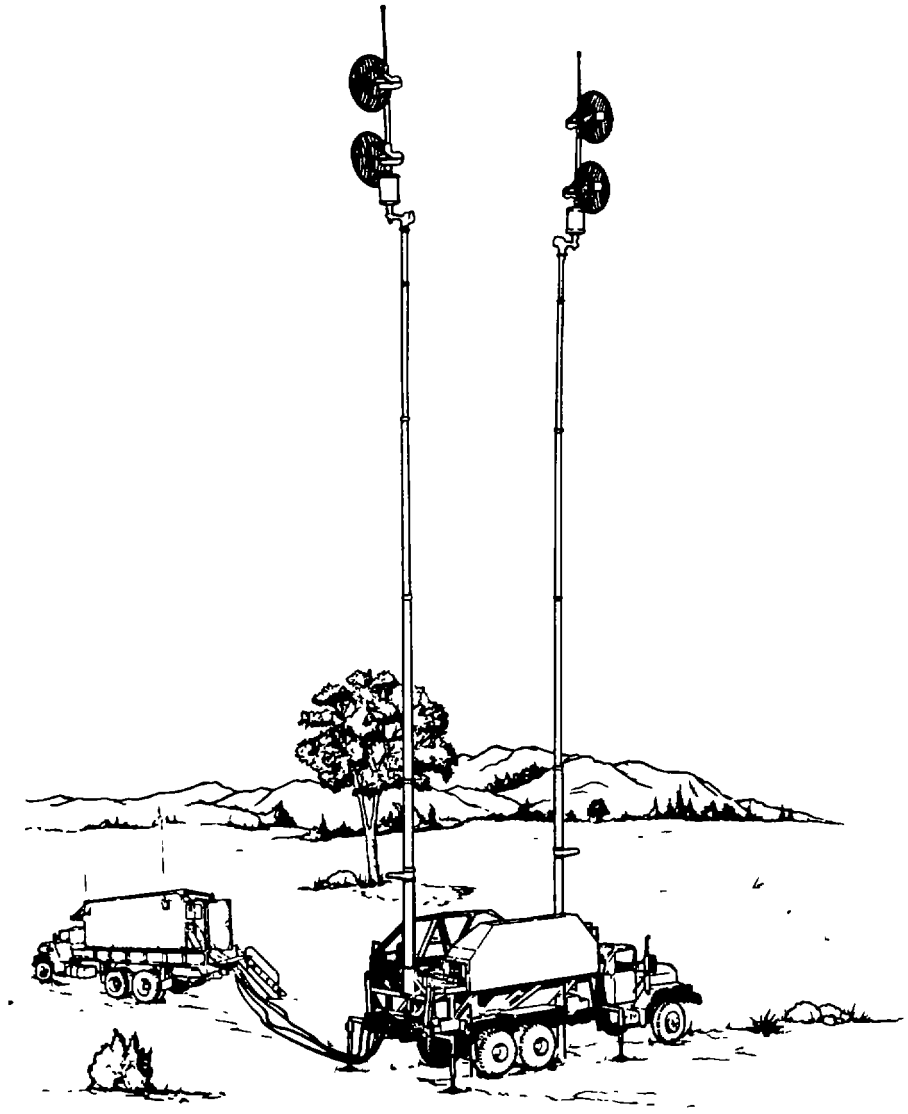
# OPERATOR'S AND ORGANIZATIONAL
# MAINTENANCE MANUAL
# INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST
# MAST GROUP, HYDRAULIC-PNEUMATIC
# OA-9054(V)4/G
# (NSN 5985-01-129-1794)

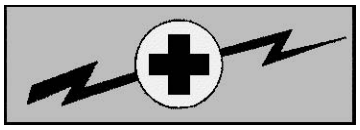




**HEADQUARTERS, DEPARTMENT OF THE ARMY**
**27 OCTOBER 1983**

This copy is a reprint which Includes current pages from Changes 1 through 5.

**WARNING**



**HIGH VOLTAGE**

**is used in the operation of this equipment**

**DEATH ON CONTACT**

**may result if personnel fail to observe safety precautions**

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground capacitors likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections or 115 volt ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through the body.

Warning: Do not be misled by the term "low voltage." Potential as low as 50 volts may cause death under adverse conditions.

For Artificial Respiration, refer to FM 21-11.

CHANGE

No. 5

HEADQUARTERS
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Washington, DC, I September 1988

**OPERATOR'S AND ORGANIZATIONAL
MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST
MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G
(NSN 5985-01-129-1794)**

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| 2-122.1 and 2-122.2 | 2-122.1 and 2-122.2 |
| 2-123 and 2-124 | 2-123 and 2-124 |
| B-15 and B-16 | B-15 and B-16 |

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**CHANGE**

**HEADQUARTERS**
**DEPARTMENT OF THE ARMY**
Washington, DC, 1 December 1987

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List
MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G
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| 2-33 and 2-34 | 2-33 and 2-34 |
| 2-79 and 2-80 | 2-79 and 2-80 |
| 2-87 through 2-90 | 2-87 through 2-90 |
| 2-99 and 2-100 | 2-99 and 2-100 |
| 2-117 and 2-118 | 2-117 and 2-118 |
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| 2-119 through 2-122 | 2-119 through 2-122 |
| None | 2-122.1 and 2-122.2 |
| 2-123 and 2-124 | 2-123 and 2-124 |
| 2-133 and 2-134 | 2-133 and 2-134 |
| 3-11 through 3-15/(3-16 blank) | 3-11 through 3-15/(3-16 blank) |
| 3-23 and 3-24 | 3-23 and 3-24 |
| 3-29 through 3-34 | 3-29 through 3-34 |
| B-3 through B-20 | B-3 through B-20 |
| C-3 and C-4 | C-3 and C-4 |
| F-1 through F-26 | F-1 through F-I-2 |
| Glossary-1 and Glossary-2 | Glossary-1 and Glossary-2 |
| Index-1 through Index-3/(Index-4 blank) | Index-1 through Index-3/(Index-4 blank) |

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Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List
MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G
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| 2-1 and 2-2 | 2-1 and 2-2 |
| 2-9 through 2-12 | 2-9 through 2-12 |
| 2-19 through 2-22 | 2-19 through 2-22 |
| 2-25 and 2-26 | 2-25 and 2-26 |
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| 2-27 through 2-29/(2-30 blank) | 2-27 through 2-29/(2-30 blank) |
| 2-31 and 2-32 | 2-31 and 2-32 |
| 2-55 and 2-56 | 2-55 and 2-56 |
| 2-61 through 2-64 | 2-61 through 2-64 |
| 2-67 and 2-68 | 2-67 and 2-68 |
| 2-71 and 2-72 | 2-71 and 2-72 |
| 2-83 and 2-84 | 2-83 and 2-84 |
| 2-87 and 2-88 | 2-87 and 2-88 |
| 2-93 and 2-94 | 2-93 and 2-94 |
| 2-97 and 2-98 | 2-97 and 2-98 |
| 2-117 and 2-118 | 2-117 and 2-118 |
| None | 2-118.1/(2-118.2 blank) |
| 2-119 through 2-124 | 2-119 through 2-124 |
| 2-127 through 2-130 | None |
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| 3-35 and 3-36 | 3-35 and 3-36 |
| B-11 and B-12 | B-11 and B-12 |
| B-17 through B-20 | B-17 through B-20 |
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**CHANGE**

**NO. 2**

**HEADQUARTERS**
**DEPARTMENT OF THE ARMY**
Washington, DC, 28 May 1985

Operator's and Organizational
Maintenance Manual

Including Repair Parts and Special Tools List

MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

(NSN 5985-01-129-1794)

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| 2-75 through 2-80 | 2-75 through 2-80 |
| 2-89 and 2-90 | 2-89 and 2-90 |
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| 2-111 through 2-114 | 2-111 through 2-114 |
| 2-117 through 2-120 | 2-117 through 2-120 |
| 2-127 through 2-130 | 2-127 through 2-130 |
| 2-133 and 2-134 | 2-133 and 2-134 |
| 3-9 through 3-14 | 3-9 through 3-14 |
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**HEADQUARTERS**
**DEPARTMENT OF THE ARMY**

**NO. 1**

Washington, DC, 3 August 1984

**Operator's and Organizational**
**Maintenance Manual**
**Including repair parts and special tools list**
**FOR**
**MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G**
**(NSN 5985-01-129-1794)**

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| 2-5 through 2-14 | 2-5 through 2-14 |
| 2-17 through 2-34 | 2-17 through 2-34 |
| 2-39 through 2-74 | 2-39 through 2-74 |
| 2-77 through 2-80 | 2-77 through 2-80 |
| 2-83 and 2-84 | 2-83 and 2-84 |
| 2-87 through 2-94 | 2-87 through 2-94 |
| 2-97 through 2-108 | 2-97 through 2-108 |
| 2-113 through 2-136 | 2-113-through 2-136 |
| 3-1 through 3-30 | 3-1 through 3-30 |
| 3-33 and 3-36 | 3-33 and 3-36 |
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| E-1 and E-2 | E-1 and E-2 |
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**WARNING**

Be careful not to allow bare flesh to touch metal during extreme cold. Flesh could stick and freeze to metal.

**WARNING**

Do not leave handle on winch shaft if variable height limiter is set up and mast is to be extended. Handle will spin rapidly, possibly injuring personnel.

**WARNING**

Position truck so there are no overhead obstructions especially power lines!

**WARNING**

It is important you do not get ahead of the other soldiers in your crew. Performing steps out of sequence can be dangerous to personnel or damaging to equipment. Sometimes you must wait for another soldier to complete a step before you can start your next step.

**WARNING**

Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

**WARNING**

There's increased risk of injury to personnel during blackout operations. Don't perform blackout operations unless they are mission essential. Use extreme caution and don't hurry.

**WARNING**

- Do not move vehicle with masts raised.
- If peak winds are indicated to be 55 mph or more, stow mast.
- Extend masts only high enough for communications.
- Keep a weather watch. Masts may require retracting if adverse weather develops.
- Immediately retract both masts if personnel in shelter tell you that status monitor panel alarm (see TM 9-1430-604-10 (GRC), TM 9-1430-600-10-1 (ECG), or TM 9-1430-602-10-1 (ICC)) is on. * There are many trip hazards on the mast group use care!
- Do not exceed maximum load on antenna protective covers 600 lbs.
- Do not pass underneath a mast being raised or lowered.

**WARNING**

Never attempt to open hydraulic bleed plugs on hydraulic cylinder. Mast can lower VERY RAPIDLY when bleed plugs are opened, severely injuring or killing personnel. If your mast will not lower, get Direct Support Maintenance personnel to help you.

TECHNICAL MANUAL
No. 11-5985-368-12&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 27 October 1983

# OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G (NSN 5985-01-129-1794)

**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 procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5007. In either case, a reply will be furnished direct to you.

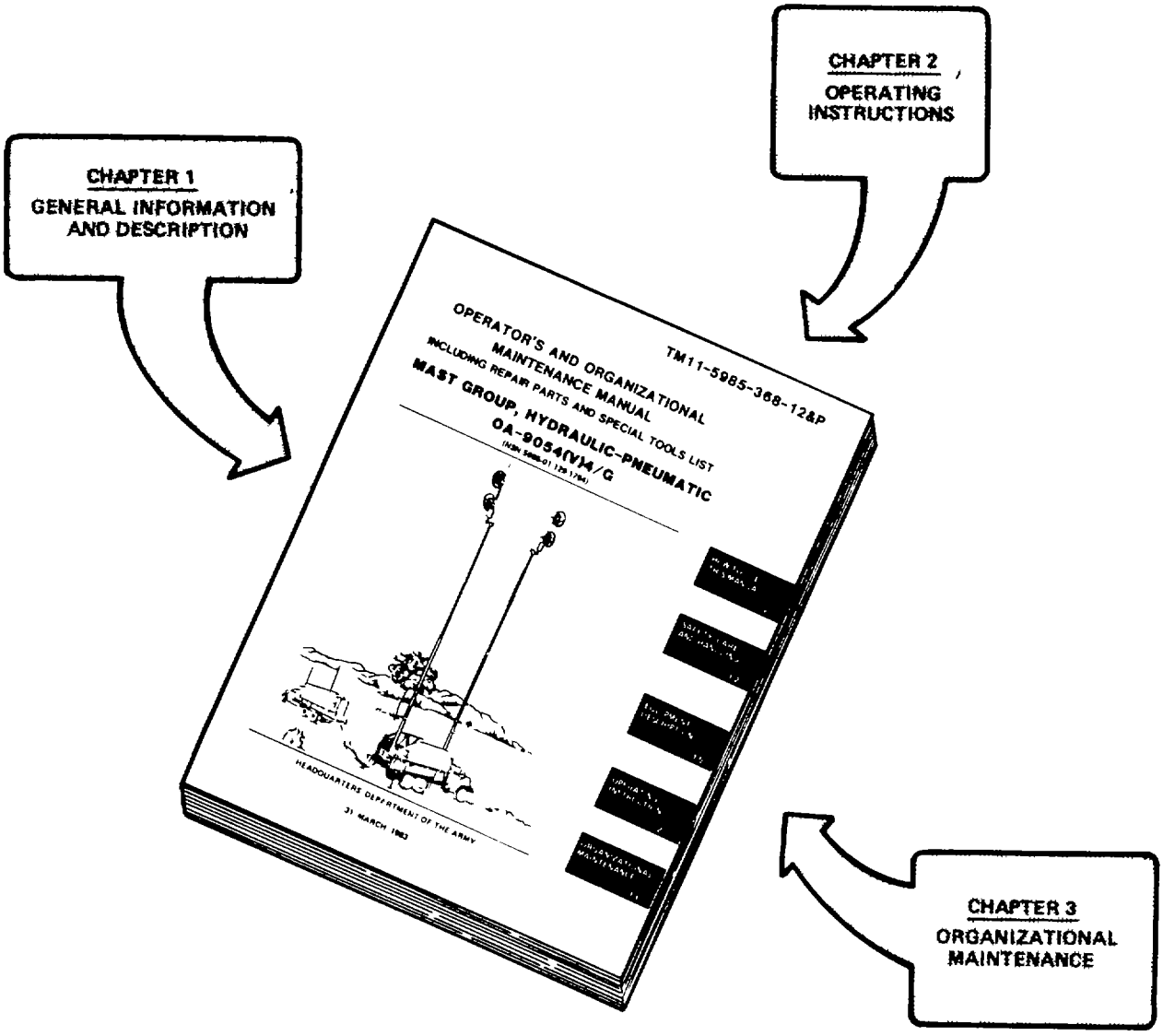
TABLE OF CONTENTS

TABLE OF CONTENTS - Continued

TABLE OF CONTENTS - Continued

## HOW TO USE THIS MANUAL

This manual tells you how to operate the Hydraulic-Pneumatic Mast Group OA-9054(V)4/G,and do all the authorized organizational maintenance. Briefly, here's how the manual is organized:



## HOW TO USE THIS MANUAL - Continued

**PROBLEM**
You want to find specific information quickly.

SOLUTION
Check the TABLE OF CONTENTS on the front cover - it'll tell you at a glance on what pages you can find information you will use often.

**PROBLEM**
You are an experienced user and you want information without having to read an entire procedure.

SOLUTION
Read the words in **BOLDFACE TYPE**. They are highlighted for the experienced user.

**PROBLEM**

You want to know how the controls and indicators work.

SOLUTION
Go to chapter 2, section I, page 2-1.

**PROBLEM**
You want to know how to deploy and stow your mast group.

SOLUTION
Go to chapter 2, section III, page 2-30.

**PROBLEM**
You have to operate your mast group in adverse weather. What do you do?

SOLUTION
Go to chapter 2, section IV, page 2-117.

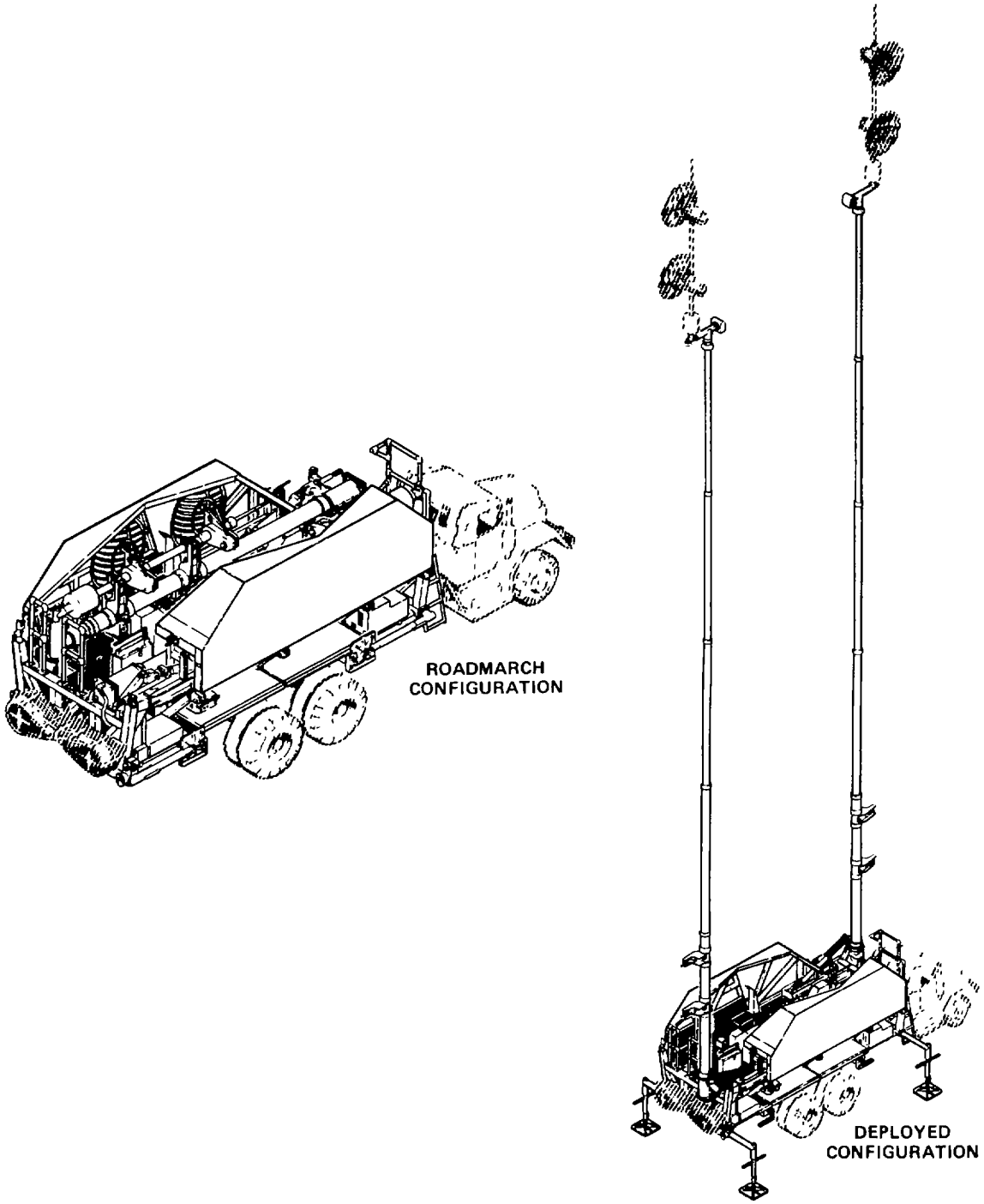



*Figure 1-1. Mast Group, Hydraulic-Pneumatic, OA-9054(V)4/G.*

# CHAPTER 1

# INTRODUCTION

## Section I. GENERAL INFORMATION



### 1-1. SCOPE

This manual provides operator's and organizational maintenance instructions for the Mast Group, Hydraulic-Pneumatic OA-9054(V)4/G. The mast group elevates communications antennas in the field. References to other pertinent manuals are given in appendix A. A maintenance allocation chart (MAC) is contained in appendix B. A repair parts and special tools list (RPSTL) is contained in appendix F. Limitations of the equipment are listed below:

Side Winds - Masts must not be fully extended during high winds.

Leveling - Truck must be parked on level ground (within +10 degrees) before masts can be extended.

Weather - Mast protective covers must be deployed during adverse weather conditions.

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

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

b. Reporting of Item and Packaging Discrepancies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2.DLAR 4140.55/ SECNAVINST 4355.18/AFR 400 4430.3J.

c. Transportation Discrepancy Report (TDR). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

## 1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If your mast group needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the desiqn. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-PA-MA-D, Fort Monmouth, New Jersey 07703-5007. We'll send you a reply.

## 1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

## 1-5. SAFETY, CARE, AND HANDLING

### SAFETY

The mast group has been designed with automatic safety switches. However, the masts are heavy. Soldiers can be injured, crushed, or killed if they are in the way of moving equipment. When operating the mast group be sure to:

- MAKE CERTAIN OF THE LOCATION OF ALL CREW MEMBERS.
- YELL OUT A WARNING TO CREW, IF TACTICAL SITUATION PERMITS, BEFORE
- MOVING ANY MAST GROUP COMPONENT
- AVOID OVERHEAD OBSTACLES ESPECIALLY HIGH VOLTAGE POWER LINES! MAST SHALL ONLY BE RAISED AT A HORIZONTAL DISTANCE OF MORE THAN TWICE THE MAXIMUM HEIGHT OF THE MAST FROM POWER LINES.
- CROSS-LEVEL TRUCK TO WITHIN ONE HALF DEGREE.
- MAKE CERTAIN TRUCK'S HEADING UP OR DOWN SLOP IS WITHIN 10 DEGREES.
- LIMIT MAST HEIGHT DURING STRONG WINDS.
- KNOW EXACTLY WHAT EACH CONTROL DOES AND HOW THIS EQUIPMENT
- OPERATES.
- NEVER RAISE OR LOWER BOTH MASTS AT THE SAME TIME.

### CARE

Do all of your preventive maintenance checks and services before operating the mast group. Remember faulty equipment can be dangerous!

### HANDLING

The mast group does not require any special handling.

## Section II. EQUIPMENT DESCRIPTION



This section describes the equipment, tells you where major components are located, and gives you technical data you should know.

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

**CHARACTERISTICS**

- MOUNTS ON M811 OR M942 TRUCK FOR MOBILITY.
- PROVIDES ANTENNA PROTECTIVE COVERS CONTROLLED BY A HAND-OPERATED HYDRAULIC PUMP.
- RAISES MASTS TO VERTICAL POSITION WITH HYDRAULIC CYLINDERS. UNFOLDS ANTENNA AMPLIFIER ASSEMBLIES WITH HAND-OPERATED GEARBOXES.
- EXTENDS MASTS WITH PNEUMATIC (AIR) PRESSURE.
- LIMITS MAST TO LESS THAN FULL EXTENSION (WHEN REQUIRED) WITH ATTACHING CABLES.
- GETS AC POWER FROM SHELTER, GETS DC POWER FROM M811 OR M942 TRUCK BATTERIES.

**CAPABILITIES**

- SURVIVES WINDS OF 70 MILES PER HOUR (IN STOWED CONFIGURATION).
- EACH MAST SUPPORTS A MAXIMUM LOAD OF 700 POUNDS.
- OPERATES BETWEEN -50 AND +160 DEGREES FAHRENHEIT.

**FEATURES**

Automatic interlocks (safety switches) prevent hazardous operation.
Operates on battery power if ac power source is not available.

**NOTE**

**Refer to paragraph 1-9 for detailed equipment data.**

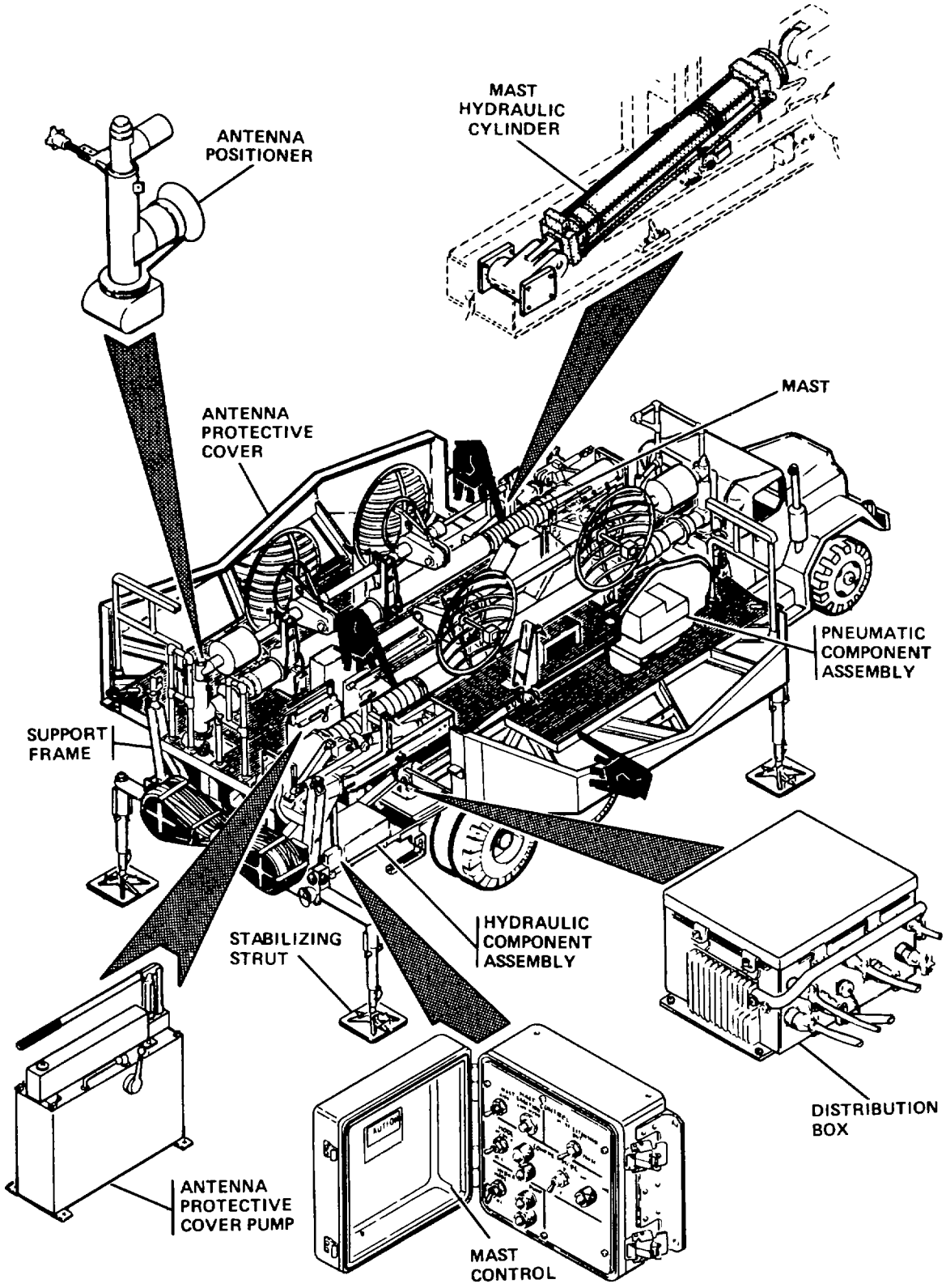



*Figure 1-2. Mast Group Major Components.*

## 1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (FIG. 1-2)

The following components are a part of the Mast Group:

**ANTENNA POSITIONER (2)**
Unfolds antenna amplifier assemblies from stowed to operational position. Hand operated.

**HYDRAULIC COMPONENTS ASSEMBLY (HCA) (2)**
Provides hydraulic fluid to raise and lower mast.

**ANTENNA PROTECTIVE COVER PUMP (2)**
Provides hydraulic fluid to deploy or stow antenna protective cover.
Hand operated.

**MAST (2)**
Provides mounting for antenna amplifier assemblies.

**MAST CONTROL (2)**
Contains switches, pushbutton, and indicator lights for operating mast.

**MAST HYDRAULIC CYLINDER (2)**
Raises or lowers mast when hydraulic fluid from hydraulic components assembly is applied.

**PNEUMATIC COMPONENTS ASSEMBLY (PCA) (2)**
Provides compressed air to extend mast.

**ANTENNA PROTECTIVE COVER (2)**
Protects antennas from brush and weather.

**STABILIZING STRUT (4)**
Prevents truck bed from moving when masts are extended.

**SUPPORT FRAME (1)**
Provides mounting for masts and mast components.

**DISTRIBUTION BOX (2)**
Distributes electrical power to mast group electrical components.

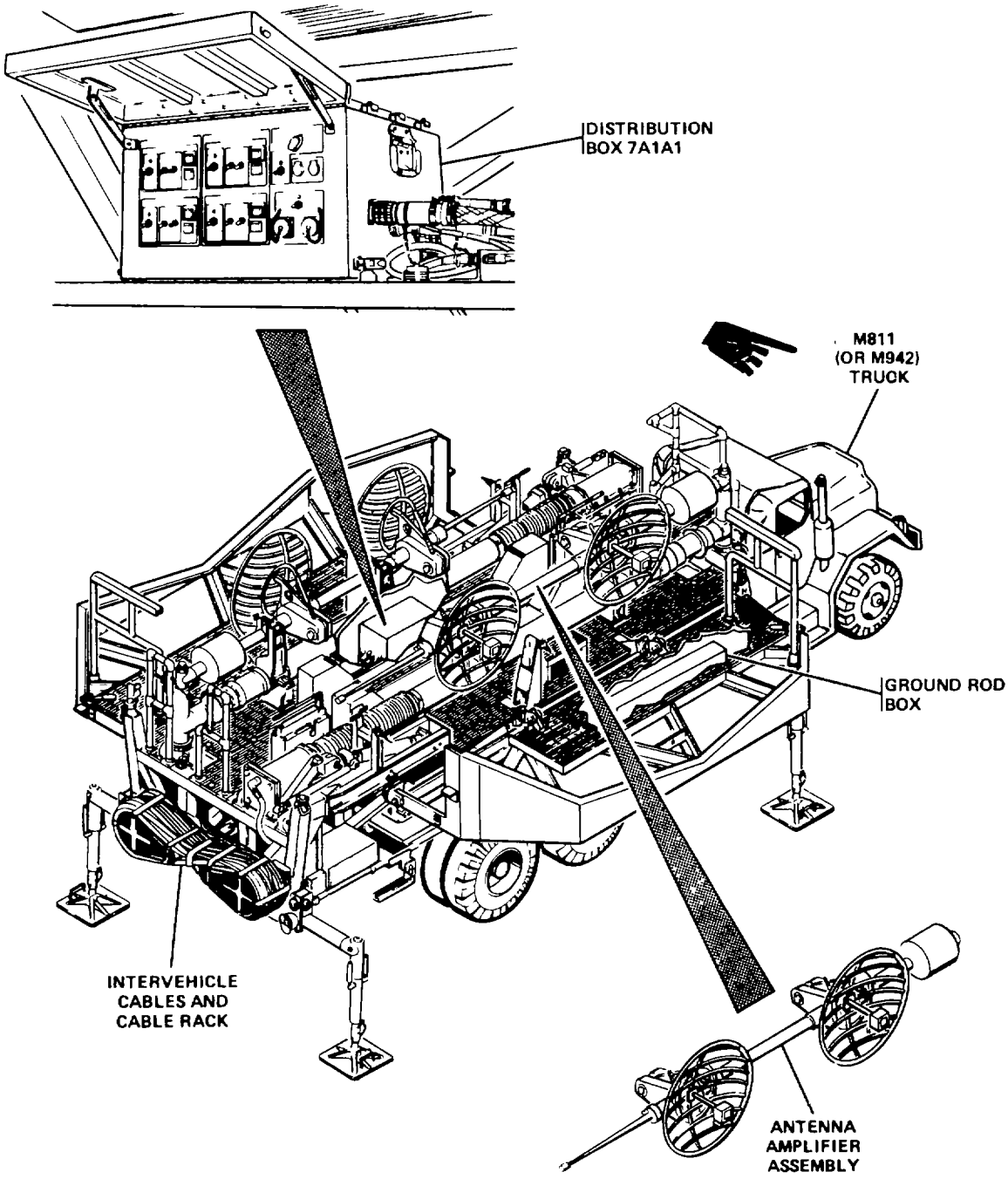



*Figure 1-3. Components that are use with, but not a part of, the Mast Group.*

## 1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS • Continued (FIG. 1.3)

The following components are used with, but are not part of, the mast group:

**ANTENNA AMPLIFIER ASSEMBLIES**
Mounts antennas and their amplifiers.

**DISTRIBUTION BOX 71A1A**
Distributes and controls power to antennas and their amplifiers. Refer to TM 9-1430-603-10 for information about distribution box 7A1A1.

**GROUND ROD BOX**
Provides storage for ground rods, ground rod cable, and telephones.

**INTERVEHICLE CABLES AND CABLE RACK**
Cables provide electrical power and control to the antennas and their amplifiers. Cable rack is used to stow cables when Mast Group is in transit.

**M811 OR M942 TRUCK**
Provides mobility for mast group. Refer to TM 9-2320-260-10 for information about the M811 truck. Refer to TM 9-2320-272-10 for information about the M942 truck.

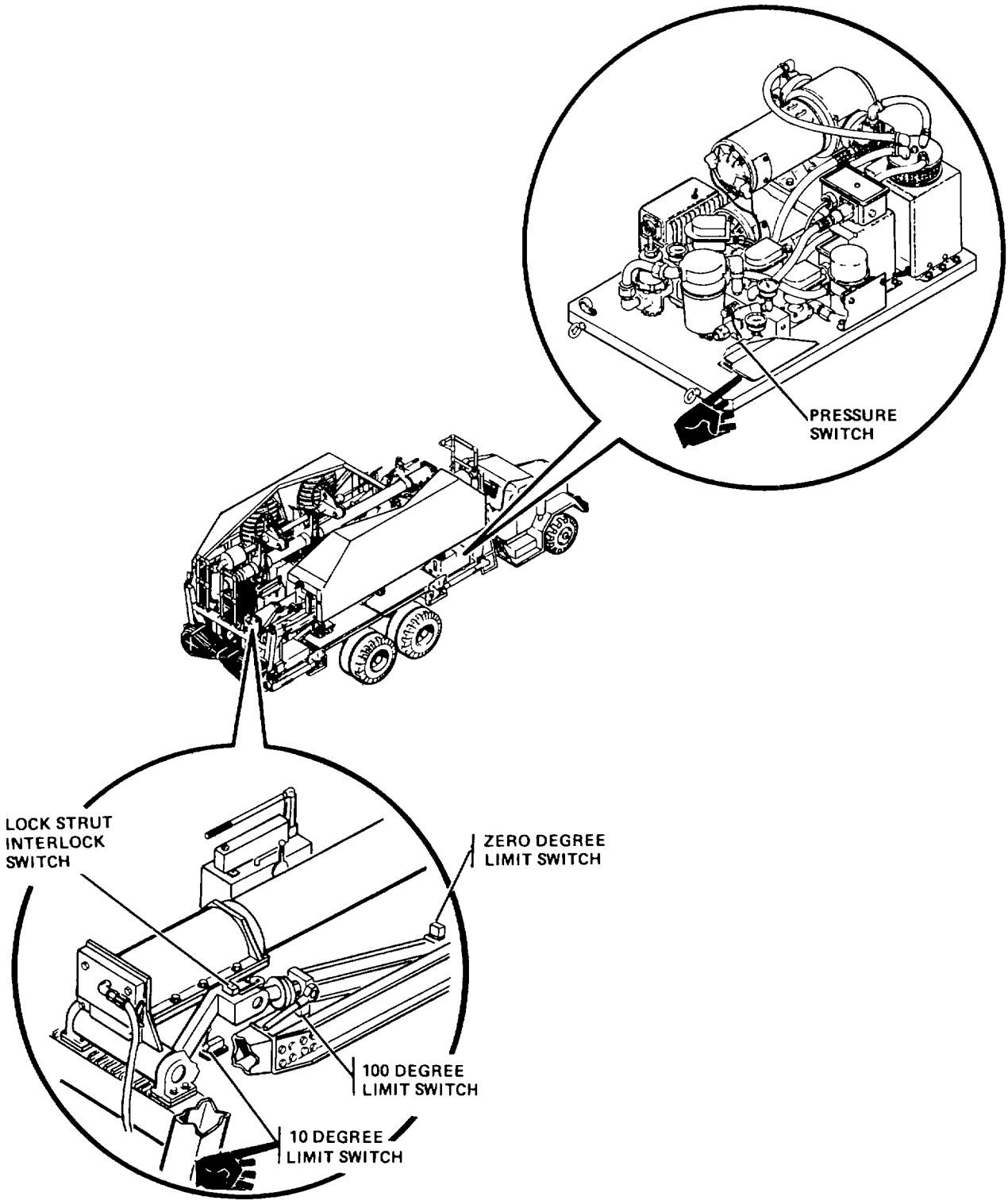



*Figure 1-4. Safety Switches.*

## 1-8. SAFETY SWITCHES (FIG. 14)

The following automatic switches help provide safe operation of the mast group:

**PRESSURE (ANTIJOG) SWITCH**

Prevents mast from being lowered or raised when mast is extended. Also acts as an antijog device to prevent damage to the mast if the MAST ERECTION RAISE/OFF/LOWER switch is "jogged" back and forth, with mast pressurized.

**100 DEGREE LIMIT SWITCH**

Prevents mast from being raised beyond 100 degree vertical position.
Raising mast too far can cause injury to personnel and damage the mast.

**10 DEGREE LIMIT SWITCH**

Stops mast from being lowered to stowed (horizontal) position at about 10 degrees. Prevents you from fully lowering the mast until you have checked that personnel and obstructions are out of the way.

**ZERO DEGREE LIMIT SWITCH**

Prevents mast from being extended when in 0 degree (horizontal or stowed) position.

**STRUT INTERLOCK SWITCH**

Allows mast extension only when lock strut is in place. Lock strut prevents mast from falling in case of hydraulic cylinder failure.

## 1-9. EQUIPMENT DATA

Technical information about your mast group is given in Table 1-1 below.

Table 1-1. TECHNICAL DATA

| | |
|---|---|
| Mast Group (without truck) | |
| Weight | 14100 lb |
| Height | 98.5 in. |
| Width | 95.0 in. |
| Length | 250.50 in. |
| Mast Group (with M811 truck) | |
| Weight | 33660 lb |
| Weight | 33660 lb |
| Height. | 141 in. |
| Width | 96 in |
| Length | 402.50 in. |
| Length. | 402.50 in. |
| Mast Group (with M942 truck) | |
| Weight | 35020 lb |
| Height. | 141 in. |
| Width | 96 |
| Length | 414 in. |
| Mast Hydraulic System | |
| System Pressure | 1400 psi |
| System Fluid Capacity | 3 to 3.5 gal. |
| Mast Height (fully extended) | 100 ft. 11 in. |
| Payload Weight (one mast, with cable) | 700 lb |
| Temperature Range | 500 to 160F |
| Maximum Wind Speed (stowed configuration) | 70 mph |
| Maximum Operating Wind Speed | 55 mph |
| Current Draw (does not include starting current) | |
| 24 Vdc | |
| Solenoids | 2 amp |
| PCA | 20 amp |
| PCA | 20 amp |
| HCA | 35 amp |
| HCA | 35 amp |
| Total | 57 amp |

**Table 1-1. TECHNICAL DATA - Continued**

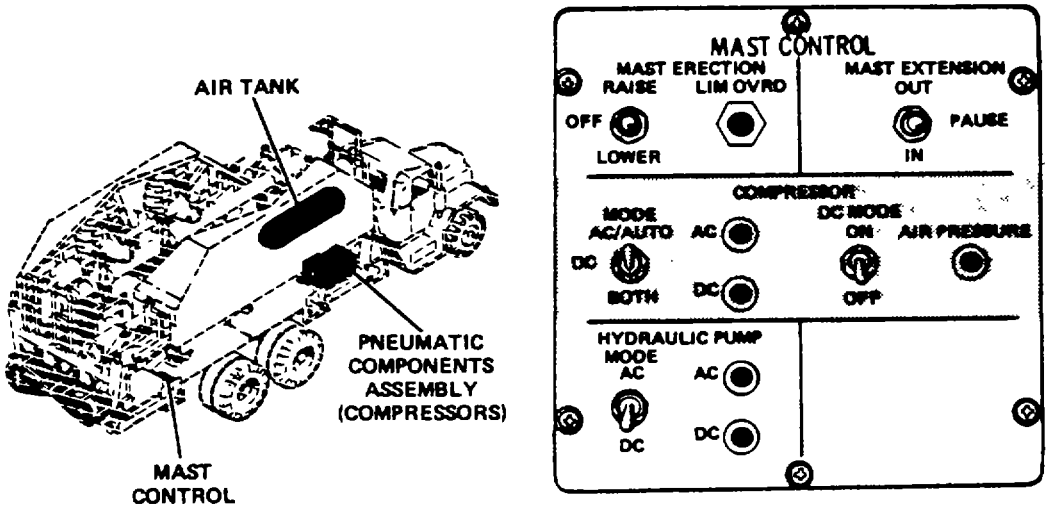
| | |
|---|---|
| 115 VAC | |
| Solenoids | 0.5 amp |
| PCA | 5 amp |
| PCA heater | 3 amp |
| HCA | 18 amp |
| HCA heater | 2 amp |
| Total | 28.5 amp |

## Section III. TECHNICAL PRINCIPLES OF OPERATION



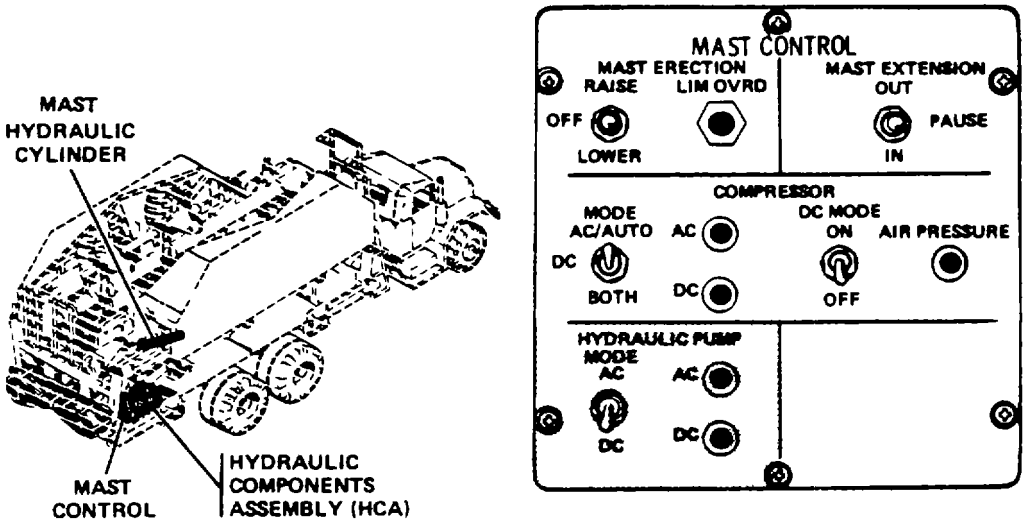
This portion of the manual briefly shows you how the major components of the Mast Group are controlled.

### 1-10. COMPRESSOR SECTION OF MAST CONTROL



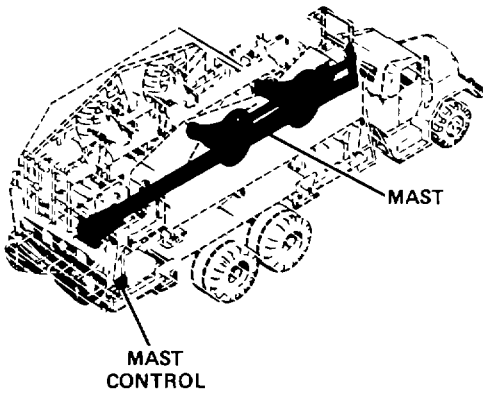

This mast control section allows you to control power to the mast compressors. The compressors supply compressed air to the air tank. Compressed air from the tank extends (telescopes) the mast. Indicator lights tell you which compressors have power and if the air tank is fully charged.

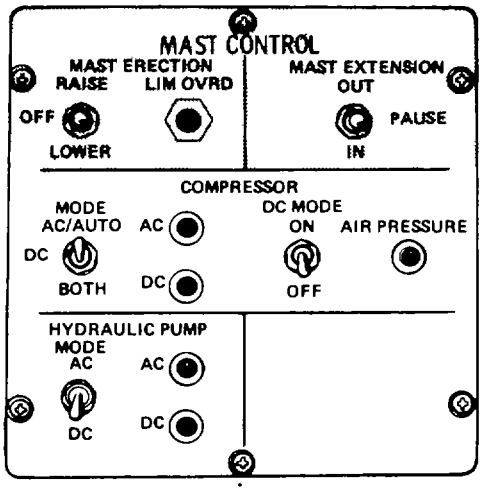
### 1-11. HYDRAULIC SECTION OF MAST CONTROL



This mast control section allows you to control power to the hydraulic pumps. The pumps provide hydraulic fluid to operate the mast hydraulic cylinder. The cylinder raises or lowers the mast. Indicator lights tell you which hydraulic pump has power.

## 1-12. MAST SECTION OF MAST CONTROL

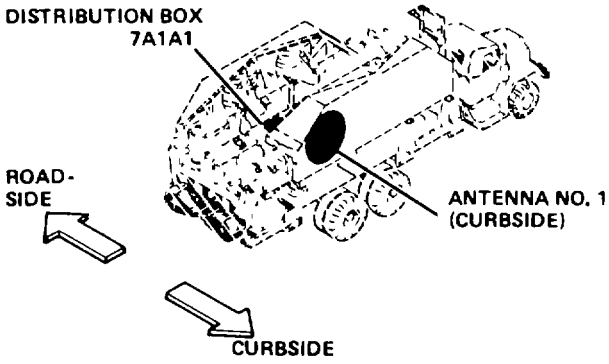


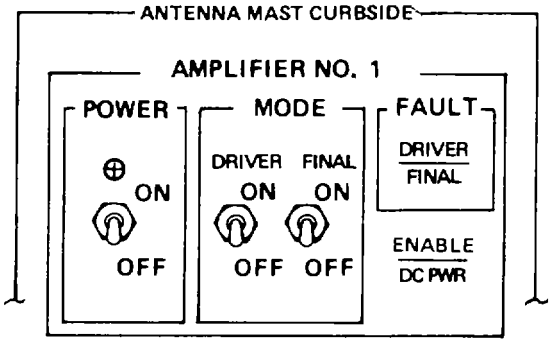

This mast control section allows you to control mast movement. A limit override switch prevents you from completely lowering the mast without checking for obstructions first.

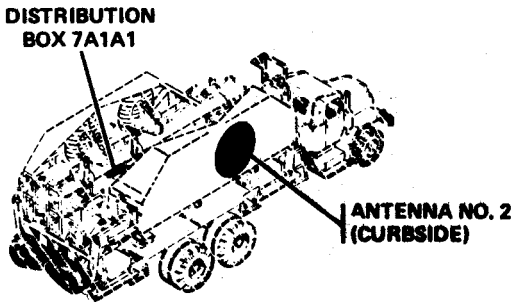
## 1-13. ANTENNA AMPLIFIERS DISTRIBUTION BOX 7A1A1

These portions of the distribution box 7A1A1 control the antennas and their amplifiers.

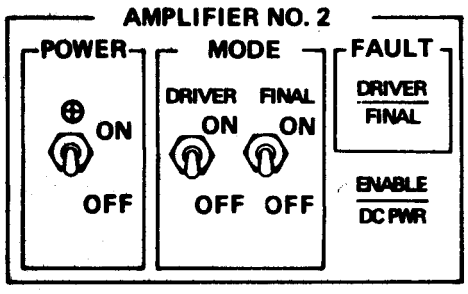


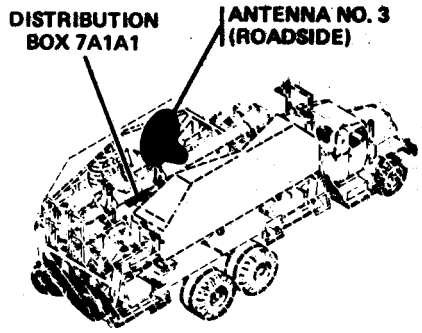

ANTENNA NO. 1 PORTION OF
DISTRIBUTION BOX 7A1A1



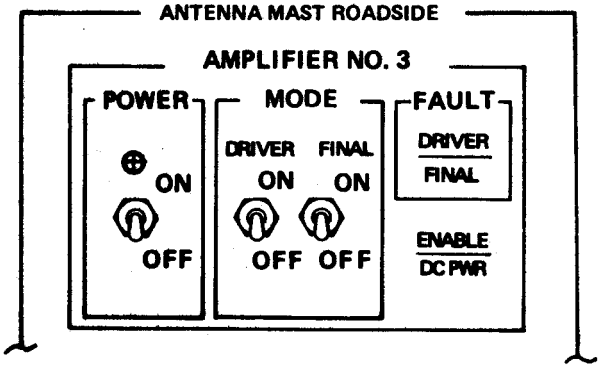


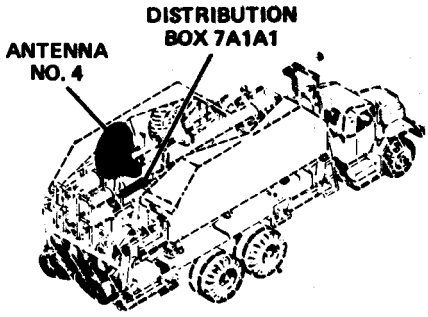

ANTENNA NO.2 PORTION OF
DISTRIBUTION BOX 7A1A1



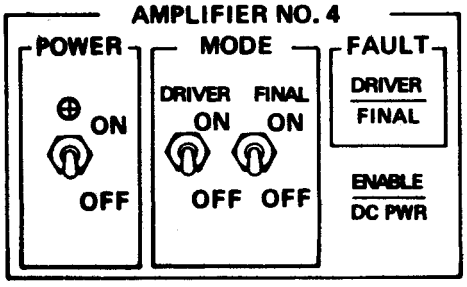




ANTENNA NO.3 PORTION OF
DISTRIBUTION BOX 7A1A1




ANTENNA NO.4 PORTION OF
DISTRIBUTION BOX 7A1A1



# CHAPTER 2

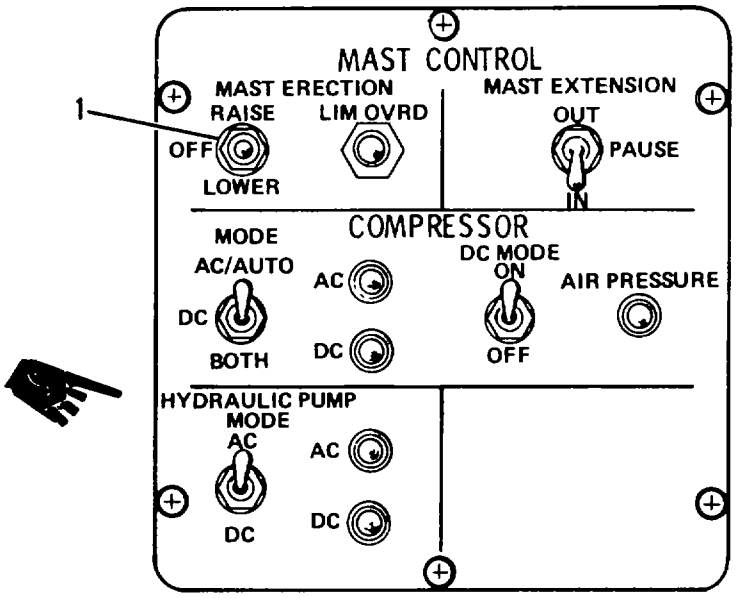
# OPERATING INSTRUCTIONS

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



This section describes the various mast group controls and indicators, and tells you how they are used.

### 2-1. MAST CONTROL



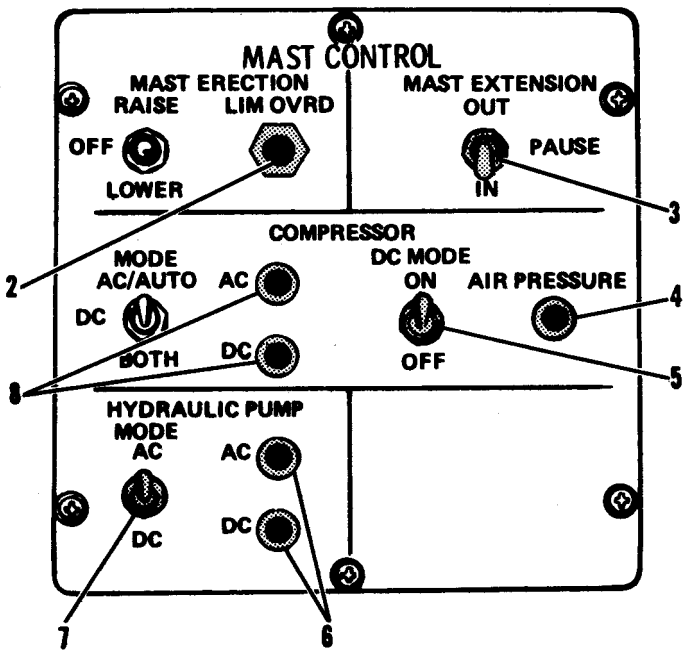

**1. MAST ERECTION RAISE/OFF/LOWER switch**
Raises or lowers mast.

**RAISE** Raises mast from stowed (horizontal) position to raised (vertical) position.

**OFF** Stops raising or lowering mast. Switch automatically returns to OFF position when released.

**LOWER** Lowers mast from raised position.

**2-1. MAST CONTROL - Continued**




**2. LIM OVRD pushbutton**

Allows mast to be lowered to fully stowed (horizontal) position.

When lowering mast a safety switch automatically stops mast from moving lower than 10 degrees. To lower mast to its stowed (horizontal) position, push LIM OVRD button and at same time hold MAST ERECTION switch to LOWER.

**3. MAST EXTENSION OUT/PAUSE/IN switch**

Extends or retracts mast after it has been raised.

**OUT** Extends mast upward.
**PAUSE** Temporarily stops mast from being extended or retracted.
**IN** Retracts mast downward.

**4. COMPRESSOR AIR PRESSURE Indicator light**

Tells you when air tank is fully charged.

You don't need a charged tank to extend a mast, but with a charged tank you'll extend the mast a lot faster.

**5. COMPRESSOR DC MODE ON/OFF switch**

Controls power to dc compressor motor.

**ON** Makes dc power from truck battery available to dc compressor motor.

**OFF** Turns off vehicle battery power to dc compressor motor.

**NOTE**

**You can charge an air tank while the truck Is moving by setting the COMPRESSOR DC MODE switch to ON. But.....continued use of dc compressor with truck engine off will result in a dead truck battery.**

**6. HYDRAULIC PUMP AC/DC indicator lights**

Tells you which hydraulic pump is operating.

**AC** Lights when ac hydraulic pump is operating.

**DC** Lights when dc hydraulic pump is operating.

**7. HYDRAULIC PUMP MODE AC/DC switch**

Controls power to hydraulic pumps.

**AC** Makes ac power available to ac hydraulic pump.

**DC** Makes dc power available to dc hydraulic pump.

**NOTE**

**You will normally operate the mast group with ac power. The dc hydraulic pump is a back-up to be used when ac power is not available. But .....continued use of dc hydraulic pump with truck engine off will result in a dead battery.**

**8. COMPRESSOR AC/DC indicator lights**

Tells you which compressor motor has power available.

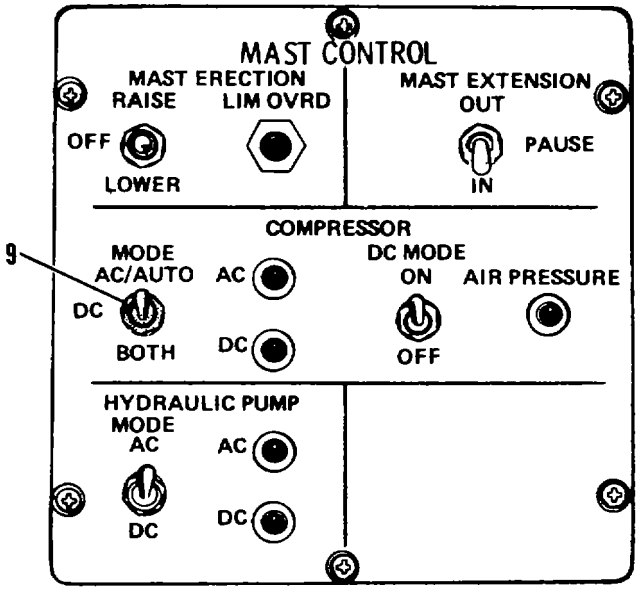
**AC** Lights when power is available to ac compressor motor.

**DC** Lights when power is available to dc compressor motor.

**NOTE**

**You can control the brightness of Indicator lights by turning the knurled ring around the light.**

**2-1. MAST CONTROL - Continued**




**9. COMPRESSOR MODE AC/AUTO/DC/BOTH switch**

Allows you to select compressor mode of operation.

**AC/AUTO** Supplies power to ac compressor. If ac power is cut-off, power will automatically be supplied to the dc (back-up) compressor.

**DC** Supplies power to dc compressor.

**BOTH** Supplies power to both ac and dc compressors at the same time. Allows both compressors to rapidly charge air tank.

**NOTE**

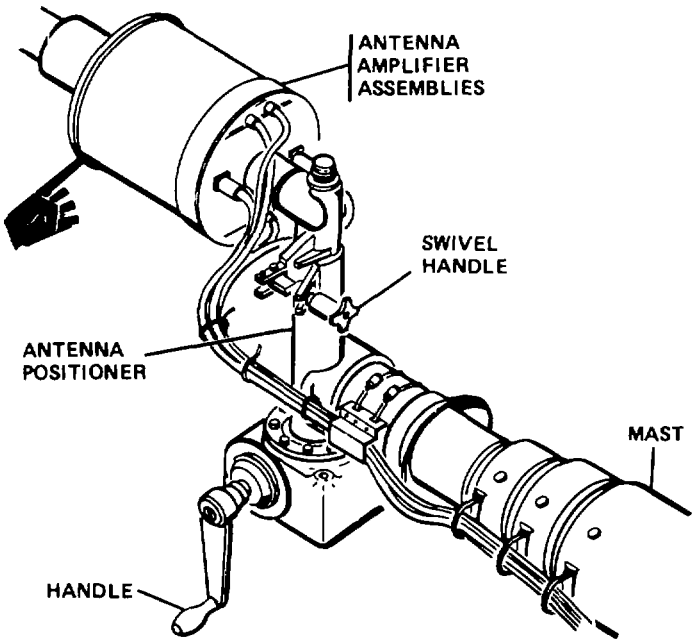
**Regardless of COMPRESSOR MODE switch position, the COMPRESSOR DC MODE switch must be in ON position before dc compressor can operate.**

**NOTE**

**You will normally operate the mast group with ac power. The dc compressor is a back-up to be used when ac power is not available. But.....continued use of dc compressor with truck engine off will result in a dead truck battery.**

## 2-2. ANTENNA POSITIONER

Folds and unfolds antenna amplifier assemblies.




**HANDLE**

Rotates antenna positioner.

- TURN HANDLE CLOCKWISE TO UNFOLD ANTENNA AMPLIFIER ASSEMBLIES TO THEIR DEPLOYED POSITION.
- TURN HANDLE COUNTERCLOCKWISE TO FOLD ANTENNA AMPLIFIER ASSEMBLIES TO THEIR STOWED POSITION.

**SWIVEL HANDLE**

Locks antenna amplifier assemblies in deployed position.

- ROTATE SWIVEL HANDLE OUT OF ITS DETENT AND INTO NOTCH IN BRACKET.
- TURN SWIVEL HANDLE CLOCKWISE TO LOCK ANTENNA AMPLIFIER ASSEMBLIES IN DEPLOYED POSITION.
- TURN SWIVEL HANDLE COUNTERCLOCKWISE TO RELEASE SWIVEL FROM BRACKET.
- ROTATE SWIVEL HANDLE OUT OF NOTCH IN BRACKET UNTIL DETENT HOLDS SWIVEL IN STOWED POSITION.

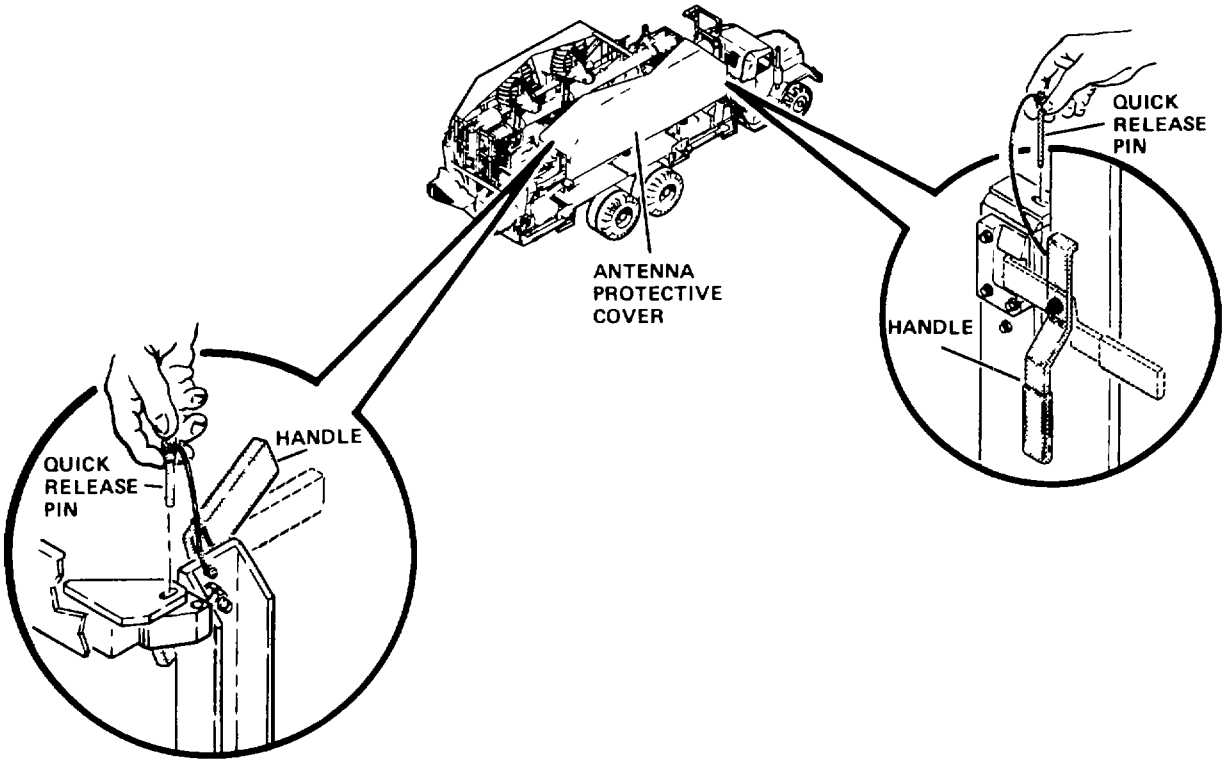
## 2-3. ANTENNA PROTECTIVE COVER CONTROLS

Allows you to deploy and stow antenna protective cover.

**HANDLES**

Secure antenna protective cover in the up or stowed position.

- MOVE HANDLES DOWN TO ALLOW COVER TO BE LOWERED TO DEPLOYED POSITION.
- MOVE HANDLES UP TO SECURE COVER IN THE UP OR STOWED POSITION.
- SECURE COVER WITH QUICK RELEASE PIN.




**CONTROL VALVE LEVER**

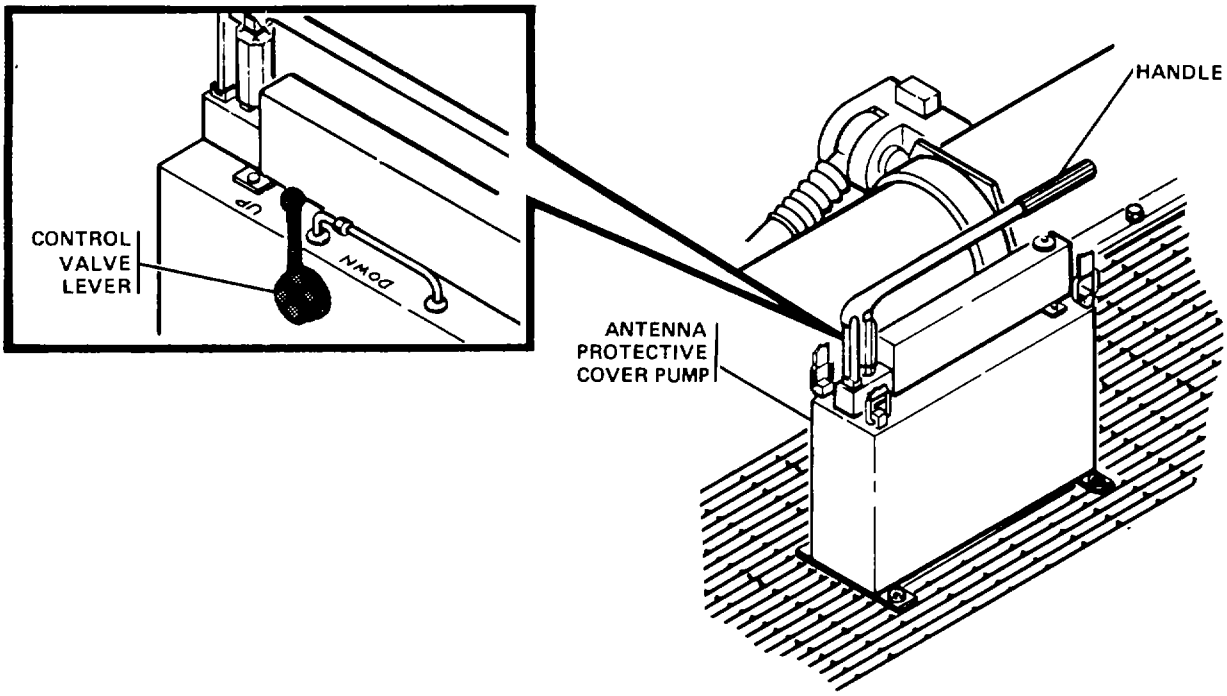
Controls antenna protective cover movement.

- PLACE LEVER TO DOWN POSITION TO LOWER COVER.
- PLACE LEVER TO HOLD POSITION TO STOP COVER.
- PLACE LEVER TO UP POSITION TO RAISE COVER.

**ANTENNA PROTECTIVE COVER PUMP HANDLE**

Supplies power (hydraulic fluid) to antenna protective cover cylinders.

- MOVE PUMP HANDLE UP AND DOWN TO PROVIDE HYDRAULIC FLUID FOR RAISING (OR FORCEFULLY LOWERING) COVER.




**CAUTION**

**The antenna protective cover is allowed to lower by its own weight. A light obstruction (brush, snow) may prevent cover from lowering. You may forcefully lower cover by operating pump handle, but do so carefully so you don't damage the cover or its hydraulic system.**

## 2-4. STABILIZING STRUTS

Prevents truck bed from moving on its suspension system when masts are extended.

**NOTE**

**Struts are not for lifting tires off ground.**

### QUICK RELEASE PIN

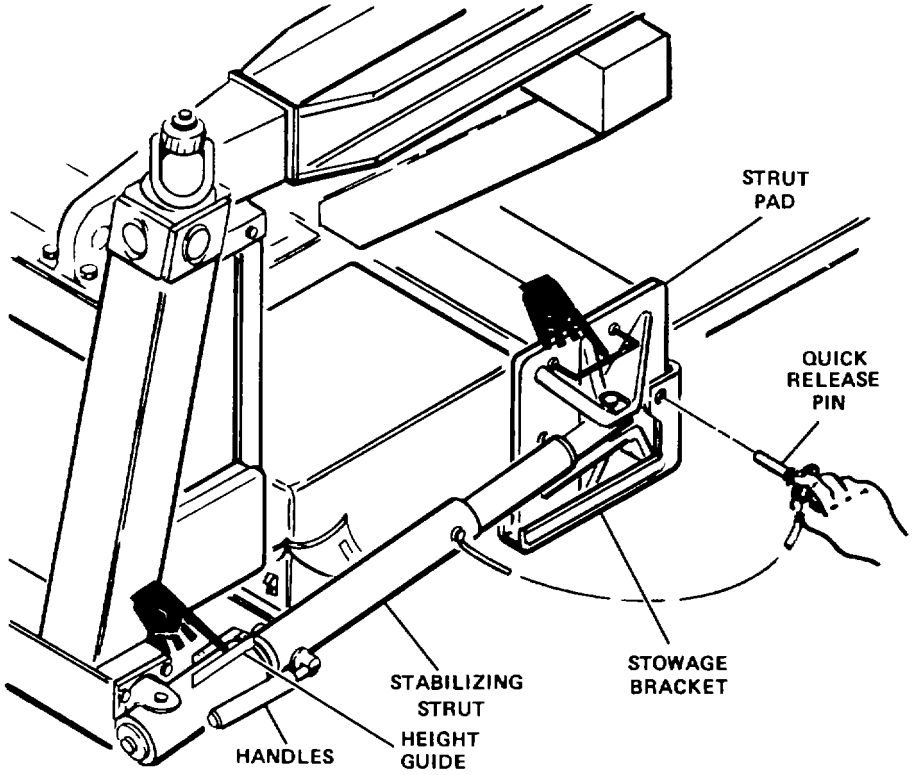
Secures lower strut to upper strut. Also used as a coarse adjustment for strut deployment and to secure strut in stowed position.

- PULL PIN TO RELEASE STRUT PAD FROM STOWAGE BRACKET.
- INSTALL PIN THROUGH HOLES IN UPPER AND LOWER STRUTS TO SECURE STRUTS TOGETHER.

### HANDLES

Extend or retract lower strut.

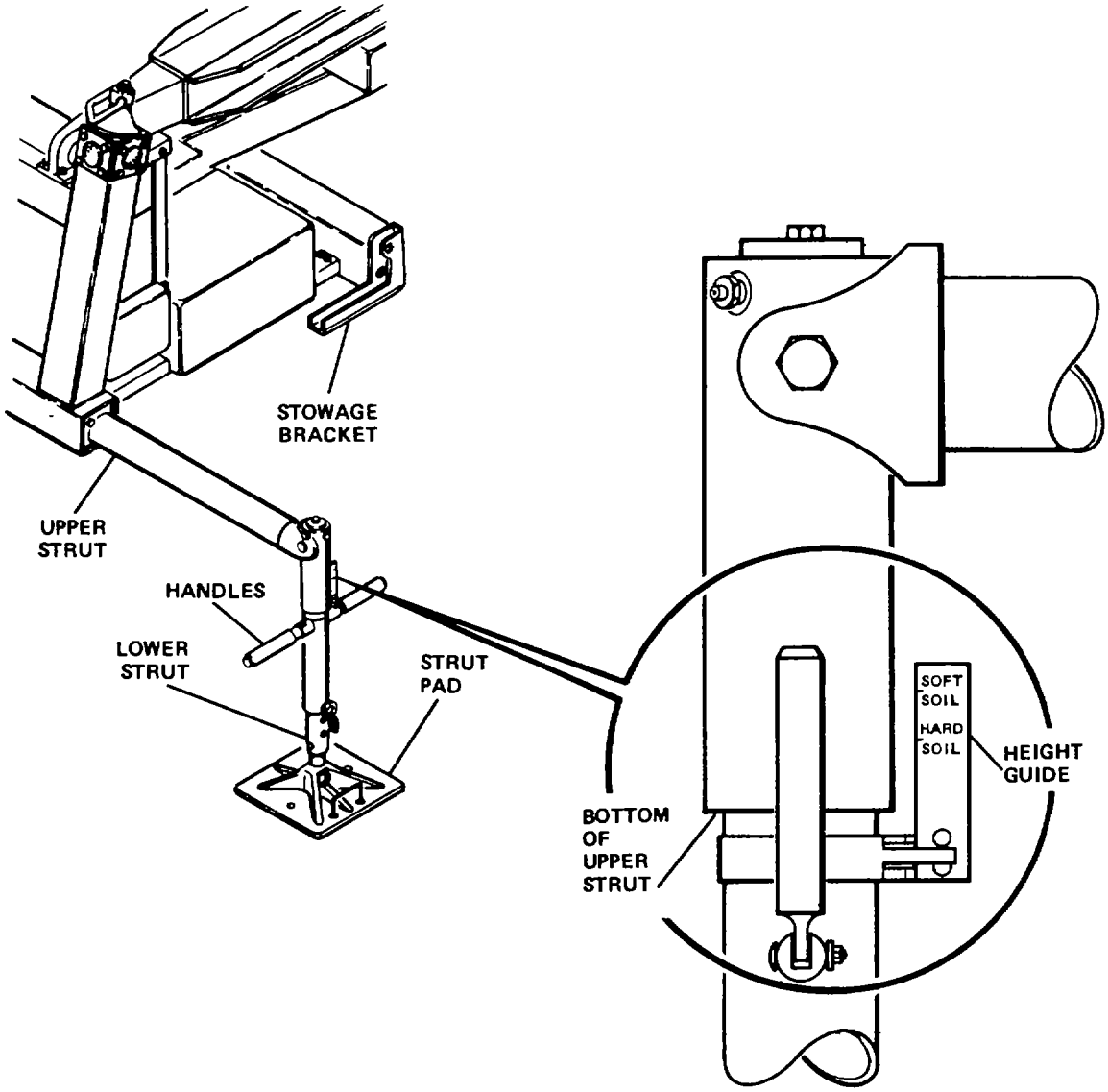
- PULL HANDLES DOWN AND ROTATE CLOCKWISE TO EXTEND LOWER STRUT.
- PULL HANDLES DOWN AND ROTATE COUNTERCLOCKWISE TO RETRACT LOWER STRUT.



**HEIGHT GUIDE**

Indicates when stabilizing strut has properly taken load off truck suspension.

- Slide height guide up on stabilizing strut as far as it will go.
- Turn stabilizer strut handles to take load off truck suspension.
- Aline bottom of upper strut with HARD SOIL mark on height guide when parked on hard ground like asphalt or concrete.
- Aline bottom of upper strut with SOFT SOIL mark on height guide when parked on soft or mushy ground.

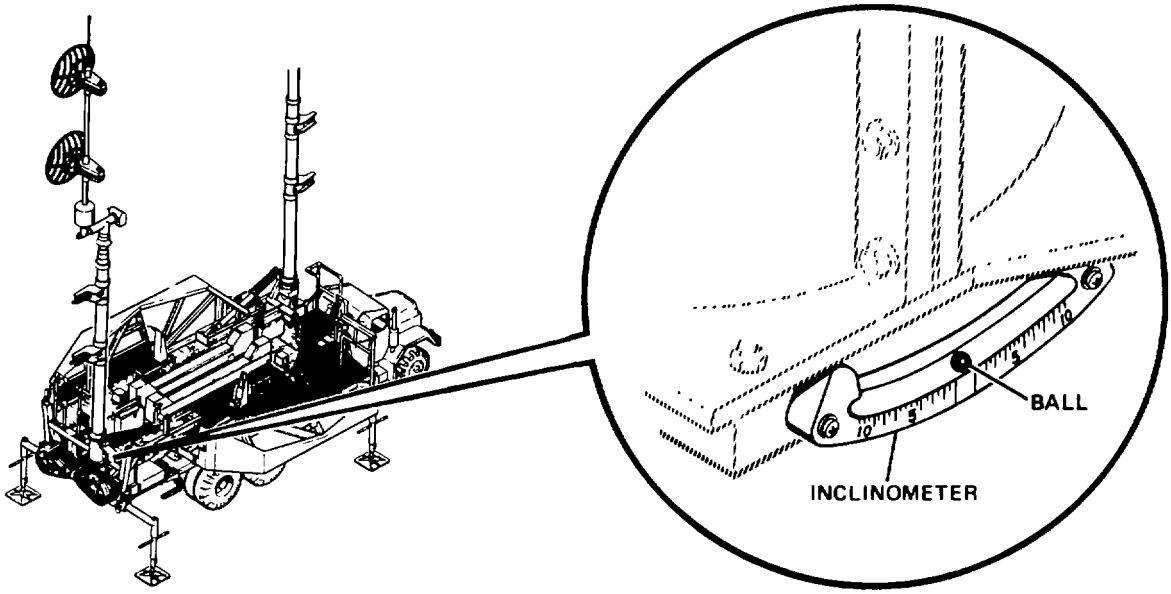



**All data on page 2-10 Deleted.**

## 2-6. MAST INCLINOMETER

Indicates when mast is in vertical position.

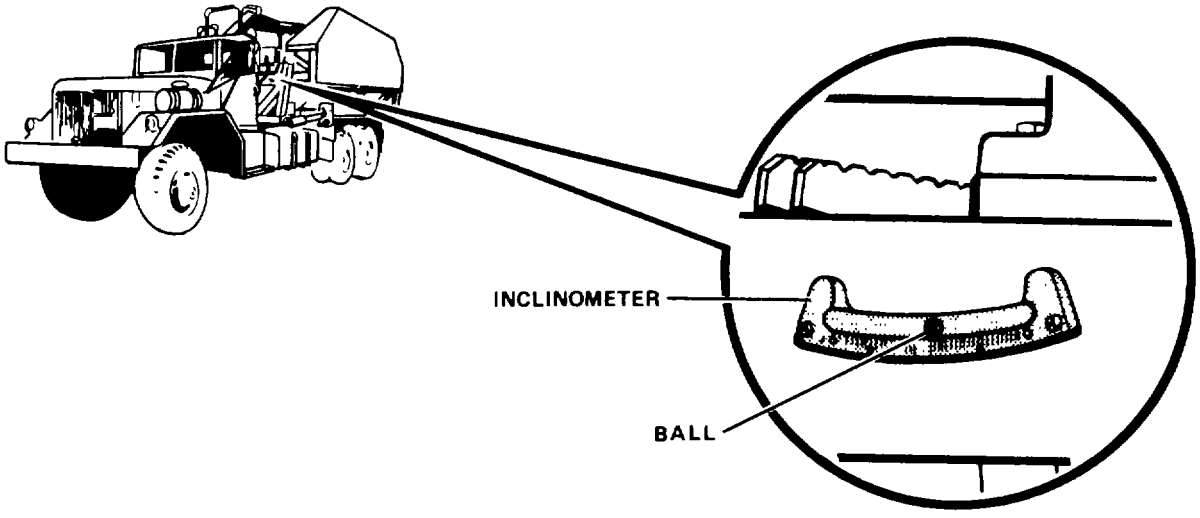
- MAST IS VERTICAL WHEN BALL IS CENTERED IN GREEN PORTION OF INCLINOMETER.




## 2-7. TRUCK INCLINOMETER

Indicates when mast group is cross-leveled.

- MAST GROUP IS CROSS-LEVELED WHEN BALL IS CENTERED IN GREEN PORTION OF INCLINOMETER.



## 2-8. LOCK STRUT

Prevents raised mast from falling if mast hydraulic cylinder fails.

**ELASTIC CORD**

- UNHOOK ELASTIC CORD TO REMOVE STRUT FROM STORAGE BRACKET.

**STRUT**

- SWING STRUT UP SO STRUT IS POSITIONED NEXT TO MAST CLAMP PIN.

**BAR**

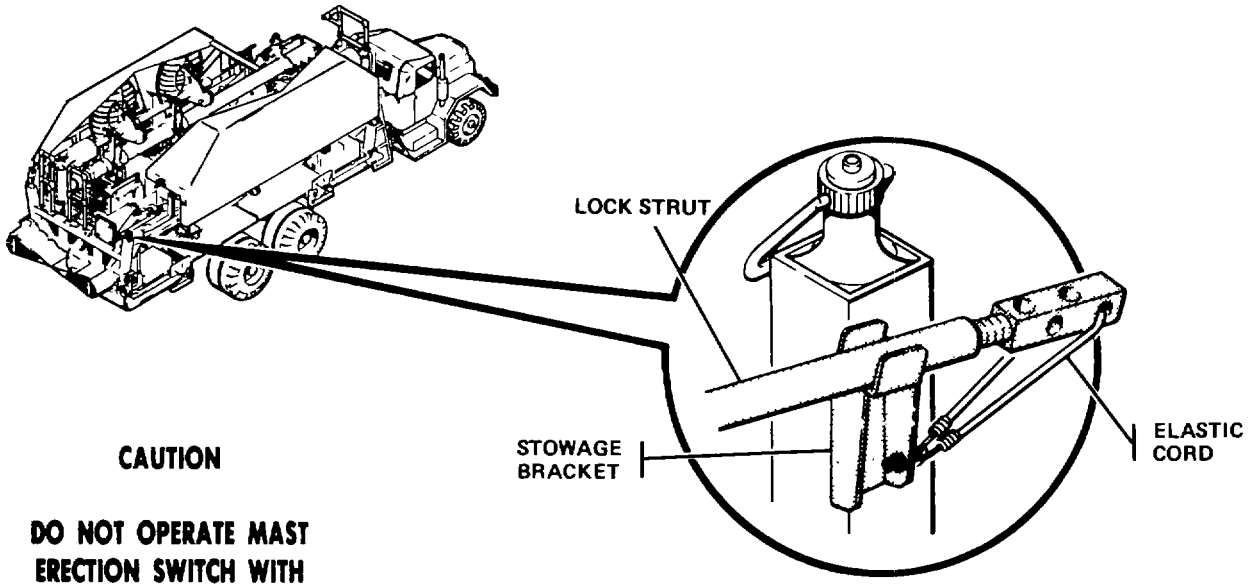
- SLIDE BAR IN OR OUT AS NEEDED. THEN ROTATE BAR TO ALINE ONE OF FOUR HOLES IN BAR WITH MAST CLAMP PIN.
- PULL BAR AND STRUT FROM MAST CLAMP PIN BEFORE LOWERING MAST.

**QUICK RELEASE PIN**

- INSTALL QUICK RELEASE PIN THROUGH HOLE IN MAST CLAMP PIN TO SECURE LOCK STRUT TO MAST.
- PULL QUICK RELEASE PIN TO RELEASE LOCK STRUT FROM MAST CLAMP PIN.

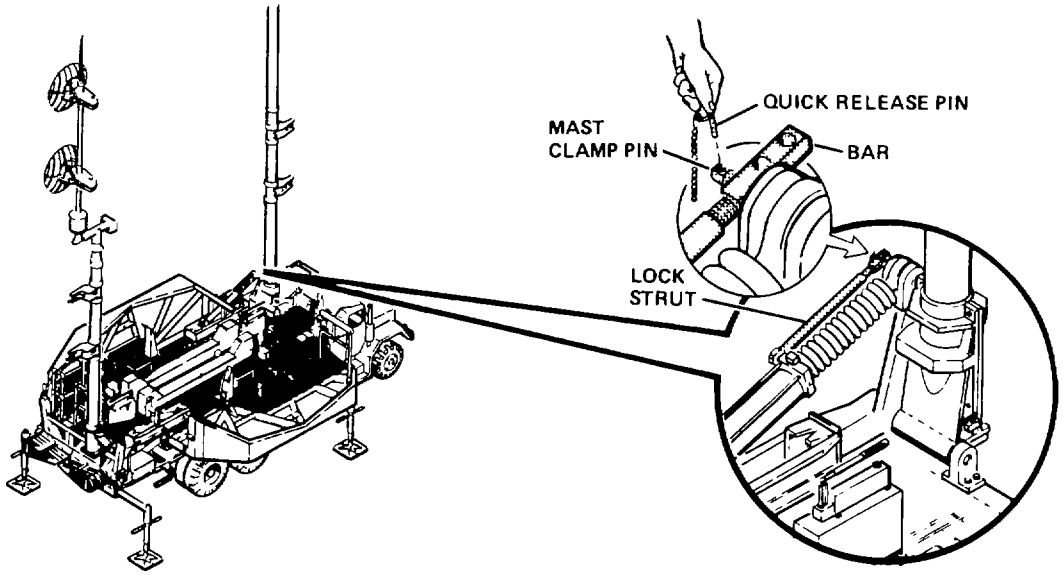
**NOTE**

**Lock strut must be in place before mast can be extended.**




**CAUTION**

**DO NOT OPERATE MAST ERECTION SWITCH WITH LOCK STRUT INSTALLED.**




## 2-9. PNEUMATIC MANIFOLD HEATER SWITCH

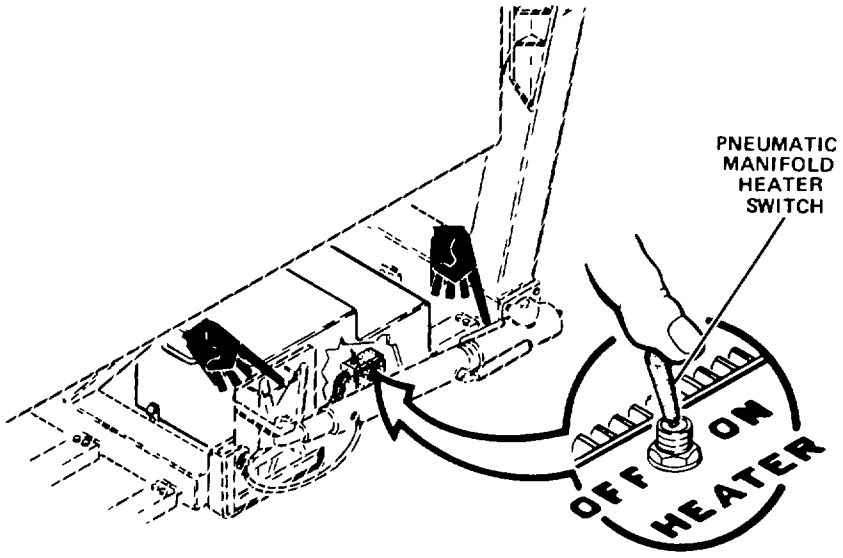
Controls power to heater in pneumatic manifold. Heater prevents ice from forming in pneumatic system during cold weather.

**ON** Turns heater on.

**OFF** Turns heater off.

**NOTE**

**The heater works on ac current only. The heater will not work if you are operating on dc battery power.**



## 2-10. DISTRIBUTION BOX 7A1A1

Distributes and controls power to antennas and amplifiers. Refer to TM 9-1430-603-10 for a more complete description of distribution box 7A1A1.

### 1. LAMP CONTROL switch

Allows you to test and control brightness of the indicator lights.

**TEST** All indicator lights will light.

**DIM** Dims indicator lights. Used for night or blackout operations.

**BRIGHT** Brightens indicator lights. Used for day operation.

### 2. POWER circuit breaker

Provides prime power to amplifiers.

**ON** Turns prime power on.

**OFF** Turns prime power off.

### 3. MODE DRIVER switch

Allows you to place antennas into driver mode (lower level of power output).

**ON** Turns driver module on.

**OFF** Turns driver module off.

### 4. MODE FINAL switch

Allows you to place antennas in final mode (higher level of power output).

**ON** Turns final module on.

**OFF** Turns final module off.

### 5. DRIVER Fault light

Tells you there is a fault in the driver module. Indicator lights during one of three conditions:

- DRIVER MODULE HAS FAILED
- POWER SUPPLY HAS FAILED (POWER LIGHT (7) WILL BE OFF)
- BLOWER HAS FAILED (OVERHEATING).

**6. FINAL FAULT light**

Tells you when there is a fault in the final module.

Indicator lights when final module has failed.

**7. ENABLE indicator light**

Tells you when auxilary power is available. Indicator lights when 24 Vdc power is available from distribution box 7A1A1.

**8. DC PWR indicator light**

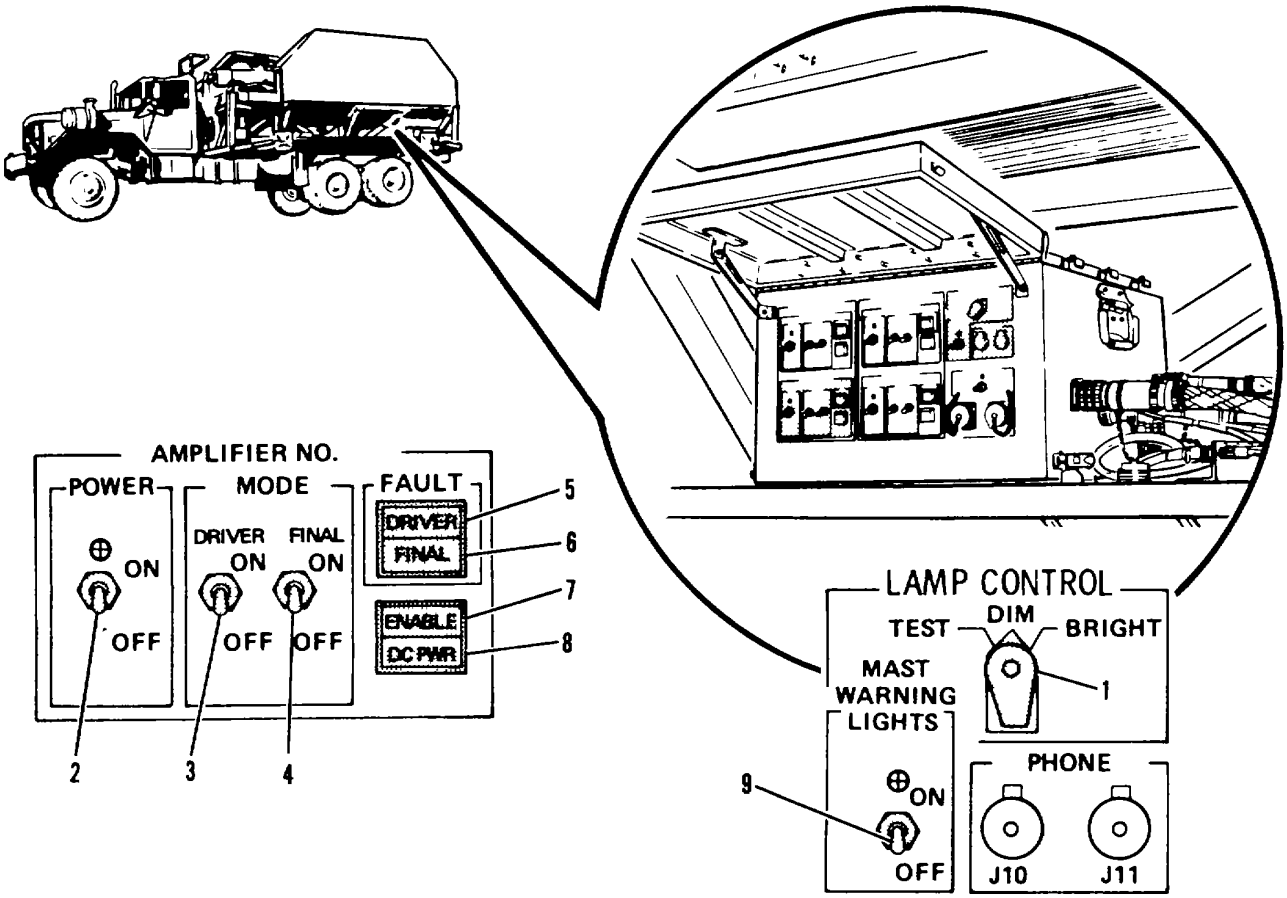
Tells you when power is available. Indicator lights when 28 Vdc power is available from amplifier.

**9. MAST WARNING LIGHTS circuit bre aker**

Controls power to warning light at top of both masts.

**ON** Turns warning lights on.

**OFF** Turns warning lights off.



## Section II. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 2-11. GENERAL

To be sure your mast group is in operating condition and ready for your mission, you must do the OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) listed in table 2-1.

a. BEFORE OPERATION. Always keep in mind the CAUTIONS and WARNINGS. Perform your Before Operation PMCS.

b. DURING OPERATION. Always keep in mind the CAUTIONS and WARNINGS. Perform your During Operation PMCS EVERY 6 HOURS OF OPERATION.

c. AFTER OPERATION. Always keep in mind the CAUTIONS and WARNINGS. Perform your After Operation PMCS.

d. IF EQUIPMENT FAILS TO OPERATE do the following:

- FILL OUT DA FORM 2404 FOLLOWING INSTRUCTION IN DA PAM 738-750
- TURN IT IN TO YOUR MAINTENANCE SUPERVISOR OR ORGANIZATIONAL MAINTENANCE

### 2-12. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES

**NOTE**

**Do your During Operation checks and services every time you operate your Mast Group.**

Do your PMCS more often when operating in severe weather conditions.

When performing your PMCS you will check hydraulic components for leaks. Definitions of hydraulic leaks are as follows:

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

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

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

**CAUTION**

**Equipment operation is allowable with minor leakages (class I or II). Of course, you must consider the fluid capacity in the item/system being checked/inspected. Equipment operation is not allowble with major leakages (class III). when in doubt, notify your supervisor.**

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

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

**NOTE**

**If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.**

If while doing your PMCS you find a condition listed in the EQUIPMENT IS NOT READY/AVAILABLE column, then you cannot perform your mission. Do not operate equipment. Notify organizational maintenance.

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

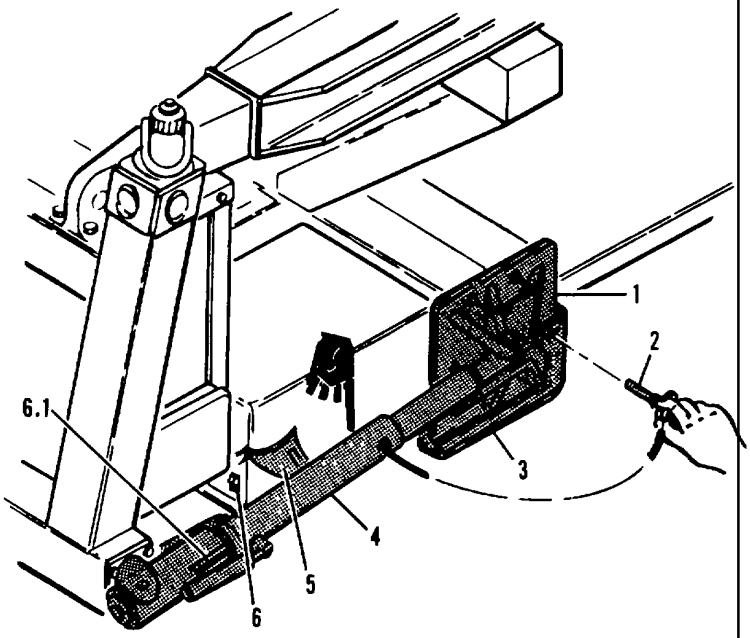
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 1 | • | | • | **ROADSIDE FRONT STABILIZING STRUT**<br><br>Check front roadside stablizing strut (**4**). Make sure quick release pin (**2**) is present and secures strut pad (**1**) in bracket (**3**). Check height guide (**6.1**) on strut for damage. Make sure height guide is secure on strut.<br><br>  <br> | Quick release pin is missing. |
| 2 | • | | • | **HCA HYDRAULIC FLUID LEVEL**<br><br>a. Pull quick release pin **(2)** securing front roadside strut to its stowage bracket **(3).** Remove strut from its bracket and swing down.<br><br>b. Peel back edges of dust cover **(5)** at corners of roadside HCA. Release four latches **(6).** Remove covers. | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

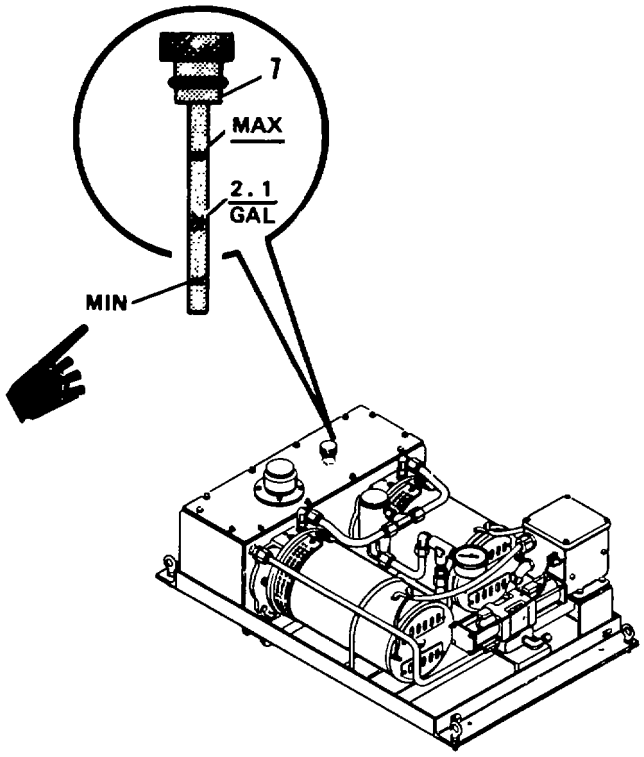
| B - Before Operation | | | D - During Operation | A - After Operation | |
|---|---|---|---|---|---|
| ITEM NO | INTERVAL B | D | A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
| | | | | c. Pull dipstick (7) from hydraulic reservoir. Fluid should be between the 2.1 GAL mark and the MAX mark **with the mast in stow position** . Add fluid as required (item 4, appx E). Install dip stick. | Hydraulic fluid is below the MIN mark. |
| | | | |  | |
| 3 | • | | • | **HCA FLUID LEAKS** | |
| | | | | a. Check all hoses, tubes, gages, connectors and fittings for damage and excessive fluid leaks. Report damage and excessive leaks to your supervisor. | Class III hydraulic fluid leakage is present. |
| | | | | b. Install and secure covers on roadside HCA. Place front roadside strut in its stowage bracket (**3**). Install quick release pin (**2**) to secure. | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 4 | | | | DELETED. | |
| 5 | ● | | ● | **ANTENNA PROTECTIVE COVER HYDRAULIC CYLINDER**<br>Check roadside antenna protective cover hydraulic cylinder (**1**). Make sure fluid is not leaking around ports (**2**) and piston end. | Class III leakage evident. |

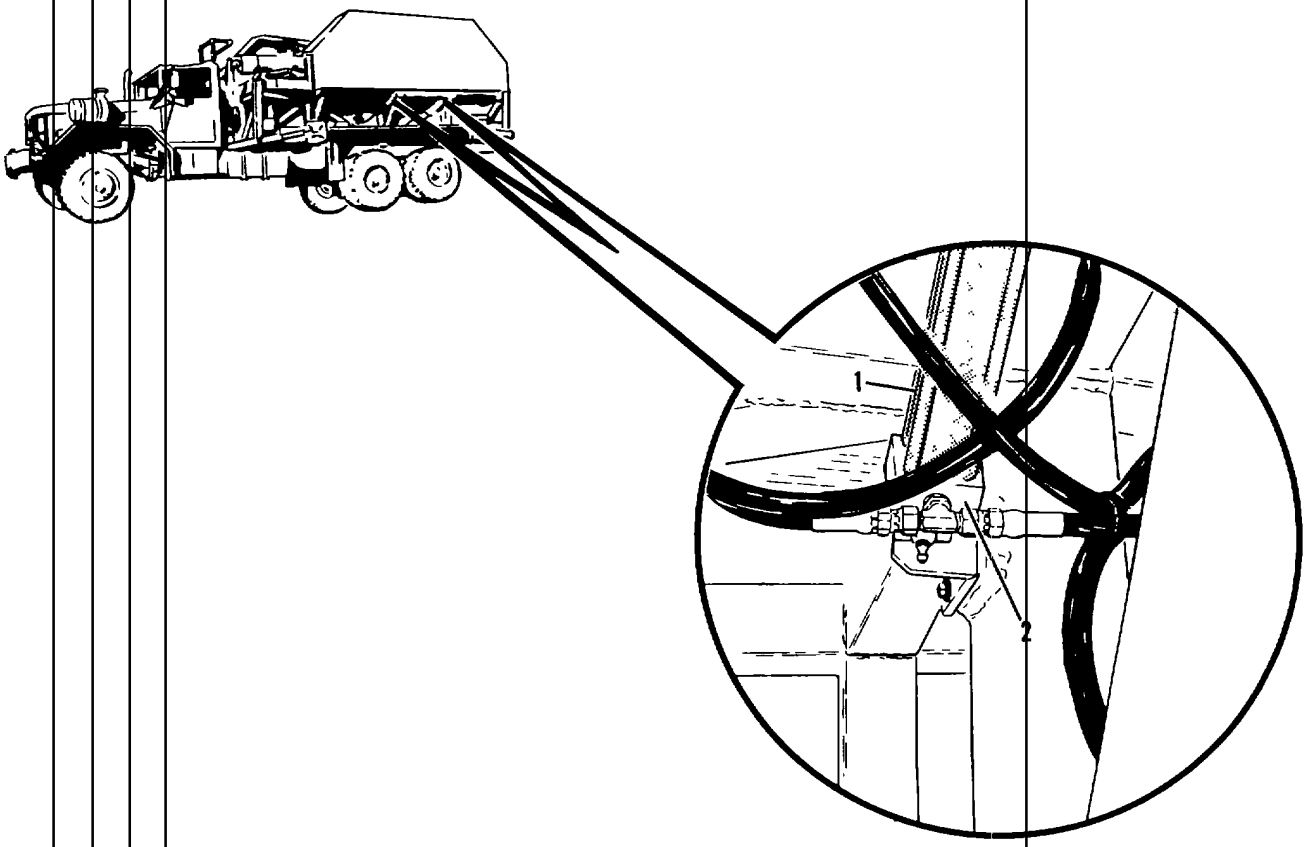


**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

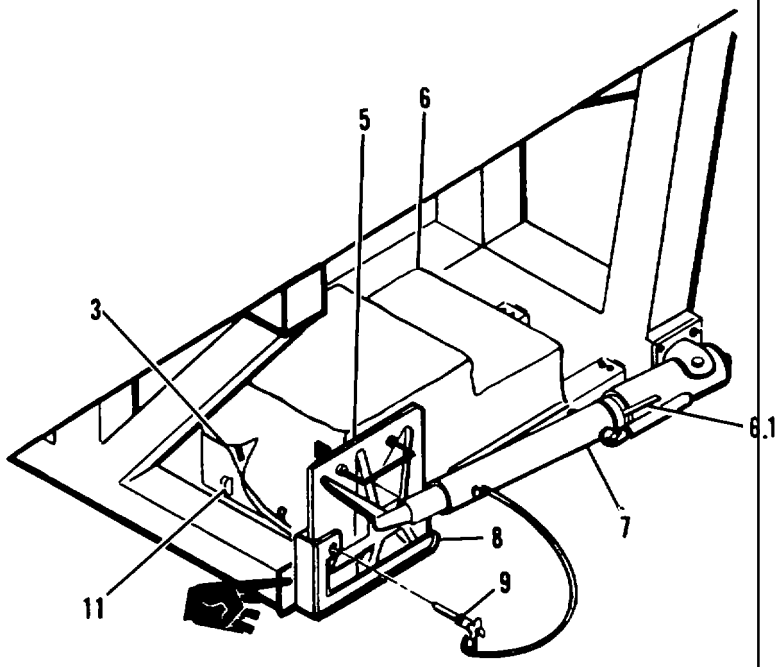
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| | | | |  | |
| 6 | ● | | ● | **ROADSIDE REAR STABILIZING STRUT**<br>Check roadside rear stabilizing strut **(7).** Make sure quick release pin **(9)** is present and secures strut pad **(5)** in bracket **(8).** Check height guide **(6.1)** on strut for damage. Make sure height guide is secure on strut. | |
| 7 | ● | | ● | **PCA INTAKE FILTER ELEMENT**<br>a. Pull quick release pin **(9)** securing rear roadside strut pad **(5)** to its stowage bracket **(8).** Remove strut from bracket and swing down.<br>b. Peel back edges of dust cover **(3)** at corners of roadside rear PCA **(6).** Release four latches **(11).** Remove covers. | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

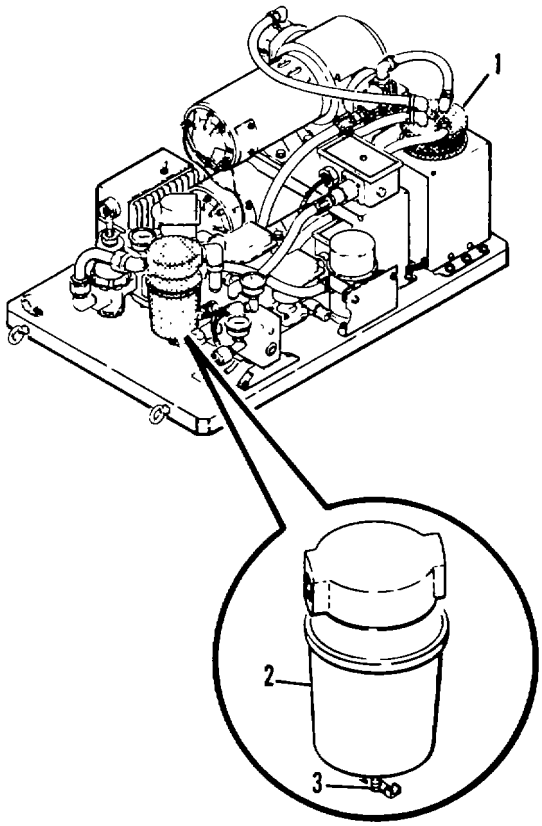
| B - Before Operation | | | D - During Operation | A - After Operation |
|---|---|---|---|---|
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
| | | | | c. Check intake filter element **(1)** for deterioration. If required, have organizational maintenance replace intake filter element (para 3-5).<br><br>**NOTE**<br><br>**Check Intake filter more often in dusty conditions.**<br><br>  <br> | Filter appears to be dirty and in need of servicing. |
| 8 | | ● | ● | **DRAIN INLINE FILTER**<br><br>With a dry shop cloth in your hand, open petcock **(3)** on inline filter **(2).** Let rag soak up all water that drains from filter. Close petcock **(3).** | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| | | | | **NOTE**<br>**On later models the petcock has been re. placed with an automatic drain line. If you have an automatic drain line installed, disregard the drain inline filter check.**<br>**NOTE**<br>**Drain the inline filter more often if you are operating the mast group in humid conditions and do not have an automatic drain line installed.** | |
| 9 | ● | ● | ● | **AIR LEAKS**<br>a. Check all hoses, fittings, and gages for damage. Notify your supervisor if you think there are any air leaks.<br>**NOTE**<br>If the pneumatic component compressor runs excessively (more than 10 minutes per hour) while masts are extended, there probably is an air leak somewhere.<br>b. Install and secure covers on road-side PCA. Place rear roadside strut in its stowage bracket. Install quick release pin to secure.<br>Repeat steps 1 through 9 for curb-side of vehicle. | Air leaks which render the system unable to extend the mast to the required height. |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

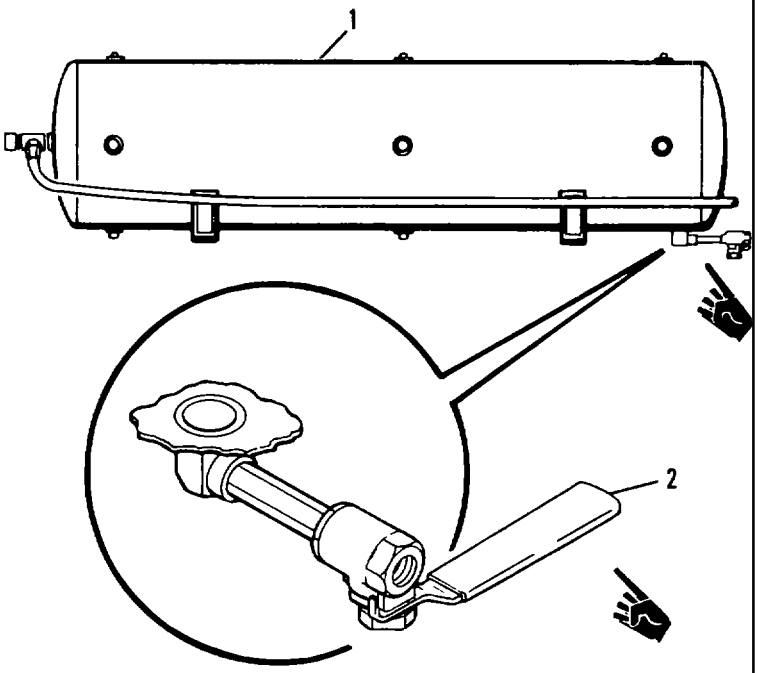
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 10 | | ● | ● | **MAST AIR TANK DRAIN**<br><br>a. Go underneath mast group frame to mast air tank **(1).** With a shop cloth in your hand, open ball valve **(2)** at bottom of tank **(1).** Let shop cloth soak up all water that drains from tank. Close ball valve **(2).**<br><br>**NOTE**<br><br>**On early models a petcock is installed in. stead of the ball valve. Operation is the same.**<br><br>  <br><br><br>b. Repeat procedure for other tank.<br><br>**NOTE**<br><br>**Drain air tanks more often if you're operating in humid conditions.** | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

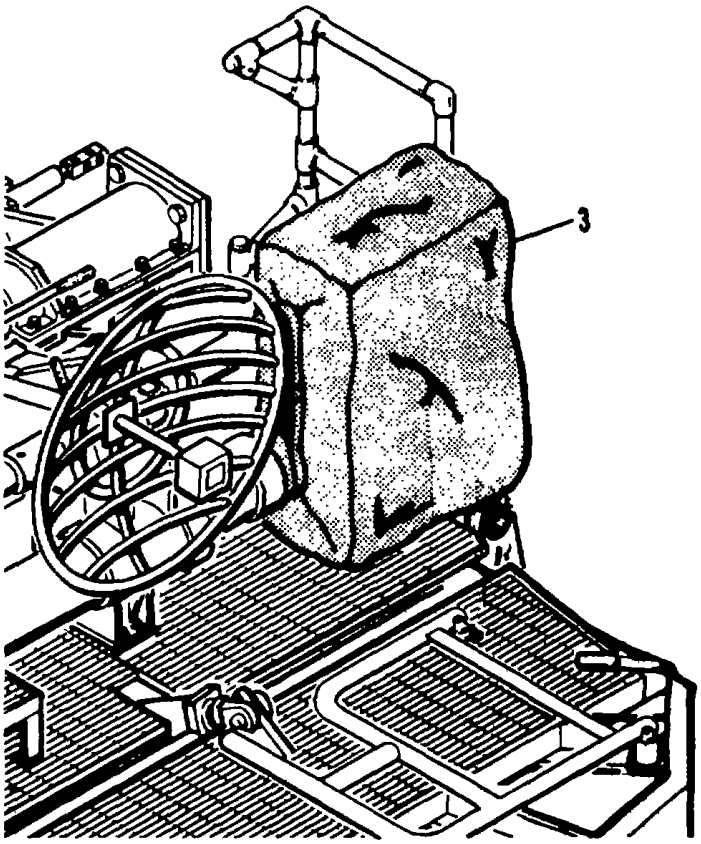
| B - Before Operation | | | D - During Operation | A - After Operation |
|---|---|---|---|---|
| ITEM NO | INTERVAL B | D | A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
| 11 | • | | • | CURBSIDE ANTENNA POSITIONER<br>**WARNING**<br>**There are many trip hazards on the most group platform, like the shaft on tire side antenna positloner. Use care when walking on the mast group platform.**<br>a. Raise mast to 10 degree position (para 2-15).<br>b. From walkway at front of vehicle, remove canvas cover **(3)** from amplifier and mast.<br>  <br> | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued**

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

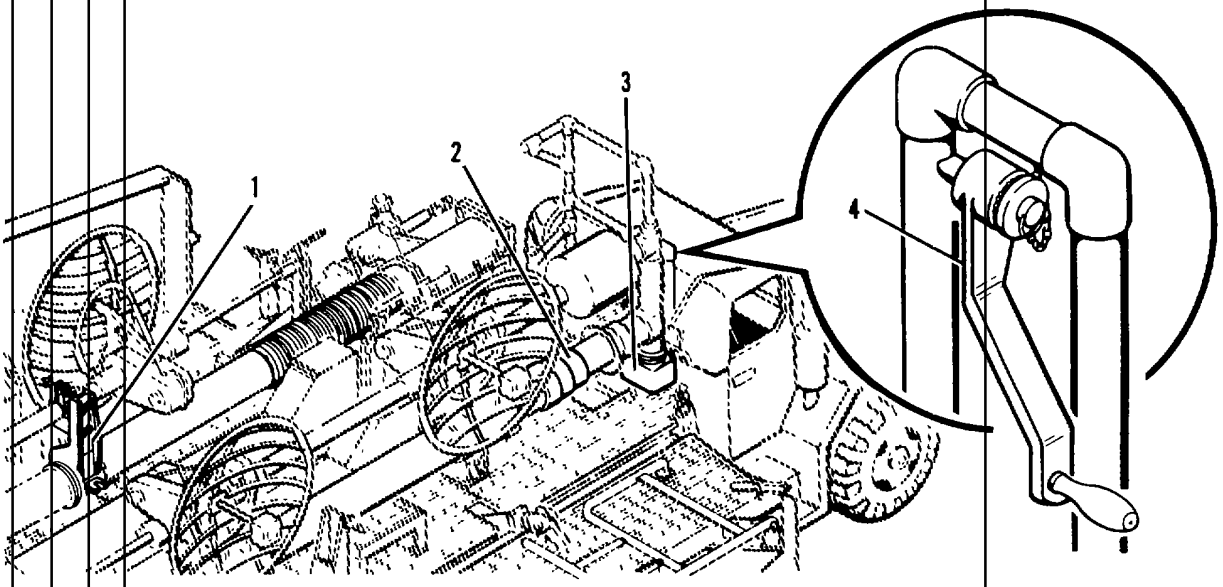
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| | | | |  | |
| | | | | c. Check curbside antenna positioner (3) for fluid leaks. Notify your supervisor if there are any Class III leaks. Make sure antenna positioner handle **(4)** on handrail is present. | Antenna positioner handle is missing. |
| 12 | ● | | ● | **CURBSIDE MAST COLLARS**<br>a. Check curbside mast collars **(2)** for fluid leaks. | Class III leakage evident. |
| | | | | **NOTE**<br>**Some oil will always be present on mast collars. Excessive oil may indicate an air leak.** | |
| | | | | b. Put canvas cover back on amplifier and mast. | |
| | | | | c. Lower mast (para 2-17). | |
| 13 | ● | | ● | **CURBSIDE MAST CLAMP**<br>a. Check curbside mast clamp **(1)** for damage. Notify your supervisor if a clamp is damaged. | Clamp does not close and tighten. |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

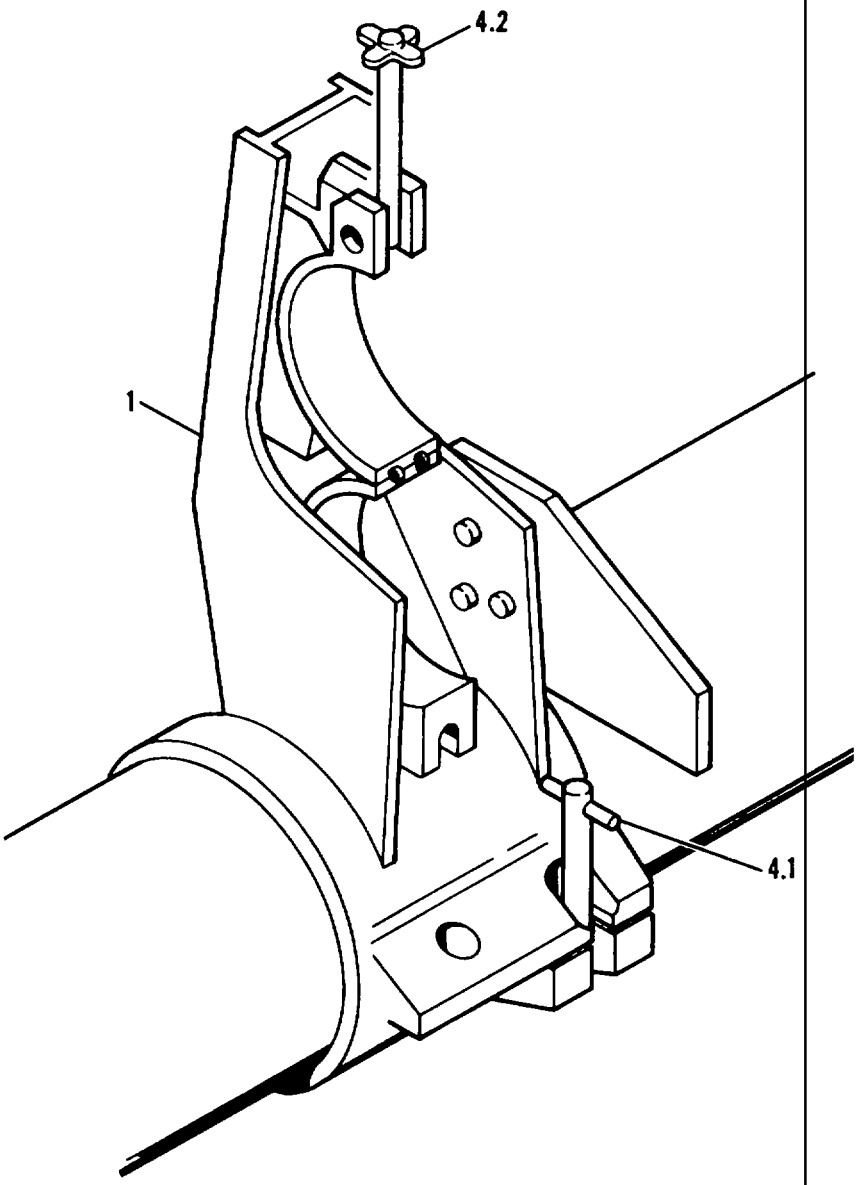
| B-Before Operation | | | D-During Operation | | A-After Operation |
|---|---|---|---|---|---|
| ITEM NO | INTERVAL B | D | A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
| 13 | | | | **CURBSIDE MAST CLAMP-Continued**<br><br>b. Check tee screw (4.1) and handknob (4.2) on mast clamp (1) for easy movement. If hard to turn, clean threads and apply a light coat of grease (item 12, appx E).<br><br>  <br> | |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

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

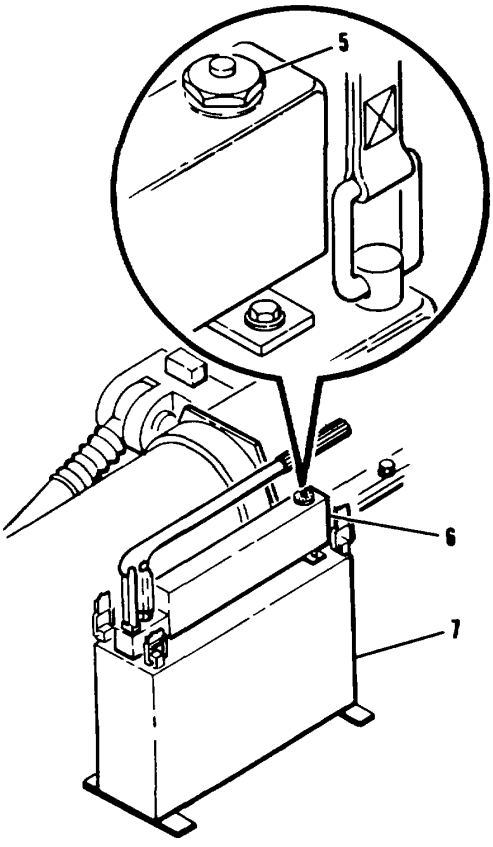
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 14 | ● | | ● | **ROADSIDE ANTENNA COVER PUMP FLUID LEVEL**<br><br>Remove plug (5) on top of roadside antenna cover pump (7). Check that there is fluid in reservoir (6). If required, add fluid to bring fluid level up to 1 inch from top of reservoir (item 4, appx E). Install plug (5).<br><br>**NOTE**<br><br>**Always check pump fluid level with cover in up position.**<br><br>  <br> | Fluid level is less than 1 inch from top of reservoir. |
| 5 | ● | | ● | **ROADSIDE ANTENNA COVER PUMP FLUID LEAKS**<br><br>Check pump (7) for evidence of fluid leaks. | Class III leakage evident. |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

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

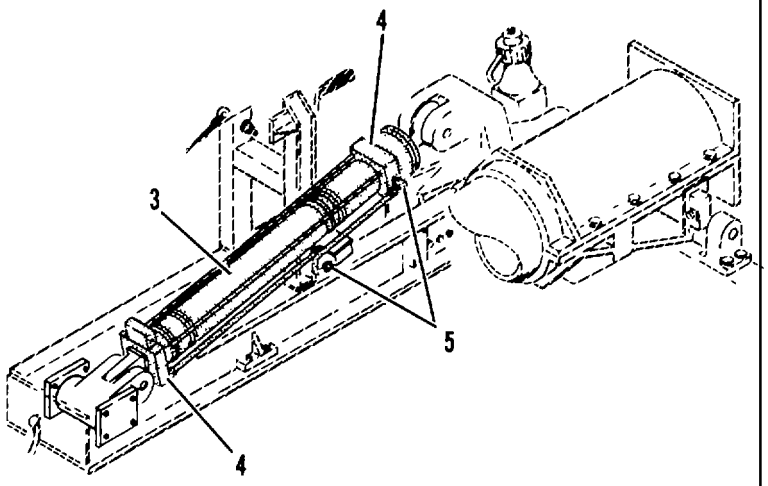
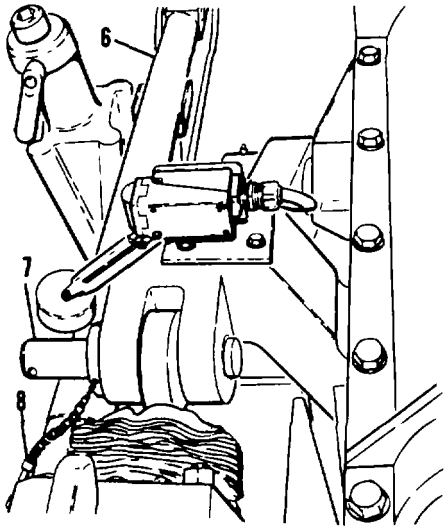
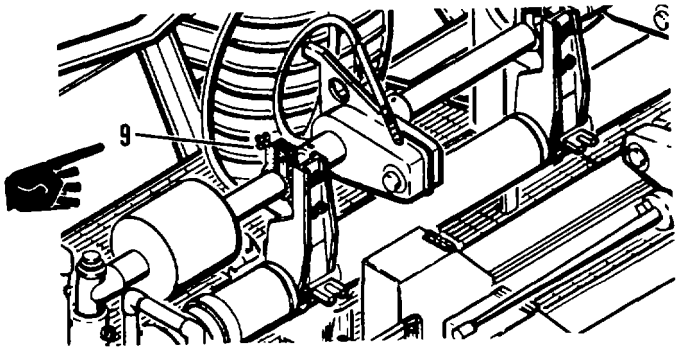
| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 16 | | | | DELETED | |
| 17 | ● | | ● | **ROADSIDE MAST HYDRAULIC CYLINDER**<br><br>Check the roadside mast hydraulic cylinder (3) for fluid leaks at ports (5) and at shaft end (4) of cylinder. Notify your supervisor if there are any Class III leaks.<br><br>  | Class III leakage evident. |

**Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

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

| ITEM NO | INTERVAL B | INTERVAL D | INTERVAL A | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY/AVAILABLE IF: |
|---|---|---|---|---|---|
| 18 | ● | | ● | **ROADSIDE LOCK STRUT**<br><br>Check roadside mast lock strut (6) for damage. Make sure quick release pin (8) on mast clamp pin (7) is present.<br>  <br> | Quick release pin is missing. |
| 19 | ● | | ● | **ANTENNA CLAMPS**<br><br>a. Check roadside and curbside antenna clamps (9) for damage. Notify your supervisor if a clamp is damaged.<br><br>b. Check handknobs on antenna clamps for ease of movement. If hard to turn, clean threads and apply a light coat of grease (item 12, appx E).<br>  <br><br>Repeat steps 11 through 18 for rear of vehicle. | Clamp does not close and tighten. |

## Section III. OPERATION UNDER USUAL CONDITIONS



### 2-13. OVERVIEW

Because the paragraphs and procedures in this section are long, only a general overview is given here. Each paragraph in this section will have its own detailed overview.

- PARAGRAPH 2-14 TELLS YOU HOW TO EMPLACE YOUR MAST GROUP.
- PARAGRAPH 2-15 TELLS YOU HOW TO DEPLOY THE MASTS, USING A THREE SOLDIER CREW.
- PARAGRAPH 2-16 TELLS YOU HOW TO PREPARE YOUR MAST GROUP FOR OPERATION FROM SHELTER.
- PARAGRAPH 2-17 TELLS YOU HOW TO STOW THE MASTS, USING A THREE SOLDIER CREW.
- PARAGRAPH 2-18 TELLS YOU HOW TO GET YOUR MAST GROUP READY FOR ROADMARCH.

**WARNING**

- **DO NOT MOVE VEHICLE WITH MASTS RAISED**
- **IF PEAK WINDS ARE INDICATED TO BE 55 MPH OR MORE, STOW THE MASTS.**
- **EXTEND MASTS ONLY HIGH ENOUGH FOR COMMUNICAT IONS.**
- **KEEP A WEATHER WATCH. MASTS MAY REQUIRE RETRACTING IF ADVERSE WEATHER DEVELOPS.**
- **IMMEDIATELY RETRACT BOTH MASTS IF PERSONNEL IN SHELTER (ECS/CRG/ICC) TELL YOU THAT STATUS MONITOR PANEL ALARM (TM 9-1430-604-10 (CRG), TM 9-1430-600-10-1 (ECG), TM 9-1430-602-10-1 (ICC)) IS ON.**
- **THERE ARE MANY TRIP HAZARDS ON THE MAST GROUP....USE CARE!**
- **DO NOT EXCEED MAXIMUM LOAD ON ANTENNA PROTECTIVE COVERS 600 LB.**

## 2-14. EMPLACEMENT

The following tasks have to be done before you can deploy the masts:

- EMPLACE VEHICLE
- DETERMINE VEHICLE HEADING
- CONNECT GROUND ROD CABLE
- DEPLOY INTERVEHICLE CABLES
- CHARGE AIR TANKS
- SET DISTRIBUTION BOX 7A1A1 SWITCHES
- CONNECT SOUND POWERED PHONES
- REMOVE AMPLIFIER CANVAS COVERS

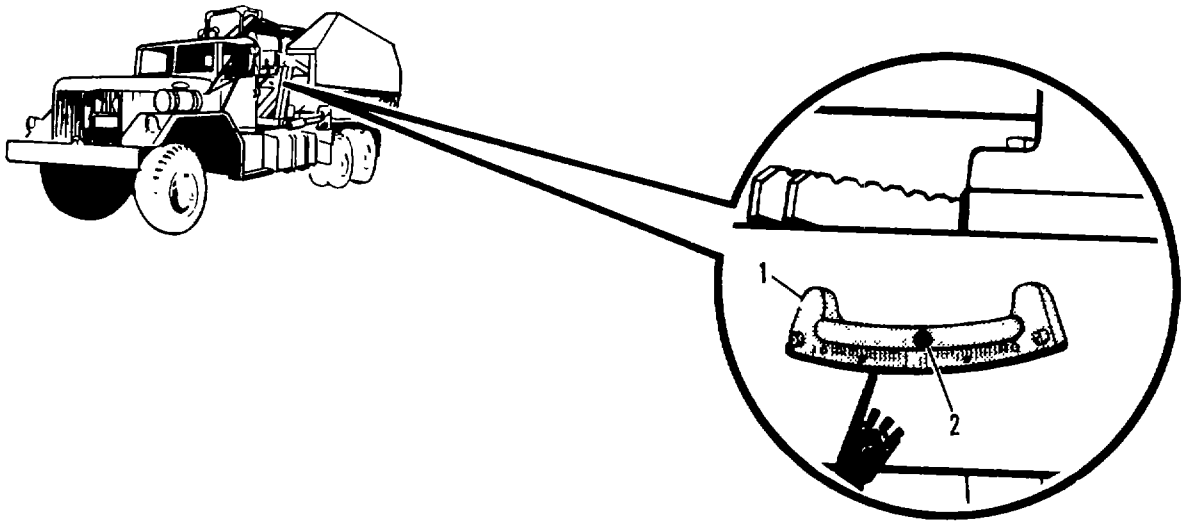
Here's how you do your emplacement tasks:

**a. Emplace vehicle**

**WARNING**

**Position truck so there are no overhead obstructions....especially power lines! Mast shall only be raised at a horizontal distance of more than twice the maximum height of the mast from power lines.**

(1) Position vehicle on emplacement site. Lean out your side window to watch ball (2) in truck inclinometer. Drive back and forth until ball (2) is centered in green portion of inclinometer (1). Vehicle must be cross-level to within 1/2 degree.



**NOTE**

**Maximum allowable slope in vehicle heading is 10 degrees. Check your emplacement with the site selection crew.**

(2) Set vehicle parking brake and shut off engine in accordance with TM 9-2320-260-10 (M811 truck) or TM 9-2320-272-10 (M942 truck).

(3) Chock vehicle wheels.

**b. Determine vehicle heading.**

(1) Standing at rear of the vehicle, sight and take a reading with a hand held compass along the side of the vehicle.

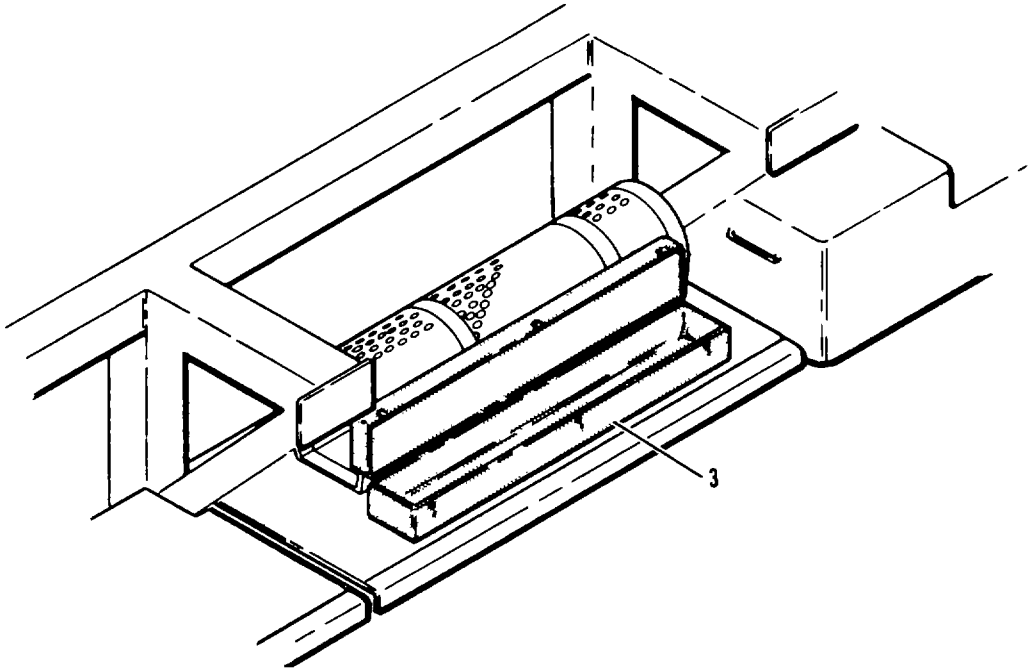
(2) Report vehicle heading (compass reading) to Engagement Control Station (ECS)/Information Coordination Central (ICC)/Communications Relay Group (CRG) shelter.

**c. Connect ground rod cable.**

**WARNING**

**Ground rod cable must be connected before mast group can be operated.**

(1) At forward curbside of vehicle, open ground rod storage box (3). Remove ground rod cable.

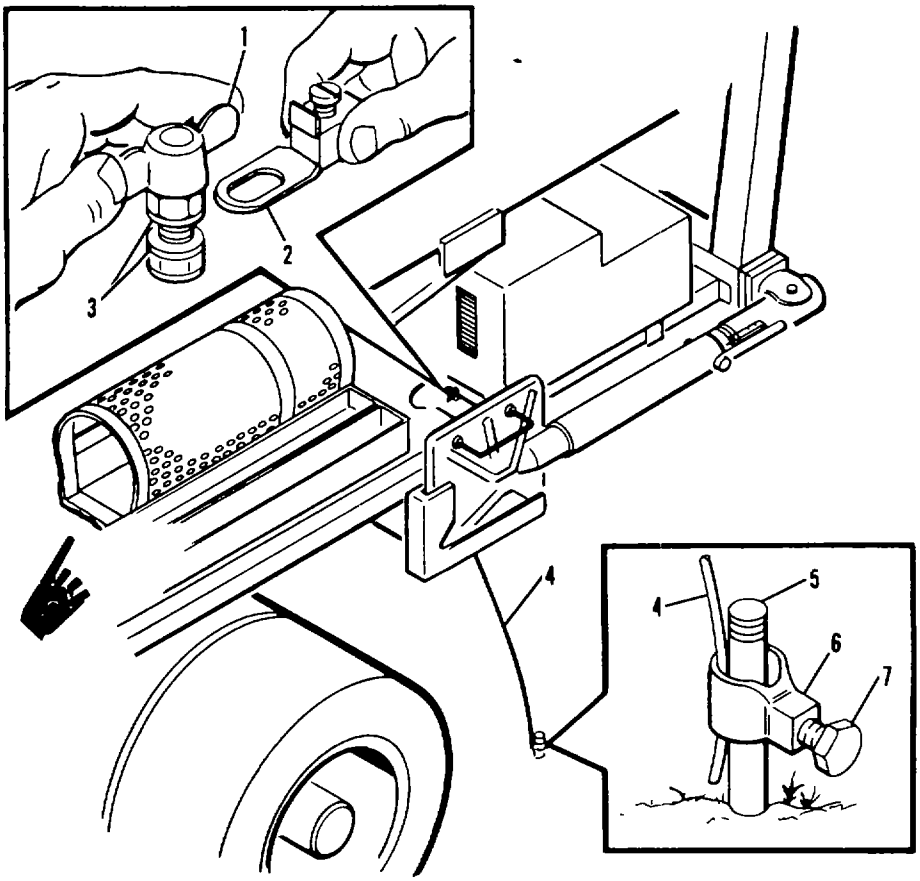


**2-14. EMPLACEMENT-Continued**

(2) Slip clamp (6) with ground rod cable (4) over ground rod (5). Tighten bolt (7) to secure.

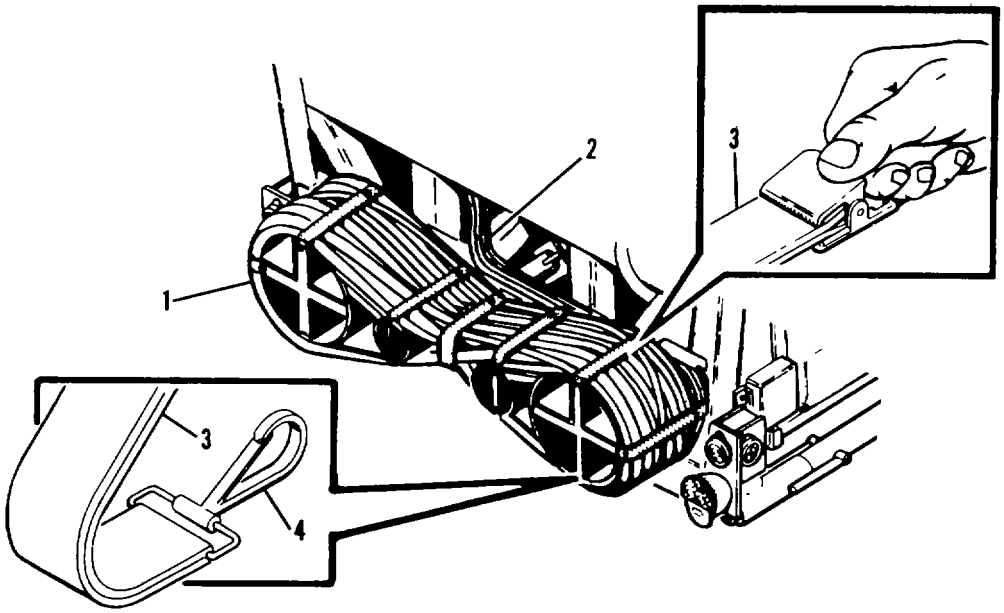
(3) Remove wingnut (1) on vehicle ground stud. Position terminal lug (2) of ground rod cable (4) between flat washers (3) on stud.

(4) Install wingnut (1) to secure ground rod cable to stud.



**d. Deploy intervehicle cables**

(1) At rear of vehicle, unhook clips (4) on cable straps (3) securing intervehicle cables (2) to cable rack (1).

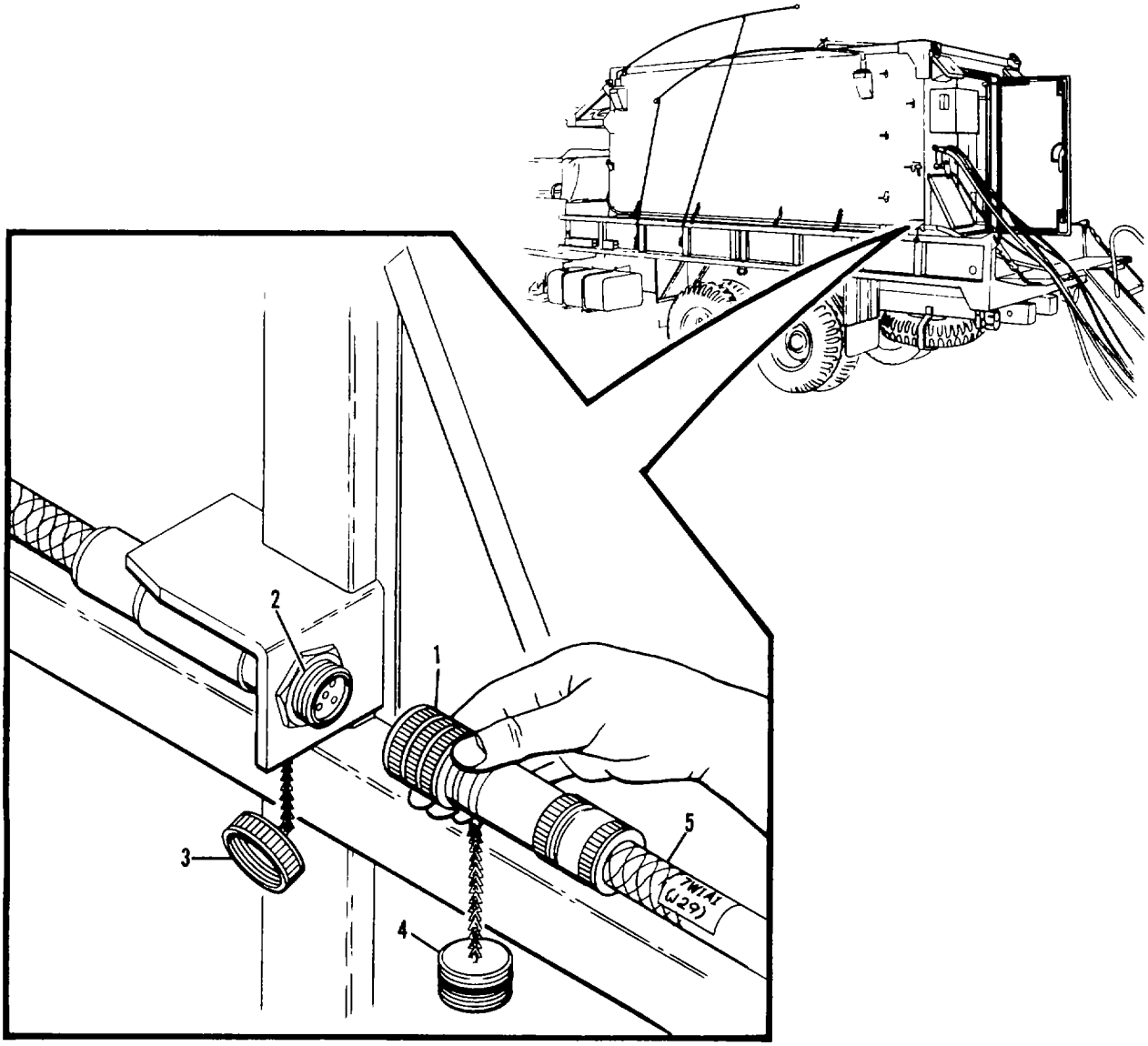



**WARNING**

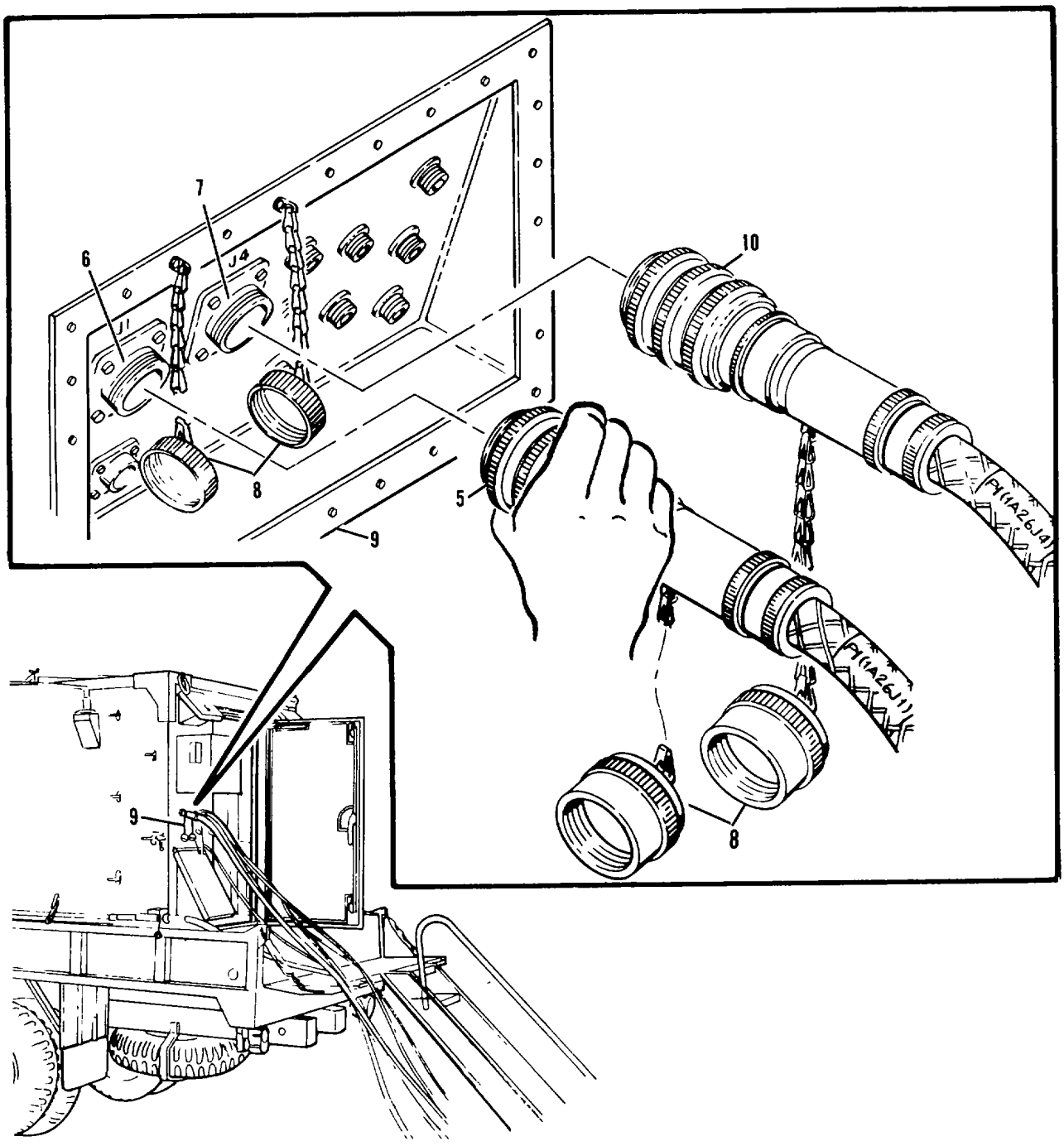
**Make sure power is off before connecting intervehicle cable.**

**2-14. EMPLACEMENT-Continued**

(2) Remove power cable 7W1 (5) from cable rack. Bring cable to shelter (ECS/ICC/CRG). Unscrew caps (3 and 4) from power cable W1 connector P1 (1) and shelter connector J29 (2). Connect power cable W1 connector P1 (1) to shelter connector J29 (2).



(3) Remove two control cables 7W2 (5) and 7W11 (10) from cable rack. Take one cable at a time to shelter (ECS/ICC/CRG) cable entrance panel A26 (9). Unscrew caps (8) from shelter connectors J1 (6) and J4 (7), and from cables (10 and 5). Connect control cables 7W2 (5) and 7W11 (10) connectors P1 to shelter connectors J1 (6) and J4 (7).



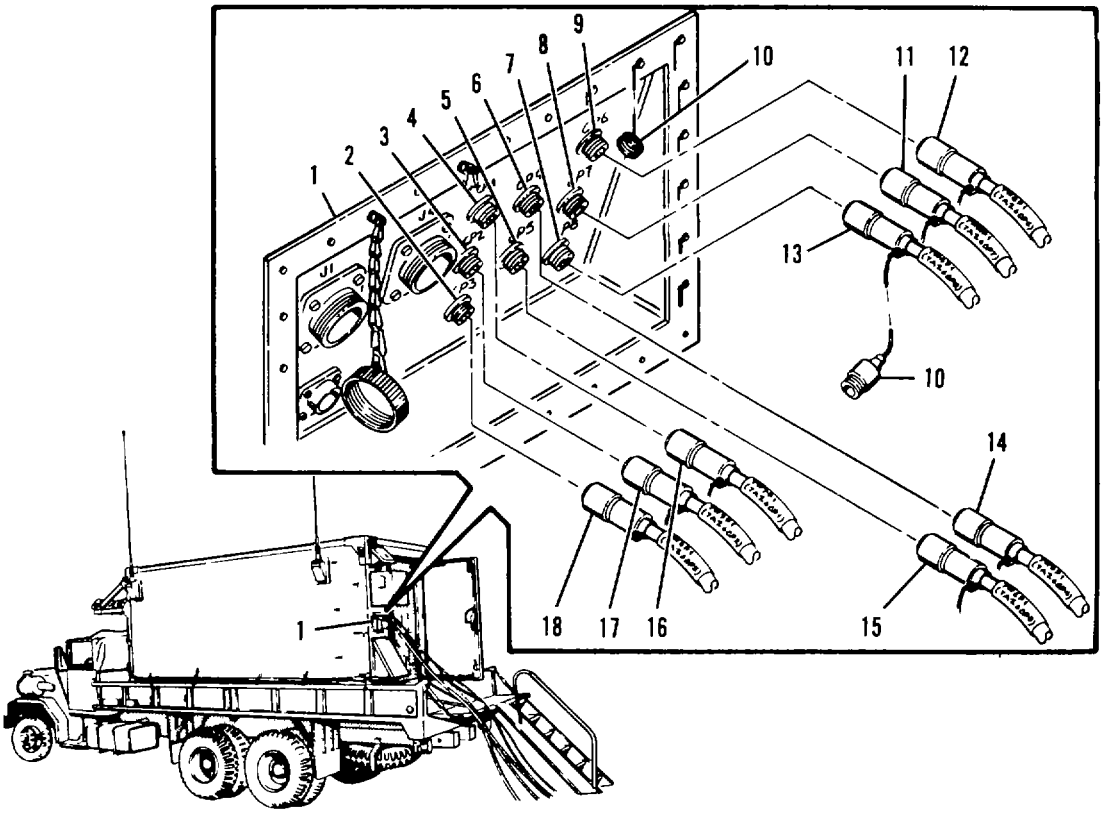
**2-14. EMPLACEMENT-Continued**

**NOTE**

**Check communications plan to see which RF cables to connect.**

(4) Remove two bundles of RF cables from cable rack. Take one bundle at a time to the shelter entrance panel A26 (1). Unscrew caps (10) on connectors on cables and shelter entrance panel A26 (1). Connect cables as follows:

| CABLE | CONNECTOR | PANEL | CONNECTOR |
|---|---|---|---|
| 7W3 (18) | P1 | A26 | CP3 (2) |
| 7W4 (13) | P1 | A26 | CP8 (7) |
| 7W7 (16) | P1 | A26 | CP1 (4) |
| 7W8 (12) | P1 | A26 | CP6 (9) |
| 7W9 (17) | P1 | A26 | CP2 (3) |
| 7W10 (11) | P1 | A26 | CP7 (8) |
| 7W5 (14) | P1 | A26 | P4 (6) (CRG only) |
| 7W6 (15) | P1 | A26 | P5 (5) (CRG only) |



**e. Charge air tanks**

If necessary to charge air tanks- - - -charge them now:

(1) Open air flap (22) on PCA.

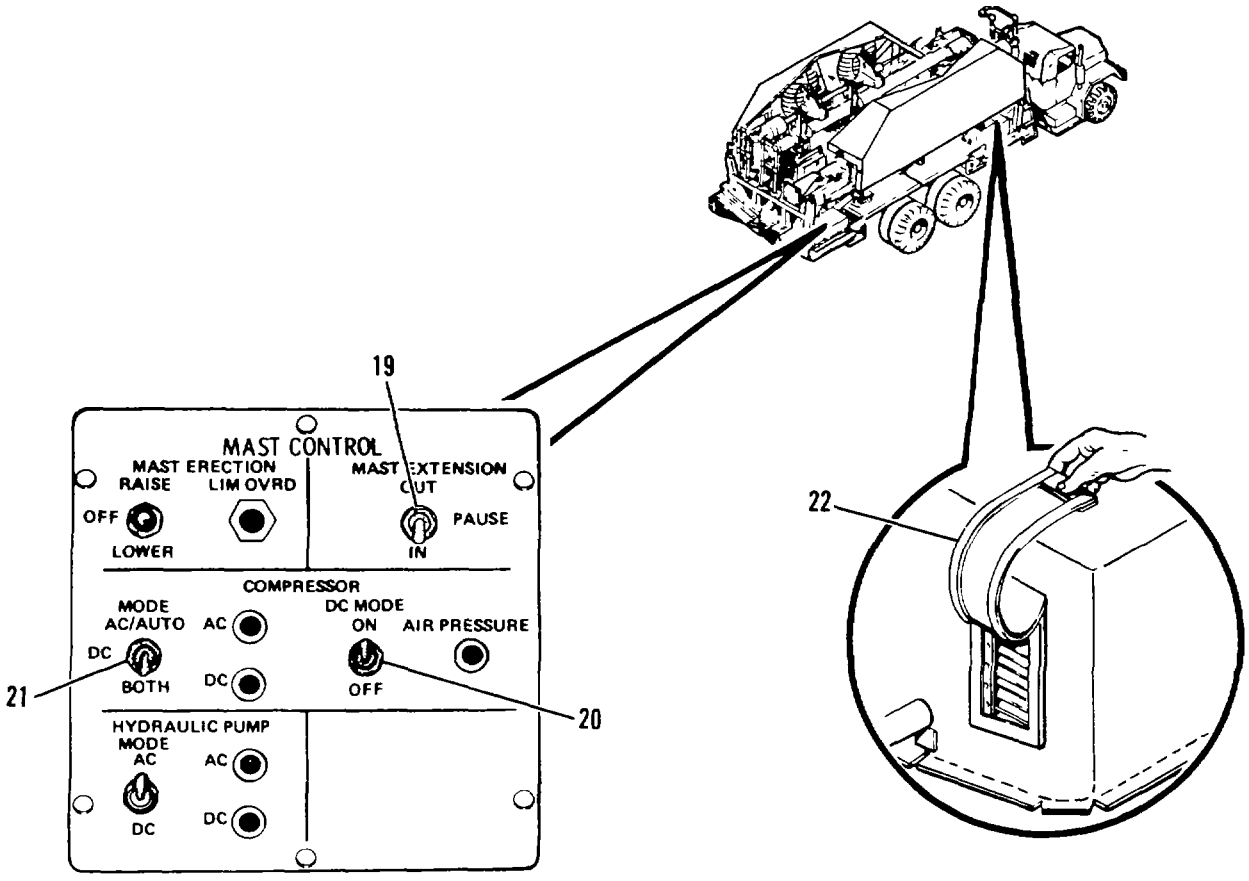
(2) Unlatch two clamps on mast control and swing door open.

(3) Place the mast control switches as follows:

- PLACE MAST EXTENSION SWITCH (19) TO IN POSITION.
- PLACE COMPRESSOR MODE SWITCH (21) TO BOTH POSITION TO CHARGE TANK QUICKLY; OTHERWISE PLACE SWITCH TO AC/AUTO POSITON.
- PLACE COMPRESSOR DC MODE SWITCH (20) TO ON POSITION.

**NOTE**

**Don't charge air tanks in DC MODE without truck engine running. You could end up with a dead battery in your truck.**




(4) Repeat procedure for the other side of the vehicle

**2-14. EMPLACEMENT · Continued**

**f. Set distribution box 7A1A1 switches**

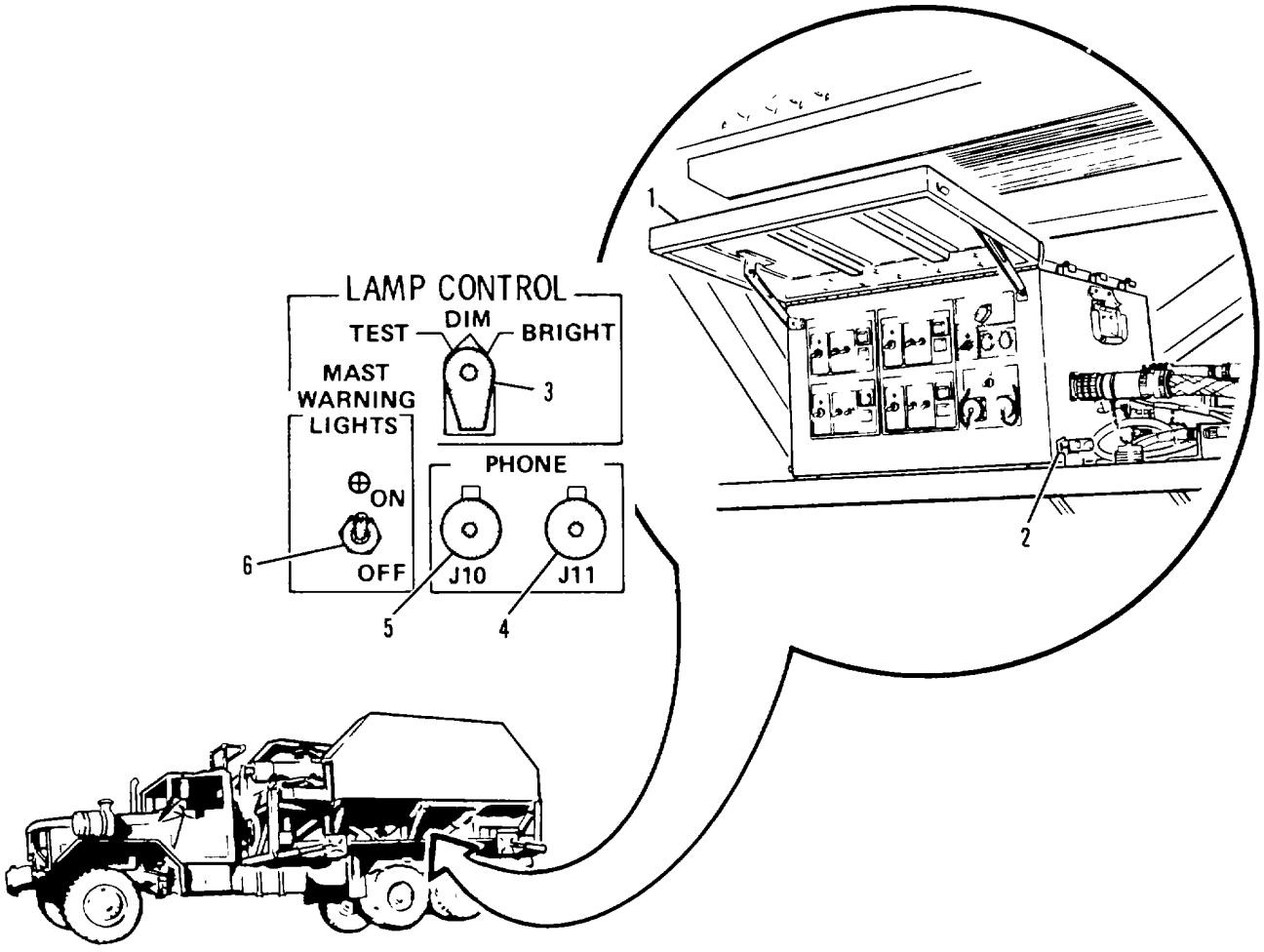
(1) Unlatch two latches (2) at either end of distribution box 7A1A1. Open and secure door (1).

(2) Place LAMP CONTROL switch (3) to DIM for nighttime operation (blackout) or BRIGHT for daytime operation.

(3) Place MAST WARNING LIGHTS circuit breaker (6) to ON for normal operation and OFF for blackout conditions.

**NOTE**

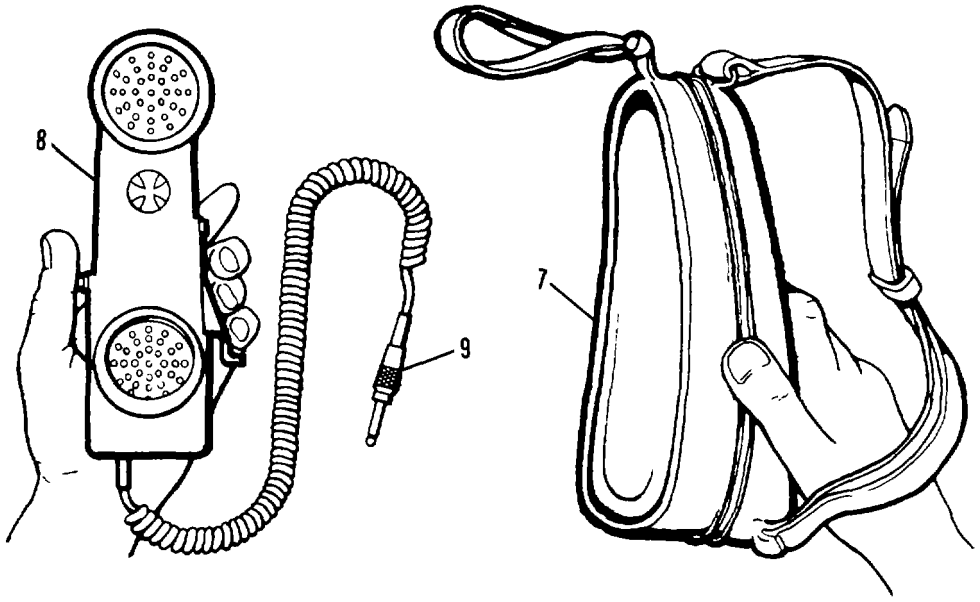
**If MAST WARNING LIGHTS circuit breaker is set to ON and it trips to OFF, notify maintenance personnel or your supervisor.**



**g. Connect sound powered phones.**

(1) Remove two sound powered phones (8) from ground rod storage box. Remove phones (8) from carrying cases (7).

(2) Plug phone jacks (9) into distribution box 7A1A1 connectors J10 (5) and J11 (4).




(3) Make sure you can communicate to the shelter operator over the phones. If phone communications cannot be established, notify maintenance personnel or your supervisor.

4) Check that shelter operator is ready for antenna amplifier assemblies circuit checks. Request that ECS/ICC/CRG circuit breakers providing ac and dc power to mast group be set to ON.

**NOTE**

**Operator in shelter must check sway sensors during mast deployment. See TM 9-1430-604-10 (CRG), TM 9-1430-600-10-1 ({ECG), or TM 9-1430-602-10-1 (ICC).**

**WARNING**

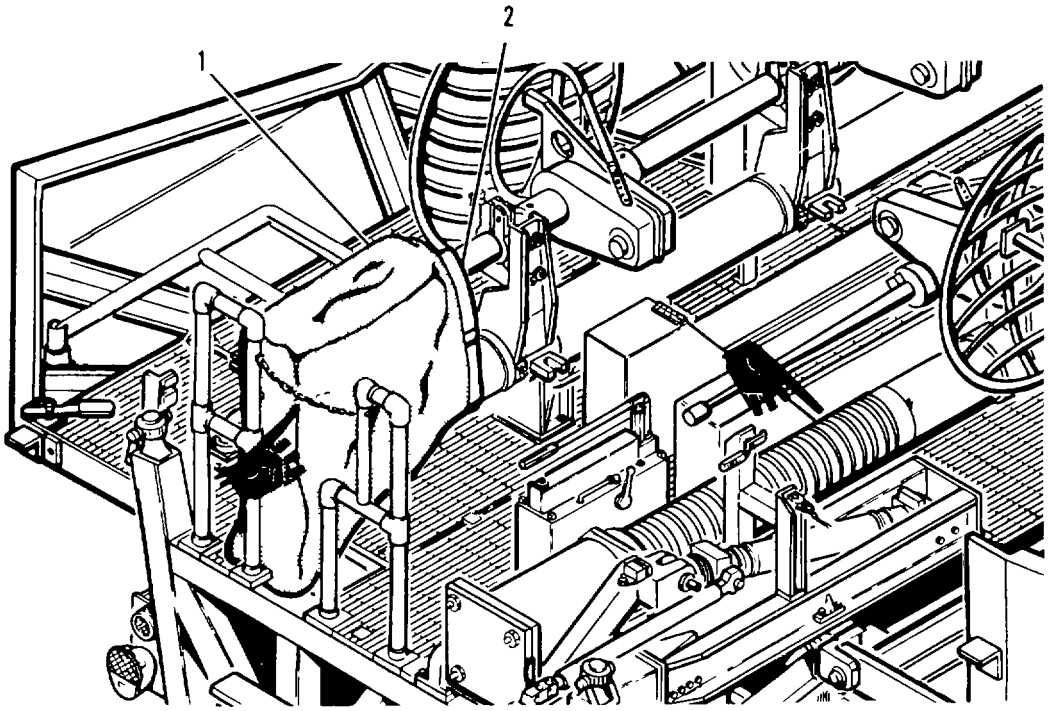
**There are many trip hazards on the mast group platform, like the shaft on the curbside antenna positioner. Use care when walking on the mast group platform,**

**h. Remove amplifier canvas covers**

(1) Unbuckle strap (2) securing canvas cover (1).

(2) Remove canvas cover (1) from amplifier and mast.

(3) Repeat procedure for the other side of the vehicle.




## 2-15. MAST DEPLOYMENT

Overview

These procedures are given so three soldiers can quickly and safely deploy the masts. Each soldier is labeled either A, B, or C. If you are soldier A read the procedure in the SOLDIER A column. Look at bubble marked A on the illustration. If you need to know what the other soldiers are doing while you perform a step, merely look at their steps on the same page. This way the actions of all three soldiers will be coordinated.

**WARNING**

**It is important you do not get ahead of the other soldiers in your crew. Performing steps out of sequence can be dangerous to personnel or damaging to equipment. Sometimes you must wait for another soldier to complete a step before you can start your next step.**

**CAUTION**

**If you're deploying masts in dc mode with truck engine running use extreme caution. Equipment can be damaged if truck moves with masts raised or extended.**

Soldier A will be the crew chief and will coordinate all activities between the shelter (CRG/ICC/ECS) and the Mast Group.

Soldier A will be stationed on the ground.
Soldier B will be stationed at the forward end of the mast group platform.
Soldier C will be stationed at the rear end of the mast group platform.

Here is a summary of each soldier's tasks:

**SOLDIER A**

- Deploy stabilizing struts
- Set and operate mast control switches
- Open PCA air flaps
- Coordinate activities between the mast group and the shelter (CRG/ ICC/ECS)

**SOLDIER B**

- Operate antenna protective cover forward handles
- Operate roadside antenna protective cover hand pump
- Release curbside mast clamp
- Release forward antenna clamps
- Help deploy roadside antenna feedhorns
- Deploy curbside feedhorns
- If needed, adjust antenna elevation and polarization
- Operate curbside antenna positioner
- Deploy roadside lock strut
- Guide cables out of roadside cable tray.

**SOLDIER C**

- Operate antenna protective cover rear handles
- Operate curbside antenna protective cover hand pump
- Release roadside mast clamp
- Release rear antenna clamps
- Deploy roadside antenna feedhorns
- Help deploy curbside feedhorns
- If needed, adjust antenna elevation and polarization
- Operate roadside antenna positioner
- Deploy curbside lock strut
- Guide cables out of curbside cable tray

**WARNING**

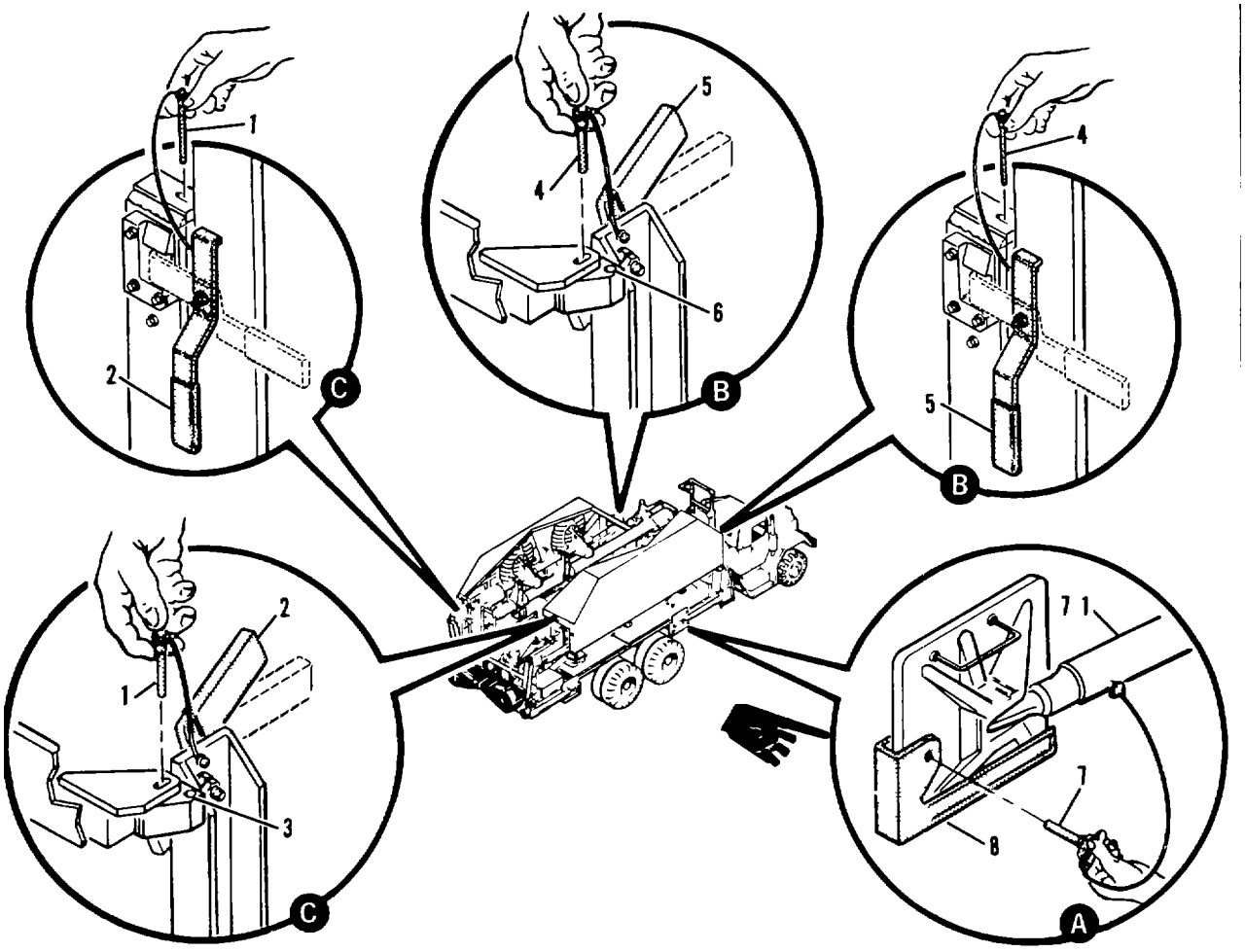
**Do not pass underneath a mast being raised or lowered.**

**CAUTION**

**If anything looks like it's not alined properly on the mast during deployment, get a higher level of maintenance to check it out.**

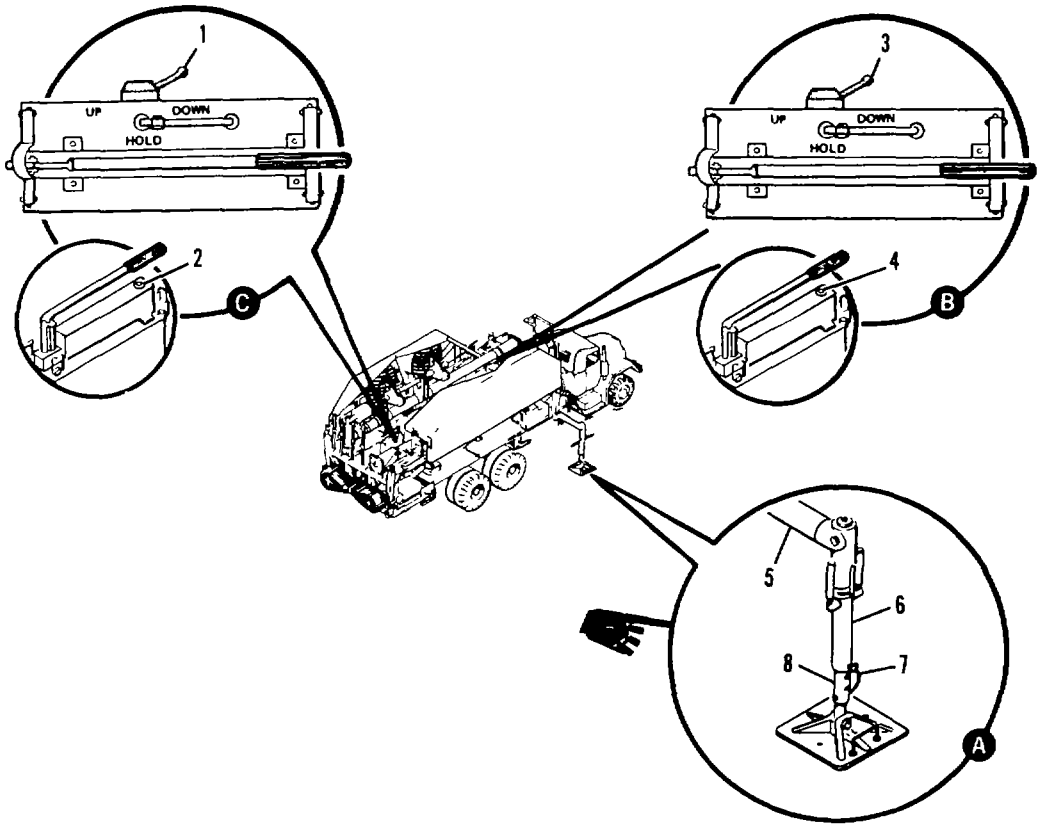
**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 1-UNSTOW FRONT CURBSIDE STABILIZING STRUT** | **Step 1-RELEASE ANTENNA PROTECTIVE COVERS FRONT RETAINING HANDLES** | **Step 1-RELEASE ANTENNA PROTECTIVE COVERS REAR RETAINING HANDLES** |
| Pull stabilizing strut quick release pin (7). | Pull quick release pins (4) and stow them in holes (6). | Pull quick release pins (1) and stow them in holes (3). |
| Install quick release pin (7) through holes in stabilizer strut sections (7.1). | Turn front handles (5) to release antenna protective covers. | Turn rear handles (2) to release antenna protective covers. |
| Lift stabilizing strut from stowage bracket (8). | Tell soldier C front handles are released. | Tell soldier B rear handles are released. |



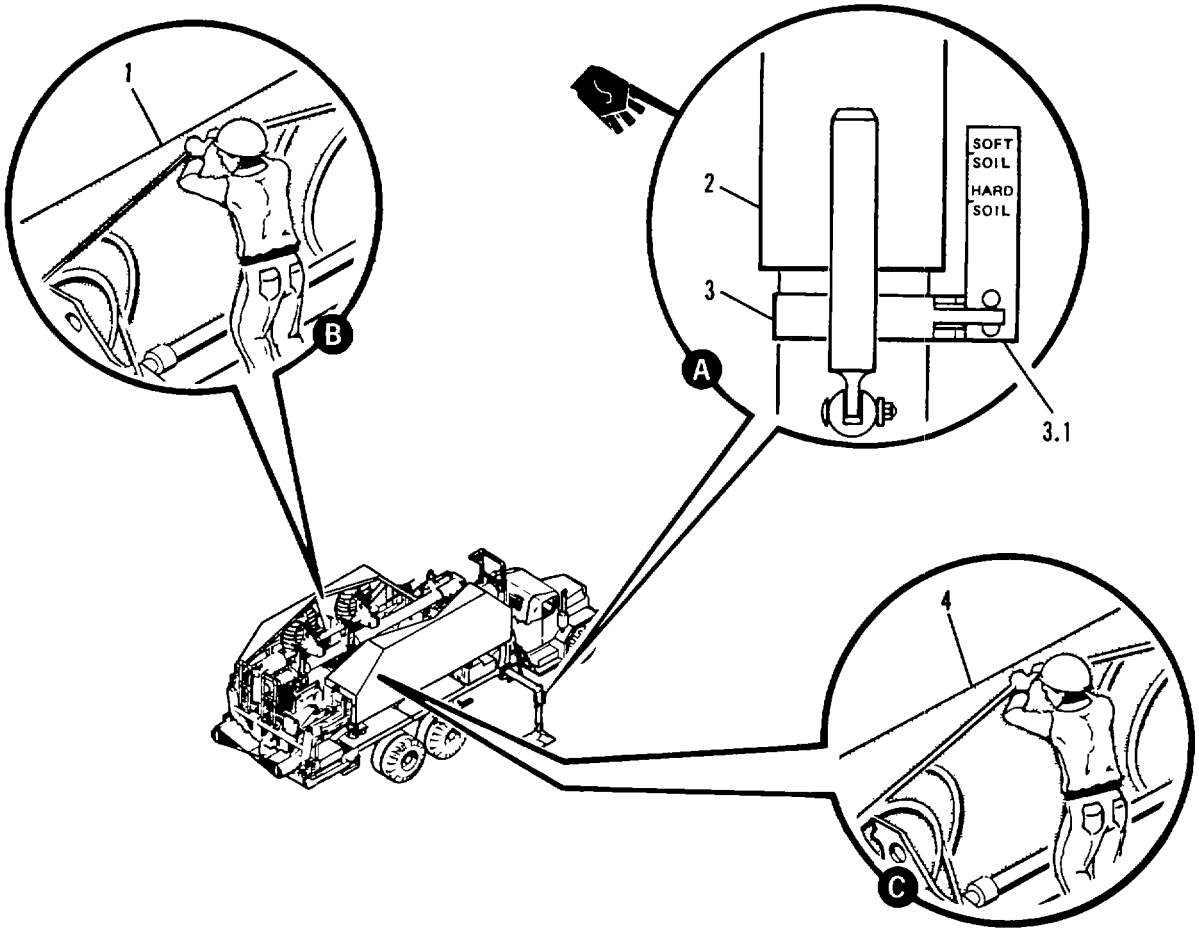
**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 2-POSITION FRONT CURBSIDE STABILIZING STRUT**<br><br>Pull stabilizing strut (5) all the way out from frame and swing down.<br><br>Pull quick release pin (7) and let lower stabilizing strut section (8) slide to the ground.<br><br>Aline holes in upper (6) and lower (8) stabilizing strut sections.<br><br>Install pin (7) through holes to secure sections. | **Step 2-SET ROADSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER DOWN, OPEN AIR VENT**<br><br>Set roadside control valve lever (3) to DOWN.<br><br>Turn air vent on plug (4) counterclockwise about 1/2 turn.<br><br>**NOTE**<br><br>**Do not remove air vent.** | **Step 2-SET CURBSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER DOWN, OPEN AIR VENT**<br><br>Set curbside control valve lever (1) to DOWN.<br><br>Turn air vent on plug (2) counterclockwise about 1/2 turn.<br><br>**NOTE**<br><br>**Do not remove air vent.** |

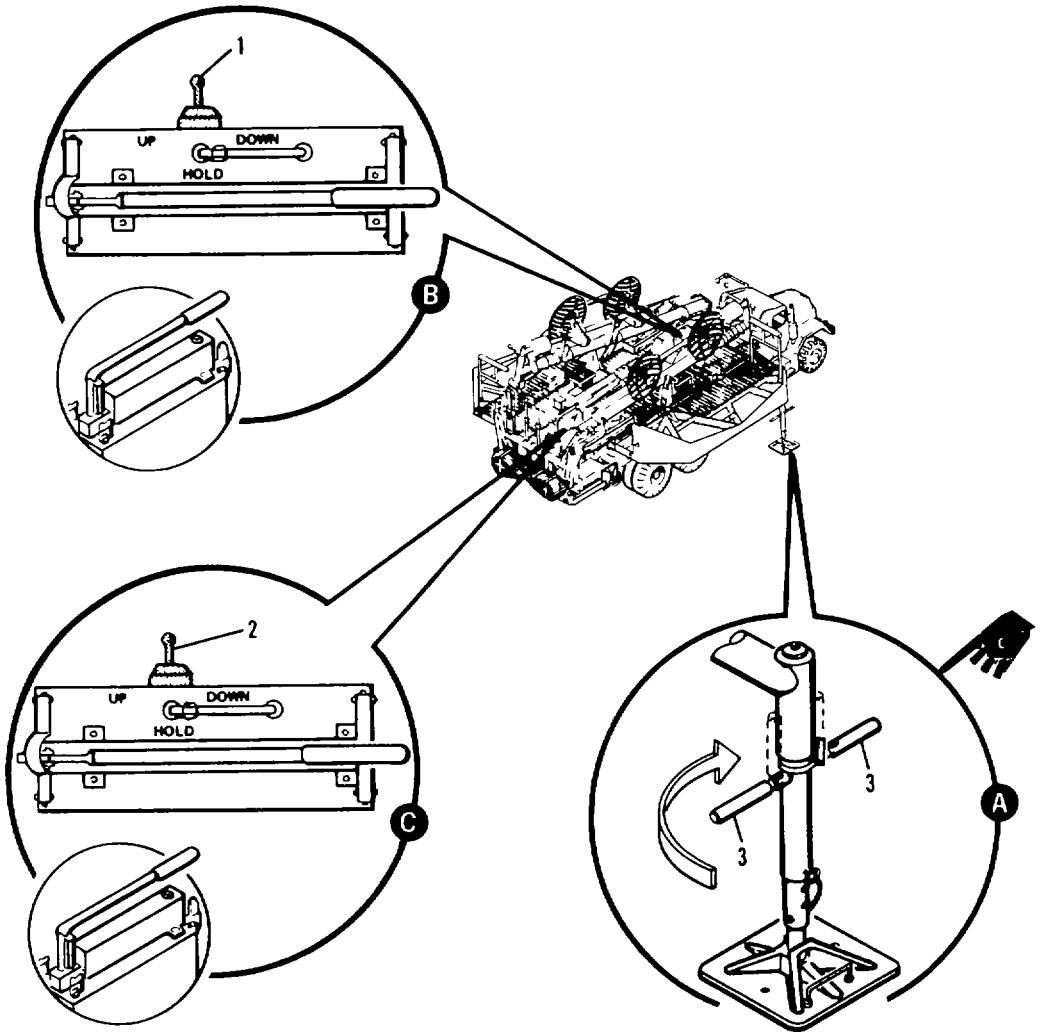


**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 3-POSITION CURB-SIDE FRONT HEIGHT GUIDE** | **Step 3-PUSH ROADSIDE ANTENNA PROTECTIVE COVER OUTBOARD** | **Step 3-PUSH CURBSIDE ANTENNA PROTECTIVE COVER OUTBOARD** |
| Squeeze tabs (3.1) on height guide (3) together and slide height guide (3) up to bottom (2).portion of upper strut (2). Release tabs | **WARNING**<br><br>**Yell a warning to personnel on the ground before lowering antenna protective cover.** | **WARNING**<br><br>**Yell a warning to person. nel on the ground before lowering antenna protective cover.** |
| **WARNING**<br><br>**Push roadside antenna Be careful not to bump your head on antenna protective cover.** | Push curbside antenna protective cover (1) outboard and down. | protective cover (4) outboard and down. |

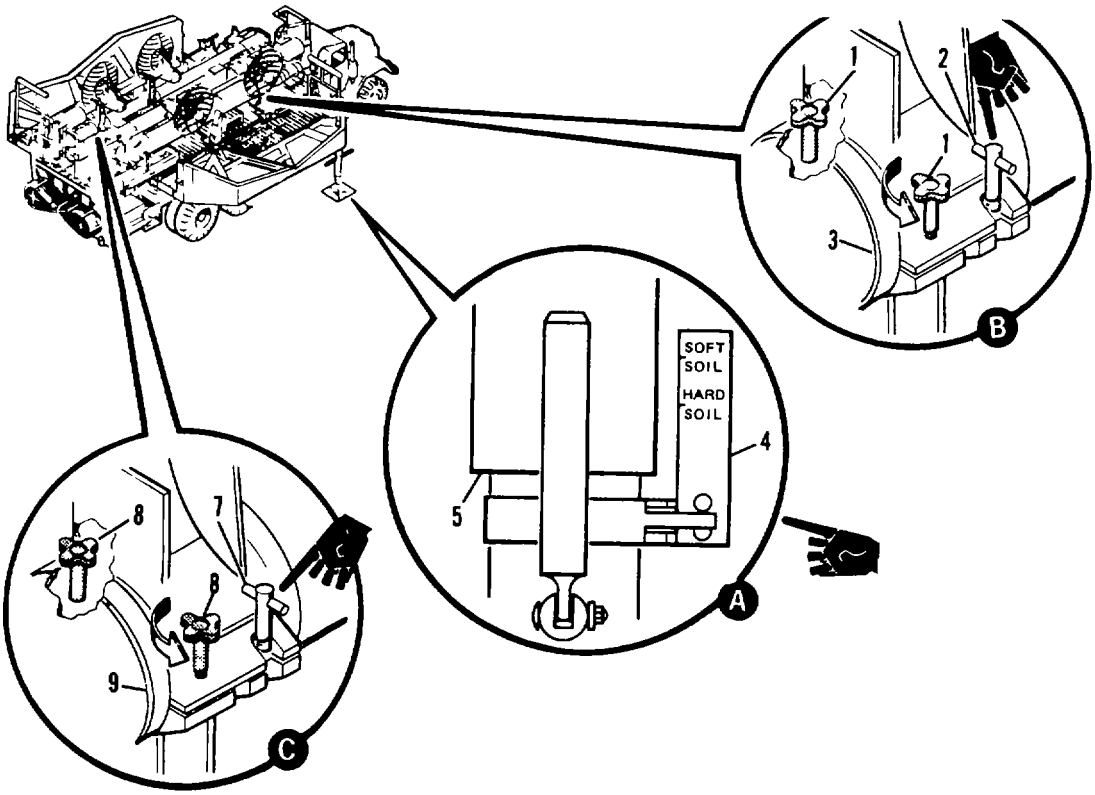


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 4-EXTEND FRONT CURBSIDE STABILIZING STRUT TO HOLD**<br><br>Pull down handles (3) on stabilizing strut.<br><br>Turn handles clockwise to extend stabilizing strut lower section. | **Step 4-SET ROADSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER TO HOLD**<br><br>When antenna protective cover is all the way down, place the roadside control valve lever (1) to HOLD. | **Step 4-SET CURBSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER**<br><br>When antenna protective cover is all the way down, place the curbside control valve lever (2) to HOLD. |



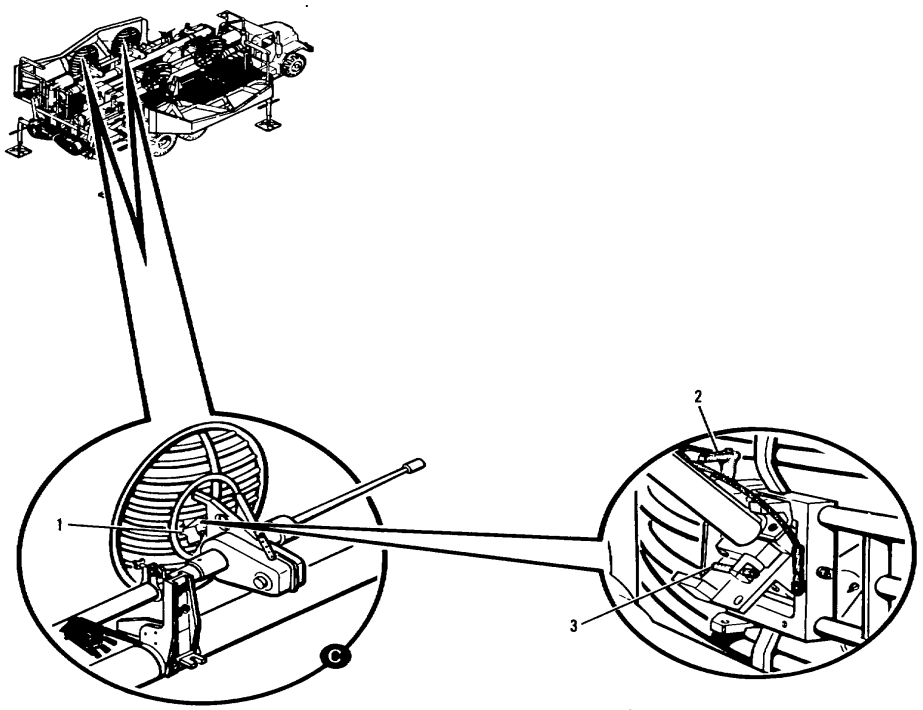
**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 5-SET FRONT CURB-SIDE STABILIZING STRUT**<br><br>If mast group truck is parked on hard ground, like asphalt or concrete, extend stabilizer upper strut (5) is alined with HARD SOIL mark on height guide (4).<br><br>If mast group truck is parked on soft or mushy ground, extend stabilizer strut until bottom of upper strut until (5) is alined with SOFT SOIL mark on height guide (4). | **Step 5-UNCLAMP CURB-SIDE MAST CLAMP**<br><br>**WARNING**<br><br>**Do not unscrew tee screw (2). Mast clamp can fall from mast and injure personnel.**<br><br>Unscrew two captive bolts (1) to release curbside mast clamp (3).<br><br>**NOTE**<br><br>**Unscrew bolts (1) only far enough to release clamp (3). Do not remove bolts from clamp.** | **Step 5-UNCLAMP ROADSIDE MAST CLAMP**<br><br>**WARNING**<br><br>**Do not unscrew tee screw (7). Mast clamp can fall from mast and injure personnel.**<br><br>Unscrew two captive bolts (8) to release roadside mast clamp (9).<br><br>**NOTE**<br><br>**Unscrew bolts (8) only far enough to release clamp (9). Do not remove bolts from clamp.** |



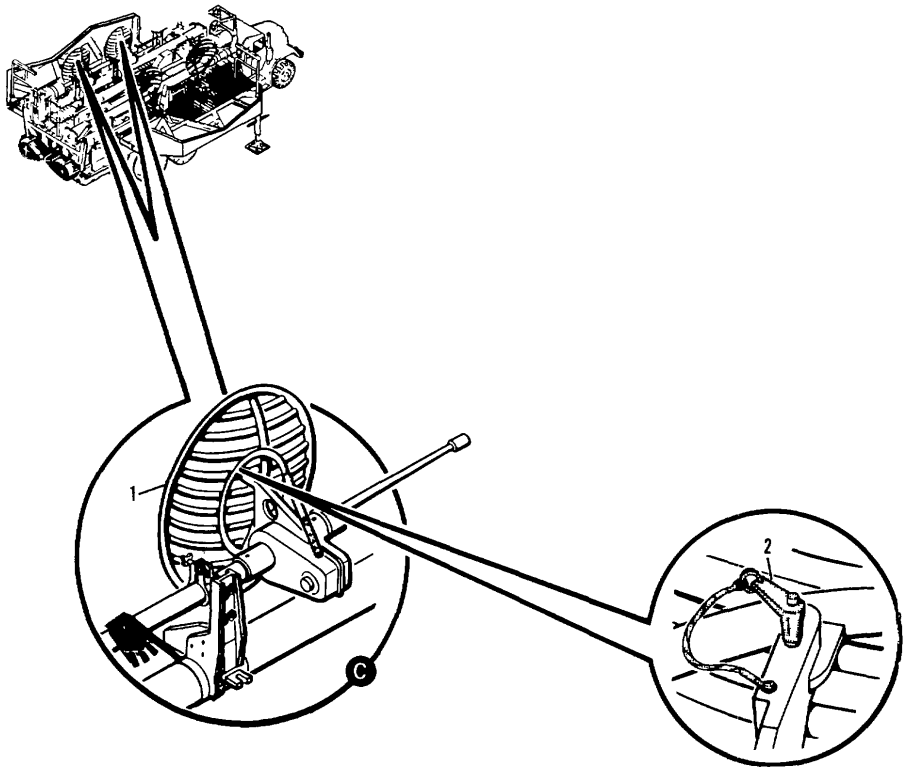
**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 6-UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining three stabilizing struts. | **Step 6-HELP DEPLOY ROADSIDE ANTENNA FEEDHORNS**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna pro. tective cover. There are many tripping and falling hazards,**<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.**<br><br>Walk out on roadside antenna protective cover and help Soldier C lift feedhorns (1). | **Step 6-DEPLOY ROADSIDE ANTENNA FEEDHORNS (Antennas 3 and 4)**<br><br>**WARNING**<br><br>**Use extreme care; it is easy to pinch fingers dur- ing feedhorn deployment.**<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.**<br><br>Turn lever (3) clockwise to release feedhorn (1).<br><br>Push feedhorn out.<br><br>Turn lever (3) counter- clockwise to lock feedhorn.<br><br>Pull quick release pin (2) and pivot feedhorn to operational position.<br><br>Install quick release pin to secure. |

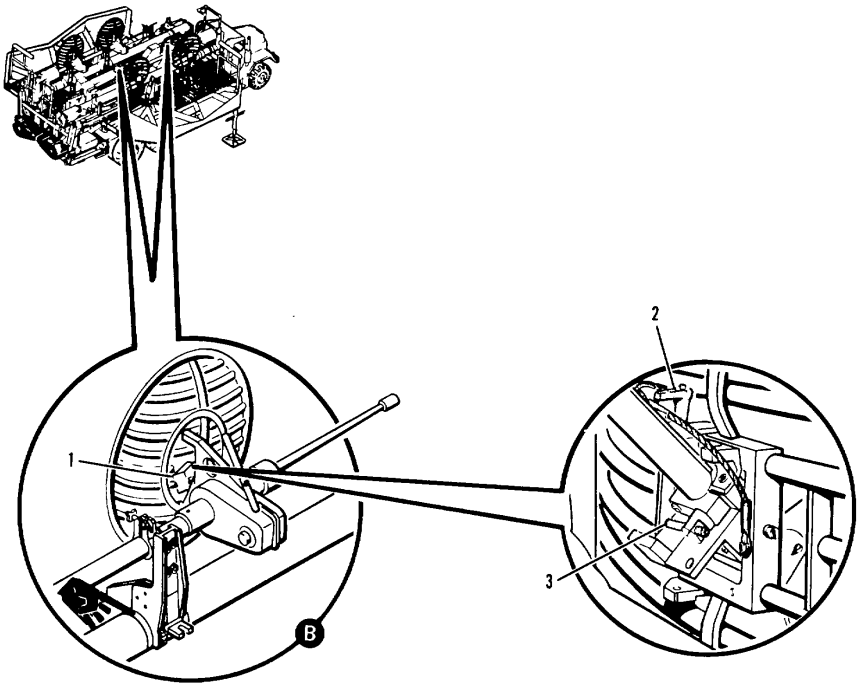


**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 7-UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining three stabilizing struts. | **Step 7-IF NEEDED, CHANGE ROADSIDE ANTENNAS POLARIZATION**<br><br>**NOTE**<br><br>**Check with communica-tions plan to find out if antenna polarization needs to be changed.**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna pro-tective cover. There are many tripping and falling hazards.**<br><br>Rotate antenna 90º after soldier C has pulled quick release pins.<br><br>Reposition and hold antenna until soldier C has installed four quick release pins (2). | **Step 7-IF NEEDED, CHANGE ROADSIDE ANTENNAS POLARIZATION**<br><br>**NOTE**<br><br>**Check with communica. tions plan to find out if antenna polarization needs to be changed.**<br><br>If needed, change road-side antennas polari-zation.<br><br>Pull four quick release pins (2) securing antenna (1).<br><br>Have soldier B rotate antennas 90º.<br><br>Install four quick release pins (2) to secure. |

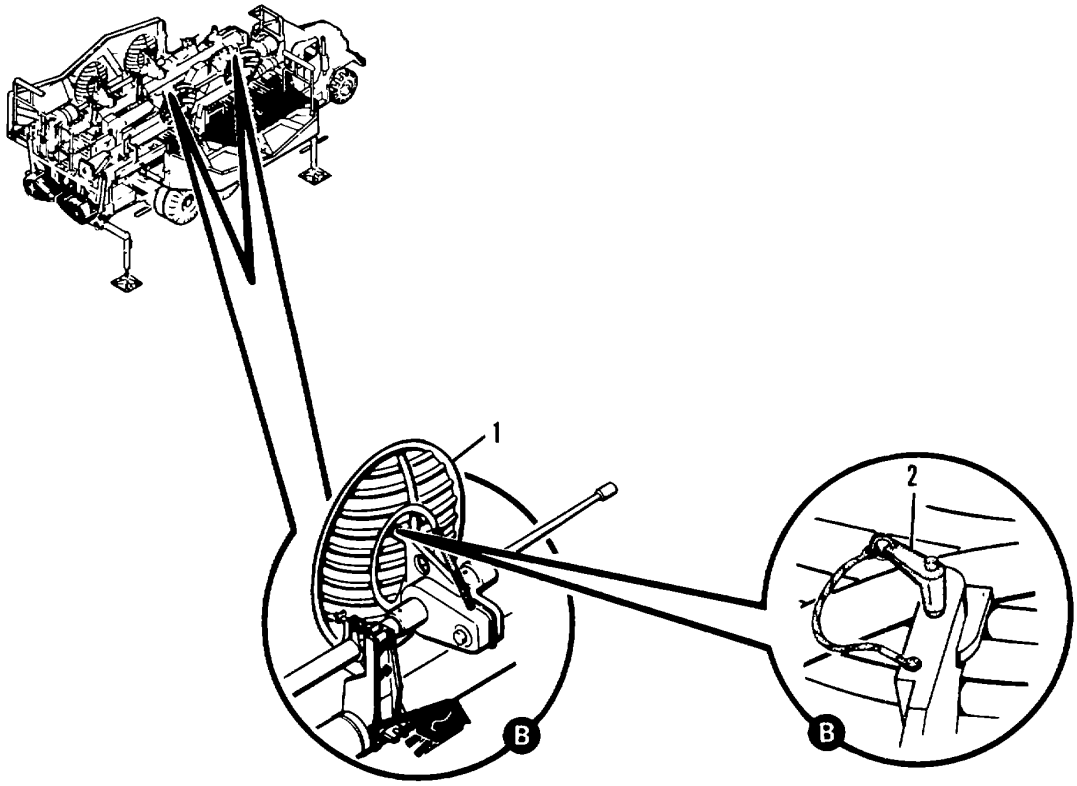


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 8-UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining three stabilizing struts. | **Step 8-DEPLOY CURBSIDE ANTENNA FEEDHORNS (Antennas 1 and 2)**<br><br>**WARNING**<br><br>**Use extreme care; it is easy to pinch fingers during feedhorn deployment.**<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.**<br><br>Turn lever (3) clockwise to release feedhorn (1). Push feedhorn out.<br><br>Turn lever (3) counter-clockwise to lock feedhorn.<br><br>Pull quick release pin (2) and pivot feedhorn to operational position.<br><br>Install quick release in (2) to secure. | **Step 8-HELP DEPLOY CURBSIDE ANTENNA FEEDHORNS.**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna pro. tective cover. There are many tripping and falling hazards.**<br><br>Walk out on roadside antenna protective cover and help soldier B lift feedhorns.<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.** |

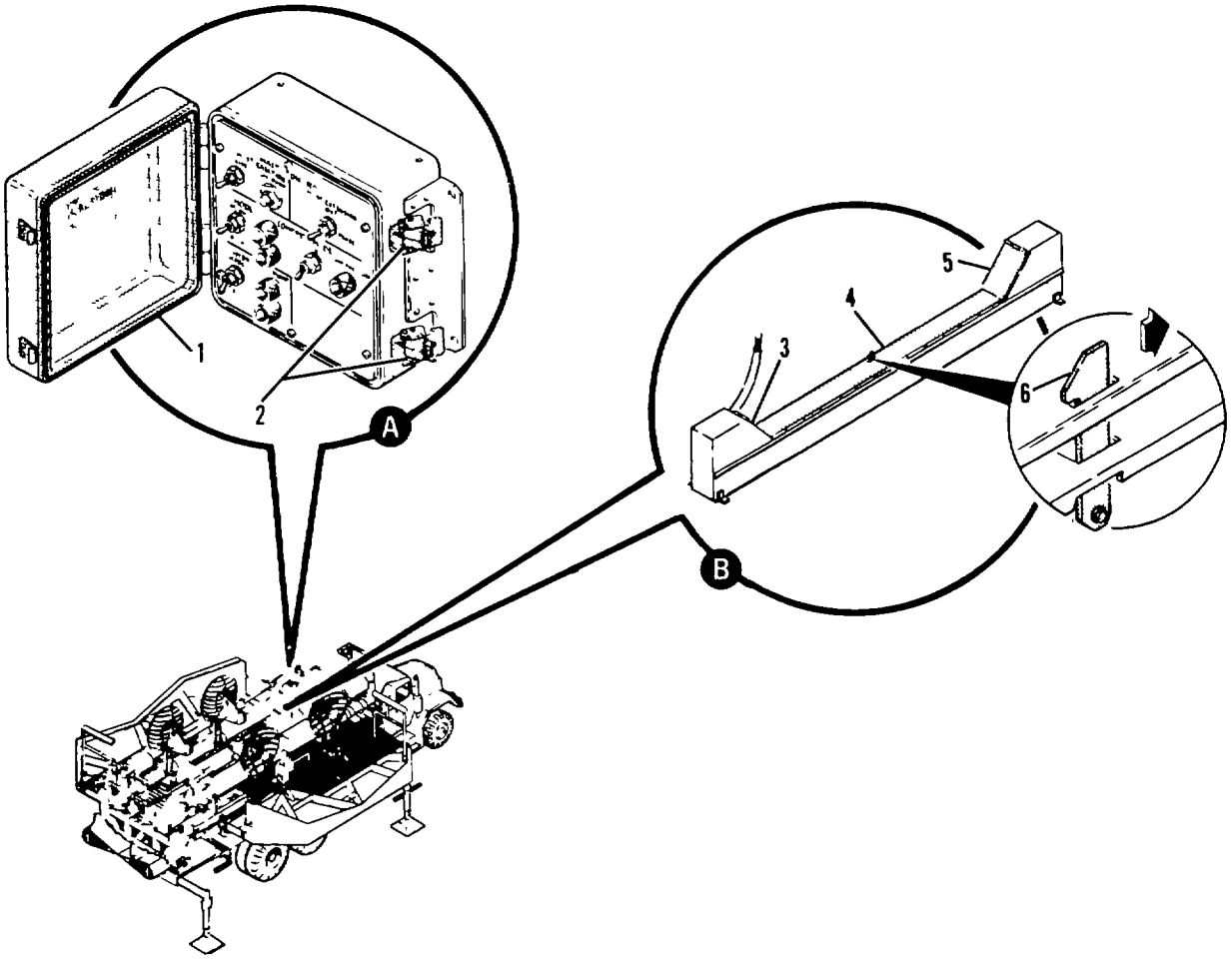


**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 9-UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining three stabilizing struts. | **Step 9-IF NEEDED, CHANGE CURBSIDE ANTENNAS POLARIZATION**<br><br>**NOTE**<br><br>**Check with communications plan to find out if antenna polarization needs to be changed.**<br><br>If needed, change roadside antennas polarization.<br><br>Pull four quick release pins (2) securing antenna (1).<br><br>Have soldier C rotate antennas 90º.<br><br>Install four quick release pins (2) to secure. | **Step 9-IF NEEDED, CHANGE CURBSIDE ANTENNAS POLARIZATION**<br><br>**NOTE**<br><br>**Check with communications plan to find out If antenna polarization needs to be changed.**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna pro. tective cover. There are many tripping and falling hazards.**<br><br>Rotate antenna 90º after soldier B has pulled quick release pins.<br><br>Reposition and hold antenna until soldier B has installed four quick release pins (2). |

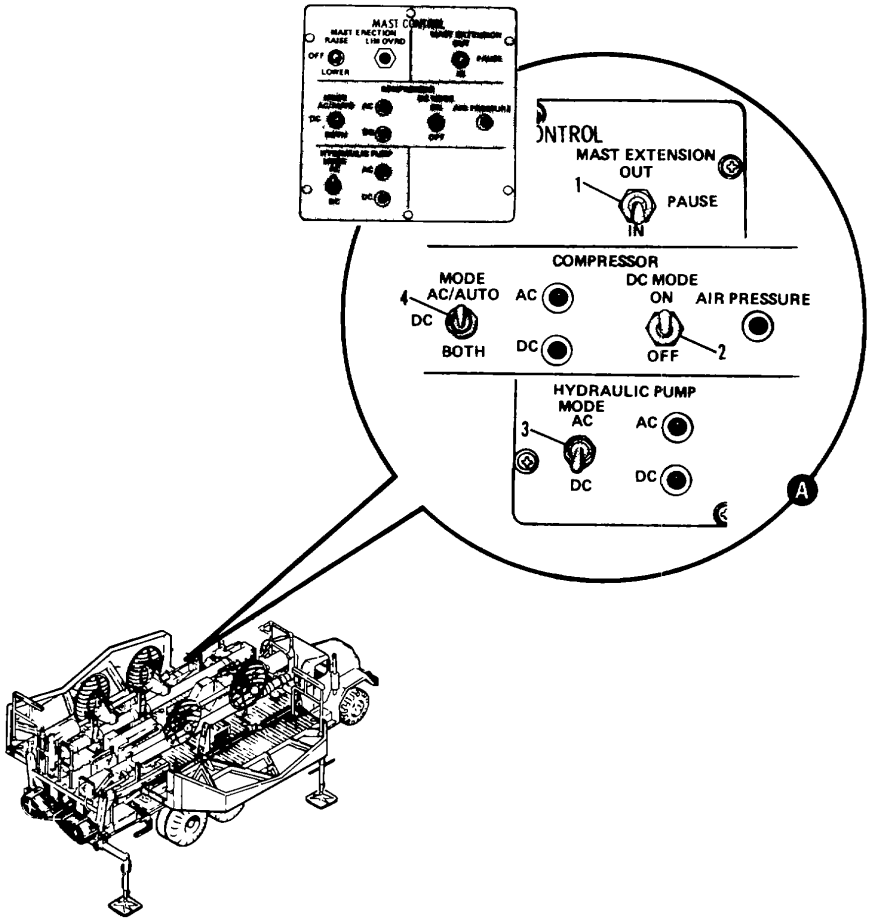


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 10-OPEN ROADSIDE MAST CONTROL DOOR**<br><br>Release two clamps (2) and swing mast control door (1) open. | **Step 10-OPEN ROADSIDE CABLE TRAY COVERS**<br><br>Release cable tray cover clamp (6).<br><br>Swing cover (4) open.<br><br>Then swing end cover (5) open.<br><br>**CAUTION**<br><br>**Do not open end cover (3) until most is raised. Cover will not clear mast clamp.** | **Step 10-IF NEEDED, UNHOOK SAFETY CHAIN**<br><br>If your mast group has a safety chain between the rear handrails, unhook the chain. Hook chain back again after masts are raised. |

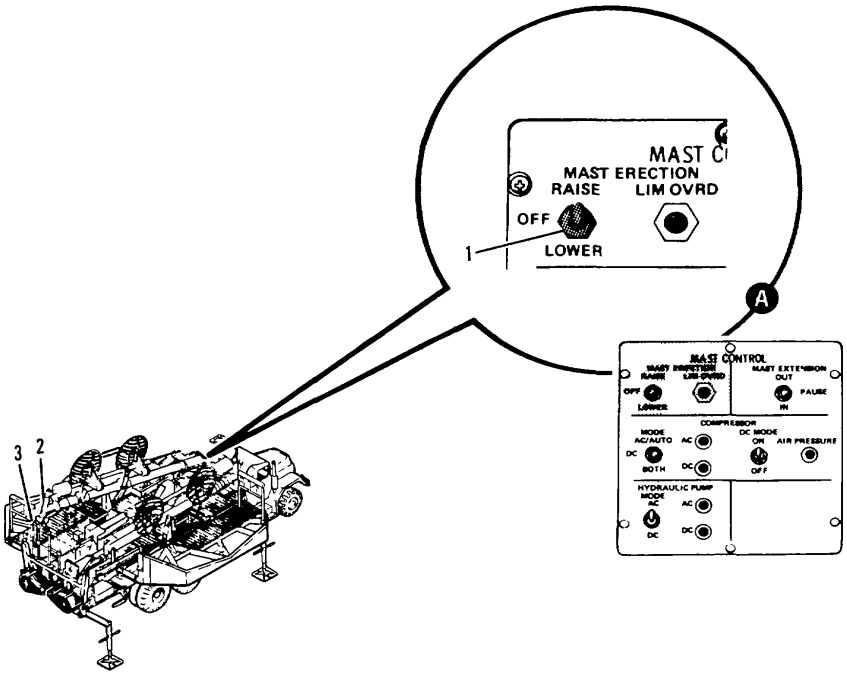


**2-15. MAST DEPLOYMENT-Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 11-SET ROADSIDE MAST CONTROL SWITCHES**<br><br>Set MAST EXTENSION switch (1) to IN.<br><br>Set COMPRESSOR MODE switch (4) to AC/AUTO.<br><br>Set DC MODE switch (2) to ON.<br><br>Set HYDRAULIC PUMP MODE switch (3) to DC.<br><br>**NOTE**<br><br>**Check with shelter (ECS/ICC/CRG) and find out if AC power is available. If AC power is available set HYDRAULIC PUMP MODE switch (3) to AC.** | **Step 11-BREAK** | **Step 11-BREAK** |

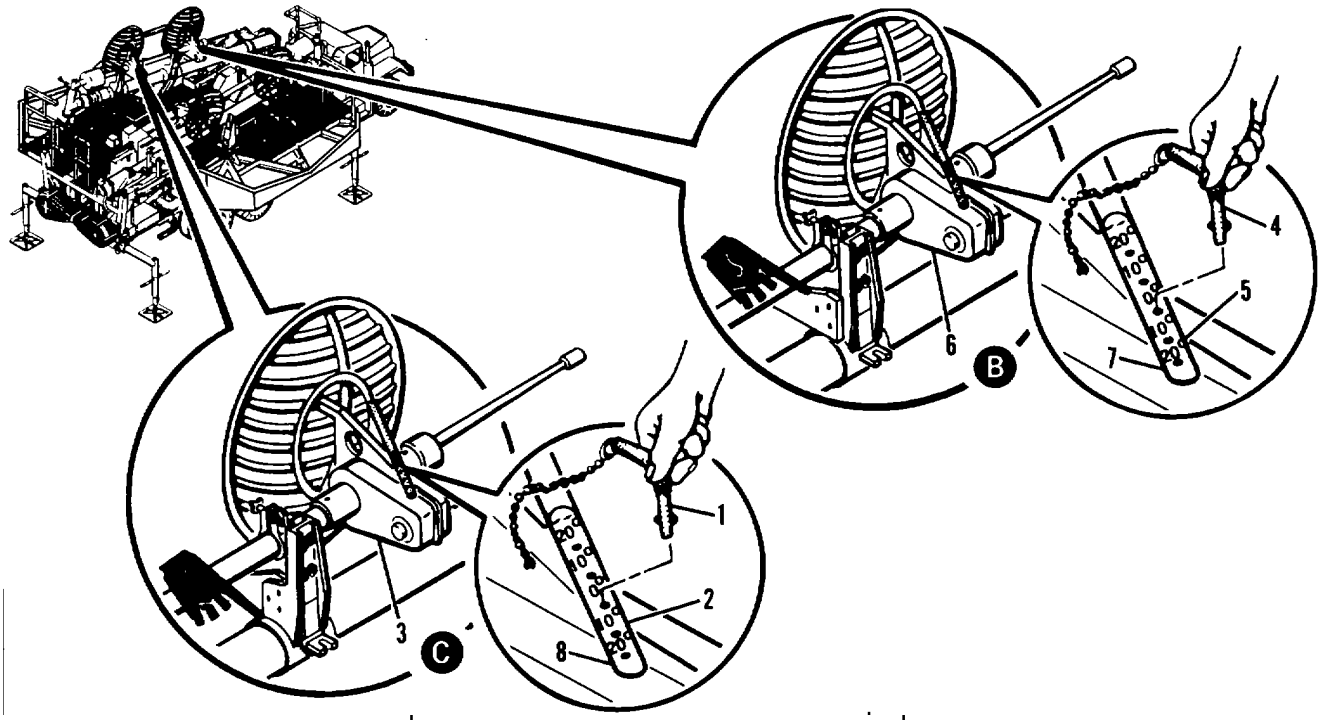


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 12 - RAISE ROADSIDE MAST TO 10 DEGREE POSITION** | **Step 12 - WATCH ROADSIDE MAST** | **Step 12 - WATCH ROADSIDE MAST** |
| **WARNING** | **WARNING** | **WARNING** |
| **Mast travel path must be clear of personnel. Tell soldiers B and C you're going to raise mast. step.** | **Stand away from roadside mast. Wait until soldier A has raised mast to 10 degree position before starting next step.** | **Stand away from roadside most. Wait until soldier A has raised most to 10 degree position before starting next** |
| **CAUTION**<br>**Tell soldier A to stop mast movement if there are any obstructions. degree position for extended periods when using dc power. If left in this position, current will continue to drain from battery.** | Observe roadside mast. Tell soldier A to stop mast movement if there are any obstructions. | Observe roadside mast. Tell soldier A to stop mast movement if there are any obstructions. |
| Hold MAST ERECTION switch (**1**) in RAISE position until bottom of antenna positioner (**2**) is about 1 foot above handrail (**3**).<br><br>Then hold MAST ERECTION switch (**1**) in LOWER position until it automatically stops at the 10 degree position. | | |

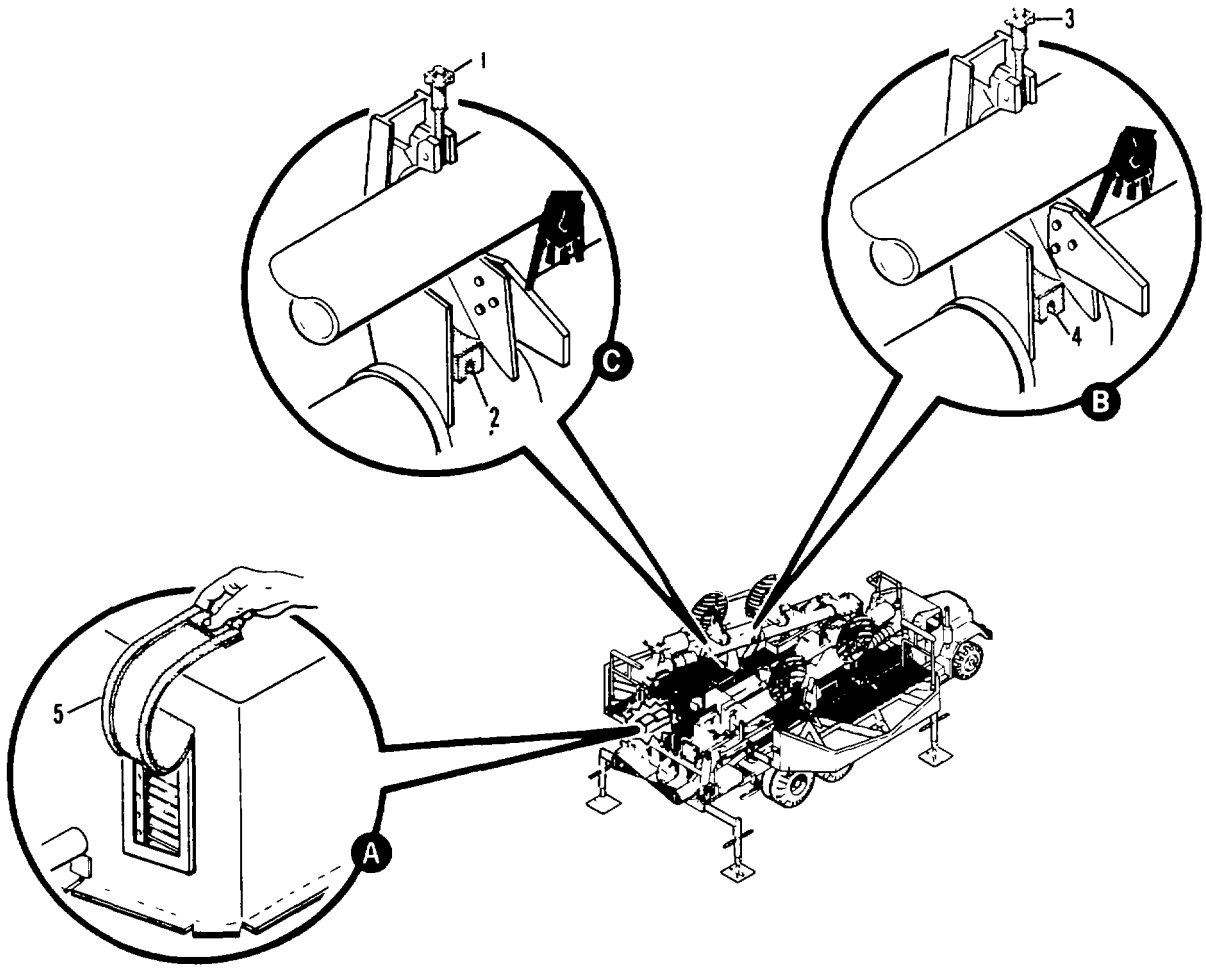


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 13 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining stabilizing struts. | **Step 13 - IF NECESSARY. ADJUST FRONT ROADSIDE ANTENNA (NO.3) IN ELEVATION**<br><br>**NOTE**<br><br>**Check with communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set.**<br><br>Pull quick release pins (**4**) securing struts (**5**).<br>Position antenna according to degree marks on strut.<br>Aline hole in strut (**5**) with hole in antenna driver (**6).**<br>Install quick release pins (**4**). | **Step 13 - IF NECESSARY, ADJUST REAR ROADSIDE (NO.4) IN ELEVATION**<br><br>**NOTE**<br><br>**Check with communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set.**<br><br>Pull quick release pins (**1**) securing struts (**2**).<br>Position antenna according to degree marks on strut.<br>Aline hole in strut with hole in antenna driver (**3**).<br>Install quick release pins (**1**). |

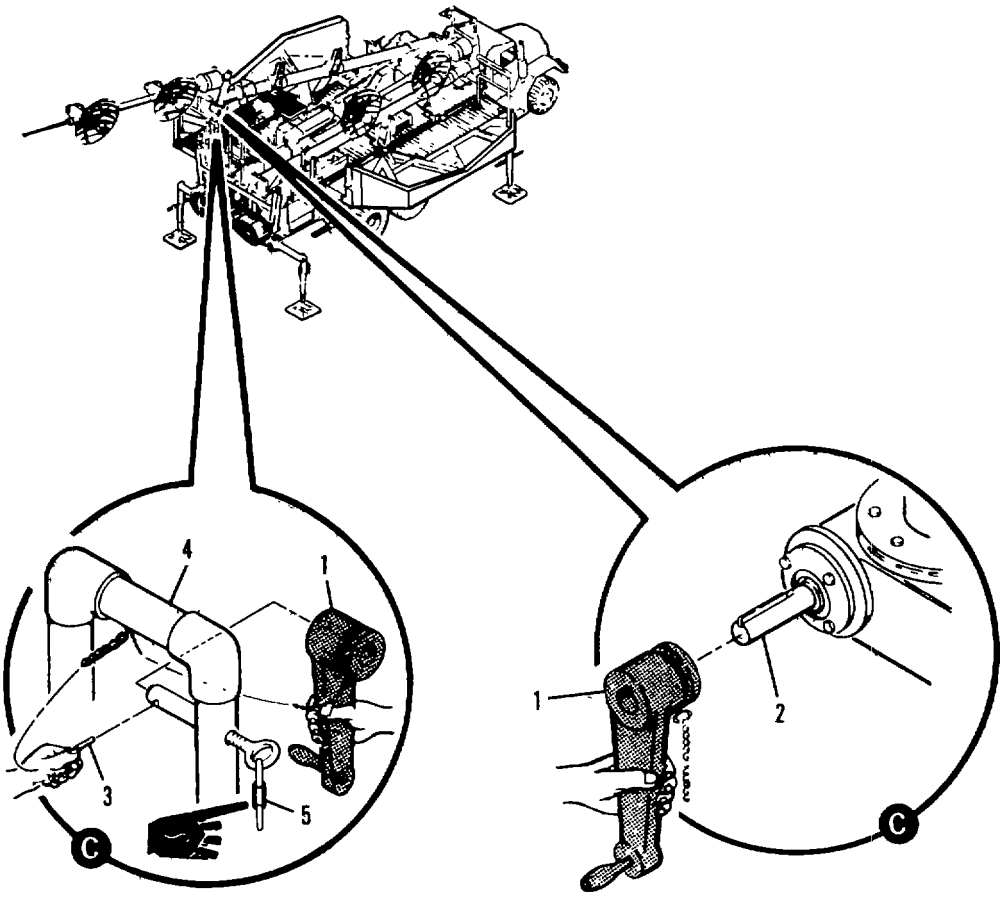


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 14 - OPEN/VERIFY ROADSIDE AIR INTAKE FLAP**<br><br>Open air intake flap (**5**).<br><br>Peel flap back and press down to secure.<br><br>**NOTE**<br><br>**Flap may already be open if air tanks have been charged in transit,** | **Step 14 - RELEASE ROAD-SIDE FRONT ANTENNA CLAMP**<br><br>Unscrew and lift bolt (**3**) securing antenna clamp upper section (**4**).<br><br>Swing upper clamp section open. | **Step 14 - RELEASE ROAD-SIDE REAR ANTENNA CLAMP**<br><br>Unscrew and lift bolt (**1**) securing antenna clamp upper section (**2**).<br><br>Swing upper clamp section open. |

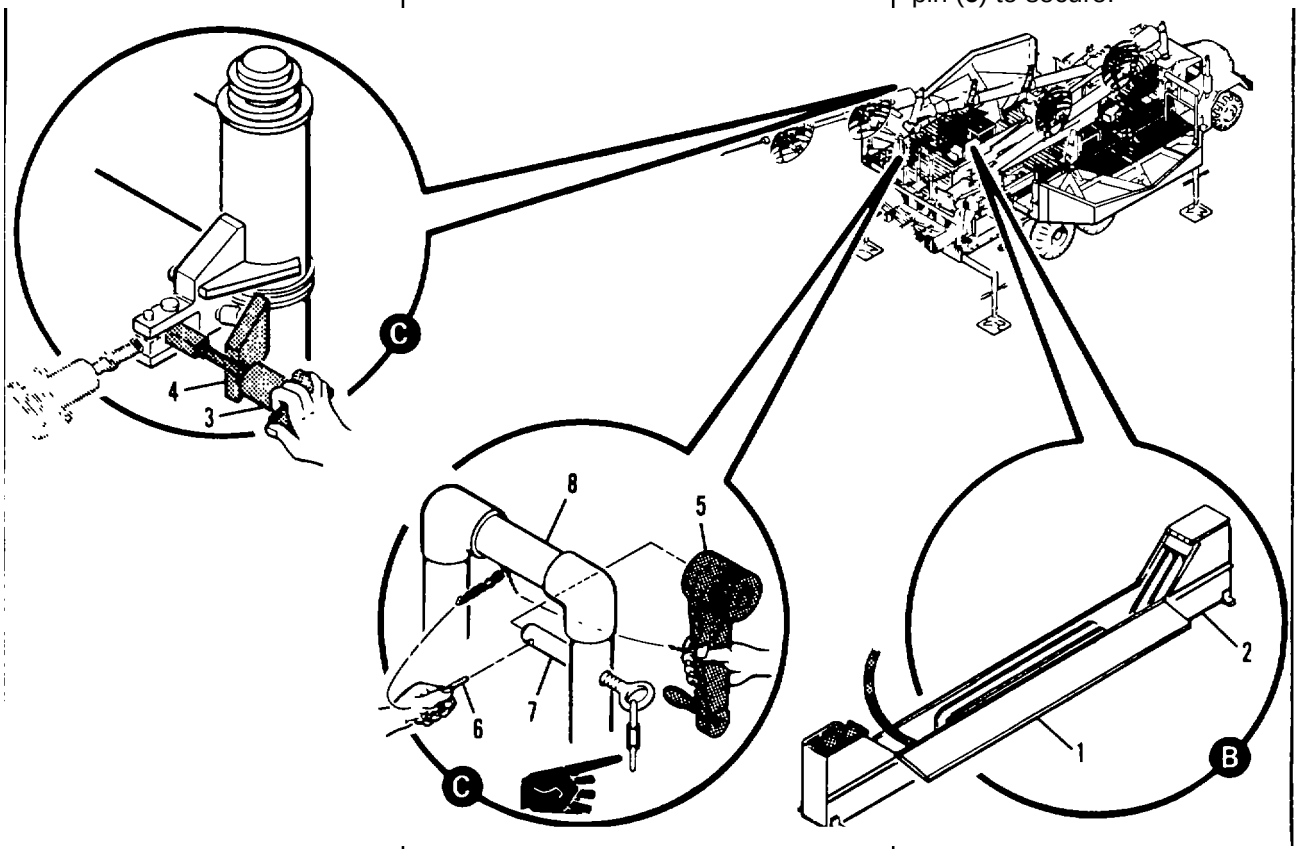


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 15 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining stabilizing struts. | **Step 15 - WATCH ROADSIDE ANTENNAS**<br><br>Observe roadside antennas. Tell soldier C to stop unfolding antennas if there is any obstruction. | **Step 15 -- UNFOLD ROADSIDE ANTENNAS**<br><br>Disconnect chain (**5**) from rear handrail (**4**).<br><br>Pull quick release pin (**3**) securing positioner handle (**1**) to rear handrail (**4**).<br><br>Remove handle.<br>Install handle (**1**) on antenna positioner shaft (**2**).<br>Turn antenna positioner handle (**1**) clockwise and unfold antenna.<br>Reconnect chain (**5**) after unfolding antennas. |

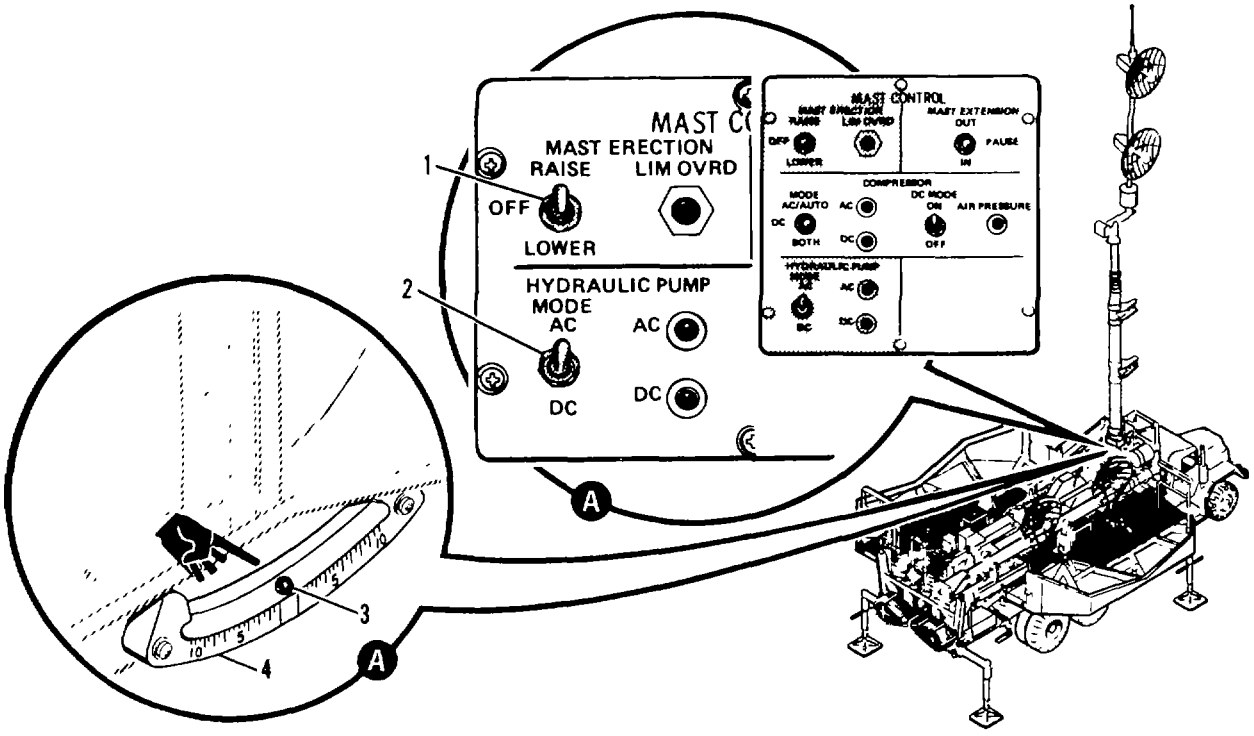


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 16 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS**<br><br>Repeat steps 1 through 5 for remaining stabilizing struts.<br><br>**NOTE**<br><br>**If you expect adverse weather conditions you must deploy the mast covers and/or height limiter on the road side most (section IV paragraphs 2.20a and 2.21a). Then proceed to next page and continue deploying masts.** | **Step 16 - OPEN NARROW CABLE TRAY COVER**<br><br>Open cover (**1**) on roadside cable tray (**2**).<br><br>**NOTE**<br><br>**If you expect adverse weather conditions you must deploy the mast covers and/or height limiter on the roadside mast (section IV paragraphs 2.20a and 2.21a). Then proceed to next page and continue deploying mast.** | **Step 16 - SECURE ROADSIDE ANTENNAS IN UNFOLDED POSITION,I STOW POSITIONER HANDLE**<br><br>Rotate swivel handle (**3**) into notch in bracket (**4**).<br><br>Turn swivel handle (**3**) clockwise to secure antennas in unfolded position.<br>Pull handle (**5**) from antenna positioner.<br><br>Place handle (**5**) on shaft (**7**) on handrail (**8**).<br>Install quick release pin (**6**) to secure. |

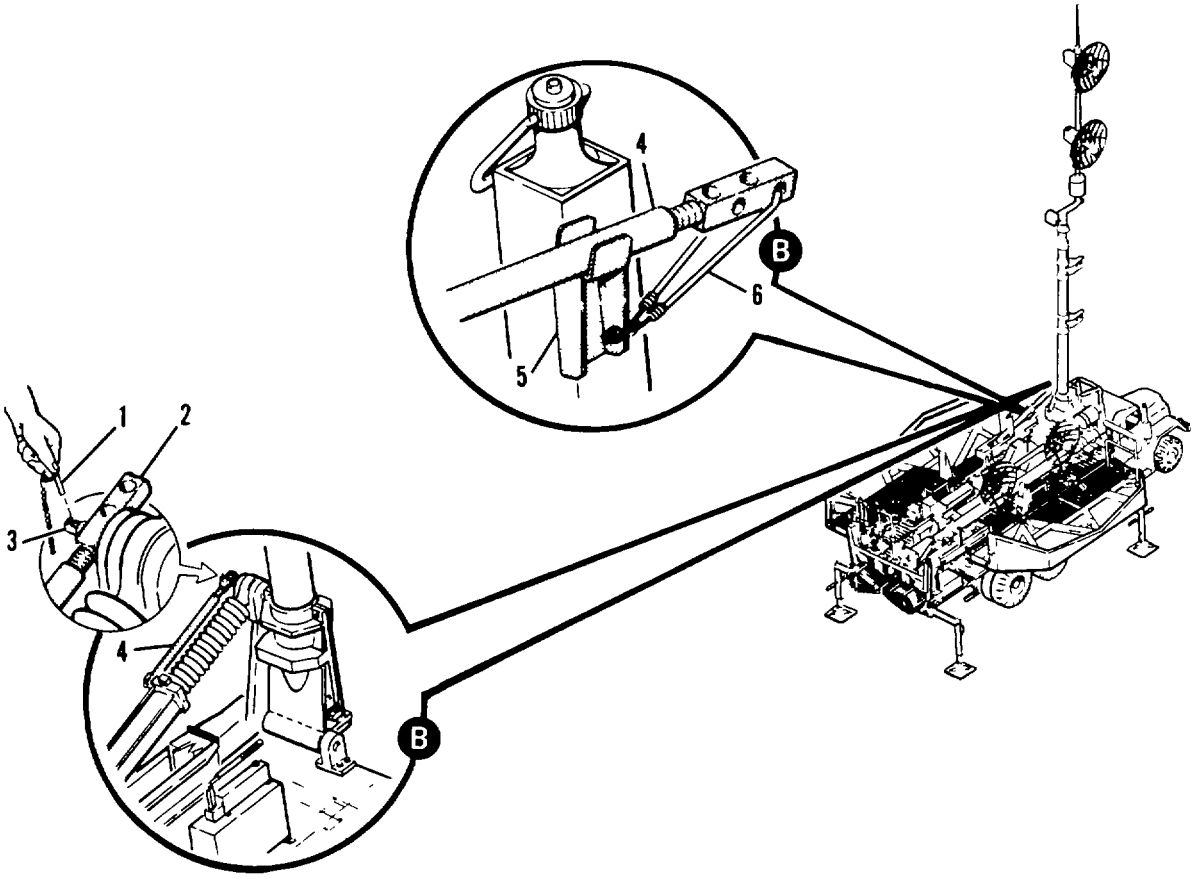


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 17 - RAISE ROADSIDE MAST TO VERTICAL**<br>**WARNING**<br>**Mast travel path must be clear of personnel. Tell Soldiers B and C you're going to raise the mast.**<br><br>**NOTE**<br><br>**Check with shelter (ECC/ICC/CRG) and find out if AC power is available. If AC power is available set HYDRAULIC PUMP MODE switch (2) to AC.**<br>Hold MASTERECTION switch (**1**) in RAISE until ball (**3**) is centered in green portion of inclinometer (**4**).<br>Adjust position of mast if necessary. | **Step 17 - GUIDE CABLES OUT OF TRAY**<br>**WARNING**<br>Stand away from roadside mast. Tell solder A you're clear of the roadside mast.<br><br>**Guide cables out of roadside cable tray.**<br><br>**WARNING**<br><br>**Check the roadside mast after it is vertical. If anything looks wrong, have a next higher level of maintenance check it out.** | **Step 17 - GUIDE CABLES OUT OF TRAY**<br>**WARNING**<br>Stand clear from roadside mast. Tell soldier A you're clear of the roadside mast.<br>**Guide cables out of roadside cable tray**.<br><br>**WARNING**<br><br>**Check the roadside mast after it is vertical. If anything looks wrong, have a next higher level maintenance check it out.** |

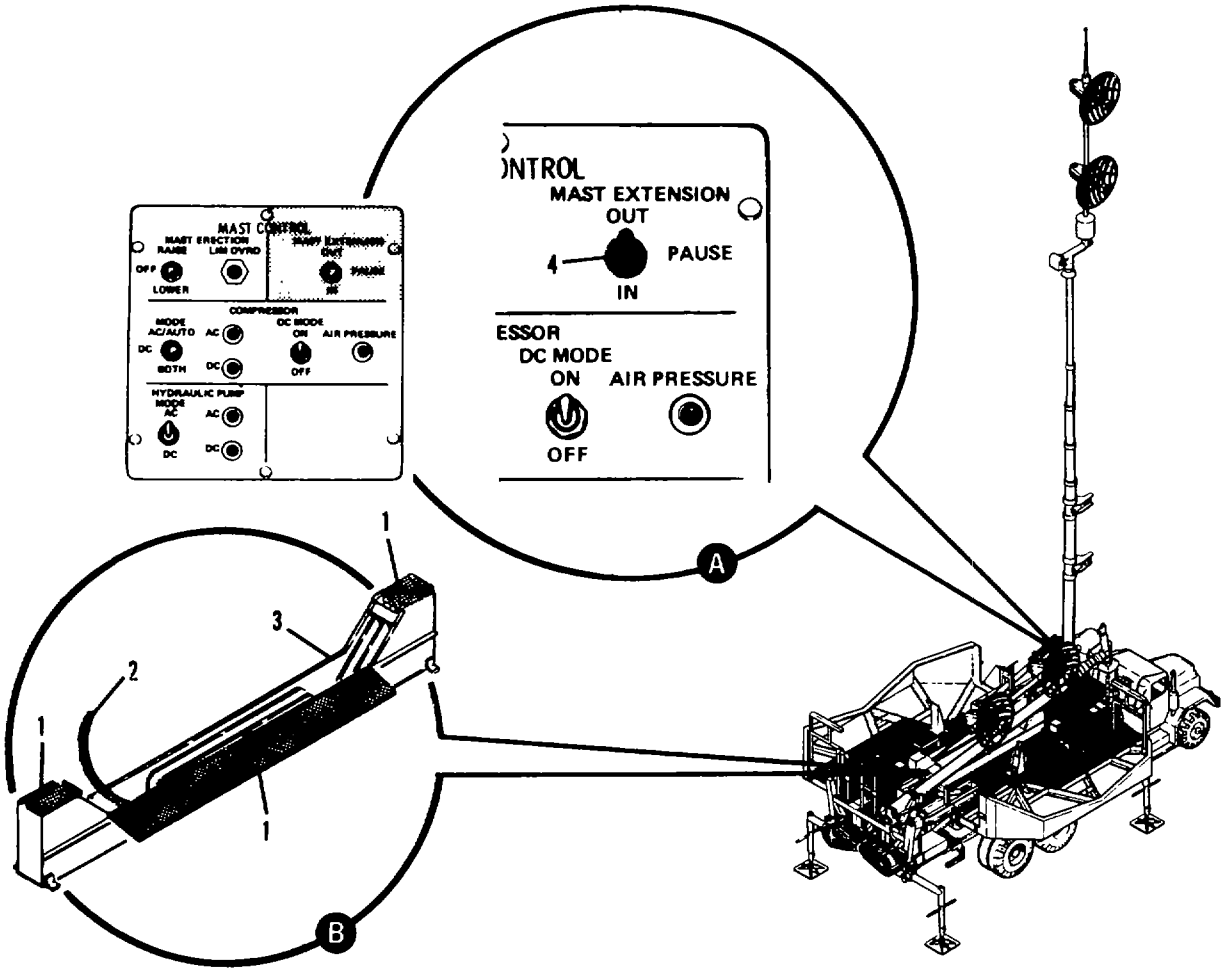


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 18 - BREAK**<br><br>Wait until soldier B has engaged lock strut before starting next step.<br><br>**CAUTION**<br><br>**DO NOT OPERATE MAST ERECTION SWITCH WITH LOCK STRUT INSTALLED.** | **Step 18 - UNSTOW AND ENGAGE ROADSIDE MAST LOCK STRUT**<br><br>Unhook elastic cord (**6**) and lift strut (**4**) out of stowage bracket (**5**).<br><br>Slide and/or rotate lock strut bar (**2**) to aline a hole in bar with mast clamp pin (**3**).<br><br>Install bar (**2**) on pin (**3**).<br>Install quick release pin (**1**) in hole in mast clamp pin (**3**) to secure lock strut (**4**). | **Step 18 - BREAK**<br><br>Wait until soldier B has engaged lock strut before starting next step. |



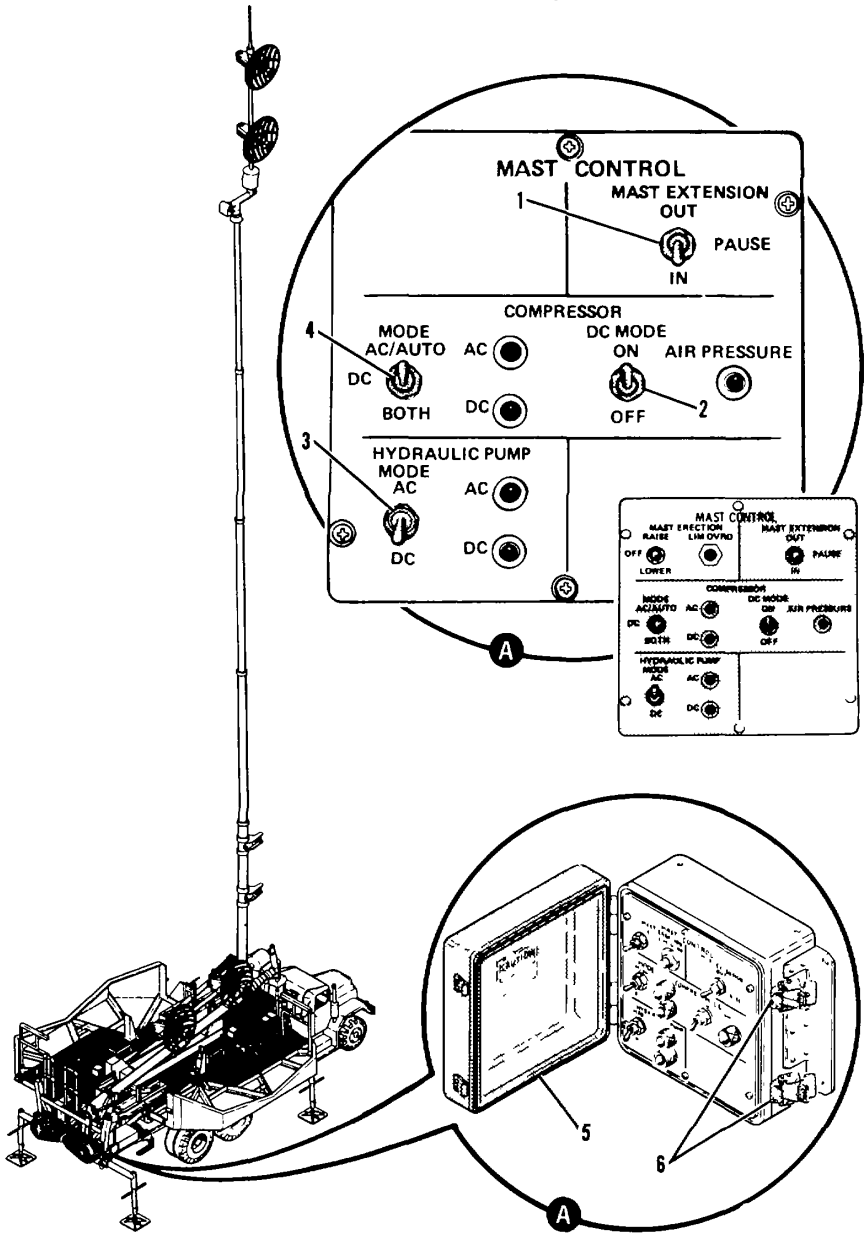
**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 19 - EXTEND ROAD. SIDE MAST**<br><br>Set MAST EXTENSION switch (**4**) to OUT and extend roadside mast. | **Step 19 - GUIDE ROADSIDE MAST CABLES**<br><br>Guide cable (**2**) out of roadside cable tray (**3**).<br><br>Tell soldier A to stop mast extension if cable becomes entangled or fouled.<br><br>Close cable tray covers (**1**) when mast is fully extended. | **Step 19 - BREAK** |



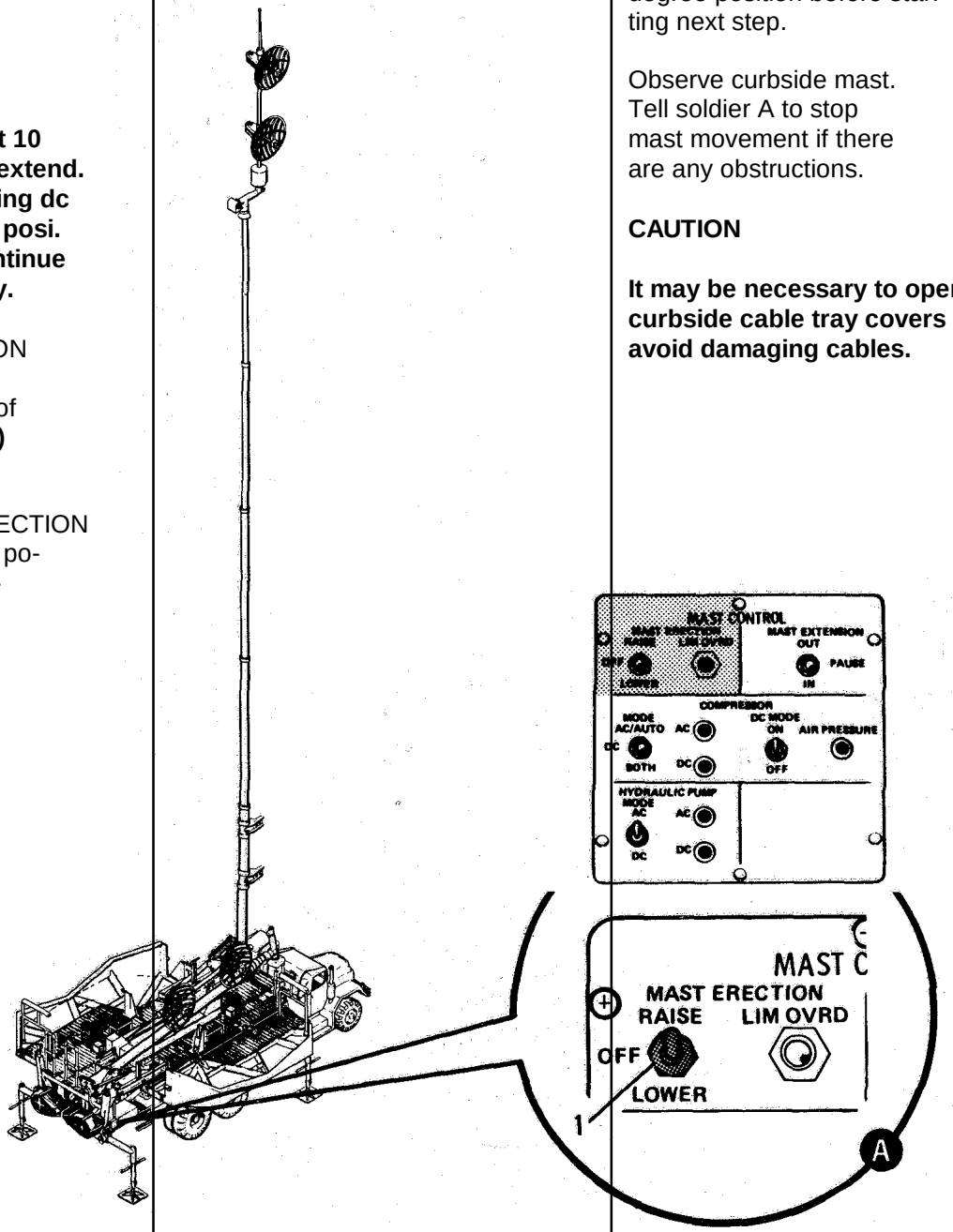
**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 20 - OPEN CURBSIDE MAST CONTROL DOOR, SET SWITCHES**<br>Release two clamps (**6**) and swing mast control door (**5**) open.<br><br>Set MAST EXTENSION switch (**1**) to IN.<br><br>Set COMPRESSOR MODE switch (**4**) to AC/AUTO.<br><br>Set DC MODE switch (**2**) to ON.<br><br>Set HYDRAULIC PUMP MODE switch (**3**) to DC.<br><br>**NOTE**<br><br>**Check with shelter (ECS/ICC/CRG) and find out if ac power is available. IF ac power is available set HYDRAULIC PUMP MODE switch (3) to AC.** | **Step 20 - BREAK** | **Step 20 - BREAK** |

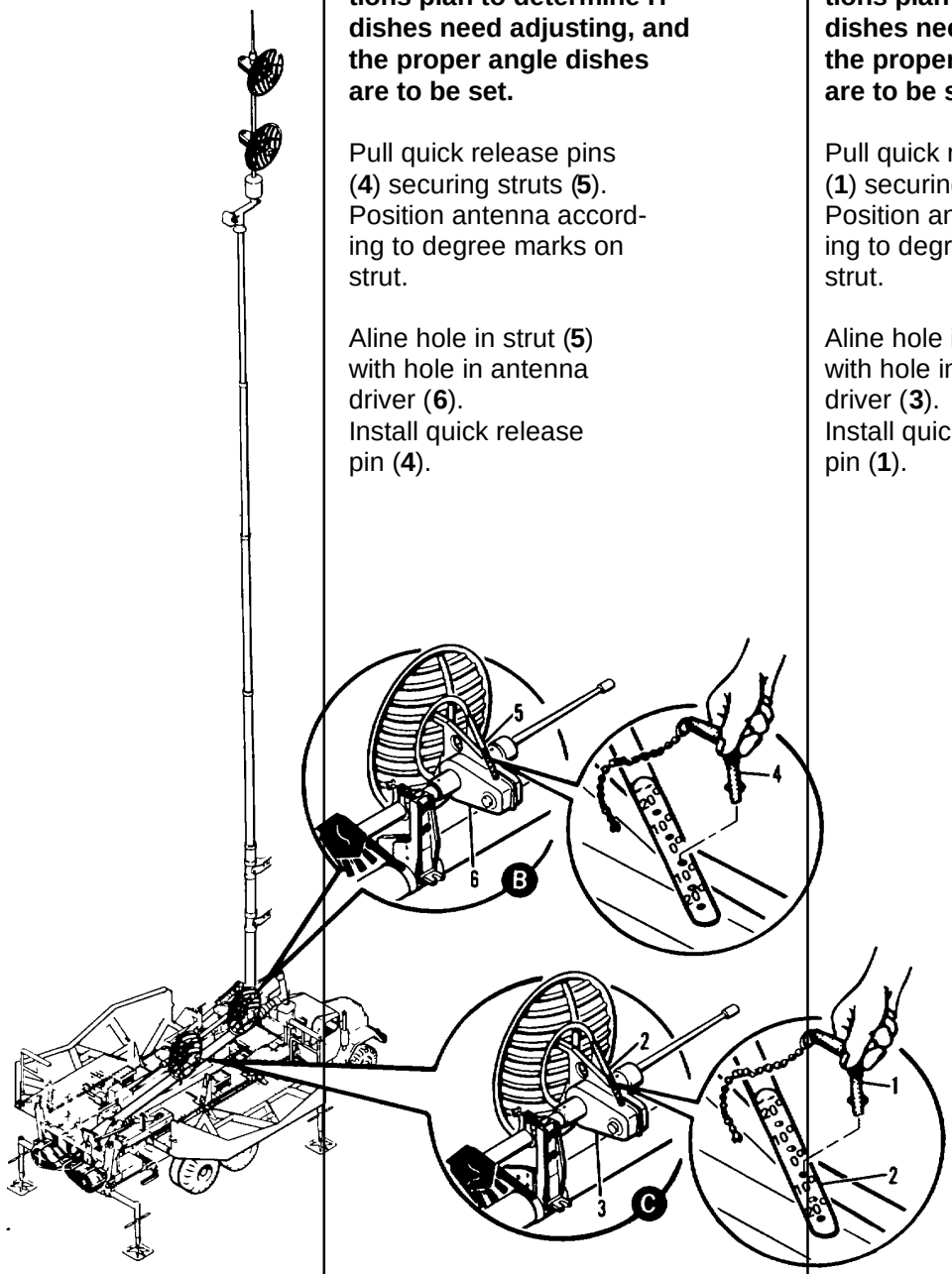


**2-15. MAST DEPLOYMENT - continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 21 - RAISE CURBSIDE MAST TO 10 DEGREE** POSITION<br>WARNING<br><br>Mast travel path must be clear of personnel. soldiers B and C you're go . ing to raise mast.<br><br>**CAUTION**<br><br>**Do not leave mast at 10 degree position for extend. ed periods when using dc power. If left in this posi. tion, current will continue to drain from battery.**<br><br>Hold MAST ERECTION Switch (**1**) in RAISE position until bottom of antenna positioner (**2)** is about 1 foot above handrail (3).<br>Then hold MAST ERECTION switch (**1**) in LOWER po- sition until it automat- ically stops at the 10 degree position. | **Step 21 - BREAK**<br><br>WARNING<br>Stand away from curbside mast. Wait until soldier A has raised mast to 10<br>Tell degree position before star ting next step. | **Step 21 -- WATCH CURBSIDE MAST**<br><br>WARNING<br><br>Stand way from curbside mast. Wait until soldier A has raised mast to 10 degree position before star. ting next step.<br><br>Observe curbside mast. Tell soldier A to stop mast movement if there are any obstructions.<br><br>**CAUTION**<br><br>**It may be necessary to open curbside cable tray covers to avoid damaging cables.** |

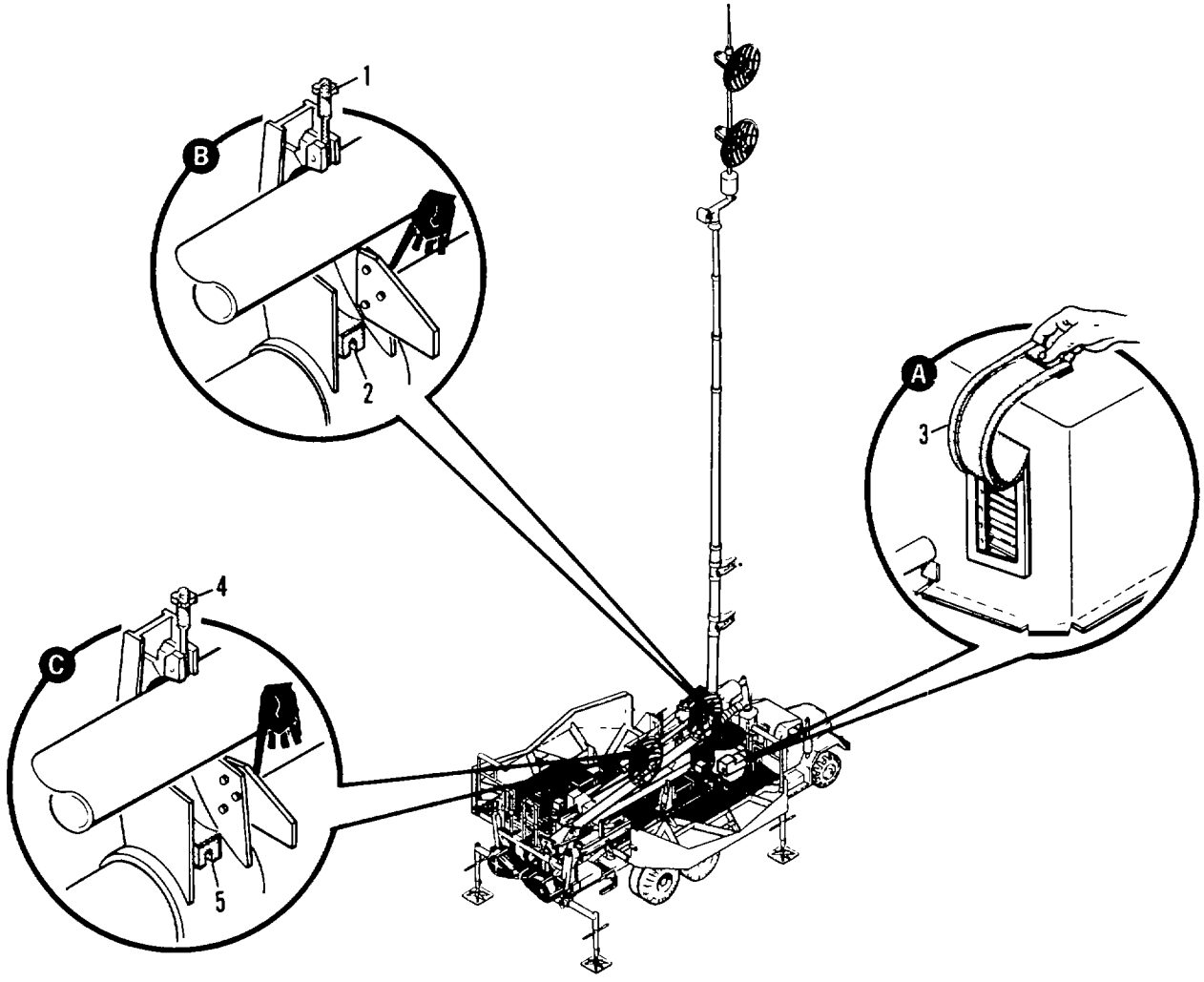


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Stop 22 - BREAK** | **Step 22 - IF NECESSARY, ADJUST FRONT CURBSIDE ANTENNA (NO. 2) IN ELEVATION**<br>**NOTE**<br>**Check with communica-tions plan to determine If dishes need adjusting, and the proper angle dishes are to be set.**<br>Pull quick release pins (**4**) securing struts (**5**). Position antenna accord-ing to degree marks on strut.<br>Aline hole in strut (**5**) with hole in antenna driver (**6**). Install quick release pin (**4**). | **Step 22 - IF NECESSARY, ADJUST REAR CURBSIDE ANTENNA (NO. 1) IN ELEVATION**<br>**NOTE**<br>**Check with communica. tions plan to determine If dishes need adjusting, and the proper angle dishes are to be set.**<br>Pull quick release pins (**1**) securing struts (**2**). Position antenna accord-ing to degree marks on strut.<br>Aline hole in strut (**2**) with hole in antenna driver (**3**). Install quick release pin (**1**). |

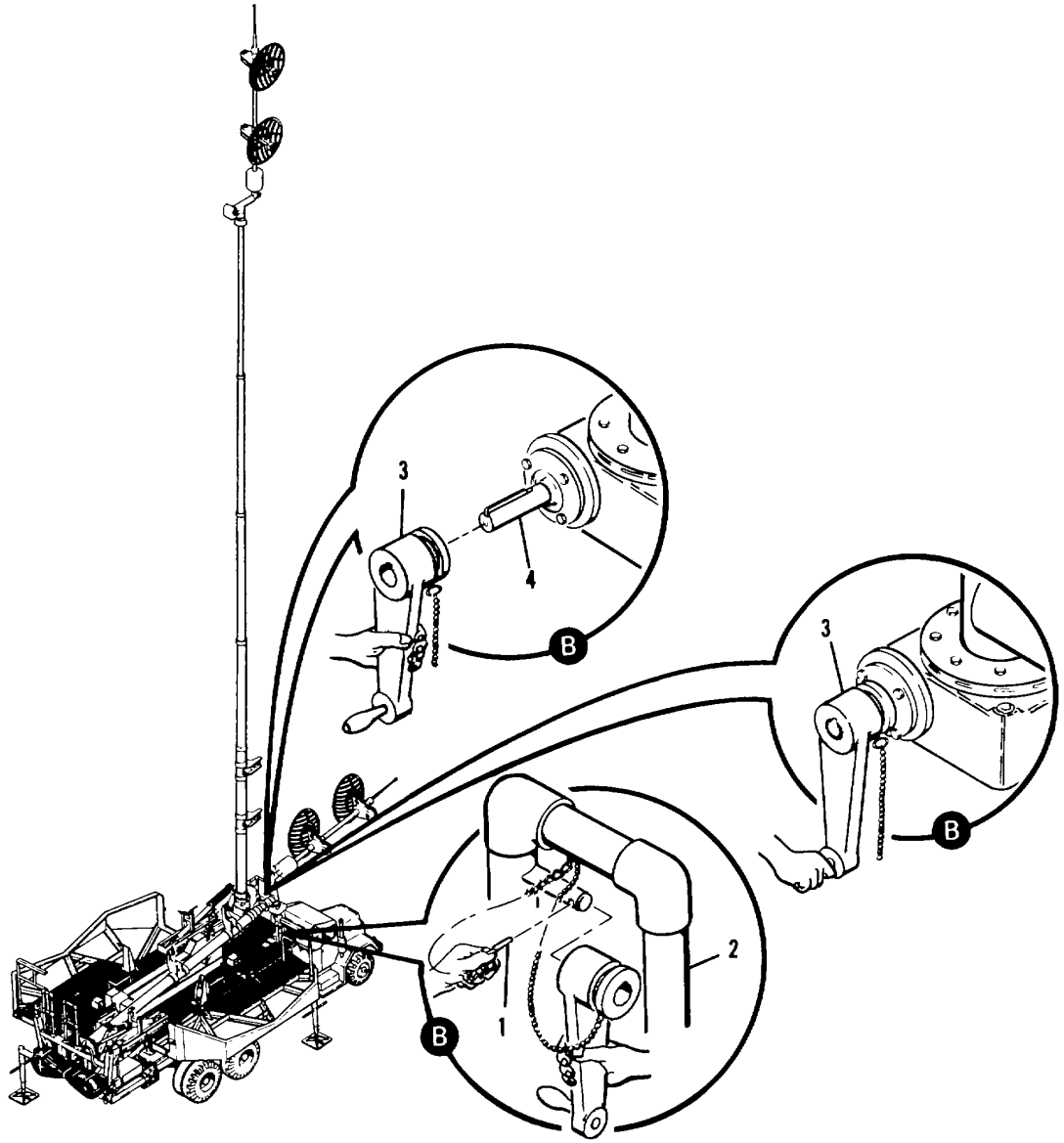


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 23 - OPEN/VERIFY CURBSIDE AIR INTAKE FLAP**<br><br>Open air intake flap (**3**).<br><br>Peel flap back and press down to secure.<br><br>**NOTE**<br>**Flap may already be open if air tanks have been charged in transit.** | **Step 23 - RELEASE CURB-SIDE FRONT ANTENNA CLAMP**<br><br>Unscrew and lift bolt (**1**) securing antenna clamp upper section (**2**).<br><br>Swing upper clamp section open. | **Step 23 - RELEASE CURB-SIDE REAR ANTENNA CLAMP**<br><br>Unscrew and lift bolt (**4**) securing antenna clamp upper section (**5**).<br><br>Swing upper clamp section open. |



| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| Deleted | **Step 24 - UNFOLD CURBSIDE ANTENNAS**<br>Pull quick release pin (**1**) securing positioner handle (**3**) to rear handrail (**2**).<br>obstruction.<br>Remove handle.<br>Install handle (**3**) on antenna positioner shaft (**4**).<br>Turn antenna positioner handle (**3**) clockwise and unfold antenna. | **Step 24 - WATCH CURBSIDE ANTENNAS**<br>Observe curbside antennas. Tell Soldier B to stop unfolding antennas if there is any |

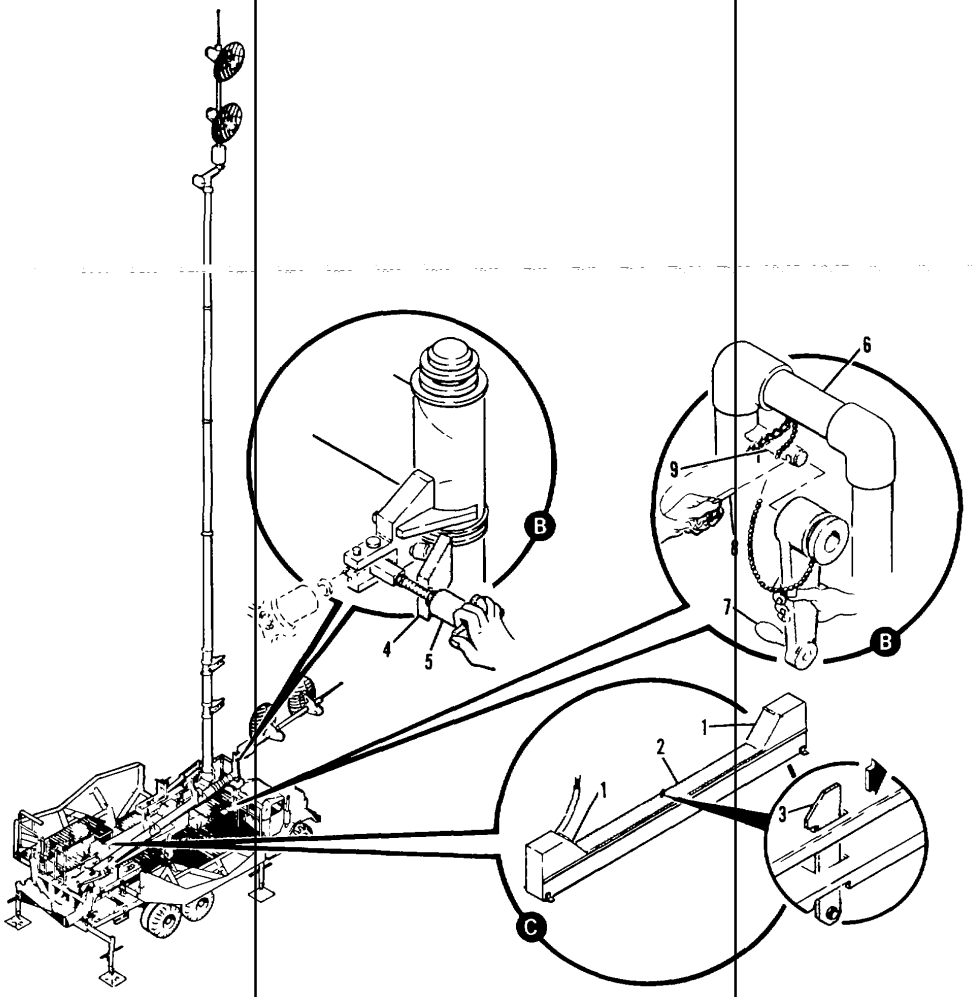


**2-15. MAST DEPLOYMENT - Continued**

**NOTE**

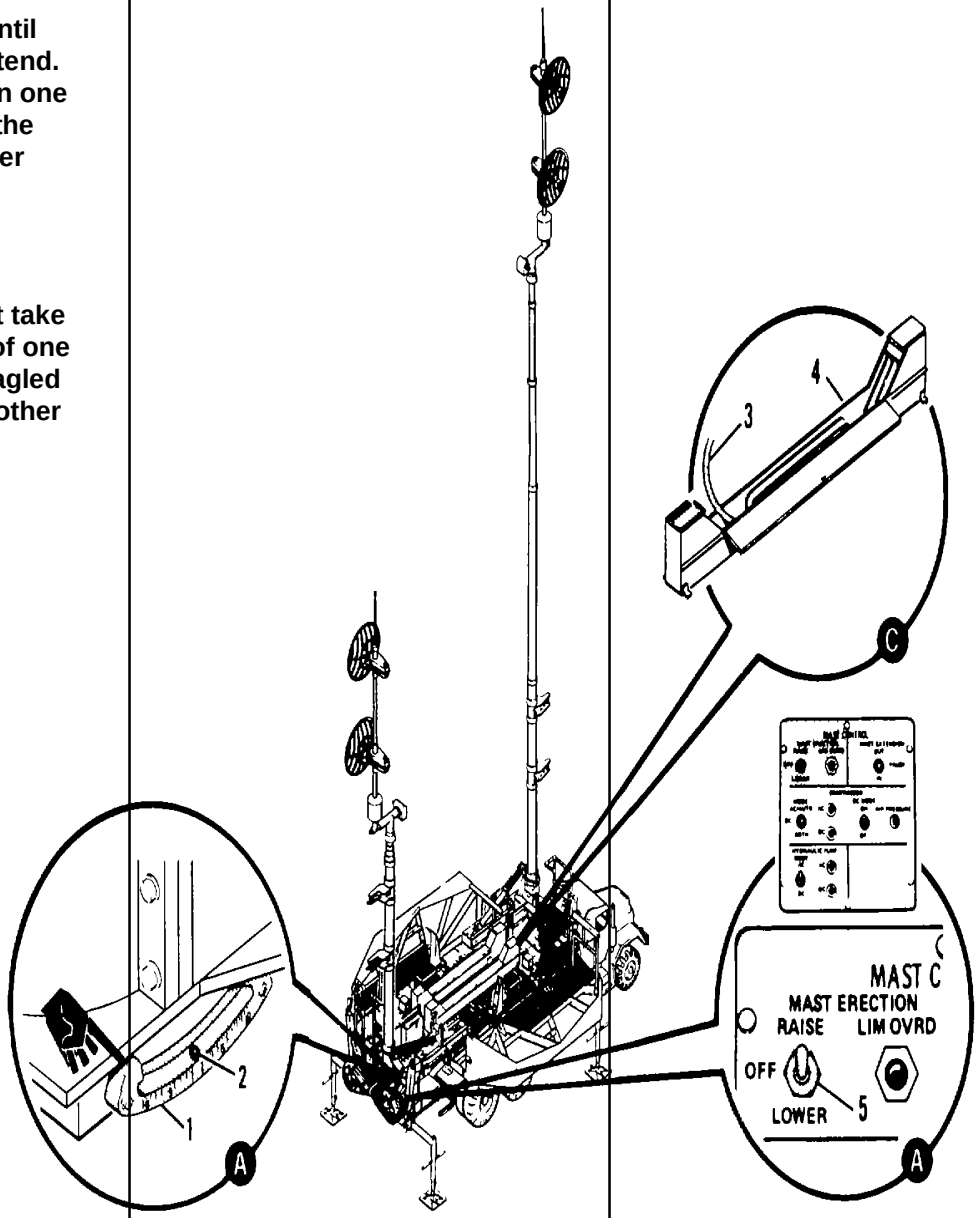
**If you expect adverse weather you must deploy the mast covers ad/or height limiter on the curbside mast (section IV paragraphs 2-200 and 2-21a). Then proceed to next page and continue deploying masts.**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 25 - BREAK SIDE ANTENNAS IN**<br>Wait until soldiers B and C have secured curb-side antennas in unfolded position and opened cable tray before starting your next step. | **Step 25 - SECURE CURB-CABLE TRAY COVERS**<br><br>Rotate swivel handle (**5**) into notch in bracket (**4**).<br><br>Turn handle (**5**) clock-wise to secure antennas in unfolded position.<br><br>Pull handle (**7**) from antenna positioner.<br><br>Place handle (**7**) on shaft (**9**) on handrail (**6**).<br><br>Install quick release pin (**8**) to secure. | **Step 25 - OPEN CURBSIDE**<br><br>Release cable tray cover latch (**3**).<br><br>Swing cover (**2**) open.<br><br>Then swing end covers (**1**) open. |

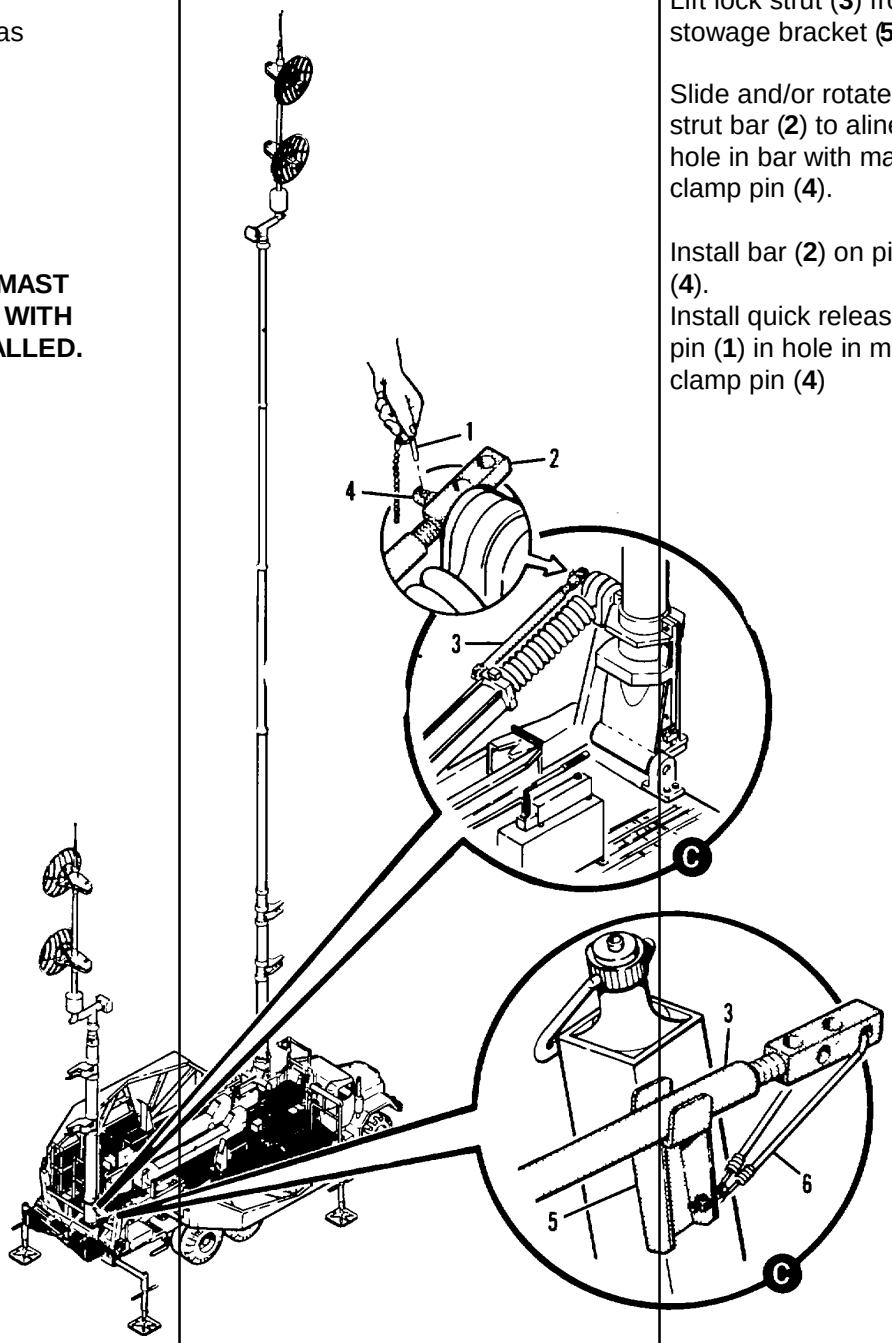


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 26 - RAISE CURBSIDE MAST TO VERTICAL**<br>**WARNING**<br>**Mast travel path must be clear of personnel. Tell clear of personnel. Tell soldiers B and C you're going to raise most.**<br>**CAUTION**<br>**Don't raise a mast until the other mast is extend. ed. The antennas on one mast may not clear the antennas on the other mast.**<br>**CAUTION**<br>**When raising a mast take care that antennas of one mast do not get entagled in the cables of the other mast.**<br>Hold MAST ERECTION switch (**5**) to RAISE until ball (**2**) is centered in green portion of inclinometer (**1**). | **Step 26 - HOLD ROADSIDE MAST CABLES**<br>Hold the roadside mast cables tight against the mast.<br>Tell soldier A to stop mast movement if curbside mast becomes<br>roadside mast cables. | **Step 26 - GUIDE CURBSIDE CABLES**<br>Guide curbside cables (**3**) out of cable tray (**4**).<br>Tell soldier A to stop mast movement if cables become entangled. entangled in the |

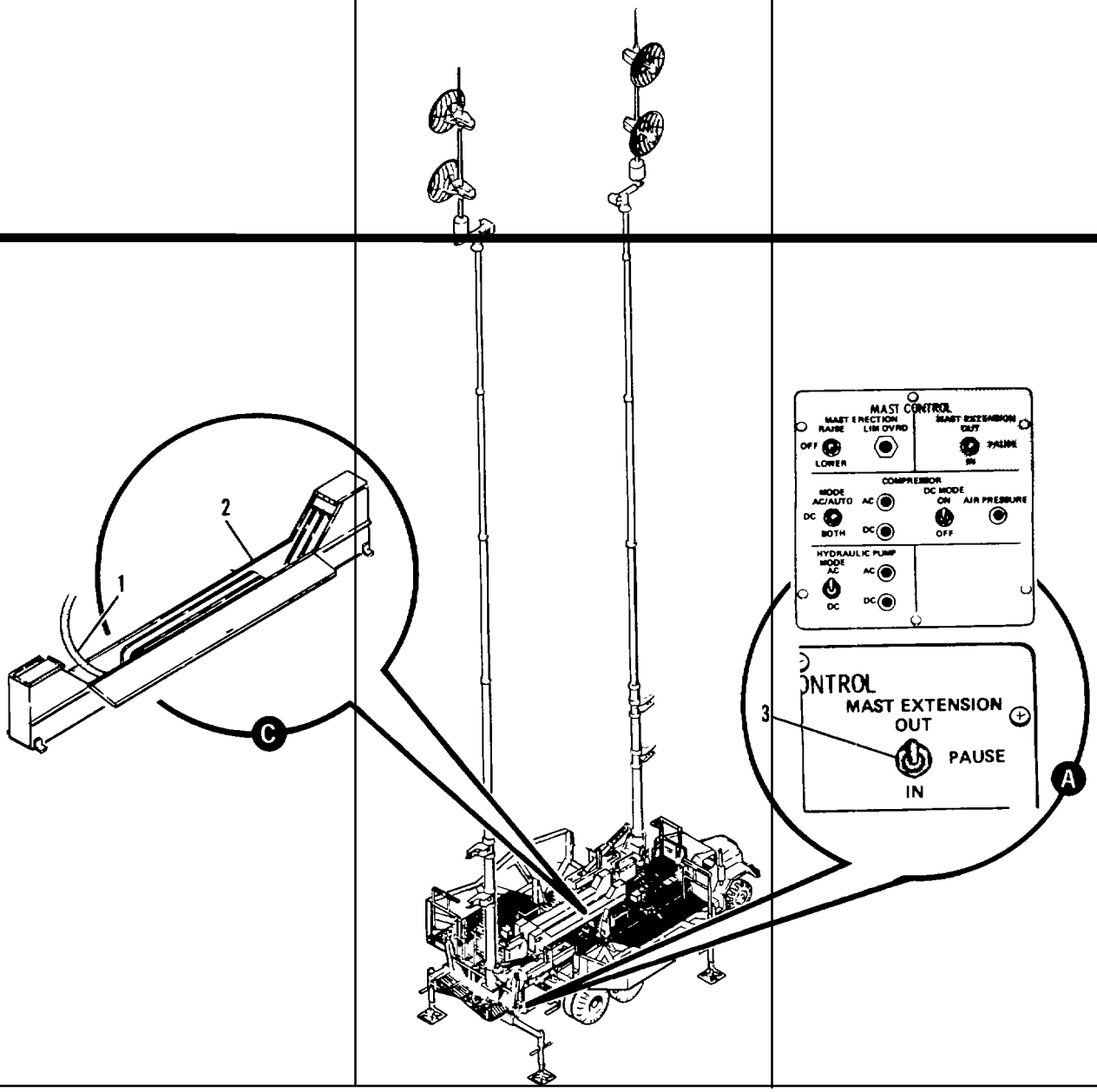


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 27 - INFORM SHELTER**<br><br>Report to ECS/ICC/CRG that both masts are vertical.<br><br>Wait until soldier C has deployed lock strut before starting your next step.<br><br>**CAUTION**<br><br>**DO NOT OPERATE MAST ERECTION SWITCH WITH LOCK STRUT INSTALLED.** | **Step 27 - BREAK BOTH MASTS ARE VERTICAL**<br><br>Unhook elastic cord (**6**). | **Step 27 - UNSTOW AND ENGAGE CURBSIDE MAST LOCK STRUT**<br><br>Lift lock strut (**3**) from stowage bracket (**5**).<br><br>Slide and/or rotate lock strut bar (**2**) to aline a hole in bar with mast clamp pin (**4**).<br><br>Install bar (**2**) on pin (**4**).<br>Install quick release pin (**1**) in hole in mast clamp pin (**4**) |

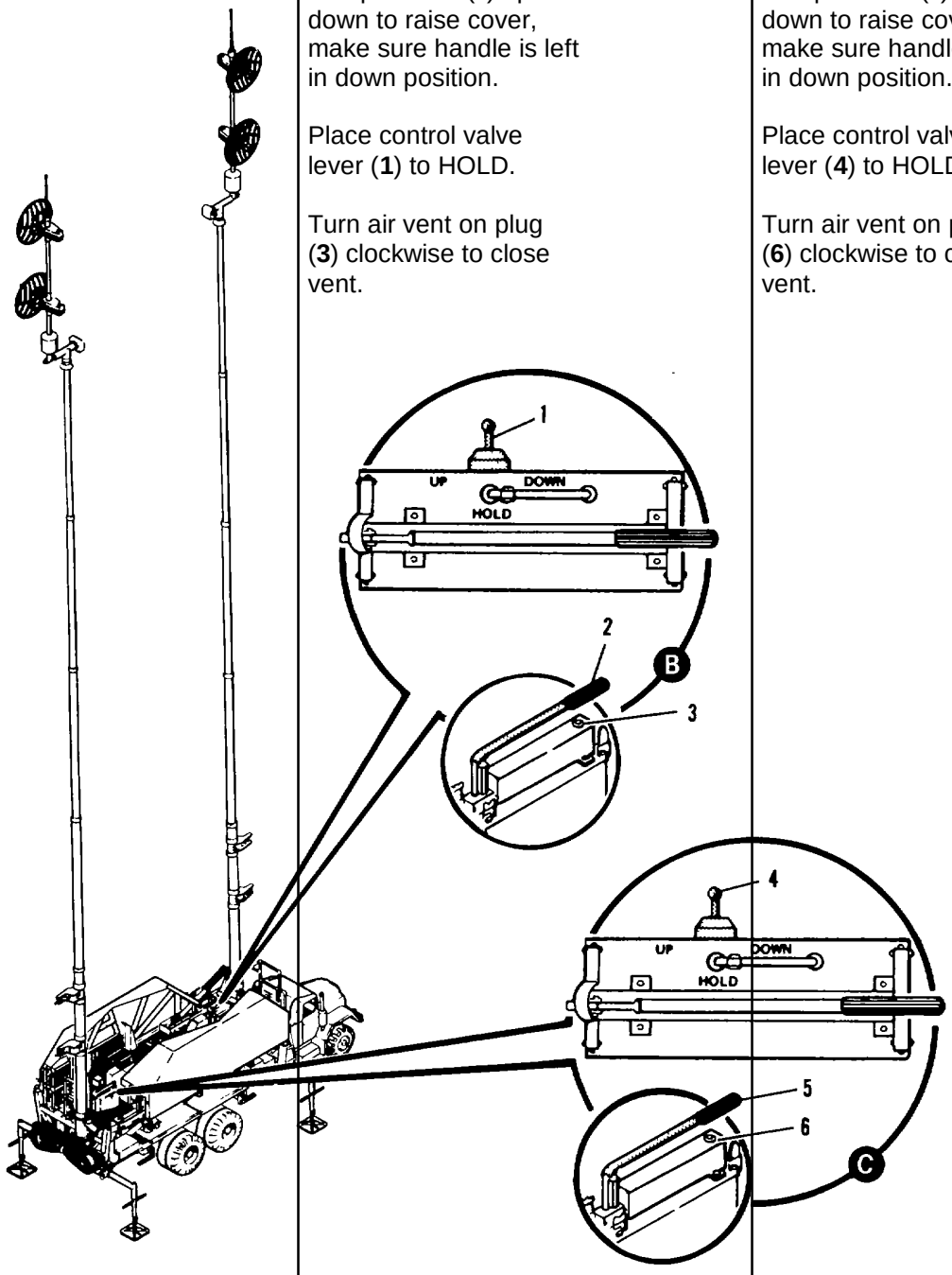


**2-15. MAST DEPLOYMENT - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 28 - EXTEND CURBSIDE MAST**<br><br>Set MAST EXTENSION switch (**3**) to OUT.<br><br>Extend curbside mast. | **Step 28 - WATCH CABLES**<br><br>Watch curbside cable, tell soldier A to stop mast extension if cables are entangled. | **Step 28 -- GUIDE CURBSIDE MAST CABLES**<br><br>Guide cable (**1**) out of curbside cable tray (**2**).<br><br>Tell soldier A to stop mast extension if cable becomes entangled or fouled.<br><br>Close cable tray covers when mast is fully extended. |

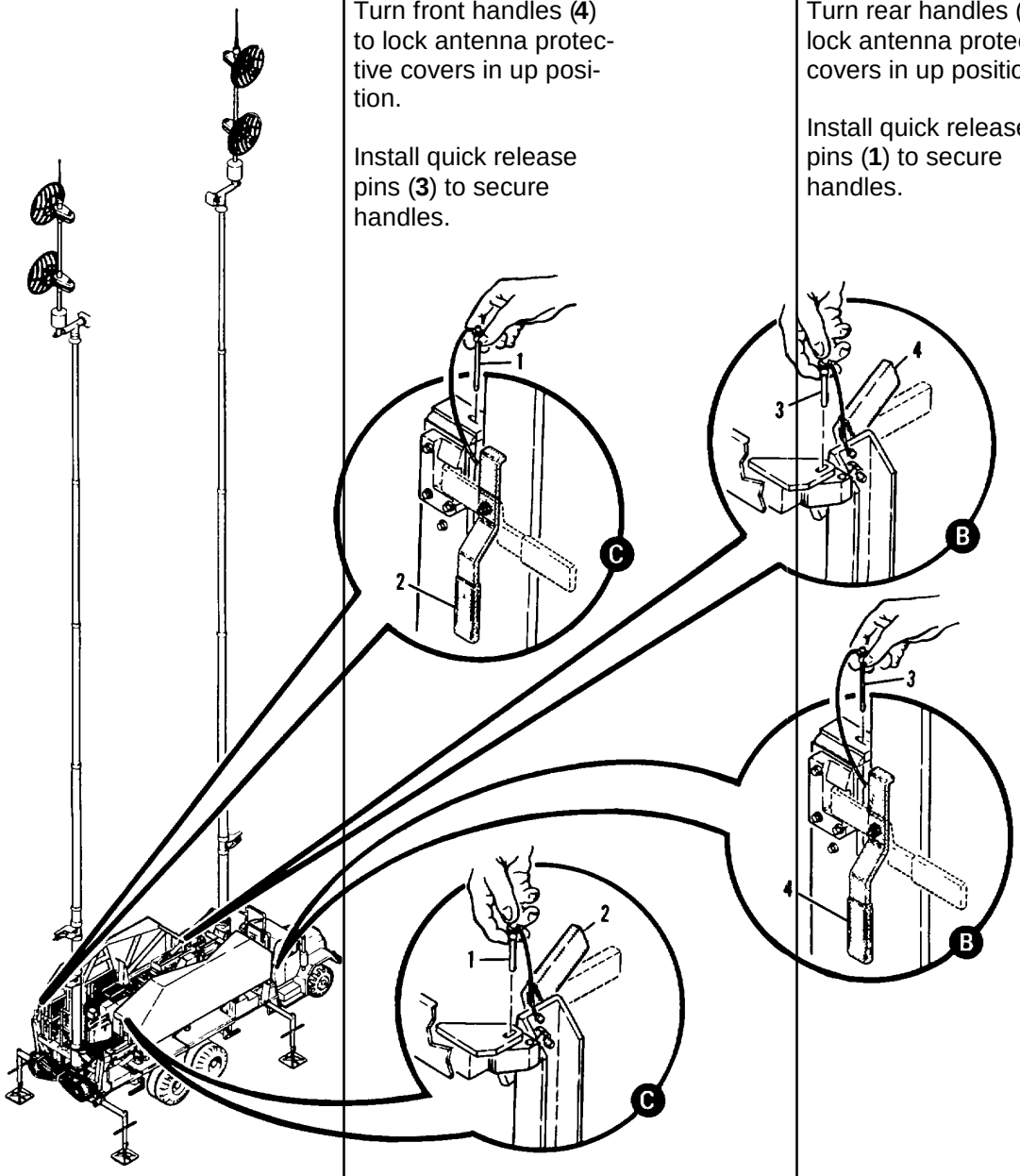


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| You have completed your tasks. | **Step 29 - RAISE ROADSIDE ANTENNA PROTECTIVE COVER**<br><br>Place roadside antenna protective cover control valve lever (**1**) to UP.<br><br>Pump handle (**2**) up and down to raise cover, make sure handle is left in down position.<br><br>Place control valve lever (**1**) to HOLD.<br><br>Turn air vent on plug (**3**) clockwise to close vent. | **Step 29 - RAISE CURBSIDE ANTENNA PROTECTIVE COVER.**<br><br>Place curbside antenna protective cover control valve lever (**4**) to UP.<br><br>Pump handle (**5**) up and down to raise cover, make sure handle is left in down position.<br><br>Place control valve lever (**4**) to HOLD.<br><br>Turn air vent on plug (**6**) clockwise to close vent. |



## 2-15. MAST DEPLOYMENT - Continued

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| You have completed your tasks. | **Step 30 - LOCK ANTENNA PROTECTIVE COVERS FRONT HANDLES**<br>Turn front handles (**4**) to lock antenna protective covers in up position.<br><br>Install quick release pins (**3**) to secure handles. | **Step 30 - LOCK ANTENNA PROTECTIVE COVERS REAR HANDLES**<br>Turn rear handles (**2**) to lock antenna protective covers in up position.<br><br>Install quick release pins (**1**) to secure handles. |



## 2-16. PREPARATION OF MAST GROUP FOR OPERATION FROM SHELTER

After masts are deployed, perform the following steps before operating the mast group from the ECS/ICC/CRG:

- SET DISTRIBUTION BOX 7A1A1 SWITCHES
- SET AMPLIFIER MODE
- STOW SOUND POWERED PHONES

Here's how you prepare your mast group for operation:

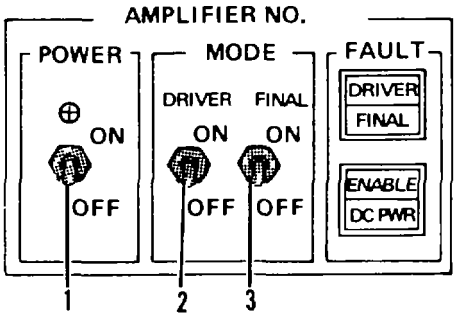
a. Set distribution box 7A1A1 switches.

**WARNING**

**Do not apply power to antenna amplifier assemblies until masts have been raised and distribution box switches have been properly set.**

Before applying power to the mast group, place the distribution box 7A1A1 switches as follows:

(1) Place all POWER ON/OFF circuit breakers (**1**) to OFF.
(2) Place all MODE DRIVER ON/OFF switches (**2**) to OFF.
(3) Place all MODE FINAL ON/OFF switches (**3**) to OFF.




Report to ECS/ICC/CRG that antenna can be positioned in azimuth and that power can be applied to antenna amplifier assemblies.

**2-16. PREPARATION OF MAST GROUP FOR OPERATION FROM SHELTER - Continued**

b. Set amplifier mode at distribution box 7A1A1.

**NOTE**

**Check your communications plan to determine what mode each amplifier is to be set.**

(1) By-pass mode

(a) Set POWER ON/OFF circuit breaker (1) to OFF.

(b) Set MODE DRIVER ON/OFF (2) and FINAL ON/OFF (3) switches to OFF.

(2) Driver mode

(a) Set POWER ON/OFF circuit breaker (9) to ON.

(b) Check that DC POWER (5) and ENABLE (4) indicator lights are illuminated.

(c) Set MODE DRIVER ON/OFF switch (10) to ON.

**NOTE**

**If MODE FINAL ON/OFF switch is set to ON and MODE DRIVER ON/OFF switch is set to OFF, nothing will happen. Amplifier will stay in by-pass mode.**

(3) Final mode

(a) Set POWER ON/OFF circuit breaker (8) to ON.

(b) Set MODE DRIVER ON/OFF switch (7) to ON.

(c) Set MODE FINAL ON/OFF switch (6) to ON.

**NOTE**

**If POWER circuit breaker trips to OFF or there is any other problem with distribution box 7A1A1, notify maintenance personnel or your supervisor.**

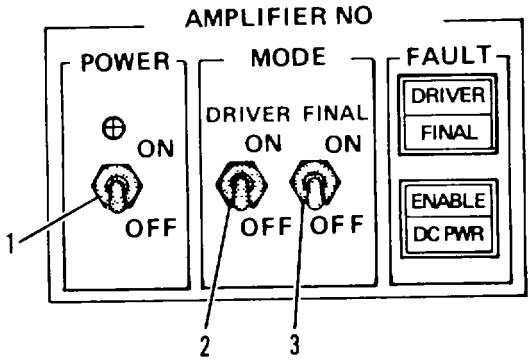
Mast group is now ready for operation from shelter.

**WARNING**

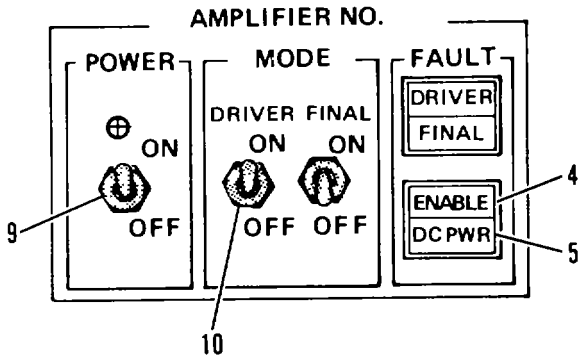
**Keep lock strut installed at all times when mast is vertical.**

**WARNING**

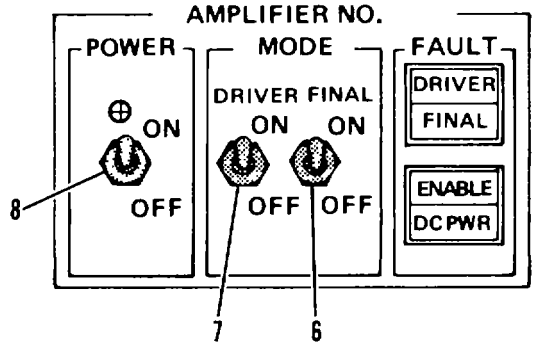
**Immediately retract both masts if personnel in shelter (ECS/ICRG/ICC) tell you that status monitor alarm (see TM 9-1430-604-10 (CRG), TM 9-1430-600-10-1 (ECG), or TM9-1430-602-10-1 (ICC)) is on.**




BY-PASS MODE




DRIVER MODE




FINAL MODE

c. Stow sound powered phones (para 2-18, step b).

## 2-17. MAST STOWAGE

Overview

These procedures are given so three soldiers can quickly and safely stow the masts. Each soldier is labelled either A, B, or C. If you are Soldier A read the procedure in the SOLDIER A column. Look at bubble marked A on the illustration. If you need to know what the other soldiers are doing while you perform a step, merely look at their steps on the same page. This way the actions of all three soldiers will be coordinated.

**WARNING**

**It is important you do not get ahead of the other soldiers in your crew. Performing steps out of sequence can be dangerous to personnel or damaging to equipment. Sometimes you must wait for another soldier to complete a step before you can start your next step.**

Soldier A will be the crew chief and will coordinate all activities between the shelter (CRG/ICC/ECS) and the mast group.

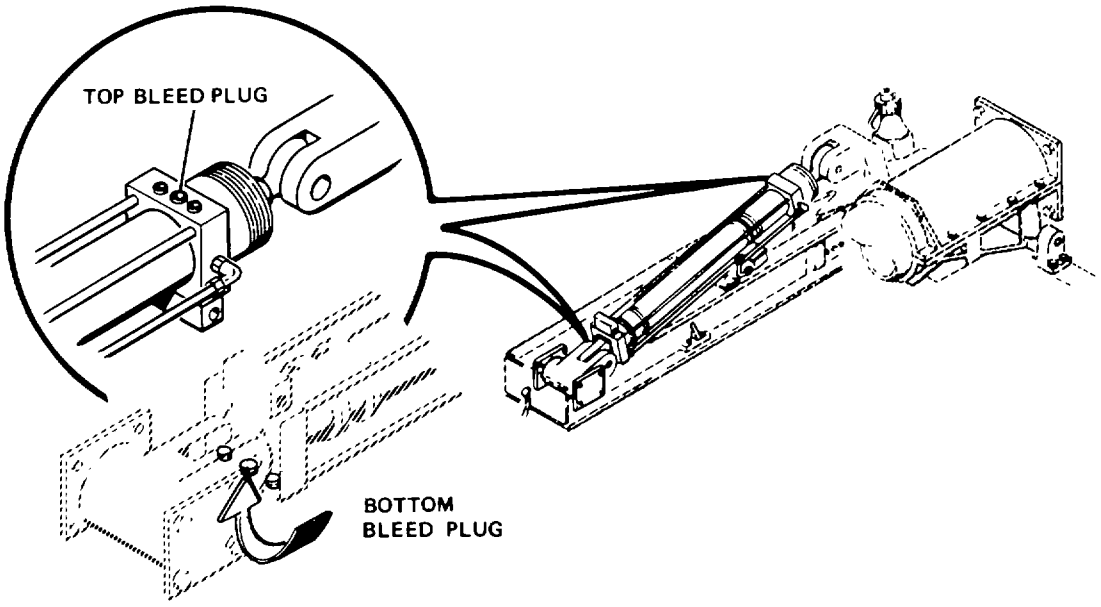
Soldier A will be stationed on the ground.

Soldier B will be stationed at the forward end of the mast group platform.

Soldier C will be stationed at the rear end of the mast, group platform.

**WARNING**

**NEVER attempt to open hydraulic bleed plugs on hydraulic cylinder. Mast can lower VERY RAPIDLY when bleed plugs are opened, severly injuring or killing personnel. If your mast will not lower, get Direct Support Maintenance personnel to help you.**



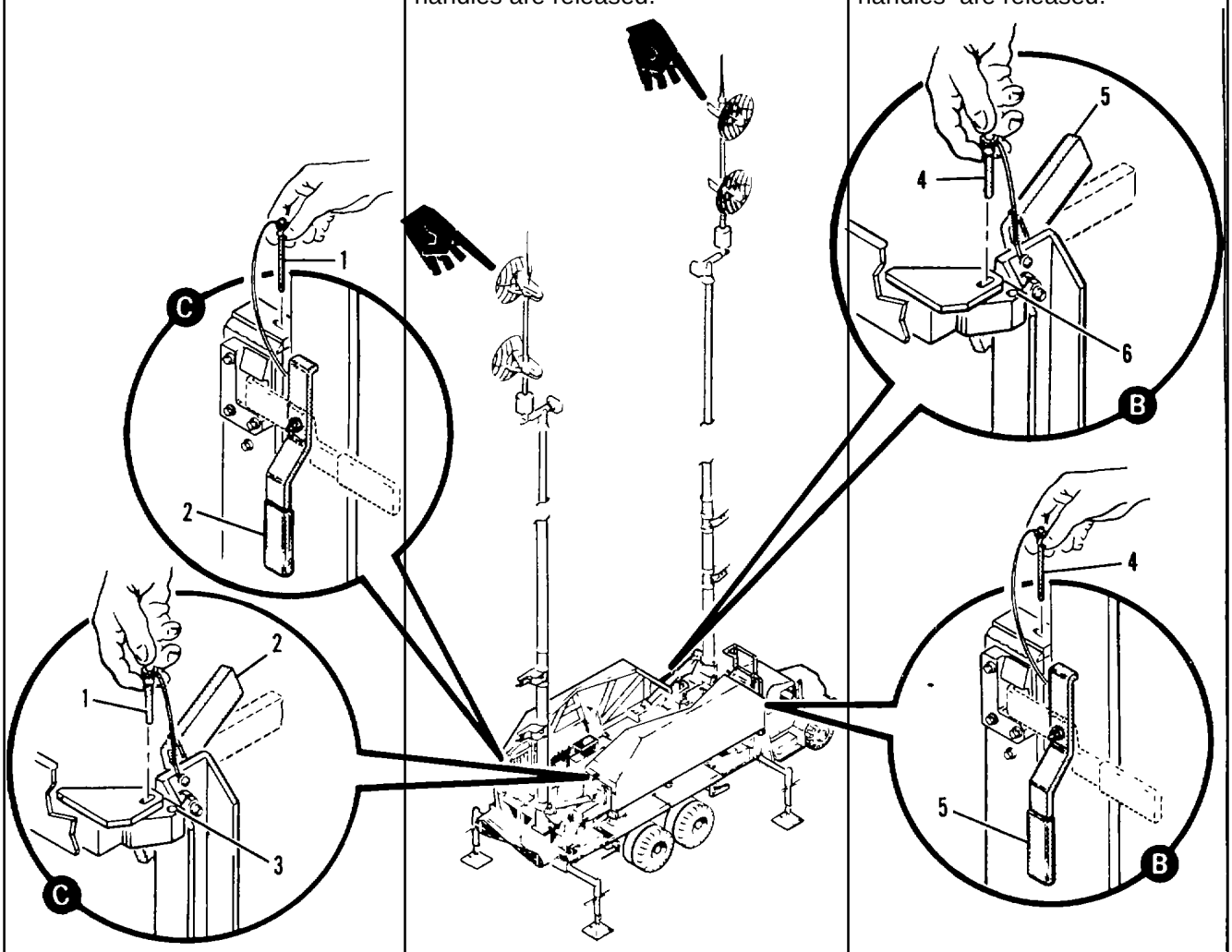
Here is a summary of each soldier's tasks:

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| •Coordinate activities between the mast group and the shelter (CRG/ ICC/ECS) | •Operate antenna protective cover forward handles | •Operate antenna protective cover rear handles |
| •Set and operate mast control switches | •Operate roadside antenna protective cover hand pump | •Operate curbside antenna protective cover hand pump |
| •Stow stabilizing struts | •Guide cables into roadside cable tray | •Guide cables into curbside cable tray |
| •Open PCA air flaps | •Stow roadside cylinder lock strut | •Stow curbside cylinder lock strut |
| | •Operate curbside antenna positioner | •Operate roadside antenna positioner |
| | •Secure forward antenna clamp | •Secure rear antenna clamps |
| | •If needed, adjust antenna elevation and polarization | •If needed, adjust antenna elevation and polarization |
| | •Stow curbside feedhorns | •Stow roadside antenna feedhorns |
| | •Help stow roadside antenna feedhorns | •Help stow curbside feedhorns |
| | •Secure curbside mast clamp | •Secure roadside mast clamp |

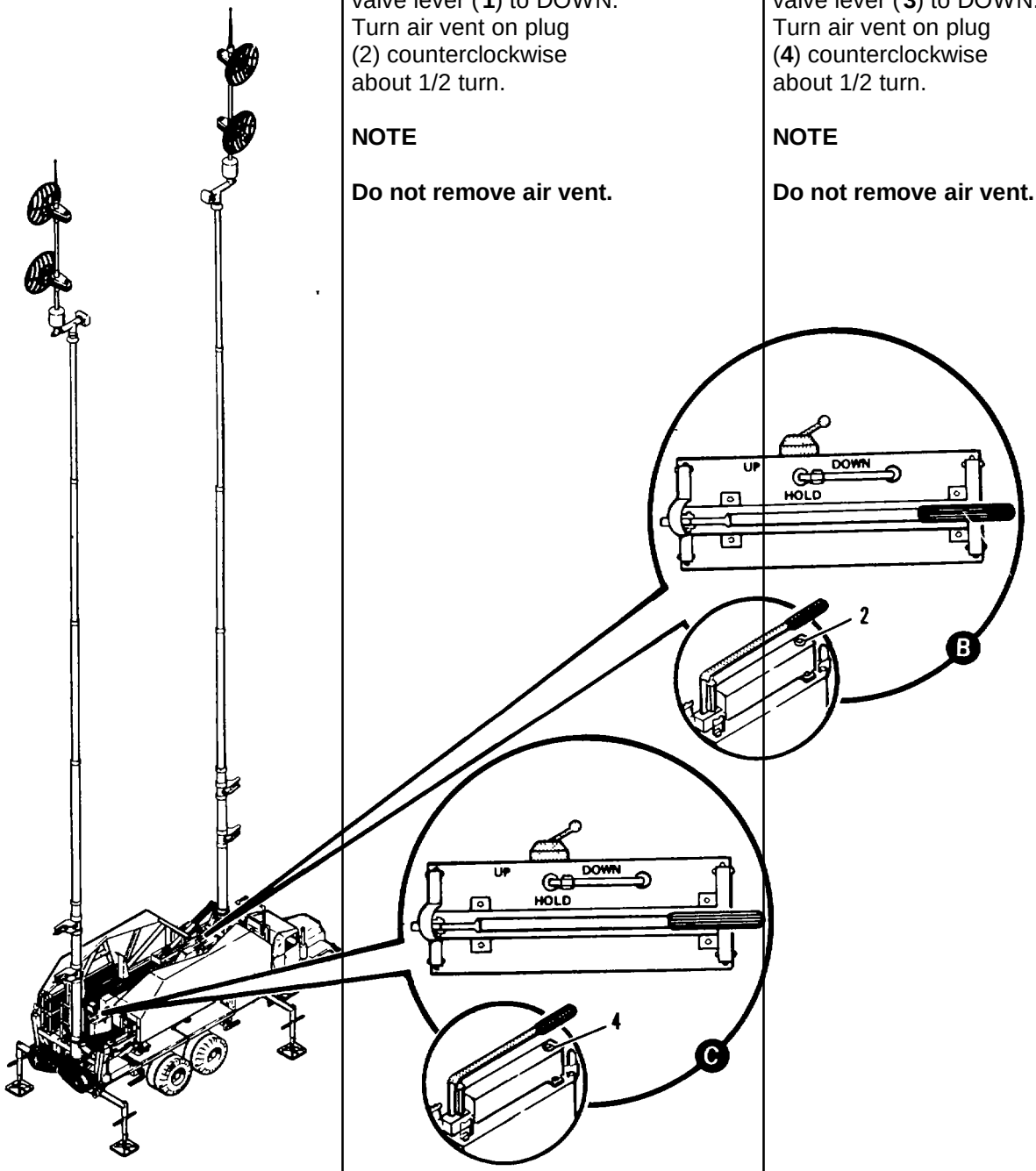
**NOTE**

Soldier A must be able to communicate with the shelter during mast stowage. Connect sound powered phones (para 2-14, step g),

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 1 - BREAK PROTECTIVE COVERS FRONT RETAINING HANDLES** | **Step 1 - RELEASE ANTENNA PROTECTIVE COVERS REAR RETAINING HANDLES**<br><br>Pull quick release pins (**4**) and stow them in holes (**6**).<br><br>Turn front handles (**5**) to release antenna protective covers.<br><br>Tell soldier C front handles are released. | **Step 1 - RELEASE ANTENNA**<br><br>Pull quick release pins (**1**) and stow them in holes (**3**).<br><br>Turn rear handles (**2**) to release antenna protective covers.<br><br>Tell soldier B rear handles are released. |

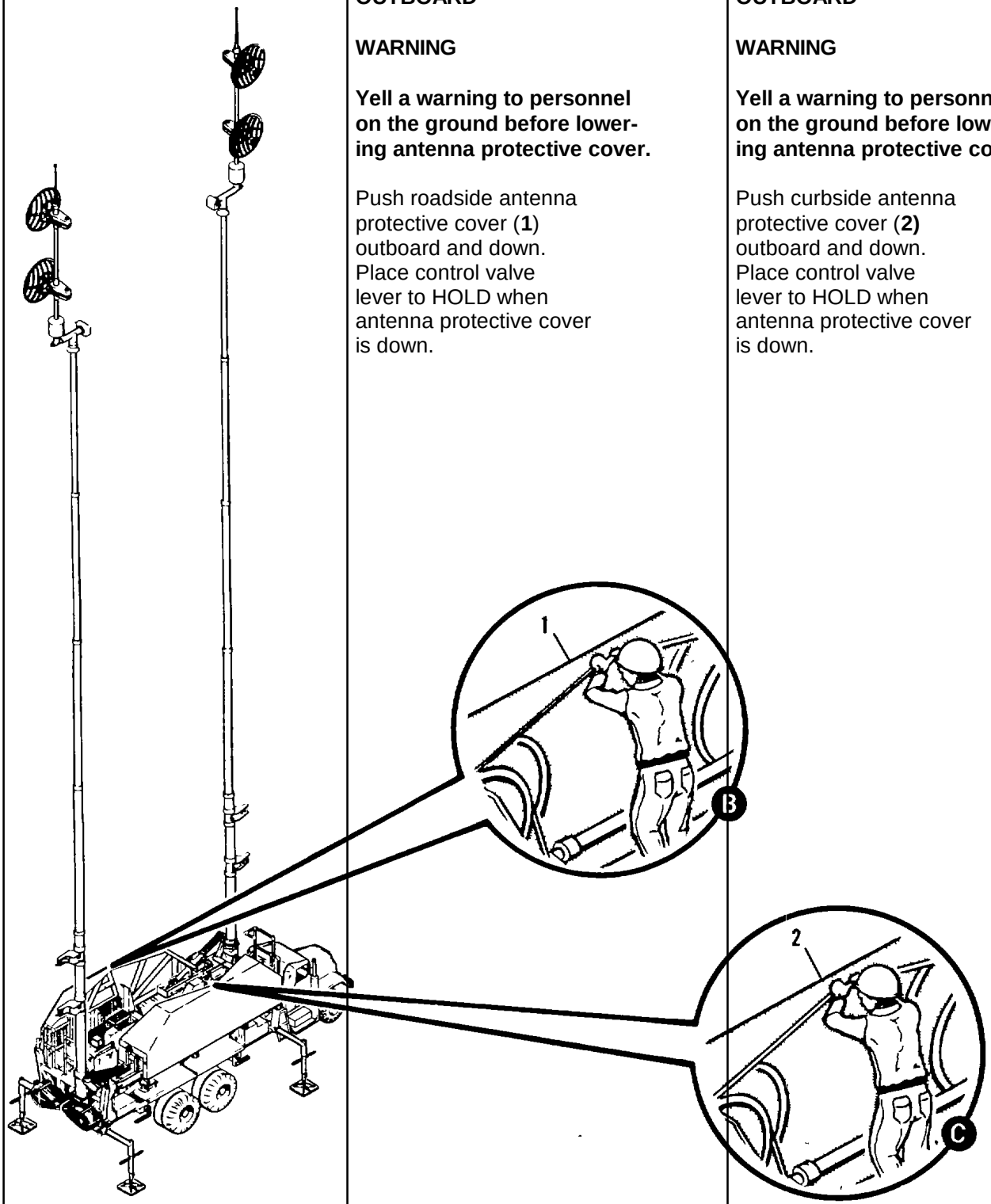


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 2 - BREAK** | **Step 2 - SET ROADSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER DOWN, OPEN AIR VENT**<br><br>Set roadside control valve lever (**1**) to DOWN. Turn air vent on plug (2) counterclockwise about 1/2 turn.<br><br>**NOTE**<br><br>**Do not remove air vent.** | **Step 2 - SET CURBSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER DOWN, OPEN AIR VENT**<br><br>Set curbside control valve lever (**3**) to DOWN. Turn air vent on plug (**4**) counterclockwise about 1/2 turn.<br><br>**NOTE**<br><br>**Do not remove air vent.** |

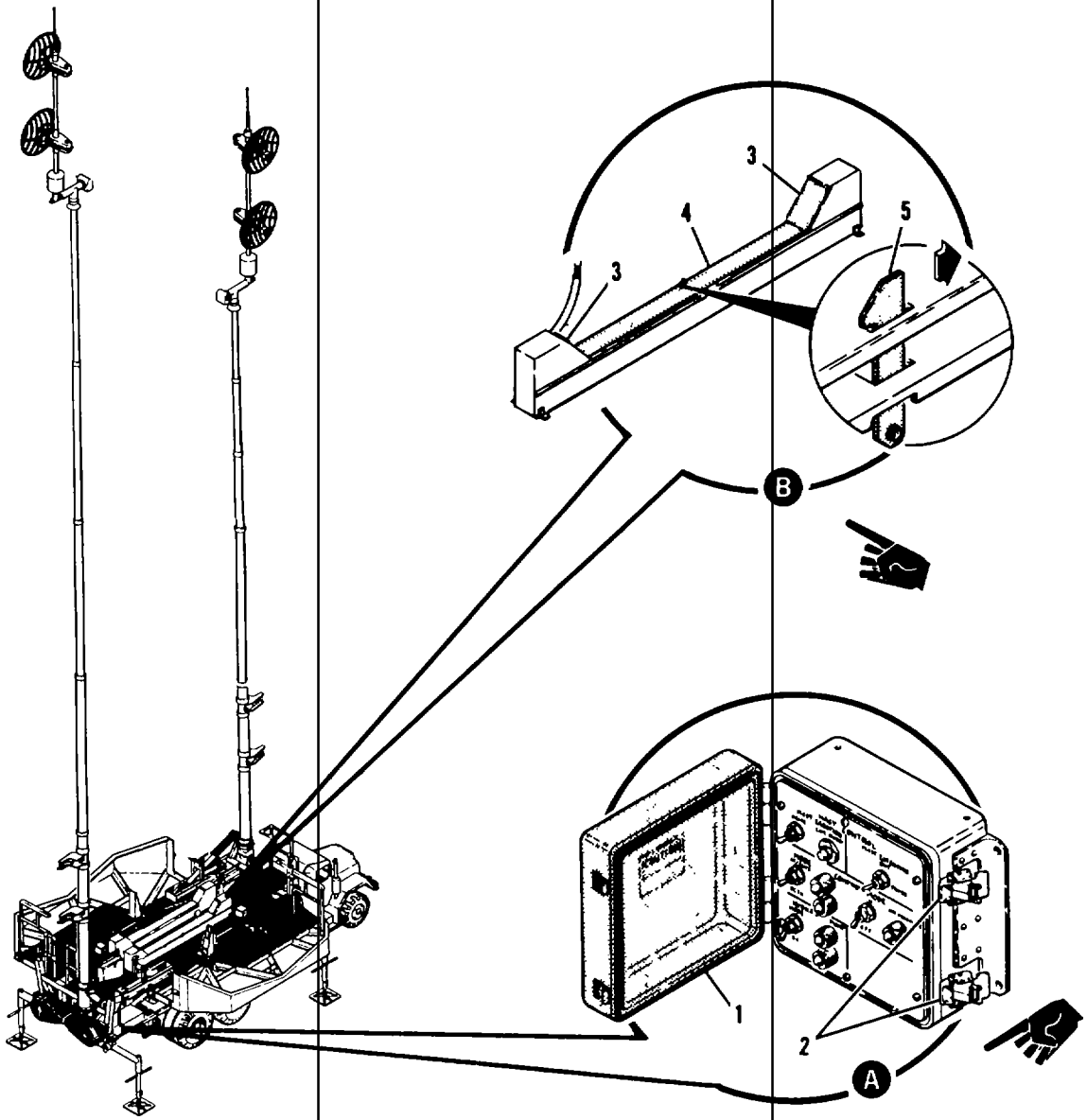


**2-17. MAST STOWAGE - continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 3 - BREAK** | **Step 3 - PUSH ROADSIDE ANTENNA PROTECTIVE COVER COVER OUTBOARD**<br><br>**WARNING**<br><br>**Yell a warning to personnel on the ground before lowering antenna protective cover.**<br><br>Push roadside antenna protective cover (**1**) outboard and down. Place control valve lever to HOLD when antenna protective cover is down. | **Step 3 - PUSH CURBSIDE ANTENNA PROTECTIVE**<br><br>**OUTBOARD**<br><br>**WARNING**<br><br>**Yell a warning to personnel on the ground before lowering antenna protective cover.**<br><br>Push curbside antenna protective cover (**2)** outboard and down. Place control valve lever to HOLD when antenna protective cover is down. |

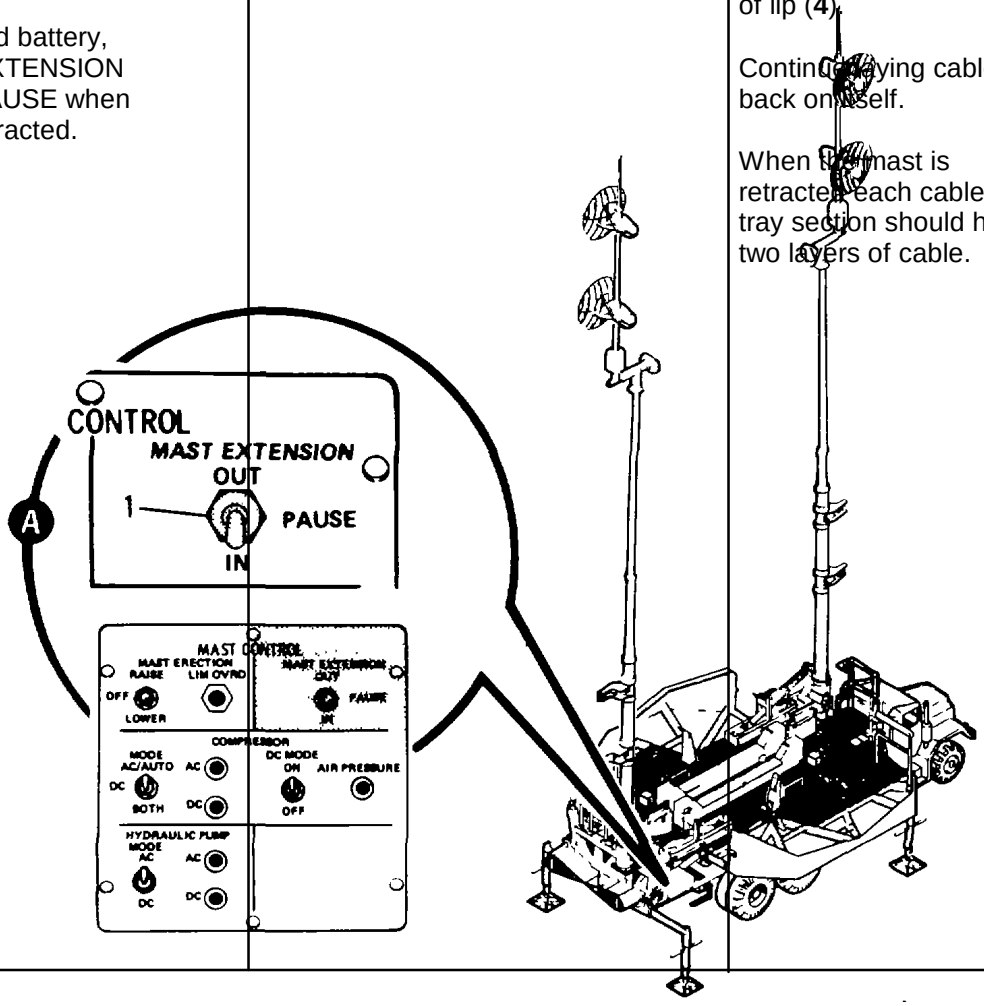


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 4 · OPEN CURBSIDE MAST CONTROL DOOR**<br>Release two clamps (**2**) and swing mast control door (**1**) open. | **Step 4 . OPEN CURBSIDE CABLE TRAY COVERS**<br>Release cable tray cover clamp (**5**).<br><br>Swing middle cover (**4**) open.<br>Then swing end covers (**3**) open. | **Step 4. BREAK** |



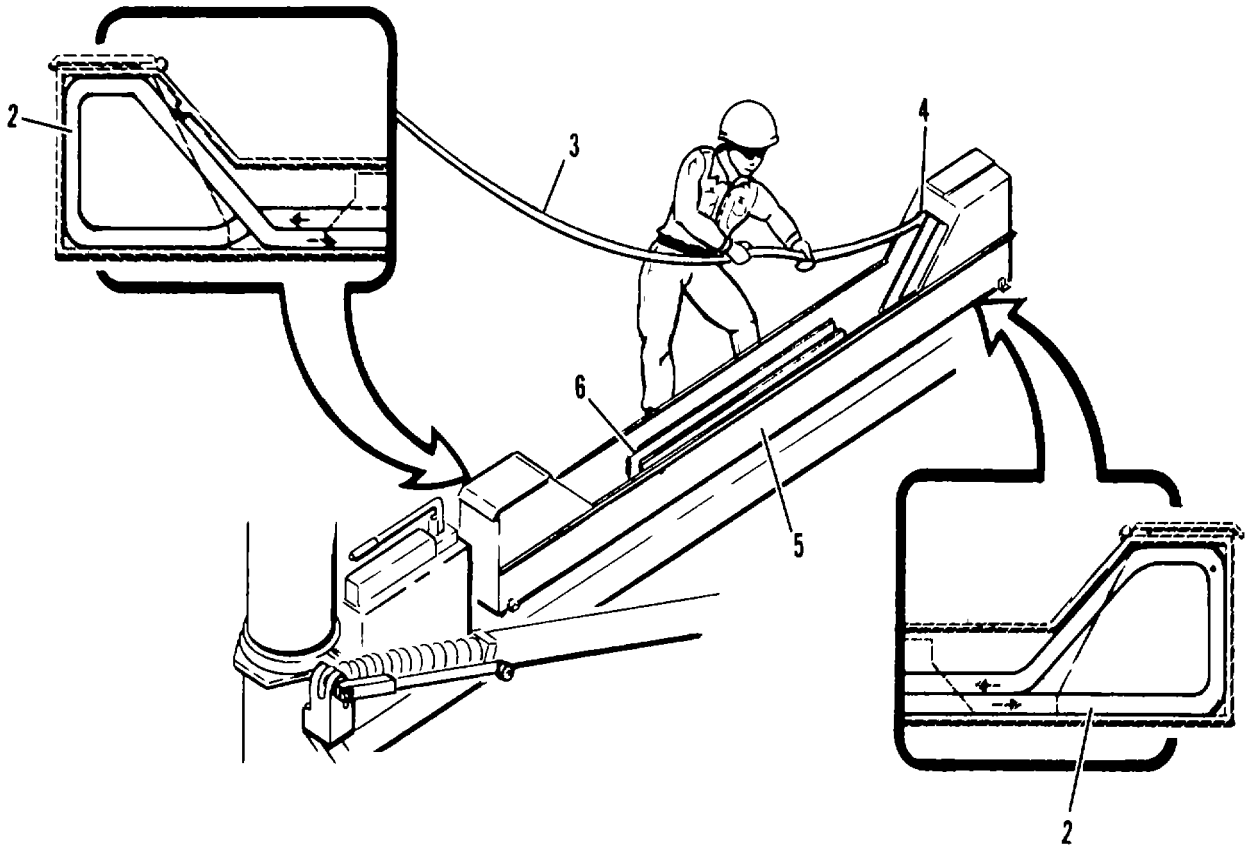
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 5 - RETRACT CURB-SIDE MAST**<br><br>**WARNING**<br>**Tell soldier C you are go. Ing to retract most. Make sure he Is ready to guide cable as mast comes down.**<br><br>**CAUTION**<br>**Guide cable (3) into Watch cable as mast comes down. Stop mast retraction If cable become entangled or fouled.**<br><br>Set MAST EXTENSION switch (**1**) to IN and retract the mast.<br><br>To avoid a dead battery, place MAST EXTENSION switch (**1**) to PAUSE when mast is fully retracted. | **Step 5 - WATCH CURBSIDE CABLE**<br>Observe curbside cable as mast is retracted.<br><br>Tell soldier A to stop mast retraction if cable becomes entangled. | **SEE ILLUSTRATION ON FACING PAGE.**<br>**Step 5 - GUIDE CURBSIDE CABLE INTO CABLE TRAY**<br><br>**CAUTION**<br><br>**Tell soldier A to stop mast retraction if cable becomes fouled.**<br><br>cable tray (**5**) as mast comes down.<br><br>Start laying the cable in the inboard section (**6**) of the cable tray.<br><br>Make a loop (**2**) in cable and tuck loop under end of lip (**4**).<br><br>Continue laying cable back on itself.<br><br>When the mast is retracted, each cable tray section should have two layers of cable. |



**NOTE**

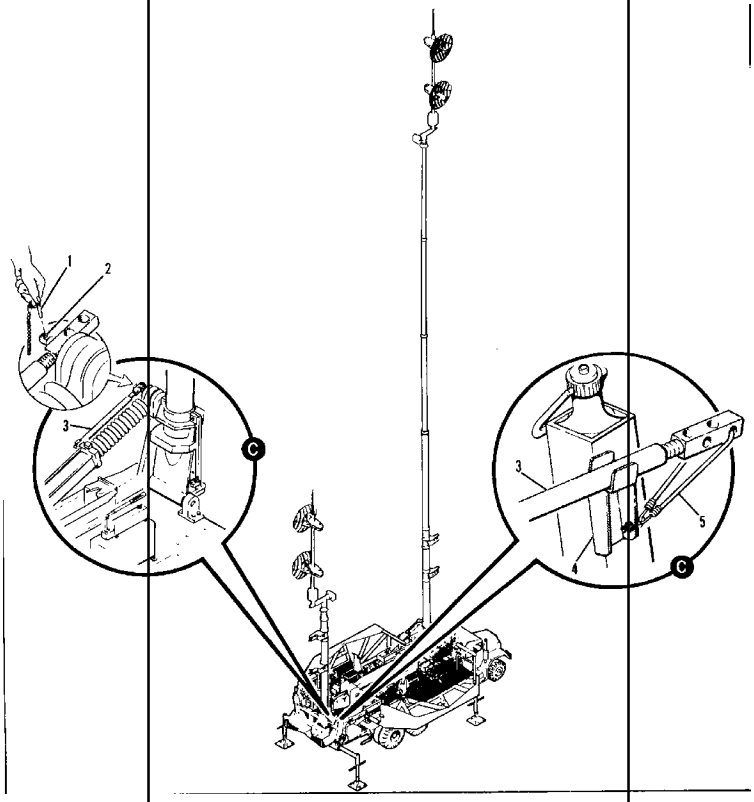
If mast covers have been deployed, see paragraph 2-20, step (2), mast cover stowage, before retracting mast.




**SOLDIER C**

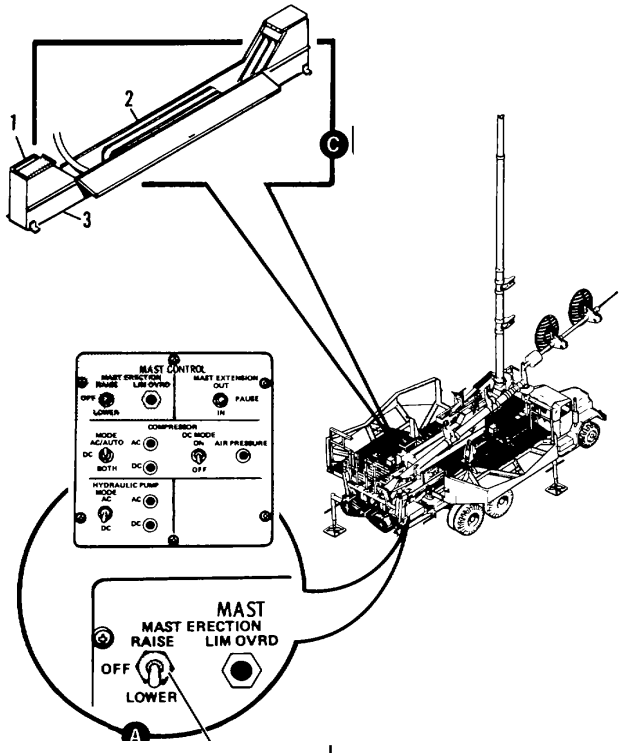
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 6 - BREAK**<br><br>Wait until soldier C has stowed lock strut and is out of the path of the curbside mast before starting your next step.<br><br>**CAUTION**<br><br>**DO NOT OPERATE MAST ERECTION SWITCH WITH LOCK STRUT INSTALLED.** | **Step 6 - BREAK**<br><br>**STOW CURBSIDE LOCK STRUT**<br><br>**WARNING** | **Step 6 - RELEASE AND**<br><br>Pull quick release pin (1) securing lock strut (3) to mast clamp pin (2).<br><br>Pull lock strut from pin.<br><br>Place lock strut (3) in stowage bracket (4).<br><br>Secure strut with elastic cord (5).<br><br>**Do not release lock strut if hydralic system is leaking or not working.** |



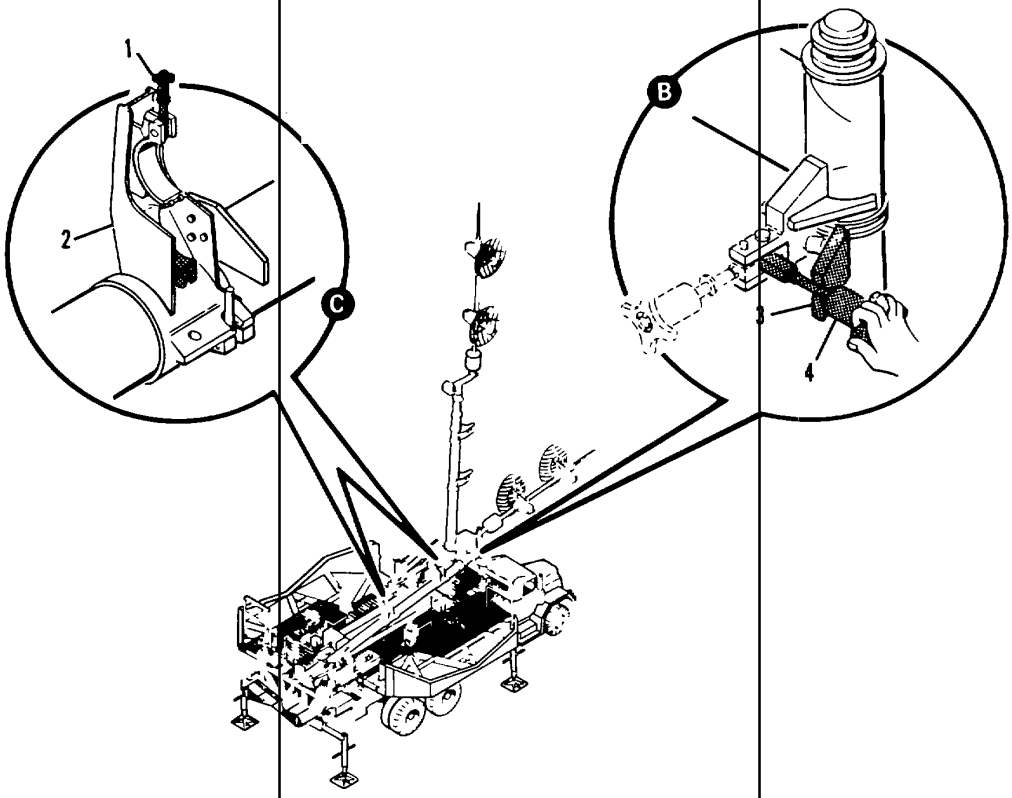
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 7 - LOWER CURBSIDE MAST TO 10 DEGREE POSITION**<br><br>**WARNING**<br><br>**Be sure mast travel path Is clear of personnel before lowering mast.**<br><br>**CAUTION**<br><br>**Take care antennas of one mast do not get entangled in the cables of the other mast, nor the feedhorns of one mast strike the feedhorns of the other mast.**<br><br>**CAUTION**<br><br>**Do not leave mast at 10 degree position for extend. ed periods when using dc power. If left in this position, current will continue to drain from battery.**<br><br>Set MAST ERECTION switch (4) to LOWER and lower mast; mast will automatically stop at 10 degree position.<br><br>**NOTE**<br><br>**If mast fails to lower there may be a small amount of air left in the mast. Place MAST EXTENSION switch to IN to exhaust all air from mast. Be sure to place the switch back to PAUSE to avoid a dead battery.** | **Step 7 - HOLD ROADSIDE MAST CABLES**<br><br>Hold the roadside mast cables tight against the mast.<br><br>Tell soldier A to stop mast movement if curbside mast becomes entangled in the roadside mast cables or the feedhorn are about to strike the other mast's feedhorns. | **Step 7 - GUIDE CURBSIDE CABLE INTO TRAY**<br><br>**WARNING**<br><br>**Stand clear of the curbside mast. Tell soldier A you are ready to guide cable into tray**<br><br>Guide cable into outboard section (2) of cable tray (3) as mast is lowered.<br><br>Close narrow cover (1) at forward end of cable tray. |



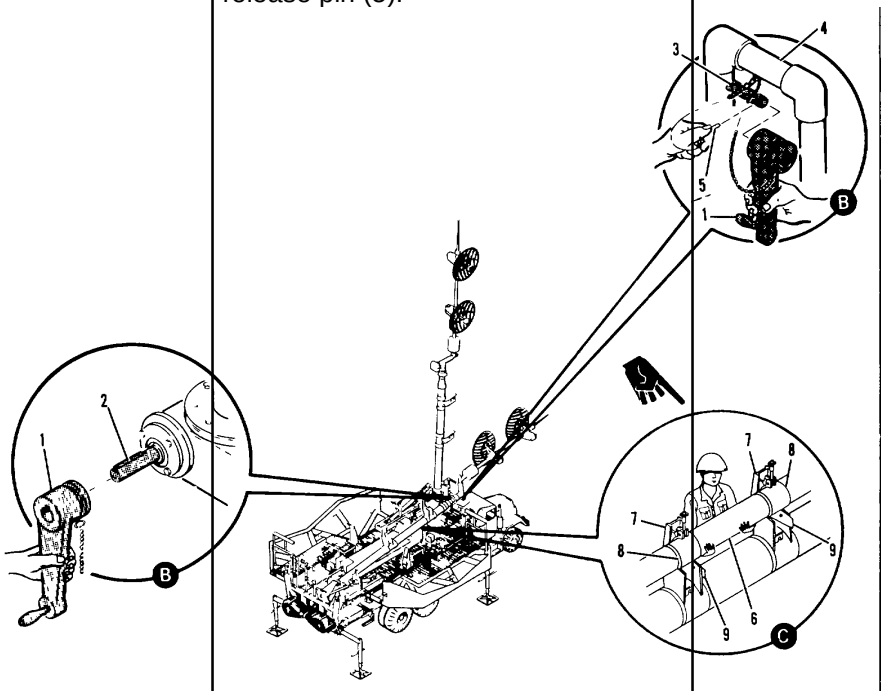
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 8 - CONTACT SHELTER (CRG/ICC/ECS)**<br><br>Contact shelter and make sure the curbside antennas (or roadside antennas, if stowing the roadside mast first) have been rotated in azimuth to the stowed position. | **Step 8 - RELEASE CURBSIDE ANTENNA POSITIONER**<br><br>**WARNING**<br><br>**Stand clear of antennas if they are being rotated to the stowed position. You could be severely injured.**<br><br>Turn swivel handle (4) counterclockwise to release handle.<br><br>Rotate handle out of notch in bracket (3) until you feel handle detent click into place. Screw swivel handle (4) in to prevent handle from striking handrail as mast is finally lowered. | **Step 8 - CHECK ANTENNA CLAMP HANDKNOBS**<br><br>**WARNING**<br><br>**Stand clear of antennas if they are being rotated to the stowed position. You could be severely injured.**<br><br>Check handknobs (1) on antenna clamps (2) to make sure they are in the up position.<br><br>Handknobs must not obstruct clamps. |



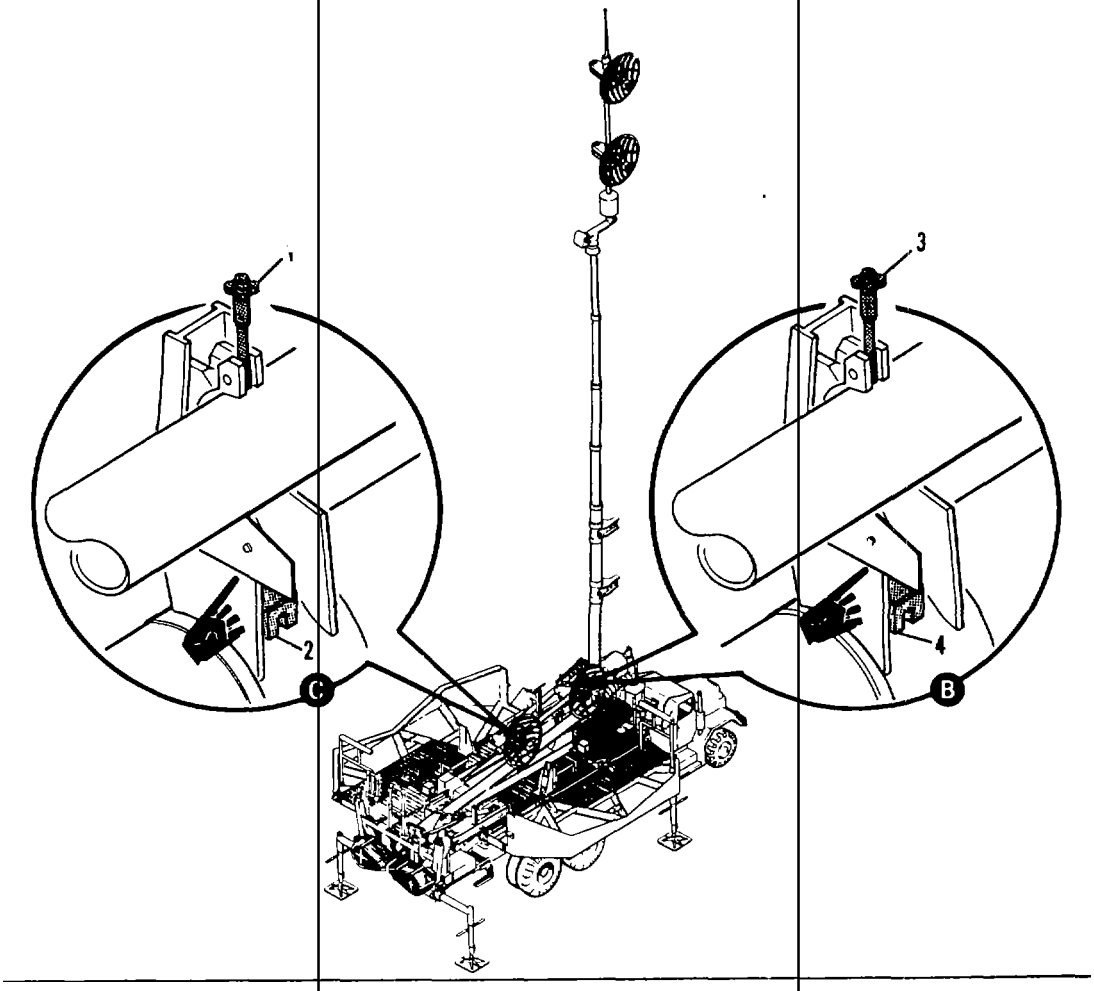
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 9 - CONTACT SHELTER (CRG/ICC/ECS)**<br><br>Contact shelter and make sure the curbside antennas (or roadside antennas, if stowing the roadside mast first) have been rotated in azimuth to the stowed position. | **Step 9 - FOLD CURBSIDE ANTENNA AMPLIFIER ASSEMBLIES AND STOW POSITIONER HANDLE**<br><br>Pull quick release pin (5) securing handle (1) to shaft (3) on handrail (4).<br><br>Remove handle.<br><br>Install handle on antenna positioner shaft (2).<br><br>Turn handle (1) counterclockwise to fold antenna amplifier assemblies.<br><br>Pull handle (1) from antenna positioner shaft (2).<br><br>Place handle (1) on shaft (3) on handrail (4) and install quick release pin (5). | **Step 9 - HELP STOW ANTENNA AMPLIFIER ASSEMBLIES**<br><br>Watch that antennas do not strike antenna protective cover. Tell soldier B to stop folding antennas if there are any obstructions.<br><br>Lift and guide antenna assembly (6) into antenna clamps (7). Mast sleeves (8) should slide on mast guide plates (9). |



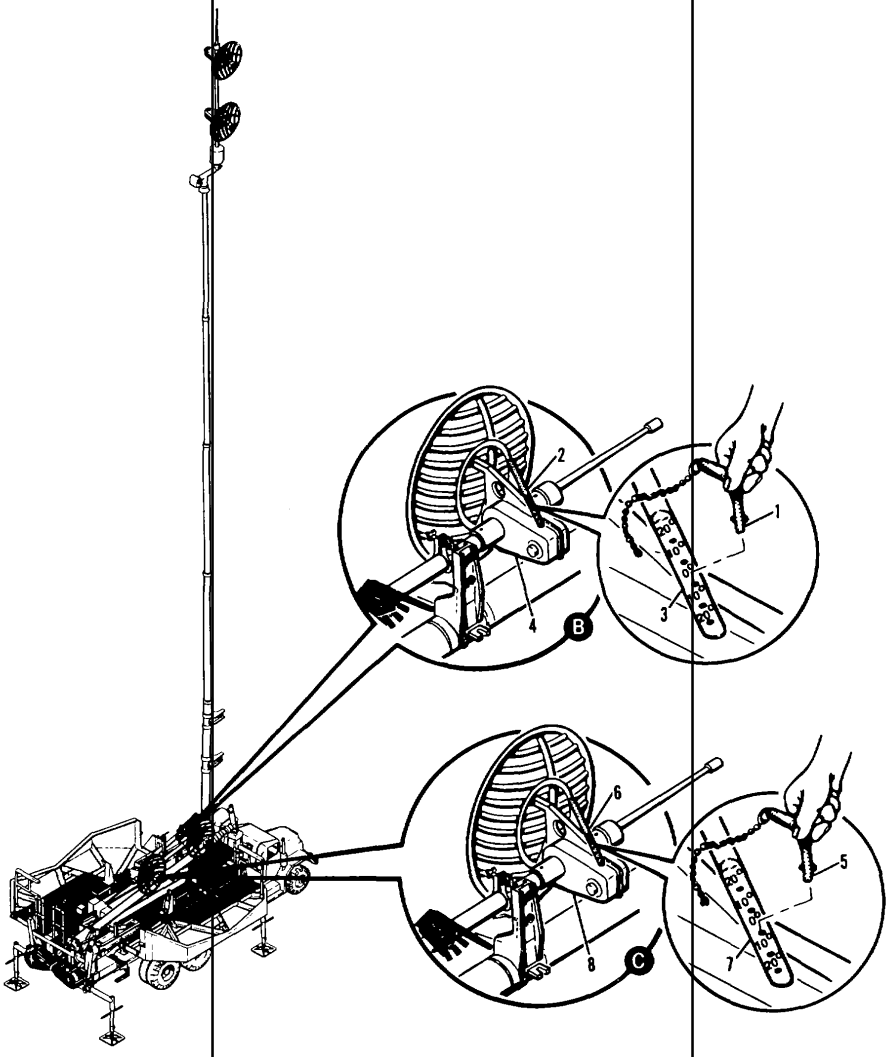
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 10 - CONTACT SHELTER (CRG/ICC/ECS)**<br><br>Contact shelter and make sure the roadside antennas (or curbside antennas, if stowing the have been rotated in azimuth to the stowed position. | **Step 10 - FASTEN FRONT CURBSIDE ANTENNA CLAMP**<br><br>**WARNING**<br><br>**Stand clear of antennas if they are being rotated to the stowed position. You could be severely injured.**<br><br>Swing clamp (4) up and over antenna mast.<br><br>Pull bolt (3) down to engage clamp.<br><br>Tighten bolt (3) to secure clamp. | **Step 10 - FASTEN REAR CURBSIDE ANTENNA CLAMP**<br><br>**WARNING**<br><br>**Stand clear of antennas if they are being rotated to the stowed position. You could be severely injured.**<br><br>Swing clamp (2) up and over antenna mast.<br><br>Pull bolt (1) down to engage clamp.<br><br>Tighten bolt (1) to secure clamp. |



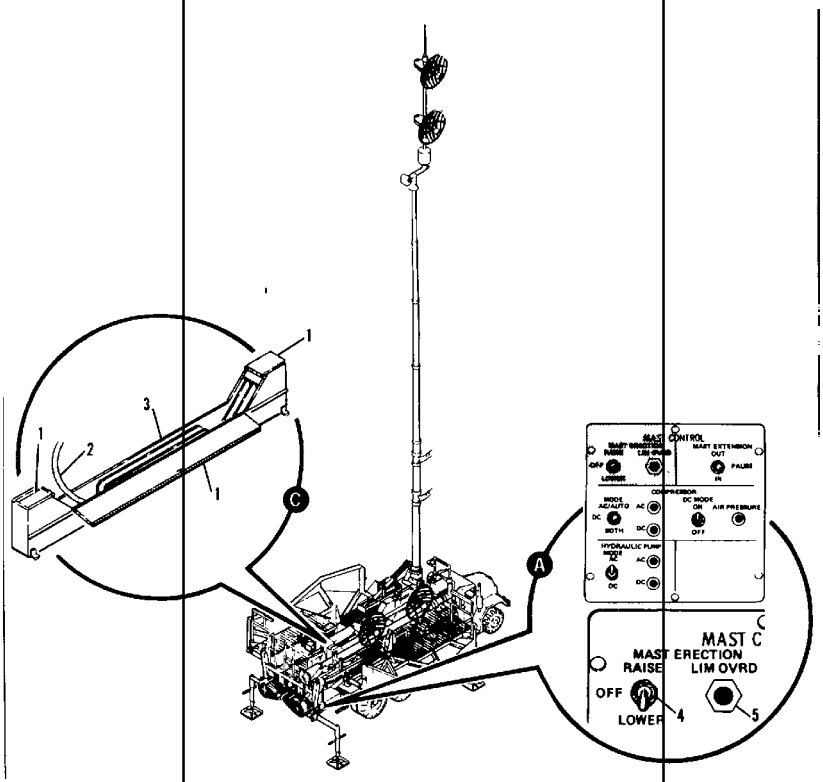
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 11 - BREAK PLACE CURBSIDE FRONT ANTENNA TO ZERO DEGREES IN ELEVATION** | **Step 11 - IF NECESSARY PLACE CURBSIDE REAR ANTENNA TO ZERO DEGREES IN ELEVATION**<br><br>Pull quick release pin (1) securing strut (2). Place antenna to zero degree position (3) in elevation.<br><br>Aline hole in strut (2) with hole in antenna driver (4).<br><br>Install quick release pin (1). | **Step 11 - IF NECESSARY**<br><br>Pull quick release pin (5) securing strut (6). Place antenna to zero degree position (7) in elevation.<br><br>Aline hole in strut (6) with hole in antenna driver (8).<br><br>Install quick release pin (5). |



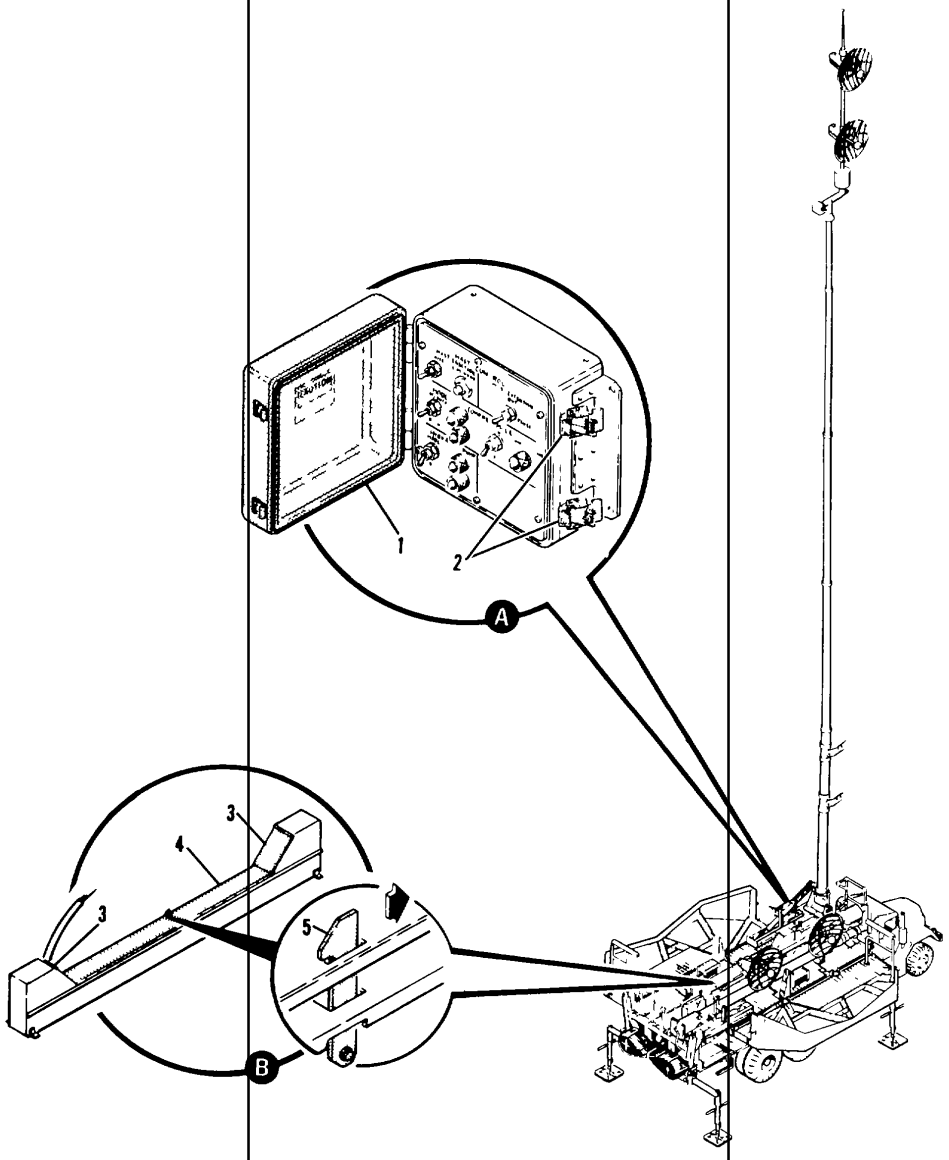
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 12 - LOWER CURBSIDE MAST TO HORIZONTAL POSITION**<br><br>**WARNING**<br>**Make sure roadside most travel path is clear of personnel and obstructions. Tell Soldiers B add C you're going to lower roadside mast.**<br><br>Hold MAST ERECTION switch (4) to LOWER and at the same time push LIM OVRD button (5) to lower mast.<br><br>Close and latch control panel door. | **Step 12 - WATCH CURBSIDE CABLE**<br><br>Make sure the roadside cable (2) does not get pinched between the mast and the mast clamp. | **Step 12 - GUIDE CABLE INTO CURBSIDE TRAY, CLOSE TRAY COVERS**<br><br>Guide cable (2) into cable tray (3) as curbside mast is lowered.<br><br>Close curbside cable tray covers (1). |



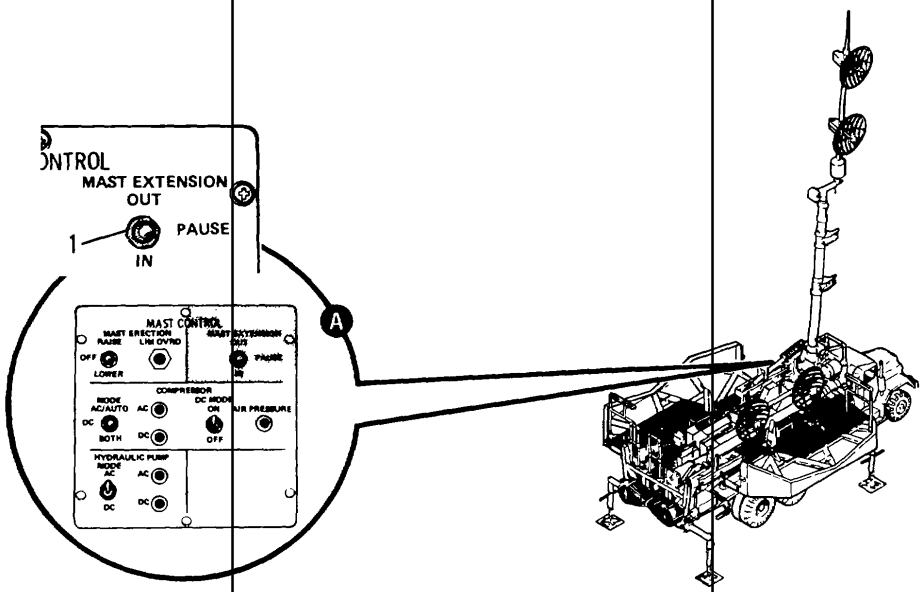
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 13 - OPEN ROADSIDE MAST CONTROL DOOR**<br><br>Release two clamps (2) and swing mast control door (1) open. | **Step 13 - OPEN CABLE TRAY COVERS**<br><br>Release cable tray cover clamp (5).<br><br>Swing middle cover (4) open.<br><br>Then swing end covers (3) open. | **Step 13 - BREAK** |



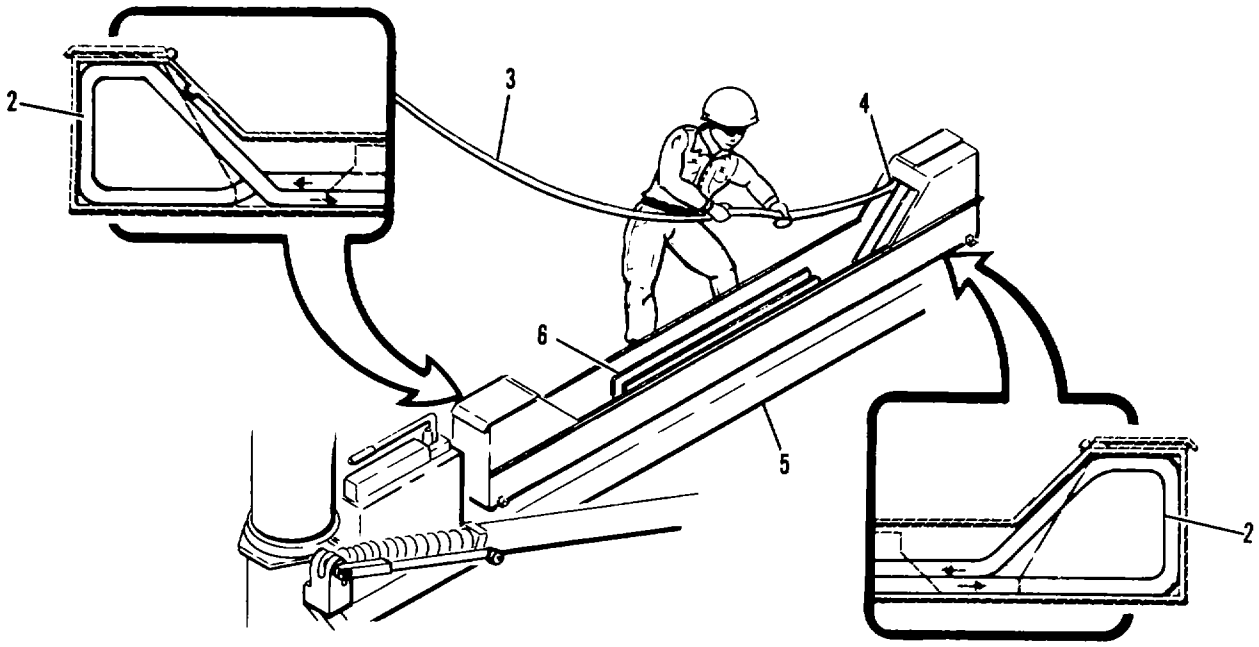
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 14 - RETRACT ROAD SIDE MASTS**<br><br>**WARNING**<br><br>**Tell soldier B you are going to retract mast. Make sure he is ready to guide cable as most comes down.**<br><br>**CAUTION**<br><br>**Watch cable as mast comes down. Stop mast retraction if cable becomes entangled or fouled.**<br><br>Set MAST EXTENSION switch (1) to IN and retract the mast.<br><br>To avoid a dead battery, place MAST EXTENSION switch (1) to PAUSE when mast is fully retracted. | **SEE ILLUSTRATION ON FACING PAGE.**<br><br>**Step 14 - GUIDE ROADSIDE CABLE INTO CABLE TRA**<br><br>**WARNING**<br><br>**Tell soldier A to stop mast retraction If cable becomes fouled.**<br><br>Guide cable (3) into cable tray (5) as mast comes down.<br><br>Start laying cable in the inboard section (6) of the cable tray.<br><br>Make a loop (2) in cable and tuck loop under end of lip (4).<br><br>Continue laying cable back on itself.<br><br>When mast is retracted each cable tray section should have two layers of cable. | **Step 14 - WATCH ROAD SIDE CABLES**<br><br>Watch the roadside cables. Tell soldier A to stop mast retraction if cables become entangled. |



**NOTE**

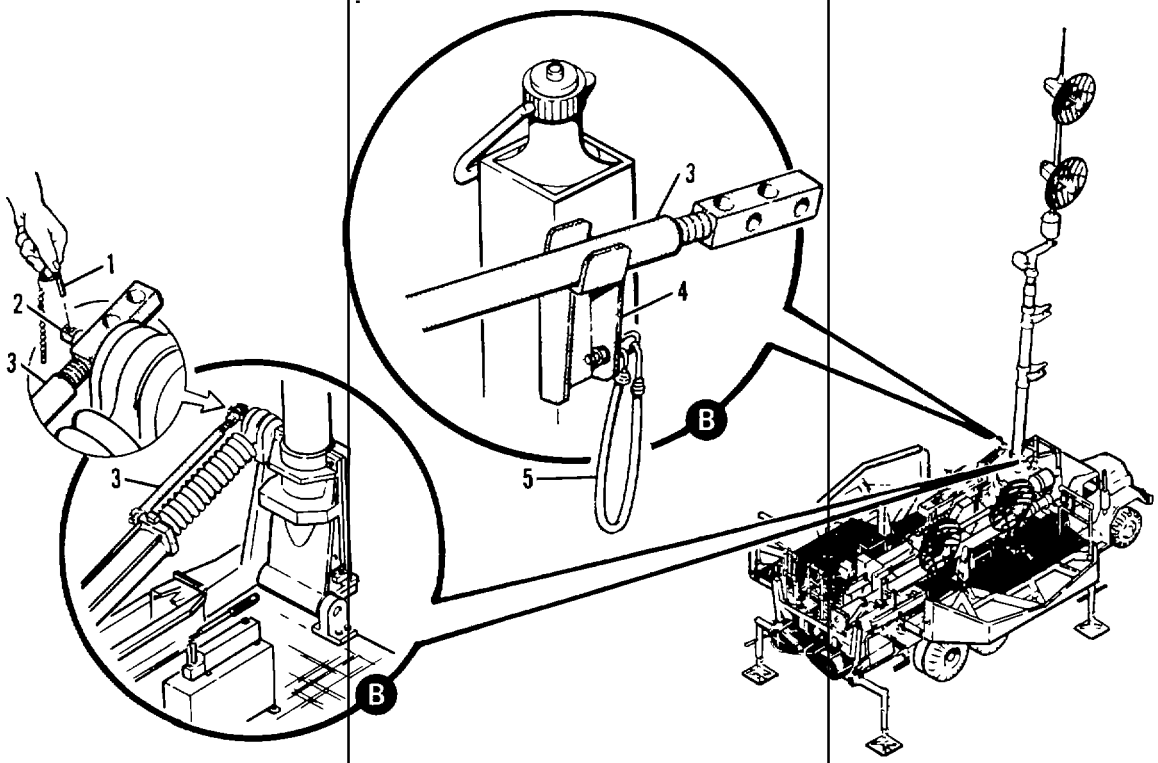
If mast covers have been deployed, see paragraph 2-20, step (2), mast cover stowage, before retracting mast.




**SOLDIER B**

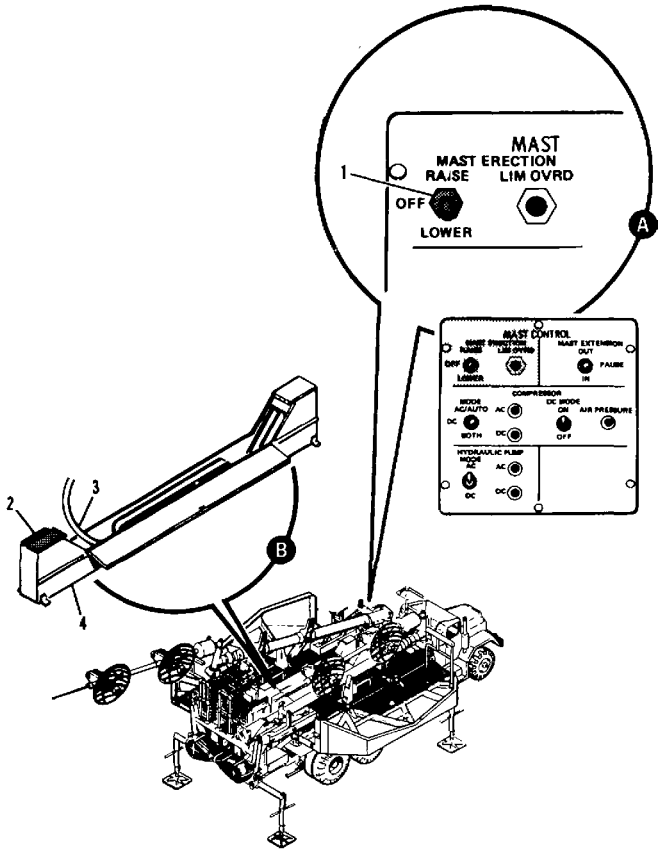
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step I5 - BREAK ROADSIDE LOCK STRUT**<br><br>Wait until soldier C has stowed lock strut and is out of the path of the curbside mast before starting your next step.<br><br>**CAUTION**<br><br>**DO NOT OPERATE MAST ERECTION SWITCH WITH LOCK STRUT INSTALLED.** | **Step 1 5 - RELEASE**<br><br>Pull quick release pin (1) securing lock strut (3) to mast clamp pin (2).<br><br>Pull lock strut from pin.<br><br>Place lock strut (3) in stowage bracket (4).<br><br>Secure strut with elastic cord (5).<br><br>**WARNING**<br><br>**Do not release lock strut if hydraulic system is leaking or not working.** | **Step 15 - BREAK** |



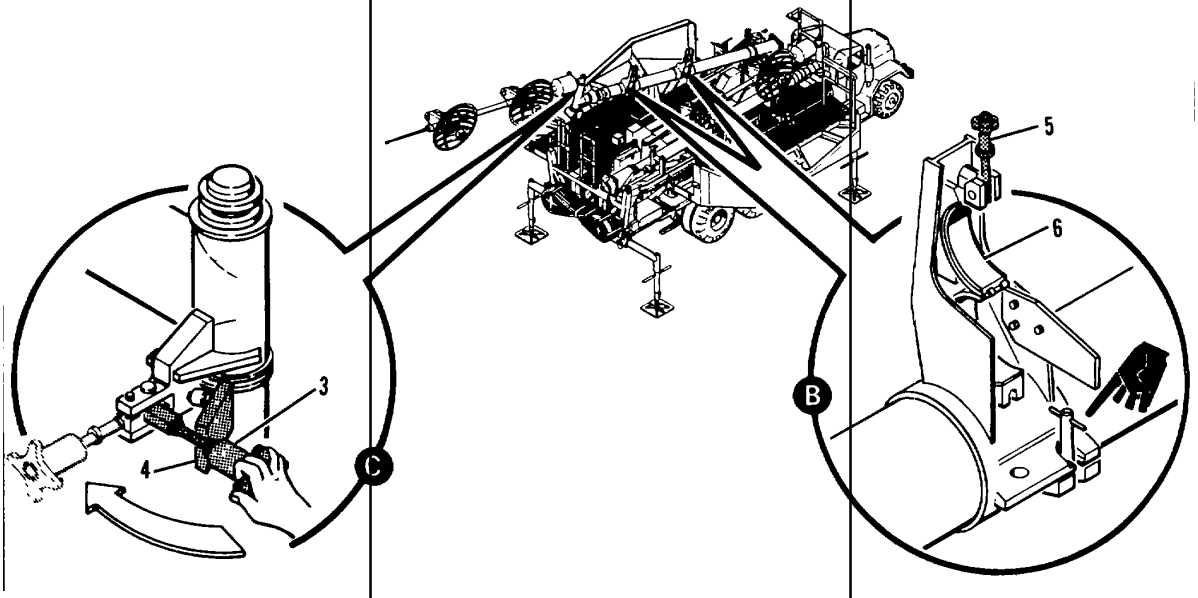
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 16 - LOWER ROADSIDE MAST TO 10 DEGREE POSITION**<br><br>**WARNING**<br><br>**Make certain mast travel path is clear of personnel or obstructions before lowering mast.**<br><br>**CAUTION**<br><br>**Do not leave mast at 10 degree position for extend. ed periods when using dc power. If left in this posi. tion, current will continue to drain from battery.**<br><br>Set MAST ERECTION switch (1) to LOWER and lower mast.<br><br>Mast will automatically stop at 10 degree position.<br><br>**NOTE**<br><br>**If mast fails to lower there may be a small amount of air left in the mast. Place MAST EXTENSION switch to IN to exhaust all air from mast, Be sure to place the switch back to PAUSE to avoid a dead battery.** | **Step 16 - GUIDE ROADSIDE CABLE INTO TRAY**<br><br>**WARNING**<br><br>**Stand clear of roadside mast. Tell soldier A you ore ready to guide cable into tray.**<br><br>Guide cable (3) into outboard section of cable tray (4) as mast is lowered.<br><br>Close narrow cover (2) at rear end of cable tray. | **Step 16 - BREAK** |



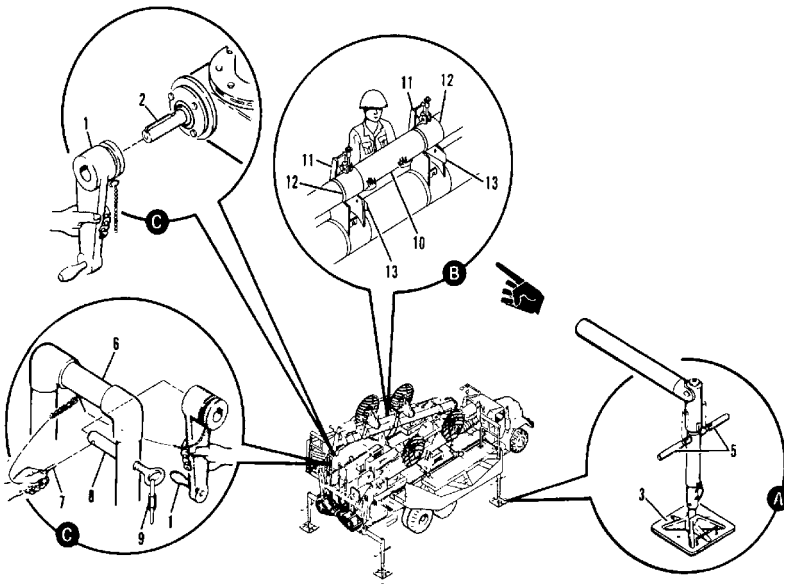
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 17 - DELETED CLAMP HANDKNOBS POSITIONER** | **Step 17 - CHECK ANTENNA ROADSIDE ANTENNA**<br><br>Check handknobs (5) on antenna clamps (6) to make sure they are in the up position.<br><br>(Handknobs must not obstruct clamps.) | **Step 17 - RELEASE**<br><br>Turn swivel handle (3) counterclockwise to release handle. Rotate handle out of notch in bracket (4) until you feel handle detent click into place.<br><br>Screw swivel handle (3) in to prevent handle from striking handrail as mast is finally lowered. |



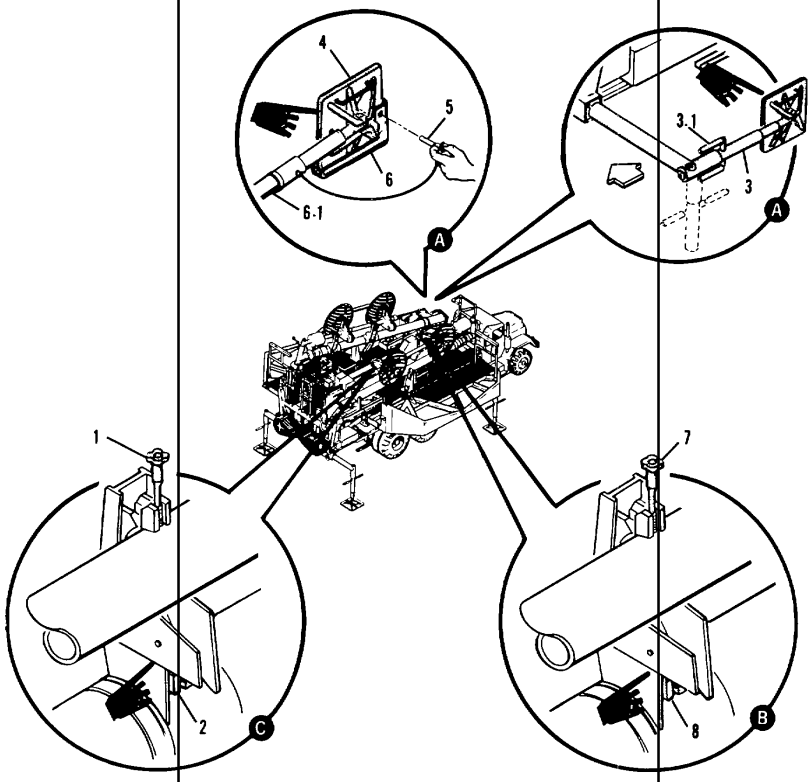
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 18 - RELEASE ROAD-SIDE FRONT STABILIZING STRUT**<br><br>Turn handles (5) counterclockwise and raise stabilizing pad (3) off the ground.<br><br>Fold handles (5) up. | **Step 18 - HELP STOW ANTENNA AMPLIFIER ASSEMBLIES**<br><br>Watch that antennas do not strike antenna protective cover. Tell soldier C to stop folding antennas if there are any obstructions.<br><br>Lift and guide antenna assembly (10) into antenna clamps (11). Mast sleeves (12) should slide on mast guide plates (13). | **Step 18 - FOLD ROADSIDE ANTENNA AMPLIFIER ASSEMBLIES AND STOW POSITIONER HANDLE**<br><br>Disconnect chain (9) from handrail (6).<br><br>Pull quick release pin (7) securing handle (1) to shaft (8) on handrail (6).<br><br>Remove handle.<br><br>Install handle on antenna positioner shaft (2).<br>Turn handle (1) counterclockwise to fold antenna amplifier assemblies.<br><br>Pull handle (1) from antenna positioner shaft (2).<br><br>Place handle (1) on shaft (2) on handrail (6) and install quick release pin (7).<br><br>Reconnect chain (9) to handrail (6). |

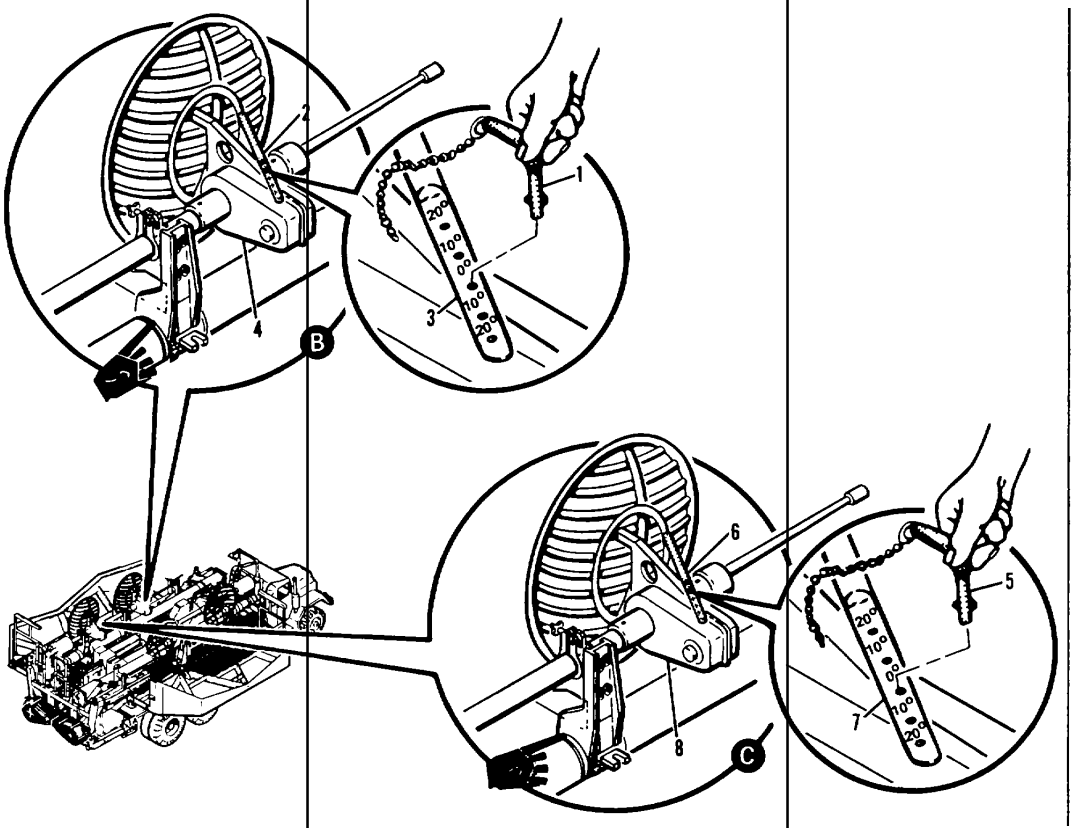


**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 19 - COLLAPSE AND STOW CURBSIDE FRONT STABILIZING STRUT**<br><br>**WARNING**<br><br>**Make sure handles (3.1) are in a vertical position (see Illustration) before sliding stabilizing strut in towards frame. If handles are not positioned correctly they can puncture the vehicle fuel tank, causing a severe fire hazard.**<br><br>Swing stabilizing strut (3) up and slide in towards frame.<br>Place pad (4) in stowage bracket (6) and install quick release pin (5) to secure.<br><br>Rotate height guide (6.1) so it is inboard. | **Step 19 - FASTEN FRONT ROADSIDE ANTENNA CLAMP**<br><br>Swing clamp (8) up and over antenna mast.<br><br>Pull bolt (7) down to engage clamp.<br>Tighten bolt (7) to secure clamp. | **Step 19 - FASTEN REAR ROADSIDE ANTENNA CLAMP**<br><br>Swing clamp (2) up and over antenna mast.<br><br>Pull bolt (1) down to engage clamp.<br>Tighten bolt (1) to secure clamp. |

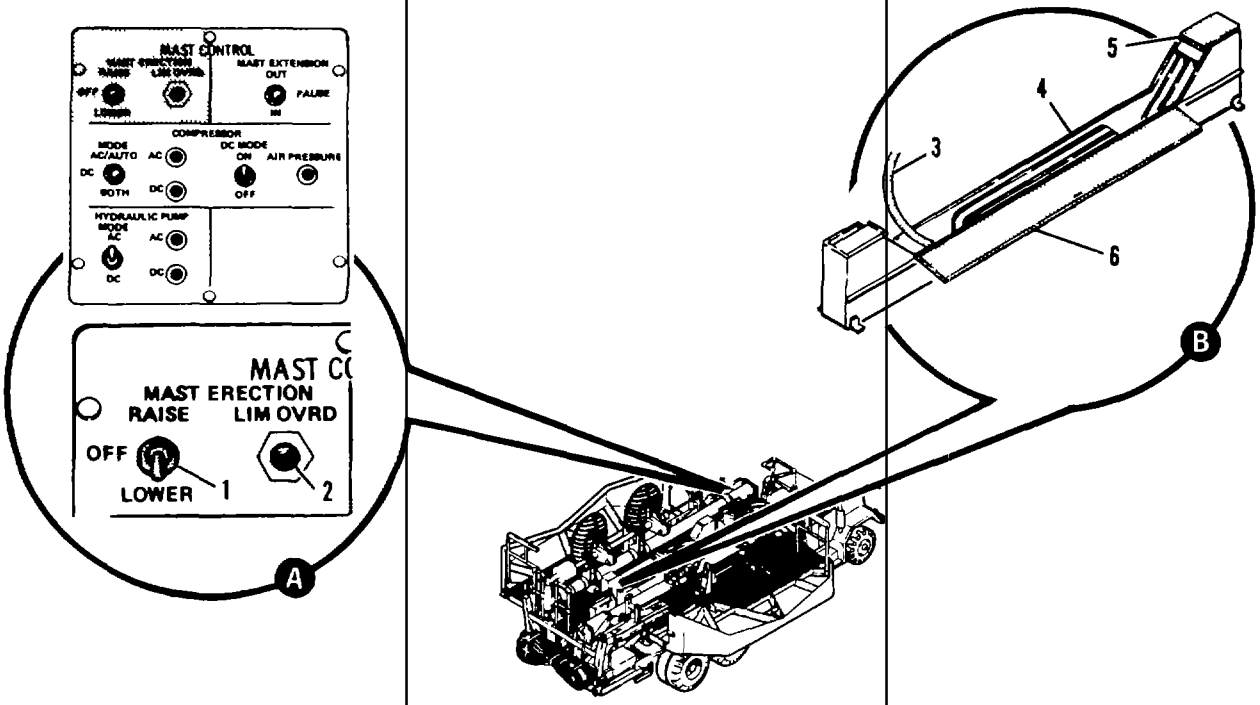


| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 20 - STOW REMAINING THREE STABILIZING STRUTS ANTENNA TO ZERO DEGREES IN ELEVATION**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts. | **Step 20 - IF NECESSARY PLACE ROADSIDE FRONT ANTENNA TO ZERO DEGREES IN ELEVATION**<br><br>Pull quick release pin (1) securing strut (2).<br><br>Place antenna to 0 degree position (3) in elevation.<br><br>Aline hole in strut (2) with hole in antenna driver (4).<br><br>Install quick release pin (1). | **Step 20 - IF NECESSARY PLACE ROADSIDE REAR**<br><br>Pull quick release pin (5) securing strut (6).<br><br>Place antenna to 0 degree position (7) in elevation.<br><br>Aline hole in strut (6) with hole in antenna driver (8).<br><br>Install quick release pin (5). |



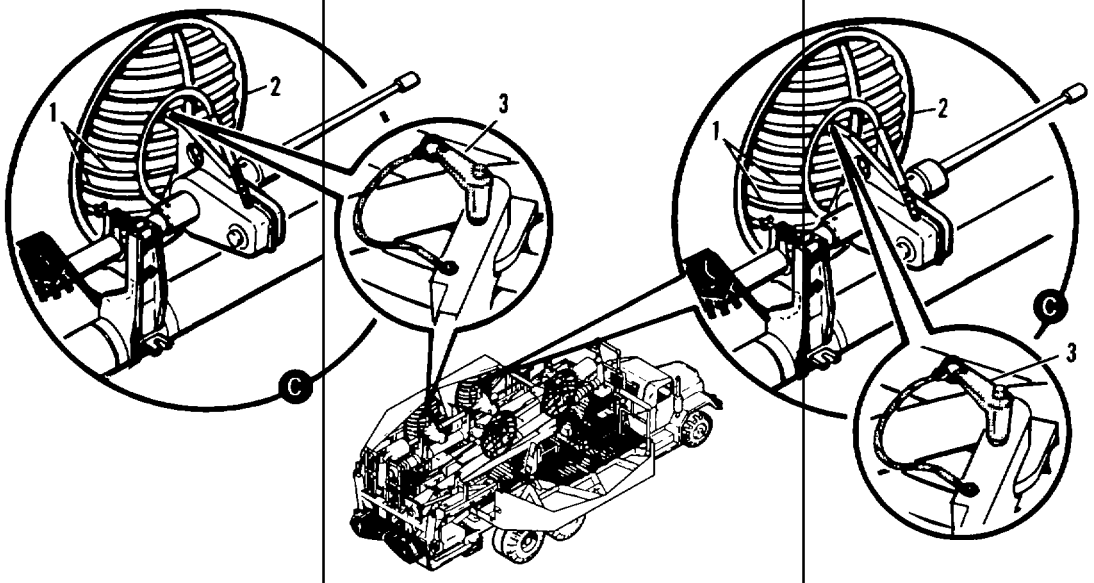
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 21 - LOWER ROADSIDE MAST TO HORIZONTAL POSITION**<br><br>**WARNING**<br><br>**Make sure roadside mast travel path is clear of personnel and obstructions. Tell Soldiers B and C you are going to lower roadside mast.**<br><br>Hold MAST ERECTION switch (1) to LOWER and at the same time push LIM OVRD button (2) to lower mast.<br><br>Close and latch control panel door. | **Step 21 - GUIDE CABLE INTO ROADSIDE TRAY, CLOSE TRAY COVERS**<br><br>Guide cable (3) into cable tray (4) as roadside mast is lowered.<br><br>Close roadside cable tray covers (5 and 6). | **Step 21 - WATCH ROADSIDE CABLE**<br><br>Make sure the roadside cable does not get pinched between the mast and the mast clamp.<br><br>**NOTE**<br><br>**If your mast group has a safety chain between the rear handrails, unhook the chain.** |



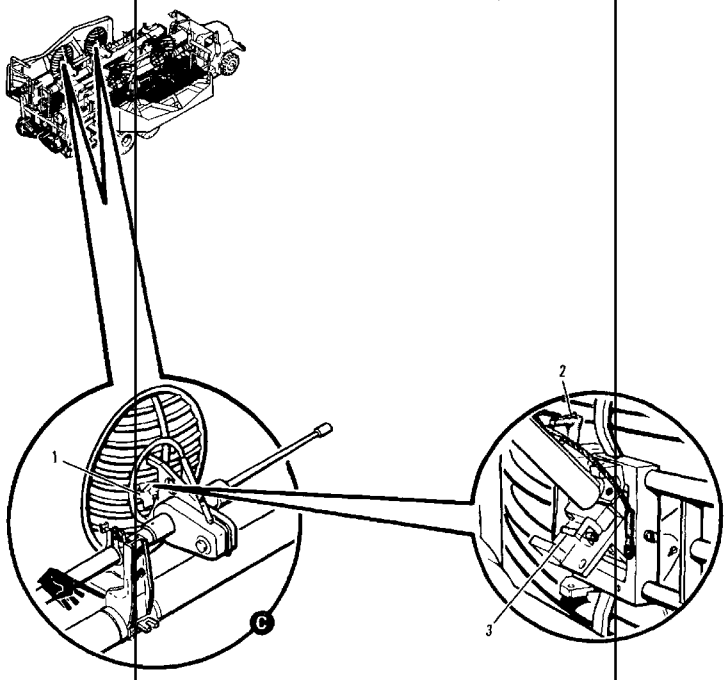
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 22 - STOW REMAINING THREE STABILIZING STRUTS POLARIZATION**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts. | **Step 22 - IF NEEDED CHANGE ROADSIDE ANTENNAS ANTENNA POLARIZATION**<br><br>**CAUTION**<br><br>**Antennas must be positioned so bars (1) are horizontal before antennas can be stowed.**<br><br>**WARNING**<br><br>Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards.<br><br>Rotate antenna 90° after Soldier C has pulled quick release pins.<br><br>Reposition antenna and hold antenna until soldier C has installed four quick release pins (3). | **Step 22 - IF NEEDED CHANGE ROADSIDE**<br><br>**CAUTION**<br><br>**Antennas must be posi. tioned so bars (1) are horizontal before antennas can be stowed.**<br><br>Pull four quick release pins (3) securing antenna (2).<br>Have soldier B rotate antennas 900 and reposition antenna (2).<br><br>Install four quick release pins (3) to secure. |



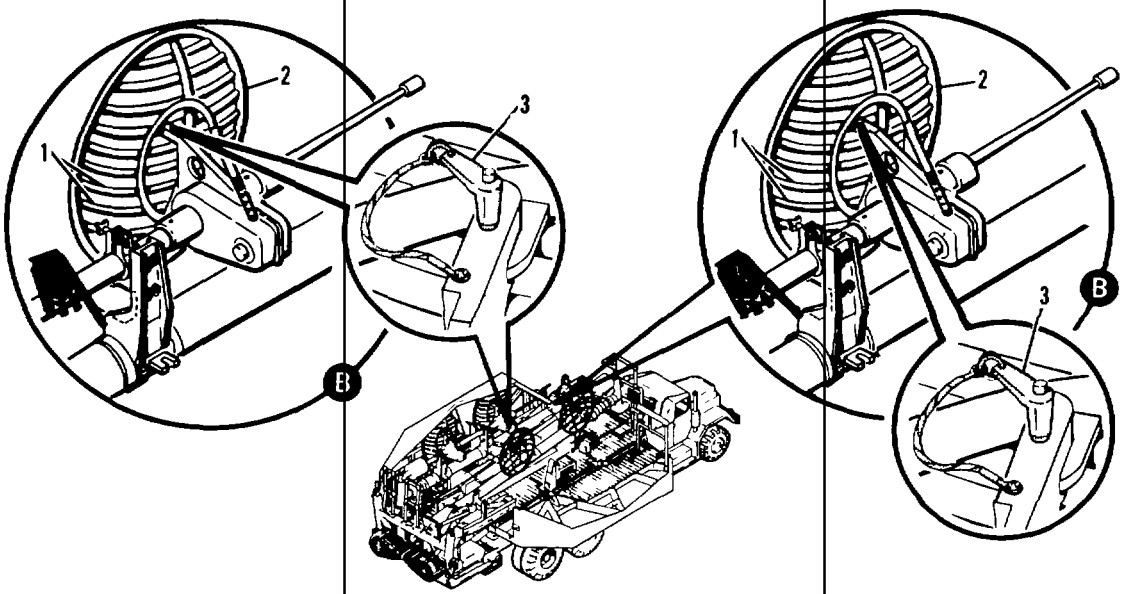
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 23 - STOW REMAINING-THREE STABILIZING STRUTS FEEDHORNS**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts. | **Step 23 - HELP STOW ROADSIDE ANTENNA (ANTENNAS 3 AND 4)**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards.**<br><br>Walk out on roadside antenna protective cover and help soldier C lift feedhorns.<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.** | **Step 23 - STOW ROADSIDE ANTENNA FEEDHORNS**<br><br>**WARNING**<br><br>**Use extra care; it is easy to pinch fingers when stowing feedhorns.**<br><br>**CAUTION**<br><br>**Feedhorns are fragile; use extreme care when handling.**<br><br>Turn lever (3) clockwise to release feedhorn (1).<br><br>Pull feedhorn in.<br><br>Turn lever (3) counter-clockwise to lock feedhorn.<br><br>Pull quick release pin (2) and fold feedhorn to stowed position.<br><br>Install quick release pin (2) to secure. |



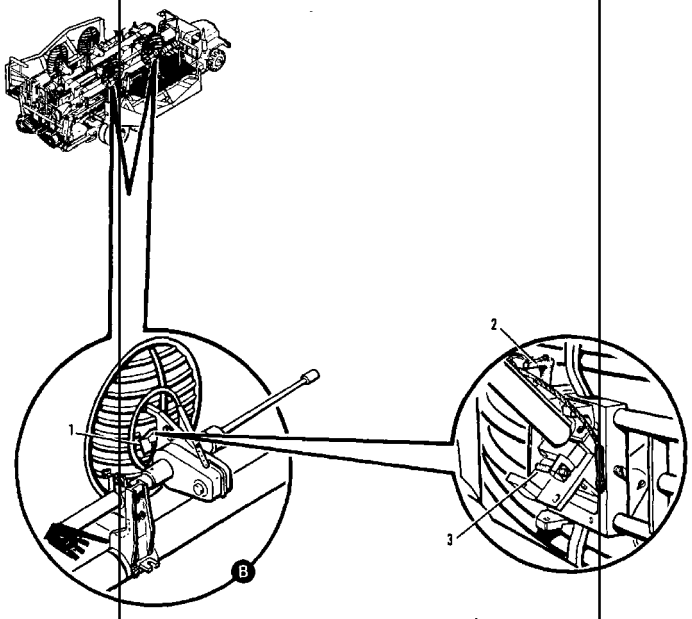
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 24 - STOW REMAINING THREE STABILIZING STRUTS POLARIZATION**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts. | **Step 24 - IF NEEDED, CHANGE CURBSIDE ANTENNAS ANTENNAS POLARIZATION**<br><br>**CAUTION**<br><br>**Antennas must be positioned so bars (1) are horizontal before antennas can be stowed.**<br><br>Pull four quick release pins (3) securing antenna (2).<br><br>Have soldier C rotate antennas 90° and reposition antenna (2).<br><br>Install four quick release pins (3) to secure. | **Step 24 - IF NEEDED CHANGE CURBSIDE**<br><br>**CAUTION**<br><br>**Antennas must be positioned so bars (1) are horizontal before antennas can be stowed,**<br><br>**WARNING**<br><br>**Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards.**<br><br>Rotate antenna 90° after soldier B has pulled quick release pins.<br><br>Reposition and hold antenna until soldier B has installed four quick release pins (3). |



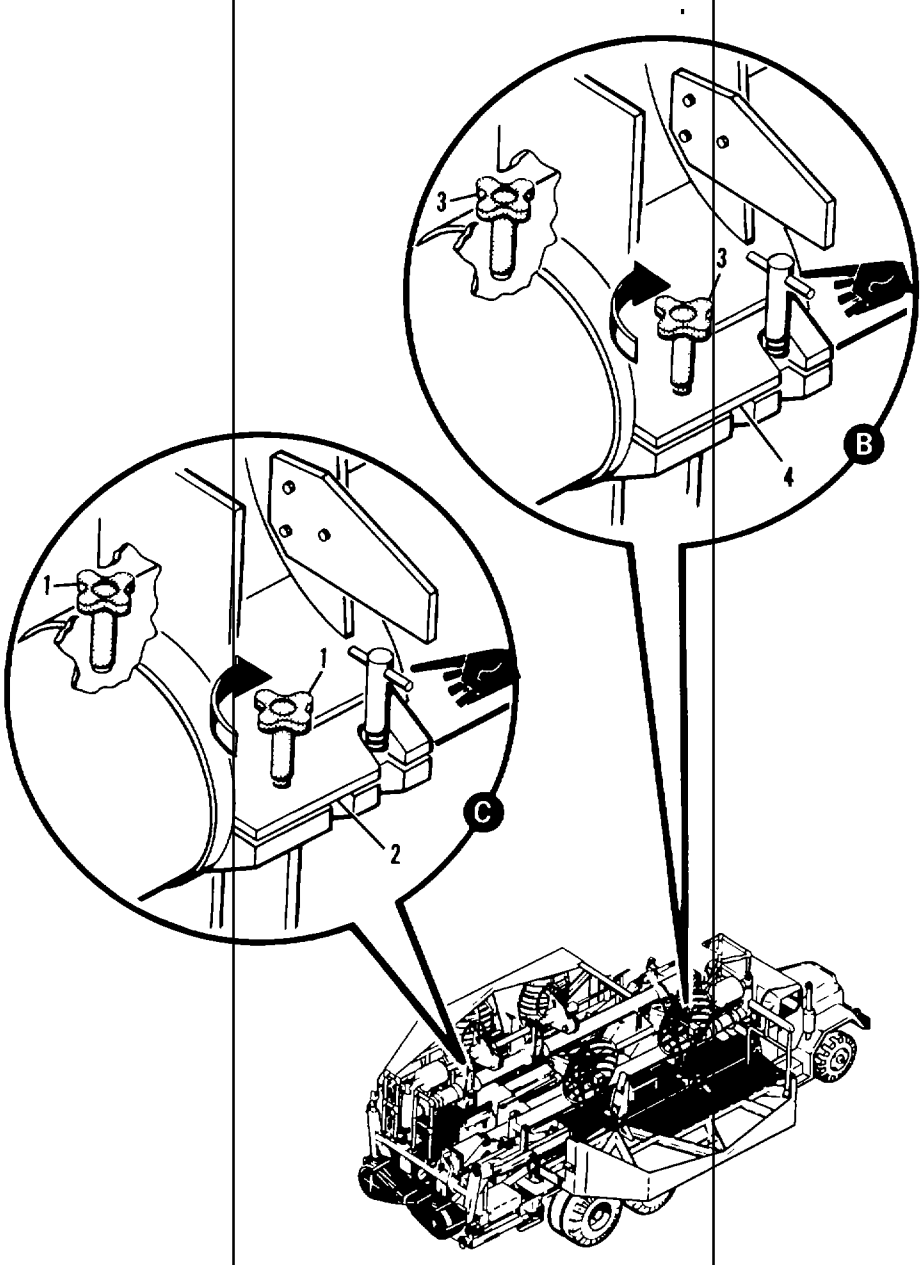
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 25 - STOW REMAINING THREE STABILIZING STRUTS (ANTENNA 1 AND 2)**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts.<br><br>**WARNING**<br><br>Use extra care, it is easy to pinch fingers when stowing feedhorns. | **Step 25 - STOW CURBSIDE ANTENNA FEEDHORNS FEEDHORNS**<br><br>**CAUTION**<br><br>Feedhorns are fragile, use extreme care when handling.<br><br>Turn lever (3) clockwise to release feedhorn (1).<br><br>Pull feedhorn in.<br><br>Turn lever (3) counter-clockwise to lock feed-horn.<br><br>Pull quick release pin (2) and fold feedhorn to stowed position.<br><br>Install quick release pin (2) to secure. | **Step 25 - HELP STOW CURBSIDE ANTENNA**<br><br>**WARNING**<br><br>Use extreme caution when walking on antenna pro. tective cover. There are many tripping and falling hazards.<br><br>**WARNING**<br><br>Only one soldier is allow-ed on antenna protective cover.<br><br>Walk out on roadside antenna protective cover and help soldier B lift feedhorns.<br><br>**CAUTION**<br><br>Feedhorns are fragile, use extreme care when handling. |



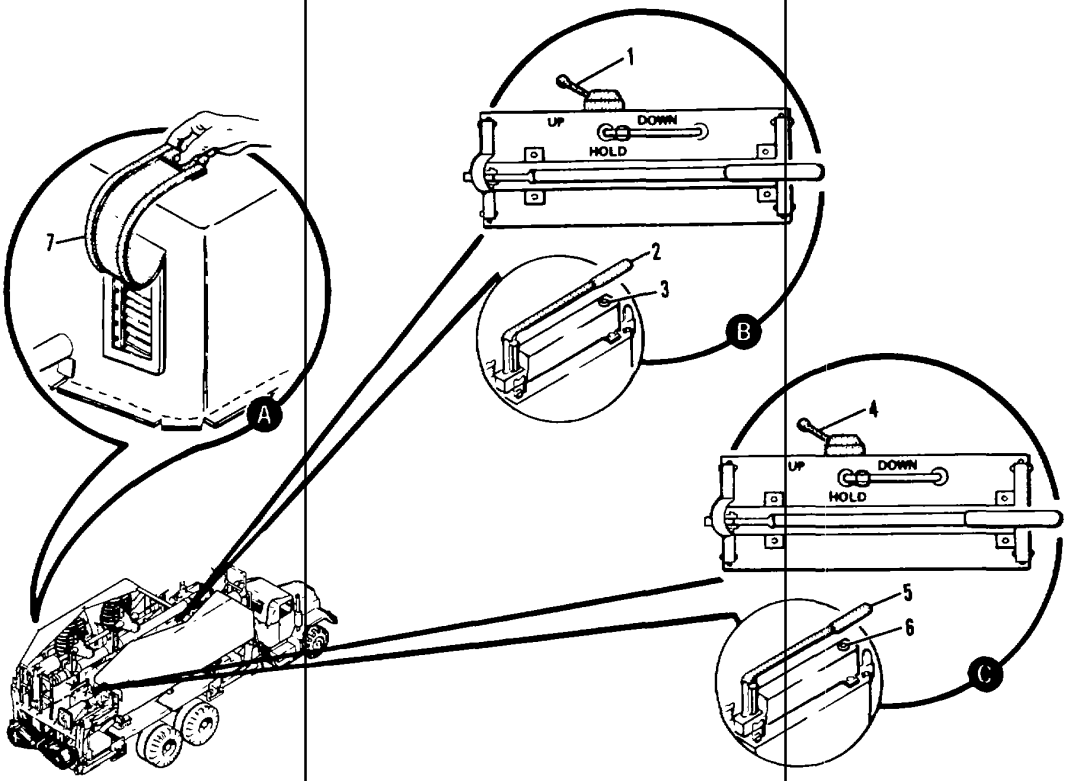
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 26 - STOW REMAINING THREE STABILIZING STRUTS**<br><br>Repeat steps 18 and 19 for remaining three stabilizing struts. | **Step 26 - FASTEN CURB-SIDE MAST CLAMP**<br><br>Tighten two bolts (3) to secure mast clamp (4). | **Step 26 - FASTEN ROAD-SIDE MAST CLAMP**<br><br>Tighten two bolts (1) to secure mast clamp (2). |



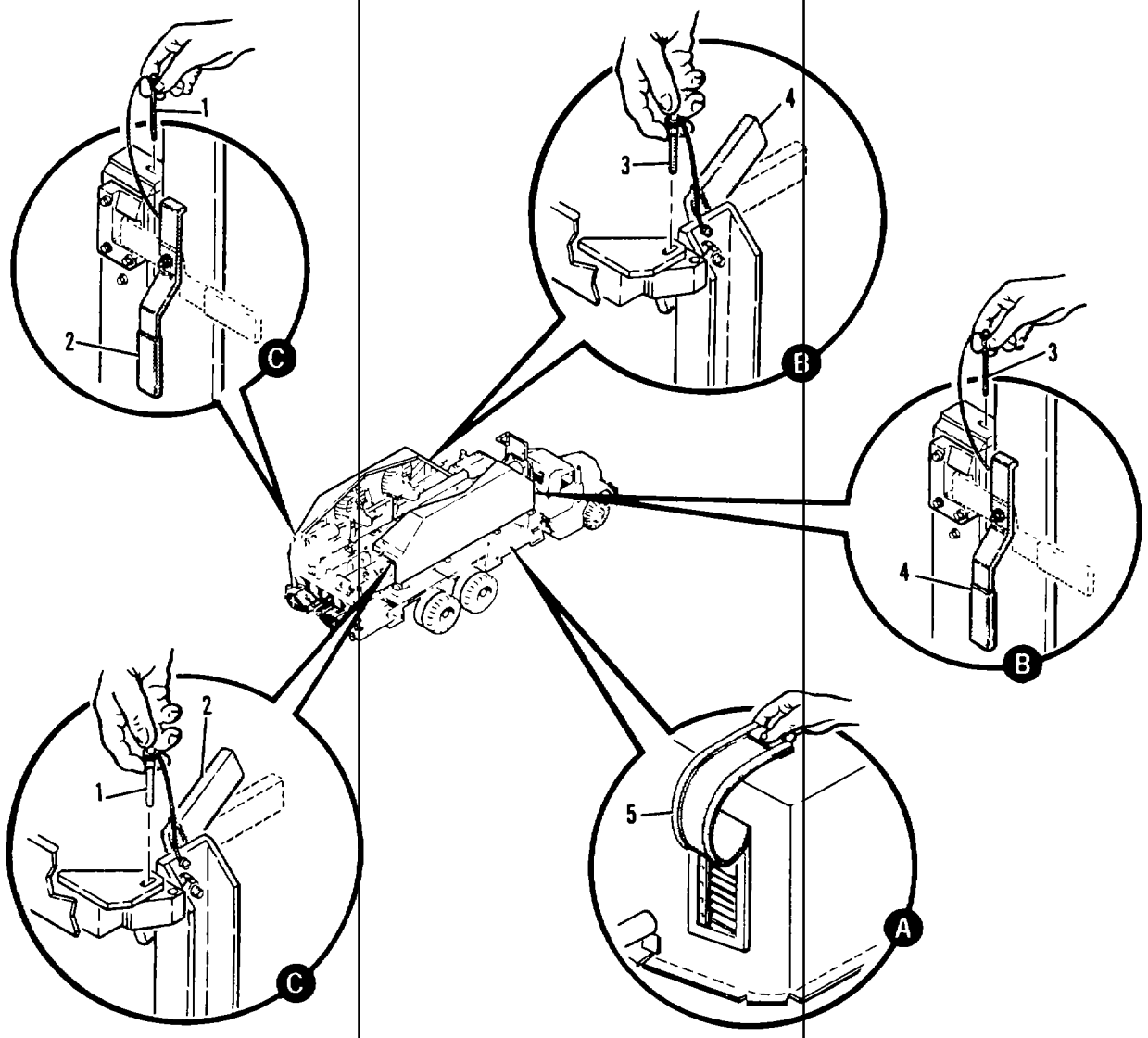
**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 27 - CLOSE ROADSIDE AIR INTAKE FLAP COVER** | **Step 27 - RAISE ROADSIDE ANTENNA PROTECTIVE COVER** | **Step 27 - RAISE CURBSIDE ANTENNA PROTECTIVE** |
| Pull flap (7) down over air intake opening. valve lever (1) to UP. | Place roadside antenna protective cover control valve lever (4) to UP. | Place curbside antenna protective cover control |
| NOTE<br>If you are going to charge air tank in transit leave flap open. | Pump handle (2) up and down to raise cover, make sure handle is left in down position. | Pump handle (5) up and down to raise cover, make sure handle is left in down position. |
| | Place control valve lever (1) to HOLD. | Place control valve lever (4) to HOLD. |
| | Turn air vent on plug (3) clockwise to close vent. | Turn air vent on plug (6) clockwise to close vent. |



**2-17. MAST STOWAGE - Continued**

| SOLDIER A | SOLDIER B | SOLDIER C |
|---|---|---|
| **Step 28 CLOSE CURBSIDE AIR INTAKE FLAP HANDLES**<br><br>Pull flap (5) down over air intake opening.<br><br>**NOTE**<br><br>**If you are going to charge air tank in transit, leave flap open.** | **Step 28 - LOCK ANTENNA PROTECTIVE COVERS FRONT HANDLES**<br><br>Turn two front handles (4) to lock antenna protective covers in up<br><br>Install two quick release pins (3) to secure handles. | **Step 28 - LOCK ANTENNA PROTECTIVE COVERS REAR**<br><br>Turn two rear handles (2) to lock antenna protective covers in up position.<br><br>Install two quick release pins (1) to secure handles. |



## 2-18. PREPARATION OF MAST GROUP FOR ROADMARCH

Now that you've stowed the masts, you must perform the following steps before you are ready for roadmarch:

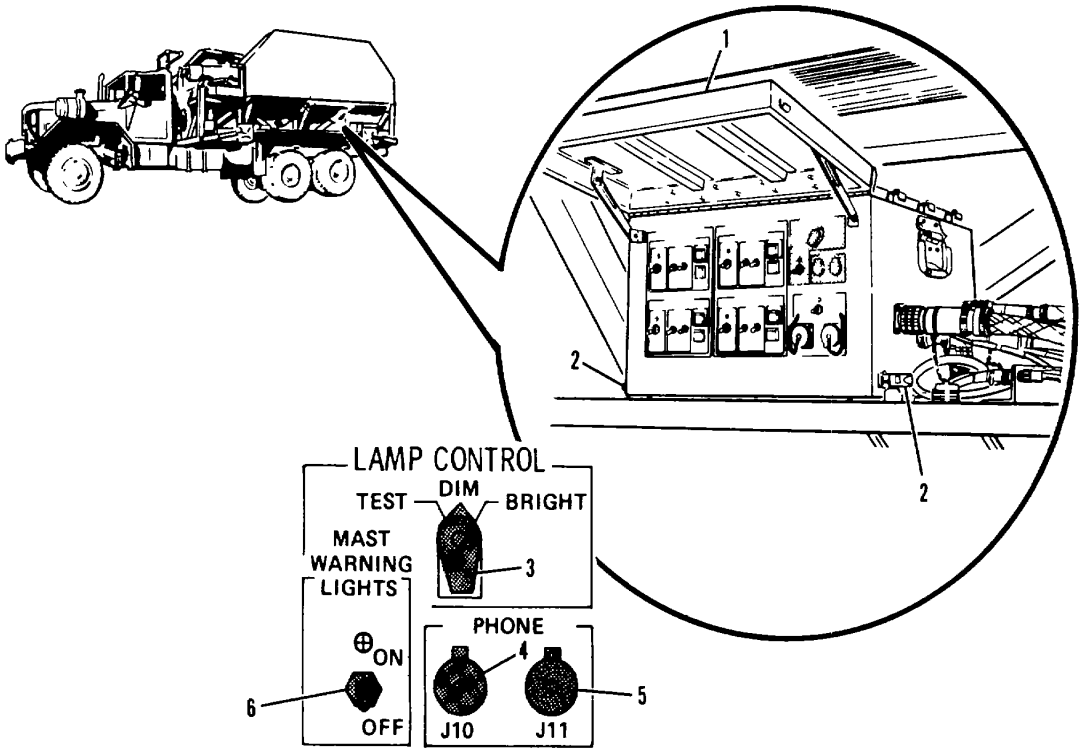
- SET DISTRIBUTION BOX 7AIA1 SWITCHES
- DISCONNECT AND STOW CABLES
- INSTALL AMPLIFIER CANVAS COVERS
- STOW SOUND POWERED PHONES
- SET SWITCHES IF AIR TANKS ARE TO BE CHARGED IN TRANSIT

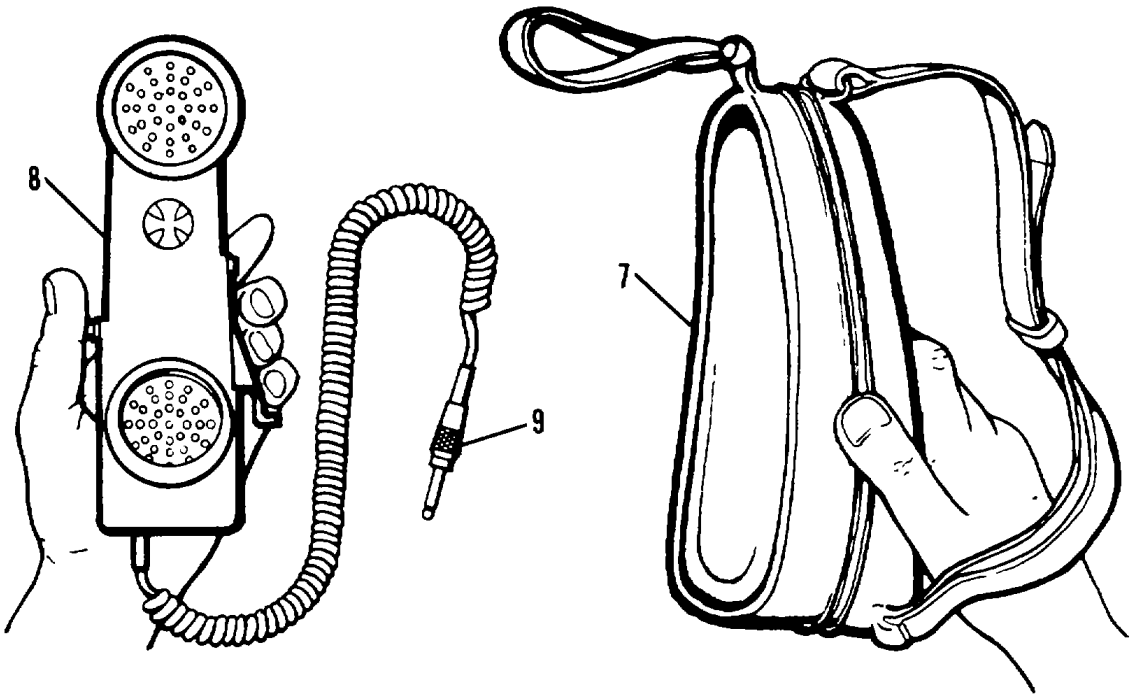
Here's how you prepare your mast group for roadmarch.

**a. Set distribution box 7AIA1 switches**

(1) Set MAST WARNING LIGHT switch (6) to OFF.

(2) Set LAMP CONTROL switch (3) to desired position.






**b. Stow sound powered phones**

(1) Remove phone jacks (9) from connectors J10 (4) and J11 (5) at distribution box 7AlA1.
(2) Put phone (8) in carrying case (7).
(3) Stow phones in ground rod storage box, close and secure box cover.
(4) Close door (1). Secure latches (2).

**2.18. PREPARATION OF MAST GROUP FOR ROADMARCH - Continued**

**c. Disconnect and stow intervehicle cables**

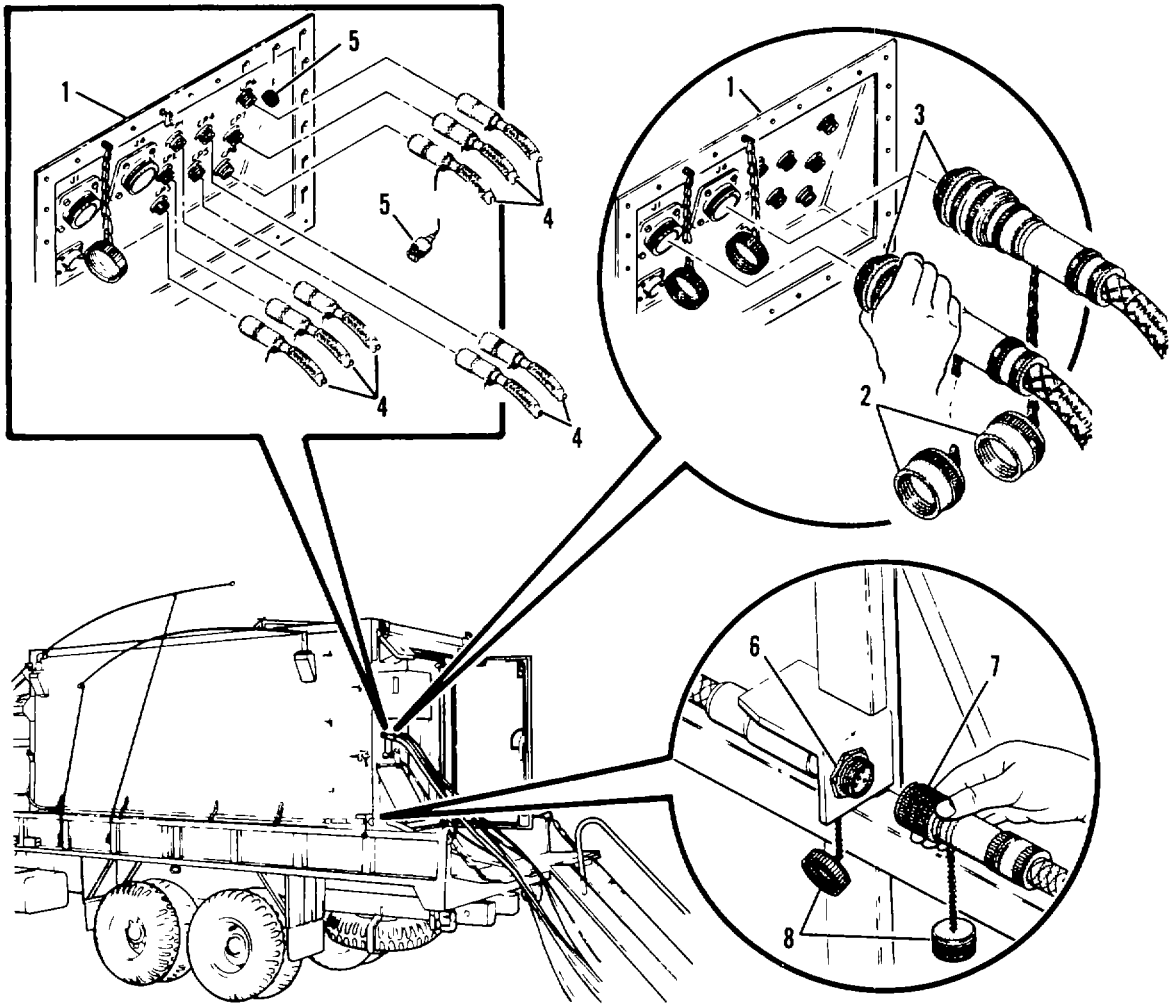
**WARNING**

**Make sure power is OFF (see TM 9-1430-604-10 (CRG), TM 9-1430-600-10-1 (ECG), or TM 9.1430-602-10-1 (ICC)) before disconnecting any cable.**

(1) Disconnect two bundles of RF cables (4) from shelter entrance panel A26 (1). Install caps (5) on shelter connectors and cable connectors.

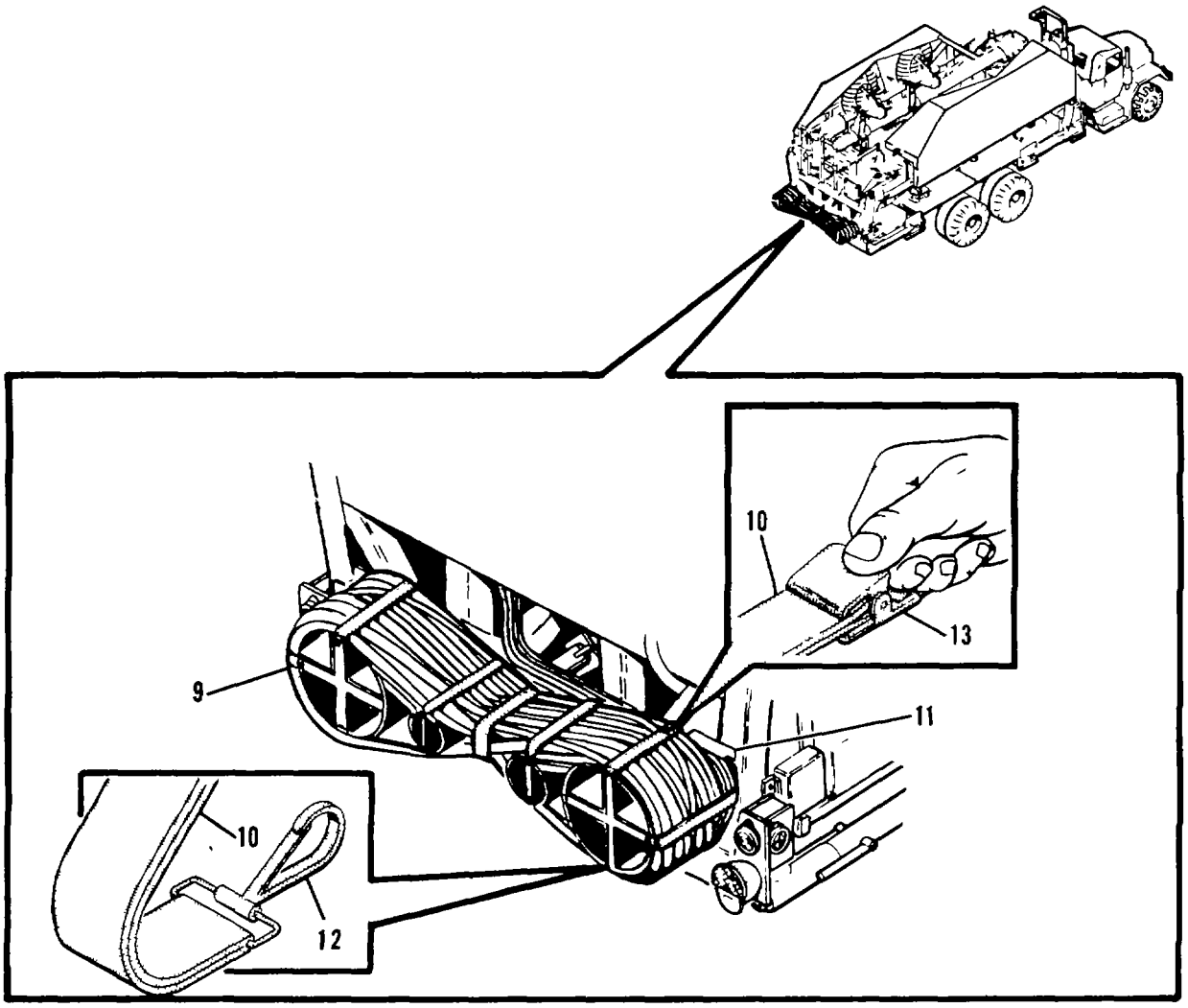
(2) Disconnect two control cables (3) from shelter entrance panel A26 (1). Install caps (2) on connectors and cables.

(3) Disconnect power cable (7) from connector (6) at side of shelter. Install caps (8) on connectors.



**NOTE**

**Coil cables tightly in a figure eight configuration. It may be necessary to use center strap to hold cables temporarily until all cables are coiled. Coiling cables is a two-soldier task.**




(4) Position cables in trough (11).

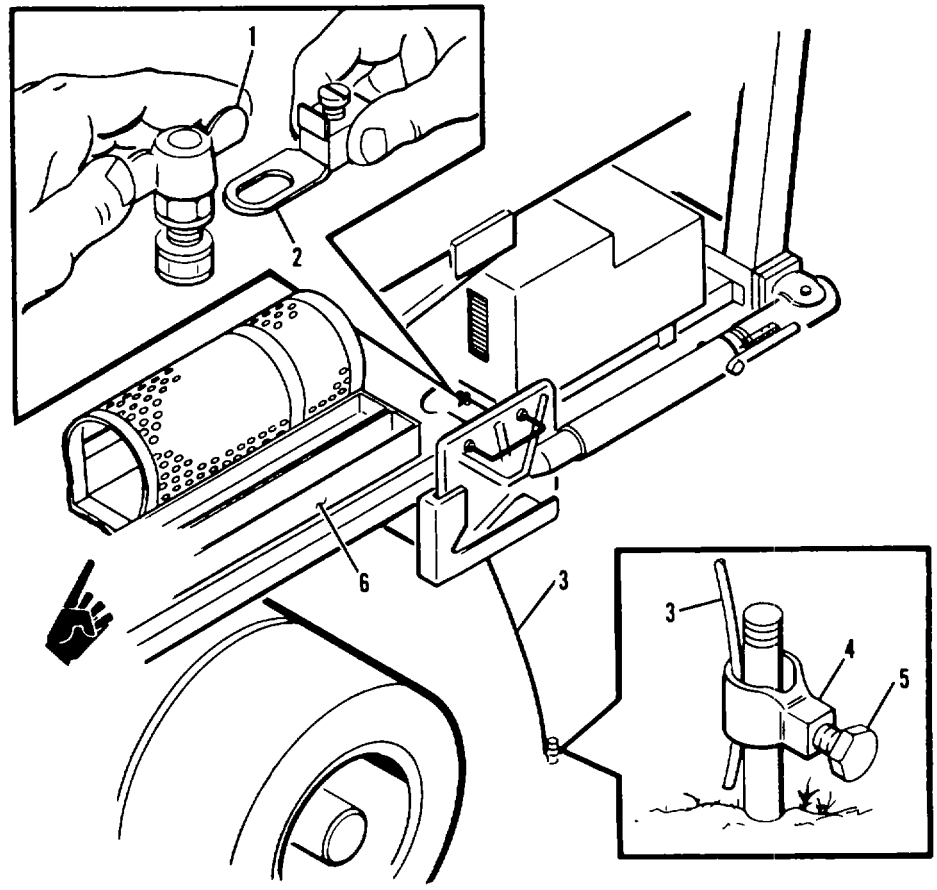
(5) First coil two bundles of RF cables (4). Then coil two control cables (3). Coil power cable (7) last.

(6) Connect clips (12) on 11 straps (10) to cable rack (9). Pull buckles (13) on straps to secure cables tight.

**2.18. PREPARATION OF MAST GROUP FOR ROADMARCH - Continued**

**d. Stow ground rod cable**

(1) Remove wingnut (1) securing ground cable terminal lug (2) to vehicle ground stud. Remove cable from stud.
(2) Loosen bolt (5) securing clamp (4) and cable (3) to ground rod. Remove cable.
(3) Stow ground rod cable (3) in ground rod storage box (6).
(4) Close and latch ground rod storage box door.

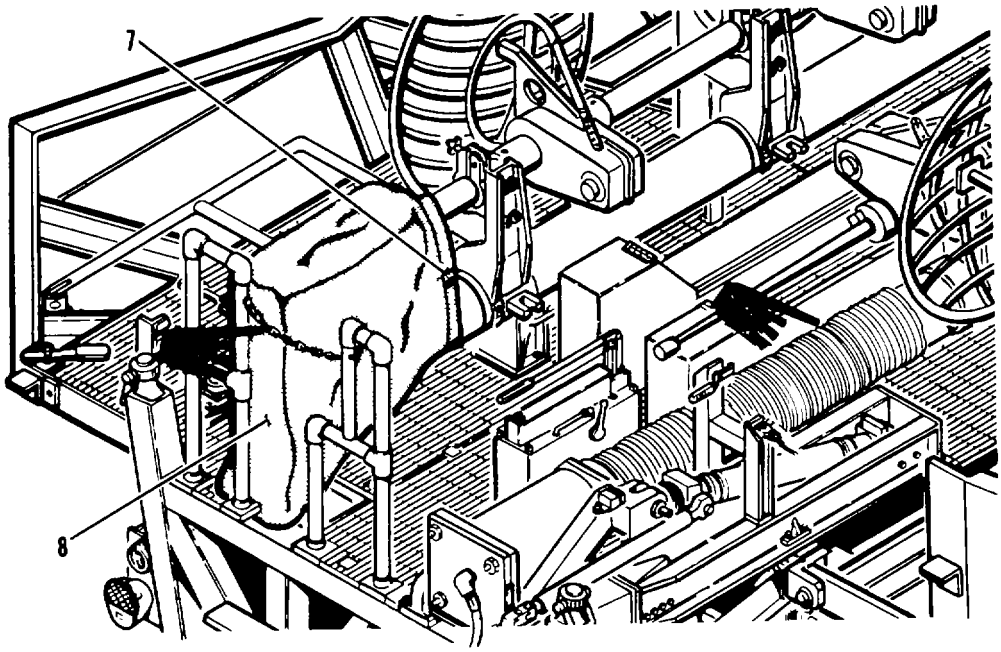


**e. Install amplifier canvas covers**

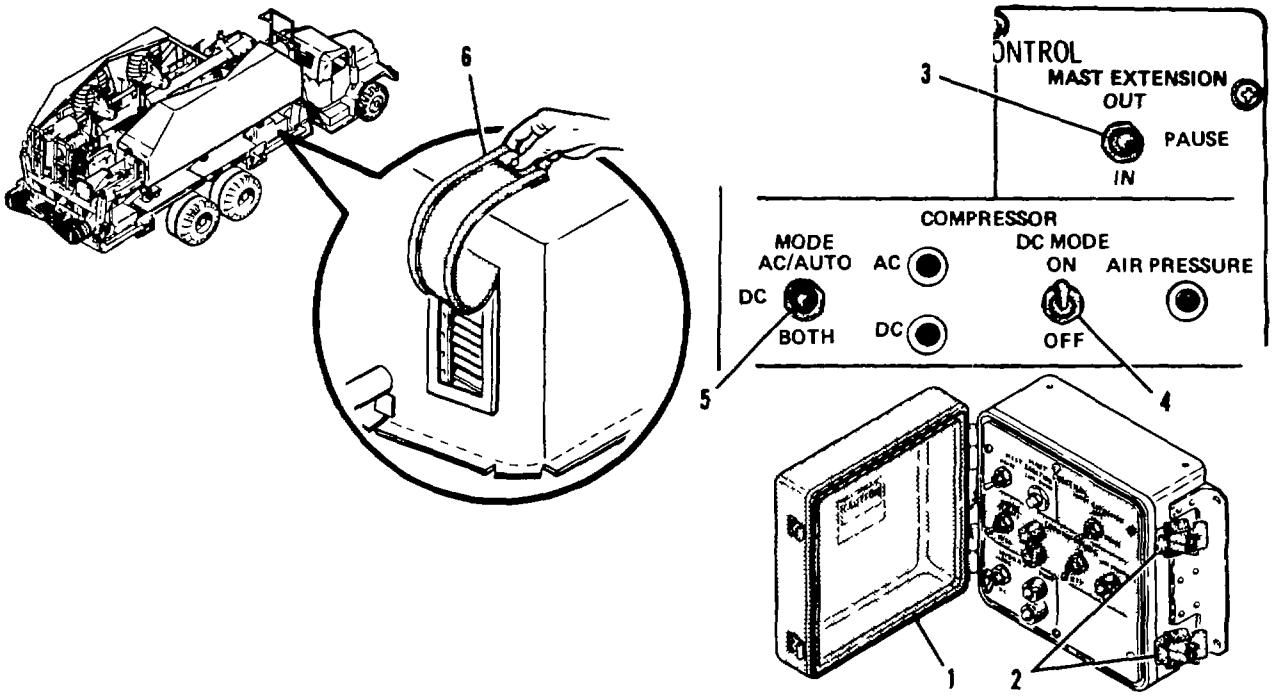
(1) Put canvas cover (8) on amplifier and mast.

(2) Buckle strap (7) to secure canvas cover (8).

(3) Repeat procedure for other side of vehicle.



**2-18. PREPARATION OF MAST GROUP FOR ROADMARCH - Continued**




**f. Set switches If air tanks are to be charged in transit**

You may want to charge the air tanks during your roadmarch. Here's how:

(1) Open air flap (6) on PCA.

(2) Unlatch two clamps (2) on mast control and swing door (1) open.

(3) Set the following switches on mast control:

- Set MAST EXTENSION switch (3) to IN.
- Set COMPRESSOR MODE switch (5) to AC/AUTO (or DC).
- Set COMPRESSOR DC MODE switch (4) to ON.

(4) Close and latch mast control door (1).

**NOTE**

**Don't charge air tanks without truck engine running. You could end up with a dead battery In your truck.**

(5) Repeat procedure for the other side of the vehicle.

## Section IV. OPERATION UNDER UNUSUAL CONDITIONS



### 2-19. OVERVIEW

This section tells you how to:

- USE MAST COVERS.
- OPERATE HEIGHT LIMITER.
- MANUALLY OPERATE SOLENOID VALVES.
- OPERATE PNEUMATIC MANIFOLD HEATERS.
- OPERATE UNDER BLACKOUT CONDITIONS.

### 2.20. OPERATION IN EXTREME COLD

When operating in extreme cold you must:

- DEPLOY MAST COVERS.
- TURN ON PNEUMATIC MANIFOLD HEATERS.

**WARNING**

**Be careful not to allow bare flesh to touch metal during extreme cold. Flesh could stick and freeze to metal.**

**CAUTION**

**The formation of ice on the interior and exterior surfaces of the mast can damage sealing and bearing surfaces and prevent mast movement. If freezing temperatures are expected, purge any water that may have collected inside the mast from rain or condensation by extending and retracting the mast several times. Ice build-up on the exterior of the most can also be prevented by retracting and extending the mast several times as needed. If icing of 1/4 inch or more is expected, stow the mast.**

**NOTE**

**Proper lubrication of the mast will also prevent ice build-up.**

**2-20. OPERATION IN EXTREME COLD - Continued**

**NOTE**

**Both curbside and roadside mast protective covers ore deployed and stowed in the same way.**

**a. MAST PROTECTIVE COVERS**

(1) Mast protective cover deployment

(a) Raise mast to 10 degree position and unfold and secure antennas (see para 2-15 steps 1 to 16).

**NOTE**

**Early model mast groups have four cable retainers (2) on mast collars (3.1). Later model mast groups have three cable retainers on mast collars and one on cable retainer bracket (3.2).**

(b) Pull captive screws (1) on four cable retainers (2) and remove three cable retainers from cable retainer brackets (3) on mast collars (3.1) and one cable retainer from cable retainer bracket (3.2) on upper mast clamp (6).

**CAUTION**

**To avoid damaging mast, install same mast clamp in same position on mast; note mast clamp position.**

**NOTE**

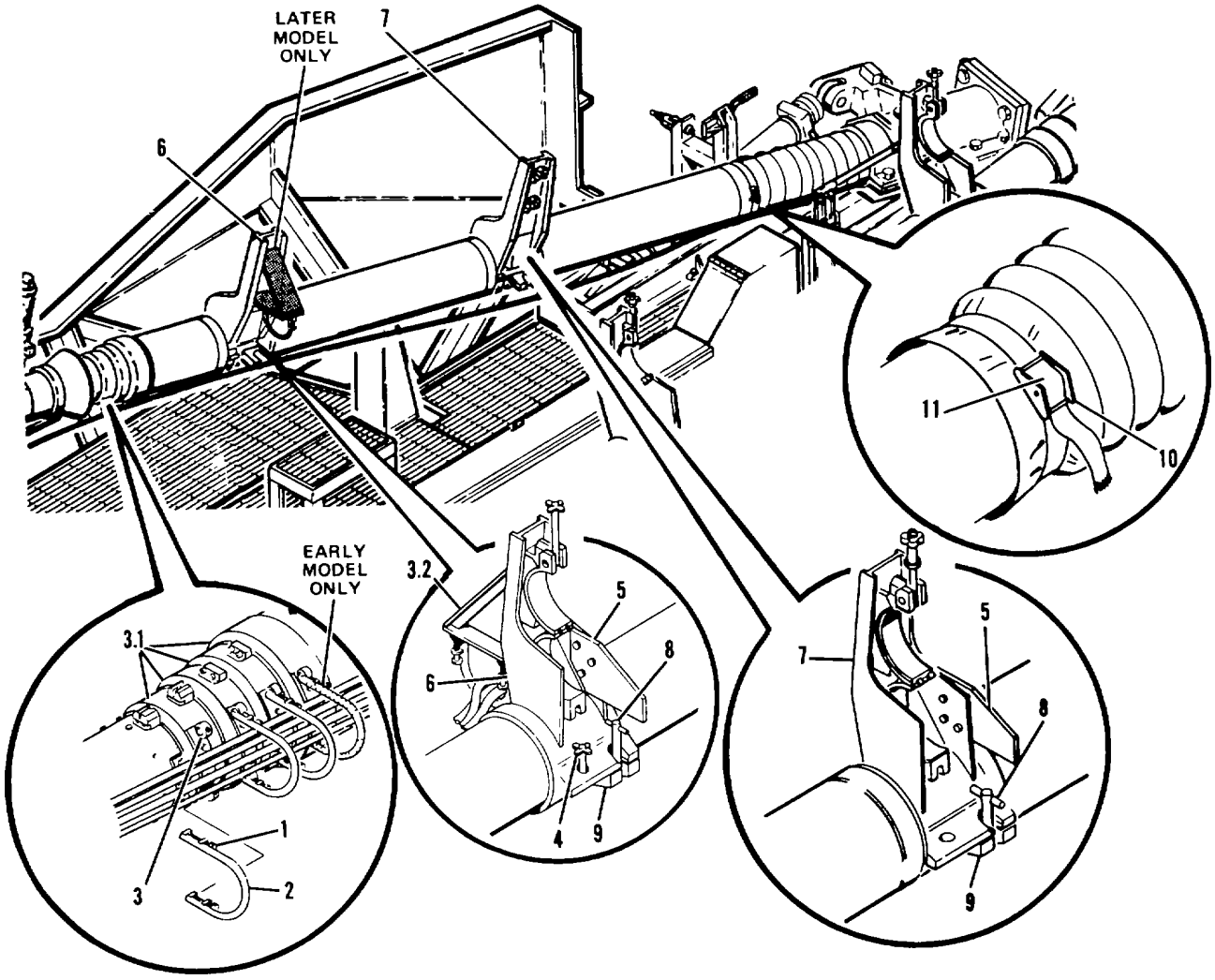
**Lower mast clamps do not have handknob assemblies (4) and have mast guide plates (5) on outside of mast clamp. Later model upper mast clamps also have a cable retainer bracket (3.2).**

(c) Remove both upper and lower mast clamps (6 and 7):

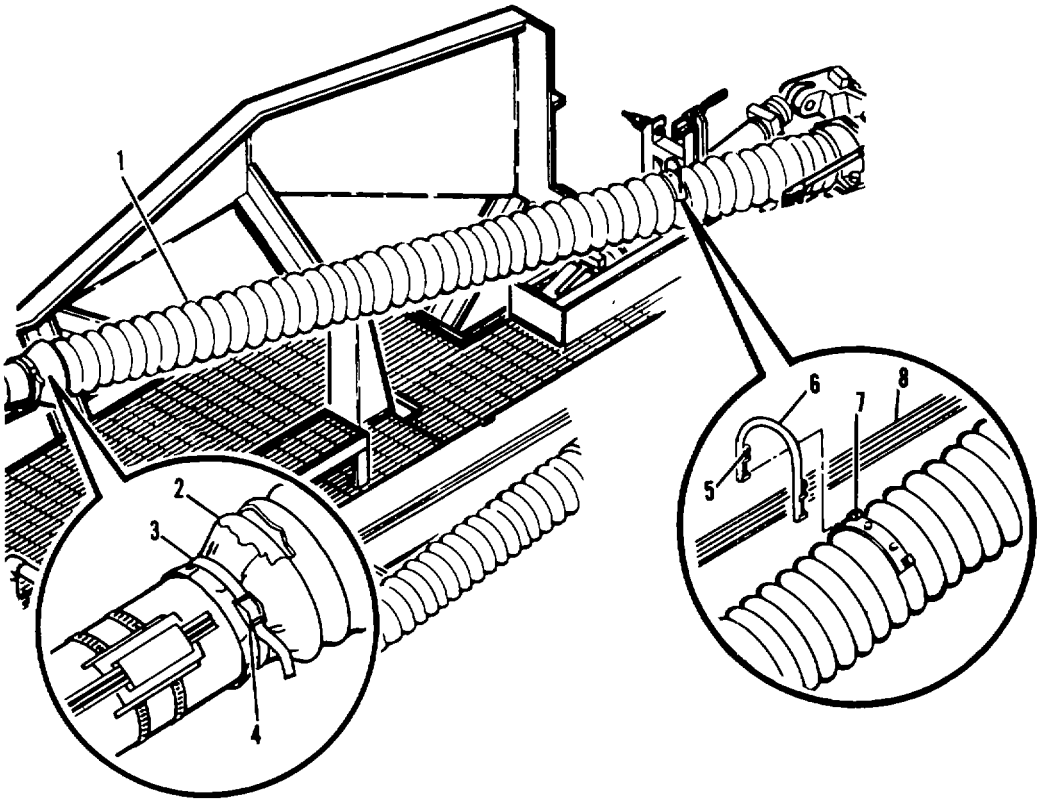
- Loosen tee screws (8)
- Swing tee screws (8) open.
- Swing clamp sections (9) down.
- Remove both upper and lower mast clamps (6 and 7) and stow them beneath mast

(d) Press buckle release (10) and loosen strap (11).

**2-20. OPERATION IN EXTREME COLD - Continued**



**2-20. OPERATION IN EXTREME COLD - Continued**




(e) Pull mast protective cover (1) over ring (2). Cinch buckle (4) on strap (3) to secure mast cover.

(f) Pull out captive screws (5) and position four cable retainers (6) around cables (8) and to cable retainer brackets (7) on mast protective cover (1). Release captive screws (5) to secure cable retainers (6).

(g) Check that cable retainers (6) are on top of mast, and not on the side. Reposition mast protective cover on mast if cable retainers (6) are not on top.

**CAUTION**

**Carefully pay out cables when mast is raised and extended to avoid damaging most protective cover. If mast protective cover gets caught or hung up STOP MAST EXTENSION! It may be necessary to shake mast protective cover by hand to free it. Also, try retracting most slightly and then continue mast extension.**

(h) Raise mast to vertical and install lock strut (see para 2-15 step 18). Have one soldier hold the bottom of the mast protective cover to prevent it from rising out of reach if it gets caught on something as mast is extended. VERY CAREFULLY extend mast (see para 2-15 step 19).

**2-20. OPERATION IN EXTREME COLD - Continued**

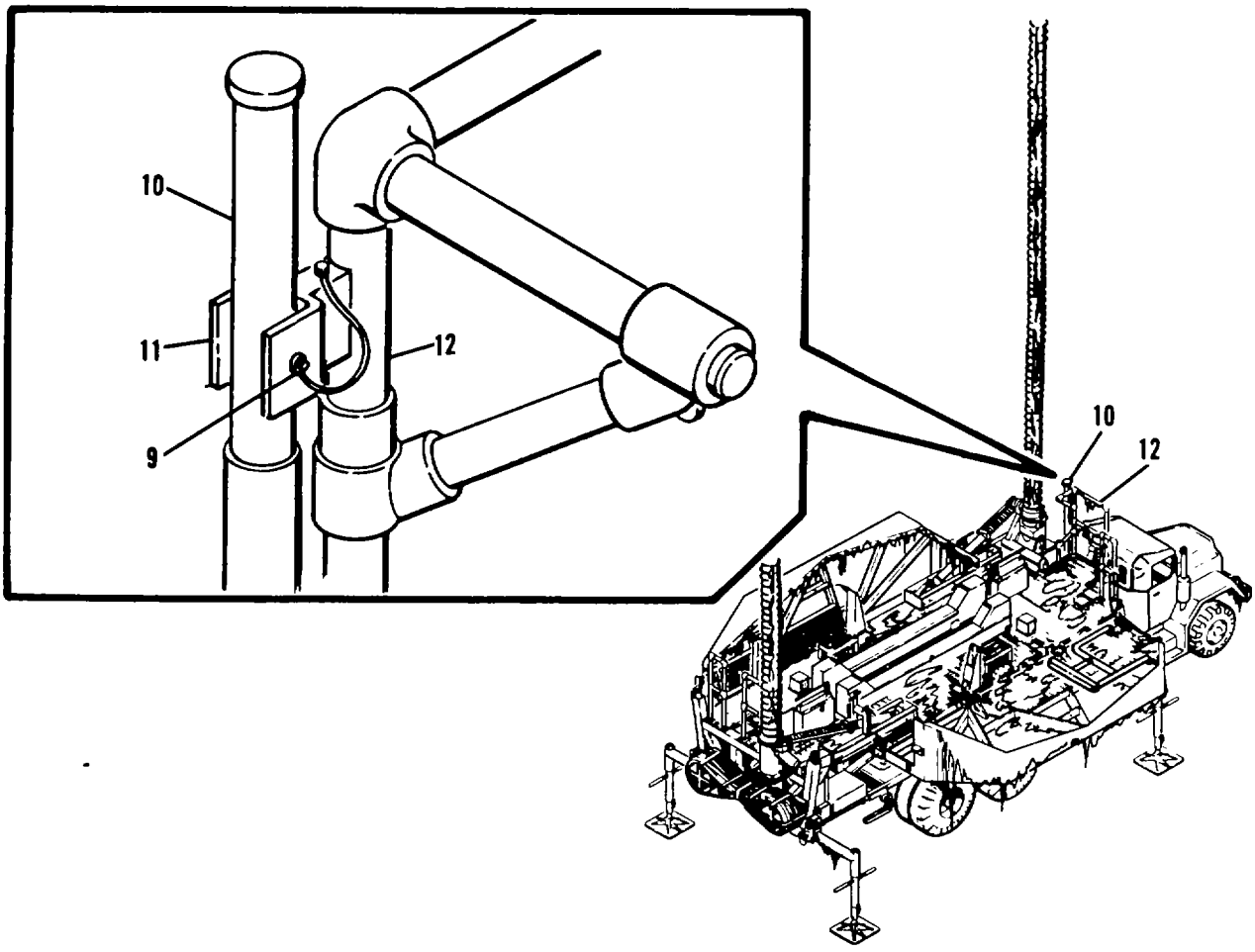
(2) Mast protective cover stowage

**NOTE**

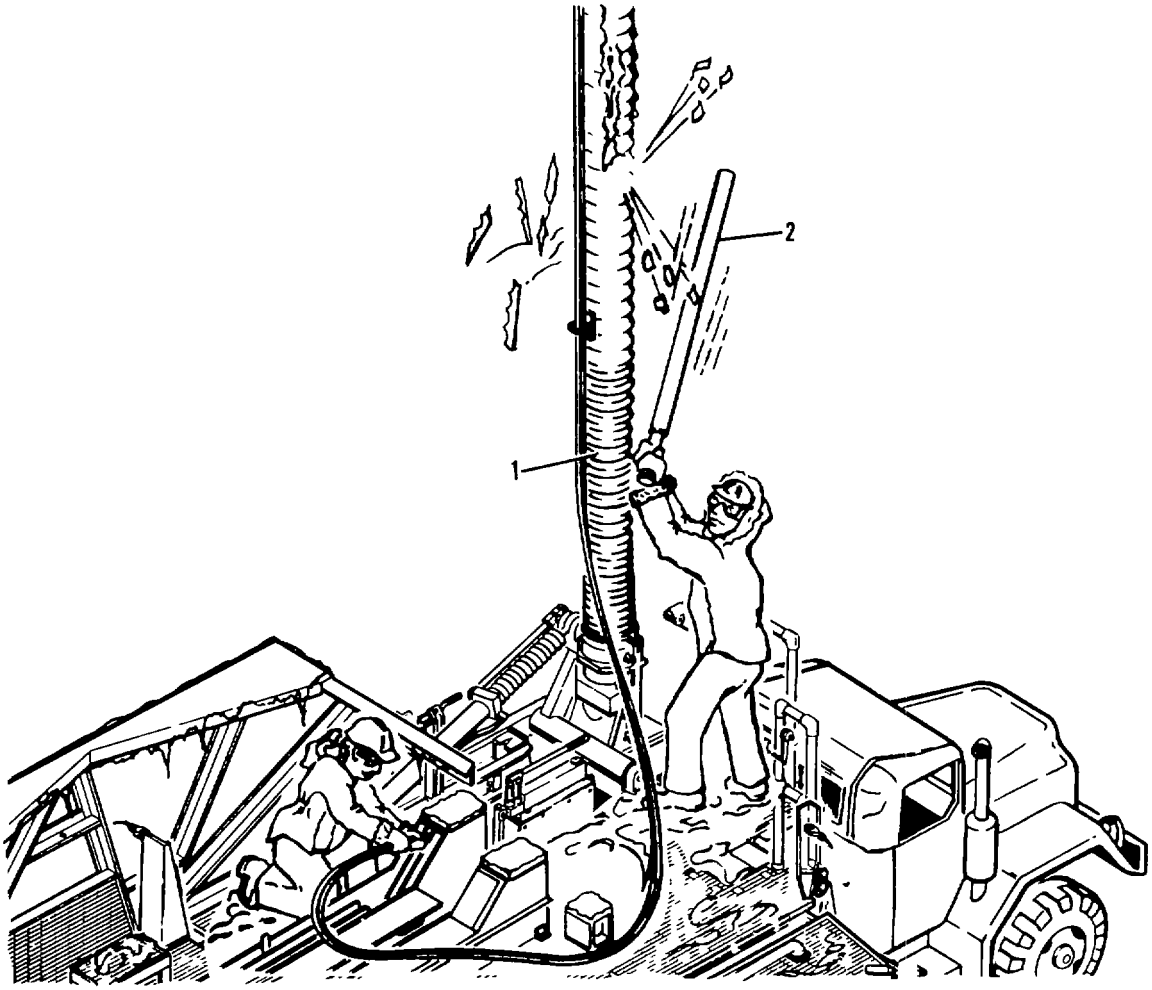
**If mast protective covers are coated with ice it will be necessary to break ice with ice removal tool. This will make mast protective covers flexible again. Retracting a mast with mast protective covers coated with ice is a three soldier task.**

(a) If necessary to use ice removal tool, remove pin (9) securing ice removal tool (10) to bracket (11)on ladder support handrail (12).

(b) Lift and remove ice removal tool (10) from ladder support handrail (12).



**2.20. OPERATION IN EXTREME COLD - Continued**




**WARNING**

**Use proper head gear and eye protection when breaking ice on most protective covers.**

**CAUTION**

**Strike mast protective cover only hard enough to break ice, If you strike the mast protective cover too hard you can damage it. Avoid striking the lock strut switch housing at base of mast.**

(c) Repeatedly strike mast protective cover (1) at bottom of mast with ice removal tool (2). Retract mast VERY SLOWLY (see para 2-17 step 5). It may be necessary to temporarily stop mast retraction (place MAST EXTENSION switch to PAUSE) until ice is removed from mast protective cover at bottom of mast.

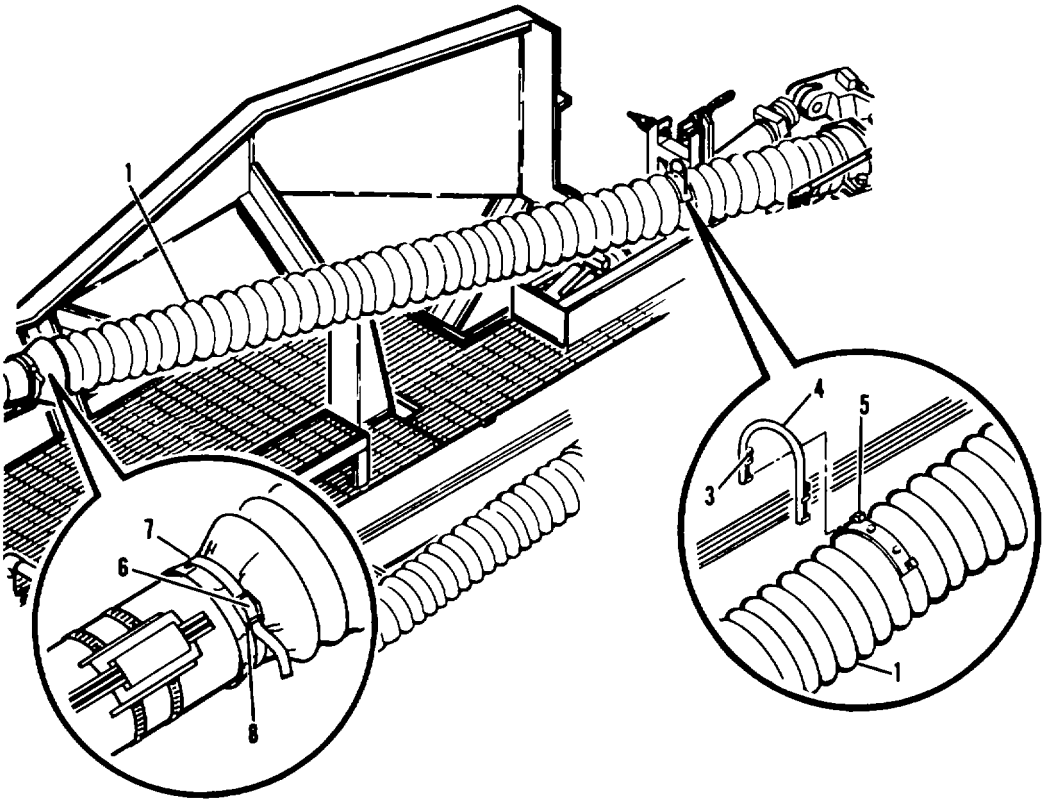
**2.20. OPERATION IN EXTREME COLD - Continued**

(d) Retract and lower mast to 10 degreeposition (see para 2-17, steps 1 to 7).

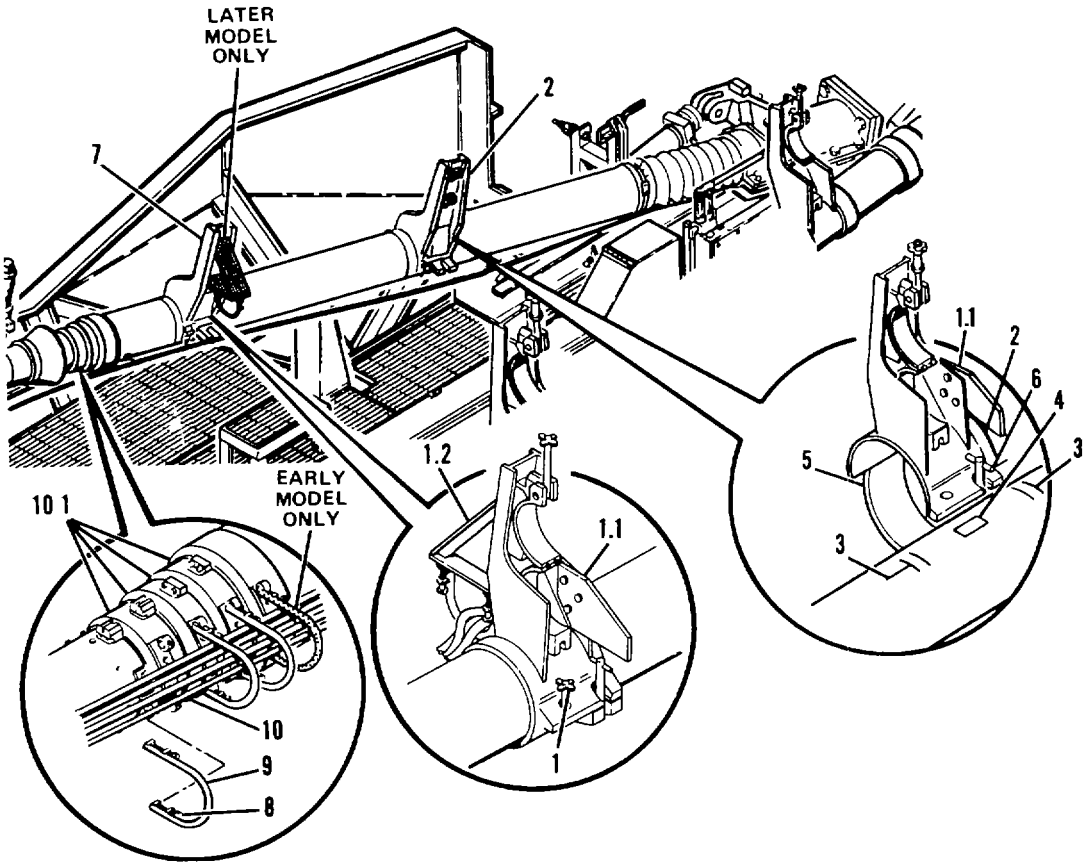
(e) Pull captive screws (3) on four cable retainers (4) and remove cable retainers from cable retainer brackets (5) on mast protective cover (1).

(f) Press buckle release (6) and loosen strap (7).

(g) Slide mast protective cover (1) to bottom of mast. Cinch strap (7) tight and secure with buckle (8).



**2-20. OPERATION IN EXTREME COLD - Continued**




**CAUTION**

**To avoid damaging mast, install same mast clamp in same position on mast.**

**NOTE**

**Lower mast clamps do not have handknobs assemblies (1) and have most guide plates (1.1) on outside of most clamp. Later model upper mast clamps also have a cable retainer bracket (1.2).**

**NOTE**

**If your mast clamp has flanges, position between outside lines, if your mast clamp does not have flanges, position between inside lines.**

(h) Position lower mast clamp (2) to mast so it is between white lines (3) on mast. Rotate mast clamp (2) until key (4) on mast is seated in slot on mast clamp.

**2-20. OPERATION IN EXTREME COLD - Continued**

**WARNING**

**Make sure tee screws are tight. Clamps could fall off and injure someone.**

(i) Pull mast clamp lower section (5) up and around mast. Pull tee screw (6) up into notch on clamp. Tighten tee screw to secure clamp to mast.

(j) Repeat steps (h) and (i) for upper clamp (7).

**NOTE**

**Early model mast groups have four cable retainers (9) on mast collars (10.1). Later model mast groups have three cable retainers on mast collars and one on cable retainer bracket (1.2).**

(k) Pull out captive screws (8) on four cable retainers (9) and position three cable retainers around cables (10) to cable retainer brackets on mast collars (10.1). Position one cable retainer around cables to cable retainer bracket (1.2) on upper mast clamp (7). Release captive screws (8) to secure cable retainers (9).

**NOTE**

**Antenna amplifier assemblies may not aline with antenna clamps when assemblies are being stow. ed. If needed, loosen tee handle on mast clamps and reposition mast clamps on mast. Secure mast clamps when properly positioned.**

(1) Continue stowing mast.

**NOTE**

**Handknobs on upper mast clamp (7) may not aline with their holes when mast is fully lowered. If needed, raise mast slightly, open antenna clamps (see para 2-15 step 14), loosen tee handle on mast clamp and reposition on mast. Secure mast clamp when it's properly positioned on mast. Close antenna clamps (see para 2-17 step 10).**

**2-20. OPERATION IN EXTREME COLD - Continued**

**b. PNEUMATIC COMPONENTS ASSEMBLY MANIFOLD HEATER**

**NOTE**

**Turn on pneumatic manifold heaters any time the temperature falls below 32°F.**

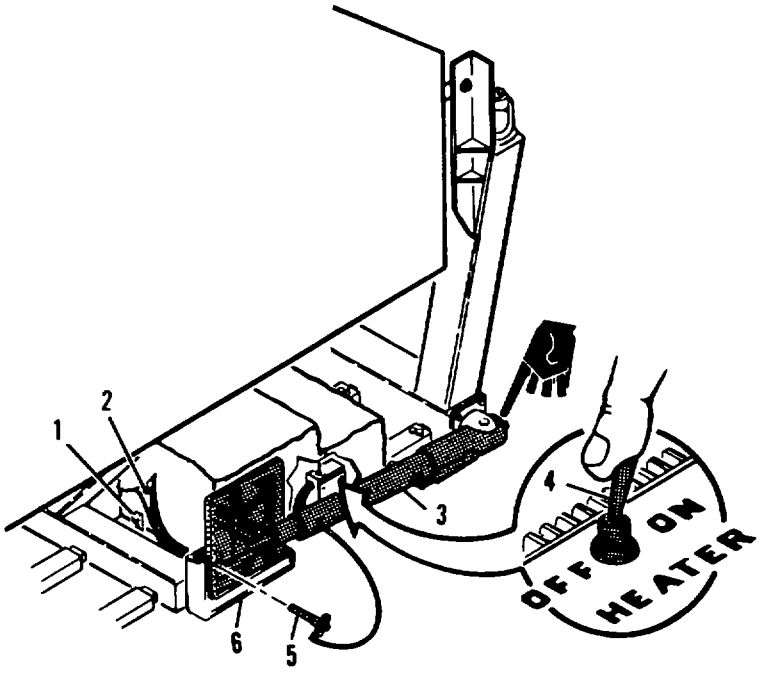
**NOTE**

**The PCA heater works on ac current only. The heater will not work if you are operating on dc battery power.**

(1) Pull quick release pin (5) and lift strut (3) from bracket (6) and swing strut down.

(2) Peel back edges of dust cover (2) at corners of pneumatic components assembly. Release latches (1). Remove covers.

(3) Place pneumatic manifold heater switch (4) to ON.




(4) Install and secure covers on pneumatic components assembly.

(5) Repeat procedure for other side of vehicle.

**NOTE**

**Be sure to place pneumatic manifold heater switch back to OFF in warm weather.**

**c. CHECKING HEATER OPERATION**

When operating in cold weather, you will want to check that the mast group heaters are operating properly. There are two heaters on each side of the mast group. They are:

- PCA MANIFOLD HEATER.
- HYDRAULIC FLUID HEATER.

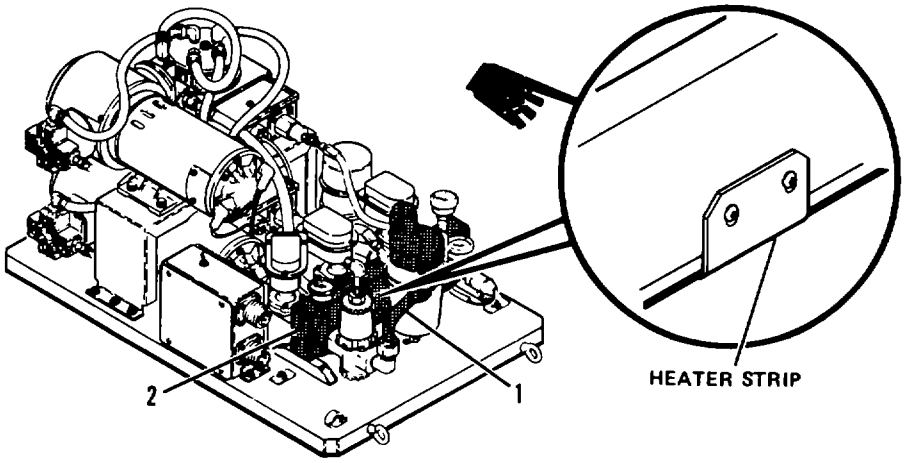
The PCA manifold heater is operated manually (see b above). The hydraulic fluid heater operates automatically....it comes on at a preset temperature.

**NOTE**

**It may be necessary to remove outer shell of arctic type gloves to check heaters.**

(1) Check the PCA manifold heater:

(a) Remove covers from PCA (b, steps (1) and (2) above).




**WARNING**

**Use care when checking the PCA heater. The heater strip is pro-set to 145°F. You could get burned if you touch the heater strip. Also be careful that bare flesh does not stick or freeze to cold metal surfaces.**

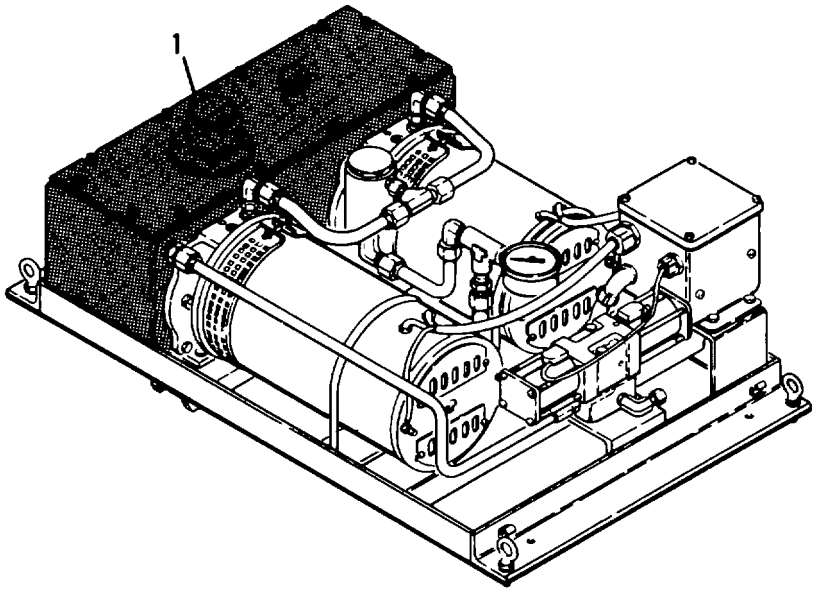
(b) Cautiously feel metal tubes (1) attached to manifold (2). Start away from the manifold and work towards it until you can determine that the heater is working (tube feels warm).

**2-20. OPERATION IN EXTREME COLD - Continued**

(c) Install PCA covers.

(2) Check the hydraulic fluid heater:

(a) Remove HCA covers. HCA covers are removed the same way as the PCA covers.




**WARNING**

**Be careful not to allow flesh to stick and freeze to cold metal surfaces.**

(b) The hydraulic heater is located inside the HCA reservoir (1). Feel the sides of the reservoir for warmth.

(c) Install HCA covers.

Repeat heater checks for the other side of the vehicle. If any heater is not working, notify your supervisor.

## 2-21. OPERATIONS IN STRONG WINDS

You have two mast height limiter systems for use in strong winds the variable height limiter and the incremental height limiter.

Variable Height Limiter

The variable height limiter consists of a winch and wire rope. You can use it to limit the mast to any height you want. You can also use it to forcefully retract the mast.

Incremental Height Limiter

The incremental height limiter consists of a cable restraint on the mast collars. It allows you to restrict some mast sections from being extended.

Here's how to use the height limiters:

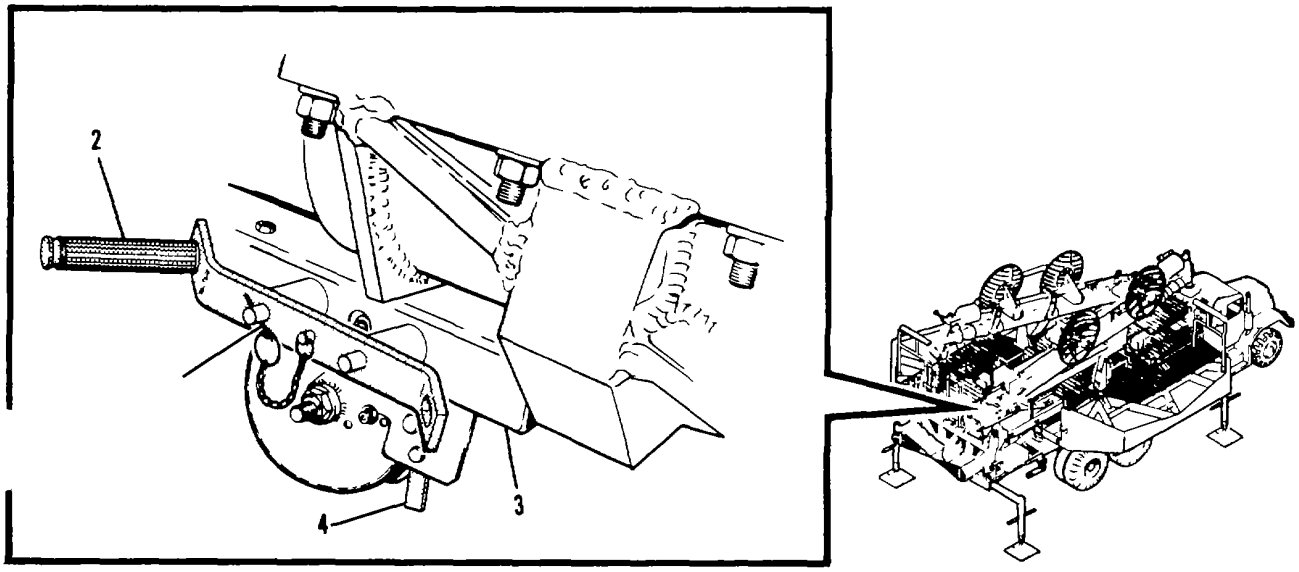
### a. VARIABLE HEIGHT LIMITER

(1) SET-UP OF VARIABLE HEIGHT LIMITER

(a) Raise mast 10 degrees and unfold and secure antenna mast (para 2-15 steps 1 to 16).

(b) Push ratchet lever (4) inboard and lift lever to UP.

(c) Pull pin (1) and remove handle (2) from winch bracket (3).



**2-21. OPERATION IN STRONG WINDS - Continued**

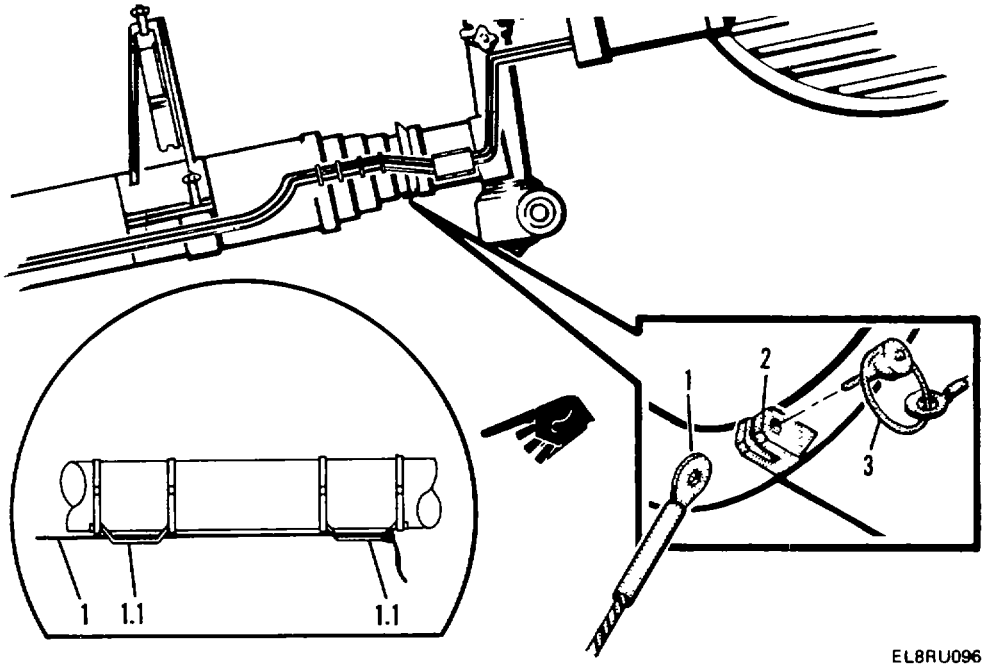
(c.1) Remove both mast clamps and loosen mast cover strap (para 2-20, steps (1) (d) and (e)). Slide mast cover to upper end of mast to expose wire rope brackets (1.1).

(c.2) Untie wire rope (1) from winch. Route wire rope through wire rope brackets (1.1). Tie wire rope (1) to upper wire rope bracket.

(d) If mast cover is not going to be deployed, slide mast cover back down to bottom of mast and secure (para 2-20, step (2) (e)).

(e) Position end of wire rope (1) to bracket (2) on antenna positioner. Install quick release pin (3) to secure.

(e.1) Install mast clamps (para 2-20, step (2)(i),(j), and (k)).




**WARNING**

**Do not touch wire rope with bare hands while mast is extended or retracted. Injury to hand could result.**

**WARNING**

**Do not install handle on winch shaft at this time. If mast is extended with height limiter cable attached, handle will spin rapidly possibly injuring personnel.**

(f) Continue raising mast (para 2-15).

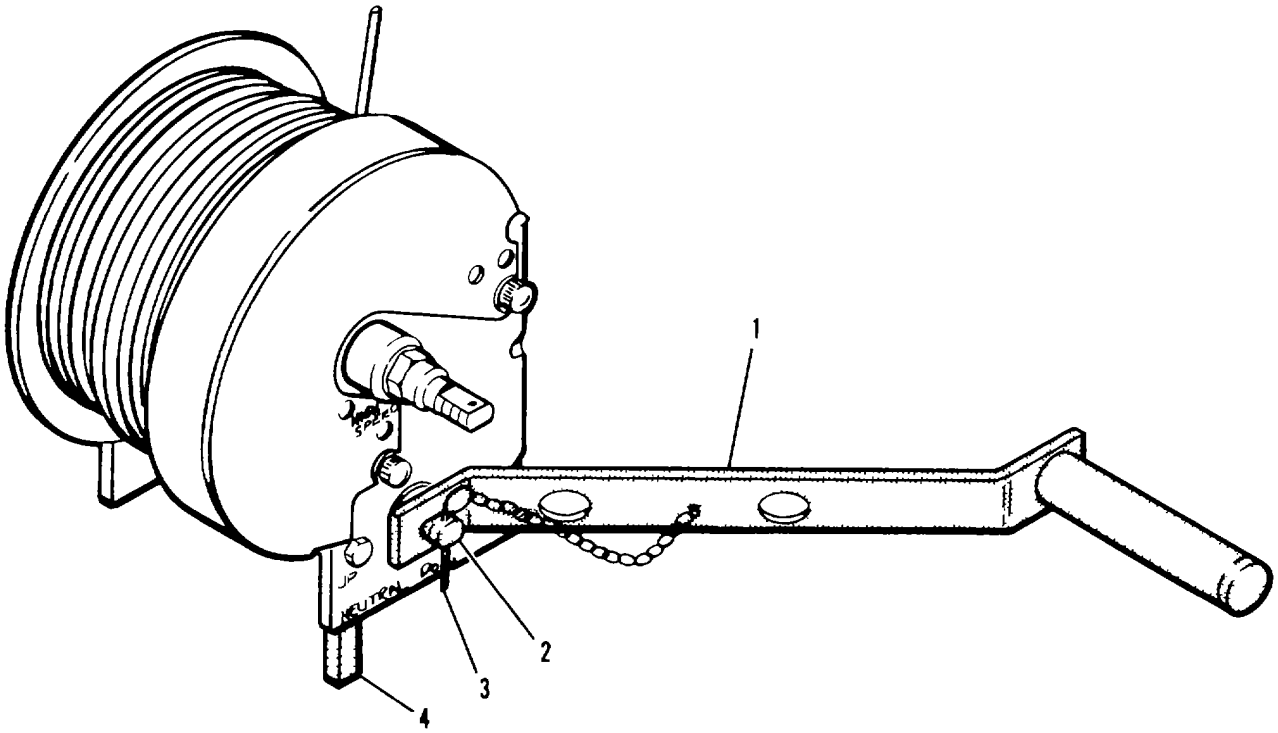
**(2) OPERATION OF VARIABLE HEIGHT LIMITER**

(a) Extend mast to desired height, then place MAST EXTENSION switch to PAUSE (para 2-15). Mast will remain at this height temporarily.

(b) Push ratchet lever (4) inboard and move to the DOWN position.

(c) Place handle (1) on low speed shaft (2) and install quick release pin (3) to secure.

(d) Turn handle (1) clockwise to reel in wire rope to take up any slack and limit mast to the height you want.




(e) Pull quick release pin (3) and remove handle (1) from winch.

**CAUTION**

**To avoid damaging the winch, make sure there is no slack in winch wire rope before placing MAST EXTENSION switch to OUT.**

(f) Place MAST EXTENSION switch to OUT. This will pressurize mast and prevent it from "creeping" slowly downward. The variable height limiter cable will stop the mast from extending any further.

**2-21. OPERATION IN STRONG WINDS - Continued**

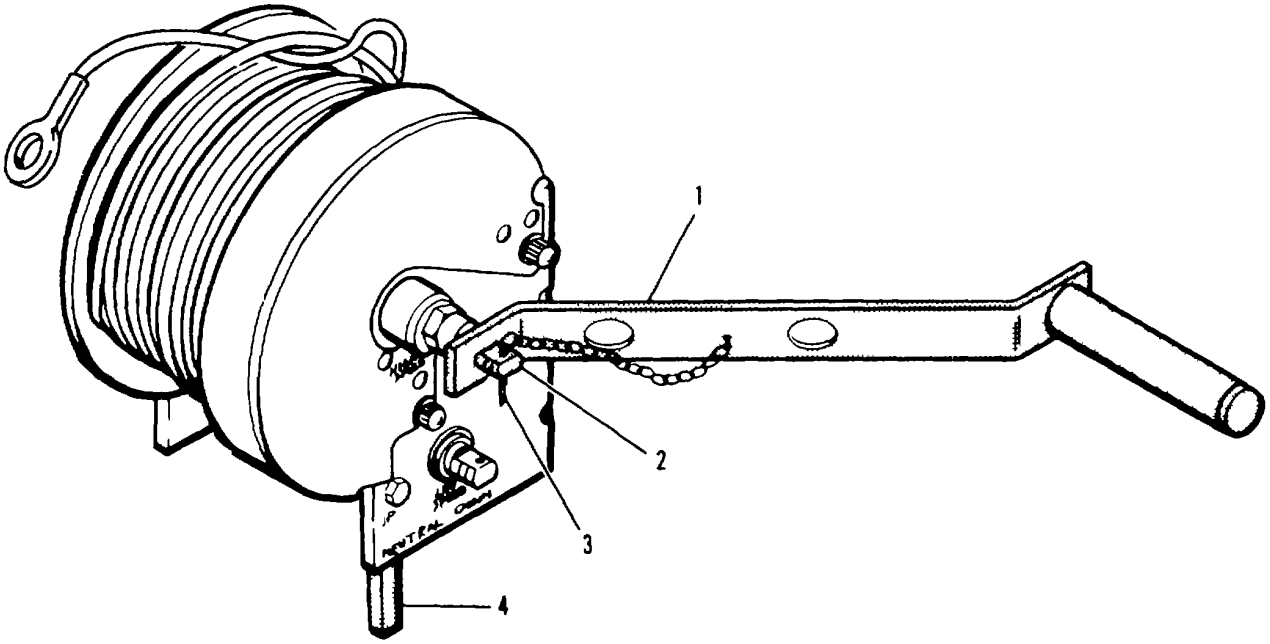
(3) STOWAGE OF VARIABLE HEIGHT-LIMITER

(a) Install handle (1) on high speed shaft (2) and install quick release pin (3) to secure.

(b) Check that ratchet lever (4) is in the DOWN position.

(c) Tell soldier at mast control to place MAST EXTENSION switch to IN and retract the mast. Turn handle (1) clockwise to reel in wire rope as mast comes down. If mast comes down too quickly, have soldier at mast control temporarily place MAST EXTENSION switch to PAUSE.

(d) Lower mast to 10 degree position and fold and clamp antennas.




(e) Pull quick release pin securing end of wire rope to bracket on antenna positioner.

**CAUTION**

**Use care and go slowly when reeling in wire rope. If you don't, most cover may be damaged.**

(f) Reel in wire rope. Tie wire rope around winch drum so it is secure and out of the way.

## 2-21. OPERATION IN STRONG WINDS

**WARNING**

**If status monitor alarm in shelter (ES/CRG/ICC) is on during high winds, mast should be lowered to section number one. If winds are indicated to be 55 mph or more, stow the mast.**

### b. INCREMENTAL HEIGHT LIMITER

(1) Raise mast to 10 degree position. Unfold and secure antennas

(2) Unclip and remove pin (7).

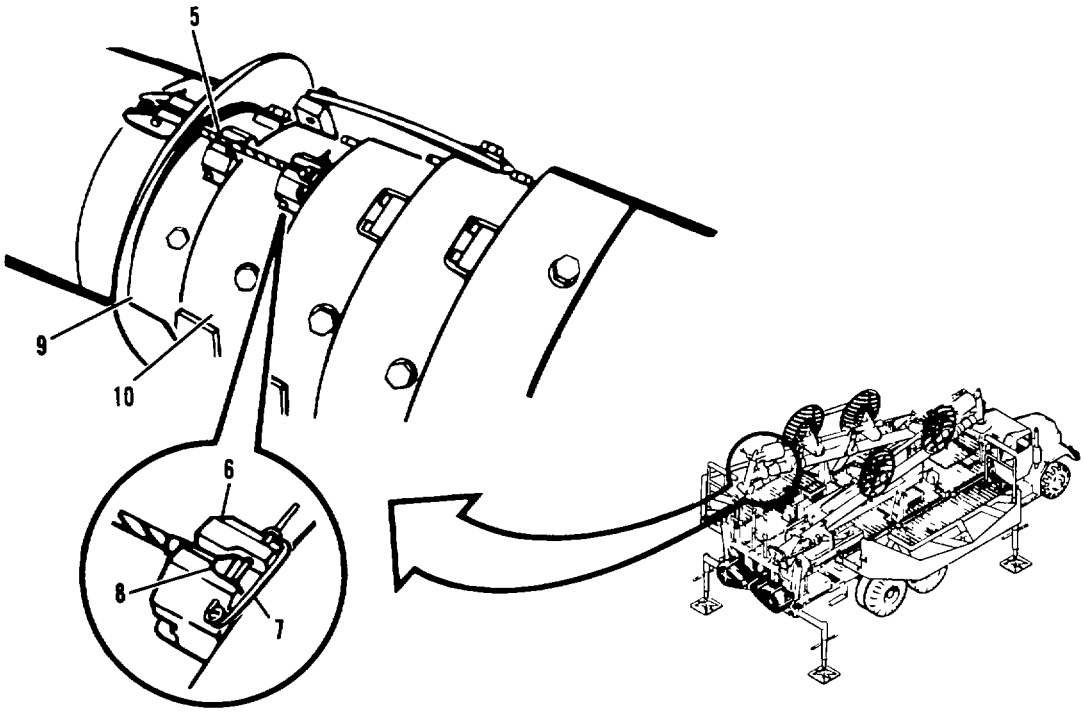
(3) You can prevent the extension of mast sections number five (9), or number four (10). Choose which sections you DO NOT want extended. These sections will be connected together by the wire rope (5).

(4) Place ball (8) at end of wire rope (5) into bracket (6) on mast collar.

(5) Install pin (7) into bracket (6) to secure wire rope.

(6) Continue deploying masts.

**Change 3** **All data on pages 2-127 thru 2-131 deleted.**




**NOTE**

**Later masts have brackets (6) on all mast collars.**

## 2-22. OPERATION IN SANDY OR DUSTY CONDITIONS

In sandy or dusty conditions you must:

- DEPLOY MAST PROTECTIVE COVERS
- CHECK YOUR PCA AIR INTAKE FILTER MORE OFTEN

a. Go to paragraph 2-20a for mast protective cover deployment and stowage procedures.

b. Go to the operator's PMCS table (table 2-1) item No. 7 for procedure on checking the PCA air intake filter element.

c. If PCA intake filter element needs replacing, contact organizational maintenance.

**NOTE**

**Organizational maintenance PCA intake filter element replacement procedure is given in paragraph 3-5.**

## 2-23. MANUAL OPERATION OF SOLENOID VALVES

General

If you have power but the mast will not raise, lower, extend, or retract, it may be due to a faulty solenoid valve. If your situation is urgent and your supervisor so directs, you can operate the solenoid valves manually and possibly operate the mast group.

Hydraulic Solenoid Valves

The hydraulic solenoid valves control the flow of hydraulic fluid needed to raise or lower the mast. They are located in the hydraulic components assembly (HCA).

Pneumatic Components Assembly

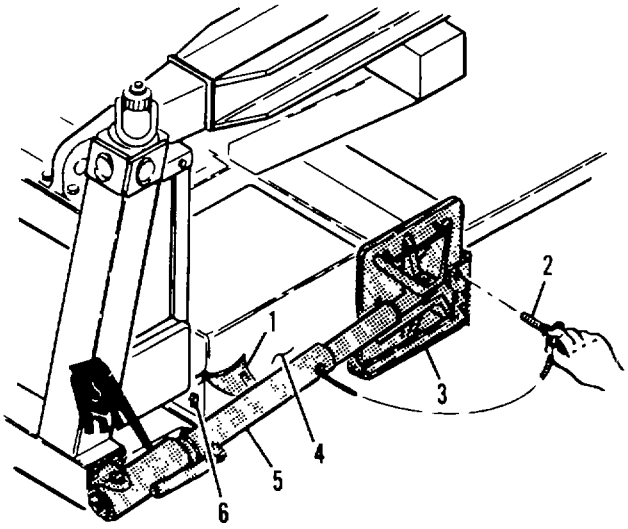
The pneumatic solenoid valves control the flow of compressed air needed to extend or retract the mast. They are located in the pneumatic components assembly (PCA).

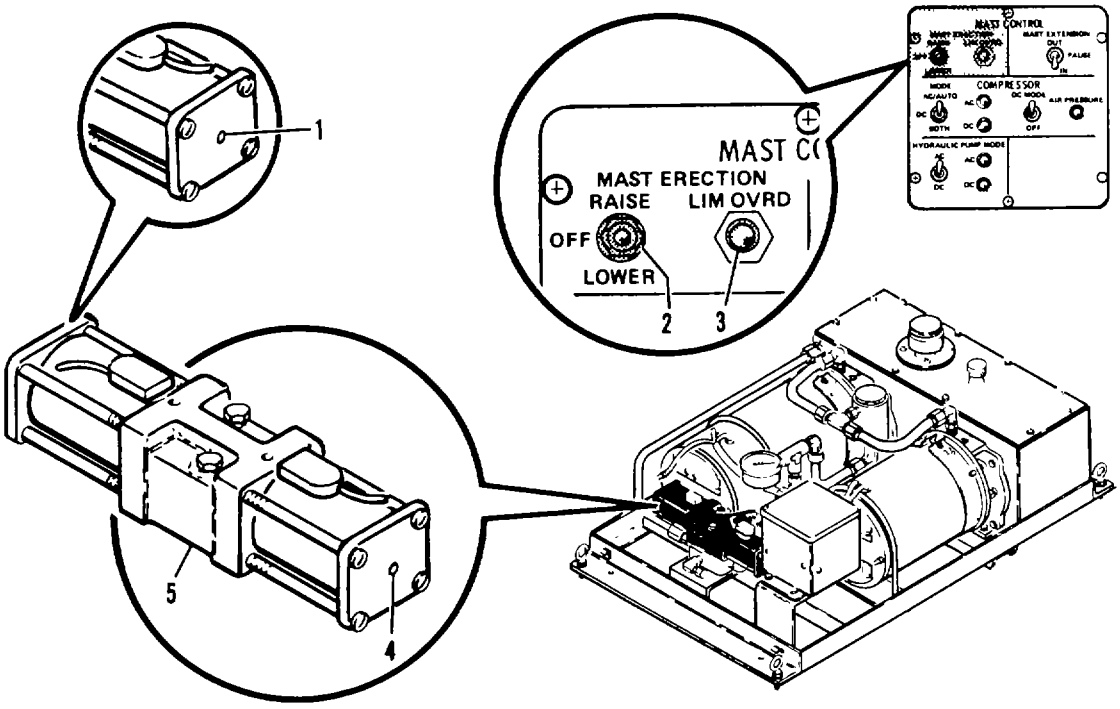
Here's how to manually operate the solenoid valves:

### a. MANUAL OPERATION OF HYDRAULIC SOLENOID VALVES

(1) If stabilizing strut has not been deployed, pull quick release pin (2) and lift strut (5) from bracket (3). Swing strut down.

(2) Peel back edges of dust cover (1) at corners of HCA (4). Release latches (6). Remove covers. Use care not to damage HCA.






**WARNING**

**Make sure personnel are out of the way before raising or lowering mast.**

**CAUTION**

**Make sure someone is on walkway to guide cable before raising or lowering mast.**

**NOTE**

**You will need a small, 3/8 inch diameter or less, 1 inch long object to push button (1 or 4). A piece of wire, nail, paper clip, or a wittled piece of wood will work.**

(3) To lower mast push button (4) at end of solenoid valve (5). Have another soldier at the mast control place the MAST ERECTION switch (2) to LOWER. If needed, push LIM OVRD button (3). Release MAST ERECTION switch (2) and button (4) when mast is lowered to position you want.

(4) To raise mast push button (1) at end of solenoid valve (5). Have another soldier at the mast control place the MAST ERECTION switch (2) to RAISE. Release MAST ERECTION switch (2) and button (1) when mast is raised to position you want.

(5) Install and secure covers on HCA.

(6) Notify maintenance personnel of solenoid valve failure.

**2-23. MANUAL OPERATION OF SOLENOID VALVES - Continued**

**b. MANUAL OPERATION OF PNEUMATIC SOLENOID VALVES**

(1) If stabilizing strut has not been deployed, pull quick release pin (4) and lift strut (3) from bracket (5). Swing strut down.

(2) Peel back edges of dust cover (2) at corners of PCA. Release latches (1). Remove covers.

**WARNING**

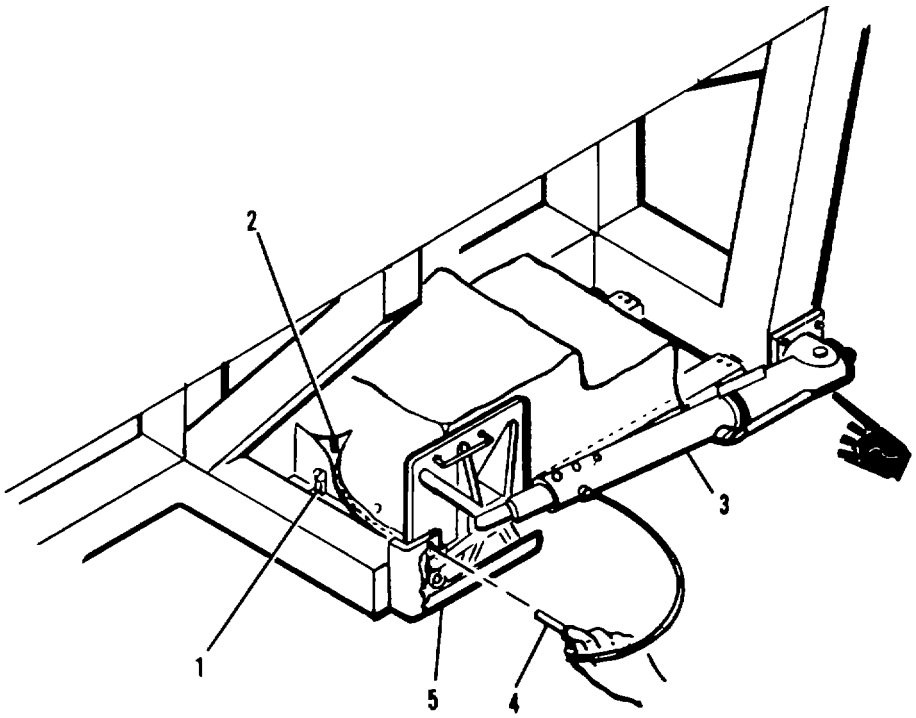
**Make sure personnel or obstructions are out of the way before extending or retracting the mast.**

**WARNING**

**Safety switches will not work when manually operating pneumatic solenoid valves. Use extreme caution!**

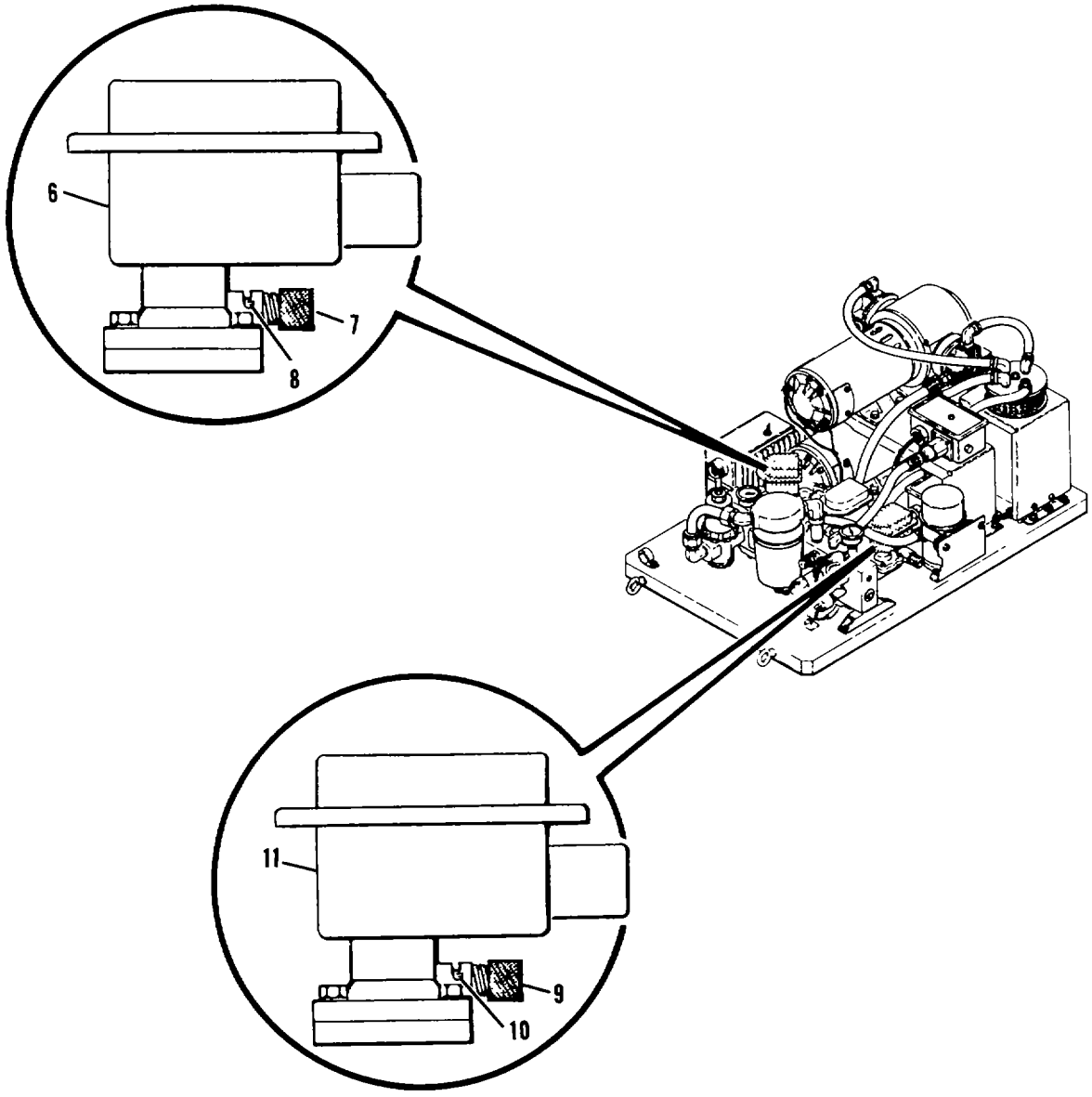
**CAUTION**

**Make sure someone is on walkway to guide cable before extending or retracting mast.**



(3) To retract mast, push knob (9) on retract solenoid valve (11) in. Turn knob (9) clockwise as far as it will go. Watch mast come down.

(4) To extend mast, push knob (7) on extend solenoid valve (6) in. Turn knob clockwise as far as it will go. Watch mast go up.




**NOTE**

**After manually operating retract solenoid valve (11), rotate knob (9) counterclockwise until it pops out to close valve. Make sure pin (10) is seated in its slot.**

(5) Install and secure covers on PCA.

(6) Notify maintenance personnel of solenoid valve failure.

## 2-24. BLACKOUT OPERATIONS

**WARNING**

**There's increased risk of injury to personnel during blackout operations. Don't perform blackout operations unless they are mission essential. Use extreme caution....and don't hurry.**

Here's general information about blackout operations:

- WEAR PROTECTIVE HEADGEAR.
- CARRY A BLACKOUT FLASHLIGHT. USE PREARRANGED FLASHLIGHT HAND SIGNALS PER FM 21-60.
- DON'T TRY TO DO A TASK THAT TAKES TWO HANDS AND REQUIRES VISUAL IDENTIFICATION OR CONFIRMATION. ASK ANOTHER CREWMEMBER TO HELP BY HOLDING A BLACKOUT LIGHT.
- AFTER PERFORMING A TASK WITH ANOTHER CREW MEMBER , DON'T SEPARATE OR MOVE TO ANOTHER AREA WITHOUT TELLING HIM.
- DON'T START HELPING IN A TASK WITHOUT FIRST TELLING OTHER CREWMEMBERS WORKING ON THAT TASK.
- DON'T LEAVE TOOLS, LIGHTS, CABLES OR ANY OTHER ITEMS UNATTENDED ON OR NEAR THE VEHICLE OR EQUIPMENT.
- MAKE ALL ACTIONS CAREFUL AND DELIBERATE. MAKE SURE FOOTING IS FIRM AND SAFE AND THE TASK DONE PROPERLY.
- DON'T CLIMB ON LADDERS OR EQUIPMENT UNLESS TASK PROCEDURES TELL YOU TO.
- WHEN EVERYTHING IS DONE GO TO THE REAR OF THE MAST GROUP AND CHECK THAT CREWMEMBERS ARE PRESENT AND ACCOUNTED FOR BEFORE ASSUMING OTHER DUTIES.
- DON'T MOVE ANY VEHICLE WITHOUT THE AID OF A GROUND GUIDE.

**NOTE**

**Blackout operations are not necessary during night conditions. Lighting can be used to more readily operate the equipment and minimize danger to personnel.**

# CHAPTER 3

# ORGANIZATIONAL MAINTENANCE

Organizational Maintenance consists of:

- Section I, Lubrication Instructions.
- Section II, Organizational Preventive Maintenance Checks and Services (PMCS).
- Section III, Maintenance Procedures.

## Section I. LUBRICATION INSTRUCTIONS

### 3-1. OVERVIEW

The mast group must be periodically lubricated to insure proper operation. Lubrication tasks consist of the following:

- GREASE LUBRICATION FITTINGS.
- CHANGE ANTENNA PROTECTIVE COVER PUMP FILTER ELEMENT.
- CHANGE MAST HYDRAULIC COMPONENTS ASSEMBLY INLINE FILTER ELEMENT.
- LUBE MAST SEALS.

### 3-2. LUBRICATION PROCEDURES

Organizational maintenance lubrication procedures are given in the lubrication order on pages 3-2 to 3-18. Here's how to use the lubrication order:

- Check the INTERVAL column to find out how often you lubricate an item.

**NOTE**

**Reduce the lubrication interval when the mast group is operated In severe weather or abnormal conditions. Extend the lubrication interval during periods of inactivity, if adequate preservation is provided.**

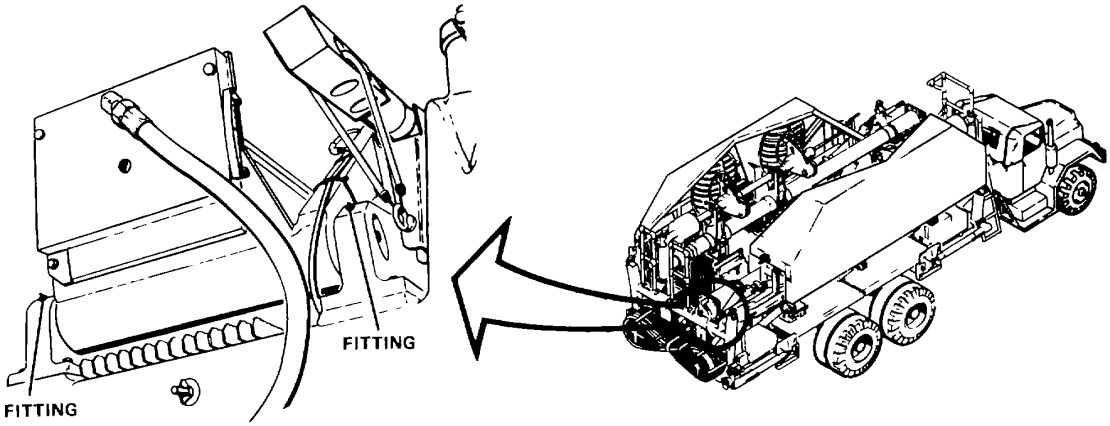
- Check the LUBRICANT column to find out what lubricant to use.
- See the PROCEDURE column for instructions on how to do the lubrication service.

**NOTE**

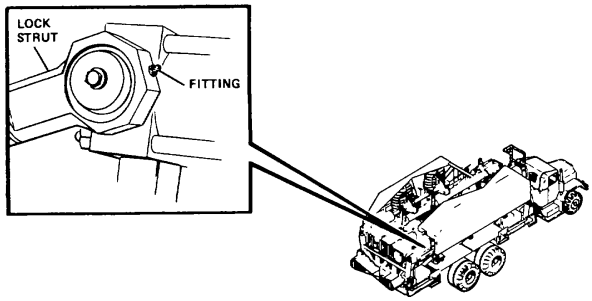
**See FM 31-70 if you are operating your mast group continuously below O°F.**

**LUBRICATION ORDER**

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 1. Mast Clamp Bearings | Grease, Pneumatic Aircraft, Artillery/ Auto | Monthly | (a) Using a clean shop cloth, item 1, appx E, wipe lube fittings at bearing housing and cylinder support.<br>(b) Pump grease, item 2, appx E, into fittings with a grease gun until excess grease appears.<br>(c) Using a shop cloth wipe off any excess grease.<br>(d) Repeat procedure for other side of the vehicle. |

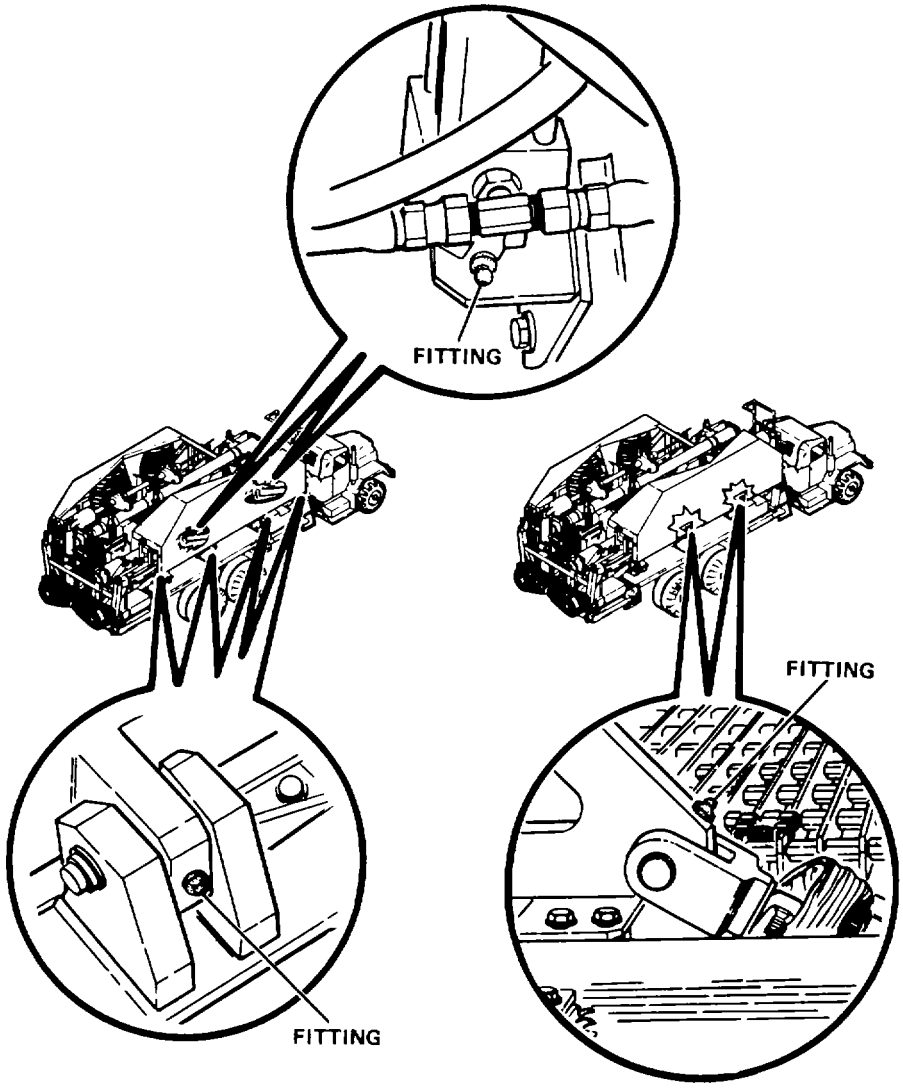



| | | | |
|---|---|---|---|
| 2. Cylinder Lock Strut Bearing | Grease, Pneumatic Aircraft, Artillery/ Auto | Monthly | (a) Using a clean shop cloth, item 1, appx E, wipe fitting at strut bearing.<br>(b) With a grease gun, pump grease, item 2, appx E, into fitting until excess grease appears.<br>(c) Using a shop cloth wipe off any excess grease.<br>(d) Repeat procedure for other side of the vehicle. |



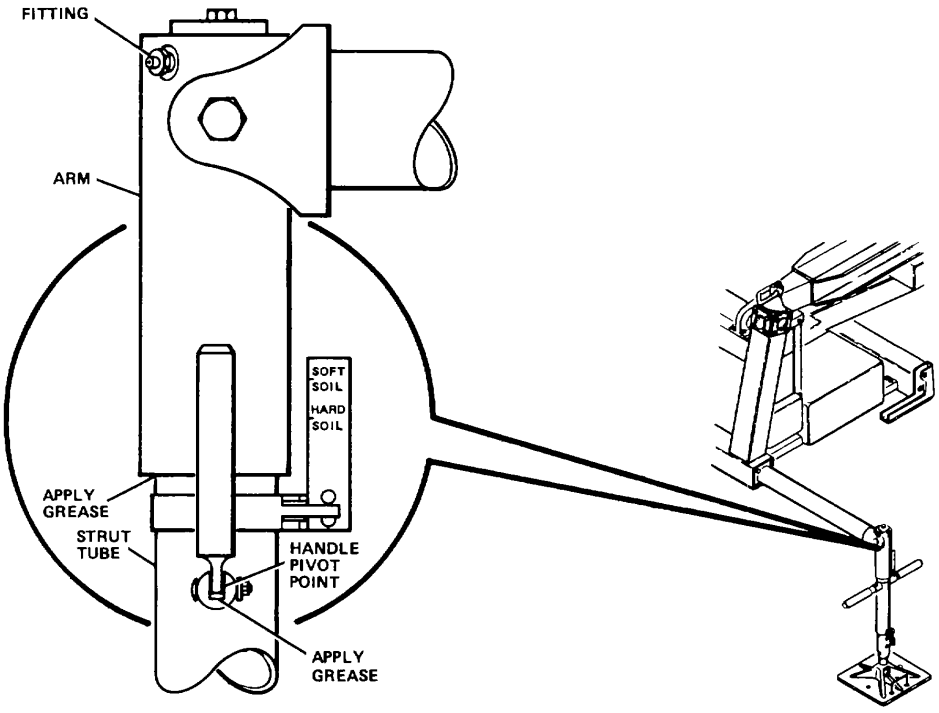
**LUBRICATION ORDER**

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 3. Antenna Protective Cover Pivot Points | Grease, GAA | Monthly | (a) Using a clean shop cloth (item 1, appx E) wipe eight lube fittings at cover pivot points.<br>(b) Pump grease (item 2, appx E) into fittings with a grease gun until excess grease appears.<br>(c) Using a shop cloth wipe off any excess grease.<br>(d) Repeat procedure for other side of the vehicle. |



**LUBRICATION ORDER**

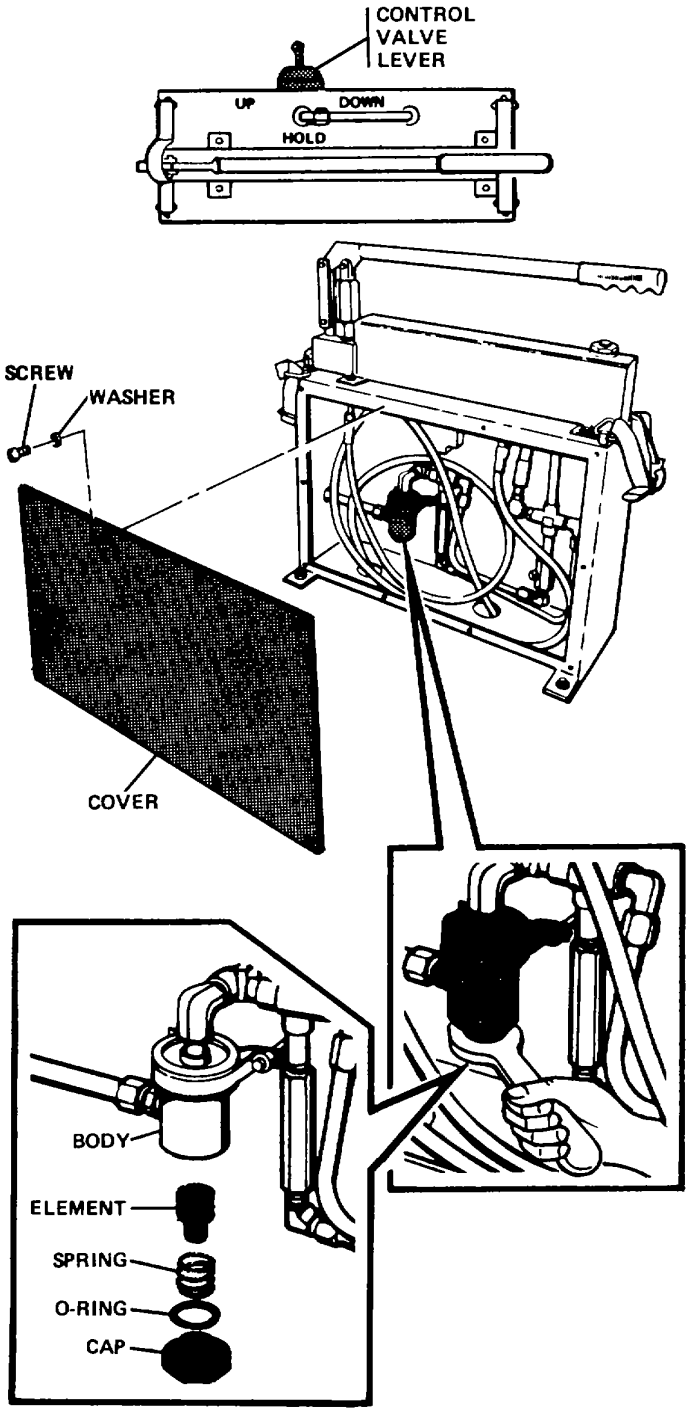
| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 3.1 Stabilizer Strut | Grease, GAA | Monthly | (a) Using a clean shop cloth (item 1, appx E) wipe lube fitting on stabilizer strut.<br>(b) Pump grease (item 2, appx E) into fitting with a grease gun until excess grease appears.<br>(c) Using a shop cloth (item 1, appx E) wipe off any excess grease.<br>(d) Repeat procedure for remaining three stabilizer struts. |




| | | | |
|---|---|---|---|
| 3.2 Stabilizer Strut Handle and Strut Tube | Grease, GAA | Semi-Annually | (a) Deploy stabilizer strut.<br>(b) Apply grease (item 2, appx E) to handle pivot point and to strut tube where strut tube engages arm.<br>(c) Using a shop cloth wipe off any excess grease.<br>(d) Stow stabilizer strut.<br>(e) Repeat procedure for remaining three stabilizer struts. |

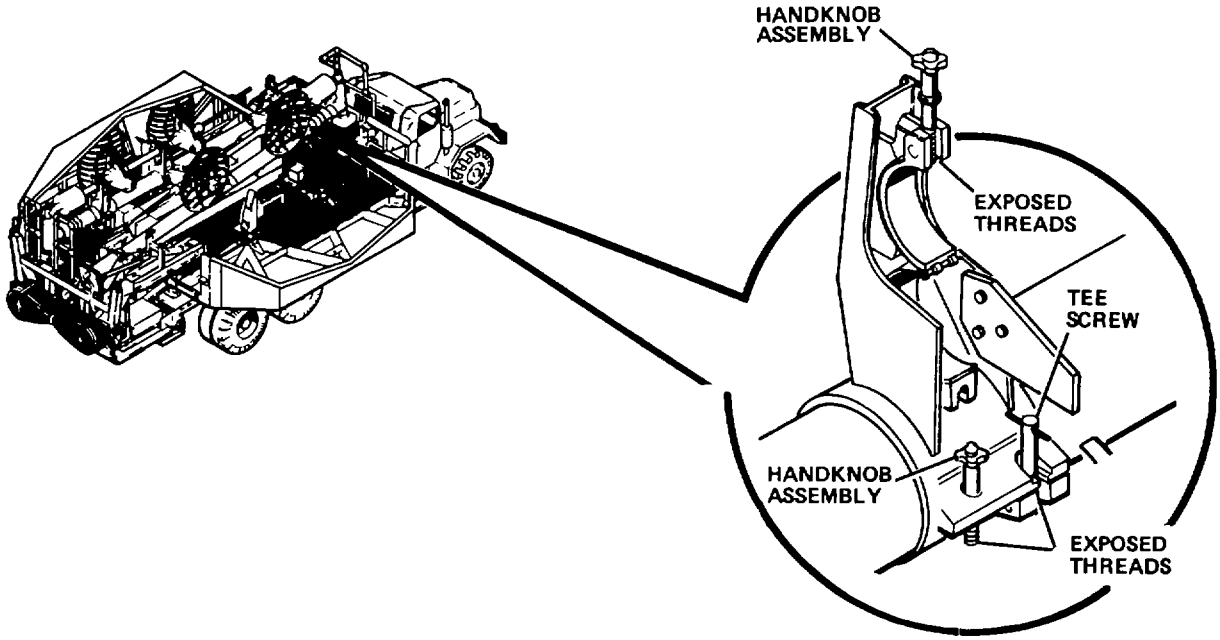
LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 4. Antenna Protective Cover Pump Filter Element | Hydraulic Fluid | Annually | **NOTE**<br>**Place shop cloths in bottom of pump to catch hydraulic fluid when opening filter.**<br>(a) Place the control valve lever to HOLD.<br>(b) Using a #2 crosstip screwdriver, remove ten screws and washers securing cover to pump.<br>(c) Using a shop cloth (item 1, appx E) clean the in-line filter.<br>(d) Using a 1-1/2 inch box wrench remove filter cap and spring from filter body.<br>(e) Remove O-ring from filter cap.<br>(f) Clean filter cap with clean hydraulic fluid (item 4, appx E) and a shop cloth. Remove any lint from filter cap.<br>(g) Coat new O-ring with clean hydraulic fluid. Install O-ring in groove in cap.<br>(h) Remove filter element from filter body. Install new filter element.<br>(i) Install spring and cap in filter body. Make sure spring properly engages filter element and cap.<br>(j) Using a 1-1/2 inch box wrench, tighten filter cap.<br>(k) Position cover to pump. Using a #2 crosstip screwdriver, install ten washers and screws securing cover to pump.<br>(l) Repeat procedure for other side of the vehicle. |



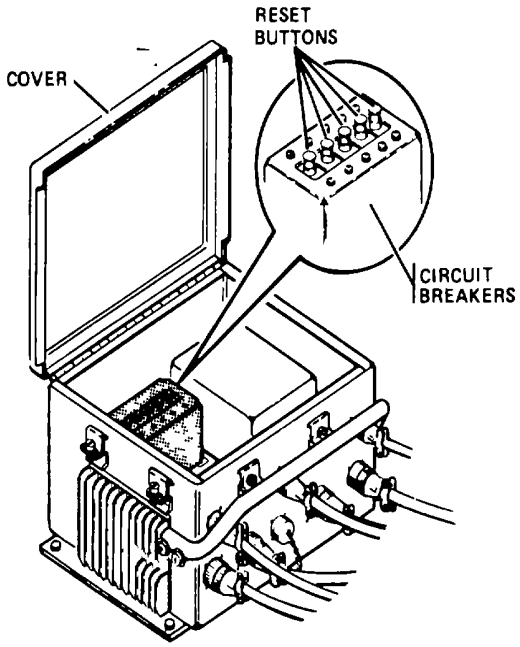
LUBRICATION ORDER

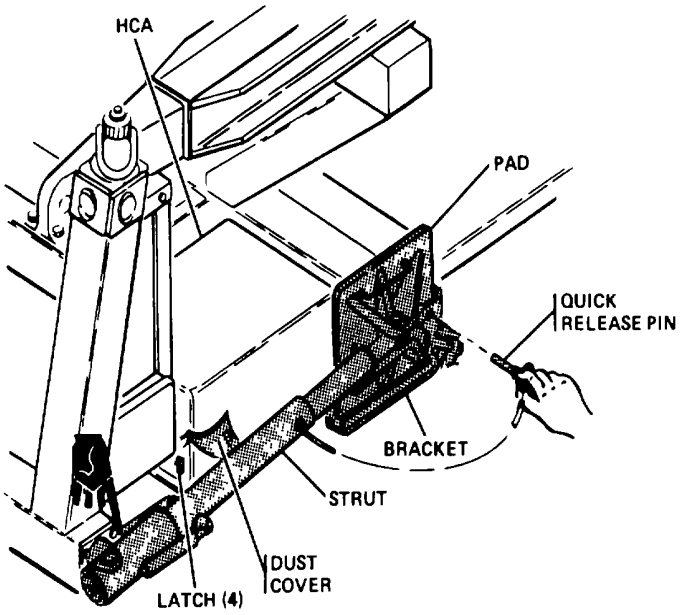
| Item | | Lubricant | ● Interval | Procedure |
|---|---|---|---|---|
| 5. | Handknob Assemblies and Tee Screws | Grease, GAA | Semi-Annually | (a) Raise mast to 10 degree position and unfold and secure antenna amplifier assemblies.<br>(b) Apply grease (item 2, appx E) to exposed threads of handknob assemblies and tee screws. Run handknobs in and out to expose as many threads as possible.<br>(c) Fold antenna amplifier assemblies and lower mast to stowed (horizontal) position.<br>(d) Run handknobs and tee screws in and out of their threaded holes to coat all threads with grease.<br>(e) Using a shop cloth (item 1, appx E) wipe off excess grease.<br>(f) Repeat procedure for other side of mast group. |



LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 5. HCA Filter Element | Hydraulic Fluid | Semi-Annually | (a) Using a 3/8 inch flat tip screwdriver, loosen screws securing six latches on distribution box. Release latches. Open cover.<br>(b) Pull all five circuit breaker reset buttons out. White bands should be visible on reset buttons.<br>(c) Pull quick release pin securing strut pad in stowage bracket. Lift strut out of bracket and swing down.<br>(d) Peel back edges of dust cover at corners of HCA. Release four latches. Remove covers. |

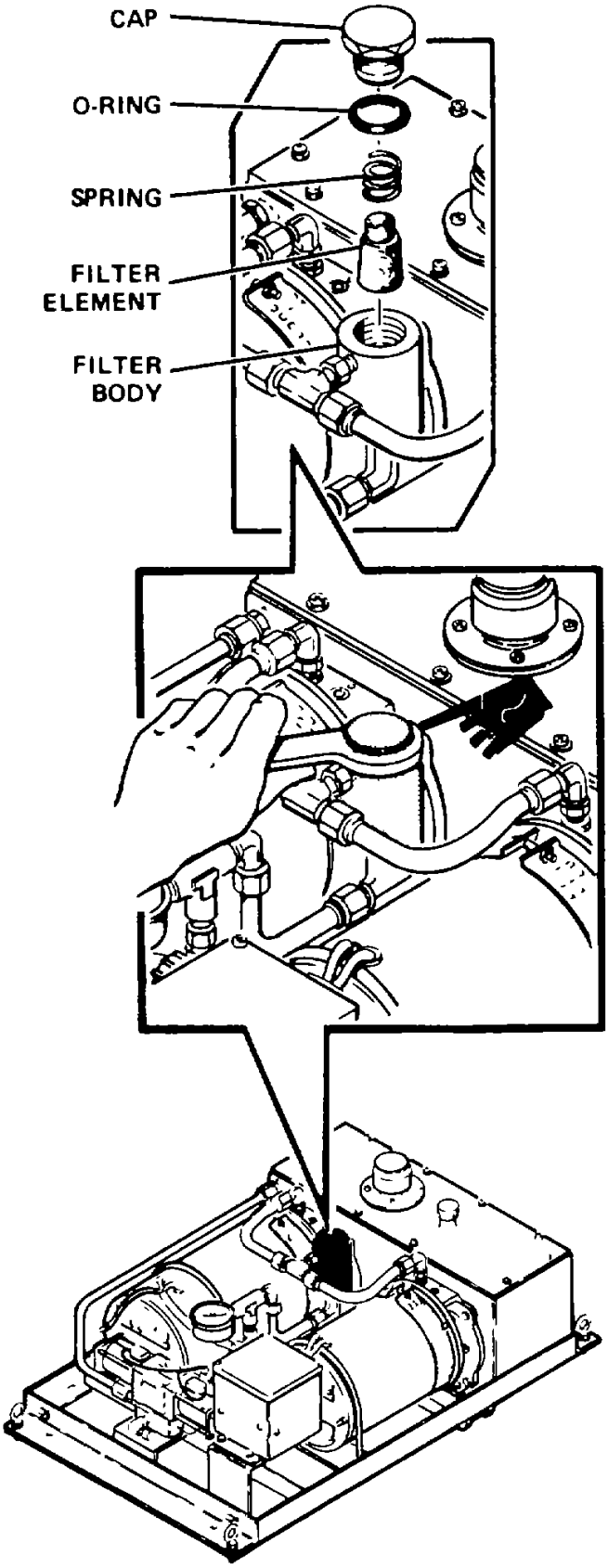


LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

5. HCA Filter Element - Continued




(e) Using a shop cloth, item 1, appx E, clean the outside of the filter body.

(f) Using a 1-1/2 inch box wrench remove filter cap and spring from filter body.

(g) Remove O-ring from filter cap.

(h) Clean filter cap with clean hydraulic fluid, item 4, appx E, and a shop cloth. Remove any lint from filter cap.

(i) Coat new O-ring with clean hydraulic fluid. Install O-ring in groove in cap.

(j) Remove filter element from filter body. Install new filter element.

(k) Install spring and cap in filter body. Make sure spring properly engages filter element and cap.

**CAUTION**

**Do not overtighten cap. Hydraulic tubes may be damaged.**

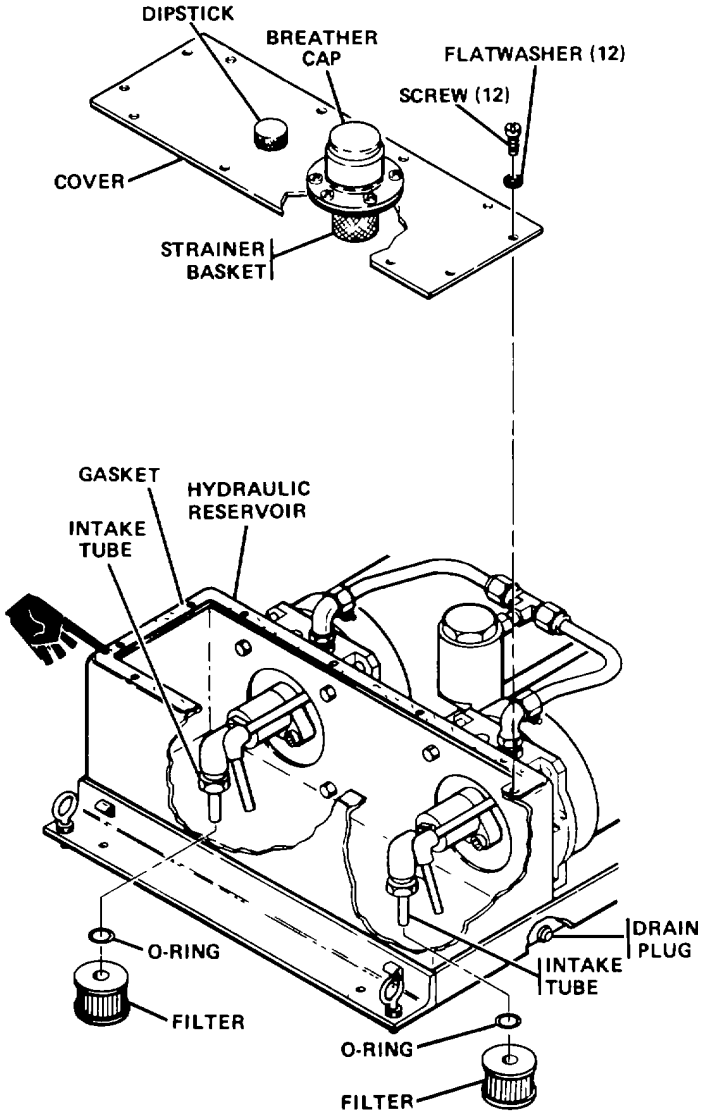
(l) Using a 1-1/2 inch box wrench, tighten filter cap.

(m) Check HCA intake filters and breather cap strainer (item 6).

(n) Repeat procedure for other side of the vehicle.

LUBRICATION ORDER

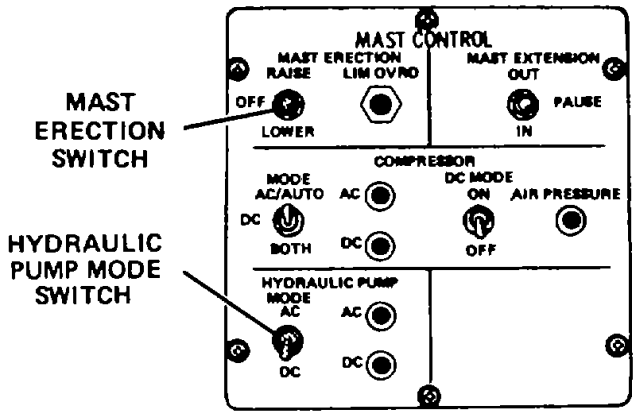
| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|
| 6. HCA Intake Filters and Breather Cap Strainer | | Annually | (a) Using a 1/4 inch socket head screw key, remove drain plug and drain hydraulic fluid into a container.<br>(b) Using a #2 crosstip screwdriver, remove 12 screws and flat washers securing cover to hydraulic reservoir. Remove cover and, if damaged, gasket.<br>(c) By hand, remove two filters and O-rings from pump motors intake tubes. Discard O-rings and filters.<br>(d) Using a shop cloth, item 1, appx E, wipe clean the inside of the hydraulic reservoir to remove any sludge or other contaminants.<br>(e) By hand, install two new O-rings and filter(s) on pump motors intake tubes.<br>(f) Visually check strainer basket under breather cap. If required, clean strainer with a shop cloth.<br>(g) Position cover and, if removed, gasket to hydraulic reservoir. Secure with 12 flat washers and screws.<br>**CAUTION**<br>**Do not over tighten cover screws. You could damage cover gasket.**<br>(h) Unscrew breather cap. Refill with new hydraulic fluid, item 4, appx E, until fluid level is between ADD and FULL marks on dipstick. |



LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

6. HCA Intake Filters and Breather Cap Strainer - Continued




**CAUTION**

**Even though the HCA pump motors my be self-priming, both pump motors must he primed before they can be used. Failure to do so will destroy the pump motors.**

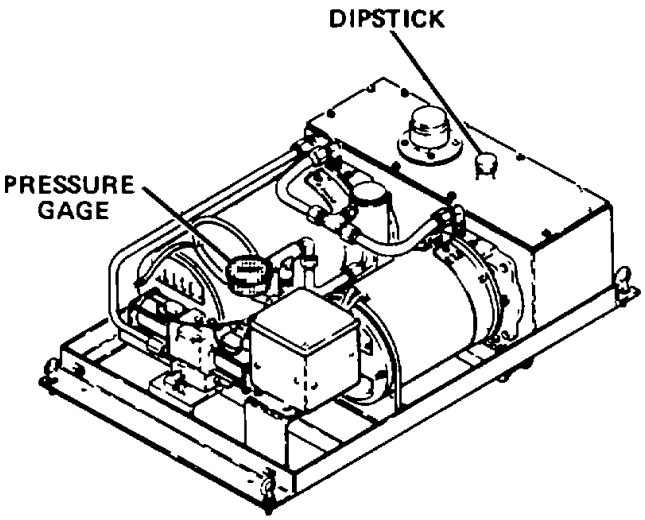
(i) Prime both HCA pumps:
   1. Push all circuit breaker reset buttons in. Close and latch distribution box cover.
   2. Flip MAST ERECTION switch between RAISE and LOWER several times until pressure is indicated on pressure gage.

**NOTE**

**Add hydraulic fluid to HCA with mast in horizontal position only.**

   3. Check hydraulic fluid level on dipstick, add fluid as required.
   4. Place HYDRAULIC PUMP MODE switch to DC and repeat steps 2 and 3 above.
   5. Raise and lower mast. Add more hydraulic fluid to HCA as necessary.

(j) Install covers on HCA.
(k) Install strut in stowage bracket and secure with quick release pin.
(l) Repeat procedure for other side of the vehicle.

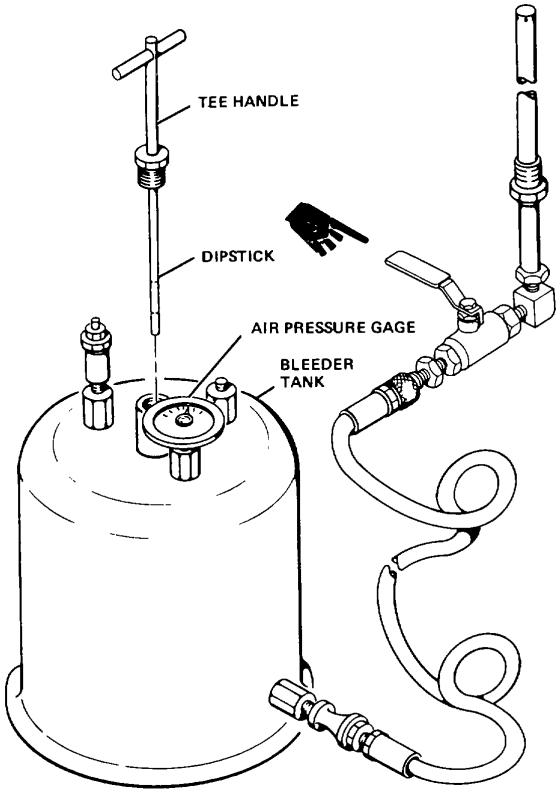


LUBRICATION ORDER

| Item | | Lubricant | ● Interval | Procedure |
|---|---|---|---|---|
| 7. | Lubricating Mast Seals | 10 W Lubricating Oil | Semi-Annually | |

**WARNING**

This procedure uses compressed air. Wear goggles to protect your eyes.




**NOTE**

This procedure requires two soldiers, one to hold the oiler probe while the other adjusts the air pressure regulator.

(a) Fill and charge pneumatic oiler

**WARNING**

**Check air pressure gage on bleeder tank. If there is air pressure in the tank, you will hear a hissing sound when you begin to unscrew the tee handle. Wait until the hissing sound stops (air pressure is completely relieved) before removing tee handle. If you don't you may be sprayed with oil,**

1. Slowly unscrew and remove tee handle.

**CAUTION**

**Use clean oil. Do not allow contaminants to enter oil.**

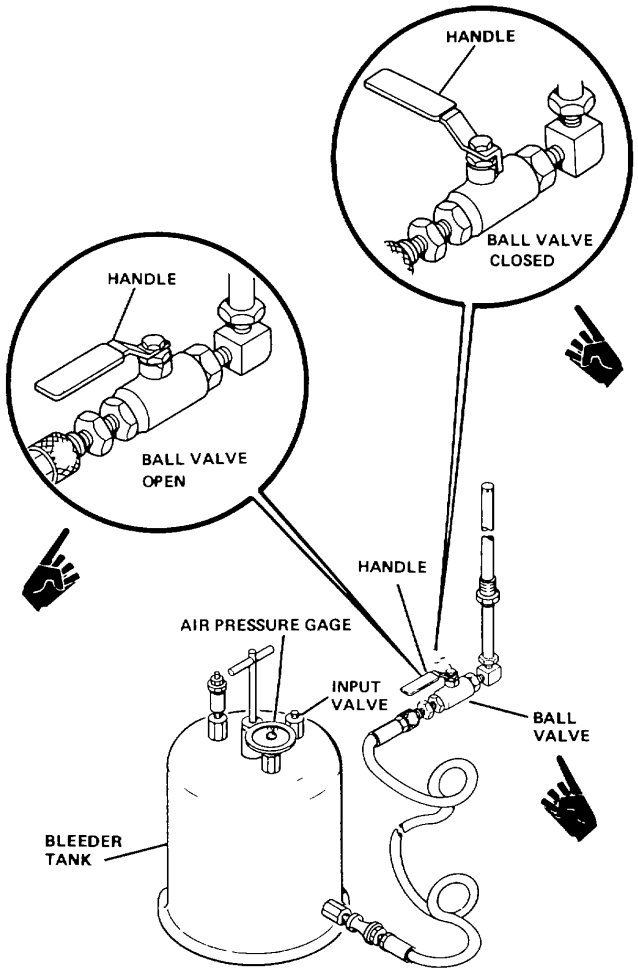
2. Fill bleeder tank with 10 W lubricating oil, item 10, appx E, until there is evidence of oil at bottom of the dipstick on the tee handle.

3. Install tee handle. Do not overtighten.

LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating




4. Check that ball valve is closed. Ball valve is closed when handle is at a right angle to ball valve (see illustration).

5. Connect air supply to input valve. Charge bleeder tank from 35 to 40 psi as indicated by air pressure gage. Disconnect air supply from input valve.

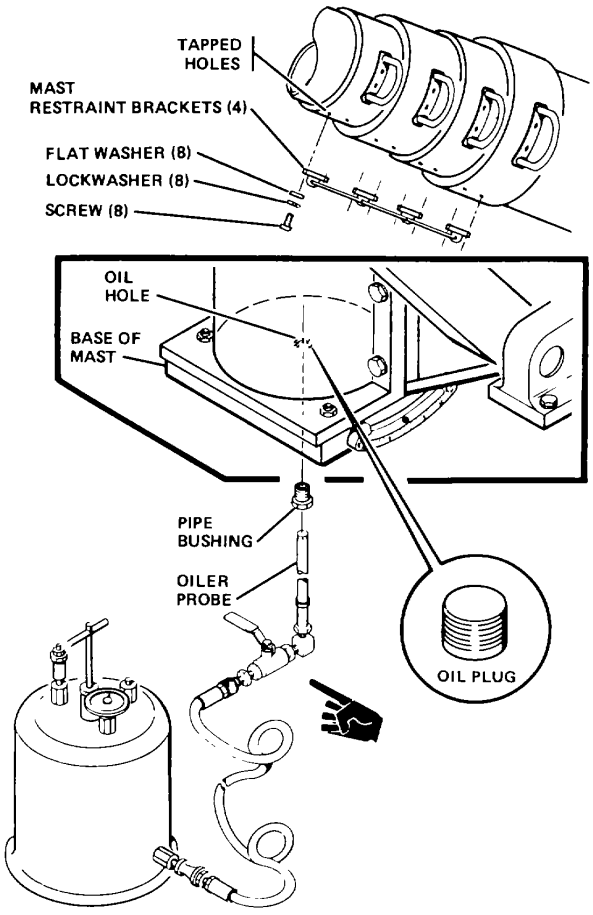
**CAUTION**

Oil will spray from oiler probe. Place oiler probe in a contained area like a plastic bag or a can before doing the check in step 6 below.

6. Slowly open ball valve (turn handle so it is parallel to ball valve) and check that oil squirts from all oil holes on oiler probe. Do not use an oil probe with clogged holes.

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating Mast Seals - Continued




(b) Install mast restraint

1. Raise mast to 10 degree position and unfold and secure antenna amplifier assemblies (para 2-15).

2. Position four mast restraint brackets to tapped holes on mast collars on mast sections 1, 2, 3, and 4.

3. Using a 3/16 inch socket head key, install eight lockwasher, flat washers, and screws to secure mast restraint brackets.

(c) Connect pneumatic oiler to mast

**NOTE**

If lubricating curbside mast, you may want to connect and disconnect pneumatic oiler to mast with mast in 10 degree position to avoid possible interference with intervehicle cables and rock.

1. Raise mast to vertical and install lockbar.

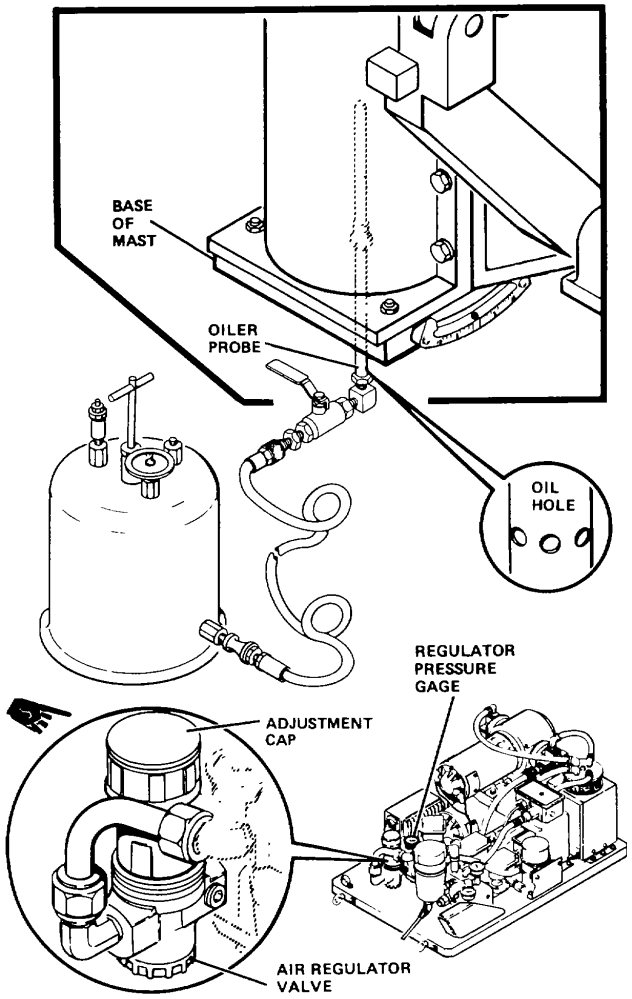
2. Using a 3/8 inch socket head key, remove oil plug at base of mast.

3. Using a 13/16 open end wrench, install pipe bushing in oil hole at base of mast. Do not overtighten.

4. Slide oiler probe through pipe bushing up into mast as far as it will go.

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating Mast Seals - Continued




(d) Oil mast seals

1. Wrap a rag around exposed holes in oiler probe and hold rag.

2. Remove PCA covers. Pull air pressure regulator adjustment cap up and turn cap counterclockwise while watching regulator pressure gage. Lower air pressure to 0 psi.

**NOTE**

**On early models a T-handle and locking nut is installed instead of the adjustment cap.**

3. Deleted.

4. Set MAST EXTENSION switch to OUT.

**CAUTION**

**Do not extend mast too quickly or cables on mast restraints will break.**

**CAUTION**

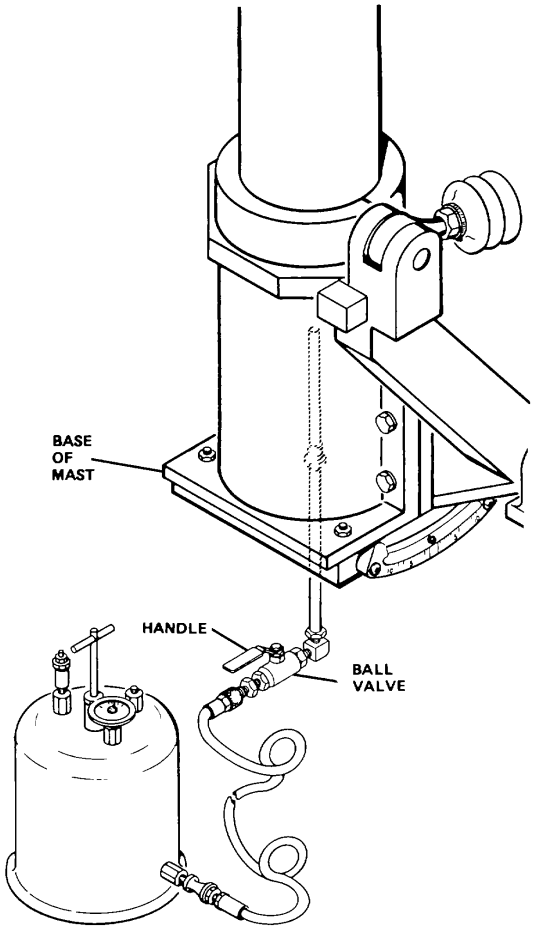
**Top mast section may ex. tend completely. Watch for obstructions.**

5. Slowly turn air regulator adjustment cap clockwise until mast begins to extend. Slowly extend mast against mast restraints.

6. Check that all cables on mast restraints are taut and that top mast section is extended at least as far as the other mast sections.

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating Mast Seals - Continued




7. Turn air pressure regulator adjustment cap counter-clockwise and reduce regulator air pressure to 20 psi.

8. Slide oiler probe all the way up into mast.

9. Place MAST EXTENSION switch to PAUSE.

10. Open ball valve by turning handle so it is parallel with ball valve. Count 10 seconds while rotating oiler probe 90 degrees. Close ball valve by turning handle so it is at a right angle to ball valve. During those 10 seconds oil was sprayed on the mast walls, oiling them.

(e) Disconnect pneumatic oiler from mast

**NOTE**

**Mast will force oiler probe out of base of mast about 6 inches as mast is retracted.**

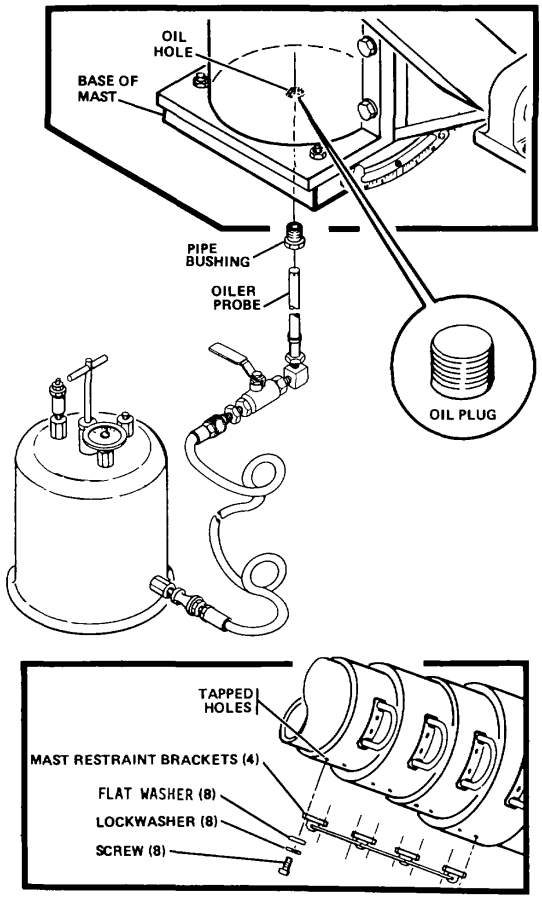
1. Hold a rag around oiler probe. If you don't you will be sprayed with oil.

2. Place MAST EXTENSION switch to IN.

3. When mast is fully retracted (and air is no longer being exhausted from the mast), pull oiler probe from mast.

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating Mast Seals - Continued







4. Using a 13/16 inch open end wrench, unscrew and remove pipe bushing.

5. Coat threads of oil plug with sealing compound (item 7, appx E). Using a 3/8 inch socket head key install oil plug in oil hole at base of mast. Do not overtighten.

6. Deleted.

(f) Remove mast restraint

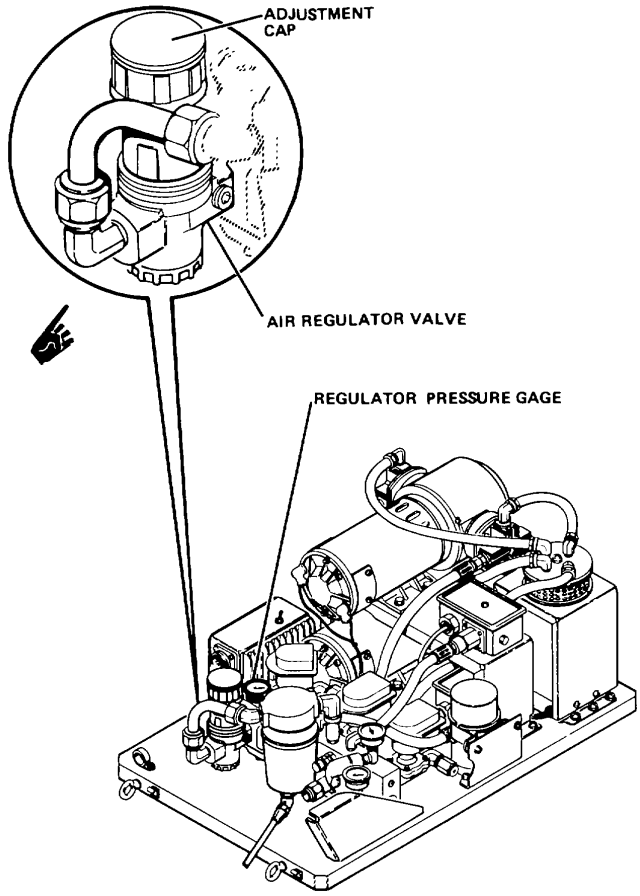
1. Remove lockbar and lower mast to 10 degree position.

2. Using a 3/16 inch socket head key, remove eight socket head screws, lock- washers, and flat washers. Remove mast restraints.

LUBRICATION ORDER

| Item | Lubricant | ● Interval | Procedure |
|---|---|---|---|

7. Lubricating Mast Seals - Continued




(g) Operate mast to coat seals with oil

1. Turn air pressure regulator adjustment cap clockwise while observing regulator pressure gage. Set air pressure to 35 psi. Press regulator adjustment cap down to set adjustment.
2. Install and secure PCA covers.
3. Raise mast to vertical and install lockbar.
4. If variable height limiter cable is attached, operate winch as mast is extended and retracted (para 2-21).
5. Completely extend and retract mast two or three times to coat mast seals with oil.
6. Stow mast.

(h) Repeat procedure for the other side of the mast group.

**Pages 3-16 through 3-20 Deleted**

## Section II. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

### 3-3. GENERAL

Perform your organizational PMCS once a month. This way you will know your mast group is operating properly. You will also exercise certain components that may not normally be used; this will keep their seals lubricated and in good condition.

If you discover any problems during your PMCS, have direct support maintenance check it out.

### 3-4. PREVENTIVE MAINTENANCE CHECKS AND SERVICES PROCEDURES

Before performing specific PMCS procedures in Table 3-1, you must first do the following in accordance with paragraphs 2-14 and 2-15:

- Connect ac power source
- Deploy stabilizer struts
- Deploy antenna protective covers
- Unclamp mast clamps
- Unfold antenna amplifier assemblies
- Raise masts
- Install cylinder lock struts
- Extend masts

Perform your specific PMCS procedures in accordance with table 3-1.

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE**

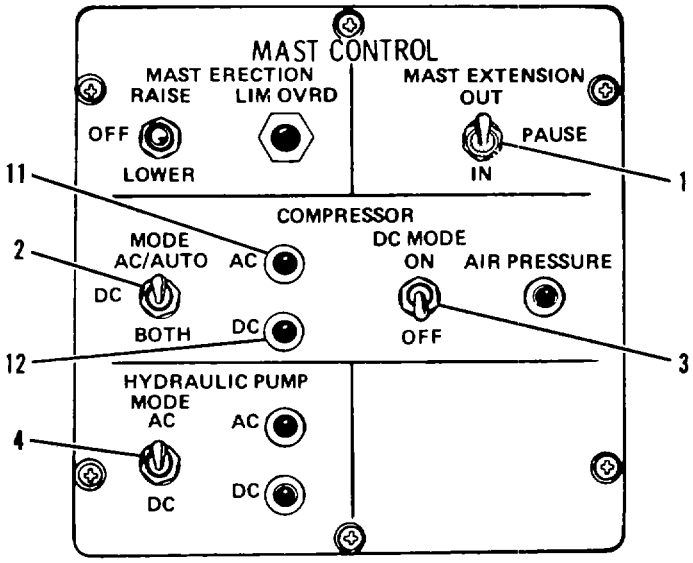
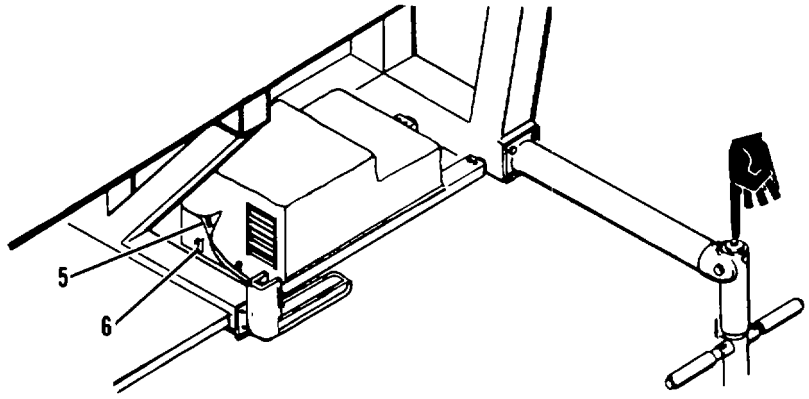
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 1 | Circuit breakers | a. Place the mast control switches as follows:<br>• MAST EXTENSION switch (**1**) to OUT<br>• COMPRESSOR MODE switch (**2**) to AC/AUTO<br>• DC MODE switch (**3**) to OFF<br>• HYDRAULIC PUMP MODE switch (**4**) to AC<br>  <br><br>b. Peel back edges of dust cover (**5**) at the corners of the PCA. Release four latches (**6**). Remove covers. Use care not to damage PCA.<br>  <br> |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

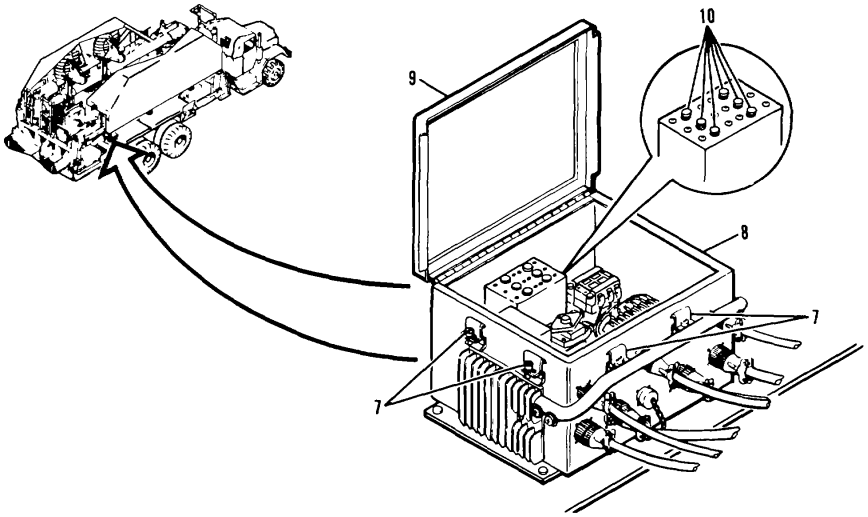
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 1 cont. | | c. Using a flat tip screwdriver, loosen screws securing six latches (**7**) on distribution box (**8**). Release latches. Open cover (**9**).<br><br>d. Check that all circuit breaker reset buttons (**10**) are pushed in.<br><br>**NOTE**<br>**If any circuit breaker reset button is pushed out, note which one and push button in.**<br><br>  <br><br>**NOTE**<br>Some distribution boxes have only five circuit breakers |
| 2 | Indicator lights | a. Check that the AC COMPRESSOR MODE indicator light (**11**) is illuminated.<br><br>b. Set the DC MODE switch (**3**) to ON, set the COMPRESSOR MODE switch (**2**) to DC.<br><br>c. Check that the DC COMPRESSOR MODE indicator light (**12**) is illuminated. |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

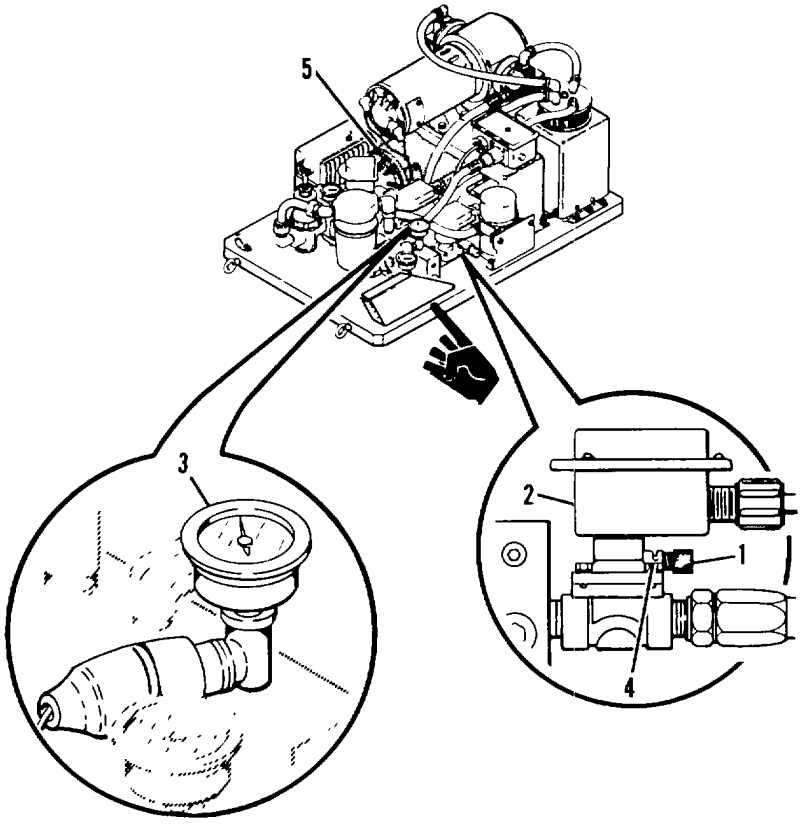
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 3 | DC COMPRESSOR Al | **CAUTION**<br><br>**Mast may retract when knob (1) is turned. Make certain cables do not become entangled and equipment damaged.**<br><br>a. Push knob (**1**) on solenoid valve (**2**) in and turn clockwise as far as it will go.<br><br>**NOTE**<br><br>**You will hear a loud hissing noise as air is exhausted. out of the system.**<br><br>b. Watch air tank pressure gage (**3**). When gage registers about 75 psi, push knob (**1**) on solenoid valve (**2**) in and turn counterclockwise to close valve. Make sure pin (**4**) is seated in its slot.<br><br>  <br> |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

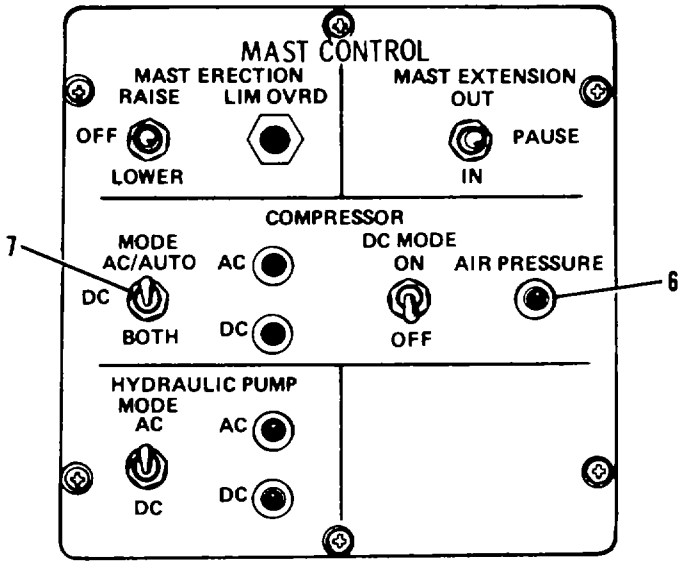
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 3 cont | | c. Check the PCA dc compressor A1 (**5**). Compressor should be operating<br><br>d. Listen and watch dc compressor A1 (**5**). Compressor should stop operating when tank pressure gage (**3**) registers between 90 to 95 psi.<br><br>e. Check the AIR PRESSURE indicator light (**6**). Light should illuminate when tank pressure gage (**3**) registers between 80 and 85 psi.<br><br>  <br><br>f. Set the COMPRESSOR MODE switch (**7**) to AC/AUTO. |
| 4 | AC compressor A5 | a. Push knob (**1**) on solenoid valve (**2**) in and turn clockwise as far as it will go.<br><br>**NOTE**<br><br>**You will hear a loud hissing noise as air is exhausted out of the system.**<br><br>b. Watch the air tank pressure gage (**3**). When gage registers about 75 psi, push knob (**1**) on solenoid valve (**2**) in and turn counterclockwise to close valve. Make sure pin (**4**) is seated in its slot. |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

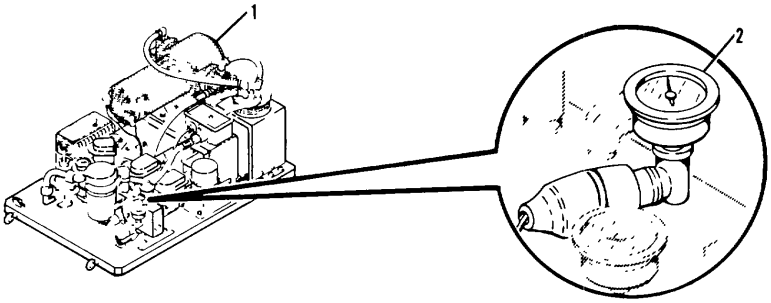
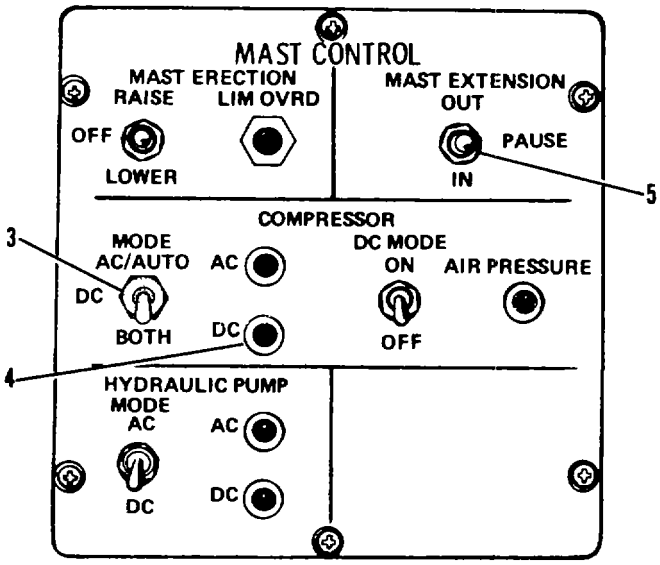
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 4 cont. | | c. Check the PCA ac compressor A5 (**1**). Compressor should be operating.<br>d. Listen and watch the ac compressor A5 (**1**). Compressor should stop operating when the tank pressure gage (**2**) registers between 90 and 95 psi.<br>  |
| 5 | DC indicator light | a. Set the COMPRESSOR MODE switch (**3**) to BOTH. Pull the reset button (**6**) on circuit breaker CB1 out.<br>b. Check the dc indicator light (**4**). Light should remain illuminated.<br>  |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

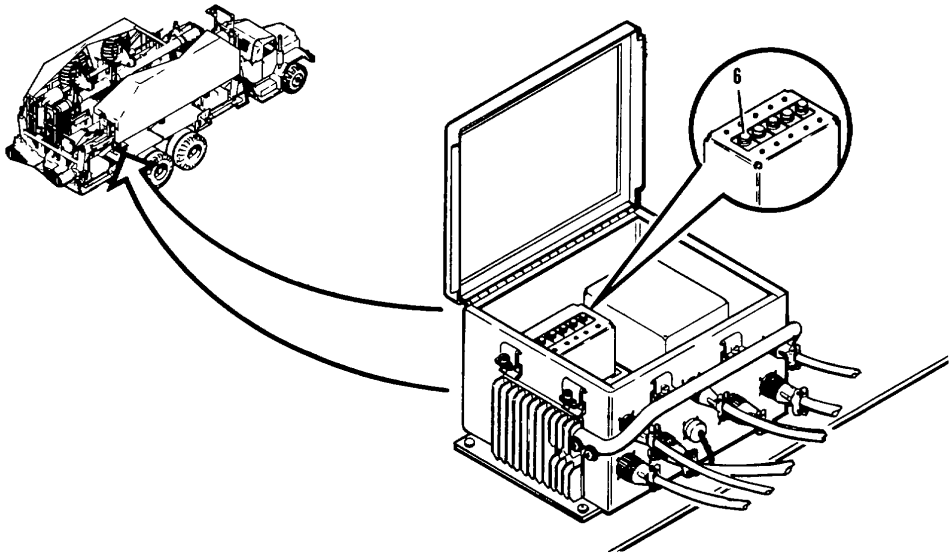
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| | |  |
| 6 | Mast | a. Push reset button (6) on circuit breaker CB1 in. Set MAST EXTENSION switch (5) to IN. Mast should retract.<br><br>b. Set MAST EXTENSION switch (5) to PAUSE. Mast should stop retracting.<br><br>c. Perform the following in accordance with paragraph 2-17:<br><br>• Retract the mast<br>• Stow cables<br>• Release and stow lock strut |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

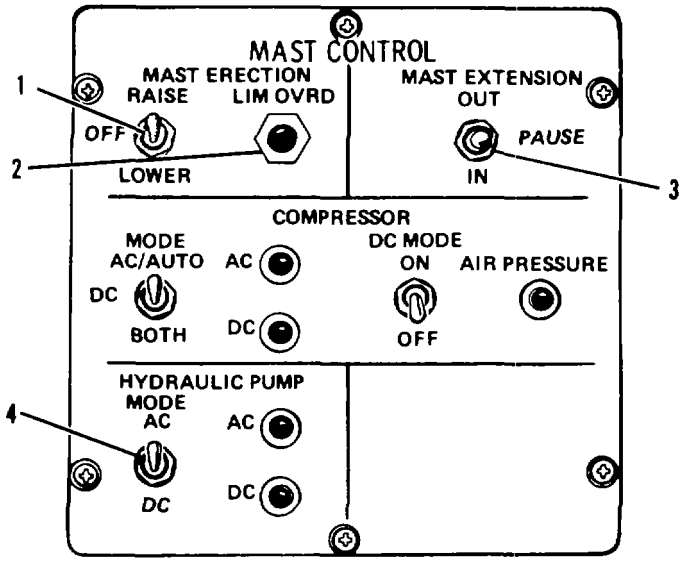
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 7 | 100° interlock switch | **WARNING**<br><br>**If mast falls to stop moving at the 100 degree position, RELEASE MAST ERECTION SWITCHI Mast could fall if continued to raise too far past vertical.**<br><br>Set the MAST ERECTION switch (**1**) to RAISE. Observe inclinometer (**5**). Mast should stop moving at about the 100 degree position (mast is at 100 degree position when inclinometer (**5**) ball is at the 100 mark with mast raised past vertical).<br><br>  <br><br><br>b. DELETED |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

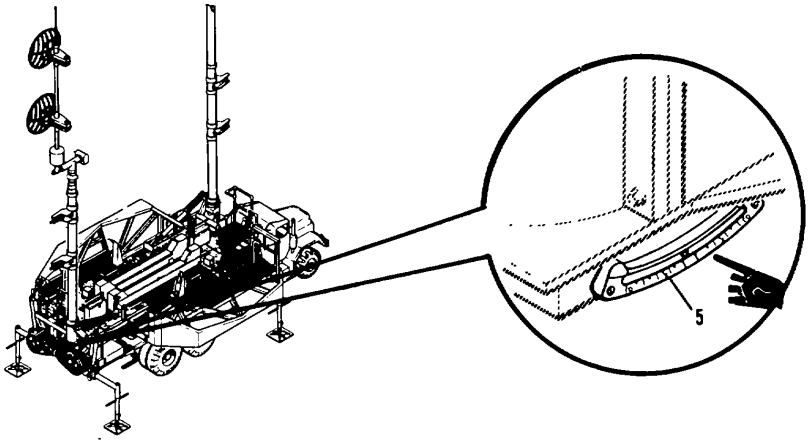
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| | |  |
| 8 | DC hydraulic motor | **CAUTION**<br>**Have someone guide cables Into cable troy and watch that cables do not get pinched between the mast and the mast clamp saddle.** |
| Set | | a. Set the MAST EXTENSION switch (**3**) to PAUSE. HYDRAULIC PUMP MODE switch (**4**) to DC. Set MAST ERECTION switch (**1**) to LOWER<br>b. Check that mast lowers. |
| 9 | 10° limit switch | a. Set HYDRAULIC PUMP MODE switch back to AC. Set MAST ERECTION switch to LOWER.<br>b. Check that the mast automatically stops lowering at the 10 degree position. |
| 10 | Limit over-ride switch | a. Fold antenna amplifier assemblies and fasten antenna clamps (para 2-17).<br>b. Set MAST ERECTION switch (**1**) to LOWER and at the same time push LIM OVRD button (**2**) in. Check that mast lowers to horizontal position. |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

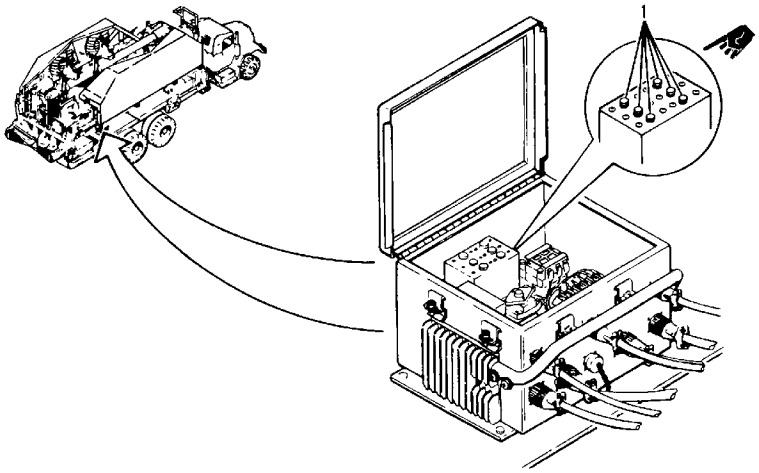
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 11 | PCA inline filter element | **WARNING**<br><br>**Do not change PCA inline filter element with mast extended.**<br><br>**WARNING**<br><br>**Make sure all circuit breakers at the distribution box are set so power cannot be applied to compressors while you are changing the filter element**<br><br>a. At the distribution box, pull all circuit breaker reset buttons (1) out. White bands should be visible on reset buttons.<br><br>  <br> |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

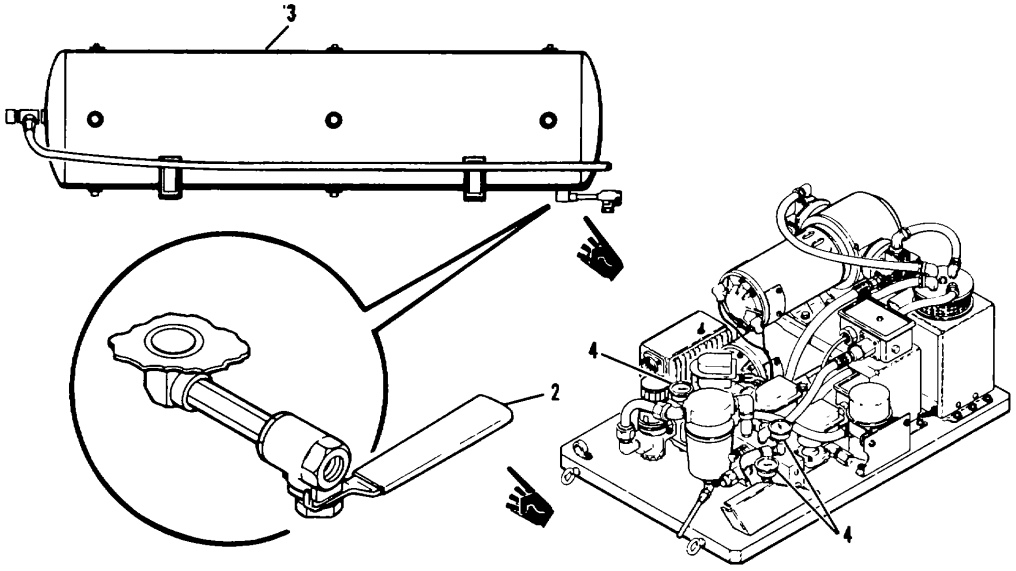
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 11 cont. | | **WARNING**<br><br>**You must release system air pressure before changing the PCA inline filter element.**<br><br>b. To release system pressure, open ball valve (**2**) on air tank (**3**).<br><br>**NOTE**<br><br>**On early models a petcock is installed instead of the boll valve. Operation is the same.**<br><br>**NOTE**<br><br>**You will hear a loud hissing noise as air is exhausted out of the system.**<br><br>  <br><br><br>c. Check that all pressure gages (4) read 0 psi.<br>d. Close ball valve (2) on air tank (3). |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

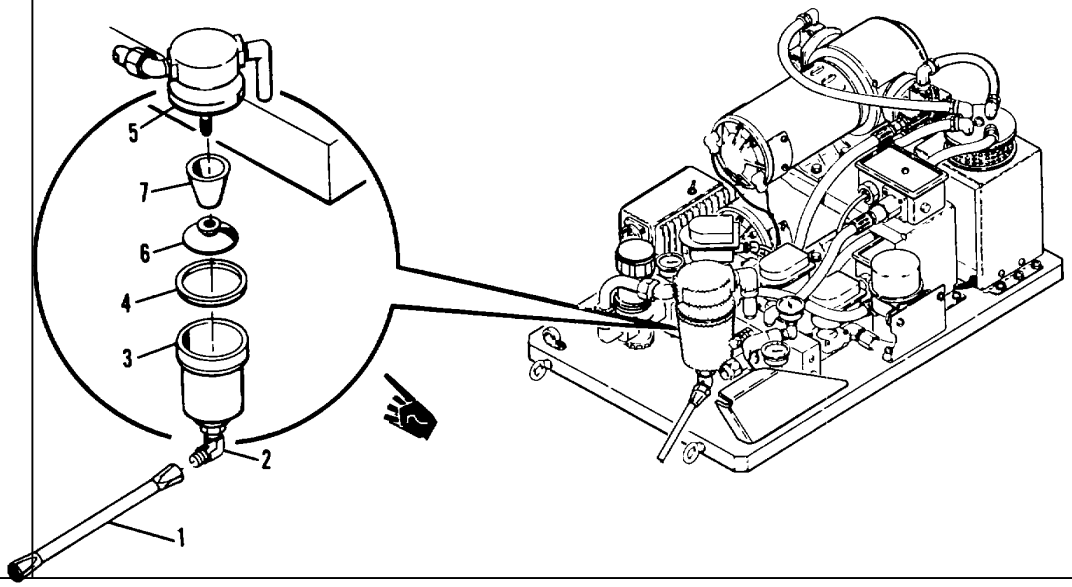
| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 11 cont. | | **NOTE**<br><br>**On early models a petcock is installed instead of the automatic drain line. If you do not have an automatic drain line installed, proceed to step f.**<br><br>e. Remove automatic drain line (**1**) from elbow (**2**).<br><br>f. By hand, counterclockwise unscrew and remove bowl (**3**) and preformed packing (**4**) from filter body (**5**). *<br><br>**WARNING**<br><br>**Edges of baffle are sharp. Use caution when removing baffle to avoid getting cut.**<br><br>g. Unscrew baffle (6) and remove baffle and filter element (7) from filter body.<br><br>h. Using a shop cloth, wipe bowl (3) and body (5) clean.<br><br>  |

**Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES MONTHLY SCHEDULE - Continued**

| Item No. | Item To Be Inspected | Procedures |
|---|---|---|
| 11 cont. | | **WARNING**<br><br>**Edges of baffle are sharp. Use caution when hand tightening baffle to avoid getting cut.**<br><br>i. Position new filter element (**7**) in body (**5**) and secure with baffle (**6**). Hand tighten baffle.<br><br>j. Coat new preformed packing (**4**) with pneumatic grease, item 6, appx E. Install preformed packing (**4**) in groove in filter bowl (**3**).<br><br>k. Apply antiseize compound, item 3, appx E, evenly to threads of filter bowl. Position bowl (**3**) to body, hand tighten to secure.<br><br>l. If removed, reinstall automatic drain line (**1**) on elbow (**2**).<br><br>m. Perform the following:<br><br>• Push all circuit breaker reset buttons in<br><br>• Install and secure PCA, HCA, and distribution box covers<br><br>• Secure mast<br><br>n. Repeat items 1 through 11 of the PMCS procedure for the other side of the vehicle. |

## Section III. MAINTENANCE PROCEDURES

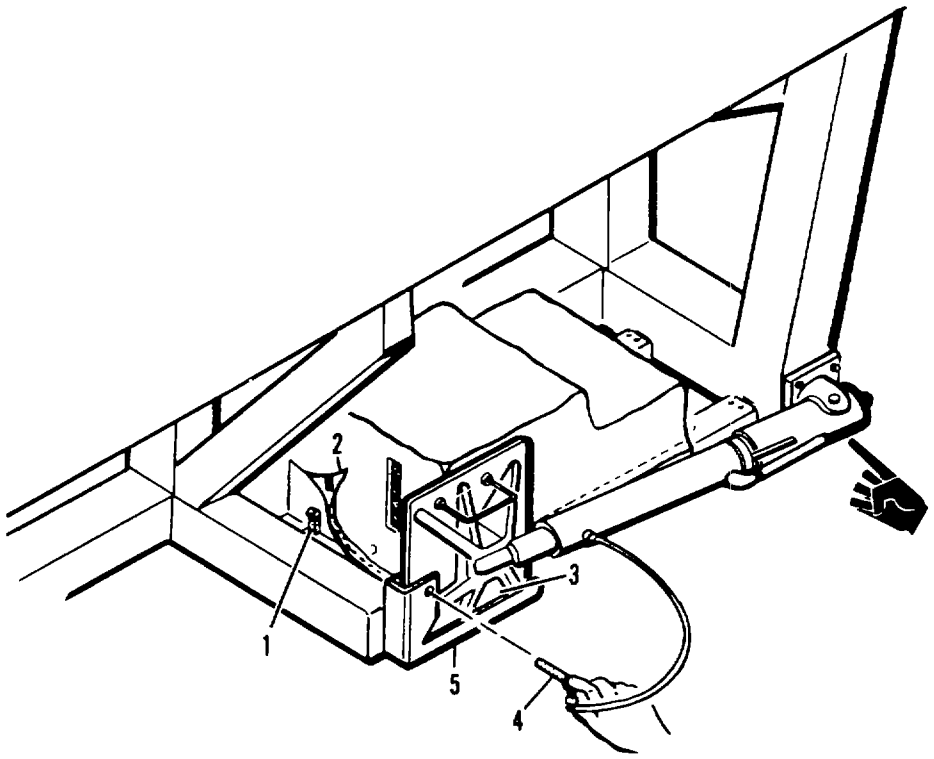
Organizational unscheduled maintenance is limited to:

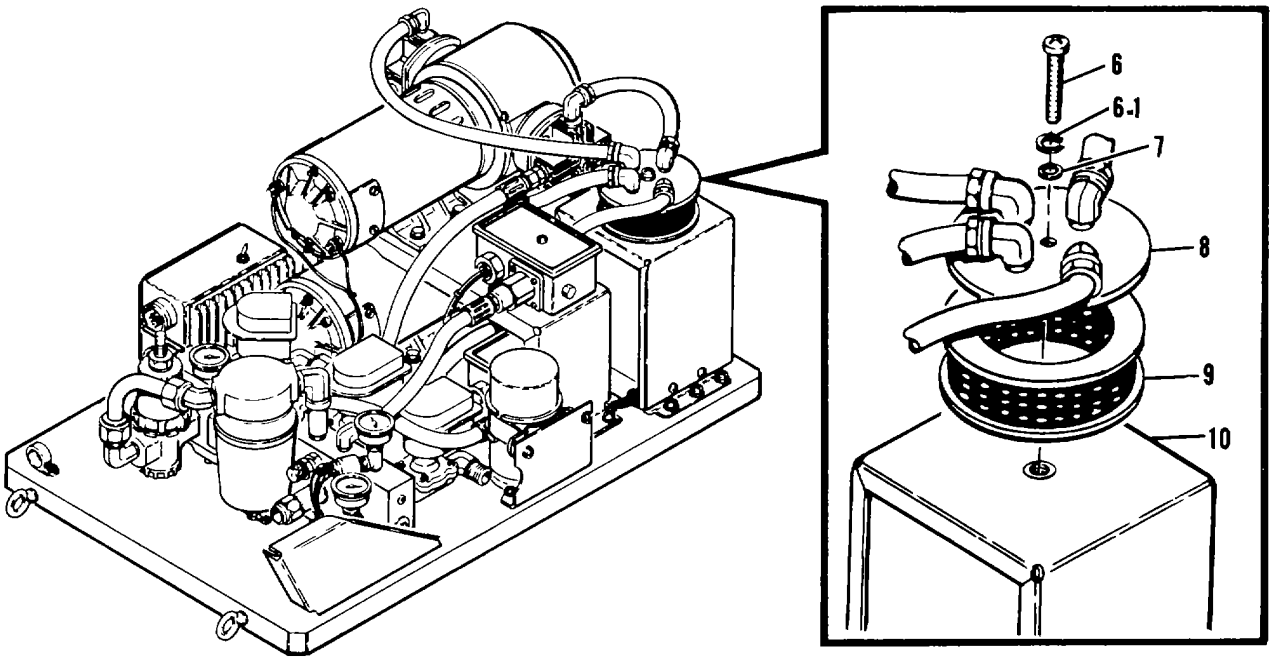
- Replacing PCA intake filter element (para 3-5).
- Replacing mast control indicator lights (para 3-6).
- Replacing taillight light bulbs (para 3-7).

### 3-5. PNEUMATIC COMPONENTS ASSEMBLY INTAKE FILTER ELEMENT

a. Pull quick release pin (**4**) securing stabilizing strut pad (**3**) in stowage bracket (**5**). Lift strut out of bracket and swing down.

b. Peel back edges of dust cover (**2**) at the corners of the pneumatic components assembly. Release four latches (**1**). Remove covers. Use care not to damage PCA.






c. Using a #3 crosstip screwdriver, remove retaining screw (**6**), lockwasher (**6.1**), and washer (**7**) securing retaining plate (**8**) and filter element (**9**) to bracket (**10**).

d. Lift retaining plate (**8**) and remove filter element (**9**). Discard element.

e. Using a shop cloth (item 1, appx E) wipe bracket (**10**) and retaining plate (**8**) surfaces clean.

f. Position new filter element (**9**) on bracket (**10**). Using a #3 crosstip screwdriver install plate (**8**), washer (**7**), lockwasher (**6.1**) and retaining screw (**6**).

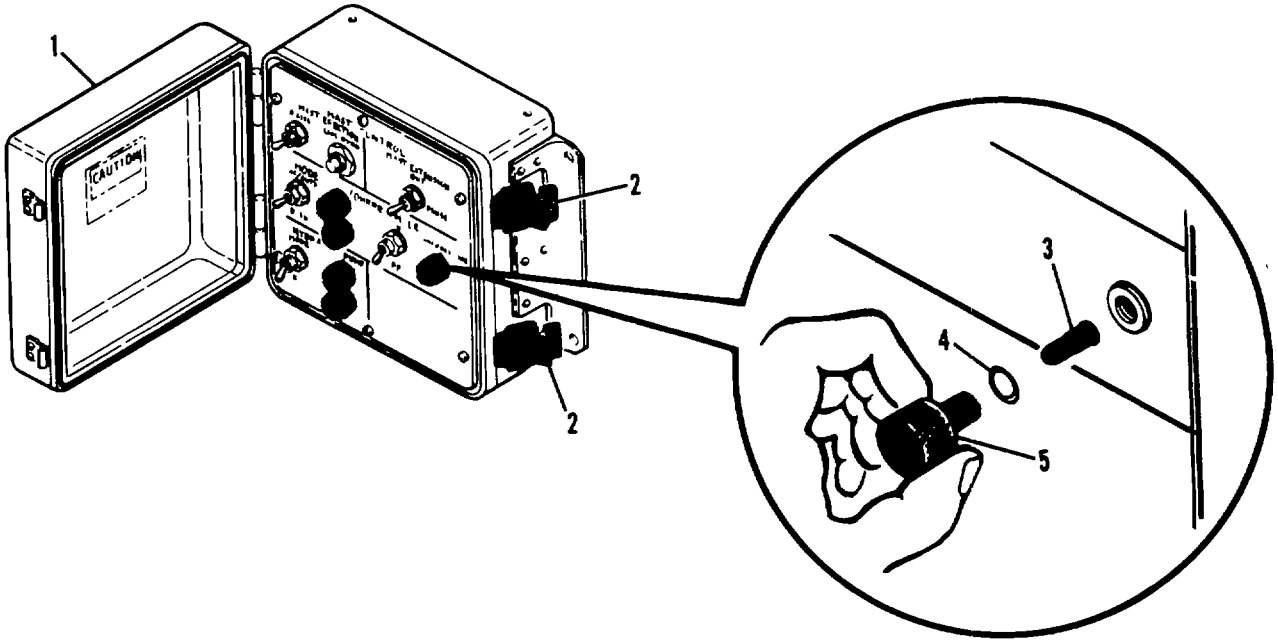
g. Install covers on pneumatic component assembly.

h. Install strut in stowage bracket and secure with quick release pin.

## 3-6. MAST CONTROL INDICATOR LIGHT BULBS

**NOTE**

**There are five indicator light bulbs on the mast control. They are all removed and replaced in the same way.**




**NOTE**

**Do not discard O-ring (4). Reinstall it with new bulb.**

a. Release two latches (**2**) and open mast control door (**1**).

b. By hand, turn lens (**5**) counterclockwise and remove from panel.

c. Separate light bulb (**3**) from lens (**5**). Discard light bulb.

d. Insert new light bulb (**3**) into lens (**5**).

e. Install lens (**5**) to mast control.

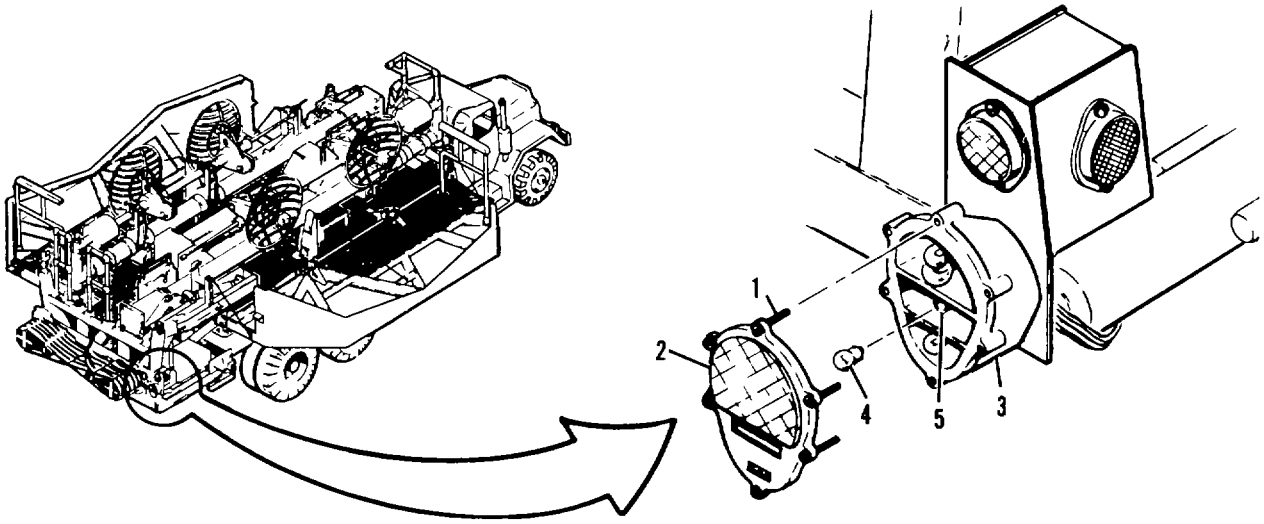
### 3-7. TAILLIGHT LIGHT BULBS

a. Using a #2 crosstip screwdriver, loosen six screws **(1)** and remove cover **(2)** from housing **(3).**

**NOTE**

There are four light bulbs in each taillight. These are all removed and replaced in the same way.

b. By hand, push bulb **(4)** in and turn counterclockwise. Remove bulb **(4)** from socket **(5).**
c. Push new bulb **(4)** in socket **(5)** and turn clockwise to secure.
d. Position cover **(2)** on housing **(3)** and, using a #2 crosstip screwdriver, secure with six screws **(1).**



# APPENDIX A

## REFERENCES

### A-1. SCOPE

This appendix lists all forms, field manuals, technical manuals and miscellaneous publications referenced in this manual.

### A-2. FORMS

Discrepancy in Shipment Report ..... SF 361
Quality Deficiency Report ..... SF 368
Recommended Changes to DA Publications ..... DA FORM 2028-2
Report of Packaging and Handling Deficiencies ..... SF 364

### A-3. FIELD MANUALS

Artificial Respiration ..... FM 21-11
Visual Signals ..... FM 21-60
Basic Cold Weather Manual ..... FM 31-70

### A-4. TECHNICAL MANUALS

Destruction of Army Materiel to Prevent Enemy Use ..... TM 750-244-2
Operator's Manual, Antenna Mast Group, Communication,
Truck Mounted OE-349/MRC ..... TM 9-1430-603-10
Operator's Manual, Truck, 5-ton, 6 X 6 (Diesel)
(To be published) ..... TM 9-2320-260-10
Operator's Manual, Truck, 5-ton, 6 X 6, M939 Series (Diesel) ..... TM 9-2320-272-10
Organizational Maintenance Manual, Truck Mounted Antenna
Mast Group OE-349/MRC ..... TM 9-1430-603-24
Operator's Manual, Communications Relay Group, Guided Missile
System, Truck Mounted: AN/MRC-137 ..... TM 9-1430-604-10
Operator's Manual, Engagement Control Station, Guided Missile,
Truck Mounted: AN/MSQ-104 ..... TM 9-1430-600-10-1
Operator's Manual, Information Coordination Central, Guided
Missile System, Truck Mounted: AN/MSQ-116 ..... TM 9-1430-602-10-1

**A-5. DA PAM**

The Army Maintenance Management System (TAMMS)..... DA PAM 738-750

APPENDIX B

MAINTENANCE ALLOCATION CHART
FOR
MAST GROUP, HYDRAULIC-PNEUMATIC
OA-9054(V)4/G

Section I. INTRODUCTION

B-1. General

This appendix provides a summary of the maintenance operations for the OA-9054(V)4/G. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. Maintenance Function

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical 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 (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the 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. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, aline, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subsystem, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition-as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. 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 equipments/components.

B-3. Column Entries

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for the purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest 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 category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary al different maintenance categories, appropriate "work time" figures will be shown for each category. The number of task-hours specified by 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, troubleshooting 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. Subcolumns of column 4 are as follows:

C - Operator/Crew
0 - Organizational
F - Direct Support
H - General Support
D - Depot

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. Column 6 contains an alphabetic code which leads to the remark in section IV, Remarks, which is pertinent to the item opposite the particular code.

B-4. Tool and Test Equipment Requirements (Sect. III)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated to the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specified tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

B-5. Remarks (Sect. IV)

a. Reference Code. This code refers to the appropriate item in section II, column 6.

b. Remarks. This column provides the required explanatory information necessary to clarify items appearing in section II.

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 00 | MAST GROUP HYDRAULIC-PNEUMATIC OA-9054(V)4/G 5035700-1 | INSPECT | 0.3 | | | | | | A |
| | | TEST | | 3.0 | | | | 45 | B1 |
| | | TEST | | | 1.5 | | | 44 | B2 |
| | | SERVICE | | 0.4 | | | | 17-18,42-43,45,48 | D |
| | | SERVICE | | | 0.3 | | | 39,44 | |
| | | SERVICE | | | | 4.5 | | 13,20,37,42,44,47 | C |
| | | ADJUST | | | 0.3 | | | 27,41,42,44 | |
| | | REPLACE | | | | 13.5 | | 13,20,37,42,44,47 | L,U |
| | | REPAIR | | 0.1 | | | | 45 | E |
| | | REPAIR | | | 3.0 | | | 2-4,12,35,39,42,44,54,55,56 | F |
| | | OVERHAUL | | | | | 5.0 | | |
| 01 | FRAME, SUPPORT 5035720-1 | | | | | | | | |
| | | REPAIR | | | 0.9 | | | 6,12,25-26,38-39,42,44,54,55,56 | G |
| | | REPAIR | | | | 2.5 | | 3,6,12,20-21,25,27,37,39,41-42,44 | |
| 0101 | SUPPORT STRUCTURE SUBASSY 5035660-1 | REPAIR | | | | 0.1 | | 44 | |
| 0102 | DELETED | | | | | | | | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0103 | COVER, PROTECTIVE (SHROUD) | | | | | | | | |
| | 5035718-1 | REPLACE | | | | 2.2 | | 3,12,37, 42,44 | |
| | | REPAIR | | | 0.1 | | | 44 | H1,H2, H3 |
| | | REPAIR | | | | 0.1 | | 44 | |
| 0104 | CLAMP, ANTENNA (TOP) | | | | | | | | |
| | 5035688-1 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 26,44 | H5 |
| | | REPAIR | | | | 0.1 | | 26,44 | |
| 0105 | HYDRAULIC COMPONENT ASSY (SHROUD) | | | | | | | | |
| | 5035746-1 | REPLACE | | | 1.6 | | | 12,35,38, 44 | |
| | 5035746-2 | REPAIR | | | | 0.1 | | 29-30,42, 44,48 | |
| 010501 | FILTER, FLUID, PRESS 9053TV10 | | | | | | | | |
| | (31408) 5035878-2 | REPLACE | | | | 0.1 | | 44 | X |
| | | SERVICE | | 0.2 | | | | 42,44,48 | E |
| | | REPAIR | | | | 0.2 | | 42,44,48 | W |
| 0106 | INTERCONNECT BOX C5078225-1 | | | | | | | | |
| | | TEST | | | | 0.2 | | 2 | |
| | | REPLACE | | | 0.2 | | | 44 | |
| | | REPAIR | | | | 0.1 | | 1,32,42, 44,52 | |
| 0107 | STRUT, STABILIZER C5078167-1 | | | | | | | | |
| | | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | M |
| | | REPAIR | | | | 0.1 | | 7,26,42, 44 | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 010701 | CAP, STRUT TUBE 5035706-1 | | | | | | | | |
| | | REPAIR | | | | 0.2 | | 26 | R |
| 0108 | SUPPORT, CYLINDER 5035713-1 | | | | | | | | |
| | | REPLACE | | | | 4.7 | | 12,20-21, 24-25,27, 37,41-42, 44 | |
| | | REPAIR | | | 0.1 | | | 44 | N |
| | | DELETED | | | | | | | |
| | | REPAIR | | | | | 0.4 | | R |
| 010801 | PIVOT, CYLINDER C5078103-1 | | | | | | | | |
| | | REPAIR | | | | | 0.4 | | R |
| 0109 | COVER, LOCK 5035736-1 | | | | | | | | |
| | | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | H3,M2 |
| 0110 | HOUSING, BEARING UNIT 5035715-1 | REPLACE | | | | 1.1 | | 12,20-21, 37,42,44 | |
| | | REPAIR | | | 0.1 | | | 44 | N |
| | | REPAIR | | | | | 0.3 | | R |
| 0111 | TRAY, CABLE STOWAGE 5035766-1 | | | | | | | | |
| | | REPLACE | | | | 0.1 | | 44 | |
| | | REPAIR | | | | 0.1 | | 1,44 | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0112 | CYLINDER, LINEAR ACTUATING | | | | | | | | |
| | 5035806-3 | REPLACE | | | 5.0 | | | 6,12,21, 38,41-42, 44 | |
| | | REPAIR | | | 0.3 | | | 44 | P |
| | | REPAIR | | | | | 0.3 | | Q |
| 0113 | TAIL LIGHT ASSY (LEFT) | | | | | | | | |
| | 5035684-1 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | J2,J3 |
| 011301 | LAMP ASSY 11614157 | | | | | | | | |
| | | REPAIR | | 0.1 | | | | 45 | J1 |
| 0114 | TAILLIGHT ASSY (RIGHT) | | | | | | | | |
| | 5035684-2 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | J2,J3 |
| | | DELETED | | | | | | | |
| 011401 | LAMP ASSY 11614157 | | | | | | | | |
| | | REPAIR | | 0.1 | | | | 45 | J1 |
| 0115 | REFLECTOR ASSY 5035686-1 | | | | | | | | |
| | | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | J2 |
| | | REPAIR | | | | 0.1 | | 44 | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0116 | MAST CLAMP (TOP) | | | | | | | | |
| | 5035672-1 | REPLACE | | | 0.3 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 26,44 | H5 |
| | | REPAIR | | | | 0.1 | | 26,44 | |
| 0117 | DELETED | | | | | | | | |
| 0118 | MAST CLAMP (BASE) | | | | | | | | |
| | C5078226-2 | REPLACE | | | | 4.7 | | 12,20-21, 24-25,27, 37,41-42, 44,54,55, 56 | |
| | | REPAIR | | | 0.2 | | | | Y |
| | | REPAIR | | | | | 0.4 | | R |
| 02 | MAST, 72 FT AB-1294A/G | | | | | | | | |
| | 5035602-2 | TEST | | | | 7.4 | | 6,8-12, 23-25,37, 40,42,44, 50 | |
| | | TEST | | | | | 7.4 | | |
| | | REPLACE | | | 5.8 | | | 12,25,38, 42,44,54, 55,56 | |
| | | REPAIR | | | | 13.8 | | 5,16,19, 21-22,24-25,37,40, 42,44,50-51,53 | Z |
| | | REPAIR | | | | | 13.8 | | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0201 | MAST SECTIONS | | | | | | | | S |
| | | REPLACE | | | | | 13.8 | | |
| | | REPAIR | | | | | 0.3 | | |
| 03 | DISTRIBUTION BOX J-3747/G 5035397-1 J-3747A/G C5078340-1 | | | | | | | | AA |
| | | TEST | | | | 1.1 | | 2,33,42, 44,45,49 | |
| | | REPLACE | | | 1.3 | | | 44 | |
| | | REPAIR | | | | 1.8 | | 1-2,32,42, 44,52 | |
| 04 | PNEUMATIC COMPONENT ASSY MX-10203/G 5035394-1 | | | | | | | | |
| | | TEST | | | | 0.6 | | 2,33-34, 36,42,44, 49 | |
| | | ADJUST | | | 0.5 | | | 44 | |
| | | ADJUST | | | | 0.3 | | 33-34,36, 42,44,49 | |
| | | REPLACE | | | 2.8 | | | 3,12,38, 42,44 | |
| | | REPAIR | | | 0.1 | | | 44 | AB |
| | | REPAIR | | | | 1.0 | | 2,32,42, 44-46,48, 52 | |
| 0401 | COMPRESSOR 3HBB-48-M323 (24123) 5035821-1 | | | | | | | | |
| | | TEST | | | | 0.2 | | 42,44,49 | |
| | | REPLACE | | | | 0.3 | | 44 | |
| | | REPAIR | | | | 0.4 | | 44 | K |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0402 | FILTER, AIR | | | | | | | | X,AC |
| | F12-600M3MA (43990) | | | | | | | | |
| | 5035829-1 | REPLACE | | | | 0.1 | | 44 | |
| | F12-600L3MA (43990) | | | | | | | | |
| | 5035829-2 | SERVICE | | 0.3 | | | | | E |
| | | REPAIR | | | | 0.3 | | | W |
| 05 | HYDRAULIC COMPONENT ASSY | | | | | | | | |
| | MX-10213/G | TEST | | | | 0.6 | | 33,35,39, 42,44,49 | |
| | 5035395-1 | REPLACE | | | 3.0 | | | 3,12,35, 38-39,44 | |
| | | REPAIR | | | | 1.3 | | 2,42,44-45,52 | |
| 0501 | PUMP UNIT, ROTARY | X | | | | | | | |
| | 632662 (05448) | | | | | | | | |
| | 5035875-1 | REPLACE | | | | 0.1 | | 42,44 | |
| | 633965 (05448) | | | | | | | | |
| | 5035875-3 | SERVICE | | 0.3 | | | | 43 | E |
| | | REPAIR | | | | 0.3 | | 42,44 | W |
| 0502 | PUMP UNIT, ROTARY | | | | | | | | X |
| | 632663 (05448) | | | | | | | | |
| | 5035875-2 | REPLACE | | | | 0.1 | | 42,44 | |
| | 633966 (05448) | | | | | | | | |
| | 5035875-4 | SERVICE | | 0.3 | | | | 43 | E |
| | | REPAIR | | | | 0.3 | | 42,44 | W |
| 0503 | FILTER, FLUID, PRESS | | | | | | | | X |
| | 9052TV10 (31408) | | | | | | | | |
| | 5035878-1 | REPLACE | | | | 0.1 | | 44 | |
| | | SERVICE | | 0.2 | | | | 42,44,48 | E |
| | | REPAIR | | | | 0.2 | | 42,44,48 | W |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 06 | MAST CONTROL C-10963/G | | | | | | | | |
| | 5035398-1 | TEST | 0.6 | 2,3 | 2,4 | | | 2,44,49 | |
| | | REPLACE | | | 1.2 | | | | 44 |
| | | REPAIR | | 0.1 | | | | | E |
| | | REPAIR | | | | 1.3 | | 2,32,42, 44,52 | |
| 07 | ANTENNA POSITIONER 5035749-1 | | | | | | | | |
| | 5035749-2 | REPLACE | | | 1.4 | | | 12,38,44 | |
| | 5035749-3 | | | | | | | | |
| | | REPAIR | | | 0.1 | | | 44 | H4 |
| | | REPAIR | | | | 0.1 | | 14-15,24, 28,42,44 | |
| 08 | MAST CLAMP (MIDDLE) | | | | | | | | |
| | 5035672-1 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 26,44 | H4 |
| | | REPAIR | | | | 0.1 | | 26,44 | |
| 09 | DELETED | | | | | | | | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 10 | STRUT, CYLINDER LOCK | | | | | | | | |
| | 5035596-1 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 44 | |
| | | REPAIR | | | | | 0.3 | | R |
| 11 | COVER, PROTECTIVE (ICE SHROUD) | | | | | | | | |
| | C5078189-1 | REPLACE | | | 1.7 | | | 12,38,44 | |
| | | REPAIR | | | | 0.1 | | 44 | |
| 12 | DELETED | | | | | | | | |
| 13 | MAINTENANCE TRAY | | | | | | | | |
| | 5035541-1 | REPLACE | | | | 0.2 | | | |
| | | REPAIR | | | | 0.1 | | 44 | |
| 14 | SPECIAL TEST EQUIPMENT AND TOOLS | | | | | | | | |
| 1401 | INTERFACE COUPLING DEVICE | | | | | | | | |
| | J-4018/U 5035604-1 | TEST | | | | 0.4 | | 2,42,44, 49 | |
| | | REPAIR | | | | 0.9 | | 2,32,42, 44,52 | |
| 1402 | REGULATOR, AIR SUPPLY | | | | | | | | |
| | C5078066-1 | SERVICE | | | | 1.0 | | 44 | |
| | | ADJUST | | | | 0.1 | | 44 | |
| | | REPAIR | | | | 0.2 | | 30-32,42, 44,48 | |

## SECTION II MAINTENANCE ALLOCATION CHART (CONTINUED)
## FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1403 | CLAMP, MAST/PLATE C5078105-1 | | | | | | | | |
| | | REPAIR | | | | 0.1 | | | T |
| 1404 | MAST RESTRAINT C5078246-1 | | | | | | | | |
| | | REPAIR | | 0.1 | | | | | T |
| 15 | CLAMP, ANTENNA (MIDDLE) | | | | | | | | |
| | 5035688-1 | REPLACE | | | 0.1 | | | 44 | |
| | | REPAIR | | | 0.1 | | | 26,44 | H5 |
| | | REPAIR | | | | 0.1 | | 26,44 | |

## SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| TOOLS OR TEST EQUIPMENT REF CODE | MAINTENANCE CATEGORY | NOMENCLATURE | NATIONAL/NATO STOCK NUMBER | TOOL NUMBER |
|---|---|---|---|---|
| 1 | H | WRENCH, COMB, 1/4" | 5120-00-288-9997 | A-A-1358 |
| 2 | F,H | MULTIMETER | 6625-00-581-2036 | AN/URM-105 |
| 3 | F,H | SHACKLE, ANCHOR | 4030-00-167-5984 | AN116-8 |
| 4 | F | PLIERS, ELEC, CONN | 5120-00-624-8065 | AT508K |
| 5 | H | SOCKET, 1-3/16" X 1/2" | 5120-00-293-0093 | A38 |
| 6 | F,H | PUNCH, DRIFT | 5120-00-242-0764 | A96-3-4 |
| 7 | H | WRENCH, SOCKET EXT, 20" | 5120-00-240-8705 | B187271D |
| 8 | H | REGULATOR, AIR SUPPLY | 5985-01-175-7136 | C5078066-1 |
| 9 | H | CLAMP, MAST/PLATE | 5985-01-166-7852 | C5078105-1 |
| 10 | H | STRAP, WEBBING | | C5078112-2 |
| 11 | H | HOSE ASSY, MAINT | 4720-01-173-4610 | C5078121-1 |
| 12 | F,H | SLING, ENDLESS LOOP | 3940-01-172-5648 | C5078151-1 |
| 13 | H | SLING ASSY, BRIDLE | | C5078171-1 |
| 14 | H | ADAPTER, TORQUE | | C5078172-1 |
| 15 | H | ADAPTER, TORQUE | | C5078172-2 |
| 16 | H | COMPRESSOR, MAST SEAL | 5120-01-173-7091 | C5078214-1 |
| 17 | 0 | OILER, PNEUMATIC | 4930-01-189-1822 | C5078245-1 |
| 18 | 0 | RESTRAINT, MAST | 5985-01-186-4746 | C5078246-1 |
| 19 | H | DRIVER, HEX HD, SOCKET | 5120-00-012-3645 | FAL6 |
| 20 | H | ADAPTER, TORQUE, 9/16" | 5120-00-867-5518 | FRDH181 |
| 21 | H | ADAPTER, SOCKET, 3/8" | 5120-00-240-8702 | GAX1 |
| 22 | H | GOGGLES, SAFETY | 4240-00-052-3776 | GG-G-531 |
| 23 | H | TIMER, INTERVAL | 6645-00-632-7789 | GG-T-00416 |
| 24 | H | MALLET, RUBBER | 5120-00-293-3399 | GGG-H-33 |

## SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| TOOLS OR TEST EQUIPMENT REF CODE | MAINTENANCE CATEGORY | NOMENCLATURE | NATIONAL/NATO STOCK NUMBER | TOOL NUMBER |
|---|---|---|---|---|
| 25 | F,H | LEVEL, MACHINISTS | 5210-00-241-3613 | GGG-L-211 |
| 26 | F,H | PLIERS, SNP RNG, SET | 5120-00-789-0492 | GGG-P-480 |
| 27 | F,H | WRENCH, OPEN END, 1-7/8" | 5120-00-081-9100 | GGG-W-636 |
| 28 | H | ADAPTER, SOCKET, 3/4" | 5120-00-227-8088 | GGG-W-641 |
| 29 | H | WRENCH, PIPE, INT | 5120-00-288-8775 | GGG-W-643-1/2 |
| 30 | H | WRENCH, PIPE, INT | 5120-00-288-8776 | GGG-W-643-3/4 |
| 31 | H | WRENCH, PIPE, INT | 5120-00-288-8774 | GGG-W-643-3/8 |
| 32 | H | HEAT GUN, 750 DEG | 4940-00-363-3225 | HG501 |
| 33 | H | INTERFACE COUPLING DEVICE | 5985-01-175-7135 | J-4018/U |
| 34 | H | CAP, PIPE, 1" | 4730-00-994-0829 | MS51532-B16 |
| 35 | F,H | CAP, PIPE, 3/8" | 4730-00-540-1525 | MS51532-C6 |
| 36 | H | CAP, PIPE, 1/2" | 4730-00-625-2212 | MS51532-B8 |
| 37 | H | TRUCK, WRECKER | 2320-00-050-9004 | M819 |
| 38 | F | TRUCK, WRECKER | | M819A1 |
| 39 | F,H,O | MEASURE, LIQUID | 7240-00-255-5996 | RR-M-1850 |
| 40 | H | STEP LADDER, 12 FT | 5440-00-227-1596 | RR-S-720 |
| 41 | F,H | WRENCH, CRWFT, 1-7/8" | 5120-01-072-2953 | SC060 |
| 42 | F,H,O | SHOP EQUIPMENT, SEMITRLR MTD | 4940-00-294-9517 | SC4910-95-CL-05-HR |
| | | WRENCH, TORQUE | 5120-00-640-6364 | |
| | | *WRENCH, TORQUE | 5120-00-247-2540 | F150 |
| | | WRENCH, TORQUE (150-750 IN/LBS) | 5120-00-821-3441 | |
| | | *WRENCH, TORQUE (0-300 IN/LBS) | 5120-00-247-2536 | F300I |
| | | *WRENCH, TORQUE (0-600 IN/LBS) | 5120-00-221-7947 | F600I |
| | | WRENCH, TORQUE (0-600 FT/LBS) | 5120-00-221-7983 | GGG-W-686 |
| | | *See Remarks, Section IV | | |

## SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| TOOLS OR TEST EQUIPMENT REF CODE | MAINTENANCE CATEGORY | NOMENCLATURE | NATIONAL/NATO STOCK NUMBER | TOOL NUMBER |
|---|---|---|---|---|
| 42 | | ADAPTER, SOCKET, 1/2" | 5120-00-240-8703 | |
| cont. | | | | |
| | | BAR, PRY | 5120-00-224-1389 | GGG-B-101 |
| | | LUBRICATING GUN | 4930-00-253-2478 | |
| | | *GREASE GUN | 4910-00-754-0653 | SCH4910-95CLAS |
| | | WRENCH, SET, SOCKET, 3/4" | 5120-00-204-1999 | |
| | | SOLDERING GUN KIT | 3439-00-930-1638 | |
| | | *SOLDER/DESOLDER SET | 3439-00-460-7198 | W-TCP-K |
| | | WRENCH, OPEN, 1-1/8" X 1-1/4" | 5120-00-277-2694 | |
| | | *WRENCH, COMB, 1-1/8" | 5120-00-228-9516 | 1172 |
| | | *WRENCH, COMB, 1-1/2" | 5120-00-228-9517 | 1173 |
| | | BATTERY CHARGER | 6130-00-699-6659 | |
| | | *PWR SUPPLY, 24 VDC | 6130-00-148-1796 | 6269B |
| 43 | H,O | TOOL KIT, MASTER MECH | 5180-00-699-5273 | SC5180-90-CL-NO5 |
| | | WRENCH SET, SOCKET, 1/4" | 5120-00-081-2305 | FEDSTD353 |
| | | BAR, PRY | 5120-00-224-1389 | GGG-B-101 |
| | | KEY, SOCKET HD, 3/8" | 5120-00-198-5390 | GGG-K-275 |
| | | WRENCH, OPEN, 3/8" X 11/32" | 5120-00-277-8314 | GGG-W-636 |
| | | *WRENCH, COMB, 11/32" | 5120-00-277-8313 | 179-012 |
| 44 | F,H | TOOL KIT, REFRIG, SERVICE | 5180-00-059-1474 | SC5180-90-CL-N18 |
| 45 | H,O | TOOL KIT, GEN MECHANICS | 5180-00-177-7033 | SC5180-90-CL-N26 |
| | | SCREW, STARTER, HAND | 5120-00-832-6221 | |
| | | BAR, PRY | 5120-00-244-1389 | GGG-B-101 |
| | | BRUSH, PAINT | 8020-00-297-6657 | H-B-491 |
| | | PLIERS, DIAG CUTTING | 5110-00-222-2708 | GGG-P-468 |
| | | *PLIERS, DIAG CUTTING | 5110-00-965-0974 | 84CG |
| 46 | H | SCREWDRIVER, CRSTIP, 16" | 5120-00-166-7984 | SSDP216 |
| 47 | H | SOCKET, DEEPWELL, 15/16" | 5120-00-243-7343 | S301 |

*See Remarks, Section IV

## SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G

| TOOLS OR TEST EQUIPMENT REF CODE | MAINTENANCE CATEGORY | NOMENCLATURE | NATIONAL/NATO STOCK NUMBER | TOOL NUMBER |
|---|---|---|---|---|
| 48 | H,O | WRENCH, COMB, 1-3/8" | 5120-00-277-8833 | 1244 |
| 49 | H | JUMPER, ELECTRICAL | 6625-00-400-8731 | 1693-48 |
| 50 | H | WRENCH, STRAP | 5120-00-133-3060 | 68137 |
| 51 | H | STAFF SECTION, RAMMER | 1015-00-699-0633 | 7309259 |
| 52 | H | PLIERS, DIAG CUTTING | 5110-00-965-0974 | 84CG |
| 53 | H | BRUSH, CLEANING | 1015-00-678-7110 | 8766039 |
| 54 | F,H | SOCKET, 11/16" | 5130-01-107-9666 | PDH220 |
| 55 | F,H | ADAPTER | 5120-01-123-2645 | GLA62 |
| 56 | F,H | WRENCH, LONG HANDLE | 5120-00-228-9510 | OEX24 |

**SECTION IV. REMARKS**

| Reference Code | Remarks |
|---|---|
| A | DAILY SYSTEM LEVEL VISUAL INSPECTION FOR DAMAGE, CORROSION, COMPLETENESS, MOISTURE, DUST, DIRT, FLUID LEVELS, AND FLUID LEAKS. |
| B | SYSTEM TESTS:<br>1. MONTHLY OPERATIONAL TEST.<br>2. DIAGNOSTIC TEST FOR REPAIR. |
| C | SERVICE UPON RECEIPT, PREPARATION FOR SHIPMENT. |
| D | CLEANING, FILTERS (REPLACE FILTER ELEMENTS AS REQUIRED), AND LUBRICATION. |
| E | SERVICE OR REPAIR LIMITED TO REPLACEMENT OF LAMPS (MAST CONTROL, TAIL-LIGHT ASSEMBLIES), AND THROWAWAY FILTER ELEMENTS OF PNEUMATIC COMPONENT ASSY AND HYDRAULIC COMPONENT ASSY. |
| F | REPAIR LIMITED TO REPLACEMENT OF:<br>1. MAST CONTROL<br>2. DISTRIBUTION BOX<br>3. PNEUMATIC COMPONENT ASSEMBLY<br>4. HYDRAULIC COMPONENT ASSEMBLY<br>5. CABLES<br>6. INTERLOCK SWITCHES<br>7. LIMIT SWITCHES<br>8. MAST<br>9. ANTENNA POSITIONER<br>10. MAST CLAMP<br>11. DELETED<br>12. STRUT, CYLINDER LOCK<br>13. PROTECTIVE COVERS<br>14. ANTENNA CLAMP |

**SECTION IV. REMARKS**

| Reference Code | Remarks |
|---|---|
| G | REPAIR LIMITED TO REPLACEMENT OF:<br>1. ANTENNA CLAMP<br>2. HYDRAULIC COMPONENT ASSEMBLY (SHROUD)<br>3. INTERCONNECT BOX<br>4. STABILIZER STRUT<br>5. COVER LOCK<br>6. LINEAR ACTUATING CYLINDER<br>7. TAILLIGHT ASSEMBLY<br>8. REFLECTOR ASSEMBLY<br>9. MAST CLAMPS |
| H | REPAIR LIMITED TO REPLACEMENT OF:<br>1. HANDRAIL<br>2. HANDRAIL STRAP<br>3. HANDLE, LOCK<br>4. HANDLE, SWIVEL<br>5. HANDKNOB |
| J | REPAIR LIMITED TO REPLACEMENT OF:<br>1. LAMP, INCANDESCENT<br>2. REFLECTOR, LIGHT |
| K | REPAIR LIMITED TO REPLACEMENT OF COMPRESSOR BRUSHES ONLY. |
| L | TWO WRECKERS REQUIRED. |
| M | REPAIR LIMITED TO REPLACEMENT OF:<br>1. HANDLE<br>2. QUICK RELEASE PIN |

**SECTION IV. REMARKS**

| Reference Code | Remarks |
|---|---|
| N | REPAIR LIMITED TO REPLACEMENT OF LUBRICATION FITTINGS. |
| P | REPAIR BY REPLACEMENT OF LIMIT SWITCHES ONLY. |
| Q | REPAIR BY REPLACEMENT OF SEAL. |
| R | REPAIR CONSISTS OF REPLACEMENT OF BEARING. |
| S | THE MAST SECTIONS USED ON 72' MAST AB-1294A/G ARE: |
| | MAST SECTION #1 5035539-2 |
| | MAST SECTION #2 C5078140-1 |
| | MAST SECTION #3 C5078140-2 |
| | MAST SECTION #4 C5078125-2 |
| | MAST SECTION #5 C5078126-2 |
| T | REPAIR BY REPLACEMENT OF COMMON HARDWARE ONLY. |
| U | MAST GROUP MAY BE MOUNTED ON AN M942 VEHICLE OR AN M811 VEHICLE. |
| V | REPAIR CONSISTS OF REPLACEMENT OF GASKET AND PACKINGS. |
| W | REPAIR CONSISTS OF REPLACEMENT OF FILTER ELEMENTS AND "0" RINGS OR PACKINGS WHILE NEXT HIGHER ASSY IS BEING REPAIRED. |
| X | THE FIRST PART NUMBER LISTED IS THE MANUFACTURER'S PART NUMBER FOLLOWED BY THE MANUFACTURER'S FSCM IN PARENTHESES AND THE SPECIFICATION CONTROL DRAWING PART NUMBER. |
| Y | REPAIR OF THIS ITEM CONSISTS OF REPLACEMENT OF NUTS, BOLTS, LOCKWASHERS OR FLAT WASHERS. |
| Z | GENERAL SUPPORT REPAIR INCLUDES REPLACEMENT OF LEATHER SEALS AND SEAL EXPANDERS, BUT NOT A MAST SECTION. |
| AA | PREFERRED ITEM IS J-3747A/G. |
| AB | REPAIR BY REPLACEMENT OF LOOP CLAMPS SECURING INPUT/OUTPUT HOSE DURING PNEUMATIC COMPONENT ASSY REPLACEMENT ONLY. |
| AC | AIR FILTER 5035829-2 HAS AUTOMATIC FLUID DRAIN, DOES NOT REQUIRE MANUAL DRAINING, AND IS PREFERRED PART. |
| * | ASTERISKED TOOLS ARE NOT PART OF THE REFERENCED KIT OR SET, BUT ARE SUITABLE SUBSTITUTES. THE ASTERISKED TOOLS ARE NATIONAL STOCK NUMBERED AND MAY BE FOUND IN OTHER KITS, SETS, TABLES OF ALLOWANCE, OR CATALOGS IF THE REFERENCED ITEM IS NOT AVAILABLE. |

# 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 Mast Group to help you inventory items required for safe and efficient operation.

### C-2. General

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

a. Section II, Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. 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. These are the minimum essential items required to place the Mast Group in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the Mast Group during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

### C-3. Explanation of Columns

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

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

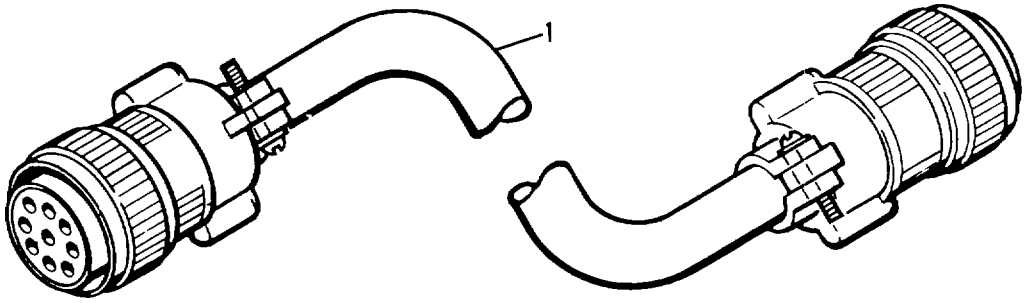
b. Column (2) National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

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

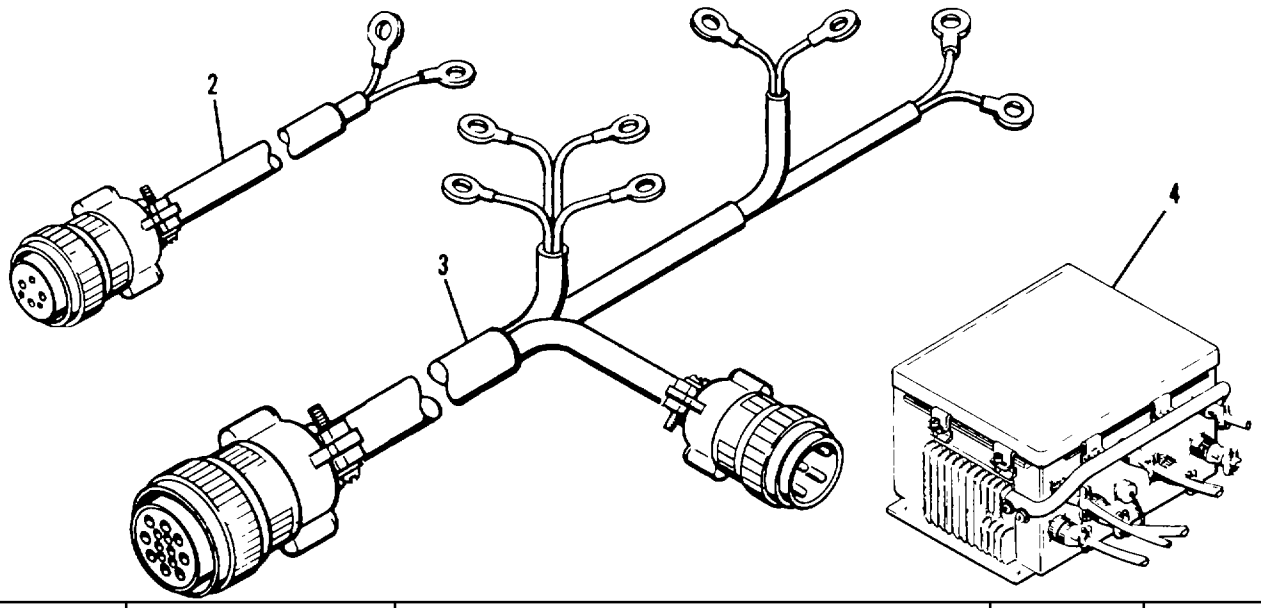
d. Column (4) Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).

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

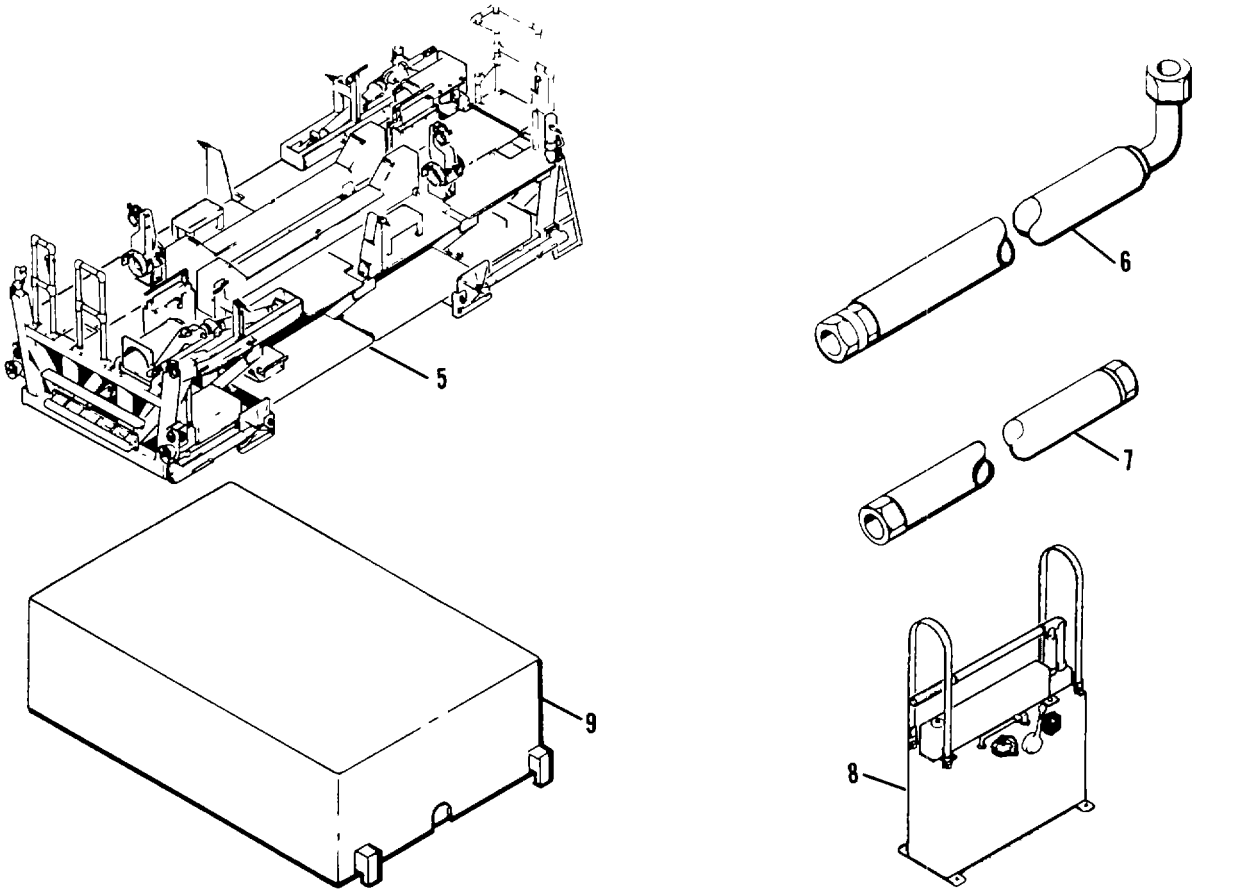
## Section II. COMPONENTS OF END ITEM



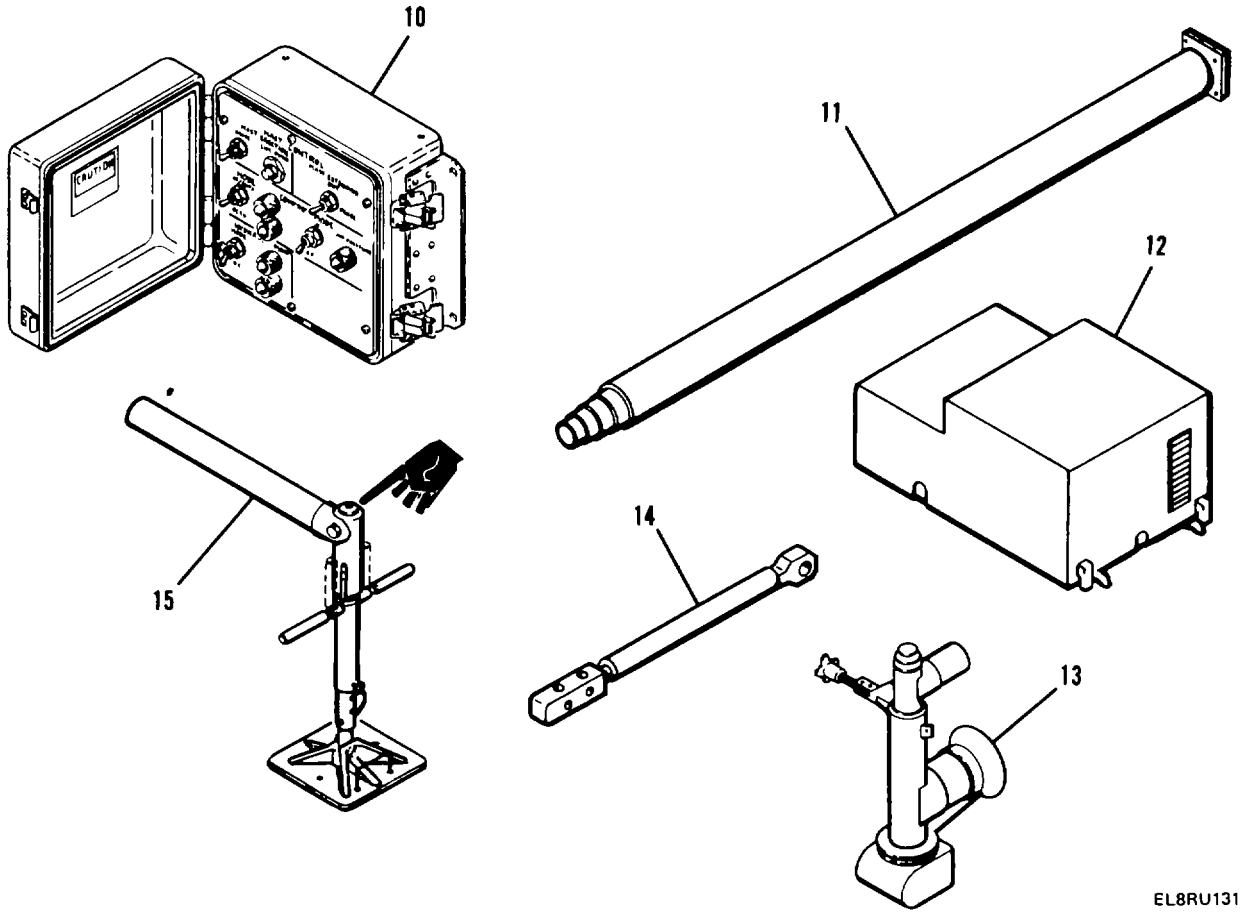

| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Qty U/M | (5) rqr |
|---|---|---|---|---|
| 1 | | CABLE ASSY, PWR W24<br>(57958) 5035750-1 | ea | 1 |
| 1A | | CABLE ASSY, PWR W32<br>(57958) 5035750-2 | ea | 1 |
| 1B | | CABLE ASSY, PWR W29<br>(57958) 5035750-3 | ea | 1 |
| 1C | | CABLE ASSY, PWR W30<br>(57958) 5035750-4 | ea | 1 |
| 1D | | CABLE ASSY, PWR W31<br>(57958) 5035750-6 | ea | 1 |
| 1E | | CABLE ASSY, PWR W26<br>(57958) 5035750-8 | ea | 1 |
| 1F | | CABLE ASSY, PWR W25<br>(57958) 5035750-10 | ea | 1 |
| 1G | | CABLE ASSY, PWR W37<br>(57958) 5035750-11 | ea | 1 |
| 1H | | CABLE ASSY, PWR W34<br>(57958) 5035750-12 | ea | 1 |
| 1I | | CABLE ASSY, PWR W35<br>(57958) 5035750-13 | ea | 1 |
| 1J | | CABLE ASSY, PWR W36<br>(57958) 5035750-15 | ea | 1 |
| 1K | | CABLE ASSY, PWR W39<br>(57958) 5035750-17 | ea | 1 |




| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Qty U/M | (5) rqr |
|---|---|---|---|---|
| 2 | | CABLE ASSY, PWR W28<br>(57958) 5035750-5 | ea | 1 |
| 2A | | CABLE ASSY, PWR W27<br>(57958) 5035750-9 | ea | 1 |
| 2B | 5995-01-182-7953 | CABLE ASSY, PWR W41<br>(57958) 5035750-14 | ea | 1 |
| 2C | 5995-01-182-8555 | CABLE ASSY, PWR W40<br>(57958) 5035750-18 | ea | 1 |
| 3 | | CABLE ASSY, PWR W33<br>(57958) 5035750-7 | ea | 1 |
| 3A | 5995-01-182-7955 | CABLE ASSY, PWR W38<br>(57958) 5035750-16 | ea | 1 |
| 4 | 6110-01-117-8279 | DISTRIBUTION BOX<br>(57958) C5078340-1 | ea | 2 |

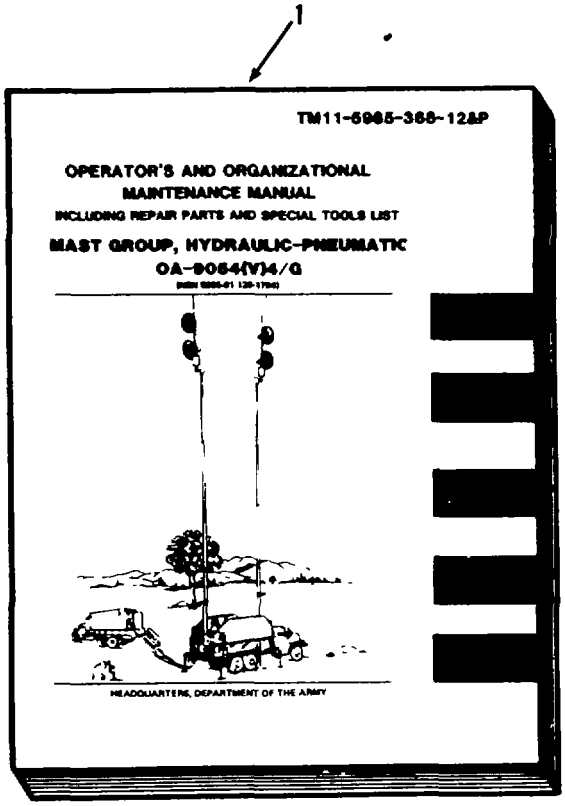



| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Qty U/M | (5) rqr |
|---|---|---|---|---|
| 5 | | FRAME, SUPPORT<br>(57958) 5035720-1 | ea | 1 |
| 6 | | HOSE ASSY, NM<br>(57958) 5035851-6 | ea | 4 |
| 7 | | HOSE ASSY, NM (PNEUMATIC)<br>(57958) MS28741-12-1200 | ea | 2 |
| 8 | 5985-01-126-2476 | HYDRAULIC COMPONENT ASSEMBLY (HANDPUMP)<br>(57958) 5035746-1 | ea | 2 |
| 9 | 5985-01-126-2478 | HYDRAULIC COMPONENT ASSEMBLY (HCA)<br>(57958) 5035395-1 | ea | 2 |




| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Qty U/M | (5) rqr |
|---|---|---|---|---|
| 10 | | MAST CONTROL<br>(57958) 5035398-1 | ea | 2 |
| 11 | | MAST (72' PNEUMATIC)<br>(57958) 5035602-2 | ea | 2 |
| 12 | | PNEUMATIC COMPONENTS ASSY<br>(57958) 5035394-1 | ea | 2 |
| 13 | | POSITIONER, ANTENNA<br>(57958) 5035749-1 | ea | 2 |
| 14 | | STRUT, CYLINDER<br>(57958) 5035596-1 | ea | 2 |
| 15 | | STRUT, STABILIZER<br>(57958) 535703-1 | ea | 4 |

## Section III. BASIC ISSUE ITEMS




| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Qty U/M | (5) rqr |
|---|---|---|---|---|
| 1 | | OPERATOR'S MANUAL (TM 11-5985-368-12&P) | ea | 1 |

# APPENDIX D

# ADDITIONAL AUTHORIZATION LIST

## Section I. INTRODUCTION

### D-1. Scope

This appendix lists additional items you are authorized for the support of the Mast Group.

### D-2. General

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

### D-3. Explanation of Listing

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

## Section II. ADDITIONAL AUTHORIZATION LIST

| (1) National Stock Number | (2) Description | | (3) | (4) |
|---|---|---|---|---|
| | FSCM & Part Number | Usable on Code | U/M | Qty |
| 4240-00-052-3776 | Goggles, Safety, Plastic Class 1 (81348) GG-G-531 | | PR | 3 |
| 8415-00-889-3768 | Helmet, Construction (81348) GGG-H-142 | | EA | 3 |

# APPENDIX E

# EXPENDABLE SUPPLIES AND MATERIALS LIST

## Section I. INTRODUCTION

### E-1. Scope

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

### E-2. Explanation of Columns

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

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

C - Operator/Crew
0 - Organizational Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

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

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

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

## SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST

| (1) ITEM NO. | (2) LEVEL NUMBER | (3) NATIONAL STOCK | (4) DESCRIPTION OF PART NO. AND FSCM | (5) UNIT MEAS |
|---|---|---|---|---|
| 1 | C | 8305-00-267-33015 | SHOP CLOTH, COTTON (81348) CCCC440 | ea |
| 2 | 0 | 9150-00-190-0904 | GREASE, GAA (81349) MIL-G-10924 | lb |
| 3 | 0 | 5815-00-015-1295 | ANTISEIZE COMPOUND (84180) 250 LED PLATE | oz |
| 4 | C | | HYDRAULIC FLUID (07397) 96-701-568-1 | gal |
| 5 | 0 | 6850-00-105-3084 | CLEANING SOLVENT (TRICHLOROTRIFLUORO ETHANE) (81349) MIL-C-81302 | oz |
| 6 | 0 | 9150-01-018-8960 | GREASE, PNEUMATIC (81349) MIL-G-4343 | oz |
| 7 | 0 | 8030-01-105-3322 | SEALING COMPOUND (05972) 92/31 | ml |
| 8 | 0 | | OILER, PNEUMATIC | ea |
| 9 | 0 | 4910-00-754-0653 | GREASE GUN | ea |
| 10 | 0 | | LUBRICATING OIL, INTERNAL COMBUSTION ENGINE, GRADE 10 MIL-L-2104 | qt |
| 11 | C | 8415-00-634-4664 | GLOVES, LEATHER | pr |
| 12 | 0 | 9150-00-935-4017 | GREASE, AIRCRAFT INSTRUMENT (81349) MIL-G-23847 | oz |

# APPENDIX F

# ORGANIZATIONAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS FOR MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V) 4/G

## TABLE OF CONTENTS



## SECTION I. INTRODUCTION

### F-1. Scope

This manual lists and authorizes spares and repair ports, 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 OA-9054(V)4/G 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

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 numeric sequence, with the parts In each group listed In ascending Item number sequence. Figure numbers are listed directly beneath the group header.

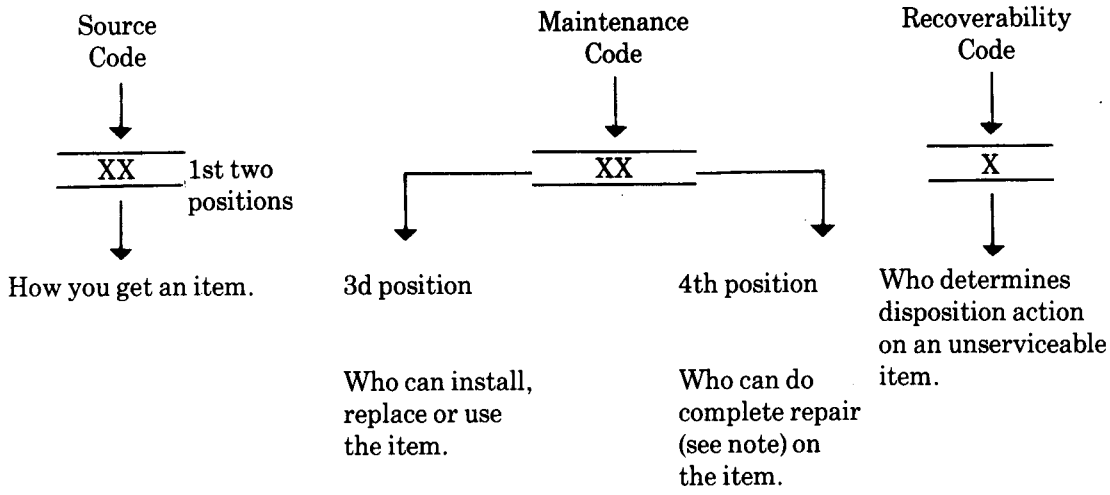
*b Section III Special Tools List*. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) Information In (column (5)) for the performance of maintenance

*c. Section IV. National Stock Number and Part Number Index.* A list, In National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listings, followed by a list In alphameric 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

**F-3. Explanation of Columns (Section II and III)**

*a. Item No (Column (I))* 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 five-position code containing supply/requisitioning Information, maintenance category authorization criteria, and disposition Instruction, as shown in the following breakout




**NOTE**

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

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

| *Code* | *Explanation* |
|---|---|
| PA<br>PB<br>PC**<br>PD<br>PE<br>PF<br>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 third position of the SMR code<br><br>**NOTE**<br><br>Items coded PC are subject to deterioration |
| KD<br>KF<br>KB | Items with these codes are not to be requested/requisitioned individualy They are part of a kit which is authorized to the maintenance category Indicated In the third position of the SMR code. The complete kit must be requisitioned and applied |

| *Code* | *Explanation* |
|---|---|
| MO--(Made at org. AVUM Level<br>MF--(Made at DS/ AVUM Level<br>MH--(Made at GS Level)<br>ML--Made at Specialized Repair Activity (SRA))<br>MD--(Made at Depot) | Items with these codes are not to be requested/requisitioned individually They must be made from bulk material which is Identified by the part number In the description and usable on code (UOC) column and listed In the Bulk Material group of the repair ports list if the item Is authorized to you by the third position code of the SMR code, but the source code indicates it is made at a higher category, order the Item from the higher category of maintenance |
| AO--(Assembled by org/AVUM Level)<br>AF--(Assembled by DS/AVIM Level)<br>AH--(Assembled by GS Category)<br>AL--(Assembled by SRA)<br>AD--(Assembled by Depot) | Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled Item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the Item from the higher category of maintenance. |

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 FSCM and part number given.
XC - Installation drawing, diagram, instruction sheet, field service drawing, that Is Identified by manufacturers part number
XD - Item is not stocked. Order an "XD" coded item through normal supply channels using the FSCM and part number given, If no NSN Is available.

**NOTE**

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for Items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 750-1

*(2) Maintenance Code* Maintenance codes tell you the category 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 category authorized to remove, replace, and use an Item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

| *Code* | *Application/Explanation* |
|---|---|
| C | - Crew or operator maintenance done within organizational or aviation maintenance |
| O | - Organizational or aviation unit category can remove, replace, and use the Item. |
| F | - Direct support or aviation intermediate category can remove, replace, and use the Item |
| H | - General support category can remove, replace, and use the Item |
| L | - Specialized repair activity can remove, replace, and use the Item |
| D | - Depot category can remove, replace, and use the Item |

*(b)* The maintenance code entered in the fourth position tells whether or not the item Is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e, perform all authorized repair functions). This position will contain one of the following maintenance codes

**NOTE**

Some limited repair may be done on the Item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

*Code* *Application/Explanation*

O - Organizational or aviation unit is the lowest category that can do complete repair of the item
F - Direct support or aviation intermediate is the lowest category that can do complete repair of the Item.
H - General support Is the lowest category that can do complete repair of the item
L - Specialized repair activity (designate the specialized repair activity) is the lowest category that can do complete repair of the item.
D - Depot is the lowest category that can do complete repair of the item.
Z - Nonreparable. No repair is authorized
B - No repair Is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded Item.) However, the item may be reconditioned by adjusting, lubricating, etc, at the user category

*(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

*Recoverability codes* *Application/Explanation*

Z Nonreparable Item When unserviceable, condemn and dispose of the item at the category of maintenance shown in the third position of SMR Code

O Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit category

F Reparable item When uneconomically reparable, condemn and dispose of the item at the direct support or aviation Intermediate category

H Reparable item. When uneconomically reparable, condemn and dispose of the Itemat general support category

D Reparable item. When beyond lower level repair capability, return to depot Condemnation and disposal of item not authorized below depot category

L Reparable item. Condemnation and disposal not authorized below specialized repair activity (SRA).

A Item requires special handling or condemnation procedures because of specific reasons (e g., precious metal content, high dollar value, critical material, or hazardous material) Refer to appropriate manuals/directives for specific instructions.

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

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

**NOTE**

When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered

*e. Description and Usable on Code (UOC)(Column (5))* This column includes the following information.

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

(2) In the Special Tools section, the basis of issue (BOI) appears as the last line in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceedes density spread indicated in the basis of issue, the total authorization is increased proportionately.

(3) The statement "END OF FIGURE" appears lust below the last item description in Column (5) for a given figure in both section II and section III

*f. Qty (Column (6)).* Indicates the quantity of the item used in the breakout shown on the illustration figure, which Is prepared for a functional group, subfunctional group, or an assembly A "V" appearing in this column in lieu of a quantity Indicates that the quantity Is variable and the quantity may vary from application to application.

**F-4. Explanation of Columns (Section IV)**

*a. National Stock Number (NSN) Index*.

*(1) Stock number column*. This column lists the NSN by National Item identification number (NIIN) sequence The NIIN consists of the last nine digits of the NSN When using this column to locate an item, Ignore the first four digits of the NSN When requisitioning items use the complete NSN (13 digits).

*(2) Fig. column*. This column lists the number of the figure where the item is identified/located. The illustrations are in numerical sequence in sections II and III

*(3) Item column*. The Item number identifies the item associated with the figure listed In the adlacent Fig. column This item is also Identified by the NSN listed on the some line

*b. Part Number Index* Part numbers In this index are listed by part number In ascending alphameric sequence

*(1) FSCM column*. This column lists the Federal supply code for manufacturer (FSCM)

*(2) Part number column* This column indicates the part number assigned to the item

*(3) Stock number column*. This column lists the National stock number for the associated part number and manufacturer Identified in the part number and FSCM columns to the left.

*(4) Fig. column* This column lists the number of the figure where the Item Is Identified/located in sections II and IIII.

*(5) Item column*. The Item number Is that number assigned to the item as it appears In the figure referenced in the adlacent figure number column.

**F-5. Special Information**

*a. Illustrations Listing*. The illustrations In this RPSTL are Identical to those published In TM 11-5985-368-34P. Only those parts coded "C" or "O" in the third position of the SMR code are listed In the tabular listing, therefore, there may be a break in the item number sequence, figure number and page number. Only Illustrations containing organizational or aviation unit authorized Items appear in this RPSTL.

*b. National Stock Numbers* National stock numbers (NSN's) that are missing from P source coded Items have been applied for and will be added to this TM by future change/revision when they are entered in the Army Master Data File (AMDF) Until the NSN's are established and published, submit exception requisitions to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN AMSEL-MM, Fort Monmouth, NJ 07703-5000 for the part required to support your equipment

## 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 note the item number.

*(4) Fourth.* Refer to the Repair Parts List for the figure to find the part number for the Item number noted on the figure

*(5) Fifth*. Refer to the Part Number Index to find the NSN, if assigned

*b. When National stock number or part number is known*.

*(1) First*. Using the Index of National stock numbers and part numbers, find the pertinent National stock number or part number The NSN index is in National item identification number (NIIN) sequence (pare 4*a*(1)). The part numbers in the part number index are listed in ascending alphameric sequence (para 4*b*). Both indexes crossreference you to the illustration figure and item number of the item you are looking for

*(2) Second*. After finding 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

Not applicable

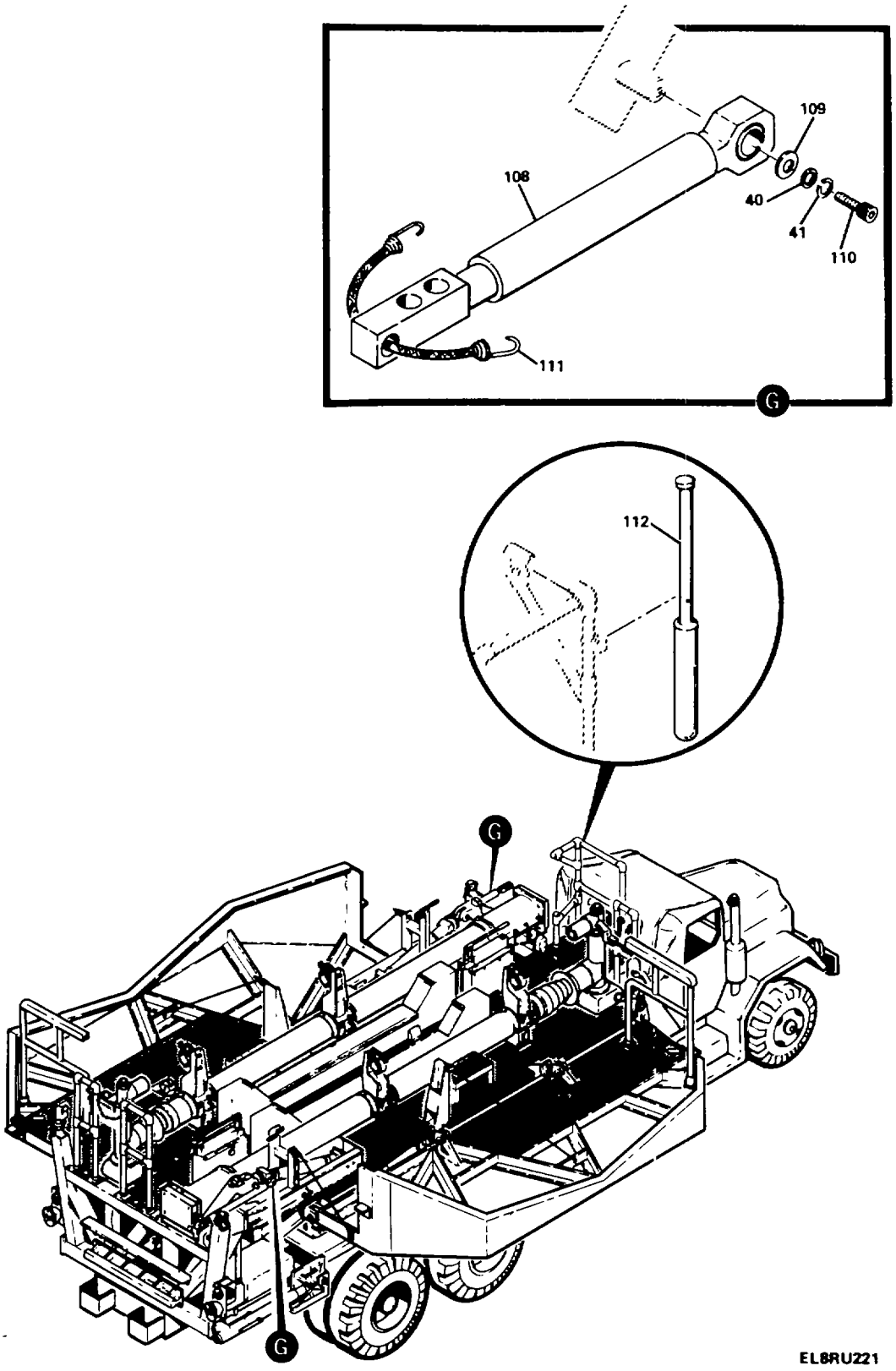



*Figure F-1. Mast Group, Hydraulic-Pneumatic OA-9054(V)4/G*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 00 MAST GROUP, HYDRAULIC-PNEUMATIC OA-9054(V)4/G | |
| | | | | FIGURE 1 | |
| 112 | PAOZZ | 57958 | C5078316-1 | REMOVAL TOOL, ICE ..... | 1 |
| | | | | END OF FIGURE | |

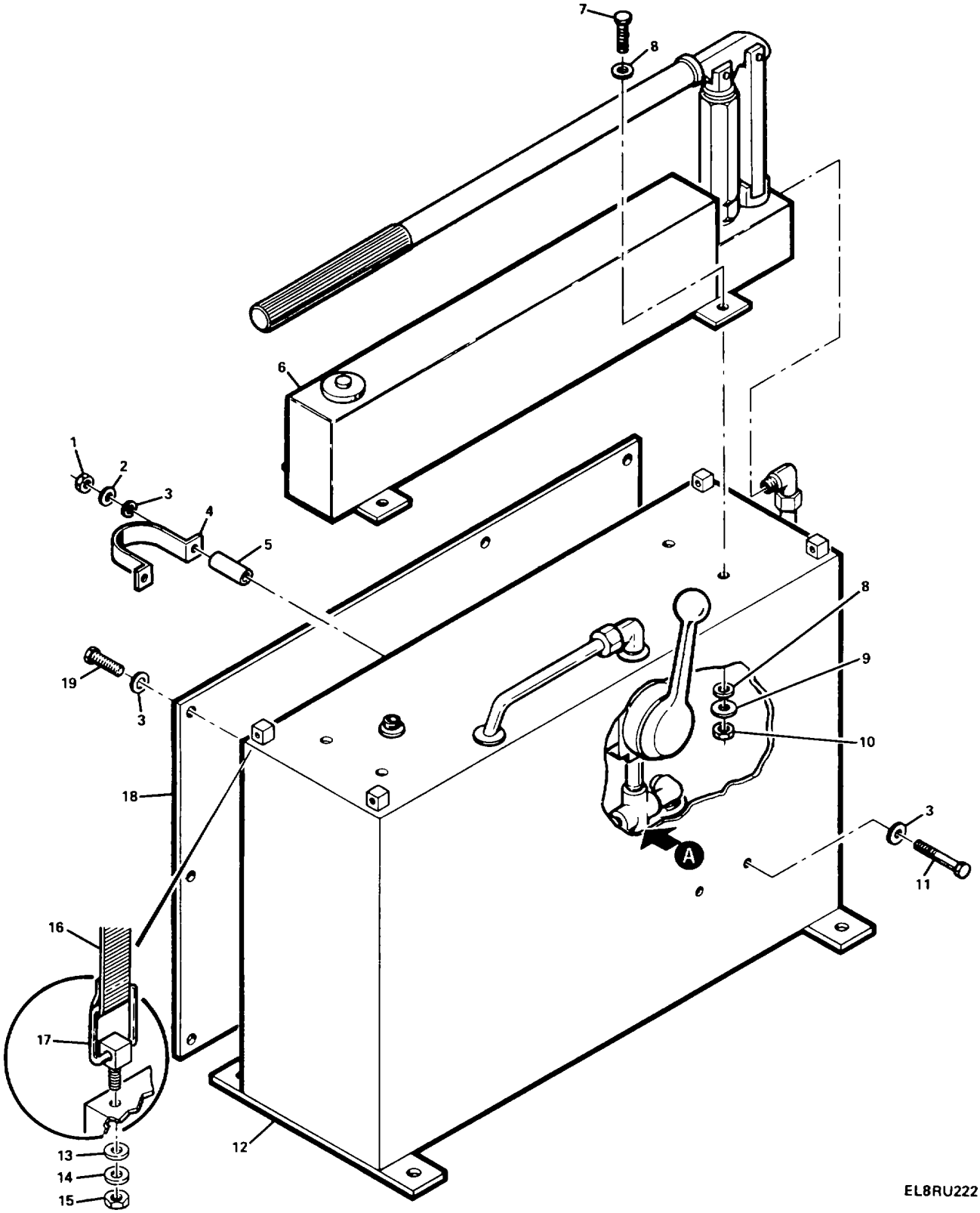



*Figure F-7. Hydraulic Component Assembly (Shroud) (Sheet 1 of 2)*

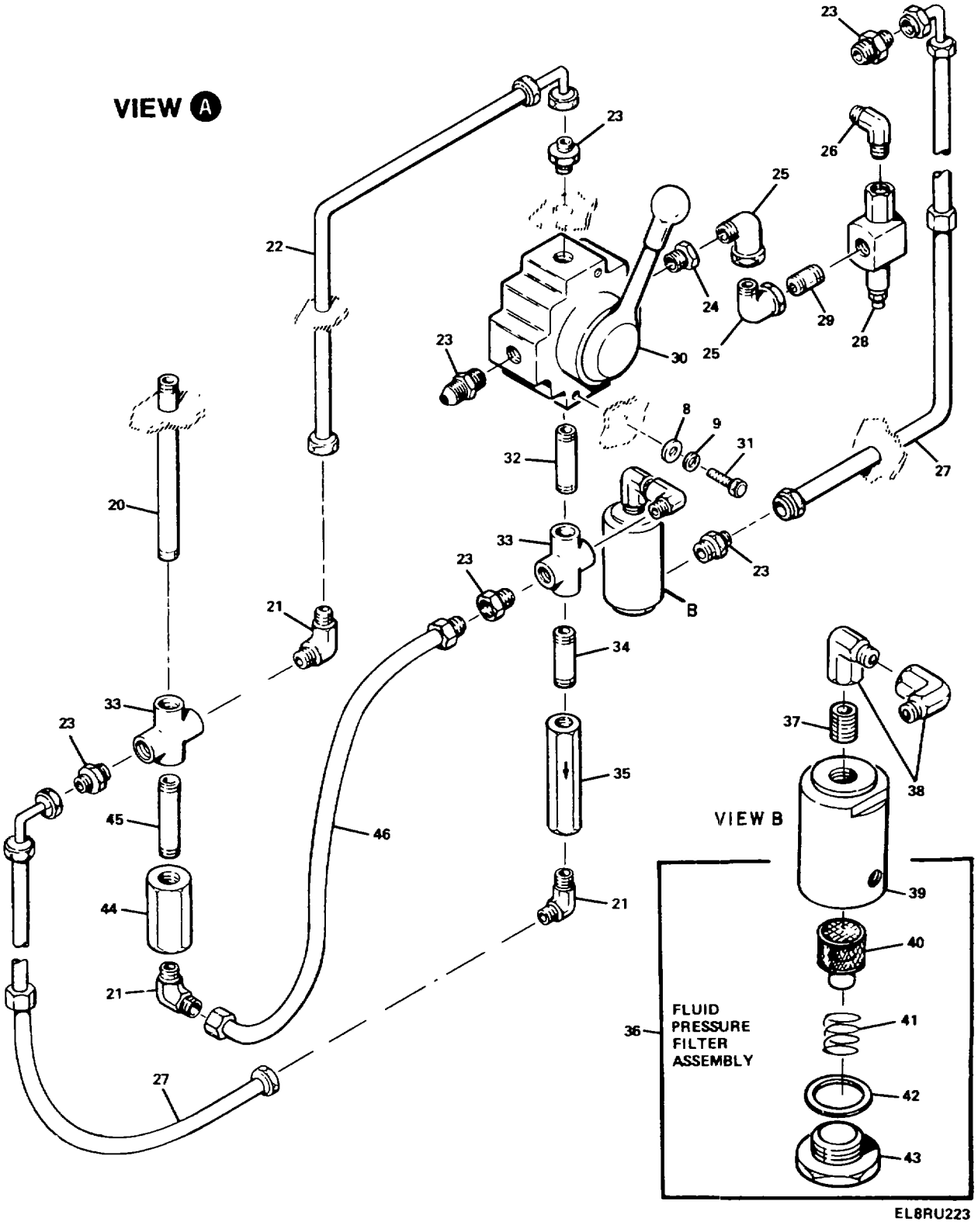



*Figure F-7. Hydraulic Component Assembly (Shroud) (Sheet 2 of 2)*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 0105 HYDRAULIC COMPONENT ASSEMBLY (SHROUD) | |
| | | | | GROUP 010501 FILTER ASSEMBLY, FLUID | |
| | | | | FIGURE 7 | |
| 3 | PAOZZ | 96906 | MS15795-808 | WASHER,FLAT | 16 |
| 18 | XBOZZ | 57958 | 5035659-1 | COVER,HYDR CMPN | 1 |
| 19 | PAOZZ | 96906 | MS51958-64 | SCREW,MACHINE | 10 |
| 40 | PAOZZ | 31408 | 905209 | FILTER ELEMENT,FLUI (PART OF GROUP 010501) | 1 |
| 41 | PAOZZ | 31408 | 9052n3 | SPRING (PART OF GROUP 010501) | 1 |
| 42 | PAOZZ | 31408 | 905207 | PACKING,PREFORMED (PART OF GROUP 010501) | 1 |
| 43 | PAOZZ | 31408 | 905302 | PLUG,END,FILTER (PART OF GROUP 010501) | 1 |
| | | | | END OF FIGURE | |

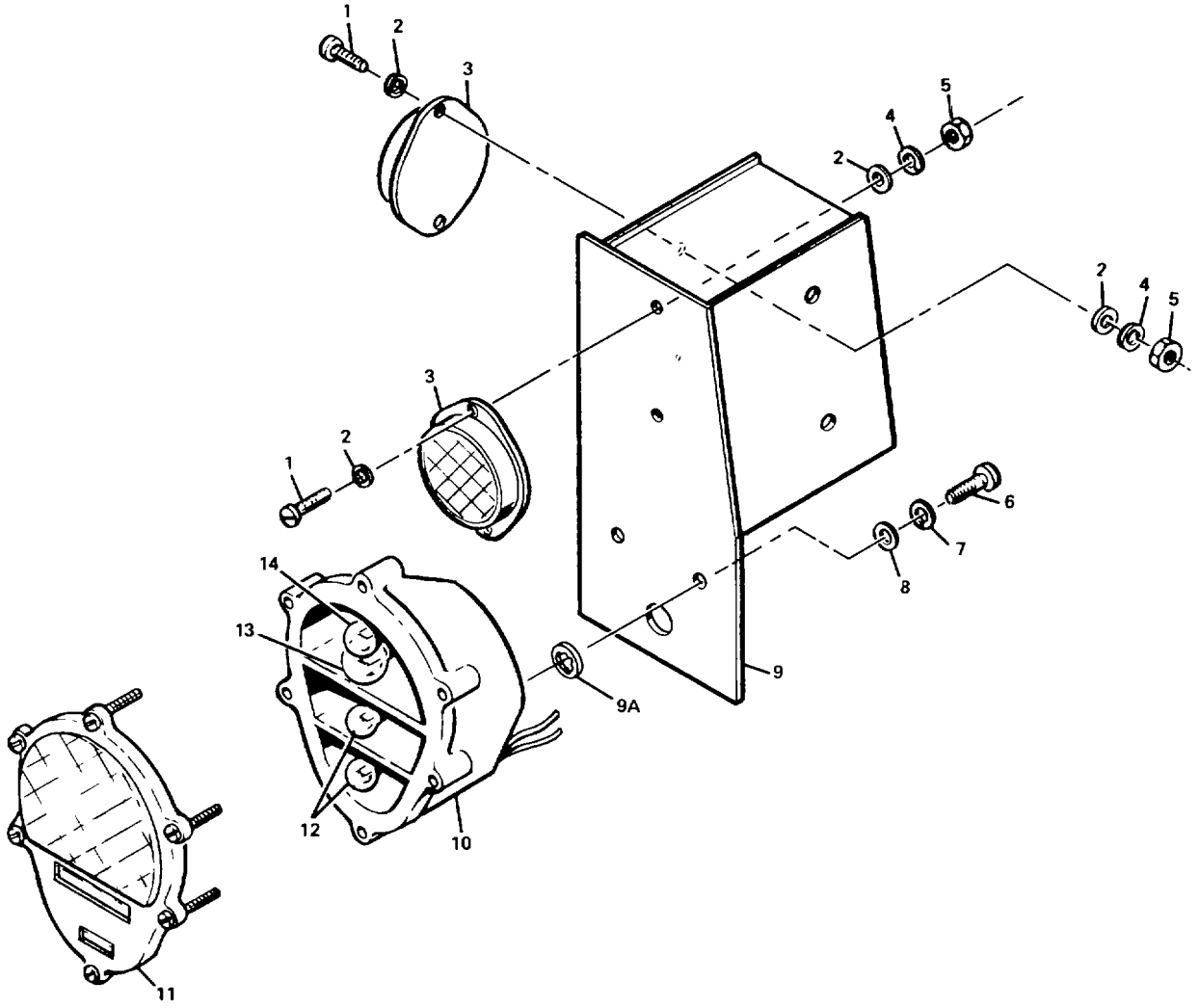



*Figure F-17. Tail Light Assembly (Roadside)*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 0113 TAIL LIGHT ASSEMBLY (ROADSIDE) | |
| | | | | GROUP 011301 LAMP ASSEMBLY | |
| | | | | FIGURE 17 | |
| 3 | PAOZZ | 96906 | MS35387-1 | REFLECTOR,INDICATIN ..... | 2 |
| 10 | PAOOO | 19207 | 11614157 | STOP LIGHT ASSEMBLY..... (SEE FIGURE 17 FOR PARTS BREAKDOWN) ..... | 1 |
| 11 | PAOZZ | 19207 | 11639535 | LENS,LIGHT .....(PART OF GROUP 011301) | 1 |
| 12 | PAOZZ | 96906 | MS15570-1251 | LAMP,INCANDESCENT..... (PART OF GROUP 011301) ..... | 2 |
| 13 | PAOZZ | 96906 | MS35478-1683 | LAMP,INCANDESCENT..... (PART OF GROUP 011301)..... | 1 |
| 14 | PAOZZ | 96906 | MS15570-623 | LAMP,INCANDESCENT..... (PART OF GROUP 011301)..... | 1 |
| | | | | END OF FIGURE | |

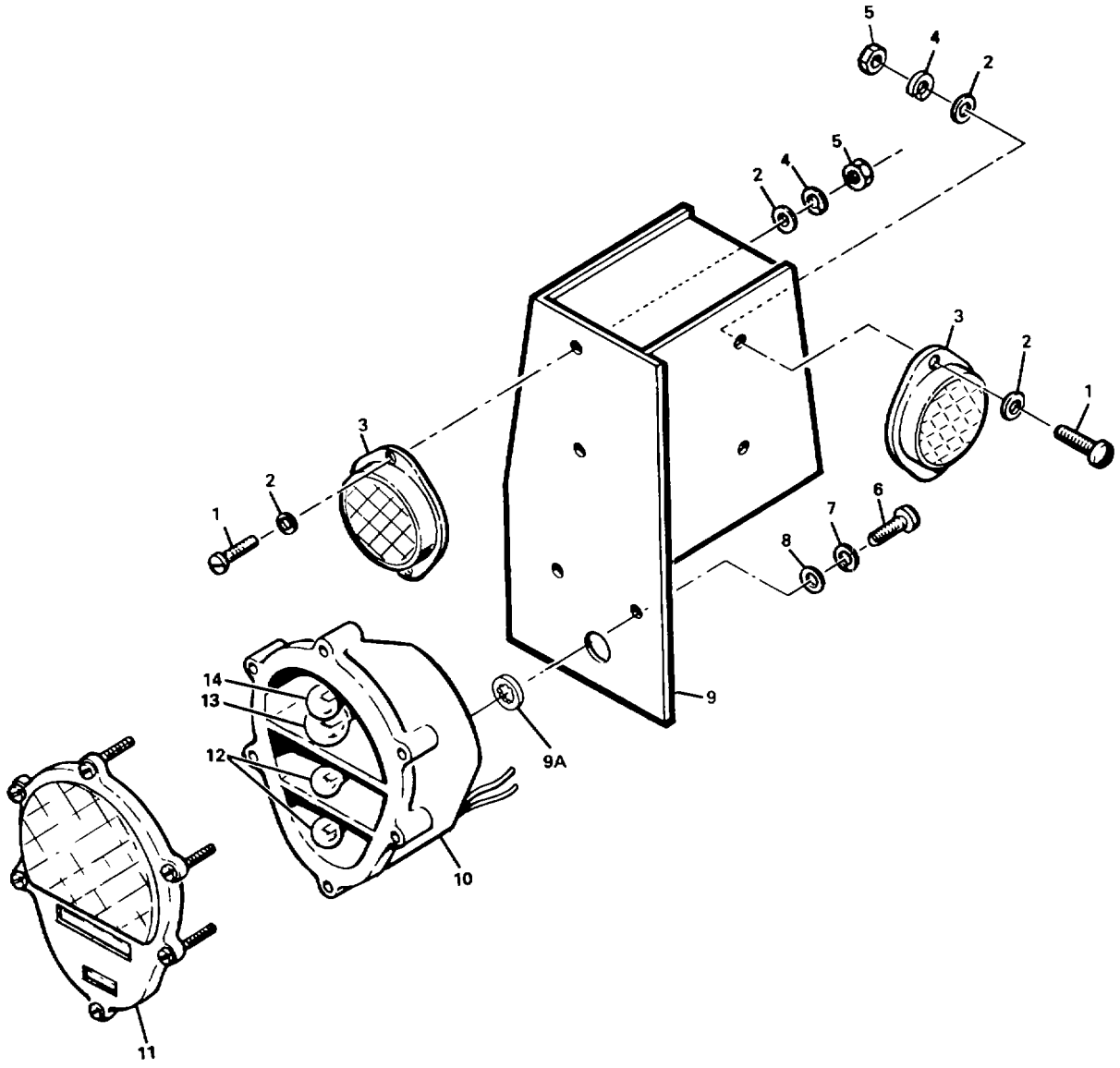



*Figure F-18. Tail Light Assembly (Curbside)*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 0114 TAIL LIGHT ASSEMBLY (CURBSIDE) | |
| | | | | GROUP 011401 LAMP ASSEMBLY | |
| | | | | FIGURE 18 | |
| 3 | PAOZZ | 96906 | M535387-1 | REFLECTOR,INDICATIN | 2 |
| 10 | PAOOO | 19207 | 11614157 | STOP LIGHT ASSEMBLY (SEE FIGURE 18 FOR PARTS BREAKDOWN) | 1 |
| 11 | PAOZZ | 19207 | 11639535 | LENS,LIGHT (PART OF GROUP 011401) | 1 |
| 12 | PAOZZ | 96906 | MS15570-1251 | LAMP,INCANDESCENT (PART OF GROUP 011401) | 2 |
| 13 | PAOZZ | 96906 | MS35478-1683 | LAMP,INCANDESCENT (PART OF GROUP 011401) | 1 |
| 14 | PAOZZ | 96906 | MS15570-623 | LAMP,INCANDESCENT (PART OF GROUP 011401) | 1 |
| | | | | END OF FIGURE | |

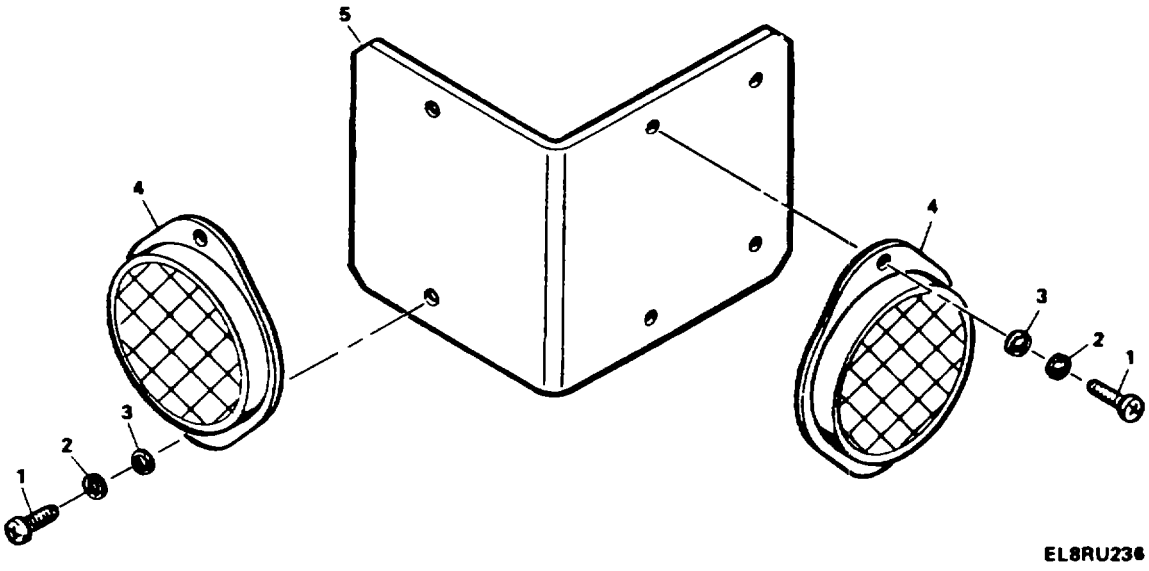



*Figure F-19. Reflector Assembly*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 0115 REFLECTOR ASSEMBLY | |
| | | | | FIGURE 19 | |
| 4 | PAOZZ | 96906 | M535387-2 | REFLECTOR,INDICATIN ..... | 2 |
| | | | | END OF FIGURE | |

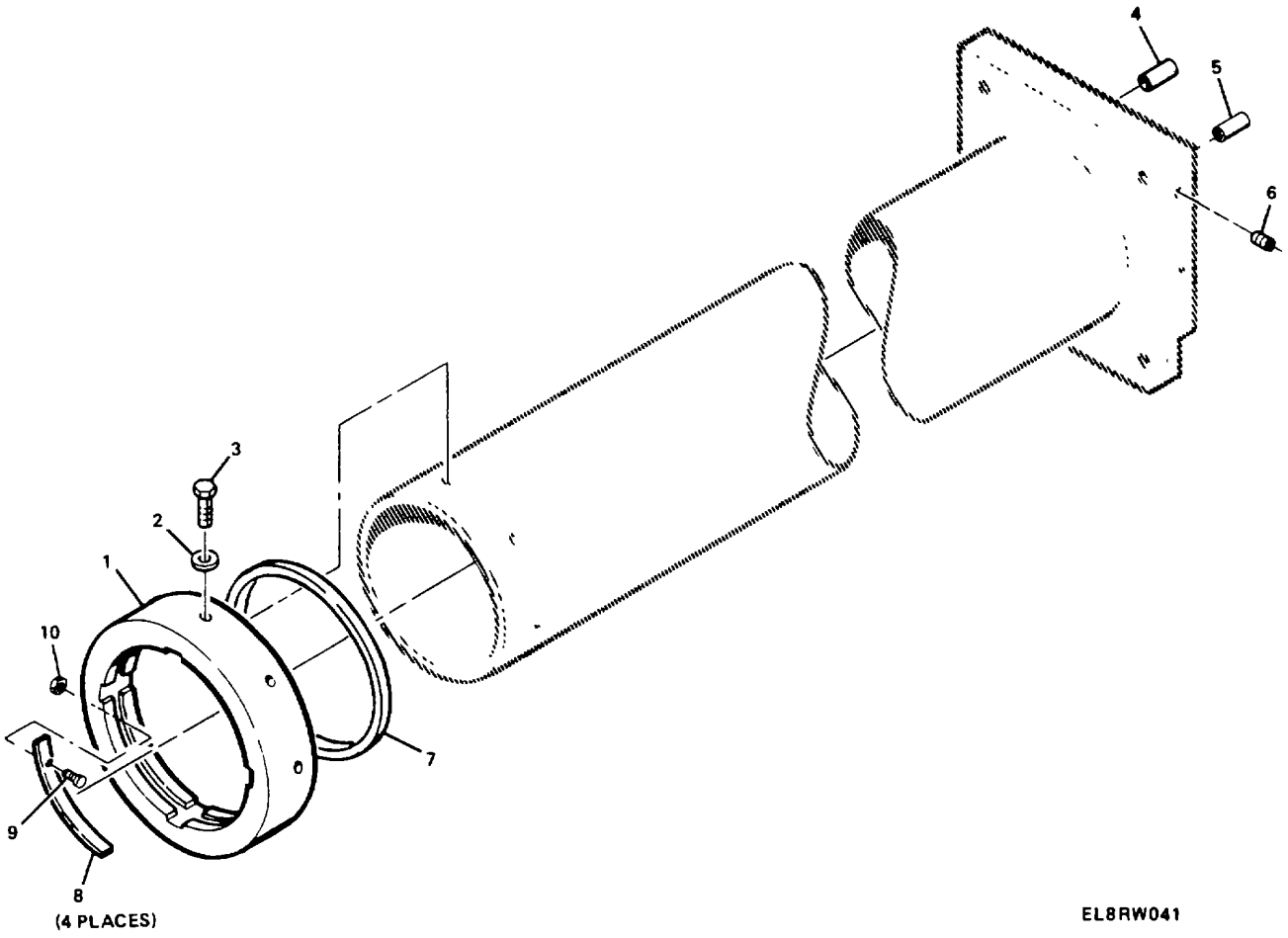
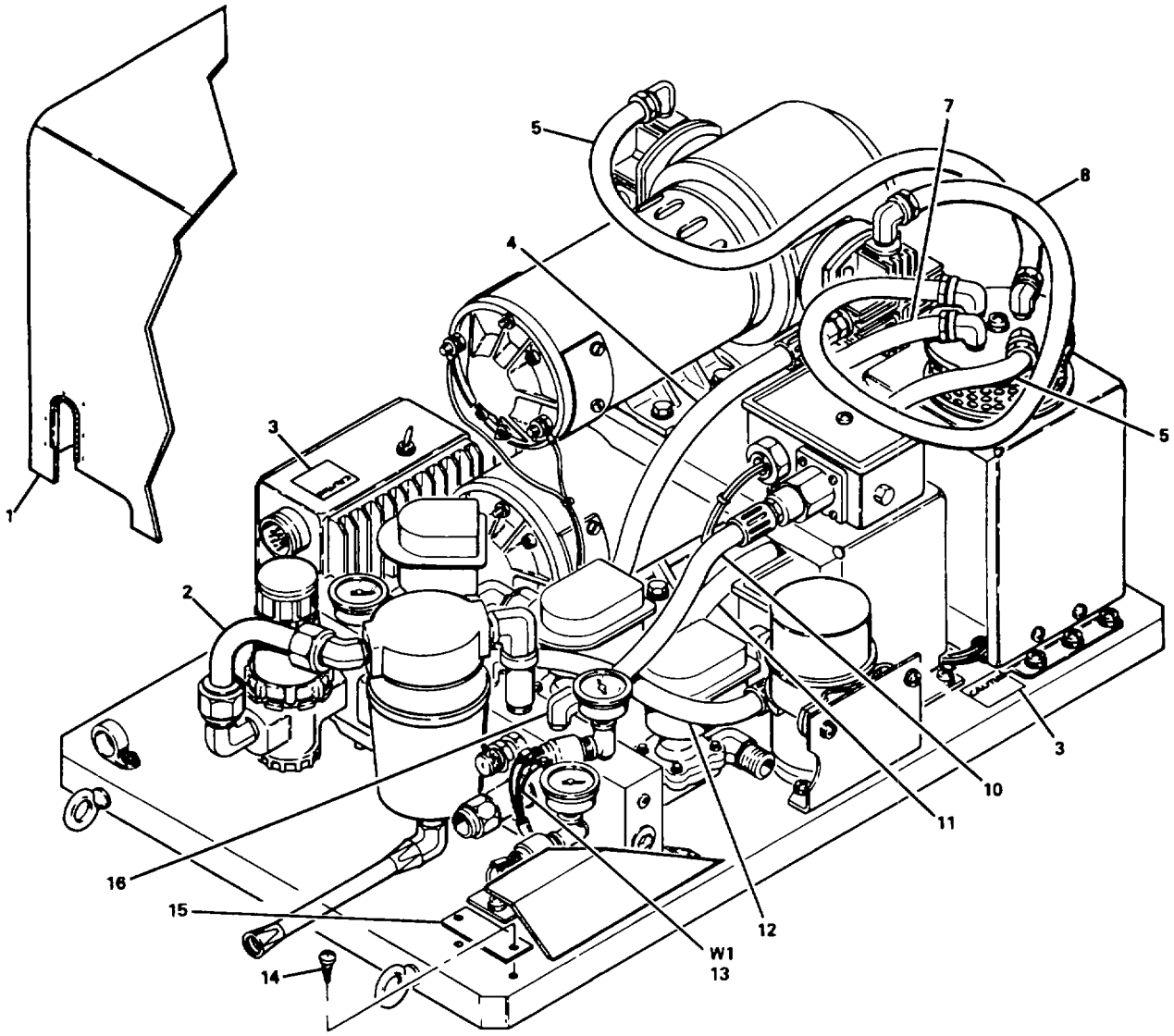



*Figure F-24. Mast Section No. 1*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 0201 MAST SECTION NO 1 | |
| | | | | FIGURE 24 | |
| 4 | PAOZZ | 96906 | MS49005-8C | PLUG,PIPE | 1 |
| 5 | PAOZZ | 96906 | MS49005-10C | PLUG,PIPE | 1 |
| | | | | END OF FIGURE | |




ITEM 6 AND 9
NOT USED

PREFIX REFERENCE
DESIGNATIONS WITH A9 OR A15

*Figure F-30. Pneumatic Component Assembly MX-10203/G (Sheet 1 of 3)*

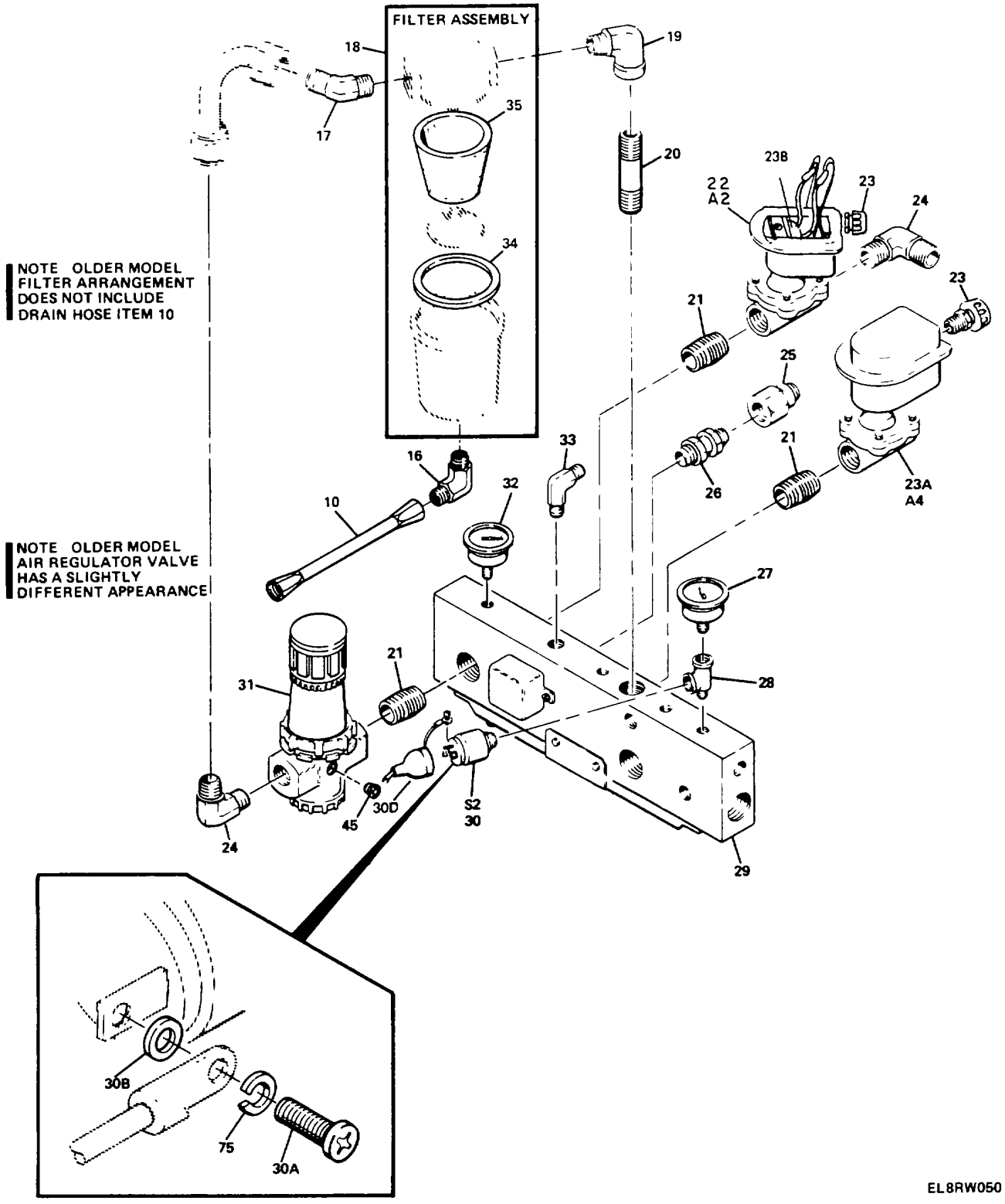



*Figure F-30. Pneumatic Component Assembly MX-10203/G (Sheet 2 of 3)*

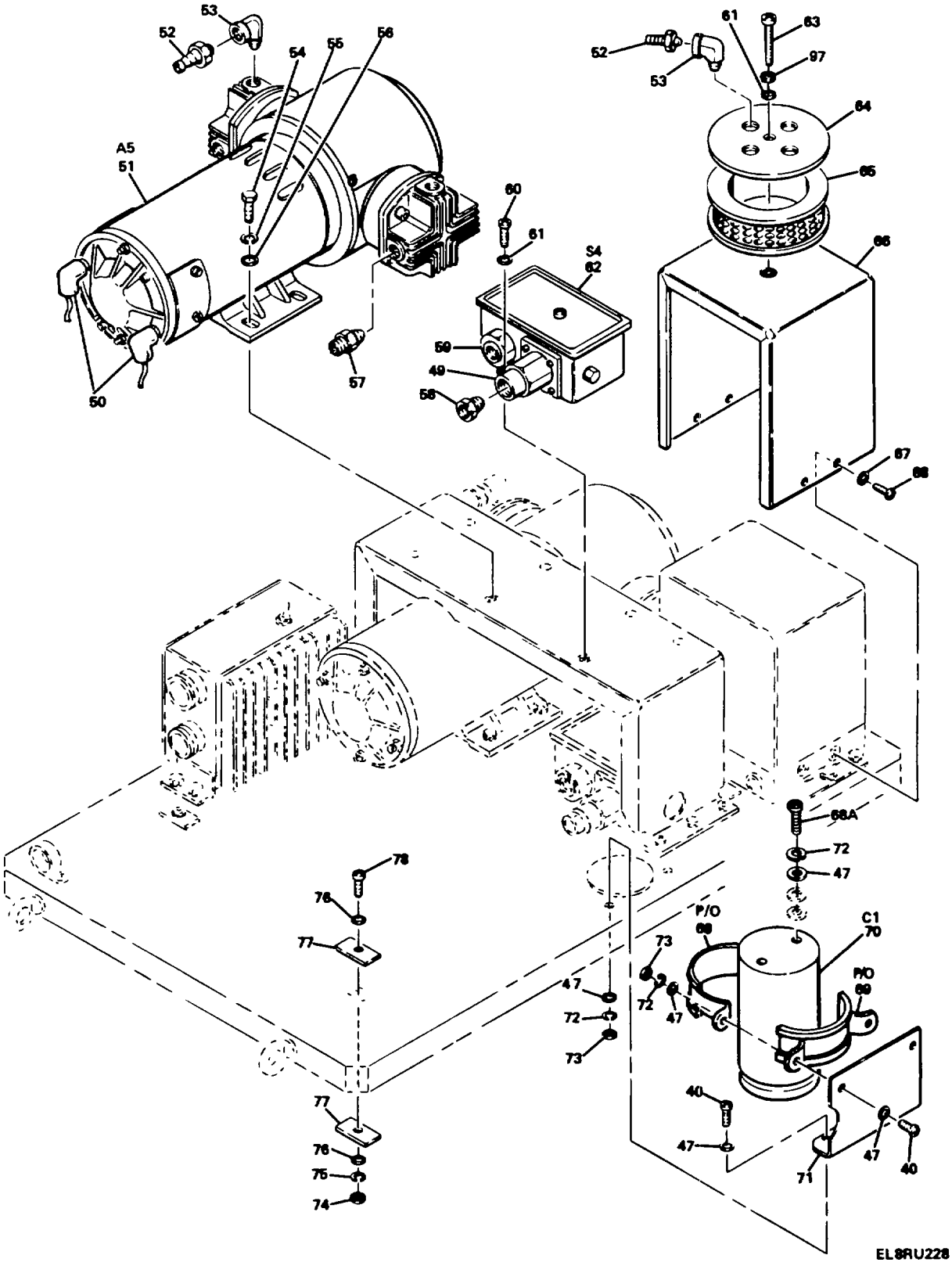



*Figure F-30. Pneumatic Component Assembly MX-10203/G (Sheet 3 of 3)*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 04 PNEUMATIC COMPONENT ASSEMBLY MX-10203/G | |
| | | | | GROUP 0401 AIR, FILTER ASSEMBLY | |
| | | | | FIGURE 30 | |
| 1 | XBOHH | 57958 | 5035460-1 | COVER.PNEU CMPT | 1 |
| 34 | PAOZZ | 43990 | 3019-06 AND 4073 -01 | PACKING ASSORTMENT, (PART OF GROUP 0401) | 1 |
| 35 | PAOZZ | 43990 | 2992-02 | FILTER ELEMENT,FLUI (PART OF GROUP 0401) | 1 |
| 61 | PAOZZ | 96906 | MS15795-810 | WASHER,FLAT | 7 |
| 63 | PAOZZ | 96906 | MS51957-89 | SCREW,MACHINE | 1 |
| 65 | PAOZZ | 52845 | 230840 | FILTER ELEMENT,FLUI | 1 |
| 96 | PAOZZ | 96906 | MS51967-2 | NUT,PLAIN,HEXAGON | 8 |
| 97 | PAOZZ | 96906 | MS35338-139 | WASHER,LOCK | 9 |
| | | | | END OF FIGURE | |

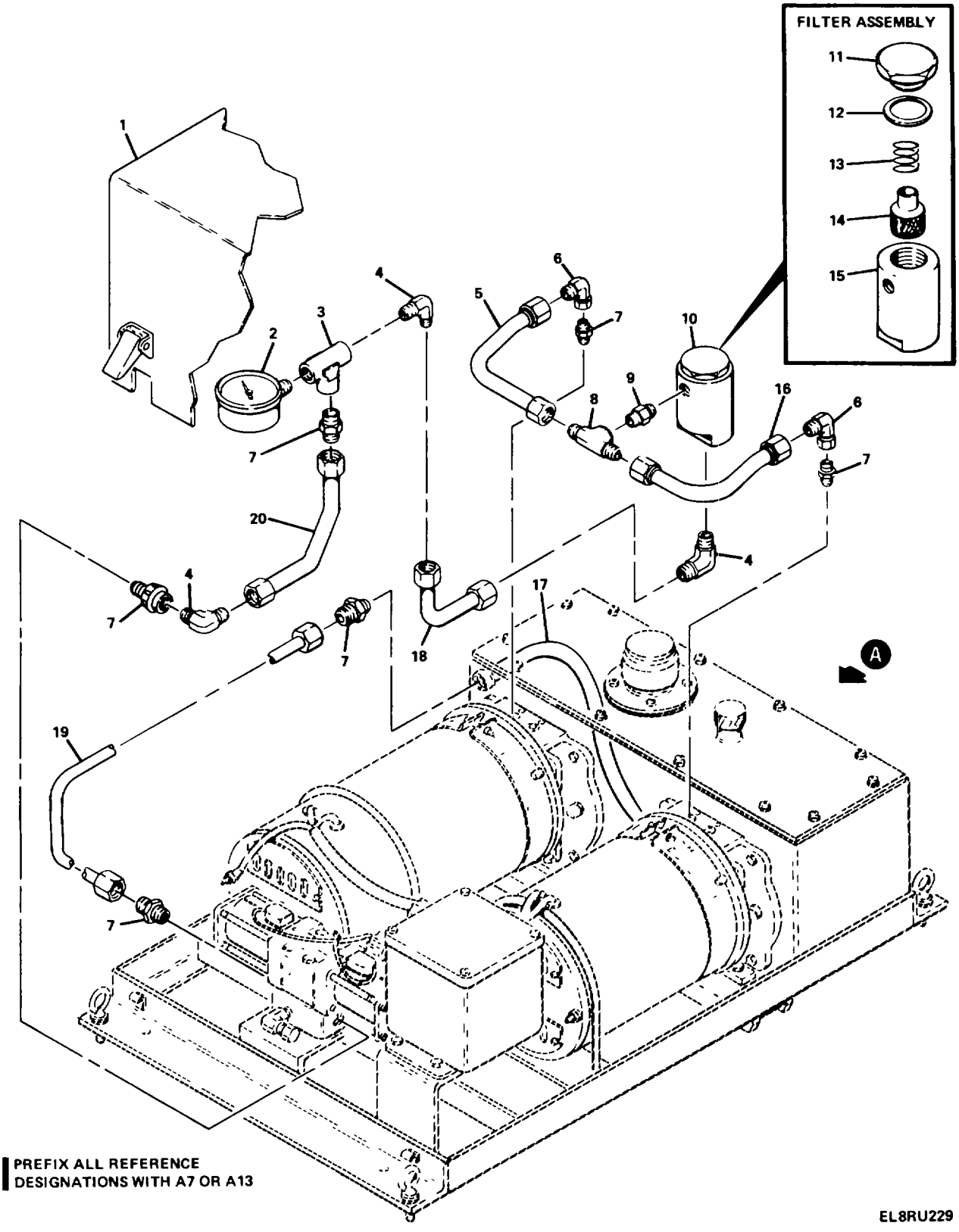



*Figure F-32. Hydraulic Component Assembly MX-10213/G (Sheet 1 of 3)*

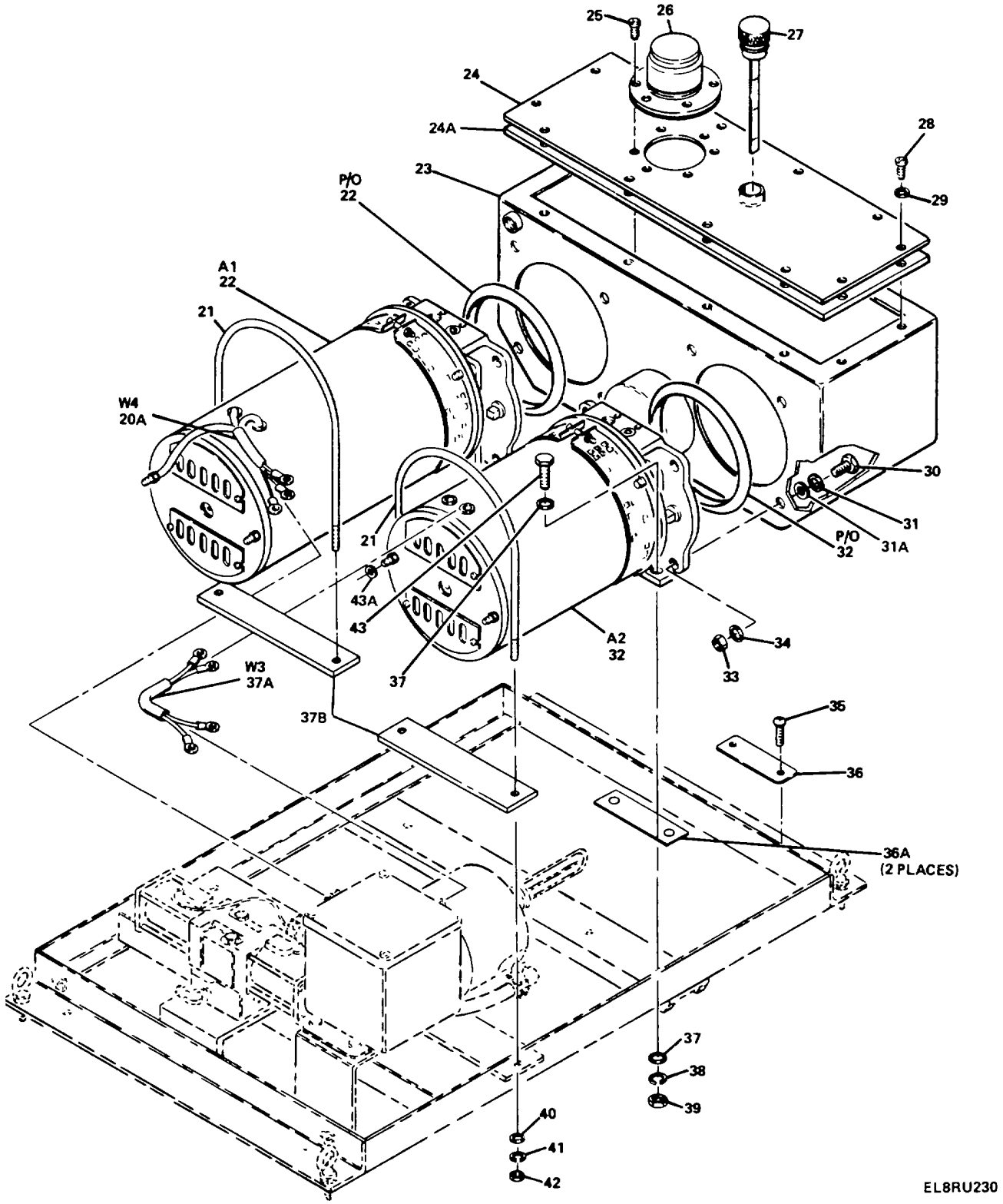



*Figure F-32. Hydraulic Component Assembly MX-10213/G (Sheet 2 of 3)*

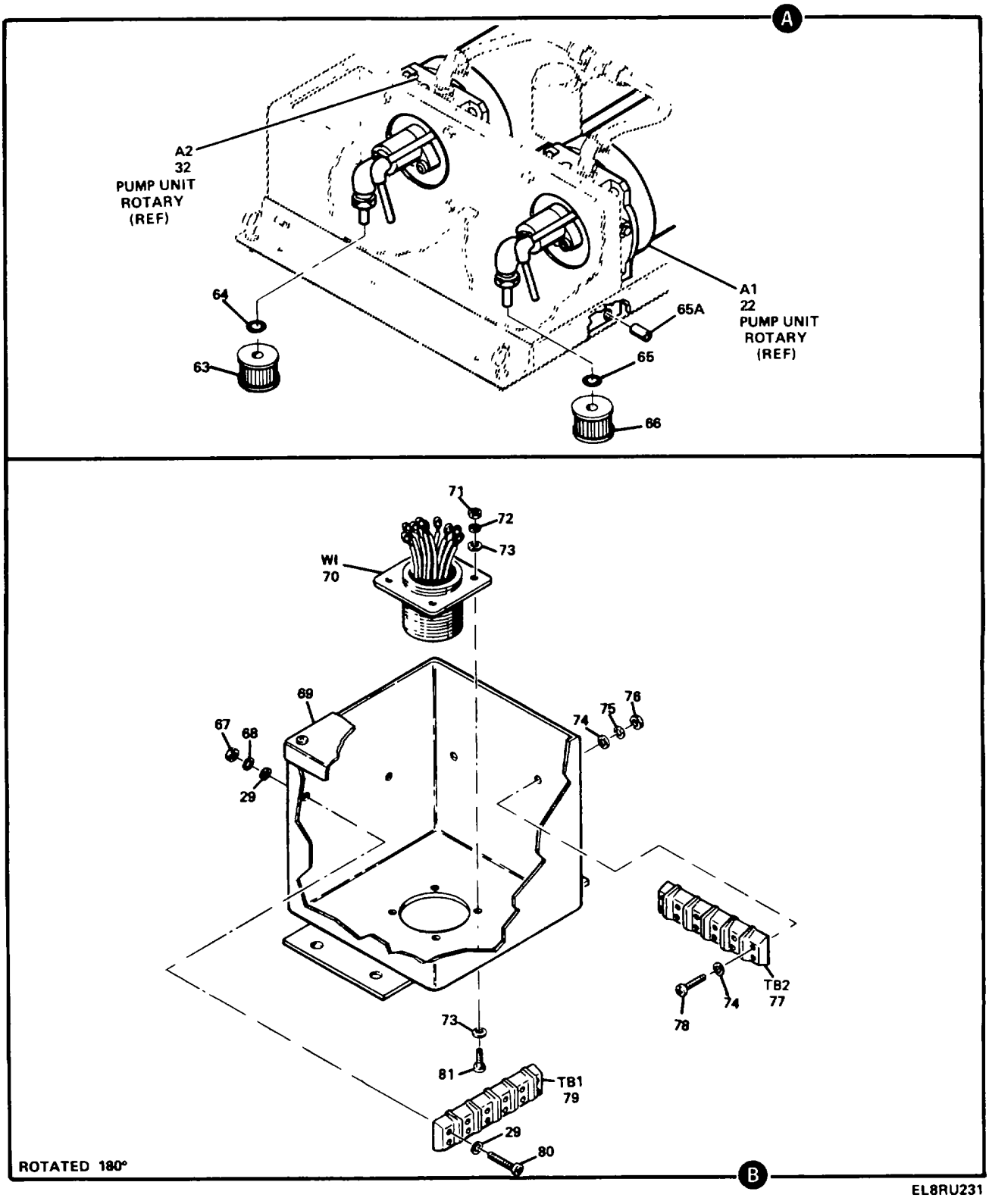
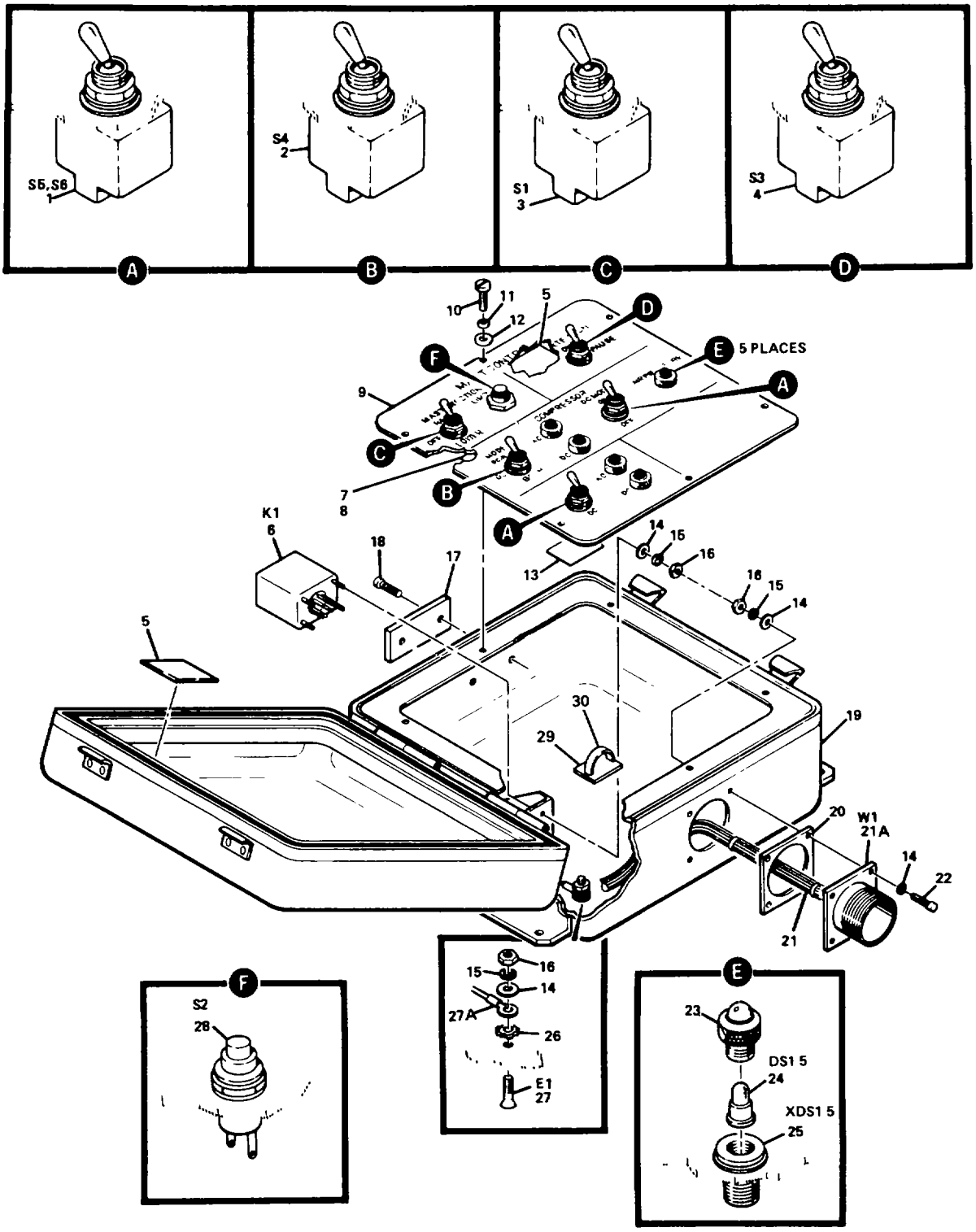



*Figure F-32. Hydraulic Component Assembly MX-10213/G (Sheet 3 of 3)*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 05 HYDRAULIC COMPONENT ASSEMBLY MX-10213/G<br>GROUP 0501 PUMP UNIT,ROTARY<br>GROUP 0502 PUMP UNIT,ROTARY<br>GROUP 0503 FILTER ASSEMBLY,FLUID | |
| | | | | FIGURE 32 | |
| 1 | XBOHH | 57958 | 50535486-1 | COV,HYDR CMPNT | 1 |
| 11 | PAOZZ | 31408 | 905202 | PLUG,END,FILTER (PART OF GROUP 0503) | 2 |
| 12 | PAOZZ | 31408 | 905207 | PACKING,PREFORMED (PART OF GROUP 0503) | 1 |
| 13 | PAOZZ | 31408 | 905203 | SPRING (PART OF GROUP 0503) | 1 |
| 14 | PAOZZ | 31408 | 905209 | FILTER ELEMENT,FLUI (PART OF GROUP 0503) | 1 |
| 24 | XBOZZ | 57958 | 5035563-1 | COVER,OIL TANK | 1 |
| 24A | PAOZZ | 57958 | 5035562-103 | GASKET | 1 |
| 27 | PAOZZ | 57958 | 5035565-1 | GAGE ROD-CAP | 1 |
| 28 | PAOZZ | 96906 | M551957-63 | SCREW,MACHINE | 12 |
| 29 | PAOZZ | 96906 | MS15795-808 | WASHER,FLAT | 16 |
| 63 | PAOZZ | 05448 | 410809 | FILTER (PART OF GROUP 0501) | 1 |
| 64 | PAOZZ | 05448 | 405226 | PACKING,PREFORMED (PART OF GROUP 0501) | 1 |
| 65 | PAOZZ | 05448 | 410809 | FILTER (PART OF GROUP 0502). | 1 |
| 65A | PAOZZ | 02978 | MS49005-4 | PLUG,PIPE | 1 |
| 66 | PAOZZ | 05448 | 405226 | PACKING,PREFORMED (PART OF GROUP 0502) | 1 |
| | | | | END OF FIGURE | |

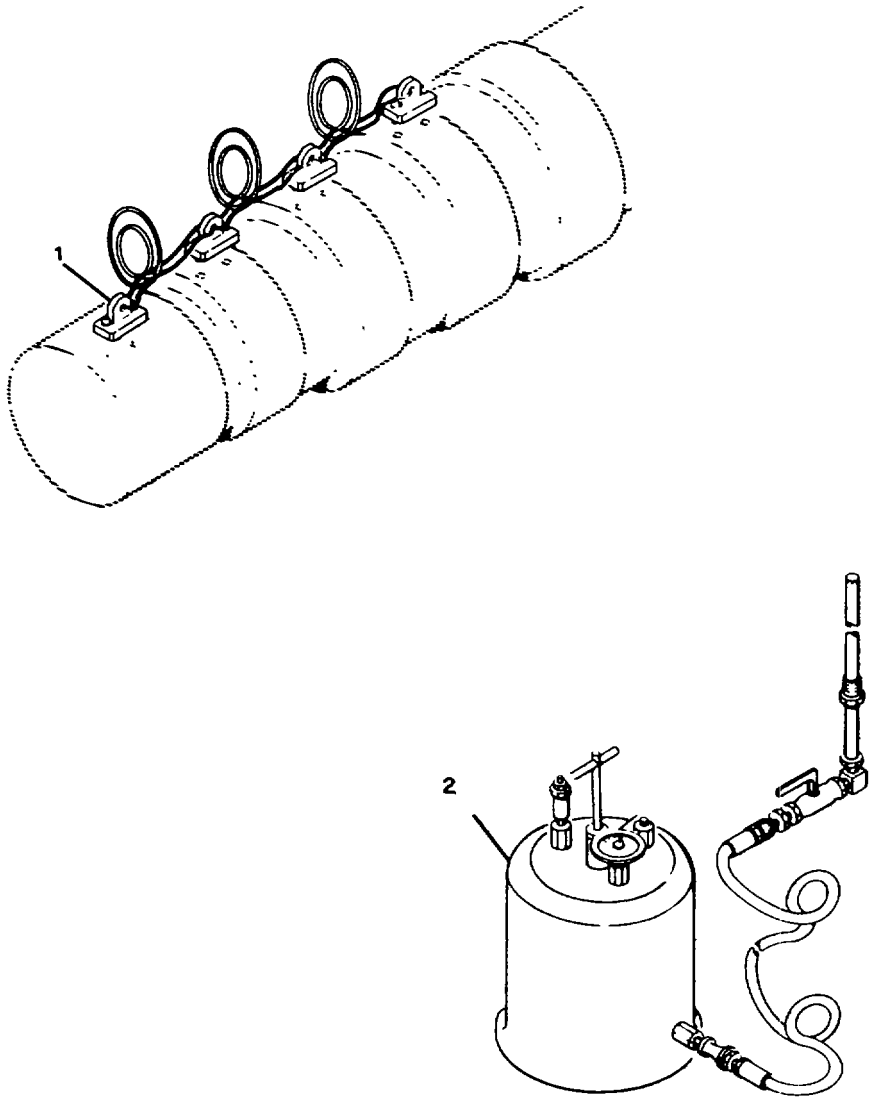



PREFIX ALL REFERENCE DESIGNATIONS WITH A6 OR A12

EL8RU232

*Figure F-34. Mast Control C-10963/G*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 06 MAST CONTROL C-10963/G | |
| | | | | FIGURE 34 | |
| 23 | PAOZZ | 81349 | LC36GD2 | LENS,LIGHT | 5 |
| 24 | PAOZZ | 96906 | M525237-387 | LAMP,INCANDESCENT | 5 |
| | | | | END OF FIGURE | |




EL8RU233

*Figure F-53. Special Tools*

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES(UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 30 SPECIAL TOOLS | |
| | | | | FIGURE 53 | |
| 1 | PEOHH | 57958 | C5078246-2 | PARTS KIT,ELECTRONI BOI = 1 AUTH PER ORGANIZATIONAL ELEMENT | |
| 2 | PEOZZ | 57958 | C5078245-2 | OILER,PNEUMATIC BOI = 1 AUTH PER ORGANIZATIONAL ELEMENT | |
| | | | | END OF FIGURE | |

## NATIONAL STOCK NUMBER AND PART NUMBERINDEX

### NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|---|
| 6240-00-019-0877 | 17 | 12 | | | |
| | 18 | 12 | | | |
| 6240-00-019-3093 | 17 | 14 | | | |
| | 18 | 14 | | | |
| 6240-00-044-6914 | 17 | 13 | | | |
| | 18 | 13 | | | |
| 5305-00-050-9229 | 32 | 28 | | | |
| 5305-00-059-3660 | 7 | 19 | | | |
| 5305-00-071-2089 | 30 | 63 | | | |
| 6210-00-151-5276 | 34 | 23 | | | |
| 6220-00-179-4324 | 17 | 11 | | | |
| | 18 | 11 | | | |
| 9905-00-202-3639 | 19 | 4 | | | |
| 9905-00-205-2795 | 17 | 3 | | | |
| | 18 | 3 | | | |
| 4330-00-429-8593 | 30 | 35 | | | |
| 5310-00-582-5677 | 30 | 61 | | | |
| 5310-00-595-6772 | 32 | 29 | | | |
| 5310-00-619-1148 | 7 | 3 | | | |
| 5310-00-761-6882 | 30 | 96 | | | |
| 6240-00-763-7744 | 34 | 24 | | | |
| 2805-00-902-5647 | 30 | 65 | | | |
| 5310-00-933-8121 | 30 | 97 | | | |
| 4730-00-954-1281 | 32 | 65A | | | |
| 5330-01-043-5576 | 32 | 64 | | | |
| | 32 | 66 | | | |
| 5330-01-045-4103 | 30 | 34 | | | |
| 6220-01-093-4439 | 17 | 10 | | | |
| | 18 | 10 | | | |
| 4730-01-107-2027 | 24 | 5 | | | |
| 2940-01-150-9593 | 32 | 63 | | | |
| | 32 | 65 | | | |
| 5330-01-161-0360 | 7 | 42 | | | |
| | 32 | 12 | | | |
| 4330-01-182-3579 | 7 | 40 | | | |
| | 32 | 14 | | | |
| 5985-01-200-9537 | 53 | 1 | | | |
| 4930-01-200-9538 | 53 | 2 | | | |
| 5360-01-207-9013 | 7 | 41 | | | |
| | 32 | 13 | | | |
| 4330-01-209-0886 | 7 | 43 | | | |
| 4330-01-209-5030 | 32 | 11 | | | |
| 5330-01-240-2681 | 32 | 24A | | | |

## NATIONAL STOCK NUMBER AND PART NUMBERINDEX

### PART NUMBER INDEX

| FSCM | PART NUMBER | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|
| 57958 | C5078245-2 | 4930-01-200-9538 | 53 | 2 |
| 57958 | C5078246-2 | 5985-01-200-9537 | 53 | 1 |
| 57958 | C5078316-1 | | 1 | 112 |
| 81349 | LC36GD2 | 6210-00-151-5276 | 34 | 23 |
| 96906 | MS15570-1251 | 6240-00-019-0877 | 17 | 12 |
| | | | 18 | 12 |
| 96906 | MS15570-623 | 6240-00-019-3093 | 17 | 14 |
| | | | 18 | 14 |
| 96906 | MS15795-808 | 5310-00-619-1148 | 7 | 3 |
| | | 5310-00-595-6772 | 32 | 29 |
| 96906 | MS15795-810 | 5310-00-582-5677 | 30 | 61 |
| 96906 | MS25237-387 | 6240-00-763-7744 | 34 | 24 |
| 96906 | M535338-139 | 5310-00-933-8121 | 30 | 97 |
| 96906 | MS35387-1 | 9905-00-205-2795 | 17 | 3 |
| | | | 18 | 3 |
| 96906 | MS35387-2 | 9905-00-202-3639 | 19 | 4 |
| 96906 | MS35478-1683 | 6240-00-044-6914 | 17 | 13 |
| | | | 18 | 13 |
| 96906 | MS49005-10C | 4730-01-107-2027 | 24 | 5 |
| 02978 | MS49005-4 | 4730-00-954-1281 | 32 | 65A |
| 96906 | MS49005-8C | | 24 | 4 |
| 96906 | MS51957-63 | 5305-00-050-9229 | 32 | 28 |
| 96906 | MS51957-89 | 5305-00-071-2089 | 30 | 63 |
| 96906 | M551958-64 | 5305-00-059-3660 | 7 | 19 |
| 96906 | MS51967-2 | 5310-00-761-6882 | 30 | 96 |
| 19207 | 11614157 | 6220-01-093-4439 | 17 | 10 |
| | | | 18 | 10 |
| 19207 | 11639535 | 6220-00-179-4324 | 17 | 11 |
| | | | 18 | 11 |
| 52845 | 230840 | 2805-00-902-5647 | 30 | 65 |
| 43990 | 2992-02 | 4330-00-429-8593 | 30 | 35 |
| 43990 | 3019-06 AND 4073 -01 | 5330-01-045-4103 | 30 | 34 |
| 05448 | 405226 | 5330-01-043-5576 | 32 | 64 |
| | | | 32 | 66 |
| 05448 | 410809 | 2940-01-150-9593 | 32 | 63 |
| | | | 32 | 65 |
| 57958 | 5035460-1 | | 30 | 1 |
| 57958 | 5035486-1 | | 32 | 1 |
| 57958 | 5035562-103 | 5330-01-240-2681 | 32 | 24A |
| 57958 | 5035563-1 | | 32 | 24 |
| 57958 | 5035565-1 | | 32 | 27 |
| 57958 | 5035659-1 | | 7 | 18 |
| 31408 | 905202 | 4330-01-209-5030 | 32 | 11 |
| 31408 | 905203 | 5360-01-207-9013 | 7 | 41 |
| | | | 32 | 13 |
| 31408 | 905207 | 5330-01-161-0360 | 7 | 42 |
| | | | 32 | 12 |
| 31408 | 905209 | 4330-01-182-3579 | 7 | 40 |
| | | | 32 | 14 |
| 31408 | 905302 | 4330-01-209-0886 | 7 | 43 |

# APPENDIX G

## TORQUE LIMITS

Table G-1 lists torque values for installing screws in tapped holes, installing standard nuts on screws and bolts, and for installing shear nuts on screws and bolts. These nominal torque values are to be used where specific torque values are not given in the maintenance procedures.

Table G-1. Torque Values

| Thread Size (Tapped Holes, Standard Nuts) | Torque (In. Lb) | Thread Size (Shear Nuts) | Torque (In. Lb) |
|---|---|---|---|
| 6-32 | 10-16 | 6-32 | 6-10 |
| 8-32 | 18-27 | 8-32 | 10-13 |
| 10-24 | 25-40 | 10-24 | 12-15 |
| 10-32 | 25-40 | 10-32 | 12-15 |
| 1/4-20 | 70-100 | 1/4-20 | 30-40 |
| 1/4-28 | 70-100 | 1/4-28 | 30-40 |
| 5/16-18 | 140-200 | 5/16-18 | 60-85 |
| 5/16-24 | 140-200 | 5/16-24 | 60-85 |
| 3/8-16 | 190-350 | 3/8-16 | 95-110 |
| 3/8-24 | 190-350 | 3/8-24 | 95-110 |
| 1/2-13 | 480-690 | 1/2-13 | 270-300 |
| 1/2-20 | 480-690 | 1/2-20 | 270-300 |
| 5/8-11 | 990-1170 | 5/8-11 | 590/700 |
| 5/8-18 | 1100-1300 | 5/8-18 | 660-780 |

# GLOSSARY

## Section I. CROSS REFERENCE LIST

| COMMON NAME | OFFICIAL NAME |
|---|---|
| Antenna Clamp | Clamp, Antenna |
| Antenna Protective Cover Pump | Hydraulic Component Assembly |
| Antenna Protective Cover | Cover, Protective |
| Antitorque Plate | Plate, Keyway, Antitorque |
| Automatic Drain Line | Hose Assembly |
| Distribution Box | Distribution Box J-3747A/G |
| HCA Protective Covers | Cover, Hydraulic Component |
| Hydraulic Component Assembly (HCA) | Hydraulic Component Assembly MX-10213/G |
| Hydraulic Cylinder | Cylinder, Actuating, Linear |
| Mast | Mast-Pneumatic -72 ft. AB-1294A/G |
| Mast Clamp | Clamp, Mast |
| Mast Control | Control, Mast C-10963/G |
| Mast Group | Mast Group, Hydraulic-Pneumatic OA-9054(V)4/G |
| Mast Protective Covers | Cover, Protective-Mast |
| PCA Protective Covers | Cover, Protective |
| Pneumatic Component Assembly (PCA) | Pneumatic Component Assembly MX-10203/G |
| Automatic Drain Line | Hose Assembly |

## Section II. ABBREVIATIONS

| | |
|---|---|
| ac | Alternating current |
| amp | Amperage |
| appx | Appendix |
| attn | Attention |
| BII | Basic issue items |
| BOI | Basis of issue |
| CRG | Communications relay group |
| dc | Direct current |
| DISREP | Discrepancy in shipment report |
| DMWR | Depot maintenance work requirement |
| ea | Each |

| | |
|---|---|
| eg | For example |
| EIR | Equipment improvement recommendations |
| ECS | Engagement control station |
| F | Fahrenheit |
| fig | Figure |
| Fltr | Filter |
| FSCM | Federal supply code for manufacturer |
| gal | gallons |
| HCA | Hydraulic components assembly |
| Hd | Head |
| ICC | Information and coordination central |
| ie | that is |
| Illus | Illustration |
| in | Inch |
| MAC | Maintenance allocation chart |
| Mach | Machine |
| mph | miles per hour |
| NIIN | National identification number |
| NSN | National stock number |
| PCA | Pneumatic components assembly |
| P/N | Part number |
| psi | Pound-force per square inch |
| Qty rqr | Quantity required |
| ROD | Report of discrepancy |
| RPSTL | Repair parts and special tools list |
| scr | screw |
| SMR | Source, maintainability, recoverability |
| TAMMS | The Army Maintenance Management System |
| TMDE | Test, measurement and diagnostic equipment |
| U/M | Unit of measure |
| UUT | Unit under test |
| Vdc | Volt direct current |

## Section III. DEFININTION OF UNUSUAL TERMS

| | | |
|---|---|---|
| Roadside | - | The left side of the vehicle as viewed from the rear. |
| Curbside | - | The right side of the vehicle as viewed from the rear. |
| Class I leak | - | Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops. |
| Class II leak | - | Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected. |
| Class III leak | - | Leakage of fluid great enough to form drops that fall from the item being checked/inspected. |
| Shelter | - | Engagement control station, information and coordination central, or communications relay group. The shelter provides ac power to the mast group and controls some antenna functions. |

## ALPHABETICAL INDEX

## ALPHABETICAL INDEX

**Subject, Page**



**Subject, Page**

## ALPHABETICAL INDEX

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# CONVERSION TO/FROM METRIC MEASURES

| SYMBOL GIVEN → | MULTIPLY BY → ←FROM METRIC | TO OBTAIN | SYMBOL |
|---|---|---|---|
| **LENGTH** | | | |
| in | 25.4* | millimeters | mm |
| ft | 30.48* | centimeters | cm |
| yd | 0.9144* | meters | m |
| mi | 1.609 | kilometers | km |
| nmi | 1.852* | kilometers | km |
| micron | 1.0* | micrometers | μm |
| Å | 0.1* | nanometers | nm |
| **AREA** | | | |
| cmil | 0.0005067 | sq millimeters | $mm^2$ |
| $in^2$ | 6.452 | sq centimeters | $cm^2$ |
| $ft^2$ | 0.09290 | sq meters | $m^2$ |
| $yd^2$ | 0.8361 | sq meters | $m^2$ |
| $mi^2$ | 2.590 | sq kilometers | $km^2$ |
| acres | 0.4047 | hectares($10^4 M^2$) | ha |
| **VOLUME** | | | |
| fl oz | 29.57 | cubic cm (milliliters) | $cm^3$ or ml |
| gal | 3.785 | liters | l |
| gal | 4.546 | liters | l |
| $in^3$ | 16.39 | cu centimeters | $cm^3$ |
| $ft^3$ | 0.02832 | cubic meters | $m^3$ |
| $yd^3$ | 0.7646 | cubic meters | $m^3$ |
| bbl | 0.1590 | cubic meters | $m^3$ |
| acre feet | 1233.5 | cubic meters | $m^3$ |
| **SPEED** | | | |
| ft/min | 5.080* | millimeters per second | mm/s |
| mi/h | 0.4470 | meters per sec | m/s |
| km/h | 0.2778 | meters per sec | m/s |
| kn | 0.5144 | meters per sec | m/s |
| **MASS** | | | |
| oz | 28.35 | grams | g |
| lb | 0.4536 | kilograms | kg |
| ton | 0.9072 | metric tons (1000kg) | t |
| **DENSITY** | | | |
| $lb/ft^3$ | 16.02 | kilograms per cubic meter | $kg/m^3$ |

| SYMBOL TO OBTAIN ← | DIVIDE BY ← FROM METRIC | GIVEN | SYMBOL |
|---|---|---|---|

Conversion FROM Metric Measures

| SYMBOL GIVEN → | TO METRIC → MULTIPLY BY → ←FROM METRIC | TO OBTAIN | SYMBOL |
|---|---|---|---|
| **FORCE** | | | |
| $oz_f$ | 0.2780 | newtons | N |
| $lb_f$ | 4.448 | newtons | N |
| $kg_f$ | 9.807 | newtons | N |
| dyn | $10^{-5}$* | newtons | N |
| **WORK, ENERGY - POWER** | | | |
| $ft\text{-}lb_f$ | 1.356 | joules | J |
| cal | 4.184* | joules | J |
| Btu | 1055 | joules | J |
| hp | 746* | watts | W |
| $ft\text{-}lb_f/s$ | 1.356 | watts | W |
| Btu/h | 0.2931 | watts | W |
| **PRESSURE** | | | |
| $lb_f/in^2$ | 6.895 | kilopascals | kPa |
| $lb_f/ft^2$ | 47.88 | pascals | Pa |
| $kg_f/m^2$ | 9.807 | pascals | Pa |
| mb | 100.0* | pascals | Pa |
| mmHg | 133.3 | pascals | Pa |
| $inH_2O$ | 0.2491 | kilopascals | kPa |
| $ftH_2O$ | 2.989 | kilopascal | kPa |
| **LIGHT** | | | |
| fc | 10.76 | lux | lx |
| fL | 3.426 | candelas per sq meter | $cd/m^2$ |

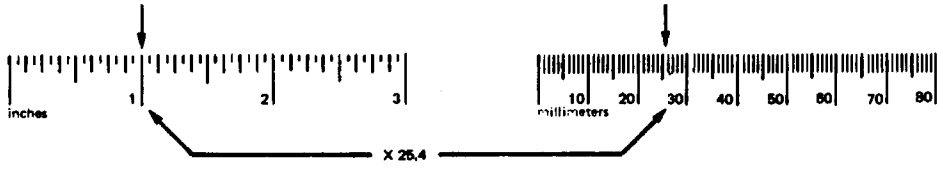
| SYMBOL TO OBTAIN ← | DIVIDE BY ← FROM METRIC | GIVEN | SYMBOL |
|---|---|---|---|

Conversion FROM Metric Measures

**TEMPERATURE**

| Symbol | Given | Compute by | To Obtain | Symbol |
|---|---|---|---|---|
| °F | °Fahrenheit | (°F−32) · 5/9 | °Celsius | °C |
| °C | °Celsius | °C · 9/5 + 32 | °Fahrenheit | °F |

*Indicates exact value 5 omit when rounding



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