut.
4. Move hub (13) and brakedrum (3) assembly on spindle (8) to loosen outer bearing (15). Remove outer bearing.
5. Carefully remove hub (13) and brakedrum (3) from spindle (8), taking care to prevent inner bearing (11) from falling out.
6. Remove inner bearing (11), oil seal (10), and spacer (9) from either hub (13) or spindle (8). Discard oil seal.
7. Remove six nuts (4) and bolts (7). Separate brakedrum (3) and hub (13).
8. Remove 16 nuts (1), flatwashers (2), and bolts (6) and separate backing plate (5) from brakedrum (3).
9. Remove bearing cups (12 and 14) from hub (13).

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).



b. CLEANING AND INSPECTION

WARNING

- **DO NOT** handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.
- Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and **DO NOT** breathe vapors. **DO NOT** use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.
 1. Use dry cleaning solvent to remove grease and oil from all metal parts. Dry thoroughly.
 2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
 3. Inspect brakedrum and hub for cracks or other signs of damage.
 4. Inspect braking surface of brakedrum for scoring, heat checking, or uneven wear.

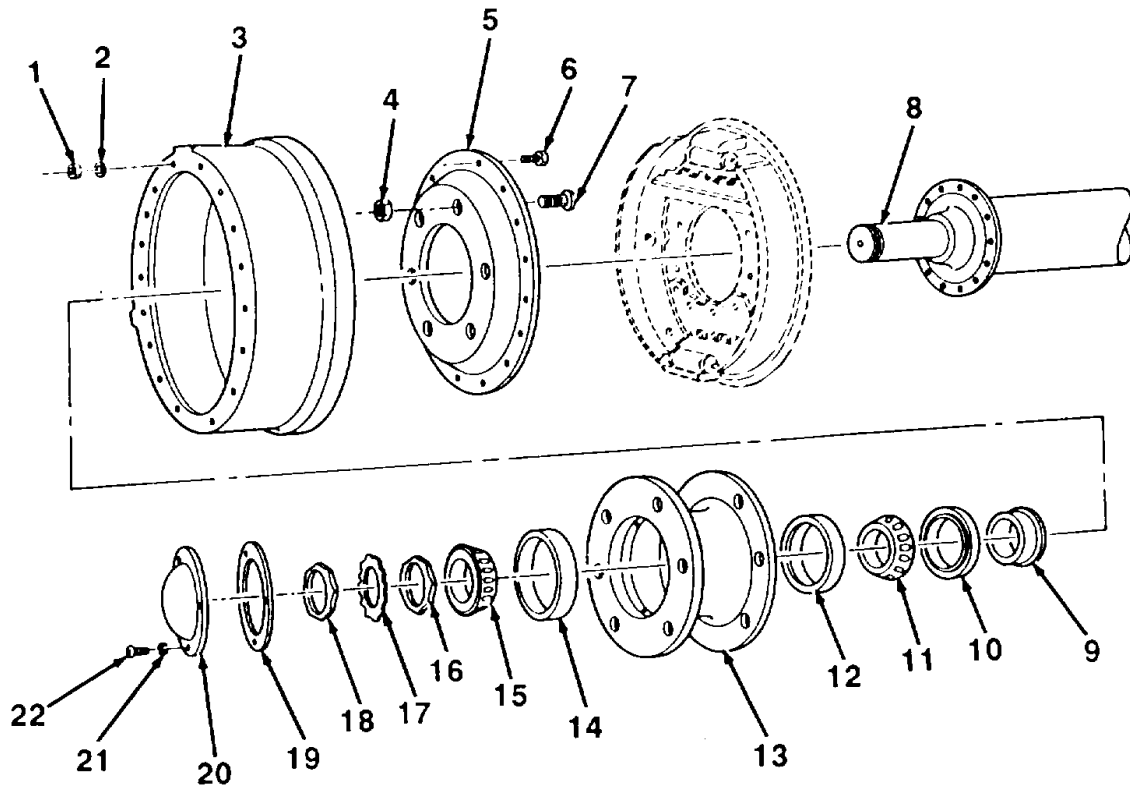
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4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).

c. ASSEMBLY AND ADJUSTMENT

1. Install bearing cups (12 and 14) in hub (13). Ensure that bearing cups are squarely seated.
2. Install backing plate (5) on brakedrum (3) with 16 bolts (6), flatwashers (2), and nuts (1).
3. Install brakedrum (3) on hub (13) with six bolts (7) and nuts (4).
4. Pack inner and outer bearings (11 and 15) with grease in accordance with TM 9-214.
5. Apply a thin coat of lubricating oil to inside of hub (13) and outside of spindle (8).
6. Install spacer (9) and new oil seal (10) on spindle (8). Flange on spacer should face inside of trailer.
7. Install inner bearing (11) on spindle (8) with larger diameter facing inside of trailer. Inner bearing may be tapped gently with a hammer and wooden block, keeping it square with spindle to force it into position.
8. Install hub (13) and brakedrum (3) on spindle (8).
9. Install outer bearing (15) with large diameter facing outward.
10. Install nut (16). While rotating hub (13) and brakedrum (3), tighten nut until a distinct drag is felt. Loosen nut until hub and brakedrum turn freely.
11. Install new keywasher (17) and outer bearing nut (18). While rotating hub (13) and brakedrum (3), tighten nut until a distinct drag is felt. Loosen nut until hub and brakedrum turn freely.
12. Bend one tab on keywasher (17) against flat on nut (16). Bend one tab on keywasher against flat on nut (18).
13. Pack hub (13) with grease.
14. Install new gasket (19) and hubcap (20) with three new lockwashers (21) and screws (22).

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).



FOLLOW-ON TASKS:

- Install wheel (para 4-39).

Section IX. FRAME AND TOWING ATTACHMENTS MAINTENANCE

Paragraph Title	Page Number
Double-swiveling Leveling Jack Support Assembly Maintenance (M390C).....	4-140
Drawbar Coupler Replacement.....	4-102
Front Leveling Jack Support Assembly Maintenance (M514).....	4-128
Gravity Pin Assembly Replacement (M514).....	4-108
Ground Bar Clamp Replacement (M514).....	4-107
Ladder Latch Replacement (M390C).....	4-109
Leveling Jack Gearbox Repair (M514).....	4-124
Leveling Jack Maintenance (M514).....	4-118
Leveling Jack Replacement (M390C).....	4-133
Leveling Jack Repair (M390C).....	4-135
Rear Leveling Jack Support Assembly Maintenance (M514).....	4-130
Retractable Support Assembly Maintenance (M390C).....	4-114
Retractable Support Assembly Maintenance (M514).....	4-110
Safety Chain Replacement (M390C).....	4-106
Shackle Replacement.....	4-104
Tie-down Pad Assembly Maintenance (M514).....	4-132

4-42. DRAWBAR COUPLER REPLACEMENT.

This Task Covers:

- a. Removal
- b. Installation

Initial Setup:

Materials/Parts:

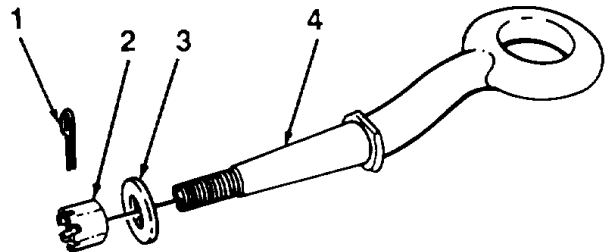
One cotter pin

Tools/Test Equipment:

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

a. REMOVAL

1. Remove cotter pin (1) from nut (2) and drawbar coupler (4). Discard cotter pin.
2. Remove nut (2) and flatwasher (3). Remove drawbar coupler (4) from frame.



4-42. DRAWBAR COUPLER REPLACEMENT (Con't).

b. INSTALLATION**NOTE**

On M514, drawbar coupler can be installed in either of two positions. Determine correct position before installing.

1. Install drawbar coupler (4) through frame.
2. Install flatwasher (3) and nut (2) on drawbar coupler (4).
3. Install new cotter pin (1) through nut (2) and drawbar coupler (4).

4-103

4-43. SHACKLE REPLACEMENT.*This Task Covers:*

a Removal

b Installation

*Initial Setup:***Materials/Parts:**

- One cotter pin (M514)

Tools/Test Equipment:

- General mechanic's tool kit

a. REMOVAL

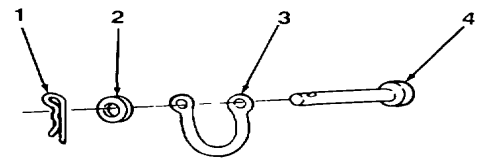
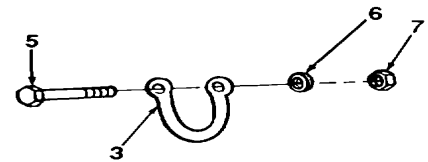
NOTE

- M514 has two shackles at rear of trailer. M390C has four shackles; two at front and two at rear of trailer.

- To remove M514 shackle, perform steps 1 and 2.

- To remove M390C shackle, perform step

1. Remove cotter pin (1) from straight pin (4). Discard cotter pin.
2. Remove straight pin (4), flatwasher (2), and shackle (3) from frame.
3. Remove nut (7) and flatwasher (6) from bolt (5).
4. Remove bolt (5) and shackle (3) from frame.

**M514****M390C**

4-43. SHACKLE REPLACEMENT (Con't).

b. INSTALLATION**NOTE**

- **M514 has two shackles at rear of trailer. M390C has four shackles; two at front and two at rear of trailer.**
- **To Install M514 shackle, perform steps 1 and 2.**
- **To install M390C shackle, perform steps 3 and 4.**

1. Install shackle (3) on frame with straight pin (4).
2. Install flatwasher (2) and new cotter pin (1) on straight pin (4).
3. Install shackle (3) on frame with bolt (5).
4. Install flatwasher (6) and nut (7) on bolt (5).

4-44. SAFETY CHAIN REPLACEMENT (M390C).*This Task Covers:*

a Removal

b Installation

*Initial Setup:***Materials/Parts:**

- One locknut

Tools/Test Equipment:

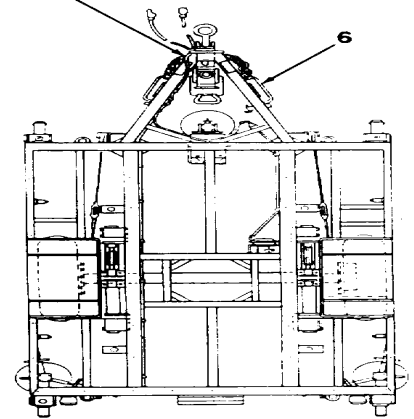
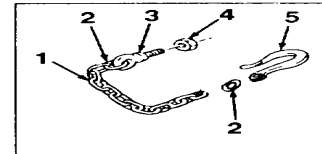
- General mechanic's tool kit

a. REMOVAL

1. Unhook safety chain (1) from rail (6).
2. Remove locknut (4) and safety chain (1) from frame. Discard locknut.
3. If eyebolt (3) or hook (5) are damaged, remove link (2) and remove eyebolt or hook from safety chain (1).

b. INSTALLATION

1. If removed, install eyebolt (3) or hook (5) on safety chain (1) with link (2).
2. Install safety chain (1) on frame with new locknut (4).
3. Stow safety chain (1) on rail (6).



4-45. GROUND BAR CLAMP REPLACEMENT (M514).

This Task Covers:

- | | |
|--------------|----------------|
| a Removal | c Installation |
| b Inspection | |
-

Initial Setup:

Materials/Parts:

- One lockwasher

Tools/Test Equipment:

- General mechanic's tool kit
-

a. REMOVAL

Remove wingnut (1), lockwasher (2), and flatwasher (3) from bolt (4). Discard lockwasher.

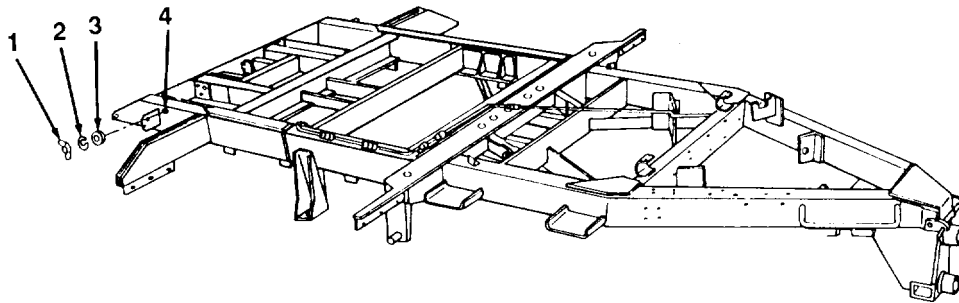
b. INSPECTION**NOTE**

Bolt is welded to frame.

1. Inspect bolt for cracks, breaks, corrosion, stripped threads, or other damage.
2. If bolt is damaged, notify Direct Support Maintenance.

c. INSTALLATION

Install flatwasher (3), new lockwasher (2), and wingnut (1) on bolt (4).



4-46. GRAVITY PIN REPLACEMENT (M514).

This Task Covers:

a Removal

b Installation

Initial Setup:

Tools/Test Equipment:

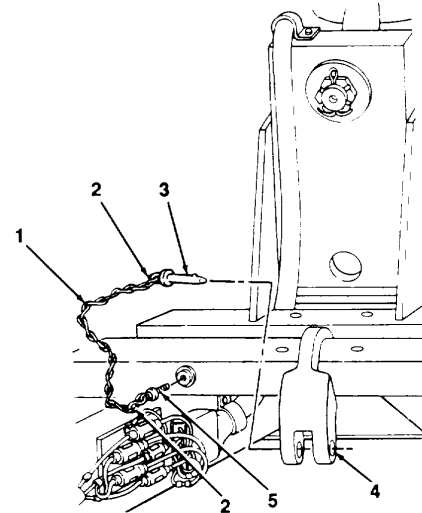
- General mechanic's tool kit
-

a. REMOVAL

1. Remove pin (3) from clevis (4).
2. Remove eyebolt (5) from frame. Remove gravity pin assembly from trailer.
3. Separate eyebolt (5), pin (3), chain (1), and two S-hooks (2).

b. INSTALLATION

1. Assemble eyebolt (5), pin (3), chain (1), and two S-hooks (2).
2. Install gravity pin assembly to frame with eyebolt (5).
3. Install pin (3) through clevis (4).



4-47. LADDER LATCH REPLACEMENT (M390C).

This Task Covers:

a Removal

b Installation

Initial Setup:

Tools/Test Equipment:

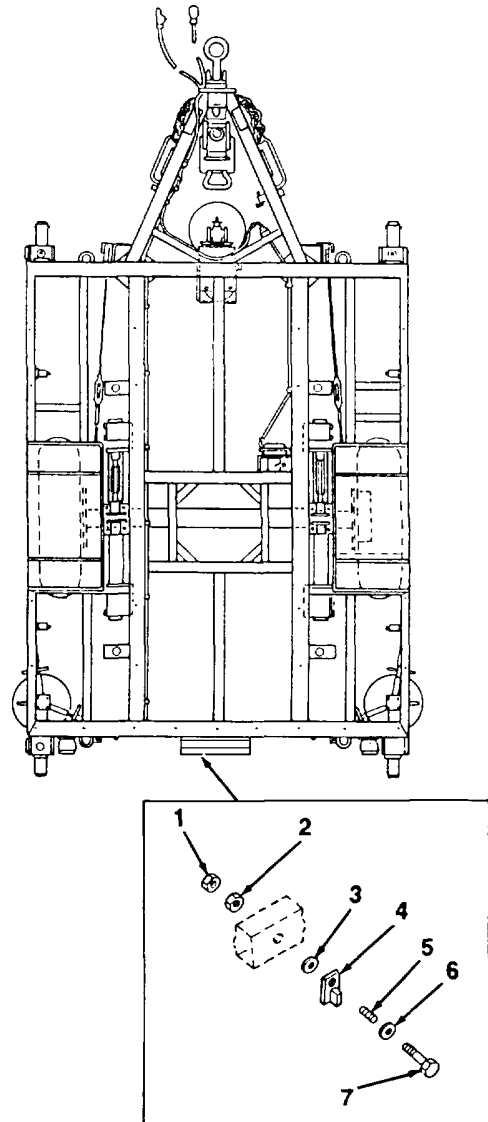
- General mechanic's tool kit

a. REMOVAL

1. Remove ladder from latches.
2. Remove jamnut (1) and nut (2) from screw (7).
3. Remove screw (7), washer (6), spring (5), latch (4), and washer (3) from frame.

b. INSTALLATION

1. Install washer (6), spring (5), latch (4), and washer (3) on frame with screw (7).
2. Install nut (2) and jamnut (1) on screw (7).



4-48. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

- | | |
|----------------------------|-----------------|
| a. Removal | d. Assembly |
| b. Disassembly | e. Installation |
| c. Cleaning and Inspection | f. Adjustment |

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Floor jack
- Two jackstands

Materials/Parts:

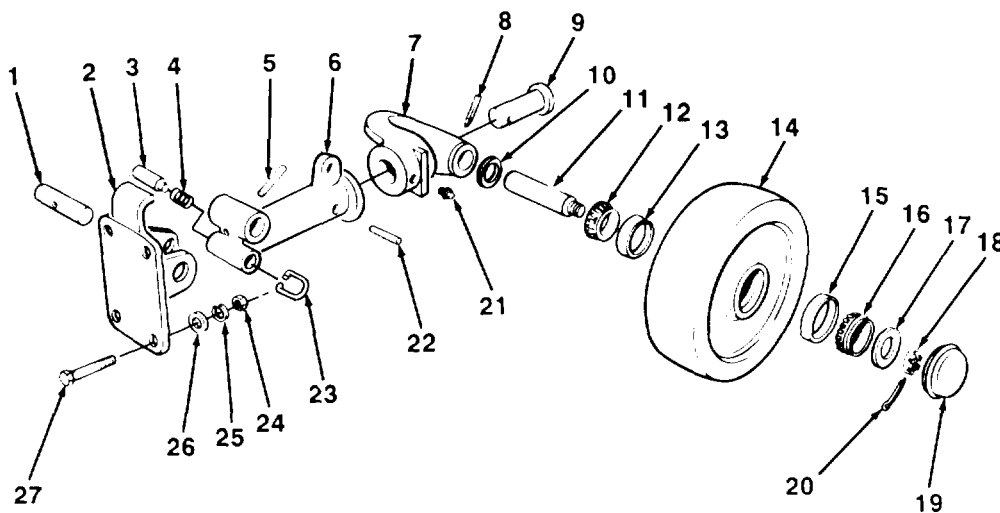
- Grease (Item 7, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One cotter pin
- One lubrication fitting
- Three spring pins
- Four lockwashers

References:

- TM 9-214

a. REMOVAL

1. Raise front of trailer frame with a suitable floor jack until wheel (14) is off ground. Support frame with jackstands.
2. Remove four nuts (24), lockwashers (25), flatwashers (26), and screws (27) securing retractable support assembly to frame. Remove retractable support assembly from frame. Discard lockwashers.



4-48. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

b. DISASSEMBLY

1. Remove cap (19).
2. Remove cotter pin (20) from spindle (11). Discard cotter pin.
3. Remove nut (18) and flatwasher (17) from spindle (11).
4. Move wheel (14) back and forth on spindle (11) to loosen outer bearing (16) and inner bearing (12). Remove wheel from spindle. Remove outer and inner bearings.
5. Remove two bearing cups (13 and 15) from wheel (14).
6. Remove spring pin (8) securing spindle (11) to support (7). Remove spindle and spacer (10). Discard spring pin.
7. Remove spring pin (22) and straight pin (9) from swivel (6). Remove support (7) from swivel. Discard spring pin.
8. Remove spring pin (5) securing straight pin (1) to swivel (6). Remove straight pin and upper support (2) from swivel. Discard spring pin.
9. Remove link (23) from straight pin (3). Remove straight pin and spring (4) from swivel (6).
10. Remove lubrication fitting (21) from support (7). Discard lubrication fitting.

c. CLEANING AND INSPECTION**WARNING**

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

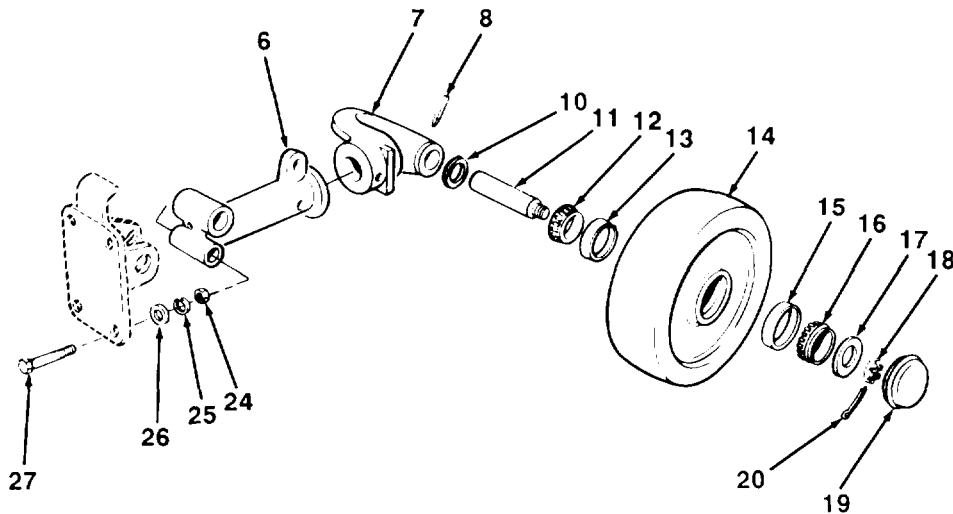
1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
3. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

d. ASSEMBLY

1. Install new lubrication fitting (21) in support (7).
2. Install spring (4) and straight pin (3) in swivel (6). Secure straight pin to swivel with link (23).
3. Install upper support (2) on swivel (6) with straight pin (1) and new spring pin (5).
4. Install support (7) on swivel (6) with straight pin (9) and new spring pin (22).

4-48. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

5. Install spacer (10) and spindle (11) on support (7) with new spring pin (8).
6. Press two bearing cups (13 and 15) into wheel (14) until firmly and squarely seated.
7. Install Inner bearing (12) in wheel (14) with large diameter facing outside of wheel.
8. Install outer bearing (16) in wheel (14) with large diameter facing outside of wheel.
9. Install wheel (14) and flatwasher (17) on spindle (11).
10. Install nut (18) on spindle (11). Do not fully tighten nut.

**e. INSTALLATION**

Install retractable support assembly on frame with four screws (27), flatwashers (26), new lockwashers (25), and nuts (24).

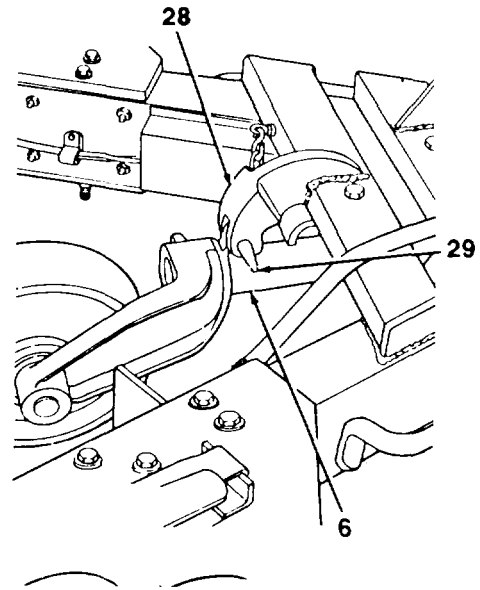
f. ADJUSTMENT

1. Rotate wheel (14) by hand and tighten nut (18) until a distinct drag is felt in wheel. Loosen nut until wheel turns freely.
2. Secure nut (18) to spindle (11) with new cotter pin (20).
3. Pack cap (19) with grease and install on wheel (14).

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4-48. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

4. Raise retractable support assembly to stowed position. Check to see that gravity pin (29) can be inserted without binding through hole in frame clevis (28) and swivel (6). If necessary, loosen nuts (24) and shift retractable support assembly until gravity pin can be removed and inserted without binding. Tighten nuts after adjustment.

**FOLLOW-ON TASKS:**

- Lower retractable support assembly (para 2-9).
- Lubricate retractable support assembly (Chapter 3, Se
- Remove jackstands from frame.

TA505054

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M390C).

This Task Covers:

- a. Removal
- b. Disassembly
- c. Cleaning and Inspection

- d. Assembly
- e. Installation

Initial Setup:

Materials/Parts:

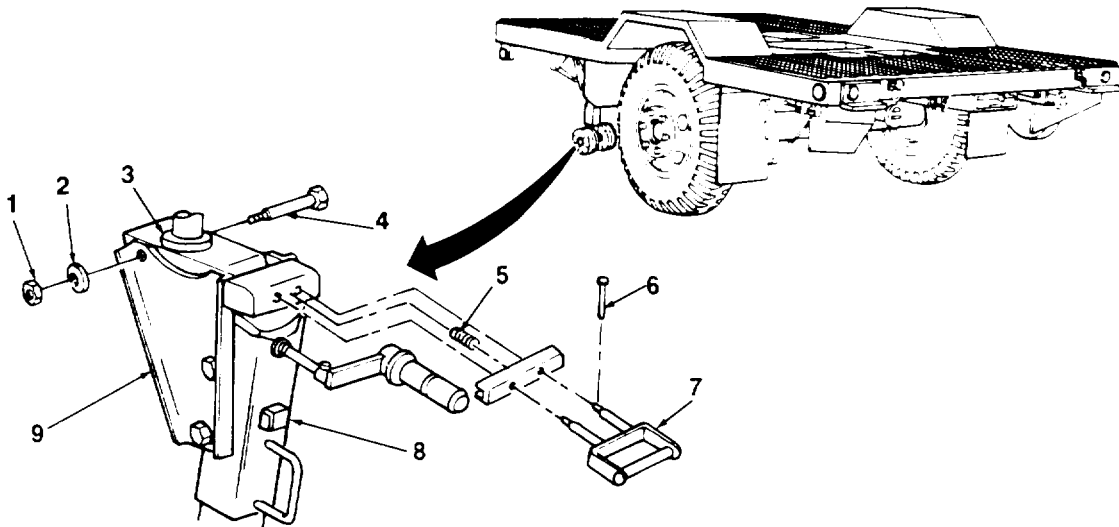
- Dry cleaning solvent (Item 13, Appendix E)
- Two cotter pins
- Three locknuts
- Four lockwashers

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Floor jack
- Two jackstands

a. REMOVAL

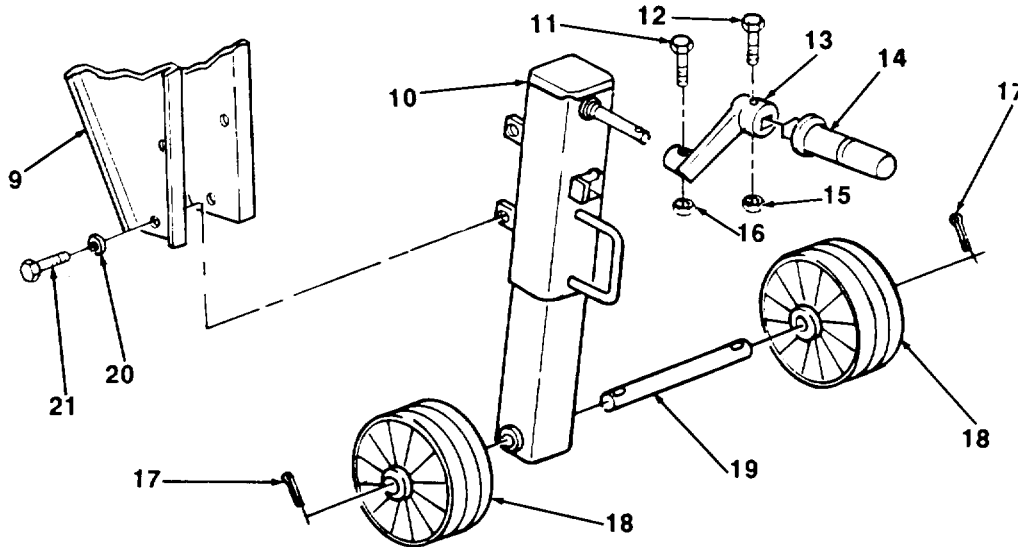
1. Raise front of trailer and position two jackstands under chassis.
2. Remove locknut (1), washer (2), and bolt (4) from yoke (9) and frame (3). Discard locknut.
3. Pull out on release handle (7) and remove retractable support assembly (8) from frame (3).
4. If release handle (7) is damaged, remove two pins (6), release handle, and spring (5) from retractable support assembly (8).



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4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).**b. DISASSEMBLY**

1. Remove four screws (21), lockwashers (20), and landing leg (10) from yoke (9). Discard lockwashers.
2. Remove locknut (15), bolt (12), and handle (14) from handcrank (13). Discard locknut.
3. Remove locknut (16), screw (11), and handcrank (13) from landing leg (10). Discard locknut.
4. Remove two cotter pins (17), wheels (18), and shaft (19) from landing leg (10). Discard cotter pins.

**c. CLEANING AND INSPECTION I****WARNING**

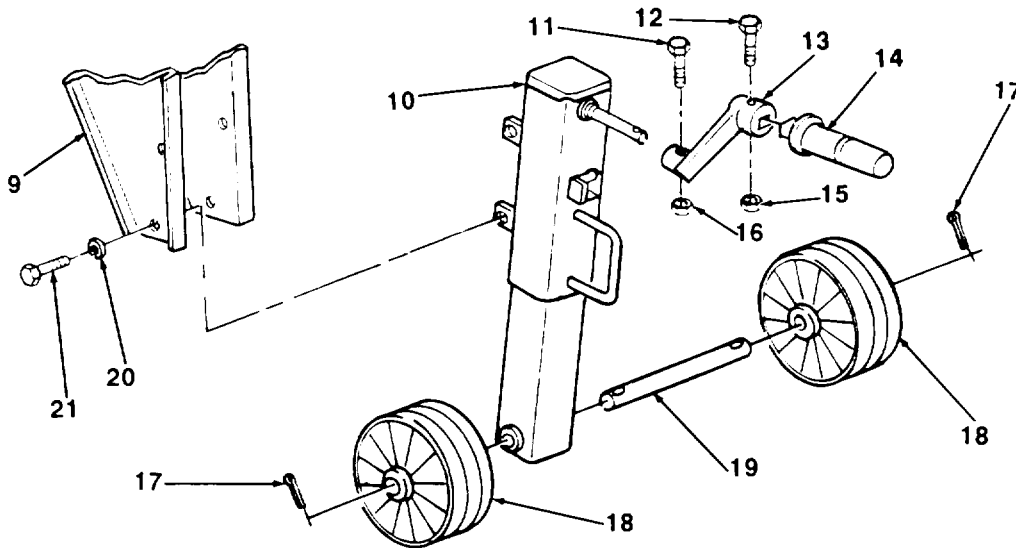
Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-59°C).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

1. Clean all parts in dry cleaning solvent. Dry thoroughly.
2. Inspect all parts for damage. Replace any damaged parts.

TA704341

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).**d. ASSEMBLY**

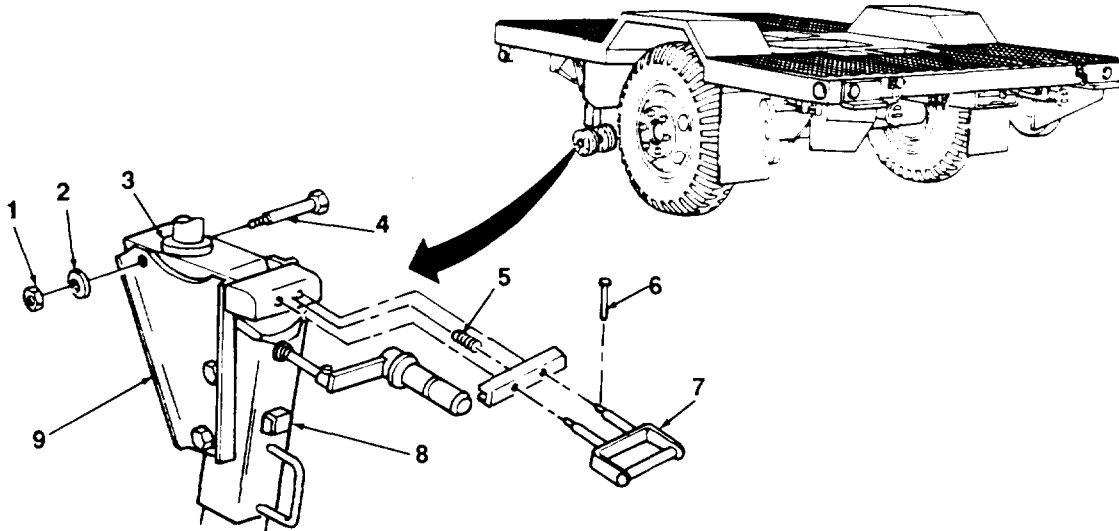
1. Position shaft (19) and two wheels (18) on landing leg (10) and install two new cotter pins (17).
2. Install handcrank (13) to landing leg (10) with screw (11) and new locknut (16).
3. Install handle (14) to handcrank (13) with bolt (12) and new locknut (15).
4. Install landing leg (10) to yoke (9) with four new lockwashers (20) and screws (21).



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4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).**e. INSTALLATION I**

1. If removed, position spring (5) and release handle (7) on retractable support assembly (8) and install two pins (6).
2. Position retractable support assembly (8) and yoke (9) at frame (3) and install bolt (4), washer (2), and new locknut (1). Secure retractable support assembly lowered in locked position with release handle (7) fully engaged.
3. Remove two jackstands from under chassis and lower front of trailer to ground.



4-50. LEVELING JACK MAINTENANCE (M514).

This Task Covers:

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

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Materials/Parts:

- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One gasket

Tools/Test Equipment:

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

- One performed packing
- Two locknuts
- Three cotter pins
- Twenty-seven lockwashers

Personnel Required: Two

a. REMOVAL

1. Lower leveling jack to ground (para 2-10).

NOTE

Steps 2 and 3 apply to rear leveling jack only.

2. nut (38), lockwasher (37), and screw (36) securing each handle bar support (35) to frame. Discard lockwashers.
3. four nuts (4) and lockwashers (5) securing support rods (29) to support assemblies (3). Remove support rods. Discard lockwashers.

NOTE

Bracket and handle bar support are installed on rear leveling jack only.

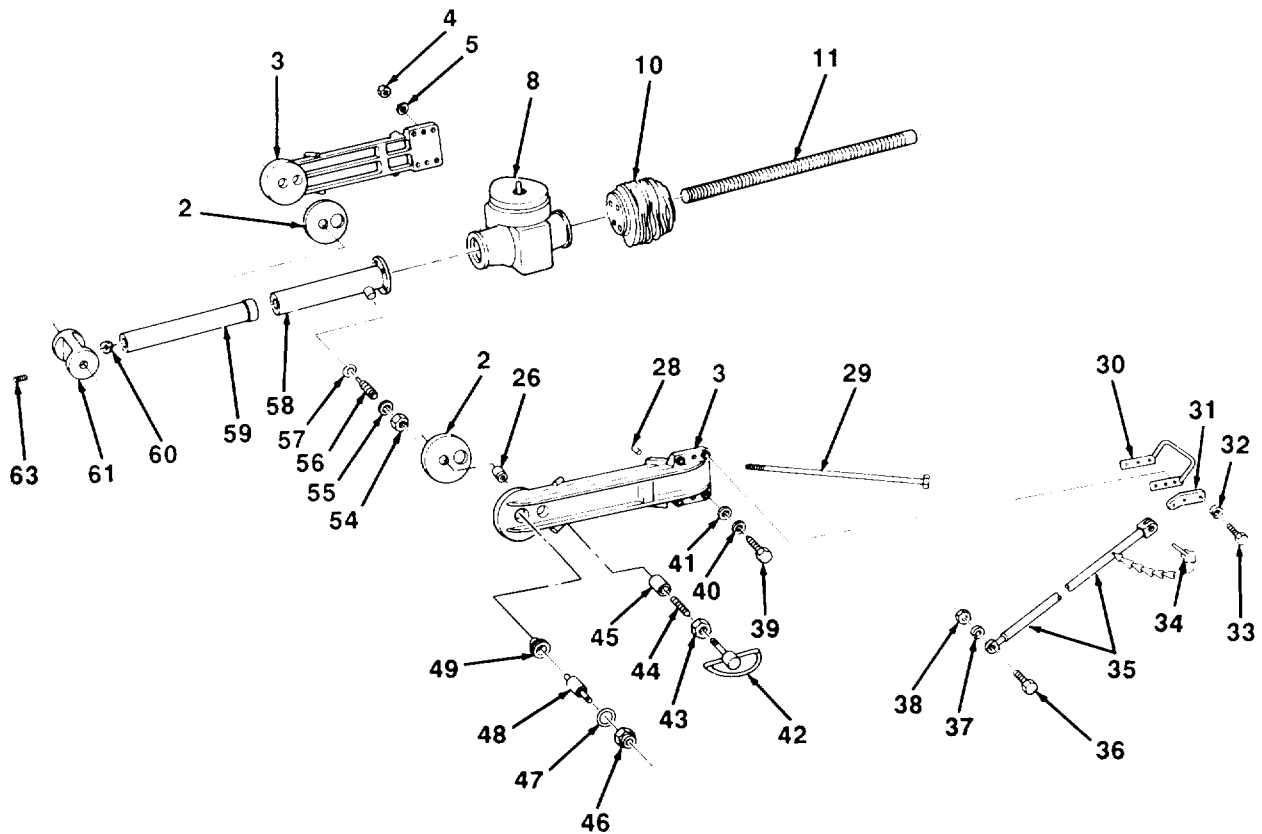
4. Remove four screws (33) and lockwashers (32) securing handle bar (30) to support assemblies (3). Remove handle bar and bracket (31). Remove handle bar supports (35). Discard lockwashers.

NOTE

Step 5 applies to rear leveling jack only.

5. Remove quick release pin (34) from each handle bar support (35).
6. Loosen two setscrews (63) and remove locknuts (46). Remove shouldered shafts (48) and flatwashers (47) from yoke (61). Discard locknuts.
7. Unscrew spring retainer (43) from each support assembly (3) and pull out retractor (42), spring (44), and plunger (45) as an assembly.
8. Remove four screws (39), lockwashers (40), and flatwashers (41) securing each support assembly (3) to gearbox (8). Remove support assemblies from gearbox Use caution not to damage pins (28) or holes in gearbox. Discard lockwashers.
9. Remove two spacers (2) and gearbox (8) with screw (11), sleeve (10), and connecting parts.

4-50. LEVELING JACK MAINTENANCE (M514) (Con't).



b. DISASSEMBLY

1. Remove four pins (28) from support assemblies (3) or gearbox (8). Do not remove bearings (26) or cases (49).
2. Remove cover (59) with yoke (61) assembly from cover (58). Remove cover and performed packing (60) from yoke. Discard performed packing.
3. Remove nut (54) and flatwasher (55) from plunger assembly (56). Remove plunger assembly and washer (57) from cover (58).

TA704344

4-50. LEVELING JACK MAINTENANCE (M514) (Con't).

4. Disassemble plunger assembly (56) by removing setscrew (50) from body (53). Remove spring (51) and pin (52) from body.
5. Remove four nuts (6), lockwashers (7), and screws (1) securing cover (58) to gearbox (8). Remove cover and gasket (25). Discard lockwashers and gasket.
6. Remove screw (17), lockwasher (16), and shoe (15) and cover (14) assembly from screw (11). Discard lockwasher.
7. Remove three cotter pins (19), nuts (18) and separate shoe (15) from cover (14). Discard cotter pins.
8. Loosen hose clamp (12) and remove socket (13) from screw (11).
9. Remove four nuts (22), lockwashers (21), screws (20), sleeve (10), and plate (9) from gearbox (8). Discard lockwashers.
10. Remove two screws (24) and stop (23) from gearbox (8).
11. Using handcrank, turn gearbox gears to remove screw (11) from gearbox (8).

c. CLEANING AND INSPECTION**WARNING**

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

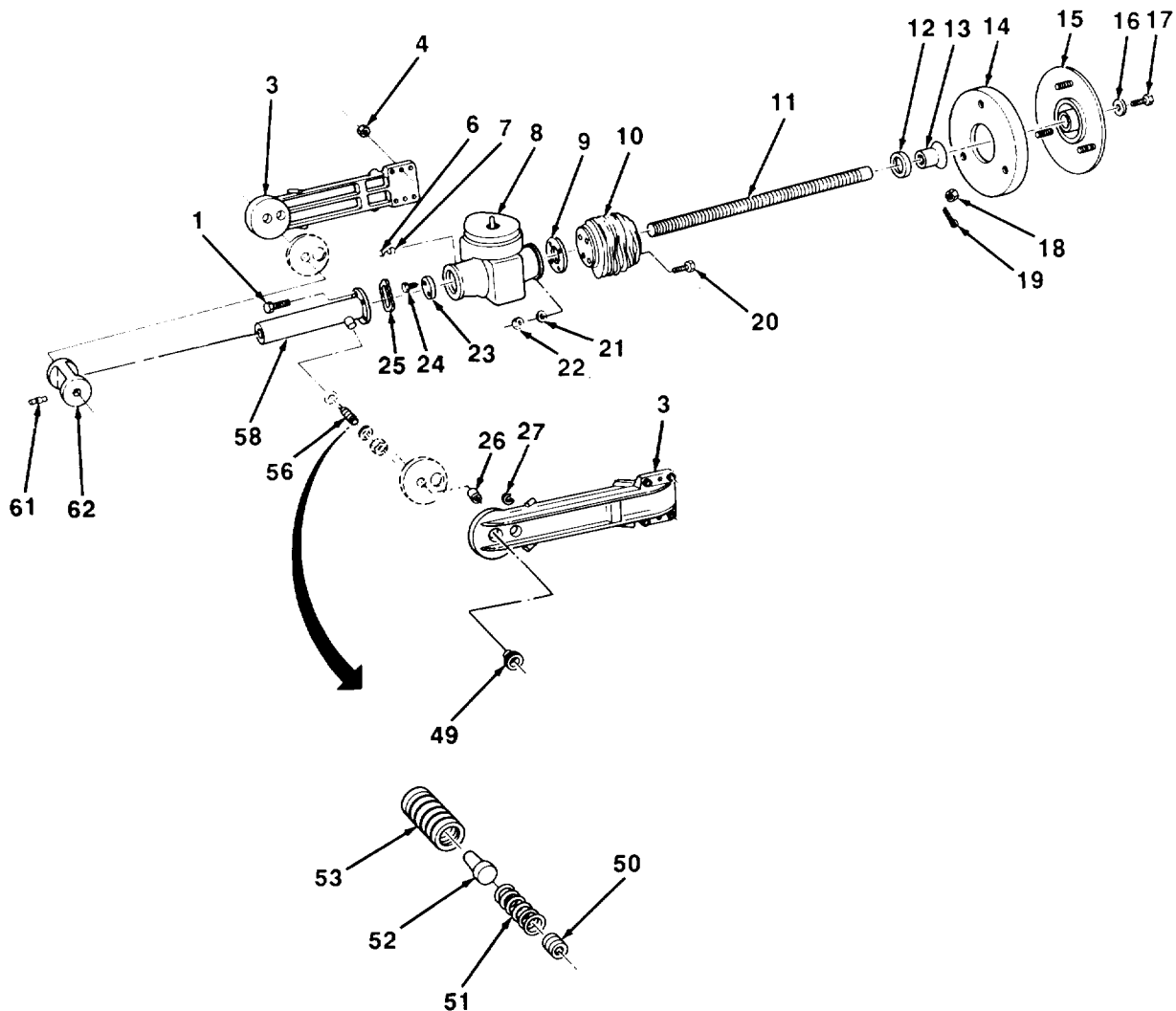
1. Clean all metal parts with dry cleaning solvent and dry thoroughly.
2. Inspect screw for straightness by rolling on a flat surface.
3. Inspect shouldered shafts and plunger for damage.
4. Inspect sleeve for tears in fabric or loose stitching.
5. Check each case (49) for damage. If case is damaged, remove retaining ring (27) and press case out of support assembly (3). Discard retaining. Press new case into support assembly and secure with new retaining ring.
6. Check fit of shouldered shaft in case. Fit should be smooth without binding or excessive free play.
7. Inspect bearings (26) for damage. If damaged, press out of support assembly and replace.
8. Check fit of plunger in bearing. Fit should be smooth without binding or excessive free play.
9. Inspect threaded inserts (62) in yoke (61) for stripped threads or other damage. If damaged, drive out of yoke and replace.
10. If damaged, repair gearbox (para 4-51).

d. ASSEMBLY

1. Align screw (11) with threads in worm gear at lower side of gearbox (8). Turn drive shaft with handcrank, and work screw into gearbox.
2. Install stop (23) on gearbox (8) with two screws (24).

4-50. LEVELING JACK MAINTENANCE (M514) (Con't).

3. Position plate (9) over lip on sleeve (10). Ensure countersunk screw holes face sleeve. Slide sleeve and plate over screw (11) and install four screws (20), new lockwashers (21), and nuts (22).
4. Install socket (13) on screw (11) with hose clamp (12).
5. Assemble shoe (15) on cover (14) with three nuts (18) and new cotter pins (19).
6. Install shoe (15) and cover (14) assembly on screw (11) with new lockwasher (16) and screw (17).
7. Install new gasket (25) and cover (58) on gearbox (8) with four screws (1), new lockwashers (7), and nuts (6).
8. Assemble plunger assembly (56) by installing pin (52) and spring (51) in body (53). Secure with setscrew (50).



4-50. LEVELING JACK MAINTENANCE (M514) (Con't).

9. Install washer (57) and plunger assembly (56) in cover (58). Secure plunger assembly to cover with flatwasher (55) and nut (54).
10. Install new performed packing (60) in annular groove in yoke (61).
11. Push yoke (61), counterbored face first, onto top end of cover (59).
12. Push cover (59), open end first, into top end of cover (58).
13. Install four pins (28) in support assemblies (3).

e. INSTALLATION

1. Position gearbox (8) with screw (11), sleeve (10), yoke (61), and connecting parts on ground. Align threaded holes in yoke with pivot holes in frame-mounted leveling jack support assembly.
2. Position two spacers (2) on outside faces of pivot holes in leveling jack support assembly.
3. Position two support assemblies (3) on outside faces of spacers (2) and gearbox (8). Ensure that pins (28) are properly seated in gearbox. Ensure that spacers are properly seated around projecting ends of pivot stud bearings in bracket support assemblies and retractor plunger cases on frame.
4. Install four flatwashers (41), new lockwashers (40), and screws (39) to secure each support assembly (3) to gearbox (8).
5. Install two shouldered shafts (48), flatwashers (47), and new locknuts (46) into yoke (61). Tighten two setscrews (63). Tighten locknuts sufficiently to give some retarding friction between support assemblies (3) and spacers (2).
6. Position plunger (45), spring (44), spring retainer (43), and retractor (42) in each support assembly (3). Secure by installing spring retainers into support assemblies.

NOTE

Steps 7 and 8 apply to rear leveling jack only.

7. Install two support rods (29) on each side of support assemblies (3). Secure with four new lockwashers (5) and nuts (4). Tighten nuts until tension is obtained in all four support rods.
8. Install quick release pin (34) on each handle bar support (35).

NOTE

Bracket and handle bar supports are installed on rear leveling jack only.

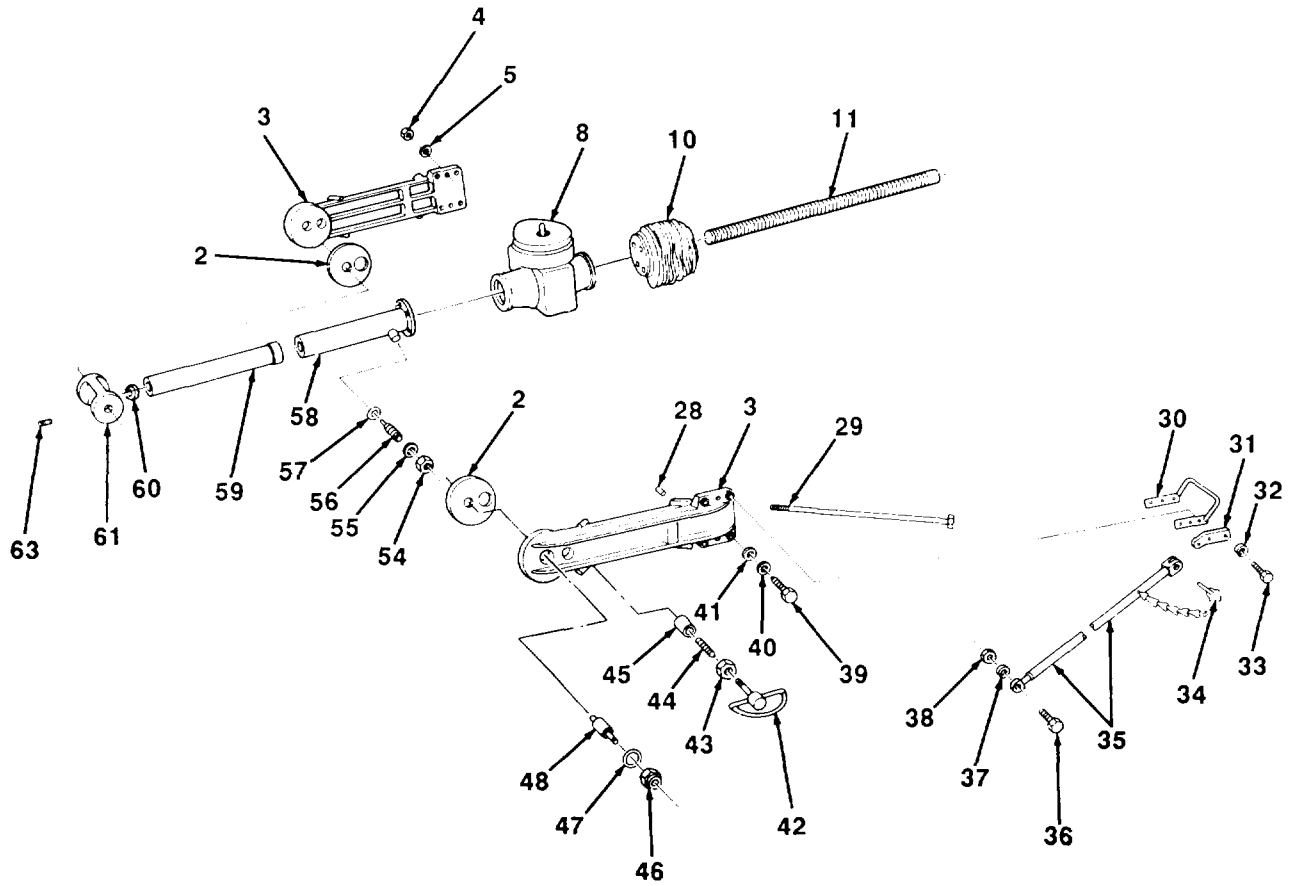
9. Install handle bar (30), bracket (31), and two handle bar supports (35) on support assemblies (3) with four new lockwashers (32) and screws (33).

NOTE

Step 10 applies to rear leveling jack only.

10. Secure each handle bar support (35) to frame with screw (36), new lockwasher (37), and nut (38).

4-50. LEVELING JACK MAINTENANCE (M514) (Con't).



FOLLOW-ON TASKS:

- Lubricate leveling jack (Chapter 3, Section I).

TA704346

4-51. LEVELING JACK GEARBOX REPAIR (M514).

This Task Covers:

- a. Disassembly
- b. Cleaning and Inspection

c. Assembly

Initial Setup:

Equipment Conditions:

- Leveling jack removed (para 4-50).

Tools/Test Equipment:

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

References:

References:

- TM 9-214

Materials/Parts:

- Sealing compound (Item 4, Appendix E).
- Grease (Item 7, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- Marker tags (Item NO TAG, Appendix E)
- One gasket

- One lubrication fitting

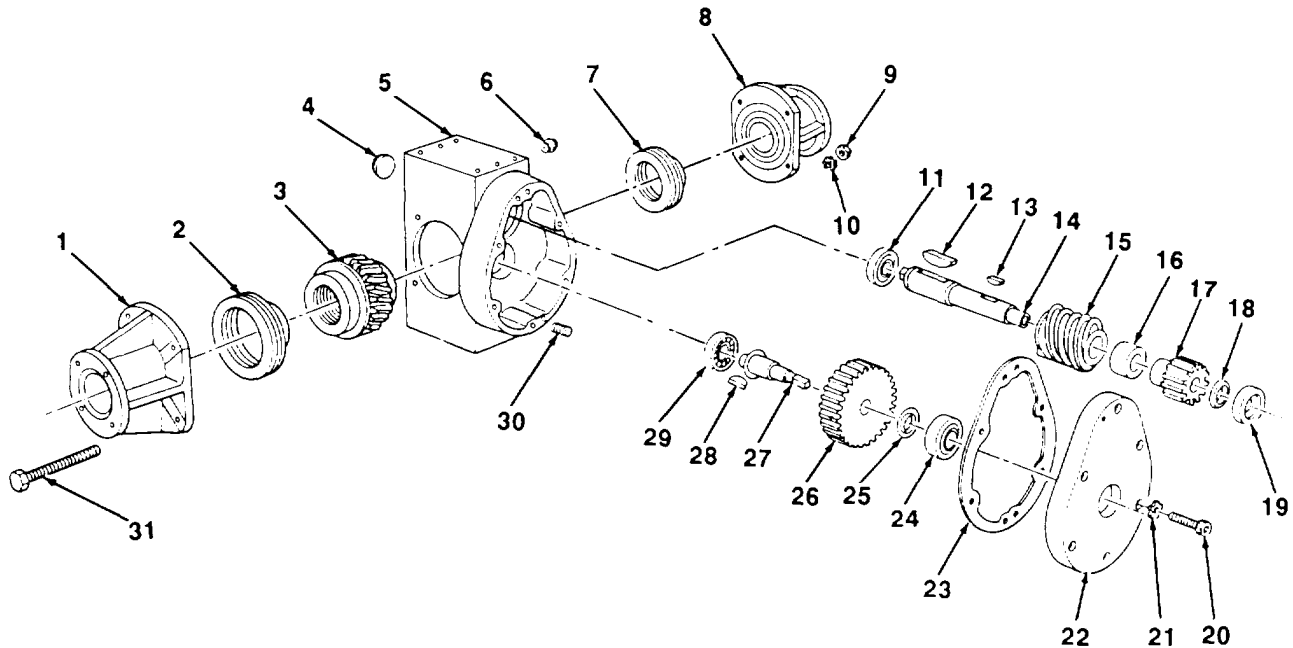
- Ten lockwashers

a. DISASSEMBLY

NOTE

Tag bearings for assembly. DO NOT mix bearings.

1. Remove six screws (20) and lockwashers (21) from cover (22). Carefully remove cover from box (5). Discard lockwashers.
2. Remove gasket (23) and two straight pins (30) form box (5). Discard gasket.



TA504732

4-51. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

3. Remove shouldered shaft (27) with attached parts from box (5).
4. Press out outer bearing (24).
5. Remove shouldered washer (25), spur gear (26), and woodruff key (28).
6. Press out inner bearing (29).

NOTE

Screw to removed is one nearest cover of worm gear.

7. Remove nut (9), lockwasher (10), and screw (31) from box (5). Discard lockwasher.
8. Remove shouldered shaft (14) with attached parts from box (5).
9. Press shouldered shaft (14) out of outer bearing (19).
10. Remove shouldered washer (18) and spur gear (17).
11. Remove woodruff key (13) and spacer (16) from shouldered shaft (14).
12. Press shouldered shaft (14) out of worm gear (15) and remove woodruff key (12).
13. Press shouldered shaft (14) out of inner bearing (11).
14. Remove three remaining nuts (9), lockwashers (10), and screws (31). Remove support (1), upper thrust bearing (2), and worm gear (3) from box (5). Discard lockwashers.
15. Remove support (8) and lower thrust bearing (7) from box (5).
16. Remove lubricating fitting (6) from box (5). Discard lubrication fitting.
17. If expansion plug (4) is loose or damaged, drive out from inside of box and discard.

b. CLEANING AND INSPECTION

WARNING

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

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Inspect bearings in accordance with TM 9-214.
3. Check for excessive backlash between two spur gear.
4. Inspect all gears for nicked, worn, or otherwise damaged teeth. Replace if damaged.
5. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

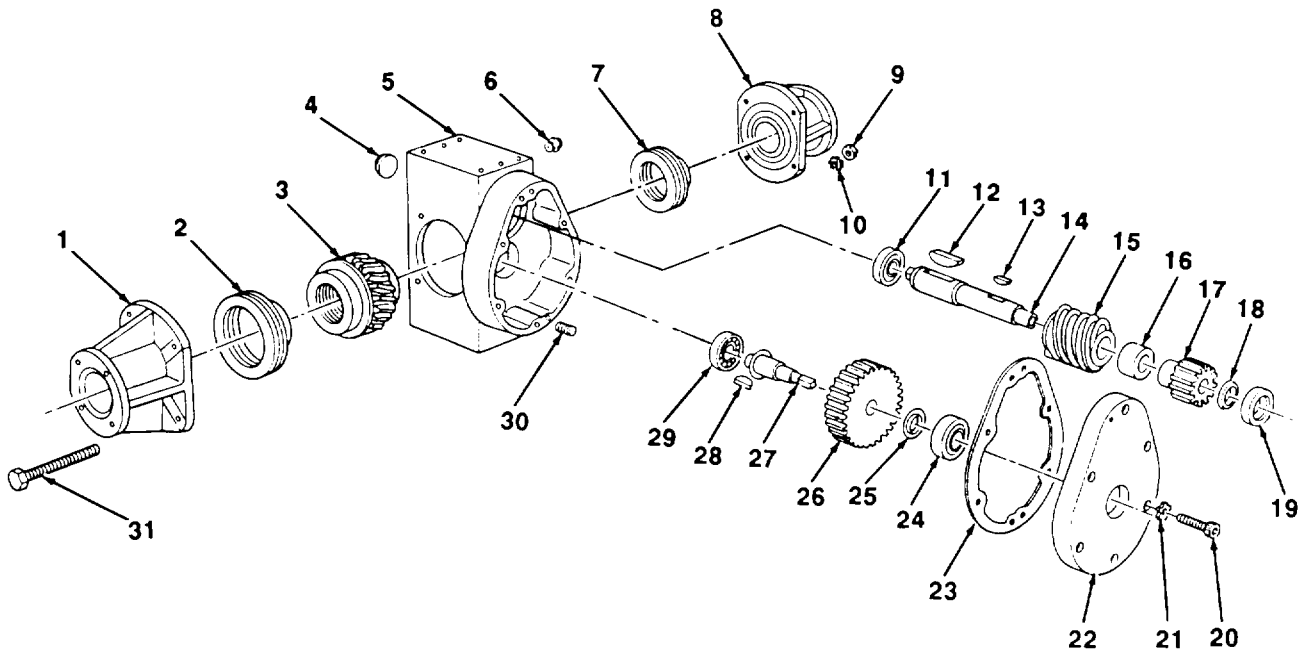
4-51. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

c. ASSEMBLY

CAUTION

Inside diameters of lower thrust bearing two races are different. The race with the larger inside diameter must be up, against worm gear. Improper assembly will result in damage to thrust bearings and worm gear.

1. Stand support (8) on end and position lower thrust bearing (7) on support.



2. Position box (5) over thrust bearing (7) and support (8).
3. Lubricate worm gear (3) and upper and lower thrust bearings (2 and 7) liberally with grease. Install worm gear, small end down, in box (5) on lower thrust bearing (7).

CAUTION

Inside diameters of upper thrust bearing two races are different. The race with the larger inside diameter must be down, against worm gear. Improper assembly will result in damage to thrust bearings and worm gear.

4. Install upper thrust bearing (2) on worm gear (3).
5. Position support (1) over upper thrust bearing (2) on box (5). Aline holes in box and supports and install three screws (31), new lockwashers (10), and nuts (9). Do not install screws nearest cover of worm gear (3). Ensure that worm gear turns freely in box.

TA504733

4-51. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

6. Install inner bearing (11) on shouldered shaft (14).
7. Install woodruff key (12) in shouldered shaft (14). Aline worm gear (15) with woodruff key and press worm gear onto shaft.
8. Install spacer (16) and woodruff key (13).
9. Aline spur gear (17) with woodruff key (13) and press onto shouldered shaft (14) against spacer (16).
10. Install shouldered washer (18) on shouldered shaft (14). Press outer bearing (19) onto shaft.
11. Position shouldered shaft (14) with attached parts inside box (5). Install remaining screw (31), new lockwasher (10), and nut (9).
12. Press inner bearing (29) onto shouldered shaft (27) until seated against shoulder.
13. Install woodruff key (28) in shouldered shaft (27). Press spur gear (26) onto shouldered shaft and woodruff key until seated against shoulder.
14. Install shouldered washer (25) on shouldered shaft (27). Press outer bearing (24) onto shouldered shaft against shouldered washer.
15. Position shouldered shaft (27) with attached parts inside box (5). Lubricate gears with grease.
16. Install two straight pins (30) and new gasket (23) on box (5).
17. Work cover (22) onto outer bearings (19 and 24) and straight pins (30) and push box (5) against gasket (23).
18. Secure cover (22) to box (5) with six new lockwashers (21) and screws (20).
19. Install new lubricating fitting (6) in box (5).
20. If expansion plug (4) was removed, apply sealing compound to seat in rear of box (5). Drive new expansion plug into place.
21. Ensure that gears turn smoothly.

FOLLOW-ON TASKS:

- Install leveling jack (para 4-50).
- Lubricate leveling jack gearbox (Chapter 3, Section I).

4-52. FRONT LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

- a. Removal
- b. Disassembly
- c. Inspection

- d. Assembly
- e. Installation

Initial Setup:

Equipment Conditions:

- Front leveling jack removed (para 4-50).

Tools/Test Equipment:

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

Materials/Parts:

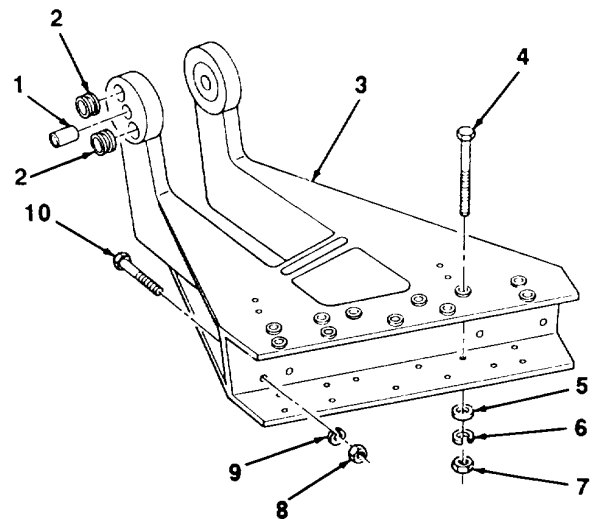
- Twenty-four lockwashers

Personnel Required: Two

a. REMOVAL**WARNING**

Leveling jack support assembly is heavy. Use assistance when removing it. Failure to follow this warning could cause support assembly to fall, resulting in serious injury to

1. Remove 16 nuts (7), lockwashers (6), flatwashers (5), and screws (4) securing support (3) assembly to frame. Discard lockwashers.
2. Remove eight nuts (8), lockwashers (9), and screws (10) securing (3) assembly to frame. Remove support assembly. Discard lockwashers.



TA505059

4-52. FRONT LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

b. DISASSEMBLY

Inspect sleeve bearings (1 and 2) for damage. If sleeve bearings are damaged, press out of support (3).

c. INSPECTION

1. Inspect support (3) from cracks, breaks, corrosion, or other damage. If damaged, replace entire support assembly.
2. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace if damaged.

d. ASSEMBLY

If removed, press sleeve bearings (1 and 2) in support (3).

e. INSTALLATION**WARNING**

Leveling jack support assembly is heavy. Use assistance when installing it. Failure to follow this warning could cause support assembly to fall, resulting in serious injury to personnel or damage to equipment.

1. Install support (3) assembly on frame with eight screws (10), new lockwashers (9), and nuts (8).
2. Secure support (3) assembly to frame with 16 screws (4), flatwashers (5), new lockwashers (6), and nuts (7).

FOLLOW-ON TASKS:

- Install front leveling jack (para 4-50).

4-53. REAR LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

- | | |
|----------------|-----------------|
| a. Removal | d. Assembly |
| b. Disassembly | e. Installation |
| c. Inspection | |

Initial Setup:

Equipment Conditions:

- Rear leveling jack removed (para 4-50).

Tools/Test Equipment:

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

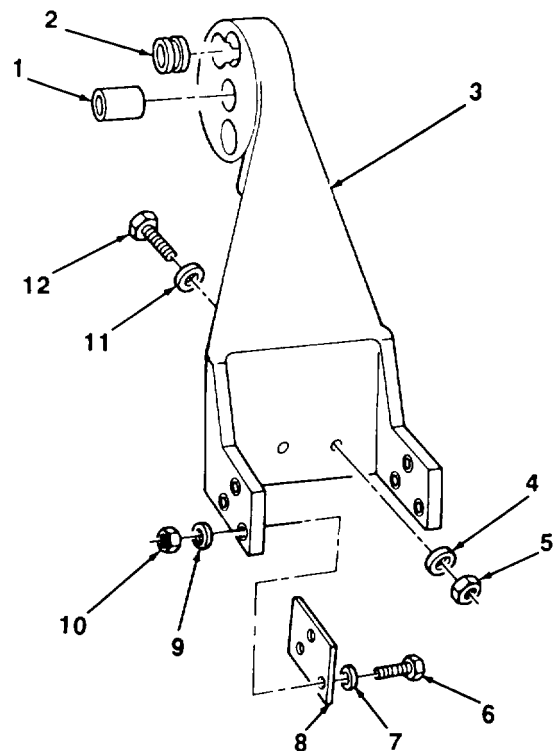
Materials/Parts:

- Eight locknuts

a. REMOVAL**NOTE**

Rear leveling jack support assembly consists of two support assemblies bolted to frame. Remove of one support assembly is described. Removal of other is the same.

1. Remove two locknuts (5), flatwashers (4), flatwashers (11), and bolts (12) securing support (3) assembly to frame. Discard locknuts.
2. Remove six locknuts (10), flatwashers (9), flatwashers (7), bolts (6), and two shims (8) securing support (3) assembly to frame. Remove support assembly from frame. Discard locknuts.
3. Repeat steps 1 and 2 for other support (3) assembly, as required.



4-53. REAR LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

b. DISASSEMBLY

Inspect sleeve bearings (1 and 2) for damage. If damaged, press out of support (3) and remove.

c. INSPECTION

1. Inspect support (3) for cracks, breaks, corrosion, or other damage. If damaged, replace entire support assembly.
2. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace if damaged.

d. ASSEMBLY

If removed, press sleeve bearings (1 and 2) in support (2).

e. INSTALLATION**NOTE**

Rear leveling jack support assembly consists of two support assemblies bolted to frame. Installation of one support assembly is described. Installation of other is the same.

1. Install support (3) assembly and two shims (8) on frame with six bolts (6), flatwashers (7), flatwashers (9), and new locknuts (10).
2. Secure support (3) assembly to frame with two bolts (12), flatwashers (11), flatwashers (4), and new locknuts (5).
3. Repeat steps 1 and 2 for other support (3) assembly, as required.

FOLLOW-ON TASKS:

- Install rear leveling jack (para 4-50).

4-54. TIE-DOWN PAD ASSEMBLY MAINTENANCE (M514).

This Task Covers.,

a. Removal

Initial Setup:

Materials/Parts:

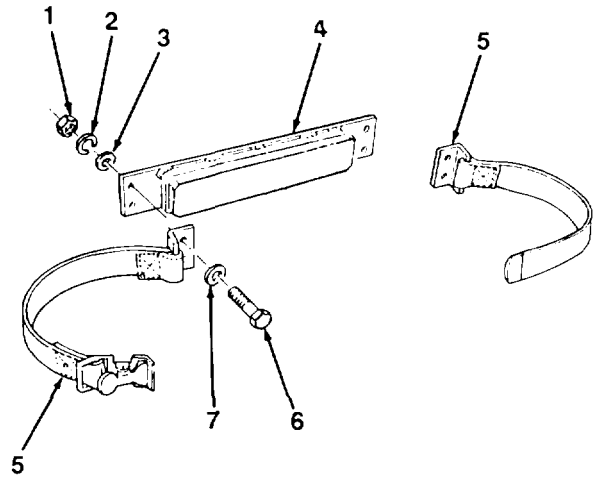
- Four lockwashers

b. Installation**Tools/Test Equipment:**

- General mechanic's tool kit

a. REMOVAL

Remove four nuts (1), lockwashers (2), flatwashers (3), flatwashers (7), and screws (6) securing two bracket and strap assemblies (5) and pad assembly (4) to frame. Discard lockwashers.

**b. INSTALLATION**

Install pad assembly (4) and two bracket and strap assemblies (5) on frame with four screws (6), flatwashers (7), flatwashers (3), new lockwashers (2), and nuts (1).

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4-55. LEVELING JACK REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Floor jack
- Jackstand
- Torque wrench

Materials/Parts:

- Four lockwashers

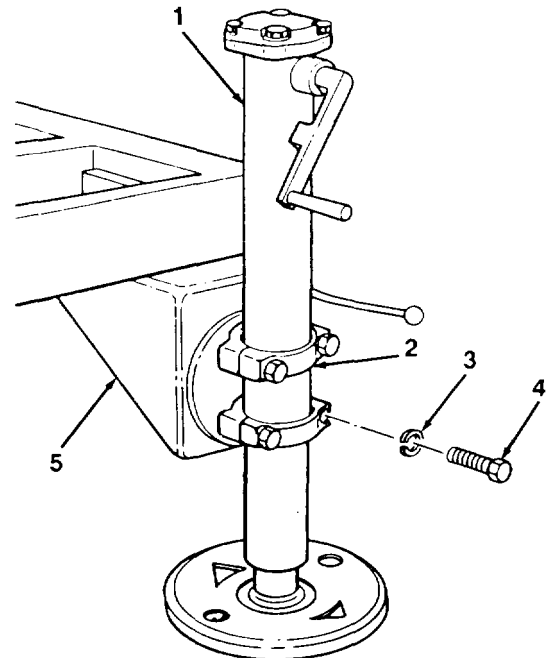
a. REMOVAL

1. Lower leveling jack (1) to ground (para 2-10).
2. Raise frame and use a suitable jackstand to support frame next to leveling jack (1).

WARNING

Support leveling jack when removing cap. Leveling jack or cap could fall, causing injury to personnel or damage to equipment.

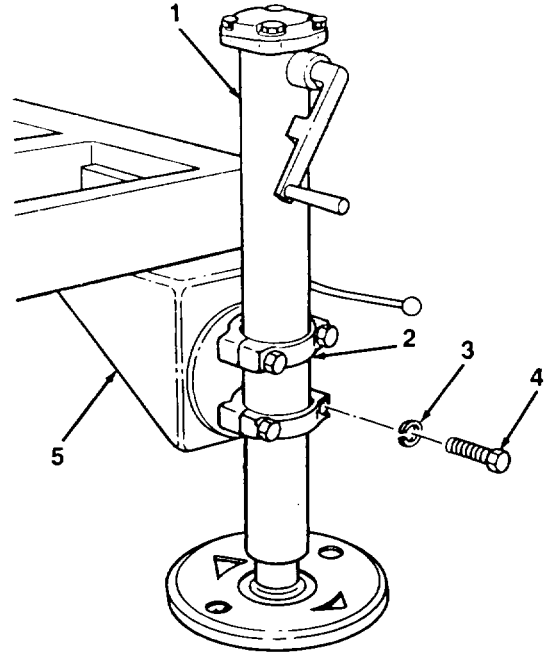
3. Remove four screws (4) and lockwashers (3) securing cap (2) to support assembly (5). Remove leveling jack (1) and cap. Discard lockwashers.



4-55. LEVELING JACK REPLACEMENT (M390C) (Con't).**b. INSTALLATION****WARNING**

Support leveling jack until cap is installed. Leveling jack could fall, causing injury to

1. Position leveling jack (1) for installation on support assembly (5).
2. Install leveling jack (1) and cap (2) on support assembly (5) with four new lockwashers (3) and screws (4). Torque screws to 65 lb.-ft. (88 N-m).

**FOLLOW-ON TASKS:**

- Remove support from frame.

4-56. LEVELING JACK REPAIR (M390C).

This Task Covers:

- a. Disassembly
- b. Cleaning and Inspection

c. Assembly

Initial Setup:

Equipment Conditions:

* Leveling jack removed (para 4-55).

Tool/Test Equipment:

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

References:

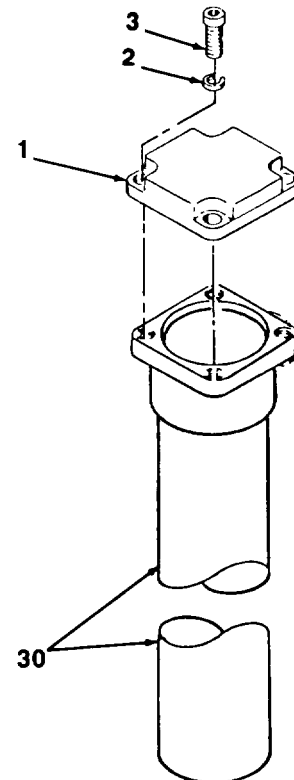
- TM 9-214

Materials/Parts:

- Sealing compound (Item 4, Appendix E)
- Grease (Item 7, Appendix E)
- Lubricating oil (Item 8, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- One locknut
- One spring pin
- Two lubrication fittings
- Two seals
- Four headless pins
- Four lockwashers

a. DISASSEMBLY

1. Using handcrank, fully extend leveling jack. Remove handcrank.
2. Remove four screws (3), lockwashers (2), and cover (1) from housing (30). Discard lockwashers.



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4-56. LEVELING JACK REPAIR (M390C) (Con't).

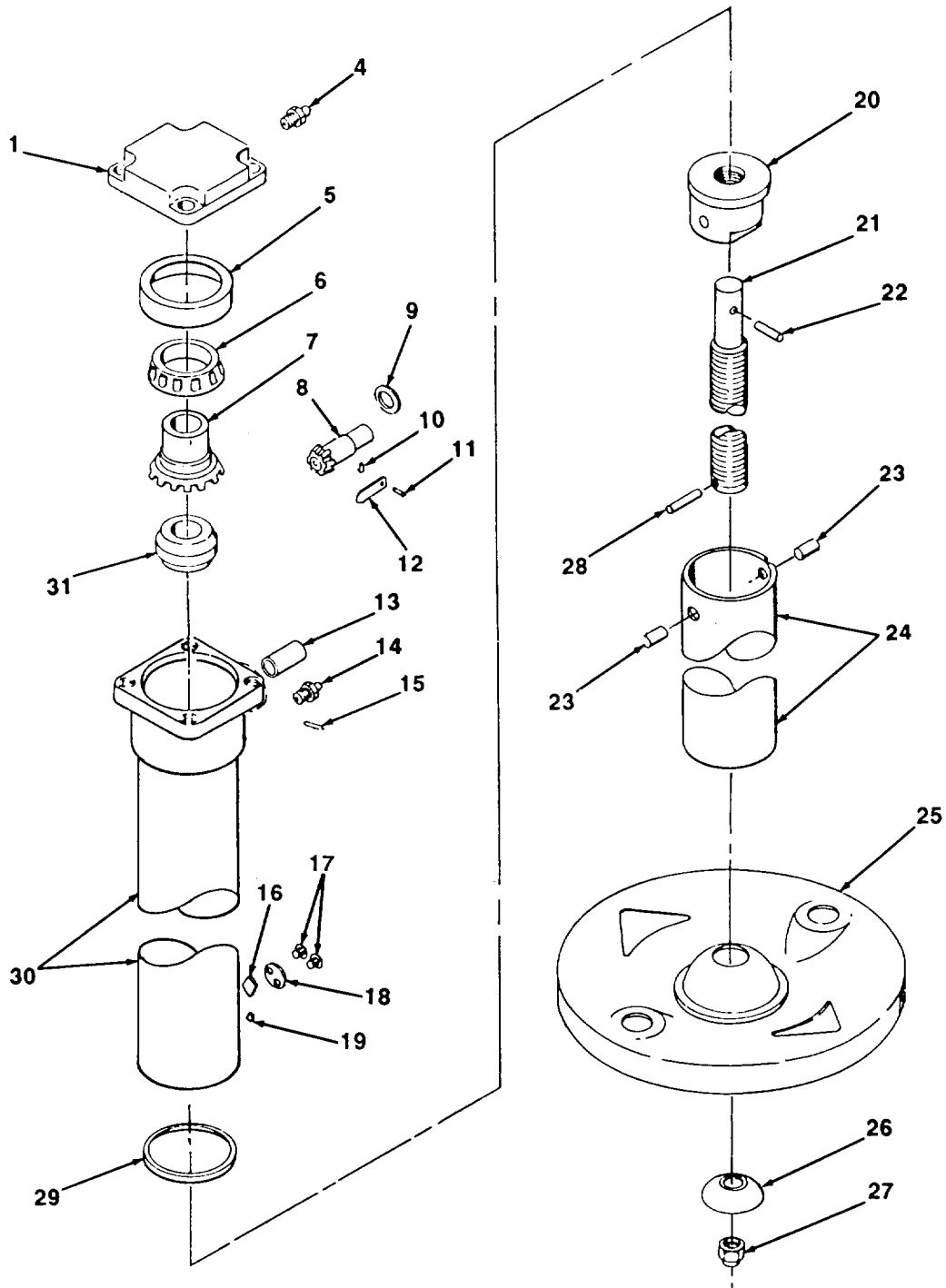
3. Remove bearing (6) from bevel gear (7).
4. Press in on latch (12) and remove pinion gear (8) from housing (30). Remove thrust washer (9) from pinion gear.
5. Remove spring pin (11) from pinion gear (8). Remove latch (12) and spring (10) from pinion gear. Discard spring pin.
6. Gently press down on housing (30) until headless pin (22) can be removed from bevel gear (7) and screw (21). Remove and discard headless pin.
7. Remove bevel gear (7) and collar (31) from screw (21).
8. Remove two screws (17), access cover (18), key (16), and seal (19) from housing (30). Discard seal.
9. Hold shoe (25) and pull screw (21) and inner tube (24) out of housing (30).
10. Remove two headless pins (23) securing nut (20) to inner tube (24). Remove nut and screw (21) from inner tube. Discard headless pins.
11. Remove headless pin (28) and nut (20) from screw (21). Discard headless pin.
12. Remove locknut (27), retainer (26), and shoe (25) from inner tube (24). Discard locknut.
13. Remove seal (29) from inside housing (30). Discard seal.
14. Remove lubrication fitting (4) from cover (1). Remove lubrication fitting (14) from housing (30). Discard lubrication fittings.

b. CLEANING AND INSPECTION**WARNING**

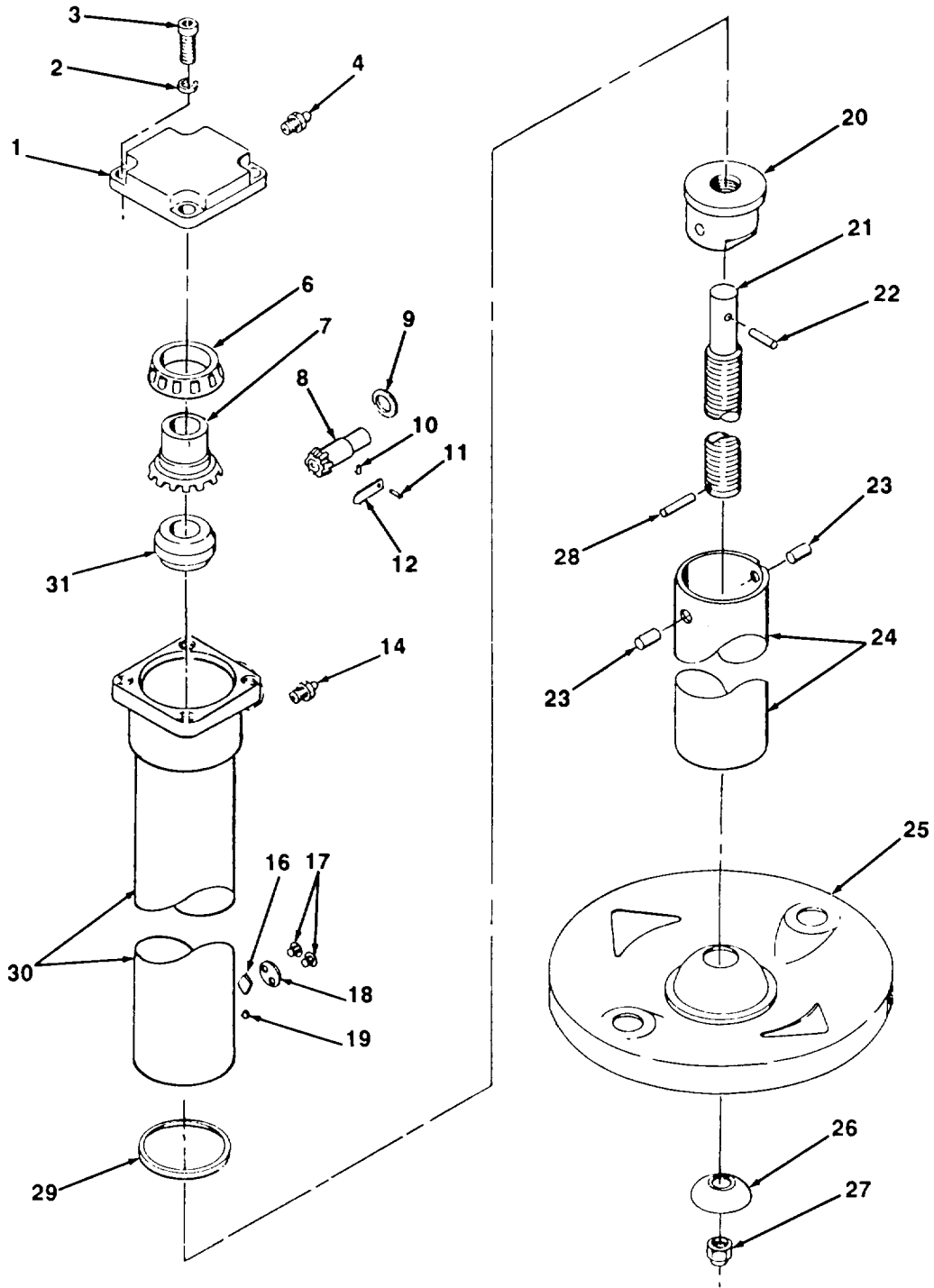
Dry cleaning solvent, P-D-680, is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-138°F (38°C-590C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Clean and inspect bearing in accordance with TM 9-214. If damaged, bearing cup (5) in cover must also be replaced.
3. Inspect sleeve bearing (13) in housing for damage. If damaged, remove pin (15) and press out sleeve bearing. Press in new sleeve bearing and secure with new pin.
4. Inspect bevel gear and pinion gear for cracked or broken teeth. Small nicks can be smoothed or removed with a fine mill file. If teeth are cracked or broken, replace gears as a set.
5. Inspect screw for broken or stripped threads. Small nicks can be removed or smoothed with a fine mill file. If threads are broken or stripped, replace screw.
6. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

4-56. LEVELING JACK REPAIR (M390C) (Con't).



4-56. LEVELING JACK REPAIR (M390C) (Con't).



4-56. LEVELING JACK REPAIR (M390C) (Con't).**c. ASSEMBLY**

1. Install shoe (25) and retainer (26) on inner tube (24) with new locknut (27).
2. Install new headless pin (28) in screw (21).
3. Coat screw (21) with grease.
4. Install nut (20) onto screw (21). Leave nut halfway up screw.
5. Install screw (21) and nut (20) in inner tube (24). Secure nut to inner tube with two new headless pins (23).
6. Install new seal (29) in housing (30).
7. Coat outside of inner tube (24) with lubricating oil. Slide inner tube into housing (30) so that screw (21) protrudes from top of housing.
8. Install collar (31) and bevel gear (7) over screw (21). Secure bevel gear to screw with new headless pin (22). Hold shoe (25) and carefully pull screw and bevel gear down into housing (30).
9. Install spring (10) and latch (12) in pinion gear (8) with new spring pin (11).
10. Install thrust washer (9) on pinion gear (8).
11. Coat pinion gear (8) and bevel gear (7) with grease.
12. Compress latch (12) and install pinion gear (8) in housing (30). Ensure that pinion gear meshes with bevel gear (7).
13. Install bearing (6) on bevel gear (7) with large diameter end facing bevel gear.
14. Install cover (1) on housing (30) with four new lockwashers (2) and screws (3).
15. Install new lubrication fitting (4) in cover (1). Install new lubrication fitting (14) in housing (30).
16. Apply sealing compound to cover (18). Install new seal (19), key (16), and access cover on housing (30) with two screws (17).
17. Using handcrank, fully retract leveling jack.

FOLLOW-ON TASKS:

- Lubricate leveling jack (Chapter 3, Section I).
- Install leveling jack (para 4-55).

4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C).

This Task Covers:

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

Initial Setup:

Equipment Conditions:

- Leveling jack removed (para 4-55).

Test Equipment:

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

Materials/Parts:

- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- Marker tags (Item NO TAG, Appendix E)
- Thirty lockwashers

Personnel Required: Two**a. REMOVAL****NOTE**

Step 1 is for front leveling jack support assembly only.

1. Remove three screws (11) and lockwashers (10) from rear of front leveling jack support assembly. Remove screw (13) and lockwasher (12) from front center hole. Remove two screws (14), lockwasher (15), and flatwasher (16) from outside front holes. Remove front leveling jack support assembly from frame.

NOTE

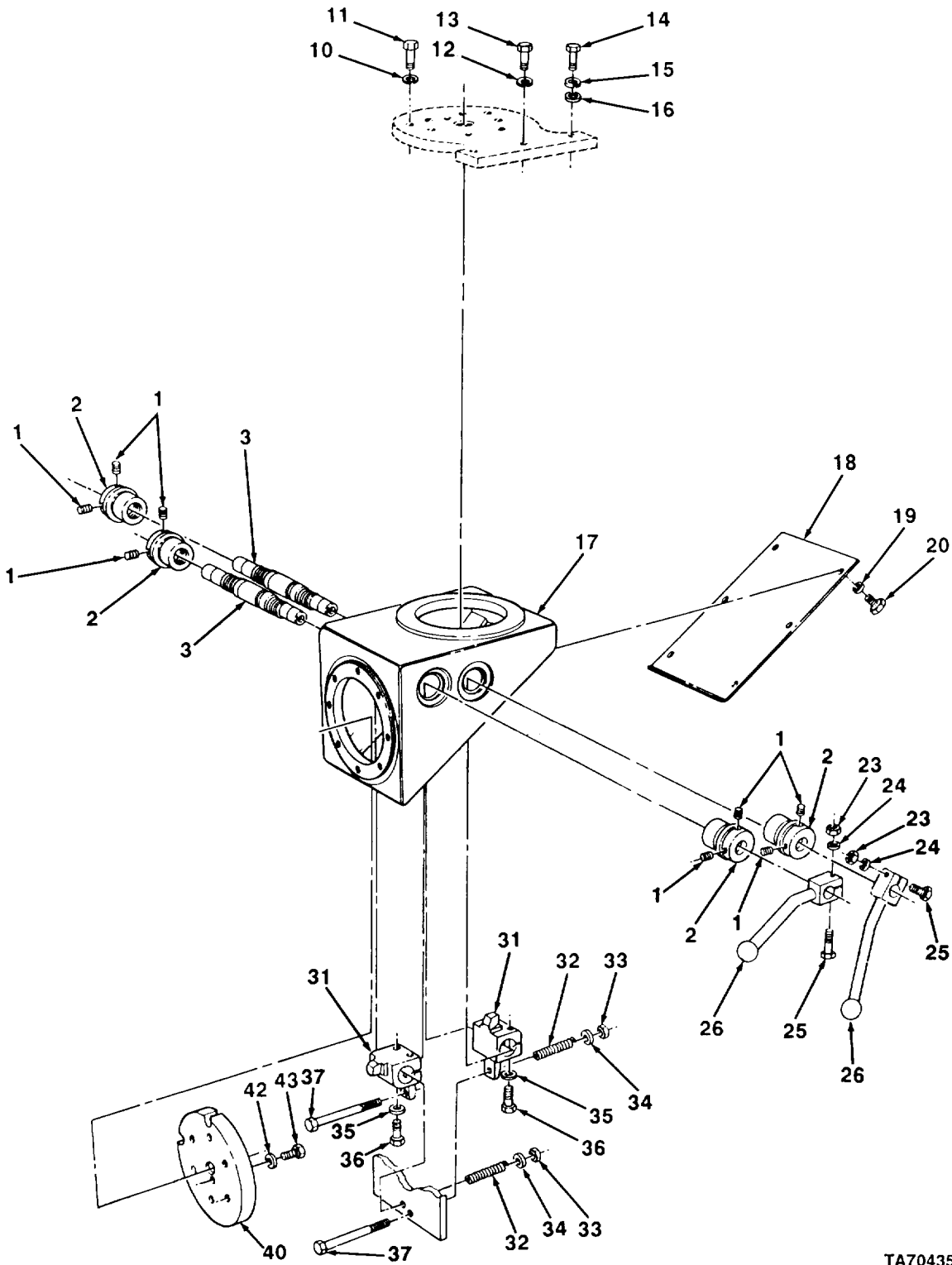
Step 2 is for rear leveling jack support assemblies only.

2. Remove six screws (14) and lockwashers (15) securing rear leveling jack support assembly to frame. Remove rear leveling jack support assembly. Discard lockwashers.

b. DISASSEMBLY

1. Remove six bolts (20), lockwashers (19), and cover (18) from housing (17). Discard lockwashers.
2. Remove nut (33), flatwasher (34), and spring (32) from end of each screw (37) extending through two locking levers (31). Remove two screws (37) from inside housing (17).
3. Remove two nuts (23), lockwashers (24), screws (25), and levers (26) from ends of two shouldered shafts (3). Discard lockwashers.
4. Remove eight setscrews (1) from four adjusting nuts (2). Remove adjusting nuts from shouldered shafts (3)
5. Remove four screws (36) and lockwashers (35) from two locking levers (31) on centers of shouldered shafts (3). While holding locking levers, pull shouldered shafts from housing (17). Remove locking levers Discard lockwashers.
6. Remove bolt (43) and flatwasher (42) from plate (40) inside housing (17).

4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).



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4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).**NOTE****Tag and tie shims together for use during assembly.**

7. Remove six screws (38) and lockwashers (39) from plate (40) inside housing (17). Remove plate, bearing (41), pilot (44), dowel (45), shims (46), bearing (47), guard (48), and bracket (49). Discard lockwashers.
8. Remove bolt (29) and flatwasher (30) from plate (22) inside housing (17). Discard lockwasher.

NOTE**Tag and tie shims together for use during assembly.**

9. Remove six screws (28) and lockwashers (27) from plate (22) inside housing (17). Remove plate, bearing (21), pilot (4), dowel (5), shims (6), bearing (7), guard (8), and plate (9). Discard lockwashers.

c. CLEANING AND INSPECTION**WARNING**

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

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Inspect shouldered shafts for nicks or distortion.
3. Inspect locking levers for cracks or wear.
4. Inspect mating surfaces of plates, bearings, pilots, and bracket or plate for roughness or wear.
5. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

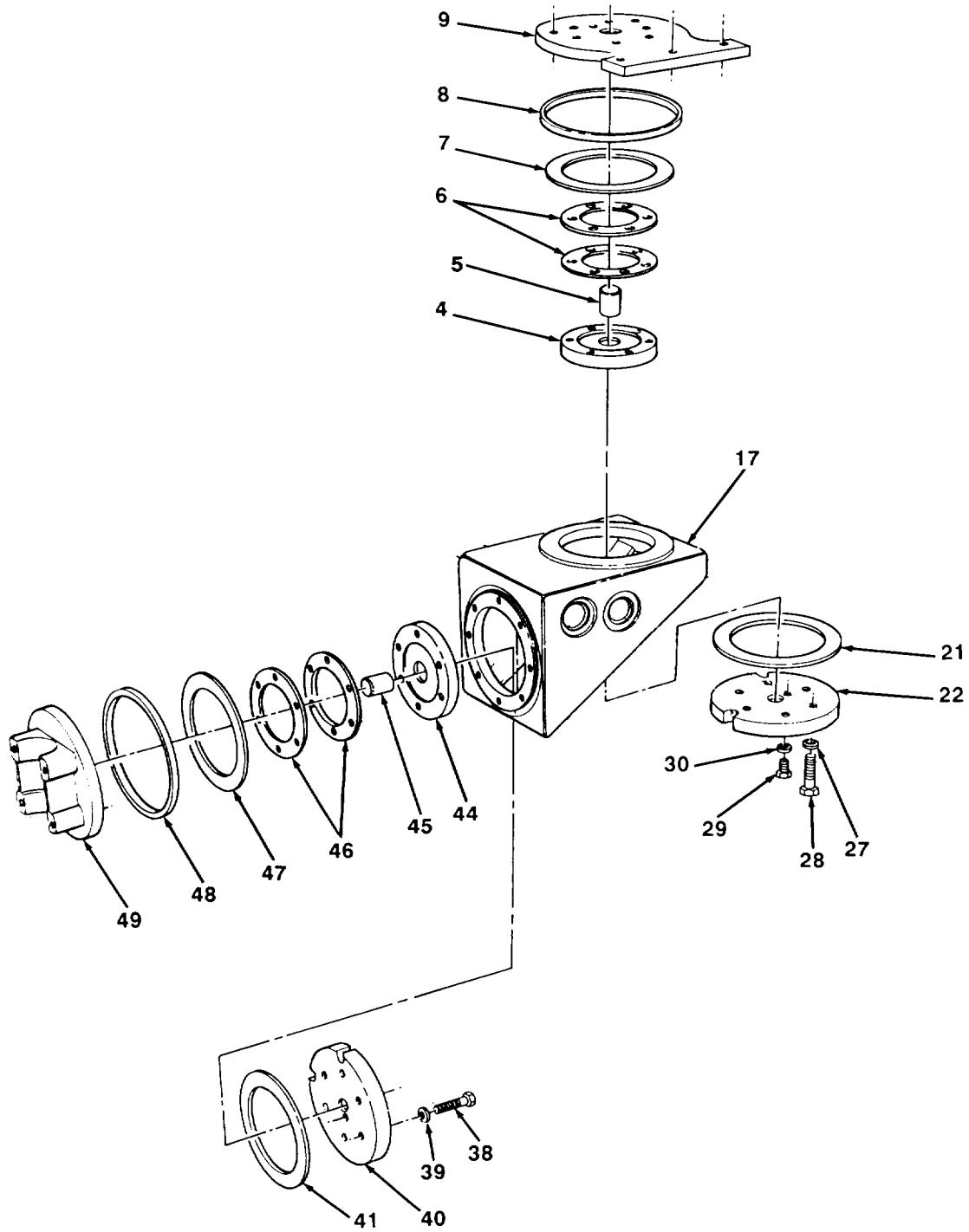
d. ASSEMBLY**NOTE****Assistance is required for steps 1 through 8.**

1. Position pilot (44) in opening inside housing (17). Position dowel (45) in center of pilot.

NOTE**Ensure that same number of shims (46) as were removed are installed.**

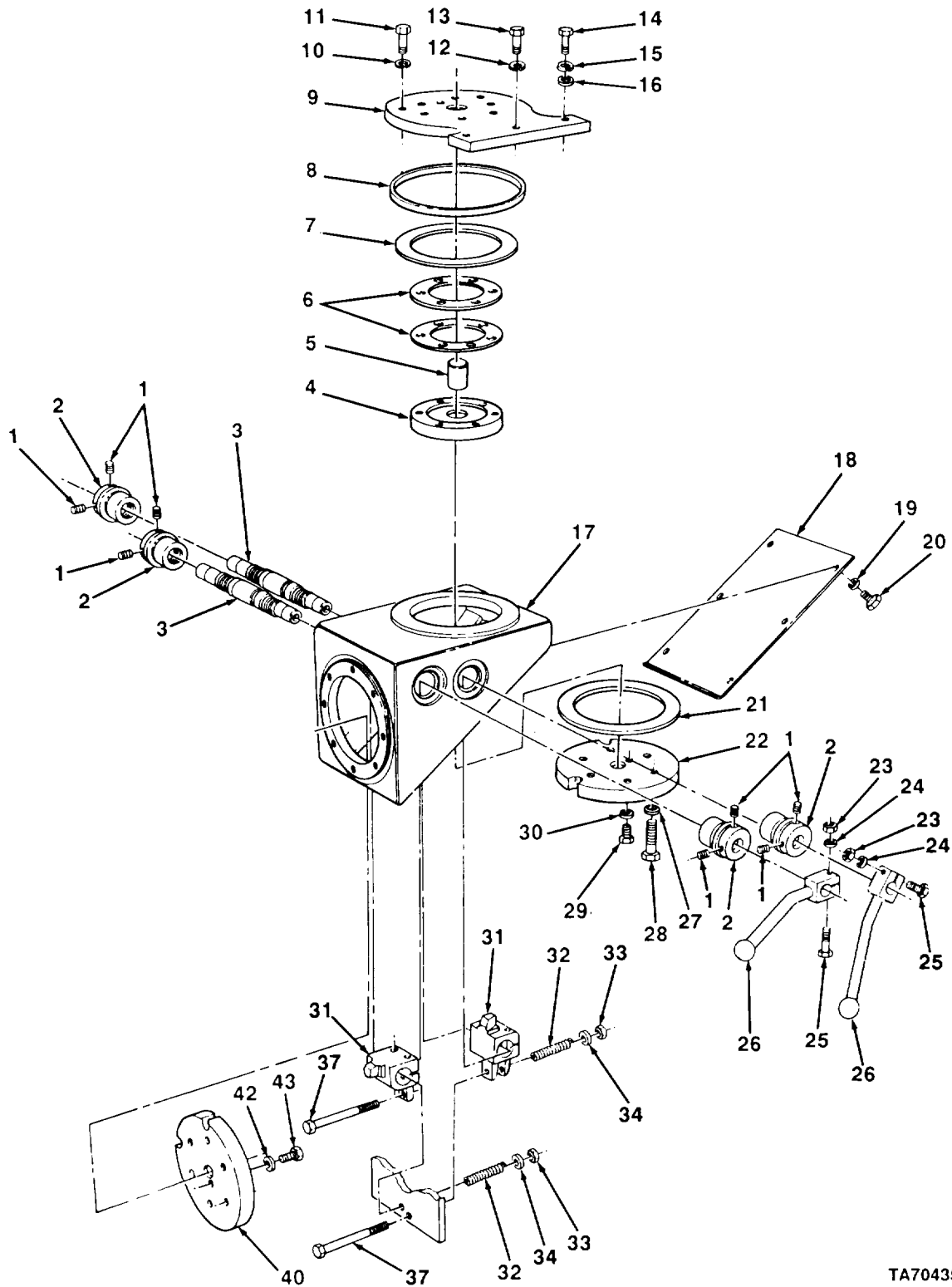
2. Position shims (46), bearing (47), guard (48), and bracket (49) against pilot (44) on outside of housing (17).
3. Position bearing (41) and plate (40) on inside of housing (17). Install six new lockwashers (39) and screws (38).

4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).



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4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).



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4-57. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).

4. Install bolt (43) and flatwasher (42) in center of plate (40).
5. Position pilot (4) in opening in top of housing (17). Position dowel (5) in center of pilot.

NOTE

Ensure that same number of shims as were removed are installed.

6. Position shims (6), bearing (7), guard (8), and plate (9) against pilot (4) on outside of housing (17).
7. Position bearing (21) and plate (22) on inside of housing (17). Install six new lockwashers (27) and screws (28).
8. Install flatwasher (30) and bolt (29) in center of plate (22).
9. Position two shouldered shafts (3) through openings in housing (17). Install two locking levers (31) on shafts inside housing. Ensure that locking lugs on each locking lever engage slots in plates (22 and 40).
10. Continue pushing shouldered shafts (3) through housing (17) until centered in housing. Install four adjusting nuts (2) on ends of shafts. Secure each adjusting nut to shaft with two setscrews (1).
11. Install screw (37) through locking lever (31) and bracket inside housing (17). Install spring (32), flatwasher (34), and nut (33) on screw. Repeat for remaining locking lever.
12. Install lever (26) on end of shouldered shaft (3) with screw (25), new lockwasher (24), and nut (23). Repeat for remaining lever.
13. Install cover (18) on housing with six new lockwashers (19) and bolts (20).

e. INSTALLATION**NOTE**

Step 1 is for rear leveling jack support assemblies only.

1. Position rear leveling jack support assembly for installation. Install six new lockwashers (15) and screws (14).

NOTE

Step 2 is for front leveling jack support assembly only.

2. Position front leveling jack support assembly for installation. Install three new lockwashers (10) and screws (11) to rear of front leveling jack support assembly. Install new lockwasher (12) and screw (13) in front center hole. Install two flatwashers (16), new lockwashers (15), and screws (14) in outside front holes.

FOLLOW-ON TASKS:

- Install leveling jack (para 4-55).
- Check operation of double-swiveling leveling jack support assembly (para 2-10).

Section X. SPRINGS AND SHOCK ABSORBERS MAINTENANCE

Paragraph Title	Page Number
Shock Absorber Replacement (M514)	4-152
Springs and Radius Rods Replacement (M390C)	4-146

4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C).

This task covers:

- a. Removal
- b. Installation
- c. Radius Rod Adjustment

INITIAL SETUP:

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface.

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Drain pan
- Lifting device
- Two jackstands

Materials/Parts:

- Rags (Item 12, Appendix E)
- Two lockwashers
- Four locknuts

Personnel Required: Two

a. REMOVAL

WARNING

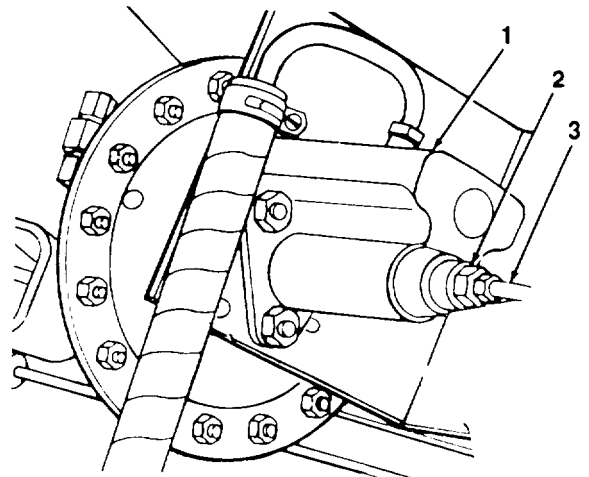
Do not attempt to raise trailer with leveling jacks. Extend leveling jacks until shoes just touch ground. Failure to do so could cause injury to personnel or damage to equipment.

1. Lower rear leveling jacks (para 2-10).

NOTE

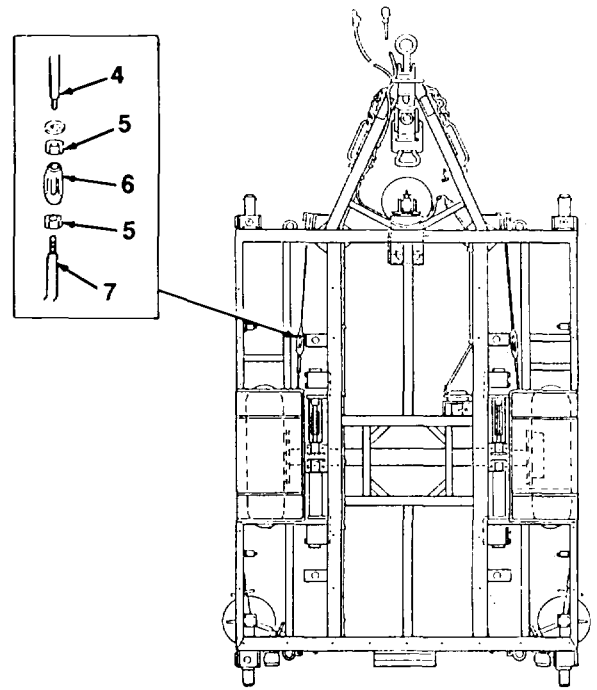
A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

2. Place a suitable container under master cylinder (1). Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.

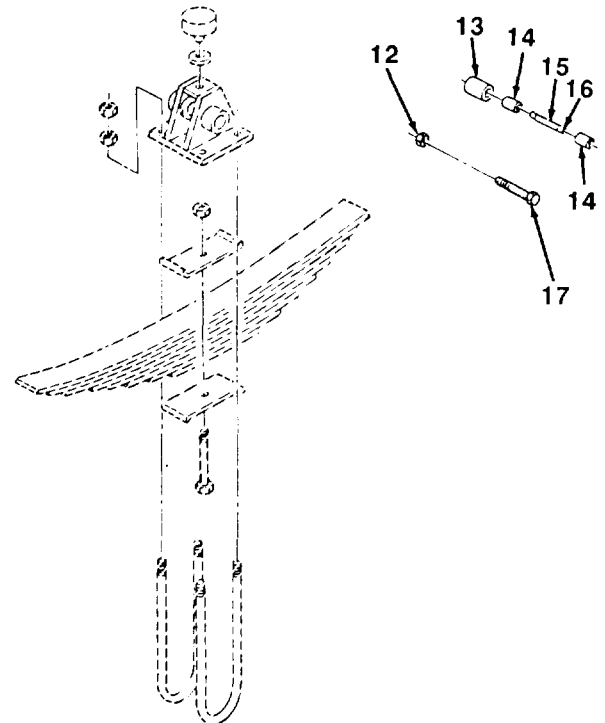


4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

3. Loosen two nuts (5) at turnbuckle (6). Remove turnbuckle from push-pull control assembly (7) and rod (4). Repeat for other side of trailer.
4. Place a suitable lifting device under front of trailer. Raise retractable support assembly (para 2-8).



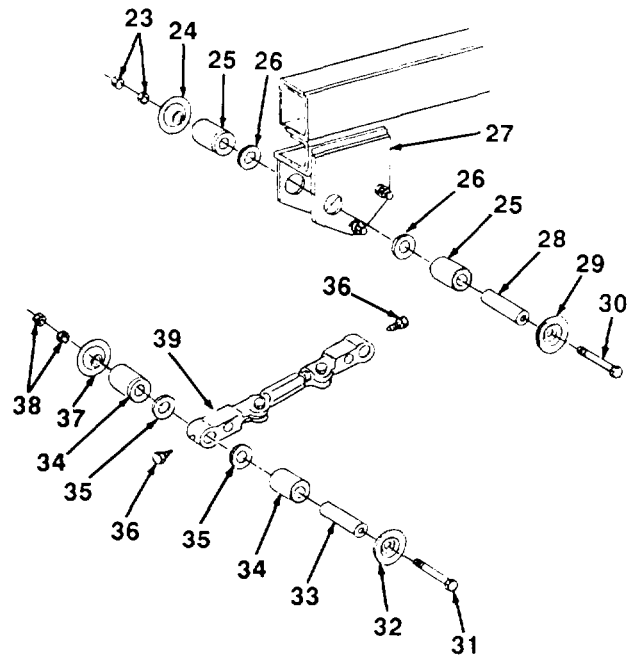
5. Remove locknut (12) and screw (17) from lower hole in each spring hanger. Discard locknuts.
6. Remove two setscrews (16) from roller pin (15) at each spring hanger. Drive out roller pin and remove two sleeve bearings (14) and bushing (13).



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4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

7. Loosen two setscrews (36) in radius rod (39). Remove two nuts (23), screw (30), outer shouldered washer (29), sleeve bearing (28), inner shouldered washer (24), two rubber bushings (25), and two flatwashers (26) securing radius rod to spring hanger (27).
8. Repeat steps 5 through 7 for other side of trailer.

**WARNING**

- **Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.**
- **Bogie assembly is heavy and awkward to handle. Use caution and assistance during removal. Failure to follow this warning may result in serious injury to personnel.**

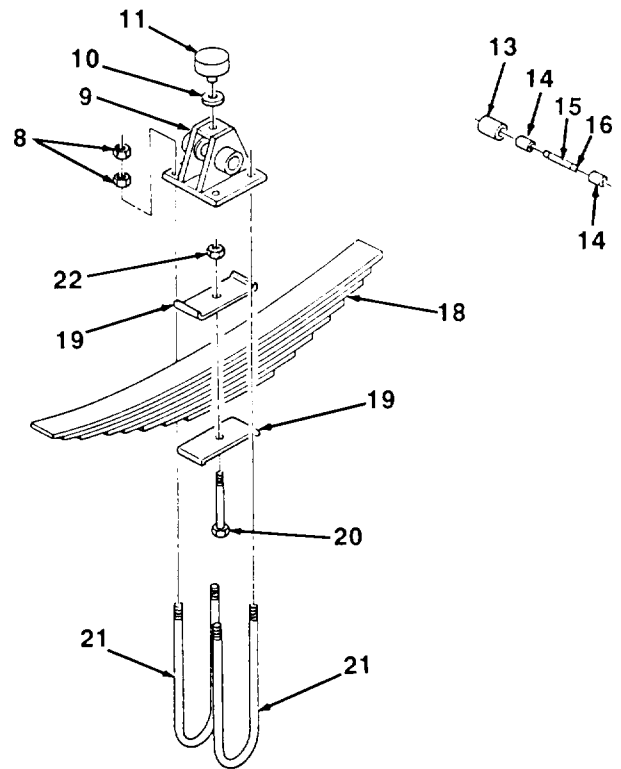
9. Raise front of trailer high enough for wheels to clear frame. Roll assembled wheels, axle, springs, and radius rods out from under trailer. Lower trailer and support with two jackstands.
10. Block axle and wheels to keep them from moving.
11. Remove four nuts (8) from each U-bolt (21). Separate spring (18), axle, and bumper bracket (9). Repeat for other spring.
12. Remove two nuts (38), screw (31), outer shouldered washer (32), sleeve bearing (33), inner shouldered washer (37), two rubber bushings (34), and two flatwashers (35) securing radius rod (39) to bumper bracket (9). Remove radius rod.
13. Remove two setscrews (36) from radius rod (39).
14. If damaged, remove nut (22), screw (20), and two plates (19) from springs (18).
15. Remove rubber bumper (11) and lockwasher (10) from bumper bracket (9). Discard lockwasher.
16. Repeat steps 12 through 15 for other side.

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4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

b. INSTALLATION

1. Install new lockwasher (10) and rubber bumper (11) on bumper bracket (9).
2. If removed, install two plates (19) on springs (18) with screw (20) and nut (22).
3. Loosely install two setscrews (36) in radius rod (39).
4. Install radius rod (39) on bumper bracket (9) with two flatwashers (35), two rubber bushings (34), sleeve bearing (33), inner shouldered washer (37), outer shouldered washer (32), screw (31) and two nuts (38).
5. Install spring (18) and bumper bracket (9) on axle mounting pad with two U-bolts (21) and eight nuts (8).
6. Repeat steps 1 through 5 for other side of trailer.
7. Install bushing (13), two sleeve bearings (14), and roller pin (15) in upper hole in spring hanger (27). Secure roller pin with two setscrews (16). Repeat for remaining three spring hangers.



WARNING

Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.

8. Place a suitable lifting device under front of trailer. Raise trailer enough for wheels and tires to clear frame. Remove two jackstands.

WARNING

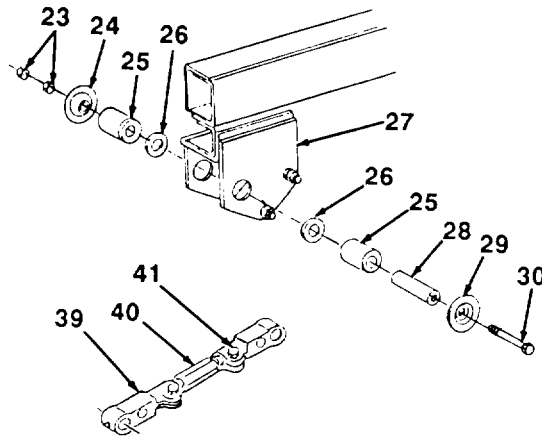
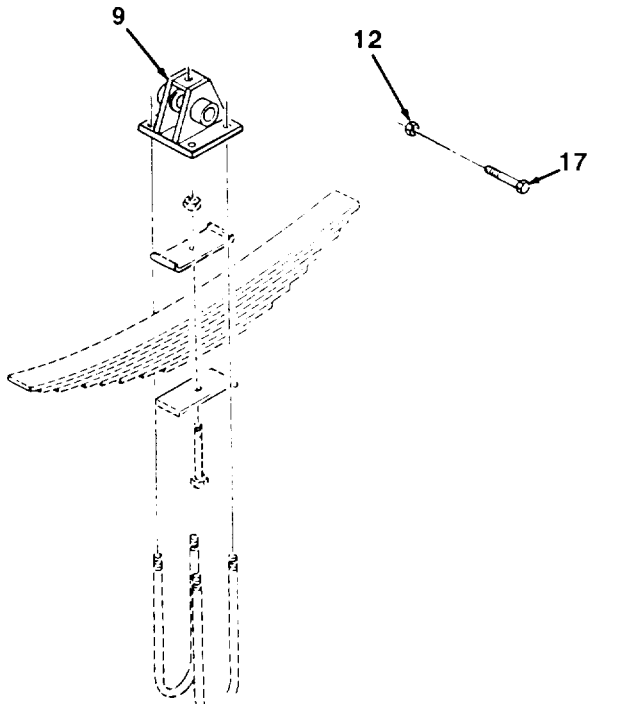
Bogie assembly is heavy and awkward to handle. Use caution and assistance during installation. Failure to follow this warning may result in serious injury to personnel.

9. Remove blocking and roll assembled axle into position under trailer so that spring (18) ends are in spring hangers (27). Lower trailer into position. DO NOT remove support from trailer.
10. Install radius rod (39) to spring hanger (27) with two flatwashers (26), two rubber bushings (25), sleeve bearing (28), inner shouldered washer (24), outer shouldered washer (29), screw (30), and two nuts (23). Tighten two setscrews (36). Repeat for other side of trailer.

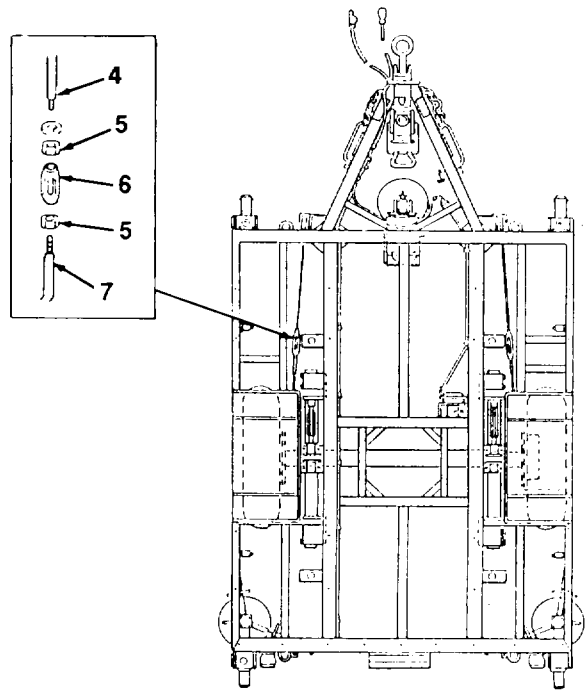
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4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

11. Install screw (17) through lower hole in spring hanger (27). Secure screw with new locknut (12). Repeat for remaining three spring hangers.



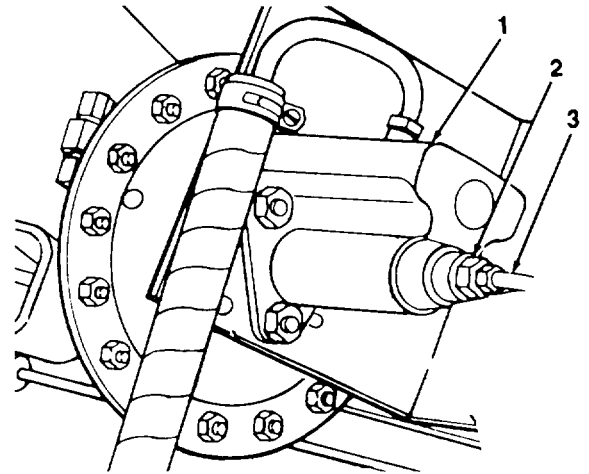
12. Lower retractable support assembly (para 2-9).
13. Fully lower trailer and rest on retractable support assembly.
14. Install turnbuckle (6) on push-pull control assembly (7) and rod (4). Tighten nuts (5) to secure turnbuckle. Repeat for other side of trailer.



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4-58. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

15. Connect hose (3) to reducer (2) at master cylinder (1).
16. Add brake fluid to master cylinder (1). Bleed brakes (para 4-25).
17. Adjust handbrake levers (para 3-7).
18. Perform RADIUS ROD ADJUSTMENT (subpara c).

**c. RADIUS ROD ADJUSTMENT**

1. Radius rod (39) maintain correct axle alignment and transmit stopping stresses to the frame. Radius rods also provide a means of compensating for slight differences in strength of springs to give correct height.
2. To determine if adjustment is necessary, measure distance from center of bumper bracket (9) to center of screw (17). Distance should be 24 US in. (62.9 cm) \pm Y8 in. (3.2 mm) when trailer is empty. If distance is incorrect, adjust radius rod (39) as follows:
 - (a) Remove two nuts (23), screw (30), outer shouldered washer (29), sleeve bearing (28), inner shouldered washer (24), two rubber bushings (25), and two flatwashers (26) securing radius rod (39) to spring hanger (27).
 - (b) Loosen two nuts (41) and turn middle portion (40) of radius rod (39) to shorten or lengthen. Fully tighten nuts.
 - (c) Install radius rod (39) on spring hanger (27) with two flatwashers (26), two rubber bushings (25), sleeve bearing (28), inner shouldered washer (24), outer shouldered washer (29), screw (30), and two nuts (23).
3. Repeat measurement and continue adjusting radius rod (39) until measurement is correct.

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Section XI. BODY MAINTENANCE

Paragraph Title	Page Number
Left Fender and Toolbox Assembly Maintenance (M514).....	4-155
Right Fender and Toolbox Assembly Maintenance (M514)	4-153
Splashguard Replacement (M390C)	4-157

4-60. RIGHT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514).

This task covers:

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

INITIAL SETUP:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Right fender toolbox empty.

Materials/Parts:

- Six lockwashers

Tools/Test Equipment:

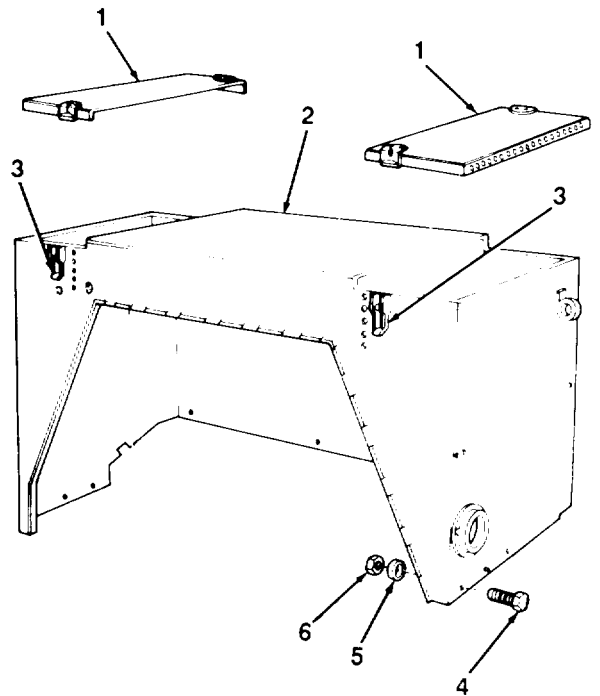
- General mechanic's tool kit

a. REMOVAL

Remove six nuts (6), lockwashers (5), screws (4), and fender and toolbox (2) from frame. Discard lockwashers.

b. DISASSEMBLY

Release latches (3) and remove two covers (1) from fender and toolbox (2).



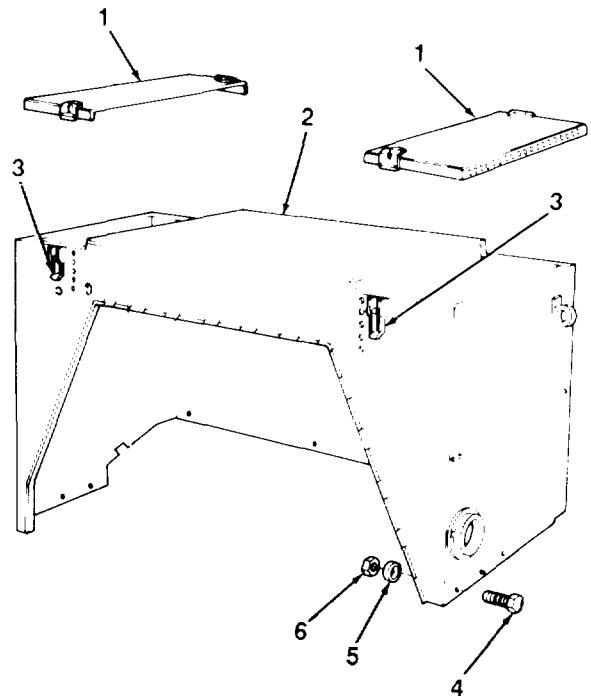
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4-60. RIGHT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514) (Con't).**c. ASSEMBLY**

Position two covers (1) on fender and toolbox (2), and secure with latches (3).

d. INSTALLATION

Position fender and toolbox (2) on frame with six screws (4), new lockwashers (5), and nuts (6).



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4-61. LEFT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514).

This task covers:

- | | | |
|----------------|-------------|-----------------|
| a. Removal | c. Cleaning | e. Installation |
| b. Disassembly | d. Assembly | |

INITIAL SETUP:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-2).
- Left fender toolbox empty.

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Hand riveter, blind
- Safety goggles

Materials/Parts:

- Adhesive (Item 1, Appendix E)
- Rags (Item 12, Appendix E)
- Dry cleaning solvent (Item 13, Appendix E)
- Two gaskets
- Two seals
- Four rivets
- Six lockwashers

a. REMOVAL

Remove six nuts (7), lockwashers (6), screws (5), and fender and toolbox (1) from frame. Discard lockwashers.

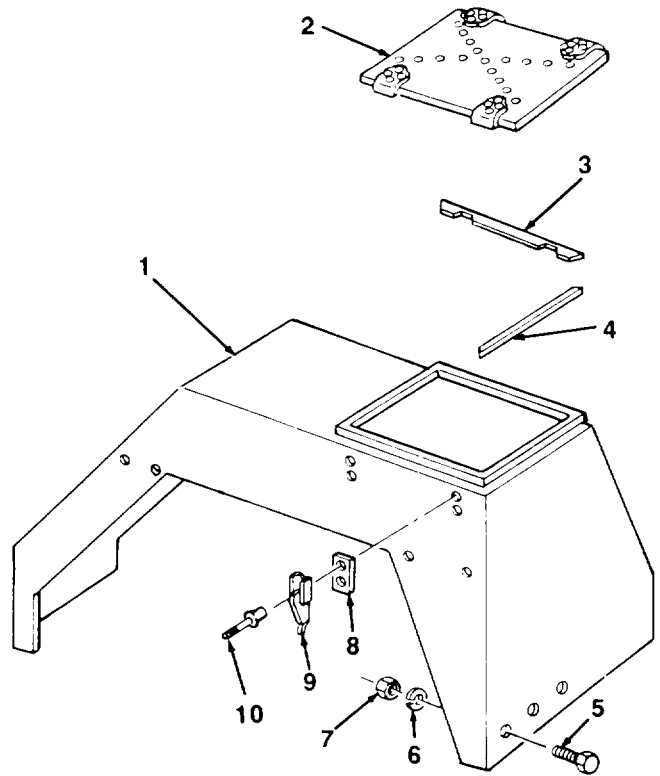
b. DISASSEMBLY

1. Release two catches (9) and remove lid (2) from fender and toolbox (1).
2. Remove two gaskets (3) and two seals (4) from lid (2) opening. Discard gaskets and seals.

WARNING

When performing steps 3 and 4, safety goggles must be worn to prevent eye injury.

3. Cut heads off two rivets (10) securing each catch (9) to fender and toolbox (1).
4. Drive rivet bodies out of fender and toolbox (1). Remove two catches (9) and spacers (8) from fender and toolbox (1). Discard rivets.



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4-61. LEFT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514) (Con't).**c. CLEANING****WARNING**

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

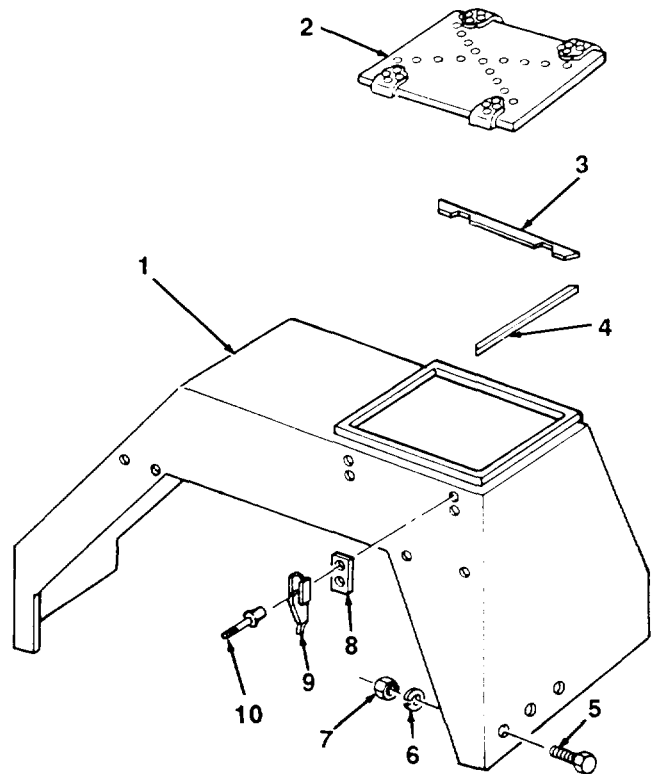
Use dry cleaning solvent to clean lid opening where gaskets and seals are to be installed. Thoroughly dry area.

d. ASSEMBLY

1. install spacer (8) and catch (9) on fender and toolbox (1) with two new rivets (10). Repeat for other catch.
2. Use adhesive to install two new gaskets (3) and two new seals (4). Allow adhesive to cure according to instructions on tube.
3. Position lid (2) on fender and toolbox (1) and secure with two catches (9).

e. INSTALLATION

Position fender and toolbox (1) on frame and install six screws (5), new lockwashers (6), and nuts (7).



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Section XII. ACCESSORY ITEMS MAINTENANCE

Paragraph Title	Page Number
Data Plate Replacement	4-159
Reflector Replacement	4-158

4-63. REFLECTOR REPLACEMENT.

This task covers:

- a. Removal
- b. Installation

INITIAL SETUP:

Materials/Parts:

- Two lockwashers

Tools/Test Equipment:

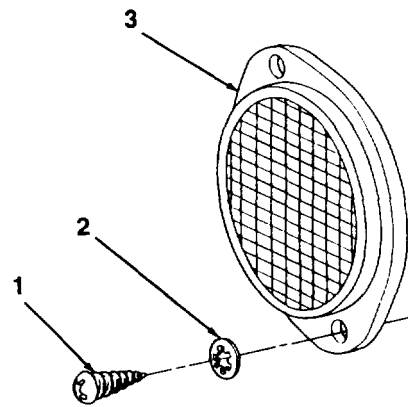
- General mechanic's tool kit

a. REMOVAL

Remove two screws (1), lockwashers (2), and reflector (3) from frame. Discard lockwashers.

b. INSTALLATION

Install reflector (3) on frame with two new lockwashers (2) and screws (1).



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4-64. DATA PLATE REPLACEMENT.

This task covers:

- a. Removal b. Installation
-

INITIAL SETUP:

Tools/Test Equipment:

- General mechanic's tool kit
-

NOTE

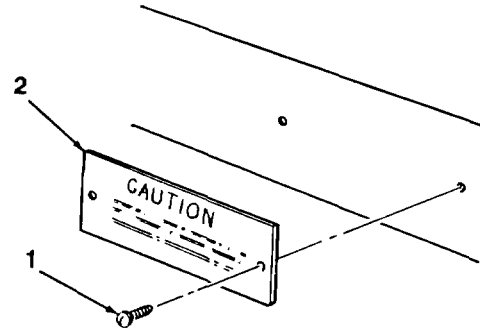
- Refer to paragraph 1-8 for location and contents of data plates.
- the following procedure is typical for all data plates on the M514 and M390C Chassis Trailers.

a. REMOVAL

Remove screws (1) securing data plate (2) to frame. Remove data plate.

b. INSTALLATION

Install data plate (2) on frame with screws (1).



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Section XIII. PAINTING AND IDENTIFICATION MARKING

4-65. PAINTING AND IDENTIFICATION MARKING.

- a. For information on painting and stenciling, refer to TM 43-0139.
- b. For information on camouflage painting, refer to FM 5-20.

Section XIV. PREPARATION FOR STORAGE OR SHIPMENT

Paragraph Title	Page Number
Care of Equipment in Administrative Storage	4-162
Definition of Administrative Storage	4-160
Exercise Schedule, Table 4-3	4-163
General	4-160
Preparation of Equipment for Administrative Storage	4-161
Preparation of Equipment for Shipment	4-163
Procedures for Common Components and Miscellaneous Items	4-163
Removal of Equipment from Administrative Storage	4-163

4-66. GENERAL.

- a. This section contains requirements and procedures for administrative storage of equipment that is issued to and in use by Army activities worldwide.
- b. The requirements specified herein are necessary to maintain equipment in administrative storage in such a way as to achieve the maximum readiness condition.
- c. Equipment that is placed in administrative storage should be capable of being readied to perform its mission within a 24-hour period, or as otherwise may be prescribed by the approving authority. Before equipment is placed in administrative storage, a current preventive maintenance checks and services (PMCS) should be completed and deficiencies corrected.
- d. Report equipment in administrative storage as prescribed for all reportable equipment
- e. Perform inspections, maintenance services, and lubrication as specified herein.
- f. Records and reports to be maintained for equipment in administrative storage are those prescribed by DA Pam 738-750 for equipment in use.
- g. A 10% variance is acceptable on time, running hours, or mileage used to determine the required maintenance actions.
- h. Accomplishment of applicable PMCS, as mentioned throughout this section, will be on a quarterly basis.

4-67. DEFINITION OF ADMINISTRATIVE STORAGE.

- a. The placement of equipment in administrative storage can be for short periods of time when a shortage of maintenance effort exists. Items should be ready for use within the time factors as determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

4-68. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE.**a. Storage Site.**

(1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area "Administrative Storage".

(2) Covered space is preferred.

(3) Open sites should be improved hardstand, if available. Unimproved sites should be kept firm, well drained, and free of excessive vegetation.

b. Storage Plan.

(1) Store equipment so as to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

(2) Take into consideration environmental conditions such as extreme heat or cold; high humidity; blowing sand, dust, or loose debris; soft ground; mud; heavy snows; or any combination thereof, and take adequate precautions.

(3) Establish a fire plan and provide for adequate firefighting equipment and personnel.

c. Maintenance Services and Inspection.

(1) Maintenance Services. Prior to storage, perform the next scheduled Organizational PMCS.

(2) Inspection. Inspect and approve the equipment prior to storage. Do not place equipment in storage in a nonmission-capable condition.

d. Auxiliary Equipment and Basic Issue Items.

(1) Process auxiliary equipment and basic issue items simultaneously with the major item to which they are assigned.

(2) If possible, store auxiliary equipment and basic issue items with the major item.

(3) If stored apart from the major item, mark auxiliary equipment and basic issue items with tags indicating the major item, its registration or serial number and location, and store in protective type closures. In addition, place a tag or list indicating the location of the removed items in a conspicuous place on the major item.

e. **Correction of Shortcomings and Deficiencies.** Correct all shortcomings and deficiencies prior to storage, or obtain a deferment from the approving authority.

f. **Lubrication.** Lubricate equipment in accordance with the instructions in Chapter 3, Section I.

g. **General Cleaning, Painting, and Preservation.**

CAUTION

Do not direct water or steam, under pressure, against unsealed electrical systems or any exterior opening. Failure to follow this caution may result in damage to equipment.

(1) **Cleaning.** Clean the equipment of dirt, grease, and other contaminants but do not use vapor degreasing. Remove foreign objects wedged between wheels.

(2) **Painting.** Remove rust and damaged paint by scraping, sanding, or buffing. Sand to a smooth finish and spot paint as necessary (TB 43-0209).

(3) **Preservation.** After cleaning and drying, immediately coat unpainted metal surfaces with oil or grease as appropriate (Chapter 3, Section I).

4-68. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE (Con't).**CAUTION**

Place a piece of barrier material (Item 2, Appendix E) between desiccant bags and metal surfaces to prevent corrosion.

NOTE

Air circulation under draped covers reduces deterioration from moisture and heat.

(4) **Weatherproofing.** Sunlight, heat, moisture (humidity), and dirt tend to accelerate deterioration. Install all covers (including vehicle protective closures) authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required. Place equipment and provide blocking or framing to allow for ventilation and water drainage. Support cover away from item surfaces that may rust, rot, or mildew.

4-69. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE.

a. **Maintenance Services.** After equipment has been placed in administrative storage, inspect, service, and exercise as specified herein.

b. **Inspection.** Inspection will usually be visual and must consist of at least a walk-around examination of all equipment to detect any deficiencies. Inspect equipment in open storage weekly and equipment in covered storage monthly. Inspect all equipment immediately after any severe storm or environmental change. The following are examples of things to look for during a visual inspection:

- (1) Low or flat tires.
- (2) Condition of preservatives, seals, and wraps.
- (3) Corrosion or other deterioration.
- (4) Missing or damaged parts.
- (5) Water in compartments.
- (6) Any other readily recognizable shortcomings or deficiencies.

c. **Repair During Administrative Storage.** Keep equipment in an optimum state of readiness. Accomplish the required services and repairs as expeditiously as possible. Whenever possible, perform all maintenance on-site.

d. **Exercising.** Exercise equipment in accordance with Table 4-3, Exercise Schedule, and the following instructions:

(1) **Vehicle Major Exercise.** Depreserve equipment by removing only that material restricting exercise. Close all drains, remove blocks, and perform all before-operation checks. Couple trailer to towing vehicle and drive for at least 25 mi (40 km). Make several right and left 900 turns. Make several hard braking stops without skidding. Do the following during exercising when it is convenient: operate all other functional components and perform all during-and after-operation checks.

(2) **Scheduled Services.** Scheduled service will include inspection per subparagraph b above and will be conducted in accordance with Table 4-3. Lubricate in accordance with instructions in Chapter 3, Section I.

(3) **Corrective Action.** Immediately take action to correct shortcomings and deficiencies noted. Record inspection and exercise results on DA Form 2404. Record and report all maintenance actions on DA Form 2407. After exercising, restore the preservation to the original condition. Replenish lubricants used during exercising and note the amount on DA Form 2408.

4-69. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE (Con't).

Table 4-3. Exercise Schedule.

Weeks	2	4	6	8	10	12	14	16	18	20	22	24
PMCS						X						X
Scheduled Services		X		X		X		X		X		
Major Exercise												X

e. **Rotation.** Rotate items in accordance with any rotational plan that will keep the equipment in an operational condition and reduce the maintenance effort.

4-70. PROCEDURES FOR COMMON COMPONENTS AND MISCELLANEOUS ITEMS.

a. **Tires.** Visually inspect tires during each walk-around inspection. This inspection includes checking tires with a tire gage. Inflate, repair, or replace as necessary those found to be low, damaged, or excessively worn. Mark inflated and repaired tires with chalk for checking at the next inspection.

b. **Air Lines.** Drain air lines of condensation by removing air filter plug. Attach a caution tag, annotated to provide for installation of the plug when the equipment is exercise. Place tag in a conspicuous location.

c. **Seals.** Seals may develop leaks during storage, or shortly thereafter. If leaking persists, refer to the applicable maintenance section in this manual for corrective maintenance procedures.

4-71. REMOVAL OF EQUIPMENT FROM ADMINISTRATIVE STORAGE.

a. **Activation.** Restore the equipment to normal operating condition in accordance with the instructions contained in Chapter 4, Section II.

b. **Servicing.** Resume the maintenance service schedule in effect at the commencement of storage, or service the equipment before the scheduled dates in order to produce a staggered maintenance workload.

4-72. PREPARATION OF EQUIPMENT FOR SHIPMENT.

a. Refer to TM 55-21, TM 55-601, and TM 743-200-1 for additional instruction on processing, storage, and shipment of materiel.

b. Trailers that have been removed from storage for shipment do not have to be repressed if they will reach their destination within the administrative storage period. Reprocess only if inspection reveals any corrosion, or if anticipated in-transit weather conditions make it necessary.

c. When a trailer is received and has already been processed for domestic shipment, as indicated on DD Form 1397, the trailer does not have to be reprocessed for storage unless corrosion and deterioration are found during the inspection upon receipt. List on SF Form 364 all discrepancies found because of poor preservation, packaging, packing, marking, handling, loading, storage, or excessive preservation. Repairs that cannot be handled by the receiving unit must have tags attached listing the needed repairs. A report of these conditions will be submitted by the unit commanded for action by an ordnance maintenance unit.

**CHAPTER 5
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE**

Section I. TIRE AND BRAKEDRUM MAINTENANCE

Paragraph Title	Page Number
Tire Repair	5-1
Brakedrum Repair	5-1

5-1. TIRE REPAIR.

For information on tire repair, refer to TM 9-2610-200-14.

5-2. BRAKEDRUM REPAIR.

This task covers:

- a. Inspection b. Repair

INITIAL SETUP:

Equipment Conditions:

- Hub and brakedrum removed (para 4-40 or 4-41).

Tools/Test Equipment:

- General mechanic's tool kit
- Field automotive shop set
- Brakedrum lathe
- Dial indicator
- Inside micrometer, with extension

a. INSPECTION

1. Inspect stud holes for cracks. Discard brakedrum if cracks are present.

WARNING

DO NOT use a brakedrum that exceeds maximum wear specifications. Failure to follow this warning may result in brake failure and serious injury or death to personnel.

2. Inspect braking surface for cracks, heat checking, and scoring. Reface braking surface if damaged (subpara b).
3. Inspect braking surface for out-of-round condition at 450 intervals. If out-of-round exceeds 0.015 in. (0.381 mm), reface braking surface (subpara b).

5-2. BRAKEDRUM REPAIR (Con't).

4. Measure inside diameter of brakedrum. Discard brakedrum if inside diameter exceeds 13.20 in. (33.53 cm) for M514 or 15.25 in. (38.74 cm) for M390C.

b. REPAIR

WARNING

DO NOT use a brakedrum that exceeds maximum wear specifications. Failure to follow this warning may result in brake failure and serious injury or death to personnel.

1. Reface braking surface with brakedrum lathe, removing as little metal as possible to true friction surface. Remove a maximum of 0.01 in. (0.25 mm) per cut.
2. Discard brakedrum if inside diameter after refinishing exceeds 13.20 in. (33.53 cm) for M514 or 15.25 in. (38.74 cm) for M390C.

FOLLOW-ON TASKS:

- Install hub and brakedrum (para 4-40 or 4-41).

Section II. FRAME MAINTENANCE

5-3. FRAME ASSEMBLY REPAIR.

- a. Frame assembly repair is limited to welding, straightening, and reconditioning of damaged parts.
- b. For more information on repair of frames, refer to TB 9-2300-247-40.

**APPENDIX A
REFERENCES**

A-1. SCOPE.

This appendix lists all forms, field manuals, technical bulletins, technical manuals, and other publications referenced in this manual and which apply to the operation and maintenance of the M514 and M390C Chassis Trailers.

A-2. PUBLICATION INDEX.

DA Pam 25-30, Consolidated Index of Army Publications and Blank Forms, should be consulted frequently for latest changes or revisions and for new publications relating to materiel covered in this technical manual.

A-3. FORMS.

Refer to DA Pam 738-750, The Army Maintenance Management System (TAMMS), for instructions on the use of maintenance forms.

Equipment Inspection and Maintenance Worksheet.....	DA Form 2404
Equipment Log Assembly (Records).....	DA Form 2408
Maintenance Request	DA Form 2407
Preventive Maintenance Schedule and Record	DD Form 314
Processing and Deprocessing Record for Shipment, Storage, and Issue of Vehicles and Spare Engines	DD Form 1397
Product Quality Deficiency Report.....	SF Form 368
Recommended Changes to Equipment Technical Publications	DA Form 2028-2
Recommended Changes to Publications and Blank Forms.....	DA Form 2028
Report of Discrepancy (ROD)	SF Form 364

A-4 FIELD MANUALS.

Army Motor Transport Unit and Operations	FM 55-30
Basic Cold Weather Manual.....	FM 31-70
Camouflage	FM 5-20
Desert Operations	FM 90-3
First Aid for Soldiers	FM 21-11
Manual for the Wheeled Vehicle Driver.....	FM 21-305
NBC Decontamination.....	FM 3-5
Northern Operations.....	FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0°F to -65°F)	FM 9-207

A-5 TECHNICAL BULLETINS.

Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materiel Handling Equipment.....	TB 43-0209
Hand Portable Fire Extinguishers Approved for Army Users.....	TB 54200-200-10
Tactical Wheeled Vehicles: Repair of Frames	TB 9-2300-247-40

A-6. TECHNICAL MANUALS.

Inspection, Care, and Maintenance of Antifriction Bearings..... TM 9-214

Materials Used for Cleaning, Preserving, Abrading, and Cementing
 Ordnance Materiel and Related Items Including Chemicals TM 9-247

Operator's Manual for Welding Theory and Application..... TM 9-237

Operator's, Unit, Direct Support, and General Support Maintenance
 Manual for Care, Maintenance, Repair, and Inspection
 of Pneumatic Tires and Inner Tubes TM 9-2610-200-14

Painting Instructions for Army Materiel..... TM 43-0139

Procedures for Destruction of Tank-Automotive Equipment to
 Prevent Enemy Use TM 750-244-6

Railcar Loading Procedures TM 55-601

Railway Operating and Safety Rules..... TM 55-21

Storage and Materials Handling TM 743-200-1

A-7 OTHER PUBLICATIONS.

Army Logistics Readiness and Sustainability AR 700-138

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 the various maintenance levels.

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

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. **Service.** Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. **Aline.** To adjust specified variable elements of an item to bring about optimum or desired performance.

f. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the third position of the SMR code.

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.

B-2. MAINTENANCE FUNCTIONS (Con't).

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

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

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

a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. **Column 2, Component/Assembly.** Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For a detailed explanation of these functions, refer to paragraph B-2.)

d. **Column 4, Maintenance Level.** Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the Indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designations for the various maintenance levels are as follows:

<i>C</i>	.....	<i>Unit (Operator or Crew)</i>
<i>O</i>	.....	<i>Unit (Organizational) Maintenance</i>
<i>F</i>	.....	<i>Direct Support Maintenance</i>
<i>H</i>	.....	<i>General Support Maintenance</i>
<i>D</i>	.....	<i>Depot Maintenance</i>

e. **Column 5, Tools and Equipment.** Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. **Column 6, Remarks.** This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained In Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. **Column 1, Tool or Test Equipment Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5

b. **Column 2, Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III (Con't).

- c. **Column 3, Nomenclature.** Name or identification of the tool or test equipment.
- d. **Column 4, National/NATO Stock Number.** The National or NATO Stock Number of the tool or test equipment.
- e. **Column 5, Tool Number.** The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

- a. **Column 1, Reference Code.** The code recorded in Column 6, Section II.
- b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
06	ELECTRICAL SYSTEM								
<i>0609</i>	<i>Lights</i>								
	Stoplight-Taillight	Replace	0.2				1		
		Repair	0.2				1	A	
	Composite Light	Replace	0.2				1		
		Repair	0.2				1	A	
<i>0613</i>	<i>Hull or Chassis Wiring Harness</i>								
	Chassis Wiring Harness	Replace	0.5				1		
	Intervehicular Cable	Replace	0.2				1		
11	REAR AXLE								
<i>1100</i>	<i>Rear Axle Assembly</i>	Replace	5.0				1,2		
12	BRAKES								
<i>1201</i>	<i>Handbrakes</i>								
	Lever Assembly	Adjust	0.2						
		Replace		1.0			1		
	Cable, Handbrake	Service		0.2			1,2		
		Replace		1.5			1,2		
		B-3							

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
1202	<i>Service Brakes</i>	Adjust		0.2				1	
	Brakeshoes	Replace		1.3				1,2	
1204	<i>Hydraulic Brake System</i>								
	Master Cylinder	Service Replace		0.2 1.5				1,2 1,2	
	Wheel Cylinder	Replace		1.5				1,2	
	Hydraulic Lines and Fittings	Replace		1.5				1,2	
1208	<i>Airbrake System</i>								
	Couplings	Replace		0.2				1	
	Lines, Fittings, and Hoses	Replace		1.5				1	
	Filter, Air	Replace Repair		0.5 1.0				1 1	
	Chamber, Airbrake	Replace Repair		1.0 1.0				1 1,2	
13	WHEELS AND TRACKS								
1301	<i>Suspension Assembly</i>								
	Arm, Suspension	Replace		2.0				1,2	
	Linkage and Anchor	Adjust		1.0				1,2	
1311	<i>Wheel Assembly</i>								
	Bearing, Hub	Service Adjust Replace		1.5 0.5 1.5				1,2,3,4 1,2,3,4 1,2,3,4	
	Hub	Replace Repair		1.5 1.0				1,2,3,4 1,2,3,4	
	Brakedrum	Replace Repair		1.0	1.5			1,2,3,4 1,5	B
	Wheel	Replace		0.5				1,2	
1313	<i>Tires, Tubes, Tire Chains</i>								
	Tires	Replace Repair		2.0	2.0			1,2 1,5	C
		B-4							

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
1313	<i>Tires, Tubes, Tire Chains (Con't)</i>								
	Tubes	Replace Repair		2.0 1.0				1,2 1,2	C
15	FRAME TOWING ATTACHMENTS, DRAWBARS, AND ARTICULATION SYSTEMS								
1501	<i>Frame Assembly</i>	Repair			1.5			1,5,6,7	D
1503	<i>Pintles and Towing Attachments</i>	Adjust Replace		0.2 0.5				1,2 1,2	
1507	<i>Landing Gear, Leveling Jacks</i>								
	Retractable Support (M514)	Replace Repair		0.5 1.0				1,2 1,2	
	Retractable Support (M390C)	Replace Repair		1.0 1.0				1,2 1,2	
	Leveling Jacks	Replace Replace		1.5 1.0				1,2 1,2	
	Double-Swiveling Leveling Jack Support Assy (M390C)	Replace Repair		1.5 1.0				1,2 1,2	
16	SPRING AND SHOCK ABSORBERS								
1601	<i>Springs</i>	Replace		2.5				1,2	
1604	<i>Shock Absorber Equipment</i>								
	Shock Absorbers	Replace		0.6				1,2	
1605	<i>Torque, Radius, and Stabilizer Rods</i>								
	Radius Rods	Adjust Replace		1.0 1.0				1,2 1,2	
		B-5							

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
18	BODY, CAB, HOOD, AND HULL								
1801	<i>Body, Cab, Hood, and Hull Assemblies</i>								
	Splashguards	Replace		0.5				1	
1802	<i>Fenders, Running Boards with Mounting and Attaching Parts, Outriggers, Windshield, Glass, Etc.</i>								
	Fenders	Replace		1.5				1,2 D	
22	BODY, CHASSIS, AND HULL ACCESSORY ITEMS								
2200	<i>Accessory Items</i>	Replace		0.2				1	
	Reflectors	Replace		0.2				1	
2210	<i>Data Plates and Instruction Holders</i>								
	Data Plates	Replace		0.2				1	
		B-6							

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	O	Tool Kit, General Mechanic's, Automotive	5180-00-177-7033	
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	
3	O	Socket, Socket Wrench	5120-00-795-0946	
4	O	Socket, Wrench, Face Spanner	5120-00-711-8418	
5	F	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Supplemental No. 1	4910-00-754-0706	
6	F	Tool Kit, Welder's	5180-00-754-0661	
7	F	Shop Equipment, Welding, Field Maintenance	3470-00-357-7268	

Section IV. REMARKS

(1) Reference Code	(2) Remarks
A	Composite light and stoplight-taillight repair is limited to door, performed packing, lamp, and LED replacement.
B	Brake drum repair is limited to re-facing braking surface using a brake drum lathe.
C	Refer to TM 9-2610-200-14 for tire and tube repair.
D	Frame, fenders, and body repair consists of welding, straightening, and reconditioning of damaged part or parts.

B-7/(B-8 Blank)

**APPENDIX C
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS**

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists Components of End Item and Basic Issue Items for the M514 and M390C Chassis Trailers to help you inventory items required for safe and efficient operation.

C-2. GENERAL.

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

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

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

C-3. EXPLANATION OF COLUMNS.

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

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

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

c. **Column (3) - Description.** Indicates the Federal Item Name and, if required, a description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code in parentheses, followed by the part number. If item needed differs for different models, the model is shown under the "Usable On Code" heading in the column. The Usable on Codes are as follows:

Code	Used On
175	M390C
914	M514

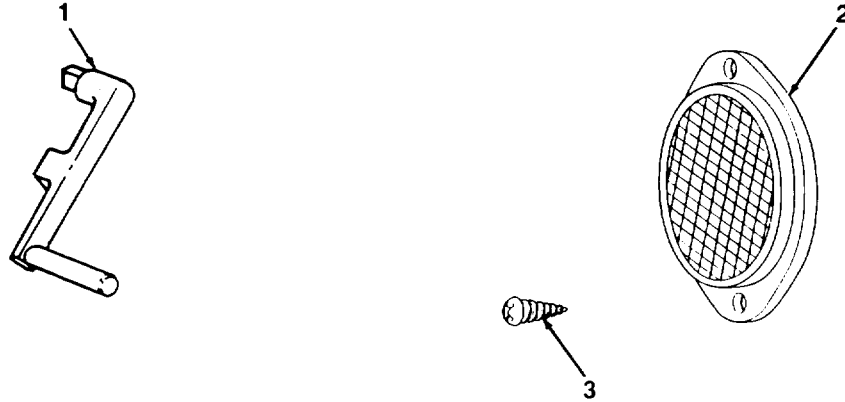
d. **Column (4) - Unit of Measure (U/M).** Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea., in., pr).

e. **Column (5) - Quantity Required (Qty Req'd).** Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

The M514 and M390C Chassis Trailers currently do not have a Components of End Item List assigned.

Section III. BASIC ISSUE ITEMS



(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC and Part Number	Usable On Code	(4) U/M	(5) QTY Req'd
1	5340-00-679-5692	Crank, Hand, Leveling Jack (19207) 8740154	914	ea.	3
1	5340-00-860-0533	Crank, Hand, Leveling Jack (19207)10885456	175	ea.	3
2	9905-00-205-2795	Reflector, Indicating, Clearance, Red (96906) MS35387-1	914	ea.	2
2	9905-00-202-3639	Reflector, Indicating, Clearance, Yellow (96906) MS35387-2	914	ea.	2
3	5305-00-655-9572	Screw, Tapping, Thread Cutting (19207)171764	914	ea.	8

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**APPENDIX D
ADDITIONAL AUTHORIZATION LIST**

The M514 and M390C Chassis Trailers currently do not have an Additional Authorization List assigned.

D-1/(D-2 Blank)

APPENDIX E
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE.

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the M514 and M390C Chassis Trailers. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

E-2. EXPLANATION OF COLUMNS.

a. **Column (1)-Item Number.** This number is assigned to the entry in the listing and is referenced in the "Initial Setup" of maintenance paragraphs or narrative instructions to identify the material needed (e.g., Dry cleaning solvent, Item 13, Appendix E).

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

C - Operator/Crew
O - Organizational Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

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

d. **Column (4)- Description.** Indicates the Federal Item Name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code in parentheses followed by the part number.

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 (CAGE) Part Number	(5) U/M
1	O	8040-00-664-4318	ADHESIVE: General Purpose, Type II (81348) MMM-A-1617 1 Pint Can	Pt
2	O	8135-00-171-0930	BARRIER MATERIAL: Greaseproof, Waterproofed, Flexible (81349) MIL-B-121 100 Yard Roll	yd
3	C	7510-00-223-6701	CHALK: Marking (81348) SS-C-255 1 Gross	gr.
4	O	(81349) MIL-S-45180 8030-00-247-2524 8030-00-220-6973	COUPOUND: Sealing 2 Ounce Tube 4 Ounce Can	oz oz
5	C	7930-00-282-9699	DETERGENT: General Purpose, Liquid (81349) MIL-D-16791 1 Gallon Can	gl
6	O	9150-01-102-9455 9150-01-123-3152 9150-01-072-8379	FLUID: Brake, Silicone, Automotive, All Weather (81349) MIL-B-46176 1 Gallon Can, Plastic 5 Gallon Can 55 Gallon Drum	gl gl gl
7C		9150-00-935-1017 9150-00-190-0904 9150-00-190-0905 9150-00-190-0907	GREASE: Automotive and Artillery, GAA (81349) MIL-G-10924 14 Ounce Cartridge 1.75 Pound Can 6.5 Pound Can 35 Pound Pail	oz lb. lb. lb.

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) NATIONAL Stock Number	(4) DESCRIPTION (CAGE) Part Number	(5) U/M
8	O	9150-00-231-2361	OIL: Lubricating, General Purpose, PL-M (81349) MIL-L-3150 1 Quart Can	qt
9	O	9150-00-402-4478 9150-00-402-2373 9150-40-491-7197	OIL: Lubricating, Internal Combustion Engine, Arctic, OEA (81349) MIL-L-46167 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl
10	O	9150-00-189-6727 9150-0-186-6668 9150-00-191-2772	OIL: Lubricating, Internal Combustion Engine, OE/HDO 10 (81349) MIL-L-2104 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl
11	O	9150-00-186-6681 9150-00-188-9858 9150-00-189-6729	OIL: Lubricating, Internal Combustion Engine, OE/HDO 30 (81349) MIL-L-2104 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl
12	C	7920-00-205-1711	RAG: Wiping, Cotton and Cotton-synthetic, White (58536) A-A-531 50 Pound Bale	lb.
13	C	6850-00-281-1985 6850-00-274-5421 6850-00-285-8011	SOLVENT: Dry Cleaning, Type II (81348) P-D-680 1 Gallon Can 5 Gallon Can 55 Gallon Drum	gl gl gl

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) NATIONAL Stock Number	(4) DESCRIPTION (CAGE) Part Number	(5) U/M
14	O	9905-00-537-8954	TAG: Marker (81349) MIL-T-12755 50 Each	ea.
15	O	8030-00-889-3535260	TAPE: Anti-seizing, X Inch Width (81349) MIL-T-27730 Inch Roll	in.
E-4				

**APPENDIX F
REPAIR PARTS AND SPECIAL TOOLS LISTS**

Section I. INTRODUCTION

F-1. SCOPE.

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, direct support, and general support maintenance of the M514 and M390C Chassis Trailers. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

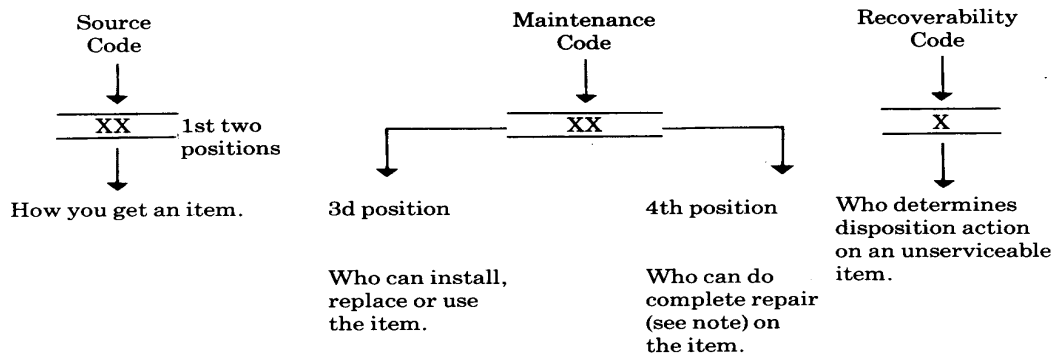
F-2. GENERAL.

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

- a. **Section II. Repair Parts List.** A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).
- b. **Section III. Special Tools List.** A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL [as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE column] for the performance of maintenance.
- c. **Section IV. Cross-reference Indexes.** A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration/figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, CAGE, and part numbers.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III).

- a. **ITEM NO. [Column (1)].** Indicates the number used to identify items called out in the illustration.
- b. **SMR CODE [Column (2)].** The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



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

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

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

Code	Application/Explanation
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code. ** Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO - Made at UM/AVUM Level MF - Made at DS/AVUM Level MH - Made at GS Level MD - Made at Depot	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk materiel group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO - Assembled by UMI AVUM Level AF - Assembled by DSI AVUM Level AH - Assembled by GS Level AD - Assembled at 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 that the item is assembled at a higher level, order the item from the higher level of maintenance.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA."

- XA - DO NOT requisition an "XA"-coded item. Order its next higher assembly.
- XB - If an "XB" item is not available from salvage, order it using the CAGE and part number given.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD - Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE and part number given, if no NSN is available.

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

- (a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

<u>Code</u>	<u>Application/Explanation</u>
C	- Crew or operator maintenance done within unit maintenance or aviation unit maintenance.
O	- Unit maintenance or aviation unit can remove, replace, and use the item.
F	- Direct support or aviation intermediate level can remove, replace, and use the item.
H	- General support level can remove, replace, and use the item.
L	- Specialized repair activity can remove, replace, and use the item.
D	- Depot level can remove, replace, and use the item.

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

- (b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized "Repair" functions). This position will contain one of the following maintenance codes:

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

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

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

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

c. **CAGEC [Column (3)]**. The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

NOTE

When you use an NSN to requisition an Item, the item you receive may have a different part number from the part ordered.

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

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

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) Physical security classification. Not Applicable.
- (3) Items that are included in kits and sets are listed below the name of the kit or set on Figure KIT.
- (4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (5) Part numbers for bulk materials are referenced in this column in the line Item entry for the item to be manufactured/fabricated.
- (6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC). (See paragraph F-5, Special Information.)
- (7) The usable on code, when applicable (see paragraph F-5, Special Information).

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(8) In the Special Tools List section, the Basis of Issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipment supported exceeds density spread indicated in the Basis of Issue, the total authorization is increased proportionately.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. **QTY [Column (6)].** The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, sub-functional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

F-4. EXPLANATION OF COLUMNS (SECTION IV).a. **National Stock Number (NSN) Index.**

(1) **STOCK NUMBER Column.** This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e.,

NSN
5305-01-674-1467
NIIN

When using this column to locate an item, ignore the first 4 digits of the NSN. However the complete NSN should be used when ordering items by stock number.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **Part Number Index.** Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) **CAGEC Column.** The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

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

(3) **STOCK NUMBER Column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGE 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 Section III.

(5) **ITEM Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. **Figure and Item Number Index.**

(1) **FIG. Column.** This column lists the number of the figure where the item is identified/located in Sections II and III.

(2) **ITEM Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) **STOCK NUMBER Column.** This column lists the NSN for the item.

F-4. SPECIAL INFORMATION (Con't).

(4) **CAGEC Column.** The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

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

F-5. SPECIAL INFORMATION.

a. **Usable On Code.** The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "UOC: " in the Description column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in this RPSTL are:

<u>Code</u>	<u>Used On</u>
175	M390C
914	M514

b. **Fabrication Instructions.** Bulk materials required to manufacture items are listed in the Bulk Materiel Functional Group of this RPSTL. Not Applicable.

c. **Assembly Instructions.** Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in Chapters 4 and 5. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. **Kits.** Line item entries for repair parts kits appear in group 9401 in Section II. Not Applicable.

e. **Index Numbers.** Items which have the word BULK in the FIG. column will have an index number shown in the item column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk materiel list in Section II.

F-6. HOW TO LOCATE REPAIR PARTS.

a. **When National Stock Number or Part Number is Not Known:**

(1) **First.** Using the Table of Contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) **Second.** Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) **Third.** Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

b. **When National Stock Number or Part Number is Known:**

(1) **First.** Using the National Stock Number or Part Number Index, find the pertinent National Stock Number or Part Number. The NSN Index is in National Item Identification Number (NIIN) sequence [see paragraph F-4.a(1)]. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence (see paragraph F-4 b). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) **Second.** Turn to the figure and item number, verify that the item is the one you're looking for, then locate the Item number in the repair parts list for the figure.

F-7. ABBREVIATIONS.

For standard abbreviations see MIL-STD-12D, Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents.

<u>Abbreviations</u>	<u>Explanation</u>
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL.....	Repair Parts and Special Tools Lists

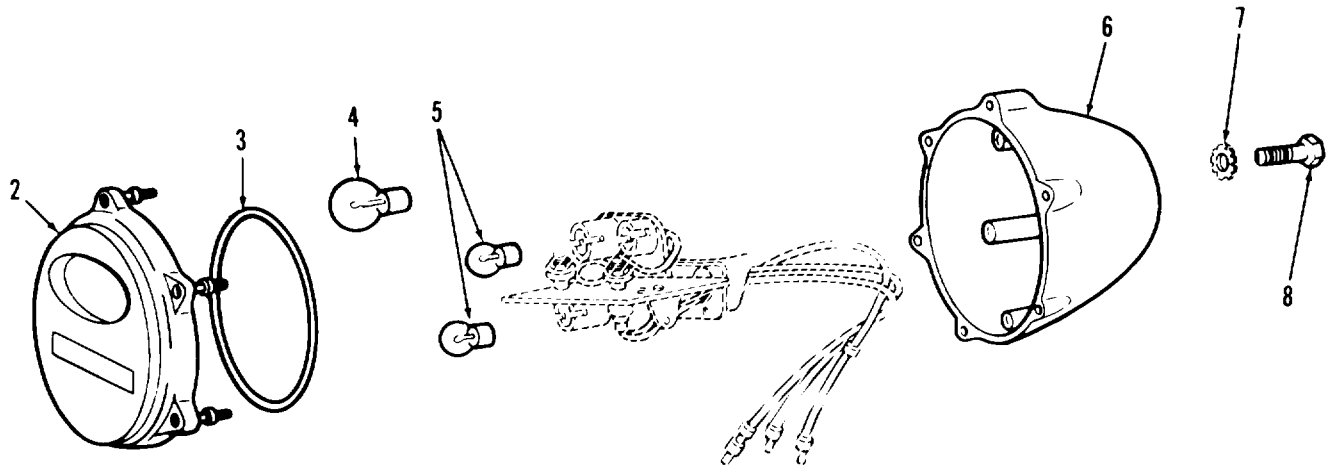
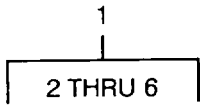


FIGURE 1. STOPLIGHT-TAILLIGHT ASSEMBLY.

TA503107

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE	CAGEC	NUMBER		
GROUP 06 ELECTRICAL SYSTEM					
GROUP 0609 LIGHTS					
FIG. 1 STOPLIGHT-TAILLIGHT ASSEMBLY					
1	PAOOO	96906	MS51329-1	STOP LIGHT-TAILLIGHT	2
2	PAOZZ	19207	7526020	.RETAINER, LENS.....	1
3	PAOZZ	19207	7320658	.PACKING, PERFORMED	1
4	PAOZZ	19207	446914	.LAMP, INCANDESCENT	1
5	PAOZZ	19207	190877	.LAMP, INCANDESCENT	1
6	XAOZZ	19207	7525997	.BODY, TAILLIGHT	1
7	PAOZZ	96906	MS35338-46	WASHER, LOCK.....	2
6	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H.....	2

END OF FIGURE

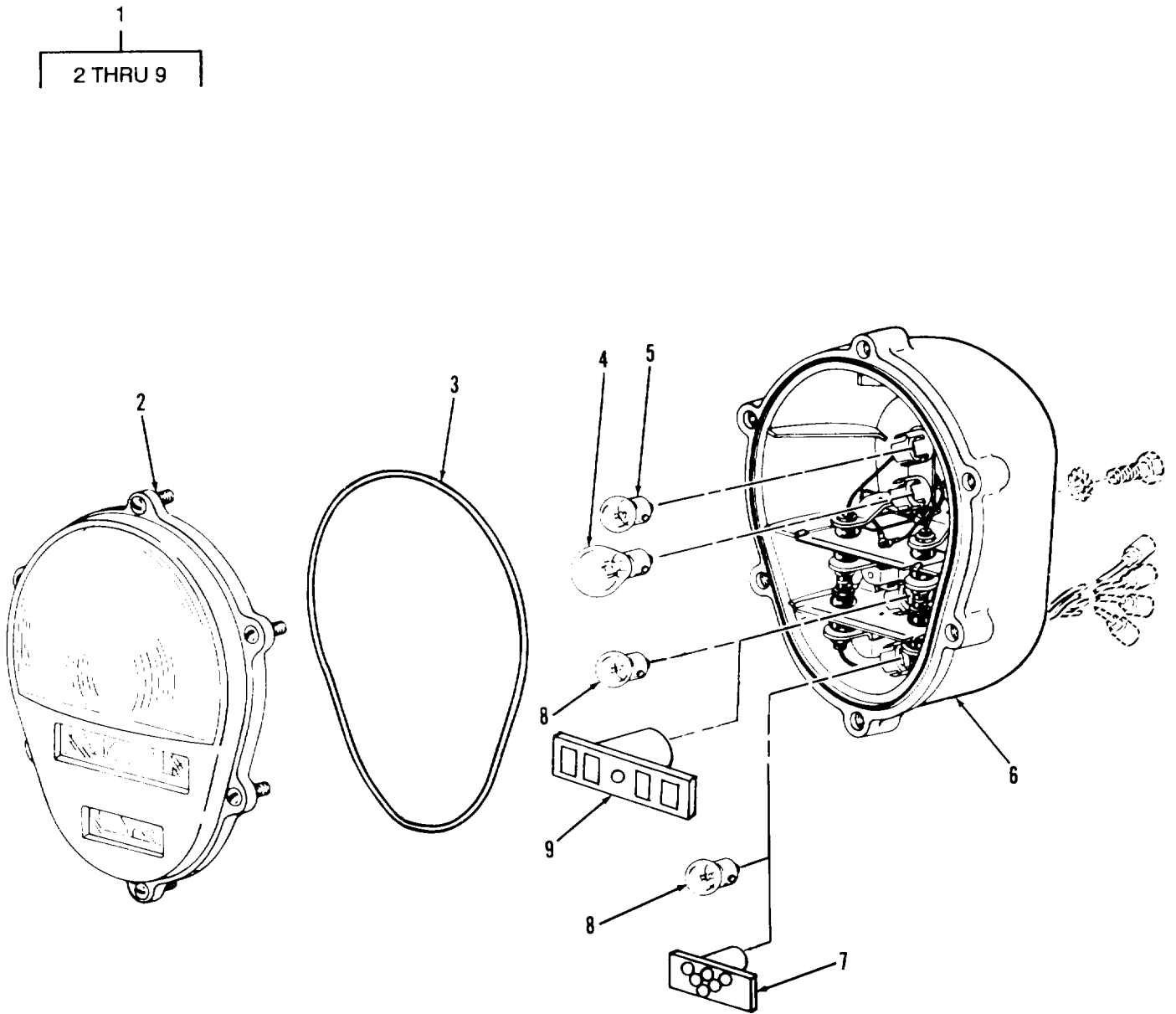


FIGURE 2. COMPOSITE LIGHT ASSEMBLY.

TA702198

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 0609 LIGHTS					
FIG. 2 COMPOSITE LIGHT ASSEMBLY					
1	PAOOO	96906	MS52125-2	STOP LIGHT-TAILLIGHT UOC: 175	1
2	PAOZZ	19207	11639535	.LENS, LIGHT UOC: 175	1
3	POZZZ	19207	11639519-2	.PACKING, PREFORMED UOC: 175	1
4	PAOZZ	19207	446914	.LAMP, INCANDESCENT UOC: 175	1
5	PAOZZ	19207	193093	.LAMP, INCANDESCENT UOC: 175	1
6	XAOZZ	19207	11639520	.BODY ASSEMBLY UOC: 175	1
7	PAOZZ	19207	12360870-1	.STOP LAMP ASSEMBLY UOC:175	1
8	PAOZZ	19207	190877	.LAMP, INCANDESCENT UOC:175	2
9	PAOZZ	19207	12360850-1	.MARKER ASSEMBLY UOC: 175	1

END OF FIGURE

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 3 CHASSIS WIRING HARNESS ATTACHING HARDWARE (0514)	
1	PAOZZ	19207	8363978	CLIP, SPRING TENSION UOC:914	1
2	PAOZZ	96906	MS35335-36	WASHER, LOCK..... UOC:914	24
3	PAOZZ	96906	MS24629-58	SCREW, TAPPING UOC:914	24
4	PAOZZ	96906	MS35140-12	STRAP,RETAING UOC:914	2
5	PAOZZ	96906	MS35335-32	WASPER, LOCK..... UOC:914	4
6	PAOZZ	96906	MS24629-47	SCREW,TAPPING UOC:914	4
7	PAOZZ	19207	7703692	CLAMP,LOOP UOC:914	4
8	PAOZZ	00000	7743749	CLAMP,LOOP UOC:914	4
9	PAOZZ	96906	MS35489-45	GROMMET, NONMETALLIC UOC:914	8
10	PAOZZ	96906	MS35489-43	GROMMET,NONMETALLIC UOC:914	3
11	PAOZZ	19207	8747908	STRAP, RETAING UOC:914	4
12	PAOZZ	96906	MS35489-49	GROMMET,NONMETALLIC UOC:914	2
13	PAOZZ	96906	MS35489-16	GROMMET,NONMETALLIC UOC:914	2
14	PFOZZ	19207	573111	STRAP,RETAINING..... UOC :914	1
15	PAOZZ	19207	8347212	CLIP ASSEMBLY UOC:914	2

END OF FIGURE

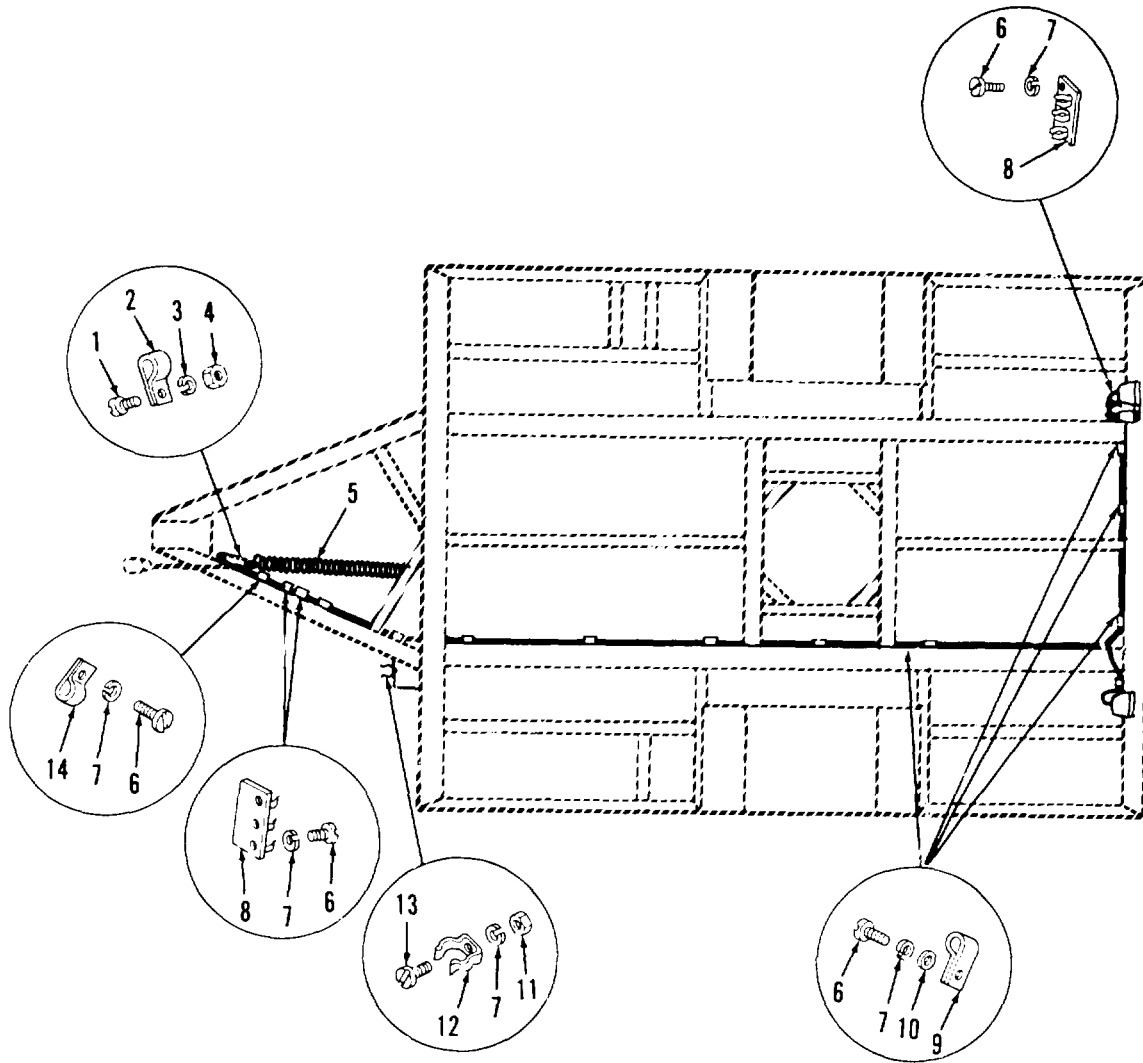


FIGURE 4. CHASSIS WIRING HARNESS ATTACHING HARDWARE (M390C).

TA503110

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 0613 -HULL OR CHASSIS WIRING HARNESS					
FIG. 4 CHASSIS WIRING HARNESS ATTACHING HARDWARE (M3900)					
1	PAOZZ	96906	MS35206-245	SCREW, MACHINE UOC:175	1
2	PAOZZ	19207	545033	CLAMP,LOOP UOC:175	1
3	PAOZZ	19207	7347734	WASHER, LOCK..... UOC:175	1
4	POAZZ	96906	MS35649-282	NUT, PLAIN, HEXAGON UOC:175	1
5	PAOZZ	19207	7001762	SPRING, HELICAL, EXTE UOC:175	1
6	PAOZZ	96906	MS35206-277	SCREW,MACHINE TAILLIGHT CLIPS (41) HARNESS STRAPS (11), CABLE TO HARNESS CLIPS (4), CABLE CLAMP (1)..... UOC:175	20
7	PAOZZ	96906	MS35338-44	WASHER,LOCK..... UOC: 175	21
8	PAOZZ	19207	8330139	CLIP, SPRING TENSION UOC:175	4
9	PACZZ	19207	10905840	STRAP, TIE-DOWN, ELECT UOC:175	11
10	PAOZZ	96906	MS27183-13	WASHER, FLAT UOC:175	11
11	PAOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON UOC:175	1
12	PAOZZ	19207	8363978	CLIP,SPRING TENSION UOC:175	1
13	PAOZZ	96906	MS35206-281	SCREW, MACHINE UOC:175	1
14	PAOZZ	96906	MS21333-105	CLAMP,LOOP UOC:175	1

END OF FIGURE

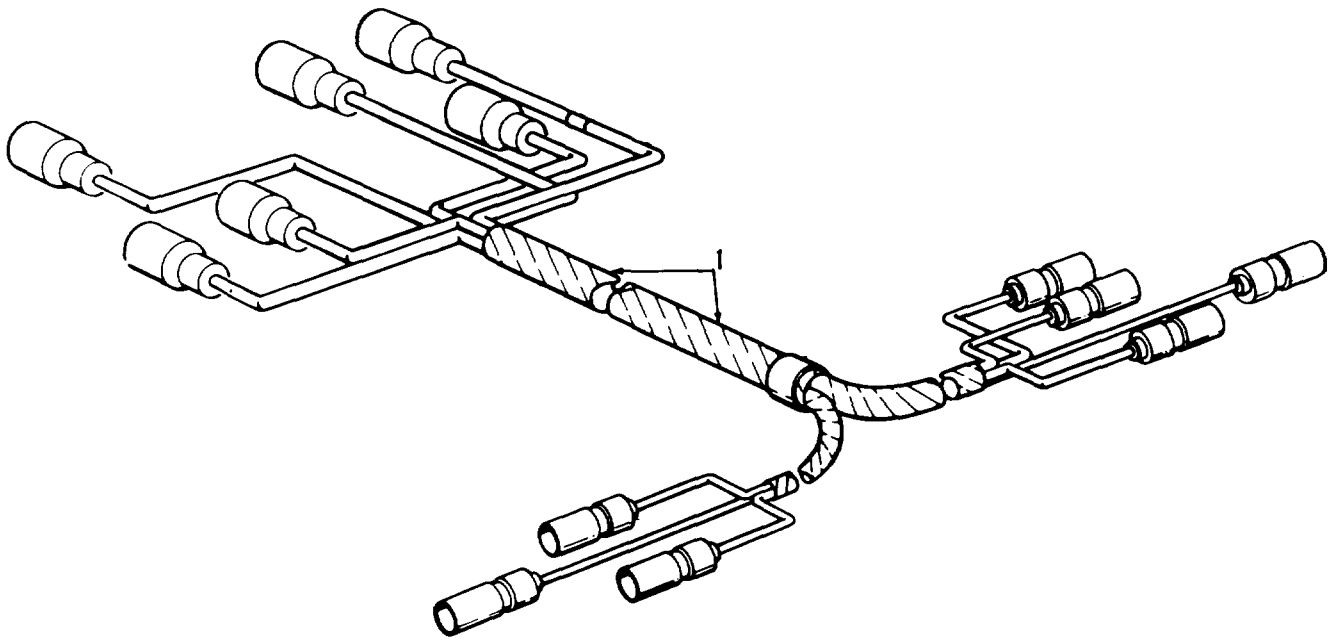


FIGURE 5. CHASSIS WIRING HARNESS.

TA702199

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
				FIG. 5 CHASSIS WIRING HARNESS	
1	PAOZZ	19207	10891262	WIRING HARNESS,BRAN	1
				UOC:175	
1	PAOZZ	19207	8759750	WIRING HARNESS	1
				UOC:914	

END OF FIGURE

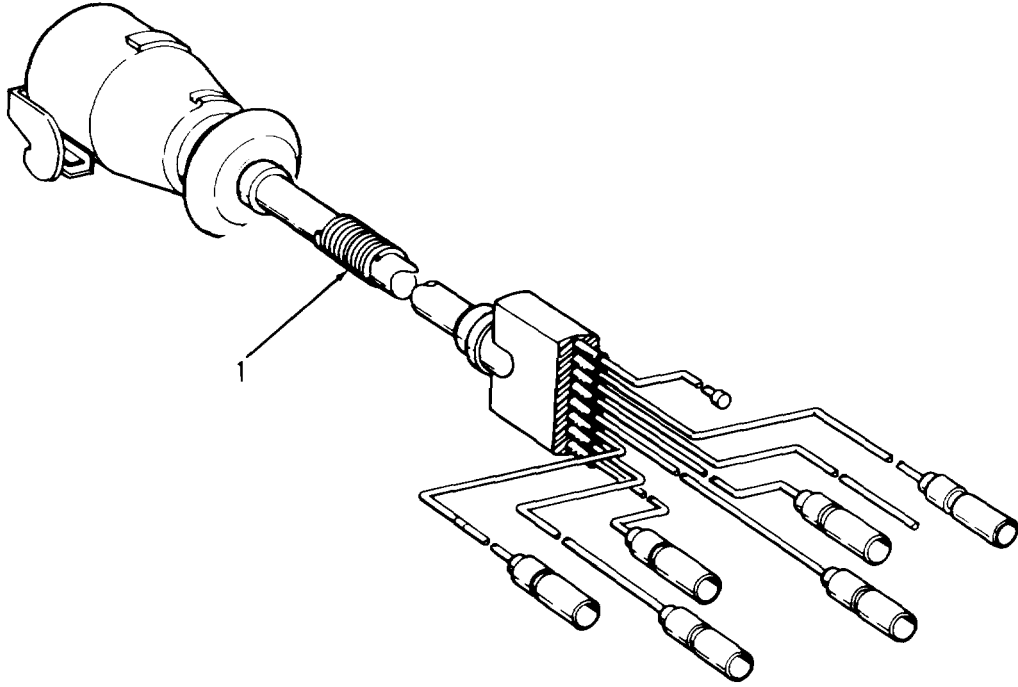


FIGURE 6. INTERVEHICULAR CABLE ASSEMBLY.

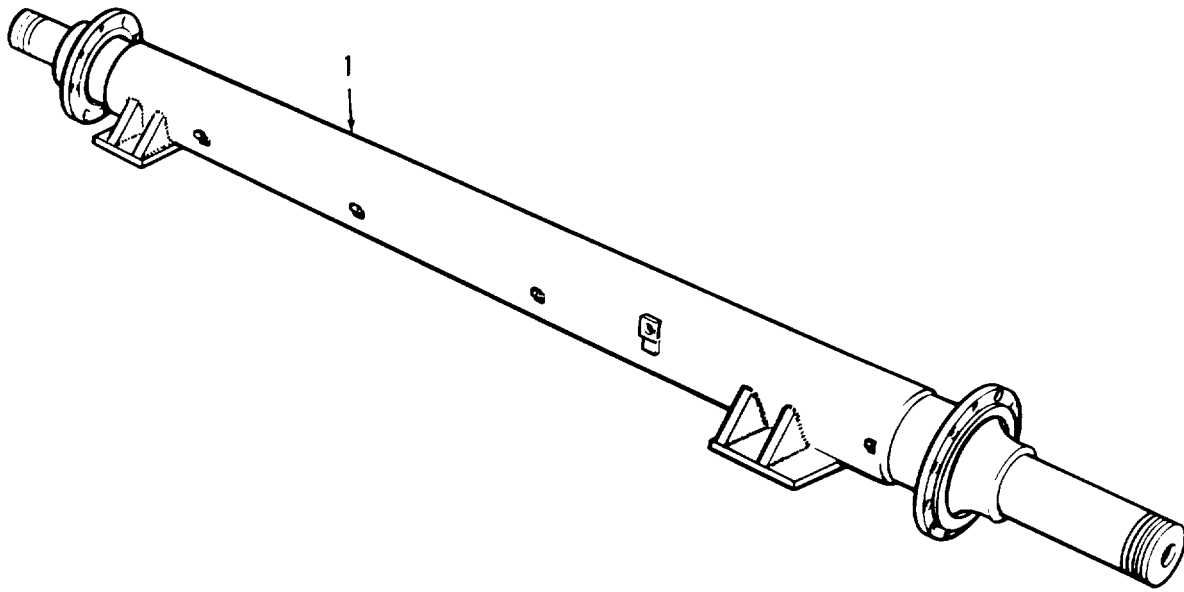
TA702200

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
1	PAOZZ	19207	10891263	FIG. 6 INTERVEHICULAR CABLE ASSEMBLY WIRING HARNESS	1
				UOC: 175	
1	PAOZZ	19207	8759745	CABLE ASSEMBLY, SPEC	1
				UOC: 914	

END OF FIGURE

SECTION II



TA503113

FIGURE 7. REAR AXLE (M390C).

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	FSCM	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
				GROUP 11 REAR AXLE	
				GROUP 1100 REAR AXLE ASSEMBLY	
1	PAOZZ	19207	8363957	FIG. 7 REAR AXLE (M3SOC) AXLE, VEHICULAR ,NOND..... UOC:175	1

END OF FIGURE

SECTION II

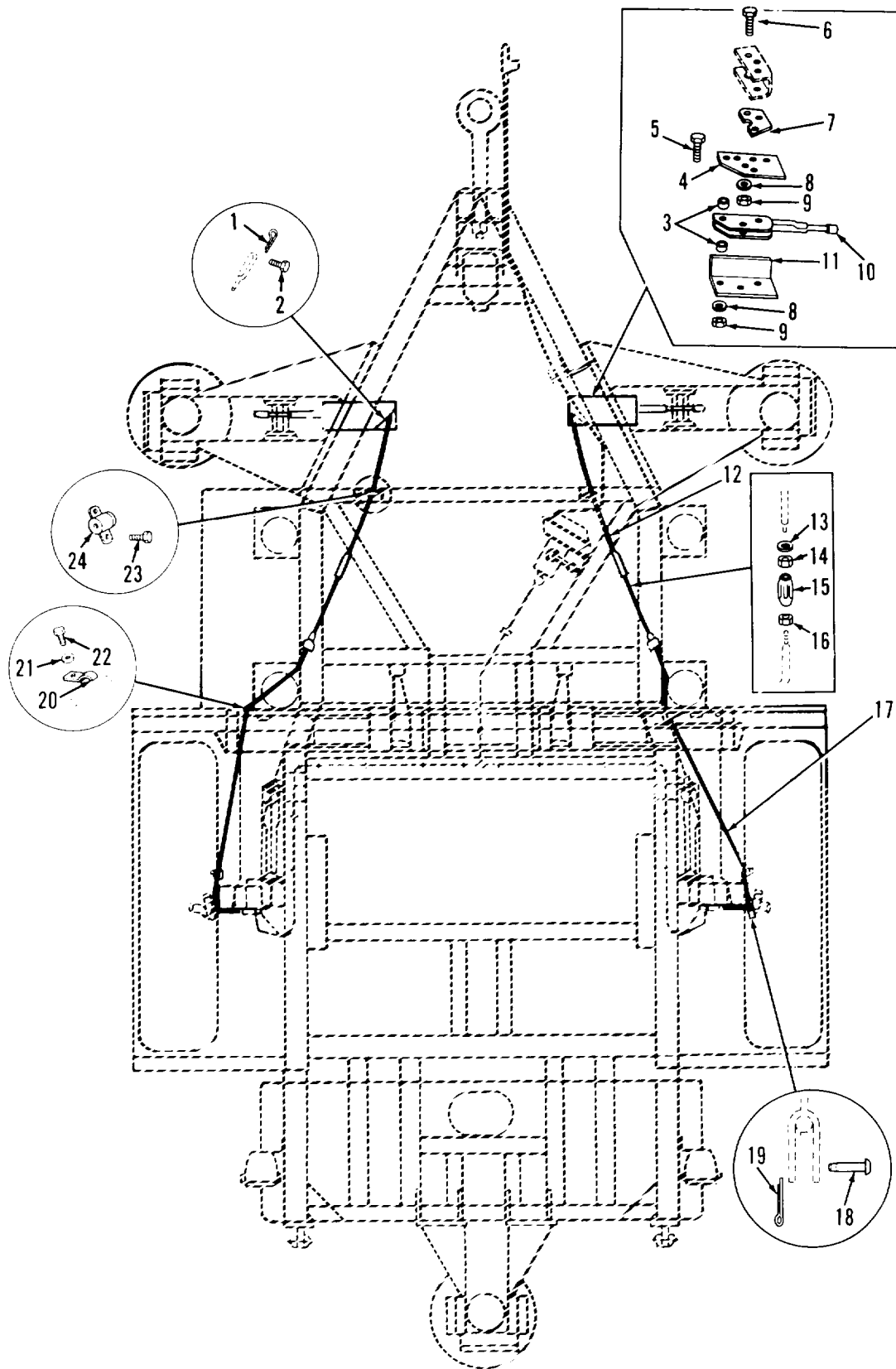


FIGURE 8. HANDBRAKE SYSTEM (M514)

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	FSCM	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
				GROUP 12 ERASES	
				GROUP 1201 HANDBRAKES	
				FIG. 8 HANDBRAKE SYSTEM (M514)	
1	PAOZZ	96906	MS246t5-283	PIN, COTTER	2
				UOC:914	
2	PAOZZ	96906	MS35810-3	PIN, STRAIGHT, HEADED.....	2
				UOC :9 14	
3	PAOZZ	19207	8759893	SPACER, SLEEVE	6
				UOC:914	
4	PAOZZ	19207	8175985	PLATE, GUARD, BRAKE	1
				UOC:914	
5	PAOZZ	96906	MS90725-75	SCREW, CAP, HEXAGON H	6
				UOC:914	
6	PAOZZ	19207	87598S4	BOLT, MACHINE	12
				UOC:914	
7	PAOZZ	19207	8759890	SPACER, PLATE.....	2
				UOC:914	
8	PAOZZ	96906	MS35338-46	WASHER, LOCK	12
				UOC :9 14	
9	PAOZZ	96936	MS51967-8	NUT, PLAIN, HEXAGON	12
				UOC:914	
10	PAOZZ	19201	8759896	LEVER, MANUAL CONTRO.....	2
				UOC :914	
11	PAOZZ	19207	8759891	BRACKET ,ANGLE LEFT	1
				UOC:914	
11	PAOZZ	19207	87598S2	BRACKET .ANGLE RIGHT.....	1
				UOC :9 14	
12	PAOZZ	19207	86758S4	WIRE ROPE A. SING	2
				UOC:914	
13	PAOZZ	19207	7339422	WASHER. SPRING TENSI.....	2
				UOC:914	
14	PAOZZ	21450	443921	NUT, PLAIN, HEXAGON	2
				UOC:914	
15	XDOZZ	21450	53802	TURNBUCKLE, BODY	2
				UOC:914	
16	PAOZZ	96906	MS51568-8	NUT, PLAIN, HEXAGON	2
				UOC: 914	
17	PAOZZ	19207	8675885	WIRE ROPE ASSY, SING	2
				UOC :914	
18	PAOZZ	19207	8740063	PLAIN, STRAIGHT, HEADED	2
				UOC:914	
19	PAOZZ	96906	MS246E5-132	PIN, COTTER	2
				UOC:914	
20	PAOZZ	96906	MS21333-37	CLAMP,LCOP.4.....	2
				UOC:914	
21	PAOZZ	96906	MS35338-43	WASHER LOCK	2
				UOC:914	
22	PAOZZ	96906	MS35206-263	SCREW, MACHINE	2
				UOC:914	

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	FSCM	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
23	PAOZZ	21450	425324	BOLT, ASSEMBLED WASH..... UOC:914	4
24	PAOZZ	21450	573111	STRAP, RETAINING UOC :914	2

END OF FIGURE

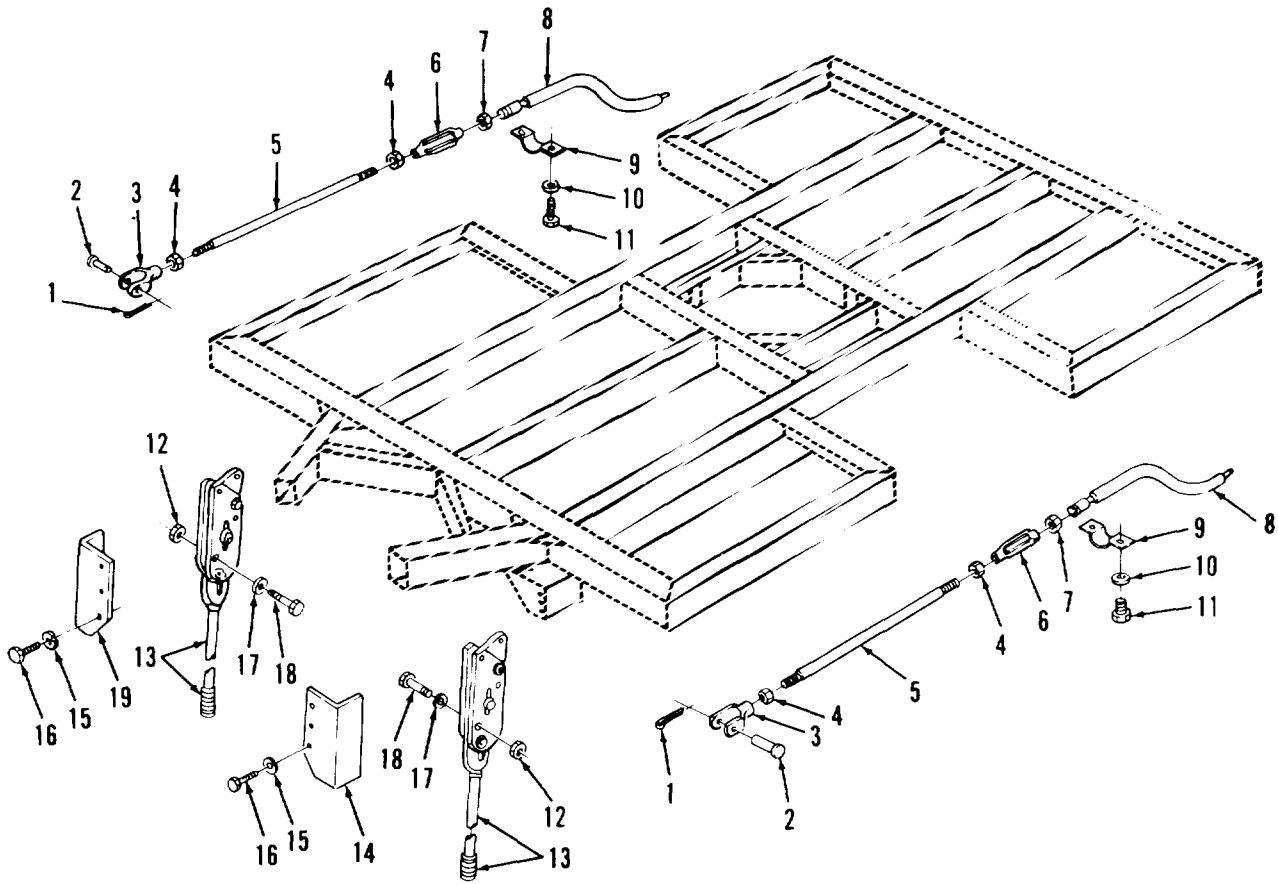


FIGURE 9. HANDBRAKE SYSTEM (M390C).

TA503115

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	FSCM	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1201 HANDBRAKES					
FIG. 9 HANDBRAKE SYSTEM (M3900)					
1	PAOZZ	96906	MS246b5-283	PIN, COTTER	2
				UOC:175	
2	PAOZZ	80517	BK75S4	PIN,SIRAIGH1,-EADED 3/E CIA, 1-7/	2
				32 IN. LG. CLEVIS.....	
				UOC:175	
3	PAOZZ	96906	MS35812-4	CLEVIS, ROD END.....	2
				UOC:175	
4	P4OZZ	96906	MSS1968-8	NUT, PLAIN, HEXAGON	4
				UOC:115	
5	PAOZZ	19207	8363986	ROD, THREADED END.....	2
				UOC:175	
6	PAOZZ	19207	8331946	TURNBUCKLE BODY	2
				UOC:175	
7	PAOZZ	96906	MS45905St	NUT, PLAIN, HEXAGON	2
				UOC:175	
8	PAOZZ	19207	7049884	CONTROL ASSEMBLY ,PU	2
				UOC:175	
9	PAOZZ	19237	5303461	BRACKET 8 .5	2
				UOC:175	
10	P4OZZ	19207	7410218	WASHER, LOCK	6
				UOC: 175	
11	PAOZZ	96906	MS35206-292	SCREW, MACHINE	4
				UOC:175	
12	PAOZZ	96936	MS51922-17	NUT, SELF-LOCKING, HE	6
				UOC:175	
13	PAOZZ	92867	01001307	LEVER, MANUAL CONTROL.....	2
				UOC:175	
14	XBOZZ	19207	8363S87	GUARD	1
				UOC: 175	
15	PAOZZ	96906	MS35338-44	WASHER, LOCK	6
				UOC :175	
16	PAOZZ	96906	M535206-277	SCREW MACHINE	6
				UOC:175	
17	PAOZZ	192017	8699500	SPACER, SLEEVE	6
				UOC:175	
18	PAOZZ	96906	MS90725-67	SCREW ,CAP, HEXAGON H	6
				UOC:175	
19	PFOZZ	19207	8363S8	GUARD, SPLASH VEHICU LEVER	1
				UOC: 175	

END OF FIGURE

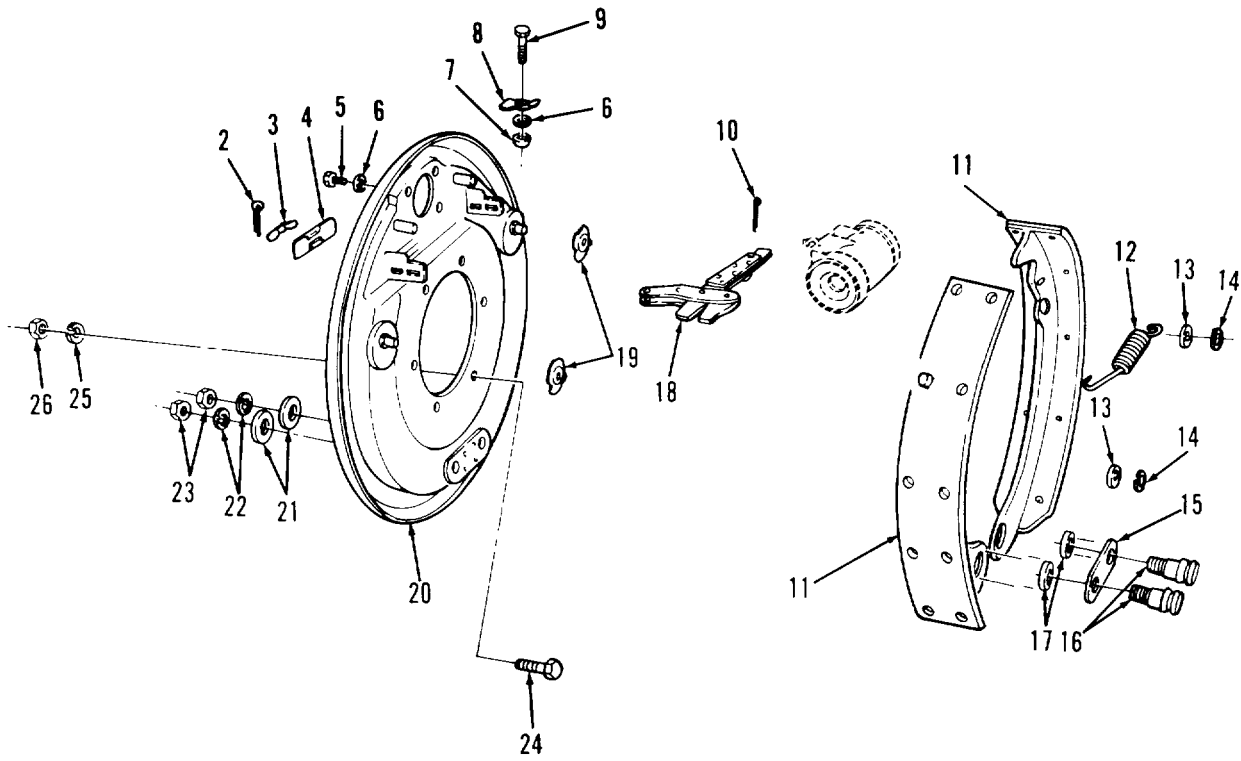
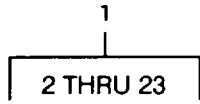


FIGURE 10. SERVICE BRAKE ASSEMBLY (M514).

TA702202

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1202 SERVICE BRAKES FIG. 10 SERVICE BRAKE ASSEMBLY (M514)					
1	PAOZZ	18876	8016971	BRAKE, SHOE TYPE LEFT UOC:914	1
1	PAOZZ	19207	8016S72	BRAKE ,SHOE TYPE RIGHT UOC:914	1
2	PAOZZ	96906	MS24665-349	PIN, COTTER UOC:914	2
3	PAOZZ	19207	8016SS98	SPRING, FLAT UOC :914	2
4	PAOZZ	19207	8016983	GUARD, BRAKE LEVER UOC:914	2
5	PAOZZ	96906	MS90728-29	SCREW, CAP, HEXAGON., UOC:914	6
6	PAOZZ	96906	MS35:38-45	WASHER, LOCK UOC:914	6
7	PAOZZ	96906	MS51967-5	NUT ,PLAIN, HEXAGON UOC:914	2
8	PAOZZ	18876	8016982	CLAMP, RIP CLENCHING UOC:914	2
9	XDOZZ	19207	1612774	BOLT, MACHINE UOC:914	2
10	PAOZZ	96906	MS24665-132	PIN, COTTER UOC:914	2
11	PAOZZ	19207	8016S73	BRAKE SHOE..... UOC:914	4
12	PAOZZ	19207	8713986	SPRING, HELICAL, EXTE..... UOC :914	2
13	PAOZZ	19207	8C16S78	WASHER, FLAT UOC:914	4
14	PAOZZ	19207	8016979	RING, RETAINING UOC:914	4
15	XDOZZ	192017	8016S76	PLATE..... UOC:914	2
16	PAOZZ	19207	8017162	PIN, BRAKE ANCHOR UOC:914	4
17	PAOZZ	19207	8017159	LINK, ANCHOR, BRAKES..... UOC :914	4
18	PAOZZ	19237	1335C59	LINK TOGGLE ,RIGHT UOC:914	1
18	PAOZZ	19207	7335058	EXPANDER, BRAKE SHOE LEFT UOC:914	1
19	PAOZZ	19207	8017164	WASHER UOC:914	4
20	PAOZZ	19207	8016980	PLATE LEFT UOC:914	1
20	PAOZZ	19207	8016981	PLATE RIGHT UOC:914	1
21	PAOZZ	19237	8016S77	WASHER, FLAT UOC:914	4

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
22	PAOZZ	96906	MS35328-48	UOC:914 .WASHER, LOCK	4
23	PAOZZ	96906	MS51SC8-14	UOC:914 .NUT, PLAIN, HEXAGON	4
24	PAOZZ	96906	MS90726-61	UOC :914 SCREW, CAP, HEXAGON	12
25	PAOZZ	96906	M535328-46	UOC:914 WASHER LOCK	12
26	PAOZZ	96906	MS51967-8	UOC :914 NUT, PLAIN, HEXAGON	12
				UOC:914	

END OF FIGURE

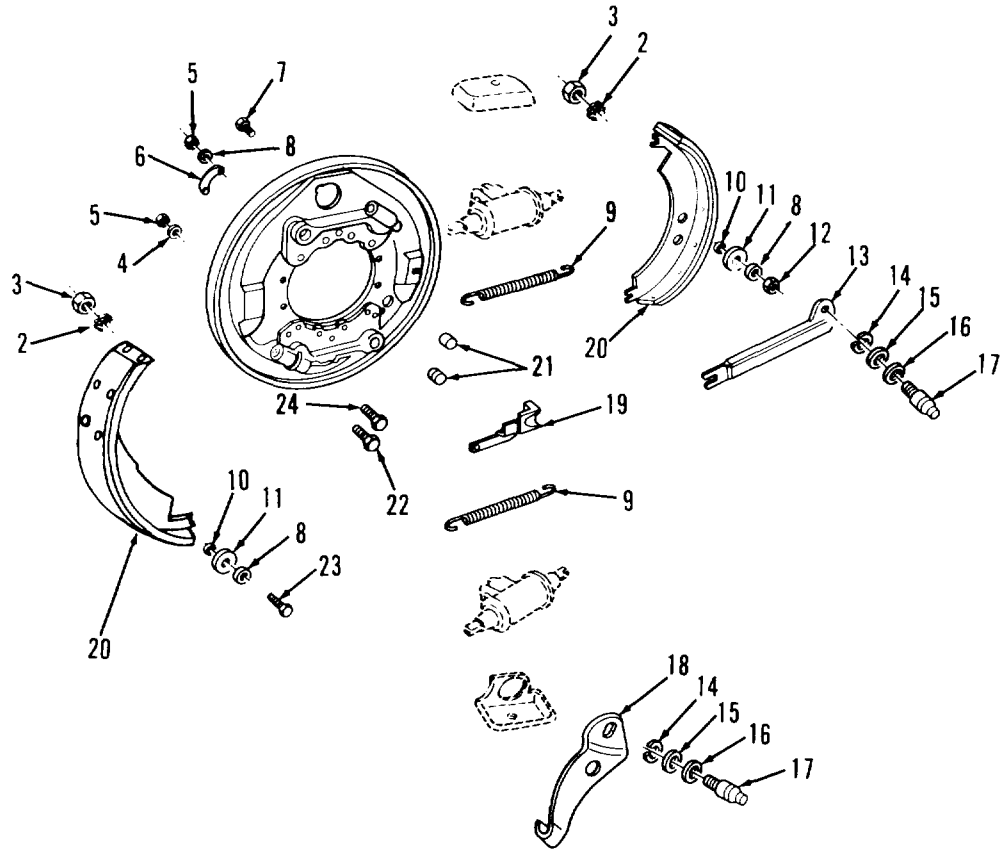
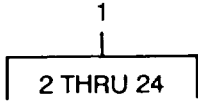


FIGURE 11. SERVICE BRAKE ASSEMBLY (M390C).

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	FSCM	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
GROUP 1202 SERVICE BRAKES					
FIG. 11 SERVICE BRAKE ASSEMBLY (M390C)					
1	PAOOO	78500	A8-3236M1261	BRAKE, SHOE TYPE LEFT	1
				UOC:175	
1	PAOOO	19207	8723801	BRAKE, SHOE TYPE RIGHT	1
				UOC:1715	
2	PAOZZ	96936	MS35325-36	WASHER, LOCK	4
				UOC:175	
3	PAOZZ	96906	MS51970-4	NUT, PLAIN, HEXAGON	4
				UOC:175	
4	PAOZZ	19237	1411318	WASHER, KEY	2
				UOC:175	
5	PAOZZ	96906	MS51968-14	NUT, PLAIN HEXAGON	2
				UOC:175	
6	PAOZZ	19207	8733890	BRACKET, LEFT HAND	1
				UOC:175	
6	PAOZZ	19237	87338S1	BRACKET, RIGHT HAND.....	1
				UOC:175	
7	PAOZZ	19201	1741170	BOLT, SQUARE	2
				UOC:175	
8	PAOZZ	96906	MS35338-44	WASHER LOCK.	2
				UOC:175	
9	PAOZZ	19207	8333770	SPRING HELICAL, EXTE.....	2
				UOC:175	
10	PAOZZ	19207	76412103	SPACER, SLEEVE	2
				UOC:175	
11	PAOZZ	19237	5323J088	WASHER, FLAT	2
				UOC: 175	
12	PAOZZ	96906	MS51970-1	NUT, PLAIN HEXAGON	2
				UOC:175	
13	PAOZZ	192J7	8733926	CONNECTING LINK, RIG LEFT	1
				UOC:175	
13	PAOZZ	19207	8733921	LINK EMERGENCY BRAK RIGHT.....	1
				UOC:175	
14	PAOZZ	19207	8733925	WASHER, SPRING TENSI.....	4
				UOC:175	
15	PAOZZ	19207	8733936	WASHER, FLAT	2
				UOC:175	
16	PAOZZ	19207	8733937	WASHER, SLOTTED	2
				UOC: 175	
17	PAOZZ	19207	8733938	PIN, SERVICE BRAKE	2
				UOC:175	
18	PAOZZ	19207	8733911	LEVER, LEFT HAND BRA.....	1
				UOC:175	
18	PAOZZ	19207	8733912	LEVER, RIGHT HAND BR.....	1
				UOC:175	
19	PAOZZ	19207	8733892	RAMP, CABLE LEFT	1
				UOC:175	
19	PAOZZ	63477	F19582	RAMP, BRAKE CABLE RIGHT	1

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
2	PAOZZ	19201	7064S78	UOC:175 BRAKE SHOE.....	2
21	PAOZZ	19207	7412106	UOC:175 PIN,STRAIGE1IHEADLEL.....	2
22	PAOZZ	96906	MS35206-279	UOC:175 SCREW, MACHINE	2
23	PAOZZ	969J6	MS90727-8	UOC:175 SCRE1,CAP, HEXAGON H.....	1
24	PAOZZ	96936	M590727-64	UOC:175 SCREI,CAP9,HEXAGON H 3/8-24LKF-2A..... 1-1/2 IN. LG. PLATE	2

END OF FIGURE

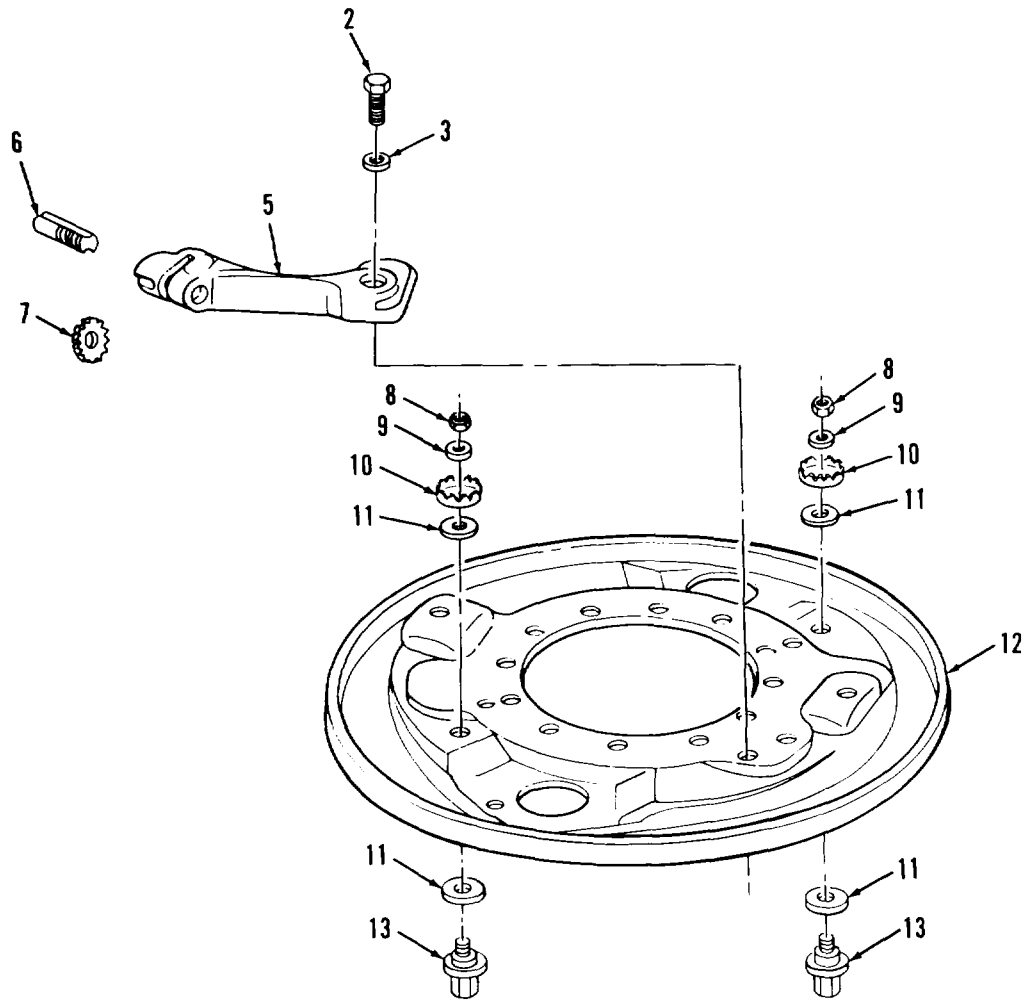
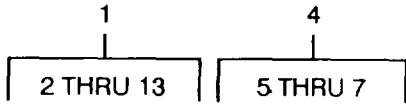


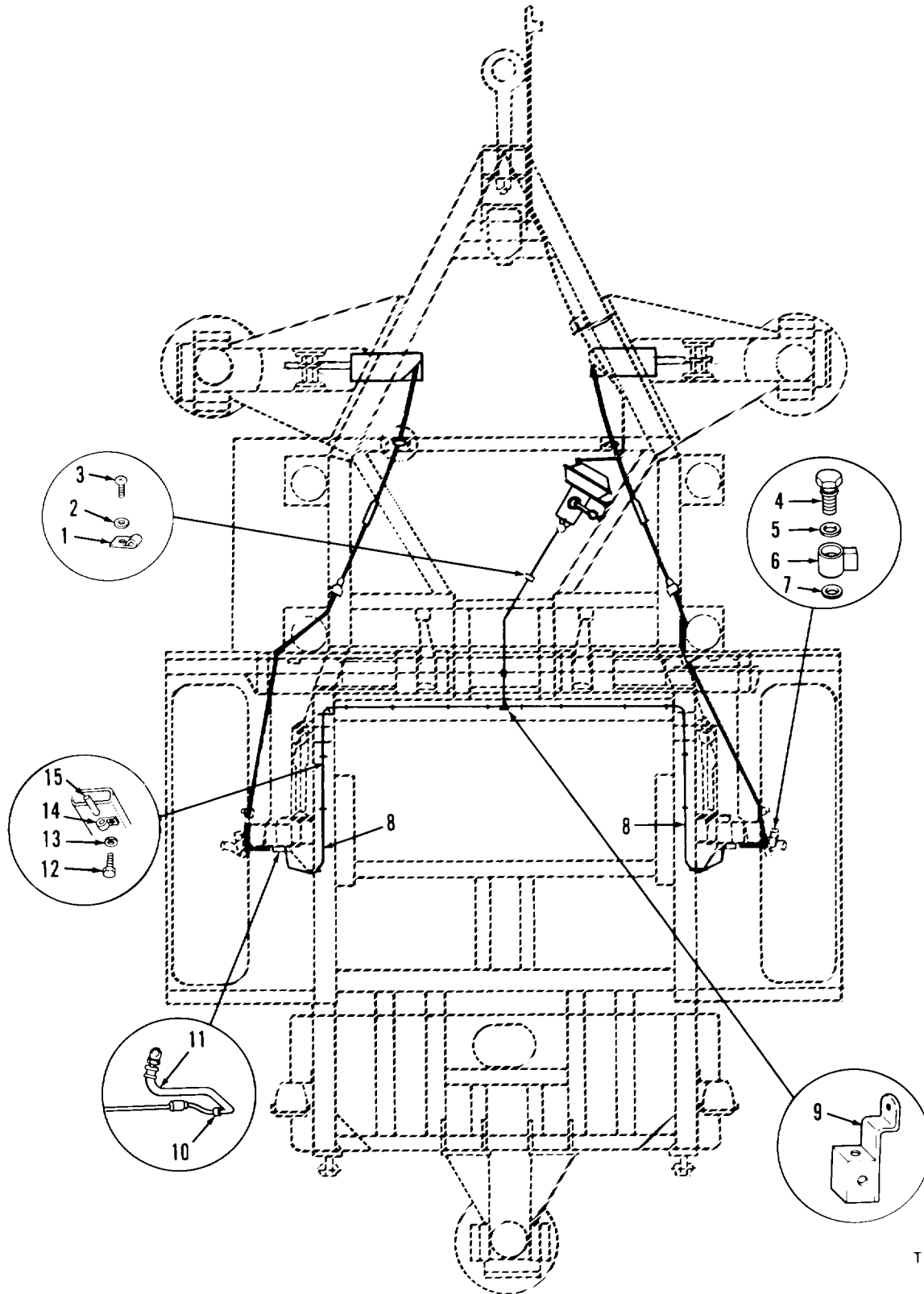
FIGURE 12. BACKING PLATE ASSEMBLY (M390C).

TA503118

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 1202 SERVICE BRAKES FIG. 12 BACKING PLATE ASSEMBLY (M390C)	
1	PAOZZ	19207	8733901	PLATE, BACKING, BRAKE LEFT	1
				UOC: 175	
1	PAOZZ	19207	87339C2	PLATE, BACKING, BRAKE RIGHT	1
				UOC:175	
2	PAOZZ	96906	MS18154-58	SCREW, CAP, -HEXAGON	6
				UOC:175	
3	PAOZZ	96906	MS35335-35	WASHER, LOCK	3
				UOC:175	
4	PAOZZ	18876	8733896	ADJUSTER, SLACK, BRAK LEFT.....	2
				UOC:175	
4	PAOZZ	18876	87338S7	ADJUSTER, SLACK, BRAK RIGHT	2
				UOC:115	
5	PAOZZ	19237	8733S08	SUPPORT ASSEMBLY LEFT	1
				UOC:175	
5	PAOZZ	19237	8733909	SUPPORT ASSEMBLY RIGHT	1
				UOC:175	
6	PAOZZ	19207	8336715	SCREW, BRAKE SHOE AC LEFT SHOE	1
				UOC:175	
6	PAOZZ	19217	8336789	SCREW, BRAKE SHOE AC RIGHT SHOE.....	1
				UOC:175	
7	PAOZZ	19207	8336704	WHEEL, SLACK ADJUSTE	1
				UOC:175	
8	PAOZZ	969J6	MS35691-13	NUT, PLAIN, HEXAGON	2
				UOC:175	
9	PAOZZ	96906	MS35333-41	WASHER, LOCK	2
				UOC:175	
10	PAOZZ	19207	7412104	PINICN, BRAKE SHOE A	2
				UOC:175	
11	P0OZZ	19207	7412120	WASHER, FLAT	4
				UOC:175	
12	PAOZZ	19207	8733933	PLATE, BACKING, BRAKE RIGHT	1
				UOC:115	
12	PAOZZ	19207	8733922	PLATE, BACKING BRAKE	1
				UOC:175	
13	PAOZZ	19207	8720331	SPRING AND BOLT ASS	2
				UOC: 175	

END OF FIGURE



TA702204

FIGURE 13. HYDRAULIC BRAKE LINES AND RELATED PARTS (M514)

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 12J4 HYDRAULIC BRAKE SYSTEM					
FIG. 13 HYDRAULIC BRAKE LINES AND RELATED PARTS (M514)					
1	PAOZZ	96906	MS21333-36	CLAMP, LOOP..... UOC :914	1
2	PAOZZ	96906	M535335-33	WASHER, LOCK UOC:914	1
3	PAOZZ	96906	MS24649-57	SCREW, TAPPING, THREA UOC:914	1
4	PAOZZ	63477	F1241	BOLT, FLUID PASSAGE UOC:914	2
5	PAOZZ	19207	5298653	SPACER, RING UOC:914	2
6	PAOZZ	192J7	7745464	TEE, TUBE UOC:914	2
7	PAOZZ	19207	5214930	WASHER, FLAT UOC:914	2
8	PAOZZ	19207	8740066	TUBE ASSEMBLY, METAL..... UOC:914	2
9	PAOZZ	24617	127927	TEE, TUBE UOC:914	1
10	PAOZZ	92392 0913475		ELBOW ,PIPE TC TUBE UOC:914	2
11	PAOZZ	19207	74004	HOSE ASSEMBLY, NONME..... UOC:914	1
12	PAOZZ	96906	MS24630-46	SCREW, TAPPING, THREA UOC:914	1
13	PAOZZ	96906	MS35338-43	WASHER, LOCK UOC :9 14	1
14	PAOZZ	969U6 MS35140-5		STRAP, RETAINING UOC:914	1
15	PAOZZ	97030 LCOM1/410		CONDUIT, NONMETALLIC..... UOC:914	V

END OF FIGURE

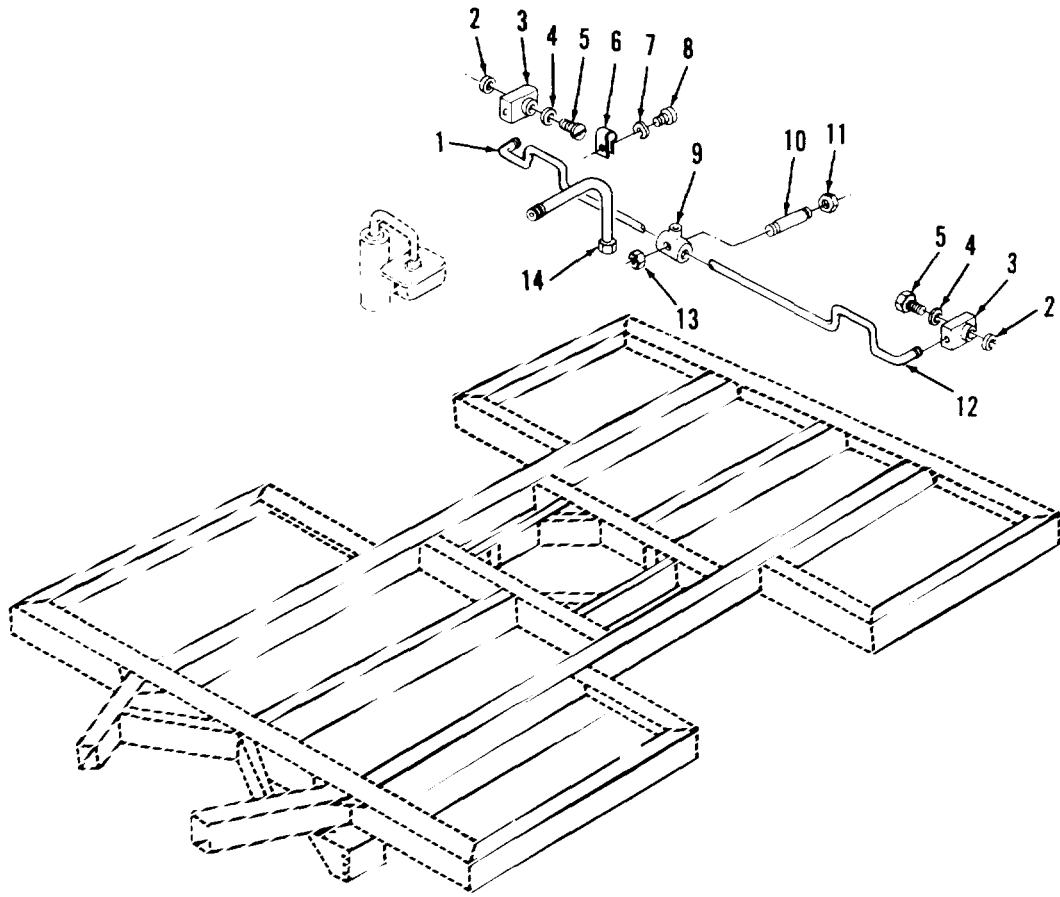


FIGURE 14. HYDRAULIC BRAKE LINES AND RELATED PARTS (M390C).

TA503120

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1204 HYDRAULIC BRAKE SYSTEM FIG. 14 HYDRAULIC BRAKE LINES AND RELATED PARTS (M390C)					
1	PAOZZ	19207	8363S82	TUBE ASSEMBLY METAL RIGHT WHEEL..... UOC:175	1
2	PAOZZ	19207	5298653	SPACER, RING TUBE FITTING UOC:175	2
3	PAOZZ	12Z34	1502415	CONNECTOR MULTIPLE, UOC:115	2
4	PAOZZ	19207	7412088	WASHER, SHOULDERED LOC:175	2
5	PAOZZ	192J7	7412C79	BOLT, FLUID PASSAGE UOC:175	2
6	PAOZZ	96906	MS21333-34	CLAMP, LOOP..... UOC:175	3
7	PAOZZ	96906	MS35338-44	WASHER, LOCK UOC:175	3
8	PAOZZ	96906	MS35206-277	SCREW, MACHINE UOC:175	3
9	PAOZZ	19207	5167679	CONNECTOR, MULTIPLE, LEFT TO RIGHT	1
11	PAOZZ	969046	S51968-11	NUT, PLAIN HEXAGON UOC: 175	1
12	PAOZZ	19207	8363S83	TUBE ASSEMBLY LEFT WHEEL UOC:175	1
13	PAOZZ	96906	MS35691-25	NUT, PLAIN, HEXAGON UOC:175	1
14	PAOZZ	19207	8363981	HOSE ASSEMBLY, NONME UOC:175	1

END OF FIGURE

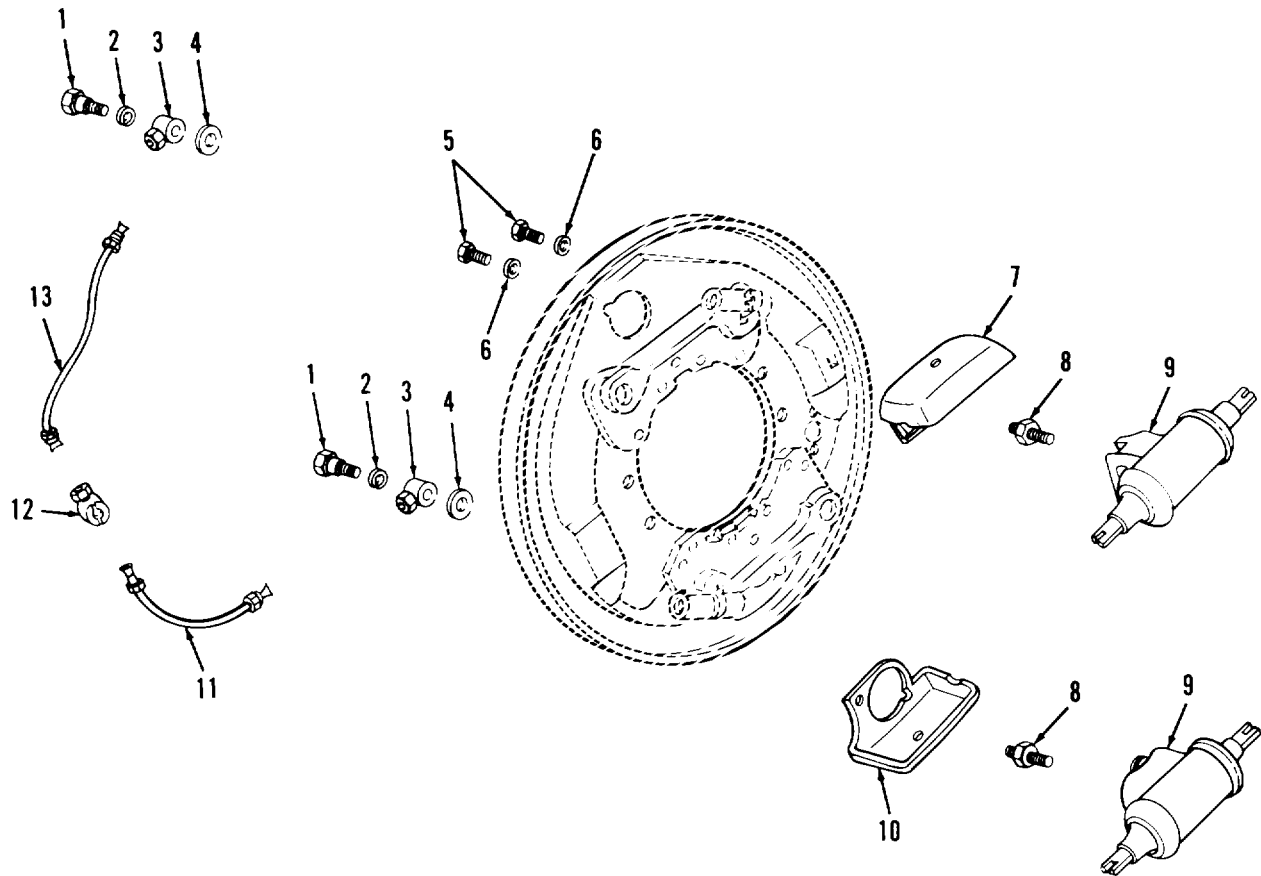


FIGURE 15. WHEEL CYLINDER AND RELATED PARTS (M390C).

TA503121

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1204 HYDRAULIC FAKE SYSTEM FIG. 15 WHEEL CYLINDER AND RELATED PARTS (M390C)					
1	PAOZZ	19207	7412C79	BOLT, FLUID PASSAGE UOC:175	4
2	PAOZZ	192J7	5298653	SPACER, RING UOC:175	4
3	PAOZZ	19207	7745464	TEE, TUBE UOC:175	4
4	PAOZZ	19207	741208	WASHER, SHOULDERED A..... UOC: 15	4
5	PAOZZ	96936	MS90725-31	BOLT, MACHINE..... UOC:175	8
6	PAOZZ	19237	7410218	WASHER, LOCK UOC:175	8
7	PAOZZ	19207	7412068	SHIELD, BRAKE DISK CYLINDER UPPER..... UOC:175	2
8	PAOZZ	192J7	7539268	BLEEDER VALVE, HYDRA..... UOC:175	4
8	PAOZZ	19207	73732t0	VALVE, BLEEDER ,HYDRA..... UOC:175	4
9	PAOZZ	192J3	7412065	CYLINDER ASSEMBLY, H..... UOC:175	4
10	PAOZZ	19207	7412C50	SHIELD ,BRAKE DISK CYLINDER LOWER..... UOC:175	1
11	PAOZZ	19201	8733920	TUBE ASSEMBLY, METAL BRAKE LEFT..... UOC:175	1
11	PAOZZ	192J7	7411907	TUBE ASSEMBLY, METAL BRAKE RIGHT..... UOC:175	1
12	PAOZZ	19207	7411903	CONNECTOR MULTIPLE, BRAKE TUBES..... UOC:115	1
13	PAOZZ	19207	74119G8	TUBE ASSEMBLY, METAL BRAKE, LEFT..... UOC:175	1
13	PAOZZ	19207	8733918	TUBE ASSEMBLY METAL BRAKE RIGHT..... UOC:175	1

END OF FIGURE

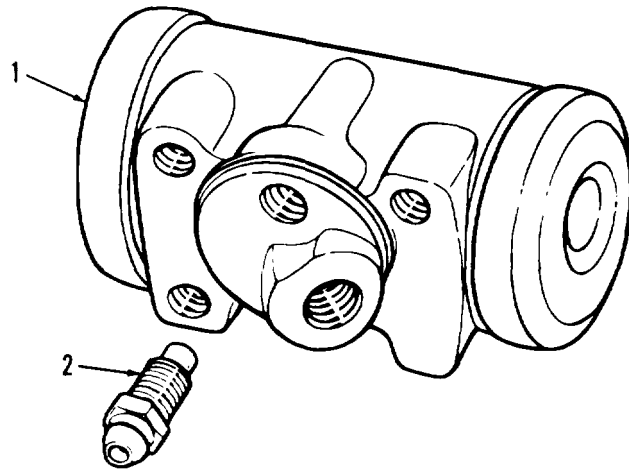


FIGURE 16. WHEEL CYLINDER ASSEMBLY (M514).

TA503122

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	FSCM	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
				GROUP 1204 HYDRAULIC BRAKE SYSTEM FIG. 16 WHEEL CYLINDER ASSEMBLY (M514)	
1	PAOZZ	19207	8017C03	CYLINDER ASSEMBLY, H RIGHT.....	1
				UOC:914	
1	PAOZZ	63477	F4148	CYLINDER ASSEMBLY H LEFT.....	1
				UOC:914	
2	PAOZZ	192J7	7409322	VALVE, BLEEDER, HYDRA.....	2
				UOC:914	

END OF FIGURE

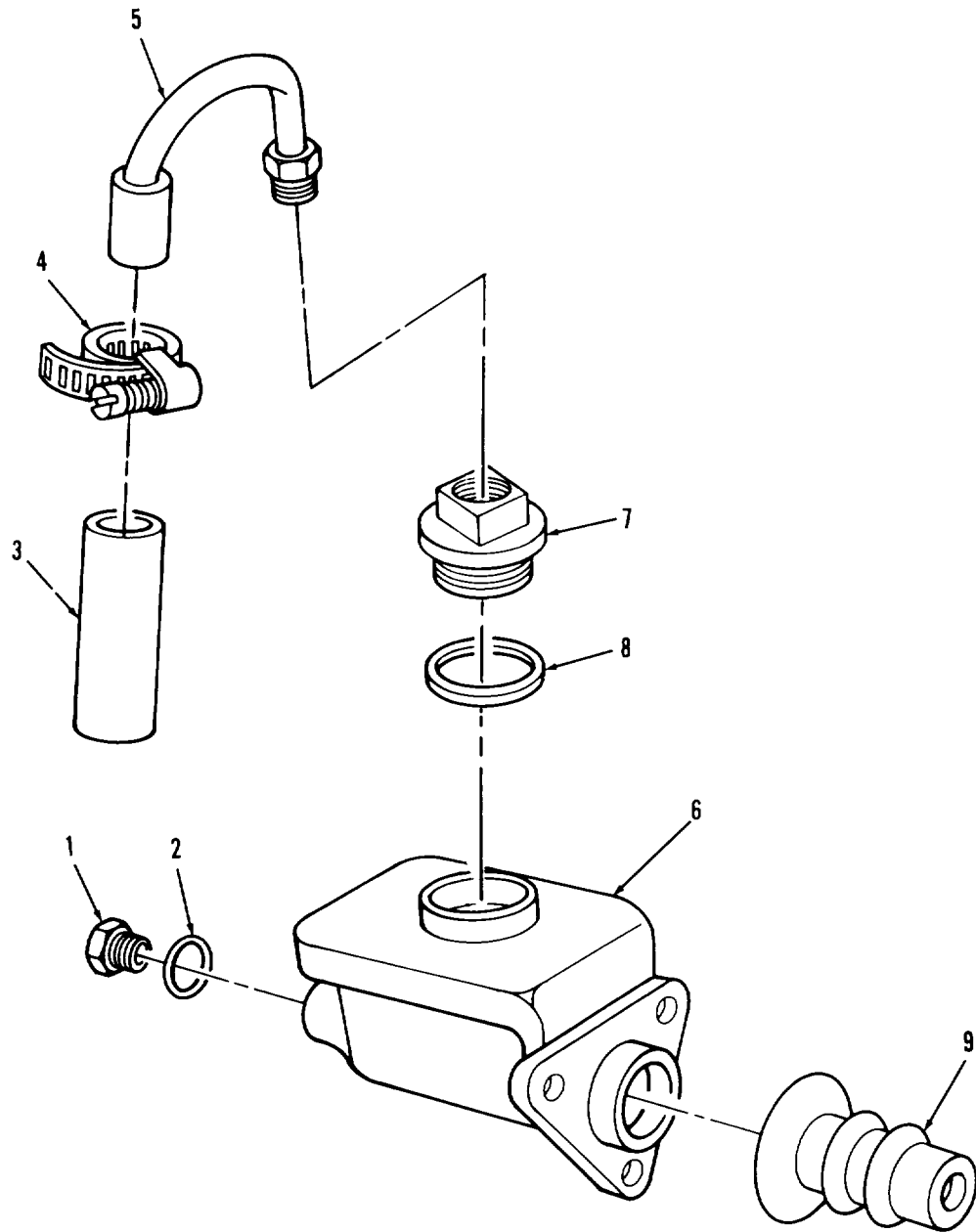
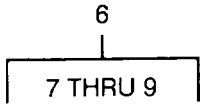


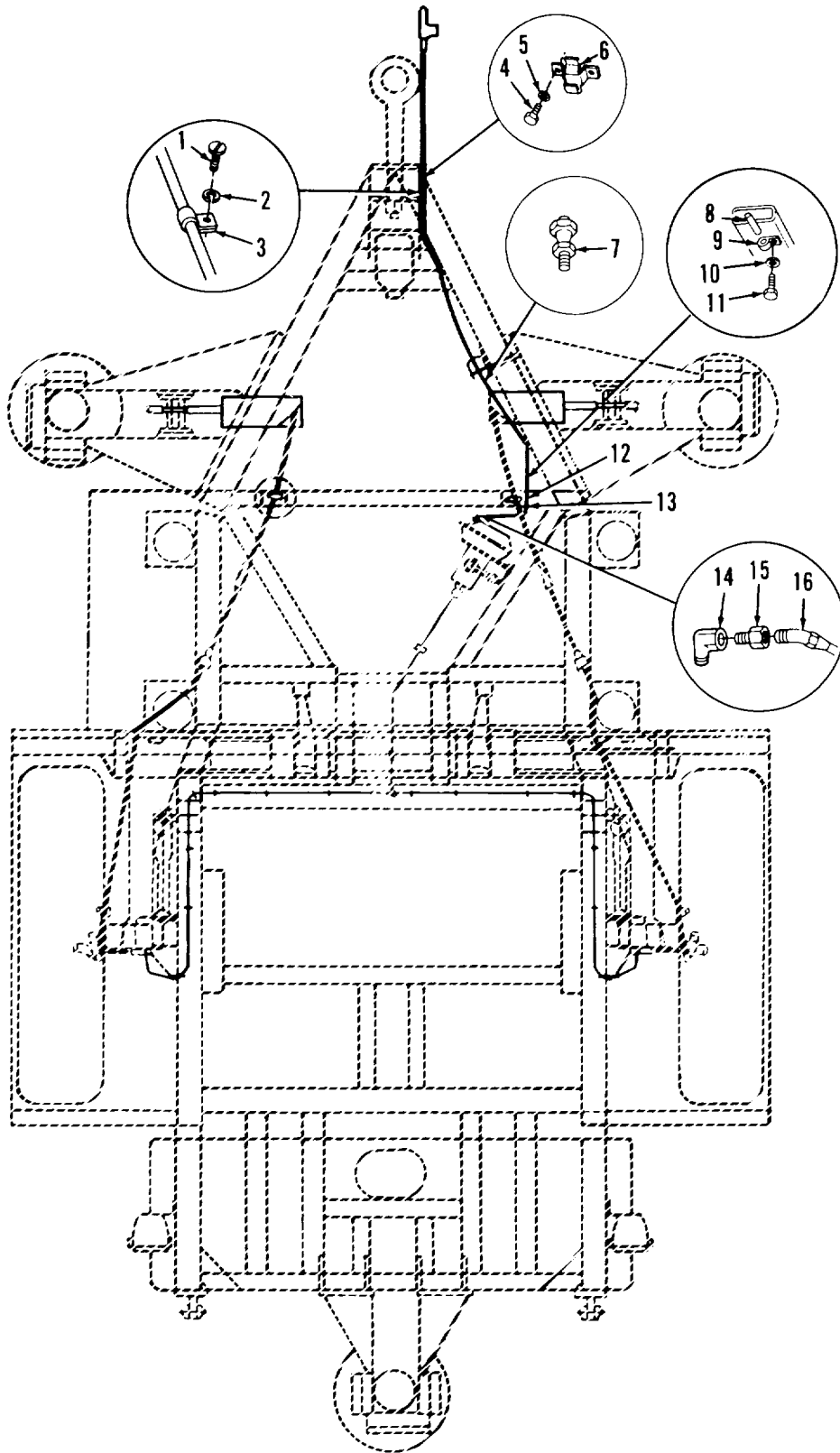
FIGURE 17. MASTER CYLINDER.

TA702205

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1204 HYDRAULIC BRAKE SYSTEM					
FIG. 17 MASTER CYLINDER					
1	PAOZZ	19207	83653S0	REDUCER TUBE MASTER CYLINDER TO TUBE	1
2	PAOZZ	19207	5156636	GASKET MASTER CYLINDER REDUCER	1
3	PAOZZ	96906	MS521301A204120	HOSE, NONMETALLIC MASTER CYLINDER..... VENT	1
4	PAOZZ	96906	MS35842-11	CLAMP, HOSE	1
5	PAOZZ	19207	E365426	TUBE ASSEMBLY METAL MASTER..... CYLINDER VENT	1
6	PAOZZ	19207	83579EC	CYLINDER ASSEMBLY, H MASTER.....	1
7	P1OZZ	63477	7979691	CAP, FILLER OPENING	1
8	PAOZZ	19207	7373354	SPACER, RING	1
9	PAOZZ	L9207	79796S9	BOOT, DUST AND MOIST	1

END OF FIGURE



TA702206

FIGURE 18. AIRBRAKE SYSTEM (M514).

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 12CB AIRBRAKE SYSTEM FIG. 18 AIRBRAKE SYSTEM (M514)					
1	PAOZZ	96906	MS90725-6	SCREW, CAP, HEXAGON UOC:914	2
2	PAOZZ	96906	MS35338-44	WASHER, LOCK , UOC:914	3
3	PAOZZ	96906	MS35140-12	STRAP, RETAINING UOC:914	2
4	PAOZZ	96906	MS90725-31	BOLT, MACHINE UOC:914	1
5	PAOZZ	96906	MS35338-45	WASHER, LOCK. UOC:914	1
6	PAOZZ	19207	7979851	BRACKET, PIPE UOC:914	1
7	PAOZZ	81343	6-4 1201028A	ADAPTER, STRAIGHT, PI UOC: 914	1
8	PAOZZ	24617	15039R	TUBE, NONMETALLIC FILTER TO CYLINDER UOC :9 14	1
9	PAOZZ	96906	MS35140-6	STRAP, RETAINING UOC:914	1
10	PAOZZ	96936	MS35338-43	WASHER LOCK UOC:914	1
11	PAOZZ	96906	MS24630-46	SCREW ,TAPPING..... UOC:914	1
12	PAOZZ	89619	107AX	TUBE, COPPER FILTER TO CHAMBER..... UOC:914	1
13	XDOZZ	96936	MS35490-35	GROMMET NONMETALLIC UOC:914	1
14	PAOZZ	19217	444166	ELBOW, PIPE FILTER TO CHAMBER TUBE UOC:914	1
15	PAOZZ	72582	444000	COUPLING, PIPE UOC:914	1
16	PAOZZ	96906	MS39182-23	ELBOW, PIPE TO TUBE UOC:914	1

END OF FIGURE

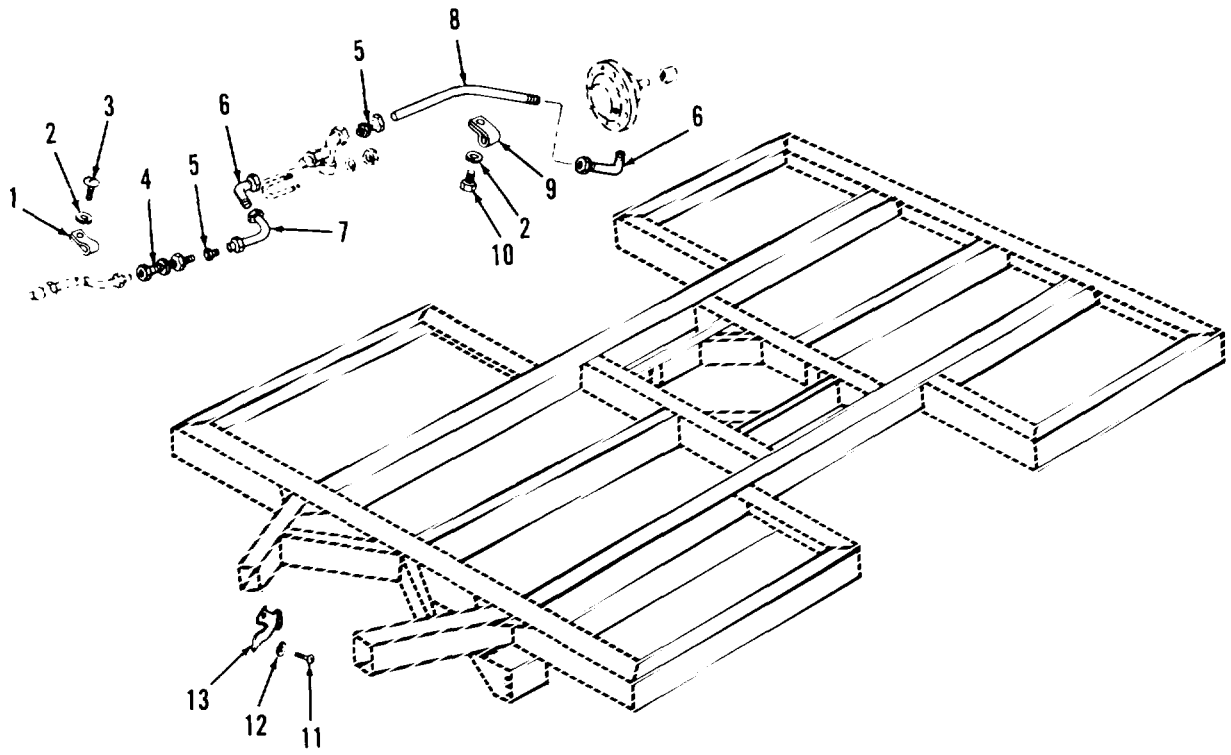


FIGURE 19. AIRBRAKE SYSTEM (M390C)

TA503125

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1208 AIRBRAKE SYSTEM					
FIG. 19 AIRBRAKE SYSTEM (M390C)					
1	PAOZZ	96906	MS21333-105	CLAMP, LOOP..... UOC: 175	1
2	PAOZZ	96906	MS35338-44	WASHER, LOCK UOC:175	6
3	PAOZZ	96906	MS35206-281	SCREW, MACHINE UOC:175	2
4	PAOZZ	19207	8328782	COUPLING, PIPE UOC:175	1
5	PAOZZ	96906	M539206-7	ADAPTER STRAIGHT PI UOC:175	2
6	PAOZZ	96906	MS51815-6	ELBOW PIPE TO TUBE UOC:175	2
6	PAOZZ	96906	MS39202-6	ELBOW PIPE TO TUBE UOC:175	1
7	PAOZZ	19207	10933343	TUBE ASSEMBLY PETAL..... UOC:175	1
8	PAOZZ	192U7	10933345	TUBE ASSEMBLY, METAL FILTER TO..... CHAMBER..... UOC:175	1
9	PAOZZ	96906	MS21333-16	CLAMP LOOP..... UOC:175	2
10	PAOZZ	96906	MS90725-3	SCREW CAP, HEXAGON H. UOC: 175	2
11	PAOZZ	96906	MS90725-3L	BOLT MACHINE. UOC:175	1
12	PAOZZ	19207	7410218	WASHER, LOCK UOC: 175	1
13	PAOZZ	19207	7979851	BRACKET PIPE..... UOC:175	1

END OF FIGURE

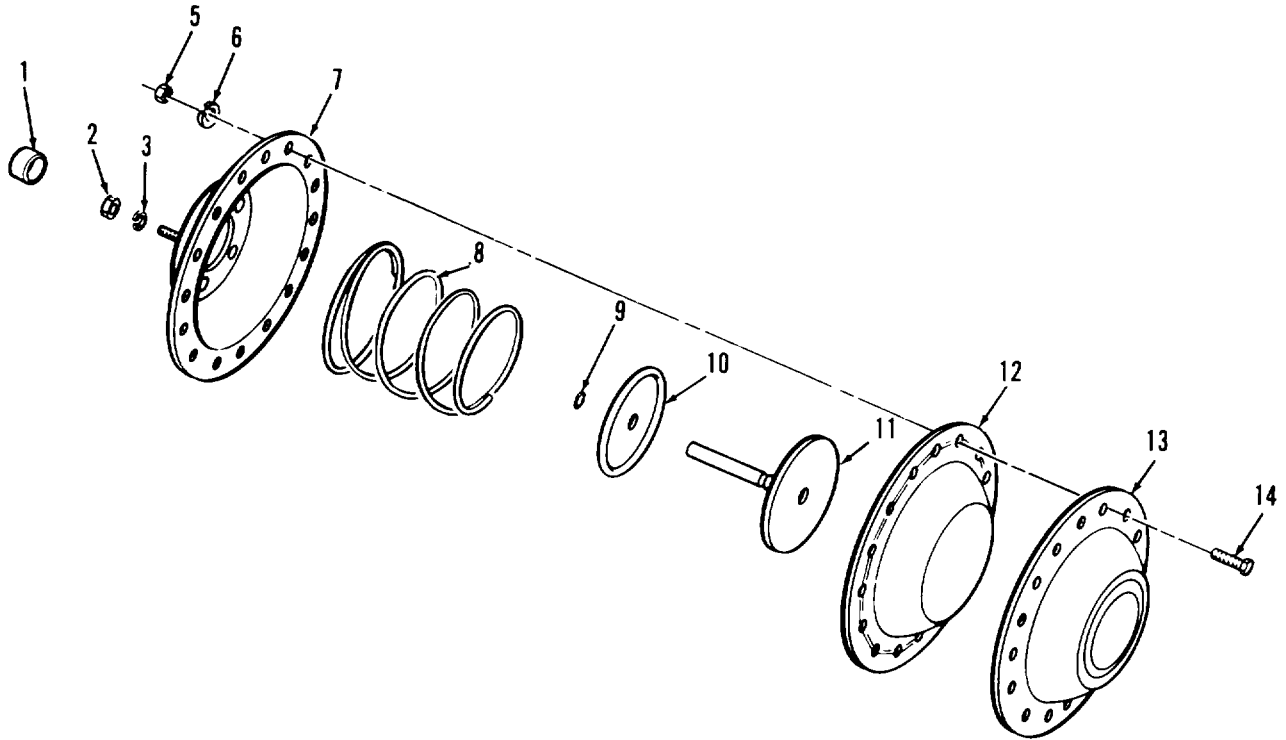
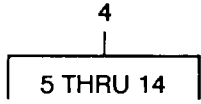


FIGURE 20. AIRBRAKE CHAMBER ASSEMBLY.

TA503126

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1208 AIRBRAKE SYSTEM					
FIG. 20 AIRBRAKE CHAMBER ASSEMBLY					
1	PAOZZ	19207	8365427	COLLAR, AIR CHAMBER.....	1
2	PAOZZ	96906	MS51967-8	NUT, PLAIN. HEXAGON	3
3	PAOZZ	12603	23E06	WASHER, LOCK	3
4	PAOOO	19207	6357981	CHAMBER, AIR BRAKE	1
5	PAOZZ	96906	MS519J8-5	.NUT, PLAIN, HEXAGON	16
6	PAOZZ	19207	7410218	.WASHER LOCK	16
7	PAOZZ	19207	7979605	.BODY ASSEMBLY, CHAMB.....	1
8	PAOZZ	19207	79796C8	.SPAING,HELICAL1CCMF	1
9	PAOZZ	81349	M834t1/1-012	.PACKING. PREFORMED	1
10	PAOZZ	19207	1979610	.RETAINER, HELICAL CC.....	1
11	PAOZZ	19207	79795S9	.ROD, CHAMBER ASSEMBLY.....	1
12	PAOZZ	65282	V3G4S)	.DIAPHRAGMtCAP'6ER	1
13	PAOZZ	19207	79796C2	.COVER ACCESS	1
14	PAOZZ	96906	MS90726-33	.BOLT MACHINE	16

END OF FIGURE

SECTION II

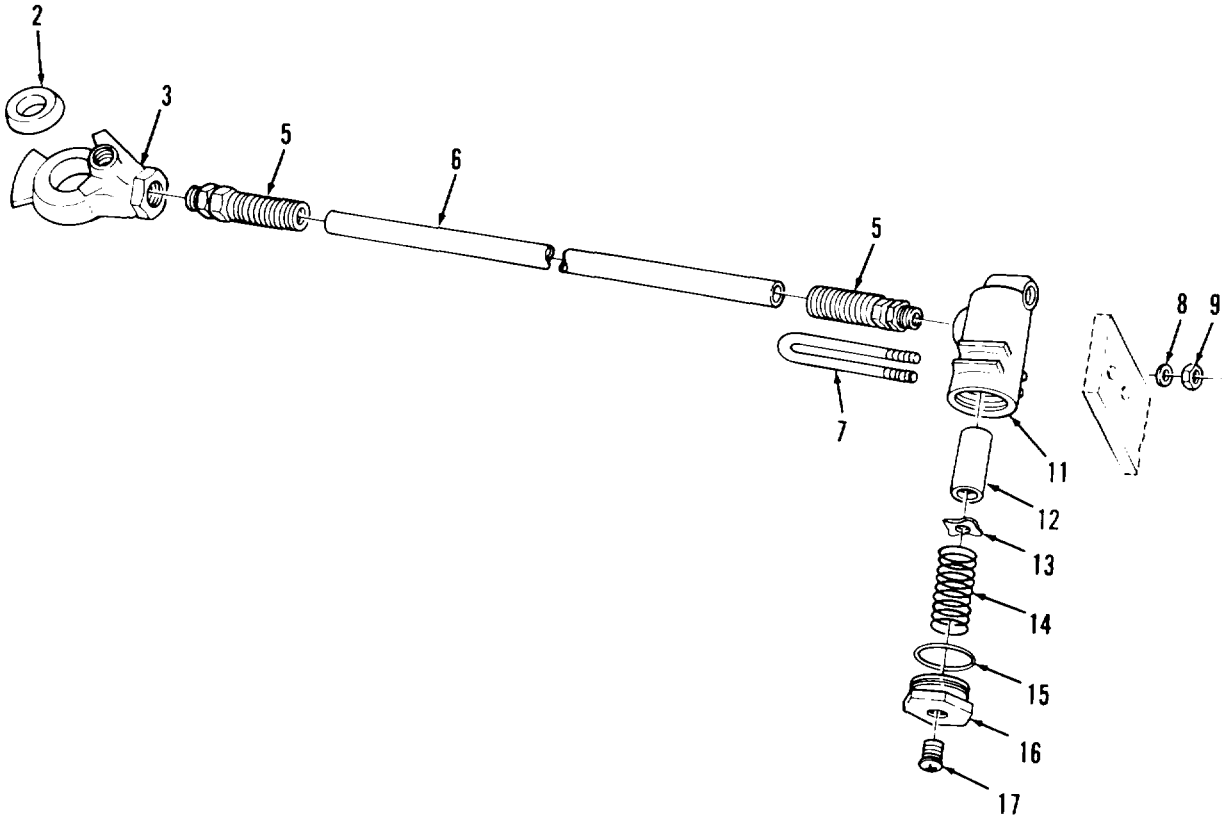
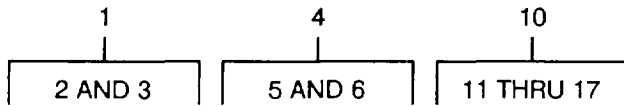


FIGURE 21. INTERVEHICULAR AIR HOSE AND AIR FILTER ASSEMBLY.

TA503127

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1208 AIRBRAKE SYSTEM					
FIG. 21 INTERVEHICULAR AIR HOSE AND AIR FILTER ASSEMBLY					
1	PAOZZ	19207	7376223	COUPLING HALF, QUICK	1
2	PAOZZ	19207	538824	.PACKING, PREFORMED	1
3	XDOZZ	192307	500333	.BODY	1
4	PAOZZ	19207	833005	HOSE ASSEMBLY NONME	1
5	PAOZZ	96906	MS39133-2-B	.ADAPTER STRAIGHT, PI	2
6	PAOZZ	18876	8528243	.HOSE , NONMETALLIC	1
7	PAOZZ	19207	19792S6	BOLT.....	1
8	PAOZZ	96906	MS35338-44	WASHER, LOCK	2
9	PAOZZ	96906	MSI59E7-2	NUT, PLAIN HEXAGON	2
10	PAOOO	19207	1411022	AIR FILTER, BRAKE LI	1
11	PAOZZ	19207	7415748	.ELBOW BODY AIR LINE.....	1
12	PAOZZ	19207	3411E1	.FILTER ELEPEh1,FLUI	1
13	PAOZZ	40342	N12972	.WASHER, SPRING TENSI.....	1
14	PAOZZ	06853	235053	.SPRING, HELICAL COMP...	1
15	PAOZZ	36853	23505S2	.GASKET.....	1
16	PAOZZ	19207	7979613	.ADAPTER BUSHING.....	1
17	PAOZZ	66640	91120C1	.PLUG, PIPE	1

END OF FIGURE

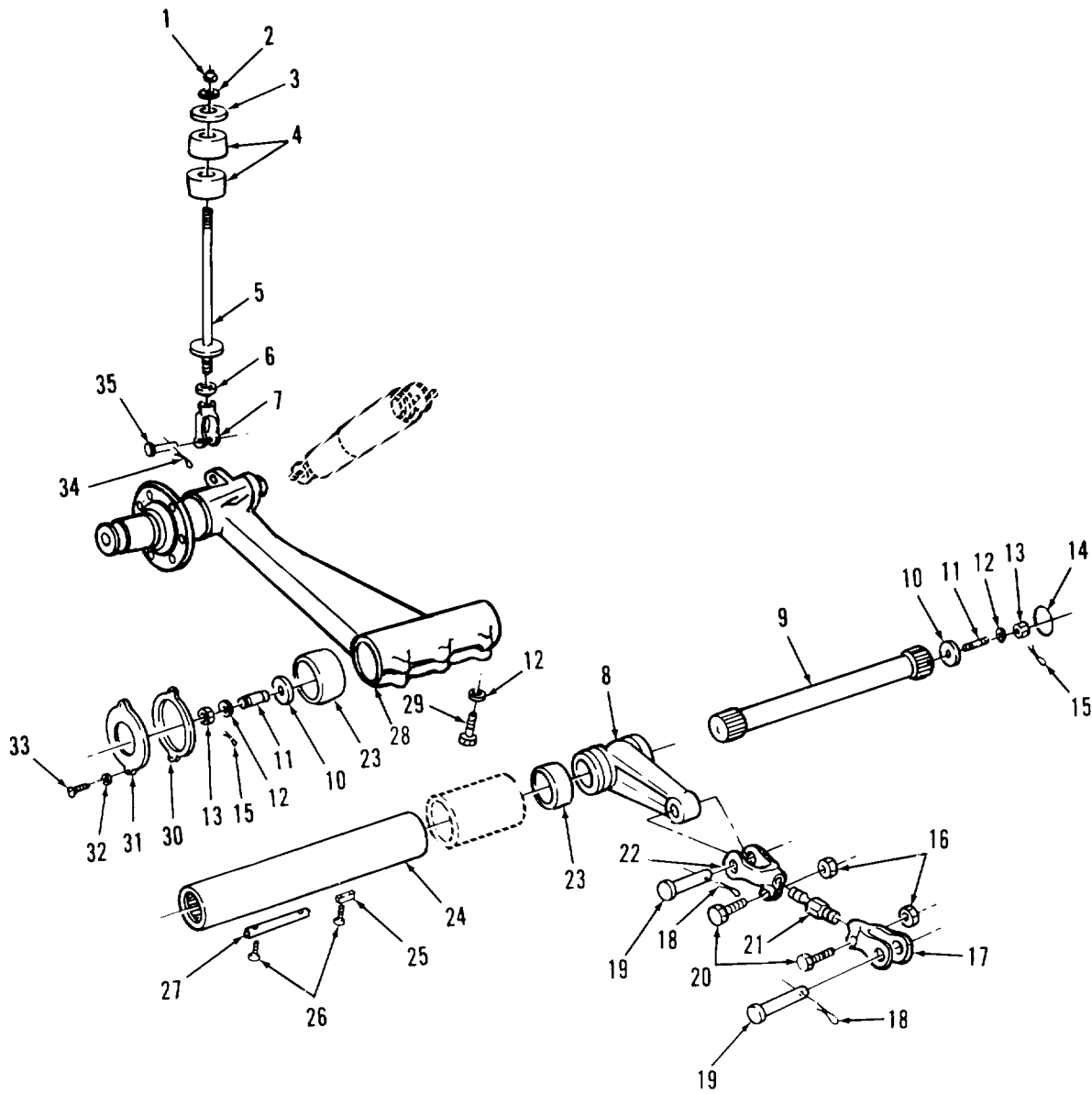


FIGURE 22. SUSPENSION SYSTEM (M514).

TA702207

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 13 WHEELS AND 1IACKS GROUP 1301 SUSPENSION ASSEMBLY FIG. 22 SUSPENSION SYSTEM (M514)	
1	PAOZZ	96906	MS21045-8	NUT SELF-LOCKING UOC:914	2
2	PAOZZ	96906	MS27183-19	WASHER, FLAT, UOC :914	2
3	PAOZZ	19207	10860119	WASHER, FLAT UOC:914	2
4	PAOZZ	19207	1086C120	BUSHING, NONMETALLIC UOC:914	4
5	PAOZZ	19207	10860131	SHAFT, SHOULDERED UOC:914	2
6	P1OZZ	96906	MS35691-37	NUT, PLAIN HEXAGON UOC:914	2
7	PAOZZ	71843	27J8-EA	CLEVIS, ROD END..... UOC:914	2
8	PAOZZ	19207	10860136	SUPPORT, TORSION BAR..... UOC:914	2
9	PAOZZ	19207	10860135	TORSION BAR SUSPENS RIGHT..... UOC:914	1
9	PAOZZ	L9207	10860134	TORSION BAR ,SUSPENS LEFT UOC:914	1
10	PAOZZ	19207	10860128	WASHER, FLAT UOC:914	4
11	PAOZZ	19237	10860129	STUD, PLAIN..... UOC:914	4
12	PAOZZ	96906	MS35338-46	WASHER, LOCK UOC:914	4
13	PAOZZ	96906	MS35692-21	NUT, PLAIN, SLOTTED UOC:914	4
14	P5OZZ	96936	MS35648-16	PLUG, EXPANSION UOC:914	2
15	PAOZZ	89749	IF316	PIN, COTTER UOC:914	4
16	P5OZZ	19207	4433'S	NUT, SELF-LCC9ING,HE..... UOC:914	4
17	PAOZZ	19201	10860117	CLEVIS, ROD END..... UOC:914	1
18	P0OZZ	96936	MS24665-423	PIN, COTTER UOC :914	4
19	PAOZZ	19207	1086C122	PIN STRAIGHT, HEADED..... UOC :914	4
20	P0OZZ	96906	MS90728-114	SCREW, CAP, HEXAGON UOC:914	4
21	P0CZZ	19207	10860121	SCREW, ADJUSTING UOC:914	2
22	PAOZZ	19207	10860118	CLEVIS. ROD END..... UOC:914	2

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
23	PAOZZ	19207	10860115	BEARING, SLEEVE..... UOC:914	4
24	PFOZZ	19207	1086C114	COVER, TORSION BAR UOC:914	2
25	PAOZZ	192U7	10660127	KEY, MACHINE UOC:914	11
26	P4OZZ	96906	MS35190-254	SCREW, MACHINE UOC :914	4
27	PAOZZ	19237	10860125	KEY, MACHINE., UOC:914	2
28	PAOZZ	19207	10860106	SUSPENSION ARM ASSE LEFT UOC :914	1
28	XDOZZ	19207	10860107	SUSPENSION AIR ASSY RIGHT..... UOC:914	1
29	PAOZZ	96906	MS90725-66	SCREW, CAP, HEXAGON UOC :914	3
30	XDOZZ	19207	10860113	GASKET UOC :914	2
31	PAOZZ	19207	10860130	COVER PLATE ACCESS..... UOC :914	2
32	PAOZZ	96906	MS35338-44	WASHER, LOCK UOC:914	4
33	PAOZZ	96906	MS90728-3	SCREW, CAP, HEXAGON UOC :914	4
34	PAOZZ	96906	MS24665-353	PIN, COTTER UOC:914	2
35	PAOZZ	96936	MS20392-7C37	PIN, STRAIGHT, HEADED..... UOC :914	2

END OF FIGURE

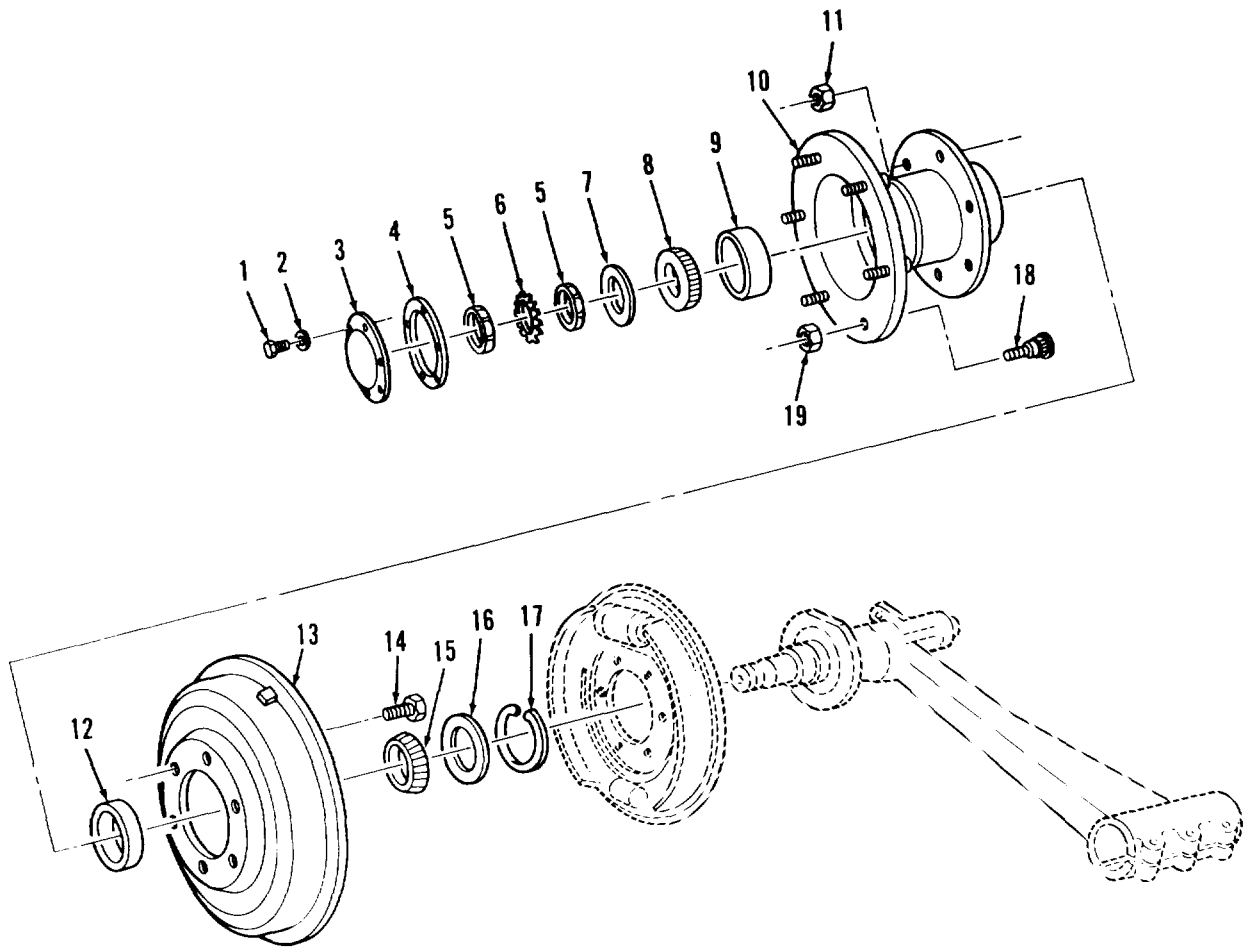


FIGURE 23. HUB AND BRAKEDRUM ASSEMBLY (M514)

TA503129

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1311 WHEEL ASSEMBLY FIG. 23 HUB AND BRAKEDRUM ASSEMBLY (M514)					
1	PAOZZ	96906	MS90725-84	SCREW, CAP, HEXAGON UOC:914	3
2	PAOZZ	96906	MS35338-47	WASHER, LOCK UOC:914	3
3	PAOZZ	19207	86758S2	COVER, ACCESS UOC:914	1
4	PAOZZ	19207	7351041	GASKET UOC:914	1
5	PAOZZ	96906	MS51908-091	NUT, PLAIN, ROUND UOC:914	2
6	PAOZZ	96906	MS19071-092	WASHER, KEY UOC:914	1
7	PAOZZ	19207	8395502	WASHER, KEY UOC:914	1
8	PAOZZ	08162	BT35S5	CONE AND ROLLERS, TA..... UOC :914	1
9	PAOZZ	21450	706640	CUP, TAPERED ROLLER UOC:914	2
10	PAOZZ	19207	7973176	HUB, BODY UOC:914	1
11	PAOZZ	19237	7222571	NUT, PLAIN, SLOTTED UOC:914	6
12	PAOZZ	61220	28622	CUP, TAPERED ROLLER UOC:914	1
13	PAOFF	09386	78324	BRAKE DRUM UOC:914	1
14	PAOZZ	96906	MS35308-40B	SCREW, CAP, HEXAGON UOC:914	6
15	PAOZZ	21450	705472	CONE AND ROLLERS, TA..... UOC:914	1
16	PAOZZ	81600	061072ARPC29	SEAL, PLAIN ENCASED UOC:914	1
17	PAOZZ	96906	MS16625-13E7	RING, RETAINING UOC:914	1
18	PAOZZ	19207	7339238	BOLT, RIBBED SHOULDER RIGHT HAND..... UOC :914	6
18	PAOZZ	19207	7339239	BOLT, RIBBED SHOULDER LEFT HAND UOC:914	6
19	PAOZZ	96906	MS51983-1	NUT, PLAIN, SINGLE BA UOC :914	6
19	PAOZZ	96906	MS51983-2	NUT, PLAIN, SINGLE BA UOC:914	6

END OF FIGURE

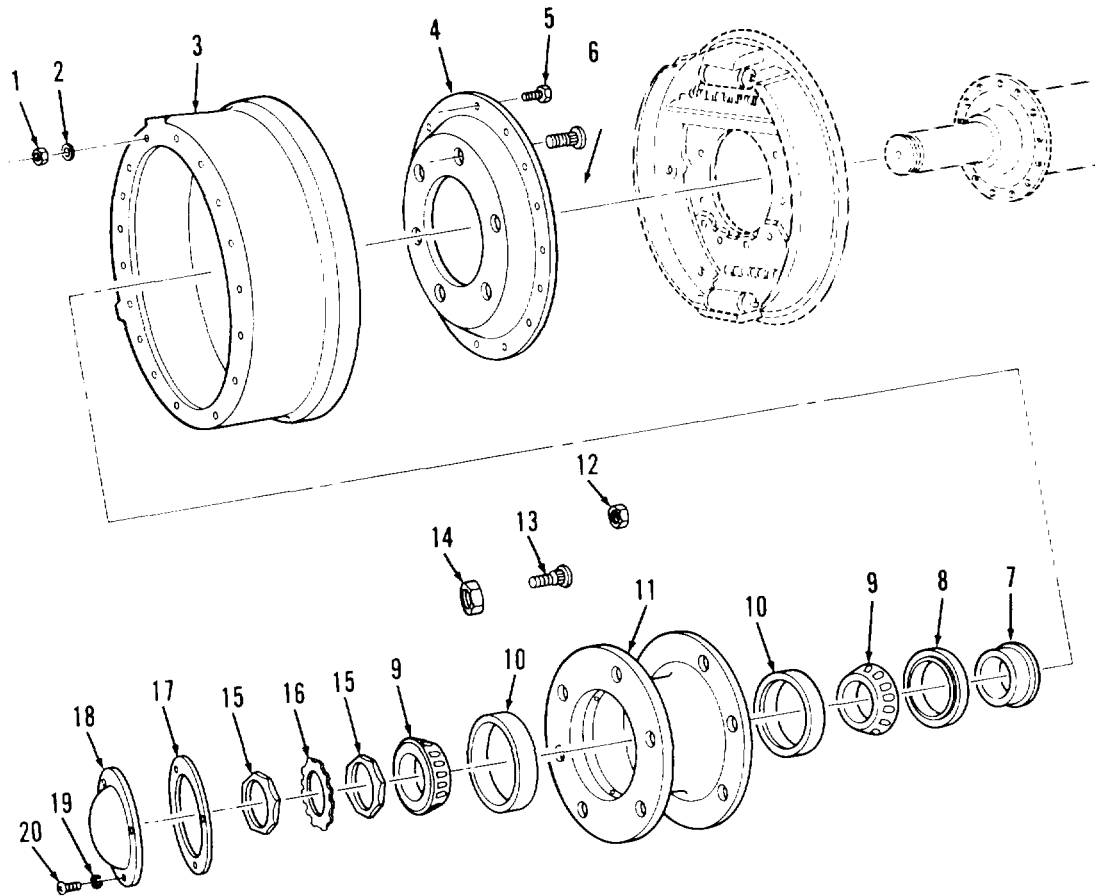


FIGURE 24. HUB ASSEMBLY, BRAKEDRUM, AND RELATED PARTS (M390C)

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SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1311 WHEEL ASSEMBLY FIG. 24 HUB ASSEMBLY BRAKEDRUM AND RELATED PARTS (M390C)					
1	PAOZZ	96936	MS21045-6	NUT, SELF-LOCKING, HE	16
2	PAOZZ	96906	MS27183-14	UOC:175 WASHER, FLAT	16
3	PAOFF	19207	7411425	UOC:175 BRAKE DRUM	2
4	PAOZZ	19207	7413231	UOC:175 PLATE, BACKING, BRAKE	1
5	PAOZZ	39386	70627E	UOC:175 BOLT, RIBBED NECK	16
6	PAOZZ	19207	8333780	UOC:175 BOLT, RIBBED SHOULDER	6
7	PAOZZ	19207	7411433	UOC:175 SPACER, SLEEVE	1
8	PAOZZ	1927	7411429S	UOC:175 SEAL, PLAIN ENCASED	1
9	PAOZZ	19237	7411376	UOC:175 CONE AND ROLLERS, A.....	2
10	PAOZZ	19201	7411377	UOC:175 CUP, TAPERED ROLLER.....	2
11	PAOZZ	19207	8719915	UOC:175 HUB, WHEEL, VEHICULAR	1
12	PAOZZ	96906	MS51S43-46	UOC:175 NUT, SELF-LOCKING, HE	6
13	PAOZZ	96906	MS51S46-1	UOC:175 BOLT, RIBBED SHOULDER LEFT WHEEL	6
13	PAOZZ	09386	68248	UOC:175 BOLT, RIBBED SHOULDER RIGHT WHEEL	6
14	PAOZZ	969U6	MS51S83-1	UOC:175 NUT, PLAIN SINGLE BA LEFT WHEEL	6
14	PAOZZ	96906	MS51983-2	UOC:175 NUT, PLAIN, SINGLE BA RIGHT WHEEL	6
15	PAOZZ	19207	7411379	UOC:175 NUT, PLAIN, OCTAGON	2
16	PAOZZ	19207	74112718	UOC:175 WASHER, KEY	1
17	PAOZZ	50513	25330W	UOC:175 GASKET	
18	PAOZZ	19200	6144454	UOC:175 HUB CAP, WHEEL	1
19	PAOZZ	96906	MS35338-63	UOC:175 WASHER, LOCK	3
23	PAOZZ	96936	MS35206-2719	UOC:175 SCREW, MACHINE	3

END OF FIGURE

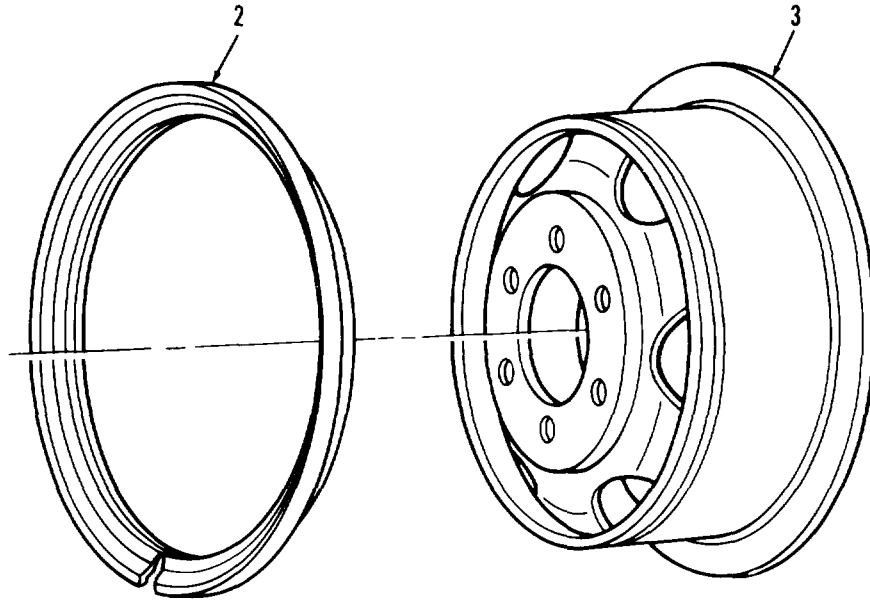
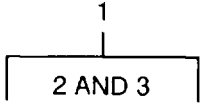


FIGURE 25. WHEEL AND RIM ASSEMBLY

TA503131

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 1311 WHEEL ASSEMBLY					
FIG. 25 WHEEL AND RIM ASSEMBLY					
1	PAOZZ	19207	738962L	WHEEL, PNEUMATIC TIR	2
2	PAOZZ	19207	7389C61	.RING, SIDE, AUTOMOTIV	1
3	PAOZZ	19207	7389620	.WHEEL, PNEUMATIC TIR	1

END OF FIGURE

SECTION II

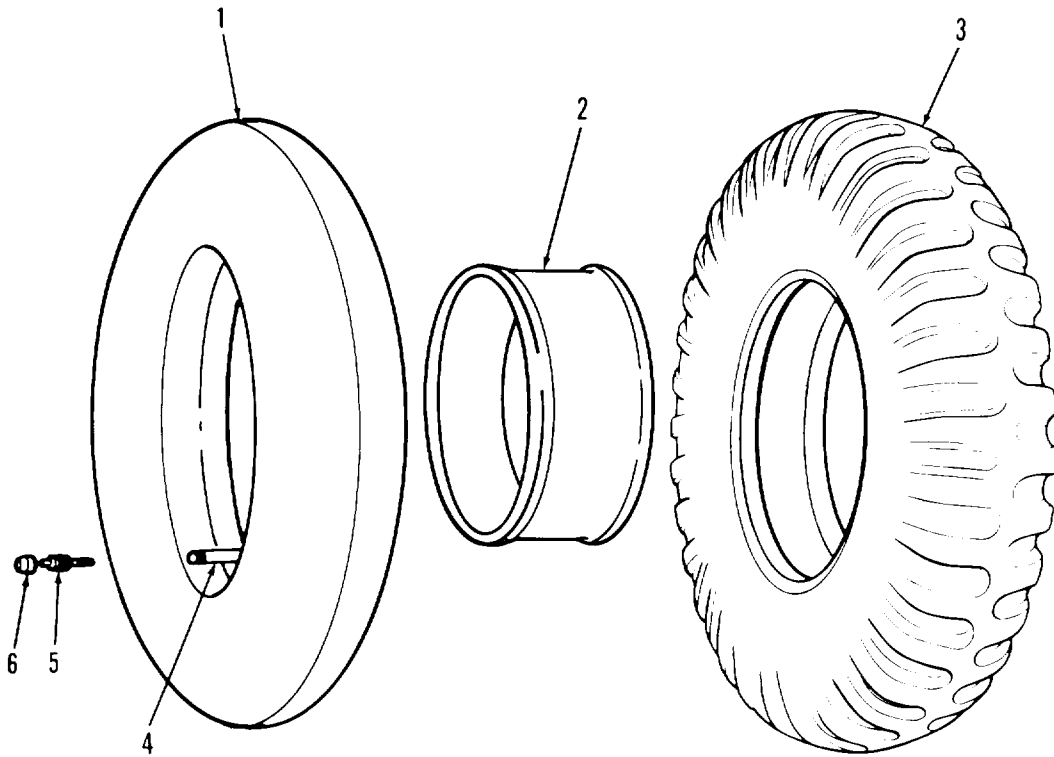
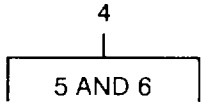


FIGURE 26. TIRES AND TUBES.

TA503132

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 1313 TIRES, TUBES, TIRE CHAINS FIG. 26 TIRES AND TUBES	
1	PAOZZ	81348	9.00-20/TR443/TR 463/TR175A/TB	INNER TUBE , PNEUMATI.....	2
2	PAOZZ	73838	20R	FLAP INNER TUBE, PNE.....	1
3	PAOFF	81348	ZZT3A1M/GROUP3 /9.00-20ID/TBCC	TIRE PNEUMATIC.....	2
4	PAOZZ	27783	650	VALVE, PNEUMATIC TIR	2
5	PAOZZ	96906	MS51377-1	.VALVE CORE	2
6	PAOZZ	51665	US48	.CAP, PNEUMATIC VALVE.....	2

END OF FIGURE

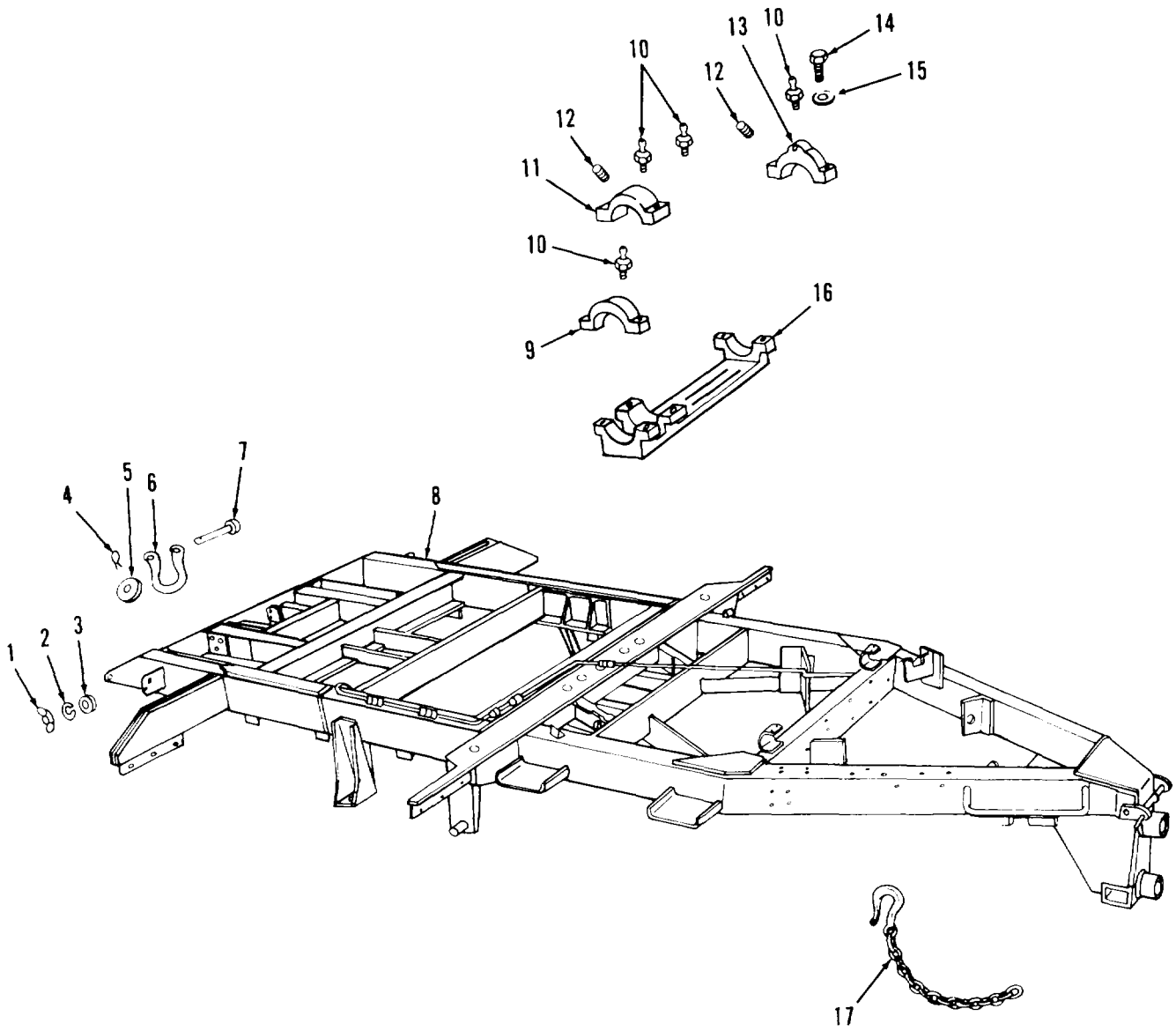


FIGURE 27. SHACKLES AND ASSOCIATED PARTS (M514).

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SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 15 FRAME, YG11IG ATTACHMENTS, DRAWBARS, ANC ARTICULATION SYSTEMS GROUP 15J1 FRAME ASSEMBLY FIG. 27 SHACKLES AND ASSOCIATED PARTS (M5141	
1	PAOZZ	96906	MS35426-18	NUT, PLAIN, WING UOC :914	2
2	PAOZZ	96906	MS35240-48	WASHER, LOCK UOC:914	2
3	PAOZZ	96906	MS271E3-19	WASHER, FLAT UOC :914	2
4	PAOZZ	96906	MS24665-355	PIN, COTTER UOC:914	2
5	PAOZZ	96996	MS27183-21	WASHER, FLAT UOC:914	2
6	PAOZZ	19207	S070061	SHACKLE UOC:914	2
7	PAOZZ	96906	MS20392-SC127	PIN, STRAIGHT, HEADED..... UOC :914	2
8	XAFZZ	19207	873990	FRAME UOC:914	1
9	XBOZZ	19207	8740112	SUPPORT..... UOC :914	2
10	PAOZZ	96906	MS15U03-5	FITTING, LUBRICATION..... UOC:914	8
11	XEOZZ	19237	87401C8	SUPPORT ,LEFT UOC:914	1
11	XBOZZ	19207	87401C9	SUPPORT, RIGHT UOC:914	1
12	PAOZZ	96906	MS51S55-74	SET SCREW UOC :914	4
13	XEOZZ	19207	8740110	SUPPORT,LEF1 UOC:914	1
13	XBOZZ	19207	8740111	SUPPORT, RIGHT UOC :914	1
14	PAOZZ	96906	MS90726-64	SCREW, CAP, HEXAGON H UOC:914	16
15	PAOZZ	96906	MS35'38-46	WASHER, LOCK UOC :914	16
16	XEOZZ	19207	8740113	SUPPORT, SUSPENSION LEFT UOC:914	1
16	XBOZZ	19207	8740114	SUPPORT, SUSPENSION RIGHT..... UOC:914	
17	PAOZZ	19237	8686728	CHAIN ASSEMBLY..... UOC:914	1

END OF FIGURE

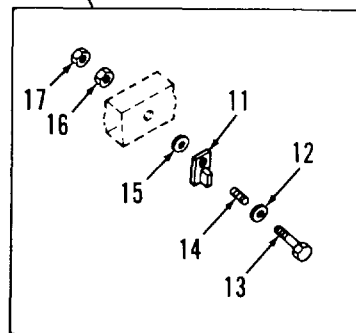
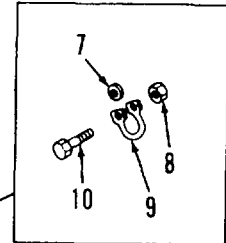
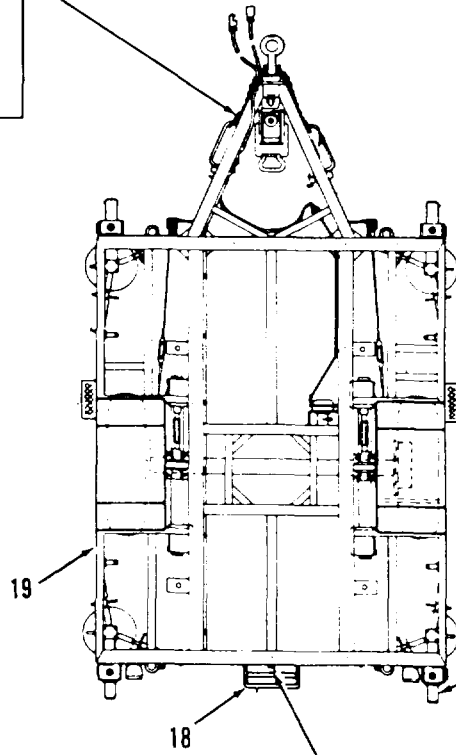
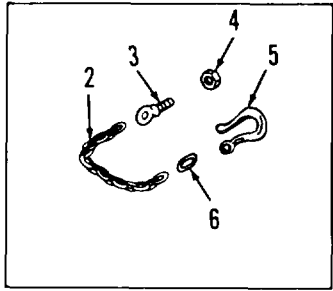
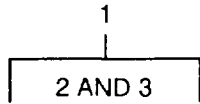


FIGURE 28. CHAIN, LADDER LATCH, SHACKLES, AND ASSOCIATED PARTS (M390C).

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 1501 FRAME AS5EiLY FIG. 28 CHAIN, LADDER LATCH, SHACKLES, AND ASSOCIATED PARTS (M390C)	
1	PAOZZ	19207	7411C27	CHAIN ASSEMBLY SING.....	2
				UOC:175	
2	XAOZZ	8J244	42C14495	.CHAIN.....	V
				UOC:175	
3	PAOZZ	21450	50034	.BOLT, EYE	1
				UOC:175	
4	PAOZZ	96936	MS51922-49	NUT, SELF-LOCKING, HE	2
				UOC: 175	
5	PAOZZ	19207	7339460	HOOK, HOIST	2
				UOC:175	
6	PAOZZ	19207	7S795S8	LINK, CHAIN END	2
				UOC: 175	
7	PAOZZ	96936	MS27183-23	WASHER, FLAT	4
				UOC:175	
8	PAOZZ	96936	MS51967-23	NUT, PLAIN, HEXAGON	4
				UOC:175	
9	PAOZZ	19207	10891283	SHACKLE	4
				UOC:175	
10	PAOZZ	19207	10891284	BOLT MACHINE	4
				UOC:175	
11	PAOZZ	19207	8364004	LATCH, RETAINING LADDER	1
				UOC: 175	
12	PAOZZ	96906	PS27183-14	WASHER, FLAT,	1
				UOC:175	
13	XBOZZ	21450	126670	SCREW	1
				UOC:175	
14	PAOZZ	19207	83640CS	SPRING, LADDER.....	1
				UOC:175	
15	XBOZZ	19207	8364C10	WASHER	1
				UOC:175	
16	PAOZZ	96906	MS51967-8	NUT, PLAIN, HEXAGON	1
				UOC:175	
17	PAOZZ	96906	MS356S1-17	NUT, PLAIN, HEXAGON	1
				UOC:175	
18	XDOZZ	19207	10891229	LADDER, VEHICLE	1
				UOC:175	
19	XAOZZ	19207	10891200	FRAME	1
				UOC:175	

END OF FIGURE

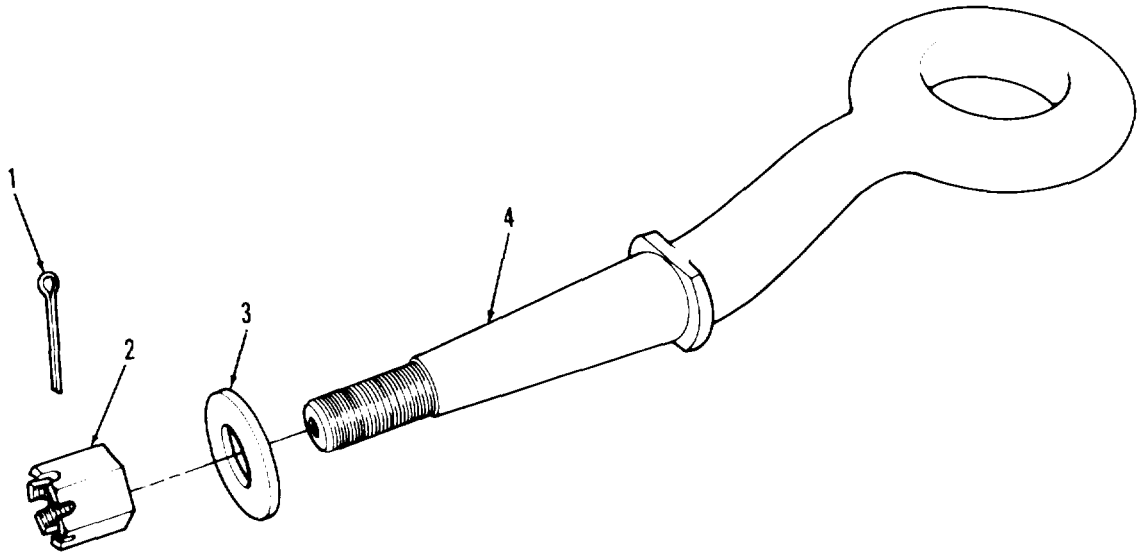


FIGURE 29. DRAWBAR COUPLER AND ATTACHING HARDWARE.

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SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 1503 PINTLES AND TOWING ATTACHMENTS FIG. 29 DRAWBAR COUPLER AND ATTACHING HARDWARE	
1	PAOZZ	96906	MS246f5-499	PIN, COTTER	1
2	PAOZZ	19207	71411C28	NUT, PLAIN, SLOTTED, H..... UOC:175	1
2	PAOZZ	19207	7414684	NUT, SLOTTED HEXAGON	1
				UOC:914	
3	PAOZZ	96906	MS27183-29	WASHER, FLAT	1
4	PAOZZ	96906	MS51239-3	COUPLER, DRAWBAR	1

END OF FIGURE

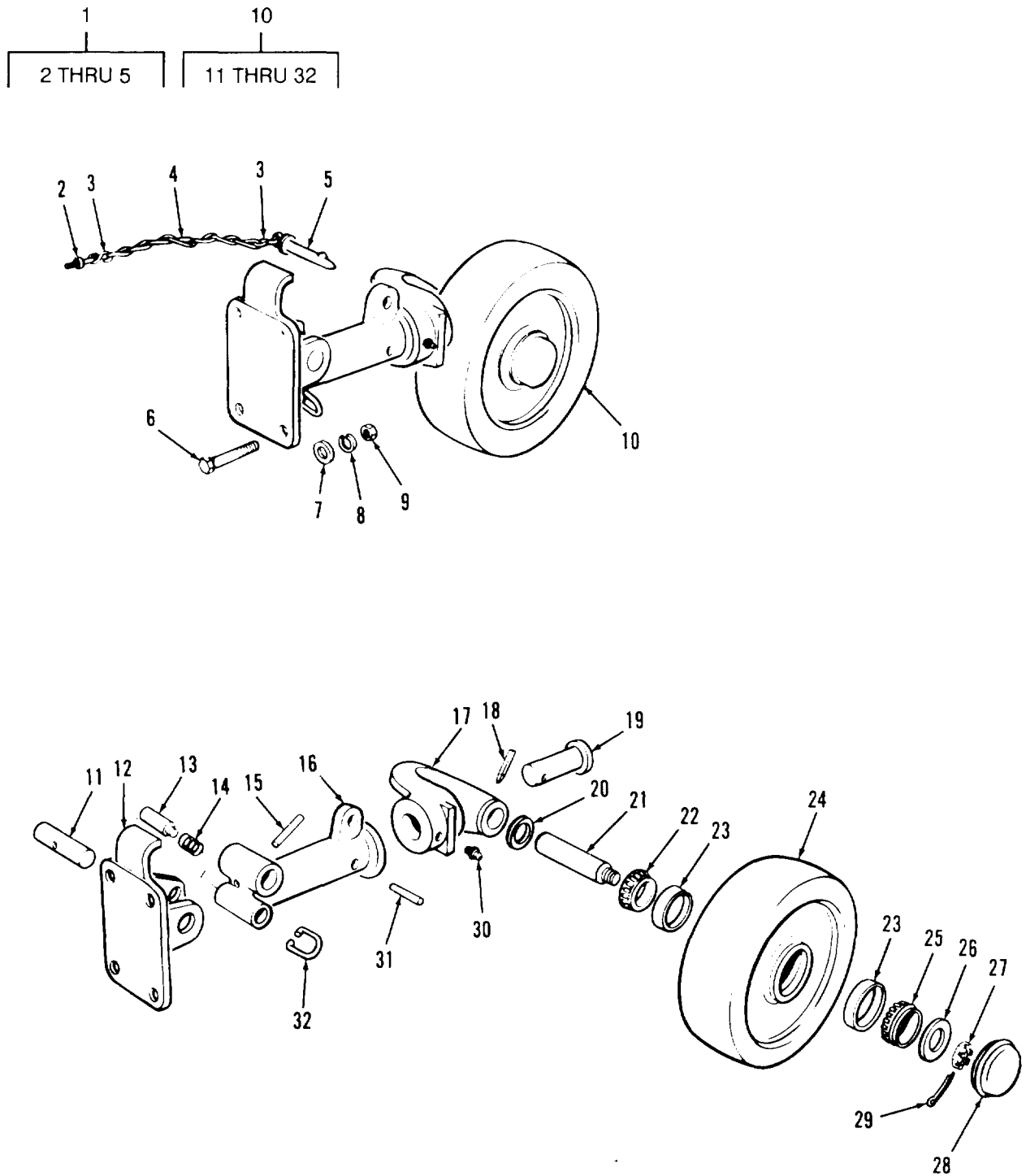


FIGURE 30. RETRACTABLE SUPPORT ASSEMBLY (M514).

TA503136

SECTION II

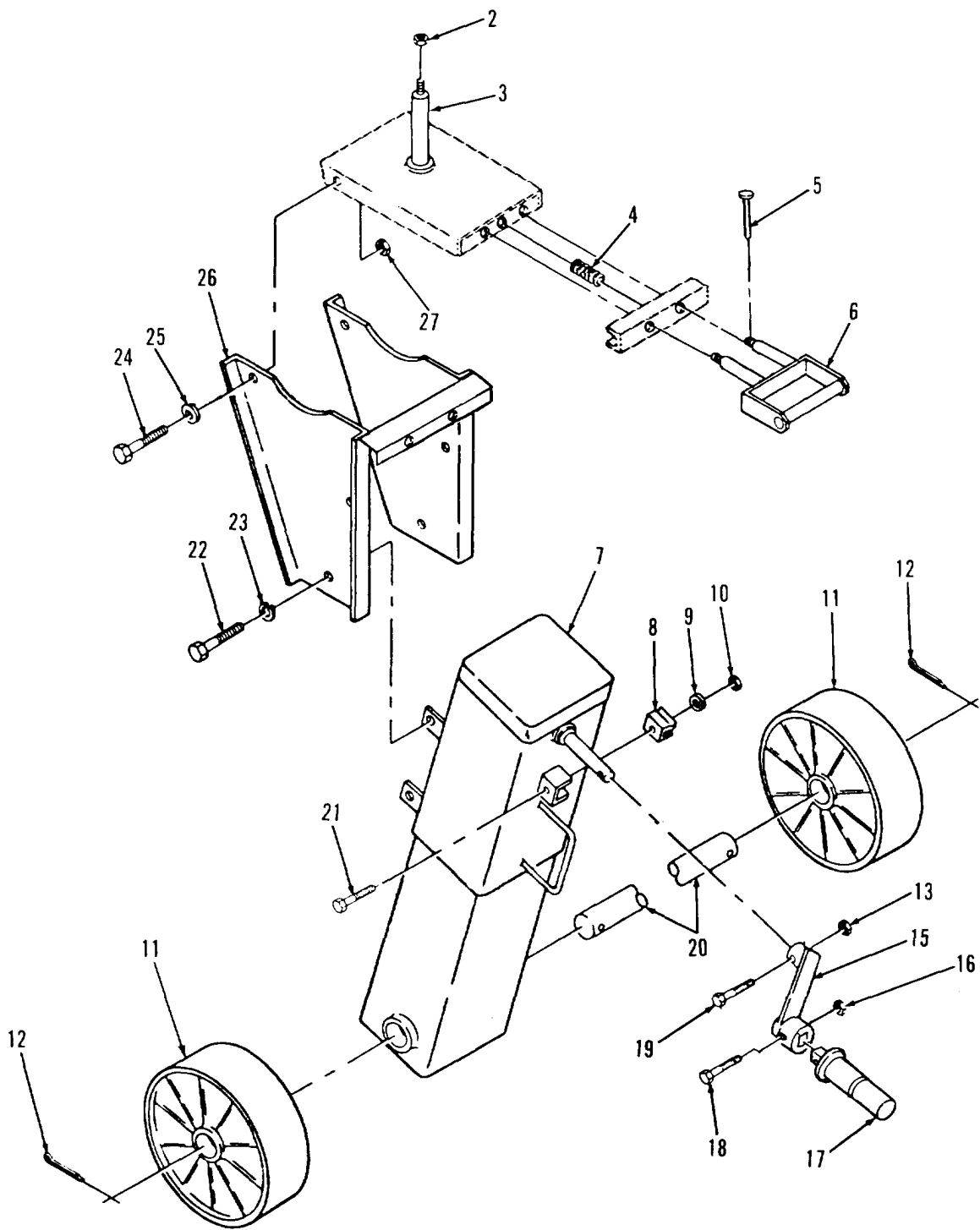
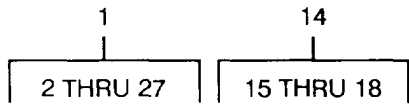
(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 1507 LANCING GEAR, LEVELING JACKS FIG. 30 RETRACTABLE SUPPORT ASSEMBLY (M514)	
1	PAOZZ	20800	8740192	CHAIN ASSEMBLY, SING..... UOC:914	1
2	XDOZZ	19207	5203C89	.BOLT, EYE UOC:914	1
3	PAOZZ	96906	MS87006-51	.HOOK, CHAIN, S..... UOC:914	2
4	XBOZZ	81349	RRC271BTY1GRCC	.CHAIN, WELDED V	
			L5STYLE1	UOC:914	
5	PAOZZ	19207	87401St1	.PIN, TOGGLE, EYE COLL. UOC:914	1
6	PAOZZ	96906	MS90715-118	SCREW, CAP, HEXAGON UOC:914	4
7	PAOZZ	96936	MS27183-L8	WASHER, FLAT UOC:914	4
8	PAOZZ	96906	MS35340-48	WASHER, LOCK UOC:914	4
9	PAOZZ	13305	235C7	NUT, PLAIN, HEXAGON UOC:914	4
10	PAOOO	19207	E364023	SUPPORT RETRACTABLE UOC:914	1
11	P4OZZ	192J7	8364026	.PIN, STRAIGHT, HEADLE UOC:914	1
12	XAOZZ	L9207	8364C24	.SUPPORT..... UOC:914	1
13	PAOZZ	52793	13394	.PIN, STRAIGHT, HEADED..... UOC:914	1
14	PAOZZ	19207	8364027	.SPRING, HELICAL UOC:914	1
15	PAOZZ	96906	MS16562-68	.PIN, SPRING UOC:914	1
16	PAOZZ	19207	8364032	.SWIVEL, JACK LEVELIN UOC:914	1
17	XAOZZ	19207	8364031	.SUPPORT..... UOC:914	1
18	PAOZZ	96906	MS16562-1	.PIN, SPRING UOC:914	1
19	PAOZZ	19207	8364025	.PIN, STRAIGHT HEADED..... UOC:914	1
20	XDOZZ	19207	8374028	.SPACER UOC:914	1
21	XDOZZ	19207	8364034	.SPINDLE WHEEL UOC :9 14	1
22	PAOZZ	02246	125-256	.CONE AND ROLLERS UOC:914	1
23	PAOZZ	19207	364038	.CUP, TAPERED ROLLER UOC:914	2

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
24	PAOZZ	19207	8364C36	.WHEEL METAL TIRE UOC:914	1
25	PAOZZ	19207	7034651	.CONE AND ROLLERS, TA..... UOC:914	1
26	XDOZZ	19207	8740187	.WASHER, LOCK UOC:914	1
27	PAOZZ	19207	7350585	.NUT, PLAIN, SLOTTED UOC:914	1
28	PAOZZ	19207	836402S	.CAP, CREASE UOC:914	1
29	PAOZZ	96906	MS24665-357	.PIN, COTTER UOC:914	1
30	PAOZZ	96906	MS15002-1	.FITTING, LUBRICATED UOC:914	1
31	PAOZZ	96906	MS165§2-74	.PIN, SPRING UOC:914	1
32	PAOZZ	19207	7032176	.LINK, CHAIN, END UOC:914	11

END OF FIGURE

SECTION II



TA702211

FIGURE 31. RETRACTABLE SUPPORT ASSEMBLY (M390C).

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				GROUP 1507 LANDING GEAR, LEVELING JACKS FIG. 31 RETRACTABLE SUPPORT ASSEMBLY (M390C)	
1	PAOOO	19201	1225S830	SUPPORT RETRACTABLE UOC:175	1
2	PAOZZ	96906	MS21044-N12	.NUT, SELF-LOCKING, HE UOC:175	1
3	PAOZZ	23705 324420		.SPINDLE, WHEEL, DRIVE UOC:175	1
4	PAOZZ	19207	8331541	.SPRING, HELICAL, COMP UOC:175	1
5	PAOZZ	96906	MS16556-844	.PIN, STRAIGHT, HEADLE UOC:175	2
6	PAOZZ	19207	12259844	.HANDLE, DRAIN EAR UOC:1i5	1
7	XAOZZ	19207	12259830-1	.LEG, SEMITRAILER RET UOC:175	1
8	PAOZZ	19207	12312996	.CLIP, RETAINING. UOC:175	1
9	PAOZZ	96906	MS27183-42	.WASHER UOC:175	1
10	PAOZZ	96906	MS51922-1	.NUT, SELF-LOCKING HE UOC: 175	1
11	PAOZZ	19207	12259845	.WHEEL, METAL TIRE UOC:175	2
12	P9OZZ	96906	MS165:2-, 5	.PIN, SPRING UOC:175	2
13	PAOZZ	96906	MS17829-4C	.NUT, SELF-LOCKING HE., UOC:175	1
14	PAOZZ	19207	12259835	.CRANK, HAND UOC:115	1
15	PAOZZ	19207	12259840	..ARM, HAND CRANK UOC:175	1
16	PAOZZ	96906	MS21083-N5	..NUT, SELF-LOCKING UOC:175	1
17	P9OZZ	19207	12259837	..HANDLE MANUAL CONE UOC:175	1
18	PAOZZ	96936	MS90726-38	..BOLT, MACHINE UOC:175	1
19	PAOZZ	96906	MS90725-10	.SCREW, CAP. HEXAGON UOC:175	1
20	PAOZZ	19207	12259831	.SHAFT, STRAIGHT UOC: 175	1
21	PAOZZ	96936	MS90725-5	.SCREW, CAP, HEXAGON H UOC:175	1
22	PAOZZ	96906	MS90728-109	.SCREW, CAP, -HEXAGON UOC: 175	4
23	PAOZZ	96906	MS35338-48	.WASHER, LOCK UOC:175	4

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
24	PAOZZ	19207	7979972	.BOLT, SHOULDER..... UOC:175	1
25	PAOZZ	96906	MS27183-20	.WASHER, UOC:175	1
26	PAOZZ	19207	1225S39	.LEG, SEMITRAILER RET..... UOC:15	1
27	PAOZZ	96906	MS2L1044-N9	.NUT, SELF-LOCKING HE UOC:175	1

END OF FIGURE

SECTION II

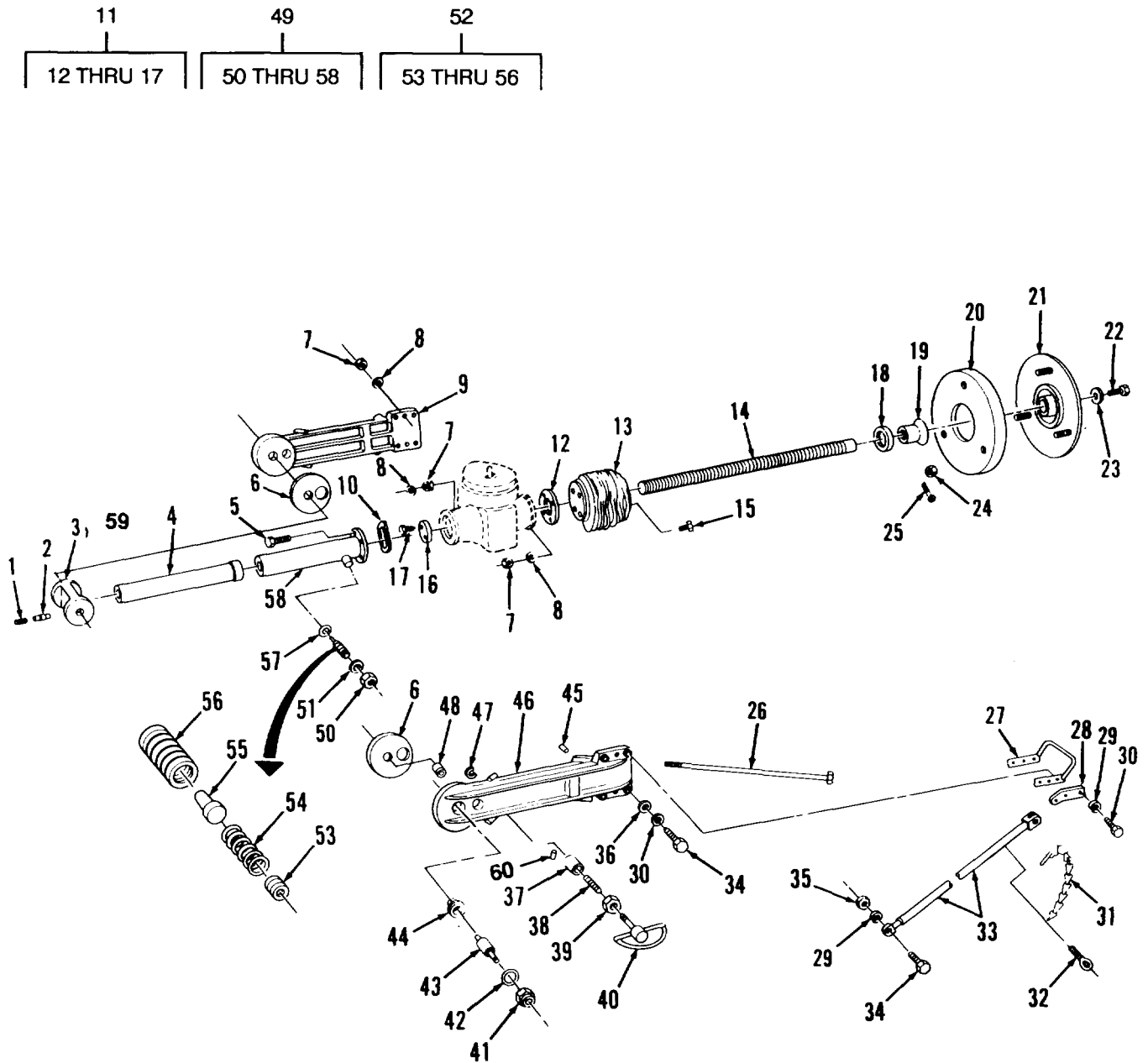


FIGURE 32. LEVELING JACK AND ASSOCIATED PARTS (M514).

TA702212

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 32 LEVELING JACK AND ASSOCIATED PARTS (M514)					
1	PAOZZ	96906	MS51965-28	SETSCREW UOC:914	1
2	PAOZZ	19207	81759865	INSERT,LEVELING JAC UOC:914	1
3	PAOZZ	19207	10906399	YOKE,LEVELING JACK..... UOC:914	1
4	PAOZZ	19207	8739876	COVER, SCREW UOC:914	1
5	PAOZZ	96906	MS90725-8	SCREW, CAP, HEXAGON UOC:914	4
6	PAOZZ	19207	1086C091	SPACER, PLATE UOC:914	2
7	PAOZZ	96906	MS51967-2	NUT, PLAIN, HEXAGON UOC:914	10
8	PAOZZ	96906	MS35338-44	WASHER, LOCK..... UOC:914	10
9	PAOZZ	19207	10914247	SUPPORT ASSE8LYt,R UOC:914	L
9	PAOZZ	19207	13332282	SHOE,JACK-SLFFGT.T..... UOC: 914	1
10	PAOZZ	19207	8739881	GASKET UOC:914	1
11	PAOOO	19207	8759746	SUPPORT, RETRACTABLE,..... UOC:914	1
12	PAOZZ	19207	8739883	.PLATE UOC:914	1
13	POOZZ	19207	7341463	.SLEEVE, SCREW UOC:914	1
14	PAOZZ	19207	10860S38	.ROD, CONTINUOUS THRE UOC:914	1
15	PAOZZ	96936	MS3510S-239	.SCREW, MACHINE UOC:914	4
16	PAOZZ	19237	8759747	.STOP..... UOC:914	1
17	PAOZZ	96906	MS6997-60	.SCREW, CAP, SOCKET UOC:914	2
18	PAOZZ	96906	MS35842-13	CLAMP,HOSE..... UOC:914	1
19	PAOZZ	19207	8759766	SOCKET ASSEMBLY,SCR..... UOC:914	1
23	PAOZZ	192J7	10860086	COVER,ACCESS..... UOC:914	1
21	PAOZZ	19207	10860085	SHOE, LEVELING..... UOC:914	1
22	PAOZZ	96906	MS90725-164	SCREW,CAP,HEXAGON UOC:914	1

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE	CAGEC	NUMBER		
23	PAOZZ	96906	MS35335-39	WASHER, LOCK..... UOC :914	1
24	PAOZZ	96906	MS35692-37	NUT, SLOTTED HEXAGON UOC :914	3
25	PAOZZ	96906	MS24t65-285	PIN, COTTER UOC:914	3
26	PAOZZ	19207	759862	ROD, SLPPORT, JACK LE UOC :914	2
27	PAOZZ	19207	10914359	BAR, HANDLE UOC:914	1
28	PAOZZ	19207	8759504	BRACKET, LEVELING JA RIGHT PEAR UOC:914	1
29	PAOZZ	96936	MS35338-46	WASHER, LOCK..... UOC:914	16
30	PAOZZ	96906	MS90725-66	SCREW, CAP, HEXAGON UOC :914	1
31	XCOZZ	19207	8759898	PIN, QUICK RELEASE UOC:175	1
32	PAOZZ	19207	8759E8S	EYE BOLT UOC:914	1
33	PAOZZ	19207	8759903	SUPPORT ASSEMBLY..... UOC:914	1
34	PAOZZ	96906	MS90725-65	SCREW, CAP, HEXAGON UOC:914	13
35	PAOZZ	96906	MS51967-8	NUT, PLAIN, HEXAGON UOC:914	1
36	PAOZZ	96906	MS27183-14	WASHER, FLAT..... UOC:914	12
37	PAOZZ	19207	759860	PLUNGER, INDEX..... UOC:914	2
38	PAOZZ	19207	8759859	SPRING, HELICAL, COMP UOC:914	2
39	PAOZZ	19207	8759823	RETAINER, SPRNG UOC:914	2
40	PAOZZ	19207	8740175	RETRACTOR, PLUNGER, L UOC: 914	2
41	PAOZZ	96906	MS51922-57	NUT, SELF-LOCKING, HE UOC:914	2
42	PAOZZ	96906	MS27183-23	WASHER, FLAT..... UOC : 914	2
43	PAOZZ	19207	8759867	SHAFT, SHOULDERED UOC:914	2
44	PAOZZ	192J7	10906407	CASE, LEVELING JACK..... UOC :914	2
45	PAOZZ	19207	544160	PIN, STRAIGHT HEADLE..... UOC:914	4
46	PAOZZ	19207	10914245	SUPPORT, LEVELING JA FRONT..... UOC:914	2
46	PAOZZ	19207	10933281	SUPPORT, LEVELING JA REAR..... UOC:914	2
47	PAOZZ	96906	MS16624-1125	RING, RETAINING..... UOC:914	2

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE	CAGEC	NUMBER		
48	PAOZZ	19207	10906406	BEARING, SLEEVE UOC:914	2
49	PAOOO	19207	10860937	COVER, LEVELING JACK..... UOC:914	1
50	PAOZZ	96946	MS356SI-33	.NUT, PLAIN, HEXAGON UOC:914	
51	PAOZZ	96906	MS27183-18	.WASHER, FLAT..... UOC:914	1
52	PAOOO	19207	7341458	.PLUNGER, QUICKRELEA..... UOC:914	1
53	PAOZZ	96906	MS51S63-99	..SETSCREW UOC:914	1
54	XAOZZ	192J17	7341461	..SPRING..... UOC:914	1
55	XAOZZ	19207	7341460	..PIN UOC:914	1
56	XAOZZ	19207	7341459	..BODY UOC:914	1
57	PAOZZ	19207	8739882	.WASHER UOC:914	1
58	PAOZZ	19207	10860536	.COVER..... UOC :914	1
59	PAOZZ	23862	2299784	PACKING, MATERIAL UOC:914	1
60	PAOZZ	96906	MS51965-28	SET SCREW UOC :914	1

END OF FIGURE

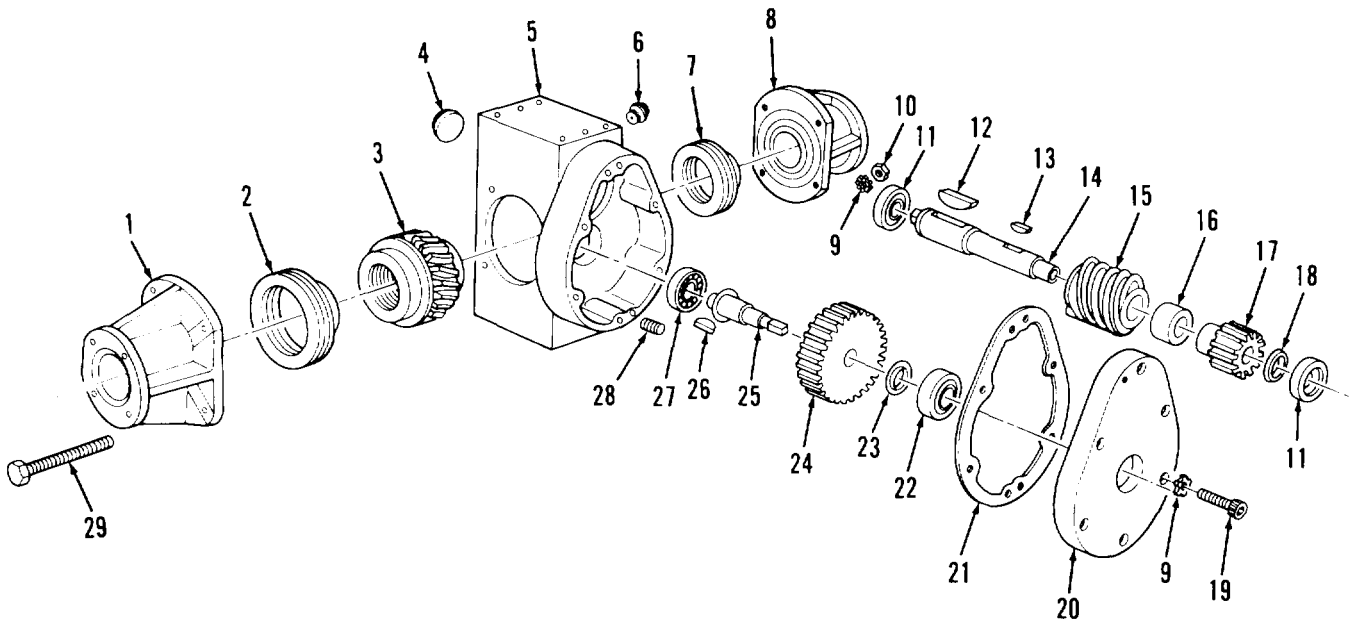


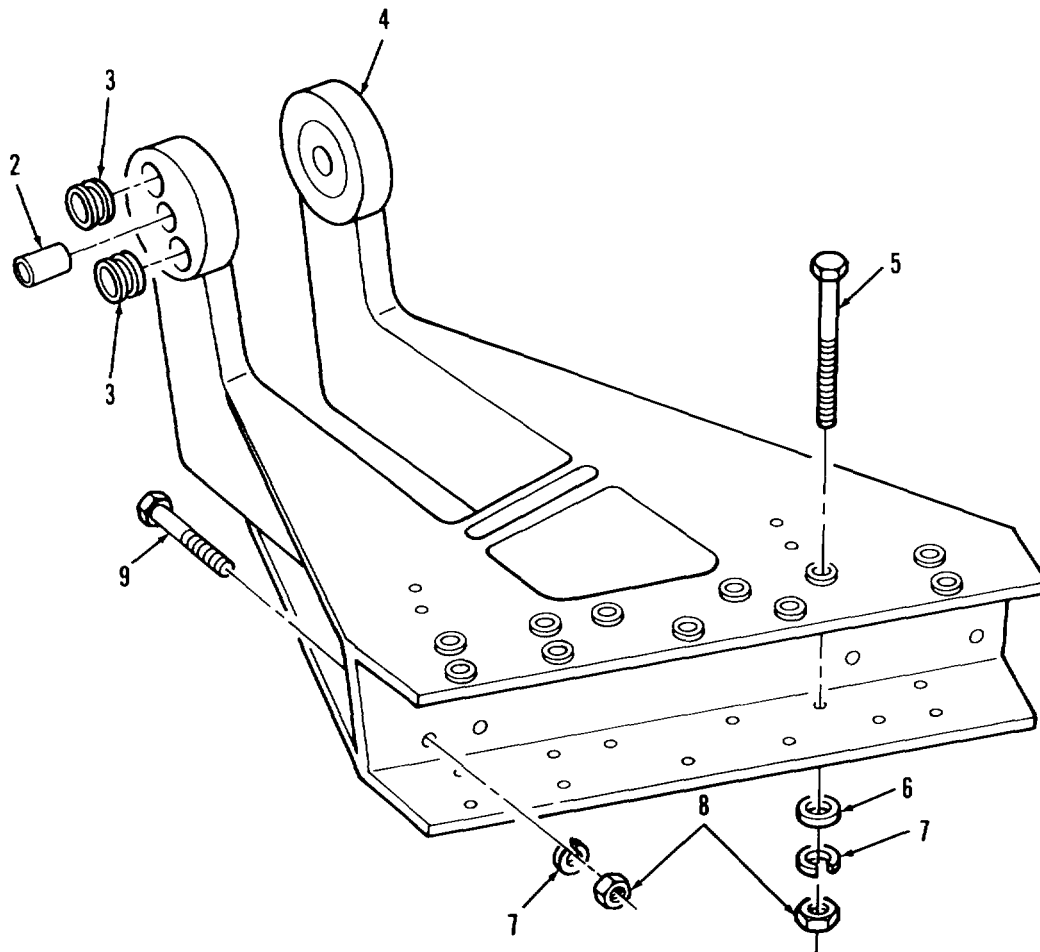
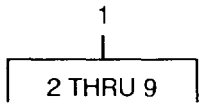
FIGURE 33. LEVELING JACK GEARBOX (M514).

TA503139

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 32 LEVELING JACK AND ASSOCIATED PARTS (M514)					
1	XBOZZ	19207	87397S8	SUPPORT	1
				UOC:914	
2	PAOZZ	10001	1785042	BEARIKG,BALL,THRUST	1
				UOC:914	
3	PFOZZ	19207	87397S5	GEAR.WORM WHEEL	1
				UOC:914	
4	PAOZZ	21450	541401	PLUG, EXPANSION.....	1
				UOC:914	
5	XBOZZ	19207	8139759	BOX.GEAR.....	1
				UOC :914	
6	PAOZZ	96906	MS150031	FITTING, LUBRICATION	1
				UOC:914	
7	PAOZZ	19207	8675963	BEARING,BALL,THRUST	1
				UOC: 914	
8	XBOZZ	19207	87397s7	SUPPORT	1
				UOC:914	
9	PAOZZ	96906	MS35'35-34	WASHER,LOCK.....	10
				UOC:914	
10	PAOZZ	96906	M551967-5	NUT,PLAIN,HEXAGON	4
				UOC:914	
11	XDOZZ	43991	110AC	BEARING, BALL, ANNULA.....	2
				UUC :914	
12	PAOZZ	96906	MS35756-101	KEY, WOODRUFF	1
				UOC:914	
13	PAOZZ	96906	MS35756-10	KEY, WOODRUFF	1
				UOC :914	
14	PAOZZ	19207	8740168	SHAFT,SHOULDERED	1
				UOC:914	
15	PAOZZ	19207	8735754	GEAR,WORM	1
				UOC:914	
16	PFOZZ	19207	873987	SPACER.....	1
				UOC:914	
17	PAOZZ	9207	87397S2	GEAR,SPUR	1
				UOC:914	
18	PAOZZ	19207	8739786	WASHER ,SHOULDERED	1
				UOC:914	
19	PAOZZ	96906	MS169S7-81	SCREW, CAP,SOCKET.....	6
				UOC: 914	
20	PFOZZ	192J7	874C166	COVER.....	1
				UOC:914	
21	PAOZZ	19207	8740167	GASKET	1
				UOC: 914	
22	PAOZZ	52676	6204ZJ	BEARING, BALL, ANNULA.....	1
				UOC: 914	
23	PFOZZ	19207	873978	WASHER, SHOULDERED	2
				UOC:914	
24	PAOZZ	19237	8739753	GEAR, SPUR	1

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	CAGEC	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
25	PAOZZ	19207	8740170	UOC:914 SHAFTISHOLCEP£ED.,	1
26	PAOZZ	96906	MS35756-12	UOC:914 KEY,WOODRUFF	1
27	PAOZZ	21450	700076	UOC:914 BEARING, BALL., ANNULA.....	1
28	PAOZZ	96906	MS16555-346	UOC :914 PIN,STRAIGHT,HEADLE.....	2
29	PAOZZ	96906	MS90725-52	UOC:914 SCREW,CAP, HEXAGON	4
				UOC:914	

END OF FIGURE



TA503140

FIGURE 34. FRONT LEVELING JACK SUPPORT ASSEMBLY (M514).

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE	CAGEC	NUMBER		
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 34 FRONT LEVELING JACK SUPPORT ASSEMBLY (M514)					
1PAC00		19207	10914244	SUPPORT,LEVELING JA LEFT	1
				UOC:914	
1	PACCC	19207	O114243	SUPPORT, LEVELING JA RIGHT	1
				UOC:914	
2	PAOZZ	19207	10860065	.BEARING, SLEEVE	4
				UCC:914	
3	PAOZZ	19207	1089S780	.BEARING, SLEEVE	8
				UOC:914	
4	XAOZZ	19207	10914241	.SUPPORT, LEFT	1
				UOC:914	
4	XAOZZ	19237	10914242	.SUPPORT,RIGHT	1
				UOC:914	
5	PAOZZ	96906	MS90725-4U00	SCREW, CAP, HEXAGON	16
				UOC:914	
6	PACZZ	96906	MS27183-14	WASHER, FLAT	16
				UOC:914	
7	PACZZ	96936	MS35238-46	WASHER,LOCK.....	24
				UOC:914	
8	PAJZZ	96936	MS51g68-8	NUT,PLAIN, HEXAGON	24
				UOC:914	
9	POZZ	96906	MS9072675	SCREW, CAP, HEXAGON	8
				UOC:914	

END OF FIGURE

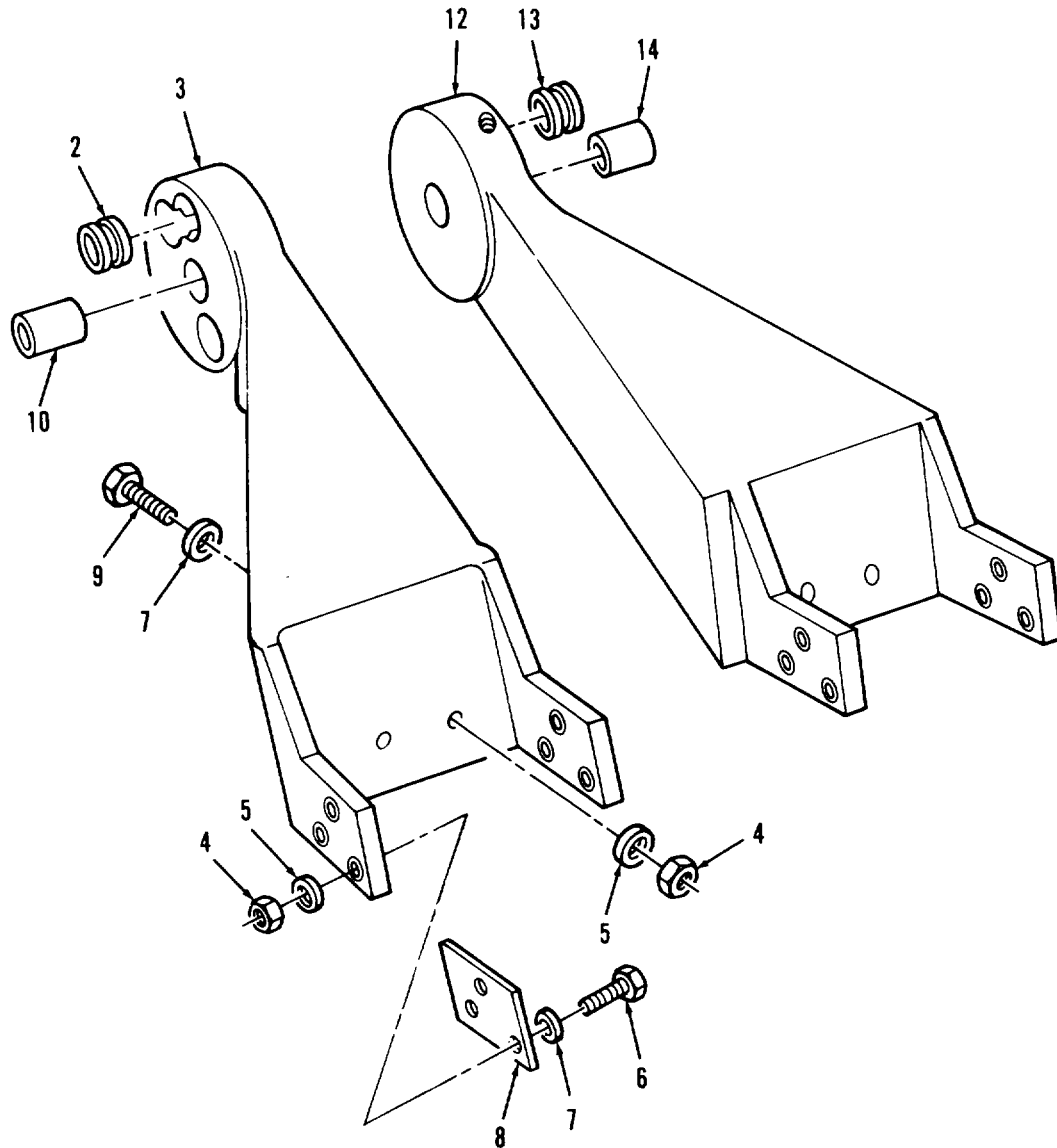
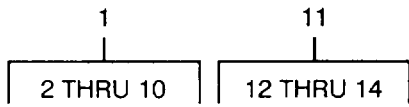
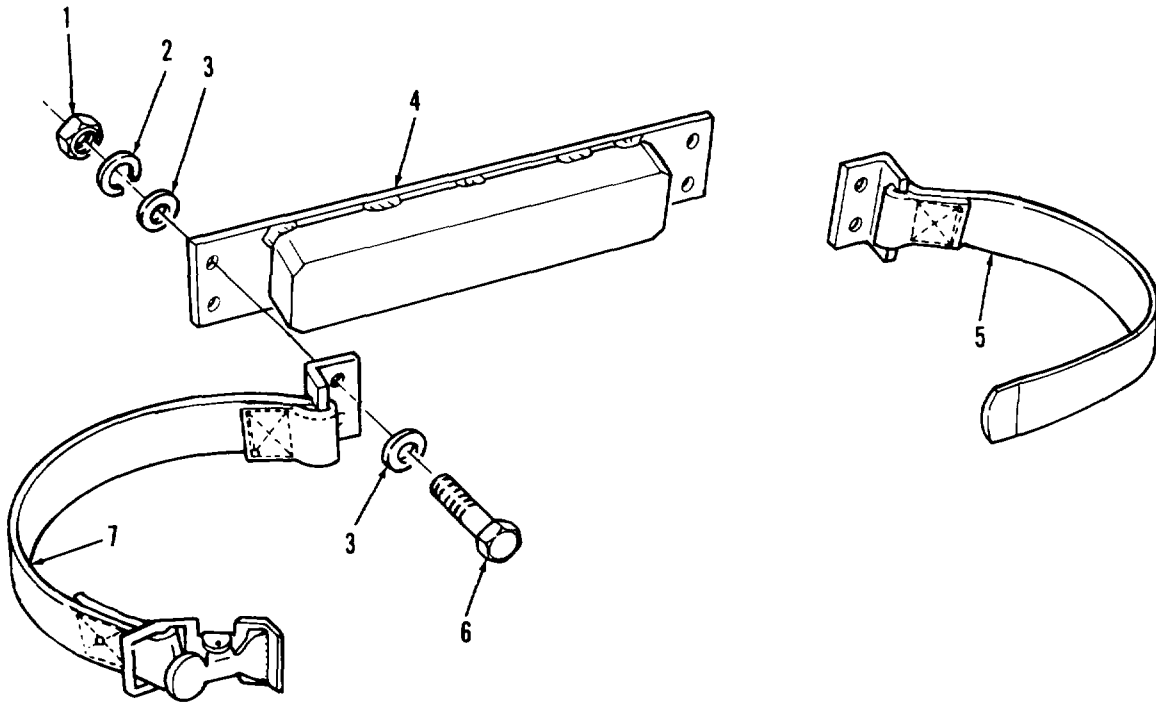


FIGURE 35. REAR LEVELING JACK SUPPORT ASSEMBLY (M514).

TA503141

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 35 REARLEVELING JACK SUPPORT ASSEMBLY (M514)					
1	PAOOO	19207	10860068	JACK, LEVELING-SUPPO RIGHT REAR UOC:914	1
2	PAOZZ	19207	10899780	.BEARING, SLEEVE UOC:914	2
3	XAOZZ	19207	10906396	.SUPPORT UOC:914	1
4	PAOZZ	96906	MS21045-6	.NUT, SELF-LOCKING UOC:914	16
5	PAOZZ	96906	MS27181-14	.WASHER, FLAT, UOC:914	16
6	PAOZZ	88044	AN6-14A	.BOLT, MACHINE UOC:914	12
7	PAOZZ	96906	MS157S5-714	.WASHER, FLAT UOC:914	16
8	PAOZZ	19207	8759719	.SHIM UOC:914	2
9	PAOZZ	19207	7415340	.BOLT, MACHINE UOC:914	4
10	PAOZZ	19207	10860065	.BEARING, SLEEVE UOC:914	1
11	PAOOO	19207	10860069	.JACK, LEVELING-SUPPO LEFT REAR UOC:914	1
12	XAOZZ	19207	1080t3S7	.SUPPORT UOC:914	1
13	PAOZZ	19207	10899780	.BEARING, SLEEVE UOC:914	1
14	PAOZZ	19207	1C86C065	.BEARING, SLEEVE UOC:914	1

END OF FIGURE



TA702213

FIGURE 36. LEVELING JACK TIE-DOWN STRAPS, PAD, AND ASSOCIATED PARTS (M514).

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE	CAGEC	NUMBER		
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 36 LEVELING JACK TIE-DOWN STRAPS, PAD, AND ASSOCIATED PARTS (M514)					
1	PAOZZ	96906	MS51SE7-2	NUT, PLAIN, HEXAGON	4
				UOC :914	
2	PAOZZ	96906	MS35328-44	WASHER, LOCK.....	4
				UOC:914	
3	PAOZZ	96906	MS27183-10	WASHER, FLAT	8
				UOC:914	
4	PAOZZ	19207	10906418	PAD, LEVELING JACK RIGHTS	1
				UOC:914	
4	PAOZZ	19207	10906417	PAD ASSEMBLY LEFT LEVELING JACK.....	1
				UOC:914	
5	XDOZZ	19207	10860146	BRACKET,ANGLE	1
				UOC:914	
6	PAOZZ	96906	MS90725-9	SCREW, CAP,HEXAGON	4
				UOC :914	
7	XDOZZ	19237	10860145	STRAP, WEBBING	1
				UOC :914	

END OF FIGURE

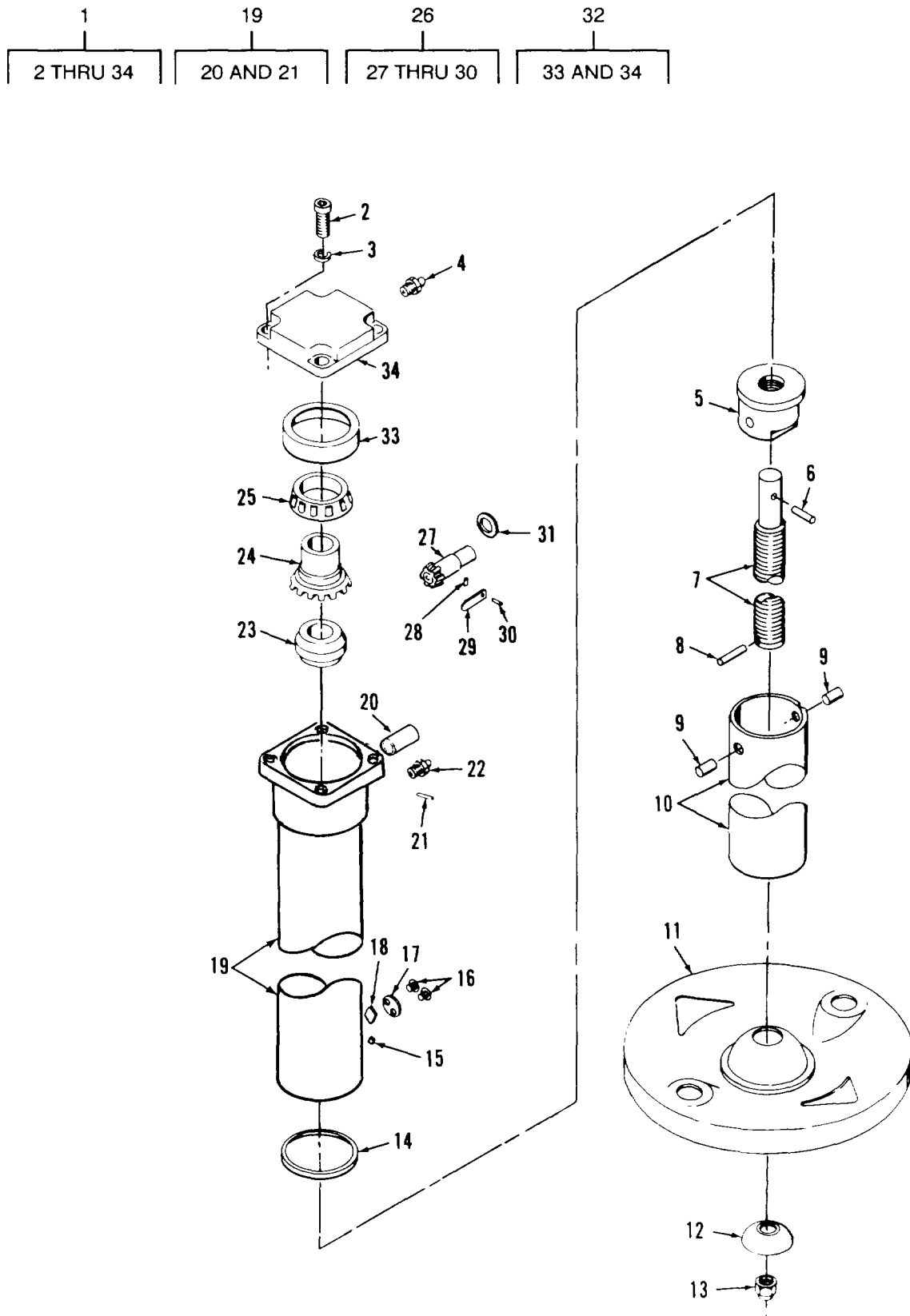


FIGURE 37. LEVELING JACK ASSEMBLY (M390C)

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 37 LEVELING JACK ASSEMBLY (M390C)					
1	PAOOO	19207	8387680	JACK, LEVELING-SUPPO..... UOC:175	5
2	PAOZZ	96906	MS169S7-142	.SCREW, CAP, SOCKET..... UOC:175	4
3	PAOZZ	88044	AN935-816	.WASHER, LOCK..... UOC:175	4
4	PAOZZ	96906	MS15031-1	.FITTING, LUBRICATION..... UOC:175	1
5	PAOZZ	19207	10885450	.NUT, SLEEVE..... UOC:175	1
6	PAOZZ	21450	142986	.PIN, GROOVED, HEADLES..... UOC:175	1
7	PAOZZ	19207	10885459	.LEVELING JACK, SLEEVE..... UOC:175	1
8	PAOZZ	96906	MS35671-56	.PIN, GROOVED, HEADLES..... UOC:175	1
9	PAOZZ	96906	MS35677-51	.PIN, GROOVE, HEADLES..... UOC:175	1
10	XDOZZ	19207	10885454	.TUBE, INNER..... UOC:175	1
11	PAOZZ	19207	8005089	.SHOE, JACK SUPPORT..... UOC:175	1
12	PAOZZ	18876	8020015	.RETAINER, BELL, JACK..... UOC:175	1
13	PAOZZ	19207	8712289-6	.NUT, SELF-LOCKING, HE..... UOC:175	1
14	PAOZZ	19207	8683884	.SEAL, NONMETALLIC ST..... UOC:175	1
15	PAOZZ	19207	10885446	.RUBBER ROUND SECTIO..... UOC:175	1
16	PAOZZ	96906	MS35206-226	.SCREW, MACHINE..... UOC:175	2
17	PAOZZ	19207	10885448	.COVER, ACCESS..... UOC:175	1
18	PAOZZ	19207	10885443	.KEY, MACHINE..... UOC:175	1
19	PAOZZ	19207	10885476	.HOUSING, MECHANICAL..... UOC:175	1
20	PAOZZ	19207	86838S6	..BEARING, SLEEVE EARLY MODEL..... UOC:175	1
21	PAOZZ	24617	187851	..PIN, GROOVED LATE MODE;..... UOC:175	1
22	PAOZZ	96906	MS15003-1	.FITTING, LUBRICATION..... UOC:175	1
23	PAOZZ	19207	7328405	.COLLAR, THRUST..... UOC:115	1

SECTION II				(5)	(6)
(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
24	PAOZZ	19207	7520774	.GEAR, BEVEL..... UOC:175	1
25	PAOZZ	01957	266697	.OONE AND ROLLERS, TA..... UOC:175	1
26	PAOZZ	19207	7089984	.GEAR SHAFT, BEVEL..... UOC:175	1
27	PAOZZ	19207	7520829	..PINION..... UOC:175	1
28	PAOZZ	19207	7696416	..SPRING..... UOC:175	1
29	PAOZZ	19207	7520777	..LATCH..... UOC:175	1
30	PAOZZ	19205	7793470	..PIN, SPRING..... UOC:175	1
31	PAOZZ	19207	7328402	.BEARING, WASHER, THRU UOC:175	1
32	PAOZZ	19207	10891299	.COVER, ACCESS..... UOC:175	1
33	PAOZZ	21450	706915	..CUP..... UOC:175	1
34	XDOZZ	19207	7328401	..COVER..... UOC:175	1

END OF FIGURE

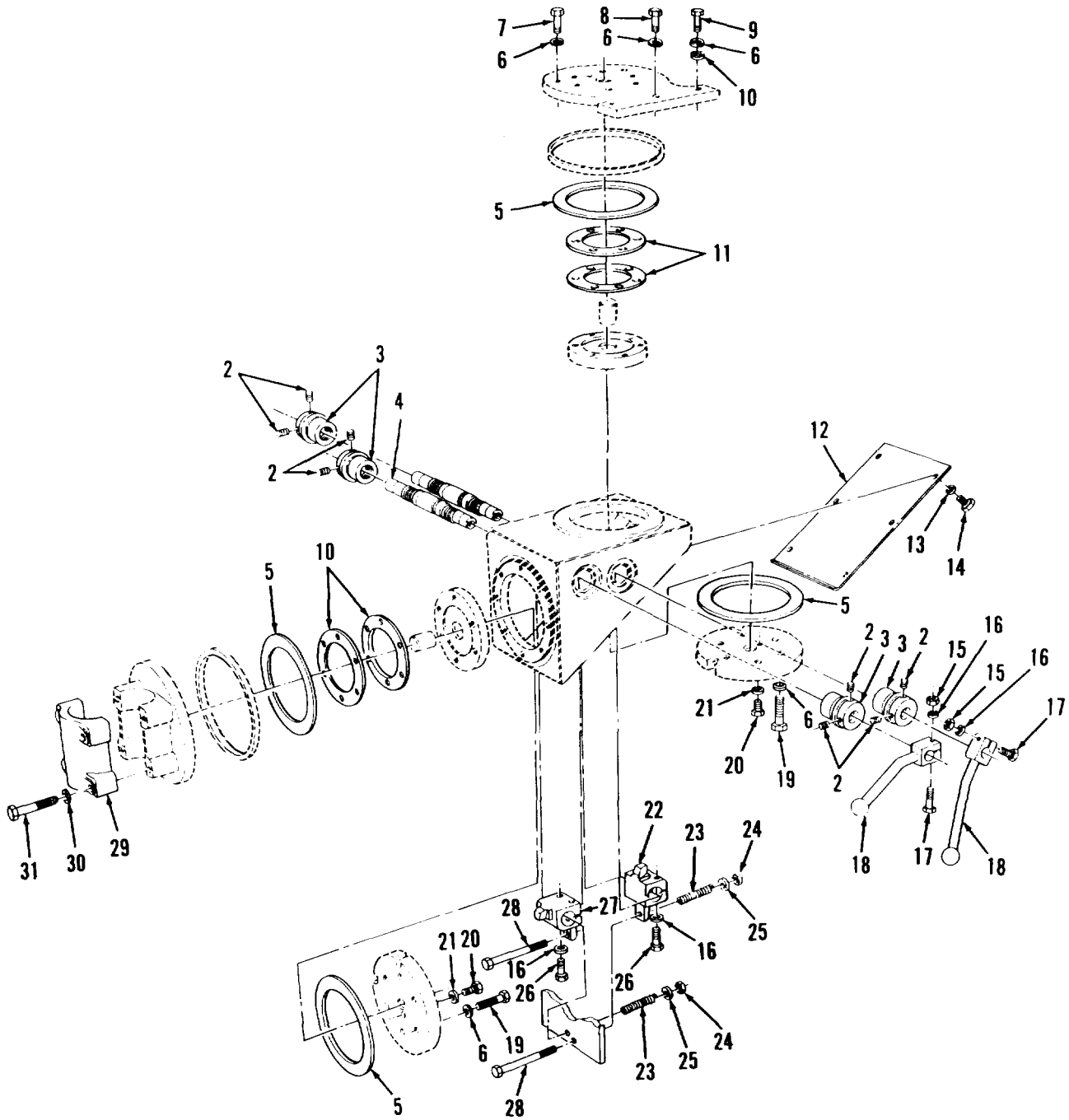
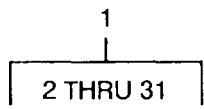


FIGURE 38. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY (M390C).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 1507 LANDING GEAR, LEVELING JACKS					
FIG. 38 DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY (M390C)					
1	PACOO	19207	10885474	SUPPOPT, SWIVEL, LEVE UOC:175	1
2	PAOZZ	96906	MS51963-104	.SETSCREW UOC:175	8
3	PAOZZ	19207	10885442	.NUT, SLEEVE UOC:175	4
4	PAOZZ	19207	10885452	.SHAFT, SHOULDERED UOC:175	2
5	PAOZZ	19207	10885445	.BEARING, WASHER, THRU UOC 175	4
6	PAOZZ	80045	23MS3533E-50	.WASHER, LOCK..... UOC:175	15
6	PAOZZ	96906	MS35340-50	.WASHER, LOCK..... UOC:175	6
7	PAOZZ	96906	MS90725-162	.SCREW, CAP, HEXAGON H..... UOC:175	1
7	PAOZZ	96906	MS90728-169	.SCREW, CAP, HEXAGON H..... UOC:175	12
8	XDOZZ	96906	MS90725-15	.SCREW, CAP, HEXAGON UOC:175	1
9	PAOZZ	96906	MS90728-163	.SCREW, CAP, HEXAGON H..... UOC:175	2
10	XDOZZ	19207	10891278	.WASHER, BEVEL..... UOC:175	2
11	PAOZZ	19207	51703039	.SHIM SET UOC:175	1
12	PAOZZ	19207	10885467	.COVER, ACCESS..... UOC:175	1
13	PAOZZ	19207	7410218	.WASHER, LOCK..... UOC:175	6
14	PAOZZ	96906	MS90725-21	.BOLT, MACHINE UOC:175	6
15	PAOZZ	96906	MS51967-8	.NUT,PLAIN,HEXAGON UOC:175	2
16	PAOZZ	12603	23E06	.WASHER, LOCK..... UOC:175	6
17	PAOZZ	96906	MS90728-66	.SCREW, CAP, HEXAGON H..... UOC:175	2
18	PAOZZ	19207	10885453	.LEVER, MANUAL CONTRO UOC:175	2
19	PAOZZ	96906	MS90728-165	.SCREW, CAP, HEXAGON H..... UOC:175	12
20	PAOZZ	96906	MS90728-29	.BOLT, MACHINE UOC:175	2
21	PAOZZ	29201	84001-1	.WASHER, FLAT..... UOC:175	2

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
22	PAOZZ	19207	10885466	.LEVER, REMOTE CONTRO UOC:175	1
23	PAOZZ	19207	8683898	.SPRING, HELICAL, COMP..... UOC:175	2
24	PAOZZ	00000	7984623	.NUT, SELF-LOCKING, HE UOC 175	2
25	PAOZZ	96906	MS27183-14	.WASHER, FLAT..... UOC:175	2
26	PAOZZ	96906	MS90728-66	.SCREW, CAP, HEXAGON H..... UOC:175	4
27	PAOZZ	19207	10885462	.LEVER, REMOTE CONTRO UOC:175	1
28	XBOZZ	19270	10891298	.SCREW, CAP, HEXAGON UOC:175	2
29	PAOZZ	19207	8683881	.CAP, PILLOW BLOCK UOC:175	1
30	PAOZZ	88044	AN935-16	.WASHER, LOCK..... UOC:175	4
31	PAOZZ	96906	MS90728-118	.SCREW, CAP, HEXAGON H..... UOC:175	4

END OF FIGURE

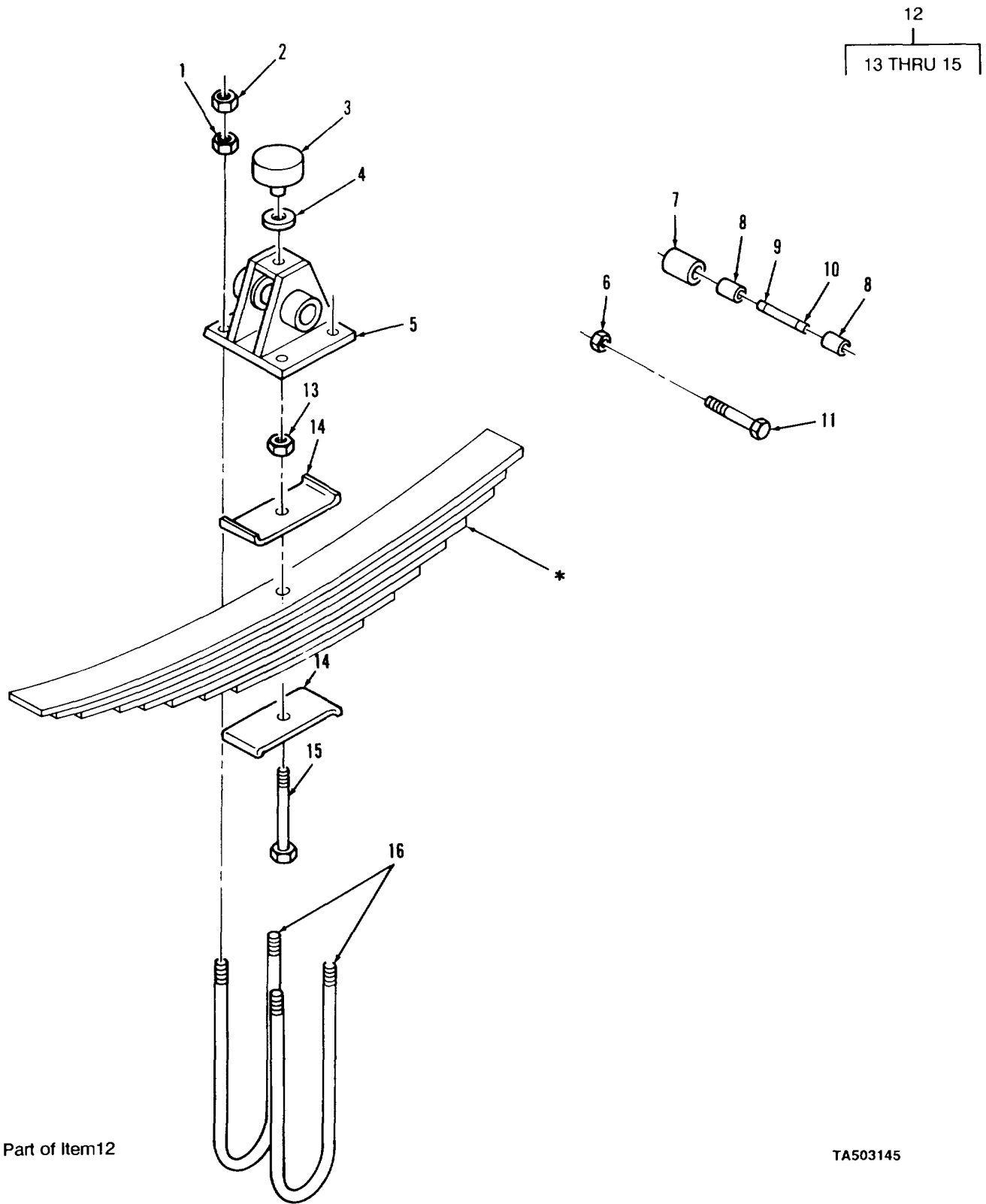


FIGURE 39. SPRING, BRACKET, AND ASSOCIATED PARTS (M390C).

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 16 SPRINGS AND SHOCK ABSORBER					
GROUP 1601 SPRINGS					
FIG. 39 SPRING, BRACKET, AND ASSOCIATED PARTS (M390C)					
1	PAOZZ	96906	MS51S8-23	NUT, PLAIN, HEXAGON UOC:175	4
2	PAOZZ	96906	MS35691-61	NUT, PLAIN, HEXAGON UOC:175	4
3	PAOZZ	19207	10914500	BUMPER, NONMETALLIC UOC:175	1
4	PAOZZ	96936	MS35333-44	WASHER, LOCK UOC:175	1
5	PFOZZ	19207	8363961	BRACKET, BUMPER UOC:115	1
6	PAOZZ	19207	8712289-6	NUT, SELF-LOCKING, HE	2
7	PAOZZ	19207	8363971	BUSHING, SLEEVE UOC:175	2
8	PAOZZ	19207	8363972	BEARING, SLEEVE UOC:175	2
9	PAOZZ	19207	8363973	PIN, ROLLER, CHASSIS UOC:175	2
10	PAOZZ	96906	MS51S73-74	SETSCREW UOC:175	4
11	PAOZZ	08288	MSS5305-43	SCREW, CAP, HEXAGON H UOC:175	2
12	PAOZZ	19207	8363955	SPRING ASSEMBLY, LEA UOC:115	2
13	PAOZZ	96906	MS51968-14	.NUT, PLAIN, HEXAGON UOC:175	1
14	PAOZZ	19207	8363966	.PLATE, SPRING, LEAF UOC:175	2
15	PAOZZ	19207	8363968	.SCREW, MACHINE UOC:175	1
16	PAOZZ	19207	8389628	BOLT, UOC:175	2

END OF FIGURE

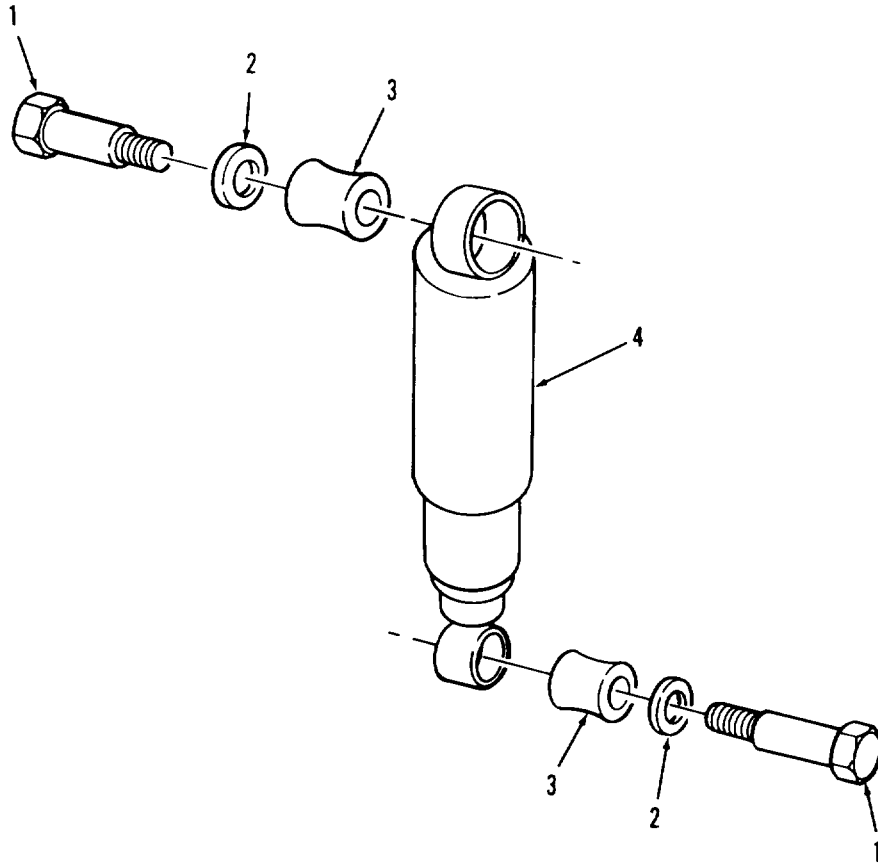


FIGURE 40. SHOCK ABSORBER ASSEMBLY AND ASSOCIATED PARTS (M514).

TA503146

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1604 SHOCK ABSORBER EQUIPMENT					
FIG. 40 SHOCK ABSORBER ASSEMBLY AND ASSOCIATED PARTS (M514)					
1	PAOZZ	19207	10860124	BOLT, SHOULDER..... UOC: 914	2
2	PAOZZ	19207	10860123	WASHER, FLAT..... UOC:914	2
3	PAOZZ	19207	7341462	BUSHING, RUBBER..... UOC:914	2
4	PAOZZ	19207	7092048	SHOCK ABSORBER..... UOC:914	2

END OF FIGURE

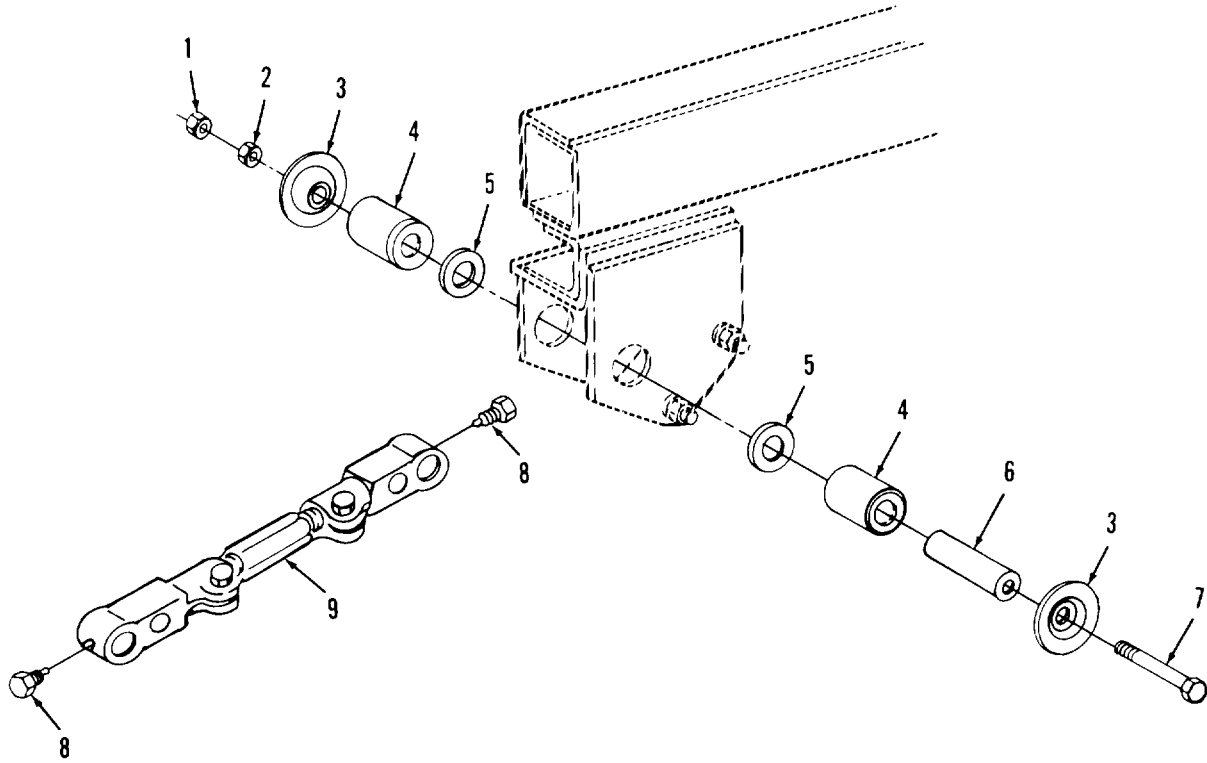


FIGURE 41. RADIUS ROD ASSEMBLY AND ASSOCIATED PARTS (M390C).

TA503147

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 1605 TORQUE, RADIUS, AND STABILIZER RODS					
FIG. 41 RADIUS ROD ASSEMBLY AND ASSOCIATED PARTS (M390C)					
1	PAOZZ	96906	MS35651-53	NUT, PLAIN, HEXAGON UOC:175	2
2	PAOZZ	96906	MS519E8-23	NUT, PLAIN, HEXAGON UOC:175	2
3	PAOZZ	19207	7349028	WASHER SHOULDERED UOC:175	4
4	PAOZZ	19207	7974916	BUSHING, NONMETALLIC UOC:175	4
5	PAOZZ	19207	7349029	WASHER, FLAT UOC:175	2
6	PAOZZ	19207	8363969	BEARING, SLEEVE UOC:175	1
7	PAOZZ	96906	MS90727-178	SCREW, CAP, HEXAGON H..... UOC:175	1
8	PAOZZ	19207	8363970	SETSCREW UOC:115	2
9	PAOZZ	19207	7707070	ROD, ALIGNING, VEHICU UOC:175	1

END OF FIGURE

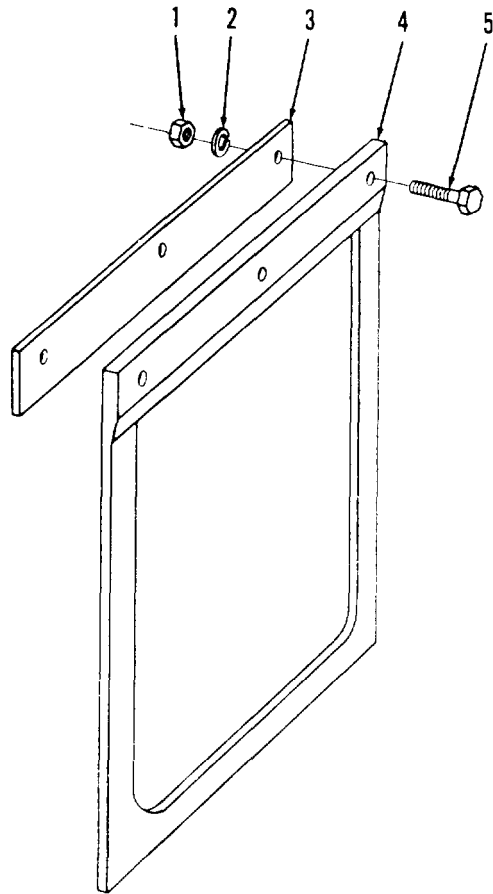


FIGURE 42. WHEEL SPLASHGUARDS AND ASSOCIATED PARTS (M390C)

TA503148

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	CAGEC	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
GROUP 18 BODY, CAB, HOOD, AND HULL					
GROUP 1801 BODY, CAB, HOOD, AND HULL ASSEMBLIES					
FIG. 42 WHEEL SPLASHGUARDS AND ASSOCIATED PARTS (M390C)					
1	PAOZZ	96906	MS51S67-8	NUT, PLAIN, HEXAGON UOC:175	3
2	PAOZZ	12603	23E06	WASHER, LOCK..... UOC:175	3
3	XBOZZ	19207	10891219	BAR UOC:175	3
4	PAOZZ	19207	10891260	GUARD, SPLASH, VEHICU..... UOC:175	1
5	PAOZZ	96906	MS90728-63	SCREW, CAP, HEXAGON H..... UOC:175	3

END OF FIGURE

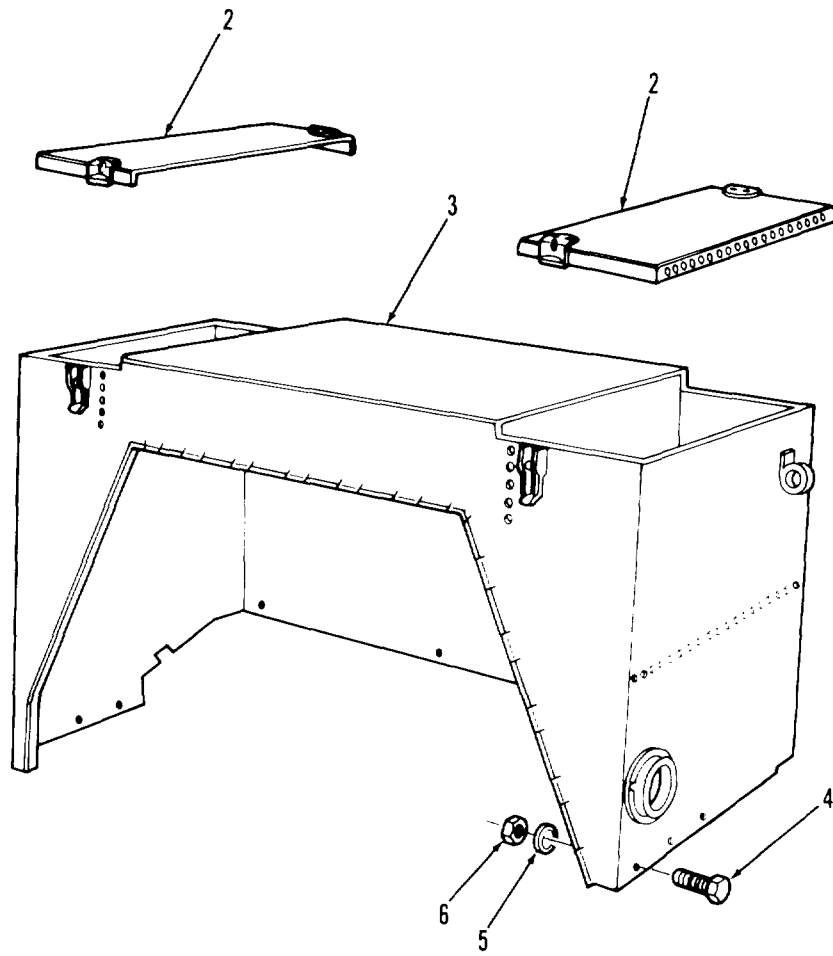
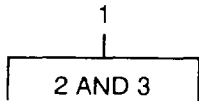
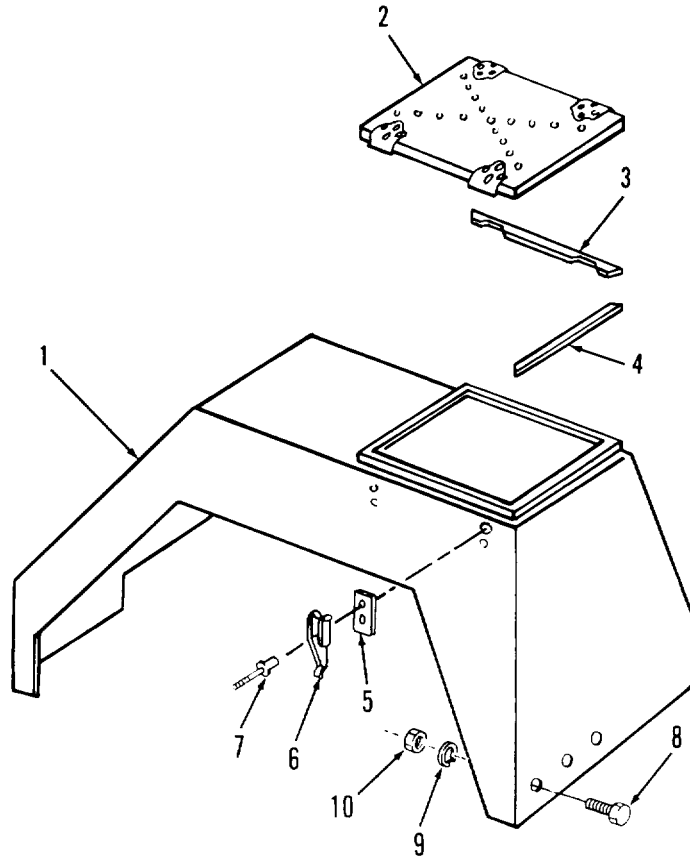
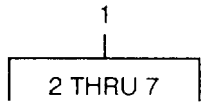


FIGURE 43. RIGHT FENDER AND TOOLBOX ASSEMBLY (M514)

TA503149

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR	CAGEC	PART	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
NO	CODE		NUMBER		
<p>GROUP 1802 FENDERS, RUNNING BOARDS WITH MOUNTING AND ATTACHING PARTS, OUTRIGGERS, WINDSHIELD, GLASS, ETC.</p> <p>FIG. 43 RIGHT FENDER AND TOOLBOX ASSEMBLY (M514)</p>					
1	PFOOO	19207	10860039	FENDER AND TOOL BOX	1
				UOC:914	
2	PAOZZ	19207	10933266	.COVER, ACCESS.....	2
				UOC:914	
3	XAOZZ	19207	10860001	.FENDER.....	1
				UOC:914	
4	PAOZZ	96906	MS90725-58	SCREW, CAP, HEXAGON	6
				UOC:914	
5	PAOZZ	96906	MS35338-46	WASHER, LOCK.....	6
				UOC:914	
6	PAOZZ	96906	MS51967-8	NUT, PLAIN, HEXAGON	6
				UOC:914	

END OF FIGURE



Ω

FIGURE 44. LEFT FENDER AND TOOLBOX ASSEMBLY (M514)

TA702216

SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
<p>GROUP 1802 FENDERS, RUNNING BOARDS WITH MOUNTING AND ATTACHING PARTS, OUTRIGGERS, WINDSHIELD, GLASS, ETC.</p> <p>FIG. 44 LEFT FENDER AND TOOLBOX ASSEMBLY (M514)</p>					
1	XDOOO	19207	8759629	FENDER AND TOOL BOX UOC:914	1
2	XDOZZ	19207	8759630	.LID ASSEMBLY UOC:914	1
3	PAOZZ	19207	8759653	.GASKET UOC:914	2
4	PAOZZ	18876	8759654	.SEAL, NONMETALLIC..... UOC:914	2
5	XDOZZ	19207	10860050	.SPACER..... UOC:914	2
6	PAOZZ	19207	7064602	.CATCH, CLAMPING UOC:914	2
7	XDOZZ	19207	588463	.RIVET..... UOC:914	4
8	PAOZZ	96906	MS90725-58	SCREW, CAP, HEXAGON UOC:914	6
9	PAOZZ	96906	MS35338-46	WASHER, LOCK..... UOC:914	6
10	PAOZZ	96906	MS51967-8	NUT, PLAIN, HEXAGON UOC:914	6

END OF FIGURE

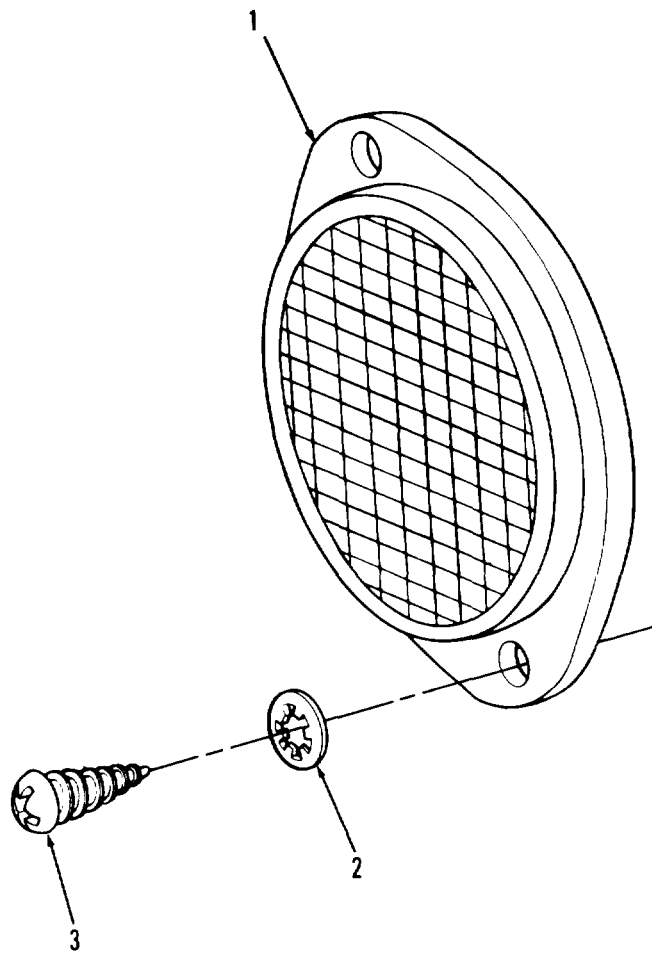


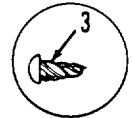
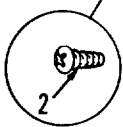
FIGURE 45. EFLECTOR AND ASSOCIATED PARTS

TA503151

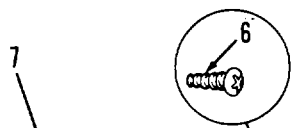
SECTION II					
(1)	(2)	(3)	(4)	(5)	(6)
ITEM	SMR		PART		
NO	CODE	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 22 BODY, CHASSIS, AND HULL ACCESSORY ITEMS					
GROUP 2202 ACCESSORY ITEMS					
FIG. 45 REFLECTOR AND ASSOCIATED PARTS					
1	PAOZZ	19207	7348221	REFLECTOR, INDICATION AMBER..... UOC:175	4
1	PAOZZ	19207	6161059A	REFLECTOR, INDICATION RED.....V	
2	PAOZZ	96906	MS35333-43	WASHER, LOCK..... UOC:175	16
3	PAOZZ	96906	MS35206-277	SCREW, MACHINE UOC:175	16
3	PAOZZ	19207	171764	SCREW, TAPPING UOC:914	4

END OF FIGURE

<p>CHASSIS TRAILER, 2 TON, 2 WHEEL.</p> <p>FEDERAL STOCK NO [REDACTED]</p> <p>MANUFACTURED BY EIDAL MANUFACTURING CO INC ALBUQUERQUE, NEW MEXICO</p> <p>MFG SERIAL NO [REDACTED]</p> <p>MFG MODEL [REDACTED]</p> <p>CONTRACT NO [REDACTED]</p>		<p>WEIGHT AND DIMENSION DATA</p>																					
<p>PUBLICATIONS</p> <p>PARTS LIST SNL ORD [REDACTED]</p> <p>TECHNICAL MANUAL TM [REDACTED]</p> <p>LUBRICATION ORDER L.O. [REDACTED]</p>		<table border="1"> <thead> <tr> <th>WEIGHTS</th> <th>EMPTY</th> <th>CROSSCOUNTRY</th> <th>HIGHWAY</th> </tr> </thead> <tbody> <tr> <td>PAYLOAD</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>ON WHEELS</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>ON LUNETTE</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>TOTAL</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> </tbody> </table>		WEIGHTS	EMPTY	CROSSCOUNTRY	HIGHWAY	PAYLOAD	[REDACTED]	[REDACTED]	[REDACTED]	ON WHEELS	[REDACTED]	[REDACTED]	[REDACTED]	ON LUNETTE	[REDACTED]	[REDACTED]	[REDACTED]	TOTAL	[REDACTED]	[REDACTED]	[REDACTED]
WEIGHTS	EMPTY	CROSSCOUNTRY	HIGHWAY																				
PAYLOAD	[REDACTED]	[REDACTED]	[REDACTED]																				
ON WHEELS	[REDACTED]	[REDACTED]	[REDACTED]																				
ON LUNETTE	[REDACTED]	[REDACTED]	[REDACTED]																				
TOTAL	[REDACTED]	[REDACTED]	[REDACTED]																				
<p>DELIVERY DATE [REDACTED]</p>	<p>INSPECTED BY [REDACTED]</p>	<p>SHIPPING CUBAGE - 493 CU. FT.</p>																					



<p>CHASSIS TRAILER, 2 TON, 2 WHEEL.</p> <p>FEDERAL STOCK NO [REDACTED]</p> <p>MANUFACTURED BY EIDAL MANUFACTURING CO INC ALBUQUERQUE, NEW MEXICO</p> <p>MFG SERIAL NO [REDACTED]</p> <p>MFG MODEL [REDACTED]</p> <p>CONTRACT NO [REDACTED]</p>		<p>WEIGHT AND DIMENSION DATA</p>																					
<p>PUBLICATIONS</p> <p>PARTS LIST SNL ORD [REDACTED]</p> <p>TECHNICAL MANUAL TM [REDACTED]</p> <p>LUBRICATION ORDER L.O. [REDACTED]</p>		<table border="1"> <thead> <tr> <th>WEIGHTS</th> <th>EMPTY</th> <th>CROSSCOUNTRY</th> <th>HIGHWAY</th> </tr> </thead> <tbody> <tr> <td>PAYLOAD</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>ON WHEELS</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>ON LUNETTE</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> <tr> <td>TOTAL</td> <td>[REDACTED]</td> <td>[REDACTED]</td> <td>[REDACTED]</td> </tr> </tbody> </table>		WEIGHTS	EMPTY	CROSSCOUNTRY	HIGHWAY	PAYLOAD	[REDACTED]	[REDACTED]	[REDACTED]	ON WHEELS	[REDACTED]	[REDACTED]	[REDACTED]	ON LUNETTE	[REDACTED]	[REDACTED]	[REDACTED]	TOTAL	[REDACTED]	[REDACTED]	[REDACTED]
WEIGHTS	EMPTY	CROSSCOUNTRY	HIGHWAY																				
PAYLOAD	[REDACTED]	[REDACTED]	[REDACTED]																				
ON WHEELS	[REDACTED]	[REDACTED]	[REDACTED]																				
ON LUNETTE	[REDACTED]	[REDACTED]	[REDACTED]																				
TOTAL	[REDACTED]	[REDACTED]	[REDACTED]																				
<p>DELIVERY DATE [REDACTED]</p>	<p>INSPECTED BY [REDACTED]</p>	<p>SHIPPING CUBAGE - 493 CU. FT.</p>																					



RESPONSIBLE AGENCY	PROCUREMENT	DEPOT MAINTENANCE
CHASSIS	ORD CORPS	ORD CORPS
BODY		
MTD EQPT		
U S PROPERTY		

<p>CAUTION</p> <p>PUT REAR JACKS IN PLACE BEFORE DISCONNECTING LUNETTE FROM PRIME MOVER</p>	
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TA503152

FIGURE 46. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
SECTION II					
GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS					
FIG. 46 DATA PLATES					
1	PAOZZ	19207	8759938	PLATE, IDENTIFICATION UOC:914	1
1	PAOZZ	19207	10860102	PLATE, IDENTIFICATION UOC:914	1
2	PAOZZ	19207	171764	SCREW, TAPPING .....V	
3	PAOZZ	96906	MS21318-58	SCREW, DRIVE UOC:175	16
4	PAOZZ	19207	10891268	PLATE, IDENTIFICATIO..... UOC:914	
5	PAOZZ	19207	10891266	PLATE, INSTRUCTION	1
6	XDOZZ	64959	171732	SCREW, TAPPING, THREA..... UOC:914	2
7	PAOZZ	19207	7979373	PLATE, IDENTIFICATIO..... UOC:175	1
7	PAOZZ	19207	10860103	PLATE, IDENTIFICATIO..... UOC:914	1

END OF FIGURE

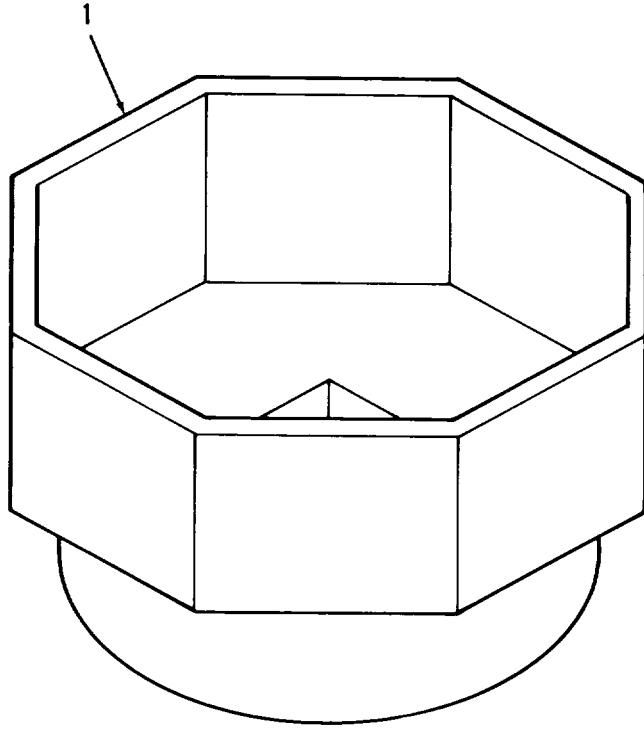


FIGURE 47. SPECIAL TOOLS.

TA503153

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
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GROUP 26 TOOLS AND TEST EQUIPMENT

GROUP 2604 SPECIAL TOOLS

FIG. 47 SPECIAL TOOLS

1	PEOFF	19207	7059814	WRENCH	2
				UOC:914	
1	PEOFF	19207	7950946	WRENCH	2
				UOC:115	

END OF FIGURE

CROSS- REFERENCE-INDEXES
NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-00-010-3496	9	2	5305-00-069-5572	23	1
5315-00-012-0123	27	4	5305-00-071-2066	21	22
5315-00-013-7228	22	18	5305-00-071-2070	22	20
5315-00-014-2986	37	6	5305-00-071-2704	38	31
5310-00-014-5850	31	9	5305-00-071-2242	36	6
5307-00-017-9125	14	10	5305-00-071-2506	22	33
5315-00-018-7851	37	21	3040-00-074-2357	11	13
4730-00-018-9566	21	17	4030-00-075-7212	28	5
6240-00-019-0877	1	5	5306-00-075-7215	28	10
	2	8	4710-00-075-7216	19	1
6240-00-019-3093	2	5	5340-00-015-9142	39	5
2590-00-022-6727	32	1S	4010-00-075-9143	30	1
2530-00-026-0200	20	1	5340-00-075-9145	43	2
2530-00-026-0265	25	1	2540-00-075-9146	42	4
4730-00-036-4421	14	3	5340-00-075-9147	39	3
5340-00-040-2364	3	15	5330-00-015-9150	44	3
5340-00-040-2365	4	e	3130-00-076-0043	38	29
5310-00-044-3339	22	16	5340-00-076-0044	38	18
6240-00-044-6914	1	4	3040-00-016-0046	38	27
	2	4	3040-00-076-0048	38	22
5310-00-045-3296	8	21	3040-00-076-0049	37	1s
	13	13	5340-00-076-0050	37	32
	18	10	4030-00-076-1924	27	6
5310-00-045-3299	4	3	2590-00-676-1937	30	16
5310-00-045-5001	38	6	2590-00-076-1938	32	26
5306-00-050-0348	28	3	2590-00-076-1939	33	14
5305-00-050-1077	30	6	5340-00-076-1942	32	21
4730-00-050-4203	37	4	5343-00-076-1943	37	17
4730-00-050-4238	30	30	2590-00-076-1944	32	3
	33	6	2590-00-076-1945	36	4
	37	22	2590-00-076-1946	34	1
5305-00-051-0827	32	22	2590-00-076-1947	34	1
5305-00-052-6922	3	3	2590-00-076-1948	32	s
5300-00-053-0512	39	16	2590-00-076-1949	32	9
5340-00-054-1416	22	14	5315-00-076-3505	30	11
5305-00-054-9288	27	12	5310-00-076-6004	24	2
5315-00-058-6011	30	31		38	12
2640-00-060-3550	26	6		32	36
5310-00-062-4954	22	1		34	6
5315-00-067-5093	37	8		35	5
5310-00-067-6356	32	41		38	25
5335-00-068-3530	19	10	5310-00-081-4219	38	21
5305-00-068-3501	31	21	5315-00-081-7042	22	35
5305-00-068-0532	18	1	5310-00-087-4652	9	12
5305-00-068-0509	31	1	5310-00-088-1251	31	10
5305-00-068-0515	11	23	5330-00-090-2128	21	2
5315-00-068-2498	37	9	2530-00-092-9641	10	17
5310-00-068-5285	31	25	2530-00-092-9642	10	16
4730-00-069-1186	18	7	3110-00-100-0293	23	9
4730-00-069-1187	18	16	3110-00-110-0567	23	12

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
3110-00-100-3563	23	15	5306-00-225-9088	20	14
5305-00115-9526	1	8	5306-00-225-9093	31	18
	12	2	5306-00-226-4822	10	5
2590-00-118-5546	38	1		38	20
4730-00-127-4461	19	6	2590-00-226-6214	36	4
2530-00-133-9831	12	12	5120-00-229-5711	32	27
2530-00-135-9031	10	1	4710-00-231-7432	19	8
3110-00-142-4351	37	25	5365-00-247-4082	8	3
3110-00-142-4358	23	8	5305-00-253-5032	46	3
3110-00-143-7538	24	9	5365-00-260-4882	23	17
3110-00-143-7586	24	10	4730-00-261-4224	13	10
3043-00-150-7127	11	13	2610-00-262-8677	26	3
5330-00-154-8353	23	16	5340-00-264-7716	3	7
2640-00-158-5617	26	2	5305-00-249-2804	10	24
2530-00-159-8755	12	5	5305-00-269-2807	27	14
2530-00-159-8756	12	5	5305-00-265-3205	43	4
5310-00-167-0721	12	5		44	8
5365-00-168-2762	32	6	5305-00-269-3215	32	34
5340-00-169-5727	8	11	5305-00-269-3216	22	29
4730-00-172-0031	27	10		32	30
5306-00-174-4246	31	24	5305-00-269-3217	9	18
5340-00-177-3711	19	9	5365-00-269-3225	8	5
2540-00-177-8192	9	19	9305-00-269-3246	11	24
2530-00-177-8207	10	1	5305-00-269-2819	34	9
5340-00-178-1441	20	10	5310-00-269-4040	28	4
6220-00-179-4324	2	2	2610-00-269-1383	26	1
5310-00-185-6461	23	5	2530-00-274-4510	16	2
5315-00-187-9538	10	2	5365-00-274-4544	13	5
5305-00-187-9934	37	2		14	2
2530-00-192-8928	20	7		15	2
5310-00-194-1483	39	4	5310-00-274-8715	24	IS
3110-00-158-1277	33	7	5340-00-275-6042	4	2
9905-00-202-3639	45	1	5340-00-276-5849	33	4
4710-00-203-3171	18	12	5325-00-276-5954	3	12
2530-00-204-4800	17	6	5325-00-276-6089	3	13
9905-00-205-2795	45	1	4730-00-277-5553	18	14
5310-00-205-8249	23	6	4730-00-278-6318	19	4
5306-00-206-1560	24	6	9905-00-282-7485	46	7
53C6-00-206-2865	35	6	5340-00-282-7515	8	20
5310-00-209-0698	29	3	5340-00-282-7519	14	6
5310-00-209-0786	13	2	5340-00-282-7793	18	9
5310-00-209-0965	23	2	5330-00-285-5123	21	15
5305-00-225-3839	32	5	5325-00-285-8363	3	9
5310-00-225-6408	37	13	5340-00-286-2494	13	1
	39	6	4730-00-281-1707	13	9
5306-00-225-8496	15	5	2530-00-261-8252	15	8
	18	4	4730-00-289-4937	17	1
	19	11	5330-00-292-4332	23	4
	38	14	2530-00-293-5139	20	4
5306-00-225-8516	33	29	5330-00-297-7106	1	3

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5315-00-298-1481	30	29	5315-00-543-3923	39	45
4730-00-301-7470	18	15	5310-00-550-1130	45	2
5310-00-314-0764	11	14	5310-00-550-3503	3	2
5310-00-314-J765	11	15		11	2
4720-00-318-1016	21	4	5310-00-550-4242	38	24
2530-00-318-1115	16	1	2640-00-555-2843	26	4
2530-00-318-1116	16	1	4710-00-566-7133	15	11
5360-00-321-6464	10	12	4710-00-566-7134	15	13
5310-00-322-7260	11	16	3020-00-571-6104	37	24
5315-00-322-7261	11	17	4730-00-580-8457	21	16
3040-00-330-3262	9	13	2590-00-582-5497	32	39
5975-00-335-2588	13	15	2590-00-582-5503	37	11
5306-00-335-4768	24	5	5310-00-582-5965	4	7
5310-00-341-2387	37	12		9	15
5975-00-345-8055	4	9		11	8
5365-00-350-0155	41	4		14	7
5310-00-359-0458	13	7		18	2
5306-00-383-4957	23	18		19	2
	24	13		21	8
4730-00-384-0010	13	4		22	32
5310-06-407-9566	9	10		32	8
	10	6		36	2
	15	6	5365-00-582-7363	10	14
	18	5	5310-00-584-5272	10	22
	19	12		31	23
	20	6	5310-00-588-0386	30	27
	38	13	2530-00-589-8537	30	28
5340-00-408-9177	9	9	5310-00-594-8038	23	19
2590-00-411-2063	5	1		24	14
4730-00-419-9425	13	6	4730-00-595-0083	21	1
	15	3	5310-00-596-1691	3	5
5310-00-424-1452	41	3	3110-00-606-1840	30	23
5310-00-424-1456	41	5	3110-00-606-1841	30	25
3120-00-433-4633	34	2	2530-00-610-3273	10	11
	35	10	5340-00-610-3338	10	8
	35	14	5340-00-611-7883	3	1
4010-00-435-7709	30	32	5330-00-614-4356	24	17
2530-00-443-0033	10	20	2530-00-614-4454	24	18
5330-00-462-0907	2	3	5315-00-616-5522	33	26
4730-00-463-1588	14	9	5315-00-616-5524	33	13
5343-00-466-4948	22	7	5310-00-620-8186	35	7
5310-00-483-8792	31	13	5310-00-621-6128	12	3
4710-00-511-1692	17	5	4720-00-629-8042	21	6
5310-00-514-6674	33	9	4710-00-630-9928	15	13
3110-00-516-5289	33	27	2530-00-633-1972	10	4
3110-00-516-5850	33	22	5310-00-637-9541	1	7
5310-00-518-5566	23	19		8	8
	24	14		10	25
2530-00-522-1157	11	19		20	3
5360-00-535-1924	4	5		22	12

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5310-00-637-9541	27	15	2510-00-671-4540	22	9
	32	29	2530-00-679-4542	22	28
	34	7	2530-00-679-4543	23	10
	38	16	2510-00-679-4544	22	9
	42	2	3120-00-679-4549	22	23
	43	5	3110-00-679-4551	30	22
	44	9	3110-00-679-4554	33	2
5310-00-641-9939	11	11	3120-00-679-4555	39	48
5340-00-655-7761	3	4	5310-00-679-4558	33	16
	18	3	5310-00-679-4559	33	23
5305-00-655-9404	39	15	5315-00-679-4560	22	27
5306-00-655-9522	8	23	5315-00-679-4561	22	25
5310-00-660-3381	31	16	5310-00-679-4563	22	10
6220-00-669-5623	1	1	5315-00-679-4565	30	13
2530-00-677-0202	24	11	5340-00-679-4570	22	22
3120-00-679-3158	39	8	5340-00-679-4571	22	17
3120-00-679-3159	39	7	5310-00-679-4574	40	2
5315-00-679-3160	39	9	5315-00-679-4515	22	19
4710-00-679-3162	14	1	5315-00-679-4576	8	18
4710-00-679-3163	14	12	5310-00-679-4577	22	3
5340-00-679-3185	3	1	5365-00-679-4578	22	4
	4	12	3020-00-679-4814	33	17
5305-00-679-3189	41	8	5307-00-679-8116	22	21
5310-00-679-3606	21	13	5340-00-687-5221	32	52
2590-00-679-3678	9	8	5305-00-688-2111	42	5
4720-00-679-3679	14	14	5340-00-689-6160	17	S
2510-00-619-3681	39	12	5315-00-690-0544	37	30
5340-00-679-3682	39	14	5340-00-692-9212	44	6
2530-00-679-3683	7	1	2530-00-683-0736	31	3
5330-00-679-4485	33	21	5340-00-693-U73s	9	6
4710-00-679-4486	13	8	2530-00-693-1007	11	20
3020-00-679-4488	33	15	5360-00-699-8489	31	4
2530-00-679-4536	8	12	5360-00-699-9018	11	s
2590-00-679-4507	32	13	5360-00-700-4229	20	8
3020-00-679-4510	33	24	6150-00-710-4138	5	1
4720-00-679-4511	13	11	2590-00-703-4145	6	1
3040-00-679-4513	22	5	5360-00-706-9054	21	14
2530-00-679-4514	22	31	5120-00-111-8416	47	1
2530-00-679-4515	8	17	5305-00-719-5342	32	1
3020-00-679-4518	33	3	5365-00-721-6342	40	3
2540-00-679-4519	40	4	5365-00-721-6876	39	47
5315-00-679-4521	32	40	5305-00-724-5839	32	53
3040-00-679-4522	33	25	5305-00-724-5885	38	2
5340-00-679-4523	23	3	5305-00-724-5910	38	7
5330-00-679-4524	32	10	5305-00-724-1219	38	7
2530-00-479-4529	23	13	5305-00-724-1221	38	9
9965-00-679-4530	46	1	5305-00-714-7223	38	1S
5315-00-679-4535	30	5	5305-00-726-2572	41	7
2590-00-679-4536	22	21	5305-00-728-6291	39	10
2530-00-679-4538	30	10	4730-00-729-6437	4	5

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4730-00-729-6437	15	1	5315-00-754-0b48	8	2
2530-00-730-7620	11	1	5310-00-761-6682	4	11
5313-00-732-0558	8	9		21	9
	10	26		32	7
	20	2		36	1
	28	16	5310-00-763-8901	39	1
	32	35	5310-00-763-8905	41	2
	38	15	5310-00-763-8921	28	8
	42	1	3040-00-764-6404	8	10
	43	6	5310-00-768-0318	30	9
	44	10	2530-00-770-7070	41	9
5313-00-732-3559	8	16	2539-00-770-9148	30	24
	9	4	2533-00-770-9149	12	7
	34	8	5305-00-770-9150	12	t
5310-00-732-3560	10	23	4130-00-773-2163	17	7
	11	5	2530-00-773-9386	10	18
	35	13	2530-00-113-9387	10	18
5306-00-733-9239	23	18	5305-00-762-9489	38	17
	24	13		38	26
5310-00-733-9422	8	13	2530-00-791-J110	12	1
2530-00-737-3260	15	8	2530-00-791-325S	12	1
5330-00-737-3354	17	8	2530-00-794-9763	11	19
2530-00-737-1783	20	12	5325-00-795-0719	3	10
2530-00-738-9061	25	2	5120-00-795-0946	47	1
2530-00-738-9620	25	3	5306-00-796-2621	32	14
4010-00-741-1027	28	1	2590-00-796-2622	32	11
5310-00-741-1028	29	2	2530-00-797-9295	21	10
2940-00-741-1081	21	12	5306-00-797-9296	21	7
5310-00-741-1378	11	4	2533-00-798-4812	12	4
	24	16	2530-00-798-4824	12	4
5310-00-741-1379	24	15	5310-00-800-0695	32	23
2530-00-741-1425	24	3	2590-00-808-6139	32	33
5330-00-741-1429	24	8	5340-00-809-1494	4	14
5365-00-741-1433	24	7		19	1
5306-00-741-1760	11	7	4120-00-809-2750	17	3
4730-00-741-1903	15	12	5310-00-809-3079	22	2
4710-00-741-1907	15	11		27	3
2530-00-741-2050	15	10	5310-00-809-4058	4	10
2530-00-741-2065	15	9		36	3
2530-00-741-2068	15	7	5310-00-809-5998	30	7
5310-00-741-2088	14	4		32	51
	15	4	5310-00-809-8533	28	7
5365-00-741-2103	11	10		39	42
3020-00-741-2104	12	10	2640-00-810-5861	26	5
5315-00-741-2106	11	21	5315-00-812-2350	33	28
5310-00-741-2120	12	11	5365-00-815-7054	8	7
2530-00-741-3231	24	4	2530-00-815-7082	8	4
5310-00-741-4684	29	2	5315-00-816-1794	22	15
2530-00-741-5748	21	11	5310-00-820-6653	38	6
6220-00-752-6020	1	2	5310-00-823-8803	27	5

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5310-00-834-7606	27	2	9905-00-899-1507	46	4
	3C	8	9905-00-899-1508	46	5
5310-00-834-8732	32	50	3120-00-899-4072	37	31
5310-00-834-8734	22	6	3120-00-899-5216	37	20
5310-00-835-2037	41	1	5330-00-899-5217	37	14
5315-00-839-2325	8	19	5365-00-899-6723	9	17
	10	10	5305-00-903-2190	23	14
5315-00-839-5822	22	34	5310-00-903-3993	11	3
5310-00-842-1190	39	2	4730-00-906-3194	17	4
5310-00-842-1488	22	13	7130-00-909-8627	32	18
5310-00-842-1490	32	24	4030-00-911-1925	28	5
5315-00-842-3044	8	1	5310-00-923-1925	9	7
	9	1	4010-00-923-5970	28	6
5315-00-842-3345	29	1	5310-00-924-4218	11	12
5315-00-844-3665	30	15	5365-00-929-8927	35	8
5315-00-844-5833	30	18	4030-00-930-3154	30	3
5315-00-844-5836	31	12	5330-00-930-5292	17	2
5310-00-851-2082	28	17	5310-00-934-9757	4	4
5310-00-853-9335	12	8	5310-00-935-3569	24	12
5305-00-855-0956	3	6	5305-00-951-5617	13	12
5360-00-860-0524	38	23		18	11
5310-00-860-0528	38	3	5305-00-958-5246	32	15
5310-00-860-0529	37	5	5305-00-958-5477	22	26
2590-00-860-0530	37	7	2530-00-973-2355	11	18
5120-00-860-0531	37	1	2530-00-973-2356	11	18
5315-00-860-0532	37	18	5315-00-975-1720	31	5
2590-00-860-0534	38	4	5310-00-975-2075	8	14
5330-00-860-0535	37	15	5313-00-982-4908	24	1
3040-00-860-0536	37	26		35	4
6150-00-861-0538	6	1	5310-00-982-5042	27	1
9905-00-861-7375	46	1	5313-00-982-6808	31	27
3040-00-861-7076	32	43	5310-00-982-6810	31	2
4010-00-861-7077	27	17	5305-00-983-6622	33	19
2590-00-861-7078	32	44	5305-00-983-8084	32	17
3120-00-861-7080	34	3	5305-00-984-4983	37	16
	35	2	5305-00-984-5672	9	11
	35	13	5305-00-984-6193	4	1
2590-00-861-7083	32	2	5305-00-984-6210	8	22
5360-00-861-1084	32	38	5340-00-985-0823	9	3
2590-00-862-2675	32	49	5340-00-967-2565	11	6
5365-00-871-2881	38	11	4730-00-987-9073	21	5
5310-00-880-7744	10	7	5305-00-988-1721	4	6
	33	10		9	16
5310-00-886-7745	14	11		14	8
5310-00-883-7746	20	5		45	3
2590-00-887-9529	32	4	5305-00-988-1723	11	22
5310-00-891-1711	14	13		24	20
5120-00-895-7306	35	1	5305-00-988-1725	4	13
2590-00-895-7307	35	11		19	3
3120-00-899-1355	38	5	5340-00-991-4342	11	6

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5306-00-994-1019	9	5			
5306-00-994-8975	12	13			
2540-00-999-5584	29	4			
5330-01-046-3300	20	5			
5315-01-053-4819	30	19			
5305-01-063-5055	34	5			
5310-01-073-8614	37	3			
	38	30			
5340-01-082-9321	28	11			
2530-01-083-5641	12	12			
2590-01-093-3608	39	46			
6220-01-093-4439	2	1			
5307-01-111-2278	22	11			
5360-01-111-2289	10	3			
5340-01-141-4814	20	13			
5360-01-149-1678	37	28			
4730-01-149-9928	19	5			
1095-01-162-0352	20	11			
1095-01-162-0354	37	29			
3040-01-162-0355	37	23			
5306-01-165-0101	32	32			
2590-01-183-6816	31	1			
5343-01-189-6405	18	6			
	19	13			
5340-01-209-0475	31	14			
3040-01-209-0497	31	20			
5340-01-209-0500	31	17			
5340-01-209-5033	31	15			
2590-01-210-8843	31	26			
2540-01-215-1617	31	6			
2530-01-215-3389	31	11			
5340-01-222-5247	31	8			
2530-01-226-8030	22	24			
5340-01-231-8594	8	11			
5330-01-262-6787	44	4			
6220-01-284-2709	2	9			
6220-01-293-2627	2	7			
5330-00-732-9623	32	28			
5330-00-732-9632	32	59			
5305-00-719-5342	32	60			

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
88044	AN6-14A	5306-00-206-2865	35	6
88044	AN935-816	5310-01-073-8614	37	3
			38	30
78500	AS-3236M1261	2530-00-730-7620	11	1
80571	K 75S4	5315-00-010-3496	9	2
08162	BTJ59S	3110-00-142-4358	23	8
81600	C61072ARPC2S	5330-00-154-8353	23	16
63477	F1241	4730-00-384-0010	13	4
63477	F19582	2530-00-794-9763	11	19
63477	F4148	2530-00-318-1115	16	1
59749	IF316	5315-00-816-1794	22	15
97030	LOOM1/41D	5575-00-335-2588	13	15
08238	MS55305-43		39	11
96906	MS15001-1	4730-00-053-4203	37	4
96906	MS15003-1	4730-00-050-4208	30	30
			33	6
			31	22
96906	MS15003-5	4730-00-172-0031	27	10
96906	MS15795-714	5310-00-620-8186	35	7
96906	MS16555-346	5315-00-812-2250	33	28
96906	MS16556-844	5315-00-815-1720	31	5
96906	MS16562-65	5315-00-844-5836	31	12
96906	MS16562-68	5315-00-844-3665	30	15
9696	MS16562-74	5315-00-058-6011	30	31
96906	MS16562-81	5315-00-844-5833	30	18
96906	MS16624-1125	5365-00-721-6876	39	47
96906	MS16625-1387	5365-00-260-4882	23	17
96906	MSb1997-142	5305-00-187-9934	37	2
96906	MS16997-60	5305-00-983-8064	32	17
96906	MS16997-81	5305-00-983-6622	33	19
96906	MS11829-40	5310-00-483-8792	31	13
96906	MS18154-58	5305-00-115-9526	1	8
			12	2
96906	MS19068-091	5310-00-185-6461	23	5
96906	MS19070-092	5310-00-205-8249	23	6
96906	MS20392-7037	5315-00-081-7042	22	35
96906	MS20392-90127		21	7
96906	MS21044-N12	5313-00-582-6810	31	2
96906	MS21044-N9	5310-00-982-6808	31	27
96906	MS21045-6	5310-00-982-4908	24	1
			35	4
96906	MS21045-8	5310-00-062-4554	22	1
96906	MS21083-N5	5310-00-660-3381	31	16
96906	MS21318-58	5310-00-253-5632	46	3
96906	MS21333-105	5340-00-809-1494	4	14
			19	1
96906	MS21333-16	5340-00-177-3711	19	s
96906	MS21333-34	5340-00-282-7519	14	6
96906	MS21333-36	5340-00-286-2494	13	1
96906	MS21333-37	5340-00-282-7515	8	20
96906	MS24629-47	5305-00-855-0956	3	6

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	M324629-58	5305-00-052-6922	3	3
96906	MS24630-46	5305-00-951-5617	13	12
			18	11
96906	MS24649-57		13	3
96906	MS24665-132	5315-00-839-2725	8	19
			10	10
96906	MS24665-283	5315-00-842-3044	8	1
			9	1
96906	MS24665-285		32	25
96906	MS24665-349	5315-00-187-9538	10	2
96906	MS24665-353	5315-00-839-5822	22	34
96906	MS24665-355	5315-00-012-0123	21	4
96906	MS24665-357	5315-00-298-1481	30	29
96906	MS24665-423	5315-00-013-7228	22	18
96906	MS24665-499	5315-00-842-3045	29	1
96906	MS27183-1J	5310-00-809-4058	4	10
			36	3
96906	MS27183-14	5310-00-080-6004	24	2
			28	12
			32	36
			34	6
			35	5
			38	25
96906	MS27183-18	5310-00-809-5998	30	7
			32	51
96906	MS27183-19	5310-00-809-3079	22	2
			27	3
96906	MS27183-20	5210-00-068-5265	31	25
96906	MS27183-21	5310-00-823-8803	27	5
96906	MS27183-23	5310-00-809-8533	28	7
			39	42
96906	MS27183-29	5313-00-209-0698	29	3
96906	MS27183-42	5310-00-014-5850	31	9
96906	MS35140-12	5340-00-655-7761	3	4
			18	3
96906	MS35140-5		13	14
96906	MS35140-6	5340-00-282-7793	18	9
96906	MS35190-254	5305-00-958-5471	22	26
96906	MS35190-289	5305-00-958-5246	32	15
96906	MS35206-226	5305-00-984-4983	37	16
96906	MS35206-245	5305-00-984-6193	4	1
96906	MS35206-263	5305-00-984-6210	8	22
96906	MS35206-217	5305-00-968-1721	4	6
			9	16
			14	8
			45	3
96906	MS35206-279	5305-00-988-1723	11	22
			24	20
96906	MS35206-281	5305-00-988-1725	4	13
			19	3
96906	MS35206-292	5305-00-984-5672	9	11

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35308-409	5305-00-903-2190	23	14
96906	MS35333-40	5310-00-550-1130	45	2
96906	MS35333-41	5310-00-167-0721	12	9
96906	MS35333-44	5310-00-194-1483	39	4
96906	MS35335-32	5310-00-596-7691	3	5
96906	MS35335-33	5310-00-209-0786	13	2
96906	MS35335-34	5310-00-514-6674	33	9
96906	MS35335-35	5310-00-627-6128	12	3
96906	MS35335-36	5310-00-550-3503	3	2
			11	2
96906	MS35335-39	5310-00-800-0695	32	23
96906	MS35338-43	5310-00-045-3296	8	21
			13	13
			18	10
96906	MS35338-44	5210-00-582-5965	4	7
			9	15
			11	8
			14	7
			18	2
			19	2
			21	8
			22	32
			32	8
			36	2
96906	MS35338-45	5310-00-407-9566	10	6
			18	5
96906	MS35338-46	5310-00-637-9541	1	7
			8	8
			10	25
			22	12
			27	15
			32	29
			34	7
			43	5
			44	9
96906	MS35338-47	5310-00-209-0965	23	2
96906	MS35338-48	5310-00-584-5272	10	22
			31	23
96906	MS35338-63	5310-00-274-8715	24	1
96906	MS35340-48	5310-00-834-7606	27	2
			30	8
96906	MS35340-50	5310-00-045-5001	38	6
96906	MS35426-18	5310-00-982-5042	27	1
96906	MS35489-16	5325-00-276-6089	3	13
96906	MS35489-43	5325-00-795-0719	3	10
96906	MS35489-45	5325-00-285-8363	3	9
96906	MS35489-49	5325-00-276-5954	3	12
96906	MS35490-35		18	13
96906	MS35648-16	5340-00-054-1416	22	14
96906	MS35649-282	5310-00-934-9757	4	4
96906	MS35671-56	5315-00-067-5093	37	8

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35677-51	5315-00-568-2458	37	9
96906	MS35691-13	5310-00-653-9335	12	8
96906	MS35691-17	5310-00-651-2682	28	11
96906	MS35591-25	5310-00-891-1711	14	13
96906	MS35691-33	5310-00-834-6732	32	50
96906	MS3561-37	5310-00-634-8734	22	6
96906	MS35311-53	5310-00-835-2037	41	1
96906	MS35691-61	5310-00-842-1190	39	2
96906	M535692-21	5319-00-842-1488	22	13
96906	MS35692-31	5313-00-842-1490	32	24
96906	MS35756-10	5310-00-616-5524	33	13
96906	MS35756-101		33	12
96906	MS35756-12	5315-00-616-5522	33	26
96906	MS35810-3	5315-00-154-0848	8	2
96906	MS35812-4	5340-00-885-0823	9	3
96906	MS35842-11	4130-00-908-3104	17	4
96906	MS35842-13	4730-00-909-8627	32	18
96906	MS39133-2-B	4730-00-987-9073	21	5
96906	MS39182-23	4730-00-069-1187	18	16
96906	MS39202-6		19	6
96906	MS39206-7	4730-00-149-9928	19	5
96906	MS45905S6	5310-00-923-1925	9	7
96906	MS51329-1	6220-00-669-5623	1	1
96906	MS51339-3	2540-00-699-5564	29	4
96906	MS51377-1	2640-00-810-5861	26	5
96906	MS51815-6	4730-00-127-4461	19	6
96906	MS51922-1	5310-00-088-1251	31	10
96906	MS51922-17	5310-00-087-4461	9	12
96906	MS51922-49	5310-00-269-4040	28	4
96906	MS51922-57	5310-00-067-6356	32	41
96906	MS51943-46	5310-00-535-3569	24	12
96906	MS51946-1	5306-00-733-9239	24	13
96906	MS51955-714	5305-00-054-9288	27	12
96906	MS51963-104	5305-00-724-5885	38	2
96906	MS51963-99	5305-00-724-5683	32	53
96906	MS51965-28	5365-00-719-5342	32	1
96906	MS51967-2	5310-00-761-6882	4	11
			21	9
			32	7
			36	1
96906	MS51967-23	5310-00-763-8921	28	8
96906	MS51967-5	5310-00-880-1144	10	7
			33	10
96906	MS51967-8	5310-00-732-0558	8	9
			10	26
			20	2
			28	16
			32	35
			38	15
			42	1
			43	6

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MSS1507-8	5310-00-732-0558	44	10
96906	MS51968-11	5310-00-880-7745	14	11
96906	MS51968-14	5310-00-132-0560	10	23
			11	5
			39	13
96906	MS51968-20	5310-00-763-8905	41	2
96906	MS51968-23	5310-00-763-8901	39	1
96906	MS51968-5	5310-00-880-7746	20	5
96906	MS51968-8	5310-00-732-0559	8	16
			9	4
			34	8
96906	MS51970-1	5210-00-924-4218	11	12
96906	MS51970-4	5310-00-903-3993	11	3
96906	MS51973-74	5305-00-728-6291	39	10
96906	MS51983-1	5310-00-518-5566	23	19
			24	14
96906	MS51983-2	5310-00-594-8038	23	19
			24	14
96906	MS52125-2	6220-01-093-4439	2	1
96906	MS521301A204120	4720-00-809-2750	17	3
96906	MS87006-51	4030-00-930-3154	30	3
96906	MS90725-10	5305-00-068-0509	31	19
96906	MS90725-118	5305-00-050-1077	30	6
96906	MS90725-158		36	8
96906	MS90725-162	5305-00-724-5910	38	7
96906	MS90725-164	5305-00-051-0827	32	22
96906	MS90725-3	5305-00-068-0500	19	10
96906	MS90725-31	5306-00-225-8596	15	5
			18	4
			19	11
			38	14
96906	MS90725-400	5305-01-063-5055	34	5
96906	MS90725-5	5305-00-068-0501	31	21
96906	MS90725-52	5306-00-225-8516	33	29
96906	MS90725-58	5335-00-269-3205	43	4
			44	8
96906	MS90725-6	5305-00-068-0502	18	1
96906	MS90725-65	5305-00-269-3215	32	34
96906	MS90725-66	5305-00-269-3216	Z2	25
			32	30
96906	MS90725-67	5305-00-269-3217	9	18
96906	MS90725-75	5305-00-269-3225	8	5
96906	MS90725-8	5305-00-225-3839	32	5
96906	MS90725-84	5305-00-069-5572	23	1
96906	MS90725-9	5305-00-071-2242	36	t
96906	MS90726-33	5306-00-225-9088	20	14
96906	MS90726-38	5306-00-225-9093	31	18
96906	MS90726-61	5305-00-269-2804	10	24
96906	MS90726-64	5305-00-269-2807	21	14
96906	MS90726-74	5305-00-269-2819	34	9
96906	MS90727-178	5305-00-726-2572	41	7

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS90727-64	5305-00-269-3240	11	24
96906	MS90727-8	5305-00-068-0515	11	23
96906	MS90728-109	5305-00-071-2066	31	22
96906	MS907128-114	5305-00-071-2070	22	20
96906	MS90728-118	5305-00-071-2074	38	31
96906	MS90728-160	5305-00-724-7219	38	7
96906	MS90728-163	5305-00-724-7221	38	9
96906	MS90728-165	5305-00-724-7223	38	19
96906	MS90728-29	5306-00-226-4622	10	5
			38	20
96906	MS90728-3	5305-00-071-2506	22	33
96906	MS90728-63	5305-00-088-2111	42	5
96906	MS93728-66	5305-00-182-9489	38	17
			38	26
81249	M83461/1-012	5330-01-046-3300	20	9
40342	N12972	5310-00-079-3606	21	13
81349	RR-C-271BTY1GRCC LS5STYLE1		30	4
51665	US48	2640-00-060-3550	26	6
05282	V3049X	2530-00-137-1783	20	12
81348	ZZ-T-381M/GROUP3 /9.00-20/D/ TBCC	2610-00-262-8677	26	3
92867	01001307	3040-00-330-3262	9	13
92392	0913475	4730-00-261-4224	13	10
89619	107AX	4710-00-203-3171	18	12
19207	10806397		35	12
19207	10860001		43	3
19207	10860039		43	1
19207	10860050		44	5
19207	10860065	3120-00-433-4633	34	2
			35	10
			35	14
19207	10860068	5120-00-895-7306	35	1
19207	10860069	2590-00-895-1737	35	11
19207	10860085	2590-00-619-4536	32	21
19207	10860086	5340-00-016-1942	32	20
19207	10860091	5365-00-168-2762	32	6
19207	10860102	9905-00-679-4530	46	1
19207	10860103		46	7
19207	10860106	2530-00-679-4542	22	28
19207	10860107		22	28
19207	10860113		22	30
19207	10860114	2530-01-226-8030	22	24
19207	10860115	3120-00-679-4549	22	23
19207	10863117	5340-00-679-4571	22	17
19207	10860118	5340-00-679-4570	22	22
19207	10860119	5310-00-679-4577	22	3
19207	10860120	5345-00-679-4578	22	4
19207	10860121	5307-00-679-8118	22	21
19207	10860122	5315-00-679-4575	22	19
19207	10860123	5310-00-679-4574	40	2

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19207	10860124		40	1
19207	10860125	5315-00-679-4560	22	27
19207	10860127	5310-00-619-4561	22	25
19207	10860128	5310-00-679-4563	22	10
19207	10860129	5307-01-111-2278	22	11
19207	10860130	2530-00-679-4514	22	31
19207	10863131	3040-00-679-4513	22	5
19207	10860134	2510-00-679-4944	22	9
19207	10863135	2510-00-679-4540	22	5
19207	10860136		22	8
19207	10860145		36	7
19207	10806146		36	5
19207	10806936		32	58
19207	10860937	2590-00-662-2615	32	49
19207	10860938	5306-00-796-2621	32	14
19027	10885442	5310-00-860-0528	38	3
19207	10885443	5315-00-899-0532	37	18
19207	10885445	3120-00-860-1355	38	5
19207	10885446	5330-00-806-0535	37	15
19207	10885448	5340-00-076-1943	37	17
19207	10885450	5313-00-860-0529	37	5
19207	10885452	2590-00-860-0534	38	4
19207	10885453	5340-00-076-0044	38	18
19207	10885454		37	10
19207	10885459	2590-00-860-3530	37	7
19207	10885462	3040-00-076-0046	38	27
19207	10885466	3040-00-076-0048	38	22
19207	10885467		38	12
19207	10885474	2590-00-118-5546	38	1
19207	10885476	3040-00-076-0049	37	15
19207	10891200		28	19
19207	10891215		42	3
19207	10891229		28	18
19207	10891260	2540-00-175-9146	42	4
19207	10891262	2590-00-411-2063	5	1
19207	10891263	6150-00-860-0538	6	1
19207	10891266	9905-00-899-1508	46	5
19207	10891268	9905-00-899-1501	46	4
19207	10891278		38	10
19207	10891283	4030-00-015-7212	28	9
19207	10891284	5306-00-075-7215	28	10
19207	10891298		38	28
19207	10891299	5340-00-075-0050	37	32
19207	10899780	3120-00-861-7080	34	3
			35	2
			35	13
19207	10905840	5S75-00-345-8055	4	9
19207	10906396		35	3
19207	10906399	2590-00-076-1944	32	3
19207	10906406	3120-00-679-4555	39	48
19207	10906407	2590-00-861-7178	32	44

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19207	10906411	2590-00-226-6214	36	4
19207	10900418	2590-00-076-1945	36	4
19207	10914241		34	4
19207	10914242		34	4
19207	10914243	2590-00-076-1946	34	1
19207	10914244	2550-00-076-1941	34	1
19207	10914245		32	46
19207	10914247	2590-00-076-1548	32	9
19207	10914359	5120-00-229-5711	32	27
19207	10914500	5340-00-075-9147	39	3
19207	10933266	5340-00-075-9145	43	2
19207	10933281	2590-01-093-3608	39	46
19207	10933282	2590-00-476-1949	32	9
19207	10933343	4710-00-075-7214	19	7
19207	10933345	4710-00-231-7432	19	8
43991	1103AC		33	11
19207	11639519-2	5330-00-462-0907	2	3
19207	11639520		2	6
19207	11639535	6220-00-179-4324	2	2
19207	12259830	2590-01-183-6816	31	1
19207	12259830-1		31	7
19207	12259831	3040-01-209-0497	31	20
19207	12259835	5340-01-209-0475	31	14
19207	12259837	5340-01-209-0500	31	17
19207	12259839	2590-01-210-8843	31	26
19207	12259840	5340-01-209-0503	31	L5
19207	12259844	2540-01-215-1617	31	6
19207	12259845	2530-01-215-3389	31	11
19207	12312996	5340-01-222-5247	31	8
19207	12360850-1	6220-01-284-2709	2	9
19207	12360870-1	6220-01-293-2621	2	7
02246	125-298	3110-00-679-4551	30	22
21450	126670		28	13
24617	127927	4730-00-287-1707	13	S
52793	13394	5315-00-679-4565	30	13
21450	142986	5315-00-014-2986	37	6
12204	1502415	4730-00-036-4421	14	3
24617	15039R		18	8
64959	171732		46	6
19207	171764		45	3
			46	2
10001	1785042	3110-00-679-4554	33	2
21450	179125	5307-00-017-9125	14	10
24617	187851	5315-00-018-7851	31	21
19207	190877	6240-00-019-0671	1	5
			2	8
19207	193093	6240-00-019-3093	2	5
73808	20R	2640-00-158-5617	26	2
12603	23E06	5310-00-631-9541	20	3
			38	16
			42	2

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80045	23MS35338-50	5310-00-820-6653	38	6
13305	23507	5310-00-768-0318	30	9
06853	235092	5330-00-285-5123	21	15
06853	235093	5350-00-706-9054	21	14
50513	250303	5330-00-614-4356	24	17
01957	266697	3110-00-142-4351	37	25
71843	2708-6A	5240-00-468-4948	22	7
61220	28622	3110-00-100-0567	23	12
23175	324420	2530-00-693-0736	31	3
80244	42014495		28	2
21450	425324	5306-00-055-9522	8	23
19207	443339	5310-00-044-3339	22	16
21450	443921	5310-00-915-2075	8	14
12582	444000	4733-00-301-7470	18	15
19207	444166	4730-00-277-5553	18	14
19207	446914	6240-00-044-6914	1	4
			2	4
19207	500333		21	3
21450	533048	5306-00-050-0348	28	3
19207	5156636	5330-00-930-5292	17	2
19207	5161679	4773-00-403-1588	14	9
19207	5203089		30	2
19207	5214933	5310-00-359-0458	13	7
19207	5298653	5365-00-274-4544	13	5
			14	2
			15	2
19207	5303461	5340-00-408-9177	9	9
19237	5323088	5310-00-641-5939	11	11
21450	538008		8	15
19207	538824	5330-00-090-2128	21	2
21450	541401	5340-00-276-5849	33	4
19207	544160	5315-00-543-3923	39	45
19207	545033	5340-00-275-6042	4	2
19207	5703039	5365-00-871-2881	38	11
19207	573111		3	14
			8	24
19207	588463		44	7
81343	6-4 1201028A	4730-00-069-1166	18	7
19200	6144454	2530-00-614-4454	24	18
19207	6161059A	9905-00-205-2755	45	1
52676	6204ZJ	3110-00-516-5850	33	22
27783	650	2640-00-555-2843	26	4
09386	68248	5306-00-383-4551	24	13
21450	700076	3114-00-516-5289	33	27
19207	7001762	5360-00-535-1S24	4	5
1927	70321 76	4010-00-435-7709	30	32
19207	7034651	3110-00-636-1841	30	25
19207	7049884	2590-00-679-3678	9	8
21450	705472	3110-00-100-3563	23	15
19207	7059814	5120-00-711-8418	47	1
09386	70627E	5306-00-335-4766	24	5

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7064602	5340-00-692-9212	44	6
19207	7064978	2530-00-693-1007	11	20
21450	706640	3110-00-100-0213	23	9
21450	706915		37	33
19207	70189984	3040-00-860-0536	37	26
19207	7092048	2540-00-679-4519	40	4
19207	7222571		23	11
19207	7320658	5330-00-297-7106	1	3
19207	7328401		31	34
19207	7328402	3120-00-899-4071	37	31
19207	7328405	3040-01-162-0355	37	23
19207	7335058	2530-00-773-9386	10	18
19207	7335059	2530-00-773-9387	10	18
19207	7339238	5306-00-363-4957	23	18
19207	7339239	5306-00-733-9239	23	18
19207	7339422	5310-00-733-9422	8	13
19207	7339460	4030-00-911-7620	28	5
19207	7341458	5340-00-681-5221	32	52
19207	7341455		32	56
19207	7341460		32	i5
19207	7341461		32	54
19207	7341462	5365-00-721-6342	40	3
19207	7341463	2590-00-679-4507	32	13
19207	7347734	5310-00-045-3299	4	3
19207	7348221	9905-00-232-3439	45	1
19207	7349028	5310-00-424-1452	41	3
19207	7349029	5310-00-424-1456	41	5
19207	7350985	5310-00-588-0386	30	27
19207	7351041	5330-00-292-4332	23	4
19207	7373260	2530-00-731-3260	15	8
19207	7373354	5330-00-737-3354	17	8
19207	7376223	4130-00-595-0083	21	1
19207	7389061	2530-00-738-9061	25	2
19207	7389620	2530-00-738-9620	25	3
19207	7389621	2530-00-026-0265	25	1
19207	7409322	2530-00-214-4510	16	2
19207	7410218	5310-00-407-9565	9	10
			15	6
			19	12
			20	6
			38	13
19207	7411022	2530-00-797-9295	21	10
19207	7411327	4010-00-741-1027	28	1
19207	7411328	5310-00-741-1028	29	2
19207	741181	2940-00-741-1081	21	12
19207	7411376	3110-00-143-1538	24	9
19207	7411371	3110-00-143-1586	24	10
19207	7411378	5310-00-741-1378	11	4
			24	16
19207	7411379	5310-00-741-1379	24	15
19207	7411425	2530-00-741-1425	24	3

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7411429	5330-00-741-1429	24	8
19207	7411433	5365-00-741-1433	24	7
19207	7411760	5336-00-741-1760	11	7
19207	7411903	4730-00-741-1903	15	12
19207	7411907	4710-00-741-1907	15	1
19207	7411908	4710-00-566-7134	15	13
19207	7412050	2530-00-741-2050	15	10
19207	7412065	2530-00-741-2065	15	S
19207	7412068	2530-00-741-2068	15	7
19207	7412079	4130-00-729-6437	14	5
			15	1
19207	7412088	531-00-741-2088	14	4
			15	4
19207	7412103	5365-00-741-2103	11	10
19207	7412104	3020-00-741-2104	12	10
19207	7412106	5315-00-741-2106	11	21
19207	7412120	5310-00-741-2120	1L2	11
19207	7413231	2530-00-741-3231	24	4
19207	7414684	5310-00-741-4684	29	2
19207	7415340		35	9
19207	7415748	2530-00-141-5148	21	11
19207	7520774	3020-00-571-6104	37	24
19207	7520777	1095-01-162-0354	37	29
19207	7520829		37	27
19207	7525997		1	6
19207	7526020	6220-00-752-6020	1	2
19207	7539268	2530-00-287-8252	15	8
19207	7612774		10	9
19207	7196416	5360-01-149-1618	37	28
19207	7703692	5340-00-264-7716	3	7
19207	7707070	2530-00-770-7070	41	9
00000	7743749		3	8
19207	7745464	4730-00-419-9425	13	6
			15	3
19205	7793470	5315-00-690-0544	37	30
09386	78324	2530-00-679-4526	23	13
19207	7950946	5120-00-795-0946	47	1
19207	7973176	2530-00-679-4543	23	10
19207	7974916	5365-00-350-0155	41	4
19207	7979296	5306-00-797-9296	21	7
19207	7979373	9S05-00-282-7489	46	7
19207	7979598	4010-00-923-5970	28	6
19207	7979599	1095-01-162-0352	20	11
19207	7979602	5340-01-141-4814	20	13
19207	7979605	2530-00-192-8928	20	7
19207	7979608	5360-00-700-4429	20	8
19207	7979610	5344-00-178-1441	20	10
19207	7979613	4730-00-580-8451	21	16
63477	7979691	4730-00-773-2163	17	7
19207	7979699	5340-00-689-6160	17	9
19207	7979851	5340-01-189-6405	18	6

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7979851	5340-01-189-6405	19	13
19207	7979972	5306-00-174-4246	31	24
00000	7984623	5310-00-559-4242	38	24
19207	8035089	2590-00-582-5503	37	11
18876	8016971	2530-00-135-9031	10	1
19207	8016972	2530-00-177-8207	10	1
19207	8016973	2530-00-610-3212	10	11
19207	8016976		10	15
19207	8016977		10	21
19207	8016978		10	13
19207	8016979	5365-00-582-7363	10	14
19207	8016980		10	20
19207	8016981	2530-00-443-0033	10	20
18876	8016982	5340-00-610-3338	10	8
19207	8016983	2530-00-633-7972	10	4
19207	8016998	5360-01-111-2289	10	3
19207	8017003	2530-00-318-1116	16	1
19207	8017159	2530-00-092-9641	10	17
19207	8017162	2530-00-092-9642	10	16
19207	8017164		10	19
18876	8020015	5310-00-341-2387	37	12
19207	8328782	4130-00-278-6318	19	4
19207	8330139	5340-00-040-2365	4	8
19207	8330805	4720-00-318-1016	21	4
19207	8331541	5360-00-699-8489	31	4
19207	8331946	5340-00-693-0739	9	6
19207	8333770	5360-00-699-9018	11	9
19207	8333780	5306-00-206-1560	24	6
19207	8336704	2530-00-770-9149	12	7
19207	8336705	5305-00-771-9150	12	6
19207	8336789		12	6
19207	8347212	5340-00-040-2364	3	15
19207	8357980	2530-00-204-4800	17	6
19207	8357981	2530-00-293-5139	20	4
19207	8363955	2510-00-679-3681	39	12
19207	8363957	2530-00-679-3683	7	1
19207	8363961	5340-00-075-9142	39	5
19207	8363966	5340-00-679-3682	39	14
19207	8363968	5305-00-655-9404	39	15
19207	8363969		41	6
19207	8363970	5305-00-679-3189	41	8
19207	8363971	3120-00-679-3159	39	7
19207	8363972	3120-00-679-3158	39	8
19207	8363973	5315-00-679-3160	39	9
19207	8363978	5340-00-679-3185	3	1
			4	12
19207	8363981	4720-00-679-3679	14	14
19207	8363982	4710-00-679-3162	14	1
19207	8363983	4710-00-679-3163	14	12
19207	8363986	5306-00-994-1019	9	5
19207	8363987		9	14

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8363988	2540-00-177-8192	9	19
19207	8364004	5340-01-082-9321	28	11
19207	8364009		28	14
19207	8364013		28	15
19207	8364323	2530-00-679-4538	30	10
19207	8364024		30	12
19207	8364025	5315-01-053-4819	30	19
19207	8364026	5315-00-076-3505	30	11
19207	8364027		30	14
19207	8364029	2530-00-589-8537	30	28
19207	8364031		30	17
19207	8364032	2590-00-076-1937	30	16
19207	8364034		30	21
19207	8364036	2530-00-710-9148	30	24
19207	8364038	3110-00-606-1840	30	23
19207	8365393	4730-00-289-4937	17	1
19207	8365426	4710-00-511-1692	17	5
19207	8365427	2530-00-026-0200	2	1
19207	8374028		30	20
19207	8387680	5120-00-860-0531	37	1
19207	8389628	5306-00-053-0512	39	16
19207	8395502		23	7
29201	84001-1	5310-00-081-4219	38	21
18876	8528243	4720-00-629-8042	21	6
19207	8675892	5340-00-679-4523	23	3
19207	8675894	2530-00-679-4506	8	12
19207	8675895	2530-06-679-4515	8	17
19207	8675963	3110-00-198-1277	33	7
19207	8683881	3130-00-076-0043	38	29
19207	8683884	5330-00-899-5217	37	14
19207	8683896	3120-00-899-5216	37	20
19207	8683898	5360-00-860-0524	38	23
19207	8686728	4010-00-861-7077	21	17
19207	8699500	5365-00-899-6723	9	17
19207	8712289-6	5310-00-225-6408	31	13
			39	6
19207	8713986	5360-00-321-6464	10	12
19207	8719915	2530-00-677-0202	24	11
19207	8720331	5306-00-994-8975	12	13
19207	8723801		11	1
19207	8733890	5343-00-991-4342	11	6
19207	8733891	5340-00-987-2565	11	6
19207	8733892	2530-00-522-1157	11	19
18876	8733896	2530-00-198-4824	12	4
18876	8733897	2530-00-798-4812	12	4
19207	8733901	2530-00-791-3259	12	1
19207	8733902	2530-00-791-0110	12	1
19207	8733908	2530-00-159-8755	12	5
19207	8733909	2530-00-159-8756	12	5
19207	8733911	2530-00-973-2355	11	18
19207	8733912	2530-00-973-2356	11	18

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8733918	4710-00-633-9928	15	13
19207	8733920	4710-00-566-7133	15	11
19207	8733926	3040-00-150-7127	11	13
19207	8733927	3040-00-014-2357	11	13
19207	8733932	2530-00-133-1831	12	12
19207	8733933	2530-01-083-5641	12	12
19207	8733935	5310-00-314-0764	11	14
19207	8733936	5310-00-314-0165	1	15
19207	8733937	5310-00-322-7260	11	16
19207	8733938	5315-00-322-7261	11	17
19207	8739786	5310-00-679-4558	33	18
19207	8739787		33	16
19207	8739788	5310-00-679-4559	33	23
19207	8739792	3020-00-679-4814	33	17
19207	8739793	3020-00-679-4510	33	24
19207	8739794	3020-00-679-4486	33	15
19207	8739795	3020-00-679-4518	33	3
19207	8739797		33	8
19207	8739798		33	1
19207	8739799		33	5
19207	8739876	2590-00-887-9529	32	4
19207	8739881	5330-00-679-4524	32	10
19207	8739882		32	57
19207	8739883		32	12
19207	8739900		27	8
19207	8740063	5315-00-679-4576	8	18
19207	8740064	4720-0-6719-4511	13	11
19207	8740066	4710-00-679-4486	13	8
19207	8740108		21	11
19207	8740109		27	1
19207	8740110		27	13
19207	8740111		27	13
19207	8740112		27	9
19207	8740113		27	1i
19207	8740114		27	16
19207	8740166		33	20
19207	8740167	5333-00-619-4485	33	21
19207	8740168	2590-00-076-1939	33	14
19207	8740173	3040-00-679-4522	33	25
19207	8740175	5315-00-679-4521	32	40
19207	8740187		30	26
19207	8740191	5315-00-679-4535	30	5
20800	8740192	4010-00-075-9143	30	1
19207	8747908	5349-00-611-7883	3	11
19207	8759629		44	1
19207	8759630		44	2
19207	8759653	5330-00-075-9150	44	3
18876	8759654	5330-01-262-6787	44	4
19207	8759745	2590-00-703-4145	6	1
19207	8759746	2590-00-796-2622	32	11
19207	8759147		32	16

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8759750	6150-00-703-4138	5	1
19207	8759766	2590-00-022-6727	32	19
19207	8759769	5365-00-929-8927	35	8
19207	8759823	2590-00-582-5497	32	39
19207	8759859	5360-00-861-7084	32	38
19207	8759860		32	37
19207	8759862	2590-00-076-1938	32	26
19207	8759865	2590-00-861-7083	32	2
19207	8759867	3040-00-861-7076	32	43
19207	8759890	5365-00-815-7054	8	7
19207	8759891	5340-01-231-8594	8	11
19207	8759892	5343-00-169-5727	8	11
19207	8759893	5365-00-247-4082	8	3
19207	8759894		8	6
19207	8775895	2530-00-815-7082	8	4
19207	8759896	3040-00-764-6404	8	10
19207	8759898		32	31
19207	8759899	5306-00-165-0101	32	32
19207	8759903	2590-00-808-6139	32	33
19207	8759904	5330-00-732-9623	32	28
19207	8759938	9905-00-861-7075	46	1
81348	9.00-20/TR443/TR 463/TR175A/TB	2610-00-269-7383	26	1
19207	9070061	4030-00-076-1924	27	6
66640	9112001	4730-00-018-9566	21	17
23862	2299784	5330-00-732-9632	32	59
96906	MS51965-20	5305-00-719-5342	32	60

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FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
1	1	6220-00-669-5623	96906	MS51329-1
1	2	6226-00-752-6020	19207	7526C20
1	3	5330-00-297-7106	19207	7320658
1	4	6240-00-044-6914	19207	446914
1	5	6240-00-019-0877	19207	190877
1	6		192C7	7525997
1	7	5310-00-637-9541	96906	MS35338-46
1	8	5305-00-115-9526	96906	MS18154-58
2	1	6220-01-093-4439	96906	MS52125-2
2	2	6220-00-179-4324	19207	11639535
2	3	5330-00-462-0907	19207	11639519-2
2	4	6240-00-044-6914	19207	446914
2	5	6240-00-019-3093	19207	193093
2	6		19207	11639520
2	7	6220-01-293-2627	19207	12360870-1
2	8	6240-00-019-0877	19207	190877
2	9	6220-01-284-2709	19207	12360850-1
3	1	5340-00-679-3185	19207	8363978
3	2	5316-00-550-3503	96906	MS35335-36
3	3	5305-00-052-6922	96906	MS24629-58
3	4	5340-00-655-7761	96906	MS35140-12
3	5	5310-00-596-7691	96906	MS35335-32
3	6	5305-00-855-0956	96S06	MS24629-47
3	7	5346-00-264-7116	19207	7703692
3	8		00000	7743749
3	9	5325-00-285-8363	96906	MS35489-45
3	10	5325-00-795-0719	96906	MS35489-43
3	11	5340-00-611-7883	19207	8747908
3	12	5325-00-276-5954	96906	MS35489-49
3	13	5325-00-276-6089	96906	MS35489-16
3	14		19207	573111
3	15	5340-00-040-2364	19207	8347212
4	1	5305-00-984-6193	96906	MS35206-245
4	2	5340-00-275-6042	19207	545033
4	3	5210-00-045-3299	19207	7347734
4	4	5310-00-934-9757	96906	MS35649-282
4	5	5300-00-535-1924	19207	7001762
4	6	5305-00-988-1721	96906	MS35208-277
4	7	5310-00-582-5965	96906	MS35338-44
4	8	5340-00-040-2365	19207	8330139
4	9	5975-00-345-8055	19207	10905840
4	10	5310-00-809-4058	96906	MS27183-10
4	11	5310-00-761-6882	96906	MS51967-2'
4	12	5340-00-679-3185	19207	83863978
4	13	5305-00-988-1725	96906	MS35206-281
4	14	5340-00-809-1494	96906	MS21333-105
5	1	2590-00-411-2063	19207	10891262
5	1	6150-00-703-4138	19207	8759750
6	1	2590-00-703-4145	19207	8759745
6	1	6150-00-860-0538	19207	10891263
7	1	2530-00-679-3683	19207	8363957

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FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
8	1	5315-03-842-3044	96906	MS24665-283
8	2	5315-00-754-0848	96906	MS35810-283
8	3	5365-00-247-4082	19207	8759893
8	4	2530-00-815-7082	19207	8759895
8	5	5305-00-269-3225	96906	MS90725-75
8	6		19207	8759894
8	7	5365-00-815-7054	19207	8759890
8	8	5310-00-637-9541	96906	MS35338-46
8	9	5210-00-732-0558	96906	MS51967-8
8	10	3040-00-764-6404	19207	8759896
8	11	5340-00-169-5727	19207	8759892
8	11	5340-01-231-8594	19207	8759891
8	12	2530-00-679-4506	19207	8675894
8	13	5310-00-733-9422	19207	7339422
8	14	5310-00-915-2075	21450	443921
8	15		21450	538008
8	16	5310-00-732-0559	96906	MS51968-8
8	17	2530-00-679-4515	19207	8675895
8	18	5315-00-675-4576	19207	8740063
8	19	5315-00-839-2325	96906	MS24665-132
8	20	5340-00-282-7515	96906	MS21333-37
8	21	5310-00-045-3296	96906	MS35338-43
8	22	5305-00-984-6210	96906	MS352066-263
8	23	5306-00-655-9522	21450	425324
8	24		21450	573111
9	1	5315-00-842-3044	96906	MS24665-283
9	2	5315-00-010-3496	08571	BK75S4
9	3	5340-00-985-0823	96906	MS35812-4
9	4	5310-00-732-0559	96906	MS51968-8
9	5	5306-00-994-1019	19207	8363986
9	6	5340-00-693-0739	19207	8331946
9	7	5310-00-923-1925	96906	MS45905S6
9	8	2590-00-679-3678	19207	7049884
9	9	5340-00-408-9177	19207	5303461
9	10	5310-00-407-9566	19207	7410218
9	11	5305-00-984-5672	96906	MS35206-292
9	12	5310-00-087-4652	96906	MS51922-17
9	13	3040-00-330-3262	92867	01001307
9	14		19207	8363987
9	15	5310-00-582-5965	96906	M35338-44
9	16	5305-00-988-1721	96906	MS35206-277
9	17	5365-00-899-6723	19207	8699500
9	18	5305-00-269-3217	96906	MS90725-67
9	19	2540-00-117-8192	19207	8363988
10	1	2530-00-135-9031	18876	8016971
10	1	2530-00-171-8207	19207	8016972
10	2	5315-00-187-9538	96906	MS24665-349
10	3	5360-01-111-2289	19207	8016998
10	4	2530-00-633-7972	19207	8016983
10	5	5306-00-226-4822	96906	MS90728-29
10	6	5310-00-407-9566	96906	MS35338-45

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
10	7	5310-00-880-7744	96906	MS51967-5
10	8	5340-00-610-3338	18876	8016982
10	9		19207	7612774
10	10	5315-00-839-2325	96906	MS24665-132
10	11	2530-00-610-3273	19207	8016973
10	12	5360-00-321-6464	19207	8713986
10	13		19207	8016978
10	14	5365-00-582-7363	19207	8016979
10	15		19207	8016976
10	16	2530-00-092-9642	19207	8017162
10	17	2530-00-092-9641	19207	8017159
10	18	2530-00-773-9386	19207	7335058
10	18	2530-00-773-9387	19207	7335059
10	19		19207	8017164
10	20		19207	8016980
10	20	2530-00-443-0033	19207	8016981
10	21		19207	8016977
10	22	5310-00-584-5272	96906	MS35338-4E
10	23	5310-00-732-0560	96906	MS51968-14
10	24	5305-00-269-2804	96906	MS90726-61
10	25	5310-00-637-9541	96906	MS35338-46
10	26	5310-00-732-0558	96906	MS51967-8
11	1		19207	8723801
11	1	2530-00-730-7620	78500	A8-3236M1261
11	2	5310-00-550-3503	96906	MS35335-36
11	3	5310-00-903-3993	96906	MS51970-4
11	4	5310-00-741-1378	19207	7411378
11	5	5310-00-732-0560	96906	MS51968-14
11	6	5340-00-987-2565	19207	8733891
11	6	5340-00-991-4342	19207	8733890
11	7	5306-00-741-1760	19207	7411760
11	8	5310-00-582-5965	96906	MS35338-44
11	9	5360-00-699-9018	19207	8333770
11	10	5365-00-741-2103	19207	7412103
11	11	5310-00-641-9939	19207	5323088
11	12	5310-00-924-4218	96906	MS51970-1
11	13	3040-00-074-2357	19207	8733927
11	13	3040-00-150-7127	19207	8733926
11	14	5310-00-314-0764	19207	8733935
11	15	5310-00-314-0765	19207	8733935
11	16	5310-00-322-7265	19207	8733936
11	17	5315-00-322-7260	19207	8733538
11	18	2530-00-973-2355	19207	8733911
11	18	2530-00-973-2356	19207	8733912
11	19	2530-00-522-1157	19207	8733892
11	19	2530-03-794-9763	63477	F19582
11	20	2530-00-693-1007	19207	7064978
11	21	5315-00-741-2106	19207	7412106
11	22	5305-00-988-1723	96906	MS35206-279
11	23	5305-00-068-0515	96906	MS90727-8
11	24	5305-00-269-3240	96906	MS90727-64

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
12	1	2530-00-791-0110	19207	8733902
12	1	2536-00-791-3259	19207	8733901
12	2	5305-00-115-9526	96906	MS18154-58
12	3	5310-00-627-6128	96906	MS35335-35
12	4	2530-00-798-4812	18826	8733897
12	4	2530-00-758-4824	18876	8733886
12	5	2530-00-159-8755	19207	8733908
12	5	2530-00-159-8756	19207	8733909
12	6		19207	8336789
12	6	5305-00-770-9150	19207	8336705
12	7	2530-00-770-9149	19207	8336704
12	8	5310-00-853-9335	96906	MS35691-13
12	9	5310-00-161-0721	96906	MS35333-41
12	10	3020-00-741-2104	19207	7412104
12	11	5310-00-741-2120	19207	7412120
12	12	2530-00-133-9831	19207	8733932
12	12	2530-01-083-5641	19207	8733933
12	13	5306-00-994-8975	19207	8720331
13	1	5340-00-286-2494	96906	MS21333-36
13	2	5310-00-209-0786	96906	MS35335-33
13	3		96906	MS24649-57
13	4	4730-00-384-0010	63477	F1241
13	5	5365-00-274-4544	19207	5298653
13	6	4730-00-419-9425	19207	7745464
13	7	5310-00-359-0458	19207	5214930
13	8	4710-00-679-4486	19207	8740066
13	9	4730-00-287-1707	24617	127927
13	10	4730-00-261-4224	92392	0913475
13	11	4720-00-679-4511	19207	8740064
13	12	5305-00-951-5617	96906	MS24630-46
13	13	5310-00-045-3296	96906	MS35338-43
13	14		96906	MS35140-5
13	15	5975-00-335-2588	97030	L00M1/4ID
14	1	4710-00-679-3162	19207	8363982
14	2	5365-00-274-4544	19207	5298653
14	3	4730-00-036-4421	12204	1502415
14	4	5310-00-741-2088	19207	7412088
14	5	4730-00-729-6437	19207	7412079
14	6	5340-00-282-7519	96906	MS21333-34
14	7	5310-00-582-5965	96906	MS35338-44
14	8	5305-00-988-1721	96906	MS35206-277
14	9	4130-00-463-1588	19207	5167679
14	10	5307-00-017-9125	21450	179125
14	11	5310-00-880-7745	96906	MS51968-11
14	12	4710-00-679-3163	19207	8363983
14	13	5310-00-891-1711	96906	MS35691-25
14	14	4720-00-679-3679	19207	8363981
15	1	4730-00-729-6437	19207	7412079
15	2	5365-00-274-4544	19207	5298653
15	3	4730-00-419-9425	19207	7745464
15	4	5310-00-741-2088	19207	7412088

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
15	5	5306-00-225-8496	96906	MSC90725-31
15	6	5310-00-407-9566	19207	7410218
15	7	2530-00-741-2068	19207	7412068
15	8	2530-00-287-8252	19207	7539268
15	8	2530-00-737-3260	19207	7373260
15	9	2530-00-741-2065	19207	7412065
15	10	2530-00-741-2050	19207	7412050
15	11	4110-00-566-7133	19207	8733920
15	11	4710-00-741-1907	19207	7411907
15	12	4730-00-741-1903	19207	7411903
15	13	4710-00-566-7134	19207	1411908
15	13	4710-00-630-9928	19207	8733918
16	1	2530-00-318-1115	63477	F4148
16	1	2530-00-318-1116	19207	8017003
16	2	2530-00-274-4510	19207	7409322
17	1	4130-00-289-4937	19207	8365390
17	2	5330-00-930-5292	19207	5156636
17	3	4120-00-809-2750	96906	MS521301A204120
17	4	4730-00-908-3194	96906	MS35842-11
17	5	4710-00-511-1692	19207	8365426
17	6	2530-00-204-4800	19207	8357980
17	7	4730-00-773-2163	63477	7979691
17	8	5330-00-737-3354	19207	7373354
17	9	5340-00-689-6160	19207	7979699
18	1	5305-00-068-O502	96906	MS90725-6
18	2	5310-00-582-5965	96906	MS35338-44
18	3	5340-00-655-7761	96906	MS35140-12
18	4	5306-00-225-8496	96906	MS90725-31
18	5	5310-00-407-9566	96906	MS35338-45
18	6	5340-01-189-6405	19207	7979851
18	7	4130-00-069-1186	81343	6-4 120102EA
18	8		24617	15039R
18	9	5340-00-282-7793	96906	MS35140-6
18	10	5310-00-045-3296	96906	MS35338-43
18	11	5305-00-951-5617	96906	MS24630-46
18	12	4710-00-203-3171	89619	107AX
18	13		96906	MS35490-35
18	14	4730-00-277-5553	19207	444116
18	15	4730-00-301-7470	72582	444000
18	16	4730-00-069-1187	96906	MS39182-23
19	1	5340-00-809-1494	96906	MS21333-105
19	2	5310-00-582-5965	96906	MS35338-44
19	3	5305-00-988-1725	96906	MS35206-281
19	4	4730-00-278-6318	19207	8328782
19	5	4730-01-149-9928	96906	MS39206-7
19	6		96906	MS39202-6
19	6	4730-00-127-4461	96906	MS51815-6
19	7	4710-00-075-7216	19207	10933343
19	8	4710-00-231-7432	19207	10933345
19	9	5340-00-171-3711	96906	MS21333-16
19	10	5305-00-068-0500	96906	MS90725-3

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
19	11	5306-00-225-8496	96906	MS90725-31
19	12	5310-00-407-9566	19207	7410218
19	13	5340-01-189-6405	19207	7979851
20	1	2530-00-026-0200	19207	8365427
20	2	5310-00-732-0558	96906	MS51967-8
20	3	5310-00-637-5941	12603	23806
20	4	2530-00-293-5139	19207	83579181
20	5	5310-00-880-7746	96906	MS51968-5
20	6	5310-00-407-9566	19207	7410218
20	7	2530-00-192-8928	19207	7979605
20	8	5360-00-700-4429	19207	7979608
20	9	5330-01-046-3300	81349	M83461/1-C12
20	10	5340-00-178-1441	19207	7979610
20	11	1095-01-162-0352	19207	7979599
20	12	2530-00-737-7783	65282	V39049X
23	13	5340-01-141-4814	19207	7979602
20	14	5306-00-225-9088	96906	MS90726-33
21	1	4730-00-595-0083	19207	7376223
21	2	5330-00-090-2128	19207	538824
21	3		19207	500333
21	4	4720-00-318-1016	19207	8330805
21	5	4730-00-987-9073	96906	MS39133-2-8
21	6	4720-00-629-8042	18876	8528243
21	7	5306-00-797-9296	19207	7979296
21	8	5310-00-582-5965	96906	MS35338-44
21	9	5310-00-761-6682	96906	MS51967-2
21	10	2530-00-797-9295	19207	7411022
21	11	2530-00-741-5748	19207	7415748
21	12	2940-00-741-1081	19207	7411081
21	13	5310-00-679-3606	40342	N12972
21	14	5360-00-706-9054	06853	235093
21	15	5330-00-285-5123	06853	235092
21	16	4730-00-580-8457	19207	7979613
21	17	4730-00-018-9566	66640	9112001
22	1	5310-00-062-4954	96906	MS21045-8
22	2	5310-00-809-3079	96906	MS27183-19
22	3	5310-00-679-4577	19207	10860119
22	4	5365-00-679-4578	12207	10860120
22	5	3040-00-679-4513	19207	10860131
22	6	5310-00-834-8734	96906	MS35691-37
22	7	5340-00-466-4948	71843	2708-6A
22	8		19207	10860136
22	9	2510-00-679-4540	19207	10860135
22	9	2510-00-679-4544	19207	10860134
22	10	5310-00-679-4563	19207	10860128
22	11	5307-01-111-2278	19207	10860129
22	12	5310-00-637-9541	96906	MS35338-46
22	13	5310-00-842-1488	96906	MS35692-2I
22	14	5340-00-054-1416	96906	MS35648-16
22	15	5315-00-816-1794	96906	1F316
22	16	5310-00-044-3339	19207	443339

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
22	17	5340-00-679-4571	19207	10860117
22	18	5315-00-013-7228	96906	MS24665-423
22	19	5315-00-619-4575	19207	10860122
22	20	5305-00-071-2070	96906	MS90728-114
22	21	5307-00-679-8118	19207	10860121
22	22	5340-00-679-4570	19207	10860118
22	23	3120-00-679-4549	19207	10860115
22	24	2530-01-226-8030	19207	10860114
22	25	5315-00-679-4561	19207	10860127
22	26	5305-00-958-5477	96906	MS35190-254
22	27	5315-00-679-4560	19207	10860125
22	28		19207	10860107
22	28	2530-00-679-4542	19207	10860106
22	29	5305-00-269-3216	96906	MS90725-66
22	30		19207	10860113
22	31	2530-00-679-4514	19207	10860130
22	32	5310-00-582-5965	96906	MS35338-44
22	33	5305-00-071-2506	96906	MS90728-3
22	34	5315-00-839-5822	96906	MS24665-353
22	35	5315-00-081-7042	96906	MS20392-7C37
23	1	5305-00-069-5572	96906	MS90725-84
23	2	5310-00-209-0965	96906	MS35338-47
23	3	5340-00-679-4523	19207	8675892
23	4	5330-00-292-4332	19207	7351041
23	5	5310-00-185-6461	96906	MS19068-091
23	6	5310-00-205-8249	96906	MS19070-092
23	7		19207	8395502
23	8	3110-00-142-4358	08162	B1359S
23	9	3110-00-100-0293	21450	706640
23	10	2530-00-679-4543	19207	7973176
23	11		19207	7222571
23	12	3110-00-100-0567	61220	28622
23	13	2530-00-679-4529	09386	78324
23	14	5305-00-903-2190	96906	MS35308-409
23	15	3110-00-100-3563	21450	705472
23	16	5330-00-154-8353	81600	061072ARP0299
23	17	5365-00-260-4882	96906	MS16625-1387
23	18	5306-00-383-4957	19207	7339238
23	18	5306-00-733-9239	19207	7339239
23	19	5310-00-518-5566	96906	MS51983-1
23	19	5310-00-594-8038	96906	MS51983-2
24	1	5310-00-982-4908	96906	MDS21045-6
24	2	5310-00-080-6004	96906	MS27183-14
24	3	2530-00-741-1425	19207	7411425
24	4	2530-00-741-3231	19207	7413231
24	5	5306-00-335-4768	09386	70627E
24	6	5306-00-206-1560	19207	8333780
24	7	5365-00-141-1433	19207	7411433
24	8	5330-00-741-1429	19207	7411429
24	9	3110-00-143-7538	19207	7411376
24	1	3110-00-143-7586	19207	7411377

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
24	11	2530-00-677-0202	19207	8719915
24	12	5310-00-935-3569	96906	MS51943-46
24	13	5306-00-383-4957	09386	68248
24	13	5306-00-733-9239	96906	MS51946-1
24	14	5310-00-518-5566	96906	MS51983-1
24	14	5310-00-594-8038	96906	MS51983-2
24	15	5310-00-741-1379	19207	7411379
24	16	5310-00-741-1378	19207	7411378
24	17	5330-00-614-4356	50513	25030W
24	18	2530-00-614-4454	19200	6144454
24	19	5310-00-274-8715	96906	MS35338-63
24	20	5305-00-988-1723	96906	MS355206-279
25	1	2530-00-026-0265	19207	7389621
25	2	2530-00-738-9061	19207	7389061
25	3	2530-00-738-9620	19207	7389620
26	1	2610-00-269-7383	81348	9.00-20/TR443/TR 443/T1 75A/T B
26	2	2640-00-158-5617	73808	20R
26	3	2610-00-262-8677	81348	ZZ-T-381M/GROUP3 /9.00-20/D/TBCC
26	4	2640-00-555-2843	27783	650
26	5	2640-00-810-5861	96906	MS51377-1
26	6	2640-00-060-3550	51665	US48
27	1	5310-00-982-5042	96906	MS35426-18
27	2	5310-00-834-7606	96906	MS35340-48
27	3	5310-00-809-3079	96906	MS27183-19
27	4	5315-00-012-0123	96906	MS24665-355
27	5	5310-00-823-8803	96906	MS27183-21
27	6	4030-00-076-1924	19207	9070061
27	7		96906	MS20392-90127
27	8		19207	8739900
27	9		19207	8740112
27	10	4730-00-172-0031	96906	MS15003-5
27	11		19207	8740108
27	11		19207	8740109
27	12	5305-00-054-9288	96906	MS51955-74
27	13		19207	8740110
27	13		19207	8740111I
27	14	5305-00-269-2807	96906	MS90726-64
27	15	5310-00-637-9541	96906	MS35338-46
27	16		19207	8740113
27	16		19207	8740114
27	17	4010-00-861-7077	19207	8686728
28	1	4310-00-141-1027	19207	7411027
28	2		80244	42014495
28	3	5306-00-050-0348	21450	500348
28	4	5310-00-269-4040	96906	MS51922-49
28	5	4030-00-911-7620	19207	7339460
28	6	4010-00-923-5970	19207	7979598
28	7	5310-00-809-8533	96906	MS27183-23
28	8	5310-00-713-8921	96906	MS51967-23

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
28	9	4030-00-075-7212	19207	10891283
28	10	5306-00-075-7215	19207	10891284
28	11	5340-01-082-9321	19207	8364004
28	12	5310-00-080-6004	96906	MS27183-14
28	13		21450	126670
28	14		19207	8364009
28	15		19207	8364010
28	16	5310-00-732-0558	96906	MS51967-8
28	17	5310-00-851-2682	96906	MS35691-17
28	18		19207	10891229
28	19		19207	10891200
29	1	5315-00-842-3045	96906	MS24665-499
29	2	5310-00-741-1028	19207	7411028
29	2	5310-00-741-4684	19207	7414684
29	3	5310-00-209-0698	96906	MS27183-29
29	4	2540-00-999-5584	96906	MS51339-3
30	1	4010-00-015-9143	20800	8740192
30	2		19207	5203089
30	3	4030-00-930-3154	96906	MS87006-51
30	4		81349	RR-C-271BTY1GRC CL5STYLE1
30	5	5315-00-679-4535	19207	8740191
30	6	5305-00-050-1071	96906	MS90725-118
30	7	5310-00-809-5998	96906	MS27183-18
30	8	5310-00-834-7606	96906	MS35340-48
30	9	5310-00-768-0318	13305	23507
30	10	2530-00-679-4538	19207	8364023
30	11	5315-00-076-3505	19207	8364026
30	11		19207	8364024
30	13	5315-00-679-4565	52793	13394
30	14		19207	8364027
30	15	5315-00-844-3665	96906	MS16562-68
30	16	2590-00-076-1937	19207	8364032
30	17		19207	8364031
30	18	5315-00-844-5833	96908	MS16562-81
30	19	5315-01-053-4819	19207	8364025
30	20		19207	8374028
30	21		19207	8364034
30	22	3110-00-679-4551	02246	125-298
30	23	3110-00-606-1840	19207	8364038
30	24	2530-00-770-9148	19207	8364036
30	25	3110-00-606-1841	19207	7034651
30	26		19207	8740187
30	27	5310-00-588-0386	19207	7350985
30	28	2530-00-589-8537	19207	8364029
30	29	5315-00-298-1461	96906	MS24665-357
30	30	4730-00-050-4208	96906	MS15003-1
30	31	5315-00-058-6011	96906	MS16562-74
30	32	4010-00-435-7709	19207	7032176
31	1	2590-01-183-6816	19207	12259830
31	2	5310-00-982-6810	96906	MS21044-N12

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
31	3	2530-00-693-0736	23705	324420
31	4	5360-00-699-8489	19207	8331541
31	5	5315-00-975-1720	96906	MS16556-844
31	6	2540-01-215-1617	19207	12259844
31	7		19207	12259830-1
31	8	5340-01-222-5247	19207	12312996
31	9	5310-00-014-5850	96906	MS27183-42
31	10	5310-00-088-1251	96906	MS51922-1
31	11	2530-01-215-3389	19207	12259845
31	12	5315-00-844-5836	96906	MS16562-65
31	13	5310-00-483-8792	96906	MS17829-40
31	14	5340-01-209-0475	19207	12259835
31	15	5340-01-209-0503	19207	12259840
31	16	5310-00-660-3381	96906	MS21083-N5
31	17	5340-01-209-0500	19207	12259837
31	18	5306-00-225-9093	96906	MS90726-38
31	19	5305-00-068-0509	96906	MS90725-10
31	20	3040-01-209-0497	19207	12259831
31	21	5305-00-068-0501	96906	MS90725-5
31	22	5305-00-071-2066	96906	MS90728-109
31	23	5310-00-584-5272	96906	MS35338-48
31	24	5306-00-174-4246	19207	7979972
31	25	5310-00-068-5285	96906	MS27183-20
31	26	2590-00-210-8843	19207	12259839
31	27	5310-00-982-6808	96906	MS21044-N9
32	1	5305-00-719-5342	96906	MS51965-28
32	2	2590-00-861-7083	19207	8759865
32	3	2590-00-076-1944	19207	10906399
32	4	2590-00-887-9529	19207	8739876
32	5	5305-00-225-3639	96906	MS90725-8
32	6	5365-00-168-2762	19207	10860091
32	7	5310-00-761-6882	96906	MS51967-2
32	8	5310-00-582-5965	96906	MS35338-44
32	9	2590-00-076-1948	19207	10914247
32	9	2590-00-076-1949	19207	10933282
32	10	5330-00-679-4524	19207	8739881
32	11	2550-00-796-2622	19207	8759746
32	12		19207	8739883
32	13	2590-00-679-4507	19207	7341463
32	14	5306-00-796-2621	19207	10860938
32	15	5305-00-958-5246	96906	MS35190-289
32	16		19207	8759747
32	17	5305-00-983-8084	96906	MS16997-60
32	18	4730-00-909-8627	96906	MS35842-13
32	19	2590-00-022-6727	19207	8759766
32	20	5340-00-076-1942	19207	10860086
32	21	2590-00-679-4536	19207	10860085
32	22	5305-00-051-0827	96906	MS90725-164
32	23	5310-00-800-0695	96906	MS35335-39
32	24	5310-00-842-1490	96906	MS35692-37
32	25		96906	MS35692-37

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
32	26	2590-00-076-1938	19207	8759862
32	27	5120-00-229-5711	19207	10914359
32	28	5330-00-732-9623	19207	8759904
32	29	5310-00-637-9541	96906	MS35338-46
32	30	5305-00-269-3216	96906	MS35338-66
32	31		19207	8759898
32	32	5306-01-165-0101	19207	8759899
32	33	2590-00-808-6139	19207	8759903
32	34	5305-00-269-3215	96906	MS90725-65
32	35	5310-00-732-0558	96906	MS51967-8
32	36	5310-00-080-6004	96906	MS27183-14
32	37		19207	8759860
32	38	5360-00-861-7084	19207	8759859
32	39	2590-00-582-5497	19207	8759823
32	40	5315-00-679-4521	19207	8740175
32	41	5310-00-067-6356	96906	MS51922-57
32	43	3040-00-861-7076	19207	8759867
32	44	2550-00-861-7078	19207	10906407
32	46		19207	10914245
32	49	2590-00-862-2675	19207	10860937
32	50	5310-00-834-8732	96906	MS35691-33
32	51	5310-00-809-5998	96906	MS27183-18
32	52	5340-00-687-5221	19207	7341458
32	53	5305-00-724-5839	96906	MS5193-99
32	54		19207	7341461
32	55		19207	7341460
32	56		19207	7341459
32	57		19207	8739882
32	58		19207	10860936
33	1		19207	8739798
33	2	3110-00-679-4554	10001	17185042
33	3	3020-00-679-4518	19207	8739795
33	4	5340-00-276-5849	21450	841401
33	5		19207	8739799
33	6	4730-00-050-4208	96906	MS15003-1
33	7	3110-00-198-1277	19207	8675963
33	8		19207	8739797
33	9	5310-00-514-6674	96906	MS35335-34
33	10	5310-00-880-7744	96906	MS51967-5
33	11		43991	110AC
33	12		96906	MS35756-101
33	13	5315-00-616-5524	96906	MS35756-10
33	14	2590-00-076-1639	19207	8740168
33	15	3020-00-679-4488	19207	8739794
33	16		19207	8739787
33	17	3020-00-679-4814	19207	8739792
33	18	5310-00-679-4558	19207	8739786
33	19	5305-00-983-6622	96906	MS16997-I7
33	20		19207	8740166
33	21	5330-00-679-4485	19207	8740167
33	22	3110-00-516-5850	52676	6204ZJ

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
33	23	5310-00-679-4559	19207	8739788
33	24	3020-00-679-4510	19207	8739793
33	25	3040-00-679-4522	19207	8740170
33	26	5315-00-616-5522	96906	MS35756-12
33	27	3110-00-516-5289	21450	700076
33	28	5315-00-812-2350	96906	MS16555-346
33	29	5306-00-225-8516	96906	MS90725-52
34	1	2590-00-076-1946	19207	10914243
34	1	2590-00-076-1947	19207	10914244
34	2	3120-00-433-4633	19207	10860065
34	3	3120-00-861-7080	19207	10899780
34	4		19207	10914241
34	4		19027	10914242
34	5	5305-01-063-5055	96906	MS90725-400
34	6	5310-00-080-6004	96906	MS27183-14
34	7	5310-00-637-9541	96906	MS27338-46
34	8	5310-00-732-0559	96906	MS51968-8
34	9	5305-00-269-3250	96906	MS90726-74
35	1	5120-00-895-7306	19207	10860068
35	2	3120-00-861-7080	19207	10899780
35	3		19207	10906396
35	4	5310-00-982-4908	96906	MS21045-6
35	5	5310-00-080-6004	96906	MS27183-14
35	6	5306-00-206-2805	88044	AN6-14A
35	7	5310-00-620-8186	96906	MS15795-714
35	8	5365-00-929-8927	19207	8759769
35	9		19207	7415340
35	10	3120-00-433-4633	19207	10860065
35	11	2590-00-895-7307	19207	10860069
35	12		19207	10806397
35	13	3120-00-861-7080	19207	10899780
35	14	3120-00-433-4633	19207	10860065
36	1	5310-00-761-6882	96906	MS51967-2
36	2	5310-00-582-5965	96906	MS35338-44
36	3	5310-00-809-4058	96906	MS27183-10
36	4	2590-00-076-1945	19207	10906418
36	4	2590-00-226-6214	19207	10906417
36	5		19207	10860146
36	6	5305-00-071-2242	96906	MS90725-9
36	7		19207	10860145
37	1	5120-00-860-0531	19207	8387680
37	2	5305-00-187-9934	96906	MS16997-142
37	3	5310-01-073-8614	88044	AN935-816
37	4	4130-00-050-4203	96906	MS15001-1
37	5	5310-00-860-0521	19207	10885450
37	6	5315-00-014-2986	21450	142986
37	7	2590-00-860-0530	19207	10885459
37	8	5315-00-067-5093	96906	MS35671-56
37	9	5315-00-068-2498	96906	MS35677-51
37	10		19207	10885454
37	11	2590-00-582-5503	19207	8005089

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
37	12	5310-00-341-2387	18876	8020015
37	13	5310-00-225-6408	19207	8712289-6
37	14	5330-00-899-5217	19207	8683884
37	15	5330-00-860-0535	19207	10885446
37	16	5305-00-964-4983	96906	MS35206-226
37	17	5340-00-076-1943	19207	10885448
37	18	5315-00-860-0532	19207	10885443
37	19	3040-00-016-0049	19207	10885476
37	20	3120-00-899-5216	19207	8683896
37	21	5315-00-018-7851	24617	187851
37	22	4730-00-050-4208	96906	MS15003-1
37	23	3040-01-162-0355	19207	7328405
37	24	3020-00-571-6104	19207	7520774
37	25	3110-00-142-4351	01957	266697
37	26	3040-00-860-0536	19207	7089984
37	27		19207	7520829
37	28	5360-01-149-1678	19207	7696416
37	29	1095-01-162-0354	19207	7520777
37	30	5315-00-690-0544	19207	7793470
37	31	3120-00-899-4072	19207	7328402
37	32	5340-00-076-0050	19207	10891299
37	33		21450	706915
37	34		19207	7328401
38	1	2550-00-118-5546	19207	10885474
38	2	5305-00-724-5885	96906	MS51963-104
38	3	5310-00-860-0528	19207	10885442
38	4	2590-00-860-0534	19207	10885452
38	5	3120-00-899-1355	19207	10885445
38	6	5310-00-045-5001	96906	MS35340-50
38	6	5310-00-820-6653	80045	23MS35338-50
38	7	5305-00-724-5910	96906	MS90725-162
38	7	5305-00-724-7219	96906	MS90728-160
38	8		96906	MS90725-158
38	9	5305-00-724-7221	96906	MS90728-163
38	10		19207	10891278
38	11	5365-00-871-2881	19207	5703039
38	12		19207	10885467
38	13	5310-00-407-9566	19207	7410218
38	14	5306-00-225-8496	96906	MS90725-31
38	15	5310-00 732-0558	96906	MS51967-8
38	16	5310-00-637-9541	12603	23B66
38	17	5305-00-782-9489	96906	MS90728-66
38	18	5340-00-076-0044	19207	10885453
38	19	5305-00-724-7223	96906	MS90728-165
38	20	5306-00-226-4822	96906	MS90728-29
38	21	5310-00-081-4219	29201	84001-1
38	22	3040-00-076-0048	19207	10885466
38	23	5360-00-860-0524	19207	8683898
38	24	5310-00-550-4242	00000	7984623
38	25	5310-00-080-6004	96906	MS27183-14
38	26	5305-00-782-9489	96906	MS90728-66

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
38	27	3040-00-076-0046	19207	10885462
38	28		19207	10891298
38	29	3130-00-076-0043	19207	8683881
38	30	5310-01-073-8614	88044	AN935-816
38	31	5305-00-071-2074	96906	MS90728-118
39	1	5310-00-763-8901	96906	MS51968-23
39	2	5310-00-842-1190	96906	MS35691-61
39	3	5340-00-075-9147	19207	10914500
39	4	5310-00-194-1483	96906	MS35333-44
39	5	5340-00-075-9142	19207	8363961
39	6	5310-00-225-6408	19207	8712289-6
39	7	3120-00-679-3159	19207	8363971
39	8	3120-00-679-3158	19207	8363972
39	9	5315-00-679-3160	19207	8363973
39	10	5305-00-728-6291	96906	MS51973-74
39	11		08288	MSS5305-43
39	12	2510-00-679-3681	19207	8363955
39	13	5310-00-732-0560	96906	MS51968-14
39	14	5340-00-679-3682	19207	8363966
39	15	5305-00-655-9404	19207	8363968
39	16	5300-00-053-0512	19207	8389628
39	42	5310-00-809-8533	96906	MS27183-23
39	45	5315-00-543-3923	19207	544160
39	46	2590-01-093-3608	19207	10933281
39	47	5365-00-721-6876	96906	MS16624-1125
39	48	3120-00-679-4555	19207	10906406
40	1		19207	10860124
40	2	5310-00-679-4574	19207	10860123
40	3	5365-00-721-6342	19207	7341462
40	4	2540-00-679-4519	19207	7092048
41	1	5310-00-835-2037	96906	MS35691-53
41	2	5310-00-763-8905	96906	MS51968-20
41	3	5310-00-424-1452	19207	7349028
41	4	5365-00-350-0155	19207	7974916
41	5	5310-00-424-1456	19207	7349029
41	6		19207	8363969
41	7	5305-00-726-2572	96906	MS90727-178
41	8	5305-00-679-3189	19207	8363970
41	9	2530-00-770-7070	19207	7707070
42	1	5310-00-732-0558	96906	MS51967-8
42	2	5310-00-437-9541	12603	23E06
42	3		19207	10891219
42	4	2540-00-075-9146	19207	10891260
42	5	5305-00-668-2111	96906	MS90728-63
43	1		19207	I10860039
43	2	5340-00-075-9145	19207	10933266
43	3		19207	10860001
43	4	5305-00-269-3209	96906	MS90725-58
43	5	5310-00-637-9541	96906	MS35338-46
43	6	5310-00-732-0558	96906	MS51967-8
44	1		19207	8759629

CROSS REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
44	2		19207	8759630
44	3	5330-00-075-9150	19207	8759653
44	4	5330-01-262-6181	18876	8759654
44	5		19207	10860050
44	6	5340-00-692-9212	19267	7064602
44	7		19207	588463
44	8	5305-00-269-3209	96906	MS90725-58
44	9	5310-00-637-9541	96906	MS53538-46
44	10	5310-00-732-0558	96906	MS51967-8
45	1	9905-00-202-3639	19207	7348221
45	1	9905-00-205-2795	19207	6161059A
45	2	5310-00-550-1130	96906	MS35333-40
45	3		19207	171764
45	3	5305-00-988-1721	96906	MS35206-277
46	1	9905-00-679-4530	19207	10860102
46	1	9905-00-861-7075	19207	8759938
46	2		19207	171764
46	3	5305-00-253-5632	96906	MS21318-58
46	4	9905-00-899-1507	19207	10891268
46	5	9905-00-899-1508	19207	10891266
46	6		64959	171732
46	7		19207	10860103
46	7	9905-00-282-7485	19207	7979373
47	1	5120-00-711-8418	19207	7059814
47	1	5120-00-795-0946	19207	7950946

32 59 2299784 23862 5330-00-732-9632

32 60 MS51965-20 96906 5305-00-719-5342

**APPENDIX G
TORQUE LIMITS****G-1. SCOPE.**

This appendix lists standard torque values, as shown in Table G-1, and provides general information for applying torque. Special torque values and tightening sequences are indicated in the maintenance procedures for applicable components.

G-2. GENERAL.








- a. Always use the torque values listed in Table G-1 when the maintenance procedure does not give a specific torque value.
- b. Unless otherwise indicated, standard torque tolerance shall be $\pm 10\%$.
- c. Torque values listed are based on clean, dry threads. Reduce torque by 10% when engine oil is used as a lubricant. Reduce torque by 20% if new plated capscrews are used.
- d. Capscrews threaded into aluminum may require reductions in torque of 30% or more of Grade 5 capscrews torque. Capscrew threaded into aluminum must also attain two capscrew diameters of thread engagement.

G-1

CAUTION

If replacement capscrews are of higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to overtightening.

Table G-1. Torque Limits.
Table G-1. Torque Limits.

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings			 	 
Manufacturer's marks may vary				
These are all SAE Grade 5 (3 line)				
Capscrew Body Size Inches - Thread	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)
$\frac{1}{4}$ 20	5 (7)	8 (11)	10 (14)	12 (16)
28	6 (8)	10 (14)		14 (19)
$\frac{5}{16}$ 18	11 (15)	17 (23)	19 (26)	24 (33)
24	13 (18)	19 (26)		27 (37)
$\frac{3}{8}$ 16	18 (24)	31 (42)	34 (46)	44 (60)
24	20 (27)	35 (47)		49 (66)
$\frac{7}{16}$ 14	28 (38)	49 (66)	55 (75)	70 (95)
20	30 (41)	55 (75)		78 (106)
$\frac{1}{2}$ 13	39 (53)	75 (102)	85 (115)	105 (142)
20	41 (56)	85 (115)		120 (163)
$\frac{5}{8}$ 12	51 (69)	110 (149)	120 (163)	155 (210)
18	55 (75)	120 (163)		170 (231)
$\frac{3}{4}$ 11	83 (113)	150 (203)	167 (226)	210 (285)
18	95 (129)	170 (231)		240 (325)
$\frac{7}{8}$ 10	105 (142)	270 (366)	280 (380)	375 (508)
16	115 (156)	295 (400)		420 (569)
$\frac{1}{2}$ 9	160 (217)	395 (536)	440 (597)	605 (820)
14	175 (237)	435 (590)		675 (915)
1 8	235 (319)	590 (800)	660 (895)	910 (1234)
14	250 (339)	660 (895)		990 (1342)

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches
- 1 Kilometer = 1,000 Meters = 0.621 Miles

SQUARE MEASURE

- 1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
- 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
- 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

- 1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches
- 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

- 1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
- 1 Liter = 1,000 Milliliters = 33.82 Fluid Ounces

TEMPERATURE

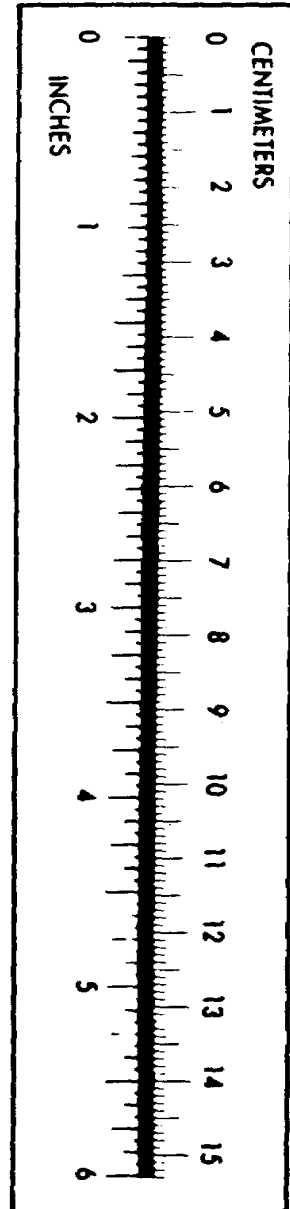
- $5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
- 212° Fahrenheit is equivalent to 100° Celsius
- 90° Fahrenheit is equivalent to 32.2° Celsius
- 32° Fahrenheit is equivalent to 0° Celsius
- $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

WEIGHTS

- 1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1,000 Grams = 2.2 lb.
- 1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds Per Square Inch	Kilopascals	6.895
Miles Per Gallon	Kilometers Per Liter	0.425
Miles Per Hour	Kilometers Per Hour	1.609
TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds Per Square Inch	0.145
Kilometers Per Liter	Miles Per Gallon	2.354
Kilometers Per Hour	Miles Per Hour	0.621



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