PATRIOT AIR DEFENSE COMMUNICATION

OPERATORS OPERATION AND PMCS MANUAL

For 31M10/20 Personnel Working on The PATRIOT Communication System

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

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 spil 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.

OPERATORS OPERATION AND PMCS

FOR

MAST GROUP, HYDRAULIC-PNEUMATIC

OA-9054(V)4/G

TABLE OF CONTENTS

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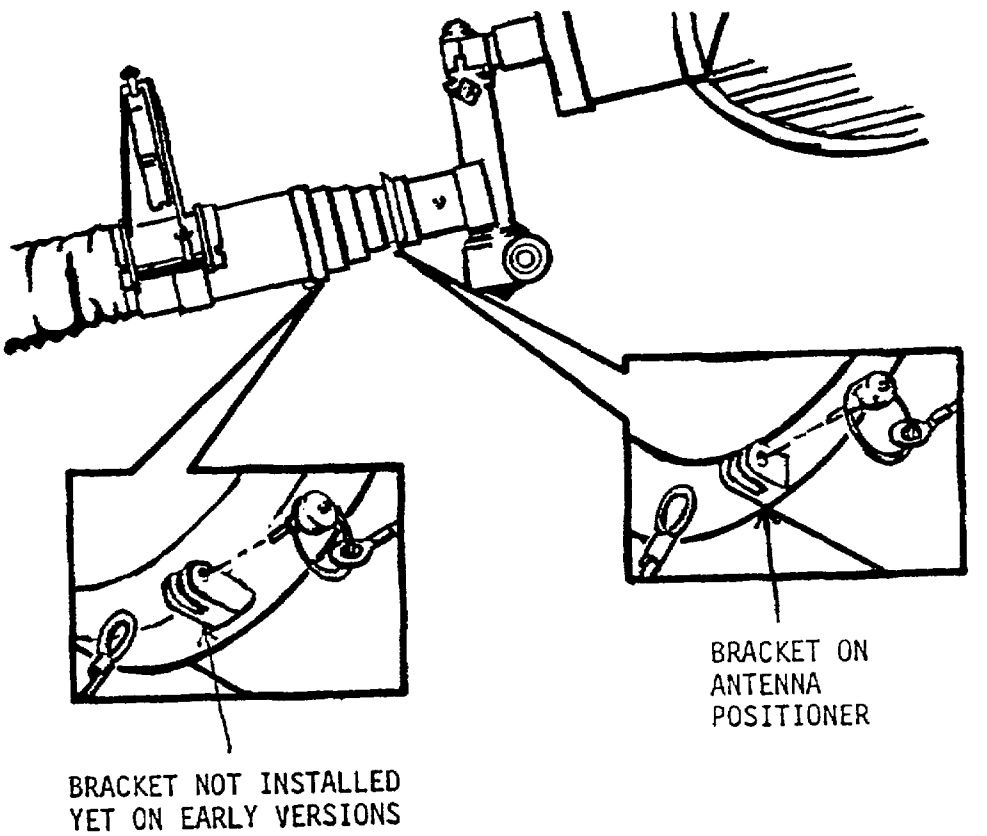
STATEMENT TO ACCOMPANY CDC/SDC -12&P MANUAL

Early versions of the Antenna Mast Structure were shipped without a stowage bracket for the variable height limiter. This bracket, which is described in this manual, will be added to all systems when available. (See illustration below.) There is a bracket on the antenna positioner to which the variable height limiter cable can be attached, but only when the variable height limiter is to be deployed.

For those systems without this stowage bracket; to avoid any damage to the winch or other equipment, it is advised that the variable height limiter cable be wound on the winch drum and securely tied to either the guide roller above the winch or to the winch drum itself. This way the cable will not dangle unsecured. The normal operations procedures in paragraphs 2-15 and 2-17 can then be performed without having to reel in the winch cable or flip the winch ratchet lever. If it is desired to deploy the winch cable the procedures in paragraph 2-20 can be used.



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.

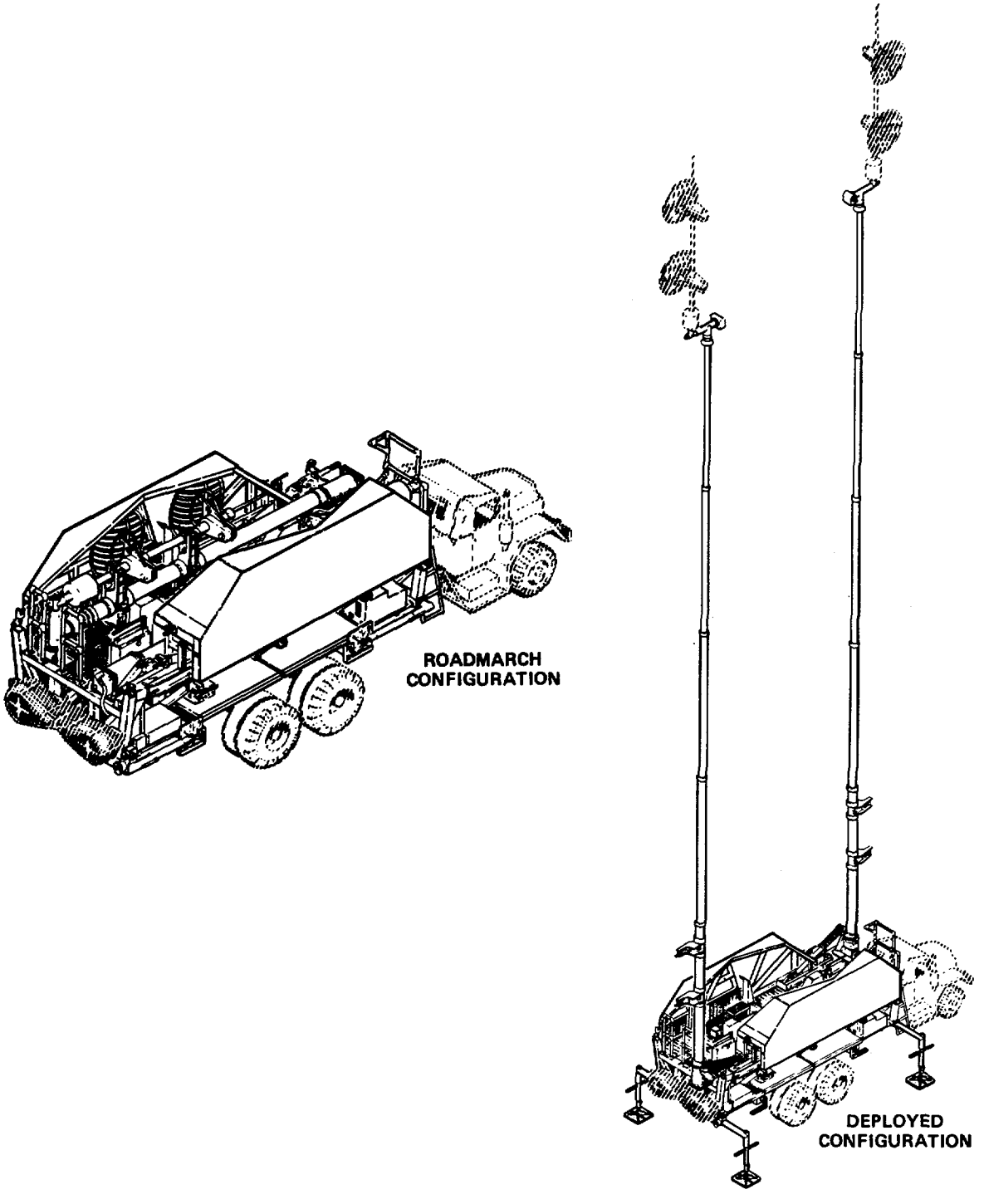


Figure 1-1. Mast Group, Hydraulic-Pneumatic, OA-9054(V)4/G

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. A Maintenance Allocation Chart (MAC) is contained in Appendix B. A Repair Parts and Special Tools List (RPSTL) is contained in Appendix E. Limitations of the equipment are listed below:

Side Winds - Masts must not be fully extended in winds greater than 37 miles per hour (mph).

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 REPORTS OF 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 TM 38-750, The Army Maintenance Management System (Army).

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/ NAVMATINST 4355.73/AFR 400-54/MCO 4430.3E.

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

1-3 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

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 what you don't like about the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army, Communications Electronics Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, New Jersey 07703. A reply will be furnished to you.

1-4 DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE

Procedures for destruction of Army material are described in Army TM-750-244-2, Destruction of Army Material to Prevent Enemy Use.

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!
- CROSS-LEVEL TRUCK TO WITHIN ONE DEGREE
- MAKE CERTAIN TRUCK'S HEADING UP OR DOWN SLOPE IS WITHIN 10 DEGREES
- LIMIT MAST HEIGHT DURING STRONG WINDS
- KNOW EXACTLY WHAT EACH CONTROL DOES AND HOW THIS EQUIPMENT OPERATES

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.

1-6 REFERENCE INFORMATION

This listing includes the nomenclature cross reference list, list of abbreviations, and explanation of terms (glossary) used in this manual.

a. NOMENCLATURE CROSS REFERENCE LIST

COMMON NAME	OFFICIAL NAME
Antenna Clamp	Clamp, Antenna
Antenna Cover Pump	Hydraulic Component Assembly
Antenna Protective Cover	Cover, Protective
Anti-Torque Plate	Plate, Keyway, Anti-Torque
Distribution Box	Distribution Box J-3747/G
HCA Protective Covers	Cover, Hydraulic Component
Hydraulic Components Assembly (HCA)	Hydraulic Component Assembly MX-10213/G
Hydraulic Cylinder	Cylinder, Actuating, Linear
Mast	Mast AB-1294/G
Mast Clamp	Clamp, Mast
Mast Control	Mast Control 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 Components Assembly (PCA)	Pneumatic Component Assembly MX-10203/G

b. LIST OF ABBREVIATIONS

AC - Alternating Current

AMPS - Amperage

CRG - Communications Relay Group

DC - Direct Current

ECS - Engagement Control Station

F - Fahrenheit

GAL - Gallons

HCA - Hydraulic Components Assembly

ICC - Information and Coordination Central

IN - Inch

LB - Pounds

MPH - Miles Per Hour

PCA - Pneumatic Components Assembly

PSI - Pounds per Square Inch

VDC - Volts Direct Current

c. GLOSSARY

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.

Section II. EQUIPMENT DESCRIPTION

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

1-7 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

CHARACTERISTICS

- MOUNTS ON M811 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 HAND-OPERATED CABLE WINCH.

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 1-10 for detailed equipment data.

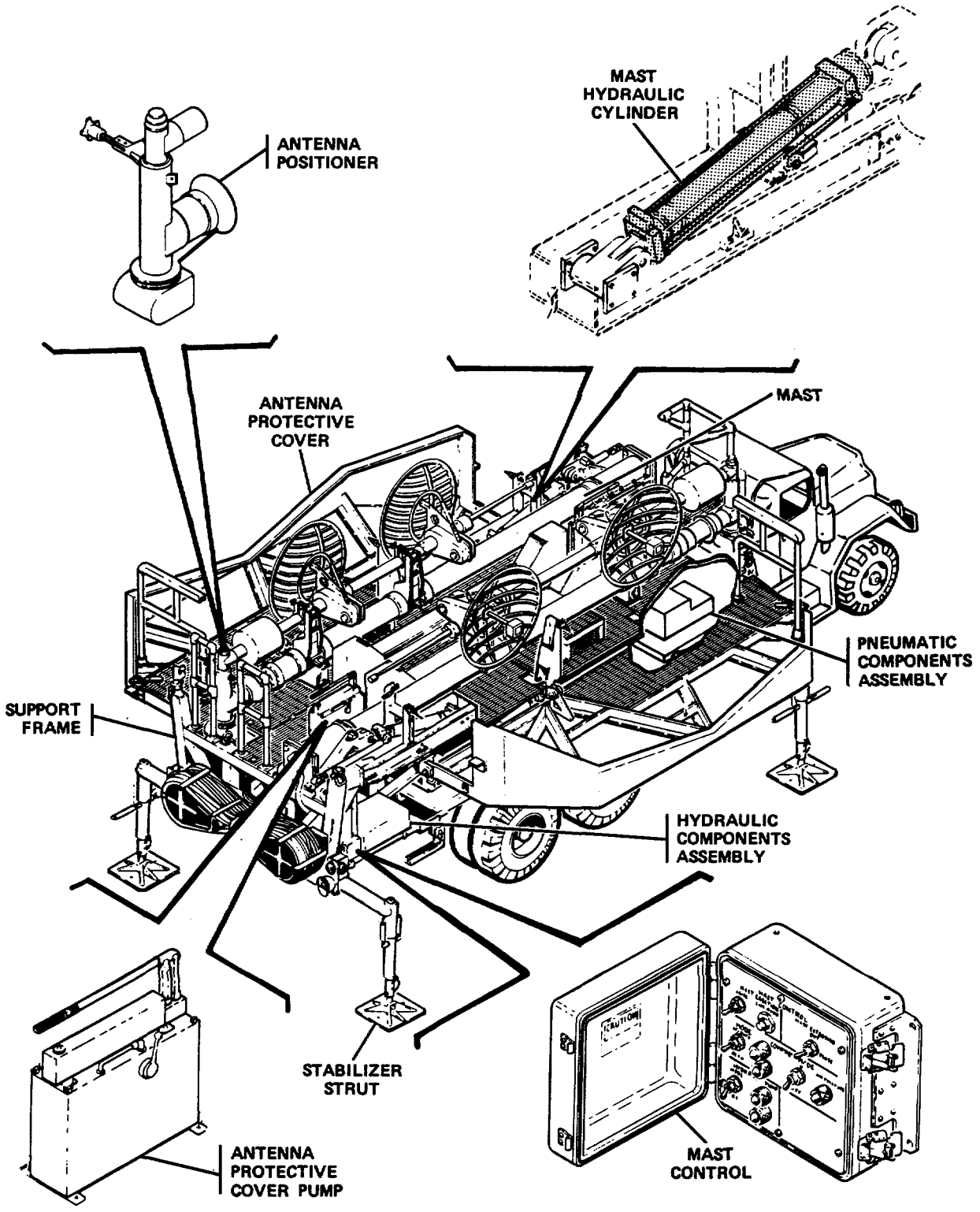


Figure 1-2. Mast Group Major Components

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

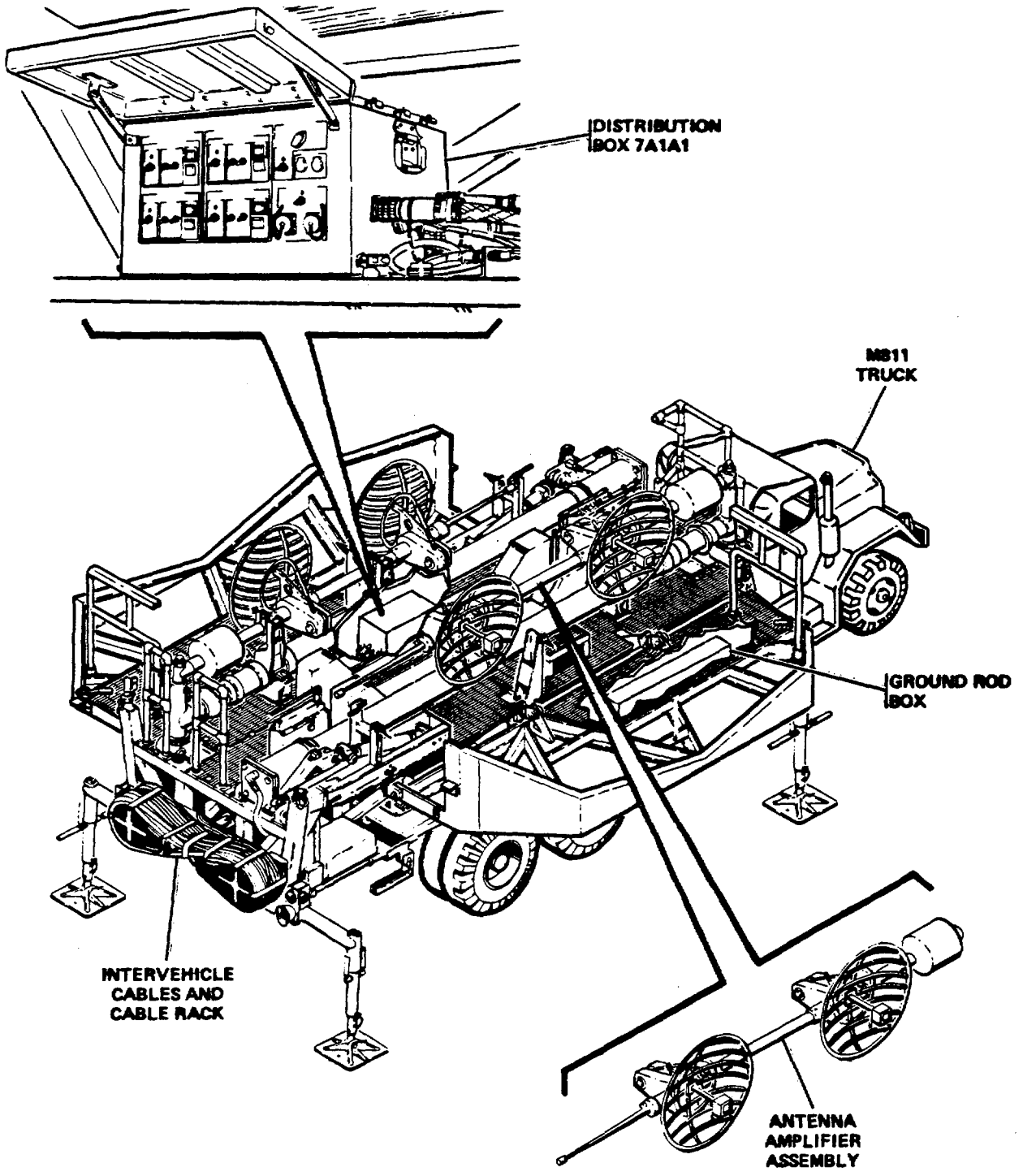


Figure 1-3. Components that are used with, but not a part of, the Mast Group

1-8 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

The following components are used with, but are not a part of, the Mast Group:

ANTENNA AMPLIFIER ASSEMBLIES

Mounts antennas and their amplifiers.

DISTRIBUTION BOX 7A1A1

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 TRUCK

Provides mobility for Mast Group. Refer to TM 9-2320-260-10 for information about the M811 truck.

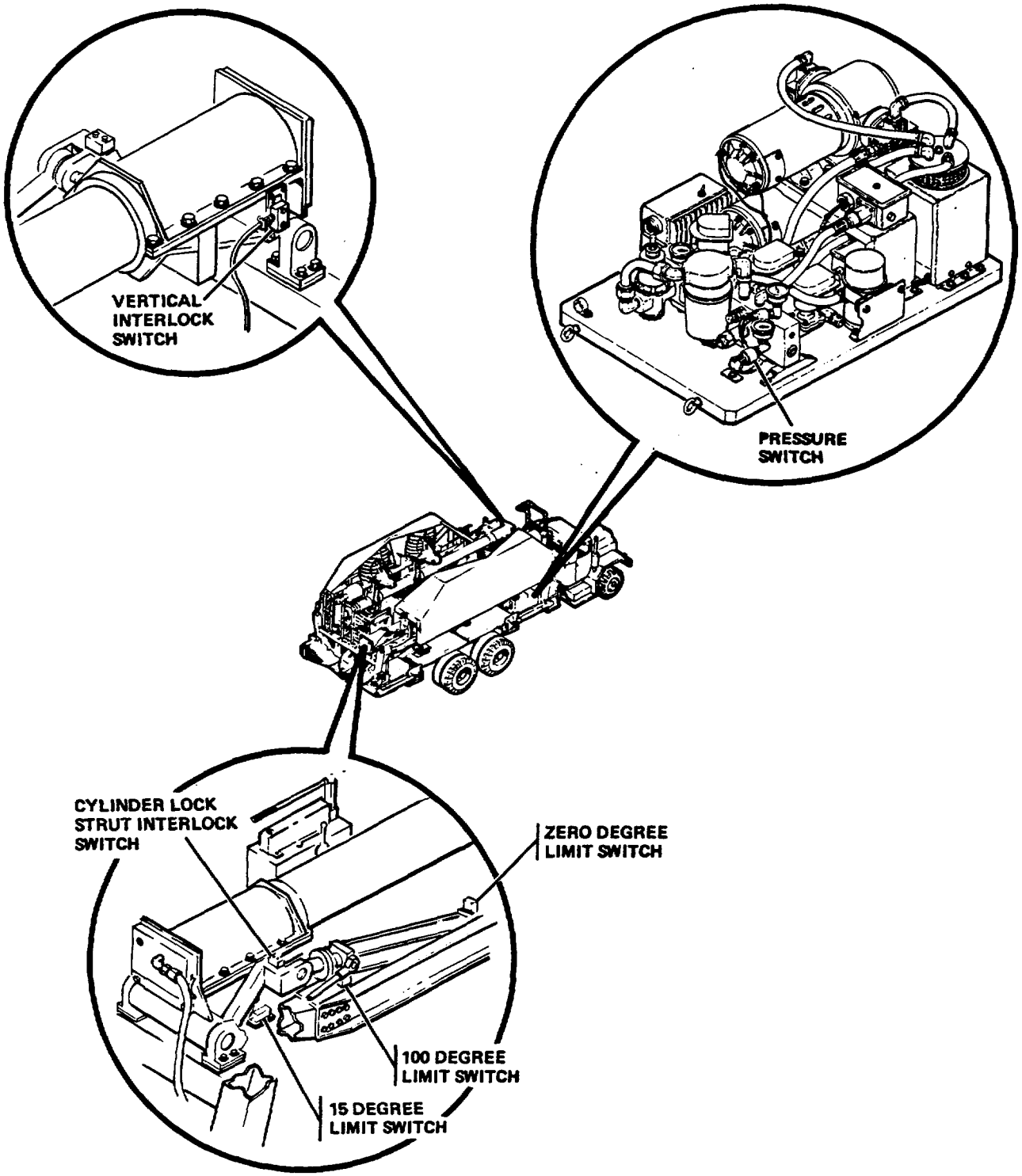


Figure 1-4. Safety Switches

1-9 SAFETY SWITCHES (FIGURE 1-4)

The following automatic switches help provide safe operation of the Mast Group:

VERTICAL INTERLOCK SWITCH

Prevents mast from being extended until it is within 5 degrees of vertical. Extending mast before it is vertical can injure personnel and damage the mast air seals and sections.

PRESSURE SWITCH

Prevents mast from being lowered or raised when mast is extended. Also acts as an anti-jog device to prevent you from "jogging" the switch back and forth, which can damage the mast.

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.

15 DEGREE LIMIT SWITCH

Stops mast from being lowered to stowed (horizontal) position at about 15 degrees. Prevents you from fully lowering the mast so you can check 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.

CYLINDER LOCK STRUT INTERLOCK SWITCH

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

1-10 TECHNICAL DATA

Technical information about your Mast Group is given in Table 1-1 below.

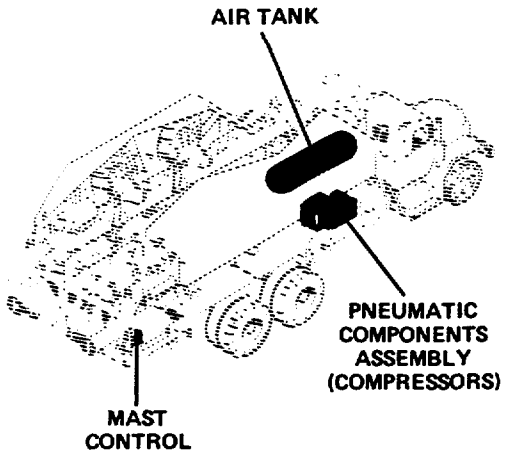
Table 1-1. TECHNICAL DATA

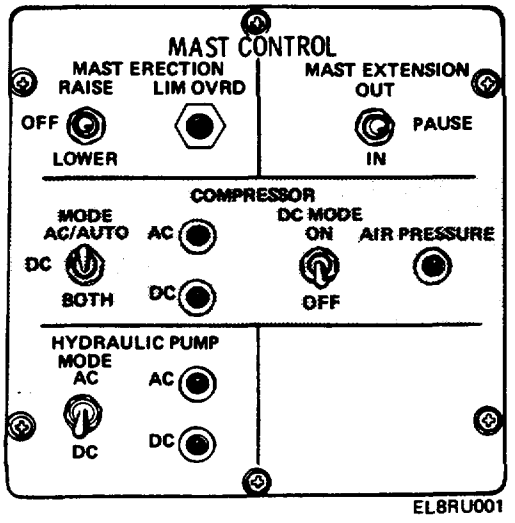
Mast Group (without truck)	
Weight	13760 lbs
Height	98.12 in.
Width	95.5 in.
Length	247.38 in.
Mast Group (with truck)	
Weight	32280 lbs
Height	142 in.
Width	95.5 in.
Length	376.88 in.
Mast Hydraulic System	
System Pressure	1400 psi
System Fluid Capacity	3 to 3.5 gal.
Mast Height (fully extended)	100 ft. 11 in.
Payload Weight (one mast, with cable)	700 lbs
Temperature Range	-50° to 160°F
Maximum Wind Speed (stowed configuration)	70 mph
Current Draw (does not include starting current)	
24 VDC	
Solenoids	2 amps
PCA	20 amps
HCA	35 amps
Total	57 amps
115 VDC	
Solenoids	0.5 amps
PCA	5 amps
PCA heater	3 amps
HCA	18 amps
HCA heater	2 amps
Total	28.5 amps

Section III. TECHNICAL PRINCIPLES OF OPERATION

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

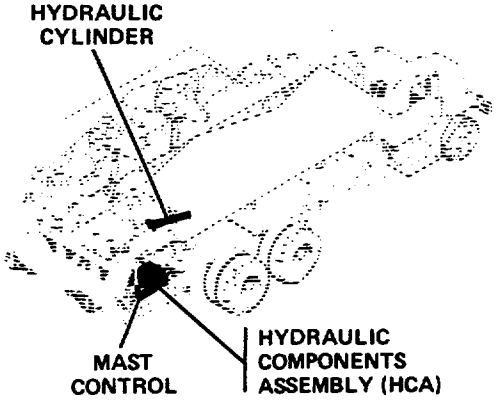
1-11 COMPRESSOR SECTION OF MAST CONTROL

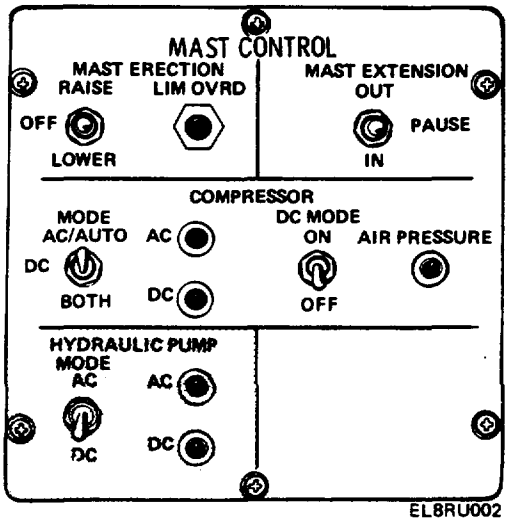




This mast control section allows you to control power to the mast compressors. The compressors supply compressed air to the air tank. Compressed air from the tank extends (telescopes) the mast. Indicator lights tell you which compressors have power and if the air tank is fully charged.

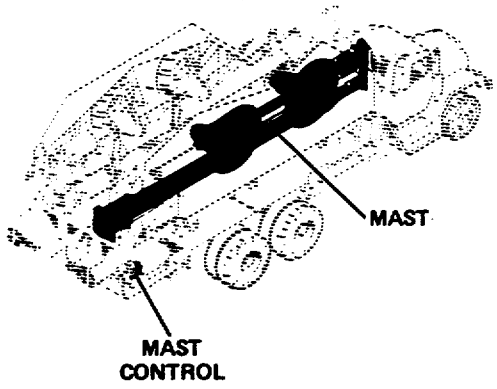
1-12 HYDRAULIC SECTION OF MAST CONTROL

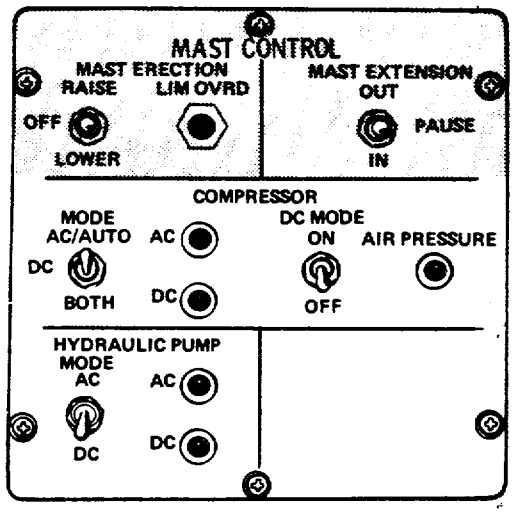




This mast control section allows you to control power to the hydraulic pumps. The pumps provide hydraulic fluid to operate the mast cylinder. The cylinder raises or lowers the mast. Indicator lights tell you which hydraulic pump has power.

1-13 MAST SECTION OF MAST CONTROL

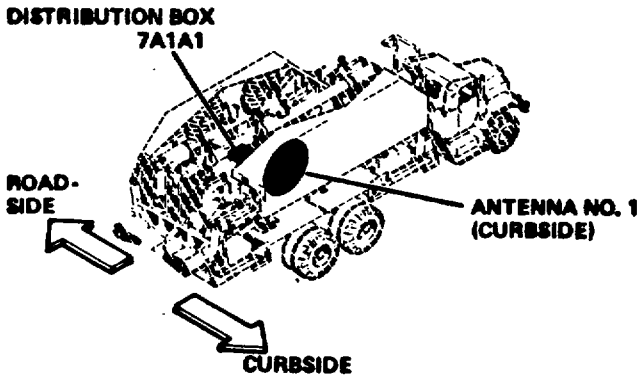




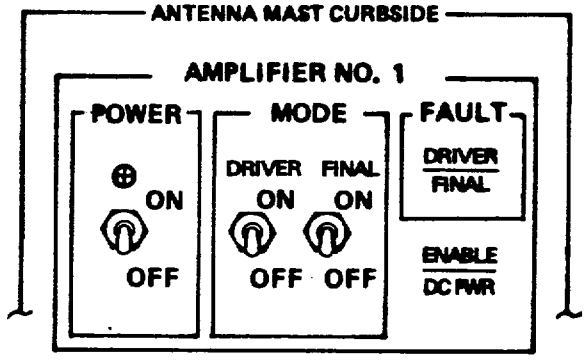
This mast control section allows you to control mast movement. A limit override switch permits you to override built-in safety features.

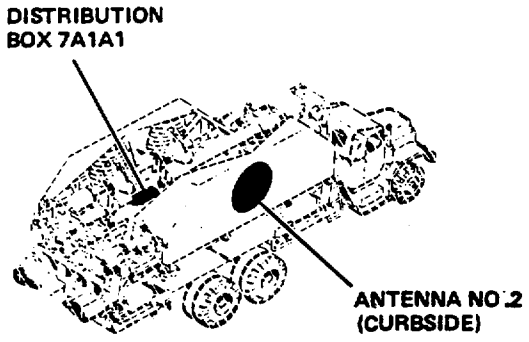
1-14 ANTENNA AMPLIFIERS - DISTRIBUTION BOX 7A1A1

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

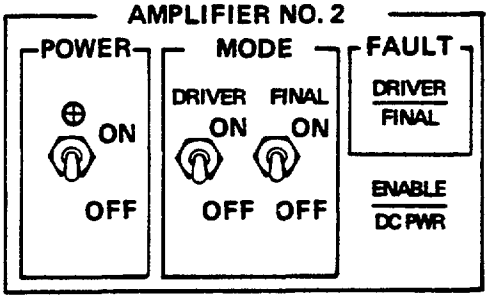


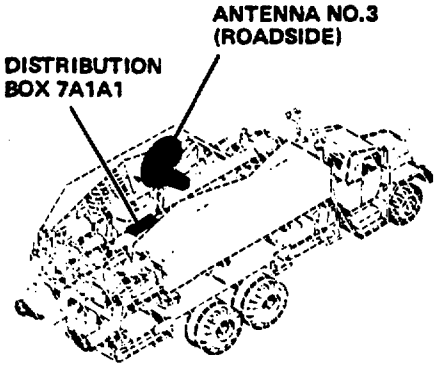
ANTENNA NO. 1 PORTION OF
DISTRIBUTION BOX 7A1A1



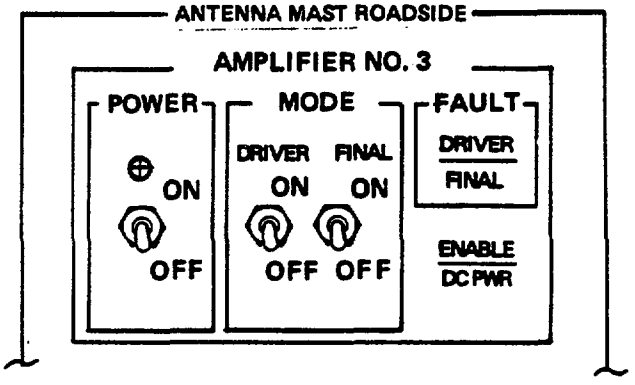


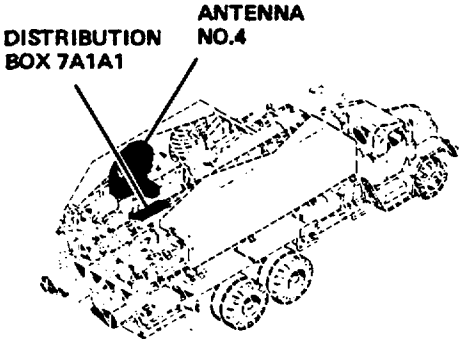
ANTENNA NO.2 PORTION OF
DISTRIBUTION BOX 7A1A1



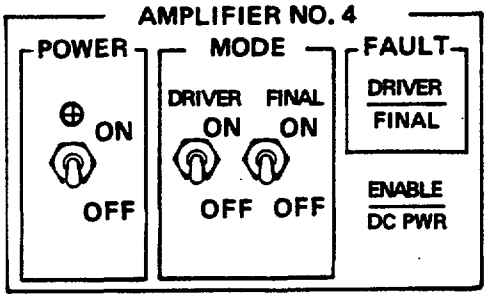


ANTENNA NO.3 PORTION OF
DISTRIBUTION BOX 7A1A1





ANTENNA NO.4 PORTION OF
DISTRIBUTION BOX 7A1A1



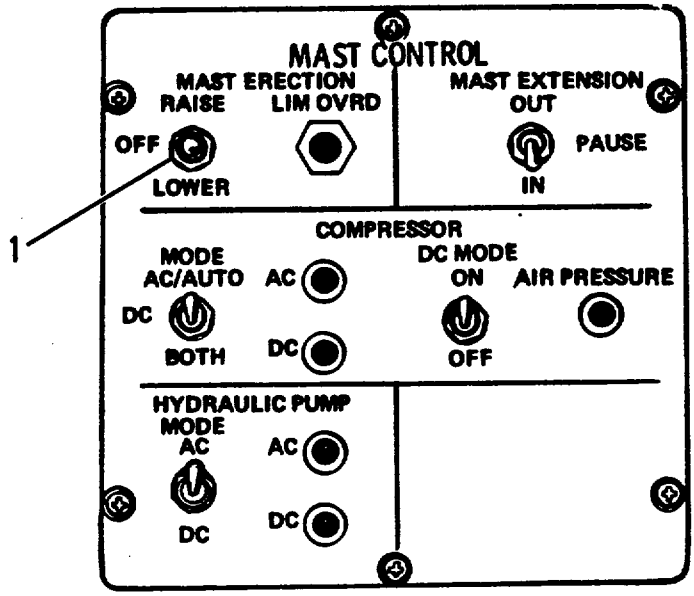
CHAPTER 2

OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF 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

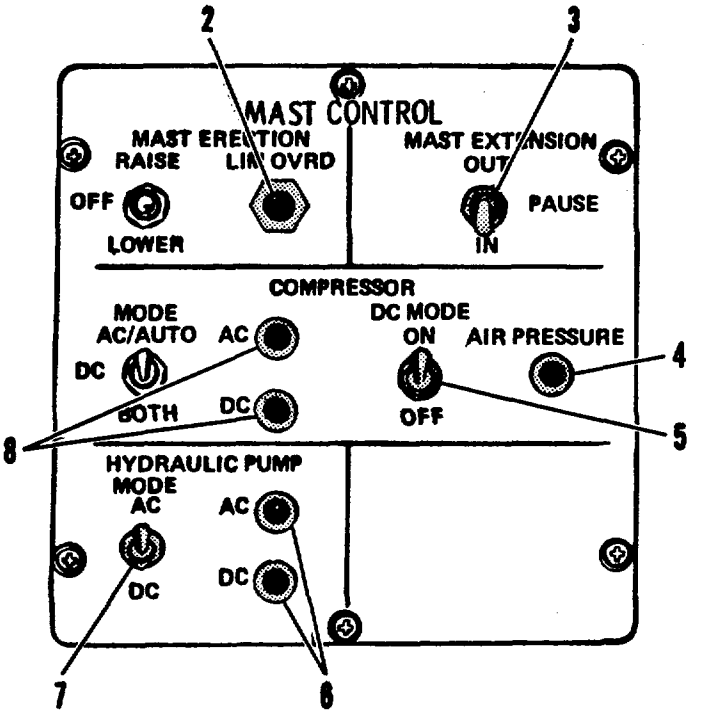
Raises or lowers mast.

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 push button

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

When lowering mast a safety switch automatically stops mast from moving lower than 15 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 upwards.

PAUSE Temporarily stops mast from being extended or retracted.

IN Retracts mast downwards.

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 truck battery.

8 COMPRESSOR AC/DC indicator lights

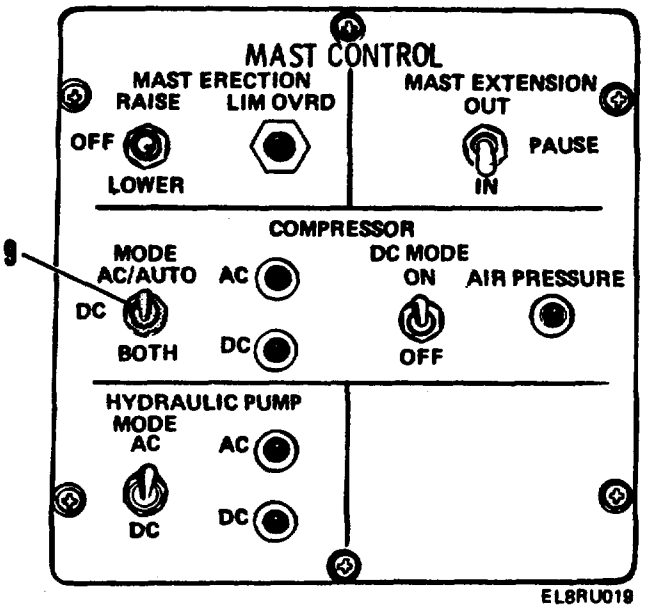
Tells you which compressor motor has power available.

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.



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

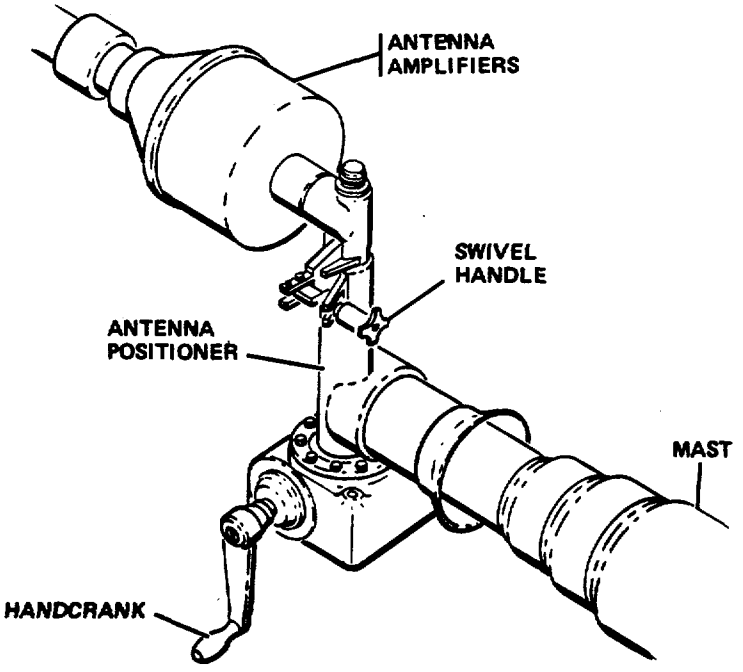
Regardless of COMPRESSOR MODE switch position, the COMPRESSOR DC MODE switch must be in ON position before dc compressor can operate.

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.



HANDCRANK

Rotates antenna positioner.

- TURN HANDCRANK CLOCKWISE TO UNFOLD ANTENNA AMPLIFIER ASSEMBLIES TO THEIR DEPLOYED POSITION.
- TURN HANDCRANK 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.

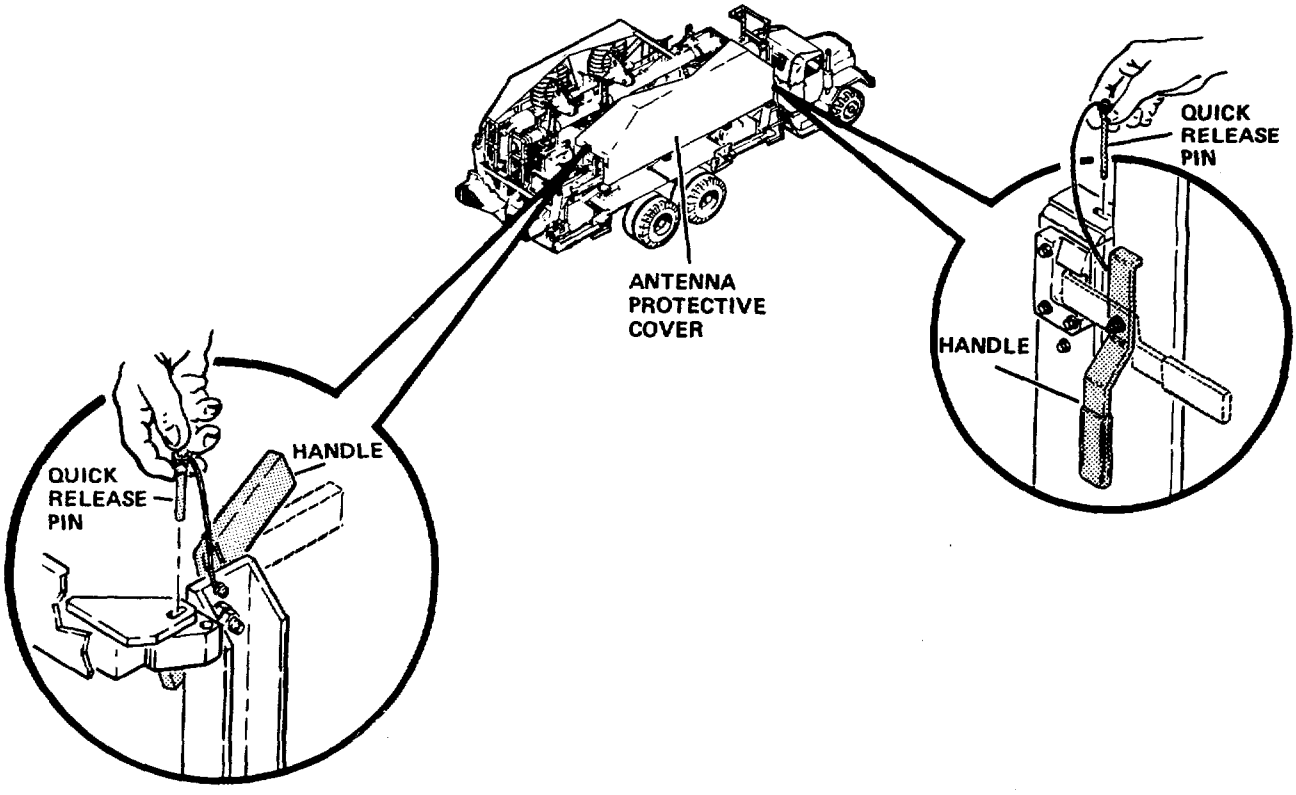
2-3 ANTENNA PROTECTIVE COVER CONTROLS

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.



CONTROL VALVE LEVER

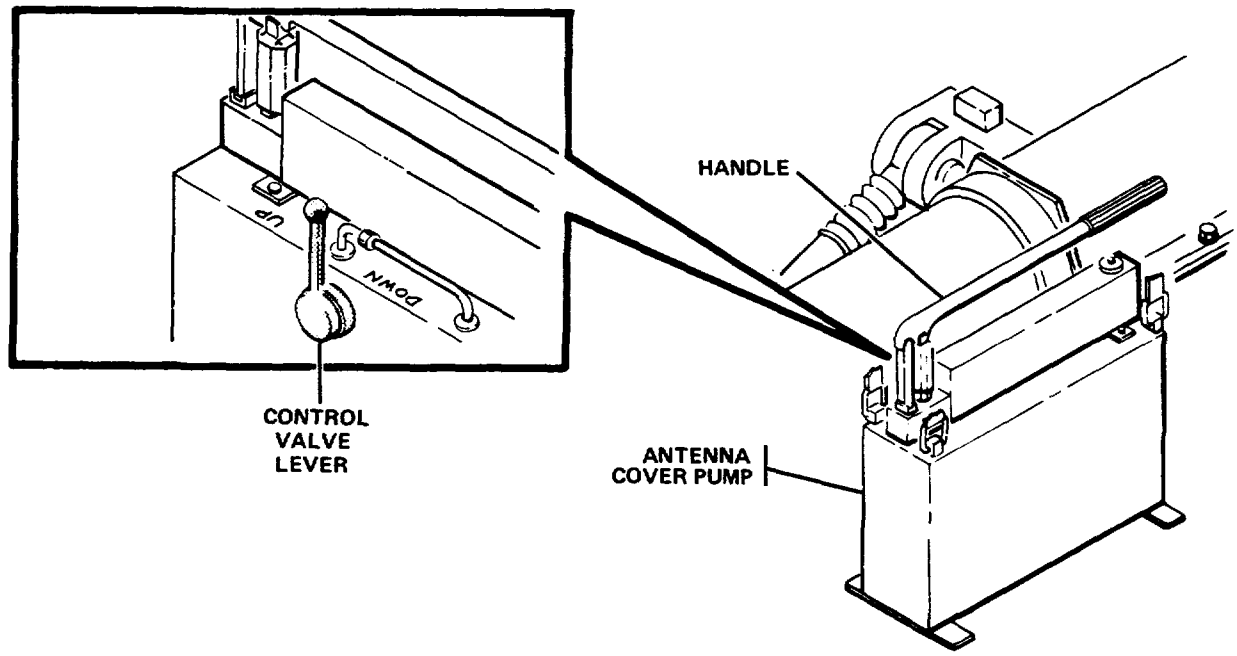
Controls antenna protective cover movement.

- PLACE LEVER TO "DOWN" TO LOWER COVER TO DEPLOYED POSITION.
- PLACE LEVER TO "HOLD" TO STOP COVER IN A DESIRED POSITION.
- PLACE LEVER TO "UP" TO RAISE COVER TO STOWED POSITION.

ANTENNA 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 of 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 in strong winds.

QUICK RELEASE PIN

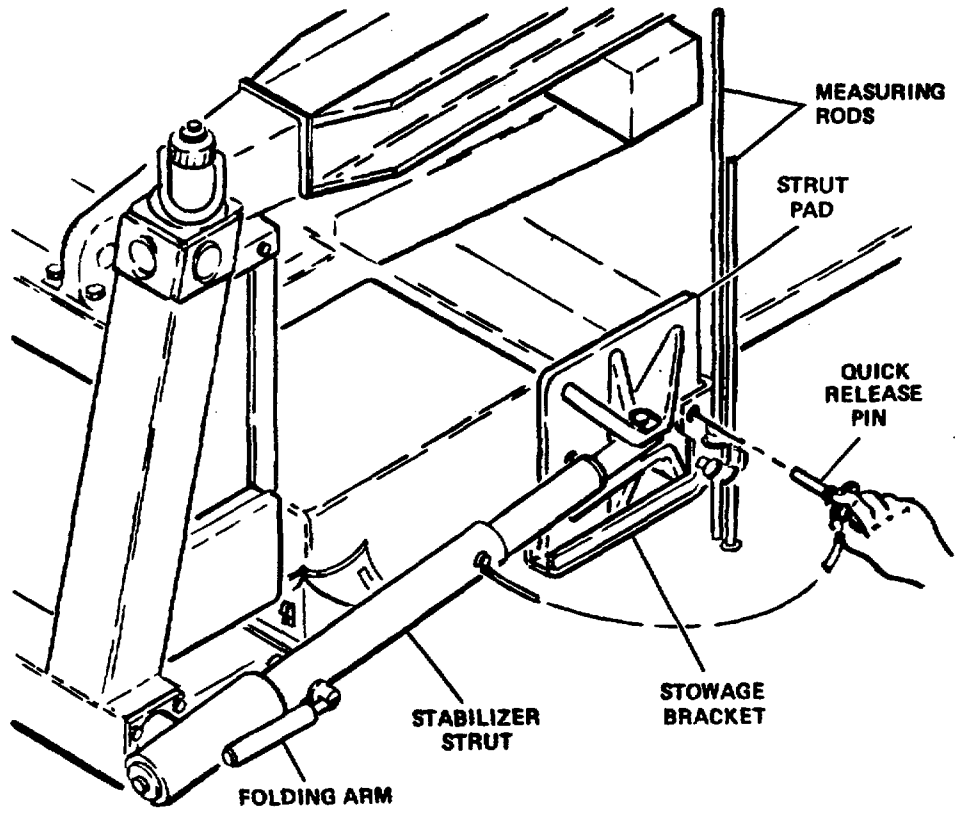
Secures lower strut to upper strut. Also used as a coarse adjustment for strut deployment and to secure strut in stowed position.

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

FOLDING ARM

Extends or retracts lower strut.

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



MEASURING ROD THUMBSCREWS

Secure measuring rods in either stowed or deployed position.

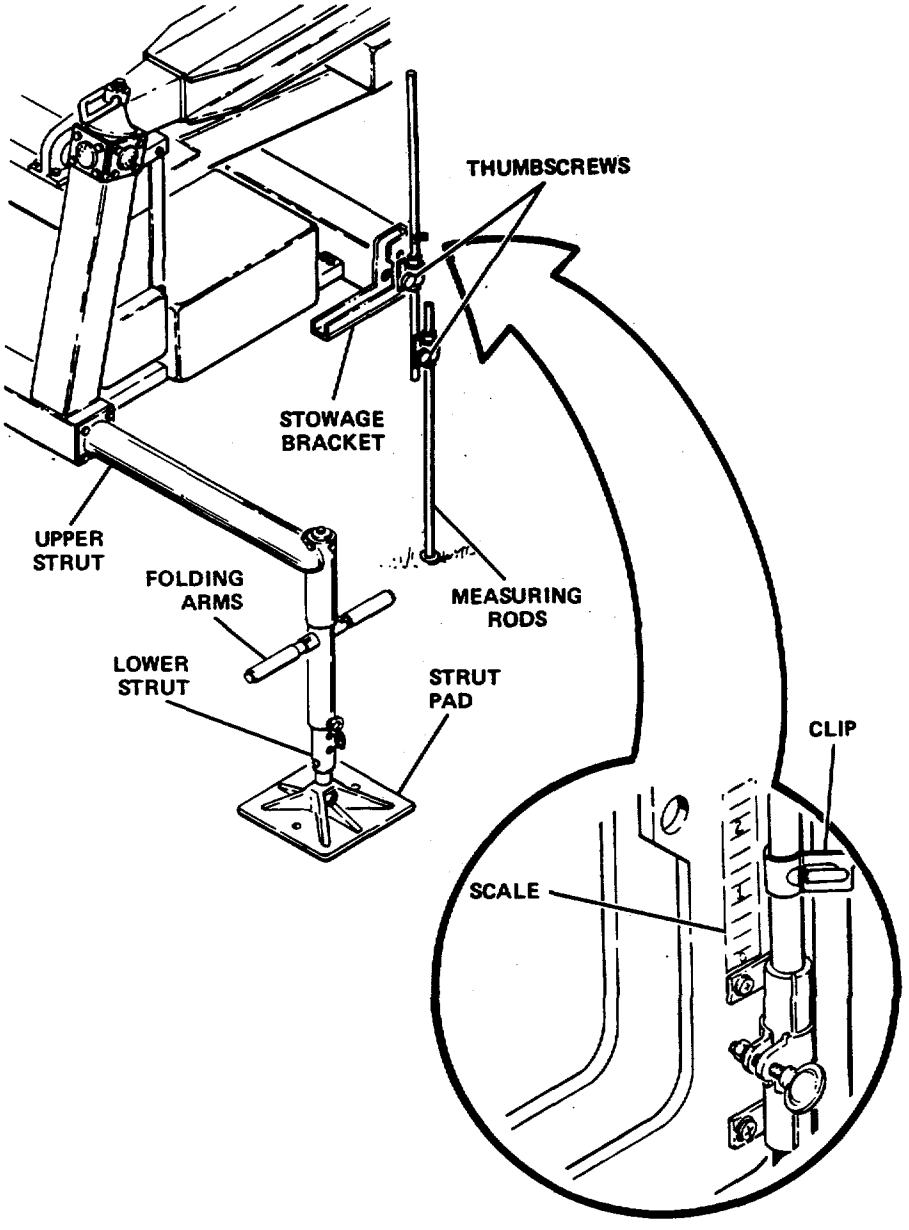
- TURN THUMBSCREWS COUNTERCLOCKWISE TO RELEASE ROD.
- . TURN TOP THUMBSCREW CLOCKWISE TO LOCK ROD IN POSITION.

MEASURING RODS AND SCALE

Indicate when stabilizing strut has properly taken load off truck axles. Platform must be raised one inch on scale in relation to measuring rods.

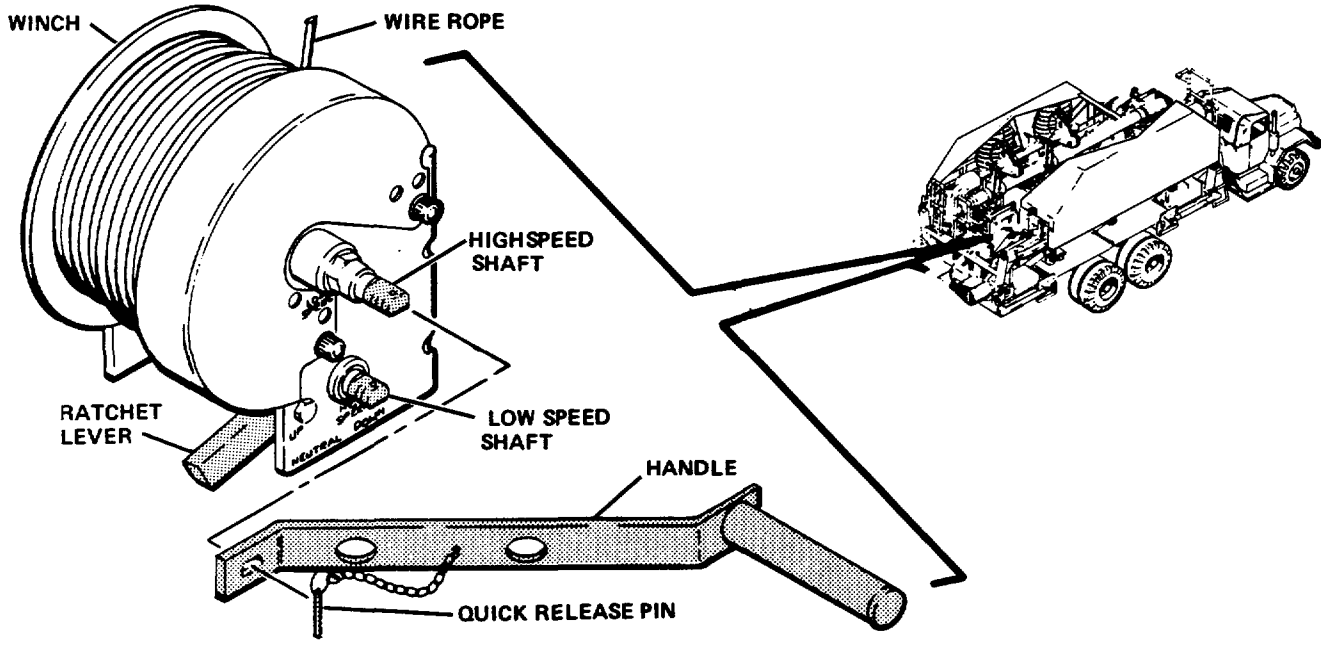
CLIP

Used to mark 1 inch on measuring rod.



2-5 VARIABLE HEIGHT LIMITER

Limits mast height for operation in strong winds and to avoid overhead obstacles. Consists of a winch and wire rope.



WINCH RATCHET LEVER

Locks and releases winch drum.

- TO PAY OUT WIRE ROPE, PUSH RATCHET LEVER OUTBOARD AND MOVE TO UP POSITION.
- TO REEL IN WIRE ROPE, PUSH RATCHET LEVER OUTBOARD AND MOVE TO DOWN POSITION.
- TO PLACE WINCH IN NEUTRAL (WINCH DRUM FREEWHEELS) PUSH RATCHET LEVER OUTBOARD AND MOVE TO NEUTRAL POSITION.

WINCH HANDLE

Turns winch drum.

- PULL QUICK RELEASE PIN SECURING HANDLE IN STOWED POSITION.
- PLACE HANDLE ON HIGH SPEED SHAFT IF YOU WANT TO QUICKLY REEL IN WIRE ROPE.
- PLACE HANDLE ON LOW SPEED SHAFT IF YOU REQUIRE ADDITIONAL FORCE TO RETRACT MAST.
- INSTALL QUICK RELEASE PIN IN HOLE IN SHAFT (HIGH OR LOW SPEED) TO SECURE HANDLE ON SHAFT.

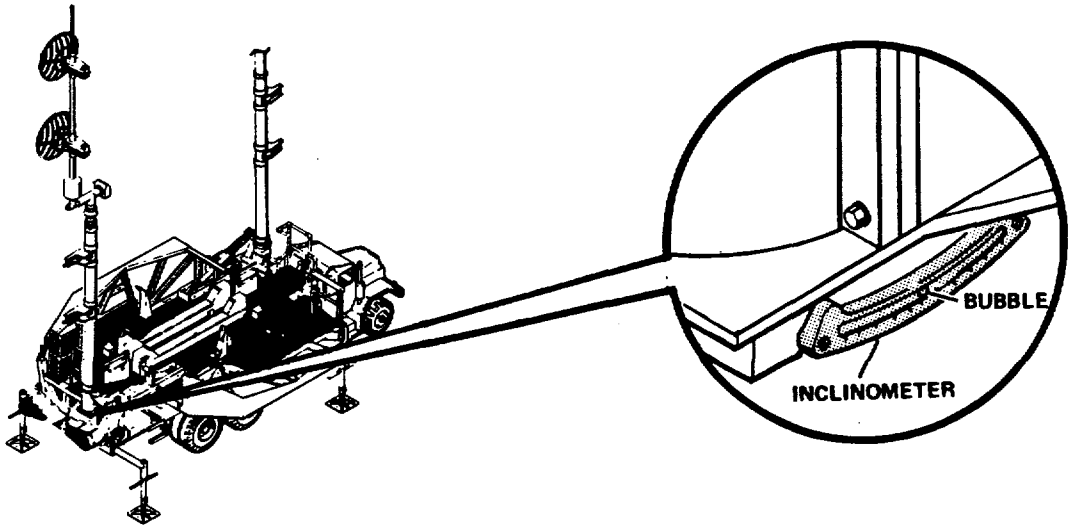
WARNING

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

2-6 MAST INCLINOMETER

Indicates when mast is in vertical position.

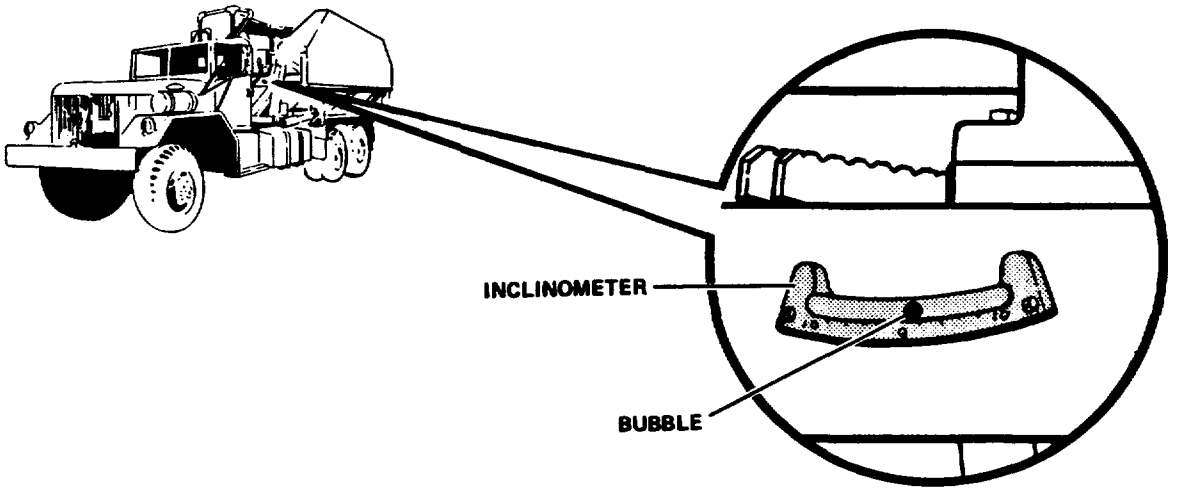
- MAST IS VERTICAL WHEN BUBBLE IS IN MIDDLE OF INCLINOMETER.



2-7 TRUCK INCLINOMETER

Indicates when Mast Group is cross-levelled.

- MAST GROUP IS CROSS-LEVELLED WHEN BUBBLE IS IN MIDDLE OF INCLINOMETER.



2-8 CYLINDER LOCK STRUT

Prevents raised mast from falling if 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

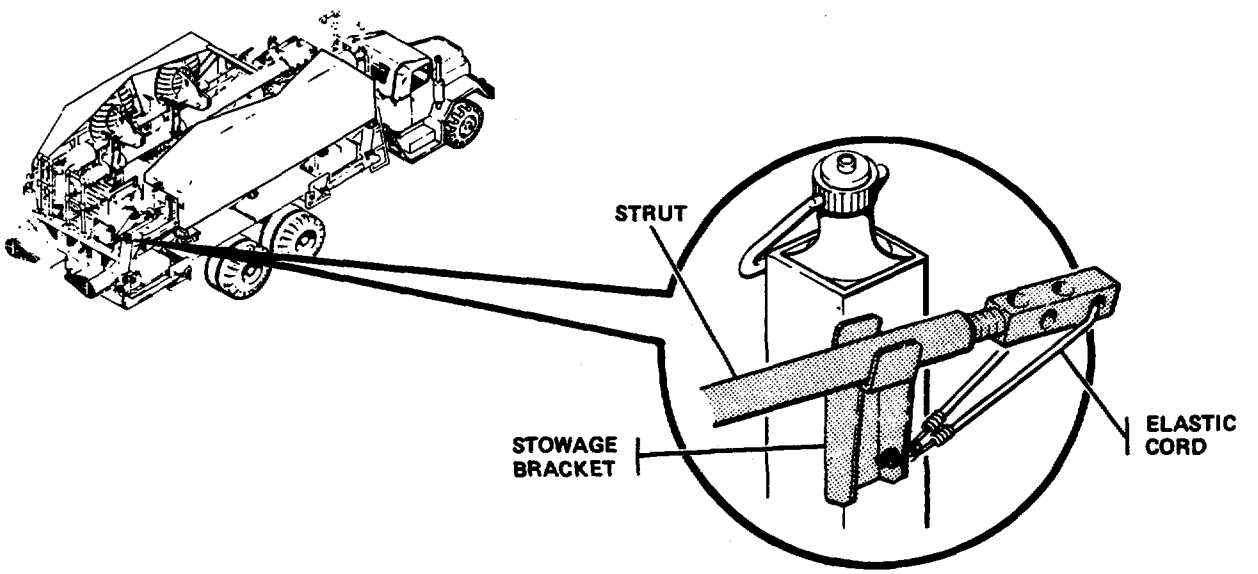
- SLIDE BAR IN OR OUT AS NEEDED. THEN ROTATE BAR TO ALINE ONE OF FOUR HOLES IN BAR WITH MAST CLAMP PIN.
- PULL BAR AND STRUT FROM MAST CLAMP PIN BEFORE LOWERING MAST.

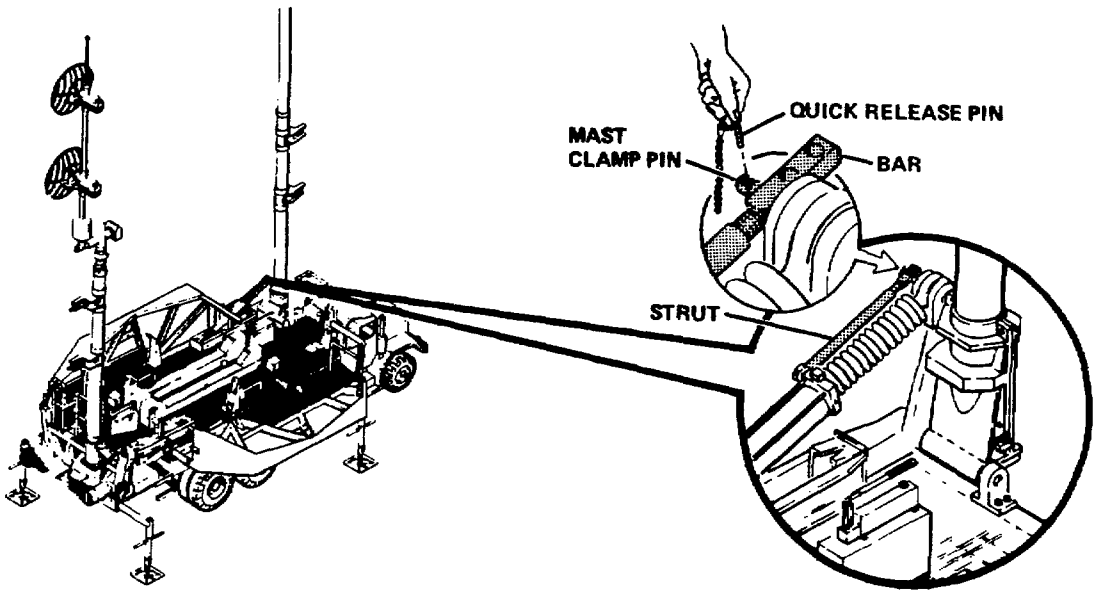
QUICK RELEASE PIN

- 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

Cylinder lock strut must be in place before mast can be extended.



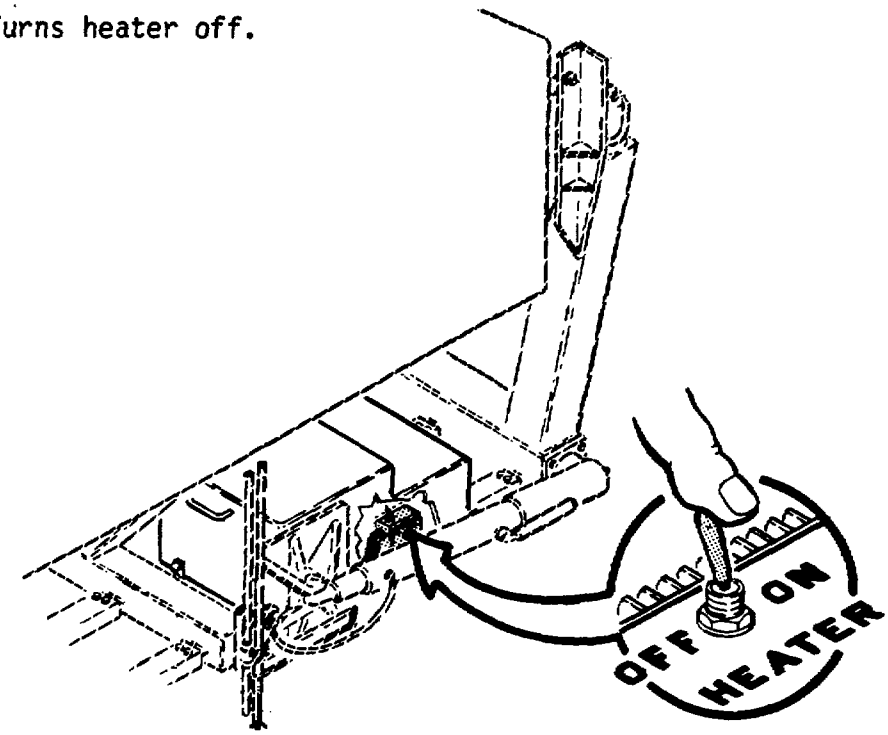


2-9 PNEUMATIC MANIFOLD HEATER SWITCH

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.



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 POWER indicator light**

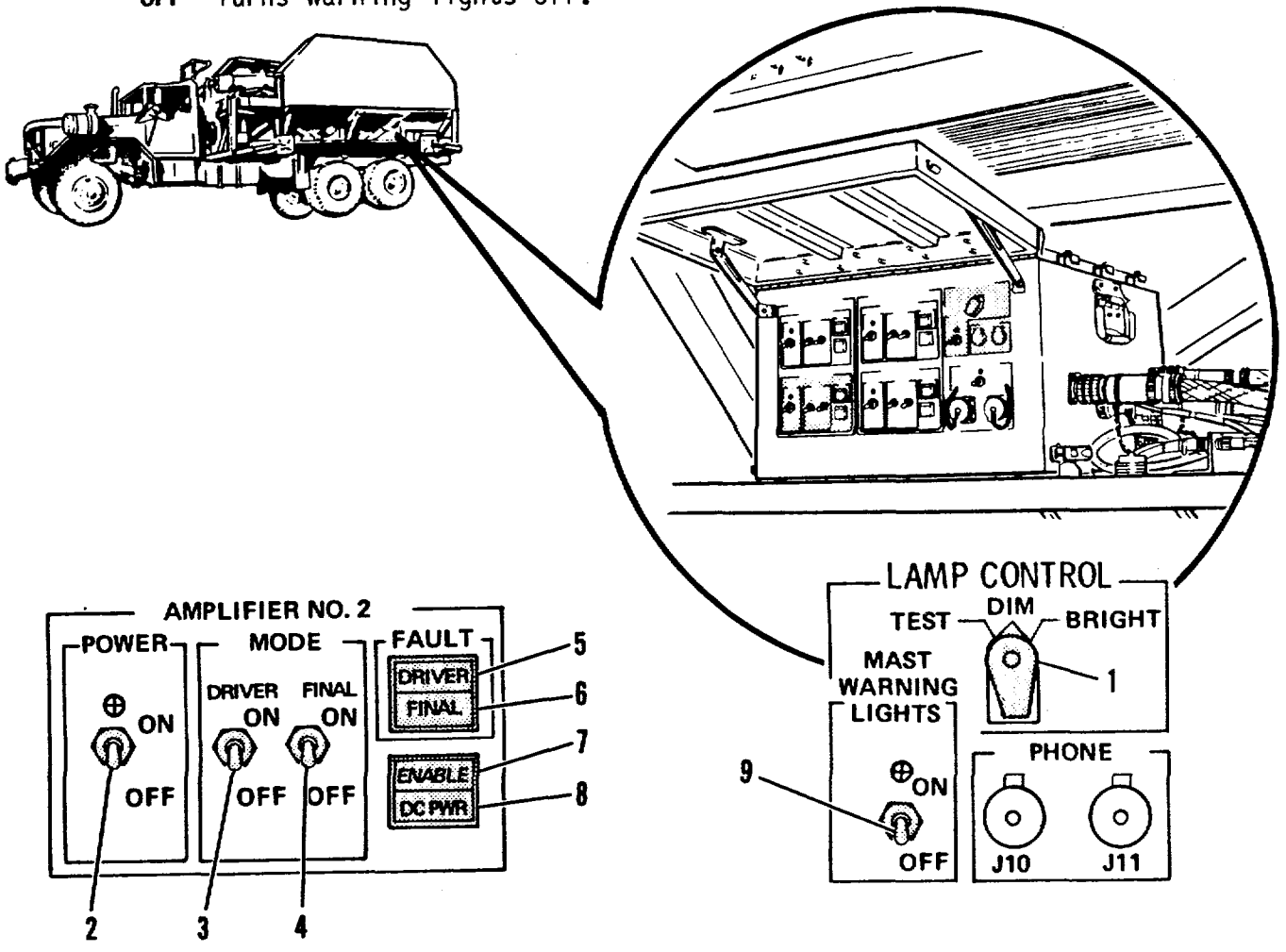
Tells you when power is available. Indicator lights when 28 VDC power is available from amplifier.

9 **MAST WARNING LIGHTS circuit breaker**

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

2-11 GENERAL

To be sure your mast group is in operating condition and ready for your mission, you must do the 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 (B) PMCS.

b. DURING OPERATION. Always keep in mind the CAUTIONS and WARNINGS. Perform your during (D) PMCS **EVERY SIX HOURS OF OPERATION.**

c. AFTER OPERATION. Always keep in mind the CAUTIONS and WARNINGS. Perform your after (A) PMCS.

d. IF EQUIPMENT FAILS TO OPERATE do the following:

- FILL OUT DA FORM 2404 FOLLOWING INSTRUCTIONS IN TM 38-750
- TURN IT IN TO YOUR MAINTENANCE SUPERVISOR OR ORGANIZATIONAL MAINTENANCE

2-12 PMCS 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. 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

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:
1	•		•	**ROADSIDE FRONT STABILIZING STRUT** Check front roadside stablizing strut (4). Make sure quick release pin (2) is present and secures strut pad (1) in bracket (3).	Quick release pin is missing.
2	•		•	**HCA HYDRAULIC FLUID LEVEL** a. Pull quick release (4) pin (2) securing front roadside strut to its stowage bracket (3). Remove strut from its bracket and swing down. b. Peel back edges of dust cover (5) at corners of roadside HCA. Release four latches (6). Remove covers.	

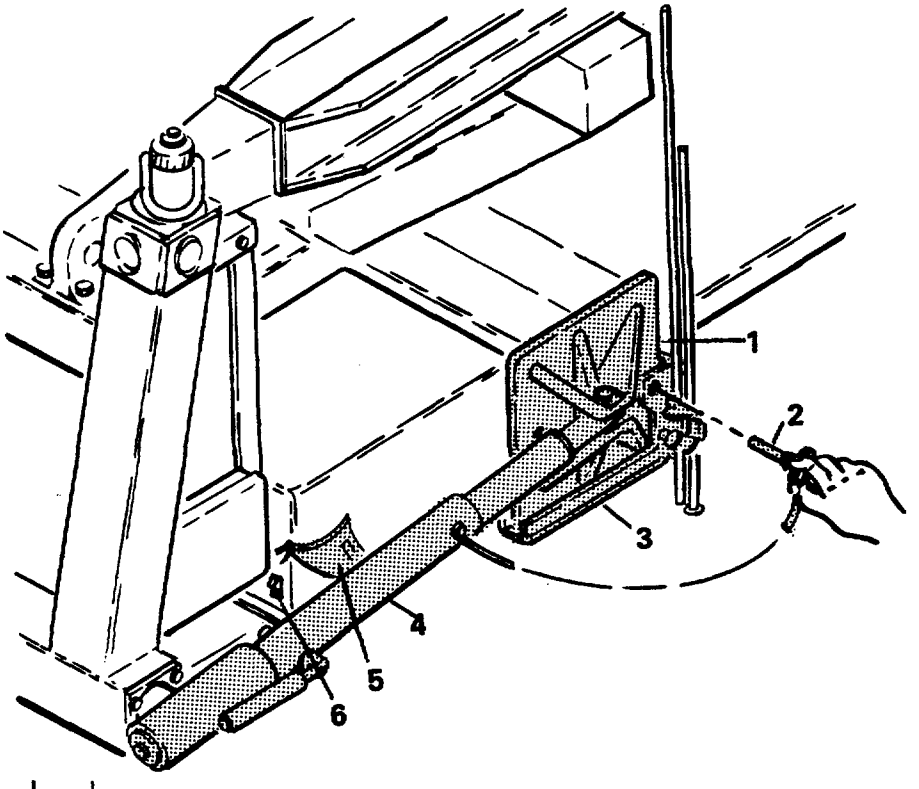


Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

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

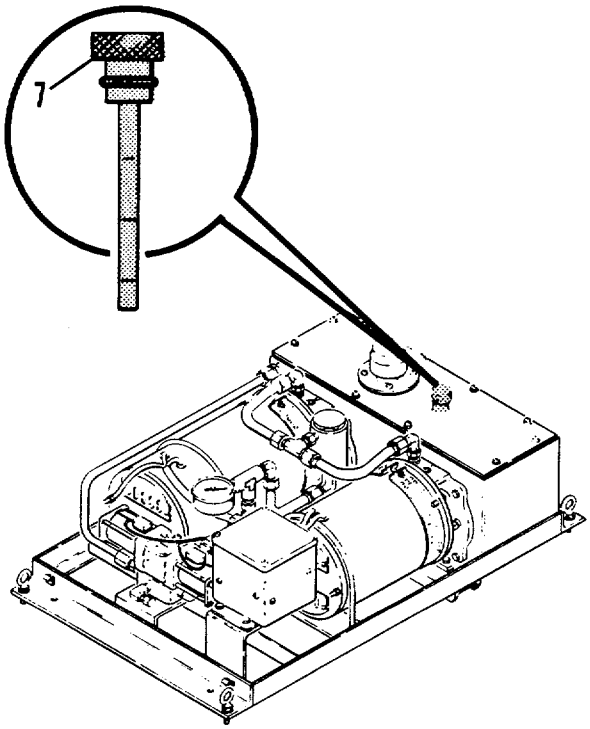
ITEM NO.	INTERVAL B	INTERVAL D	INTERVAL A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
				c. Pull dipstick (7) from hydraulic reservoir. Fluid should be between the 2.1 GAL mark and the MAX mark with the mast in stow position. Add fluid as required. Install dip stick. 	
3	•		•	**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. 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	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
4	•		•	**MEASURING RODS** Check both roadside measuring rods (**4**) for damage. Make sure thumbscrews (**10**) are tight and secure rods.	
5	•		•	**ANTENNA PROTECTIVE COVER HYDRAULIC CYLINDER** Check roadside antenna protective cover hydraulic cylinder (**1**). Make sure fluid is not leaking around ports (**2**) and piston end.	Class III leakage evident.

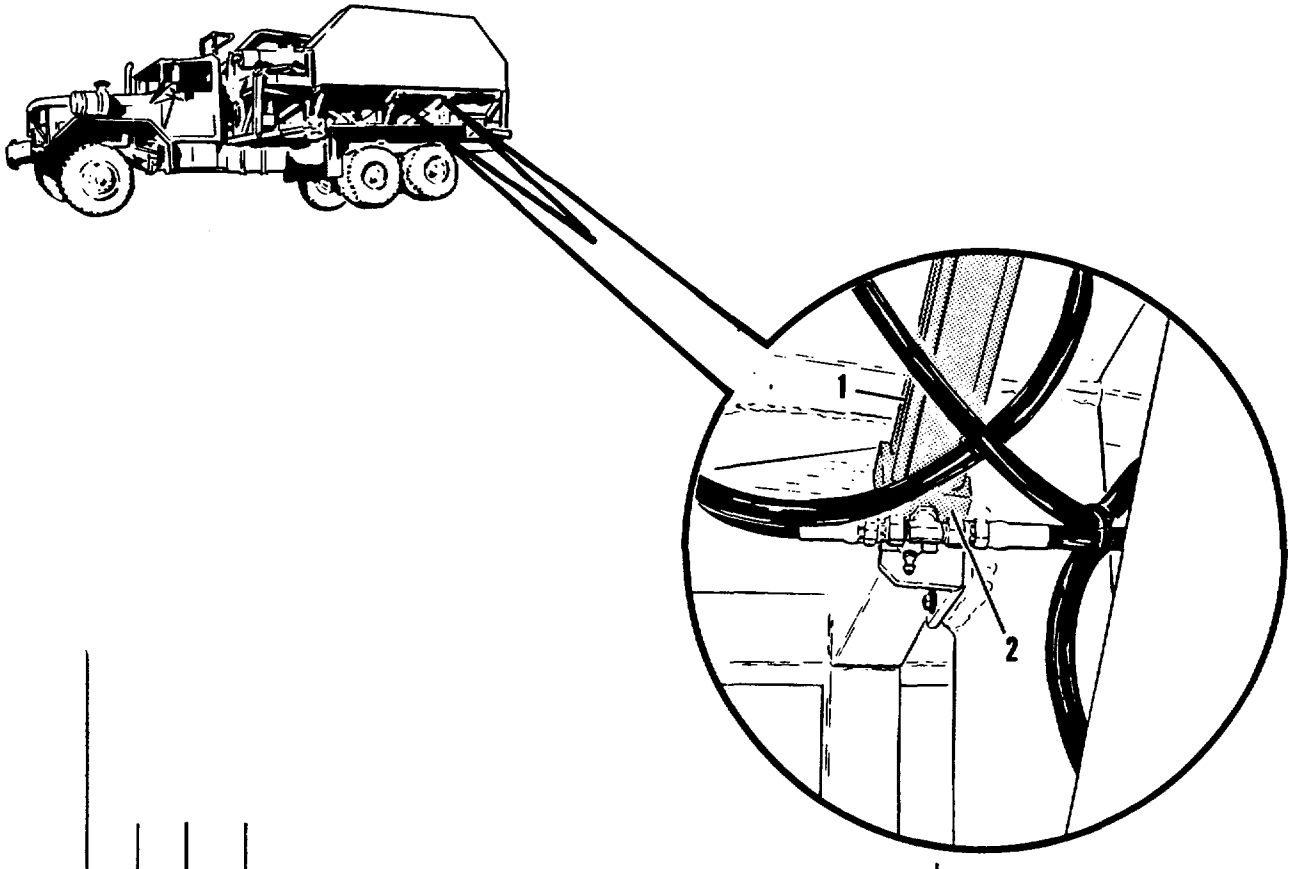


Table 2-1. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

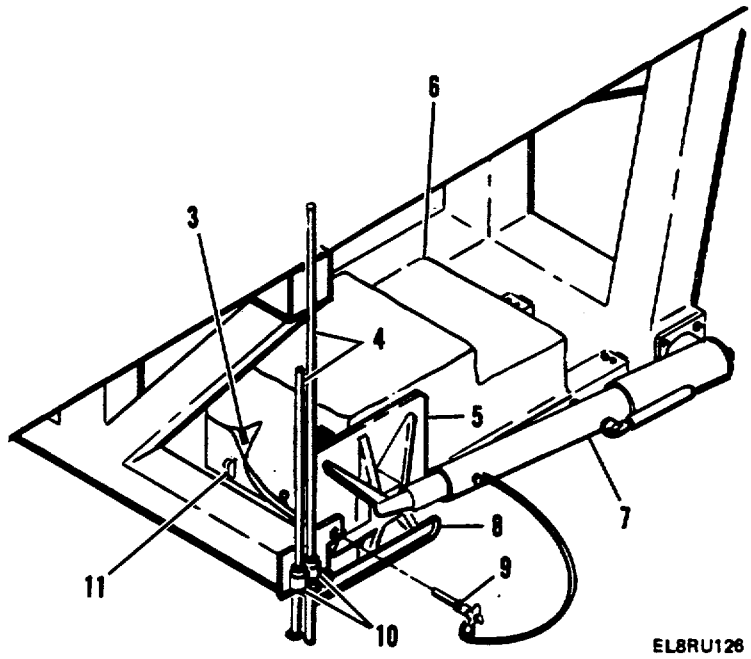
B - Before Operation			D - During Operation		A - After Operation
ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
					
6	•		•	**ROADSIDE REAR STABILIZING STRUT** Check rear roadside stabilizing strut (7). Make sure quick release pin (9) is present and secures strut pad (5) in bracket (8).	
7	•		•	**PCA INTAKE FILTER ELEMENT** a. Pull quick release pin (9) securing rear roadside strut pad (5) to its stowage bracket (8). Remove strut from bracket and swing down. 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

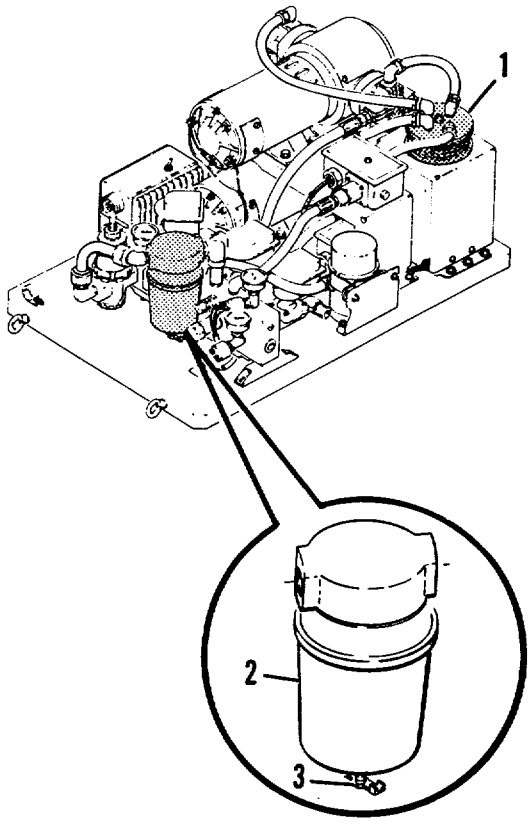
B - Before Operation D - During Operation A - After Operation					
ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
				c. Check intake filter element (1) for deterioration. If required, have Organizational Maintenance replace intake filter element (para 3-5). **NOTE** Check intake filter more often in dusty conditions.  	
8		•		**DRAIN INLINE FILTER** 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	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
				NOTE Drain the inline filter more often if you are operating the mast group in humid conditions.	
9	•		•	**AIR LEAKS** a. Check all hoses, fittings, and gages for damage. Notify your supervisor if you think there are any air leaks. **NOTE** If the pneumatic components compressor runs excessively (more than 10 minutes per hour) while masts are extended, there probably is an air leak somewhere. b. Install and secure covers on roadside PCA. Place rear roadside strut in its stowage bracket. Install quick release pin to secure. Repeat steps 1 thru 9 for curbside of vehicle.	

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

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

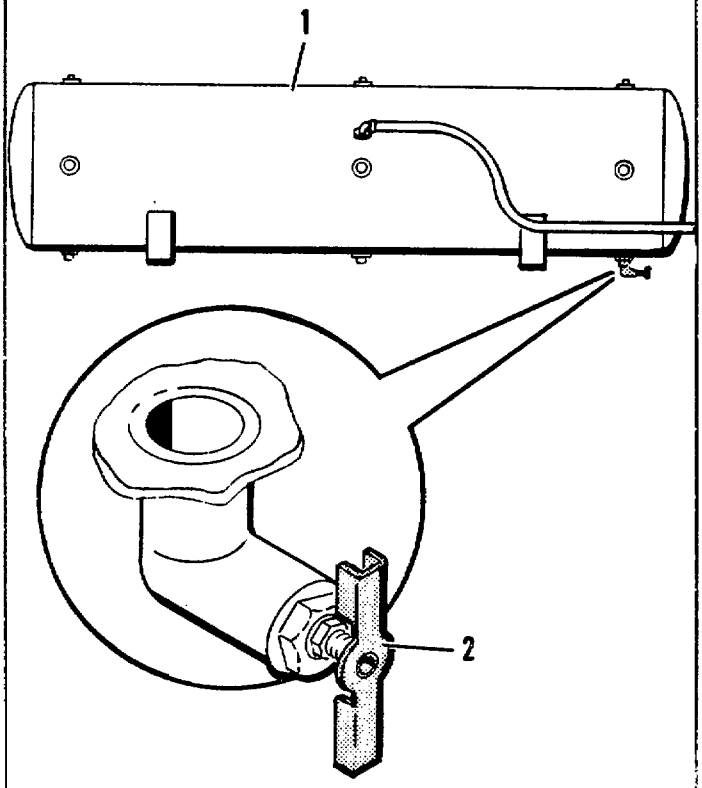
ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
10		•		**MAST AIR TANK DRAIN** a. Go underneath Mast Group frame to mast air tank (**1**). With a shop cloth in your hand, open petcock (**2**) at bottom of tank (**1**). Let shop cloth soak up all water that drains from tank. Close petcock (**2**).  b. Repeat procedure for other tank. **NOTE** 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

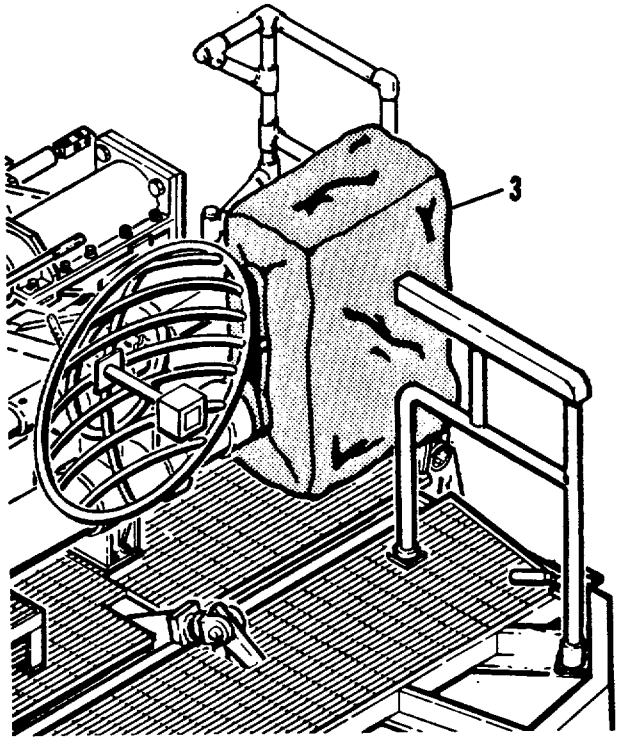
ITEM NO.	INTERVAL B	INTERVAL D	INTERVAL A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
11	•		•	**CURBSIDE ANTENNA POSITIONER** a. From walkway at front of vehicle, remove canvas cover (3) from amplifier and mast. 	

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

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

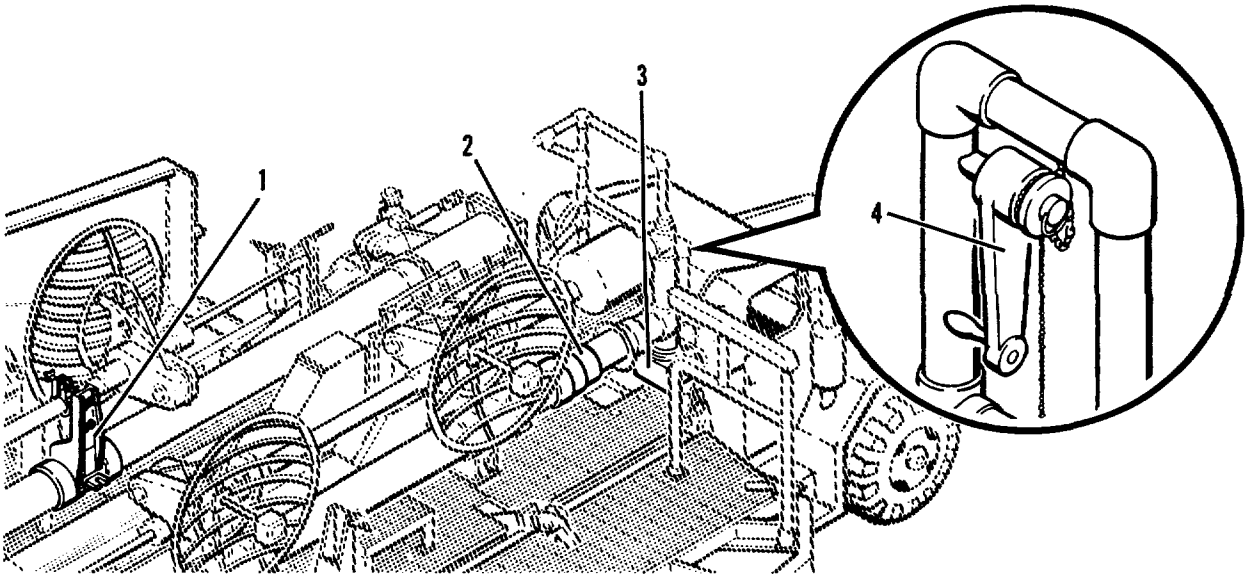
ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
					
				b. Check curbside antenna positioner (3) for fluid leaks. Notify your supervisor if there are any class III leaks. Make sure antenna positioner handle (4) on handrail is present.	Antenna positioner handle is missing.
12	•		•	**CURBSIDE MAST COLLARS** a. Check curbside mast collars (2) for fluid leaks. **NOTE** 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.	
13	•		•	**ROADSIDE MAST CLAMP** Check roadside mast clamp (1) for damage. Notify your supervisor if a clamp is damaged.	

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

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

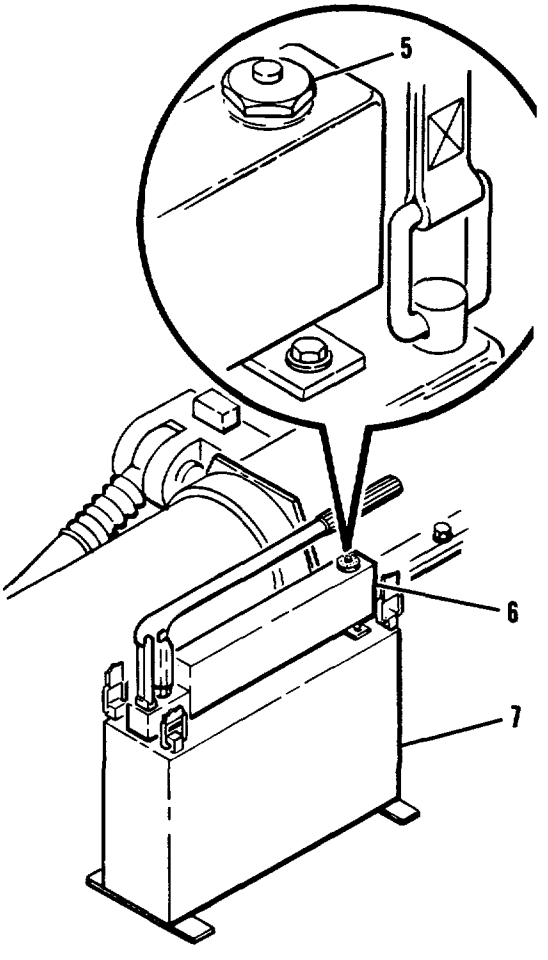
ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
14	•		•	**ROADSIDE ANTENNA COVER PUMP FLUID LEVEL** Remove plug (5) on top of roadside antenna cover pump (7). Check that there is fluid in reservoir (6). If required, add fluid to assembly. Install plug (5). **NOTE** Always check pump fluid level with cover in up position.  	
15	•		•	**ROADSIDE ANTENNA COVER PUMP FLUID LEAKS** Check pump (7) for evidence of fluid leaks.	

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

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

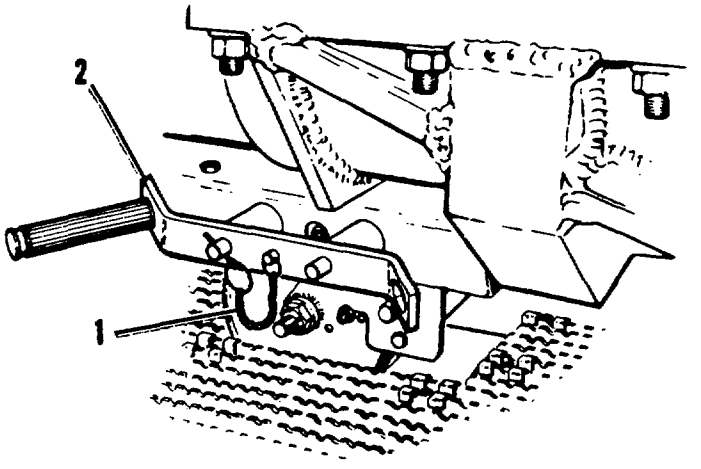
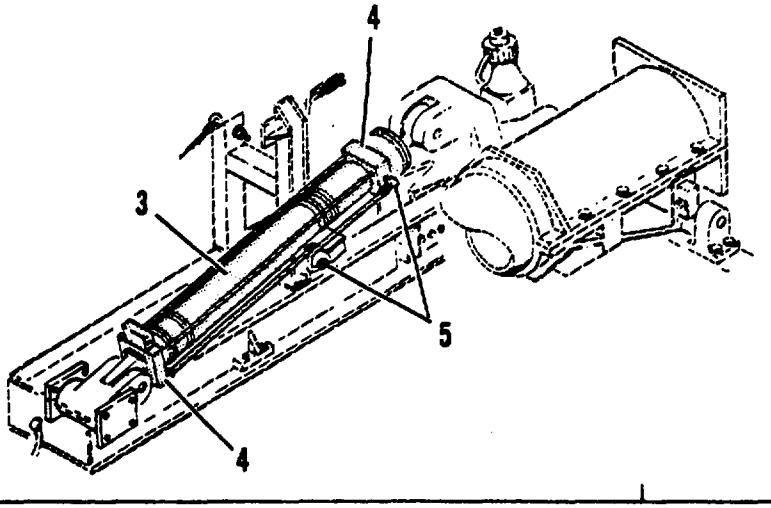
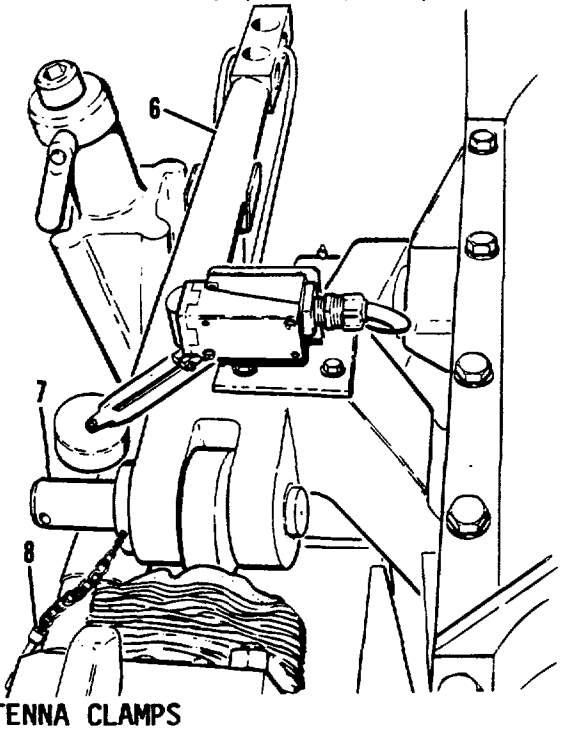
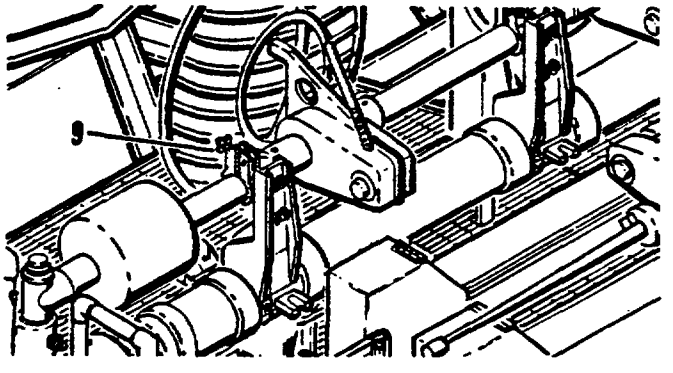
ITEM NO.	INTERVAL B	INTERVAL D	INTERVAL A	ITEM TO BE INSPECTED PROCEDURE	Equipment Is Not Ready/Available If:
16	•		•	**ROADSIDE VARIABLE HEIGHT LIMITER WINCH** Check roadside variable height limiter winch (**1**) for damage. Make sure handle (**2**) is present. Notify your supervisor if handle is missing or winch is damaged.  	
17	•		•	**ROADSIDE MAST HYDRAULIC CYLINDER** Check the roadside mast hydraulic cylinder (**3**) for fluid leaks at ports (**5**) and at piston ends (**4**) of cylinder. Notify your supervisor if there are any class III leaks.  	

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:
18	•		•	**ROADSIDE LOCK STRUT** Check roadside mast lock strut (6) for damage. Make sure quick release pin (8) on mast clamp pin (7) is present.  	Quick release pin is missing.
19	•		•	**ANTENNA CLAMPS** Check roadside and curbside antenna clamps (9) for damage. Notify your supervisor if a clamp is damaged.  Repeat steps 11 through 18 for rear of vehicle.	

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.

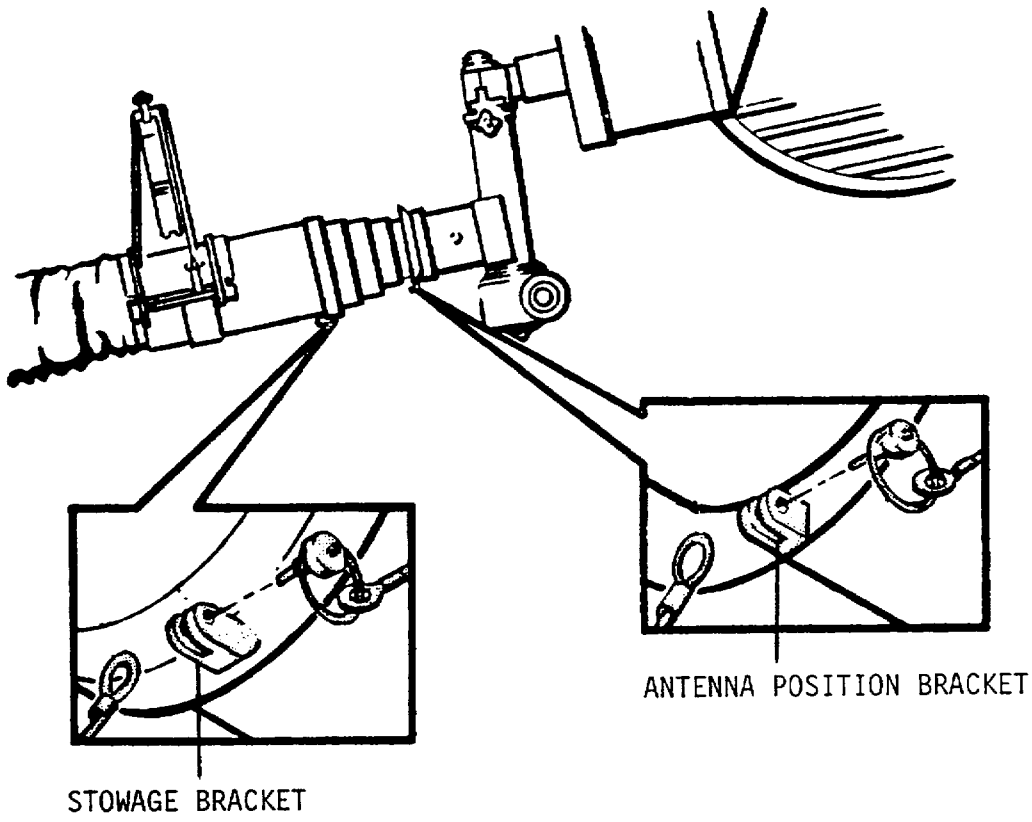
WARNING

- DO NOT MOVE VEHICLE WITH MASTS RAISED.
- DO NOT EXTEND MASTS IN HIGH WINDS.
- EXTEND MASTS ONLY HIGH ENOUGH TO ALLOW COMMUNICATIONS.
- KEEP A WEATHER WATCH. RETRACT MASTS IF SQUALLS OR THUNDERSTORMS ARE OBSERVED OR REPORTED IN AREA.
- IMMEDIATELY RETRACT BOTH MASTS IF PERSONNEL IN SHELTER (ECS/CRG/ICC) TELL YOU THAT STATUS MONITOR PANEL ALARM (TM 9-1430-603-10) IS ON.
- THERE ARE MANY TRIP HAZARDS ON THE MAST GROUP .....USE CARE!
- DO NOT EXCEED MAXIMUM LOAD ON ANTENNA PROTECTIVE COVERS - 600 LBS.

NOTES

Early versions of the Antenna Mast Structure were shipped without a stowage bracket for the variable height limiter. This stowage bracket (para 2-21), will be added to all systems when available. (See illustration below.) There is another bracket on the antenna positioner to which the variable height limiter cable can be attached, but only when the variable height limiter is to be deployed.

For those systems without this stowage bracket (to avoid any damage to the winch or other equipment) it is advised that the variable height limiter cable be wound on the winch drum and securely tied to either the guide roller above the winch or to the winch drum itself. This way the cable will not dangle unsecured. The normal operations procedures in paragraphs 2-15 (MAST DEPLOYMENT) and 2-17 (MAST STOWAGE) can then be performed without having to reel in the winch cable or flip the winch ratchet lever. If it is desired to deploy the winch cable, the procedures in paragraph 2-21 can be used.



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

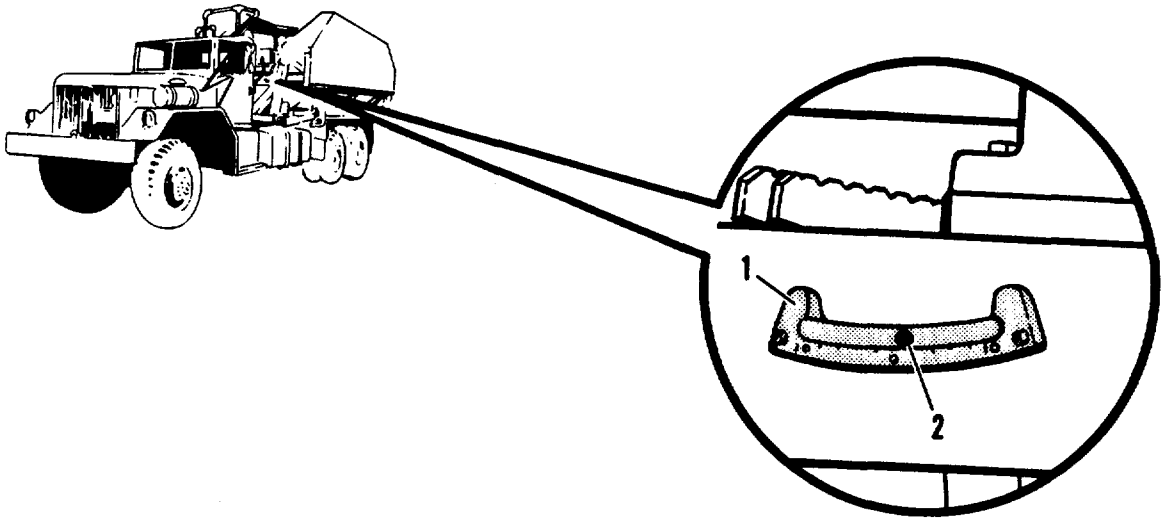
Here's how you do your emplacement tasks:

a. **Emplace vehicle**

WARNING

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

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



NOTE

Vehicle must be heading either up or down slope. Maximum allowable slope 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.

(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.

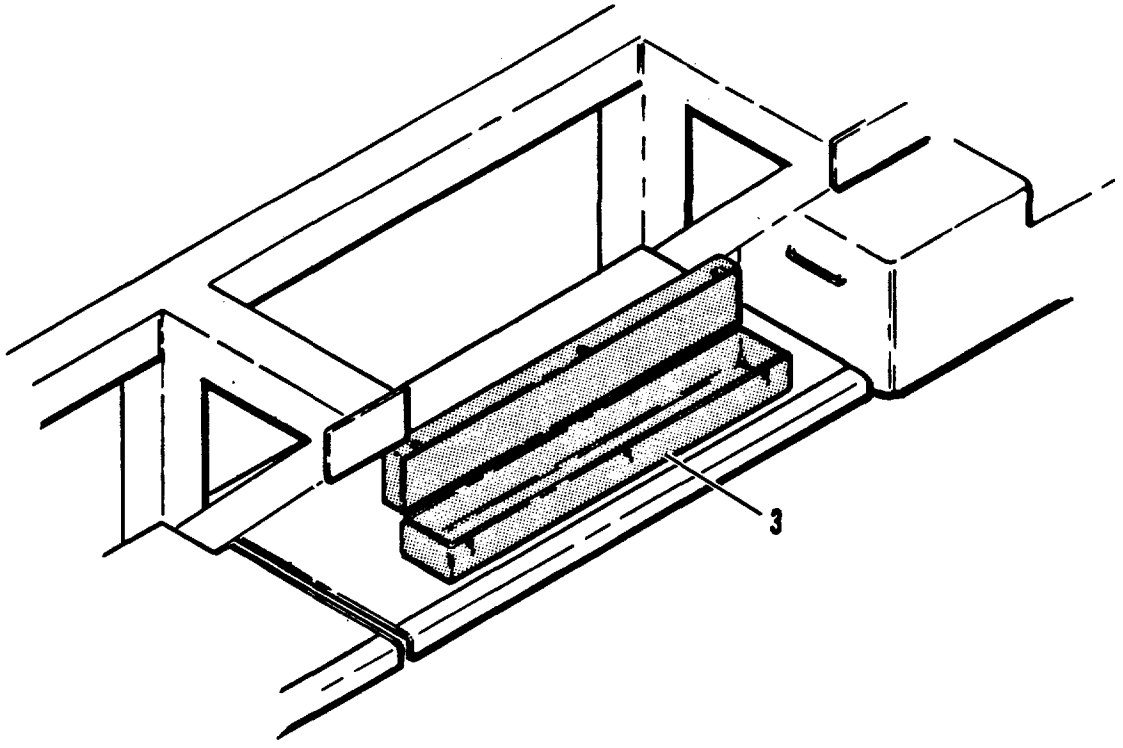
(2) Report vehicle heading (compass reading) to Engagement Control Station (ECS)/Information Coordination Central (ICC)/Communications Relay Group (CRG).

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.

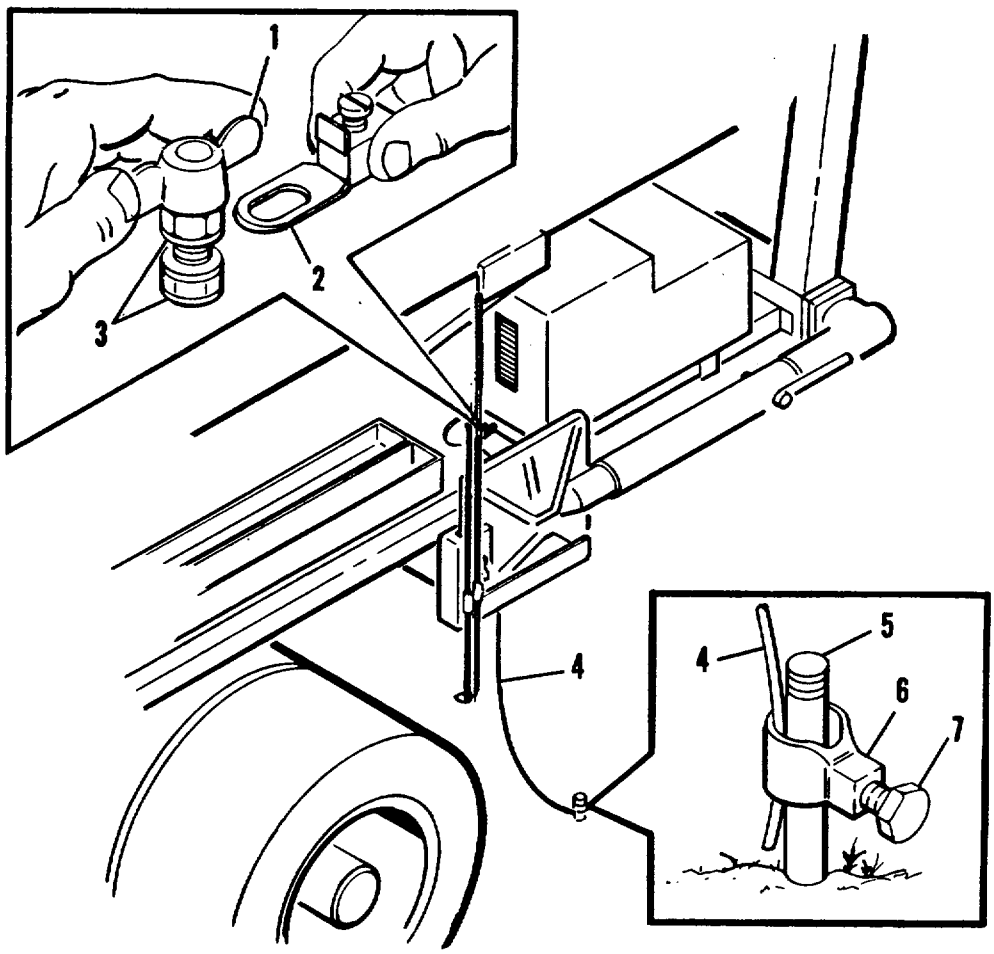


2-14 EMPLACEMENT - Continued

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

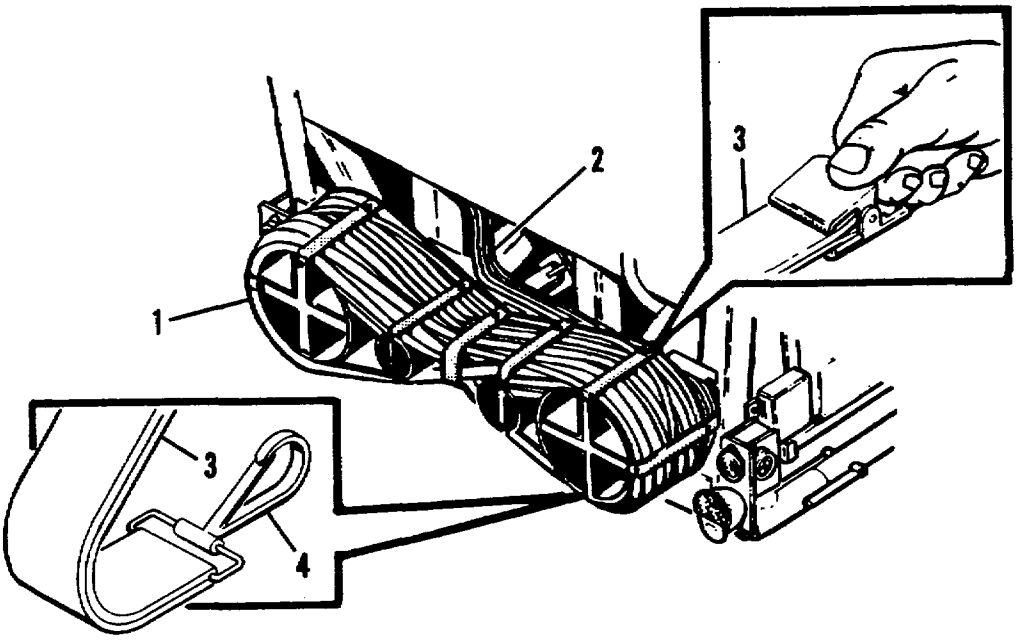
(3) Remove wing nut (**1**) on vehicle ground stud. Position terminal lug (**2**) of ground cable (**4**) between flat washers (**3**) on stud.

(4) Install wing nut (**1**) to secure ground cable to stud.



d. **Deploy intervehicle cables**

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

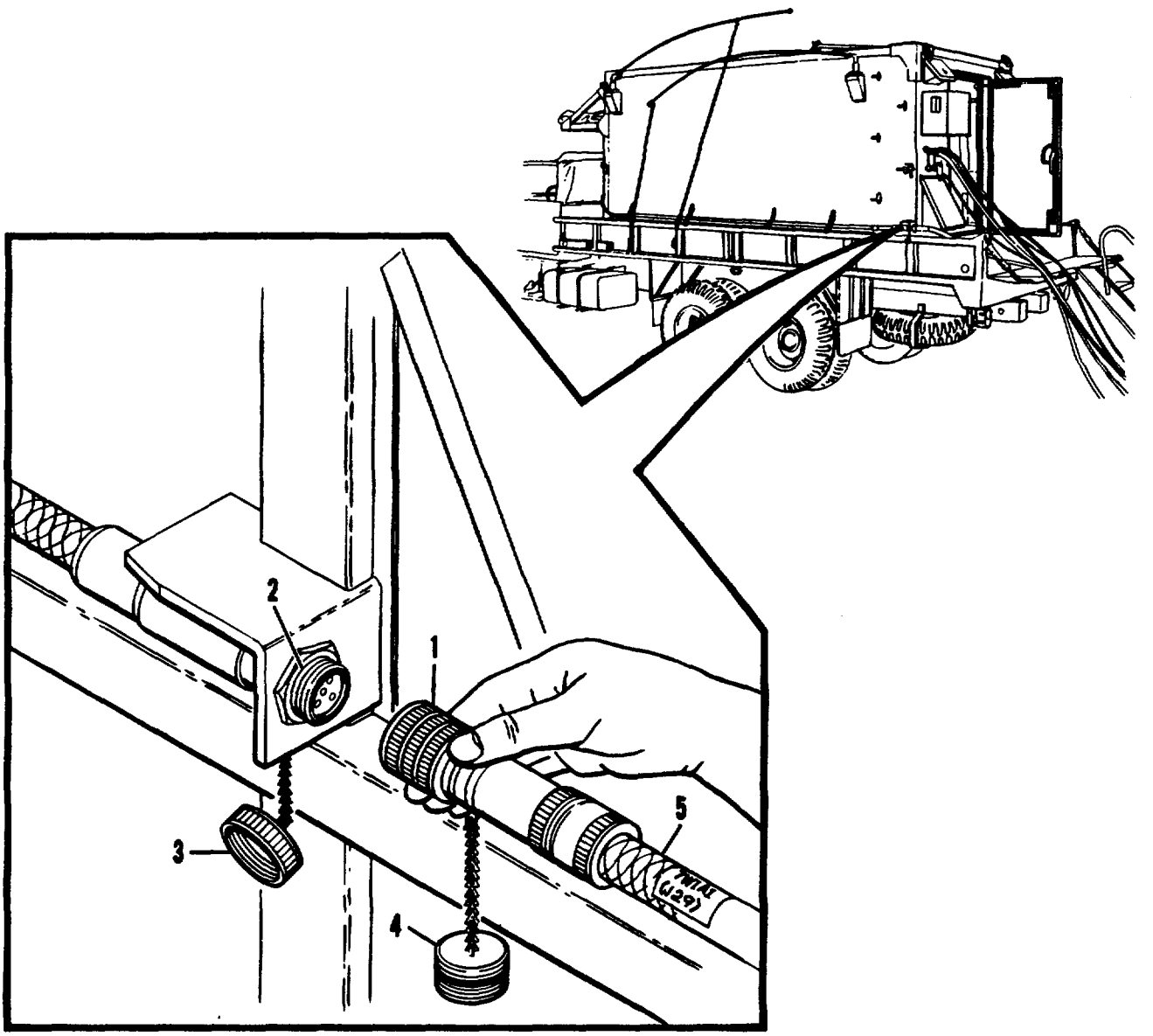


WARNING

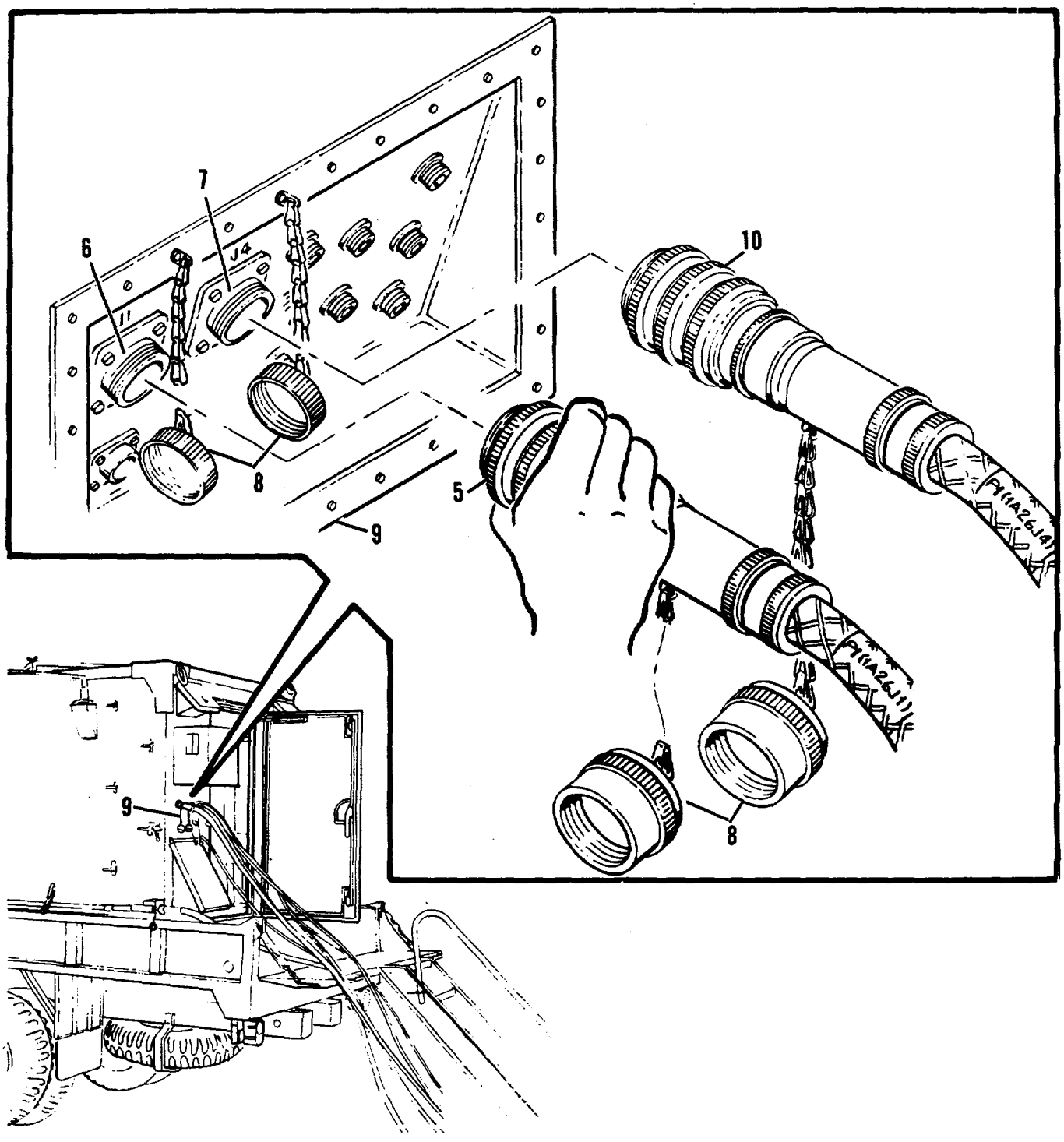
Make sure power is off before connecting any cable.

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**).

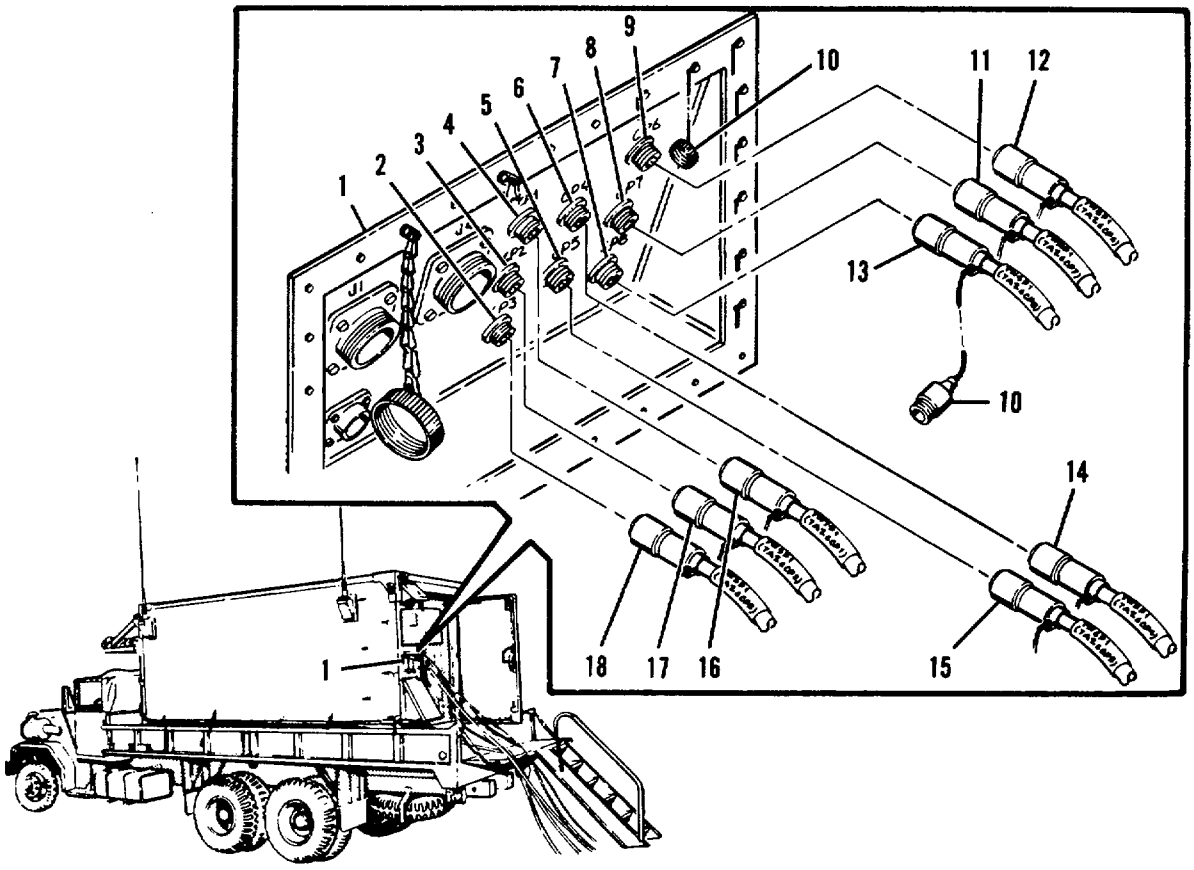


NOTE

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 (12)
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.

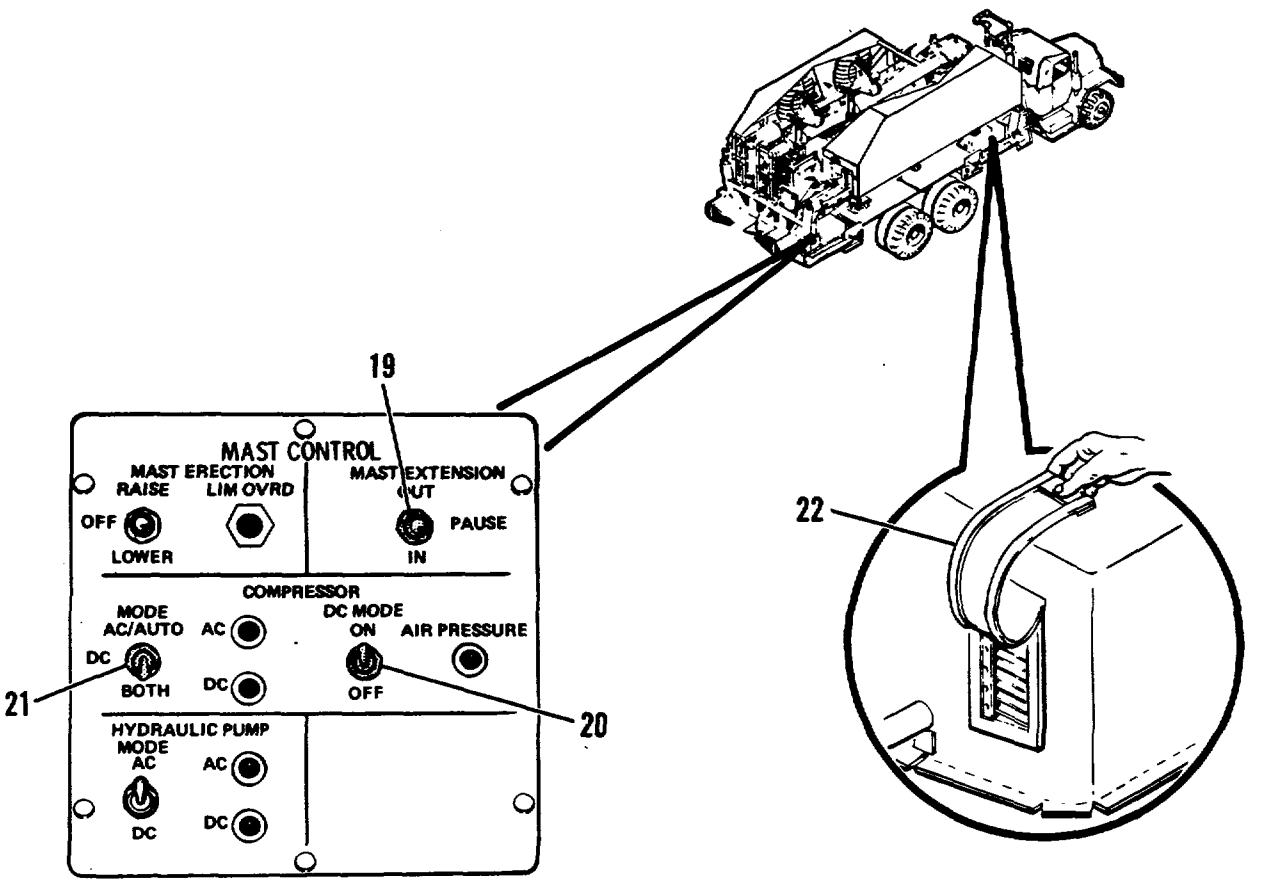
(2) Unlatch two clamps on mast control and swing door open.

(3) Place the mast control switches as follows:

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

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**

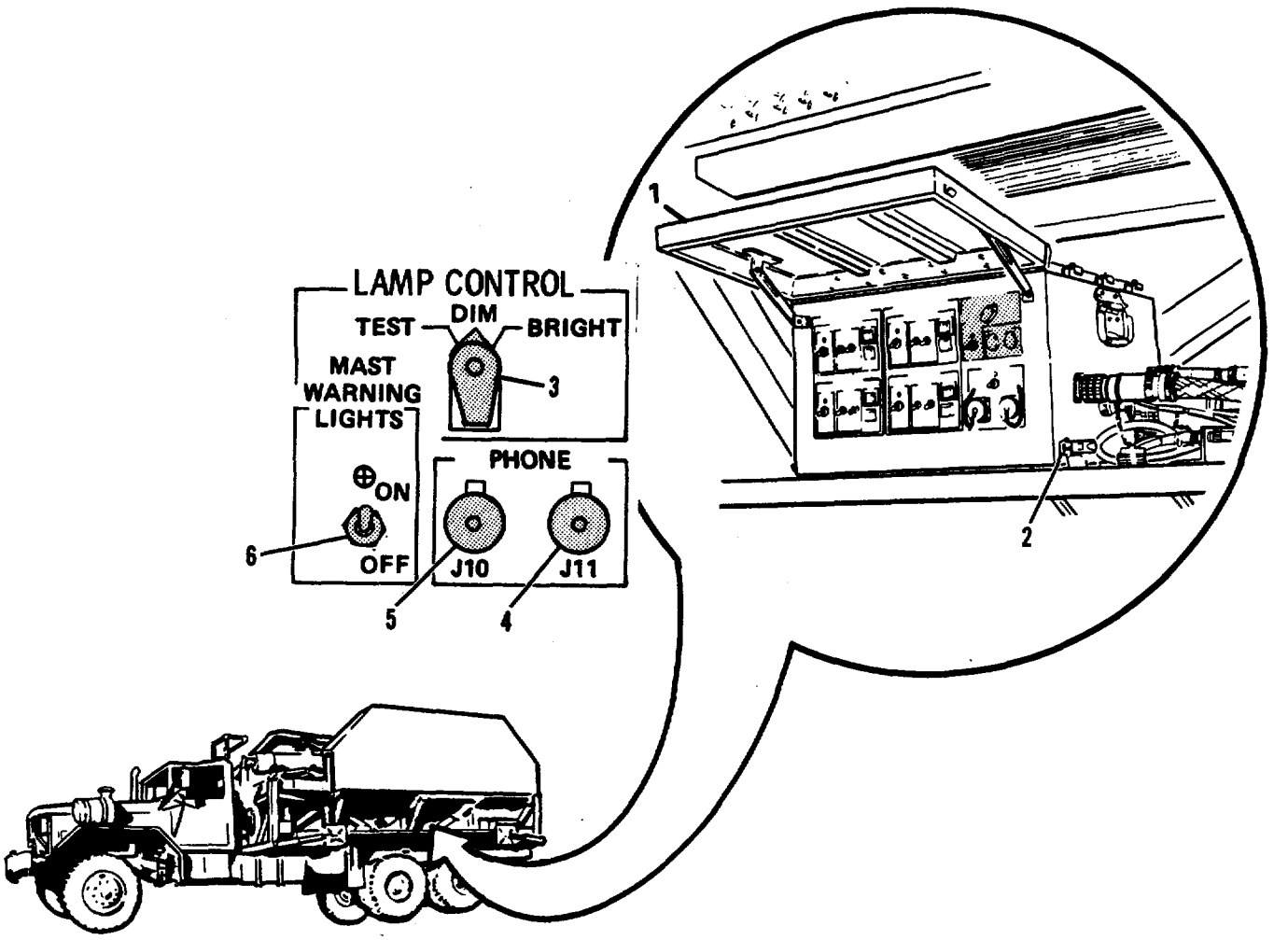
(1) Unlatch two latches (**2**) at either end of distribution box 7A1A1. Open and secure door (**1**).

(2) Place LAMP CONTROL switch (**3**) to DIM for night time operation (blackout) or BRIGHT for day time operation.

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

NOTE

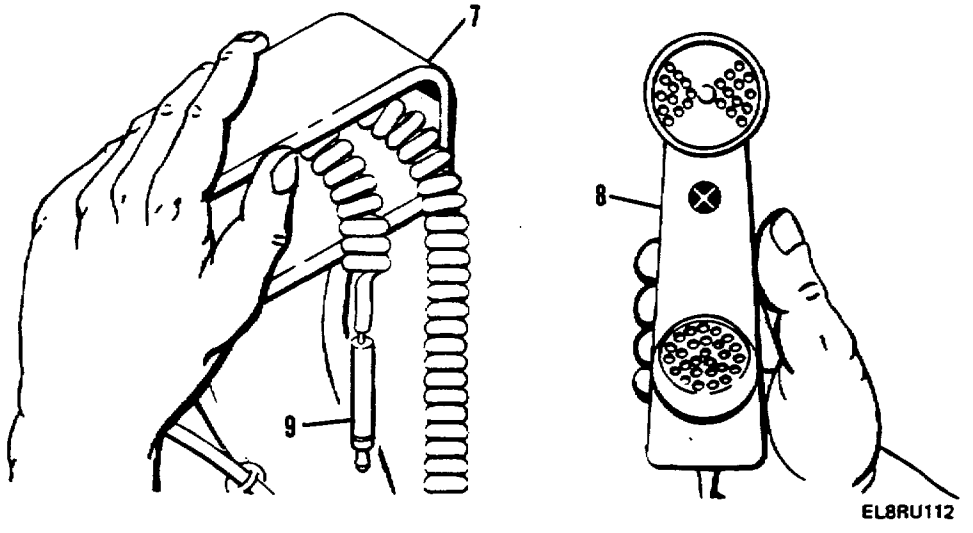
If MAST WARNING LIGHTS circuit breaker is set to ON and it trips to OFF, see TM 9-1430-603-10.



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 see TM 9-1430-603-10.

(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

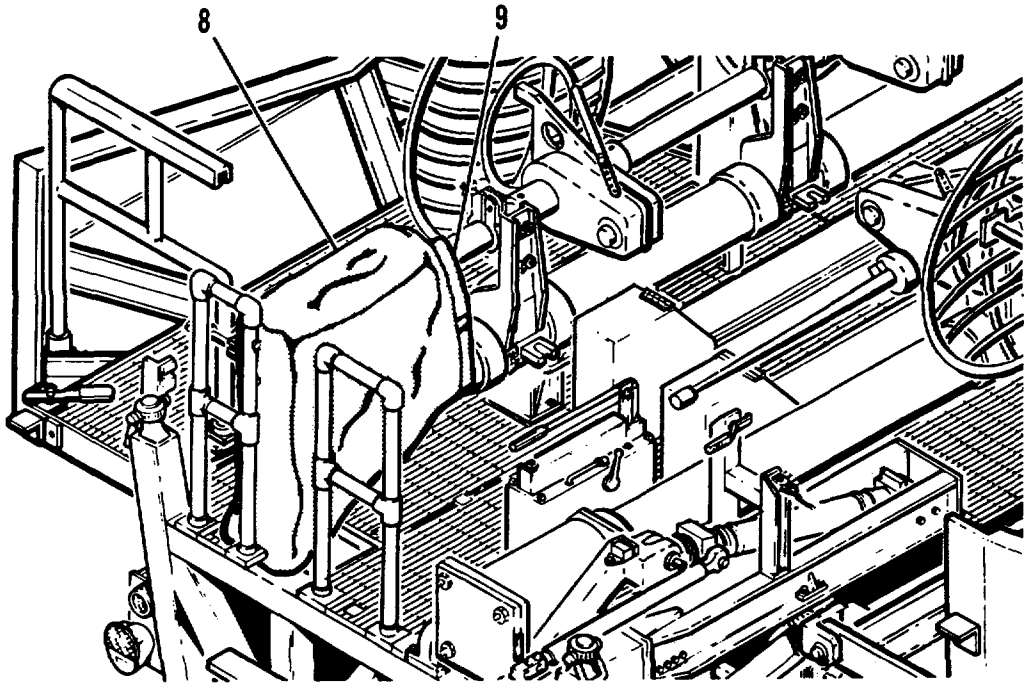
Operator in shelter must check sway sensors while masts are in stowed position. See TM 9-1430-603-10.

h. **Remove amplifier canvas covers**

(1) Unbuckle strap (**9**) securing canvas cover (**8**).

(2) Remove canvas cover (**8**) 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 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.

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 co-ordinate 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.

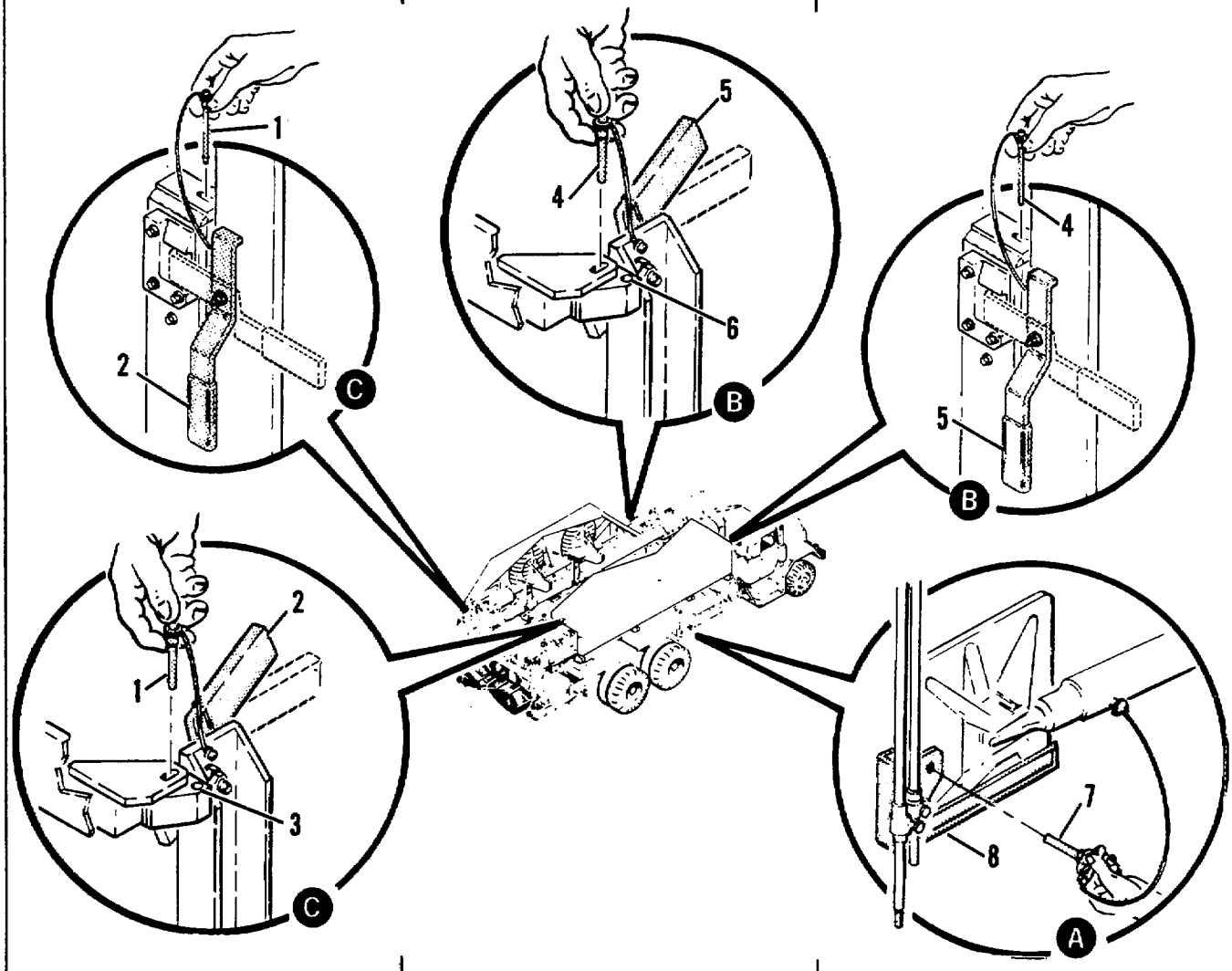
Here is a summary of each soldier's tasks:

SOLDIER A	SOLDIER B	SOLDIER C
• Deploy stabilizing Struts	• 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
• Open PCA air flaps	• Release curbside mast clamp	• Release roadside mast clamp
• Co-ordinate activities between the Mast Group and the shelter (CRG/ ICC/ECS)	• Release forward antenna clamps	• Release rear antenna clamps
	• Help deploy roadside antenna feedhorns	• Deploy roadside antenna feedhorns
	• Deploy curbside feedhorns	• Help deploy curbside feedhorns
	• If needed, adjust antenna elevation and polarization	• If needed, adjust antenna elevation and polarization
	• Operate curbside antenna positioner	• Operate roadside antenna positioner
	• Deploy roadside cylinder lock strut	• Deploy curbside cylinder lock strut
	• Guide cables out of roadside cable tray.	• Guide cables out of curbside cable tray

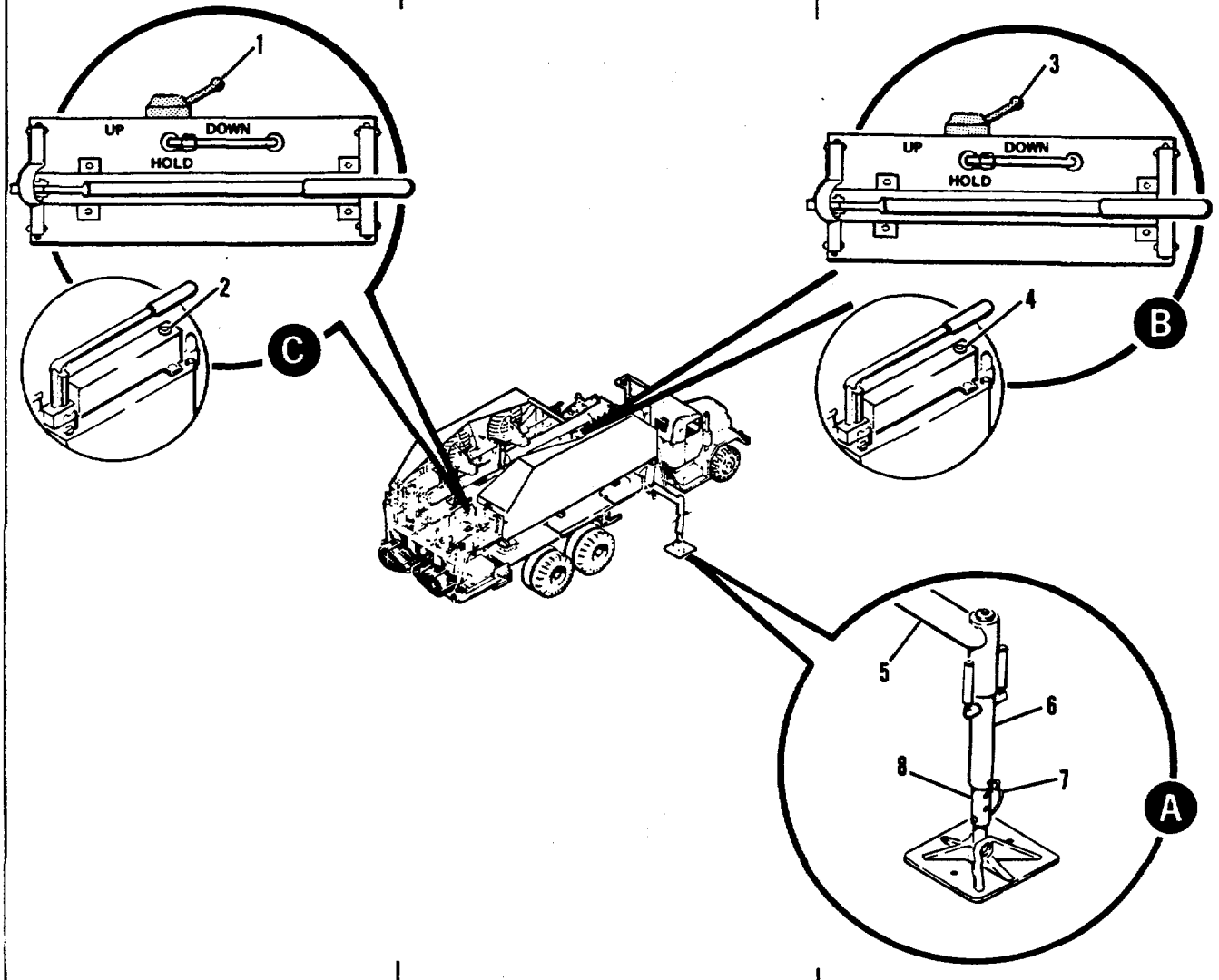
CAUTION

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

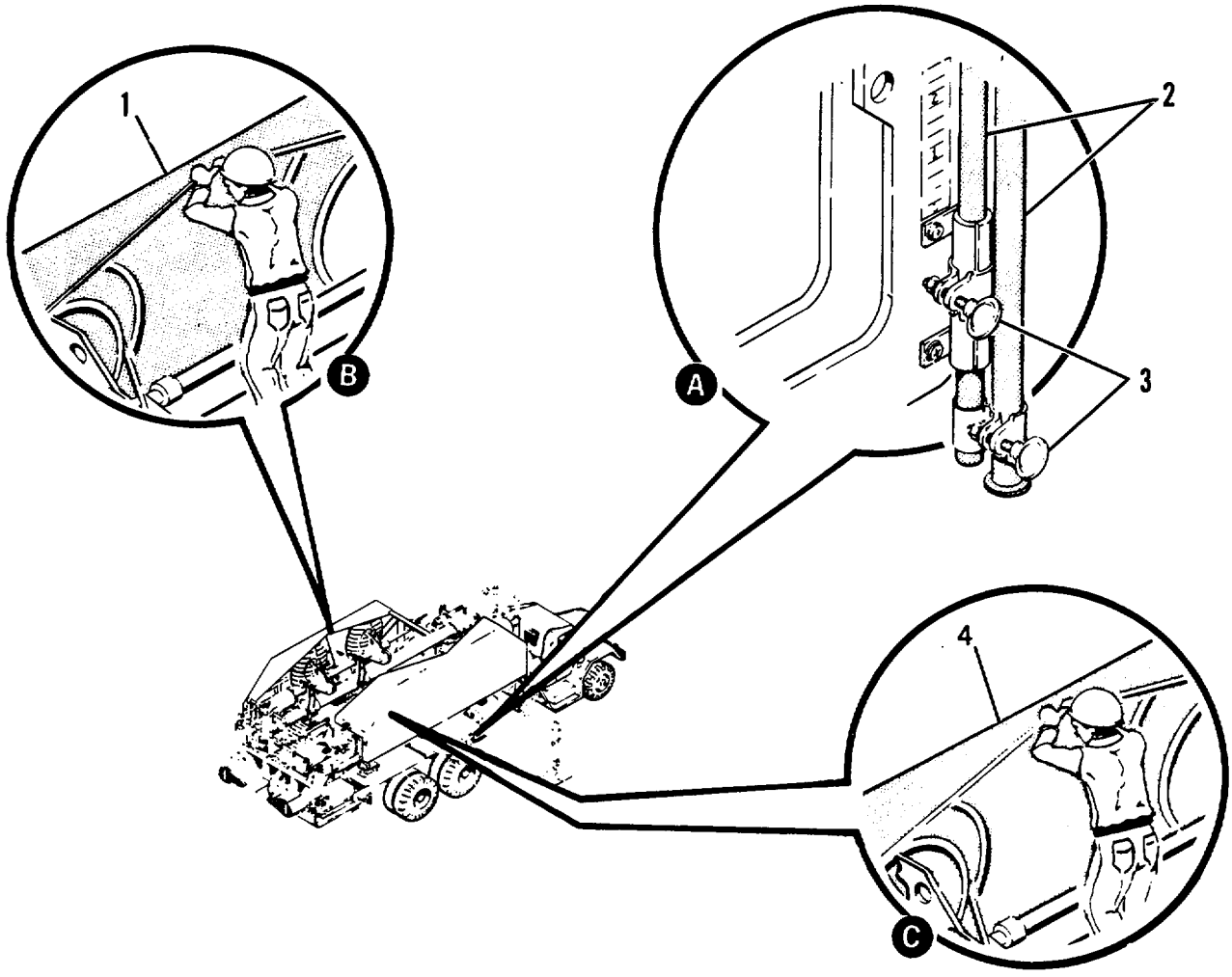
SOLDIER A	SOLDIER B	SOLDIER C
Step 1 - UNSTOW FRONT CURBSIDE STABILIZING STRUT Pull stabilizing strut quick release pin (7). Lift stabilizing strut from stowage bracket (8).	**Step 1 - RELEASE ANTENNA PROTECTIVE COVERS FRONT RETAINING HANDLES** Pull quick release pins (**4**) and stow them in holes (**6**).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



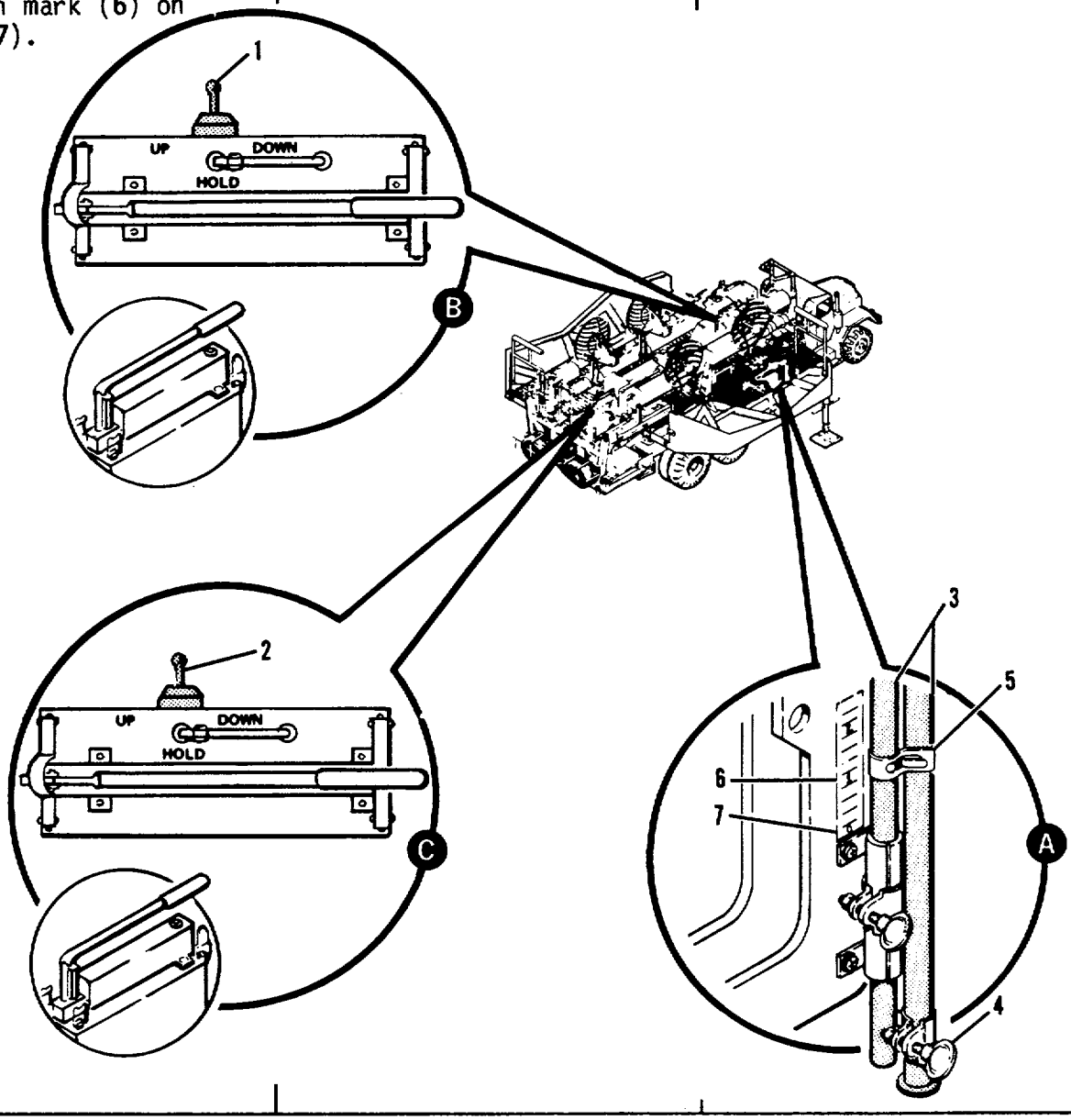
SOLDIER A	SOLDIER B	SOLDIER C
Step 2 - POSITION FRONT CURBSIDE STABILIZING STRUT Pull stabilizing strut (**5**) all the way out from frame and swing down. Aline holes in upper (**6**) and lower (**8**) stabilizing strut sections. Install pin (**7**) through holes to secure sections.	**Step 2 - SET ROADSIDE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



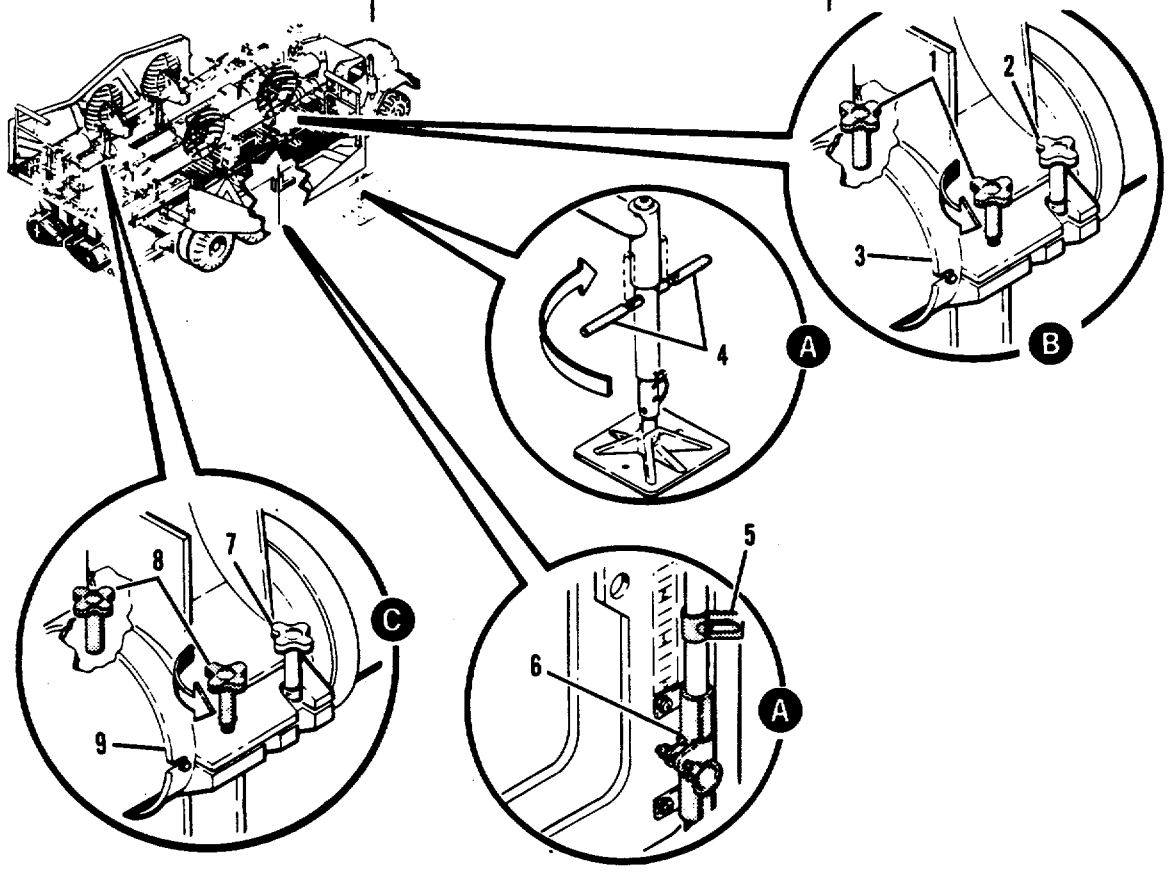
SOLDIER A	SOLDIER B	SOLDIER C
Step 3 - RELEASE CURBSIDE FRONT MEASURING ROD Turn thumbscrews (**3**) counterclockwise to release measuring rods (**2**).	**Step 3 - PUSH ROADSIDE ANTENNA PROTECTIVE COVER OUTBOARD** **WARNING** Yell a warning to personnel on the ground before lowering antenna protective cover. Push roadside antenna protective cover (**1**) outboard and down.	**Step 3 - PUSH CURBSIDE ANTENNA PROTECTIVE COVER OUTBOARD** **WARNING** Yell a warning to personnel on the ground before lowering antenna protective cover. Push curbside antenna protective cover (**4**) outboard and down.



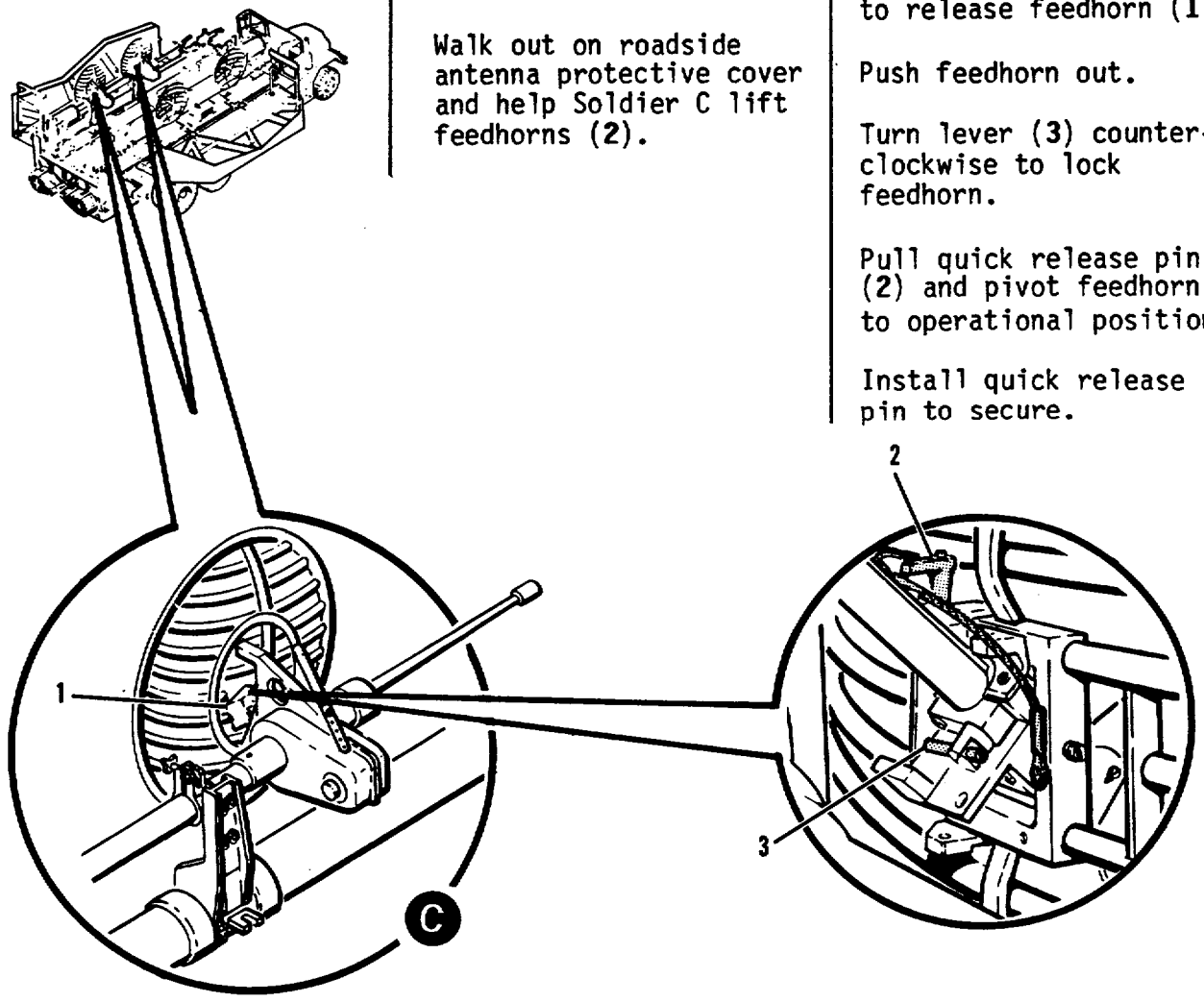
SOLDIER A	SOLDIER B	SOLDIER C
Step 4 - POSITION FRONT CURBSIDE MEASURING ROD Pull rods (**3**) down until bottom rod rests against the ground. Turn lower thumbscrew (**4**) clockwise to secure lower rod (**3**) in deployed position. Slide clip (**5**) down to one inch mark (**6**) on scale (**7**).	**Step 4 - SET ROADSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER TO "HOLD"** 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 TO "HOLD."** When antenna protective cover is all the way down, place the curbside control valve lever (**2**) to "HOLD."



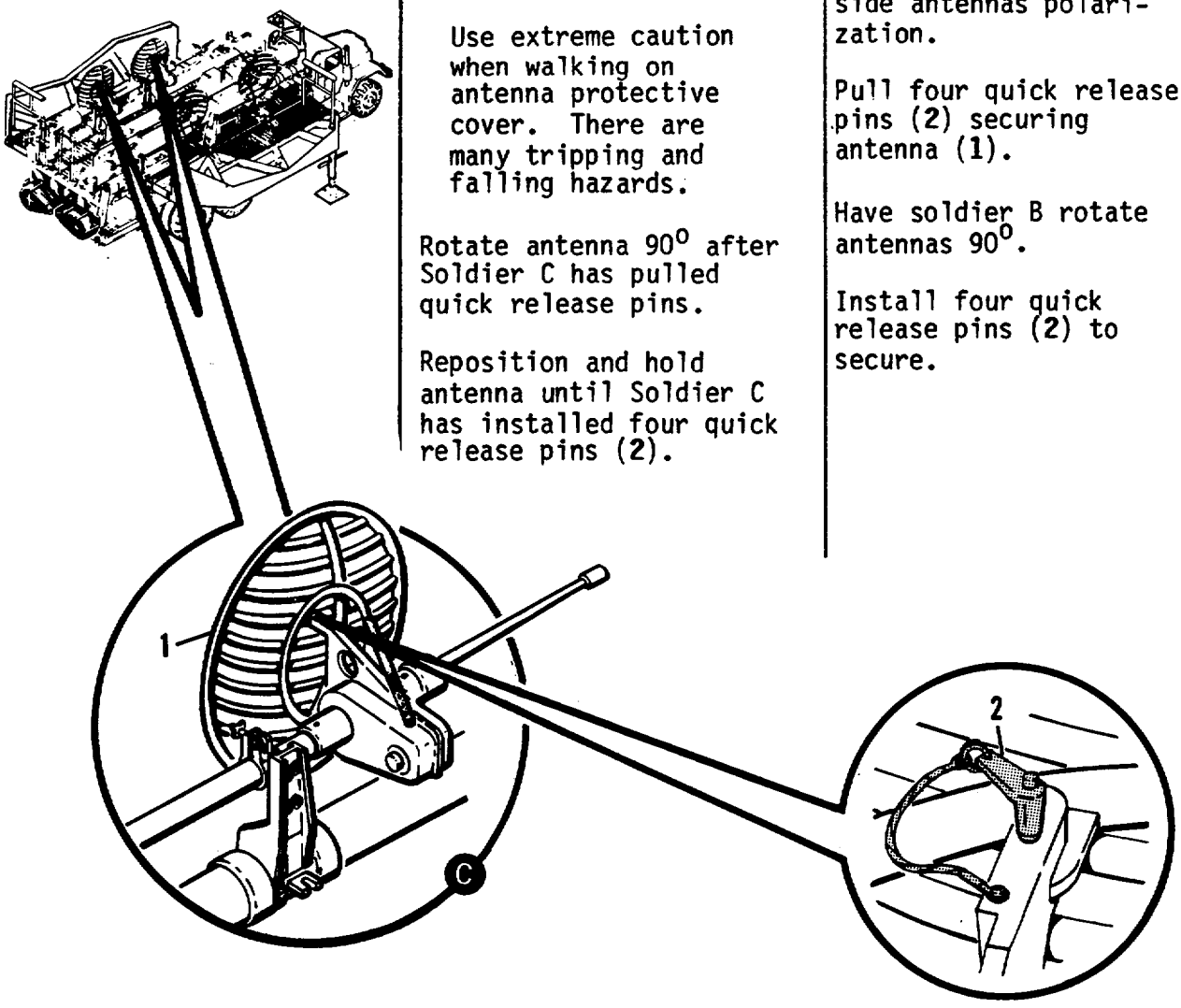
SOLDIER A	SOLDIER B	SOLDIER C
Step 5 - EXTEND FRONT CURBSIDE STABILIZING STRUT Pull down arms (4) on stabilizing strut. Turn arms clockwise to extend stabilizing strut lower section. Extend lower section until measuring rod bracket (6) touches clip (5). Lift arms (4) up to stowed position.	**Step 5 - UNCLAMP CURBSIDE MAST CLAMP** **WARNING** Do not unscrew yellow bolt (2). Mast clamp can fall from mast and injure personnel. Unscrew two captive bolts (1) to release curbside mast clamp (3). **NOTE** Unscrew bolts (1) only far enough to release clamp (3). Do not remove bolts from clamp.	**Step 5 - UNCLAMP ROADSIDE MAST CLAMP** **WARNING** Do not unscrew yellow bolt (7). Mast clamp can fall from mast and injure personnel. Unscrew two captive bolts (8) to release roadside mast clamp (9). **NOTE** Unscrew bolts (8) only far enough to release clamp (9). Do not remove bolts from clamp.



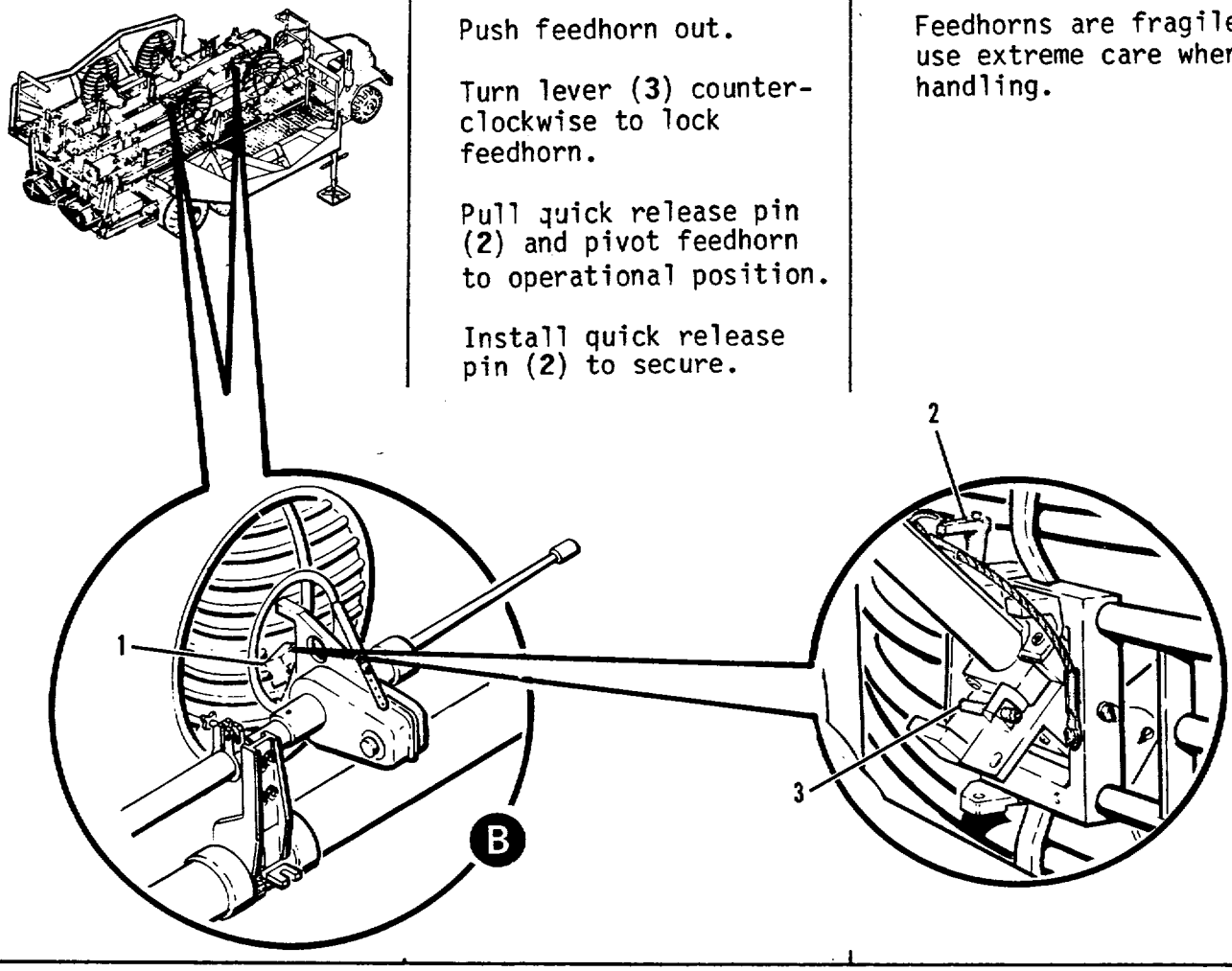
SOLDIER A	SOLDIER B	SOLDIER C
Step 6 - UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 1 through 5 for remaining three stabilizing struts.	**Step 6 - HELP DEPLOY ROADSIDE ANTENNA FEEDHORNS** **WARNING** Use extreme caution when walking on antenna protective cover.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



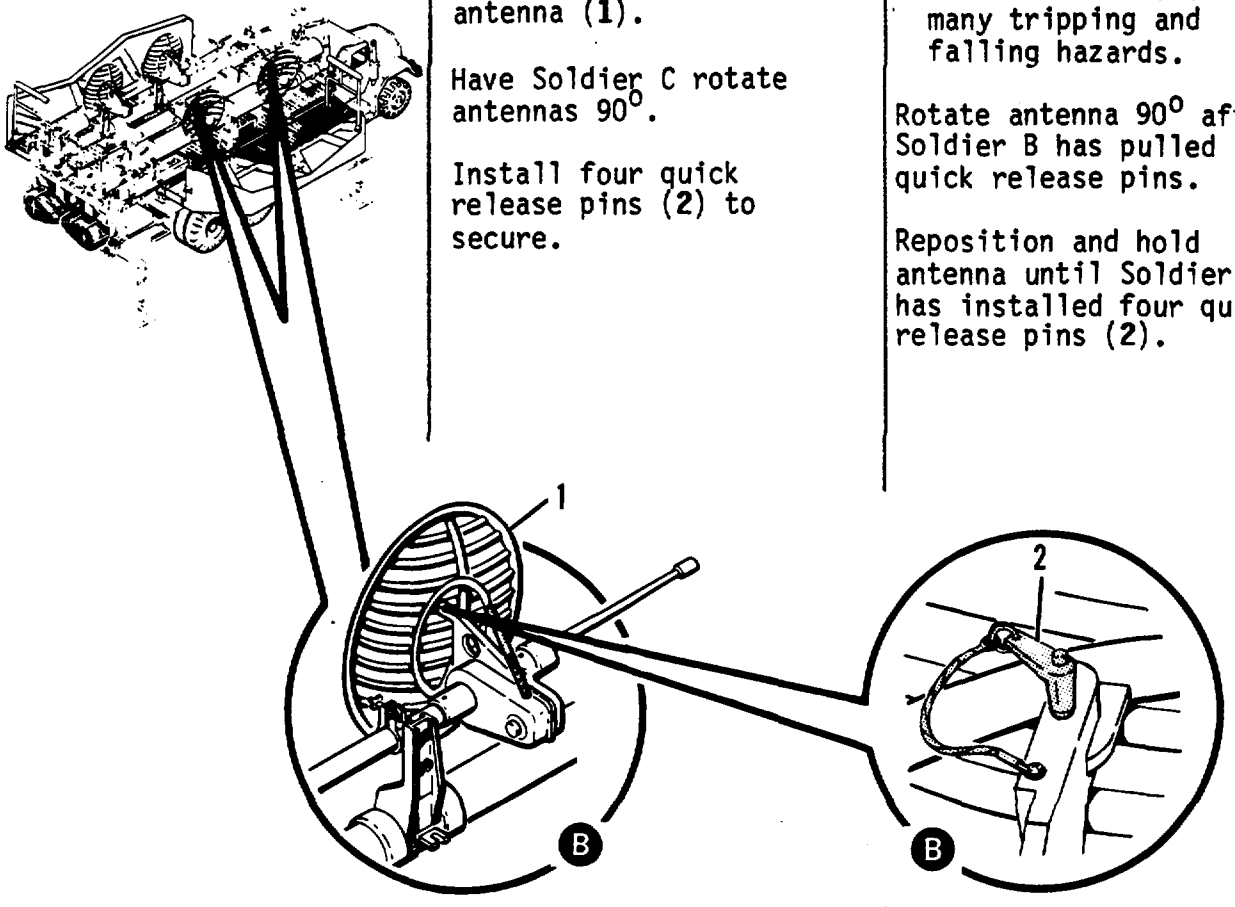
SOLDIER A	SOLDIER B	SOLDIER C
Step 7 - UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 1 through 5 for remaining three stabilizing struts.	**Step 7 - IF NEEDED, CHANGE ROADSIDE ANTENNAS POLARIZATION** **NOTE** Check with communications plan to find out if antenna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



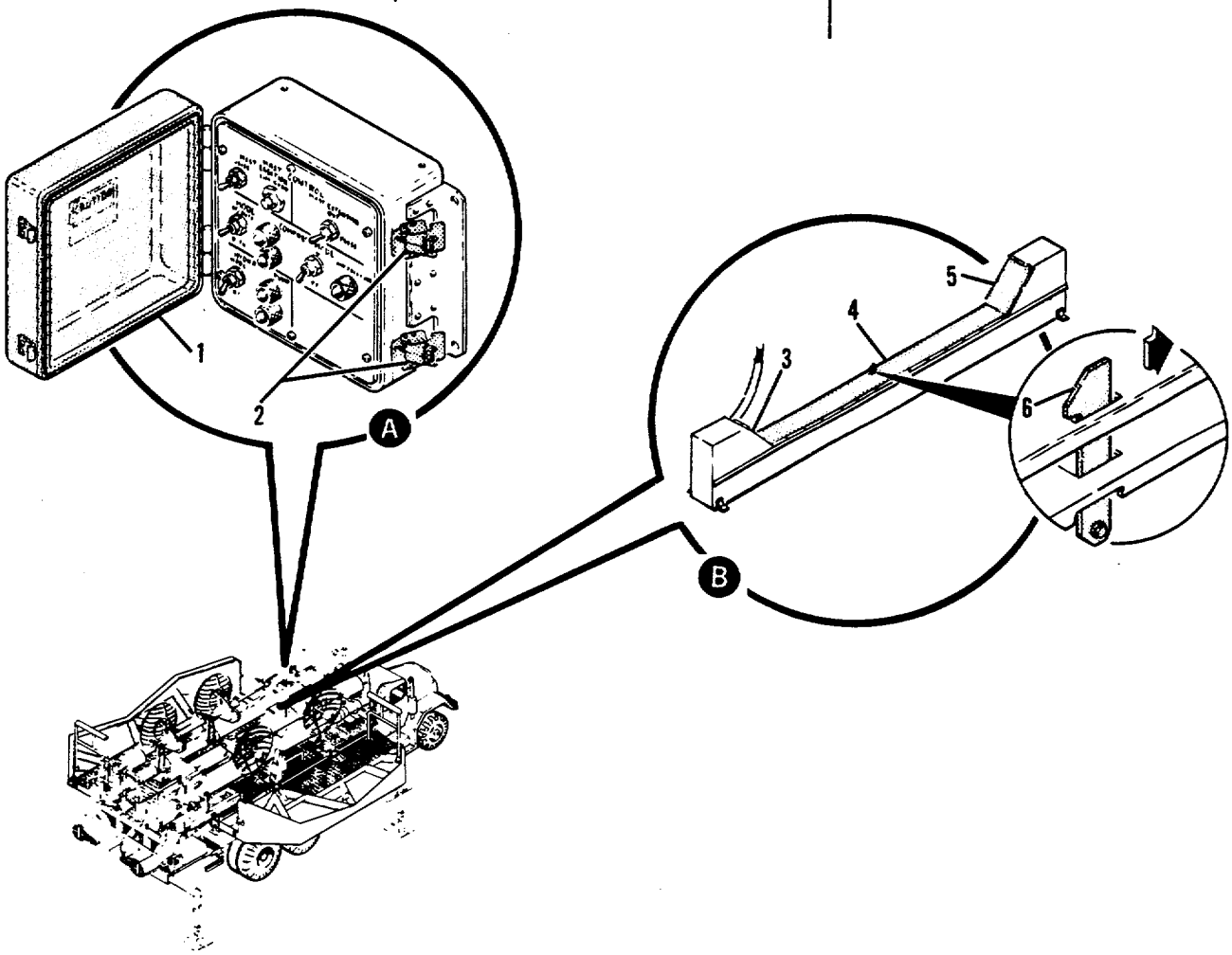
SOLDIER A	SOLDIER B	SOLDIER C
Step 8 - UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS AND MEASURING RODS. Repeat steps 1 through 5 for remaining three stabilizing struts.	**Step 8 - DEPLOY CURBSIDE ANTENNA FEEDHORNS (Antennas 1 AND 2)** **WARNING** Use extreme care; it is easy to pinch fingers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



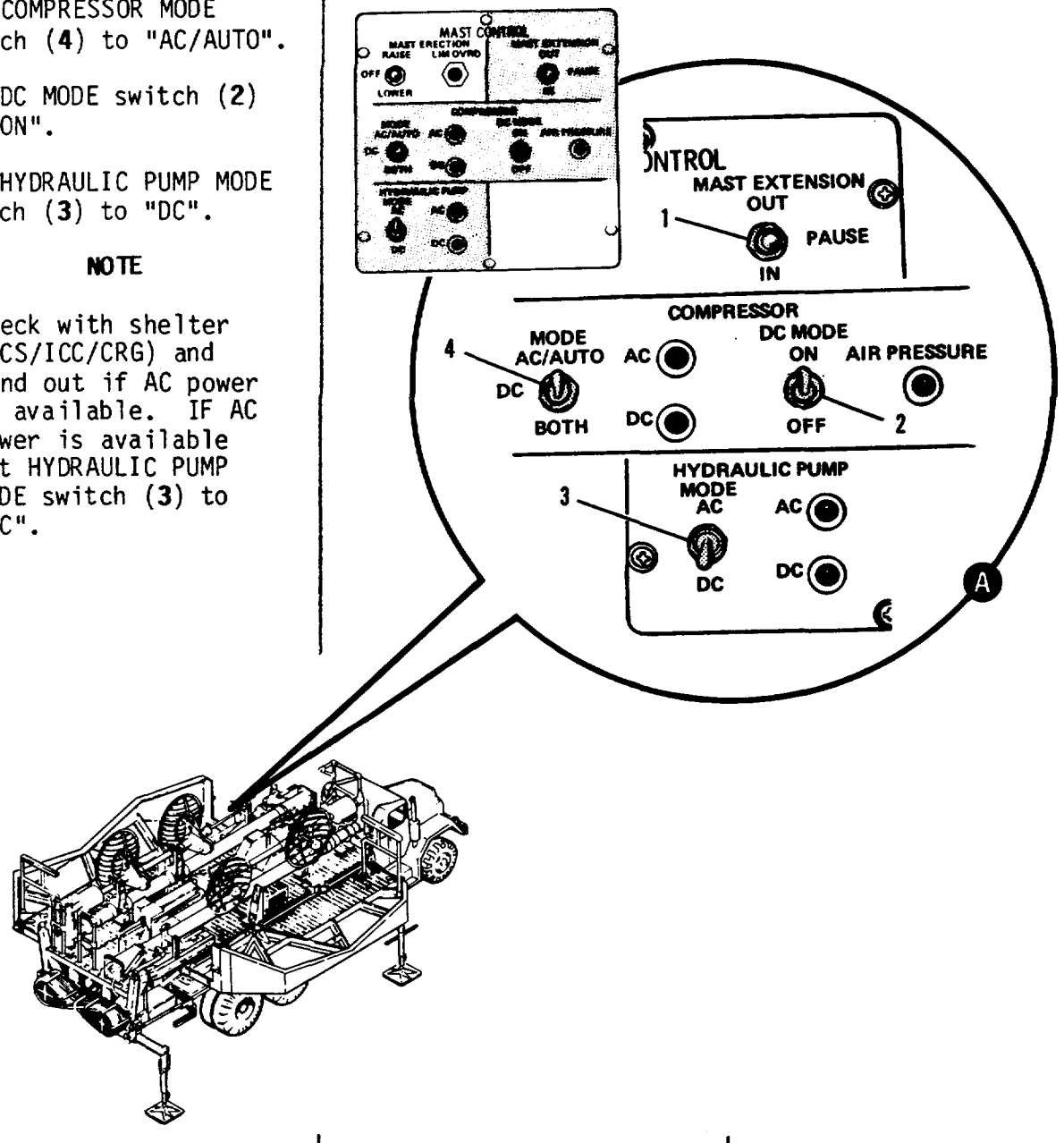
SOLDIER A	SOLDIER B	SOLDIER C
Step 9 - UNSTOW AND POSITION REMAINING THREE STABILIZING STRUTS AND MEASURING RODS. Repeat steps 1 through 5 for remaining three stabilizing struts.	**Step 9 - IF NEEDED, CHANGE CURBSIDE ANTENNAS POLARIZATION** **NOTE** Check with communications plan to find *out if antenna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



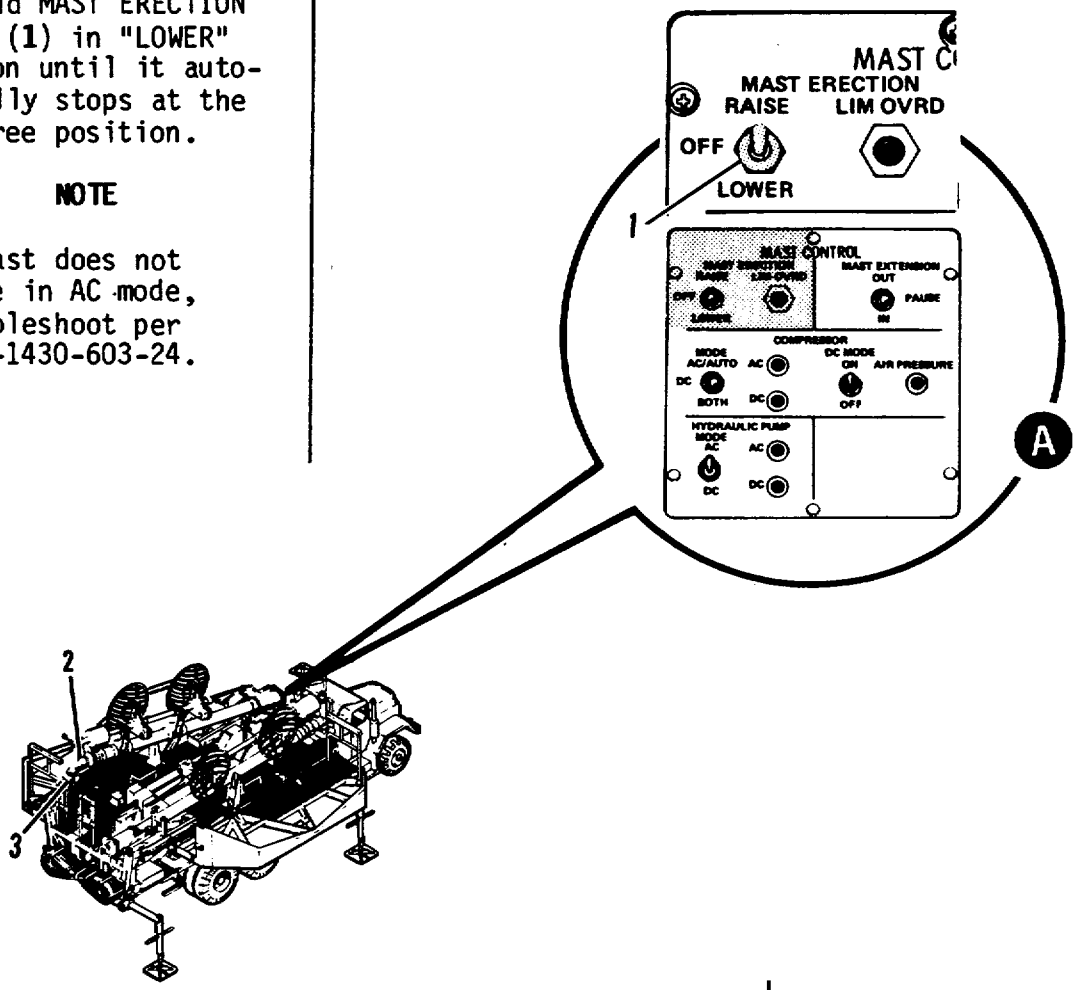
SOLDIER A	SOLDIER B	SOLDIER C
Step 10 - OPEN ROADSIDE MAST CONTROL DOOR Release two clamps (2) and swing mast control door (1) open.	**Step 10 - OPEN ROADSIDE CABLE TRAY COVERS** Release cable tray cover clamp (6). Swing cover (4) open. Then swing end cover (5) open. **CAUTION** Do not open end cover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



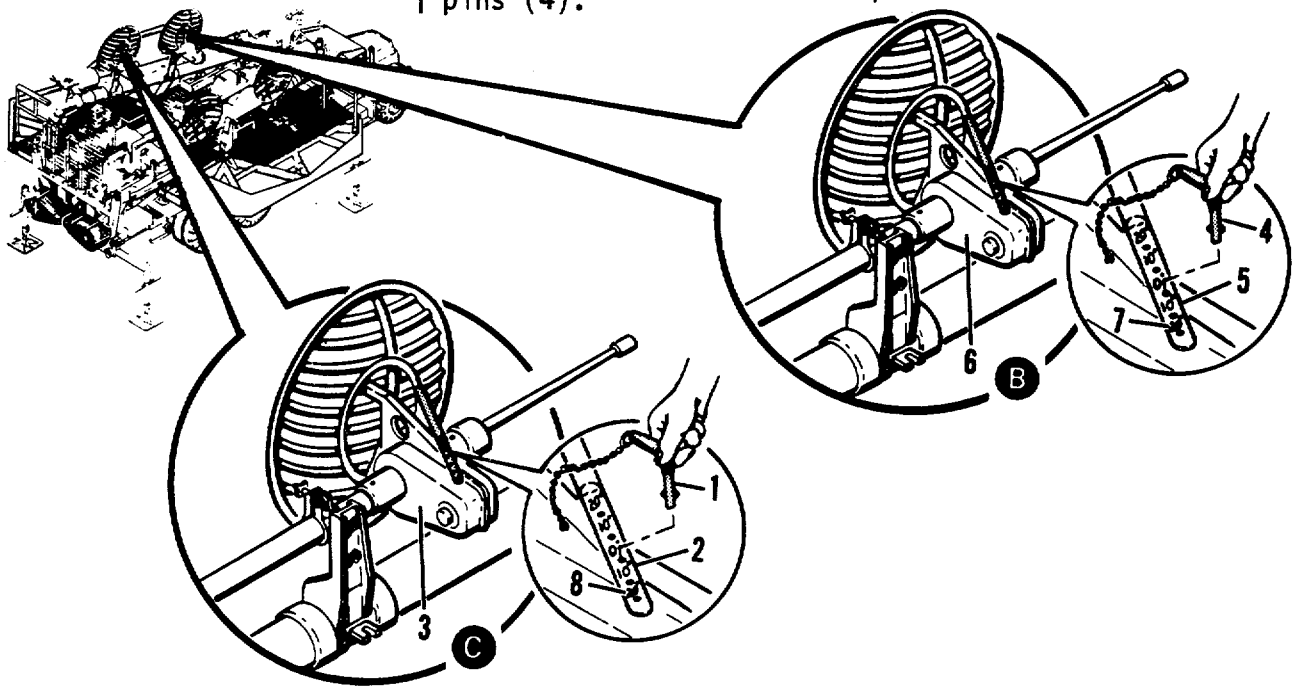
SOLDIER A	SOLDIER B	SOLDIER C
Step 11 - SET ROADSIDE MAST CONTROL SWITCHES Set MAST EXTENSION switch (**1**) to "PAUSE". Set COMPRESSOR MODE switch (**4**) to "AC/AUTO". Set DC MODE switch (**2**) to "ON". Set HYDRAULIC PUMP MODE switch (**3**) to "DC". **NOTE** Check with shelter (ECS/ICC/CRG) and find 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**



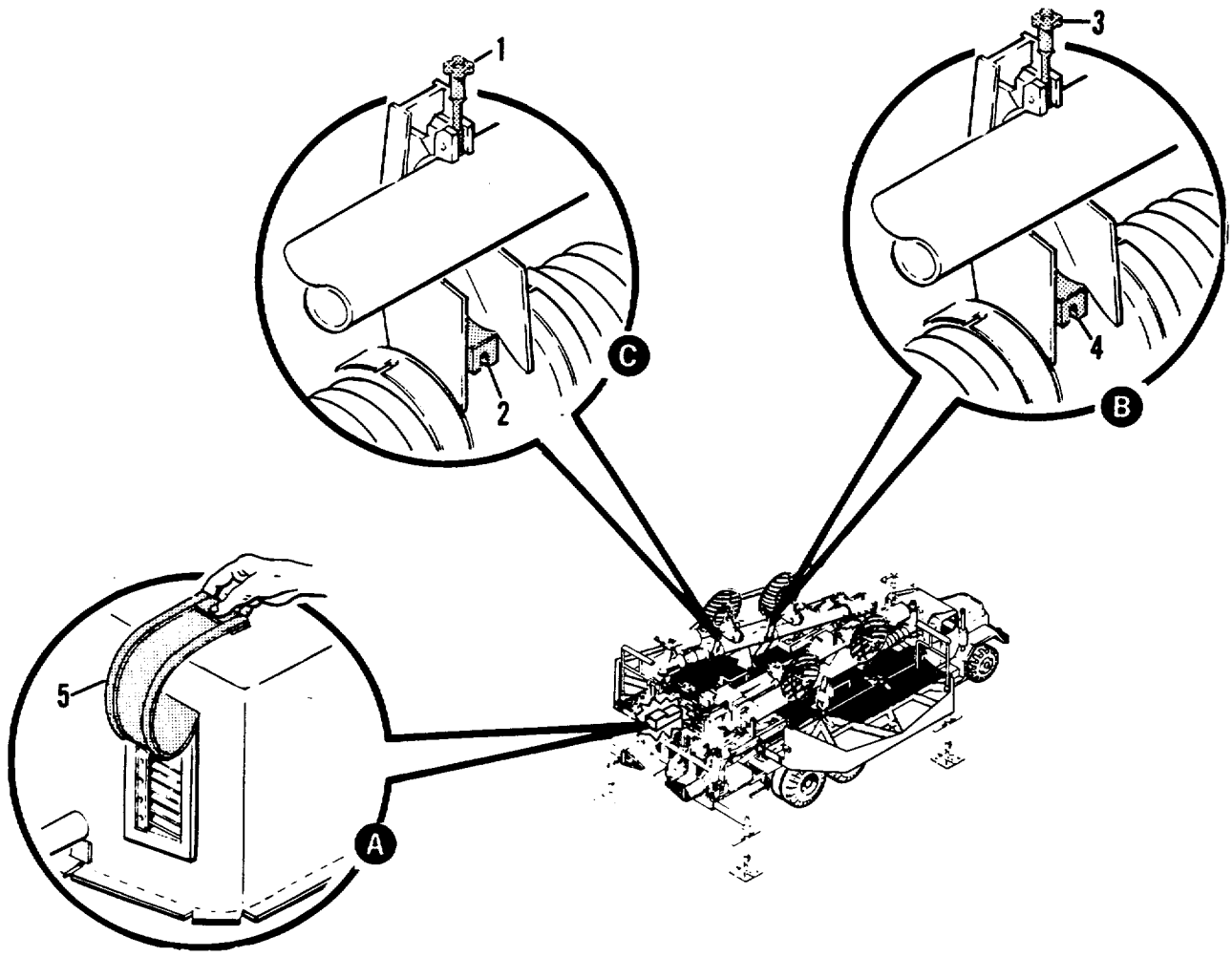
SOLDIER A	SOLDIER B	SOLDIER C
Step 12 - RAISE ROADSIDE MAST 15 DEGREES **WARNING** Mast travel path must be clear of personnel. Tell soldier you're going to raise mast. Hold MAST ERECTION switch (**1**) in "RAISE" position until bottom of antenna positioner (**2**) is about 1 foot above handrail (**3**). The hold MAST ERECTION SWITCH (**1**) in "LOWER" position until it automatically stops at the 15 degree position. **NOTE** If mast does not raise in AC mode, troubleshoot per TM 9-1430-603-24.	**Step 12 - WATCH ROADSIDE MAST.** **WARNING** Stand away from roadside mast. Wait until Soldier A has raised mast 15 degrees before starting next step. Observe roadside mast. Tell Soldier A to stop mast movement if there are any obstructions.	**Step 12 - WATCH ROADSIDE MAST** **WARNING** Stand away from roadside mast. Wait until Soldier A has raised mast 15 degrees before starting next step. Observe roadside mast. Tell Soldier A to stop mast movement if there are any obstructions.



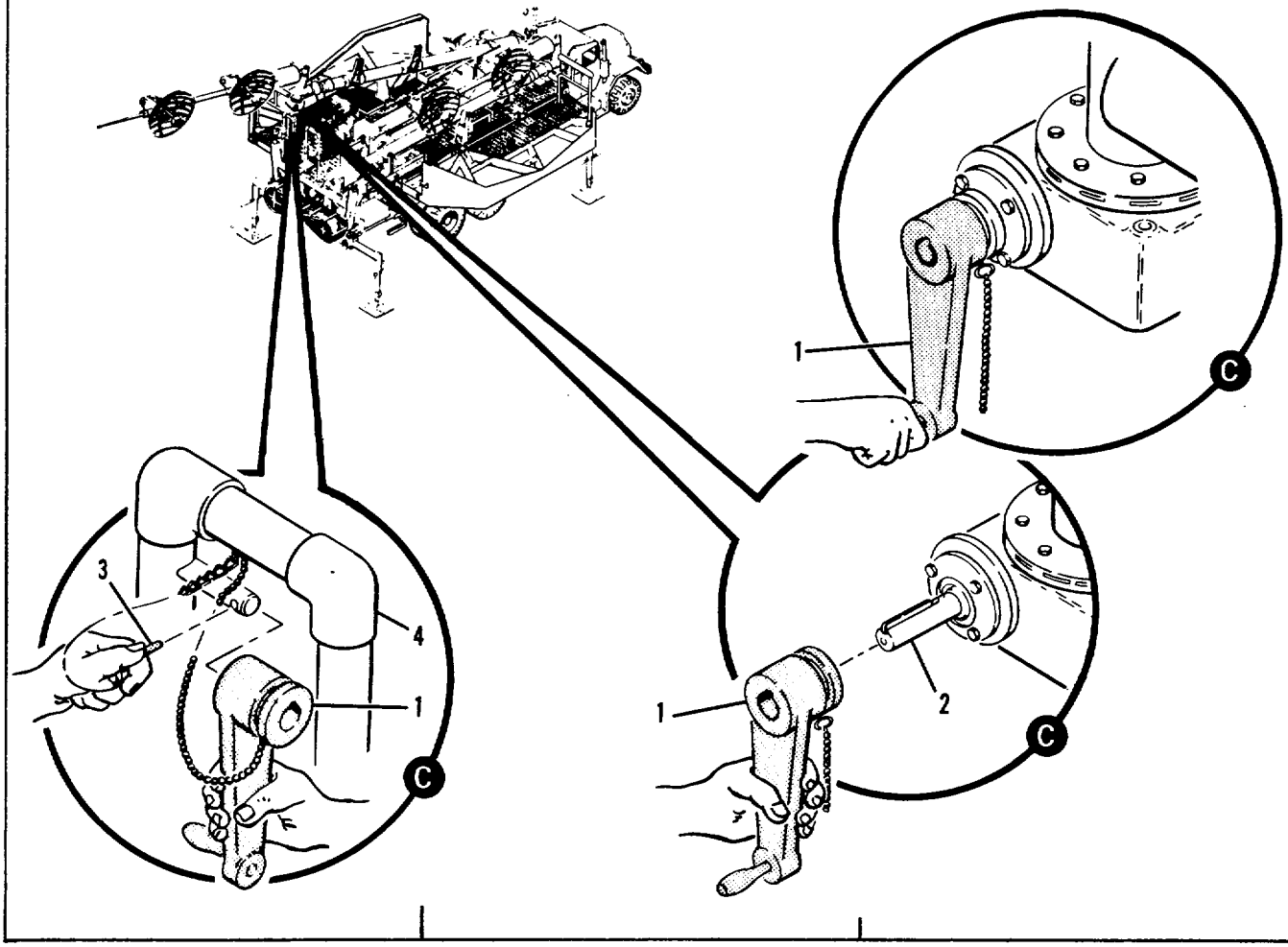
SOLDIER A	SOLDIER B	SOLDIER C
Step 13 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS AND MEASURING RODS Repeat steps 1 through 5 for remaining stabilizing struts.	**Step 13 - IF NECESSARY, ADJUST FRONT ROADSIDE ANTENNA (NO. 3) IN ELEVATION** **NOTE** Check with Communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set. Pull quick release pins (4) securing struts (5). Position antenna according to degree marks (7) on strut. Aline hole in strut (5) with hole in antenna driver (6). Install quick release pins (4).	**Step 13 - IF NECESSARY, ADJUST REAR ANTENNA (NO. 4) IN ELEVATION ROADSIDE** **NOTE** Check with communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set. Pull quick release pins (1) securing struts (2). Position antenna according to degree marks (8) on strut. Aline hole in strut with hole in antenna driver (3). Install quick release pins (1).



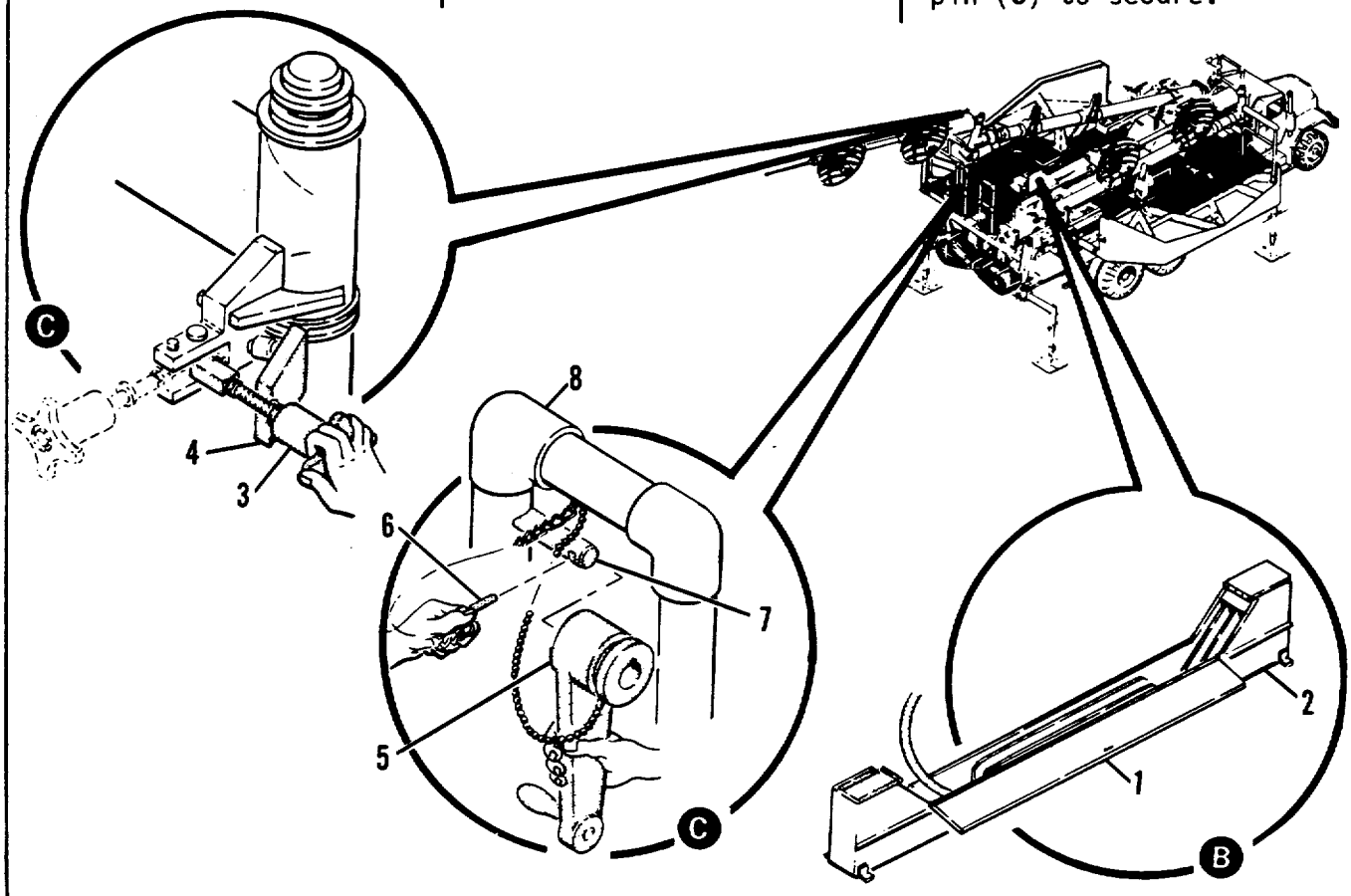
SOLDIER A	SOLDIER B	SOLDIER C
Step 14 - OPEN/VERIFY ROADSIDE AIR INTAKE FLAP Open air intake flap (**5**). Peel flap back and press down to secure. **NOTE** Flap may already be open if air tanks have been charged in transit.	**Step 14 - RELEASE ROADSIDE FRONT ANTENNA CLAMP** Unscrew and lift bolt (**3**)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



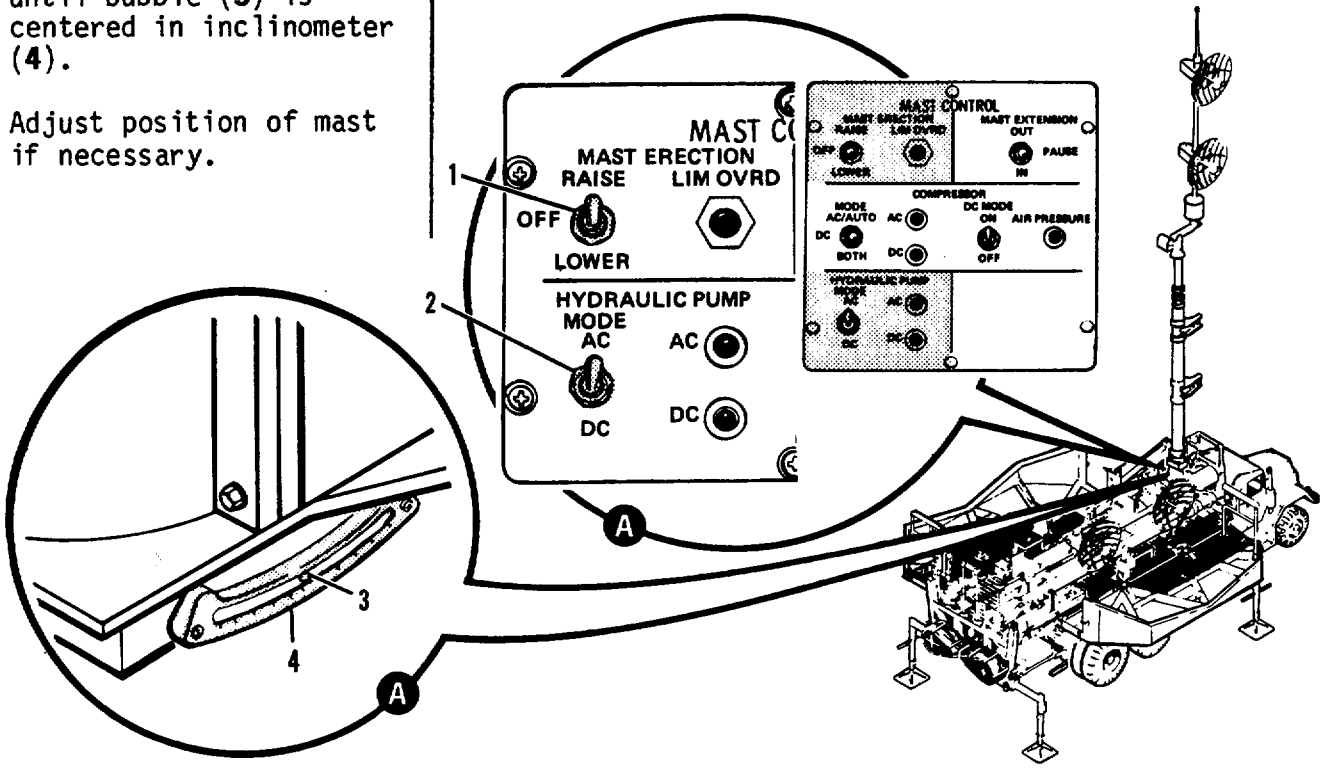
SOLDIER A	SOLDIER B	SOLDIER C
Step 15 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS AND MEASURING RODS Repeat steps 1 through 5 for remaining stabilizing struts.	**Step 15 - WATCH ROADSIDE ANTENNAS** Observe roadside antennas. Tell Solder C to stop unfolding antennas if there is any obstruction.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



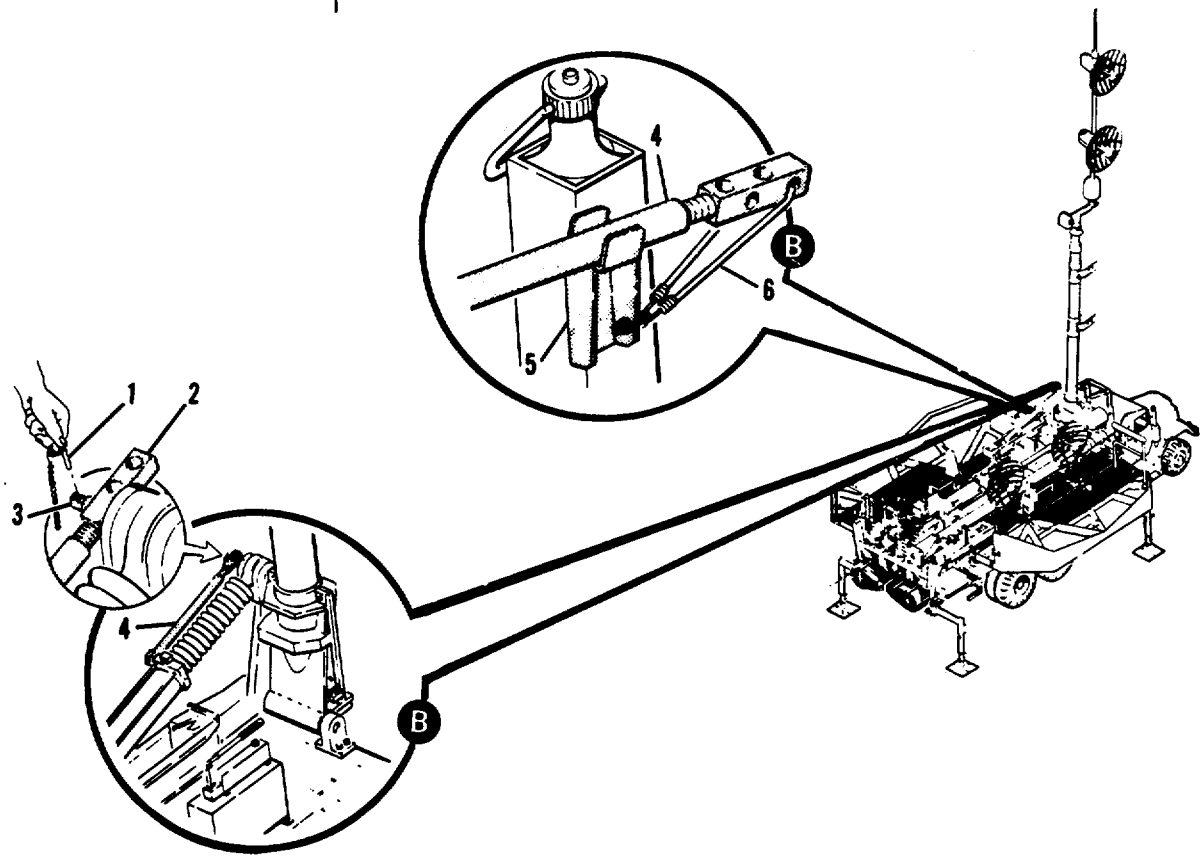
SOLDIER A	SOLDIER B	SOLDIER C
Step 16 - UNSTOW AND POSITION REMAINING STABILIZING STRUTS AND MEASURING RODS Repeat steps 1 through 5 for remaining stabilizing struts. **NOTE** If you expect adverse weather conditions you must deploy the mast covers and/or height limiter on the road side mast (Section IV paragraphs 2-20a and 2-21a). Then proceed to next page and continue deploying masts.	**Step 16 - OPEN NARROW CABLE TRAY COVER** Open cover (1) on roadside cable tray (2). **NOTE** If you expect adverse weather conditions you must deploy the mast covers and/or height limiter on the road side mast (Section IV paragraphs 2-20a and 2-21a). Then proceed to next page and continue deploying masts.	**Step 16 - SECURE ROADSIDE ANTENNAS IN UNFOLDED POSITION, STOW POSITIONER HANDLE** Rotate swivel handle (3) into notch in bracket (4). Turn swivel handle (3) clockwise to secure antennas in unfolded position. Pull handle (5) from antenna positioner. Place handle (5) on shaft (7) on handrail (8). Install quick release pin (6) to secure.



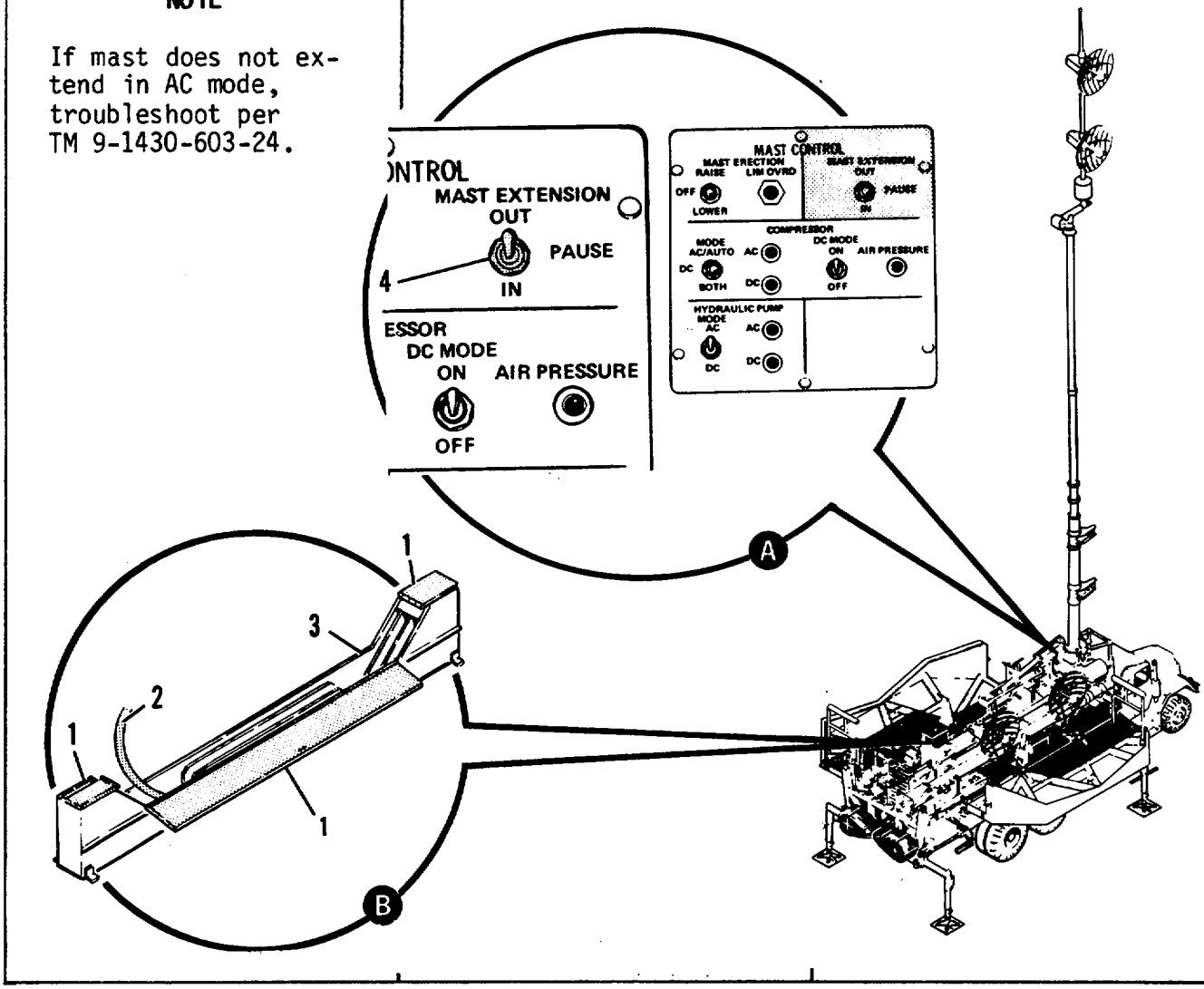
SOLDIER A	SOLDIER B	SOLDIER C
Step 17 - RAISE ROADSIDE MAST TO VERTICAL **WARNING** Mast travel path must be clear of personnel. Tell Soldiers B and C you're going to raise the mast. **NOTE** Check with shelter (ECS/ICC/CRG) and find out if AC power is avalable. If AC power is availble set HYDRULIC PUMP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



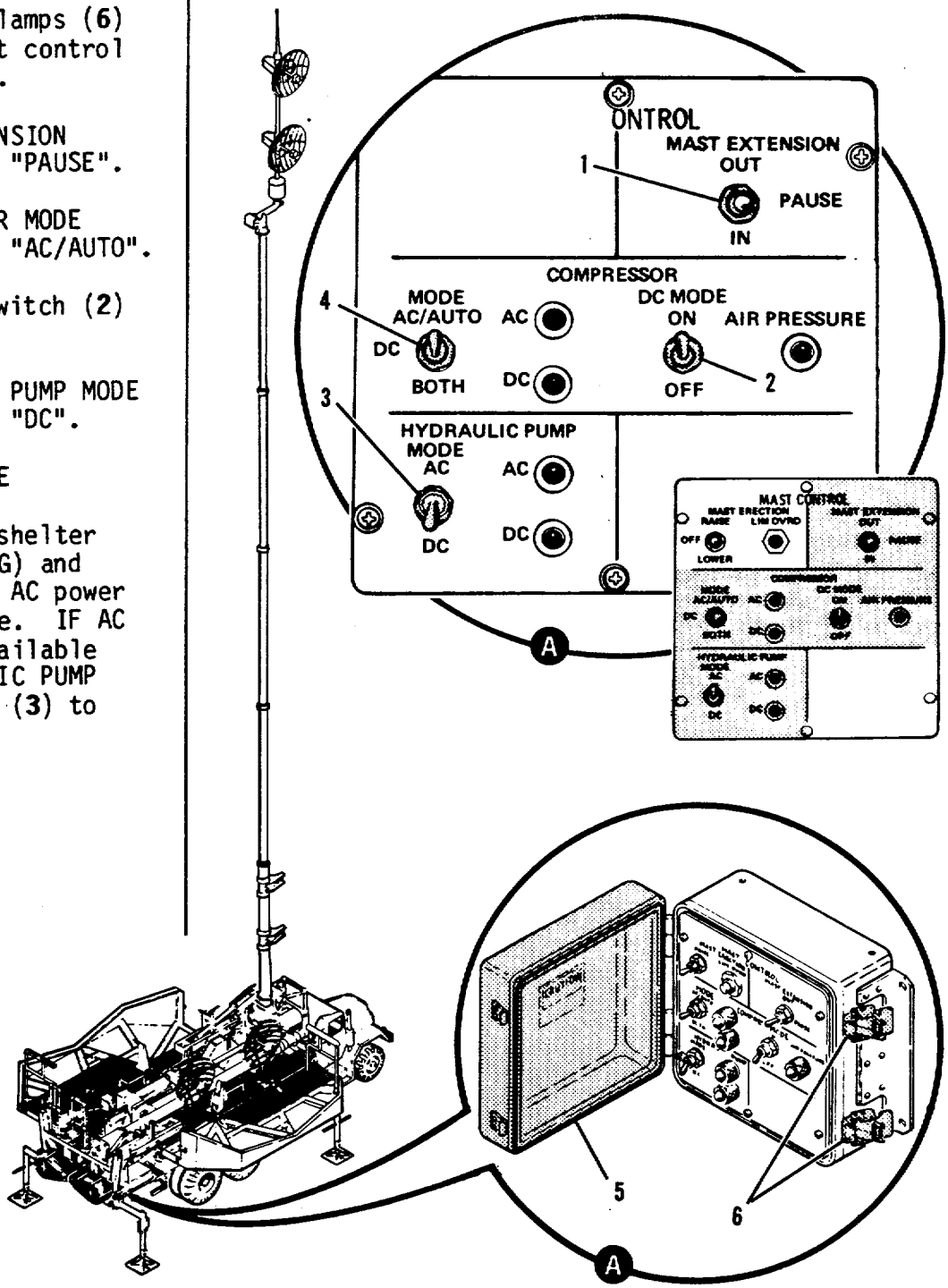
SOLDIER A	SOLDIER B	SOLDIER C
Step 18 - BREAK Wait until Soldier B has engaged lock strut before starting next step.	**Step 18 - UNSTOW AND ENGAGE ROADSIDE MAST LOCK STRUT** Unhook elastic cord (**6**) and lift strut (**4**) out of stowage bracket (**5**). Slide and/or rotate lock strut bar (**2**) to aline a hole in bar with mast clamp pin (**3**). Install bar (**2**) on pin (**3**). Install quick release pin (**1**) in hole in mast clamp pin (**3**) to secure lock strut (**4**).	**Step 18 - BREAK** Wait until Soldier B has engaged lock strut before starting next step.



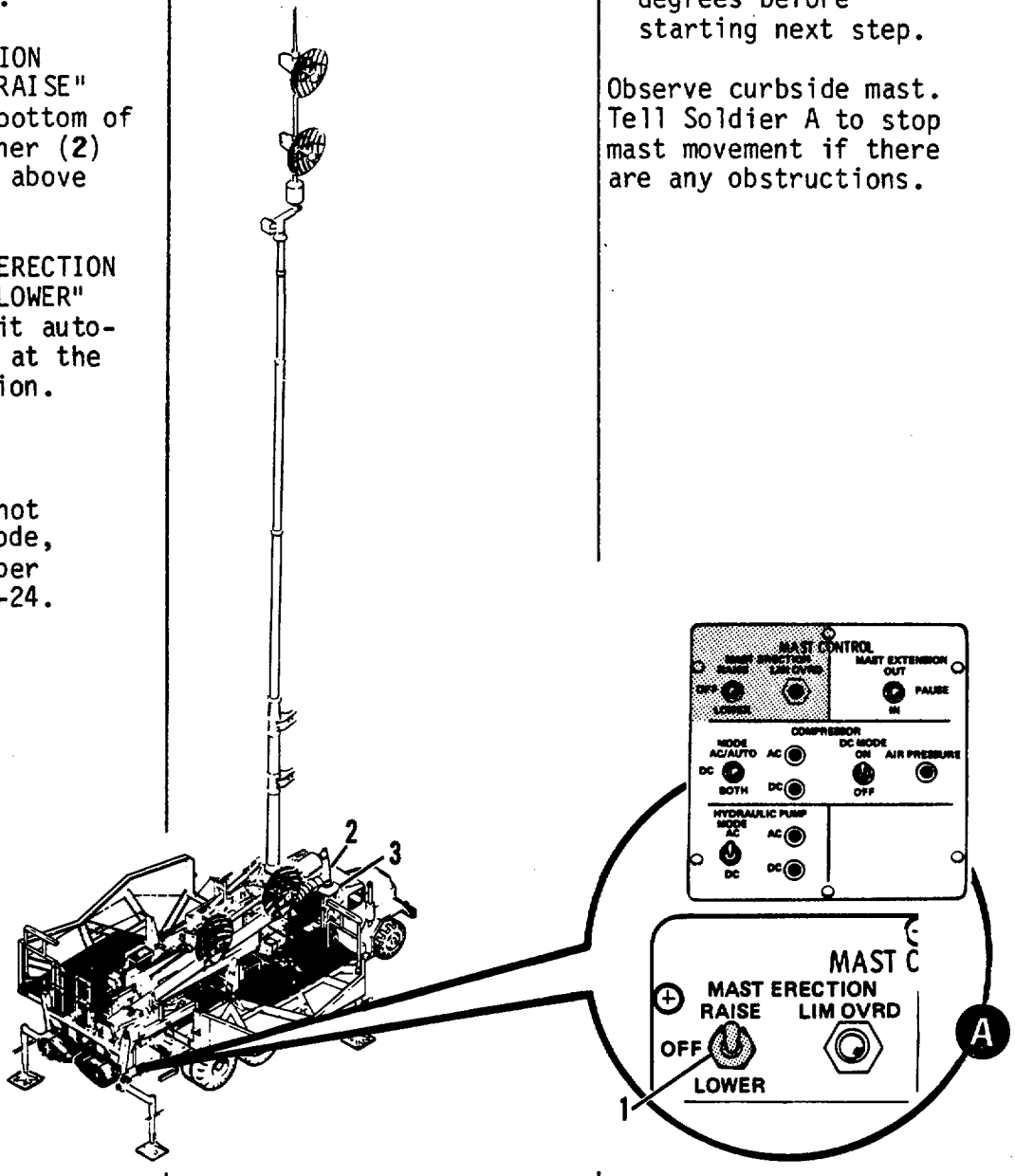
SOLDIER A	SOLDIER B	SOLDIER C
Step 19 - EXTEND ROADSIDE MAST Set MAST EXTENSION switch (**4**) to "OUT" and extend roadside mast. **NOTE** Mast must be vertical within 5 degrees and lock strut engaged before mast can be extended. **NOTE** If mast does not extend in AC mode, troubleshoot per TM 9-1430-603-24.	**Step 19 - GUIDE ROADSIDE MAST CABLES** Guide cable (**2**) out of roadside cable tray (**3**). Tell Soldier A to stop mast extension if cable becomes entangled or fouled. Close cable tray covers (**1**) when mast is fully extended.	**Step 19 - BREAK** **NOTE** If your mast group has variable height limiter deployed, set ratchet lever to "UP" (para 2-21a, step 1(b).



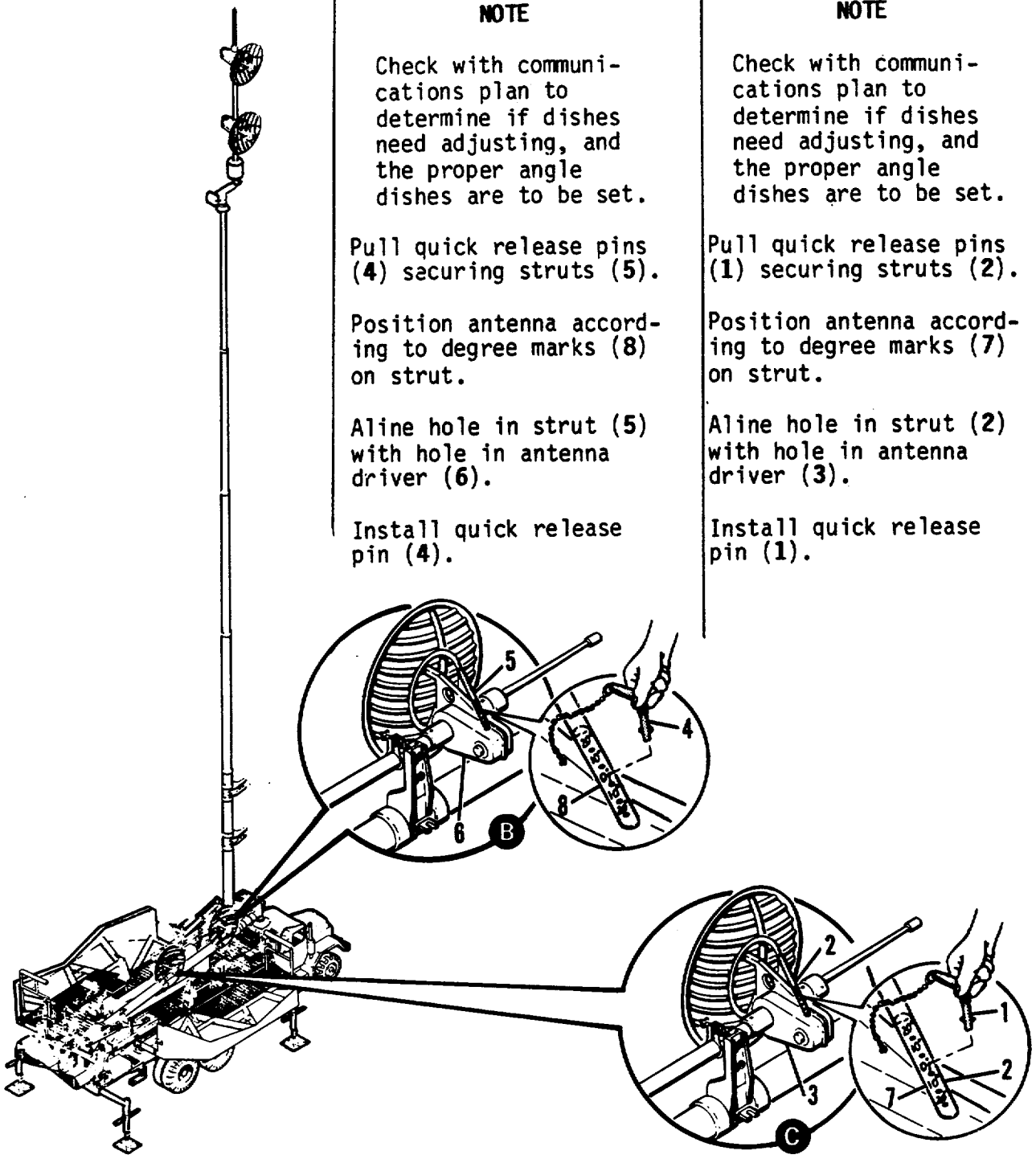
SOLDIER A	SOLDIER B	SOLDIER C
Step 20 - OPEN CURBSIDE MAST CONTROL DOOR, SET SWITCHES Release two clamps (6) and swing mast control door (5) open. Set MAST EXTENSION switch (1) to "PAUSE". Set COMPRESSOR MODE switch (4) to "AC/AUTO". Set DC MODE switch (2) to "ON". Set HYDRAULIC PUMP MODE switch (3) to "DC". **NOTE** 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



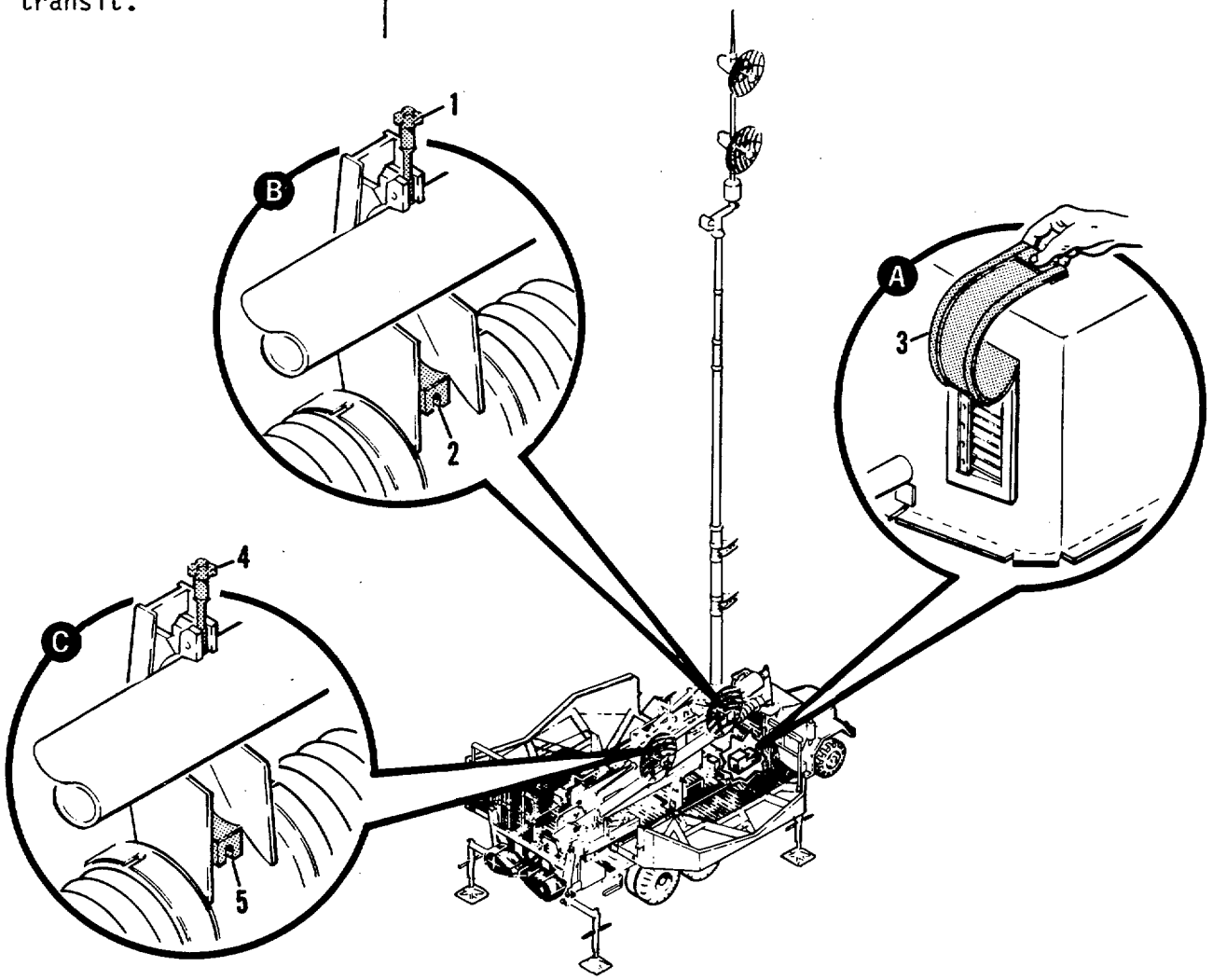
SOLDIER A	SOLDIER B	SOLDIER C
Step 21 - RAISE CURBSIDE MAST 15 DEGREES **WARNING** Mast travel path must be clear of personnel. Tell Soldiers B and C you're going to raise mast. Hold MAST ERECTION switch (**1**) in "RAISE" position until bottom of antenna positioner (**2**) is about 1 foot above handrail (**3**). Then hold MAST ERECTION switch (**1**) in "LOWER" position until it automatically stops at the 15 degree position. **NOTE** If mast does not raise in AC mode, troubleshoot per TM 9-1430-603-24.	**Step 21 - BREAK** **WARNING** Stand away from curbside mast. Wait until Soldier A has raised mast 15 degrees before starting next step.	**Step 21 - WATCH CURBSIDE MAST** **WARNING** Stand away from curbside mast. Wait until Soldier A has raised mast 15 degrees before starting next step. Observe curbside mast. Tell Soldier A to stop mast movement if there are any obstructions.



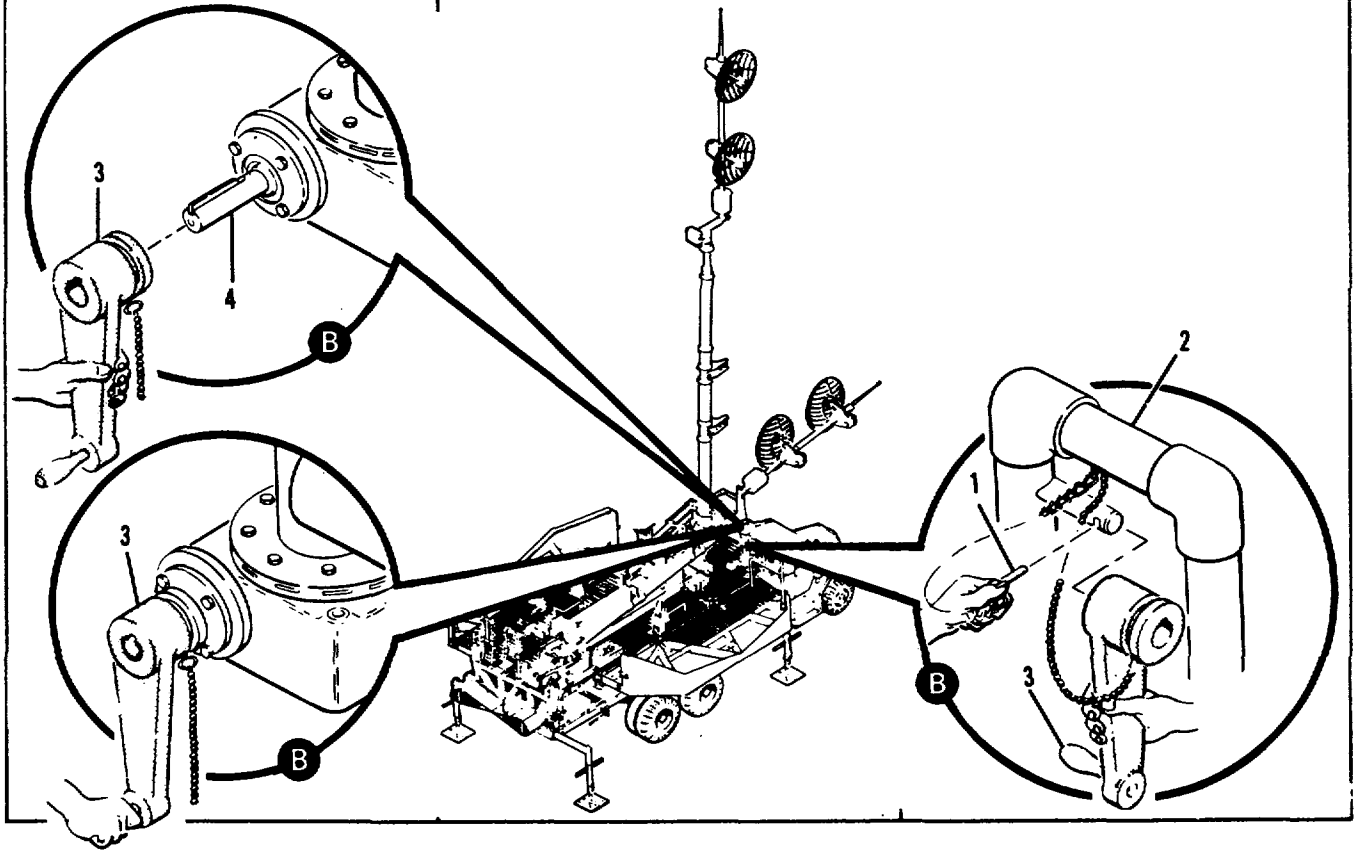
SOLDIER A	SOLDIER B	SOLDIER C
Step 22 - BREAK	Step 22 - IF NECESSARY, ADJUST FRONT CURBSIDE ANTENNA (NO. 2) IN ELEVATION NOTE Check with communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set. Pull quick release pins (4) securing struts (5). Position antenna according to degree marks (8) on strut. 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 NOTE Check with communications plan to determine if dishes need adjusting, and the proper angle dishes are to be set. Pull quick release pins (1) securing struts (2). Position antenna according to degree marks (7) on strut. Aline hole in strut (2) with hole in antenna driver (3). Install quick release pin (1).



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



SOLDIER A	SOLDIER B	SOLDIER C
Step 24 - CONTACT SHELTER (CRG/ICC/ECS) When the curbside antennas have cleared the antenna protective cover (antenna positioner at about the 90° position) tell the shelter to rotate curbside antennas (antennas No. 1 and 2) 180° clockwise. This will provide clearance between the antennas and the roadside mast. **NOTE** If the curbside mast was deployed first, tell shelter to rotate roadside antennas (antennas No. 3 and 4) 180° counterclockwise.	**Step 24 - UNFOLD CURBSIDE ANTENNAS** Pull quick release pin (**1**) securing positioner handle (**3**) to rear handrail (**2**). Remove handle. Install handle (**3**) on antenna positioner shaft (**4**). Turn antenna positioner handle (**3**) clockwise and unfold antenna.	**Step 24 - WATCH CURBSIDE ANTENNAS** Observe curbside antennas. Tell Soldier B to stop unfolding antennas if there is any obstruction.



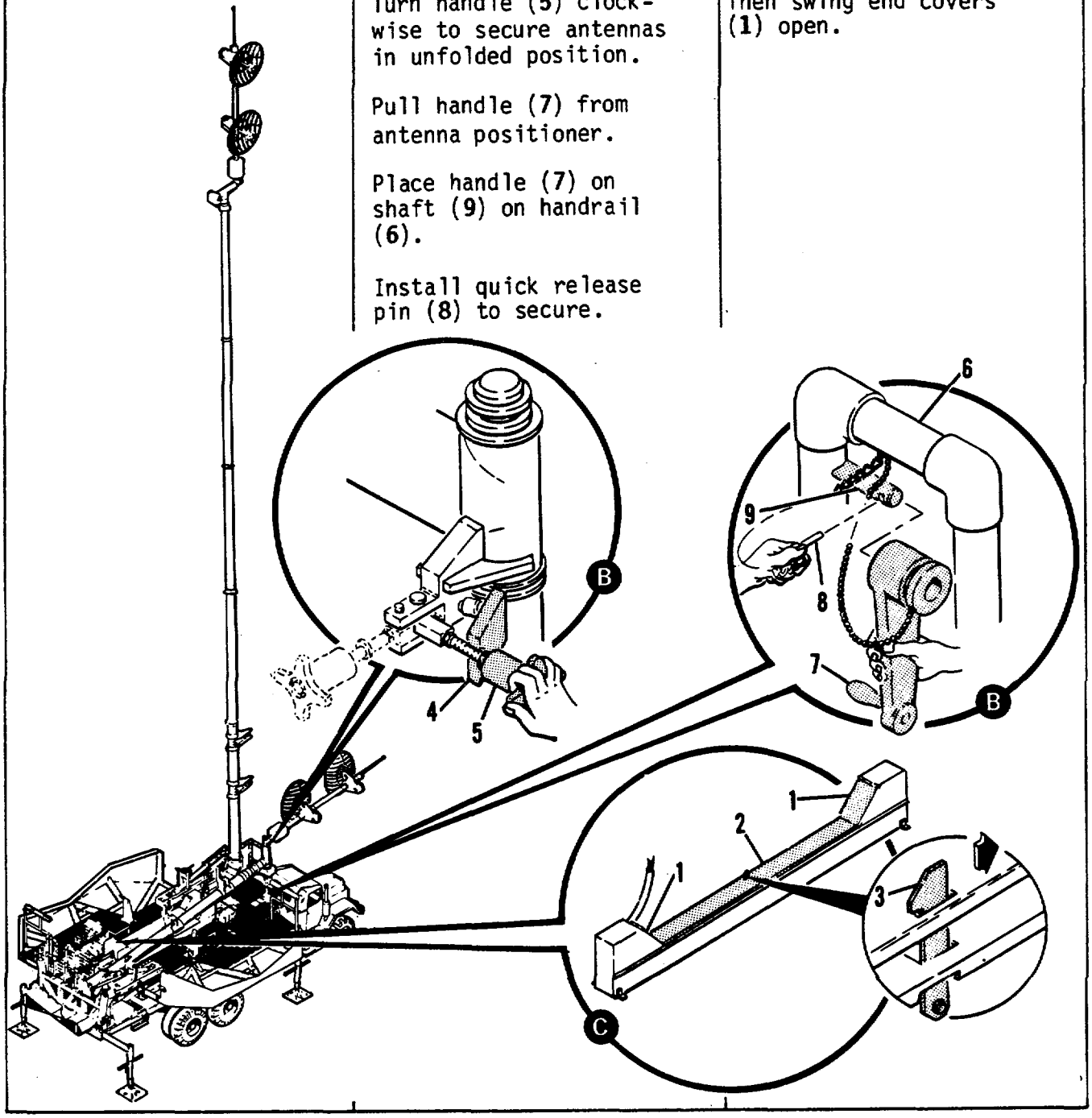
2-15 **MAST DEPLOYMENT** - Continued

SOLDIER A **SOLDIER B** **SOLDIER C**

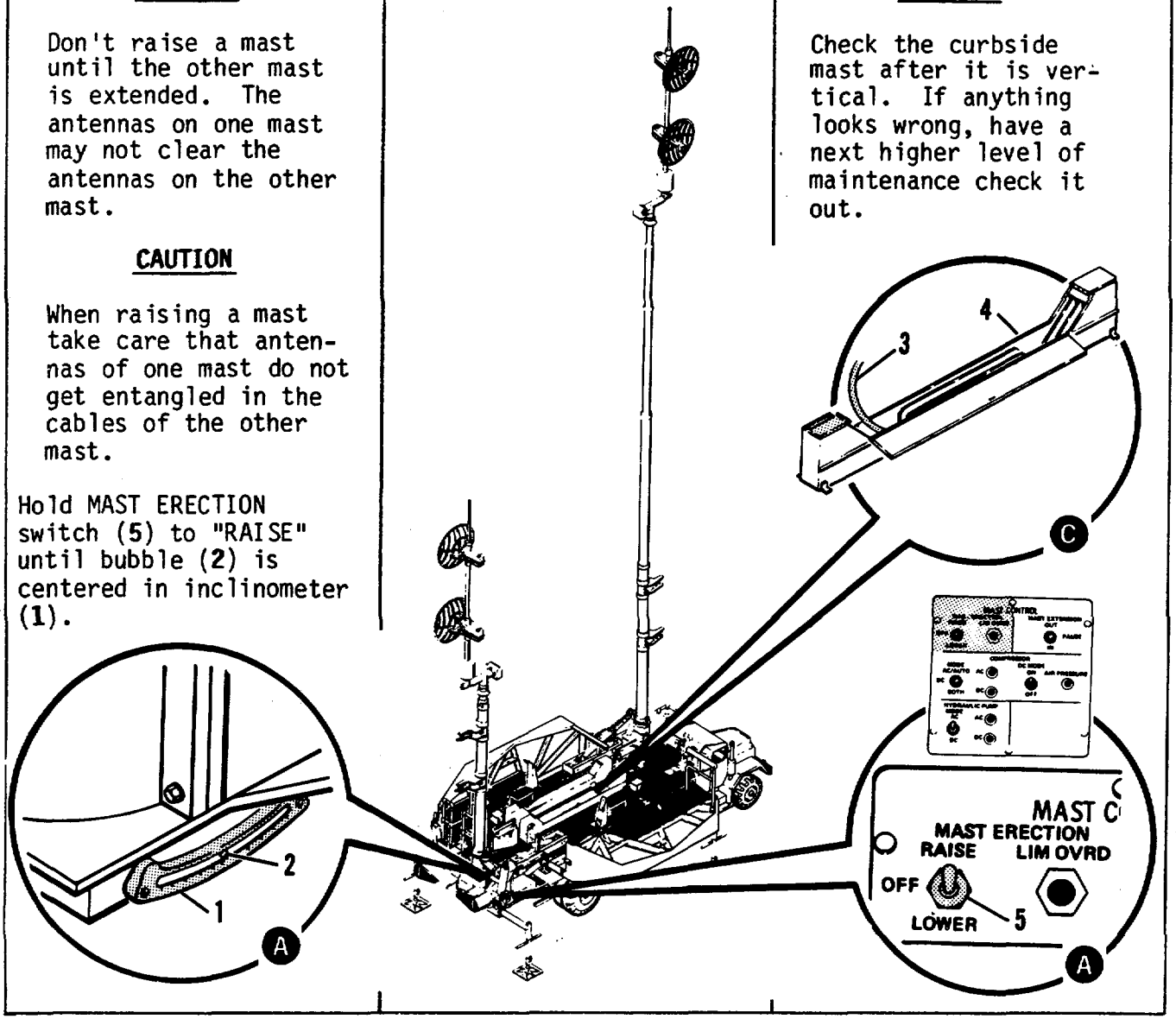
NOTE

If you expect adverse weather you must deploy the mast covers and/or height limiter on the curbside mast (Section IV paragraphs 2-20a and 2-21a). Then proceed to next page and continue deploying masts.

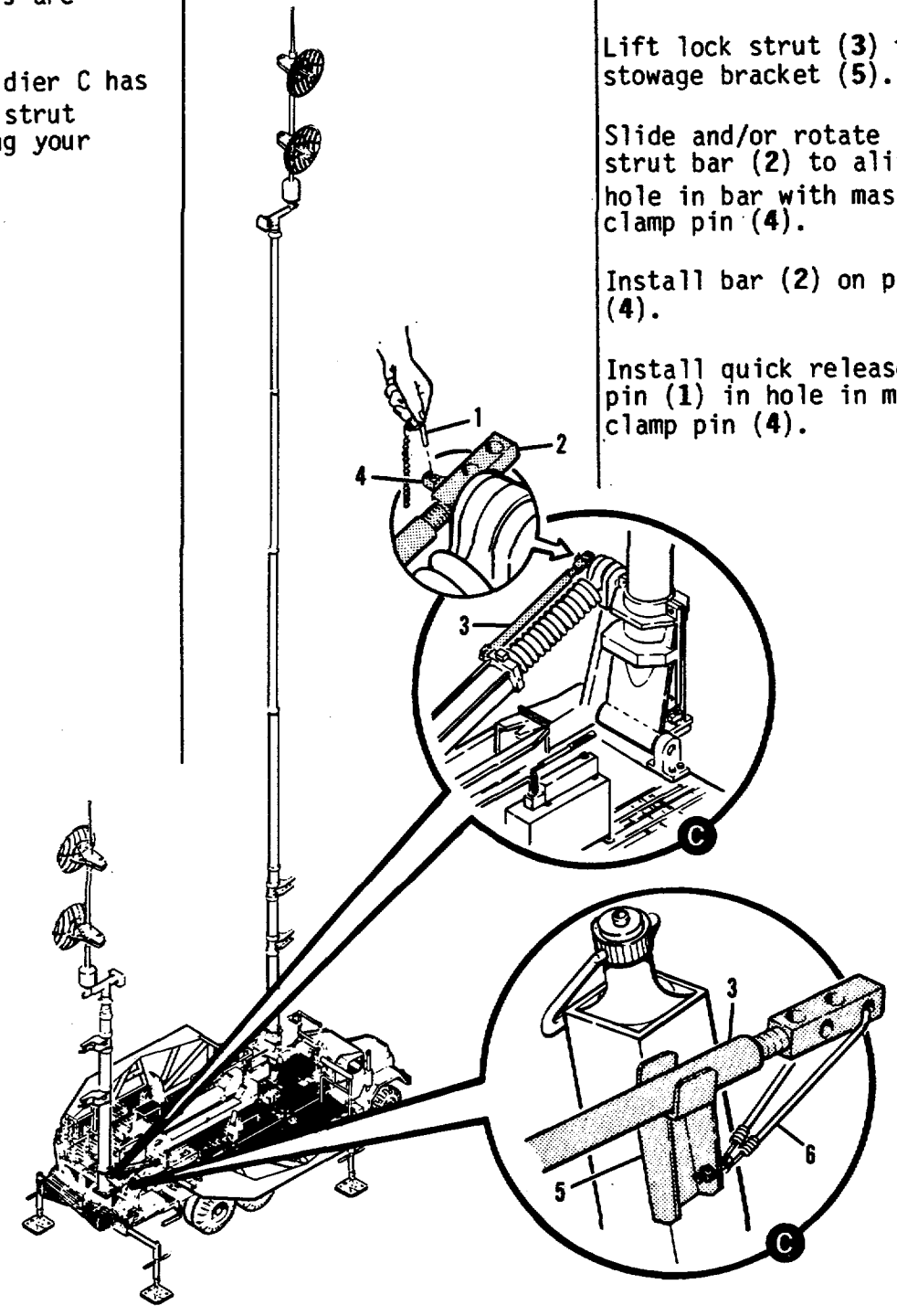
SOLDIER A	SOLDIER B	SOLDIER C
Step 25 - BREAK Wait until soldiers B and C have secured curbside antennas in unfolded position and opened cable tray before starting your next step.	**Step 25 - SECURE CURBSIDE ANTENNAS IN UNFOLDED POSITION** Rotate swivel handle (**5**) into notch in bracket (**4**). Turn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



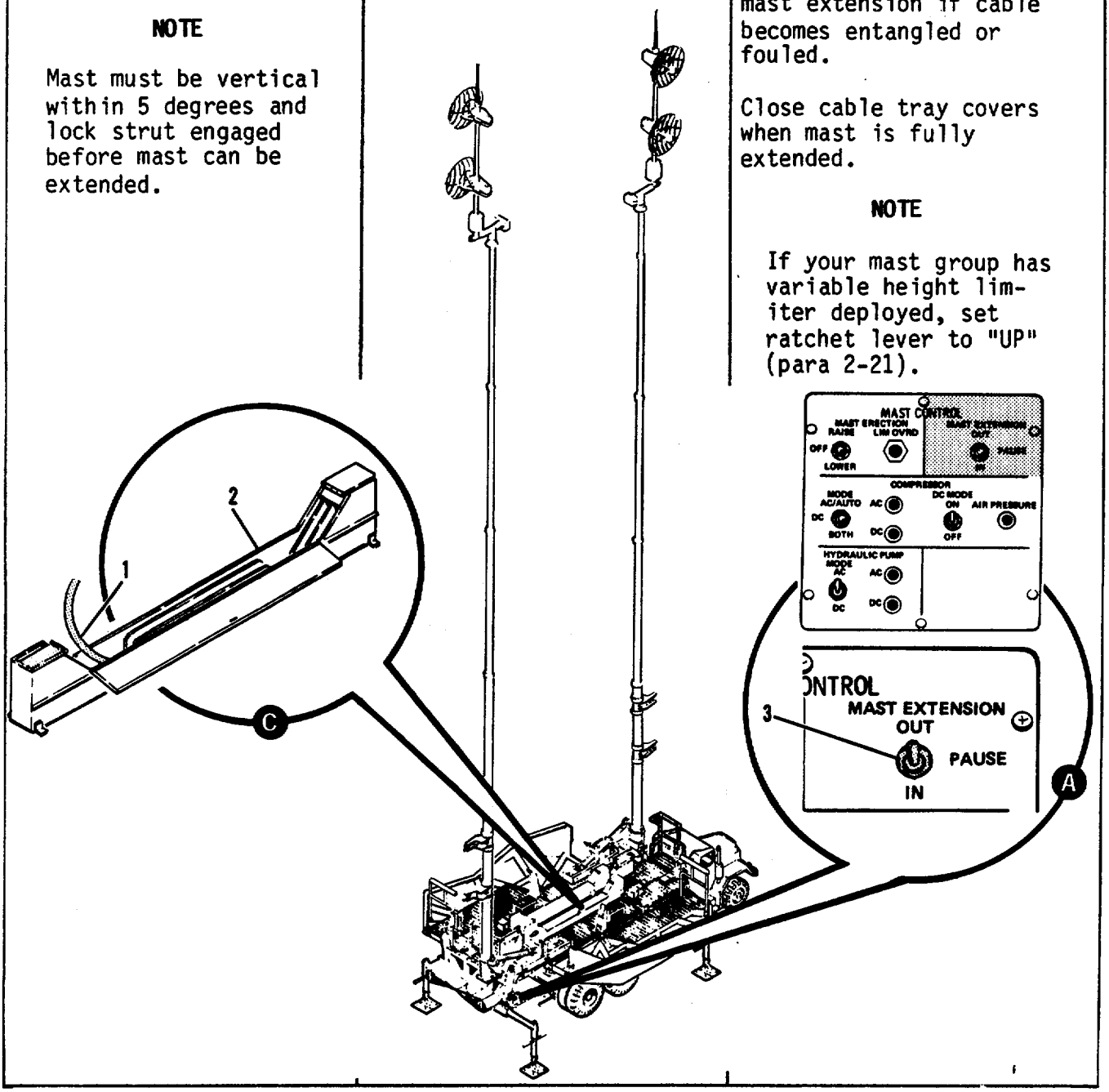
SOLDIER A	SOLDIER B	SOLDIER C
Step 26 - RAISE CURBSIDE MAST TO VERTICAL **WARNING** Mast travel path must be clear of personnel. Tell soldiers B and C you're going to raise mast. **CAUTION** Don't raise a mast until the other mast is extended. The antennas on one mast may not clear the antennas on the other mast. **CAUTION** When raising a mast take care that antennas of one mast do not get entangled in the cables of the other mast. Hold MAST ERECTION switch (5) to "RAISE" until bubble (2) is centered in inclinometer (1).	**Step 26 - HOLD ROADSIDE MAST CABLES** Hold the roadside mast cables tight against the mast. Tell Soldier A to stop mast movement if curbside mast becomes entangled in the roadside mast cables.	**Step 26 - GUIDE CURBSIDE CABLES** Guide curbside cables (3) out of cable tray (4). Tell Soldier A to stop mast movement if cables become entangled. **WARNING** Check the curbside mast after it is vertical. If anything looks wrong, have a next higher level of maintenance check it out.



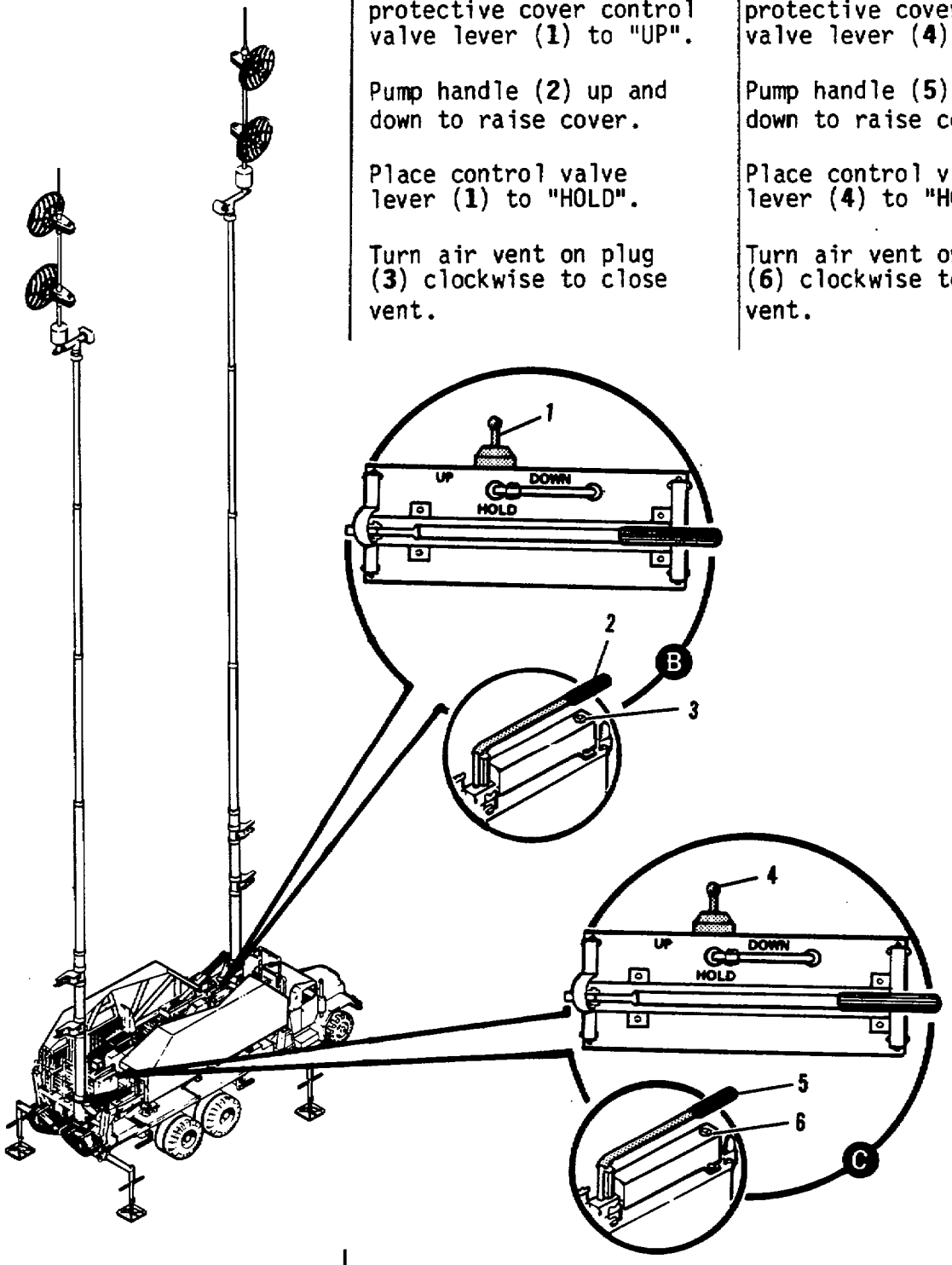
SOLDIER A	SOLDIER B	SOLDIER C
Step 27 - INFORM SHELTER BOTH MASTS ARE VERTICAL Report to ECS/ICC/CRG that both masts are vertical. Wait until Soldier C has deployed lock strut before starting your next step.	***Step 27 - BREAK***	***Step 27 - UNSTOW AND ENGAGE CURBSIDE MAST LOCK STRUT*** Unhook elastic cord (**6**). Lift lock strut (**3**) from stowage bracket (**5**). Slide and/or rotate lock strut bar (**2**) to aline a hole in bar with mast clamp pin (**4**). Install bar (**2**) on pin (**4**). Install quick release pin (**1**) in hole in mast clamp pin (**4**).



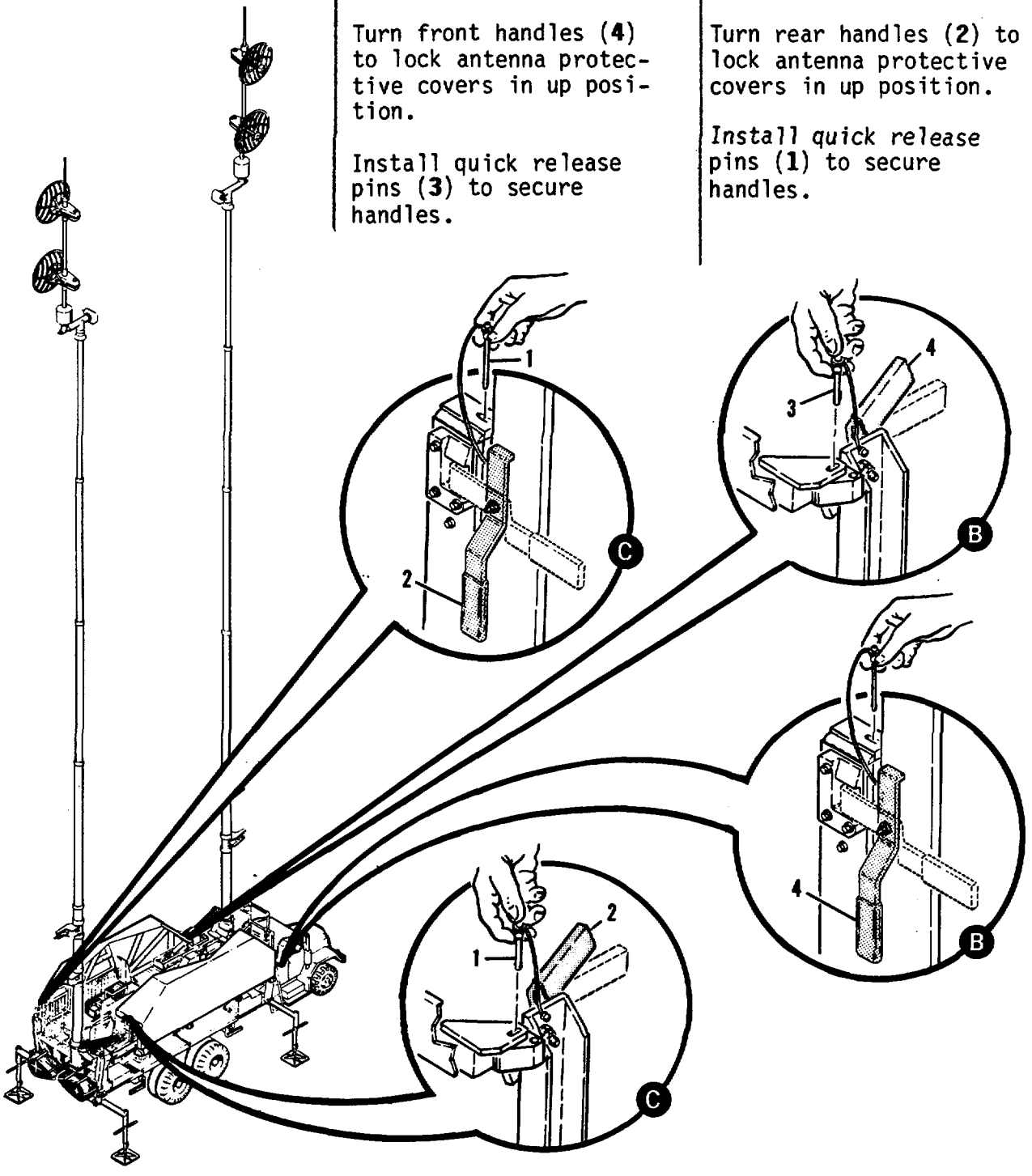
SOLDIER A	SOLDIER B	SOLDIER C
Step 28 - EXTEND CURB-SIDE MAST Set MAST EXTENSION switch (**3**) to "OUT". Extend curbside mast. **NOTE** Mast must be vertical within 5 degrees and lock strut engaged before mast can be extended.	**Step 28 - WATCH CABLES** Watch curbside cable, tell Soldier A to stop mast extension if cables are entangled.	**Step 28 - GUIDE CURBSIDE MAST CABLES** Guide cable (**1**) out of curbside cable tray (**2**). Tell Soldier A to stop mast extension if cable becomes entangled or fouled. Close cable tray covers when mast is fully extended. **NOTE** If your mast group has variable height limiter deployed, set ratchet lever to "UP" (para 2-21).



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



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



2-16 PREPARATION OF MAST GROUP FOR OPERATION FROM SHELTER

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

- SET AMPLIFIER MODE
- SET DISTRIBUTION BOX 7A1A1 SWITCHES

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

a. Set Distribution Box 7A1A1 switches.

WARNING

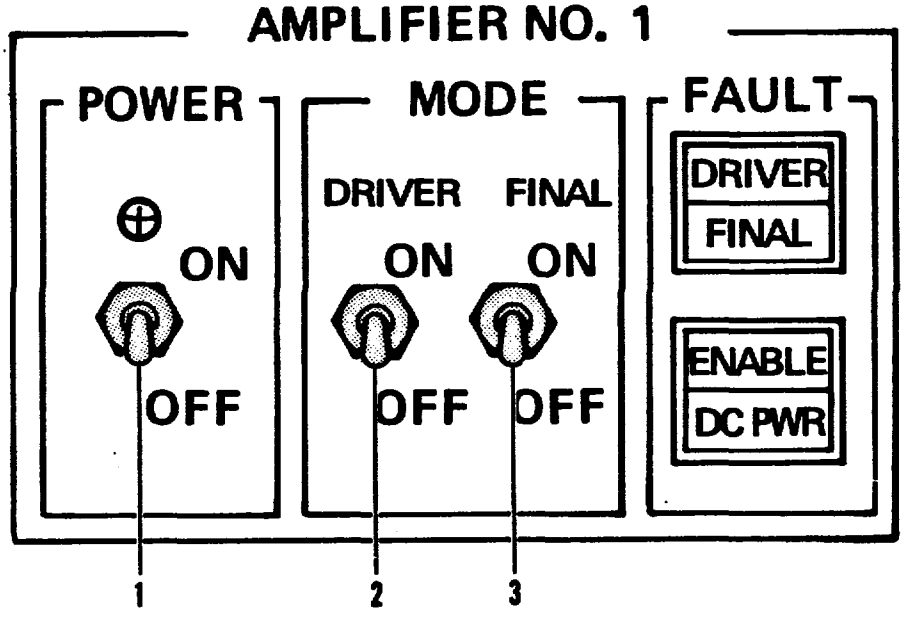
Do not apply power to antenna amplifier assemblies until masts have been raised and distributon box switches have been properly set.

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

(1) Place all POWER ON/OFF switches (1) to "OFF".

(2) Place all MODE DRIVER ON/OFF toggle switches (2) to "OFF".

(3) Place all MODE FINAL ON/OFF toggle switches (3) to "OFF".



Report to ECS/ICC/CRG that antenna can be positioined in azimuth and 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.

(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 (**4**) to "ON".

(b) Check that DC POWER (**7**) and ENABLE (**6**) indicator lights are illuminated.

(c) Set MODE DRIVER ON/OFF switch (**5**) 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".

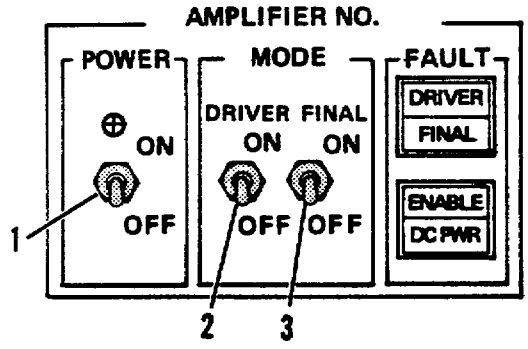
(b) Set MODE DRIVER ON/OFF switch (**9**) to "ON".

(c) Set MODE FINAL ON/OFF switch (**10**) to "ON".

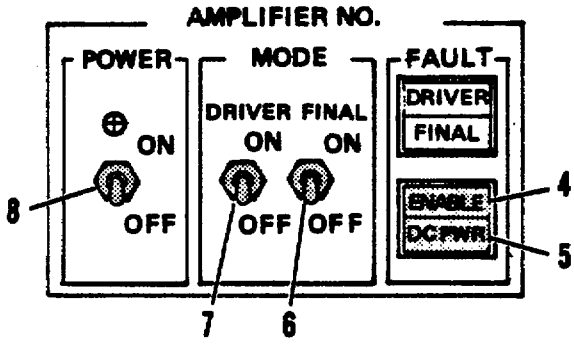
NOTE

If POWER circuit breaker trips to OFF or there is any other problem with Distribution Box 7A1A1, see TM 9-1430-603-10.

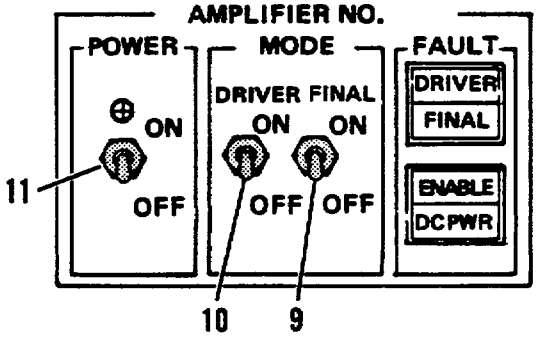
Mast group is now ready for operation from shelter.



BY-PASS MODE



DRIVER MODE



FINAL MODE

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 co-ordinate 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

- Co-ordinate activities between the Mast Group and the shelter (CRG/ ICC/ECs)
- Set and operate mast control switches
- Stow stabilizing Struts
- Open PCA air flaps

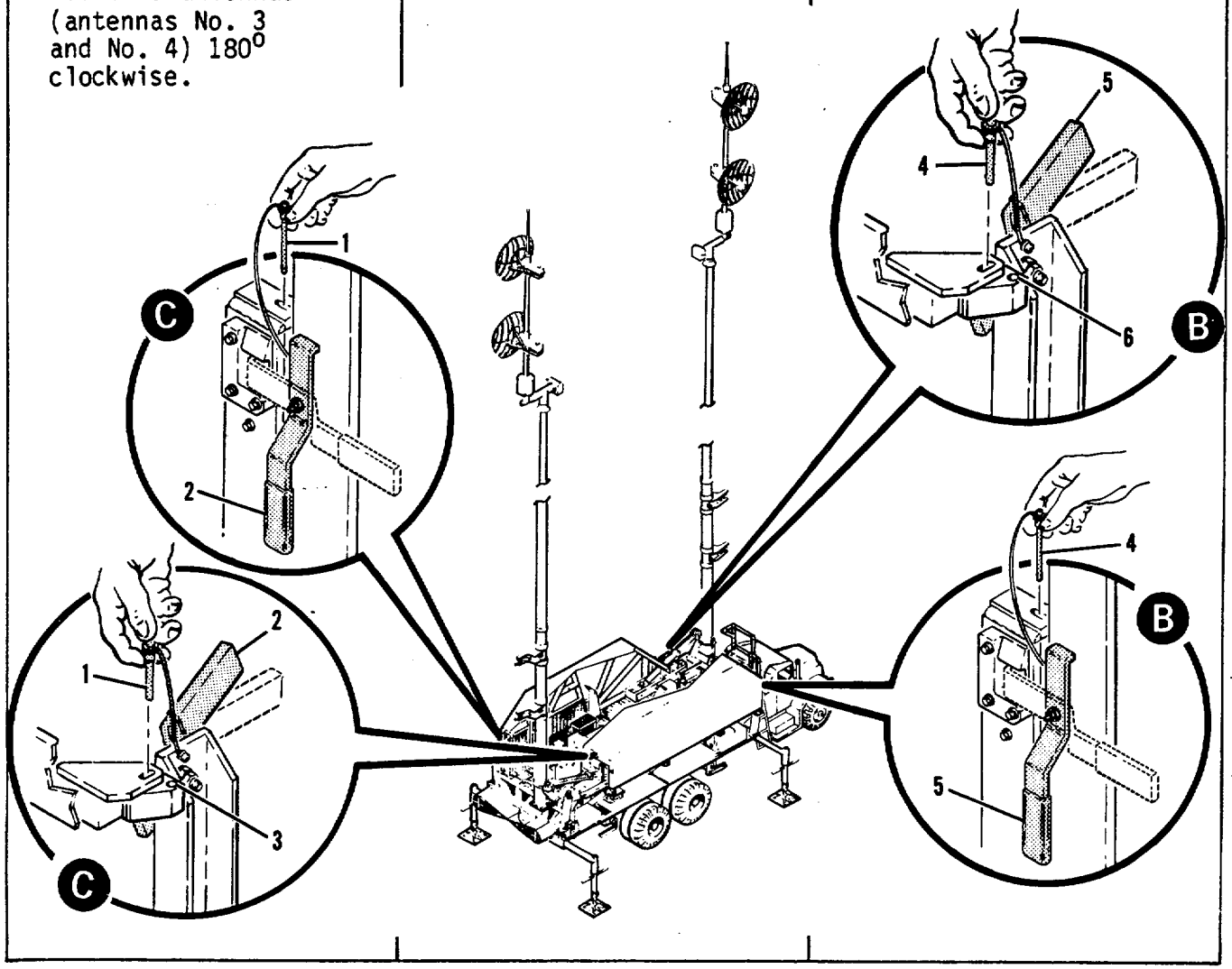
SOLDIER B

- Operate antenna protective cover forward handles
- Operate roadside antenna protective cover hand pump
- Guide cables into roadside cable tray
- Stow roadside cylinder lock strut
- Operate curbside antenna positioner
- Secure forward antenna clamp
- If needed, adjust antenna elevation and polarization
- Stow curbside feedhorns
- Help stow roadside antenna feedhorns
- Secure curbside mast clamp

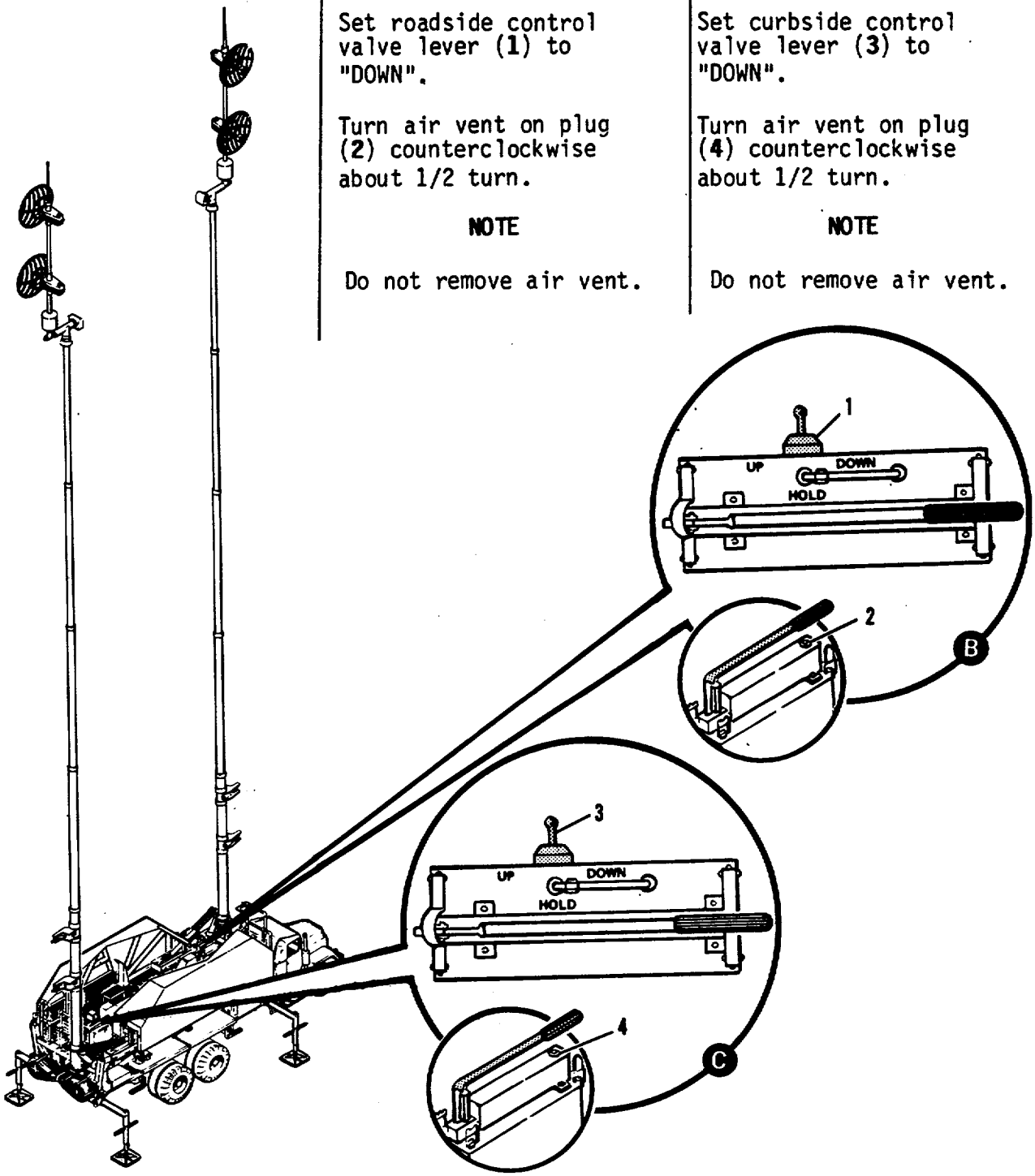
SOLDIER C

- Operate antenna protective cover rear handles
- Operate curbside antenna protective cover hand pump
- Guide cables into curbside cable tray
- Stow curbside cylinder lock strut
- Operate roadside antenna positioner
- Secure rear antenna clamps
- If needed, adjust antenna elevation and polarization
- Stow roadside antenna feedhorns
- Help stow curbside feedhorns
- Secure roadside mast clamp

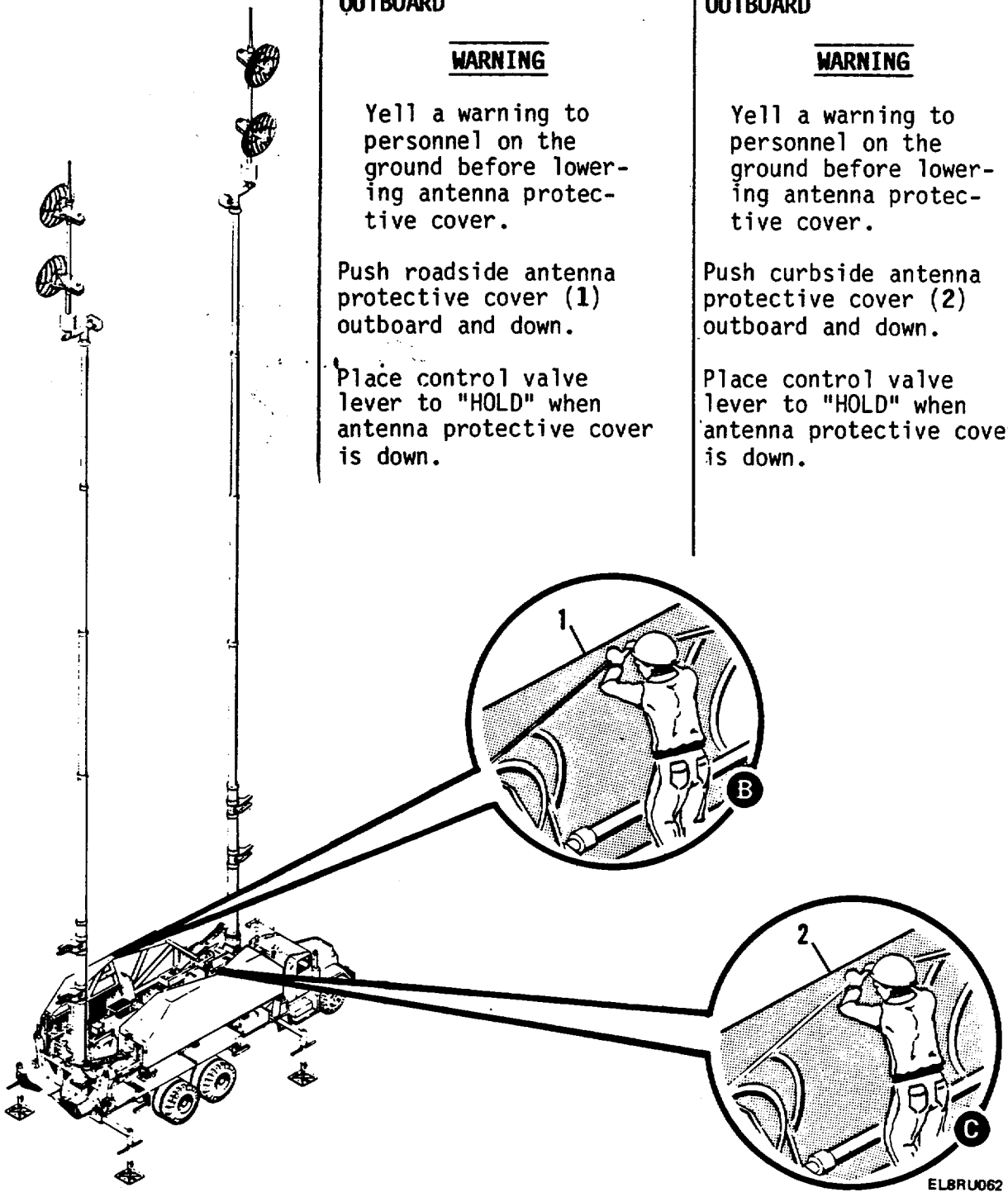
SOLDIER A	SOLDIER B	SOLDIER C
Step 1 - CONTACT SHELTER (CRG/ ICC/ECS) Tell the crew in the shelter to rotate the curbside antennas (antennas No. 1 and 2) 180° clockwise. **NOTE** If the roadside mast is being stowed first, tell the shelter to rotate roadside antennas (antennas No. 3 and No. 4) 180° clockwise.	**Step 1 - RELEASE ANTENNA PROTECTIVE COVERS FRONT RETAINING HANDLES** Pull quick release pins (**4**) and stow them in holes (**6**). Turn front handles (**5**) to release antenna protective covers. Tell Soldier C front handles are released.	**Step 1 - RELEASE ANTENNA PROTECTIVE COVERS REAR RETAINING HANDLES** Pull quick release pins (**1**) and stow them in holes (**3**). Turn rear handles (**2**) to release antenna protective covers. Tell Soldier B rear handles are released.



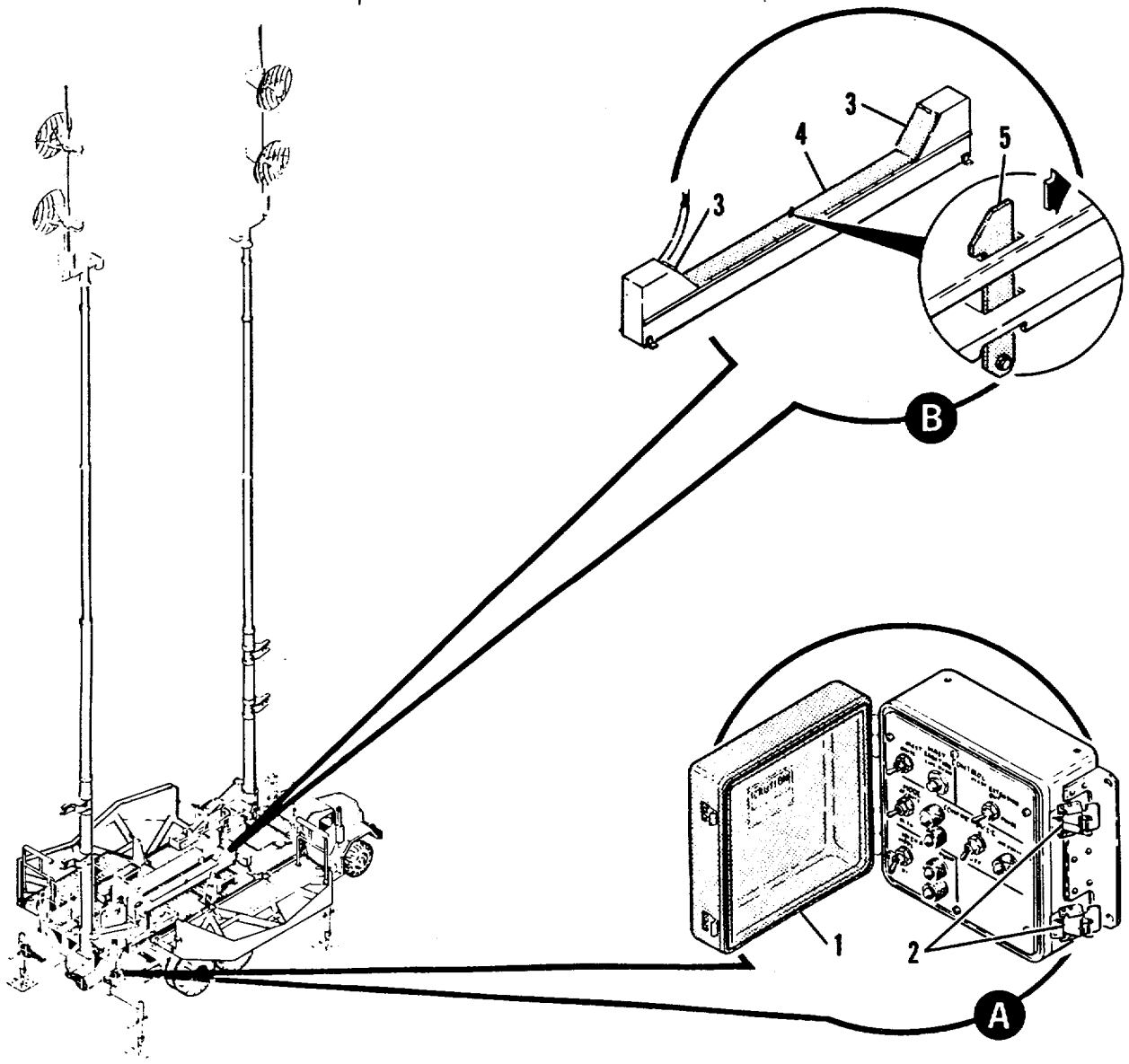
SOLDIER A	SOLDIER B	SOLDIER C
Step 2 - BREAK	**Step 2 - SET ROADSIDE ANTENNA PROTECTIVE COVER PUMP CONTROL VALVE LEVER "DOWN", OPEN AIR VENT** Set roadside control valve lever (**1**) to "DOWN". Turn air vent on plug (**2**) counterclockwise about 1/2 turn. **NOTE** Do not remove air vent.	**Step 2 -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



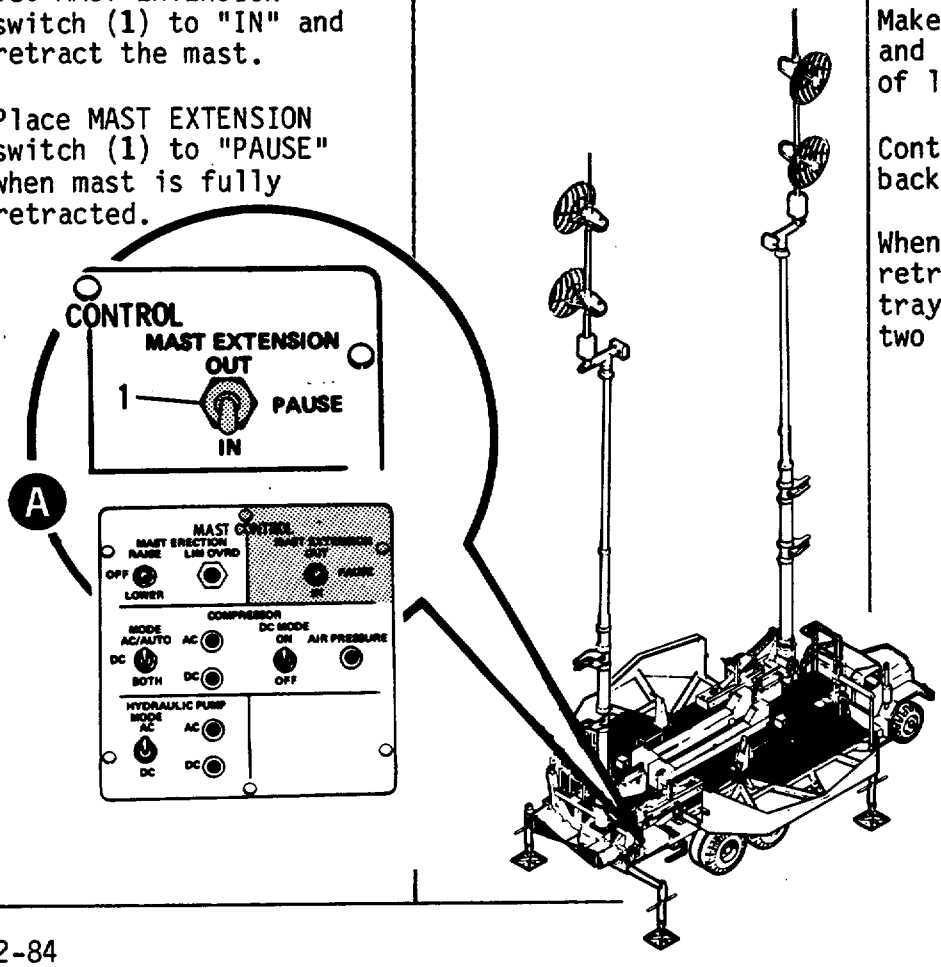
SOLDIER A	SOLDIER B	SOLDIER C
Step 3 - BREAK	Step 3 - PUSH ROADSIDE ANTENNA PROTECTIVE COVER OUTBOARD **WARNING** Yell a warning to personnel on the ground before lowering antenna protective cover. Push roadside antenna protective cover (1) outboard and down. Place control valve lever to "HOLD" when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

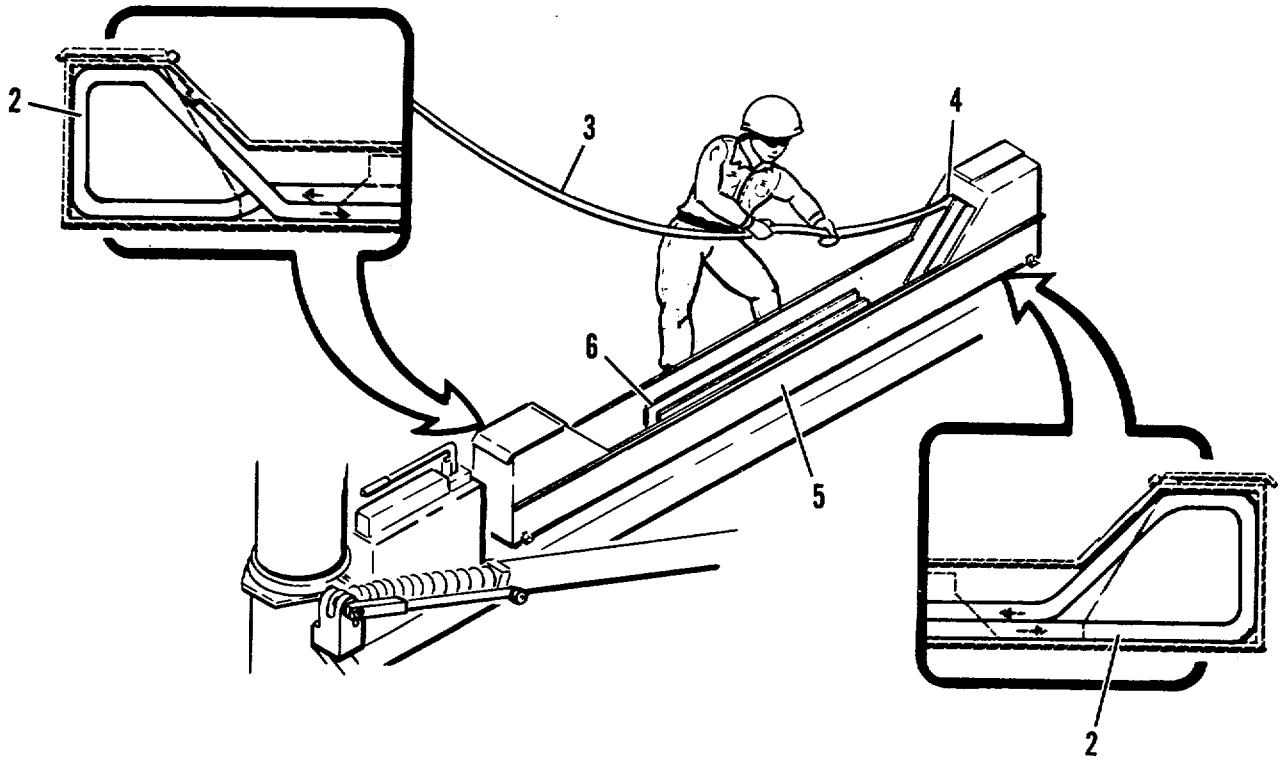


SOLDIER A	SOLDIER B	SOLDIER C
Step 4 - OPEN CURBSIDE MAST CONTROL DOOR Release two clamps (1) and swing mast control door (2) open.	**Step 4 - OPEN CURBSIDE CABLE TRAY COVERS** Release cable tray cover clamp (5). Swing middle cover (4) open. Then swing end covers (3) open.	**Step 4 - BREAK**



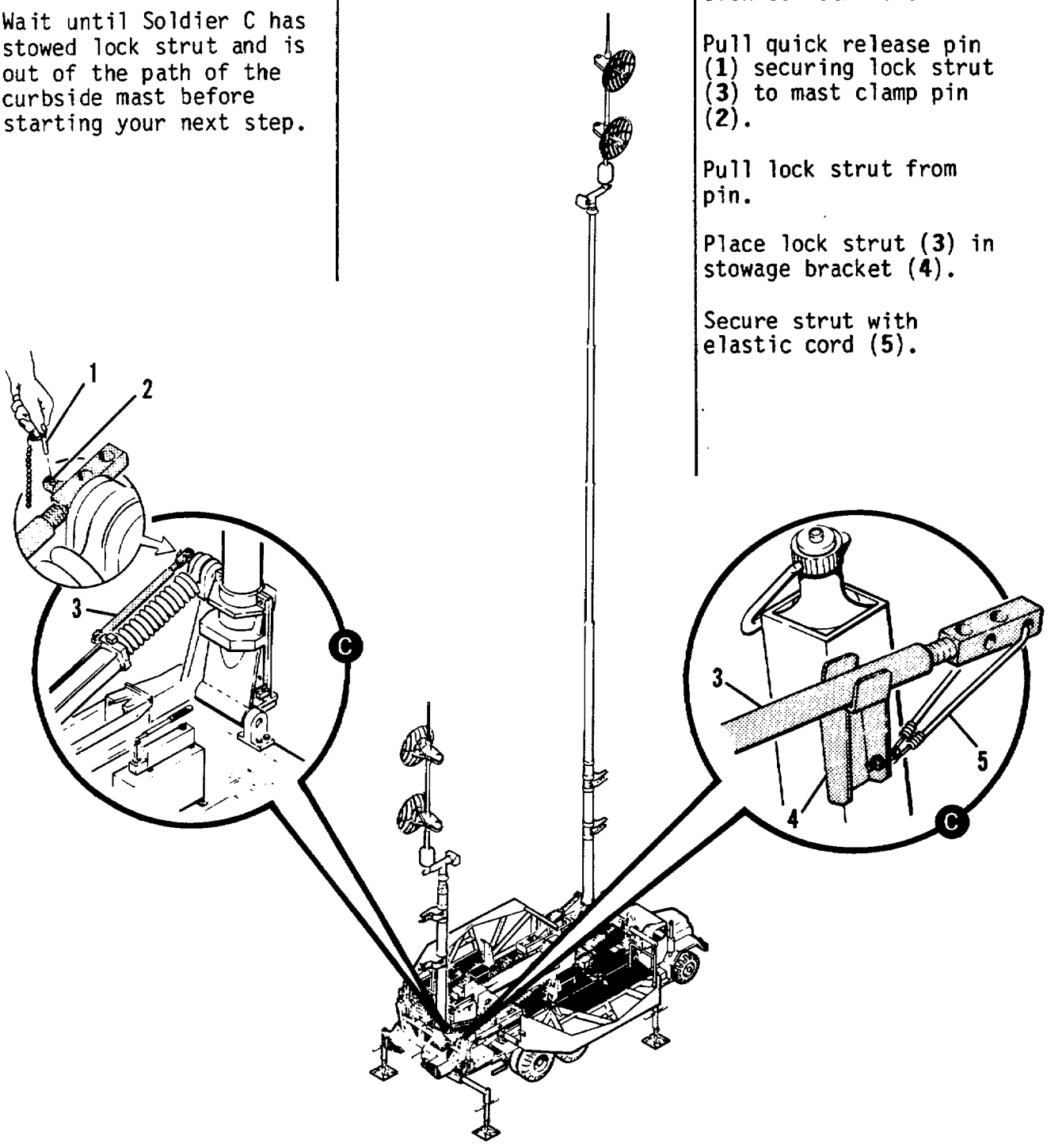
SOLDIER A	SOLDIER B	SOLDIER C
Step 5 - RETRACT CURBSIDE MAST **WARNING** Tell Soldier C you are going to retract mast. Make sure he is ready to guide cable as mast comes down. **CAUTION** Watch cable as mast comes down. Stop mast retraction if cable becomes entangled or fouled. Set MAST EXTENSION switch (1) to "IN" and retract the mast. Place MAST EXTENSION switch (1) to "PAUSE" when mast is fully retracted.	**Step 5 - WATCH CURBSIDE CABLE** Observe curbside cable as mast is retracted. Tell Soldier A to stop mast retraction if cable becomes entanged. **NOTE** If your Mast Group has variable height limiter deployed, install handle and turn winch as mast comes down (para 2-21 step a. (3)).	**SEE ILLUSTRATION ON FACING PAGE.** **Step 5 - GUIDE CURBSIDE CABLE INTO CABLE TRAY** **WARNING** Tell Soldier A to stop mast retraction if cable becomes fouled. Guide cable (3) into cable tray (5) as mast comes down. Start laying the cable in the inboard section (6) of the cable tray. Make a loop (2) in cable and tuck loop under end of lip (4). Continue laying cable back on itself. When the mast is retracted each cable tray section should have two layers of cable.



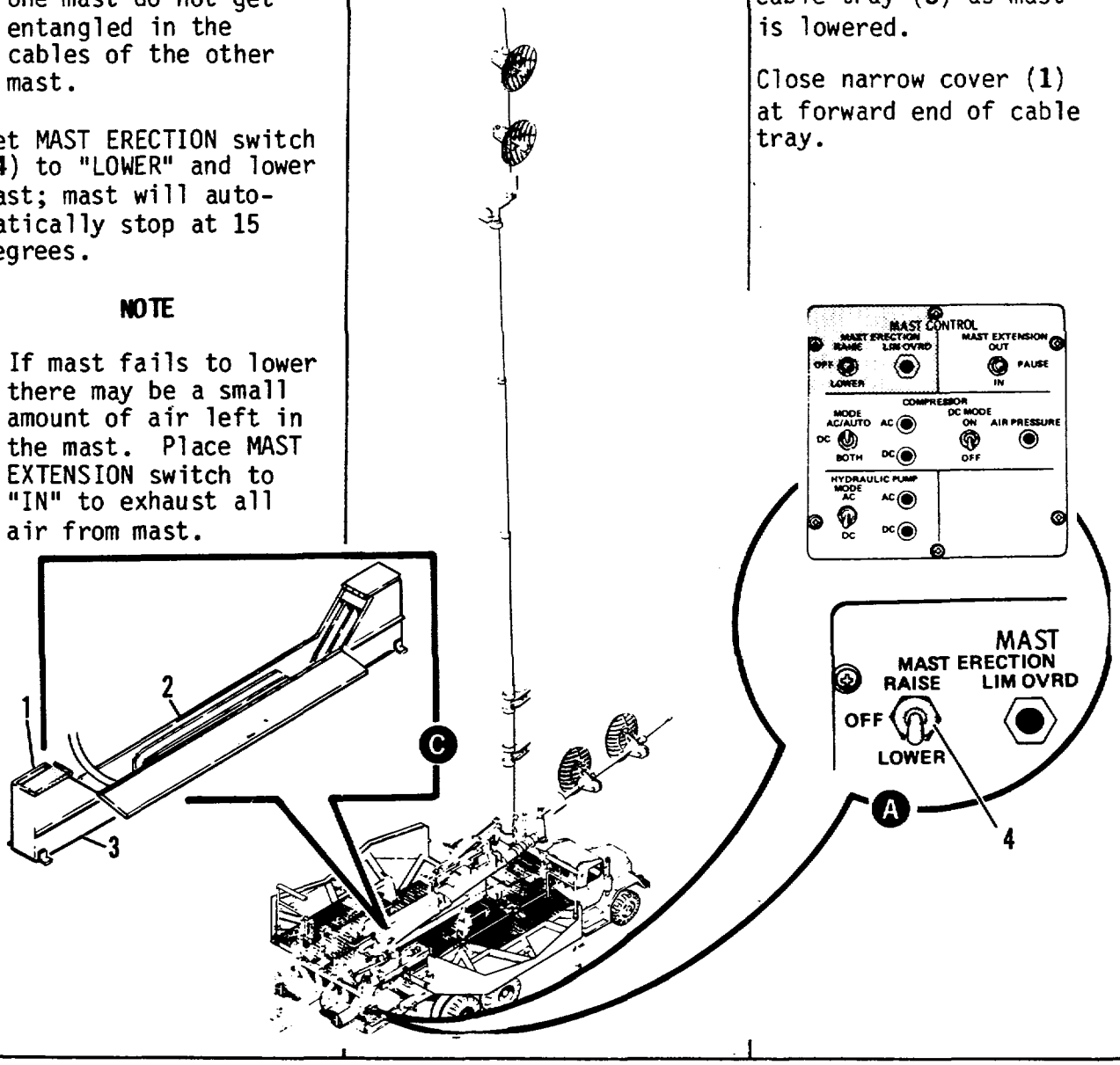


SOLDIER C

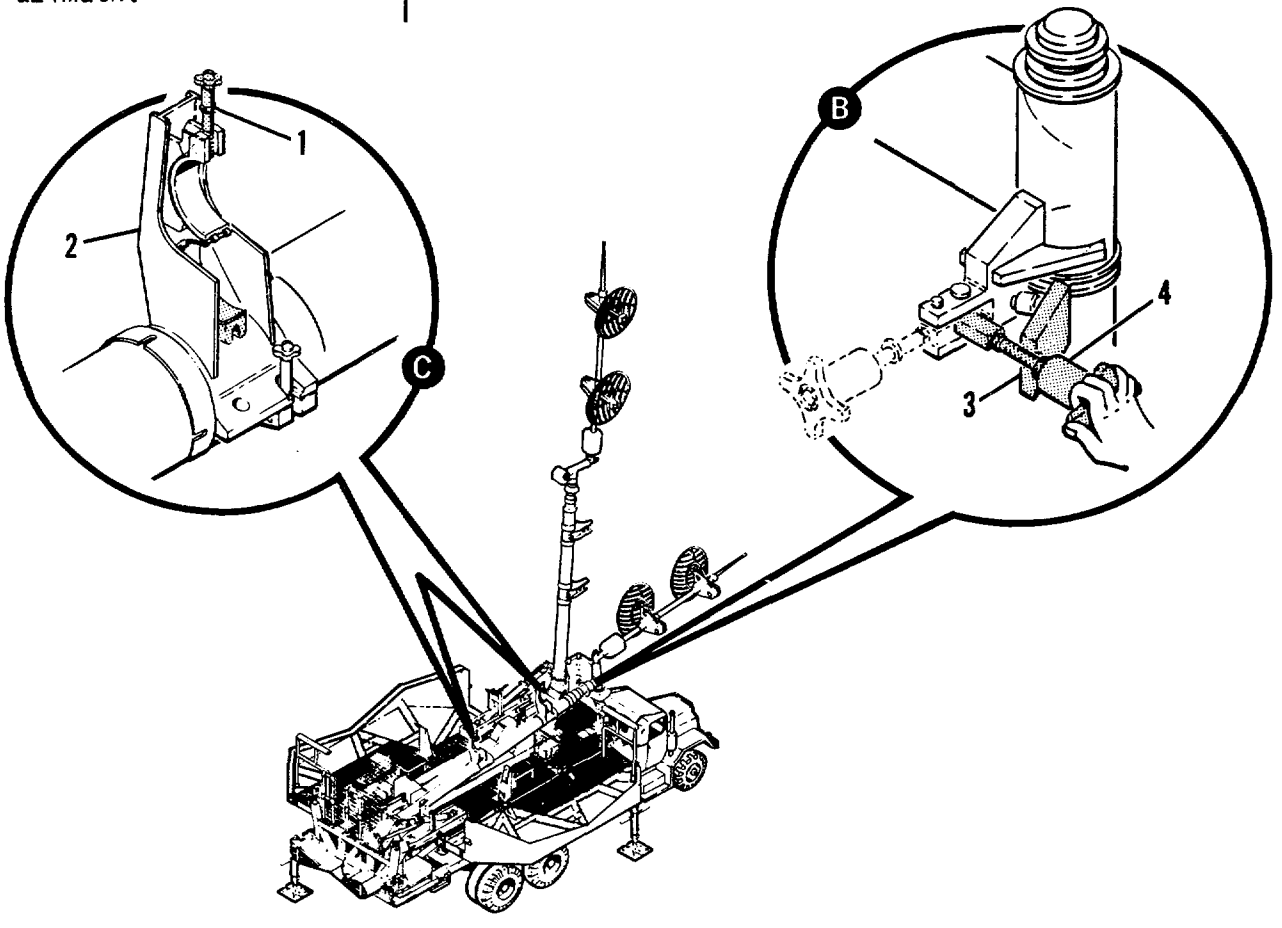
SOLDIER A	SOLDIER B	SOLDIER C
Step 6 - BREAK Wait until Soldier C has stowed lock strut and is out of the path of the curbside mast before starting your next step.	**Step 6 - BREAK**	**Step 6 - RELEASE AND STOW CURBSIDE LOCK STRUT** Pull quick release pin (**1**) securing lock strut (**3**) to mast clamp pin (**2**). Pull lock strut from pin. Place lock strut (**3**) in stowage bracket (**4**). Secure strut with elastic cord (**5**).



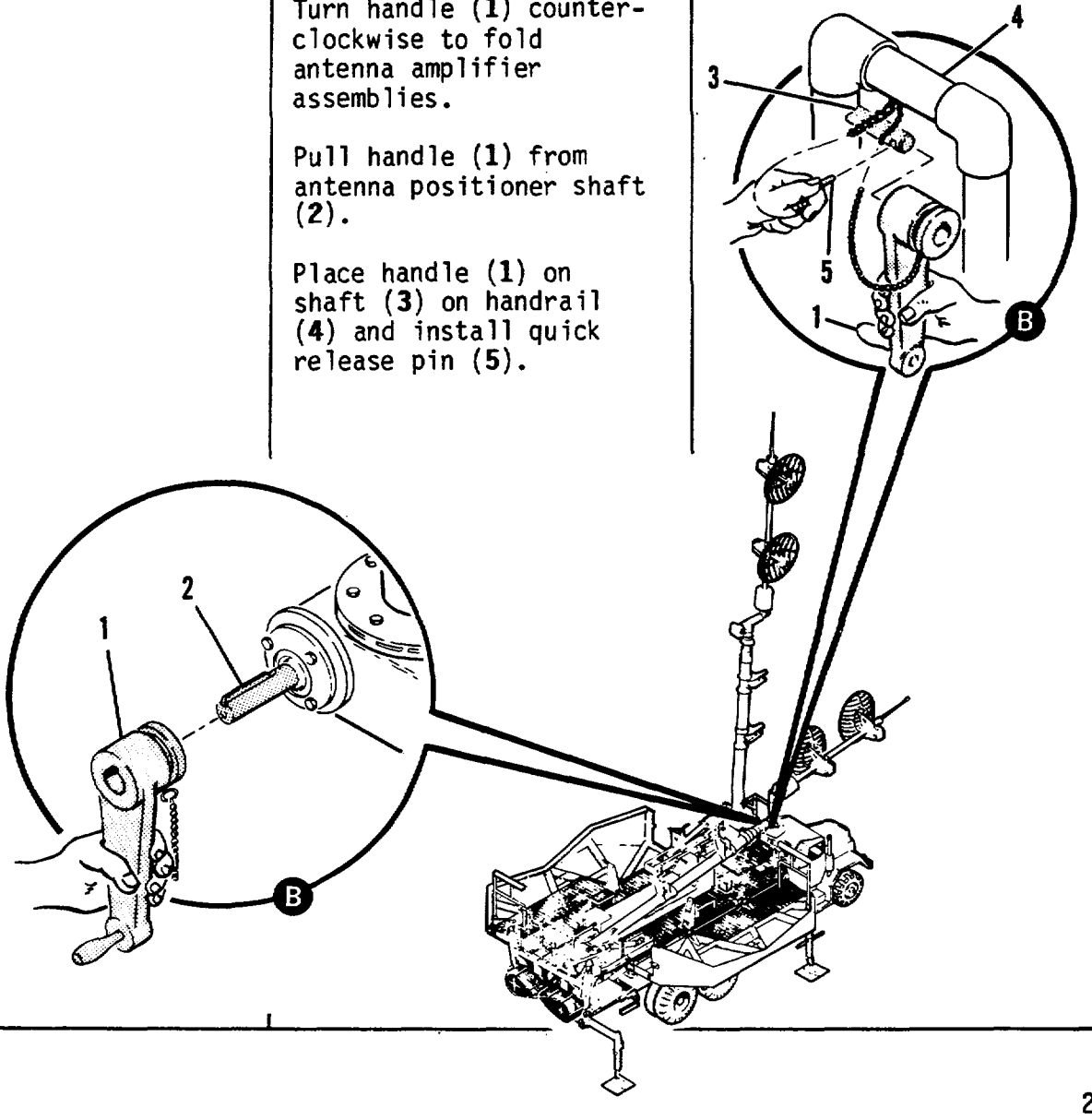
SOLDIER A	SOLDIER B	SOLDIER C
Step 7 - LOWER CURBSIDE MAST TO 15 DEGREES **WARNING** Be sure mast travel path is clear of personnel before lowering mast. **CAUTION** Take care antennas of one mast do not get entangled in the cables of the other mast. Set MAST ERECTION switch (4) to "LOWER" and lower mast; mast will automatically stop at 15 degrees. **NOTE** 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.	**Step 7 - HOLD ROADSIDE MAST CABLES** Hold the roadside mast cables tight against the mast. Tell Soldier A to stop mast movement if curbside mast becomes entangled in the roadside mast cables.	**Step 7 - GUIDE CURBSIDE CABLE INTO TRAY** **WARNING** Stand clear of the curbside mast. Tell Soldier A you are ready to guide cable into tray. Guide cable into outboard section (2) of cable tray (3) as mast is lowered. Close narrow cover (1) at forward end of cable tray.



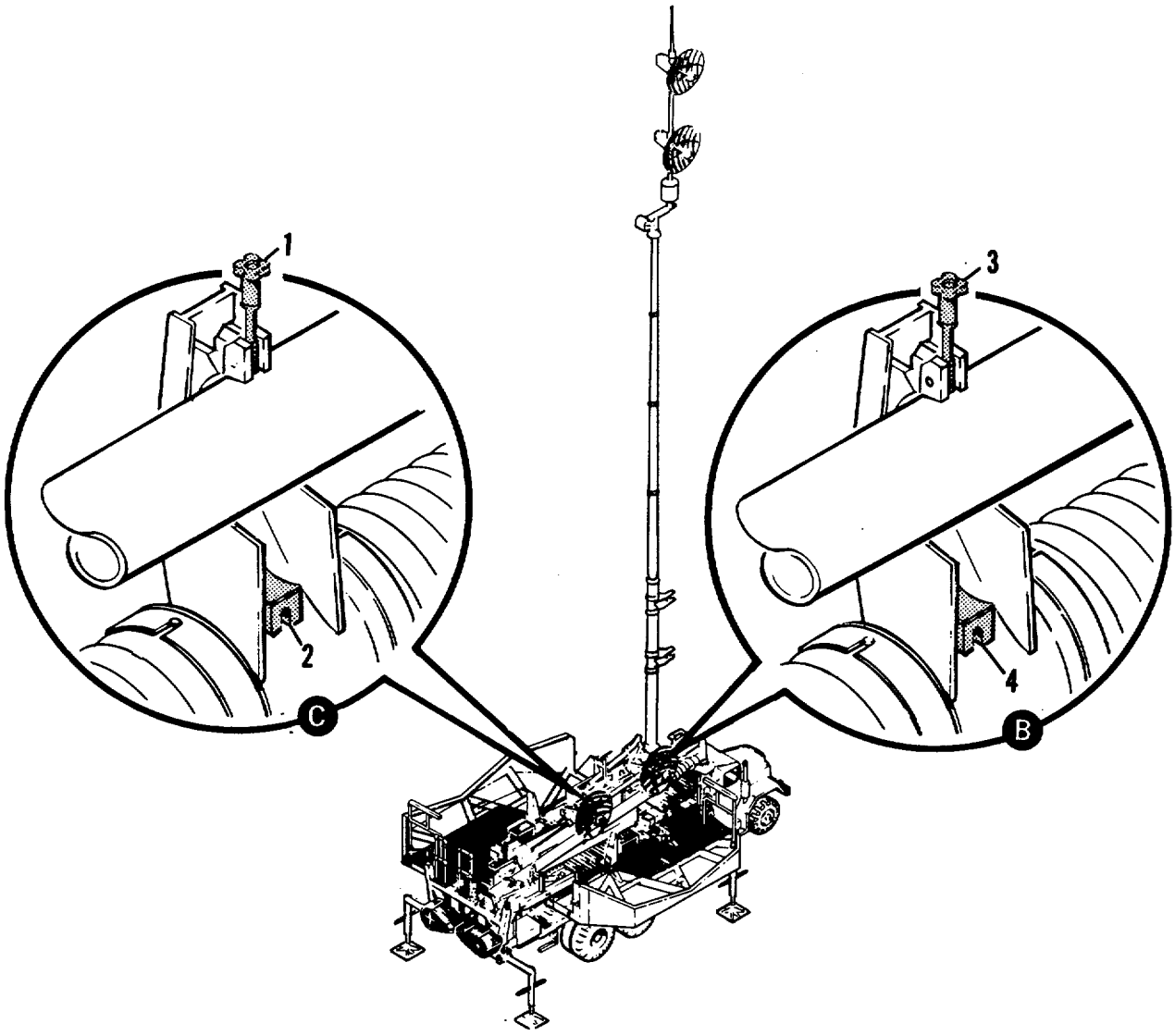
SOLDIER A	SOLDIER B	SOLDIER C
Step 8 - CONTACT SHELTER (CRG/ICC/ECS) Tell crew in shelter to rotate curbside antennas (antennas No. 1 and 2) to the stowed position in azimuth. **NOTE** If roadside mast is being stowed first tell shelter to rotate roadside antennas (antennas No. 3 and 4) to the stowed position in azimuth.	**Step 8 - RELEASE CURB-SIDE ANTENNA POSITIONER** Turn swivel handle (**4**) counterclockwise to release handle. 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** Check handknobs (**1**) on antenna clamps (**2**) to make sure they are in the up position. (Hand knobs must not obstruct clamps.)



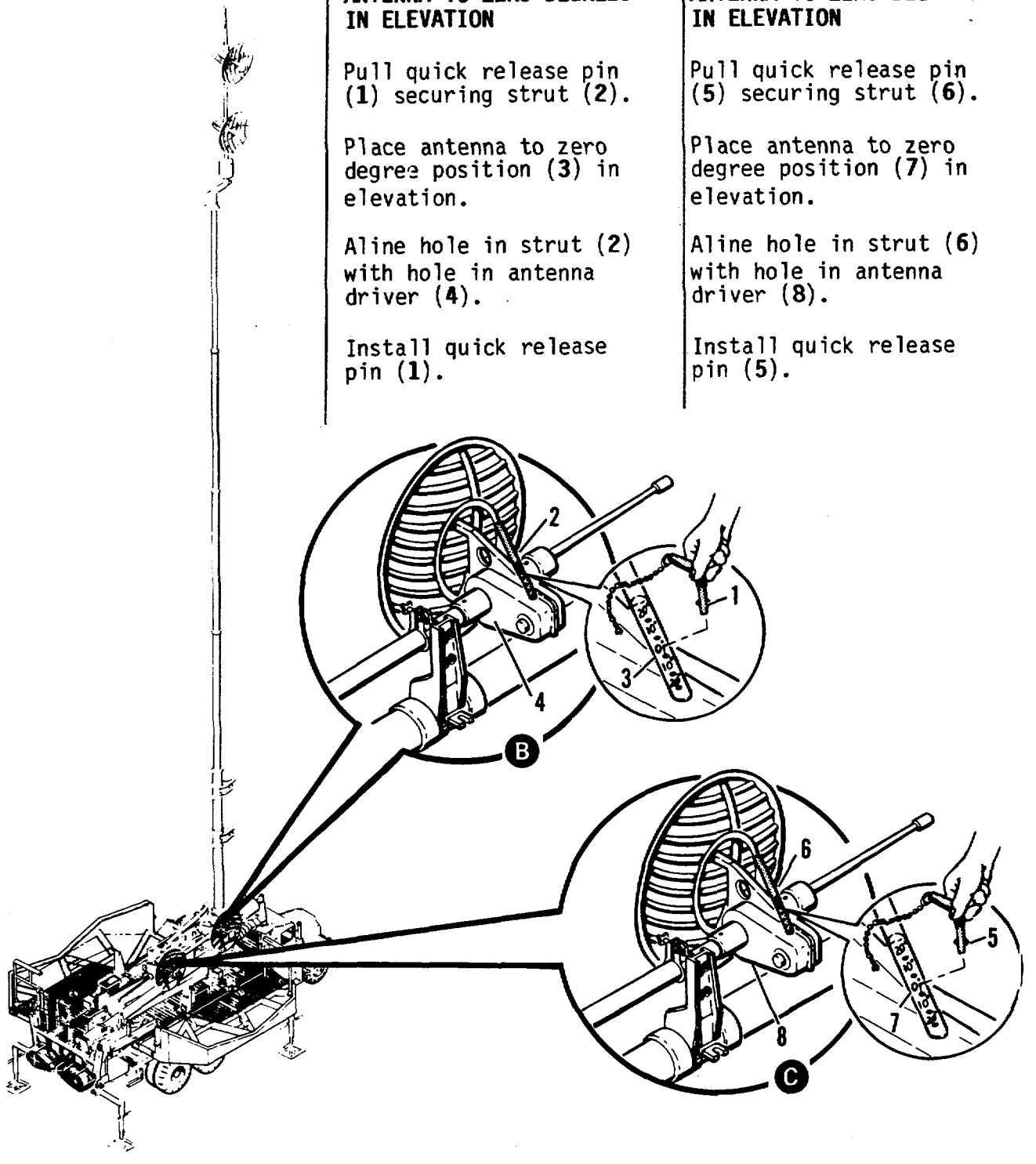
SOLDIER A	SOLDIER B	SOLDIER C
Step 9 - CONTACT SHELTER (CRG/ICC/ECS) Contact shelter and make sure the curbside antennas (or roadside antennas, if stowing the roadside mast first) have been rotated in azimuth to the stowed position.	**Step 9 - FOLD CURBSIDE ANTENNA AMPLIFIER ASSEMBLIES AND STOW POSITIONER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



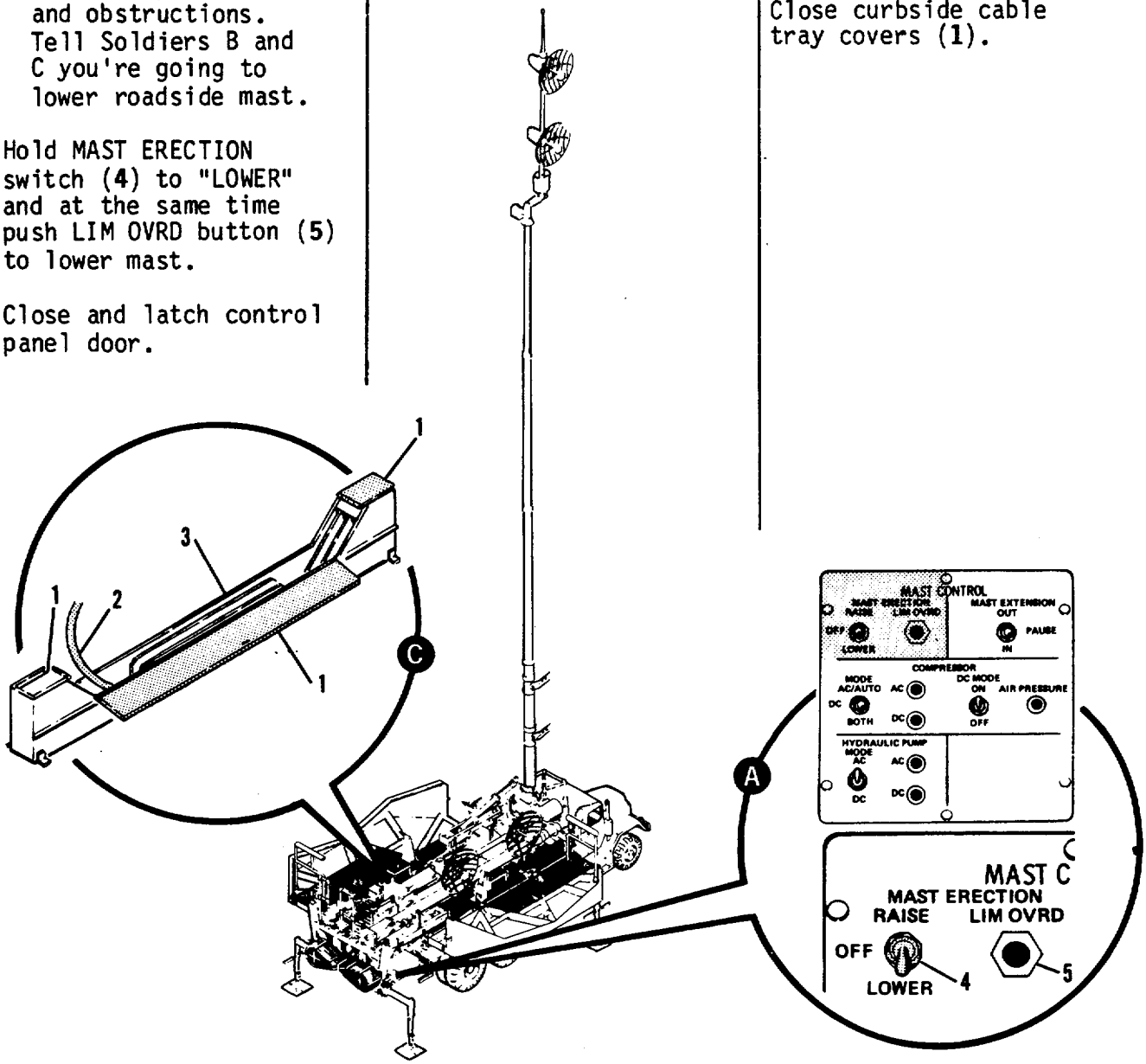
SOLDIER A	SOLDIER B	SOLDIER C
Step 10 - CONTACT SHELTER (CRG/ICC/ECS) Contact shelter and make sure the roadside antennas (or curbside antennas, if stowing the curbside mast first) have been rotated in azimuth to the stowed position.	**Step 10 - FASTEN FRONT CURBSIDE ANTENNA CLAMP** Swing clamp (**4**) up and over antenna mast. Pull bolt (**3**) down to engage clamp. Tighten bolt (**3**) to secure clamp.	**Step 10 - FASTEN REAR CURBSIDE ANTENNA CLAMP** Swing clamp (**2**) up and over antenna mast. Pull bolt (**1**) down to engage clamp. Tighten bolt (**1**) to secure clamp.



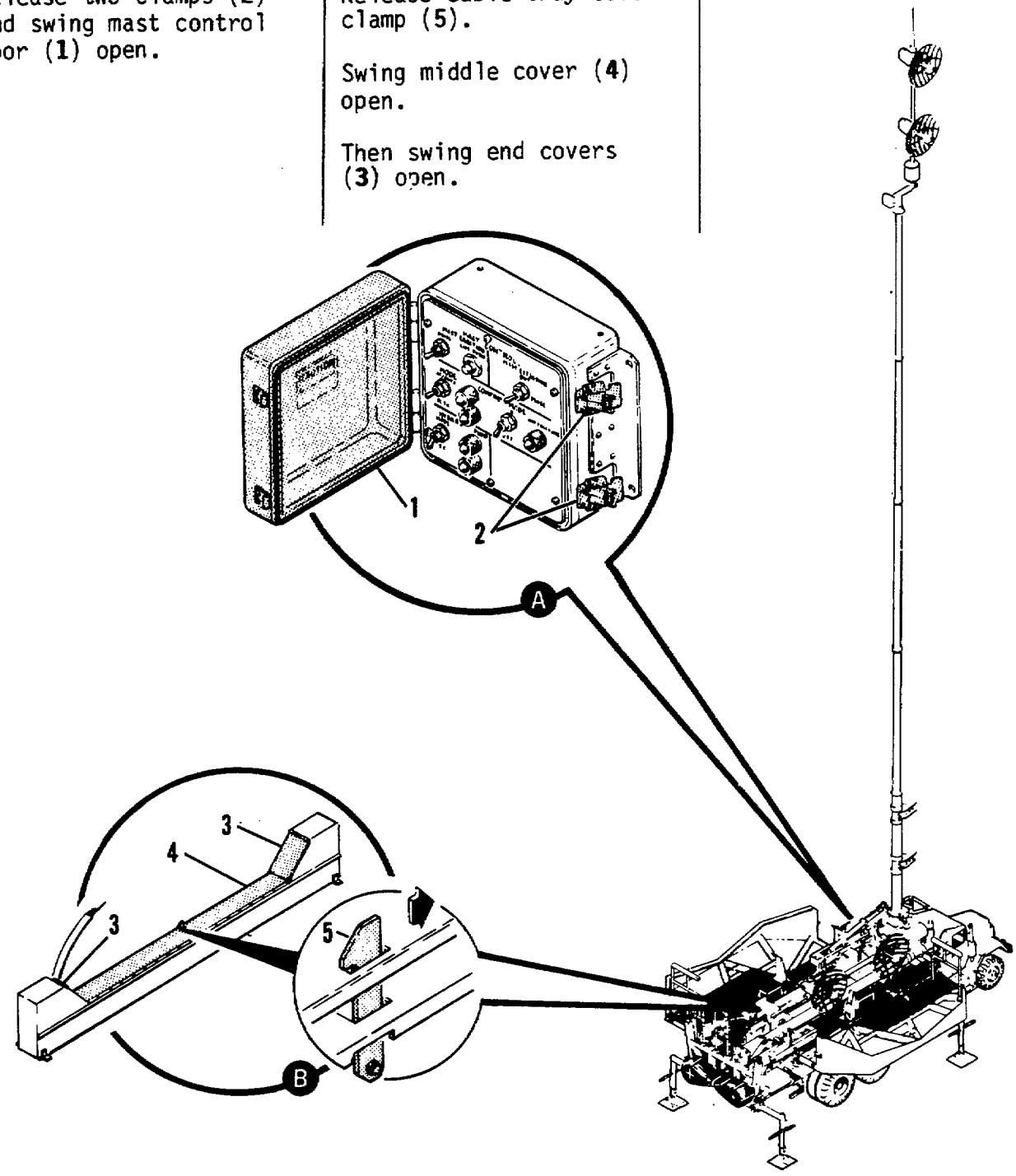
SOLDIER A	SOLDIER B	SOLDIER C
Step 11 - BREAK	**Step 11 - IF NECESSARY, PLACE CURBSIDE FRONT ANTENNA TO ZERO DEGREES IN ELEVATION** Pull quick release pin (**1**) securing strut (**2**). Place antenna to zero degree position (**3**) in elevation. Aline hole in strut (**2**) with hole in antenna driver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



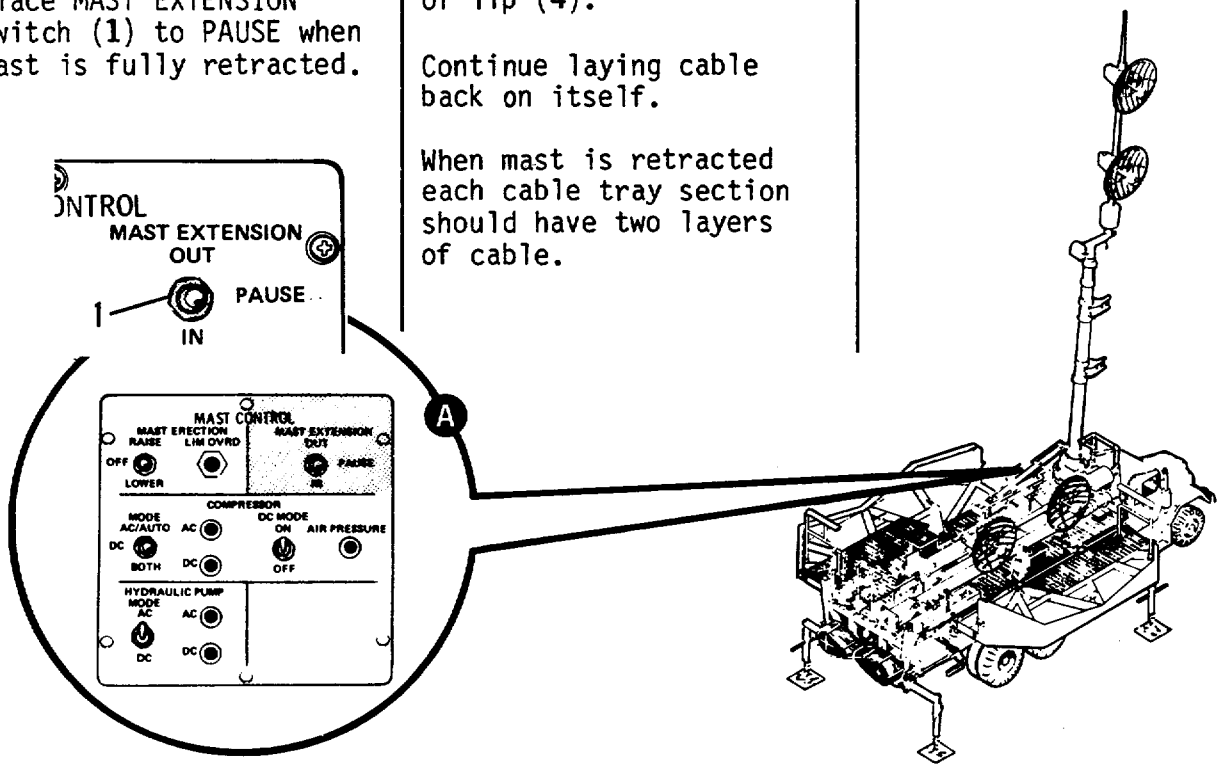
SOLDIER A	SOLDIER B	SOLDIER C
Step 12 - LOWER CURBSIDE MAST TO HORIZONTAL POSITION **WARNING** Make sure roadside mast travel path is clear of personnel and obstructions. Tell Soldiers B and C you're going to lower roadside mast. Hold MAST ERECTION switch (4) to "LOWER" and at the same time push LIM OVRD button (5) to lower mast. Close and latch control panel door.	**Step 12 - WATCH CURBSIDE CABLE** 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** Guide cable (2) into cable tray (3) as curbside mast is lowered. Close curbside cable tray covers (1).

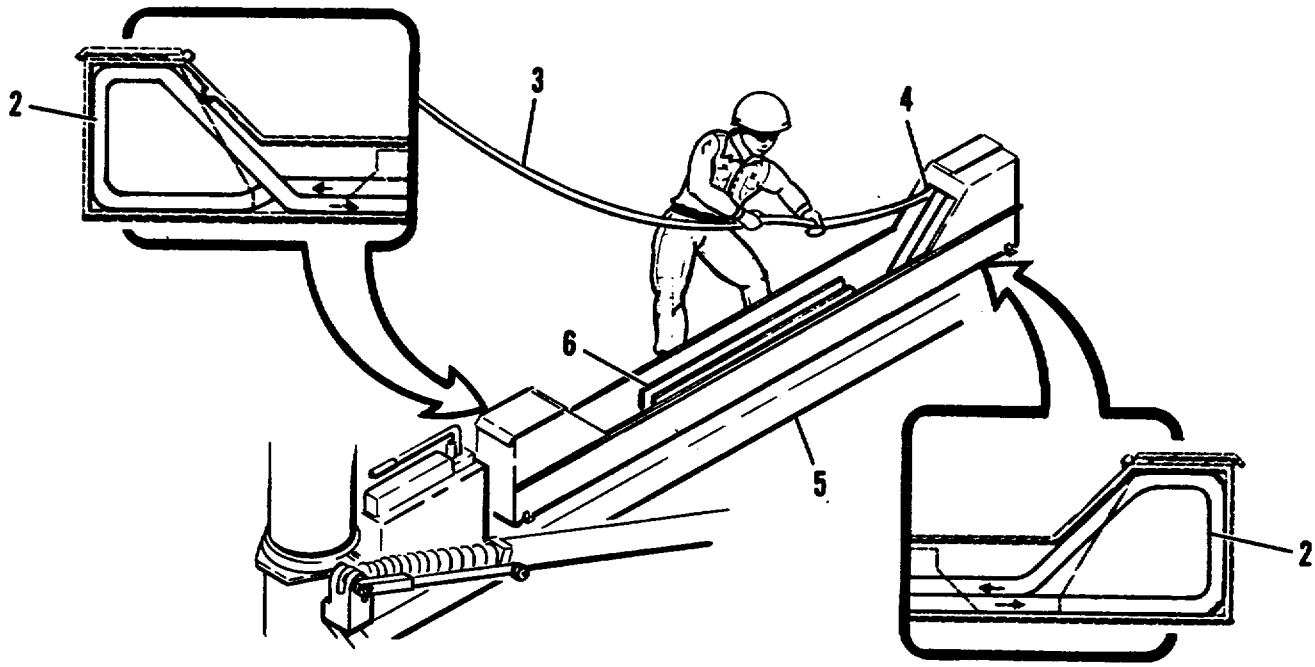


SOLDIER A	SOLDIER B	SOLDIER C
Step 13 - OPEN ROADSIDE MAST CONTROL DOOR Release two clamps (**2**) and swing mast control door (**1**) open.	**Step 13 - OPEN CABLE TRAY COVERS** Release cable tray cover clamp (**5**). Swing middle cover (**4**) open. Then swing end covers (**3**) open.	**Step 13 - BREAK**



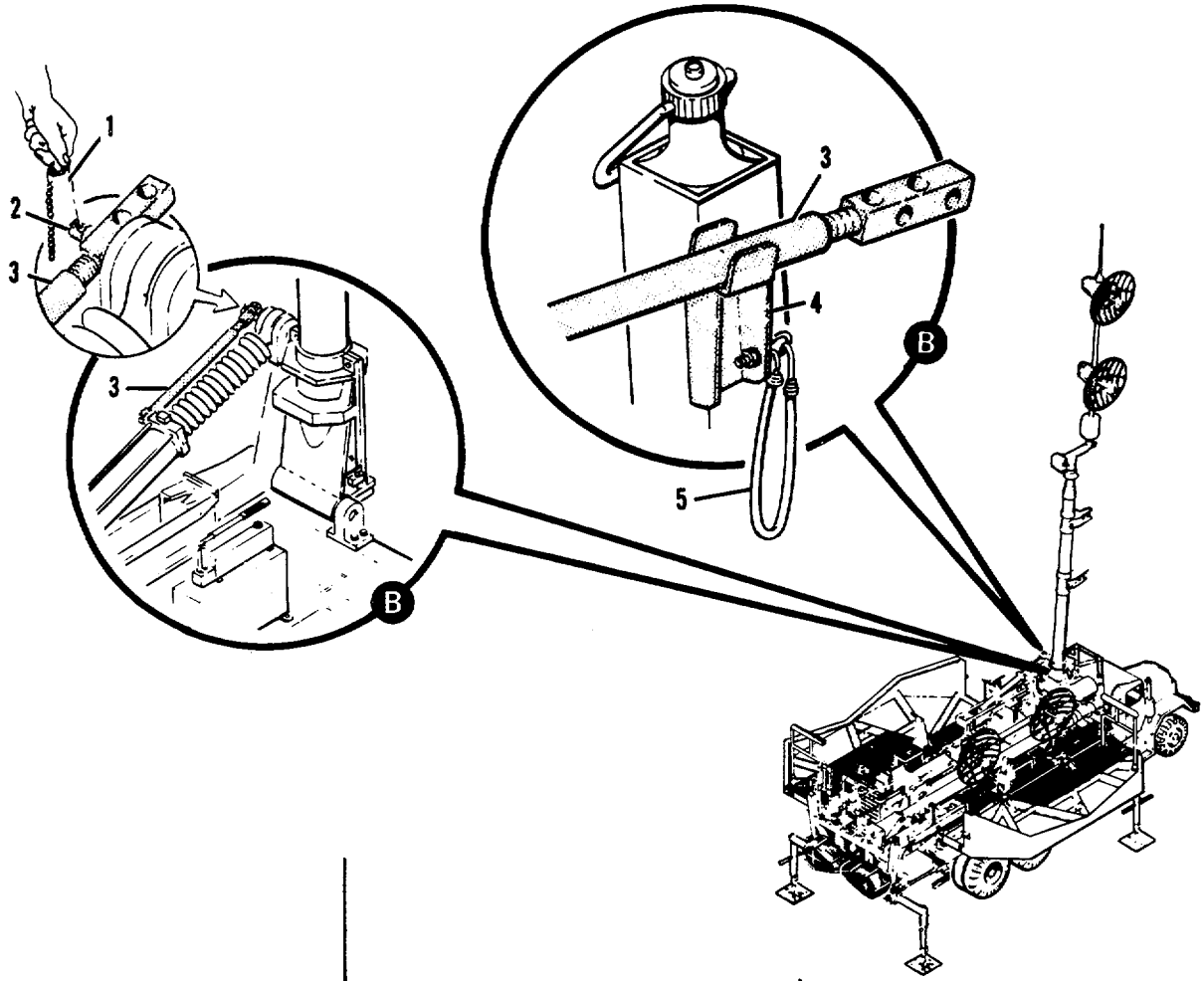
SOLDIER A	SOLDIER B	SOLDIER C
Step 14 - RETRACT ROADSIDE MAST **WARNING** Tell Soldier B you are going to retract mast. Make sure he is ready to guide cable as mast comes down. **CAUTION** Watch cable as mast comes down. Stop mast retraction if cable becomes entangled or fouled. Set MAST EXTENSION switch (1) to "IN" and retract the mast. Place MAST EXTENSION switch (1) to PAUSE when mast is fully retracted.	**SEE ILLUSTRATION ON FACING PAGE.** **Step 14 - GUIDE ROADSIDE CABLE INTO CABLE TRAY** **WARNING** Tell Soldier A to stop mast retraction if cable becomes fouled. Guide cable (3) into cable tray (5) as mast comes down. Start laying cable in the inboard section (6) of the cable tray. Make a loop (2) in cable and tuck loop under end of lip (4). Continue laying cable back on itself. When mast is retracted each cable tray section should have two layers of cable.	**Step 14 - WATCH ROADSIDE CABLES** Watch the roadside cables. Tell Soldier A to stop mast retraction if cables become entangled. **NOTE** If your Mast Group has variable height limiter deployed, install handle and turn winch as mast comes down (para 2-21).



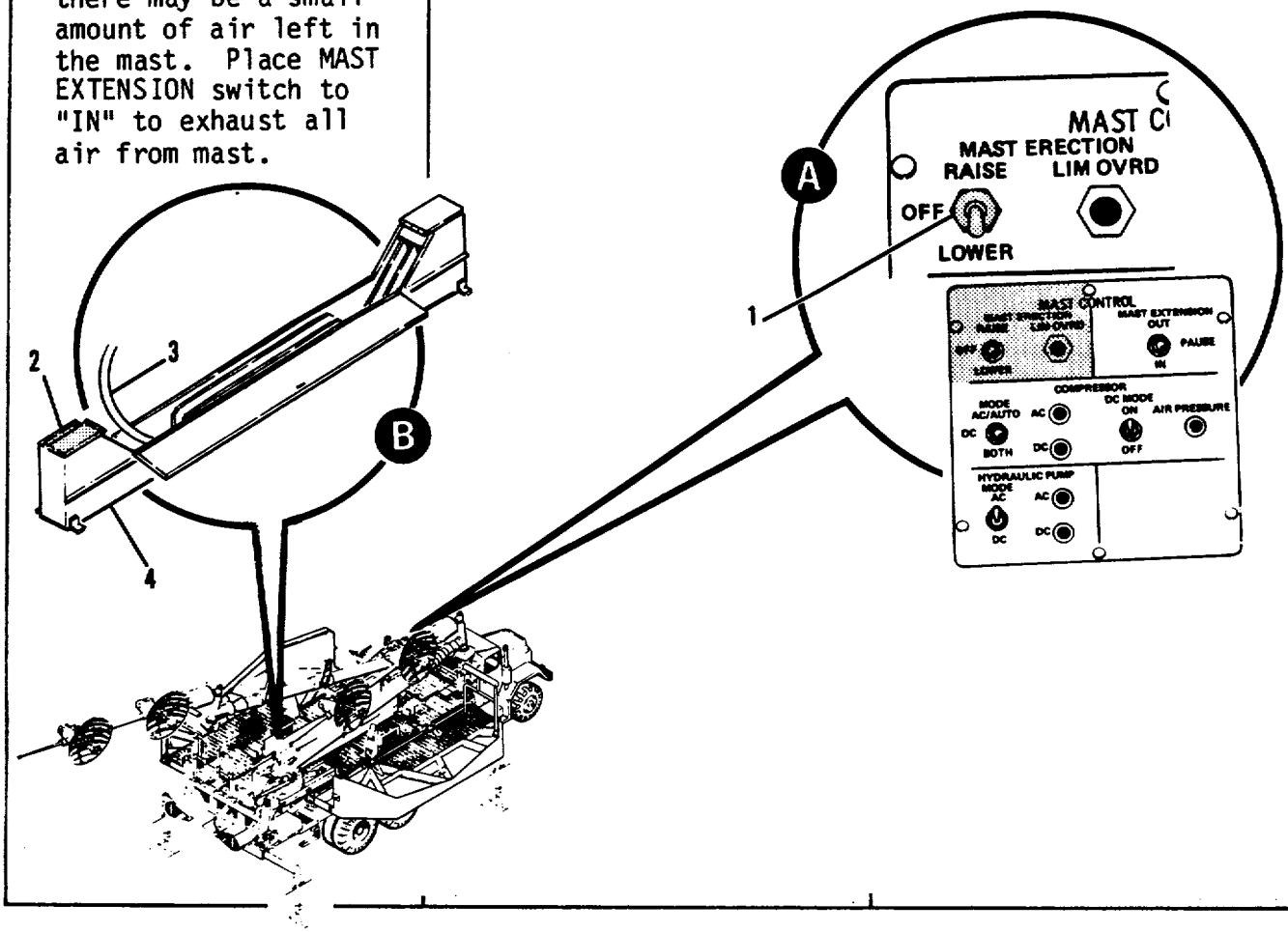


SOLDIER B

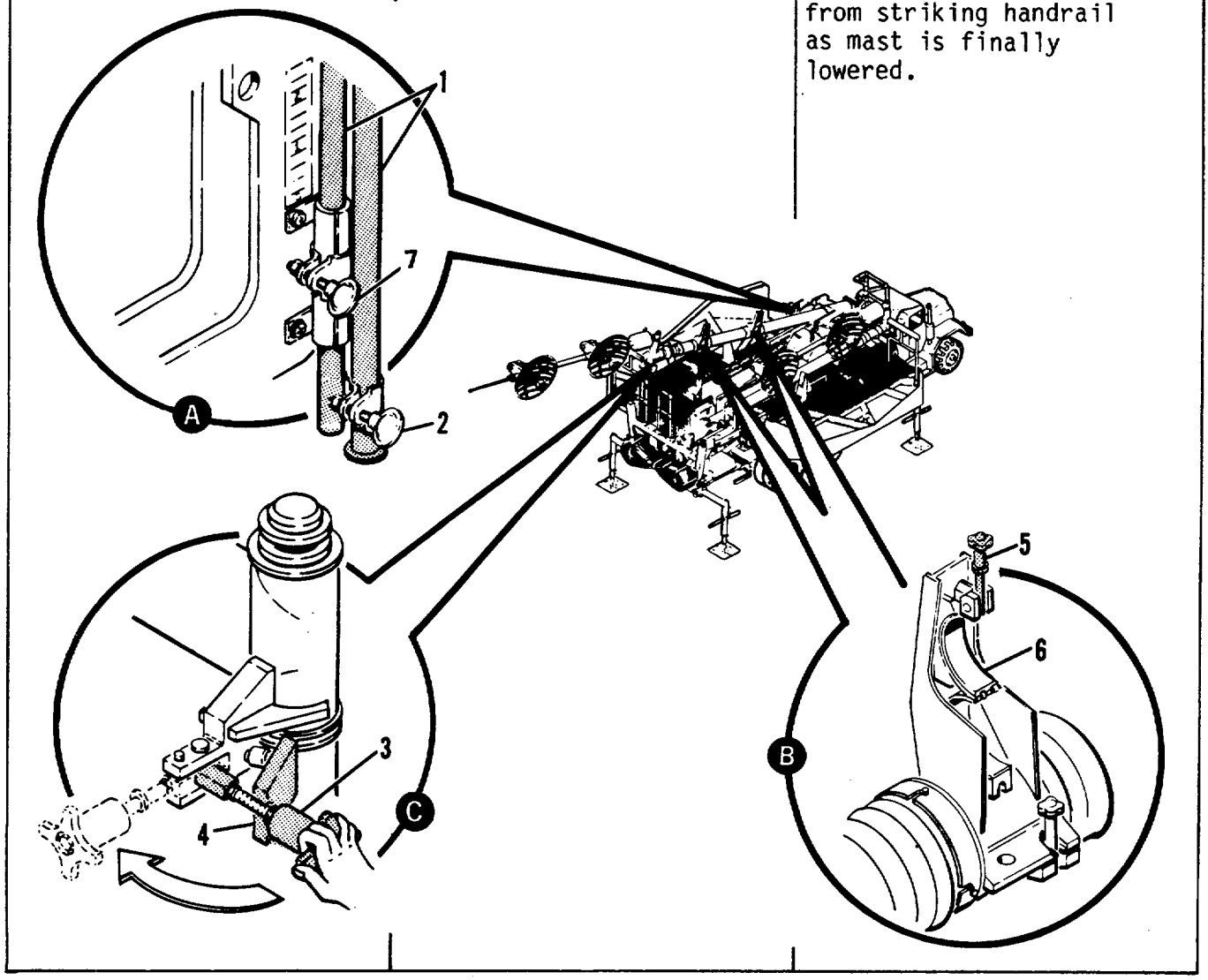
SOLDIER A	SOLDIER B	SOLDIER C
Step 15 - BREAK Wait until Soldier C has stowed lock strut and is out of the path of the curbside mast before starting your next step.	**Step 15 - RELEASE ROADSIDE LOCK STRUT** Pull quick release pin (**1**) securing lock strut (**3**) to mast clamp pin (**2**). Pull lock strut from pin. Place lock strut (**3**) in stowage bracket (**4**). Secure strut with elastic cord (**5**).	**Step 15 - BREAK**



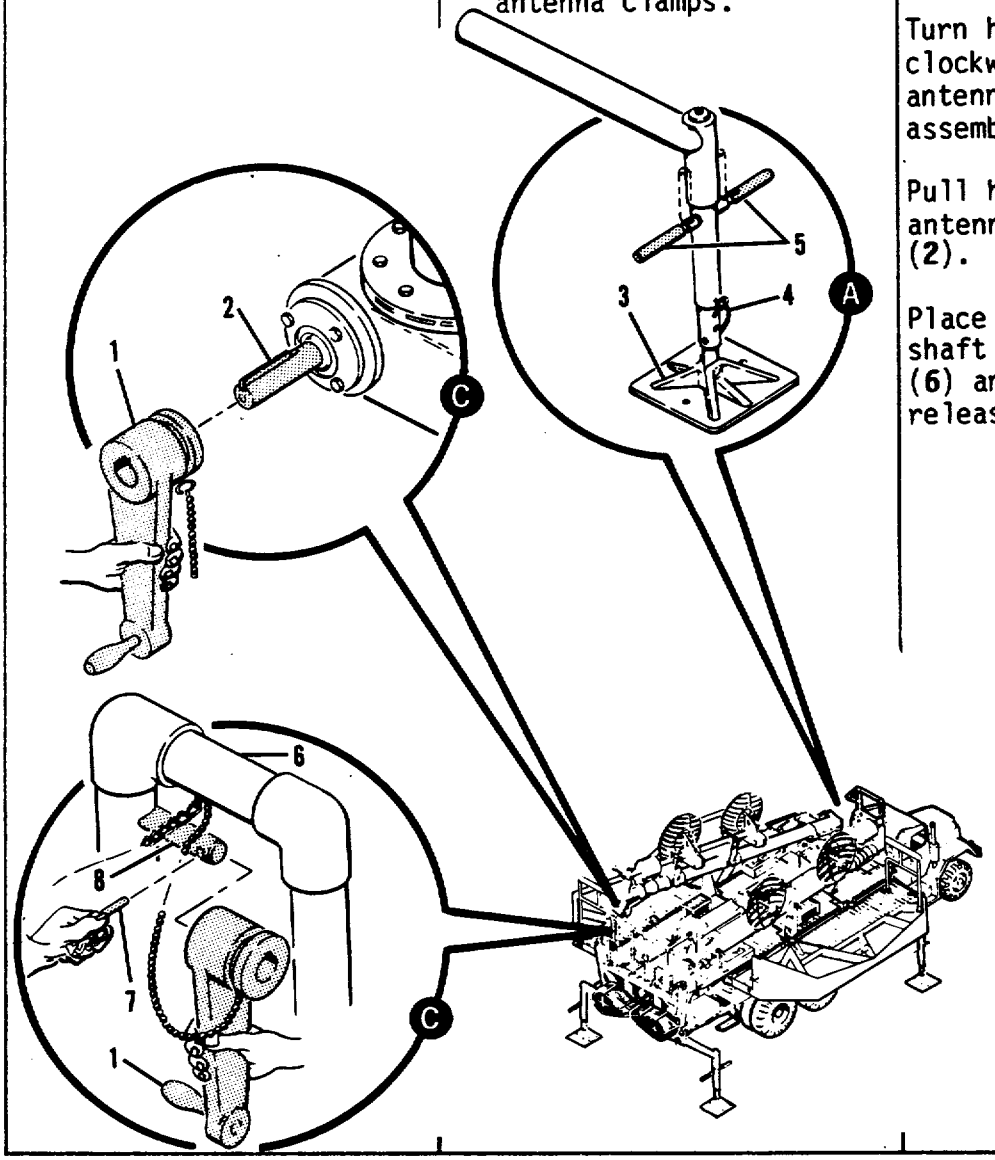
SOLDIER A	SOLDIER B	SOLDIER C
Step 16 - LOWER ROADSIDE MAST TO 15 DEGREES **WARNING** Make certain mast travel path is clear of personnel or obstructions before lowering mast. Set MAST ERECTION switch (**1**) to "LOWER" and lower mast. Mast will automatically stop at 15 degrees. **NOTE** If mast fails 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.	**Step 16 - GUIDE ROADSIDE CABLE INTO TRAY** **WARNING** Stand clear of roadside mast. Tell Soldier A you are ready to guide cable into tray. Guide cable (**3**) into outboard section of cable tray (**4**) as mast is lowered. Close narrow cover (**2**) at rear end of cable tray.	**Step 16 - BREAK**



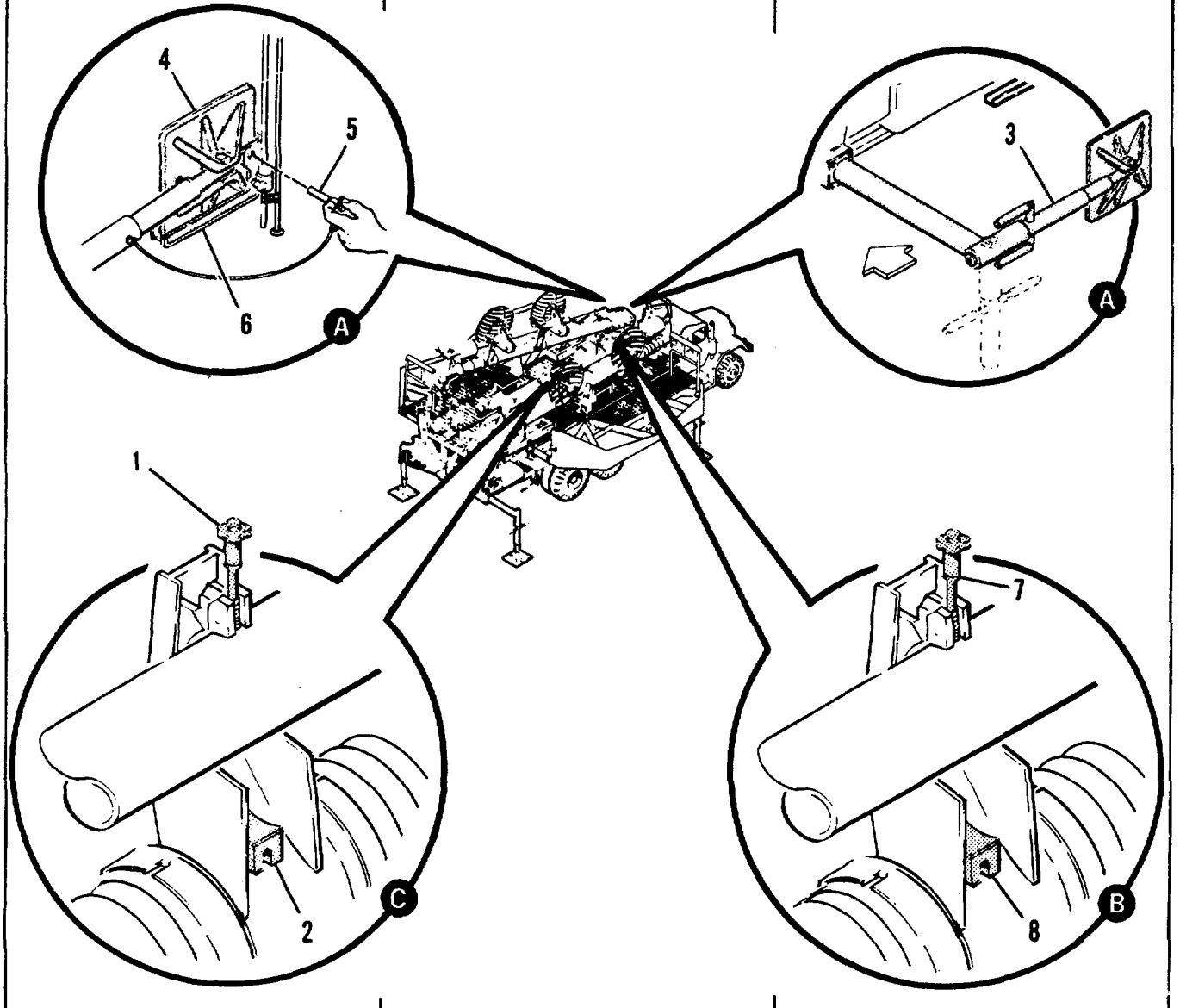
SOLDIER A	SOLDIER B	SOLDIER C
Step 17 - RELEASE AND STOW ROADSIDE FRONT MEASURING ROD Turn thumbscrew (**2**) counterclockwise to release lower rod (**1**). Slide both rods (**1**) up to stowed position. Turn thumbscrews (**2** and **7**) clockwise to secure both rods (**1**) in stowed position.	**Step 17 - CHECK ANTENNA CLAMP HANDKNOBS** Check handknobs (**5**) on antenna clamps (**6**) to make sure they are in the up position. (Hand knobs must not obstruct clamps.)	**Step 17 - RELEASE ROADSIDE ANTENNA POSITIONER** Turn swivel handle (**3**) counterclockwise to release handle. Rotate handle out of notch in bracket (**4**) until you feel handle detent click into place. Screw swivel handle (**3**) in to prevent handle from striking handrail as mast is finally lowered.



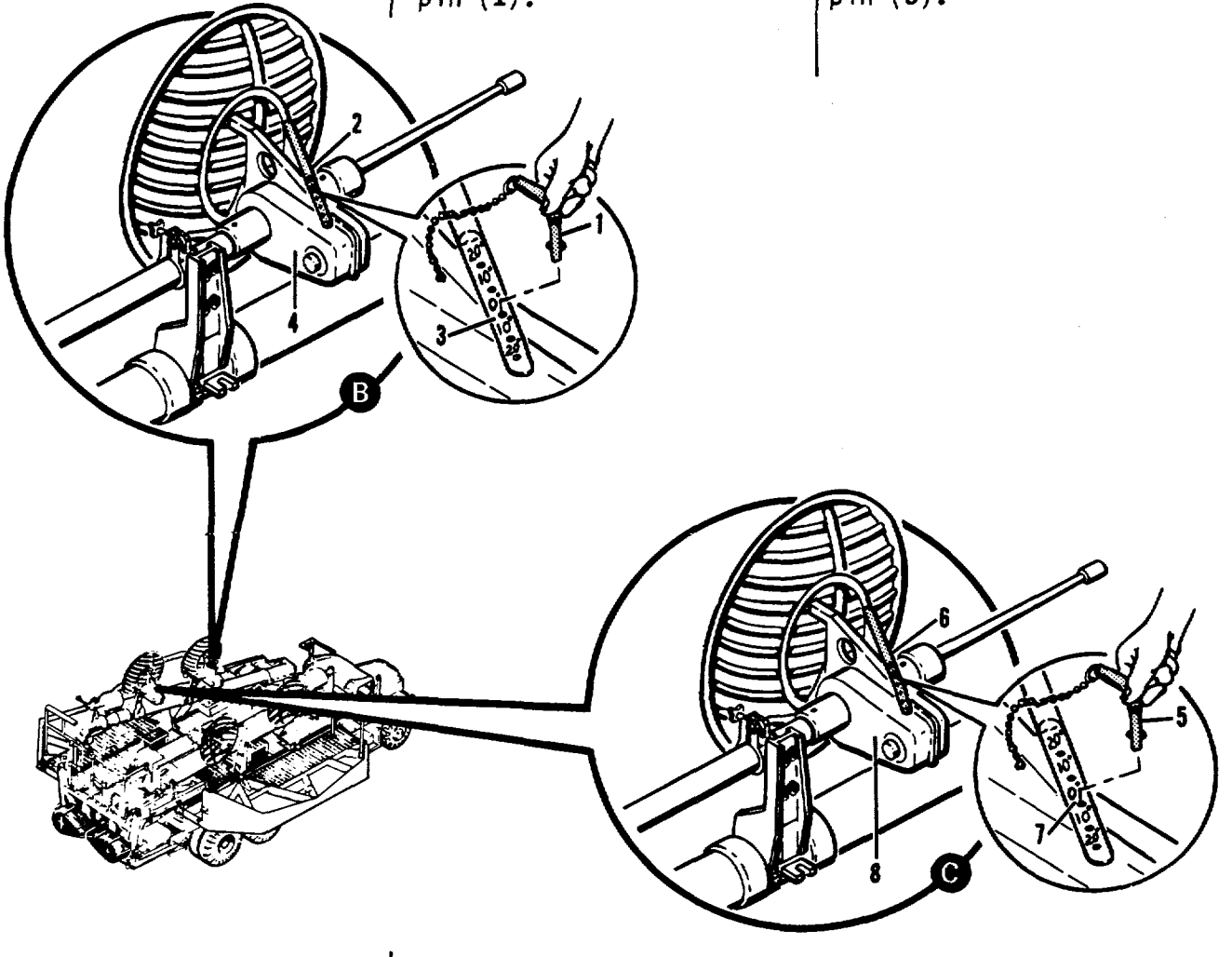
SOLDIER A	SOLDIER B	SOLDIER C
Step 18 - RELEASE ROADSIDE FRONT STABILIZING STRUT Turn arms (**5**) clockwise and raise stabilizer pad (**3**) off the ground. Fold arms (**5**) up. Pull quick release pin (**4**) securing upper and lower stabilizing strut sections together.	**Step 18 - HELP STOW ANTENNA AMPLIFIER ASSEMBLIES** Watch that antennas do not strike antenna protective cover. Tell Soldier C to stop folding antennas if there are any obstructions. **NOTE** If needed, lift and guide assembly into antenna clamps.	**Step 18 - FOLD ROADSIDE ANTENNA AMPLIFIER ASSEMBLIES AND STOW POSITIONER HANDLE** Pull quick release pin (**7**) securing handle (**1**) to shaft (**8**) on handrail (**6**). Remove handle. Install handle on antenna positioner shaft (**2**). Turn handle (**1**) counterclockwise to fold antenna amplifier assemblies. Pull handle (**1**) from antenna positioner shaft (**2**). Place handle (**1**) on shaft (**2**) on handrail (**6**) and install quick release pin (**7**).



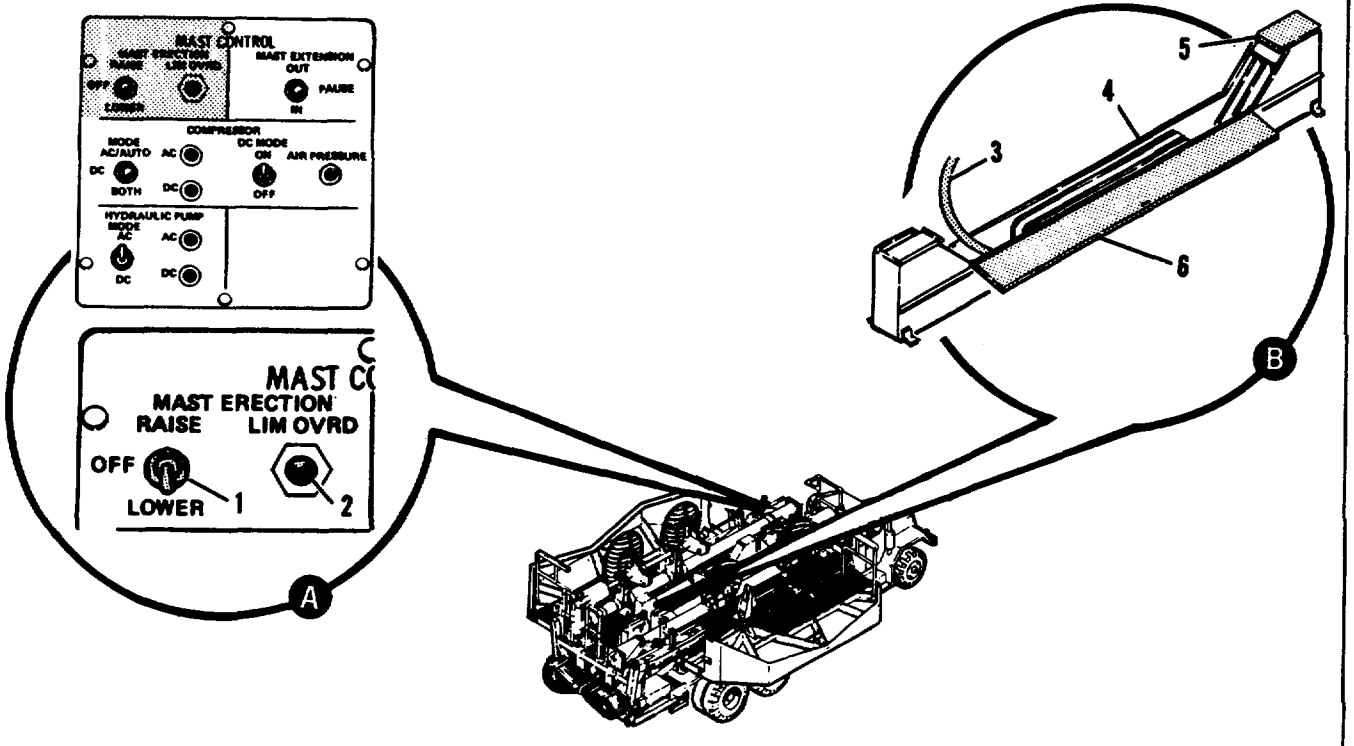
SOLDIER A	SOLDIER B	SOLDIER C
Step 19 - COLLAPSE AND STOW CURBSIDE FRONT STABILIZING STRUT Swing stabilizing strut (**3**) up and slide in towards frame. Place pad (**4**) in stowage bracket (**6**) and install quick release pin (**5**) to secure.	**Step 19 - FASTEN FRONT ROADSIDE ANTENNA CLAMP** Swing clamp (**8**) up and over antenna mast. Pull bolt (**7**) down to engage clamp. Tighten bolt (**7**) to secure clamp.	**Step 19 - FASTEN REAR ROADSIDE ANTENNA CLAMP** Swing clamp (**2**) up and over antenna mast. Pull bolt (**1**) down to engage clamp. Tighten bolt (**1**) to secure clamp.



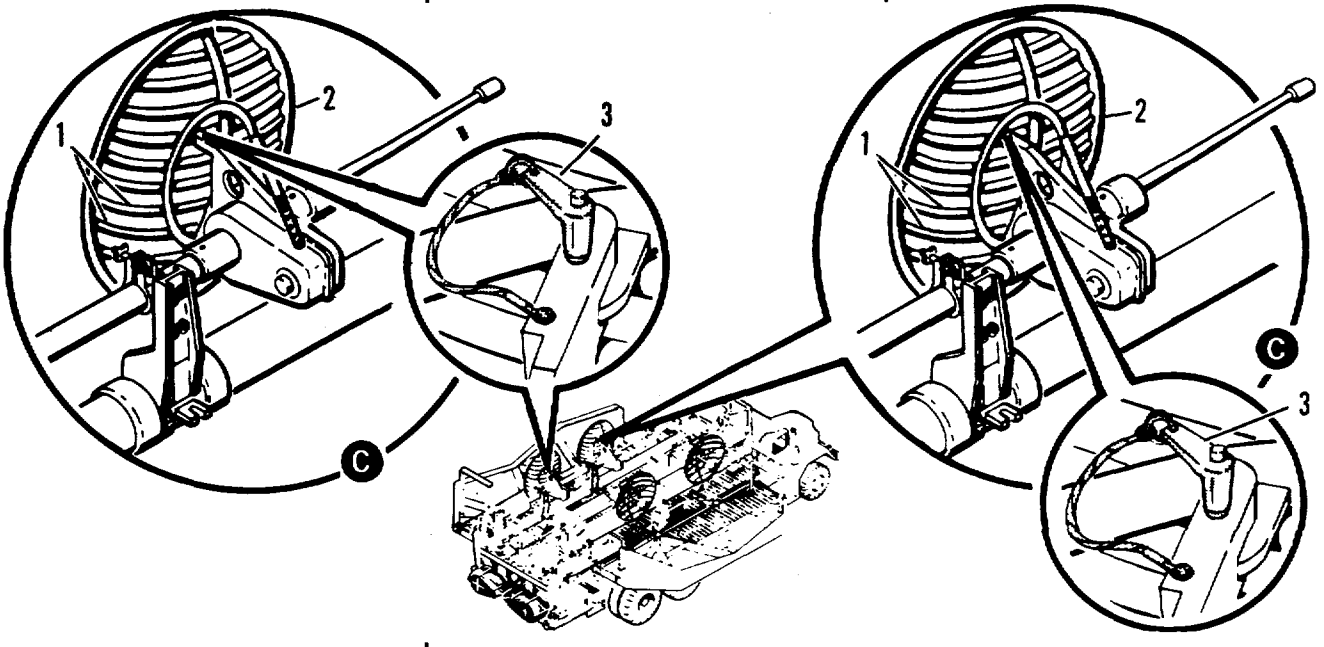
SOLDIER A	SOLDIER B	SOLDIER C
Step 20 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	**Step 20 - IF NECESSARY PLACE ROADSIDE FRONT ANTENNA TO ZERO DEGREES IN ELEVATION** Pull quick release pin (1) securing strut (2). Place antenna to zero degree position (3) in elevation. Aline hole in strut (2) with hole in antenna driver (4). Install quick release pin (1).	**Step 20 - IF NECESSARY, PLACE ROADSIDE REAR ANTENNA TO ZERO DEGREES IN ELEVATION** Pull quick release pin (5) securing strut (6). Place antenna to zero degree position (7) in elevation. Aline hole in strut (6) with hole in antenna driver (8). Install quick release pin (5).



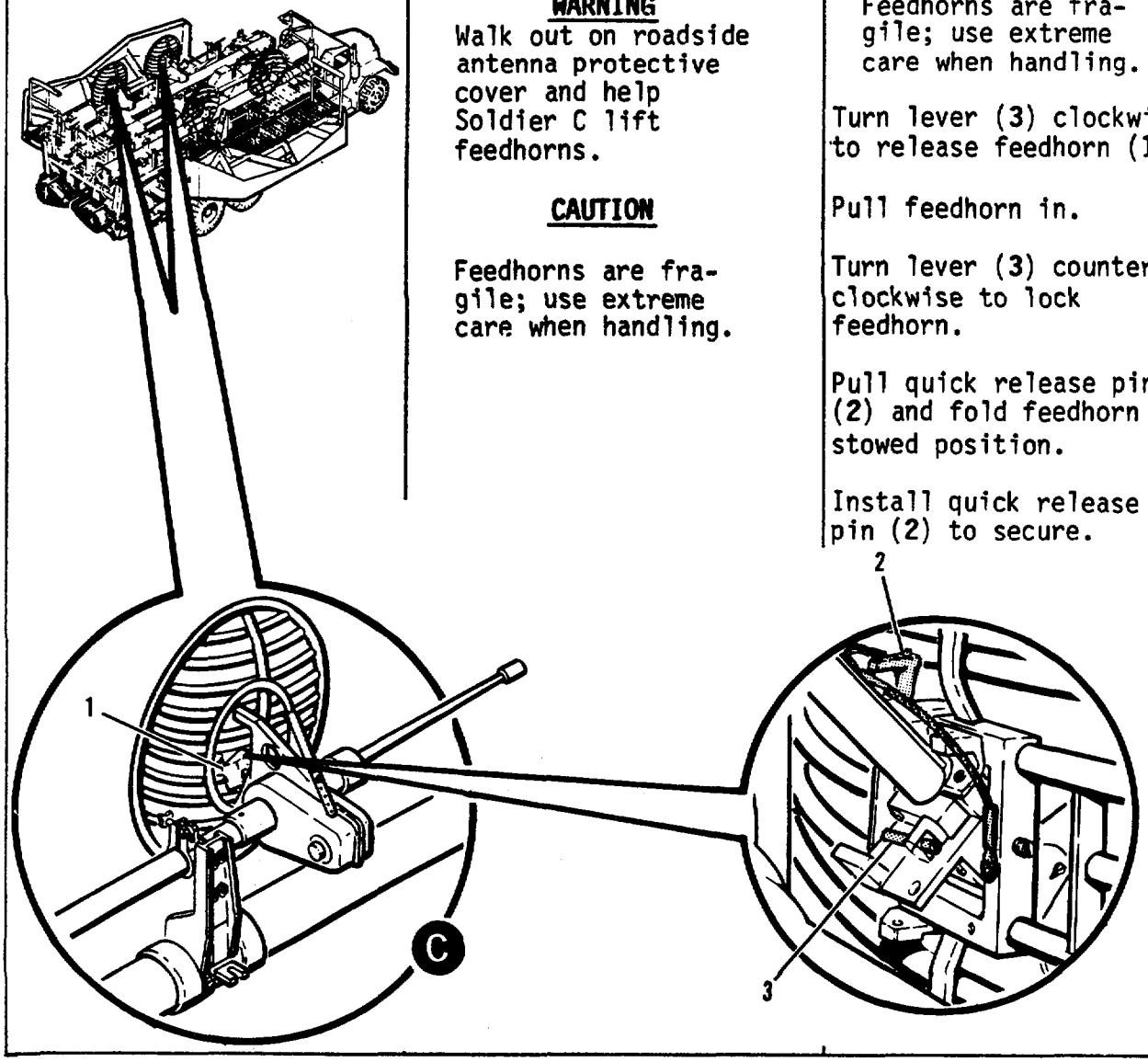
SOLDIER A	SOLDIER B	SOLDIER C
Step 21 - LOWER ROADSIDE MAST TO HORIZONTAL POSITION **WARNING** Make sure roadside mast travel path is clear of personnel and obstructions. Tell Soldiers B and C you are going to lower roadside mast. Hold MAST ERECTION switch (1) to "LOWER" and at the same time push LIM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



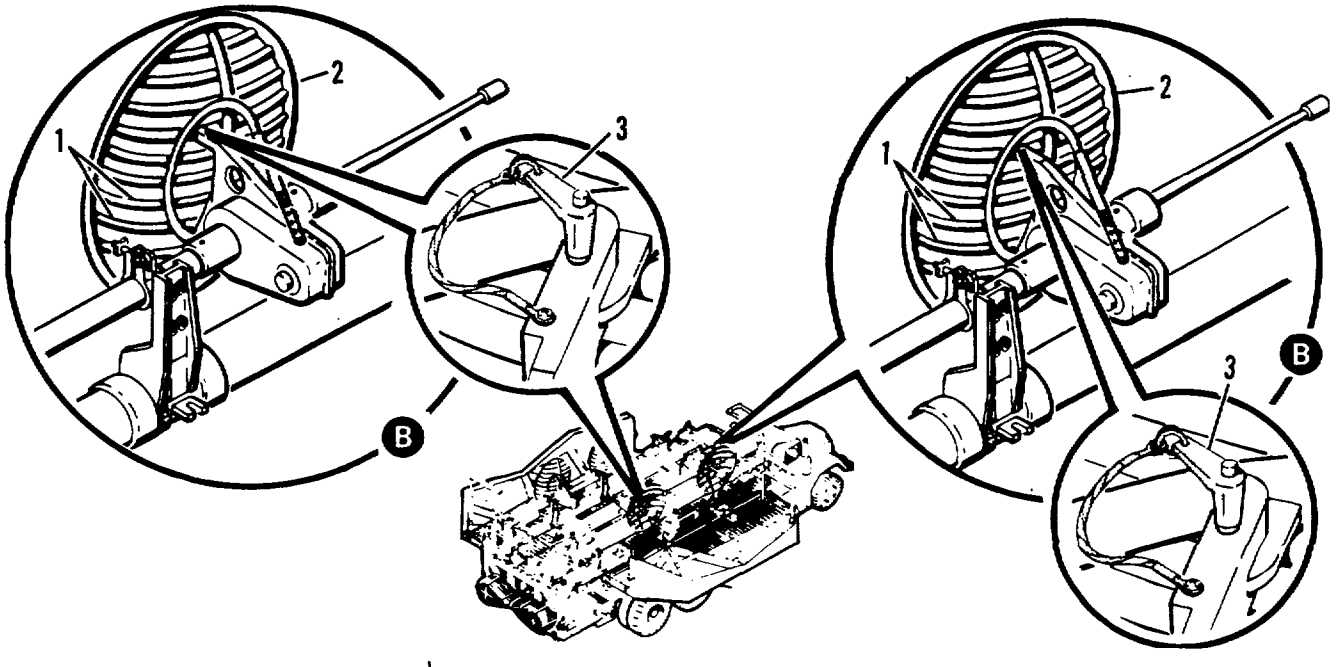
SOLDIER A	SOLDIER B	SOLDIER C
Step 22 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	***Step 22 - IF NEEDED, CHANGE ROADSIDE ANTENNAS POLARIZATION*** **CAUTION** Antennas must be positioned so bars (**1**) are horizontal before antennas can be stowed. **WARNING** Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards. Rotate antenna 90° after Soldier C has pulled *quick release pins*. Reposition antenna and hold antenna until Soldier C has installed four quick release pins (**3**).	***Step 22 - IF NEEDED, CHANGE ROADSIDE ANTENNAS POLARIZATION*** **CAUTION** Antennas must be positioned so bars (**1**) are horizontal before antennas can be stowed. Pull four quick release pins (**3**) securing antenna (**2**). Have Soldier B rotate antennas 90° and reposition antenna (**2**). Install four quick release pins (**3**) to secure.



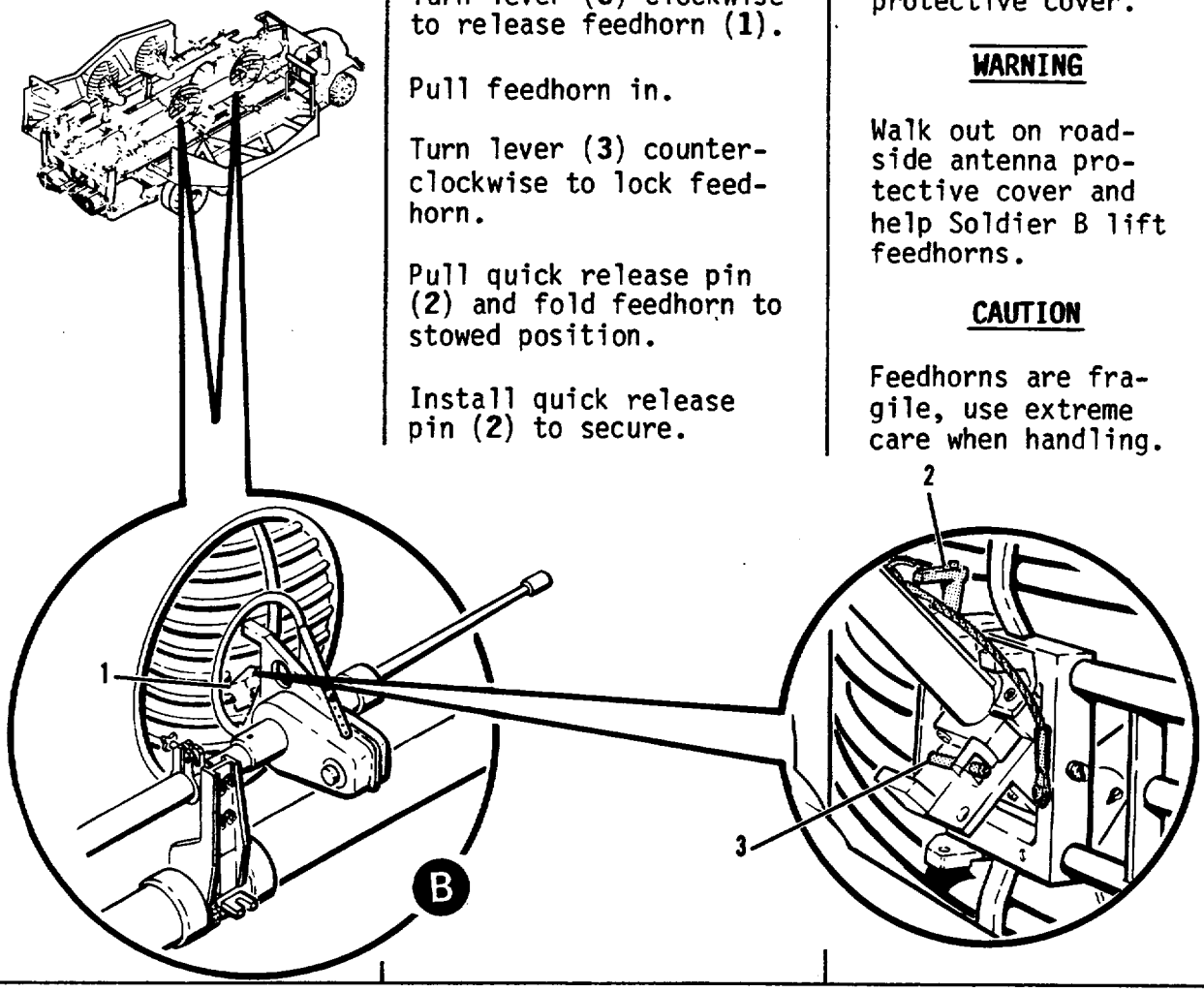
SOLDIER A	SOLDIER B	SOLDIER C
Step 23 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	**Step 23 - HELP STOW ROADSIDE ANTENNA FEEDHORNS** **WARNING** Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards. **WARNING** Walk out on roadside antenna protective cover and help Soldier C lift feedhorns. **CAUTION** Feedhorns are fragile; use extreme care when handling.	**Step 23 - STOW ROADSIDE ANTENNA FEEDHORNS (ANTENNAS 3 AND 4)** **WARNING** Use extra care; it is easy to pinch fingers when stowing feedhorns. **CAUTION** Feedhorns are fragile; use extreme care when handling. Turn lever (3) clockwise to release feedhorn (1). Pull feedhorn in. Turn lever (3) counterclockwise to lock feedhorn. Pull quick release pin (2) and fold feedhorn to stowed position. Install quick release pin (2) to secure.



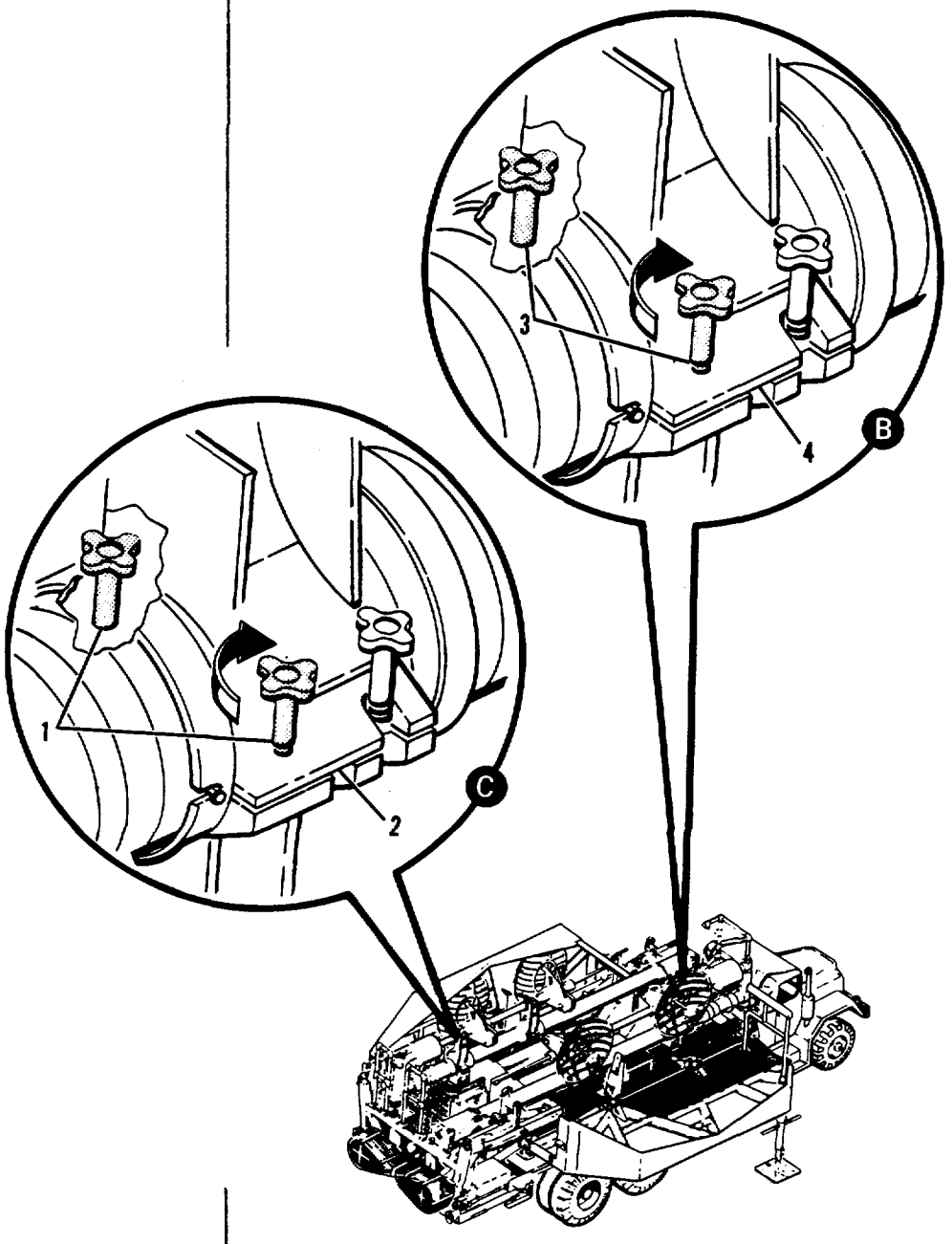
SOLDIER A	SOLDIER B	SOLDIER C
Step 24 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	**Step 24 - IF NEEDED, CHANGE CURBSIDE ANTENNAS POLARIZATION** **CAUTION** Antennas must be positioned so bars (1) are horizontal before antennas can be stowed. Pull four quick release pins (3) securing antenna (2). Have soldier C rotate antennas 90° and reposition antenna (2). Install four quick release pins (3) to secure.	**Step 24 - IF NEEDED, CHANGE CURBSIDE ANTENNAS POLARIZATION** **CAUTION** Antennas must be positioned so bars (1) are horizontal before antennas can be stowed. **WARNING** Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards. Rotate antenna 90° after Soldier B has pulled quick release pins. Reposition and hold antenna until Soldier B has installed four quick release pins (3).



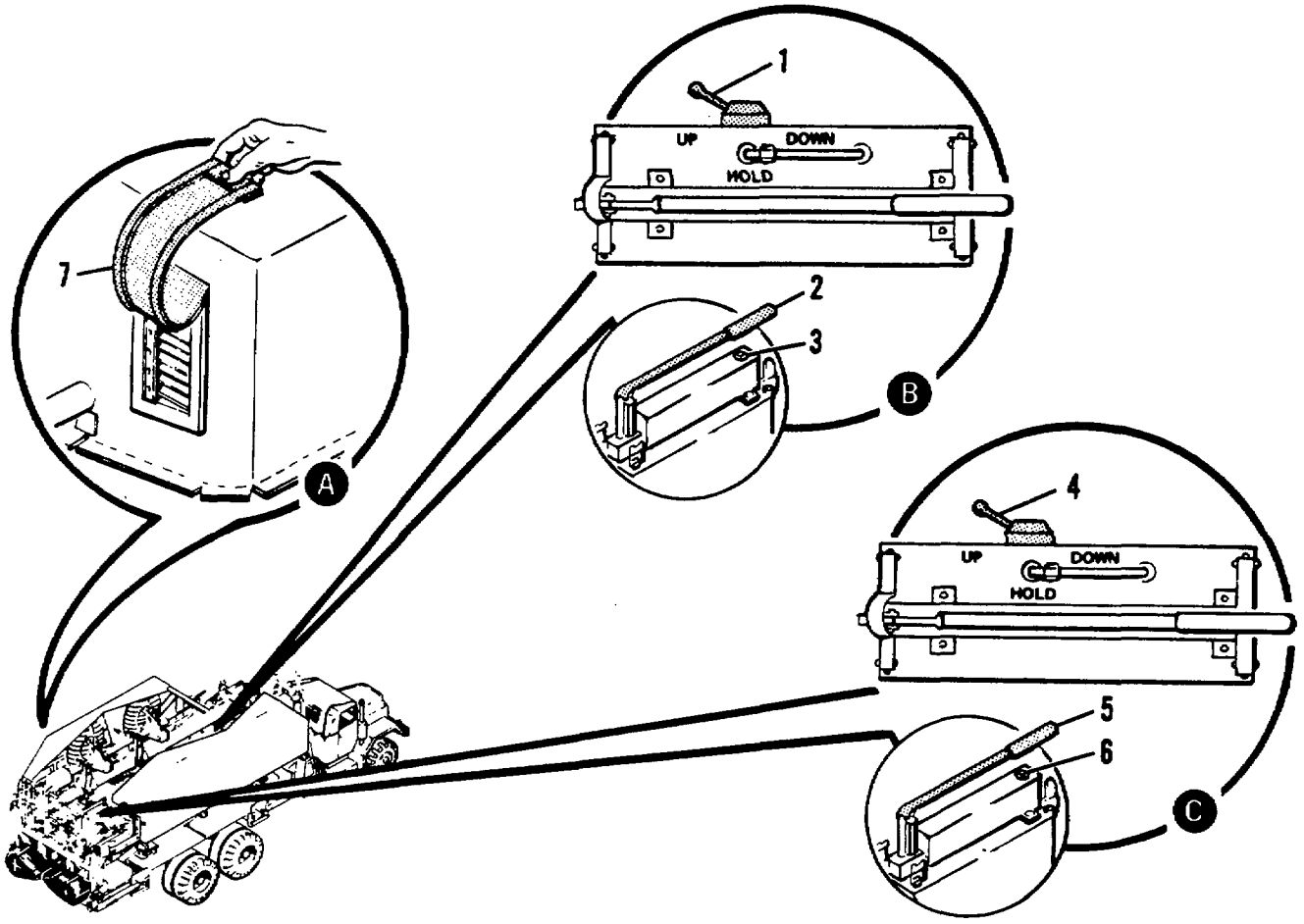
SOLDIER A	SOLDIER B	SOLDIER C
Step 25 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	**Step 25 - STOW CURBSIDE ANTENNA FEEDHORNS (ANTENNAS 1 AND 2)** **CAUTION** Feedhorns are fragile, use extreme care when handling. **WARNING** Use extra care, it is easy to pinch fingers when stowing feedhorns. Turn lever (3) clockwise to release feedhorn (1). Pull feedhorn in. Turn lever (3) counterclockwise to lock feedhorn. Pull quick release pin (2) and fold feedhorn to stowed position. Install quick release pin (2) to secure.	**Step 25 - HELP STOW CURBSIDE ANTENNA FEEDHORNS** **WARNING** Use extreme caution when walking on antenna protective cover. There are many tripping and falling hazards. **WARNING** Only one soldier is allowed on antenna protective cover. **WARNING** Walk out on roadside antenna protective cover and help Soldier B lift feedhorns. **CAUTION** Feedhorns are fragile, use extreme care when handling.



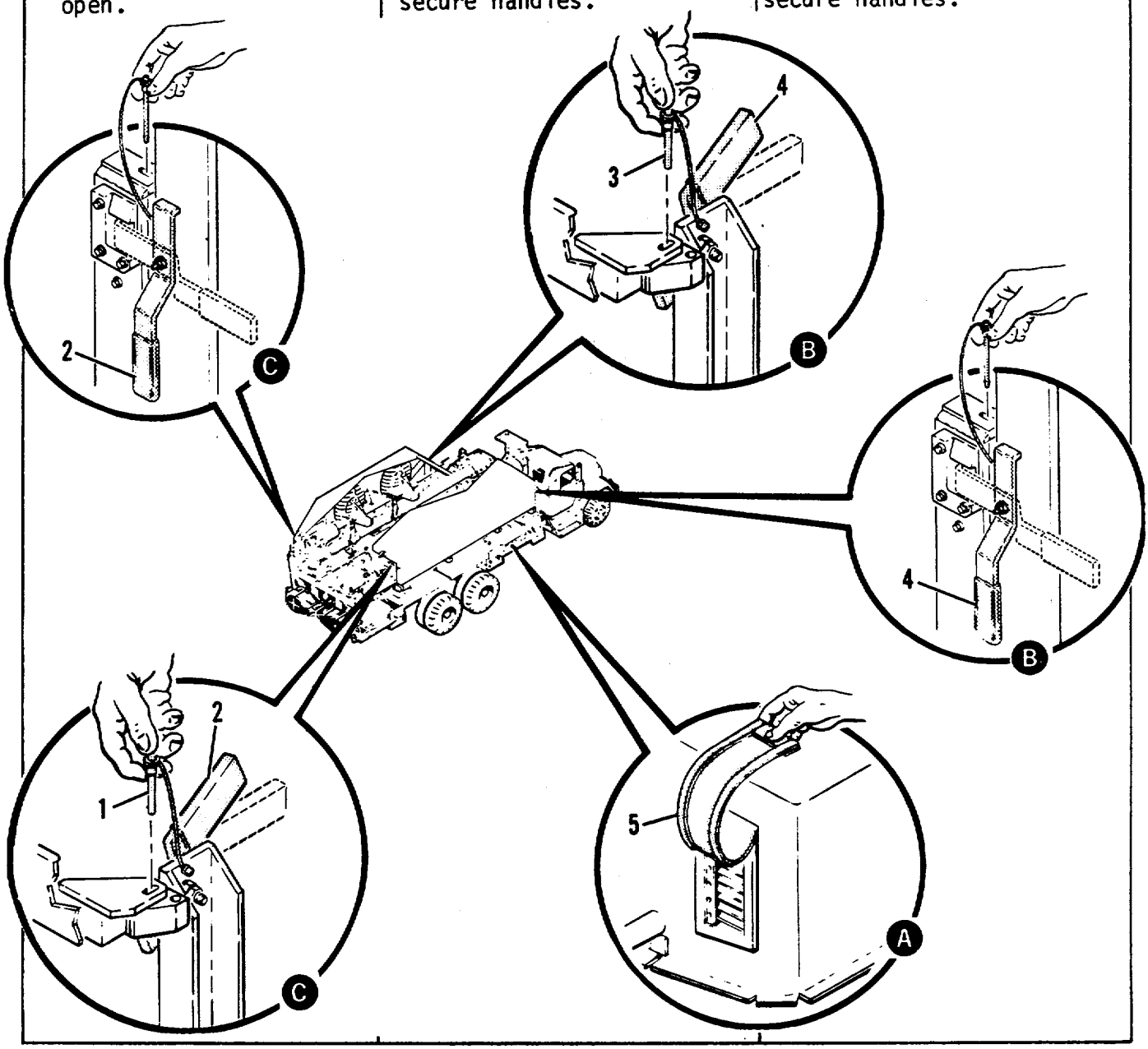
SOLDIER A	SOLDIER B	SOLDIER C
Step 26 - STOW REMAINING THREE STABILIZING STRUTS AND MEASURING RODS Repeat steps 17 through 19 for remaining three stabilizing struts.	**Step 26 - FASTEN ROAD-SIDE FRONT MAST CLAMP** Tighten two bolts (3) to secure mast clamp (4).	**Step 26 - FASTEN ROAD-SIDE REAR MAST CLAMP** Tighten two bolts (1) to secure mast clamp (2).



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



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

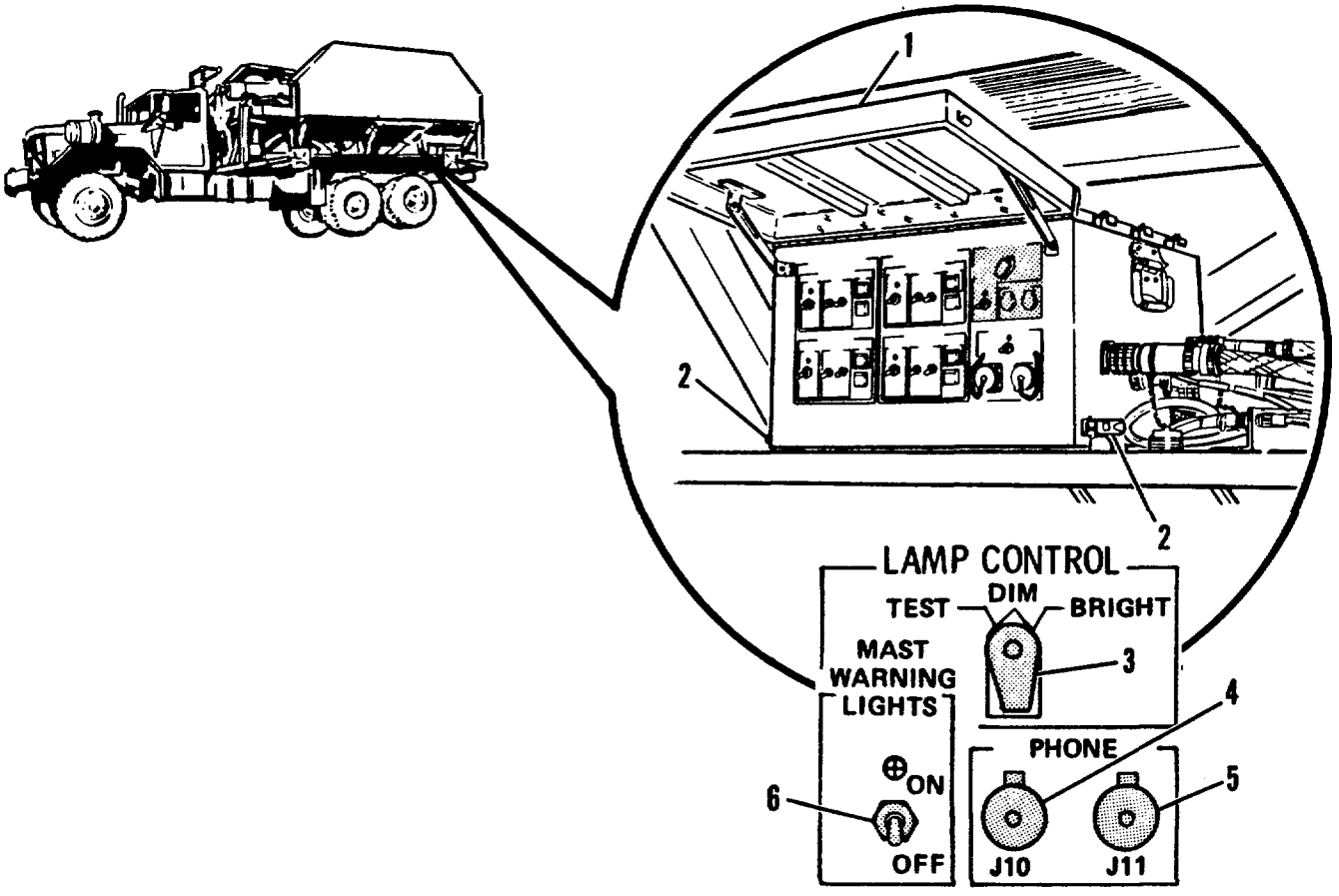
- SET DISTRIBUTION BOX 7A1A1 SWITCHES
- STOW SOUND POWERED PHONES
- DISCONNECT AND STOW CABLES
- PULL AND STOW GROUND RODS
- INSTALL AMPLIFIER CANVAS COVERS
- SET SWITCHES IF AIR TANKS ARE TO BE CHARGED IN TRANSIT

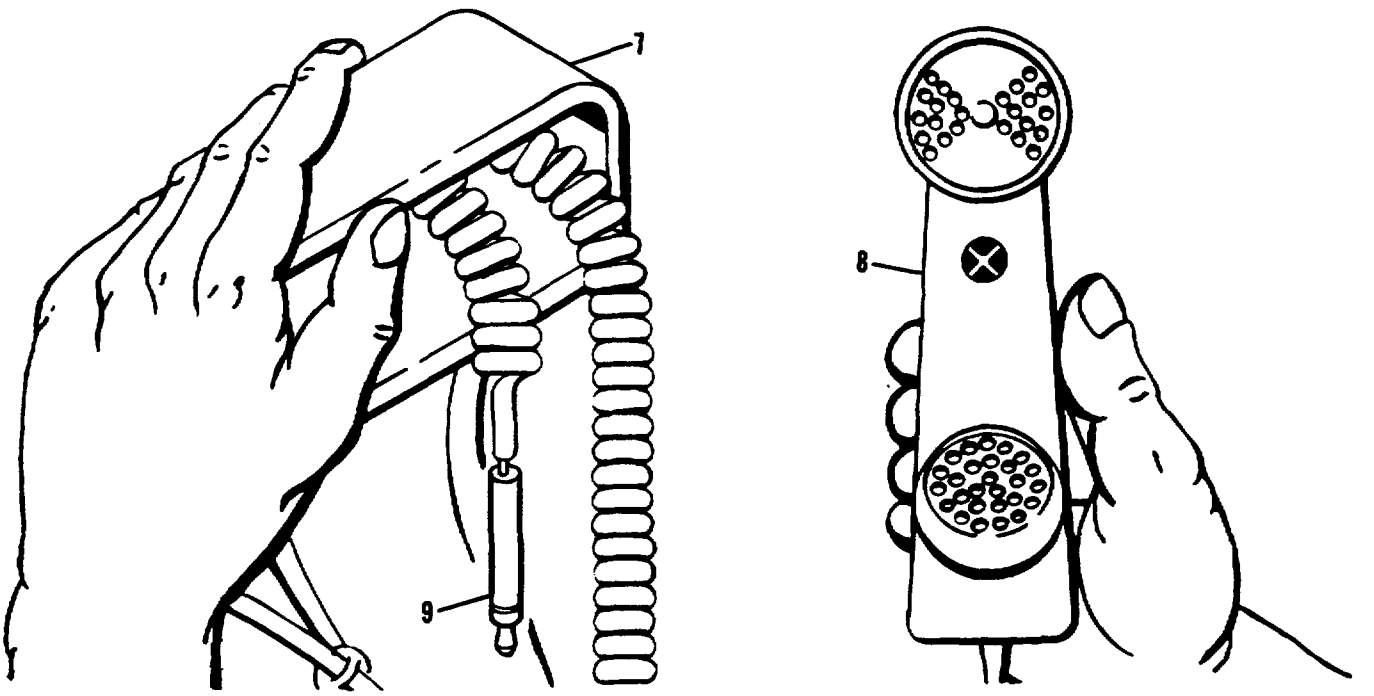
Here's how you prepare your mast group for roadmarch.

a. **Set distribution box 7A1A1 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 7A1A1.

(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**

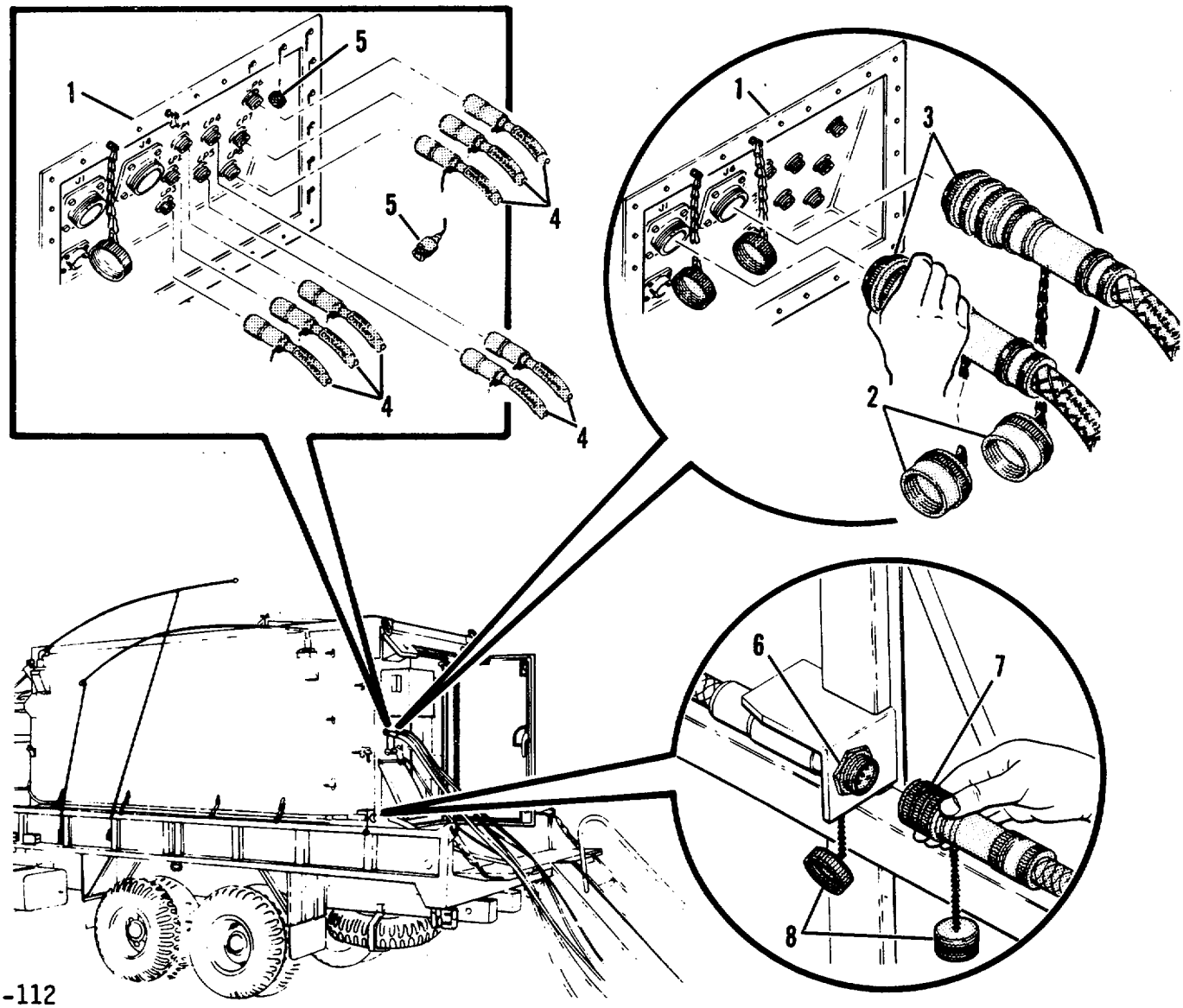
WARNING

Make sure power is OFF (TM 9-1430-603-10) 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.

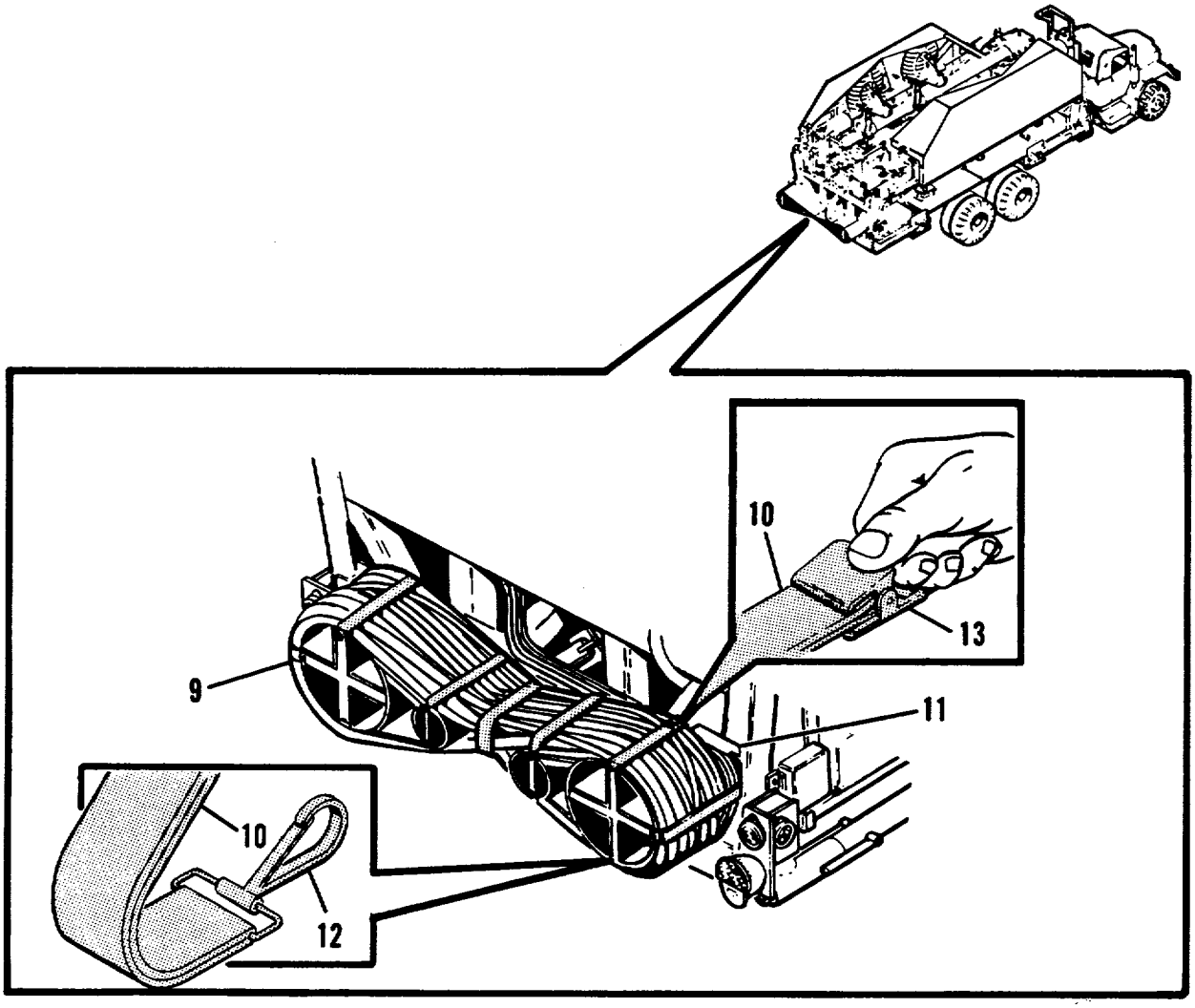
(2) Disconnect two control cables (**3**) from shelter entrance panel A26 (**1**). Install caps (**2**) on connectors and cables.

(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 eleven straps (**10**) to cable rack (**9**). Pull buckles (**13**) on straps to secure cables tight.

2-18 PREPARATION OF MAST GROUP FOR ROADMARCH - Continued

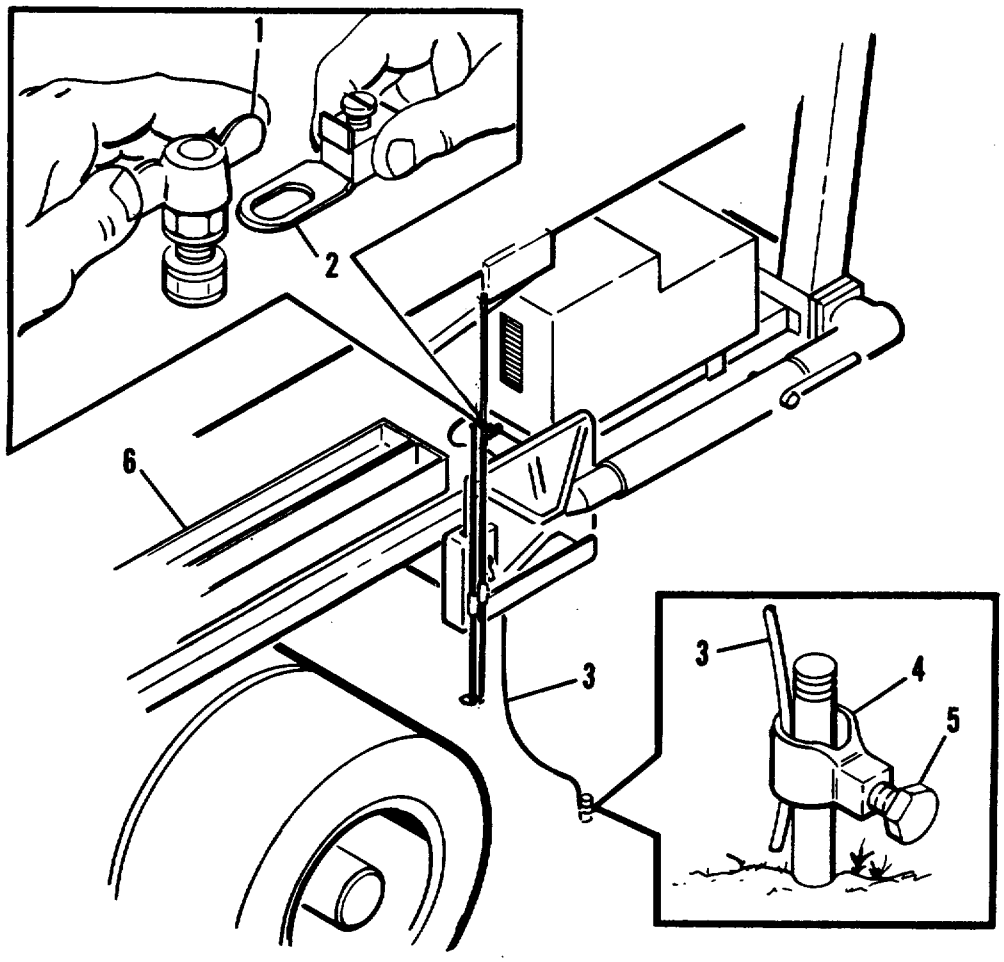
d. **Stow ground rod cable**

(1) Remove wing nut (**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.

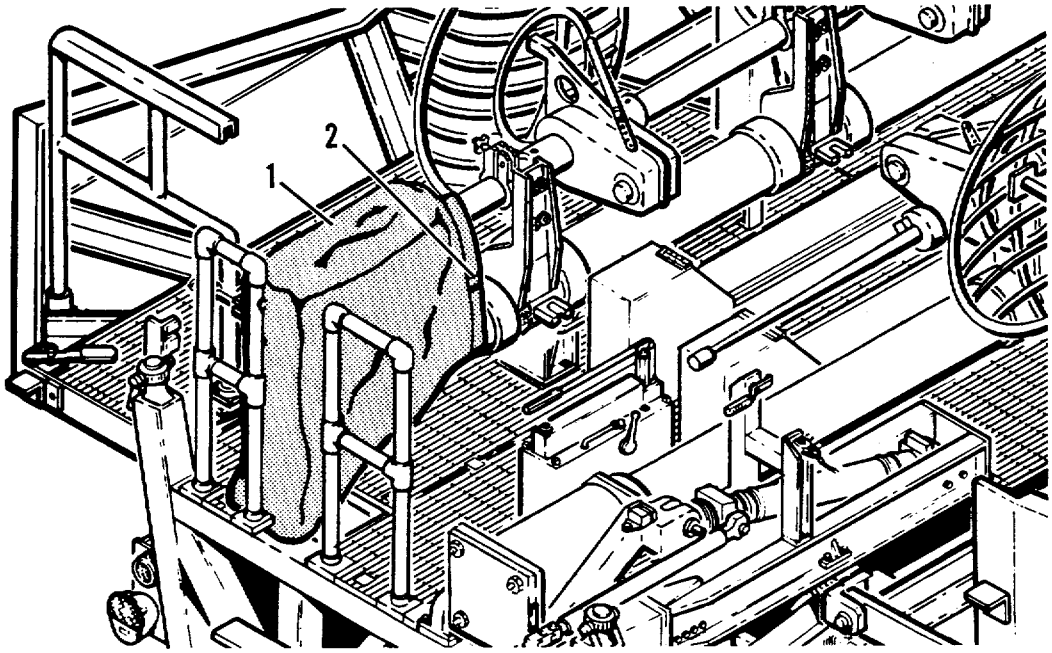


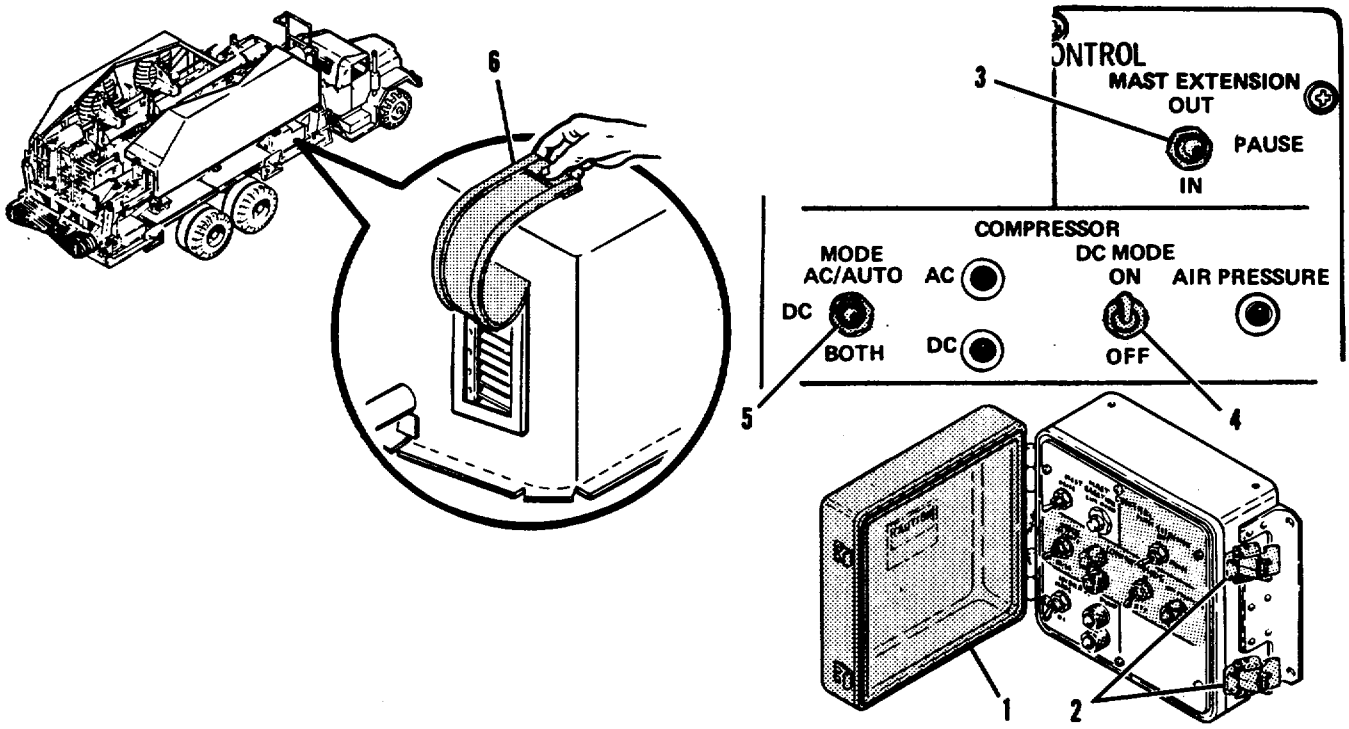
e. **Install amplifier canvas covers**

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

(2) Buckle strap (**2**) to secure canvas cover (**1**).

(3) Repeat procedure for other side of vehicle.





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

You may want to charge the air tanks during your road march. 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 "PAUSE"
- Set COMPRESSOR MODE switch (**5**) to "AC/AUTO" (or "DC")
- Set COMPRESSOR DC MODE switch (**4**) to "ON"

NOTE

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

(3) 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 LIMITERS
- MANUALLY OPERATE SOLENOID VALVES
- OPERATE PNEUMATIC MANIFOLD HEATER
- 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

NOTE

Turn on pneumatic manifold heaters any time the temperature falls below $32^{o}F$.

Here's how:

WARNING

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

a. **MAST COVERS**

NOTE

Both curbside and roadside mast covers are deployed and stowed in the same way.

(1) Mast cover deployment

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

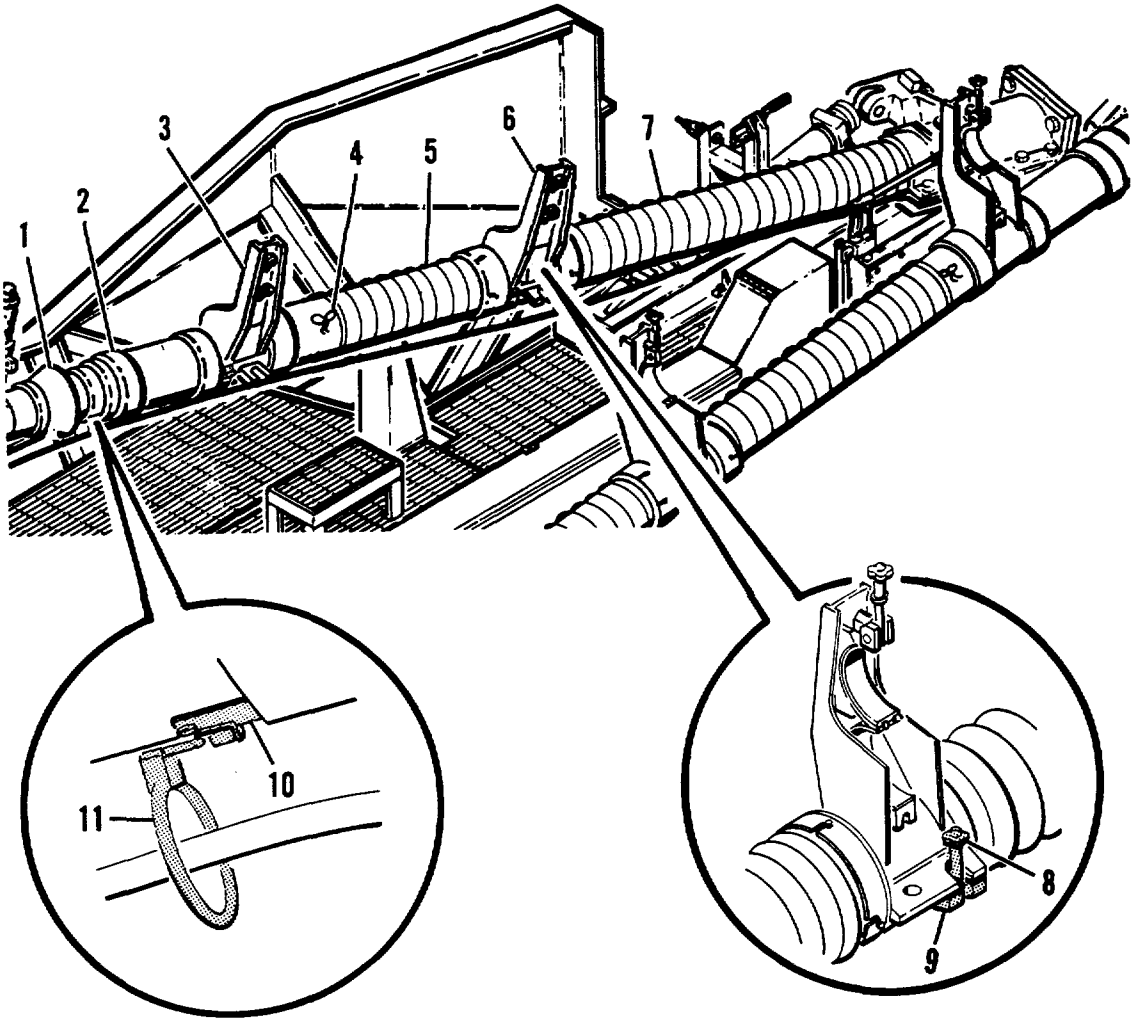
2-20 OPERATION IN EXTREME COLD - Continued

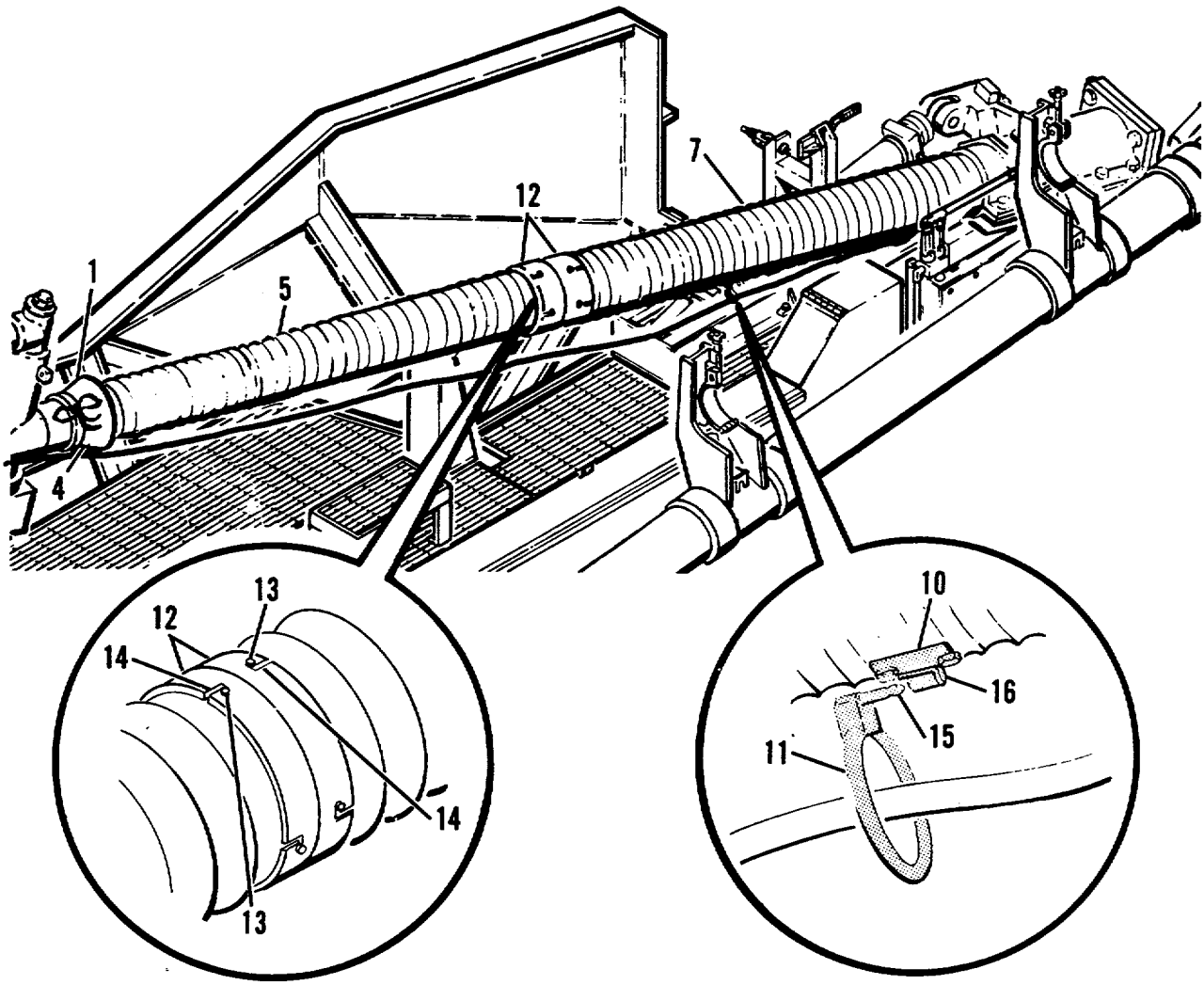
(b) Pull four cable retainers (**11**) from cable brackets (**10**) on mast collars (**2**).

(c) .Twist and pull lower mast cover (**7**) from lower clamp (**6**).

(d) Using same technique as step (c) above, separate upper mast cover (**5**) from upper and lower clamps (**6** and **3**).

(e) Loosen bolts (**8**) on upper and lower clamps (**3** and **6**). Swing bolts (**8**) down. Swing clamp sections (**9**) down. Remove both clamps (**3** and **6**) from mast.





(f) Press ends (**12**) of mast covers (**5** and **7**) together so nipple (**13**) of one cover engages L-shaped slot (**14**) in the other cover. Twist covers in opposite directions to secure.

(g) Untie drawstring (**4**) at top of upper mast cover (**5**). Pull cover (**5**) over canvas operational ring (**1**). Tie drawstring (**4**) to secure cover.

(h) Install cable retainers (**11**) in cable brackets (**10**) on mast covers. Make certain pins (**15**) on cable retainers engage springs (**16**) on brackets.

(i) Continue mast deployment (para 2-15, steps 17 to 20).

CAUTION

Be sure mast covers do not get caught or hung up while mast is being extended.

(2) Mast cover stowage

WARNING

Use proper head gear and eye protection when breaking ice on mast covers.

NOTE

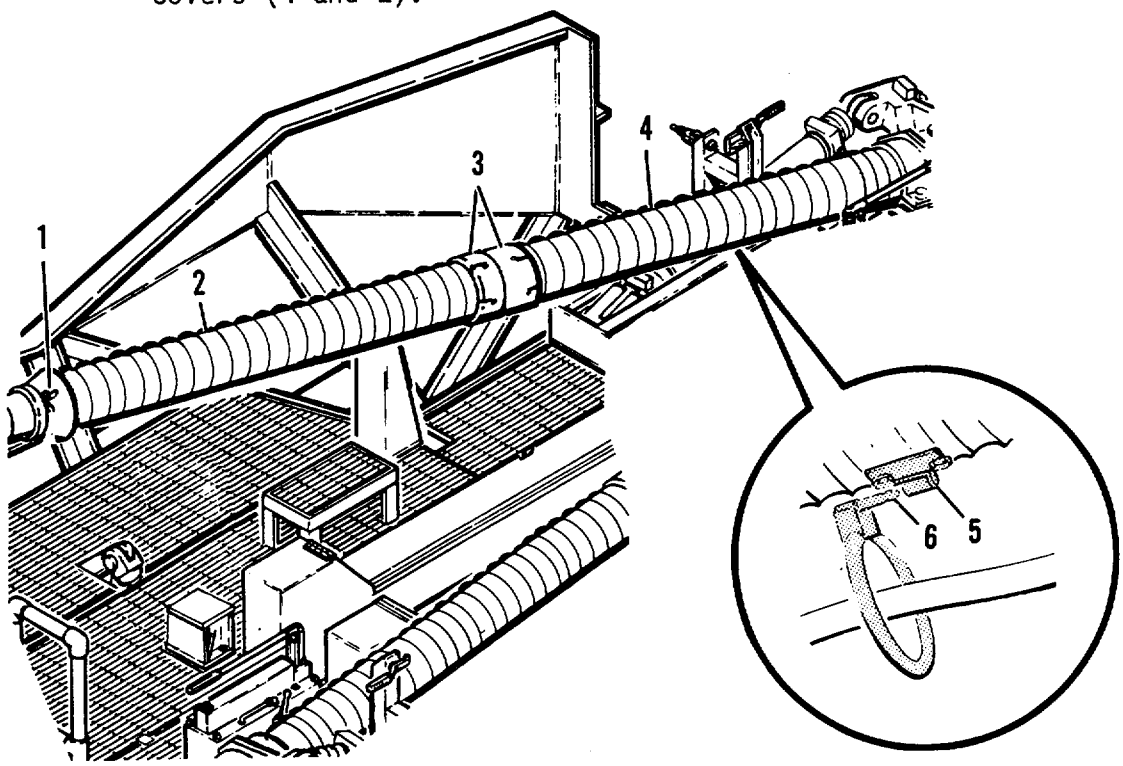
Strike mast covers repeatedly with a rod if covers are frozen. This will break up ice and make the covers flexible again. Retract mast slowly, striking covers as needed.

(a) Retract and lower mast to 15 degree position (para 2-17, steps 1 to 7).

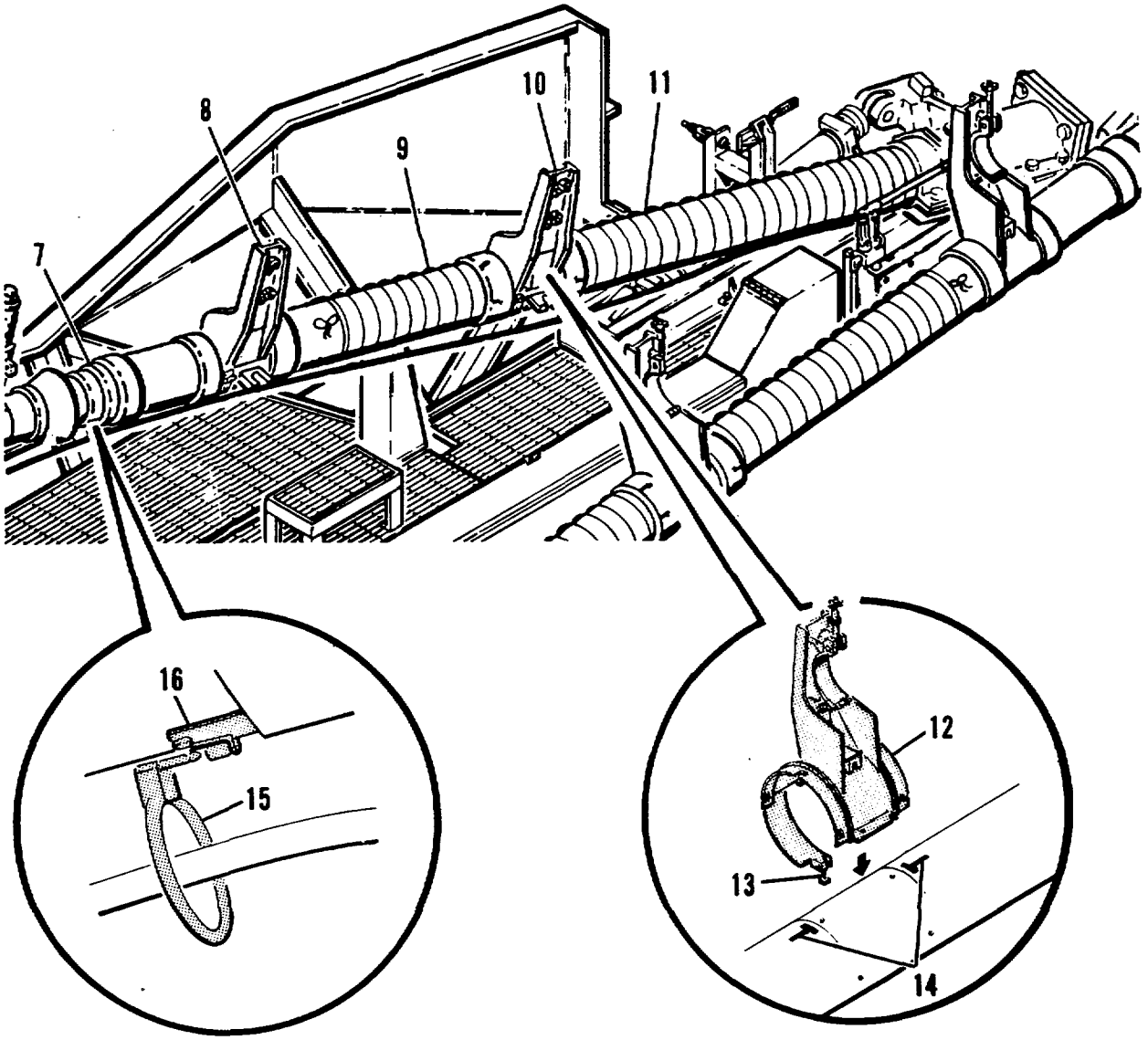
(b) Untie drawstring (1). Slide upper mast cover (2) down mast. Tie drawstring (1) to secure cover in stowed position.

(c) Twist ends (3) of upper and lower mast covers (2 and 4) in opposite directions and pull covers apart.

(d) Pull cable retainer pins (6) from cable brackets (5) on mast covers (4 and 2).



(e) Install cable retainers (15) into cable brackets (16) on mast collars (7). Make sure retainers engage springs on retainers (16).



(f) Position lower clamp (**10**) to mast. Aline clamp with marks (**14**) on mast.

(g) Swing clamp lower section (**12**) up and over mast. Pull bolt (**13**) up into notch on clamp. Tighten bolt to secure clamp to mast.

(h) Repeat steps (f) and (g) for upper clamp (**8**).

(i) Position mast covers (**9** and **11**) to clamps (**8** and **10**). Twist cover ends to secure covers to clamps.

(j) Continue stowing mast.

NOTE

Bolts on upper clamp (**8**) may not aline with their holes when mast is fully lowered. If needed, raise mast slightly, loosen clamp and reposition on mast. Secure clamp when it's properly positioned on mast.

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.

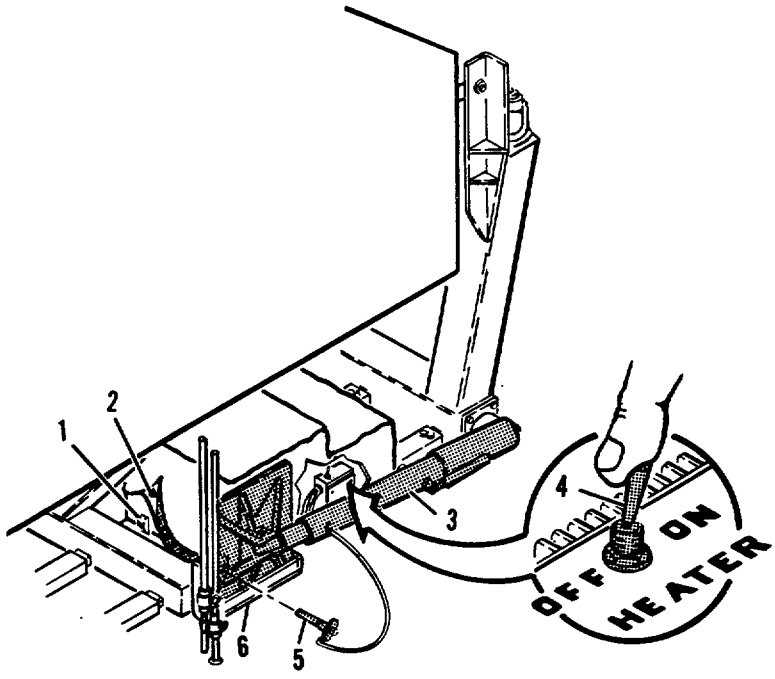
NOTE

The PCA heater works on AC current. 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

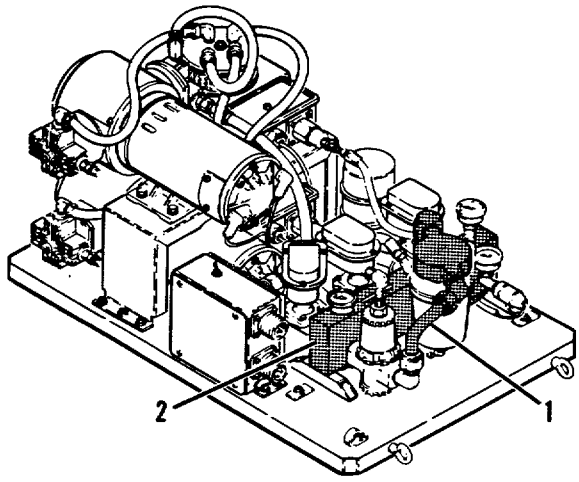
The PCA manifold heater is operated manually (see b above). The hydraulic fluid heater operates automatically....it comes on at a pre-set temperature.

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

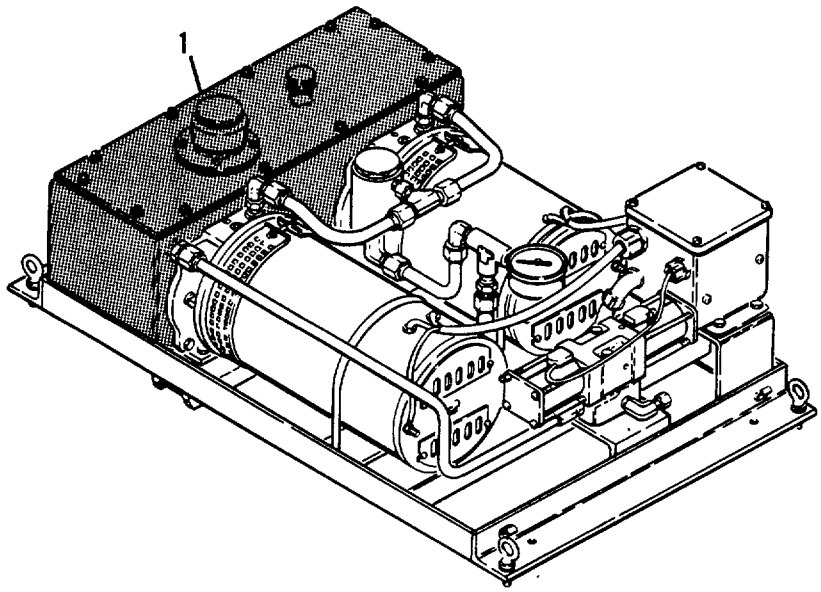
Use care when checking the PCA heater. The heater strip is pre-set to 145°F. You could get burned if you touch the heater strip. Also .....be careful that bare flesh does not stick or freeze to cold metal surfaces.

(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).

(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 OPERATION 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**

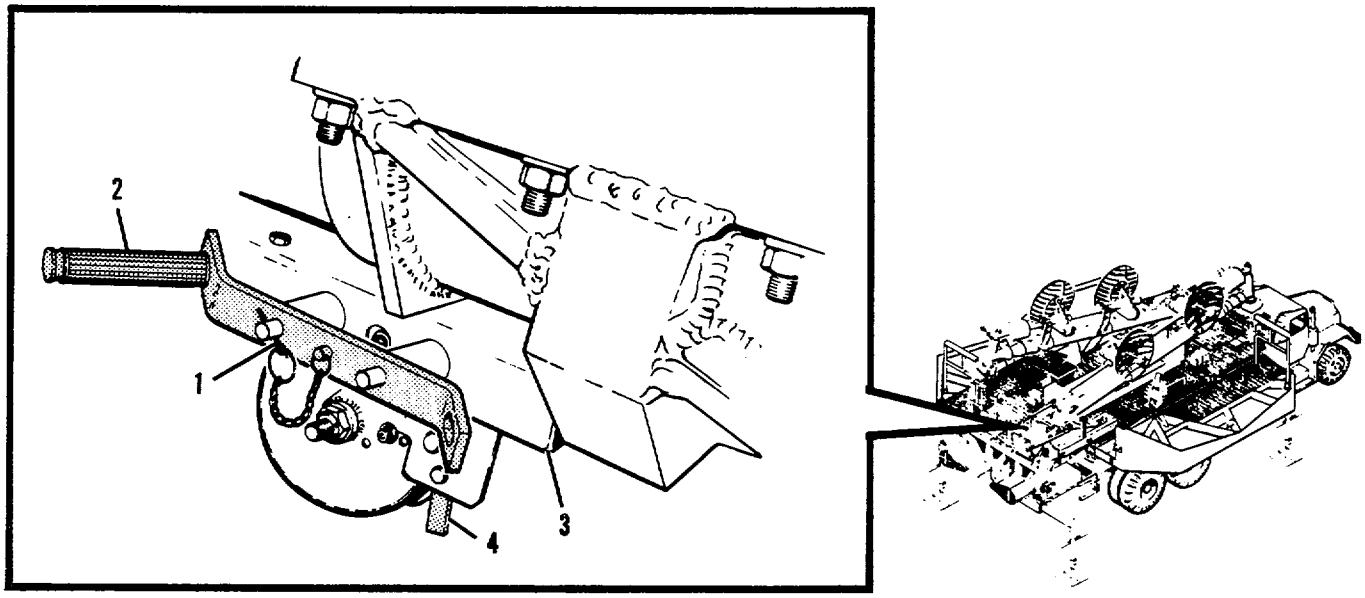
NOTE

Don't wait for adverse weather to deploy variable height limiter. It may be difficult to retract the mast without it.

(1) SET-UP OF VARIABLE HEIGHT LIMITER

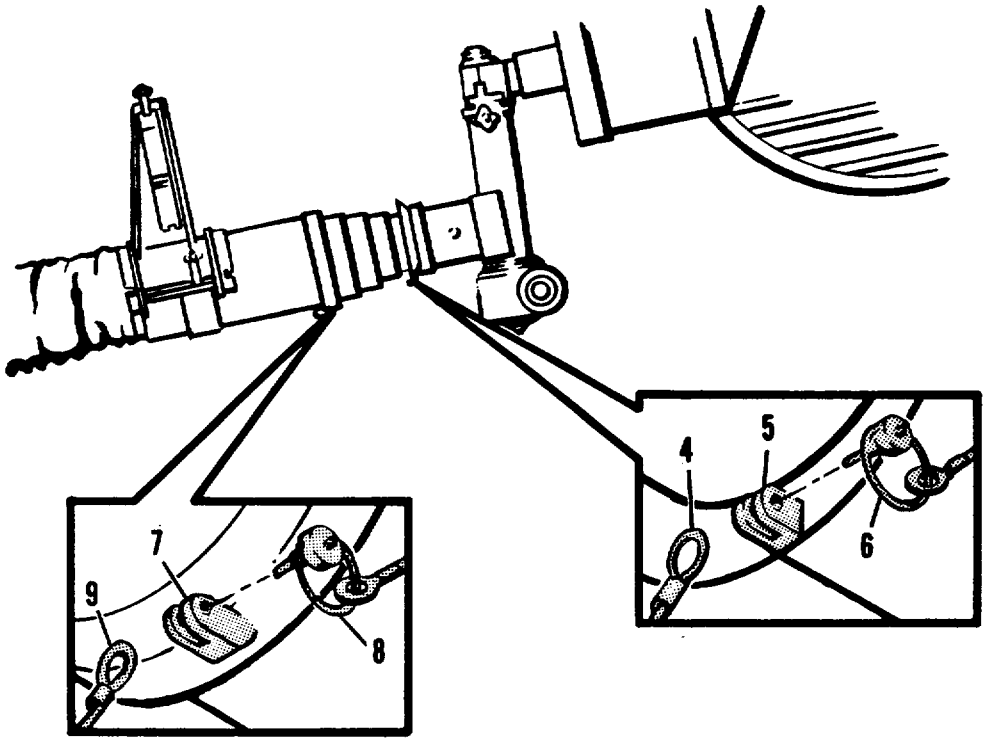
(a) Raise mast 15 degrees and unfold and secure antenna mast (para 2-15 steps 1 to 16).

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



(d) Pull quick release pin (8) securing wire rope (9) to stowage bracket (7) at top of first mast section.

(e) Position end of wire rope (4) to bracket (5) on antenna positioner. Install quick release pin (6) to secure.



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).

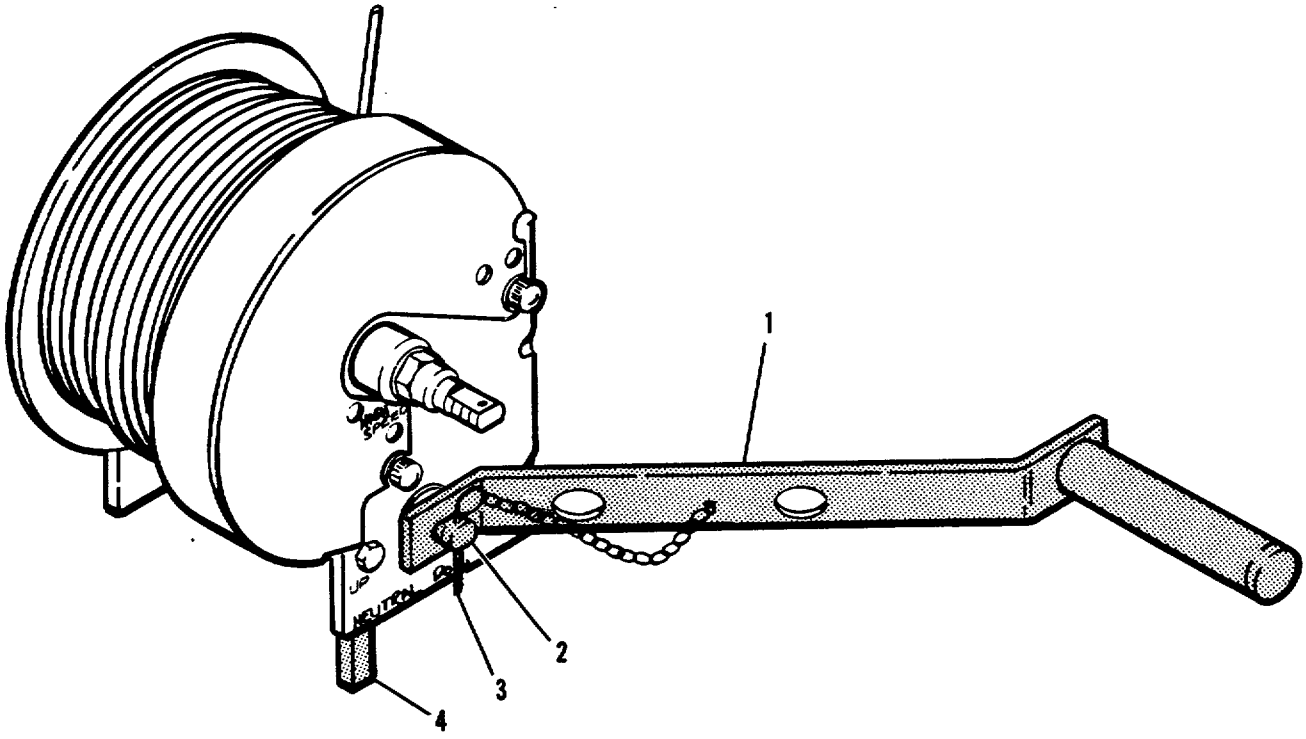
(2) OPERATION OF VARIABLE HEIGHT LIMITER

(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.

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

2-21 OPERATION IN STRONG WINDS - Continued

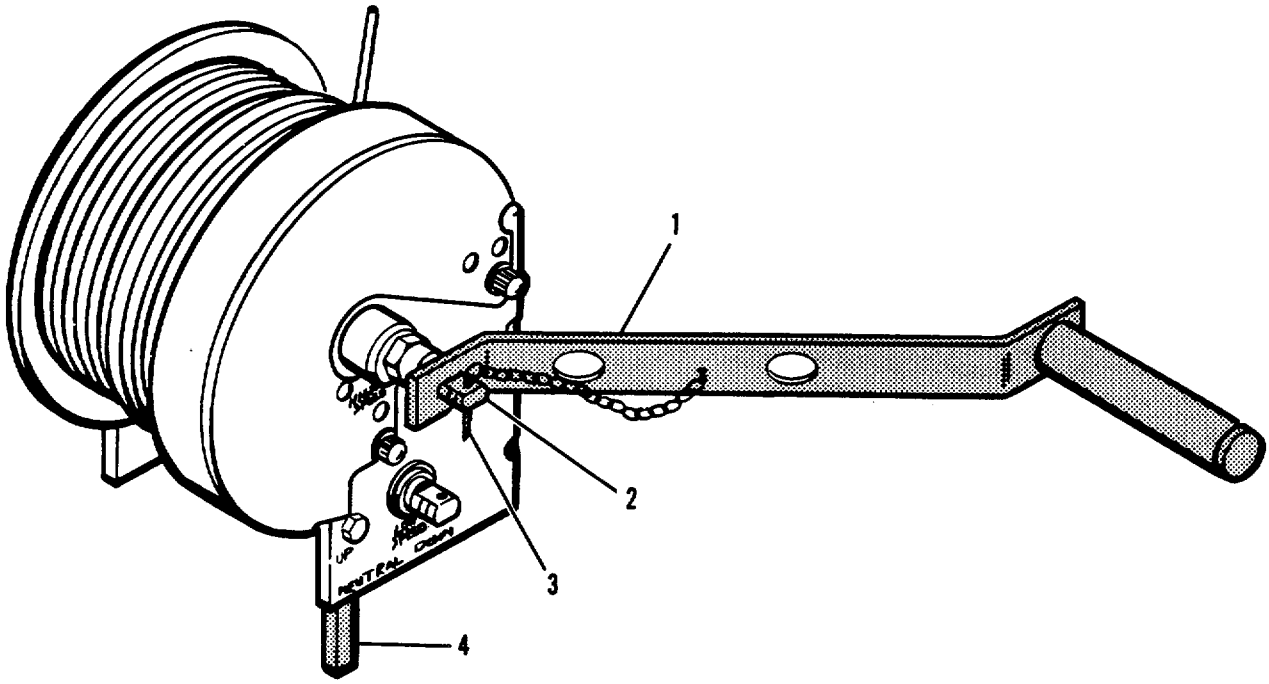
(3) STOWAGE OF VARIABLE HEIGHT-LIMITER

(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 15 degree position and fold and clamp antennas.



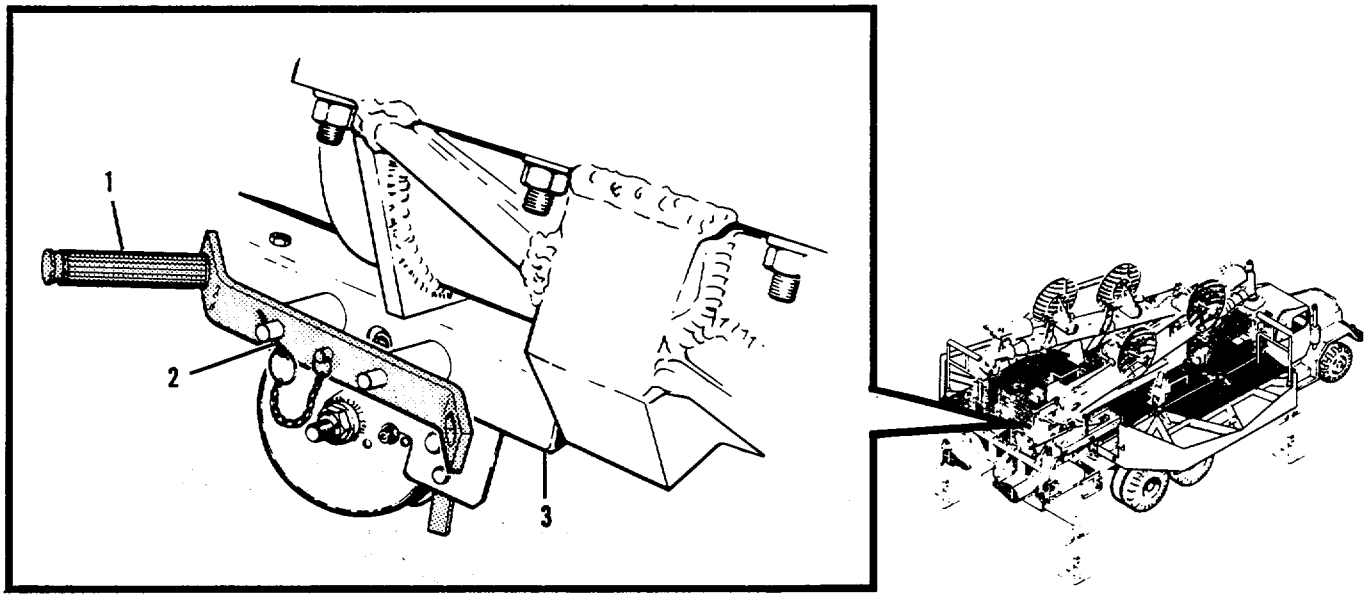
(e) Pull quick release pin securing end of wire rope to bracket on antenna positioner.

(f) Position end of wire rope to stowage bracket at top of first mast section. Install quick release pin to secure.

(g) Turn handle (**1**) clockwise to take up slack in wire rope.

(h) Pull quick release pin (**3**) and remove handle (**1**) from high speed shaft (**2**).

(i) Place handle (**1**) on winch bracket (**3**). Install quick release pin (**2**) to secure handle (**1**) in stowed position.



(j) Continue stowing mast (para 2-17).

b. **INCREMENTAL HEIGHT LIMITER**

NOTE

The incremental height limiter cannot be used to forcefully retract the mast. Only the variable height limiter can do this.

(1) Raise mast 15 degrees. Unfold and secure antennas.

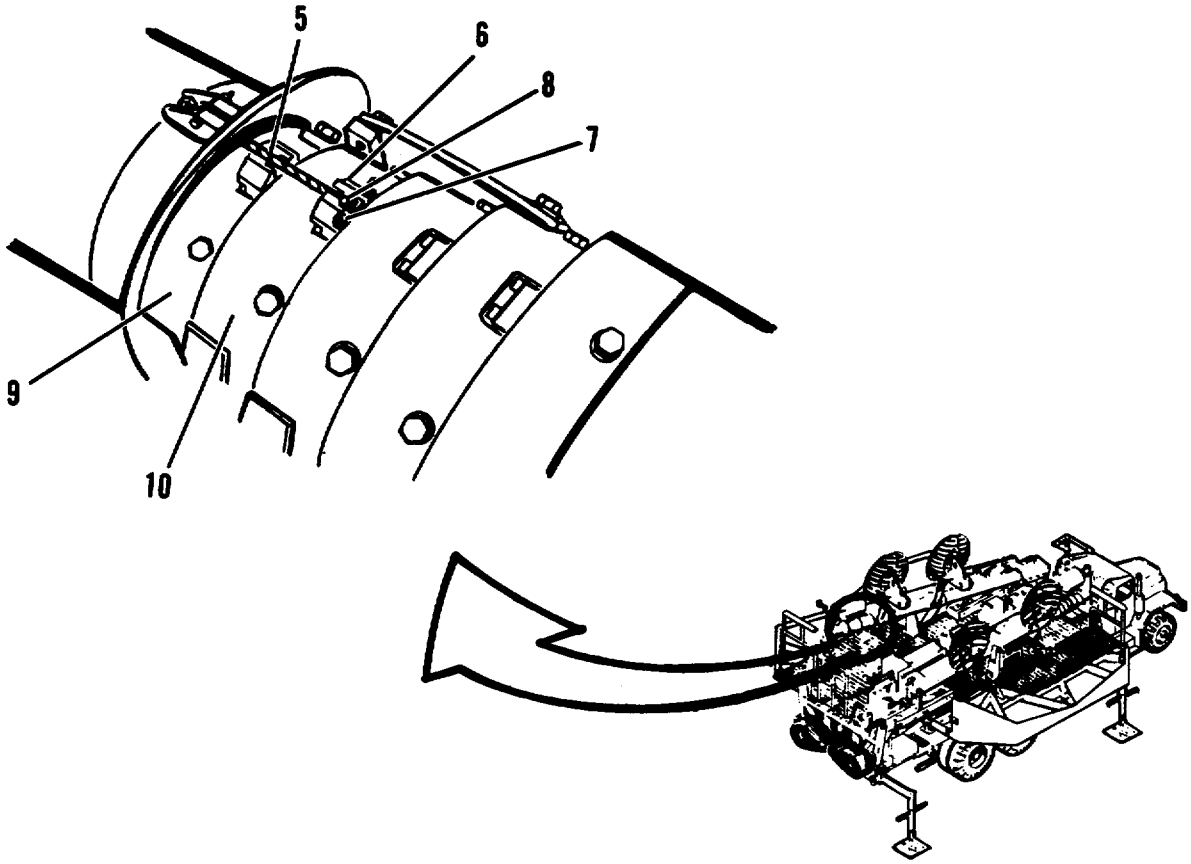
(2) Unclip and remove pin (**7**).

(3) You can prevent the extension of mast sections number 5 (**9**), or number 4 (**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.



2-22 OPERATION IN SANDY OR DUSTY CONDITIONS

In sandy or dusty conditions you must:

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

a. Go to paragraph 2-20a for mast 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

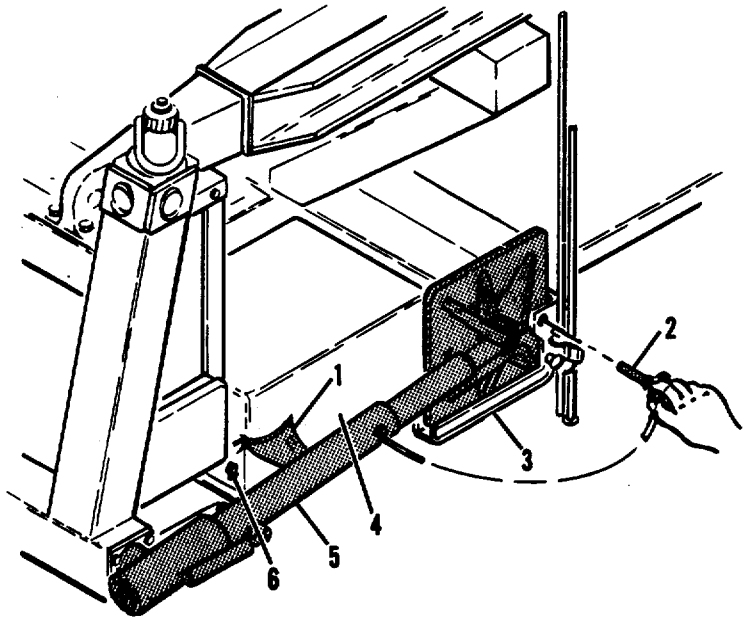
The pneumatic solenoid valves control the flow of compressed air needed to extend or retract the mast. They are located in the pneumatic components assembly (PCA).

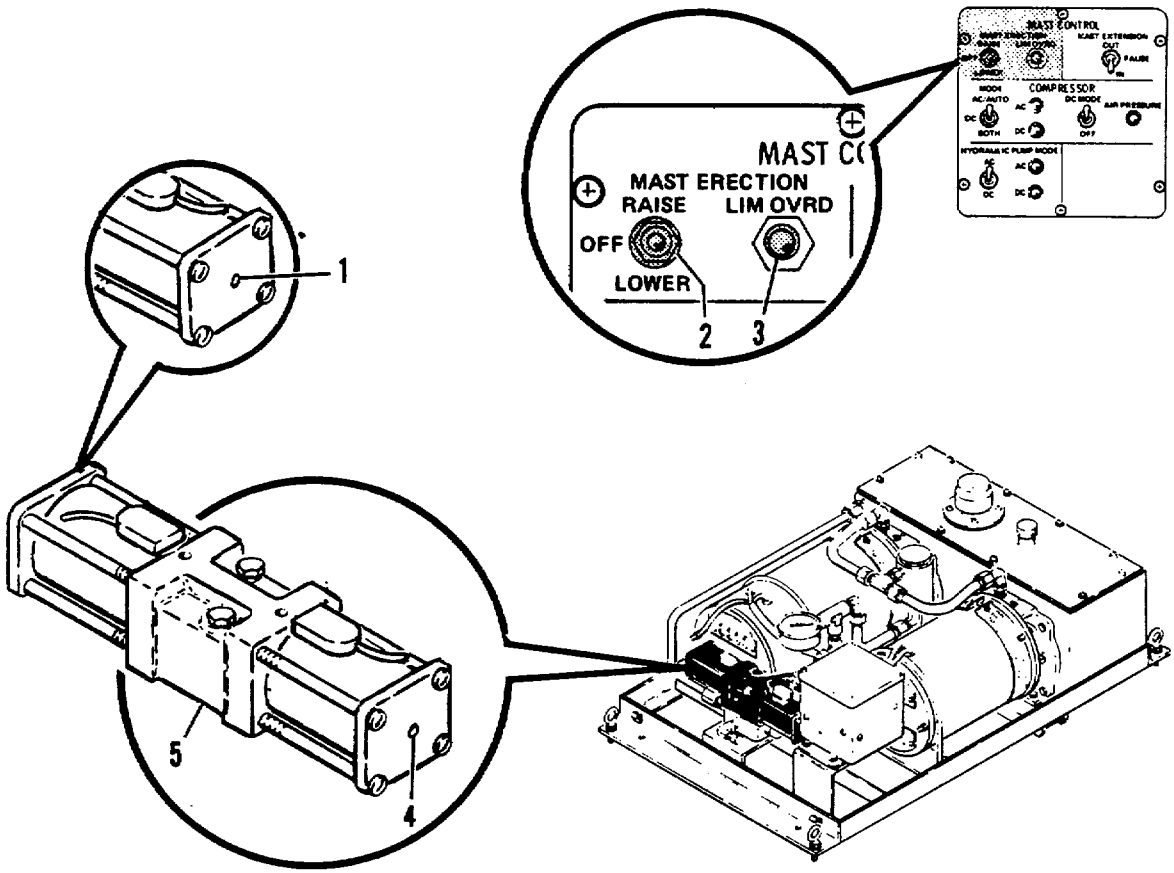
Here's how to manually operate the solenoid valves:

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 PCA.





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.

(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 to 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

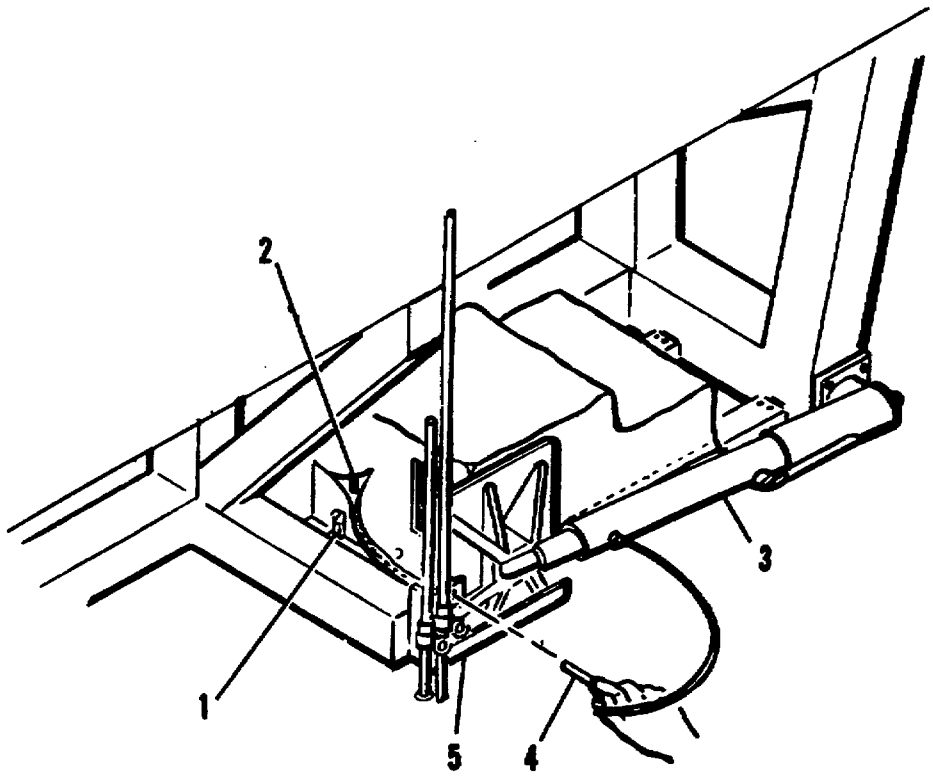
Make sure personnel or obstructions are out of the way before extending or retracting the mast.

WARNING

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

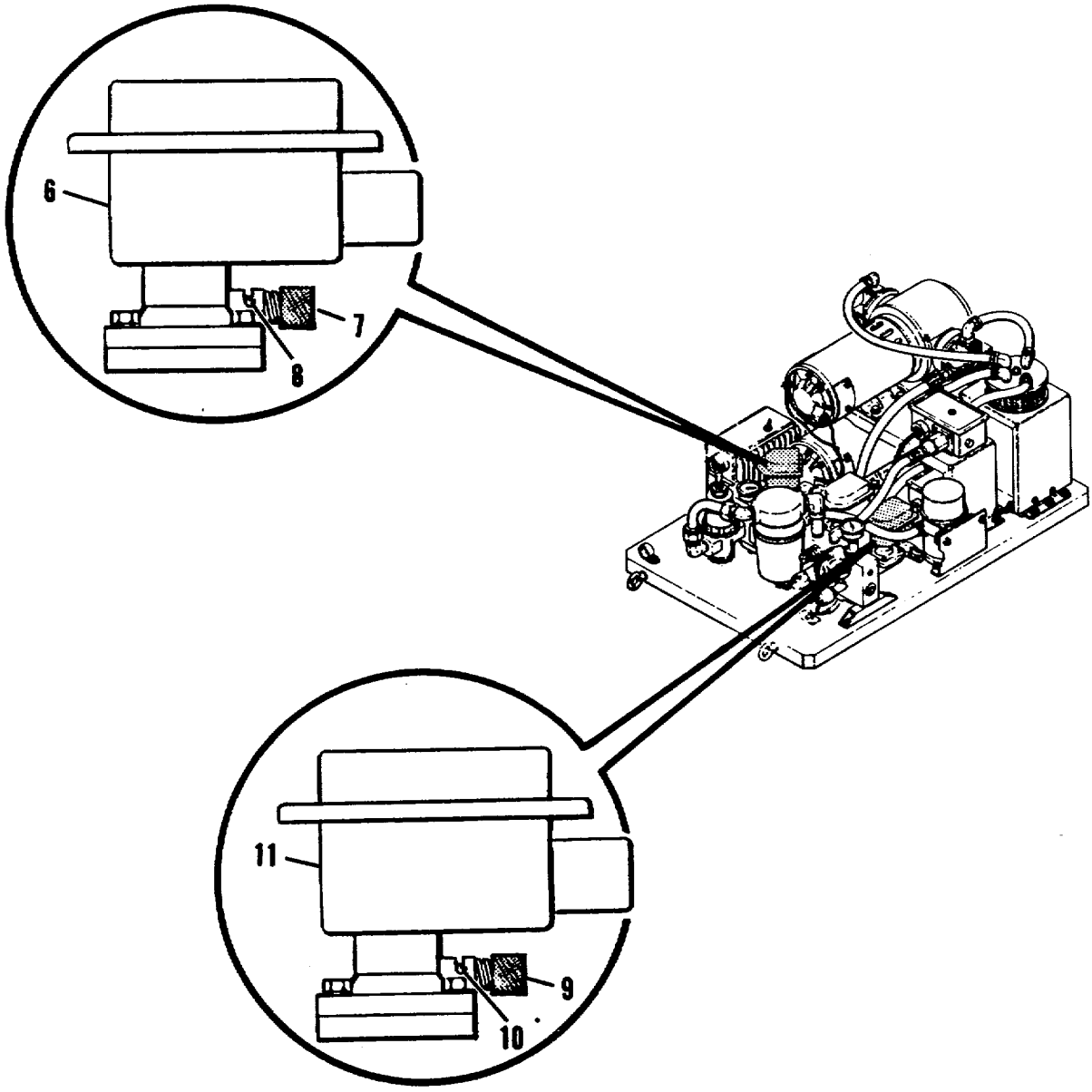
CAUTION

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 HEAD GEAR.
- 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 CREW MEMBER 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 CREW MEMBERS 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 CREW MEMBERS 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.

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