TECHNICAL MANUAL

OPERATOR'S, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

MAST, ANTENNA, 30-METER
AB-1 340/G

(NSN 5985-01-249-2581) (EIC: HHB)

MSE

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 MARCH 1997

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1 DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL

2 IF POSSIBLE, TURN OFF THE ELECTRICAL POWER

3 IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL

4 SEND FOR HELP AS SOON AS POSSIBLE

5 AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

WARNING

Do not erect mast within 200 feet of electrical wires. Bodily injury or death could result from electrical shock if any part of the mast or guy cables touches bare wires.

WARNING

During electrical storms or at any time there is a possibility of lightning strike, personnel must not attempt to erect, retract, or operate the mast and must remain outside of the guy wire pickets.
Serious injury or death could result from electrical shock due to arc-over from the mast.
The presence of a ground rod, while it may somewhat reduce the probability of such an arc-over, does not eliminate the hazard.

WARNING

To prevent injury to personnel, the following equipment requires two persons to lift and carry: a mast section carrier, a winch bag, the accessory bag, and the equipment bag.

WARNING

Hard hats must be worn while working in mast area to prevent head injury to personnel.

WARNING

Safety goggles must be worn when hammering spikes and stakes to prevent eye injury from sparks.

WARNING

Do not erect or lower mast if wind velocity is 30 mph or greater. Mast could topple and cause serious injury or death to personnel.
Operator standing on steps be aware of guide box handles. Serious injury could result if operator slips off steps.

WARNING

Whenever handle is removed from the center spindle to adjust individual guy, ensure handle is returned to center spindle. Failure to do so could cause personal injury.

WARNING

Never operate release lever without keeping load or tension on all three guys, by holding winch handle (center spindle). Failure to do so could result in wrist and/or hand injury.

WARNING

To prevent injury, an operator must keep a hand on the guy winch handle at all times to prevent slipping.

Whenever handle is removed from the center spindle to adjust individual guy, ensure handle is returned to center spindle. Failure to do so could cause personal injury.

It is important to maintain maximum tension in winch kits No. 1 and No. 3 at all times during erection/retraction procedures. In order to achieve maximum tension, kneel with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.

WARNING

After completing mast installation, mark all guys with streamers or approved markers in accordance with TB 43-0129. Failure to mark guys could result in serious injury to personnel.

WARNING

Do not disassemble mast if wind velocity is 30 mph or greater. Mast could topple and cause serious injury or death to personnel.

WARNING

When lowering mast, ensure lifting block is ALWAYS LOCKED SECURELY within mast section. Failure to do so could result in serious injury to personnel.

WARNING

To avoid possible injury to hand or wrist when mast is retracted, never operate release lever of winch kits without keeping load or tension on all three guys. To do this, hold winch handle in the center spindle firmly - then operate lever.
It is important to maintain maximum tension in winch kits No. 1 and No. 3 at all times during erection/retraction procedures. In order to achieve maximum tension, kneel with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.
To avoid possible injury to hand while guiding guy cable onto winch, wear work glove.
To avoid injury to personnel and damage to equipment, manually guide guy cables onto winches to prevent uneven winding, accumulation, and/or the bunching of cables.

WARNING

Before lowering a mast section, disengage hoist handle by striking with hand in a direction away from hoist. Handle will swing freely when disengaged. Failure to do this can cause serious injury to personnel.
The release button on the hoist operates a brake mechanism that allows controlled retraction of the mast. Depress button gradually to maintain positive braking action. Brake is fully released when button is completely depressed. In most cases, this will be too fast for safe control of guy tension and should not be attempted.

WARNING

A change in ground conditions (i.e., heavy or prolonged rain) may cause stakes to become loose. It is essential to periodically inspect stake security. Perform PMCS checks on stakes as stated in Chapter 4, table 4-1. Failure to ensure stake security could cause the mast to topple, resulting in serious injury or death to personnel.

TECHNICAL MANUAL

No. 11-5985-383-13&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 1 March 1997

OPERATOR'S, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

MAST, ANTENNA, 30 METER AB-1 340/G

(NSN 5985-01-249-2581) (EIC: HHB)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LEO-P-MM-T, Fort Monmouth, New Jersey 07703-5007. The fax number is 908532-3421, DSN 992-3421. You may also e-mail your recommendations to AMSEL-LC-LEOPUBS-CHG@cecom3.monmouth.army.mil.

A reply will be sent to you.

***This manual supersedes TM 11-5985-383-12&P, 1 September 1991.**

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CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1 SCOPE.
This manual describes the Mast, Antenna, 30-Meter AB-1340/G, hereafter referred to as the 30-meter mast, and contains instructions for the installation, operation, unit, and direct support maintenance of the equipment. It also contains The Repair Parts and Special Tools List (RPSTL), Appendix F.

1-2 CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS.
Refer to the latest issue of DA Pam 25-30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

1-3 MAINTENANCE FORMS, RECORDS, AND REPORTS.
1-3.1 Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

1-3.2 Reporting of Item and Packaging Discrepancies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J.

1-3.3 Transportation Discrepancy Report (TDR) (SF 361). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-4 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).
If your 30-Meter Antenna Mast AB-1340/G needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance; put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, U.S. Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, New Jersey 07703-5023. We'll send you a reply.

1-5 ADMINISTRATIVE STORAGE.
Equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the Preventive Maintenance Checks and Services (PMCS) charts before being placed in administrative storage.
When removing the equipment from administrative storage, the PMCS shall be performed to assure operational readiness.

1-6 DESTRUCTION OF ARMY ELECTRONICS MATERIEL.
Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-7 WARRANTY INFORMATION.
Refer to TB 11-5800-216-15 for information concerning equipment warranties.

1-8 NOMENCLATURE CROSS-REFERENCE LIST.
Table 1-1 is a cross-reference list of common names and official nomenclature for equipment described in this manual. Official nomenclature must be used when completing report forms.

Table 1-1. Nomenclature Cross-Reference List

COMMON NAME	OFFICIAL NOMENCLATURE
30-meter mast	Mast, Antenna, 30-Meter, AB-1340/G

Section II. EQUIPMENT DESCRIPTION AND DATA

1-9 PURPOSE AND USE.

The purpose of the 30-meter mast is to support a maximum of two antennas, either a VHF and a UHF, or two UHF antennas. This mast is used in areas where its height is required to place antenna(s) above trees or other obstacles.

1-10 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

Figure 1-1 shows the 30-meter mast when fully erected without antenna(s). The mast is made up of the following components when fully erected: 24 mast sections, an antenna rotator, a rotator extension adapter, a ballrope, an antenna side mounting adapter, 3 leg assemblies with adjustable feet, a mast guide box with ground stud, a lifting block, a hoist, 4 guy winch kits, 4 guy collars, 9 stakes, 15 spikes, 12 guy cables, 3 cable clamps, and 6 guy extensions. The mast also comes with an adapter kit. When an omni antenna is installed, the adapter kit is to be used.

NOTE

The only sure personnel protection is to adhere absolutely to the requirement that the mast not be operated while electrical storm activity is present and that all personnel stay away from all mast parts including guys and pickets during such conditions.

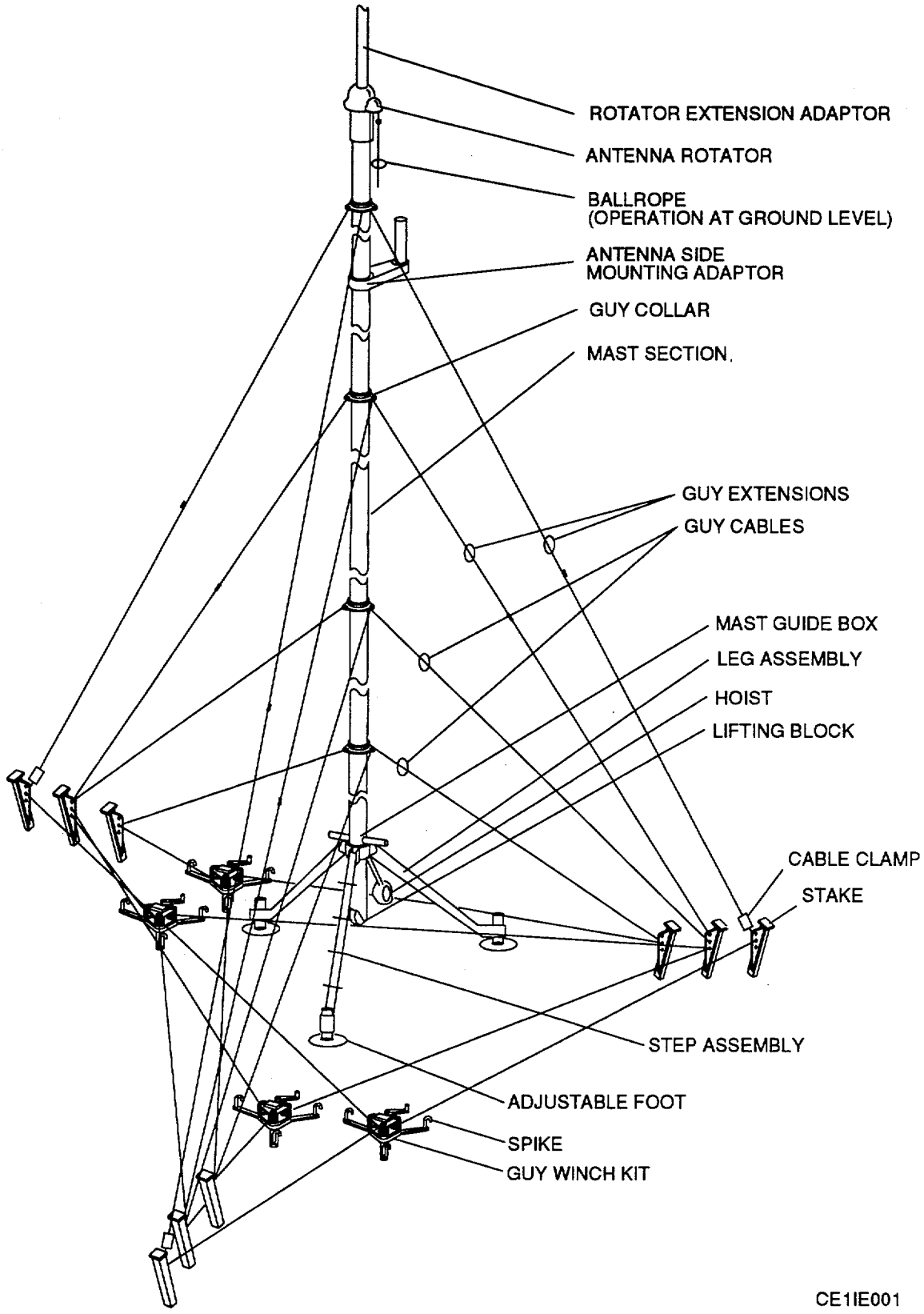


Figure 1-1. 30-Meter Mast

1-11 TABULATED DATA

Table 1-2 lists physical data and performance characteristics.

Table 1-2. Tabulated Data

WEIGHT AND DIMENSIONS		
Erected height	98 ft (30 meters)	
Weight (Transit)	854 lb (388 kg)	
ENVIRONMENTAL REQUIREMENTS		
Temperature	Storage and Transit	Operation
	-650 to 160° F	-400 to 1200 F
	(-54° to 70° C)	(-40° to 50° C)
Altitude	Sea level to 40,000 ft (12,200 meters)	Sea level to 10,000 ft (3,050 meters)
Top load weight capacity		
• Two antennas installed		55 lb (25 kg) at each antenna
Effective wind load area maximum (horizontal) capacity		
• Two antennas installed		4.3 ft2 (0.4m^2) operational
Wind speed (maximum), during erection/retraction		30 mph (50 km/h)
Wind speed (maximum), operational		62 mph (100 km/h)
Wind gusts	83 mph (130 km/h)	
Horizontal deflection angle		+4° maximum (at maximum operational wind speed)
Ice loading (maximum)		1/2 in. (1.25 cm) radial on any surface

NOTE

Under icing and high wind conditions, the survivability limit of the mast may be degraded. During such conditions, personnel should remain outside the circular perimeter defined by the outer pickets.

CHAPTER 2
SERVICE UPON RECEIPT AND INSTALLATION

Section I. SITE REQUIREMENTS

2-1 TERRAIN CONSIDERATIONS.

WARNING

Do not erect mast within 200 feet of electrical wires. Bodily injury or death could result from electrical shock if any part of the mast or guy cables touches bare wires.

The best terrain for erecting the 30-meter mast is level ground, or ground that does not slope more than 3 percent. The terrain should also have enough room to lay out guy stakes, which require 59 feet in line with the closest tripod leg. If an obstacle (rocks, trees, etc.) is in the way of a stake location, that stake can be relocated up to 3 feet inward towards tripod and 1-1/2 feet to either side of the original stake location. Properly positioned stakes are the main factor in supporting the mast. The terrain texture determines the ability of a stake to support its portion of the mast.

If 12 or more blows with the hammer are required to drive in a stake, the ground is considered firm. If less than 12 blows are required to drive in a stake, the ground is too soft, and another site should be found. If another site is not practical, anchor guy cables to stationary objects, if possible.

2-2 TRANSMISSION PATHS.

The selection of a site must also consider transmission paths for one or two antennas that will be mounted on the mast. If two antennas are used, the top antenna will be approximately 98.4 feet above ground and the lower antenna approximately 8 feet below top guy collar. These antennas shall be above terrain obstacles such as trees and buildings in the transmit/receive paths.

Section II. SERVICE UPON RECEIPT OF MATERIEL

2-3 UNPACK EQUIPMENT.

CAUTION

Do not put weight on the packing cases. Do not turn the packing cases over or rest them in positions other than those indicated on the outside or damage to equipment could result.

NOTE

Do not destroy packing materials. They can be reused to pack equipment for further shipment.

The 30-meter mast is transported to the site by the node support vehicle containing a full kit of mast equipment with accessories. The equipment is carefully packed in carrying bags and mast section carriers. The following hand tools are not included in the kit but should be on hand at the site: sledge hammer, hammer (hand claw), oil can filled with lubricating oil (see Appendix E), pair of hand pliers (standard size), file (small with fine ridges), and a magnetic compass.

Table 2-1 lists kit components, accessories, and a description of usage. The equipment is listed with a reference to figure 2-1, which illustrates components and accessories.

Table 2-1. 30-Meter Mast Components and Usage

REFERENCE (fig. 2-1)	COMPONENT/ACCESSORY (QUANTITY)	USAGE
A	Mast tripod adjustable foot (3)	Supports mast leg assembly (part of leg assembly)
B	Leg assembly (3)	Attaches to mast guide box for mast support
C	Step assembly (4)	Mounted on a leg assembly. Enables personnel to climb to mast base
B, D	Mast guide box	a. Provides junction for leg assemblies to support mast b. Guides sections of mast for assembly and disassembly c. Provides a ground stud for grounding
D	Hoist	For raising and lowering mast
D	Hoist support bar	Provides support for hoist
E	Lifting block	Supports mast sections during erection or retraction
F	Bubble level	Indicates when mast base is level
G	Foot adjustment brace	Tool for adjusting feet on leg assemblies
H	Mast section (24)	Make up erected mast
I	Guy collar (4)	Used for connecting guy cables and extensions to mast
J	Guy winch kit (4)	Holds guy cables used for supporting mast
K	15-meter guy extension cables (6)	Used for support of upper part of mast
L	Spike (15)	Secures tripod feet and winch kits to ground
M	Stake (9)	Secure ends of a guy cable to ground
N	Stake location line	Used for positioning stakes in ground at proper locations
O	Feeder cable strap (6)	Secures feeder cable routing along mast

Table 2-1. 30-Meter Mast Components and Usage - Continued

REFERENCE (fig. 2-1)	COMPONENT/ACCESSORY (QUANTITY)	USAGE
P	Winch handle assembly	Used for winding/unwinding guy winch kit drums
Q	Mast section carrier (3)	For moving eight mast sections
R	Antenna rotator	Rotates extension adapter on top of mast
S	Rotator extension adapter	Holds top antenna on antenna rotator
T	Antenna side mounting adapter	For mounting a second or lower antenna
U	Cable clamp (3)	Secures cable to stake footing
V	Antenna cable extensions	Used with antenna cable to extend its length to 200 feet
W	Antenna adapter assembly	Used to attach antenna to mast
X	Guy cord stake	Secure ends of guy cord to ground
Y	Guy assembly	Used to extend ground radial arms of omni antenna
Z	Locating line	Used for positioning stakes in ground at proper locations
AA	Tripod stake	Used with locating line to properly position guy cord stakes
BB	Storage bag	Carry bag for guy cord stakes and connector adapter
CC	Connector adapter	Used to connect two antenna cables together
DD	Winch assembly bag (4)	Carrying bag for winch, winch handle, and 12 spikes (three spikes in each bag)
EE	Hoist assembly bag	Carrying bag for the hoist and hoist handle
FF	Equipment bag	Carrying bag for the following: Mast guide box Lifting block Bubble level Guy Collar Feeder cable straps

Table 2-1. 30-Meter Mast Components and Usage - Continued

REFERENCE (fig. 2-1)	COMPONENT/ACCESSORY (QUANTITY)	USAGE
GG	Accessory bag	Carrying bag for the following: Step assemblies " Foot adjustment brace Spikes (3) (other 12 are packed in the four winch bags) 15-meter guy extensions Stake location line Side mounting adapter Antenna rotator Hoist support bar Rotator extension
HH	Equipment storage bag	Carry bag for antenna cable and antenna adapter kit
II	Stake bag (3)	Carry bag for stakes

2-4 INSPECT EQUIPMENT FOR DAMAGE.

Inspect equipment for damage incurred during shipment. If equipment has been damaged, report damage on SF 364, Report of Discrepancy.

2-5 CHECK EQUIPMENT AGAINST PACKING LIST.

NOTE

If a part or minor assembly is missing, the equipment should be put in service unless the missing item affects proper operation.

Check equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of DA Pam 738-750.

2-6 CHECK EQUIPMENT FOR MODIFICATIONS.

Current Modification Work Orders (MWOs) are listed in DA Pam 25-30. Equipment that has been modified will have the MWO number on the front panel, near the nomenclature plate. Verify that all modifications have been done. If modifications have not been done, notify the next higher level of maintenance.

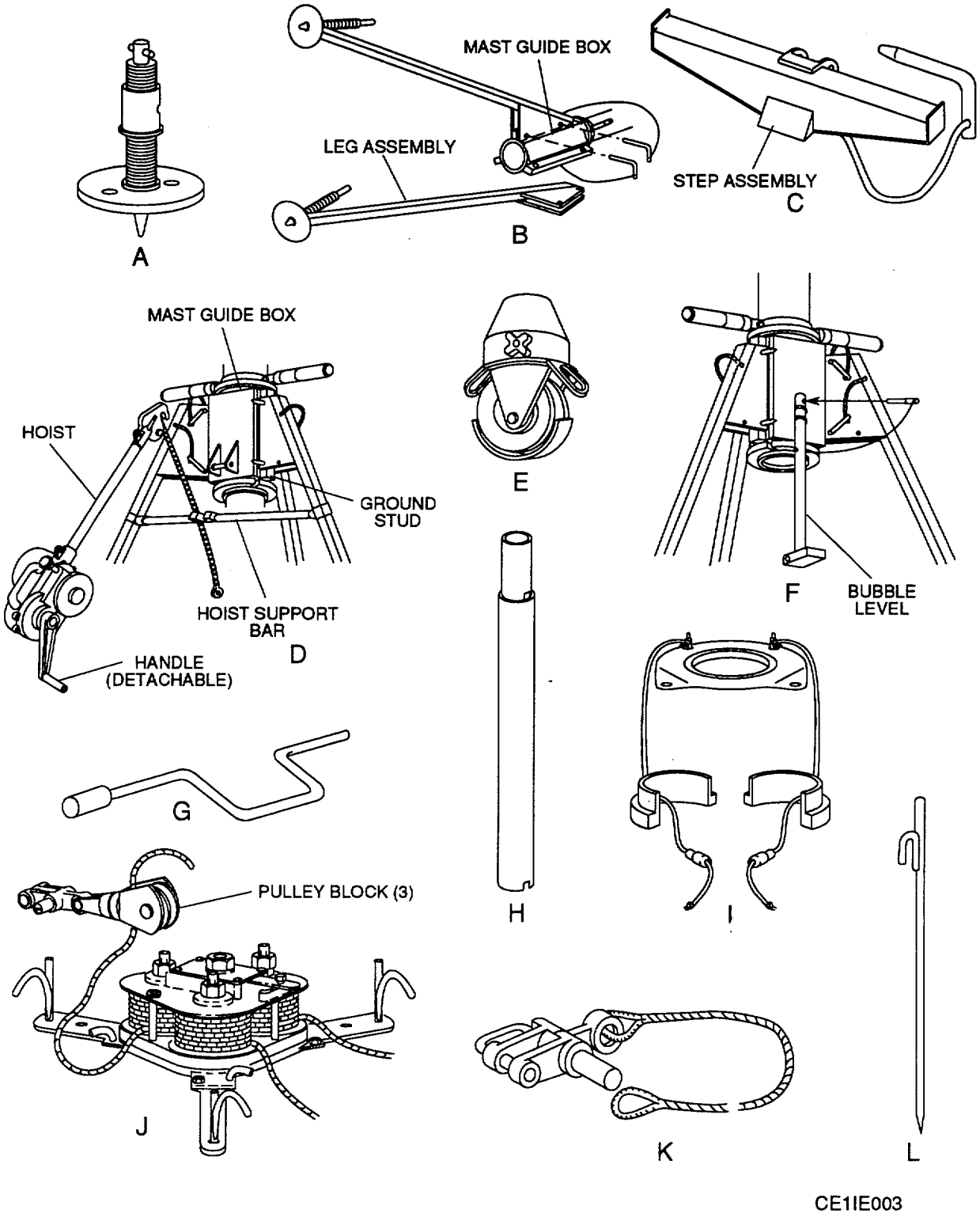


Figure 2-1. 30-Meter Mast Components and Accessories (Sheet 1 of 4)

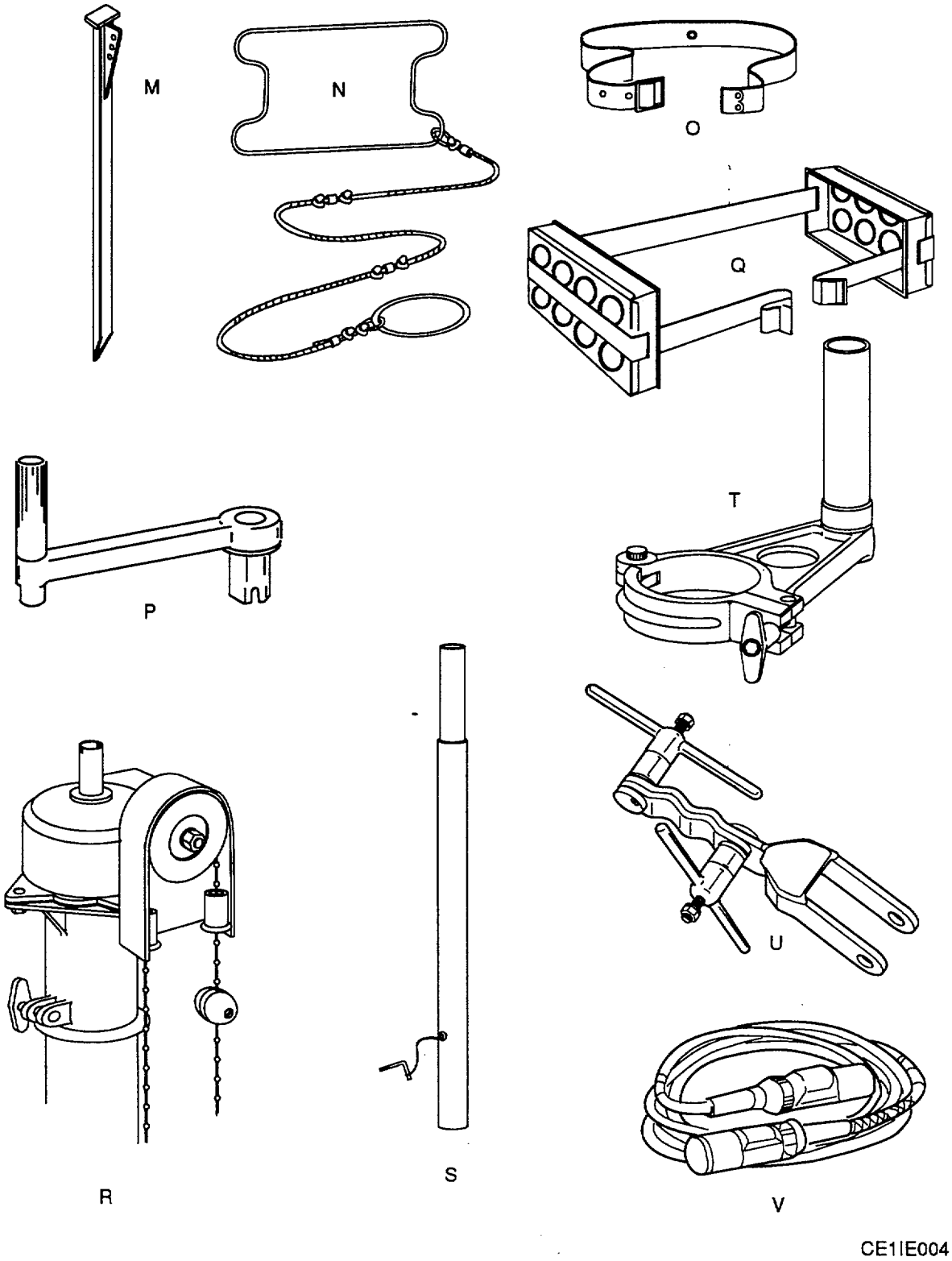


Figure 2-1. 30-Meter Mast Components and Accessories (Sheet 2 of 4)

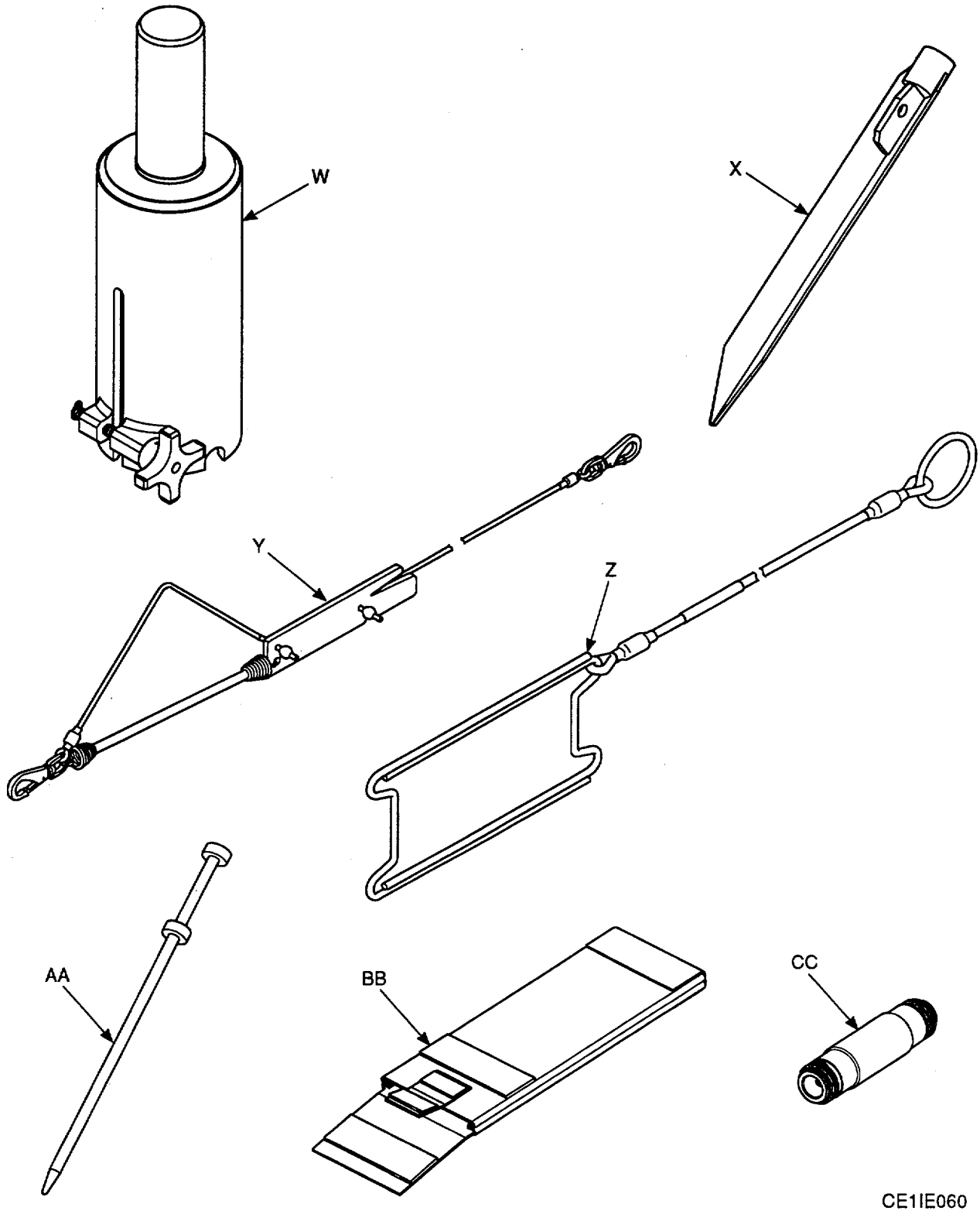


Figure 2-1. 30-Meter Mast Components and Accessories (Sheet 3 of 4)

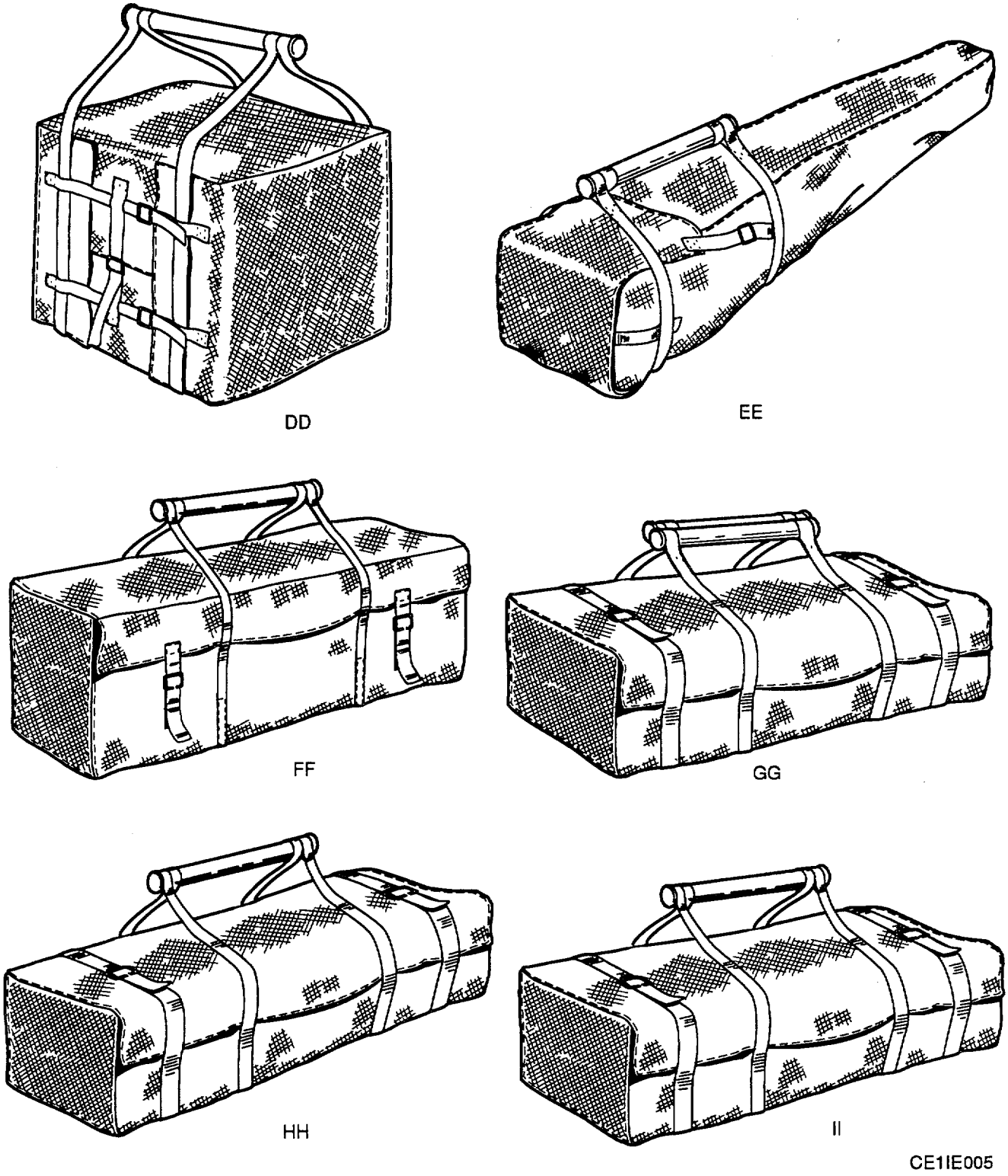


Figure 2-1. 30-Meter Mast Components and Accessories (Sheet 4 of 4)

Section III. INSTALLATION INSTRUCTIONS

2-7 TOOLS AND MATERIALS REQUIRED.

Tools and materials required to install the 30-meter mast are included with the mast and accessories. They consist of a bubble level tube, foot adjustment brace, stake location line, and guy winch handle.

2-8 MAST INSTALLATION TEAM.

NOTE

A team of three qualified personnel are required to erect the 30-meter mast.

The team, consisting of operators 1, 2, and 3, perform the following tasks (fig. 2-2):

Operator 1 attends winch kits No. 1 and No. 2.

Operator 2 is the team leader and stands by the hoist at the base of the mast, inserts mast sections into the mast guide box, uses the lifting block, and operates hoist. Operator 2 gives directions to operators 1 and 3 that must be followed explicitly to facilitate mast erection.

Operator 3 attends winch kits No. 3 and No. 4 (unless helping operator 2 at base of mast). Operator 3 works with operator 1 in controlling the guy cables as mast is being erected and retracted.

2-9 INSTALLATION OF THE 30-METER MAST.

2-9.1 General. Installation of the 30-meter mast begins with the assembly of the tripod consisting of three adjustable legs and mast guide box. The tripod supports the weight of the mast; the azimuth ring on the mast guide box is used to set the compass heading for grid north or magnetic north. Proper azimuth setting is necessary for aiming the mounted antenna to best receive and transmit radio signals. Stakes, winch kits, and guy cables are installed to stabilize and maintain mast straightness. The mast is erected by adding one section at a time, which allows the installation team to raise the antenna to any desired height up to 30 meters. During and after erection, tension on the guy cables is adjusted by operating the four winch kits as required. The following subparagraphs describe the detailed installation procedures.

WARNING

During electrical storms or at any time there is a possibility of lightning strike, personnel must not attempt to erect, retract, or operate the mast and must remain outside of the guy wire pickets. Serious injury or death could result from electrical shock due to arc-over from the mast. The presence of a ground rod, while it may somewhat reduce the probability of such an arc-over, does not eliminate the hazard.

NOTE

When an operator(s) performs a step in these procedures, the operator(s) is mentioned in that step. This continues to the following steps until another operator(s) is mentioned.

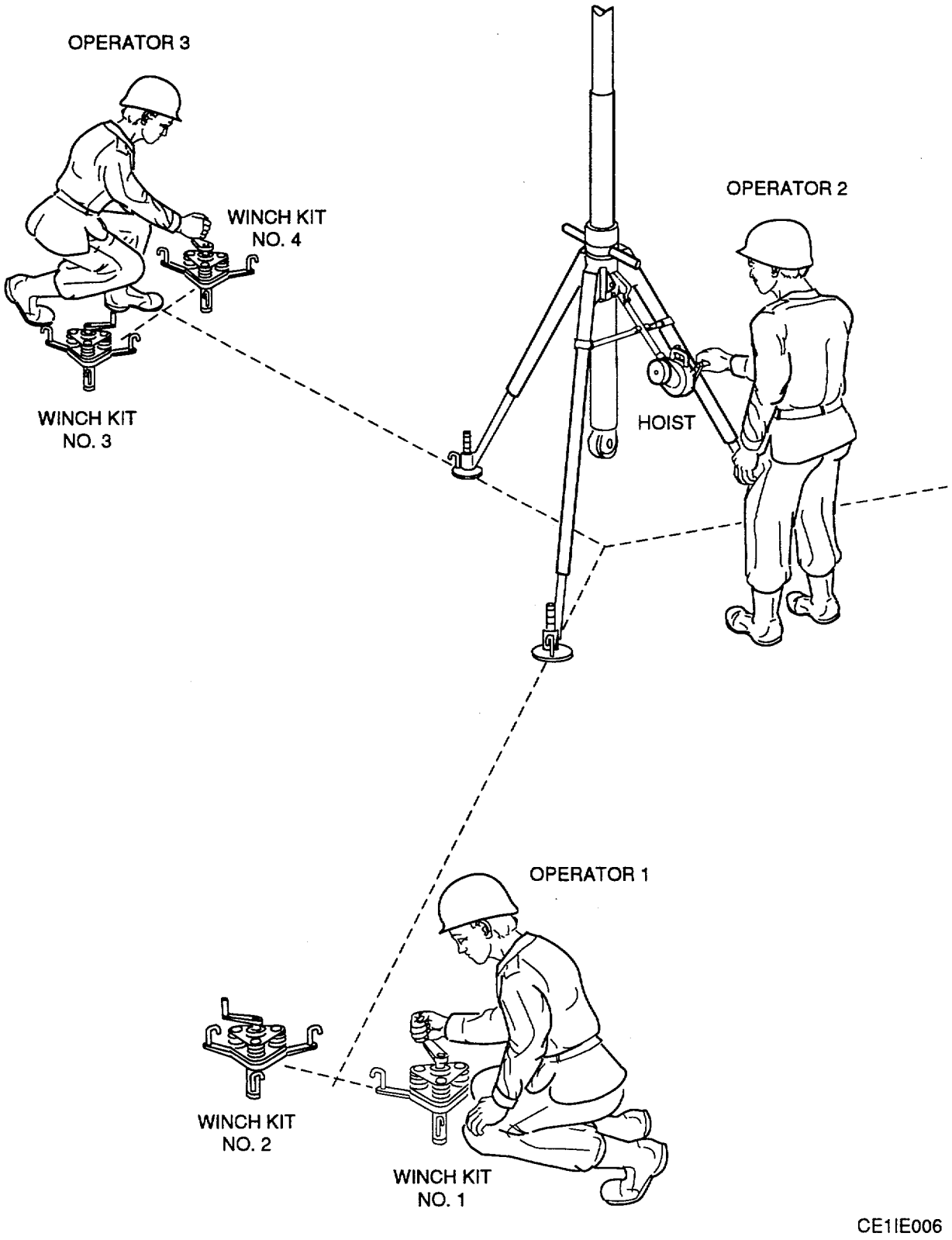


Figure 2-2. Mast Installation Team

2-9.2 Tripod Assembly.

WARNING

To prevent injury to personnel, the following equipment requires two persons to lift and carry: a mast section carrier, a winch bag, the accessory bag, and the equipment bag.

NOTE

Operators 2 and 3 perform steps a. through f.

a. Attach adjustable foot to inner leg of each leg assembly (fig. 2-3) as follows:
   (1) Push foot firmly into position so flat side of foot nut matches flat side of leg assembly.
   (2) Secure adjustable foot and leg assembly with clip.
   (3) Unscrew foot nut until approximately 2 inches of thread is exposed.

b. Lay mast guide box on ground (fig. 2-4). Attach one leg by lining up holes in top bracket of leg with holes in lug on side of mast guide box. Insert two drop-head pins fully and secure drop-head pin latches.

c. Remove both pins from lower part of leg assembly and pull out inner leg until three holes are showing. Reinsert pins through outer and inner legs to secure both parts (fig. 2-5).

d. Roll mast guide box and add second leg in similar manner.

e. Turn mast guide box over completely and add third leg, following steps b. and c.

f. Lift mast guide box onto legs in vertical position.

NOTE

Observe terrain in line with each leg assembly for obstruction that would prevent a stake from being driven into the ground. If an obstruction exists, rotate or move tripod to a better position.

g. Operator 1: Push bubble level tube into guide holes on mast guide box (fig. 2-6). Secure bubble level tube to mast guide box with locating pin. Slide protective cover to expose bubble level.

h. Set azimuth on mast guide box using the following procedure:

   (1) Turn thumbscrews on azimuth ring assembly counterclockwise to loosen azimuth ring (fig. 2-7).
   (2) While observing compass, rotate azimuth ring so that it indicates 0 when alined with compass north. Tighten thumbscrews.

i. Operator 2: Adjust foot on each leg using adjustment brace until bubble is centered. Slide protective cover back over bubble level. Remove bubble level tube and place inside pocket of equipment bag.

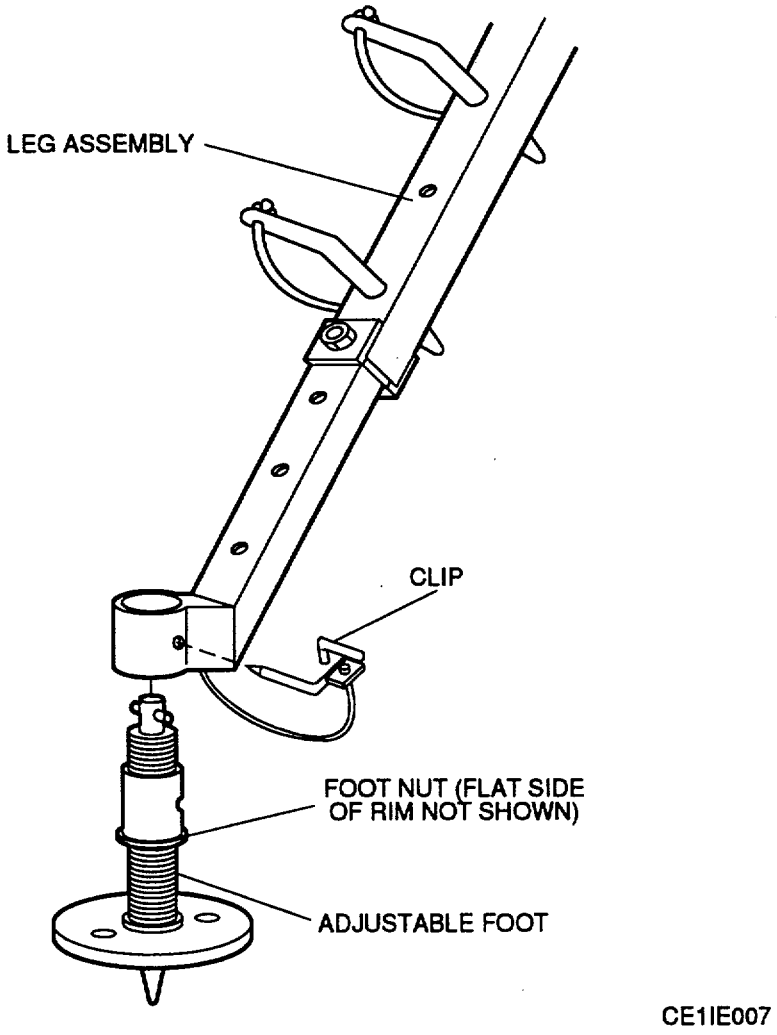


Figure 2-3. Adjustable Foot Installation

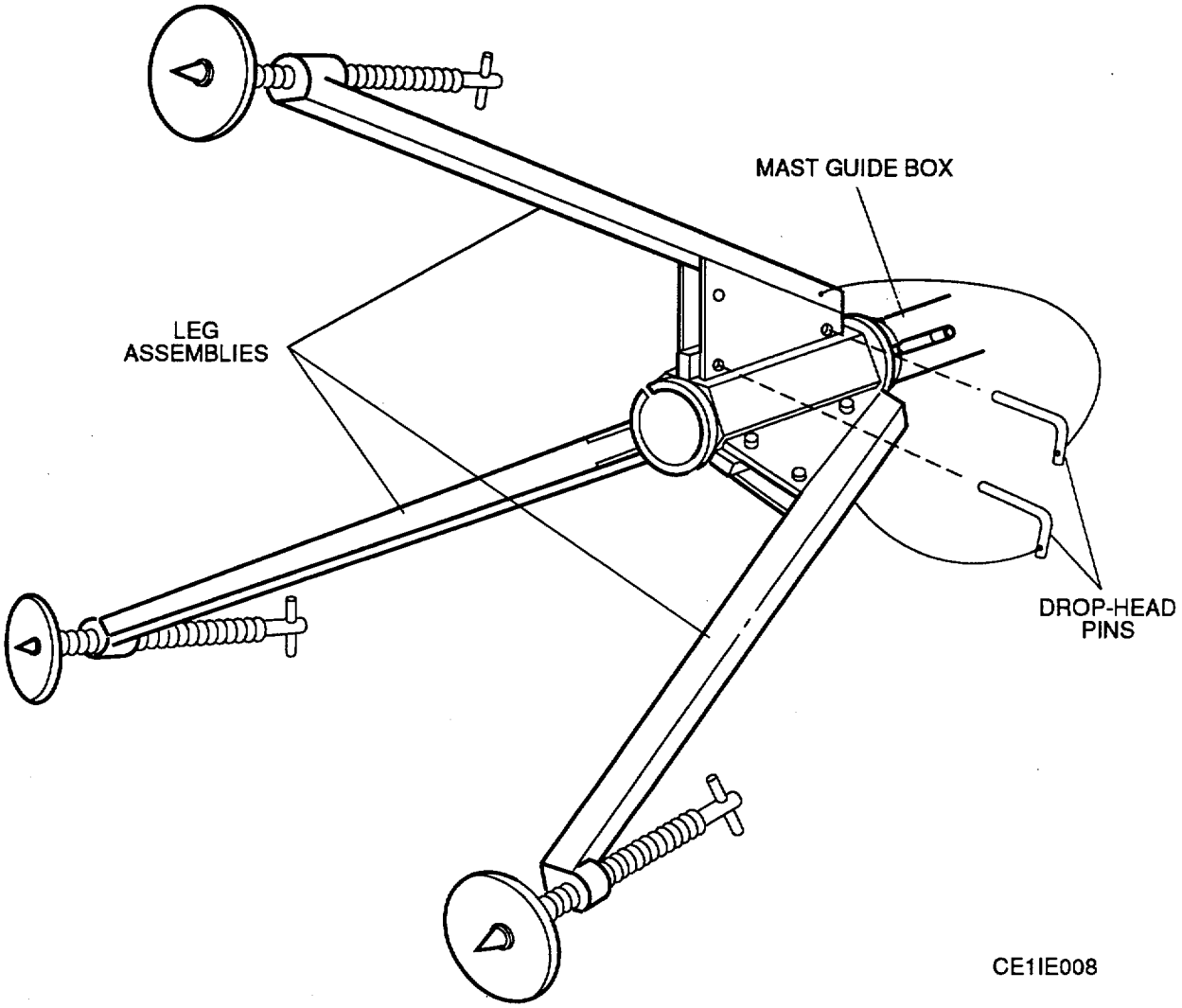


Figure 2-4. Leg Installation

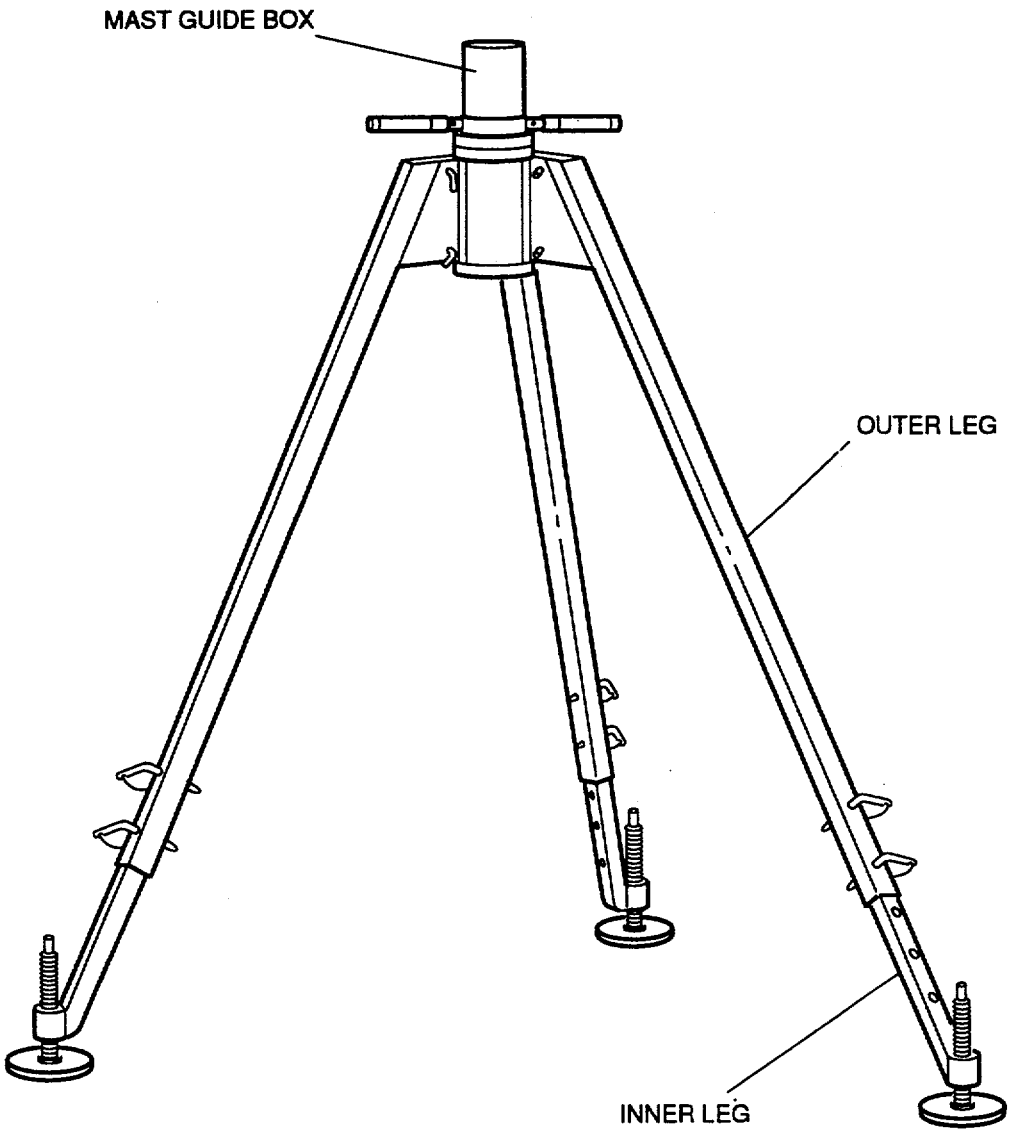


Figure 2-5. Leg Adjustment

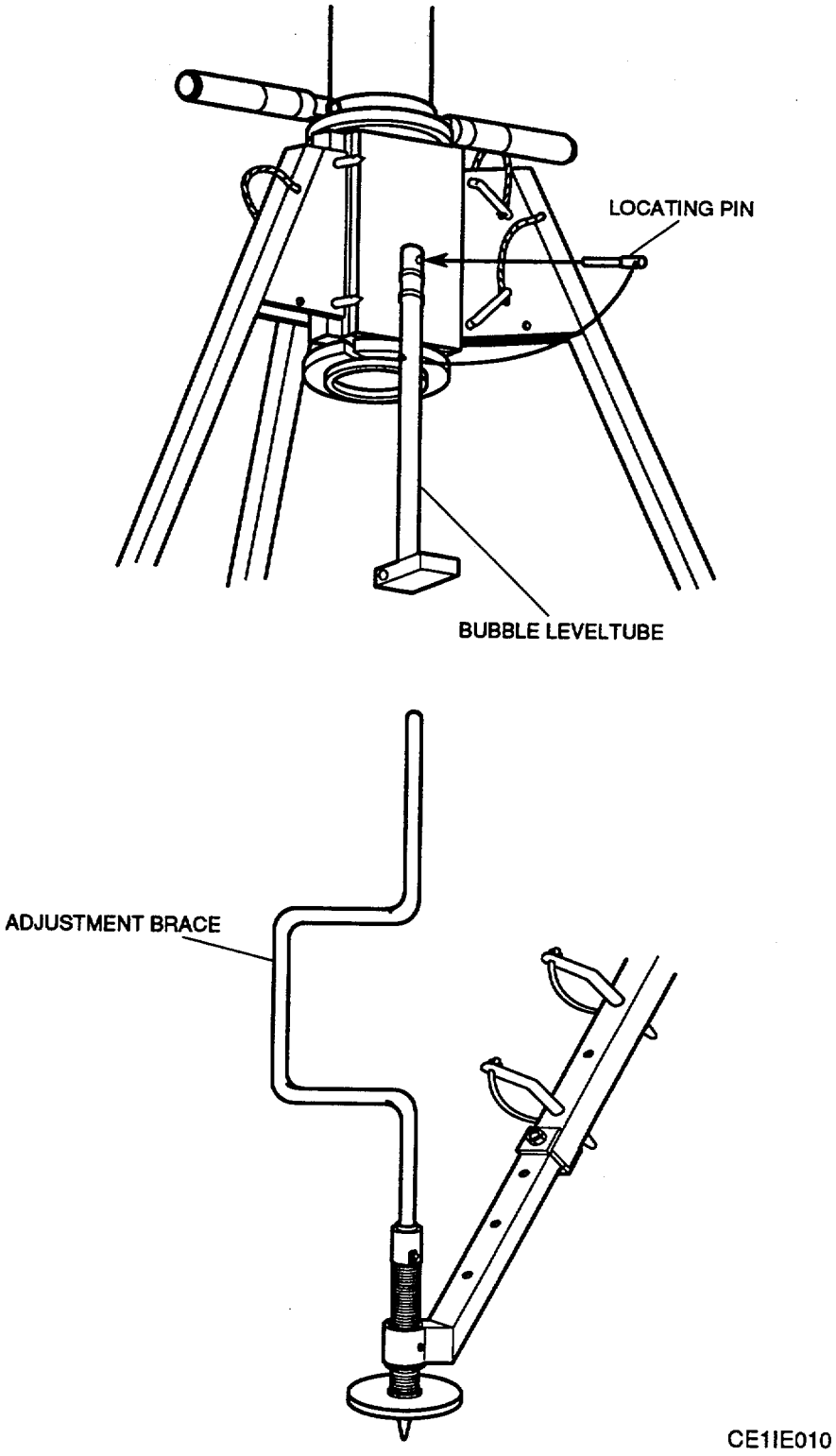
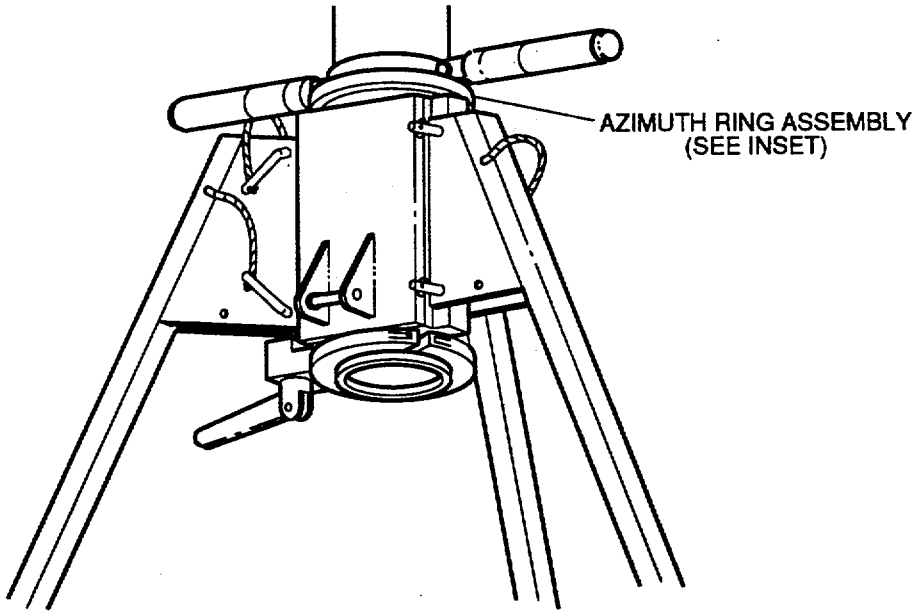


Figure 2-6. Leveling Tripod



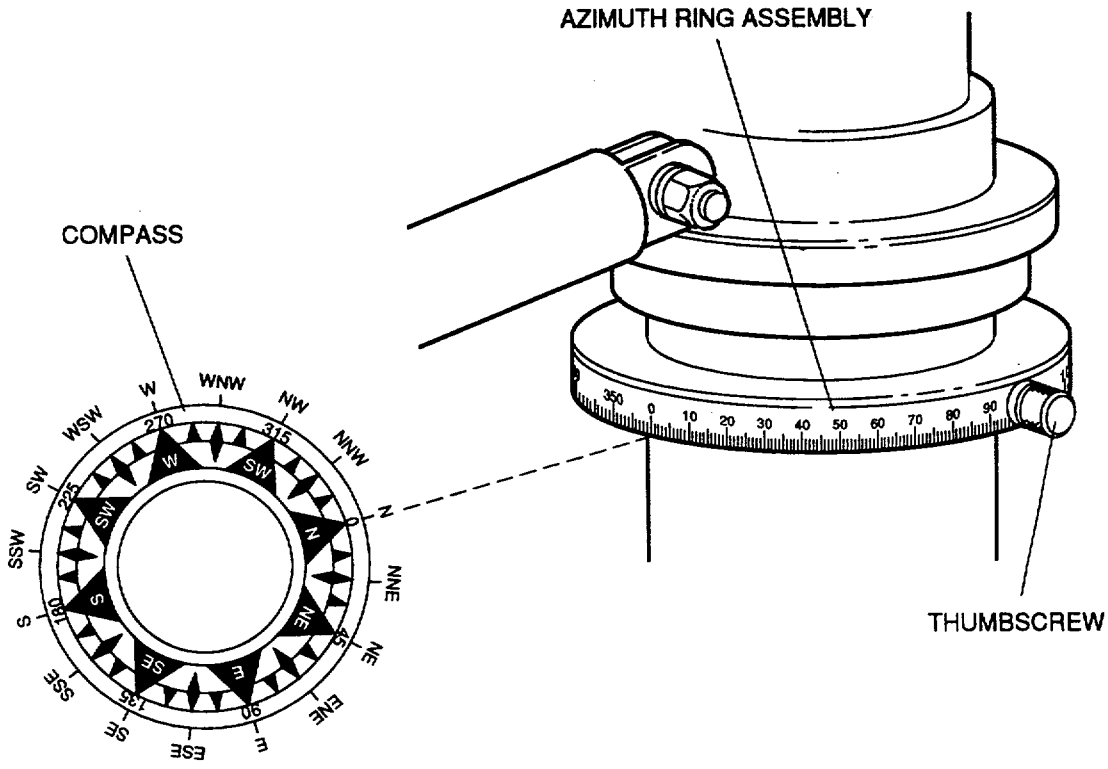


Figure 2-7. Setting Azimuth

NOTE

Operator 3 performs steps j. and I.

j. Install four detachable steps as shown in figure 2-8 to leg assembly on side opposite mast guide box hoist (fig. 2-9). Secure steps to leg with drop-head pins.

k. Remove top inner leg support pin on leg assembly to install fourth detachable step. Insert removed support pin in third hole of inner leg (fig. 2-8).

I. Install hoist support bar across two tripod legs on same side as hoist pin on mast guide box (located beneath name plate) (fig. 2-9). Hook hoist on mast guide box pin and rest hoist against hoist support bar cradle.

WARNING

Helmets must be worn while working in mast area to prevent head injury to personnel.

NOTE

Operator 2 performs steps m. through p.

m. While operator 1 presses and holds release button on hoist, pull out hoist cable approximately 10 feet. Place hoist handle onto hoist input shaft and tap handle with hand to engage.

n. Loosen wing nut on cable guard of lifting block (fig. 2-10) and slide cable guard clear. Pass hoist cable through guide, around pulley, and out through opposite guide.

o. Attach hoist cable to lower hole in leg assembly bracket opposite hoist, and secure with drop-head pin.

p. Install cable guard and tighten wing nut.

WARNING

Safety goggles must be worn when hammering spikes and stakes to prevent eye injury from sparks.

q. Insert one spike through hole in each tripod adjustable foot, using sledge hammer provided, and drive spike fully into ground (fig. 2-11).

r. Obtain stake location line and place end with ring over foot-leveling screw.

s. Walk location line straight out from leg assembly.

t. Pull location line taut and place three stakes on ground at following locations:

- One at red marker
- One at yellow marker
- One where end of line is tied to spool.

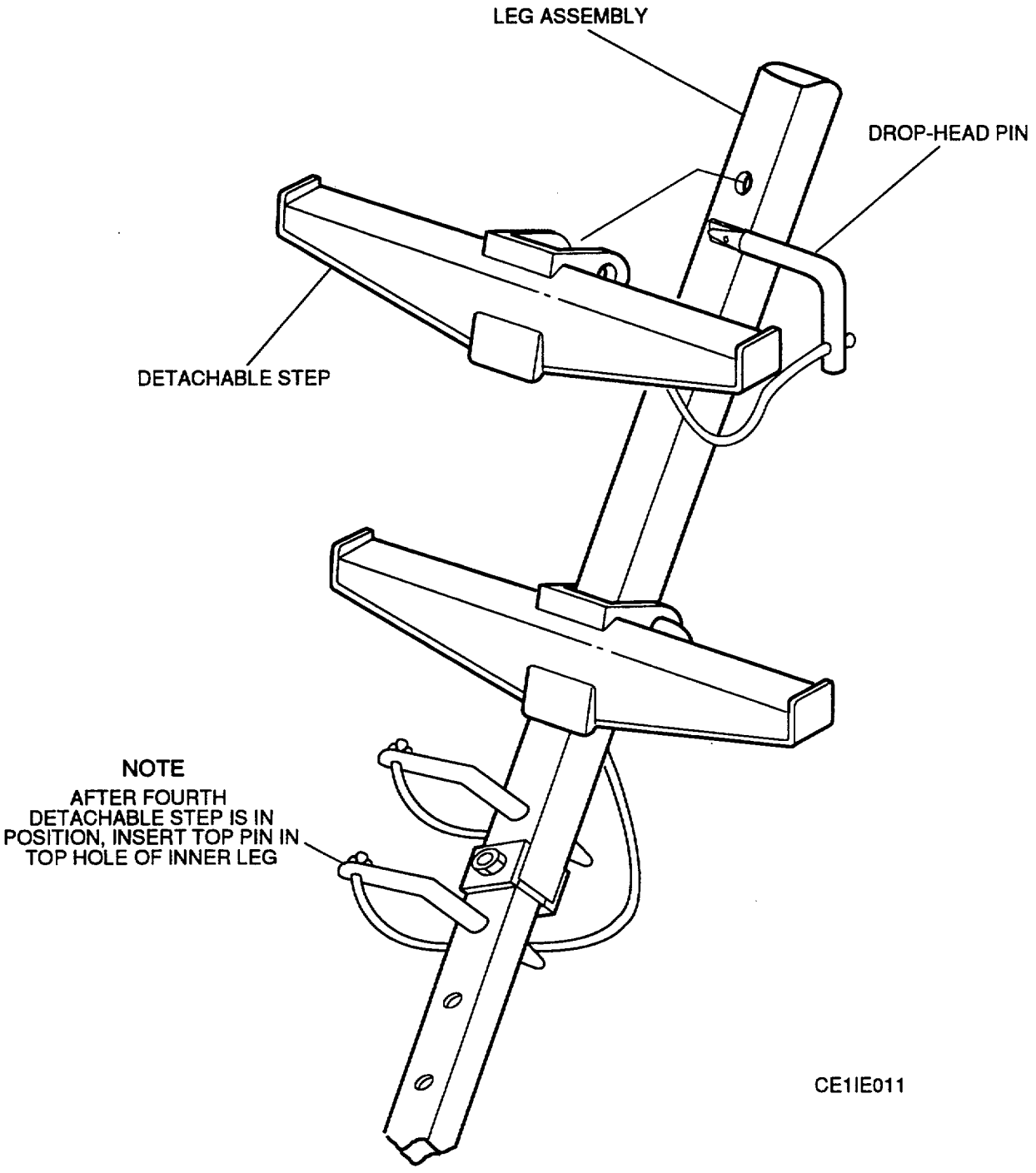


Figure 2-8. Installing Detachable Steps

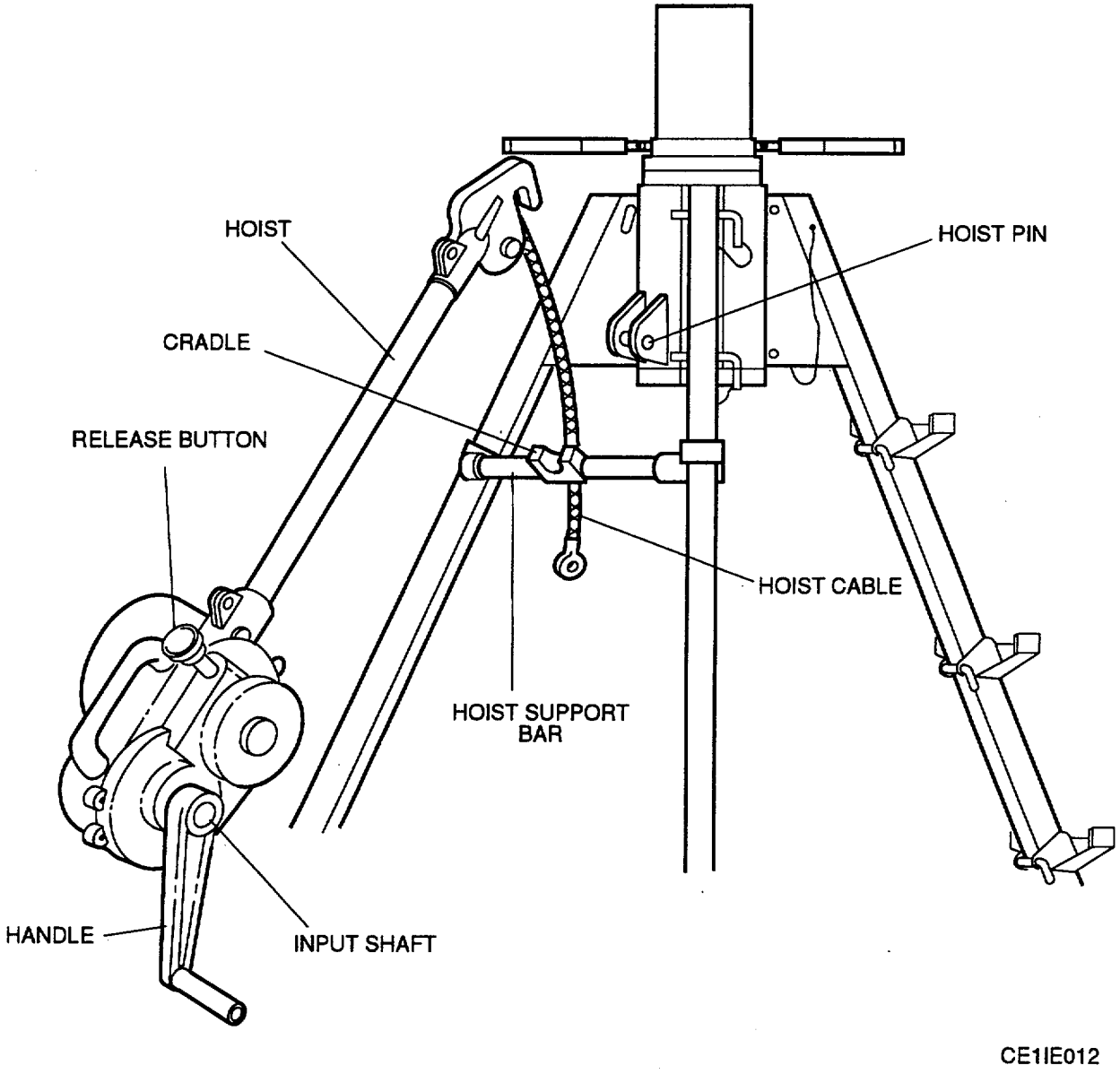


Figure 2-9. Mounting Hoist

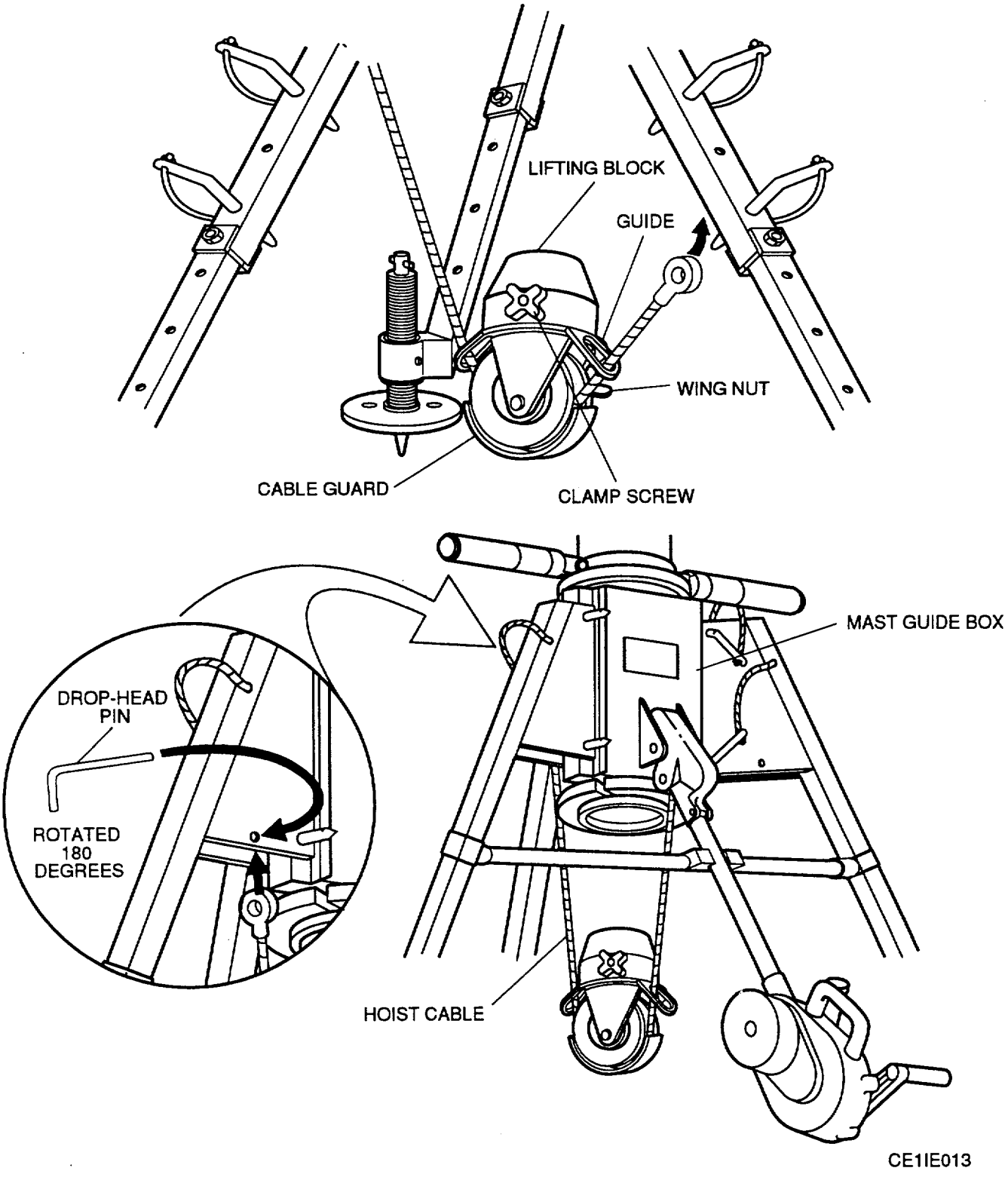


Figure 2-10. Installing Lifting Block

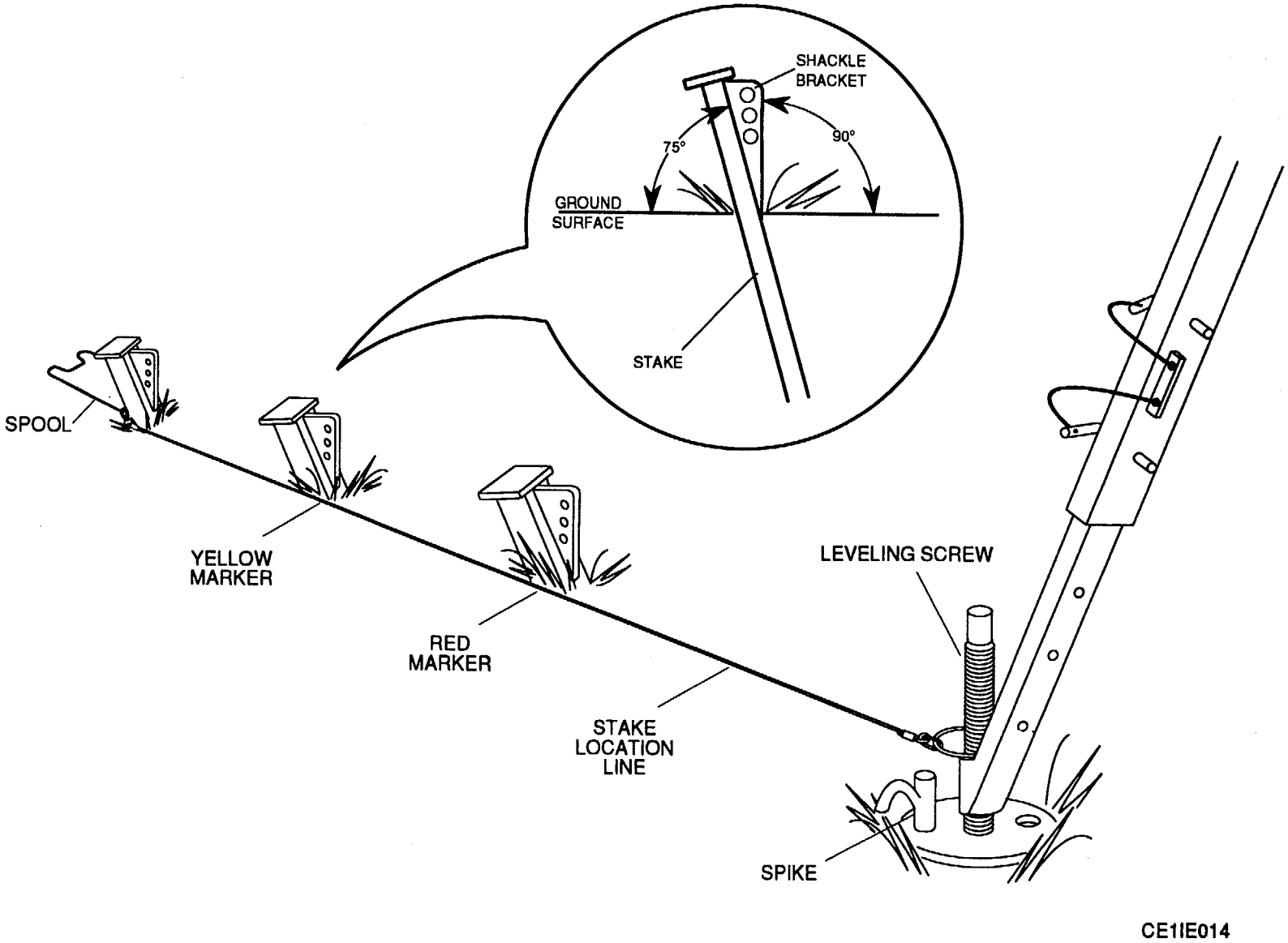


Figure 2-11. Installing Spikes and Stakes

NOTE

In following step, stakes should lean away from tripod leg (shackle bracket facing leg) so that edge of shackle bracket is perpendicular (visual sight) to ground. Back of stake is approximately 750 with ground. Refer to figure 2-11.

u. Using sledge hammer provided, install each of the three stakes into ground to beginning of shackle bracket at markers.

v. Repeat steps r. through t. above for remaining six stakes along other two leg assemblies. When complete, wind stake location line onto spool and store in accessory bag.

NOTE

On the mast guide box there is a ground stud available for grounding mast.

w. If grounding equipment is available, locate ground stud on mast guide box (fig. 2-14) and ground mast according to FM 11-487-4.

2-9.3 Guy Winch Kit Installation. Perform the following procedure to install guy winch kits and cable clamps.

NOTE

All guy winch kits are identical. After guy winch kits are in position, install cable clamp on the kit designated number one.

a. Operators 1 and 3: Position guy winch kits as shown in figure 2-12. Open spreaders and insert pin in each spreader to keep from closing. Drive spikes (three for each winch kit) through spreader holes fully into ground. Release three drums by turning release knobs clockwise.

b. At the guy winch kit designated number one (fig. 2-12), pull pulley block to the stake furthest out from tripod and clip to stake hole closest to the ground (fig. 2-18). Ensure there is enough slack in guy cable from the guy winch kit.

c. At pulley block (fig. 2-13), remove retainer clip from block.

d. Install cable clamp, insert pulley pin, and insert retainer clip.

e. Ensure guy cable is in the correct position to pulley block. Repeat steps c. and d. to install other cable clamps.

2-9.4 Mast Erection. While operator 2 inserts mast sections into mast guide box to erect mast, operator 3, when not attending guy winch kits No. 3 and No. 4, can assist operator 2.

WARNING

Do not erect mast if wind velocity is 30 mph or greater. Mast could topple and cause serious injury or death to personnel.

Operator standing on steps be aware of guide box handles. Serious injury could result if operator slips off steps.

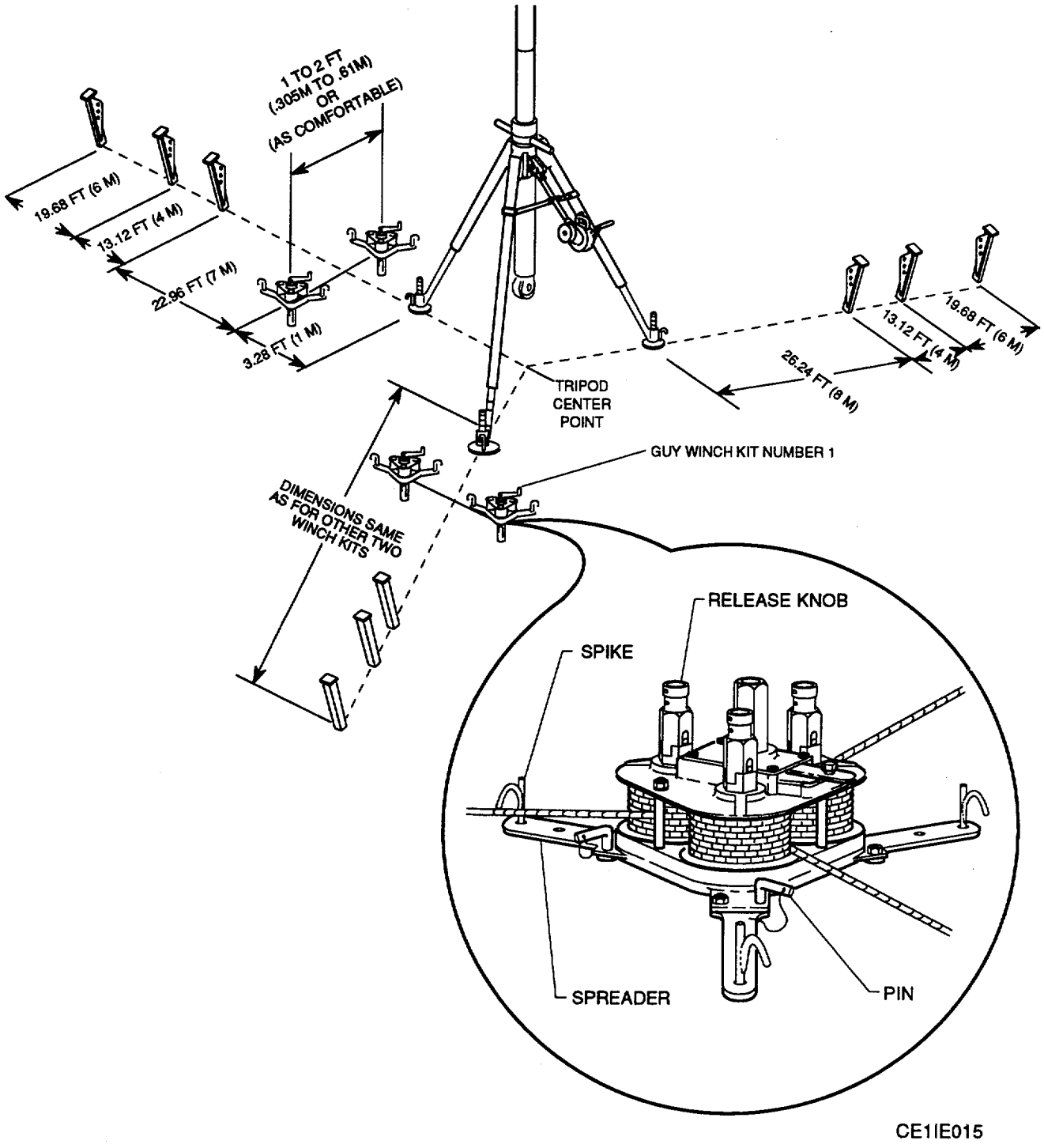


Figure 2-12. Installing Guy Winch Kits

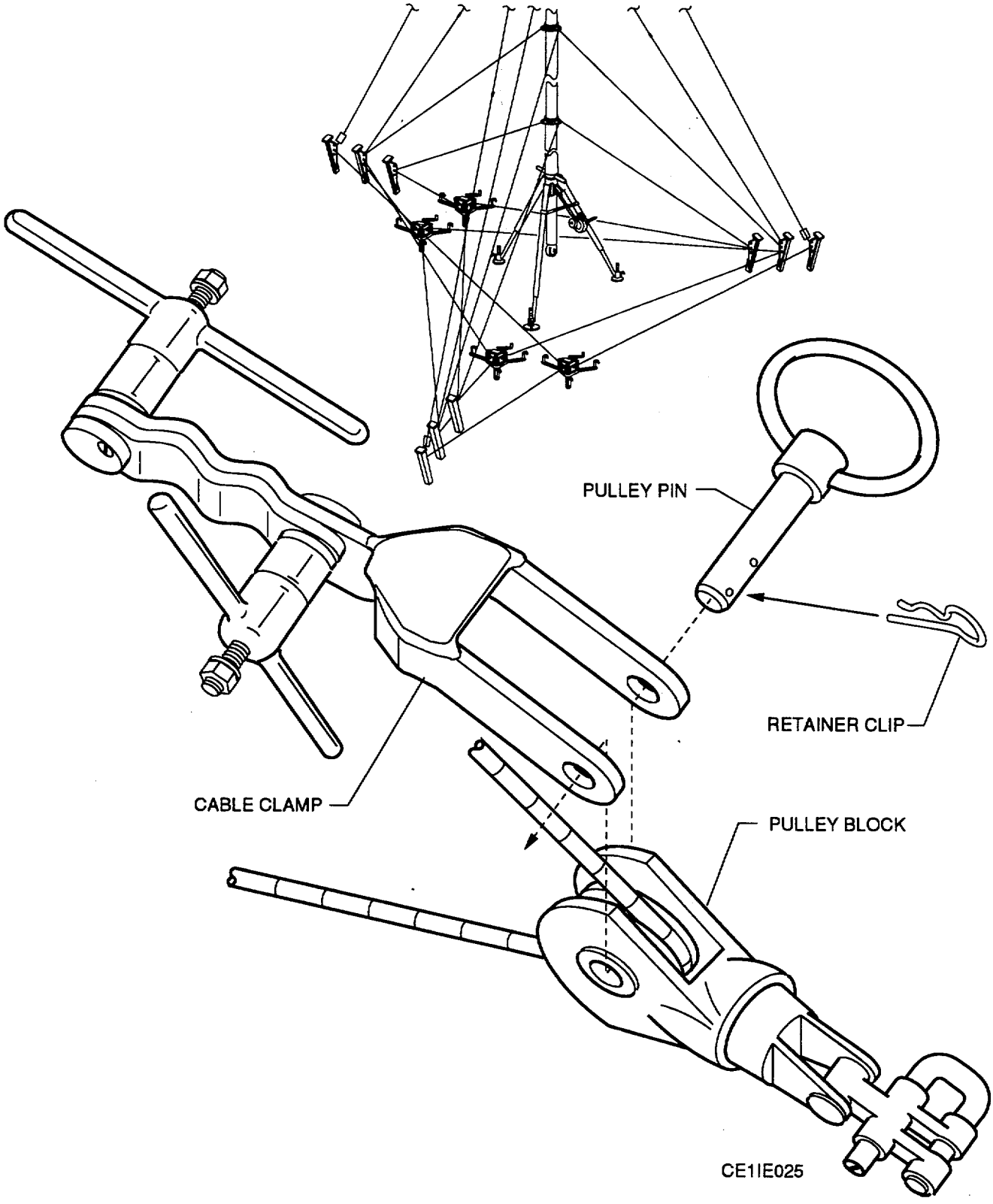


Figure 2-13. Pulley Block and Cable Clamp Installation

a. Operator 2: Press and hold release button on hoist. Turn handle counterclockwise to lower lifting block until it is approximately 12 inches off ground (fig. 2-14).

b. Operator 3: Climb detachable steps on leg assembly and be ready to receive guy collars from operator 1. Operator 1: Hand operator 3 four guy collars.

c. Operator 3: Place four guy collars, with comers facing down, over top of mast guide box. Move hanging guy collar retaining halves out of the way by hanging them over the top detachable step.

NOTE

Before inserting into guide box, mast sections should be wiped down with clean cloth to remove dirt or grit.

Operator 2 performs steps d. and e.

d. Install first (top) mast section as follows:

(1) Remove mast section from mast section carrier.

(2) Loosen clamp screw on lifting block (fig. 2-10).

(3) Insert smaller diameter end into mast guide box from bottom. Lower mast section onto tapered cone of lifting block.

(4) Aline slot in mast section with clamp screw on lifting block, and tighten clamp screw.

e. Wind hoist clockwise to raise mast section until locating pin is level with mast guide box sleeve upper edge (fig. 2-15).

NOTE

Operators 1 and 3 perform steps f. through i.

If top of mast section is too high to install antenna rotator, rotator extension and antenna, then lower mast enough to perform this installation and repeat step d.

If omni antenna is to be installed, an adapter is mounted instead of the rotator. Refer to the omni antenna adapter kit installation instructions in Section V.

f. Install antenna rotator to first mast section (fig. 2-16). Aline slot in rotator with pin in first mast section and tighten clamp screw.

g. Prepare antenna according to installation instructions for antenna being mounted. Attach rotator extension to antenna.

h. Mount antenna and rotator extension onto antenna rotator shaft and secure both with drop-head pin.

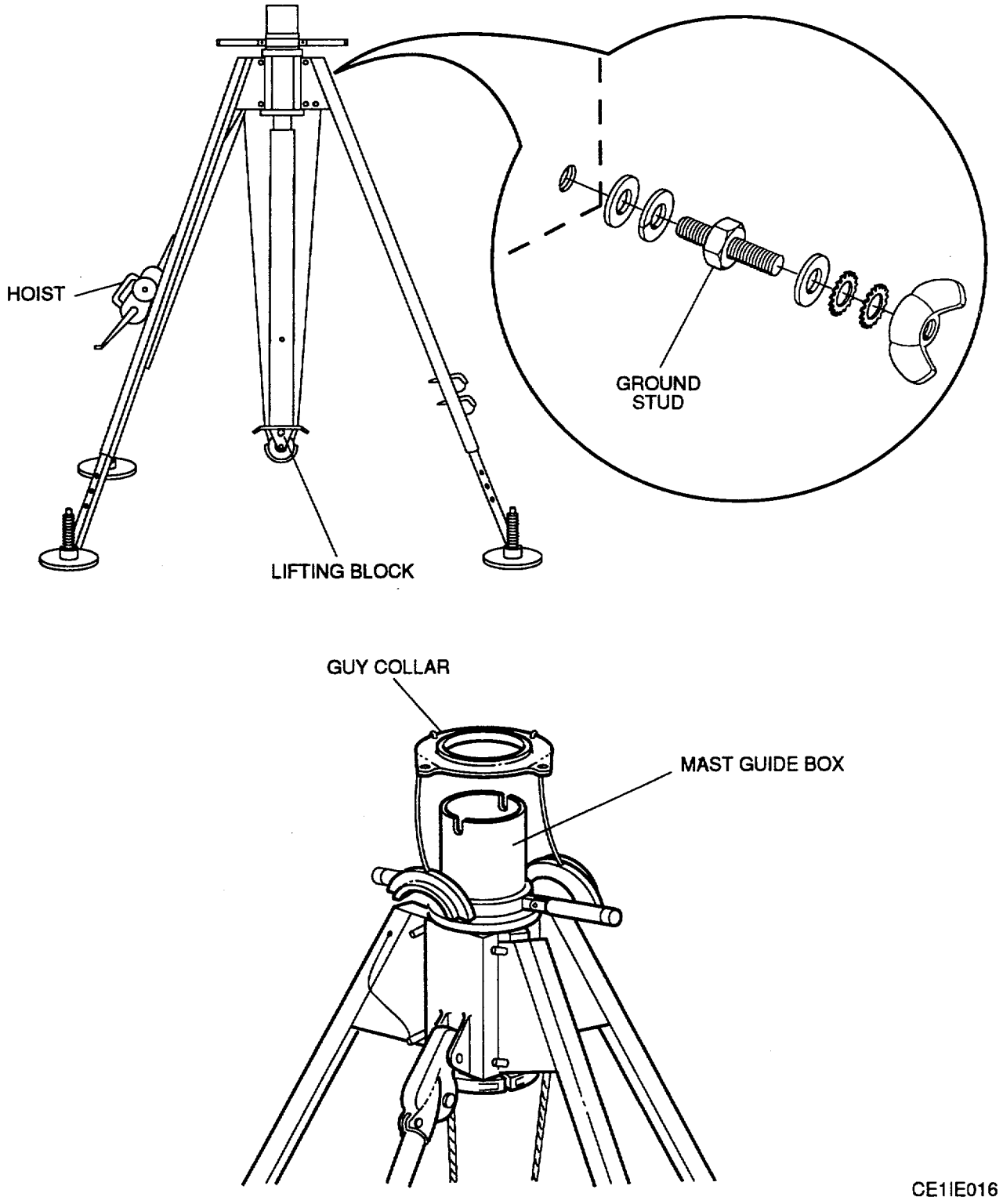


Figure 2-14.Preparing Guy Collars for Installation

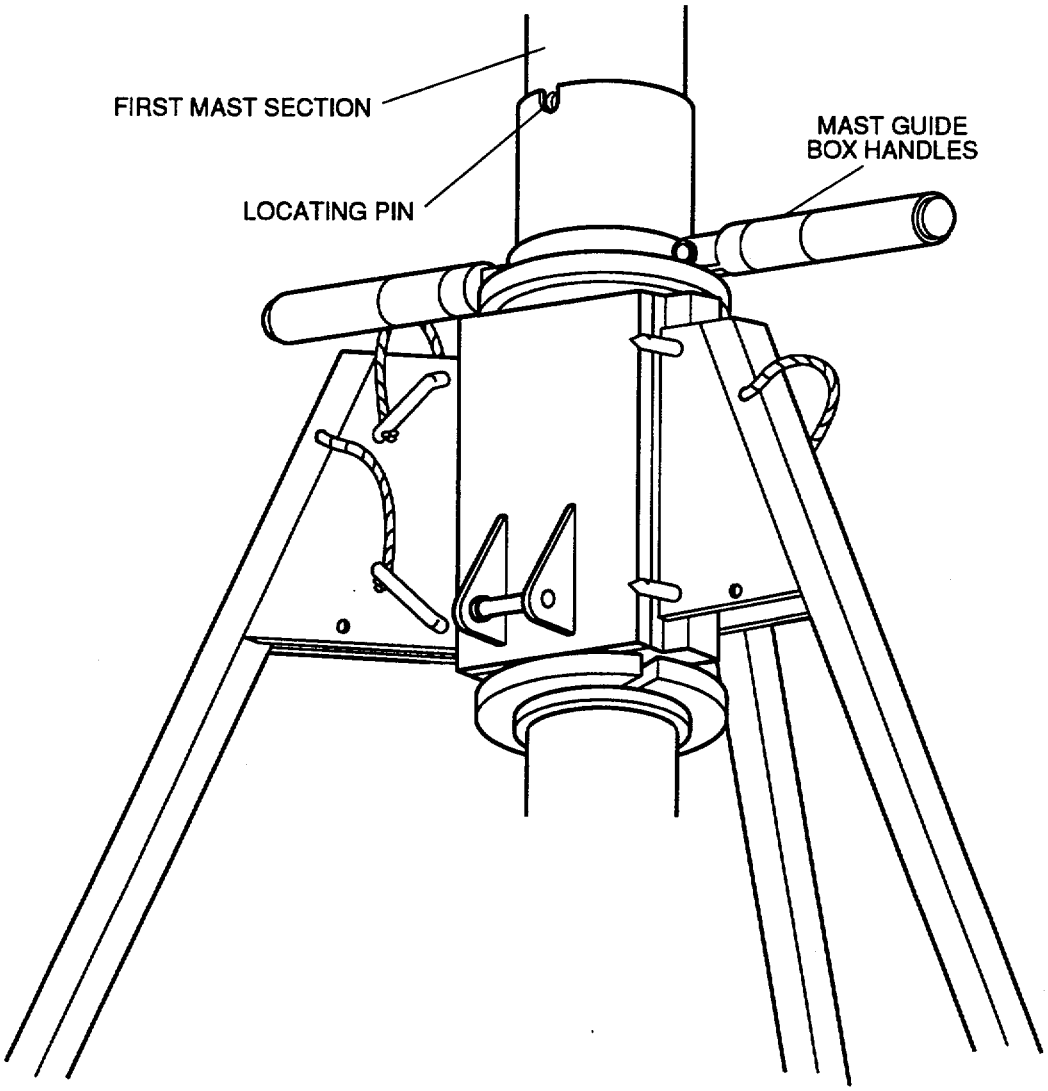


Figure 2-15. Installing First Mast Section

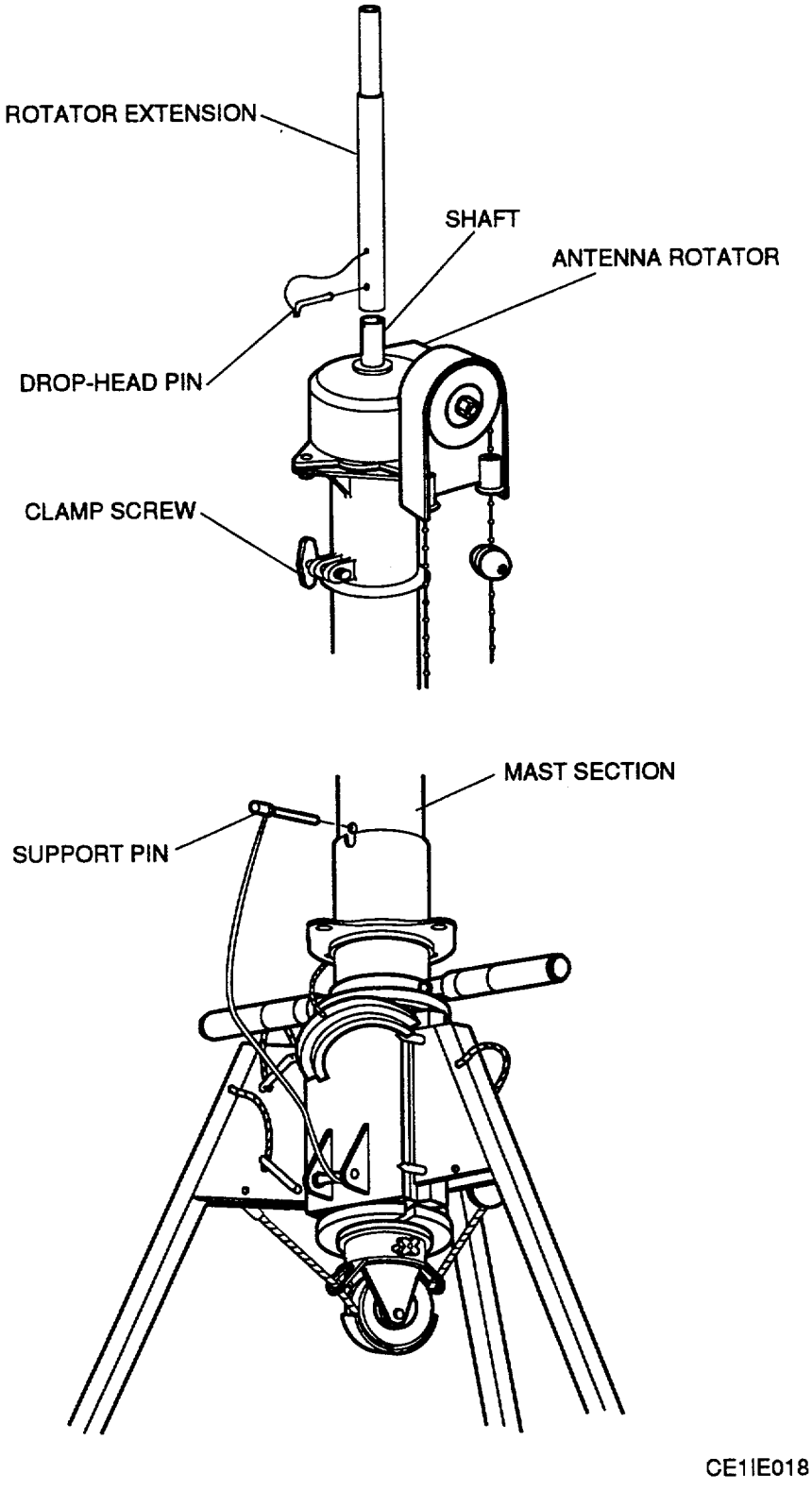


Figure 2-16. Antenna Rotator Installation

i. With antenna facing azimuth of target, the two ball stops on the ball rope should be same distance from rotator assembly. If not, loosen antenna clamp, move ball rope without moving antenna, and tighten clamp.

NOTE

Operator 2 performs steps j. through l.

j. Fully raise first mast section with antenna. Aline hole of mast section with cutout in upper edge of mast guide box (fig. 2-15). Insert pin through cutout and holes in mast section. Disengage hoist handle. Press and hold release button on hoist until support pin is seated properly in cutout of mast guide box. Continue to use this procedure for every new section added. Loosen clamp screw on lifting block (fig. 2-10).

NOTE

It may be necessary to rotate mast guide box slightly to ensure hole in mast section lines up with cutout in upper edge of mast guide box.

k. Press and hold release button on hoist and at same time turn hoist handle counterclockwise. Lower lifting block until it is approximately 12 inches off ground.

l. Insert second mast section into bottom of first mast section. Aline pin in second mast section with cutout in bottom of first mast section. Lower mast section onto lifting block and tighten clamp screw.

NOTE

Each time a mast section is placed on the lifting block, make sure it is secured by tightening clamp screw.

m. Raise two mast sections approximately 12 inches. Have operator 3 remove support pin and attach first guy collar to first mast section as follows (fig. 2-17):

(1) Raise guy collar plate above support pin hole.

(2) Fit the center pin of each guy collar retaining half into support pin holes in mast section.

(3) Slide guy collar plate down over guy collar halves to secure.

NOTE

As mast sections are installed, feeder cable straps must also be installed on the mast. Refer to antenna installation instructions in shelter technical manual for feeder cable strap installation.

To obtain desired antenna cable length use antenna cable extensions.

n. Operator 1: Unravel three guy extension cables from guy extension rings and hand one end of extension to operator 3. Attach other end of guy extensions to guy cables of winch kit No. 1. Secure guy extension rings.

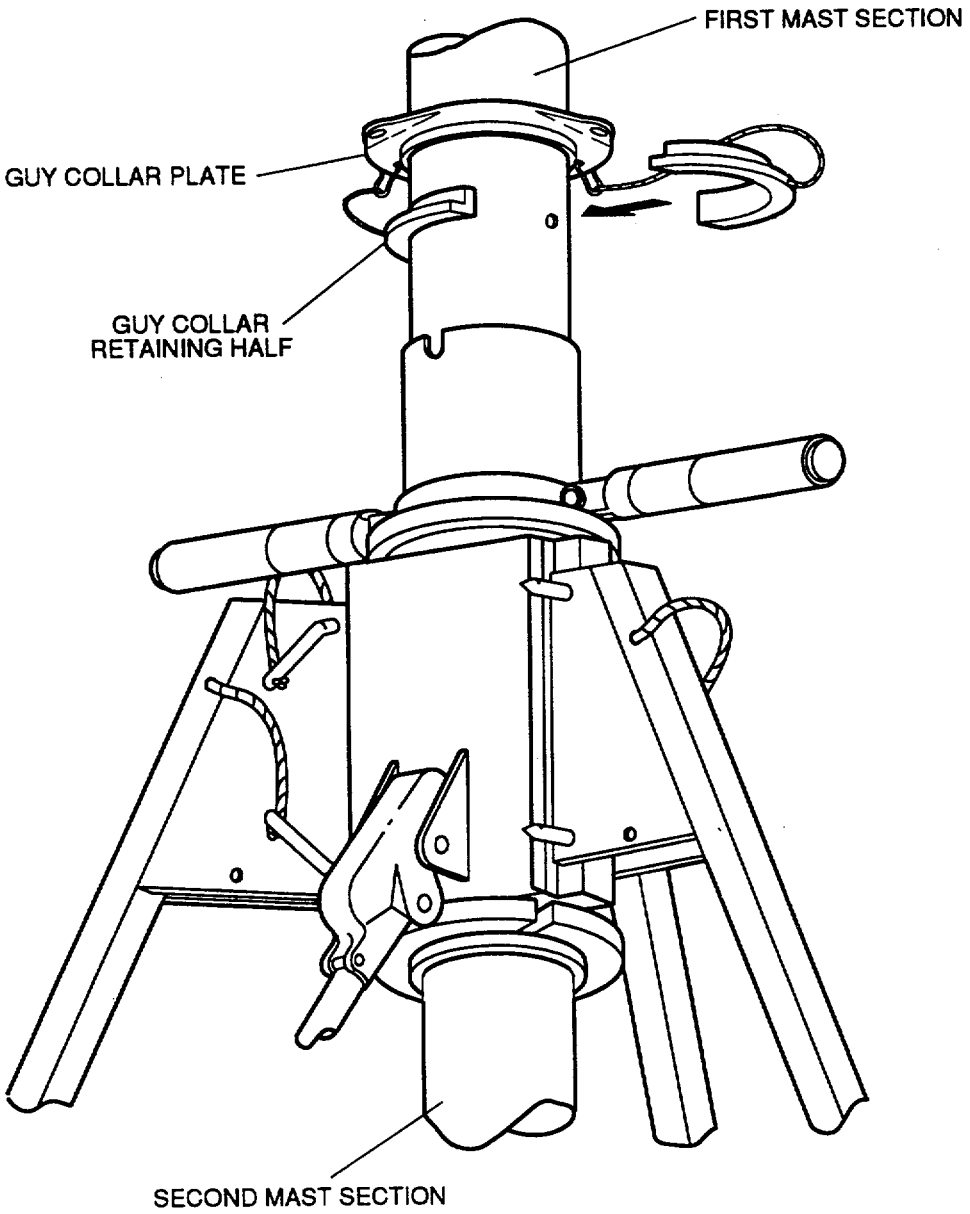


Figure 2-17. Installing First Guy Collar and Second Mast Section

NOTE

Six guy extensions are used on the first and second (upper two) guy collars. As mast is erected, guy collars are attached to mast sections as shown in figure 2-18. Arrowheads (1 through 4) identify the guy cable paths after proper installation.

o. Operator 3: Attach guy extensions to first guy collar using snaphooks. Clip snap hook with pushbutton facing towards the ground.

NOTE

It is recommended that protective gloves be worn by personnel when working on guy cables.

Operator 1 perform steps p. through s.

Operators 1 and 3 must follow directions from operator 2 to facilitate mast erection.

p. Lock all three drums on winch kit No. 1 by turning release knob counterclockwise (fig. 2-19). Check that spring pin engages slot in socket coupler, and that socket coupler is seated properly in slot of top winch plate (refer to figure 2-19).

WARNING

Whenever handle is removed from the center spindle to adjust individual guy, ensure handle is returned to center spindle. Failure to do so could cause personal injury.

q. Adjust each guy using handle on individual guy adjust. Return handle to center spindle after each guy is adjusted and begin applying maximum tension.

WARNING

Never operate release lever without keeping load or tension on all three guys, by holding winch handle (center spindle). Failure to do so could result in wrist and/or hand injury.

r. As mast is extended, release guys as needed by moving release lever to the left while applying maximum back pressure with handle in center spindle (turning counterclockwise). When lever is released, guy winch kit is locked.

s. Check that there is enough slack in antenna feed cable for antenna rotator to turn 1800 in either direction without straining cable. Check that there is enough slack for cable to pass over guy collars and enable total mast to rotate 180° in either direction without straining antenna cable against a guy cable.

NOTE

Operator 3 performs steps t. and u. only if a second antenna is to be mounted on the mast.

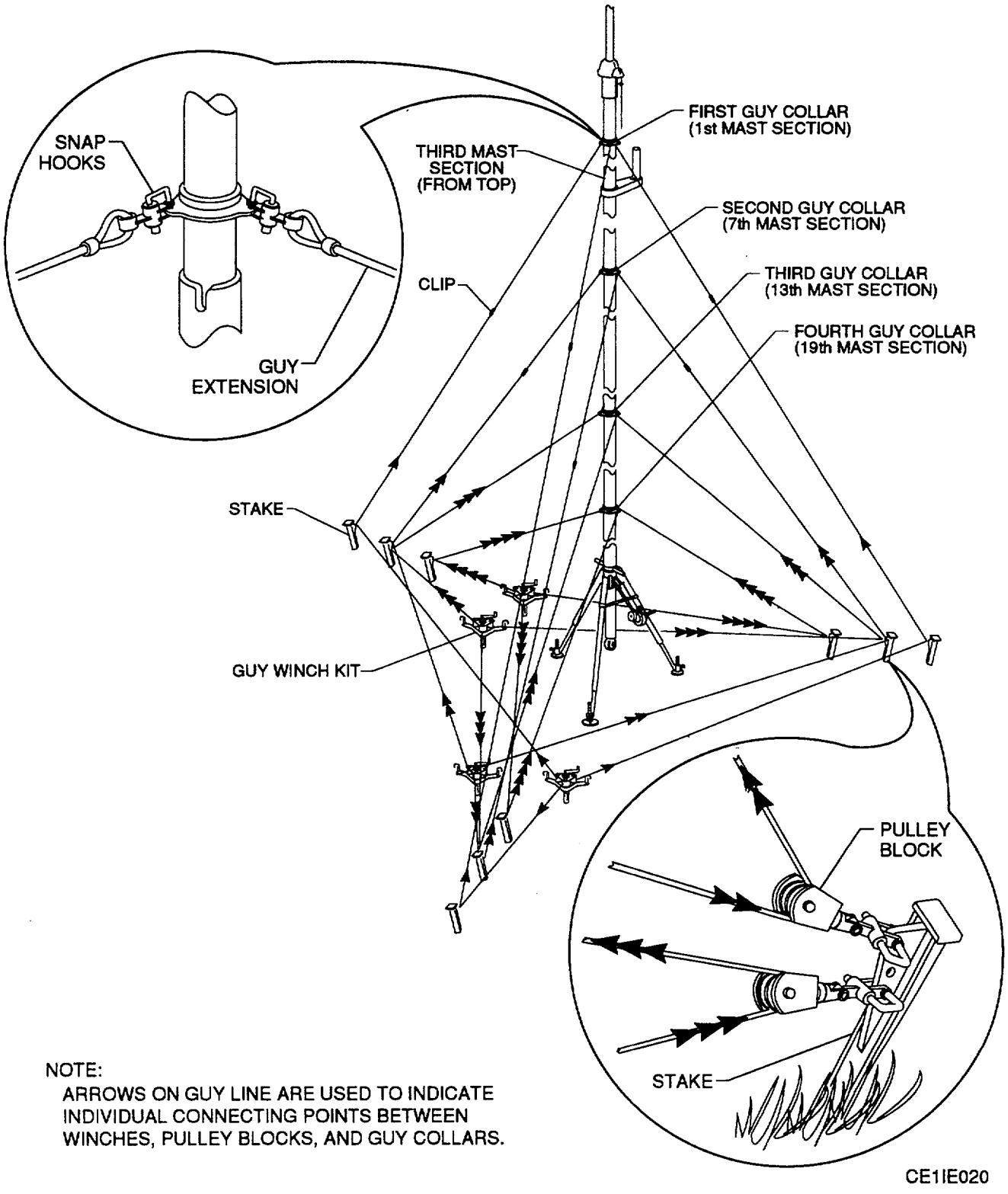


Figure 2-18. Guy Installation

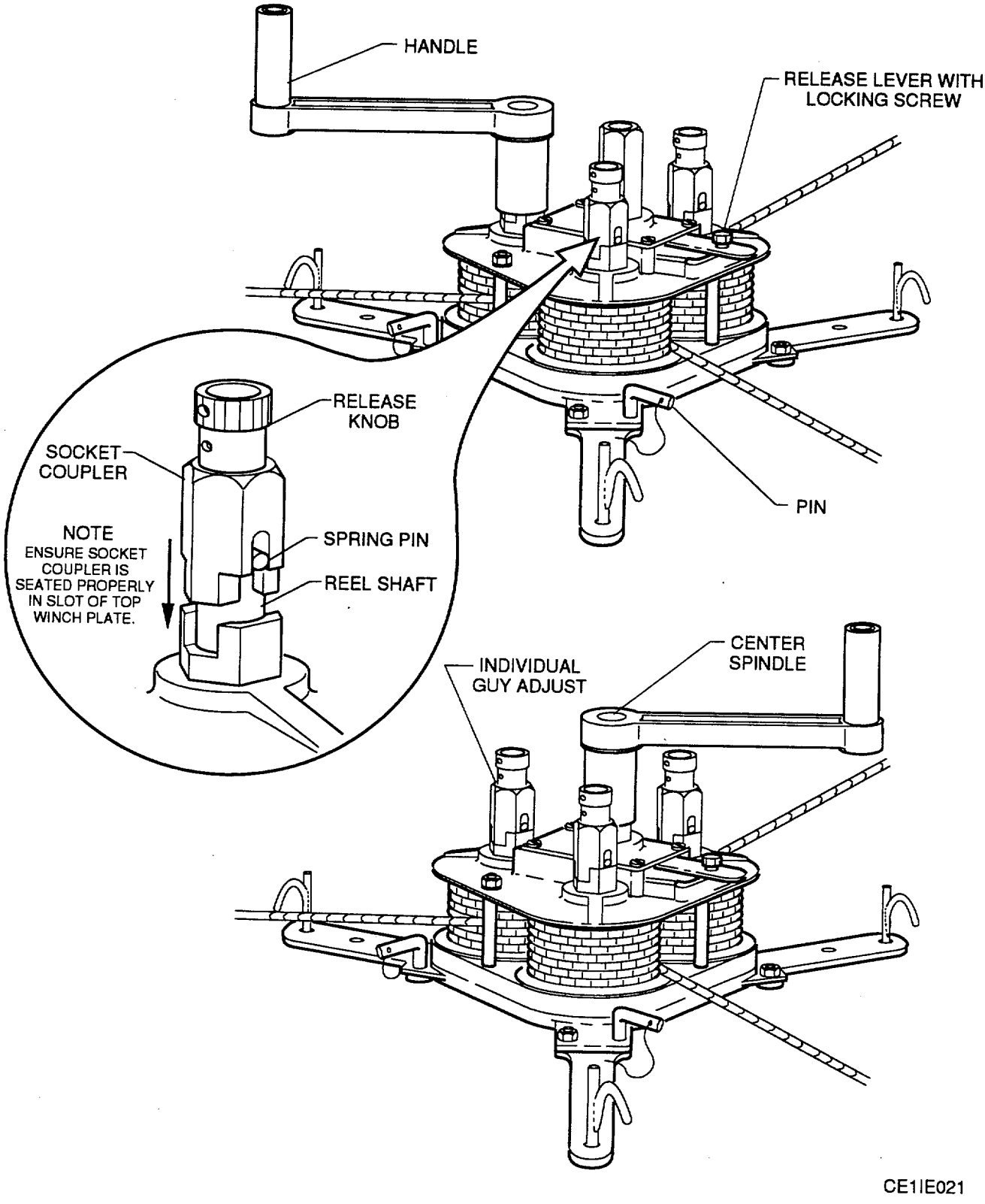


Figure 2-19. Operating Guy Winches

t. Continue installing mast sections until third section is installed. Connect side mounting adapter to this section (fig. 2-20) covering support pin hole and secure with tee handle. Adapter is now approximately 8 feet below top guy collar.

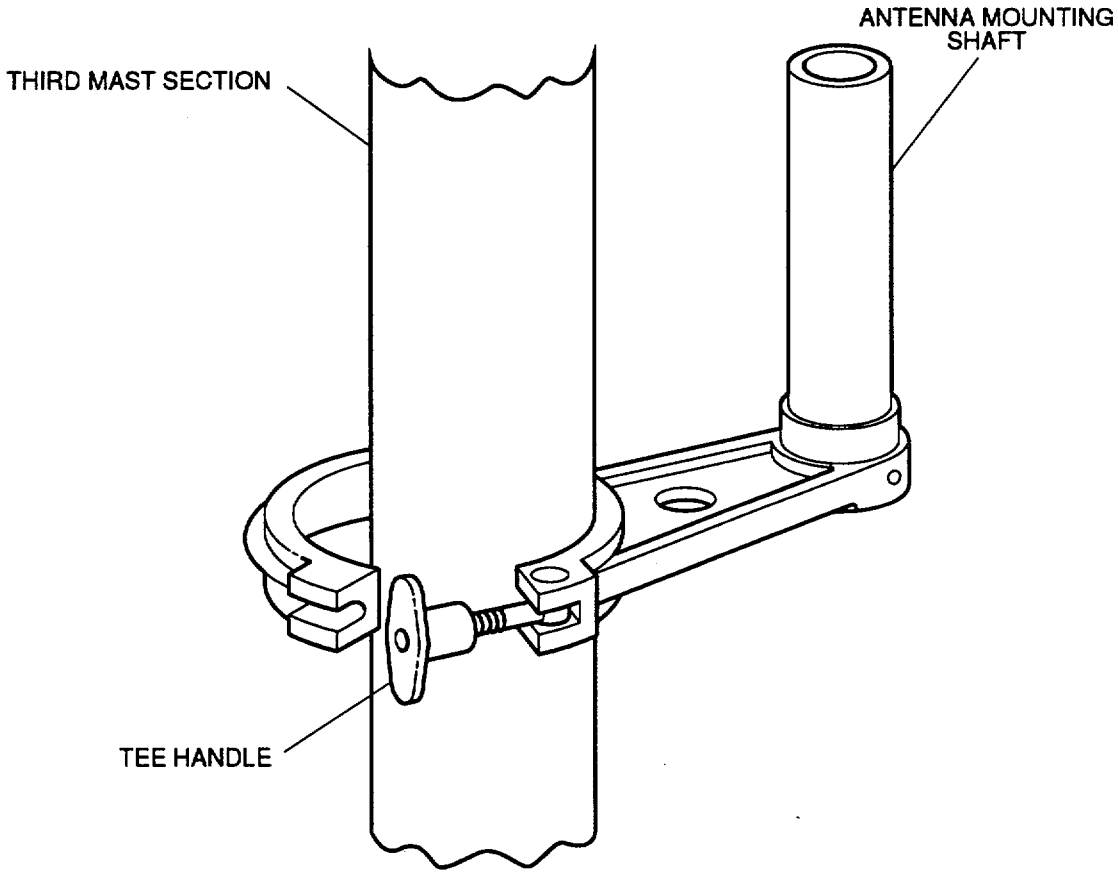


Figure 2-20. Side Mounting Adapter

u. Mount second antenna on side mounting adapter according to installation instructions for antenna being mounted.

NOTE

If an antenna is mounted on the side mounting adapter, there must be enough slack in antenna feed cable to enable mast to rotate 1800 in either direction without straining antenna cable.

v. Operator 3: Hand operator 2 mast sections from mast carrier. Continue installing mast sections until the seventh section is installed. At seventh section (fig. 2-18), install second guy collar as in step m.

w. Operator 1: From winch kit No. 2 (fig. 2-2), pull pulley block to middle stake and clip to top hole of stake.

x. Operator 1: Unravel three guy extension cables from guy extension rings and hand one end of extension to operator 3. Attach other end of guy extension to guy cables of winch kit No. 2. Secure guy extension rings.

y. Operator 3: Attach guy extensions to second guy collar using snaphooks. Clip snaphook with pushbutton facing towards the ground.

z. Lock all three drums on winch kit No. 2 by turning release knob counterclockwise (fig. 2-19). Check that spring pin engages slot in socket coupler, and the socket coupler is seated properly in slot of top winch plate. Wind in any slack by using individual spindles.

WARNING

To prevent injury, an operator must keep a hand on the guy winch handle at all times to prevent slipping.

Whenever handle is removed from the center spindle to adjust individual guy, ensure handle is returned to center spindle. Failure to do this could cause personal injury.

It is important to maintain maximum tension in winch kits No. 1 and No. 3 at all times during erection/retraction procedures. In order to achieve maximum tension, kneel with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.

aa. Operator 1: Man winch kits No. 1 and No. 2. As mast is extended, release guys from winch kits No.1 and No. 2 as needed, by moving release lever counterclockwise while applying back pressure with handle in center spindle (turning counterclockwise). When lever is released, guy winch kit is locked. Prevent release lever from moving with locking screw.

ab. Check that the mast is straight, and ensure that all guys from winch kits No. 1 and No. 2 have maximum tension applied. If mast is not straight, release the guys by moving winch release lever counterclockwise while applying back pressure with handle in center spindle. Turn handle counterclockwise to release the desired amount of cable (maximum of one full turn). Lock winch by moving release lever clockwise. Adjust individual guys as needed. Return handle to center spindle after individual guys are adjusted. Repeat steps as required. Lock down release lever with locking screw when adjustments are complete.

ac. Operator 3: Hand operator 2 additional mast sections. Continue installing mast sections until the thirteenth section is installed. At thirteenth section (fig. 2-18), install third guy collar as in step m.

ad. Operator 1: From winch kit No. 3 (fig. 2-2), pull pulley block to middle stake and clip to hole closest to the ground on stake. Hand end of guy cable to operator 3.

ae. Operator 3: Attach guy to third guy collar using snaphooks. Clip snaphook with pushbutton facing towards the ground.

af. Operator 1: Lock all three drums on winch kit No. 3 by turning release knob counterclockwise (fig. 2-19). Check that spring pin engages slot in socket coupler, and that socket coupler is seated properly in slot of top winch plate. Wind in any slack using individual spindles.

NOTE

At this point in the installation procedure it is critical that steps (1) through (4) below be followed exactly as each additional mast section is added. The mast should be raised slowly, in increments of less than a section. Wind velocity will have an effect on how much the mast can be raised at a time. Operator 2 will direct the activities of other operators and constantly observe straightness of mast while mast is being raised.

Any team member should stop the procedure if for any reason a team member is unsure of the procedure or sees anything that looks unusual. The team leader will then evaluate the situation.

ag. For the remainder of this mast erection procedure, follow steps (1) through (4) each time mast is extended. Operator 1 controls the release of guy cable from winch kits No. 1 and No. 2. Operator 3 controls the release of guy cable from winch kits No. 3 and No. 4 and assists operator 2 at the hoist, as necessary. Operator 2 is the team leader. Periodically, operator 2 must walk around the mast checking straightness and guy tension. It is the team leaders duty to direct both winch operators (at their stations) to make adjustments as necessary.

(1) Release an amount of guy cable from winch kits No. 2 and No. 4 to allow the mast to be raised. The amount of cable to be released must be sufficiently small, dependent upon wind speed, to allow the operators to maintain control of the mast. Operator 2 provides this direction.

Operators may use the release amounts as indicated in table 2-2 as a general guideline, provided for information purposes only.

NOTE

Observe winch handle position. One complete turn is made when handle is rotated 3600 and set at the same position as started.

(2) Under direction of operator 2, maintain maximum tension on each guy cable from winch kits No. 1 and No.3 to ensure control and straightness of the mast. Raise the mast section until the guy cables of winch kits No. 2 and No. 4 become taut.

(3) Operators 1 and 3 coordinate adjustments of all guy cables to ensure that the mast is straight. While observing mast to ensure it remains straight, operator 1 adjusts guy cables on winch kit No. 1 and No. 2; operator 3 adjusts guy cables on winch kit No. 3 and No. 4 (when present).

Table 2-2. Guy Cable Release

	Wind Speed	
	<15 MPH (24 KPH)	15-31 MPH (24-50 KPH)
Winch No. 2	2 Turns	1 Turn
Winch No. 4	1 Turn	3/4 Turn

(4) Repeat steps (1) through (3) until section is raised completely. Continue with step ah.

ah. Operator 3: Hand operator 2 more mast sections. Continue installing mast sections following steps (1) through (4) above until the nineteenth section is installed. At nineteenth section (fig. 2-18), install fourth guy collar as in step m. Continue with step ai.

ai. Operator 1: From winch kit No. 4 (fig. 2-2), pull pulley block to stake closest tripod and clip to hole closest to the ground on stake. Hand end of guy cable to operator 3.

aj. Operator 3: Attach guy to fourth guy collar using snaphooks. Clip snaphook with pushbutton facing towards the ground.

ak. Operator 1: Lock all three drums on winch kit No. 4 by turning release knob counterclockwise (fig. 2-19). Check that spring pin engages slot in socket coupler, and that socket coupler is seated properly in slot of top winch plate. Wind in any slack using individual spindles.

al. Operator 3: Hand operator 2 more mast sections. Continue installing mast sections following steps (1) through (4) above, until mast is erected to desired height.

am. Once the mast is erect and straight, achieve the desired level of guy tension by kneeling with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.

CAUTION

When tightening clamp, ensure cable is seated properly between the grooves of the clamp. Do not allow groove edges to pinch the guy cable.

Hand tighten clamp until no more force can be applied. Do not use a tool or piece of equipment. Damage to equipment may occur.

an. Secure cable clamp to guy cable (fig. 2-21). Ensure cable clamp is completely open. Seat clamp over guy cable. Ensure cable is seated properly between the grooves of the clamp. Tighten clamp.

ao. Lock all winch kits with locking screw on release lever (fig. 2-19).

ap. Operator 1: Secure ball rope to bottom of mast when not in use to prevent rope from flapping in wind.

WARNING

After completing mast installation, mark all guys with streamers or approved markers in accordance with TB 43-0129. Failure to mark guys could result in serious injury to personnel.

2-10 FINAL CHECKS.

After fully erecting mast, perform the following checks before leaving the area.

a. Check that tripod feet are firmly settled and spikes are fully implanted.

b. Check that all four winch kits are locked and spikes are fully implanted.

c. Check that all guy stakes have not moved from original position in ground.

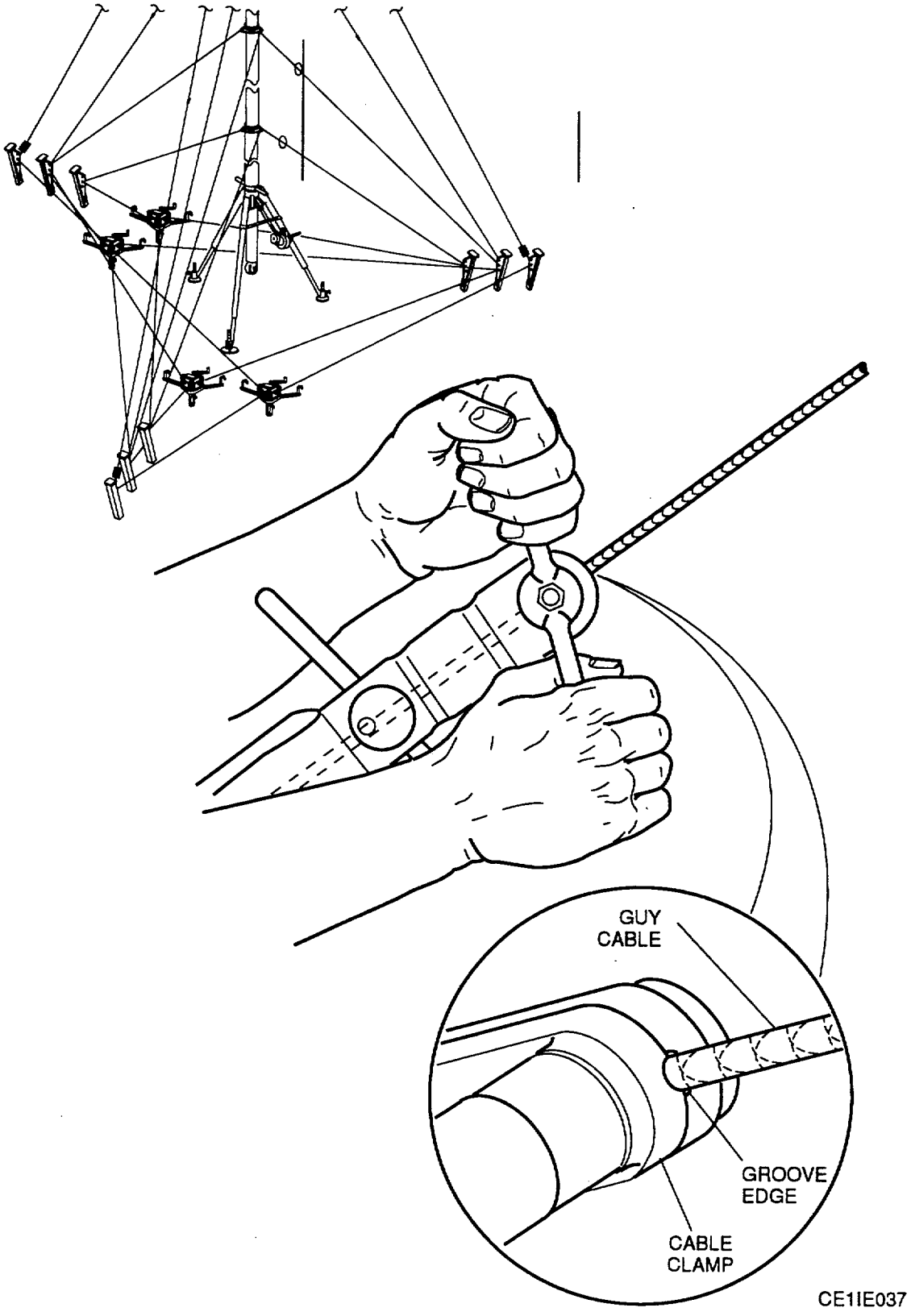


Figure 2-21. Tightening Cable Clamp 2-38

d. Check that all guy cables are taut.

e. Check that mast is straight. If mast is leaning in any direction perform following steps:

CAUTION

Hand loosen clamp. Do not use a tool or piece of equipment to loosen clamp handle. Damage to equipment may occur.

NOTE

At winch kit No. 1, maximum tension should always be maintained. In order to achieve maximum tension, kneel with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.

(1) Loosen cable clamp; release slowly to equalize tension on guy cable. Ensure cable clamp is completely open. Swing cable clamp away from guy and adjust winch kit No. 1 to maintain control of guy.

(2) Operators 1 and 3: Straighten mast using winch kits, working from bottom level upwards. Check that mast is vertically straight. Observe from position immediately under mast.

CAUTION

When tightening clamp, ensure cable is seated properly between the grooves of the clamp. Do not allow the groove edges to pinch the guy cable Hand tighten clamp until no more force can be applied. Do not use a tool or piece of equipment. Damage to equipment may occur.

NOTE

Mast guys are to be tensioned as a part of the final adjustment procedure. Once the mast is erect and straight, in order to achieve the desired level of tension, kneel with one hand on the winch assembly, and apply maximum hand effort to winch handle in a straight pulling motion.

Progressive small adjustments are better than coarse adjustments. Stake points should be sound and release levers on all winches should be locked.

(3) After all guy cable adjustments have been made, secure cable clamp to guy cable (fig. 2-21). Ensure cable clamp is completely open. Seat clamp over guy cable. Ensure cable is seated properly between the grooves of the clamp. Tighten clamp.

(4) Lock winch kits with locking screw on release lever (fig. 2-19).

NOTE

Operator 1 performs steps (5) and (6).

(5) Erected mast can be rotated by side handles on guide box. Rotation is locked or unlocked using clamp lever (fig. 2-22).

(6) With mast fully erected, refer to antenna installation instructions in appropriate technical manual for antenna alinement.

Section IV. PREPARATION FOR MOVEMENT

2-11 EQUIPMENT DISASSEMBLY.

WARNING

Do not disassemble mast if wind velocity is 30 mph or greater. Mast could topple and cause serious injury or death to personnel.

During electrical storms or at any time there is a possibility of lightning strike, personnel must not attempt to erect, retract, or operate the mast and must remain outside of the guy wire pickets. Serious injury or death could result from electrical shock due to arc-over from the mast. The presence of a ground rod, while it may somewhat reduce the probability of such an arcover, does not eliminate the hazard.

NOTE

A team of three qualified personnel are required to lower and disassemble the 30-meter mast as directed by operator 2. Refer to paragraph 2-8 for team duties.

Any team member should stop the procedure if for any reason a team member is unsure of the procedure or sees anything that looks unusual. The team leader will then evaluate the situation.

a. Operators 1 and 3: Check the area and clear away any obstacles that may interfere with retraction procedures.

CAUTION

Hand loosen cable clamps. Do not use a tool or piece of equipment to loosen clamp handles. Damage to equipment may occur.

b. Operator 1: At winch kit No.1 ensure maximum tension is applied to guys before cable clamps are released.

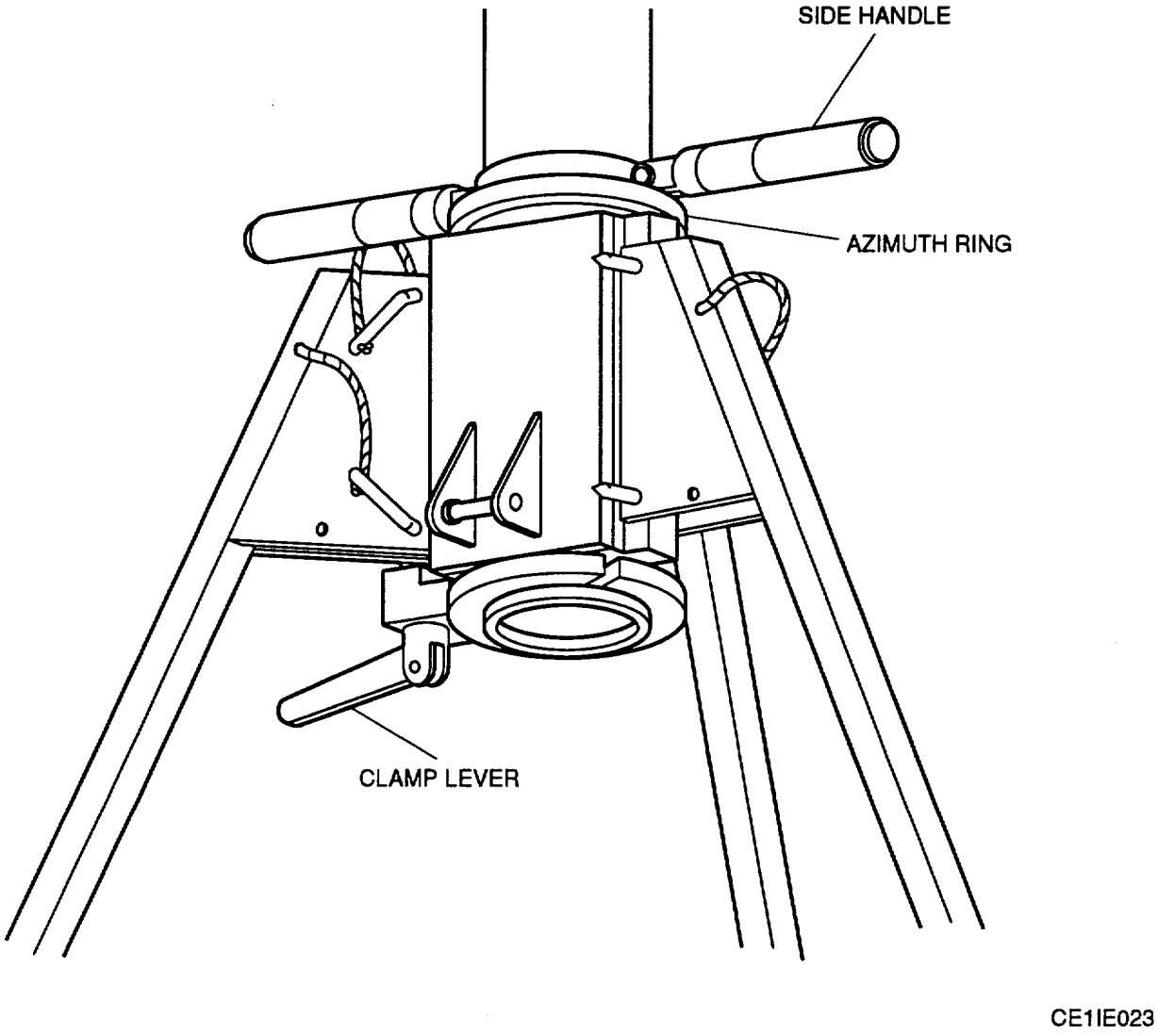


Figure 2-22. Mast Alinement

c. Operator 1: Loosen cable clamp, release slowly to equalize tension on guy cable . Ensure cable clamp is completely open. Swing cable clamp away from guy cable and adjust winch kit No.1 to maintain control.

WARNING

When lowering mast, ensure that lifting block is ALWAYS LOCKED SECURELY within mast section. Failure to do this could result in serious injury to personnel.

d. Operator 2: Raise lifting block into bottom of mast and turn clamp screw clockwise to lock in position (fig. 2-23).

e. Loosen clamp lever on mast guide box.

f. Lift mast slightly so lifting block supports mast. Remove support pin (fig. 2-16).

WARNING

To avoid possible injury to hand or wrist when mast is retracted never operate release lever of winch kits without keeping load or tension on all three guys. To do this, hold winch handle in the center spindle firmly then operate lever.

It is important to maintain maximum tension in winch kits No. 1 and No. 3 at all times during erection/retraction procedures.

g. Operators 1 and 3: Operator 1 is stationed at winch kits No.1 and No.2. Operator 3 is stationed at winch kits No. 3 and No. 4. As mast is lowered, wind in guy cables at all four winch kits evenly by simultaneously turning winch handles on center spindles clockwise (fig. 2-19). Occasionally observe how the cable is winding onto the spool. If the cable appears to bunch at the bottom, STOP the retraction and manually adjust the entry level of the cable by lifting it up and winding in at individual spools any excess or slack cable. In the event this does not correct the problem, or in extreme cases, it is possible to alleviate the bunching by using the clamp to maintain cable tension while the spool is released and the cable rewound.

WARNING

Before lowering a mast section, disengage hoist handle by striking with hand in a direction away from hoist. Handle will swing freely when disengaged. Failure to do this can cause serious injury to personnel.

DO NOT DEPRESS the release button completely when retracting the mast.

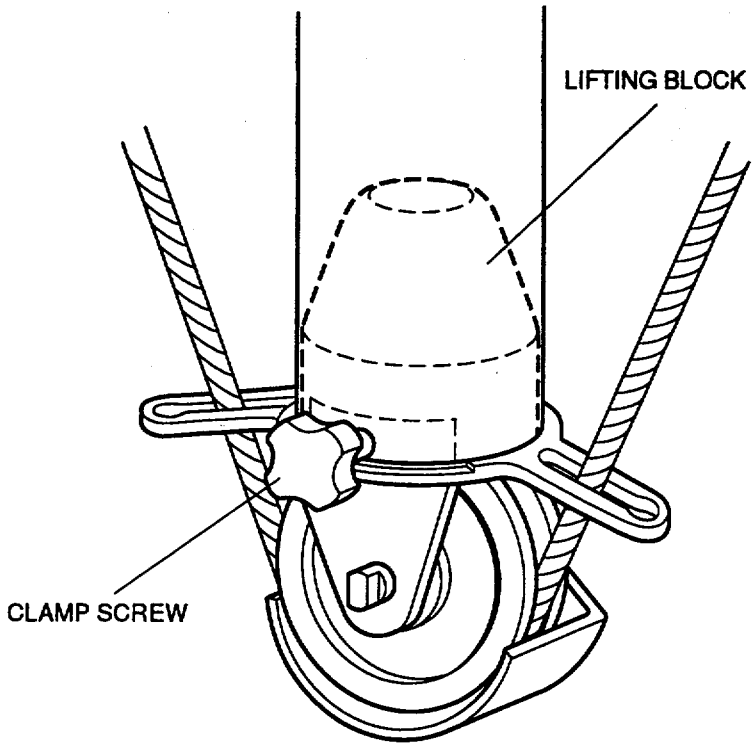


Figure 2-23. Lifting Block Positioning

WARNING

The release button on the hoist operates a brake mechanism that allows controlled retraction of the mast. Depress the button gradually and only enough to lower the mast slowly while maintaining a positive braking action. Depressing the button completely will disengage the brake resulting in a rapid lowering of the mast, which, in most cases, will be too fast for the winch operators to wind in cable. The result could be complete loss of control and a mast collapse.

h. Operator 2 (team leader): Disengage hoist handle by gradually pressing release button on hoist (fig. 2-8) and lower mast until support pin can be put through next section. Continue lowering mast until section clears mast guide box. Remove section.

i. For the remainder of the mast retraction procedure, adjust guy cables as necessary to maintain mast in a vertical position. If mast is not in a vertical position, perform steps (1) through (3). Repeat steps as necessary.

(1) All operators man their positions.

(2) Straighten mast using winch kits, working from bottom level upwards. Adjust winch kits to maintain vertical position by winding drums individually so that all guy cables are at maximum tension.

(3) Check that mast is vertically straight. If guy cable needs to be released from winch, turn thumbscrew counterclockwise on release lever. Move release lever to left while applying back pressure using handle in center spindle. Turn handle counterclockwise, allowing enough slack to release guy cable. Secure release lever by turning thumbscrew clockwise. At this time adjust winch kit by winding drums individually to maintain mast in a vertical position.

j. Operator 2: Remove antenna feed cable straps from mast sections as they appear.

k. Operator 3: As mast sections are lowered, and only after attending winch kit activities, wind up slack on ball rope and ensure rope does not interfere with retraction procedures.

l. Operator 3: At 19th mast section (fourth guy collar), unclasp three guy extension cables. Disconnect guy collar retaining halves from mast section. Move hanging guy collar retaining halves out of the way hanging them over the top detachable step. Continue to do this for each guy collar disconnected.

m. Continue to lower mast. As mast sections are disengaged, remove each section from area of operation.

n. Operator 3: At 13th mast section (third guy collar), unclasp three guy collar snaps. Disconnect guy collar retaining halves from mast section.

o. Operator 3: Unclasp pulley blocks from stakes. At winch kit No. 3 and No. 4 unlock drums on winch kit by turning release knob clockwise. Check that spring pin disengages socket coupler. Wind guys, manually guiding cable onto spool. Do not allow cable to bunch up at base of spool. Ensure that pulley block does not snag any of the guy cables still supporting the mast.

p. Continue to lower mast.

q. Operator 3: At seventh mast section (second guy collar), unclasp three guy collar snaps. Disconnect guy collar retaining halves from mast section.

r. Operator 3: Unclasp pulley blocks from stakes. At winch kit No. 2 unlock drums on winch kit by turning release knob clockwise. Check that spring pin disengages socket coupler. Wind guys, manually guiding cable onto spool do not allow cable to bunch up at base of spool. Ensure that pulley block does not snag any of the guy cables still supporting the mast.

s. Continue to lower mast.

t. Operator 1 and 3: Disconnect guy cables from guy extensions.

u. Operator 3: When mast section containing antenna side mounting adapter is lowered, remove antenna (if applicable) from adapter according to instructions for antenna being removed. Hand antenna to operator 1 to secure.

v. Remove side mounting adapter (if applicable) by loosening tee handle (fig. 2-20). Hand antenna adapter to operator 1 to secure.

w. Continue to lower mast.

x. Operator 3: At first mast section (first guy collar), unclasp three guy collar snaps. Disconnect guy collar retaining halves from mast section.

y. Operators 1 and 3: Disconnect guy cables from guy extensions.

z. Remove cable clamp from pulley block, unclasp retainer clip, and remove pulley pin. Once cable clamp is removed, return pulley pin to pulley block and secure with retainer clip.

aa. Unclasp pulley blocks from stakes on winch kit No.1. Wind up guy extensions and secure. Unlock drums on winch kit by turning release knob clockwise. Check that spring pin disengages socket coupler. Wind up guys, manually guiding cable onto spool. Do not allow cable to bunch up at base of spool.

ab. Operator 2: Lower mast section until locating pin is level with mast guide box sleeve upper edge (fig. 2-15).

ac. Operator 3: Remove drop head pin from rotator extension (fig. 2-16). Remove antenna and rotator extension from antenna rotator and hand to operator 1.

ad. Operator 1: Remove rotator extension from antenna and secure.

ae. Operator 3: Loosen screw and remove rotator from mast section and hand to operator 1 to secure.

af. Operator 2: Remove last mast section.

ag. Remove pins and spikes from winch kit spreaders (fig. 2-11).

ah. Remove stakes from ground.

NOTE

If mast is grounded, perform the following step aj. If mast is not grounded, continue to step aj.

ai. At mast guide box, disconnect ground from ground stud. Remove grounding equipment, refer to FM 11-487-4 aj. Remove spikes from adjustable feet.

ak. Disconnect hoist cable from tripod leg. Loosen wing nut, remove cable from pulley, and remove lifting block (fig. 2-10). Rewind cable into hoist.

al. Lift hoist off mast guide box and remove hoist support bar (fig. 2-9).

am. Remove detachable steps from tripod leg (fig. 2-8).

an. Lay tripod on its side and remove each leg assembly from mast guide box (fig. 2-4).

ao. Remove adjustable feet from leg assemblies by removing cross pin and pulling feet straight out (fig. 2-3)

ap. Slide inner leg into outer leg for each leg assembly and insert pins to keep inner leg from sliding out.

2-12 EQUIPMENT PACKUP.

Following complete disassembly of the mast equipment, pack the equipment in its appropriate bags and mast carrying cases (table 2-1 and fig. 2-1).

Store equipment in appropriate vehicle for moving. Check that all tools are cleaned and stored with equipment.

Section V. ANTENNA ADAPTER KIT 2-13 OMNI ANTENNA ADAPTER KIT.

The omni antenna adapter kit allows the omni antenna (01-2739630-1) to be used with the 30-meter mast. When the omni antenna is used with the 30-meter mast, additional instructions are required during normal erection and retraction procedures. Table 2-3 is a parts list of all the items supplied in the omni antenna adapter kit. Assemble all items prior to starting the instructions.

Table 2-3. Omni Antenna Adapter Kit Parts List

ITEM NO	PART NUMBER	QUANTITY	DESCRIPTION
1	03-2750613-1	1	Antenna Adapter Assembly
2	82-2750614-1	4	Guy Cord Stake
3	03-2750615-1	4	Guy Assembly
4	89-2750616-1	1	Locating Line
5	M55339/07-00029	1	Connector Adapter
6	09-2734023-2	1	Signal Cable Assembly
7	82-2735123-1	1	Tripod Stake
8	86-2750709-1	1	Storage Bag

2-13.1 Omni Antenna Adapter Kit Installation. The following instructions must be followed when the omni antenna is used:

NOTE

The following procedure is performed after the first mast section is installed and mast section locating pin hole is level with mast guide box sleeve upper edge.

Operators 2 and 3 perform steps a. through i.

a. Position adapter kit, tripod stake on ground at center of tripod below mast guide box. Using sledge hammer insert stake into ground leaving enough stake exposed to attach locating line.

b. Attach locating line, connector ring to tripod stake. Operator 3, facing tripod leg furthest from winches, walk locating line straight out towards mast pickets (POSITION A, refer to figure 2-24).

c. Operator 3, pull locating line taut, position stake inside winder (fig. 2-24) and using sledge hammer provided, install stake into ground to beginning of attachment bracket d. Operator 2, at tripod center, detach locating line from tripod stake and walk it around mast tripod leg and then reattach to tripod stake as operator 3 walks locating line to POSITION B (fig. 2-24) estimating by eye 90 degrees from previous stake.

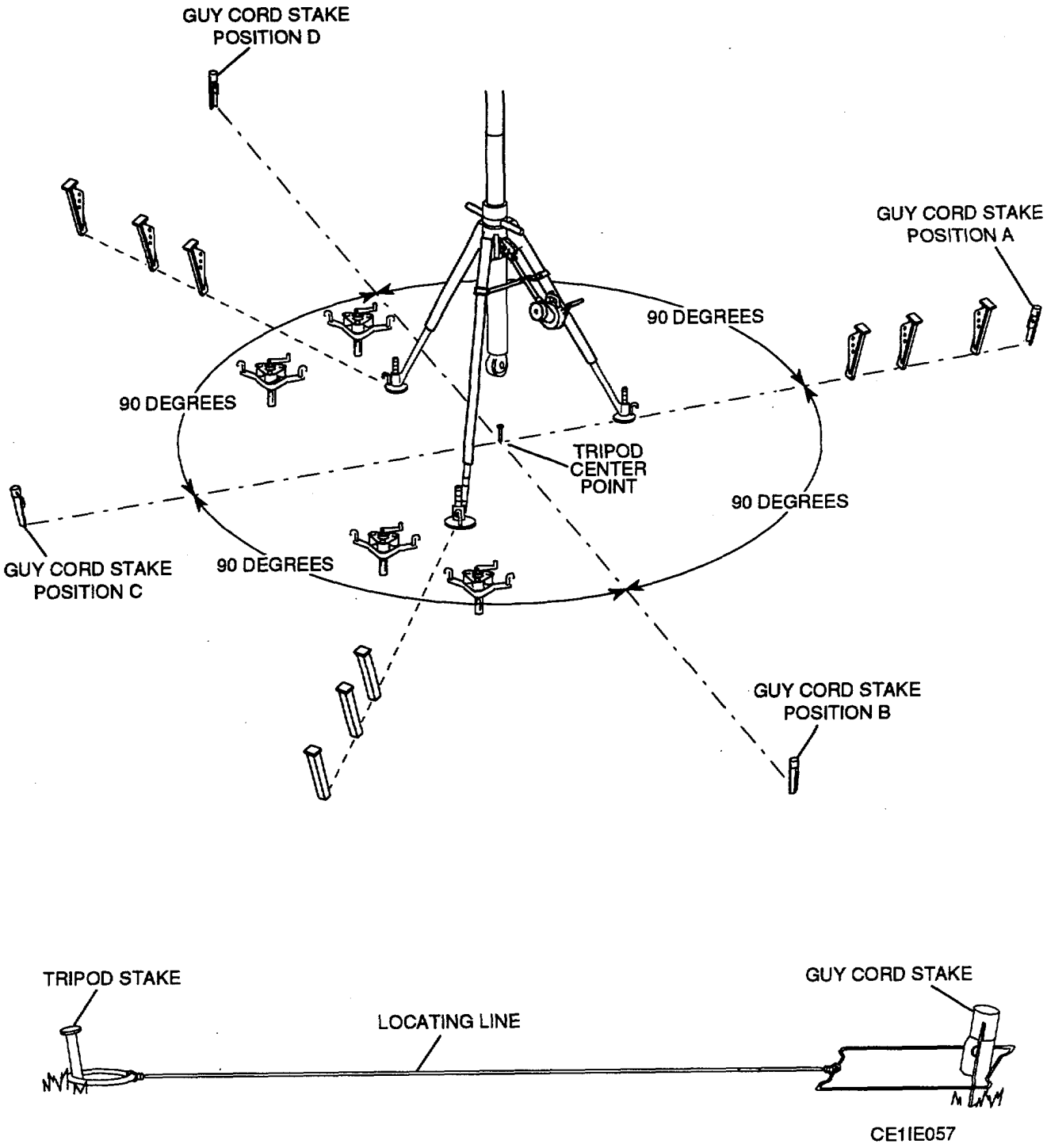


Figure 2-24. Guy Wire Stake Locations

e. Operator 3, pull locating line taut, position stake inside winder and using sledge hammer provided, install stake into ground to beginning of attachment bracket.

f. Operators 2 and 3 continue using steps b. through e. and install remaining stakes in POSITIONS C and D.

g. Install antenna adapter assembly to first mast section (fig. 2-25). Aline slots in adapter with pin in first mast section and tighten clamp screw.

h. At omni antenna, release antenna mast adapter clamp latch and strain relief clamp latch.

i. Mount omni antenna onto antenna adapter stub and engage latch on antenna mast adapter clamp to secure antenna.

j. Connect signal cable to antenna signal cable connector and place signal cable in cable strain relief clamp. Engage latch to secure signal cable (fig. 2-25). At other end of signal cable, using connector adapter, attach signal cable provided in kit (P/N 09-2734023-2).

k. Rotate omni antenna until one of black flexible Ground Radial Assembly (GRA) cables alines with tripod leg furthest from winch locations (POSITION A, fig. 2-24).

NOTE

Before the guy assemblies are used, they must be completely unraveled and the guy assembly cleat slid to the very end of the cord.

Ensure guy cord attached to stake at position A alines with corresponding guy wire stakes before attaching snap hook.

l. Attach guy assembly snap hooks to black GRA cables (fig. 2-25) and corresponding pickets located at positions A,B,C, and D. Snap hook at end of guy assembly with shock cord is to be attached to stake.

m. If more than one antenna is used, refer to antenna installation instructions in appropriate technical manual for antenna alinement.

n. Return to paragraph 2-9.4, step j., and continue mast erection procedures with one exception, as more antenna sections are added, operator 3 will continue checking guy cords at stakes to ensure that guy cord(s) do not obstruct erection procedures.

2-13.2 Omni Antenna Adapter Kit Guy Assembly Installation. The following steps are performed after the 30-meter mast is erect and secured and all final checks have been completed.

a. At guy cord stakes (guy cord cleats), pull guy cord through cleat until cord between snap hook and cleat becomes straight and is parallel to shock cord. Lock cord into guy cleat as shown in figure 2-26. After guy cord is locked into position, cord between snap hook and cleat may hang loose, this is normal. Guy assembly is designed to allow for shock cord to maintain proper tension.

b. Wind up any remaining cord on winder and set winder next to guy wire stake.

c. Stow any remaining adapter kit equipment in storage bag.

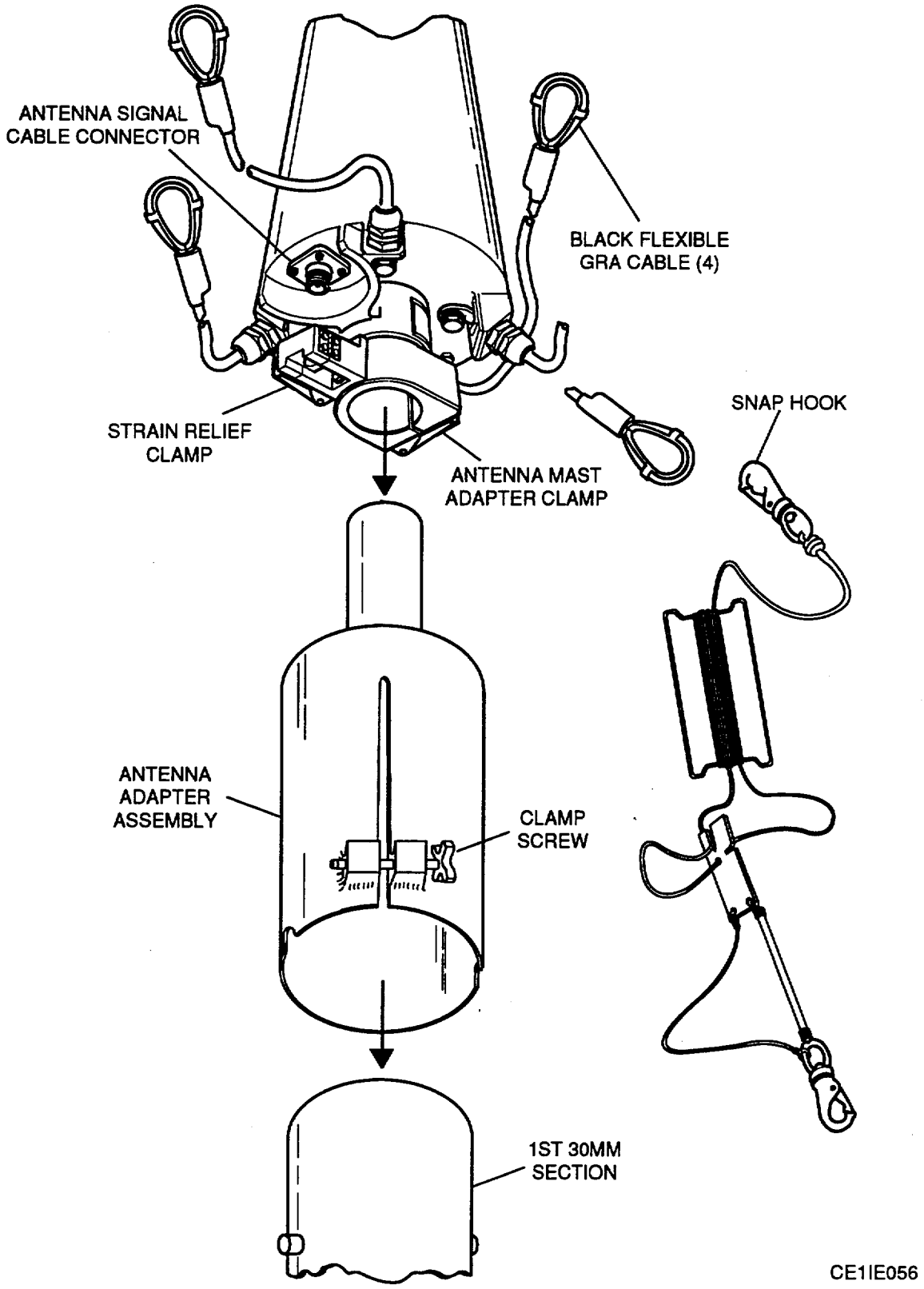


Figure 2-25. Omni Antenna and Adapter Assembly Installation

2-14 OMNI ANTENNA ADAPTER KIT DISASSEMBLY.

After the 30-meter mast has been retracted and the first mast section is in the mast guide box, use the following instructions when the omni antenna is used:

a. At omni antenna, disconnect guy assembly snap hooks from omni antenna black GRA cables (fig. 2-25).

b. At omni antenna guy cord stakes, unclasp snap hooks from stakes and clasp to guy winder (fig. 2-26).

c. Wind up remaining guy cord and stow guy assemblies.

d. Pull up guy cord stakes and stow.

e. At signal cable attached to signal cable adapter, disconnect signal cable and signal cable adapter and stow.

f. At omni antenna, release strain relief clamp latch and disconnect signal cable from antenna.

g. Release antenna mast adapter clamp and remove omni antenna.

h. Loosen clamp screw and remove omni antenna adapter assembly.

i. Stow all omni antenna adapter kit equipment in storage bag.

j. Return to 30-meter mast disassembly procedure paragraph 2-11, step af.

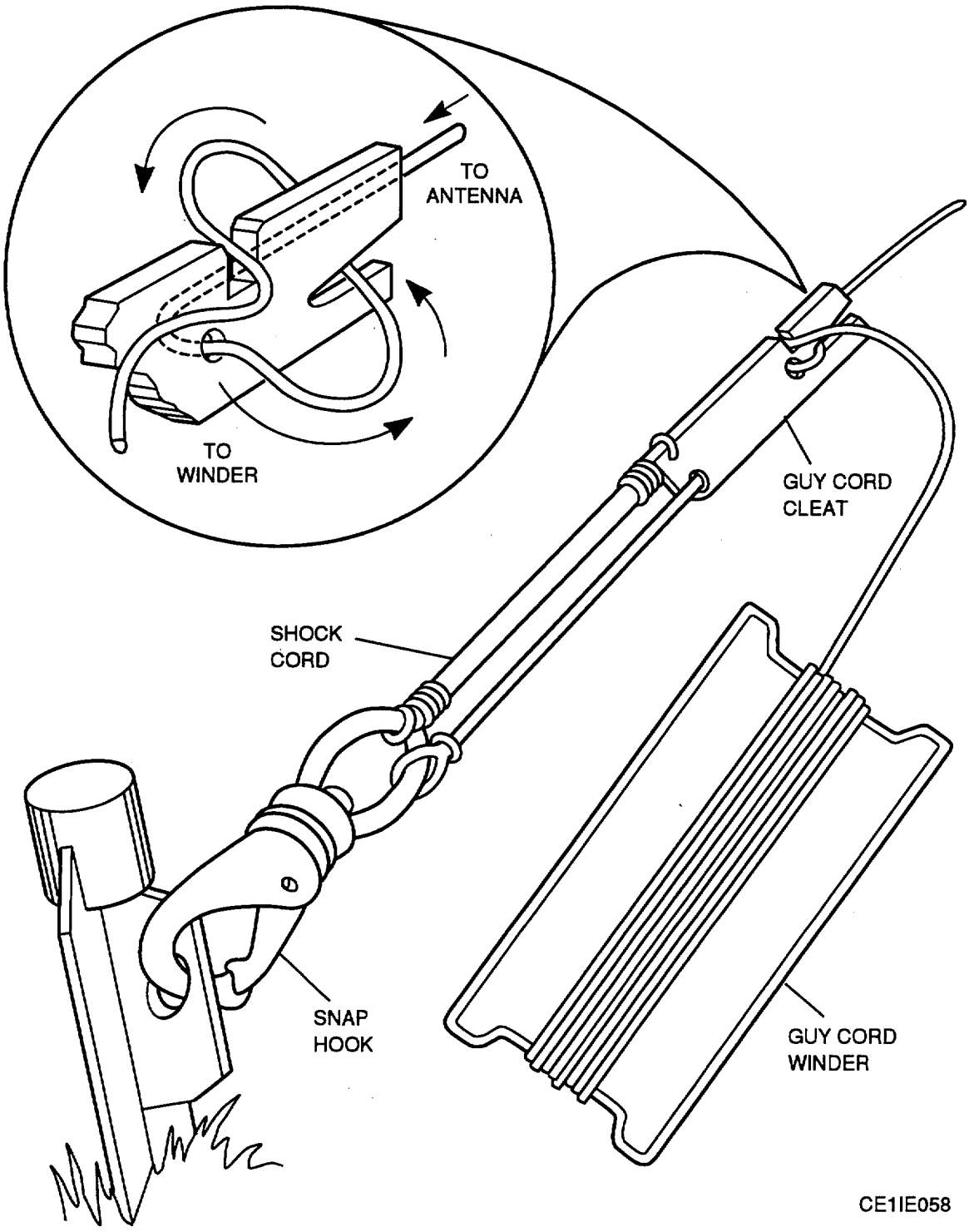


Figure 2-26. Guy Assembly Installation

CHAPTER 3
OPERATING INSTRUCTIONS

Section I. CONTROLS AND INDICATORS

3-1 DAMAGE FROM IMPROPER SETTINGS.

If side handles (para 3-3) are rotated in one direction too many times, antenna cables will wrap around mast and may break.

3-2 OPERATOR CONTROLS.

The three operator controls for operating the 30-meter mast are illustrated in figure 3-1 and described in table 3-1. There are no indicators associated with the 30-meter mast.

Table 3-1. Antenna Operating Controls

Key	Control/Indicator	Function
A1	Side handles	Aims top antenna if only one antenna is used Aims lower antenna if two antennas are used
B	Azimuth ring	Used for setting azimuth reference point(s) for antenna(s)
C1	Ball rope	Aims top antenna only

Section II. OPERATION UNDER USUAL CONDITIONS

3-3 SIDE HANDLES.

Side handles on mast guide box are used to rotate entire mast. Mast rotates in same direction side handles are turned.

3-4 AZIMUTH RING.

The azimuth ring on mast guide box is divided into 3600 units. The ring is rotated for setting reference point for antenna azimuth.

3-5 BALL ROPE.

A ball rope from antenna rotator at top of mast to ground is used to rotate top antenna. Pulling on either end of rope turns antenna rotator in direction rope is pulled until stopped by ball.

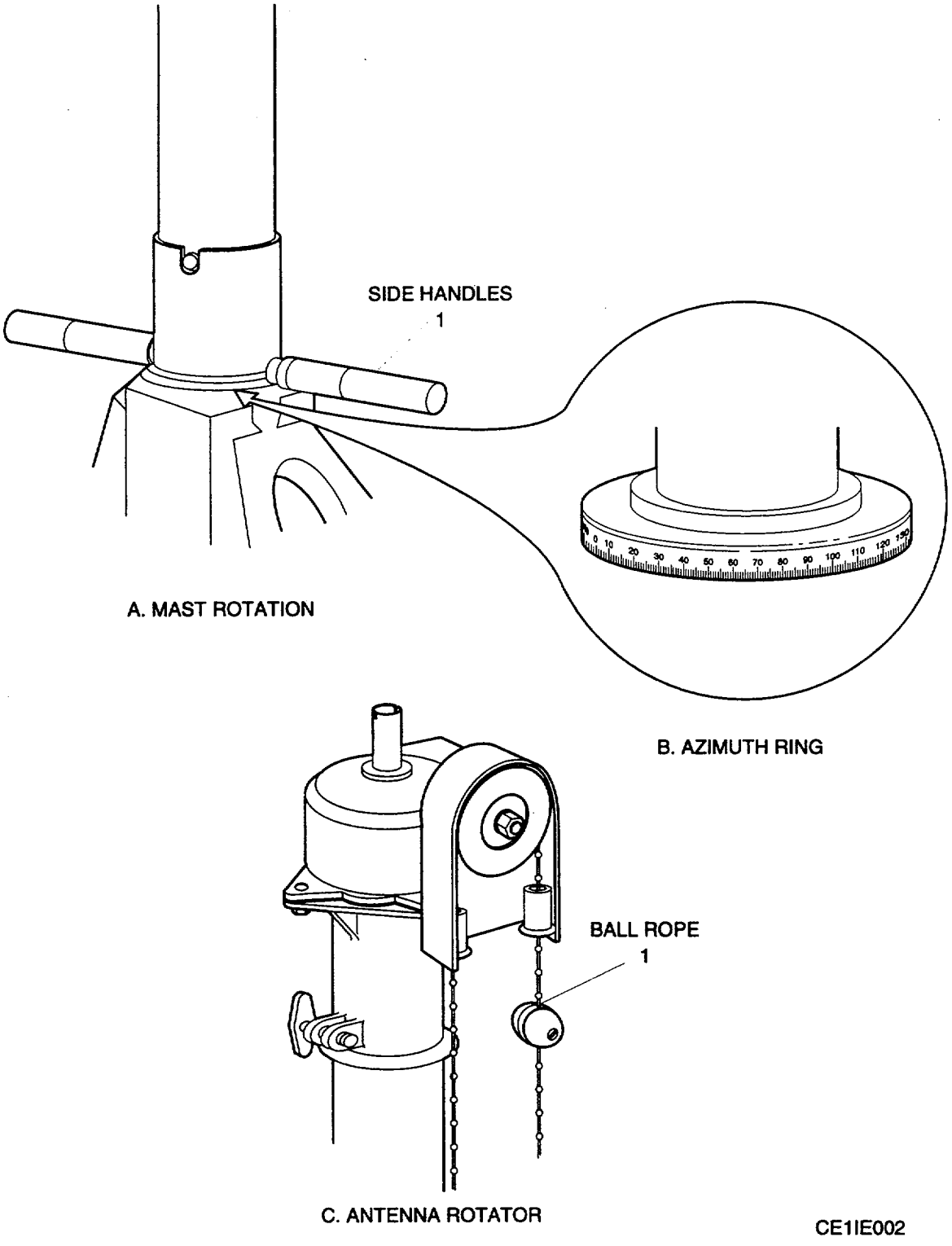


Figure 3-1. Antenna Operating Controls

Section III. OPERATION UNDER UNUSUAL CONDITIONS

3-6 ENVIRONMENTAL EXTREMES

The properly erected mast is capable of operating under unusual conditions that may be encountered in environmental extremes such as high wind and rain, which includes blowing of fine sand and dust particles in a 40 mph wind; prolonged exposure to salt fog in a salt laden atmosphere; exposure to fungus caused by high humidity and warm temperatures; and snow and ice loading of 1/2 inch on any surface. Proper PMCS checks should be doubled under these conditions.

3-7 ANTENNA AIMING

Should an unusual condition cause an antenna to move on the mast use the following methods to correct the antenna aim.

3-7.1 Single Mounted Antenna. Observe 30 meter mast. Ensure that a single antenna is mounted on the very top of the mast, note the direction the antenna is pointing and perform the following:

a. Observe azimuth ring and reference point to be used for maximum signal strength.

b. Use the ball rope to rotate antenna to desired direction.

3-7.2 Both Antennas Mounted. Observe 30 meter mast, note the direction the antennas are pointing and perform the following:

a. Observe azimuth ring and reference point to be used for maximum signal strength.

b. Unlock clamp lever on mast guide box and use side handles to correct the direction for the side mounted antenna.

c. Once desired direction is obtained lock using the clamp lever.

d. Use the ball rope to rotate top antenna to desired direction.

WARNING

A change in ground conditions (i.e., heavy or prolonged rain) may cause stakes to become loose. It is essential to periodically inspect stake security. Perform PMCS checks on stakes as stated in Chapter 4, table 4-1. Failure to ensure stake security could cause the mast to topple, resulting in serious injury or death to personnel.

CHAPTER 4
OPERATOR MAINTENANCE INSTRUCTIONS

Section I. TOOLS AND EQUIPMENT

4-1 TOOLS AND EQUIPMENT.

No tools or test equipment are authorized for use by the operator.

4-2 REPAIR PARTS.

No repair parts are authorized for operator's maintenance.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-3 GENERAL.

NOTE

When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS listed at the beginning of this manual, at the appropriate place in the procedures, or on plates and decals attached on the equipment.

Operator preventive maintenance is the systematic care, servicing, and inspection of equipment. It can prevent the occurrence of trouble, reduce downtime, and maintain equipment in serviceable condition. To be sure that the equipment is always ready for a mission, do the scheduled PMCS procedure.

4-4. PMCS PROCEDURES.

4-4.1 Routine Checks. Routine checks such as cleaning, dusting, washing, checking for loose and chipped paint, checking for damaged or frayed cables, storing items not in use, covering unused receptacles, checking for completeness, and checking for loose nuts, bolts, and screws are not listed as PMCS. They are things that should be done anytime they are needed.

4-4.2 Continuous Operation. If the 30-meter mast is in continuous operation, check and service those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the 30-meter mast is disassembled.

4-4.3 Defects. Deficiencies that cannot be corrected must be reported to higher maintenance personnel. Records and reports of preventive maintenance must be made in accordance with procedures given in DA Pam 738-750.

4-4.4 Scheduling. PMCS must be done at the specified times if possible. If operational requirements prevent doing PMCS at the specified times, make the required checks and services at the first opportunity. During operation PMCS must be done regularly to help identify small problems before they become big problems. In addition, the specified checks and services must be performed under the following special conditions.

4-4.4.1 Before Operation. Always keep in mind the CAUTIONS and WARNINGS. Perform Before (B) PMCS.

4-4.4.2 During Operation. Always keep in mind the CAUTIONS and WARNINGS. Perform During (D) PMCS.

4-4.4.3 After Operation. Be sure to perform After (A) PMCS.

4-4.5 PMCS Table. Table 4-1 contains the PMCS procedures. It indicates what items to check, when to check them, and how to check them. Perform the PMCS procedures thoroughly and always observe WARNINGS and CAUTIONS.

4-4.5.1 ITEM NO. Column. The checks and services are listed in the order that they shall be accomplished. Use this number for the TM number on DA Form 2404, Equipment Inspection and Maintenance Worksheet, to record results of checks and services.

4-4.5.2 INTERVAL Columns. The columns headed B, D, and A contain a mark in the appropriate column. This indicates when to perform the PMCS procedure.

4-4.5.3 ITEM TO BE INSPECTED Column. The items listed in this column indicate what part of the equipment is to be checked.

4-4.5.4 PROCEDURES Column. This column indicates how to perform the check on the item listed in the ITEM TO BE INSPECTED column.

4-4.5.5 EQUIPMENT WILL BE REPORTED NOT READY/AVAILABLE IF: Column. This column contains criteria that will cause the equipment to be classified as not ready because of inability to perform its primary mission. This column will be left blank if the associated equipment will not cause the 30-meter mast to be unusable.

NOTE
Checks in INTERVAL column are to be performed in the order listed.

Table 4-1. Operator Preventive Maintenance Checks and Services

B = Before D = During A = After

ITEM NO.	INTERVAL B	INTERVAL D	INTERVAL A	ITEM TO BE INSPECTED	PROCEDURES	EQUIPMENT WILL BE REPORTED NOT READY /AVAILABLE IF
1		•		Mast antenna, 30-meter	Check mast for straightness from directly under mast. If mast is leaning in any direction, adjust appropriate guy cables and check that they are taut	
	•	•	•		Check guy cables. If any are broken or have broken strands, report this to unit maintenance	
		•			Make sure stakes are securely in ground, especially after heavy or prolonged rain. If a stake is loose, hammer stake further into ground. If stake is still too loose, anchor associated guy cable to a stationary object, if possible	

Table 4-1. Operator Preventive Maintenance Checks and Services - Continued

ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED	PROCEDURES	EQUIPMENT WILL BE REPORTED NOT READY /AVAILABLE IF
					Check that spikes at tripod feet and guy winch kits are fully implanted Check hoist support bar is secured to tripod legs Check security of shackles on stakes. Shackles should be screwed in fully Perform following steps on all four guy winch kits: (1) Pull one guy cable all the way out (2) Examine entire length of cable for wear or frayed strands. If any part is defective, replace winch kit (3) With tension on guy cable, wind cable back slowly onto drum in winch kit. Make sure cable winds properly onto drum (4) Perform steps (1) through (3) for other two guy cables	
2				Mast Guide Box	Use a clean dry cloth to wipe inside mast guide box (fig. 4-1) Apply a light coat of oil under azimuth ring assembly Apply a light coat of oil on top of bottom retaining ring halves	
3				Hoist	Apply a light coat of oil at base of handle assembly (fig. 4-2) Apply a light coat of oil on release button shaft Apply a light coat of oil at needle bearing	

Table 4-1. Operator Preventive Maintenance Checks and Services - Continued

ITEM NO.	INTERVAL B	D	A	ITEM TO BE INSPECTED	PROCEDURES	EQUIPMENT WILL BE REPORTED NOT READY /AVAILABLE IF
4				Lifting Block	Apply a light coat of oil to pulley bearing (fig. 4-3)	
5				Guy Winch Kit	Apply a light coat of oil to threads on release knob above socket coupler, and also to bushings below socket coupler (fig. 4-4) Apply a light coat of oil to base of hexagon sleeve	
6				Pulley Block	Lightly oil pulley pin and swivel (fig. 4-5)	
7				Leg Assembly	Use a clean, lightly oiled cloth and wipe leveling screw on each leg assembly (fig. 4-6)	
8				Antenna Side Mounting Adapter	Apply a light coat of oil to hinge surfaces and tee handle shaft (fig. 4-7)	

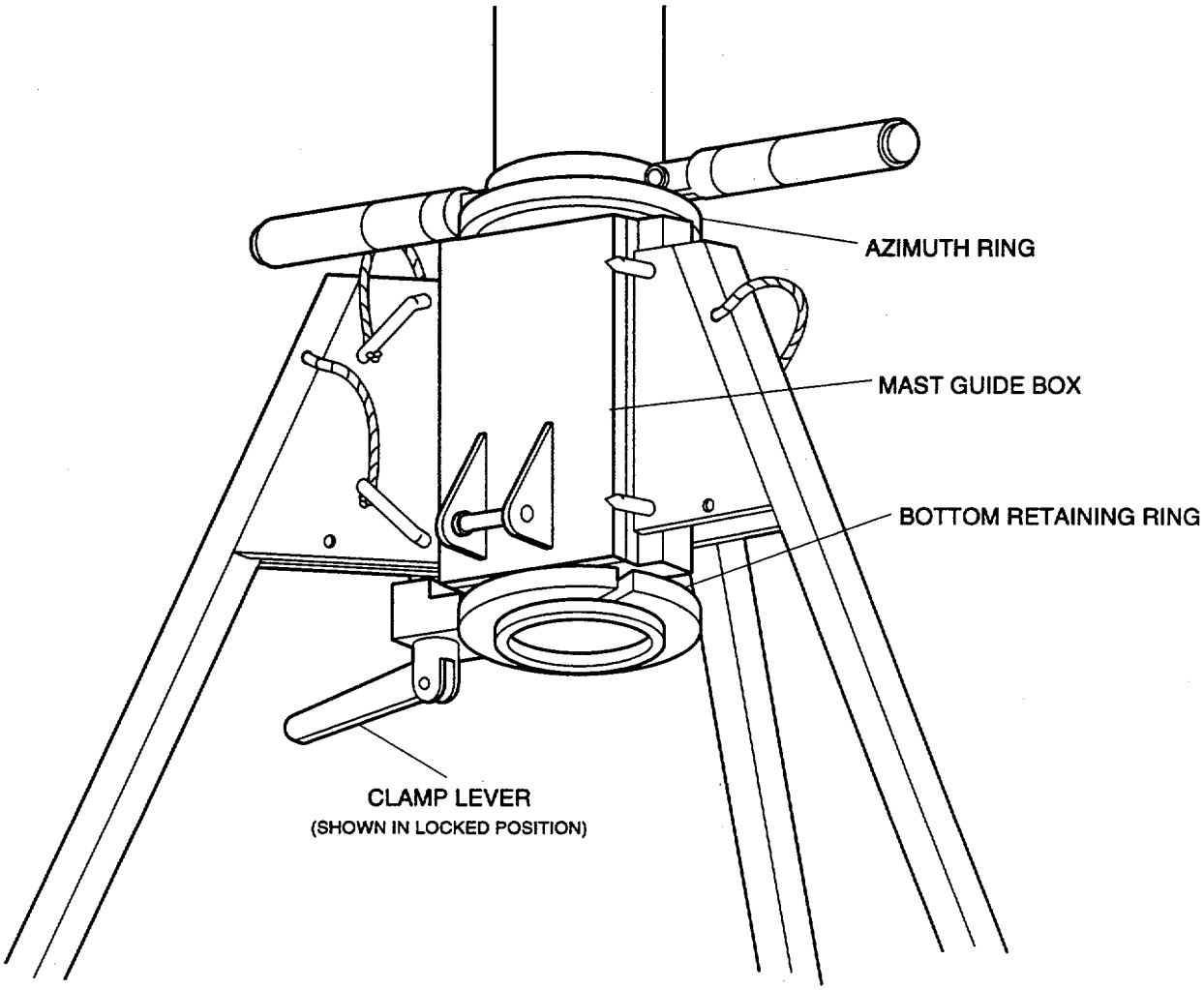


Figure 4-1. Mast Guide Box Lubrication

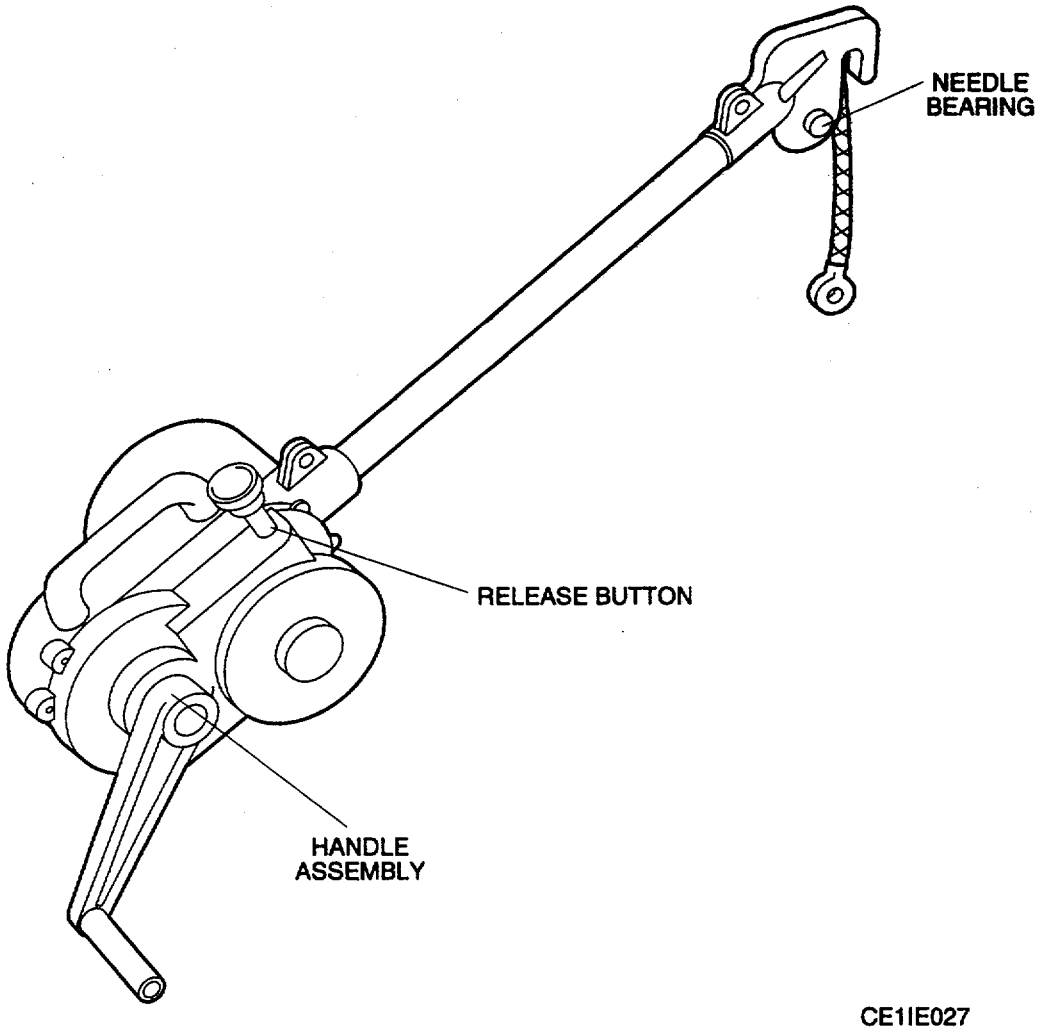


Figure 4-2. Hoist Lubrication

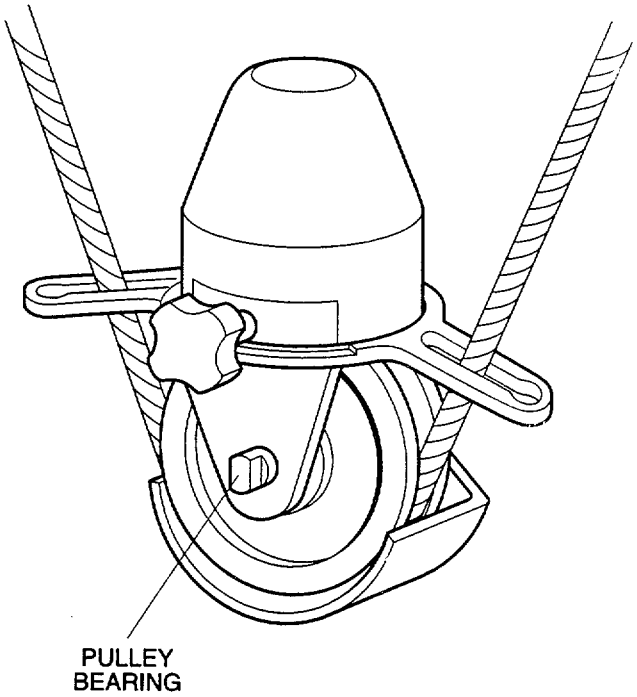


Figure 4-3. Lifting Block Lubrication

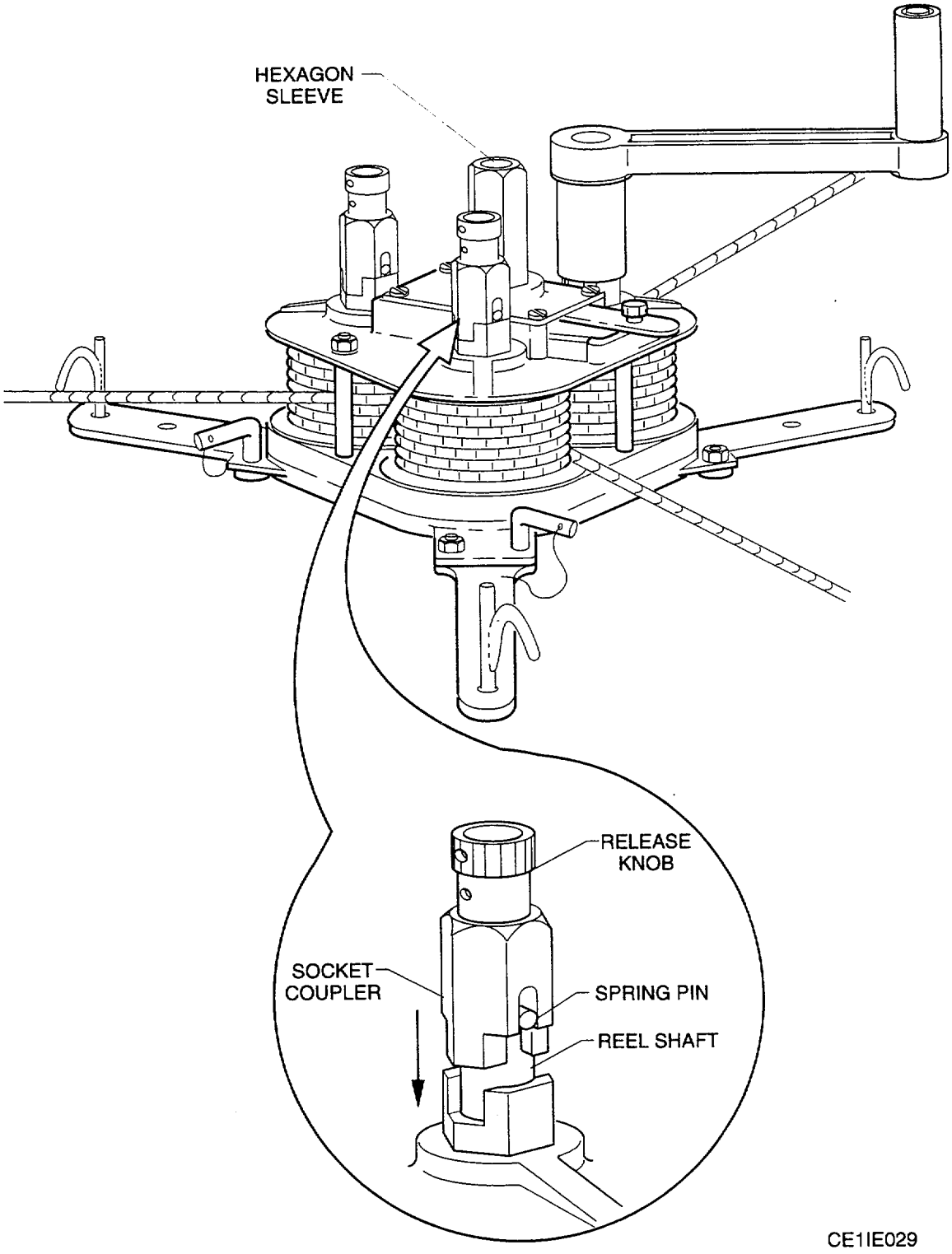


Figure 4-4. Guy Winch Kit Lubrication

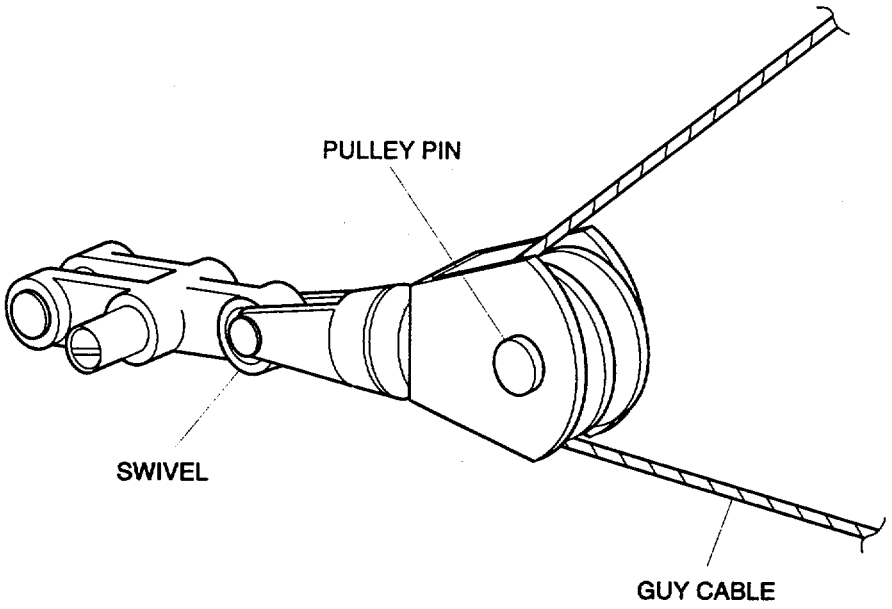


Figure 4-5. Pulley Block Lubrication

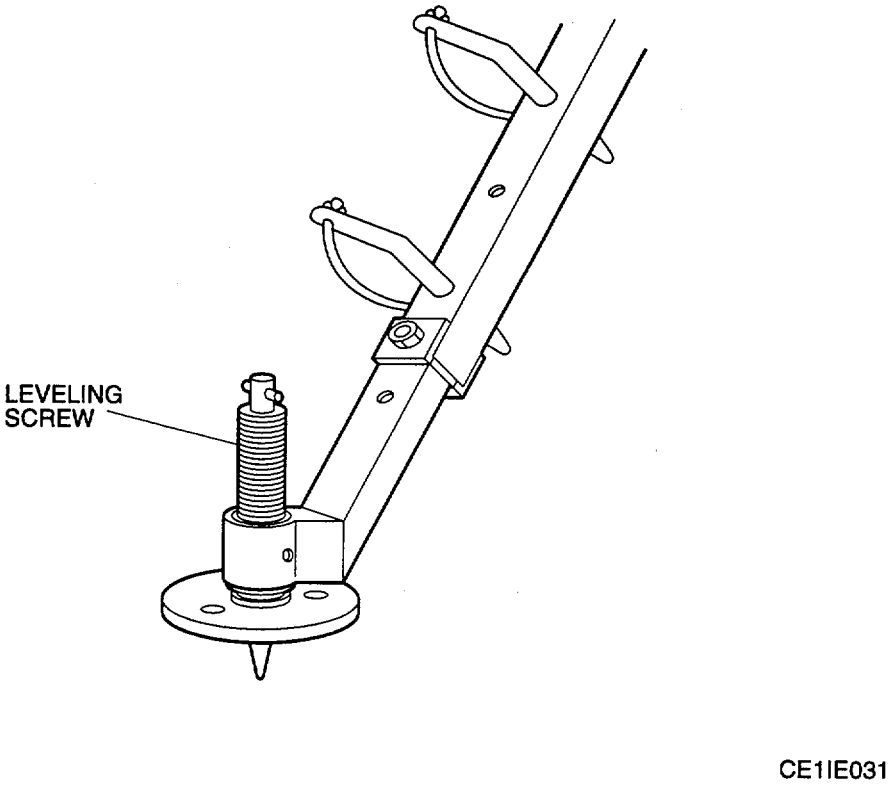


Figure 4-6. Leg Assembly Lubrication

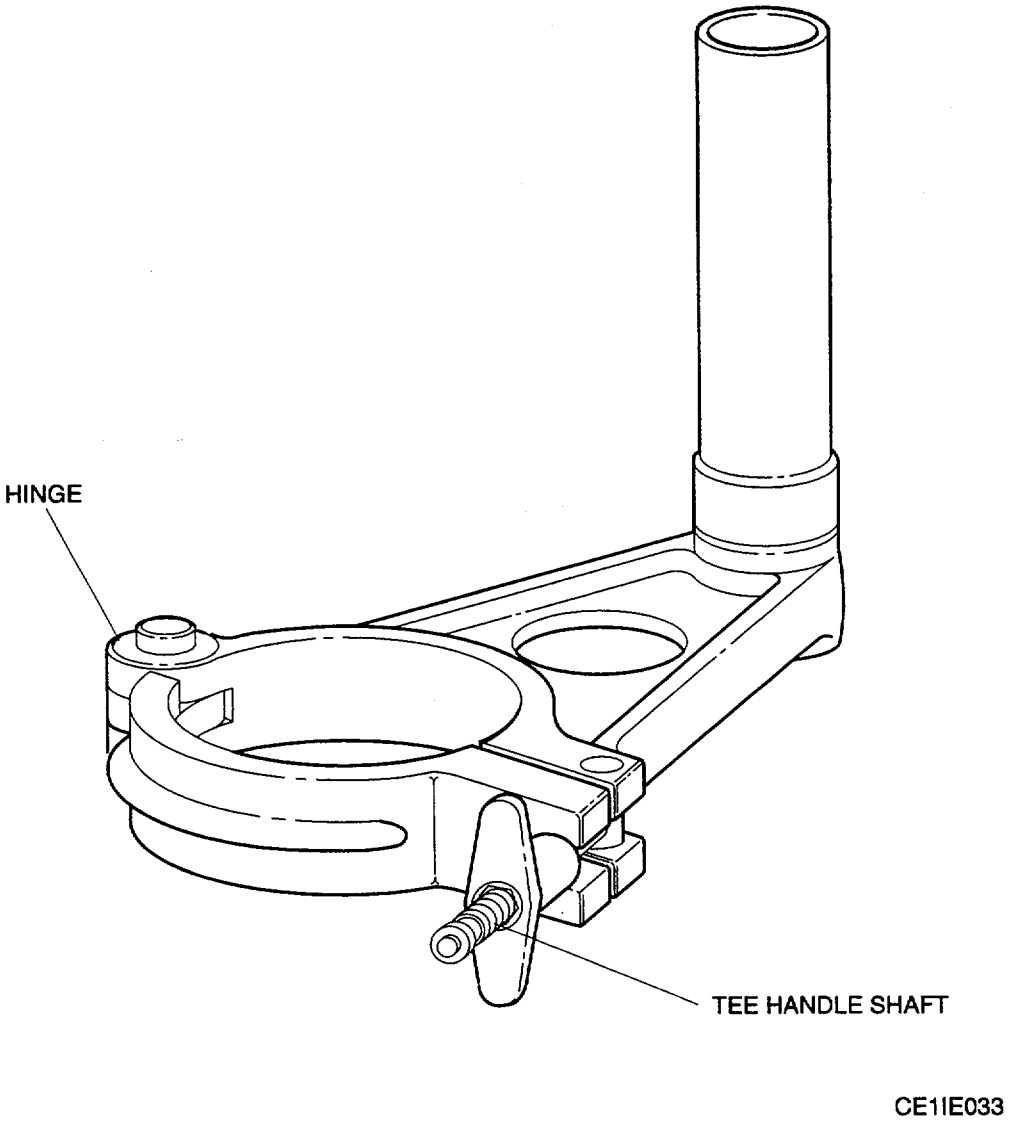


Figure 4-7. Antenna Side Mounting Adapter Lubrication

CHAPTER 5
UNIT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS, AND SUPPORT EQUIPMENT

5-1 COMMON TOOLS AND EQUIPMENT.

Common tools and test equipment authorized for use by unit maintenance are listed in the Maintenance Allocation Chart (MAC), Appendix B.

5-2 SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT.

Special tools; Test, Measurement and Diagnostic Equipment (TMDE); and support equipment authorized for use by unit maintenance are listed in the Repair Parts and Special Tools List (RPSTL), Appendix F.

5-3 REPAIR PARTS.

Repair parts and accessories authorized for use by unit maintenance are listed in the Repair Parts and Special Tools List (RPSTL), Appendix F.

Section II. REPAINTING AND REFINISHING INSTRUCTIONS

CAUTION

Before painting, carefully mask all unpainted surfaces, nameplates, decals, MWO information, and other markings.

5-4 PAINTS AND FINISHES.

The only type of paints or finishes authorized for use on 30-meter mast are those listed in TB 43-0118, Field Instructions for Painting and Preserving Electronics Command Equipment.

5-5 PAINTING INSTRUCTIONS.

Refer to TB 43-0118, Field Instructions for Painting and Preserving Electronics Command Equipment, for instructions about painting.

5-6 CAMOUFLAGE PAINTING.

Communications-electronic equipment systems requiring camouflage pattern painting and operating under controlled environmental conditions (air conditioned) shall be painted in accordance with the patterns prescribed in TB 43-0118, Field Instructions for Painting and Preserving Electronics Command Equipment.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

5-7 GENERAL.

NOTE

When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS listed at the beginning of this manual, at the appropriate place in the procedures, or on plates and decals attached on the equipment.

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to maintain equipment in serviceable condition. To be sure that your equipment is always ready for a mission, do the scheduled Preventive Maintenance Checks and Services (PMCS).

5-8 PMCS PROCEDURES.

5-8.1 Routine Checks. Routine checks such as cleaning, dusting, washing, checking for chipped paint, checking for damaged or frayed cables, storing items not in use, covering unused receptacles, checking for completeness, and checking for loose nuts, bolts, and screws are not listed as PMCS. These are tasks that should be done any time they are needed.

5-8.2 Continuous Operation. If the 30-meter mast is 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 30-meter mast is disassembled.

5-8.3 Defects. Deficiencies that cannot be corrected must be reported to higher category maintenance personnel. Records and reports of preventive maintenance must be made in accordance with procedures given in DA Pam 738-750.

5-8.4 Scheduling. PMCS must be done at the specified times if possible. If operational requirements prevent doing a PMCS at the specified time, make the required checks and services at the first opportunity. During operation, PMCS must be done regularly to help spot small troubles before they become big problems.

NOTE

The PROCEDURES column in the PMCS charts instruct how to perform the required checks and services. Carefully follow these instructions. If the equipment must be in operation all the time, check those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment is disassembled.

5-8.5 PMCS Table. Table 5-1 contains the PMCS procedures. It indicates what items to check, when to check them, and how to check them. Perform the PMCS procedures thoroughly and always keep in mind the WARNING
S and CAUTION
S.

5-8.5.1 ITEM NO. Column. The checks and services are listed in the order that you should do them. Use this number for the TM number on DA Form 2404, Equipment Inspection and Maintenance Worksheet, to record results of checks and services.

5-8.5.2 INTERVAL Columns. The columns headed W, M, Q, S, A, B, and H contain a mark in the appropriate column. This indicates when to perform the PMCS procedure.

5-8.5.3 ITEM TO BE INSPECTED Column. The items listed in this column indicate what part of the equipment is to be checked.

5-8.5.4 PROCEDURES Column. This column indicates how to perform the checks on the items listed in the ITEMS TO BE INSPECTED column.

NOTE
The checks in the INTERVAL column are to be performed in the order listed.

Table 5-1. Unit Preventive Maintenance Checks and Services

W = Weekly Q = Quarterly A = Annually
M = Monthly S = Semiannually B = Biannually H = Hourly

ITEM NO.	INTERVAL W	M	Q	S	A	B	H	ITEM TO BE INSPECTED	PROCEDURES
1	•							Mast Guide Box (fig. 4-1)	Use a clean dry cloth to wipe inside mast guide box Apply a light coat of oil under azimuth ring assembly Apply a light coat of oil on top of bottom retaining ring halves
2	•							Hoist (fig. 4-2)	Apply a light coat of oil at base handle assembly Apply a light coat of oil on release button shaft Apply a light coat of oil at needle bearing
3	•							Lifting Block (fig. 4-3)	Apply a light coat of oil to pulley bearing
4	•							Guy Winch Kit (fig. 4-4)	Apply a light coat of oil to threads on release knob above socket coupler, and also to bushings below socket coupler Apply a light coat of oil to base of hexagon sleeve
5	•							Pulley Block (fig. 4-5)	Lightly oil pulley pin and swivel
6	•							Leg Assembly (fig. 4-6)	Use a clean, lightly oiled cloth and wipe leveling screw on each leg assembly

Table 5-1. Unit Preventive Maintenance Checks and Services - Continued

ITEM NO.	INTERVAL W	M	Q	S	A	B	H	ITEM TO BE INSPECTED	PROCEDURES
7	•							Antenna Side Mounting Adapter (fig. 4-7)	Apply a light coat of oil to hinge surfaces and tee handle shaft
8	•							Clamp	Apply a light coat of oil to clamp screws

Section IV. TROUBLESHOOTING PROCEDURES

5-9 GENERAL.

The troubleshooting information (table 5-2) is based on audible and visual symptoms obtained from Built-In-Test Equipment (BITE) and rf loop test. The chart lists the common faults which you may find during the operation or maintenance of the 30-meter mast. The chart gives the probable causes of a fault and the corrective actions to take to cure the fault.

Table 5-2. Troubleshooting

FAULT	PROBABLE CAUSE	CORRECTIVE ACTION
1. Top antenna not properly directed	a. Antenna rotator moved on mast	a. Re-aim antenna using ball rope
	b. Mast turned in mast guide box	b. Loosen mast using clamp lever on mast guide box c. Re-aim antenna and tighten mast to mast guide box with clamp lever
2. Lower antenna not properly directed	Mast turned in mast guide box	a. Loosen mast using clamp lever on mast guide box b. Re-aim antenna and tighten mast to mast guide box with clamp lever. Leave clamp lever in locked (up) position

Section V. UNIT MAINTENANCE FOR 30-METER MAST

5-10 GENERAL.

This section contains unit maintenance procedures for assemblies of the 30-meter mast.

5-11 MAST SECTION.

a. Removal.

(1) The mast consists of 24 separate sections. To remove a mast section, refer to paragraph 2-11 to lower mast as required until defective section is removed.

(2) Place removed mast sections into mast section carriers.

b. Replacement. Refer to paragraph 2-9.3 for re-erecting the mast.

5-12 GUY WINCH KIT.

a. Removal.

(1) There are four guy winch kits providing cables to support the mast. To remove a defective guy winch kit, refer to paragraph 2-11. Lower mast as required until guy cables can be disconnected from either mast guy collar or guy extensions.

(2) Place removed mast sections into mast section carriers.

(3) With tension off guys, unclip pulley blocks on winch kit from associated stakes (fig. 2-18). Wind guys into winch kit.

(4) Remove pins and spikes from winch kit and remove winch kit.

b. Replacement.

(1) Open spreaders on winch kit and insert pin in each spreader to keep from closing. Drive spikes through spreader holes, fully into ground. Release three drums by turning release knobs clockwise.

(2) Refer to paragraph 2-9.3 to complete mast erection.

5-13 GUY EXTENSION.

a. Removal.

(1) There are six guy extensions used to support the upper part of the mast. To remove a defective guy extension, refer to paragraph 2-11. Lower mast as required until guy extension can be disconnected from guy collar.

(2) Place removed mast sections into mast section carriers.

(3) Unclip other end of guy extension from guy cable and remove guy extension.

b. Replacement.

(1) Clip one end of guy extension to end of guy cable.

(2) Clip other end of guy extension to guy collar.

(3) Refer to paragraph 2-9.3 for re-erecting mast.

5-14 ANTENNA ROTATOR.

a. Removal.

(1) Refer to paragraph 2-11 to lower mast as required to remove antenna rotator.

(2) Place removed mast sections into mast section carriers.

b. Replacement. Refer to paragraph 2-9.3 for re-erecting mast.

5-15 ROTATOR EXTENSION ADAPTER.

a. Removal.

(1) Refer to paragraph 2-11 to lower mast as required to remove rotator extension adapter.

(2) Place removed mast sections into mast section carriers.

b. Replacement. Refer to paragraph 2-9.3 for re-erecting mast.

5-16 FEEDER CABLE STRAP.

a. Removal.

(1) There are six feeder cable straps on the mast. To remove a defective feeder cable strap, refer to paragraph 2-11. Lower mast as required until feeder cable strap can be removed.

(2) Place removed mast sections into mast section carriers.

b. Replacement. Refer to paragraph 2-9.3 for re-erecting mast.

5-17 LIFTING BLOCK.

CAUTION

When removing lifting block, it must be supported before removing hoist cable. Otherwise, lifting block will fall to ground and may be damaged.

a. Removal.

(1) With lifting block supported, remove drop-head pin connecting end of hoist cable to mast guide box (fig. 2-9).

(2) Loosen wing-nut on cable guard and slide cable guard clear of pulley.

(3) Wind cable into hoist until lifting block is free.

b. Replacement. Refer to paragraph 2-9.1, steps I. through o. to replace lifting block.

5-18 HOIST.

NOTE

If hoist handle is defective, remove by tapping handle with hand to disengage from input shaft (fig. 2-9). Reverse this procedure when replacing handle. If another part of hoist is defective, continue with step a. to remove and replace hoist.

a. Removal.

(1) Refer to paragraph 5-17, step a. to remove lifting block.

(2) Lift hoist from mast guide box.

b. Replacement.

(1) Hook hoist on mast guide box.

(2) Refer to paragraph 2-9.2, steps l. through o. to replace hoist.

5-19 MAST GUIDE BOX.

a. Removal.

(1) Refer to paragraph 2-11, steps a. through an. to lower mast and disassemble tripod.

(2) Place removed mast sections into mast section carriers.

(3) Remove mast guide box.

b. Replacement.

(1) Refer to paragraph 2-9.2, steps b. through e. to replace mast guide box.

(2) Refer to paragraph 2-9.2, steps k. through q. to reassemble tripod.

(3) Refer to paragraph 2-9.4 for re-erecting mast.

5-20 LEG ASSEMBLY.

a. Removal.

(1) Three leg assemblies make up a tripod. To remove a defective leg assembly, refer to paragraph 2-11. Lower mast as required until last mast section is removed.

(2) Lay tripod on its side with defective leg assembly in the air.

(3) Remove two drop-head pins connecting leg assembly to mast guide box and remove leg assembly.

NOTE

Perform step (4) only if defective leg assembly contains the four detachable steps.

(4) Remove two drophead pins on all four detachable steps (fig. 2-8) and remove defective leg assembly.

b. Replacement.

(1) Insert two drophead pins to secure leg assembly to mast guide box.

(2) Install detachable steps to leg assembly, if applicable.

(3) Stand tripod upright and perform paragraph 2-9.2, steps l. through q. to reassemble tripod.

(4) Refer to paragraph 2-9.4 for re-erecting mast.

5-21 GUY COLLAR.

a. Removal.

(1) There are four guy collars on the mast. To remove guy collar refer to paragraph 2-11. Lower mast as required until defective guy collar is removed.

(2) Place removed mast sections into mast section carriers.

b. Replacement. Refer to paragraph 2-9.4 for re-erecting mast.

5-22 ANTENNA SIDE MOUNTING ADAPTER.

a. Removal.

(1) Refer to paragraph 2-11 to lower mast as required until antenna side mounting adapter is removed.

(2) Place removed mast section into mast section carriers.

b. Replacement. Refer to paragraph 2-9.4 for re-erecting mast.

5-23 STAKE.

a. Removal.

(1) There are nine stakes used with guy cables to support the erected mast. To remove a stake, unlock drum on guy winch kit associated with defective stake.

(2) Connect handle to associated guy, adjust, and turn clockwise to provide slack on guy (fig. 2-19).

NOTE

If mast starts leaning when removing tension, all drums for that guy level should be adjusted.

(3) When enough tension is removed from defective stake, unclip pulley block from stake and pull stake from ground.

b. Replacement.

(1) Using sledge hammer provided, drive stake into ground up to stake hole closest to the ground. Do not use same hole, make new hole adjacent to one left by removed stake. To correctly implant stake, see note following step t. in paragraph 2-9.2.

(2) Attach pulley block to stake.

(3) Turn associated drum counterclockwise until guy cable is taut.

(4) Check that all guys are taut and the mast is straight.

5-24 SPIKE.

a. Removal. Fifteen spikes are used to secure guy winch kits and tripod leg assemblies to ground. To remove a defective spike, pull it from ground.

b. Replacement. Drive spike fully into ground with sledge hammer.

5-25 STEP ASSEMBLY.

a. Removal. There are four detachable steps connected to one leg assembly. To remove a defective step, remove drop-head pin securing step from leg assembly and remove step (fig. 2-8).

b. Replacement. Install detachable step to leg assembly and secure with drop-head pin.

5-26 HOIST SUPPORT BAR.

a. Removal.

(1) Swing hoist away from hoist support bar while still hooked on mast guide box.

(2) Slide hoist support bar up and remove from leg assemblies.

b. Replacement.

(1) Slide hoist support bar over same two leg assemblies and allow to slide down.

(2) Allow hoist to pivot back and rest against pad in middle of hoist support bar.

5-27 PULLEY BLOCK SNAP HOOK.

a. Removal.

(1) Trace the guy cable with the defective snap hook to the guy collar to which it is attached. Lower mast sections (para 2-11) until guy collar is at mast guide box. At this point guy cable tension associated with this pulley block is relieved and no longer supports the mast.

(2) Unclip snap hook from stake shackle.

(3) Remove cotter pin from snap hook and pulley block (fig. 5-1).

(4) Remove fork end pin, washer, and defective snap hook.

b. Replacement.

(1) Place fork end of pulley block over connector end of new snap hook.

(2) Insert fork end pin through fork end of pulley block and snaphook.

(3) Place washer over fork end pin and secure with cotter pin.

(4) Clip snap hook to shackle of appropriate stake.

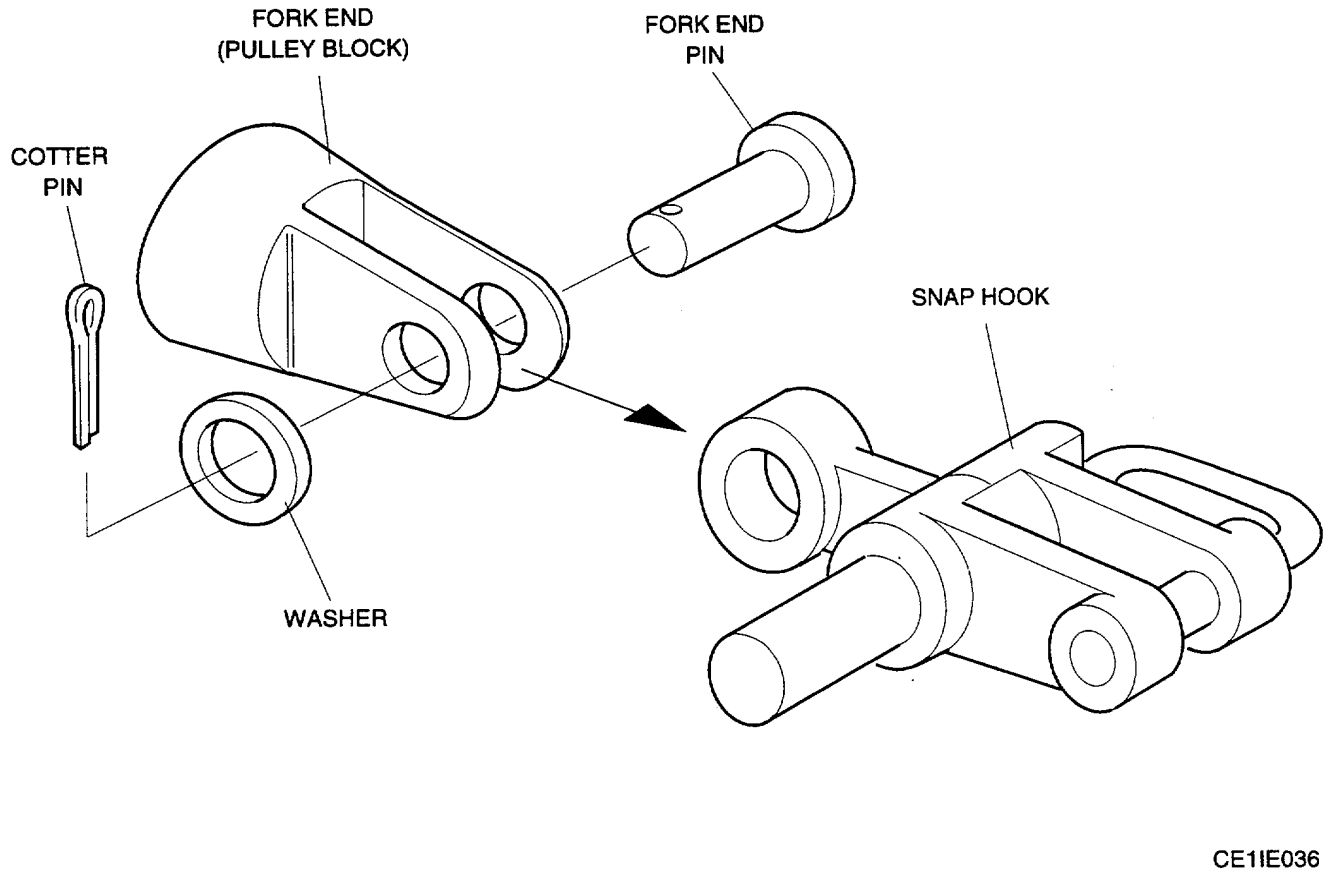


Figure 5-1. Pulley Block Snap Hook Replacement

(5) Refer to paragraph 2-9.4 for re-erecting mast.

5-28 CABLE CLAMP.

a. Removal.

(1) To remove a defective cable clamp from the pulley block, ensure proper tension is on guy cable associated with cable clamp.

(2) At pulley block (fig. 5-2), loosen cable clamp, release slowly to equalize tension on guy cable and open clamp completely.

(3) Remove retainer clip, pulley pin, and cable clamp.

b. Replacement.

(1) Position cable clamp and insert pulley pin, then retainer clip.

CAUTION

When tightening clamp, ensure cable is seated properly between the grooves of the clamp. Do not allow groove edges to pinch the cable.

Hand tighten clamp until no more force can be applied. Do not use a tool or a piece of equipment. Damage to equipment may occur.

(2) Ensure cable clamp is completely open. Seat clamp over guy cable. Ensure cable is seated properly between the grooves of the clamp. Tighten clamp.

Section VI. UNIT MAINTENANCE FOR 30-METER MAST ANTENNA ADAPTER KIT 5-29 ANTENNA ADAPTER MAINTENANCE.

5-29.1 Nylon Washer. Cotter Pin. and Knob Assembly (Fig. 5-3).

a. Removal.

(1) At knob assembly, remove cotter pin.

(2) Remove knob assembly and nylon washer from mast collar by turning knob assembly counterclockwise.

b. Replacement.

(1) Insert nylon washer onto knob assembly.

(2) Install knob assembly with nylon washer onto mast collar.

(3) Insert cotter pin into drill hole at end of knob assembly and bend cotter pin ends to secure.

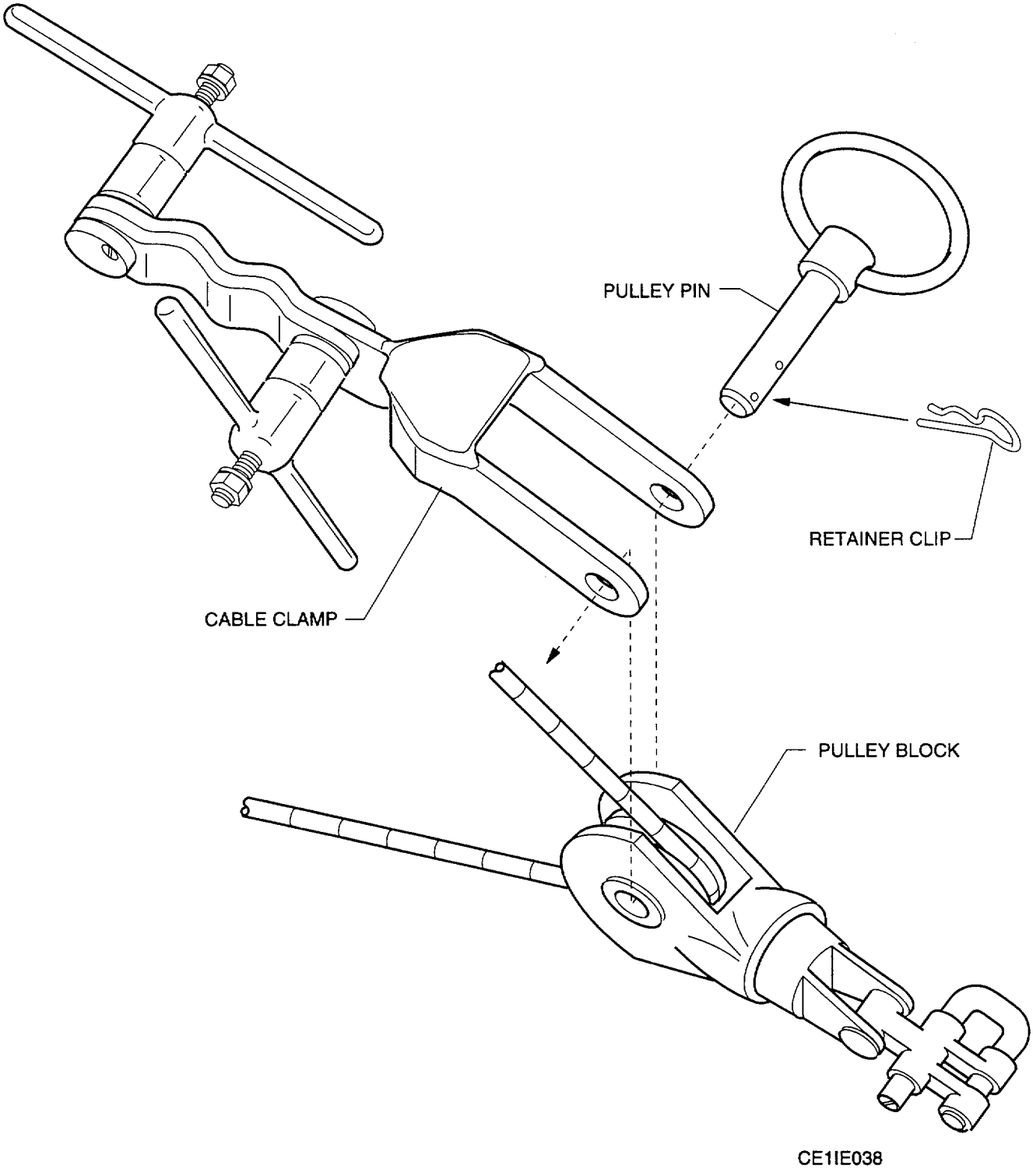


Figure 5-2. Cable Clamp Replacement

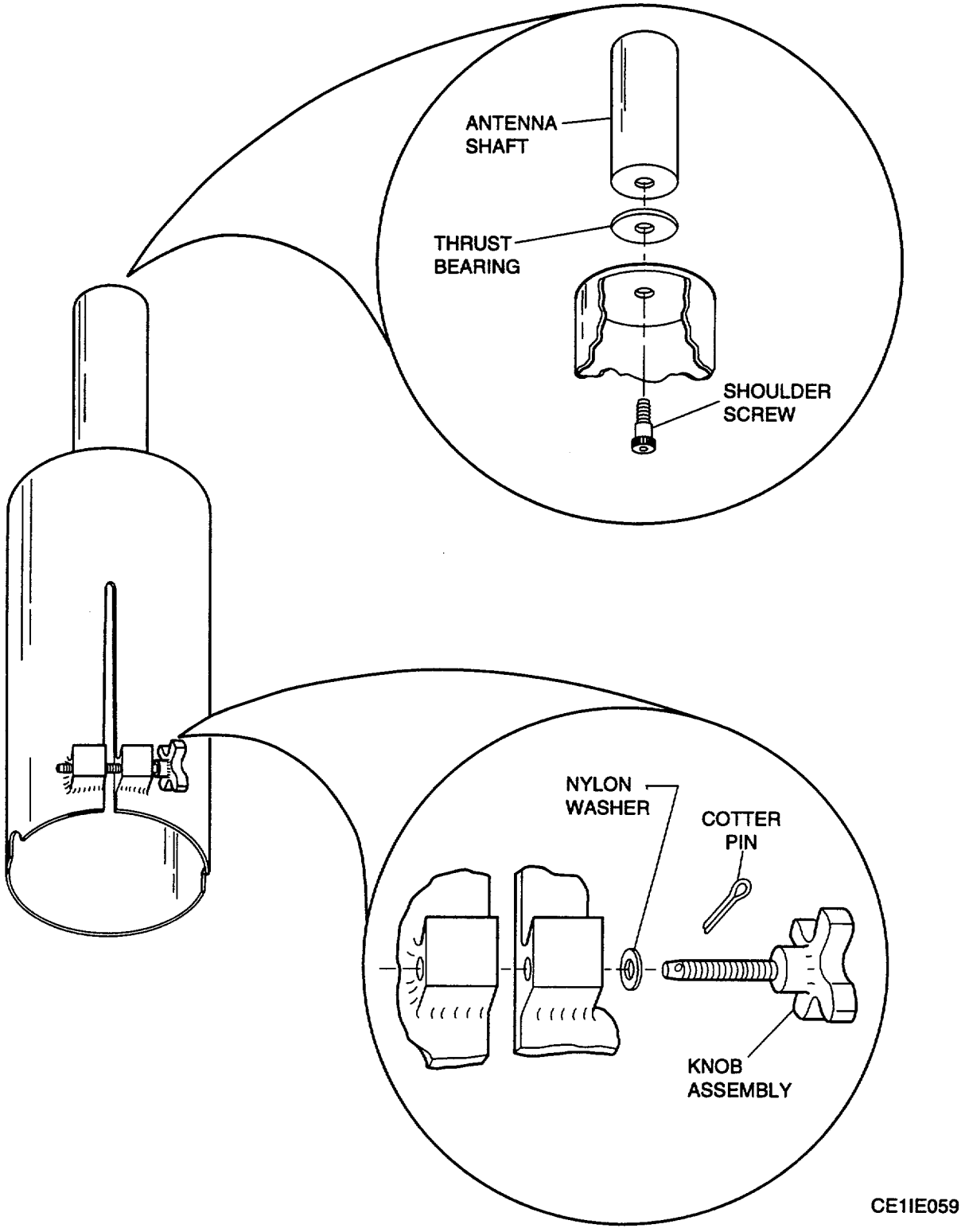


Figure 5-3. Antenna Adapter Maintenance

5-29.2 Antenna Shaft (Fig. 5-3).

a. Removal.

(1) With one hand, hold onto antenna shaft, and with the other hand, loosen shoulder screw.

(2) Remove shaft, thrust bearing and shoulder screw.

b. Replacement.

(1) Apply quick primer to threads of shoulder screw and antenna shaft.

(2) Apply sealing compound to threads of shoulder screw and antenna shaft.

(3) At mast collar from inside, insert shoulder screw.

(4) Install thrust bearing and antenna shaft onto shoulder screw. Ensure thrust bearing is flush with mast collar.

(5) With one hand, hold onto antenna shaft, and with the other hand, tighten shoulder screw by turning clockwise.

CHAPTER 6

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. GENERAL INFORMATION

6-1 INTRODUCTION.

This chapter provides instructions for direct support maintenance only. Direct support maintenance is performed by those designated to support the using organization and emphasizes corrective action on items that are identified as faulty by unit personnel, but are beyond the unit maintenance resources authorized. Direct support maintenance is limited to the activities described below.

6-1.1 Visual Inspection. Visually inspect components for evidence of potential failure conditions. Correction of observed conditions is to be accomplished as necessary at the time of observance by the maintenance level authorized to perform the task.

6-1.2 Removal and Replacement. Replace an unserviceable subassembly, module, assembly, or unit with a like subassembly, module, assembly, or unit.

6-1.3 Repair. Perform the repairs required to correct a specific failure or unserviceable condition and restore an item to a serviceable condition.

Section II. TOOLS AND EQUIPMENT

6-2 TOOLS AND TEST EQUIPMENT.

Tools and test equipment required to perform the maintenance procedures given in this chapter are listed in the Maintenance Allocation Chart (MAC) in Appendix B. The test equipment listed in the table is authorized for use by direct support maintenance personnel. Any tool or test equipment authorized for use at the unit level is also authorized for use by direct support.

6-3 REPAIR PARTS.

Repair parts and accessories authorized for use by direct support maintenance personnel for the 30-meter mast are listed in the Repair Parts and Special Tool List (RPSTL) in Appendix F.

Section III. REMOVAL AND REPLACEMENT PROCEDURES

6-4 GENERAL.

Corrective maintenance of the 30-meter mast at the direct support level is limited to the removal, repair, and replacement of the leg assembly, mast guide box, lifting block, antenna side mounting adapter, guy collar, picket location line, bubble level, rotator extension, mast section carrier, hoist support bar, step assembly, and mast section.

6-5 LEG ASSEMBLY REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of leg assembly parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-5.1 Outer Leg Assembly Component Replacement Procedures. To remove and replace stop plates, inner leg, and outer leg corner gibs, proceed as follows (fig. 6-1):

a. Removal.

(1) Remove hex nuts and plain washers that secure top and bottom stop plates to outer leg. Remove stop plates.

(2) Note position of inner leg and withdraw inner leg from outer leg.

(3) Remove corner gibs from outer leg.

b. Replacement.

(1) Line up hole sides of inner and outer legs as noted in step (2) above, and slide inner leg into outer leg.

(2) Position corner gibs in outer leg (fig. 6-1).

(3) Replace stop plates and secure with plain washers and hex nuts.

6-5.2 Outer Leg Assembly Pins Replacement Procedures. To remove and replace leg pin assemblies and drop head pins, proceed as follows (fig. 6-1):

a. Removal.

(1) Untie knot on ∅4 Terylene cord that secures cord to leg assembly and slide cord out.

(2) Pull knotted end of cord at pin and remove cord out from pin.

b. Replacement.

(1) Cut replacement white, Terylene cord about 12 inches long and tie knot in one end.

(2) Insert other end through side of pin and slide pin to knot.

(3) Insert cord in hole in leg assembly. Tie knot at end to secure cord to leg.

6-5.3 Inner Leg Assembly Component Replacement Procedures. To remove and replace inner leg assembly slide angles, proceed as follows (fig. 6-1):

a. Removal.

(1) Remove inner leg from outer leg (para 6-5.1, step a).

(2) Remove hex screw that secures four slide angles to inner leg. Remove slide angles.

b. Replacement.

(1) Replace four slide angles on inner leg (fig. 6-1).

(2) Secure slide angles with hex head screw.

6-5.4 Inner Leg Assembly Foot Clip Replacement Procedures. To remove and replace assembly foot clip (fig. 6-1), proceed as follows:

a. Removal.

(1) Untie knot on 04 Terylene cord that secures cord to leg assembly foot clip and slide cord out.

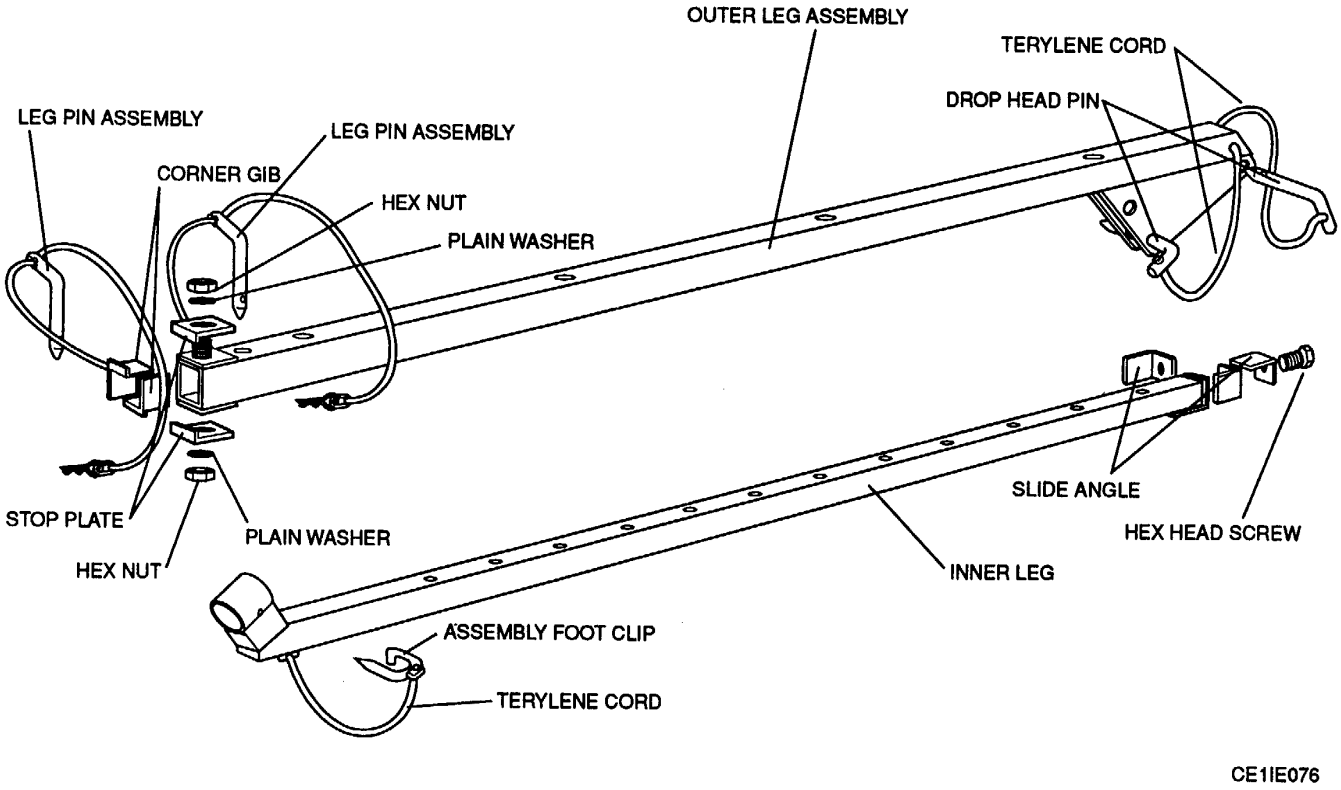


Figure 6-1. Leg Assembly Removal and Replacement

(2) Pull knotted end of cord at clip and remove cord from clip.

b. Replacement.

(1) Cut replacement white, Terylene cord about 12 inches long and tie knot in one end.

(2) Insert other end through side of clip and slide clip to knot.

(3) Insert cord in hole in leg assembly. Tie knot at end to secure cord to leg.

6-6 MAST GUIDE BOX REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of mast guide box parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-6.1 Side Handle Replacement Procedures. To remove and replace side handle, proceed as follows (fig. 6-2):

a. Removal.

(1) Remove hex bolt, flat washer, and self lock nut (fig. 6-2, sheet 1) securing side handle assembly to mast guide sleeve.

(2) Remove handle assembly.

b. Replacement.

(1) Replace and secure side handle to mast guide sleeve with hex bolt, flat washer, and self lock nut.

6-6.2 Support Pin and Rope Replacement Procedures. To remove and replace support pin and support pin rope, proceed as follows (fig. 6-2):

a. Removal.

(1) Remove hex nut and ferrule (fig. 6-2, sheet 1) securing lower support pin rope to mast guide box.

(2) Remove stud.

(3) At other end of support pin rope, remove cap and shouldered bush from support pin.

(4) Remove support pin rope.

b. Replacement.

(1) Replace and secure shouldered bush on support pin.

(2) Replace and secure support pin rope on shouldered bush with cap.

(3) At other end of support pin rope, replace stud in mast guide box.

(4) Replace and secure support pin rope on stud with ferrule and hex nut.

6-6.3 Drop Head Pin Assembly and Cord Replacement Procedures. To remove and replace drop head pin and cord, proceed as follows (fig. 6-2):

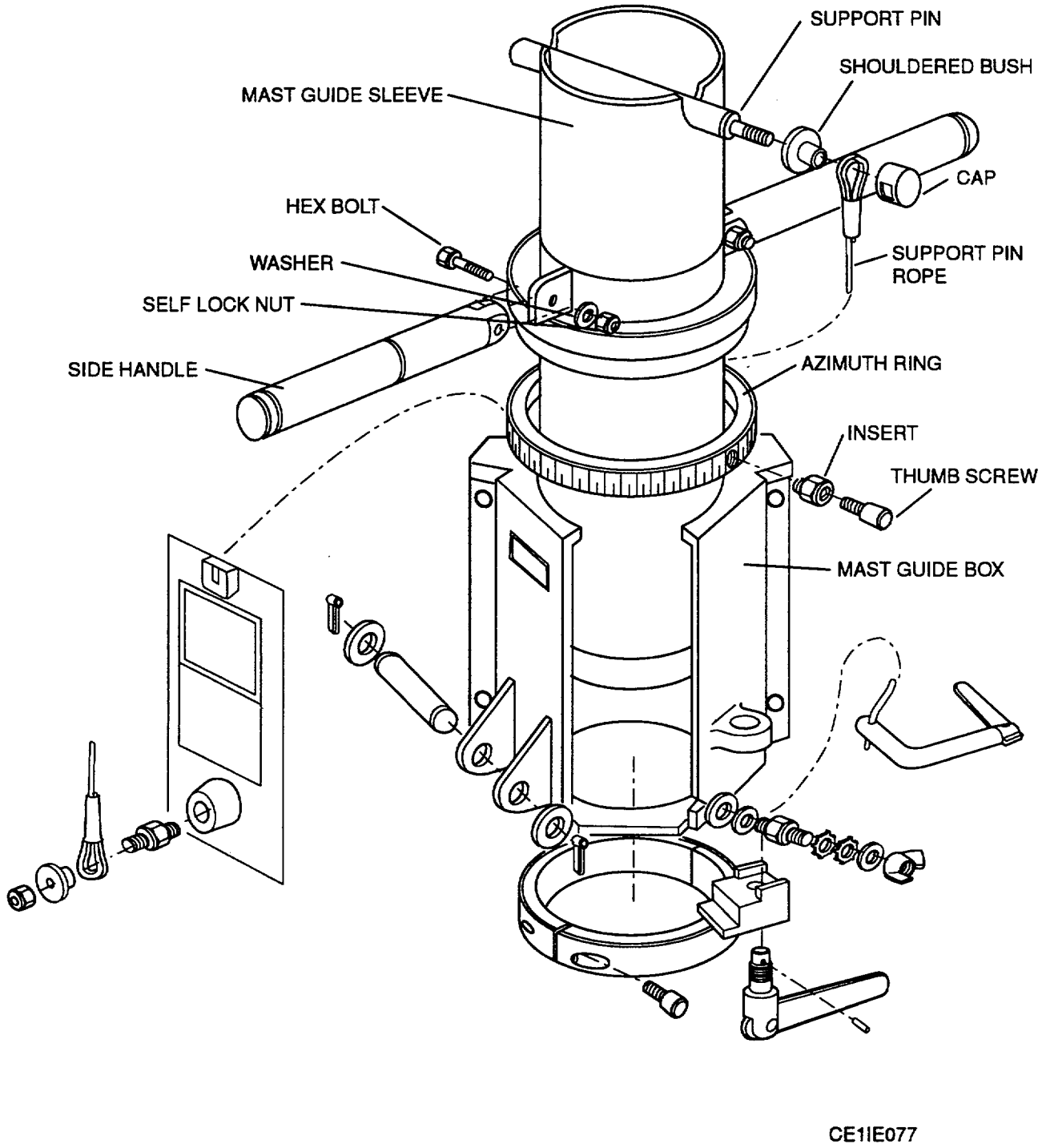


Figure 6-2. Mast Guide Box Removal and Replacement (Sheet 1 of 4)

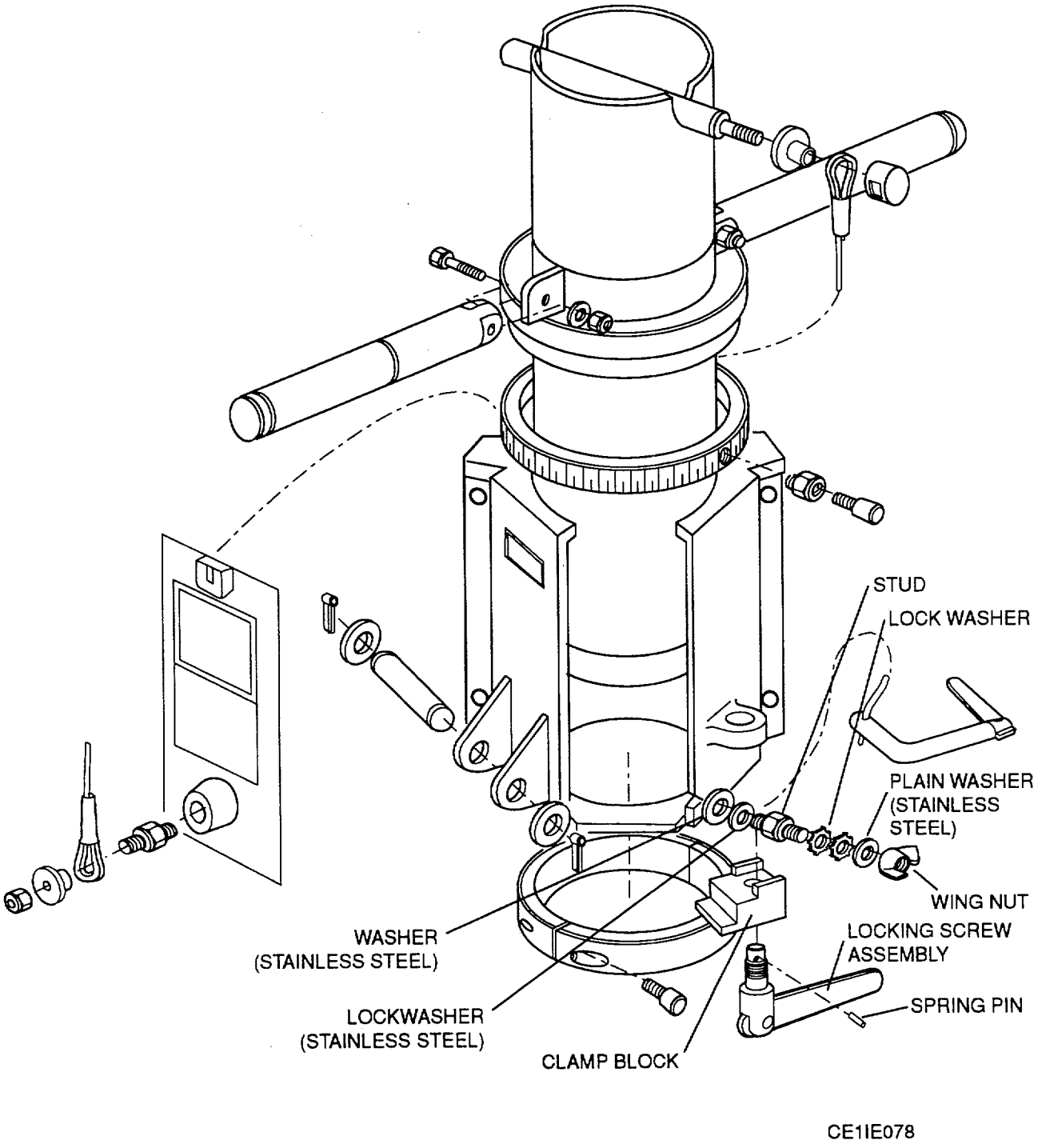


Figure 6-2. Mast Guide Box Removal and Replacement (Sheet 2 of 4)

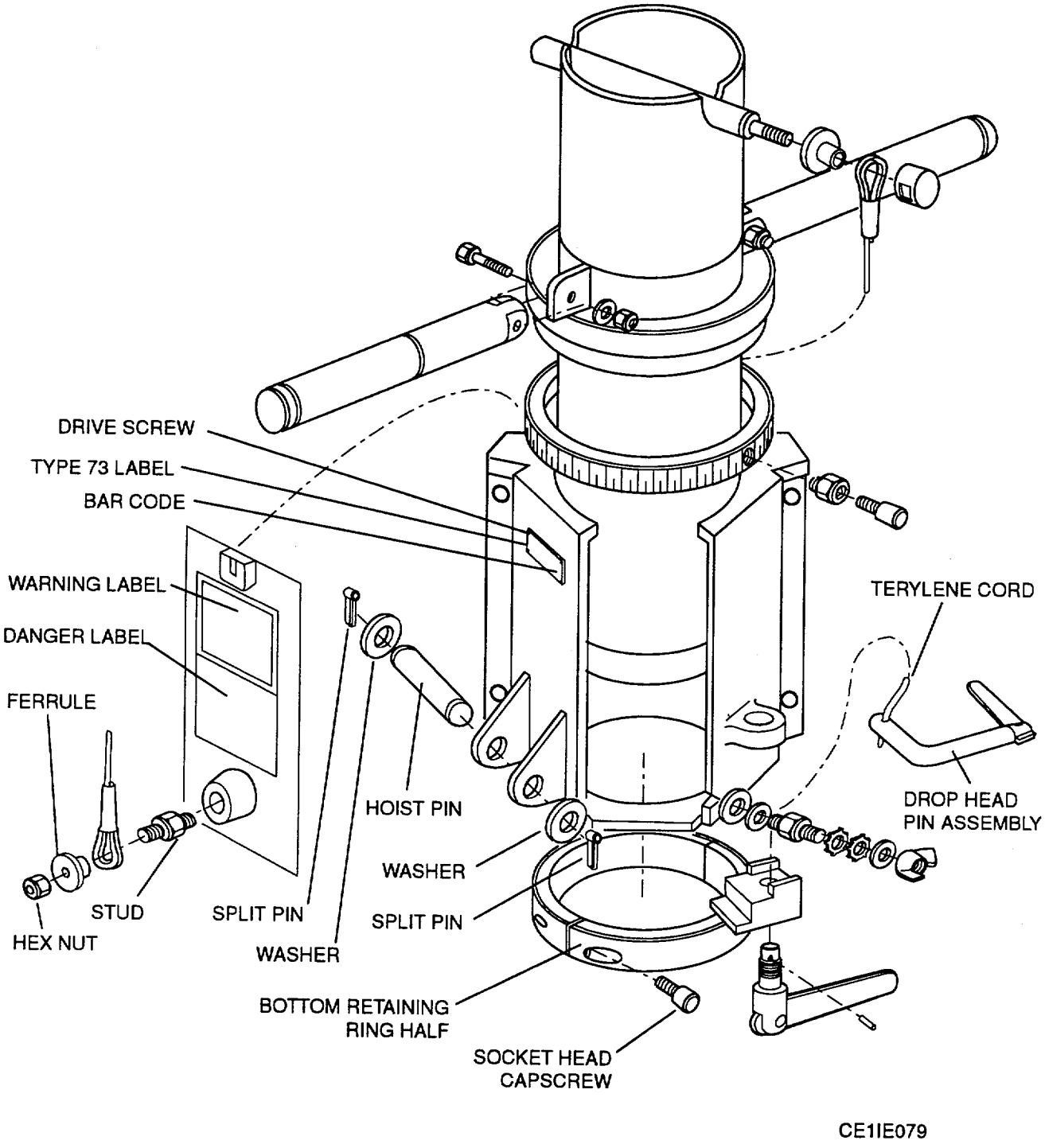


Figure 6-2. Mast Guide Box Removal and Replacement (Sheet 3 of 4)

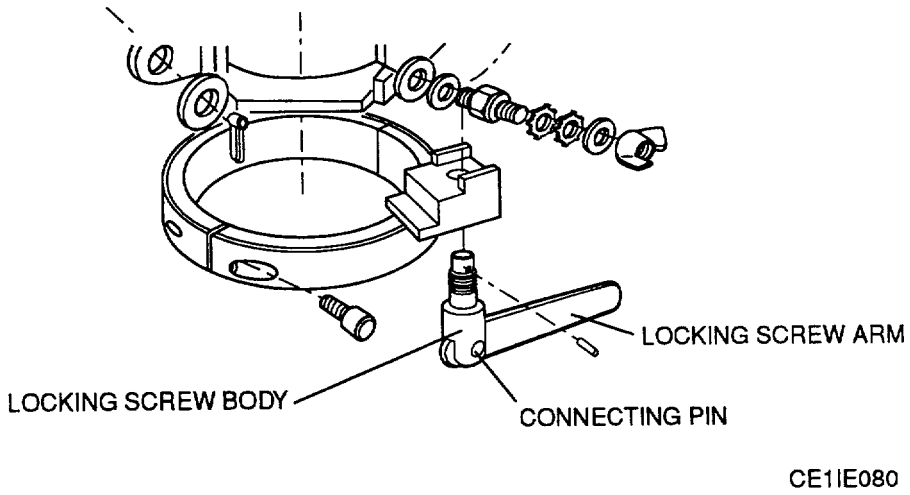


Figure 6-2. Mast Guide Box Removal and Replacement (Sheet 4 of 4)

a. Removal.

(1) Untie knot (fig. 6-2, sheet 3) securing cord and pin to mast guide box.

(2) Remove cord.

(3) At other end of cord, untie knot securing pin.

(4) Remove pin from cord.

b. Replacement.

(1) Cut replacement white, Terylene cord about 16 inches long and tie knot in one end of cord.

(2) Insert other end through hole in pin and slide pin to knot.

(3) Insert cord into cord hole in mast guide box and tie knot at end to secure cord to box.

6-6.4 Hoist Pin Replacement Procedures. To remove and replace hoist pin, proceed as follows (fig. 6-2):

a. Removal.

(1) Remove two split pins and flat washer (fig. 6-2, sheet 3) securing hoist pin to mast guide box.

(2) Remove hoist pin.

b. Replacement.

(1) Attach washer and split pin on one end of replacement hoist pin.

(2) Insert other end of replacement hoist pin through hoist pin holes in mast guide box.

(3) Secure hoist pin in place with second washer and split pin set.

6-6.5 Clamp Block Replacement Procedures. To remove and replace clamp block, proceed as follows (fig. 6-2):

a. Removal.

(1) Use a standard pin punch to remove spring pin (fig. 6-2, sheet 2) securing locking screw assembly to clamp block.

(2) Unscrew and remove locking screw assembly.

(3) Remove clamp block.

b. Replacement.

(1) Replace clamp block, aligning hole in clamp block with locking screw assembly holes. Ensure lip of clamp block fits over bottom retaining ring half.
(2) Insert and turn clockwise to tighten locking screw assembly.
(3) Secure locking screw assembly in place with spring pin.

6-6.6 Locking Screw Assembly Replacement Procedures. To remove and replace locking screw assembly, proceed as follows (fig. 6-2):

a. Removal.

(1) Use a standard pin punch to remove spring pin (fig. 6-2, sheet 2) securing locking screw assembly to clamp block.

(2) Unscrew and remove locking screw assembly.

(3) Tap out connecting pin to separate locking screw arm from locking screw body.

b. Replacement.

(1) Replace locking screw arm in locking screw body.

(2) Tap connecting pin gently in place to secure locking screw arm to locking screw body.

(3) Insert and turn clockwise to tighten locking screw assembly.

(4) Secure locking screw assembly in place with spring pin.

6-6.7 Bottom Retaining Ring Half Replacement Procedures. To remove and replace bottom retaining ring half, proceed as follows (fig. 6-2):

a. Removal.

(1) Punch out and remove spring pin (fig. 6-2, sheet 2) securing locking screw assembly to clamp block.

(2) Unscrew and remove locking screw assembly.

(3) Remove clamp block.

(4) Remove socket head capscrews securing bottom retaining ring halves and remove retaining ring halves.

(5) Slide mast guide box down and remove guide box from mast guide sleeve.

(6) Unscrew two thumb screws on azimuth ring and remove azimuth ring from mast guide sleeve.

b. Replacement.

(1) Position and slide azimuth ring down mast guide sleeve until it comes to rest against side handle collar.

(2) Secure azimuth ring on mast guide sleeve by tightening two azimuth ring thumb screws.

(3) Position mast guide box on mast guide sleeve such that mast guide box abuts azimuth ring. Secure mast guide box with bottom retaining ring half.

(4) Tighten two screws that secure bottom retaining ring halves.

(5) Replace clamp block, aligning hole in clamp block with locking screw assembly holes. Ensure lip of clamp block fits over bottom retaining ring half.

(6) Insert and turn locking screw assembly clockwise to tighten.

(7) Secure locking screw assembly in place with spring pin.

6-7 LIFTING BLOCK REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of lifting block parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-7.1 Lifting Block Component Replacement Procedures. To remove and replace lifting block component parts, proceed as follows (fig. 6-3):

a. Removal.

(1) Remove three screws that secure lead cone to lifting block body and remove lead cone.

(2) Remove clamp screw spring pin with standard punch and washers that secure clamp screw. Remove clamp screw.

(3) Partially unscrew clamp screw and remove second washer.

(4) Unscrew and remove clamp screw.

(5) Remove clamp segment.

NOTE

Clamp segment guide pin may hinder withdrawal of clamp segment.

(6) Use a standard pin punch and remove guide pin.

b. Replacement.

(1) Insert spring pin guide.

(2) Slide clamp segment into position on lifting block body, observing segment pin, which may hinder segment replacement.

(3) Insert and partially screw in clamp screw.

NOTE

Allow sufficient space at clamp screw protruding end for installing washer and spring pin.

(4) Slide washer onto clamp screw at clamp segment. Turn clamp screw until end of clamp screw protrudes from other side of bar and washer is flat against bar.

(5) Slide second washer onto protruding end of clamp screw.

(6) Insert spindle split pin into hole on protruding end of clamp screw. Tap pin gently until pin fits snugly into place, protruding from both ends of hole.

(7) Place lead cone in lifting block body. Align screw holes in cone with those in body, and secure with three screws.

6-7.2 Pulley Assembly Replacement Procedures. To remove and replace lifting block pulley component parts, proceed as follows (fig. 6-3):

a. Removal.

(1) Remove spindle split pin.

(2) Remove spindle washer and unscrew and remove spindle wing nut.

(3) Remove pulley guard.

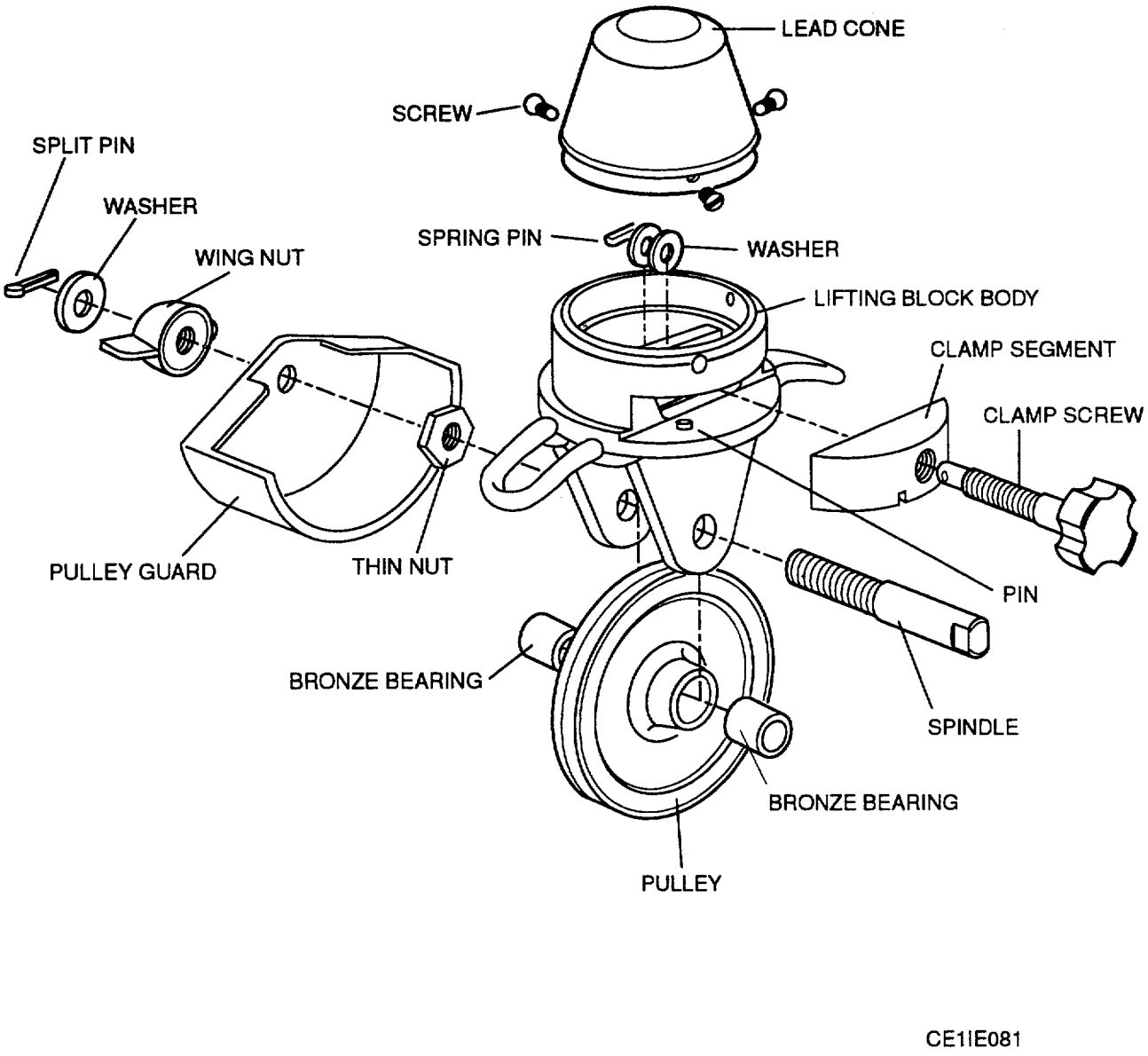


Figure 6-3. Lifting Block Removal and Replacement

(4) Remove thin nut.

(5) Remove spindle and pulley.

(6) Remove two bronze bearings from pulley.

b. Replacement.

(1) Insert two replacement bronze bearings in pulley and align bearings with outer edges of pulley.

(2) Insert and align replacement pulley with holes in lifting block body.

(3) Insert spindle through lifting block body and pulley holes and secure with thin nut.

(4) Attach and secure pulley guard with wing nut.

(5) Secure washer with split pin.

6-8 ANTENNA SIDE MOUNTING ADAPTER REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of antenna side mounting parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-8.1 Tee Handle Replacement Procedures. To remove and replace antenna side mounting adapter tee handle, proceed as follows (fig. 6-4):

a. Removal.

(1) Turn tee handle fully clockwise to access spring pin.

(2) Remove spring pin.

(3) Remove washer.

(4) Turn tee handle counterclockwise and remove handle.

(5) Unscrew and remove tee handle stud.

(6) Unscrew and remove socket grub screw, and remove screwed bush.

b. Replacement.

(1) Insert screwed bush and secure with socket grub screw.

(2) Screw in tee handle stud.

(3) Replace and turn tee handle clockwise to secure handle. Allow sufficient room on handle end of stud to replace spring pin.

(4) Replace washer, and secure washer and handle with spring pin.

6-8.2 Bracket Clamp Replacement Procedures. To remove and replace antenna side mounting adapter bracket clamp, proceed as follows (fig. 6-4):

a. Removal.

(1) Remove bracket clamp hinge pin split pin.

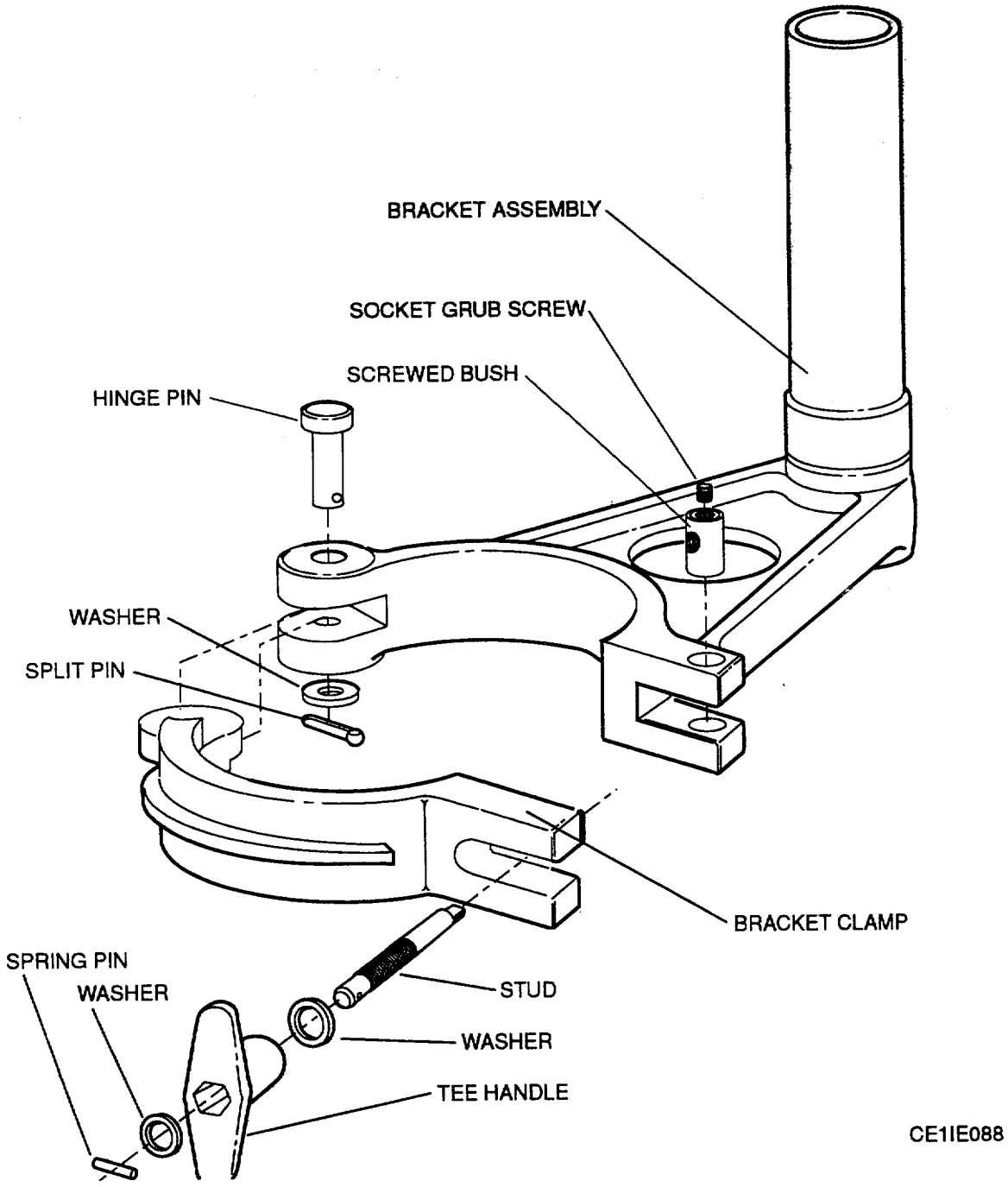


Figure 6-4. Antenna Side Mounting Adapter Removal and Replacement

(2) Remove washer.

(3) Gently tap out and remove hinge pin.

(4) Remove bracket clamp.

b. Replacement.

(1) Replace and secure bracket clamp with bracket clamp hinge pin.

(2) Replace washer on hinge pin.

(3) Secure bracket clamp with hinge pin split pin.

6-9 GUY COLLAR REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of guy collar parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-9.1 Guy Collar Replacement Procedures. To remove and replace guy collar component parts, proceed as follows (fig. 6-5):

a. Removal.

(1) Untie knot on cord at guy collar plate and slide cord out.

(2) At guy collar retaining half, pull cord out from knotted end.

(3) Unscrew and remove screw from guy collar retaining half.

b. Replacement.

(1) Replace and tighten screw in guy collar retaining half.

(2) Cut replacement white, Terylene cord about 26 inches long. Tie knot in one end.

(3) Insert other end of cord through inner side of guy collar retaining half screw.

(4) Insert cord in cord hole in guy collar plate from underneath side of plate. Tie knot at end of cord.

6-10 PICKET LOCATION LINE REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of picket location line. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-10.1 Picket Location Line Replacement Procedures. To remove and replace picket location line component parts, proceed as follows (fig. 6-6):

a. Removal.

(1) Remove black sleeve securing rope to ring or spool.

(2) Remove black sleeve securing rope to second ring or spool.

(3) Repeat as required for additional sections of rings or spools.

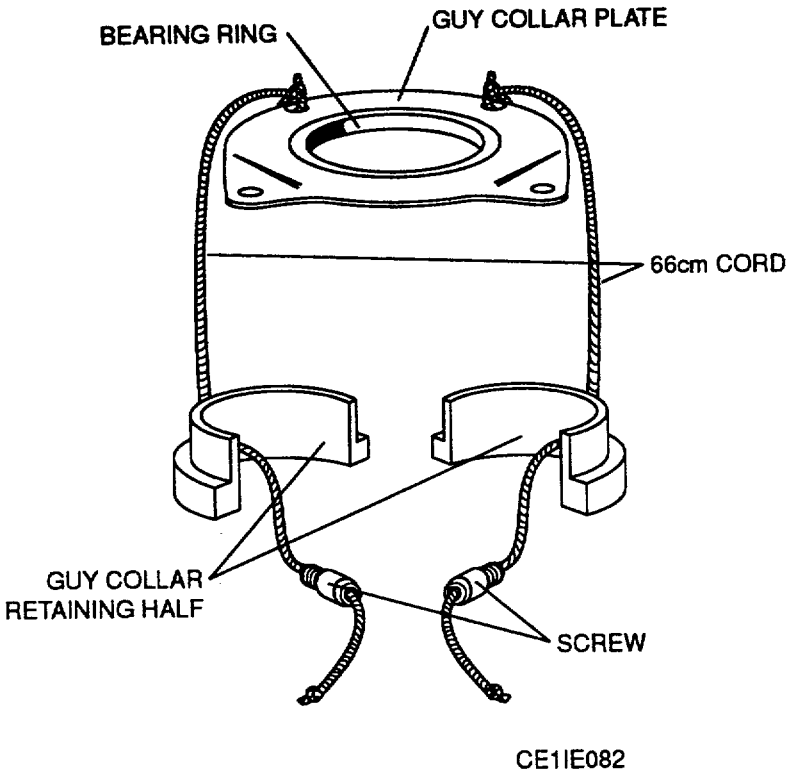


Figure 6-5. Guy Collar Removal and Replacement

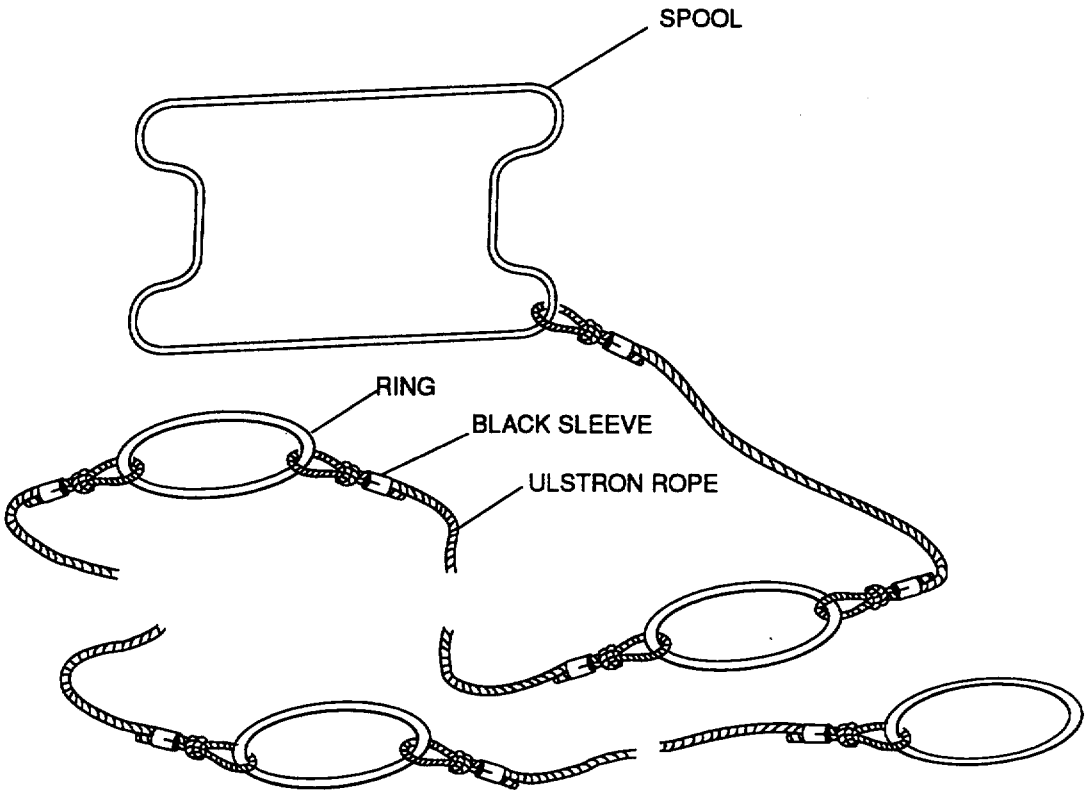


Figure 6-6. Picket Location Line Removal and Replacement

b. Replacement.

(1) Cut replacement white, Ulstron rope about 26 inches long.

(2) Secure one end of rope to ring or spool with black sleeve.

(3) Similarly secure other end of rope to second ring or spool.

(4) Repeat as required for additional sections of rings or spools.

6-11 BUBBLE LEVEL REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of bubble level parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-11.1 Level Extension Arm/Components Replacement Procedures. To remove and replace level extension arm and component parts, proceed as follows (fig. 6-7):

a. Removal.

(1) Remove socket head capscrew from level block and remove level extension arm from block.

(2) Untie knot from level extension Arm and remove Ulstron cord from arm.

(3) Slide locating pin from cord.

b. Replacement.

(1) Cut replacement Ulstron cord about 10 inches long. Tie knot in one end.

(2) Insert other end of rope through hole in locating pin.

(3) Slide end of cord through holes in level extension arm. Tie knot in cord about one inch up from end, securing cord to arm.

(4) Replace level extension arm in level block.

(5) Replace and tighten socket head capscrew in level block.

6-11.2 Bubble Level Replacement Procedures. To remove and replace bubble level component parts, proceed as follows (fig. 6-7):

a. Removal.

(1) Remove pivot screw from circular bubble level cover on level block and remove flat washer and spring washer.

(2) Remove cover.

(3) Remove three cheese head screws from bubble level and remove bubble level.

b. Replacement.

(1) Replace and secure bubble level in level block with three cheese head screws.

(2) Replace and secure level cover to level block with flat washer, spring washer, and pivot screw.

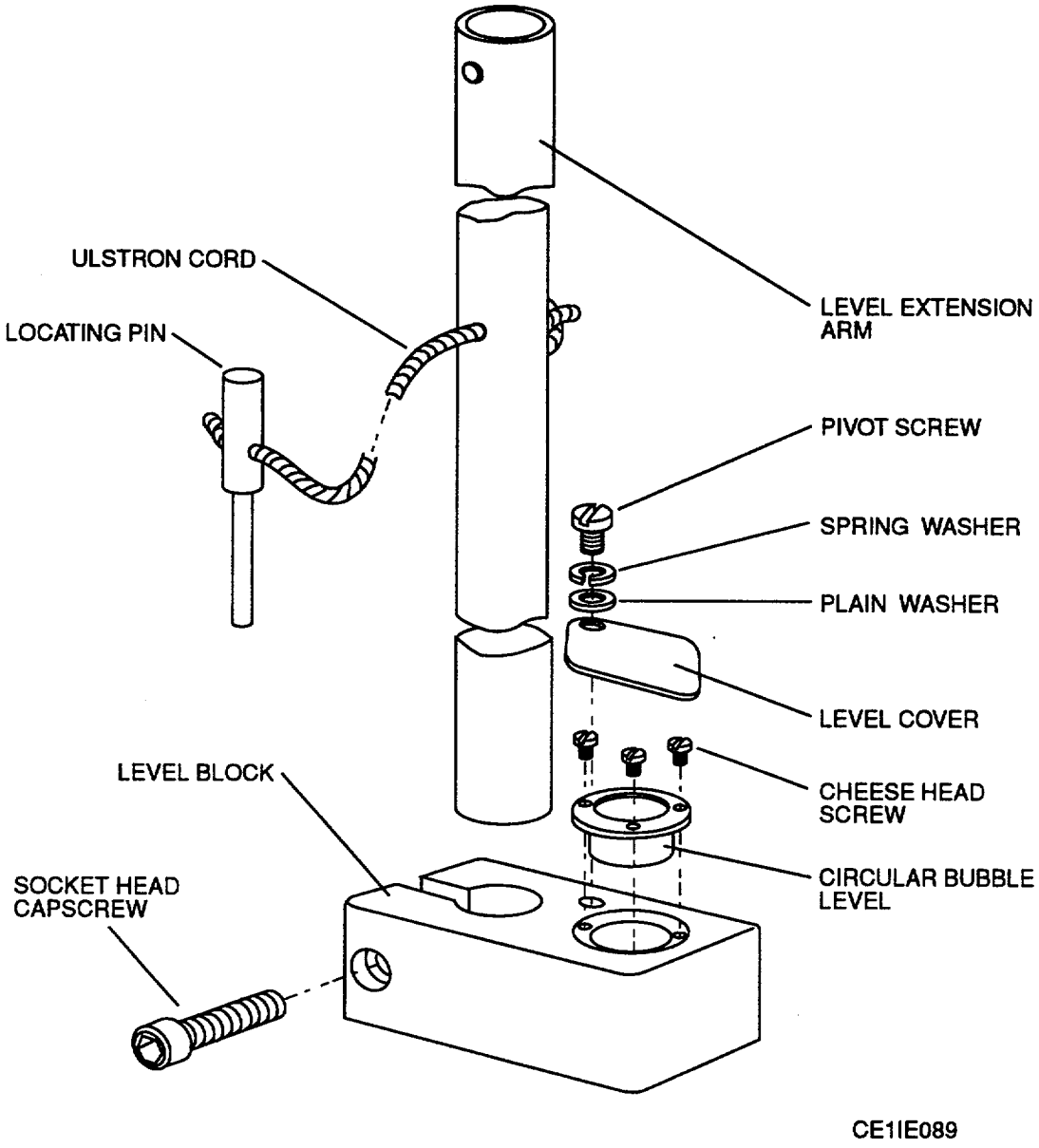


Figure 6-7. Bubble Level Removal and Replacement

6-12 ROTATOR EXTENSION ADAPTER REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of rotator extension adapter parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-12.1 Rotator Extension Adapter Components Replacement Procedures. To remove and replace rotator extension adapter component parts, proceed as follows (fig. 6-8):

a. Removal.

(1) Untie knot securing drop head pin to extension tube rope. Remove pin.

(2) Slide Ulstron rope out of tube.

b. Replacement.

(1) Cut replacement Ulstron rope about 10 inches long. Tie knot in one end.

(2) Insert other end of rope through holes in extension tube and hole in drop head pin.

(3) Tie knot at pin end of rope to secure pin.

6-13 MAST SECTION CARRIER REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of mast section carrier parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-13.1 Mast Section Carrier Component Replacement Procedures. To remove and replace mast section carrier component parts, proceed as follows (fig. 6-9):

a. Removal.

(1) Unbuckle and remove mast section carrier strap from one end section.

(2) Remove strap from second end section, as necessary.

b. Replacement.

(1) Insert tip end of carrier strap through strap hole on one end of end section.

(2) Pull strap across top of end section, and insert strap tip in strap hole on other end of end section, from outer side of hole. Ensure that inner side of strap contacts top of end section.

(3) Repeat step b. (2) for second end section, as necessary, ensuring that end sections face out when completed (fig. 6-9).

6-14 HOIST SUPPORT BAR REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of hoist support bar parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-14.1 Hoist Support Bar Component Replacement Procedures. To remove and replace hoist support bar component parts, proceed as follows (fig. 6-10):

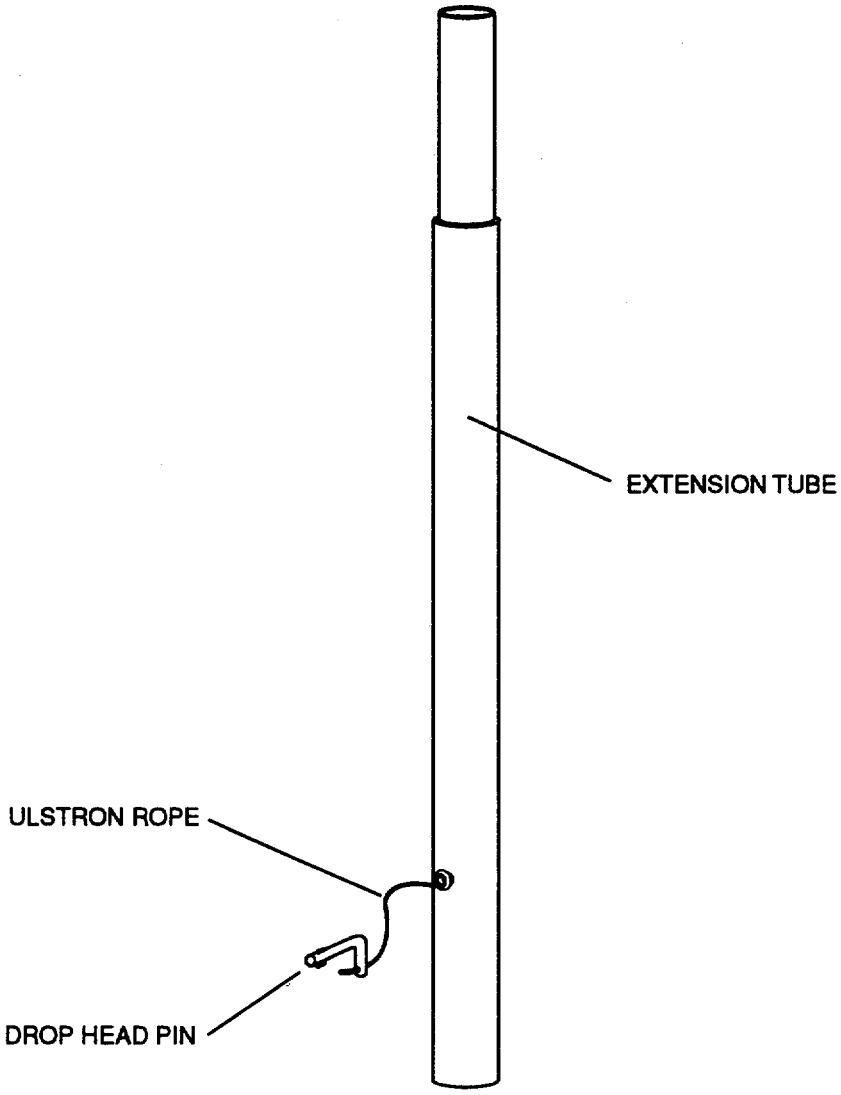


Figure 6-8. Rotator Extension Adapter Removal and Replacement

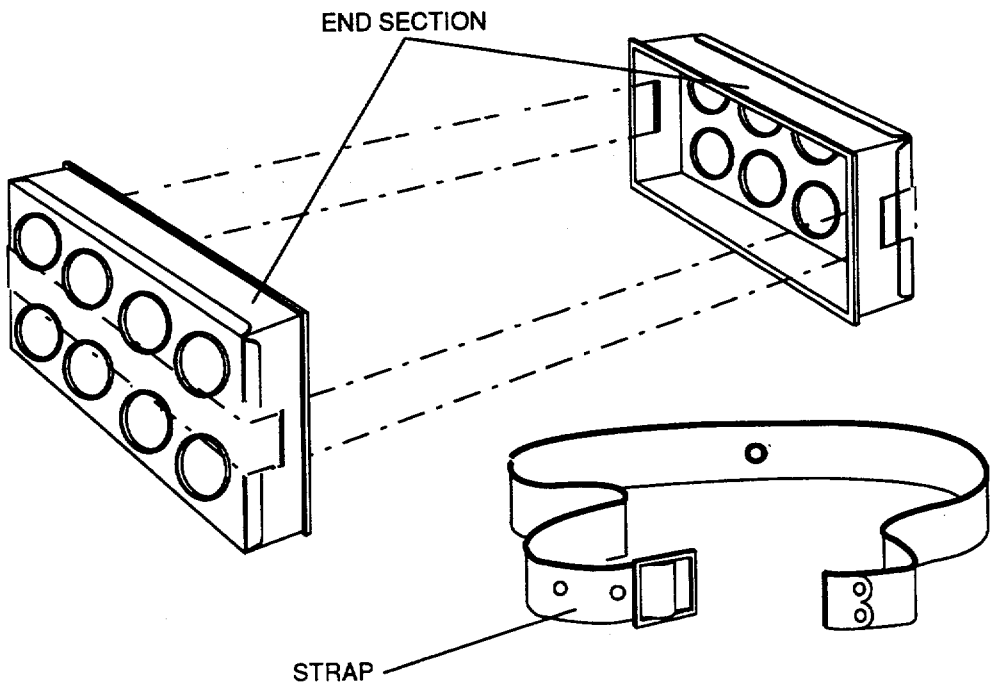


Figure 6-9. Mast Section Carrier Removal and Replacement

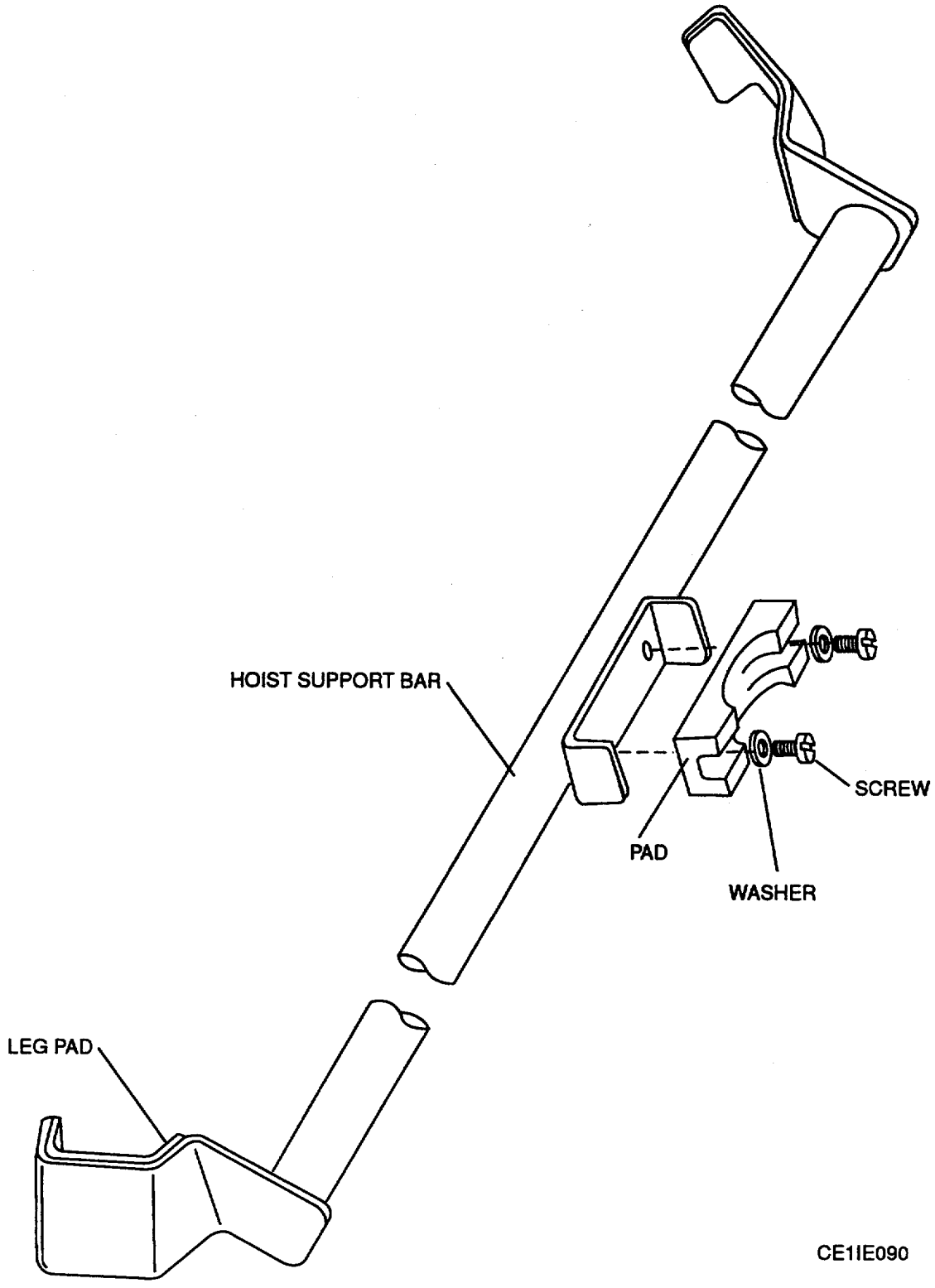


Figure 6-10. Hoist Support Bar Removal and Replacement

a. Removal.

(1) Remove two screws securing pad to hoist support bar.

(2) Remove pad and flat washers.

b. Replacement.

CAUTION

Be careful not to overtighten screws when replacing pad. Over tightening may damage pad.

(1) Replace flat washers and screws in pad.

(2) Secure pad to hoist support bar with two screws.

6-15 STEP ASSEMBLY REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of step assembly parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-15.1 Step Assembly Component Replacement Procedures. To remove and replace step assembly component parts, proceed as follows (fig. 6-11):

a. Removal.

(1) Align drop head pin retainer with pin body and slide pin out of step.

(2) Untie knots securing Terylene cord to step and head pin.

b. Replacement.

(1) Select a piece of 04 white, Terylene cord about 11 inches long.

(2) Slip one end of cord through hole in drop head pin. Tie a knot at end of cord to secure pin.

(3) Slip other end of cord through hole in step. Tie a knot at end of cord to secure step.

6-16 MAST SECTION REPAIR PROCEDURES.

Corrective maintenance of the 30-meter mast at the direct support level includes the removal and repair or replacement of mast section parts. This and subsequent subparagraphs contain instructions for removal and replacement of these parts.

6-16.1 Mast Section Component Replacement Procedures. To remove and replace mast section component parts, proceed as follows (fig. 6-12):

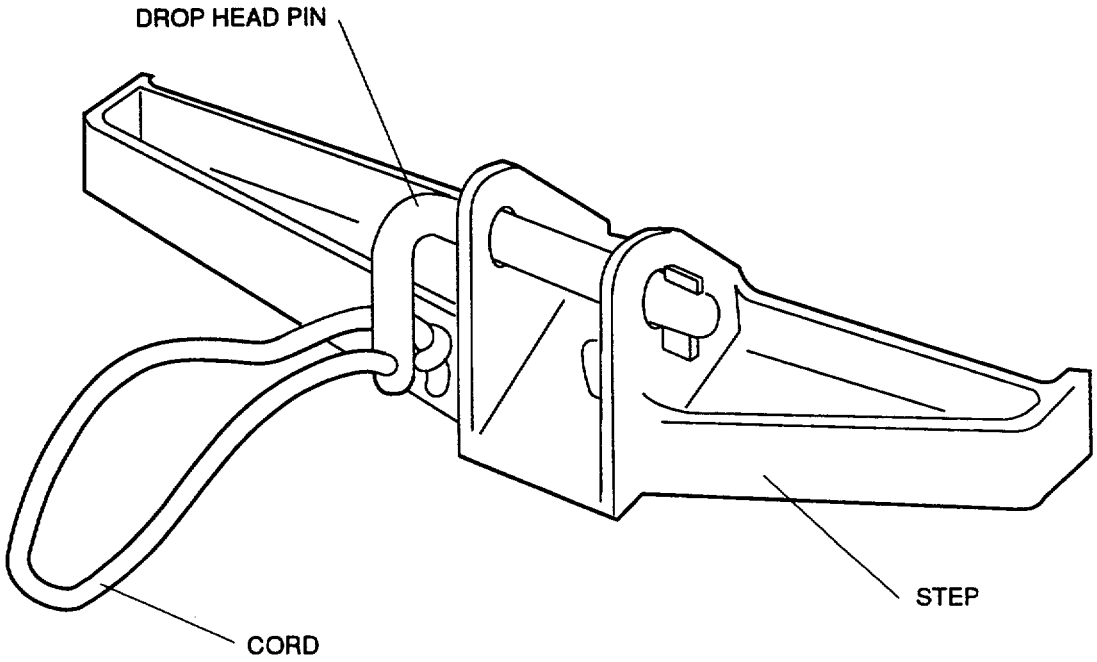


Figure 6-11. Step Assembly Removal and Replacement

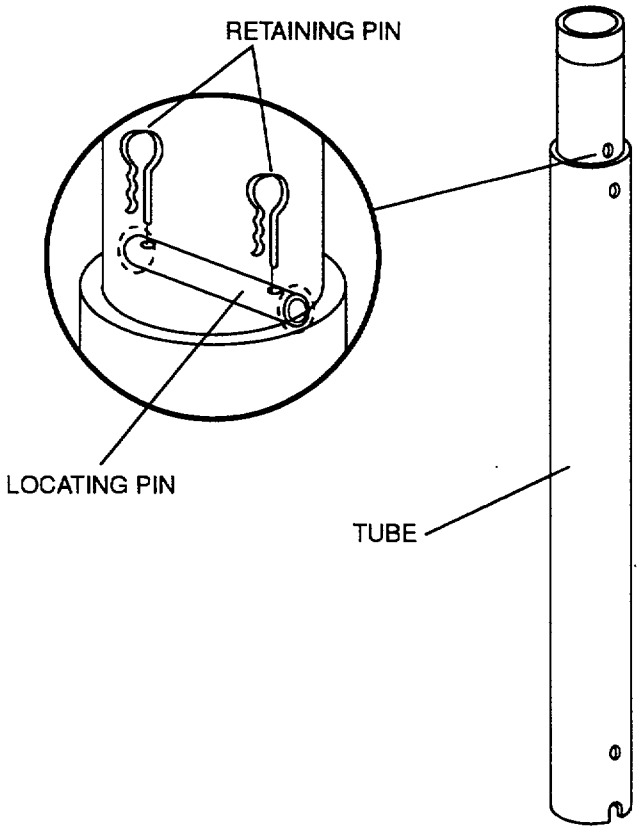


Figure 6-12. Mast Section Removal and Replacement

a. Removal.

(1) Remove two retaining pins located inside mast section tube that secure locating pin in position.

(2) Remove locating pin.

b. Replacement.

(1) Insert one end of locating pin partly into hole in mast section tube and insert straight side of retaining pin in hole in locating pin. Clip retaining pin in place over locating pin.

(2) Slide locating pin fully against inside wall of tube nearest retaining pin.

(3) Insert straight side of second retaining pin in hole on other end of locating pin, and clip pin in place.

APPENDIX A

REFERENCES

AR 55-38/NAVSUPINST 4610.33C/ AFR 75-18/MCO P4610.19D/ DLAR 4500.15	Reporting Transportation Discrepancies in Shipments
AR 735-11-2/DLAR 4140.55/ SECNAVINST 4355.18/AFR 400-54/ MCO 4430.3J	Reporting of Item and Packaging Discrepancies
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Pam 738-750	The Army Maintenance Management System (TAMMS)
DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms
FM 11-487-4	Installation Practices: Communications Systems Grounding, Bonding and Shielding
FM 21-11	First Aid for Soldiers
SF 361	Discrepancy in Shipment Report (DISREP): AR 55-38
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report
TM 750-244-2	Procedures for Destruction of Electronic Material to Prevent Enemy Use (Electronic Command)
TB 11-5800-216-15	Warranty Program for MSE
TB 43-0118	Field Instructions for Painting and Preserving Electronics Command Equipment Including Camouflage Pattern Painting of Electronic Equipment Shelters
TB 43-0129	Safety Measures to be Observed When Installing and Using Whip Antennas, Field-Type Masts, Towers, Antennas and Metal Poles That Are Used With Communication, Radar, and Direction Finder Equipment
TM 11-5820-1029-13&P	Operator's, Unit, and Direct Support Maintenance Manual Including RPSTL Radio Set AN/GRC-226(V)1 and AN/GRC-226(V)2
TM 11-5820-1024-13	Operator's, Unit, and Direct Support Maintenance Manual Radio Set AN/GRC-224
TM 11-5820-1023-13-1	Operator's, Unit, and Direct Support Maintenance Manual Line-of-Sight Multichannel Radio Terminal AN/TRC-190
TM 11-5820-1022-13-1	Operators, Unit, and Direct Support Maintenance Manual Radio Access Unit AN/TRC-191A

APPENDIX B
MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1 GENERAL.

This appendix provides for a summary of the maintenance operations for Mast, Antenna, 30-Meter AB-1340/G. It authorizes categories of maintenance and tools and equipment required to perform each function. This appendix can be used as an aid in planning maintenance operations.

B-2 MAINTENANCE FUNCTION.

Maintenance functions shall be limited to and defined as follows:

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

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean, preserve, drain, paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to about optimum or desired performance.

f. Calibrate. To determine and then correct or adjust any deviations in instruments or test measuring and diagnostic equipment used in precision measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

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

i. Repair. The application of maintenance services (inspecting, testing, servicing, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module/component/assembly, end item, or system. This function does not include the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

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

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

B-3 COLUMN ENTRIES (SECTION II).

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

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

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

d. Column (4). Maintenance Category. Column (4) specifies, by the listing of a "worktime" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column (3). This figure represents the active time in hours required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures are shown for each category. The number of task-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column (4) are as follows:

C - Operator/Crew
O- Organizational
F - Direct Support
H - General Support (L is Specialized Repair Activity)
D - Depot

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

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

B-4 TOOL AND TEST EQUIPMENT REQUIREMENTS (SECTION III).

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

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

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

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

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Commercial and Government Entity (CAGE) Code (5 digits) in parentheses.

B-5 REMARKS (SECTION IV).

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

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

NOTE

A # in the maintenance category, Section II, column (4), indicates that there is a technical manual in the Remarks section that is referenced.

SECTION II. MAINTENANCE ALLOCATION CHART
FOR
MAST, ANTENNA, 30 METER, AB-1340/G

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
00	MAST,	INSPECT	0.2						A
	ANTENNA,	INSTALL	1.0						
	30 METER	SERVICE	0.2						B
	AB-1 340/G	REPLACE		2.0					
		REPAIR		2.0					C
		REPAIR					*		D
01	GUY WINCH KIT	REPLACE		0.4					
		REPAIR		0.4					F
		REPAIR					*		D
02	HOIST	REPLACE		0.3					E
		REPAIR					*		D
03	LEG ASSEMBLY	REPLACE		2.0					
		REPAIR			0.5				
		REPAIR					*		D
04	MAST GUIDE	REPLACE		2.0					
	BOX	REPAIR			0.5				
		REPAIR					*		D
05	LIFTING BLOCK	REPLACE		0.3					
		REPAIR			0.5				
		REPAIR					*		D
06	CABLE	INSPECT		0.1					A
	ASSEMBLY RF	REPLACE		0.1					
		REPAIR			0.3				J
07	ANTENNA SIDE	REPLACE		1.5					
	MOUNT	REPAIR			0.3				
	ADAPTER	REPAIR					*		D
08	ANTENNA	INSPECT		0.1					A
	ADAPTER	REPAIR		0.3					G
	ASSEMBLY	REPLACE		0.2					
		REPAIR					*		D
0801	ANTENNA	REPAIR		0.2					H
	ADAPTER	REPLACE		0.1					
		REPAIR			0.3				
080101	KNOB	REPAIR		0.2					
	ASSEMBLY								

SECTION II. MAINTENANCE ALLOCATION CHART
FOR
MAST, ANTENNA, 30 METER, AB-1340/G

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
0802	CABLE	INSPECT		0.1					A
	ASSEMBLY	REPLACE		0.1					
	W5	REPAIR			0.3				E
9	GUY COLLAR	REPLACE		0.1					
		REPAIR			0.2				
		REPAIR					*		D
10	PICKET	REPLACE		0.1					
	LOCATION	REPAIR			0.2				
	LINE	REPAIR					*		D
11	BUBBLE	REPLACE		0.1					
	LEVEL	REPAIR			0.5				
		REPAIR					*		D
12	ROTATOR	REPLACE		0.2					
	EXTENSION	REPAIR			0.2				
		REPAIR					*		D
13	MAST	REPLACE		0.2					
	SECTION	REPAIR			0.2				
	CARRIER	REPAIR					*		D
14	HOIST	REPLACE		0.1					
	SUPPORT	REPAIR			0.2				
	BAR	REPAIR					*		D
15	STEP	INSPECT		0.1					
	ASSEMBLY	REPLACE		0.2					
		REPAIR			0.2				
		REPAIR					*		D
16	MAST	REPLACE		0.2					
	SECTION	REPAIR			0.2				
		REPAIR					*		D
17	ANTENNA	REPLACE	2.0				*		D
	ROTATOR	REPAIR							

SECTION III. TOOLS AND TEST EQUIPMENT FOR MAST, ANTENNA, 30 METER, AB-1340/G

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
THE TOOLS FOR THE REPLACE/REPAIR PROCEDURES FOR THE MAST, ANTENNA, 30 METER (AB-1 340/G) ARE IDENTIFIED IN THE BASIC ISSUE ITEMS LIST OF THE LINE-OF-SIGHT MULTI-CHANNEL RADIO TERMINAL.				

SECTION IV. REMARKS
FOR
MAST, ANTENNA, 30 METER, AB-1340/G

REFERENCE CODE	REMARKS
A	VISUAL
B	PERFORM PMCS (LUBRICATION AND OIL)
C	REPAIR INCLUDES REPLACEMENT OF FOOT ADJUSTMENT BRACE, GUY EXTENSION, SPIKE, FEEDER CABLESTRAP, ROTATOR EXTENSION ADAPTER, WINCH BAG, HOIST BAG, EQUIPMENT BAG, ACCESSORY BAG, PICKET BAG, PICKET AND CLAMP
D	(*) REFER TO AUTOMATIC RETURN ITEMS LIST (ARIL) FOR SOURCE OF REPAIR.
E	REPAIR BY REPLACING HOIST HANDLE.
F	REPAIR BY REPLACING SNAP HOOK, PIN OR WINCH HANDLE.
G	REPAIR IS LIMITED TO REPLACEMENT OF EQUIPMENT STORAGE BAG, LOCATING LINE, GUY ASSEMBLIES, GUY WIRE STAKES, TRIPOD STAKE, AND/OR CONNECTOR ADAPTER.
H	REPAIR IS LIMITED TO REPLACEMENT OF KNOB, NYLON WASHER, AND/OR COTTER PIN.
J	REPAIR BY REPLACEMENT OF CONNECTORS AND/OR CAPS.

APPENDIX C
COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

C-1 SCOPE.

This appendix lists integral components of and basic issue items for the Mast, Antenna, 30-Meter AB-1 340/G to help you inventory items required for safe and efficient operation.

C-2 GENERAL.

This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the Find Item. These items, when assembled, comprise the 30-meter mast and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the 30-Meter Mast in operation, to operate it, and to perform emergency repairs. They must accompany the 30-Meter Mast during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement Bll, based on TOE/MTOE authorization of the end item.

C-3 EXPLANATION OF COLUMNS.

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) Item Number. The number used to identify item called out in the illustration.

b. National Stock Number. Indicates the National stock number assigned to the item and which will be used for requisitioning.

c. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. The part number indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. Following the part number, the Commercial and Government Entity (CAGE) code is shown in parentheses.

d. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

e. Usable on Code. Not applicable.

f. Quantity Required (QYy Req'd). This column lists the quantity of each item required for a complete major item.

g. Quantity. This column is left blank for use during an inventory. Under the RCVD column, list the quantity you actually receive on your major item. The DATE columns are for your use when you inventory the major item.

SECTION II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG.	(1) ILLUSTRATION (B) ITEM	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER CAGE	(4) LOCATION	(5) USUABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
		5985-01-249-2581	30M MAST ASS'Y, AB-1340/G 01-2731497-2 (67032) CONSISTING OF:					
		8105-01-370-4085	EQUIPMENT STORAGE BAG (FOR ANT. CABLES) 86-2734992-2 (67032)			1		
		5995-01-287-6473	CABLE, ANTENNA, (45 FT) 09-2733594-4 (67032)			2		
1-1		5985-01-249-2581	30M MAST AND ACCESSORIES 01-2731310-3 (67032) CONSISTING OF:					
2-1	B	5985-01-360-2588	30M LEG ASSEMBLY 13981 (K3456)			3		
2-1	Q	5985-01-323-6460	30M MAST SECTION CARRIERS 6067 (K3456) EACH CONTAINING:			3		
2-1	H	5985-01-257-3144	MAST SECTIONS 13695 (K3456)			8		
2-1	U	5985-01-360-9049	30M WINCH ASS'Y BAG (NO.2) 13986 (K3456) EACH CONTAINING:			1		
2-1	J		GUY WINCH KIT, 13985 (K3456)			1		
		5985-01-299-8175	- INCLUDES HANDLE 5472 (K3456)			1		
2-1	L	4030-01-293-6237	SPIKE, 6409 (K3456)			3		
2-1	V	5985-01-297-0725	30M HOIST ASS'Y BAG (NO.) 6327 (K3456)			1		

SECTION II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG.	(1) ILLUSTRATION (B) ITEM	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER CAGE	(4) LOCATION	(5) USUABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
			CONTAINING:					
2-1	D	5985-01-257-3138	HOIST			1		
			6314 (K3456)					
		5985-01-299-8175	- INCLUDES HANDLE			1		
			5472 (K3456)					
2-1	W	5985-01-360-9050	30M EQUIPMENT BAG (NO.4)			1		
			13987 (K3456)					
			CONTAINING:					
2-1	D	5985-01-360-9005	MAST GUIDE BOX			1		
			13984 (K3456)					
2-1	E	5985-01-257-3140	LILFTING BLOCK			1		
			5246 (K3456)					
2-1	F	5210-01-258-5942	BUBBLE LEVEL			1		
			5426 (K3456)					
2-1	1	5975-01-297-6677	GUYCOIAR			4		
			5237 (K3456)					
2-1	O	5985-01-293-6238	FEEDERCABLE STRAP			6		
			5809 (K3456)					
2-1	X	5985-01-360-9051	30M ACCESSORY BAG (NO.5)			1		
			13988 (K3456)					
			CONTAINING:					
2-1	C	5985-01-257-9917	STEPASSENMBL			4		
			13694 (K3456)					
		5975-01-363-9255	FOOT ASSEMBLY			3		
			13989 (K3456)					
2-1	G	5340-99-780-2415	FOOT ADJUSTMENT BRACE			1		
			5373 (K3456)					
2-1	L	4030-01-293-6237	SPKE,			3		
			6409 (K3456)					
2-1	U	5340-01-360-2243	CLAMP			3		
			13982 (K3456)					

SECTION II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG.	(B) ITEM	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER CAGE	(4) LOCATION	(5) USUABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	DATE
2-1	K	5985-01-257-2755	15M GUY EXTENSION, 13675 (K3456)			6		
2-1	N	5985-01-254-9559	STAKE (PICKET) LOCATION LINE, 5422 (K3456)		1			
2-1	T	5985-01-257-3141	SIDE MOUNTING ADAPTER, 8484 (K3456)			1		
		5985-01-257-3147	ANTENNA ROTATOR 8130 (K3456)			1		
		3950-01-258-7162	HOIST SUPPOLT BAR 7863 (K3456)			1		
		5985-01-266-6020	ROTATOR EXTENSION 13696 (K3456)			1		
2-1		5340-01-368-8343	30M STAKE (PICKET) BAG (NO.6) 13759 (K3456) EACH CONTAINING:			3		
2-1	M	4030-99-663-1975	STAKE(PICKET) 1847 (K3456)			3		
		5985-01-370-4646	ANTENNA ADAPTER KIT 63-2750612-1 (67032) CONSISTS OF:			1		
			ANTENNA ADAPTER ASSY 03-2750613-1 (67032)			1		
			STORAGE BAG 86-2750709-1 (67032) CONTAINING:			1		
			STAKE, GUY WRE 82-2750614-1 (67032)			4		
			GUY ASSERRLY 03-2750615-1 (67032)			4		

SECTION II. INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION (A) FIG.	(1) ILLUSTRATION (B) ITEM	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER	(3) CAGE	(4) LOCATION	(5) USUABLE ON CODE	(6) QTY REQD	(7) QUANTITY RCVD	(7) QUANTITY DATE
			LINE, LOCATING						
			89-2750616-1	(67032)			1		
		5935-01-035-5650	ADAPTER, CONNECTOR						
			M55339/07-00029	(81349)			1		
		5995-01-358-6770	CABLE ASSY, SIGNAL, ELEC						
			09-2734023-2	(67032)			1		
			STAKE, TRIPOD						
			82-2735123-1	(67032)			1		

APPENDIX E
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1 SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the Mast, Antenna, 30 Meter AB-1340/G. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

E-2 EXPLANATION OF COLUMNS.

a. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 3, App. E").

b. Column P - level. This column identifies the lowest level of maintenance that requires the listed item.
   C - Operator/Crew
   O - Organizational Maintenance
   F - Direct Support Maintenance
   H - General Support Maintenance.

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

d. Column 4- Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Commercial and Government Entity (CAGE) code in parentheses, if applicable.

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

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1)	(2)	(3)	(4)	(5)
ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION PART NO. AND FSCM	UM/UI
1	O	7920-00-205-1711	Rags, Wiping A-A-531 (58536)	50 LB BAIL
2	O	9150-00-189-6727	Lubricating Oil MIL-L-2104 (81349)	QT
3	O	6850-00-105-3084	Cleaning Compound, Trichloriflouroethane	16 OZ
4	O	8030-00-081-2325	Sealing Compound, MIL-S-22473, Grade H (05972)	50 CC
5	O	8030-00-082-2508	Primer, MIL-S-22473, Grade T, Form R (05972)	4 0Z

APPENDIX F
OPERATOR'S, UNIT, AND DIRECT SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

F-1. Scope.

This appendix lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit and direct support maintenance of the AB-1340/G. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

F-2. General.

This Repair Parts and Special Tools List (RPSTL) is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numeric sequence, with the parts in each group listed in ascending item number sequence. Figure numbers are listed directly beneath the group header.

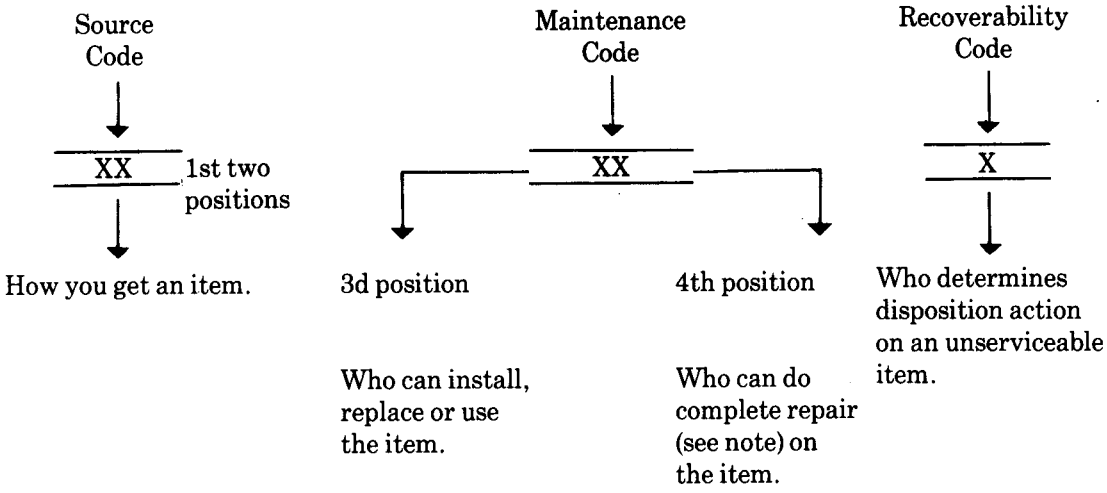
b. Section III. Special Tools List. Not applicable.

c. Section IV. Cross-Reference Indexes. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure number and item number index lists figure and item numbers in numeric sequence and cross-references National stock number, Commercial and Government Entity Code (CAGEC) and part numbers.

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

a. item No. (Column (1)). Indicates the number used to identify items called out in the illustration.

b. SMR Code (Column (2)). The source, maintenance, and recoverability (SMR) code is a five-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:



NOTE

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

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

Code	*Explanation*
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the third position of the SMR code. **NOTE** **Items coded PC are subject to deterioration.**
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
MO—Made at org/ AVUM category MF—Made at DS/ AVUM category MH—Made at GS category ML—Made at Specialized Repair Activity (SRA) MD—Made at Depot	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the description and usable on code (UOC) column and listed in the Bulk Material group of the repair parts the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
AO—Assembled by org/AVUM category AF—Assembled by DS/AVUM category AH—Assembled by GS category AL—Assembled by SRA AD—Assembled by Depot	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.

Code		*Explanation*
XA	-	Do not requisition an "XA" coded item. Order its next higher assembly.
XB	-	If an "XB" item is not available from salvage, order it using CAGEC and part number given.
XC	-	Installation drawing, diagram, instruction sheet, field service drawing that is identified by manufacturers part number.
XD	-	Item is not stocked. Order an "XD" coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

NOTE

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

(2) Maintenance code. Maintenance codes tell you the category of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code		*Application/Explanation*
C	-	Crew or operator maintenance done within organizational or aviation unit maintenance.
O	-	Organizational or aviation unit category can remove, replace, and use the item.
F	-	Direct support or aviation intermediate category can remove, replace, and use the item.
H	-	General support category can remove, replace, and use the item.
L	-	Specialized repair activity can remove, replace, and use the item.
D	-	Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). This position will contain one of the following maintenance codes.

NOTE

Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

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

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

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

c. CAGEC (Column (3)). The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

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

NOTE

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

e. Description and Usable on Code (UOC) (Column (5)). This column includes the following information:
   (1) The Federal Item name and, when required, a minimum description to identify the item.
   (2) The statement "END OF FIGURE" appears just below the last item description in Column (5) for a given figure in both sections II and III.

f. Qty (Column (6)). Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

F-4. Explanation of Columns (Section IV).

a. National Stock Number (NSN) Index.
   (1) Stock number column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. When requisitioning items, use the complete NSN (13 digits).
   (2) Fig. column. This column lists the number of the figure where the item is identified/located. The illustrations are in numerical sequence in sections II and IIII.
   (3) Item column. The item number identifies the item associated with the figure listed in the adjacent Fig. column. This item is also identified by the NSN listed on the same line.

b. Part Number Index. Part numbers in this index are listed by part number in ascending alphanumeric sequence.
   (1) CAGEC column. This column lists the Commercial and Government Entity Code (CAGEC).

   (2) Part number column. This column indicates the part number assigned to the item.

   (3) Stock number column. This column lists the National stock number for the associated part number and manufacturer identified in the part number and CAGEC columns to the left.

   (4) Fig. column. This column lists the number of the figure where the item is identified/located in sections II and IIII.

   (5) Item column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. Figure and Item Number Index.
   (1) Fig. column. This column lists the number of the figure where the item is identified/located in sections II and III.

   (2) Item column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

   (3) Stock number column. This column lists the National stock number for the item.

   (4) CAGEC column. The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

   (5) Part number column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

F-5. Special Information.

National Stock Numbers. National stock numbers (NSNs) that are missing from P source coded items have been applied for and will be added to this TM by future change/revision when they are entered in the Army Master Data File (AMDF). Until the NSNs are established and published, submit exception requisitions to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LM, Fort Monmouth, New Jersey 07703-5007 for the part required to support your equipment.

F-6. How to Locate Repair Parts.

a. When National stock number or part number is not known.
   (1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

   (2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

   (3) Third. Identify the item on the figure and note the item number.

   (4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

   (5) Fifth. Refer to the Part Number Index to find NSN, if assigned.

b. When National stock number or part is known.

(1) First. Using the index of National stock numbers and part numbers, find the pertinent National stock number or part number. The NSN index is in National item identification number (NIIN) sequence (para 4a(1)). The part numbers in the part number index are listed in ascending alphanumeric sequence (para 4b). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) Second. After finding the figure and item number, verify that the item is the one you are looking for, then locate the item number in the repair parts list for the figure.

F-7. Abbreviations.

Not applicable.

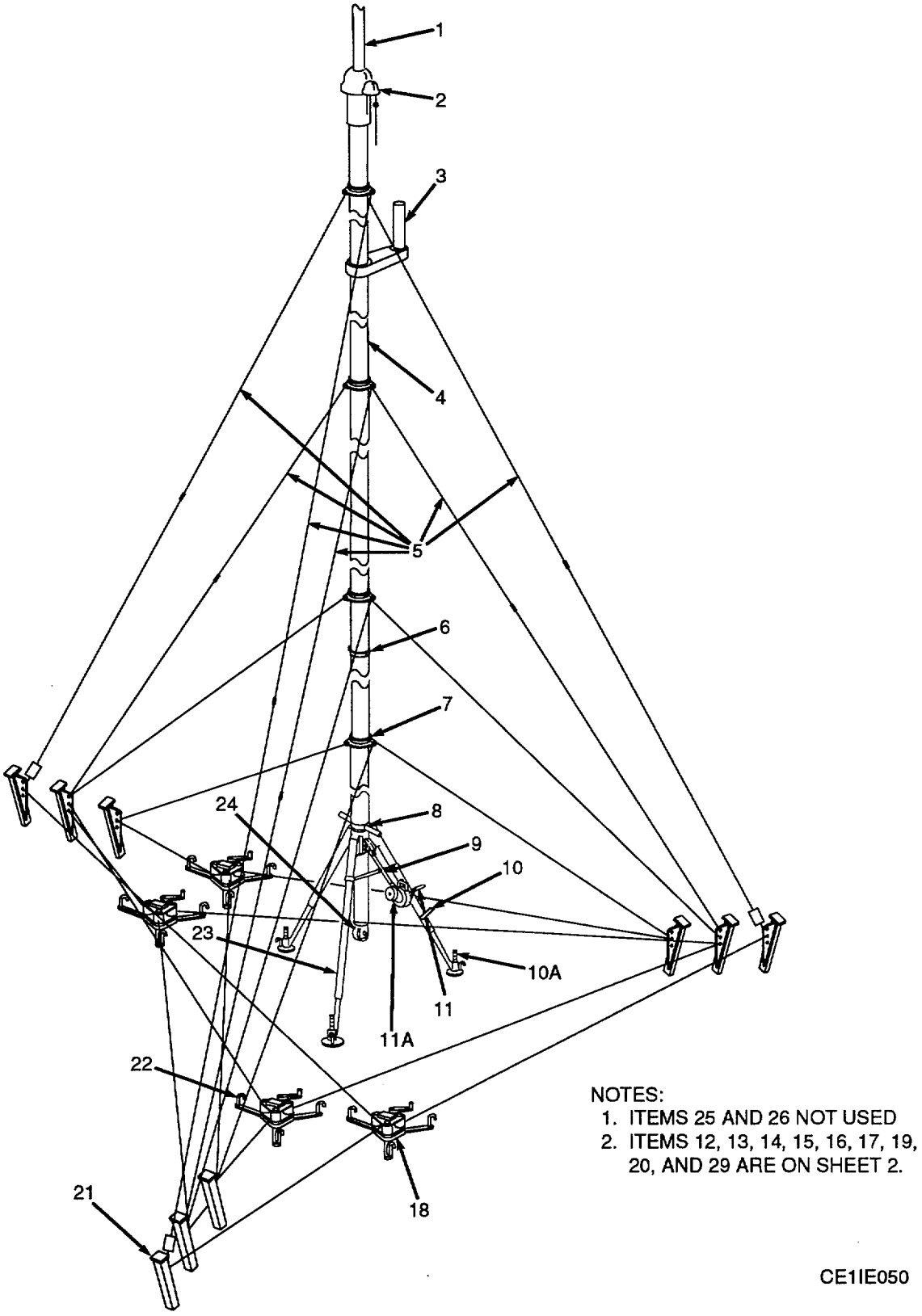


Figure F-1. Mast, Antenna 30-Meter AB-1340/G (Sheet 1 of 2)

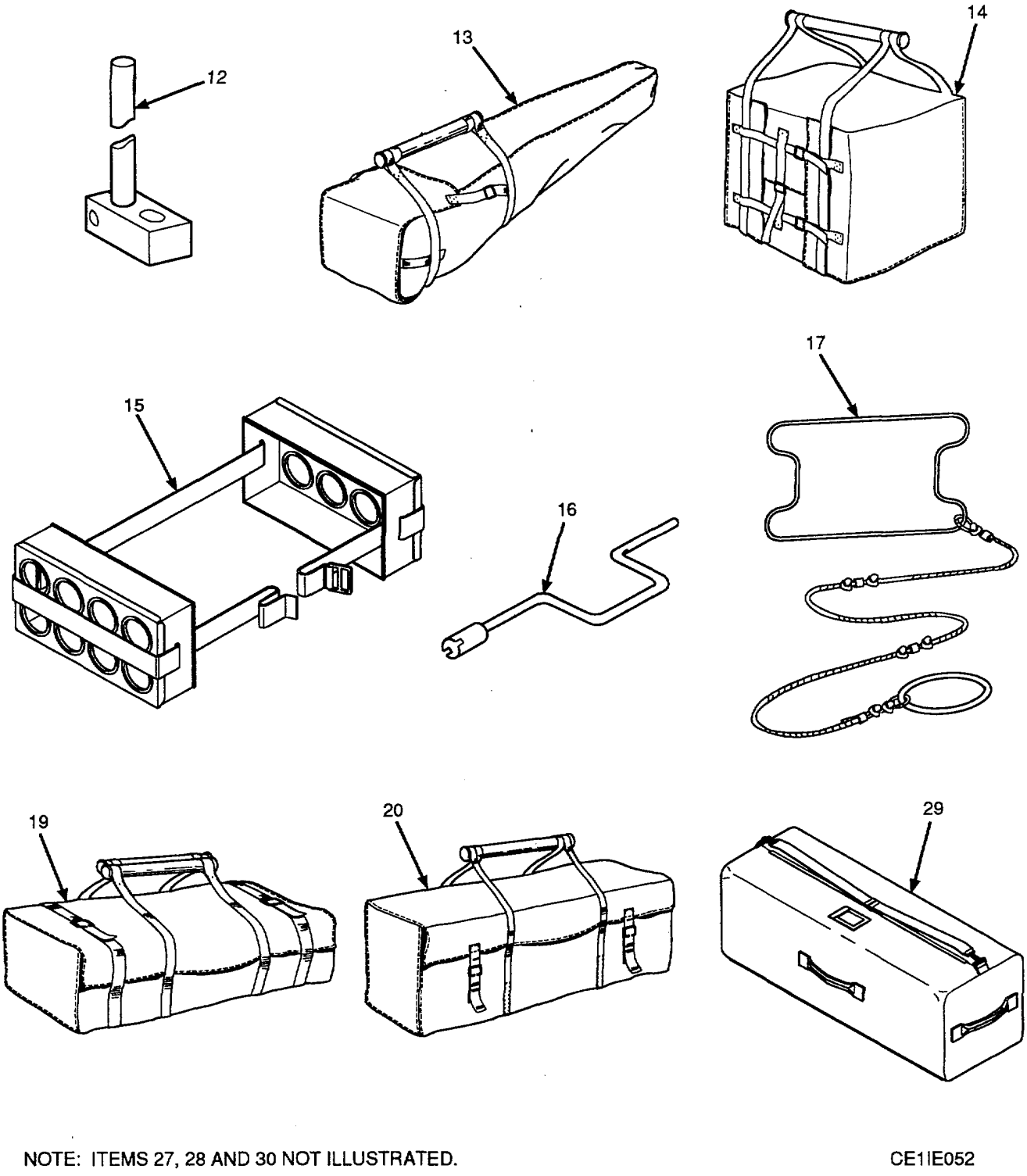


Figure F-1. Mast, Antenna 30-Meter AB-1340/G (Sheet 2 of 2)

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 00 MAST ANTENNA 30 METER AB-1340/G FIGURE F-1	
1	PAOZZ	5985012666020	K3456	13696	SUPPORT, ANTENNA	1
2	PAODA	5985012573147	67032	8130	DRIVE, ANTENNA	1
3	PAODA		67032	8484	ANTENNA SIDE MOUNT	1
4	PAOZA	5985012573144	67032	13695	MAST	24
5	PAOZZ	4030012642755	K3456	13675	GUY ATTACHMENT	6
6	PAOZZ	5985012936238	K3456	5809	CABLE STRAP, FEEDER	6
7	PAOZZ	5975012976677	K3456	5237	COLLAR, CABLE	4
8	PAFFZ	5985013609005	67032	13984	MAST SECTION	1
9	PAOZZ	3950012587162	K3456	7863	BAR, HOIST SUPPORT	4
10	PAOZZ	5985012579917	67032	13694	STEP ASSEMBLY	4
10A	PAOZZ	5975013629255	67032	13989	FOOT, ELECTRICAL EQU	3
11	PAOZZ		K3456	5472	HANDLE ANTENNA	1
11A	PAODA	5985012573138	67032	6314	HOIST	1
12	PAOZZ	5210012585942	67032	5426	BUBBLE LEVEL	1
13	PAOZZ	5985012970725	14933	6327	CASE, ANTENNA	1
14	PAOZZ	5985013609049	67032	13986	CASE, ANTENNA	4
15	PAOZZ	5985013236460	67032	6067	MAST SECTION CARRIE	3
16	PAOZZ	5340997802415	K3456	5373	BRACE, CORNER	1
17	PAOZZ	5985012549559	67032	5422	STAKE, LOCATION LINE	9
18	PAODA	5985013519084	67032	13985	ANTENNA ELEVATOR GR	4
19	PAOZZ	5985013609051	67032	13988	CASE, ANTENNA	1
20	PAOZZ	5985013609050	67032	13987	CASE, ANTENNA	1
21	PAOZZ	4030996631975	K3456	1847	STAKE, GUY	9
22	PAOZZ	4030012936237	K3456	6409	SPIKE	15
23	PAFFA	5985013602588	67032	13981	TRIPOD, ANTENNA	3
24	PAODA	5985012573140	67032	5246	LIFTING BLOCK	1
27	PAOZZ	5340013602243	67032	13982	CLAMP, LOOP	1
28	PAOZZ	5340013688343	K3456	13759	PICKET BAG, STAKE	1
29	PAOZZ	8105013704085	67032	86-2734992-2	BAG, TEXTILE	1
30	PBODA	5985013704646	67032	63-2750612-1	ASSEMBLY, ADAPTER	1
					END OF FIGURE	

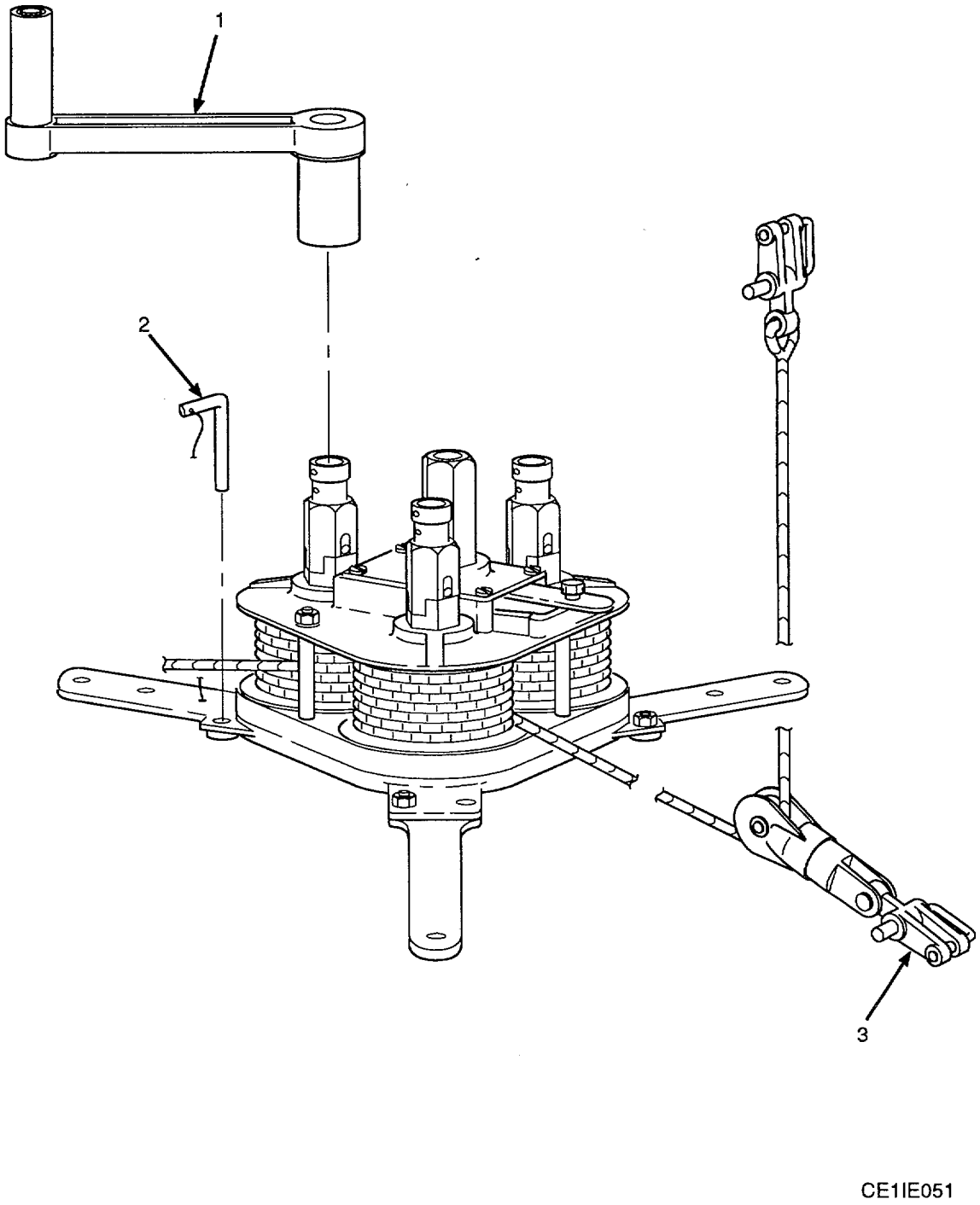


Figure F-2. Guy Winch Kit

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 01 GUY WINCH KIT FIGURE F-2	
1	PAOZZ	5985012998175	K3456	5472	HANDLE, ANTENNTA	1
2	PAOZZ	5985012998176	K3456	5376	SUPPORT, ANTENNA	3
3	PAOZZ	5340996369251	K3456	7547-B	SNAP HOOK	3
					END OF FIGURE	

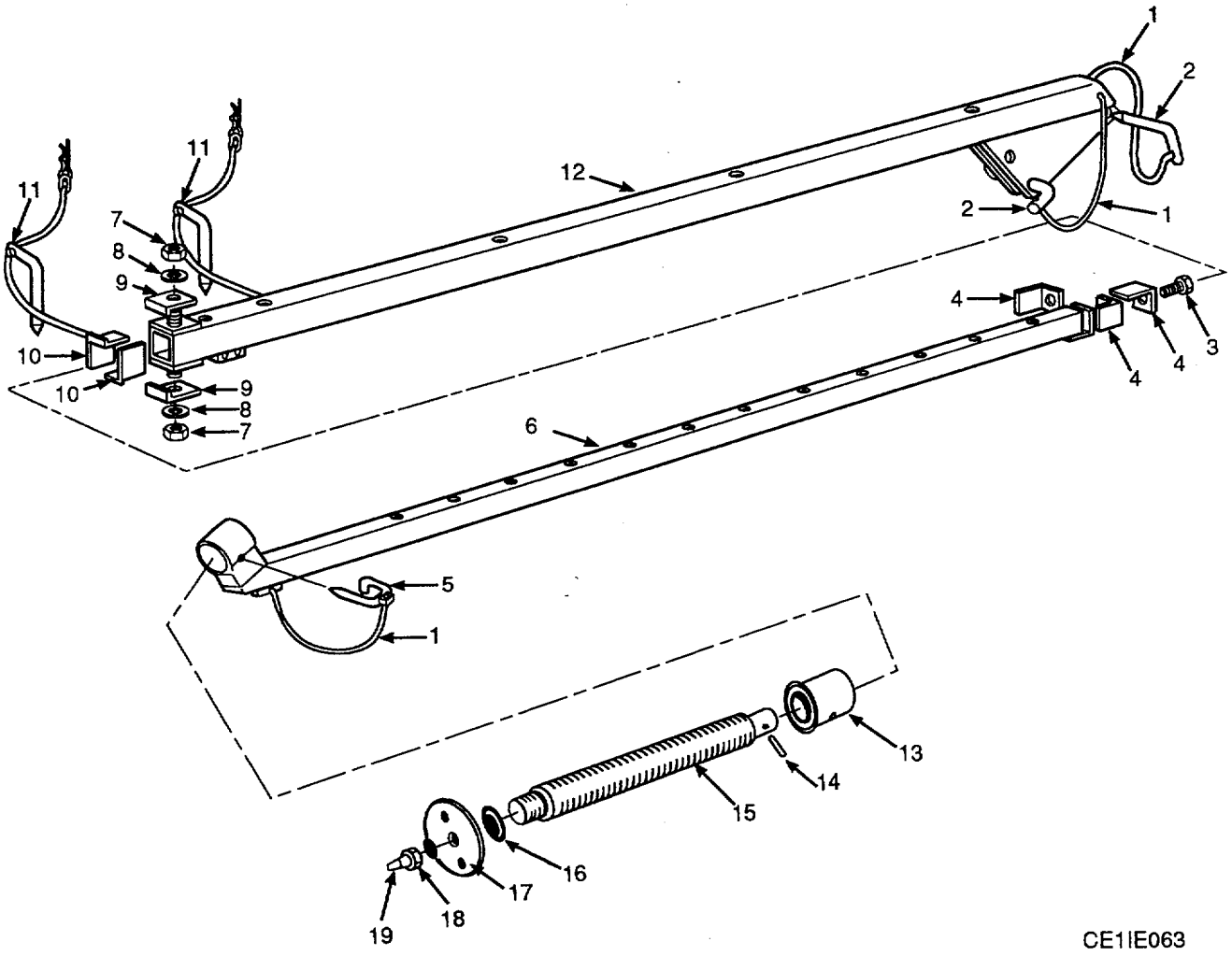


Figure F-3. Leg Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 03 LEG ASSEMBLY	
					FIGURE F-3	
1	PAFZZ	K3456	2529	CORD, FIBROUS		5
2	PAFZZ	K3456	13703	PIN, DROP HEADD		2
3	PAFZZ	K3456	B6267	SCREW HEX		1
4	PAFZZ	K3456	13396	ANGLE, SLIDE		4
5	PAFZZ	K3456	13701	ASSEMBLY FOOT CLIP		1
6	PAFZZ	K3456	13431	INNER LEG		1
7	PAFZZ	K3456	B5772	NUT, HEX		2
8	PAFZZ	K3456	B5773	WASHER, FLAT		2
9	PAFZZ	K3456	13399	PLATE, STOP		2
10	PAFZZ	K3456	13397	PLATE, GIB CORNER		2
11	PAFZZ	K3456	13964	SUPPORT ANTENNA		2
12	PAFZZ	K3456	13402	OUTER LEG		1
13	PAFZZ	K3456	13702	NUT FOOT		1
14	PAFZZ	K3456	B8259	PIN, SPRING		1
15	PAFZZ	K3456	13700	LEVELING SCREW		1
16	PAFZZ	K3456	7986	WASHER		1
17	PAFZZ	K3456	7989	FOOT PLATE		1
18	PAFZZ	K3456	7985	WASHER FLAT		1
19	PAFZZ	K3456	2046	STUD PLATE		1
					END OF FIGURE	

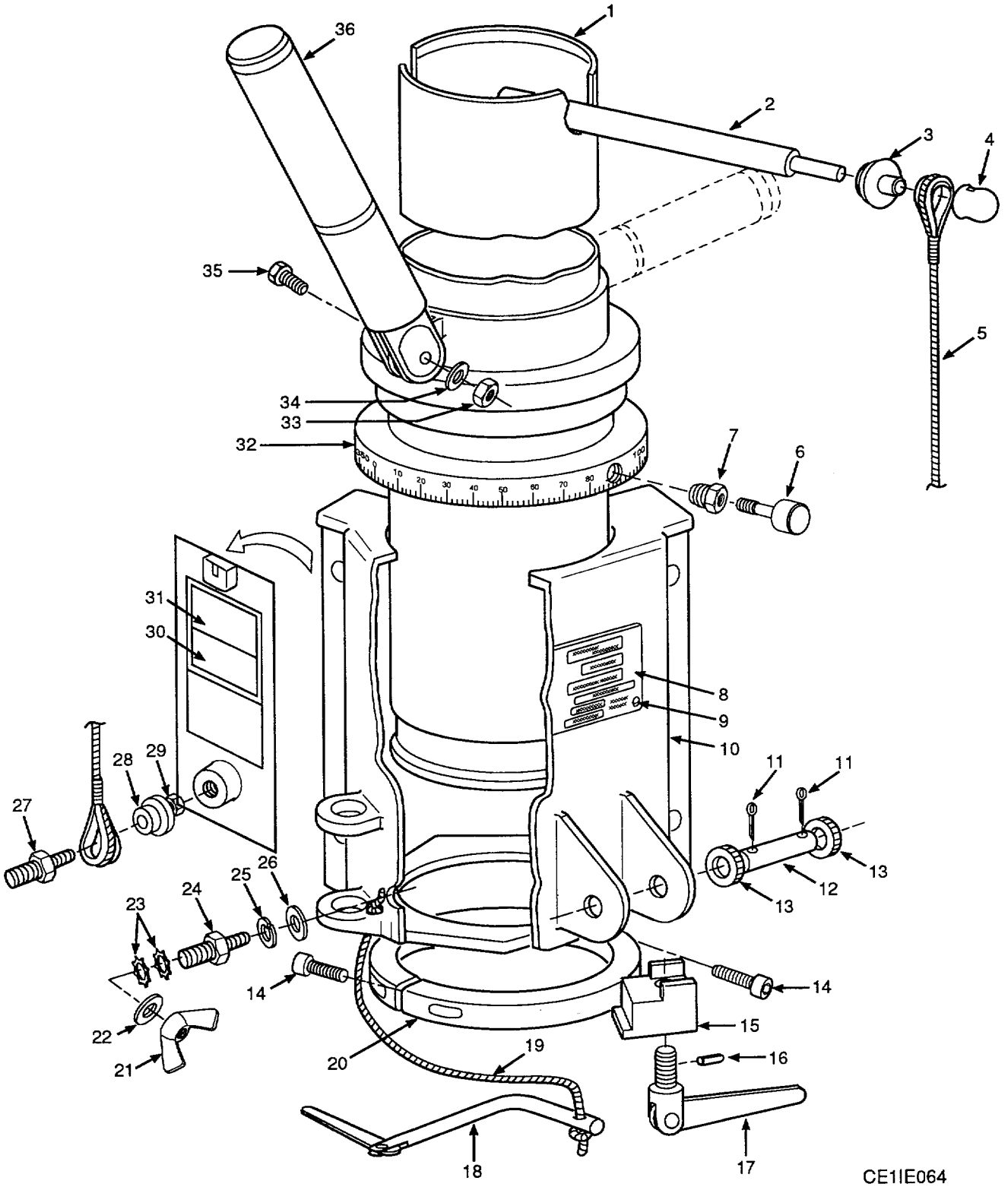


Figure F-4. Mast Guide Box

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 04 MAST GUIDE BOX	
					FIGURE 04	
1		PAFZZ	K3456	5267	GUIDE SLEEVE, MAST	1
2		PAFZZ	K3456	5431	PIN SUPPORT	1
3		PAFZZ	K3456	5432	BUSHING SHOULDER	1
4		PAFZZ	K3456	5433	CAP PROTECTIVE	1
5		PAFZZ	K3456	13712	ROPE	1
6		PAFZZ	K3456	6758	SCREW, THUMB	2
7		PAFZZ	K3456	7110	INSERT SCREW	2
8		PAFZZ	K3456	18067	LABEL	1
9		PAFZZ	K3456	B5998	SCREW DRIVE	4
10		PAFZZ	K3456	5266	GUIDE BOX MAST	1
11		PAFZZ	K3456	B436	PIN	2
12		PAFZZ	K3456	13708	PIN	I1
13		PAFZZ	K3456	B983	WASHER FLAT	1
14		PAFZZ	K3456	B5770	CAPSCREW	2
15		PAFZZ	K3456	5394	CLAP BLOCK	1
16		PAFZZ	K3456	B2443	PIN, SPRING	1
17		PAFZZ	K3456	5390	SCREW ASSY LOCKING	1
18		PAFZZ	K3456	13697	PIN	
19		PAFZZ	K3456	B3860	CORD	1
20		PAFZZ	K3456	5438	RING RETAINING	1
21		PAFZZ	K3456	B12177	NUT, WING	1
22		PAFZZ	K3456	B12170	WASHER, FLAT	1
23		PAFZZ	K3456	B12175	WASHER, LOCK	2
24		PAFZZ	K3456	13962	STUD	1
25		PAFZZ	K3456	B12176	WASHER, LOCK	1
26		PAFZZ	K3456	B12174	WASHER	2
27		PAFZZ	K3456	6316	STUD	1
28		PAFZZ	K3456	6317	FERRULE	1
29		PAFZZ	K3456	B5772	NUT, HEX	1
30		PAFZZ	K3456	13764	LABELL	1
31		PAFZZ	K3456	13721	LABEL	1
35		PAFZZ	K3456	7641/1	RING ASSY AZIMUTH	1
33		PAFZZ	K3456	B5905	NUT SELF LOCK	2
34		PAFZZ	K3456	B5773	WASHER, FLAT	2
35		PAFZZ	K3456	B5904	BOLT HEX.	2
36		PAFZZ	K3456	7643	HANDLE ASSY	2
					END OF FIGURE	

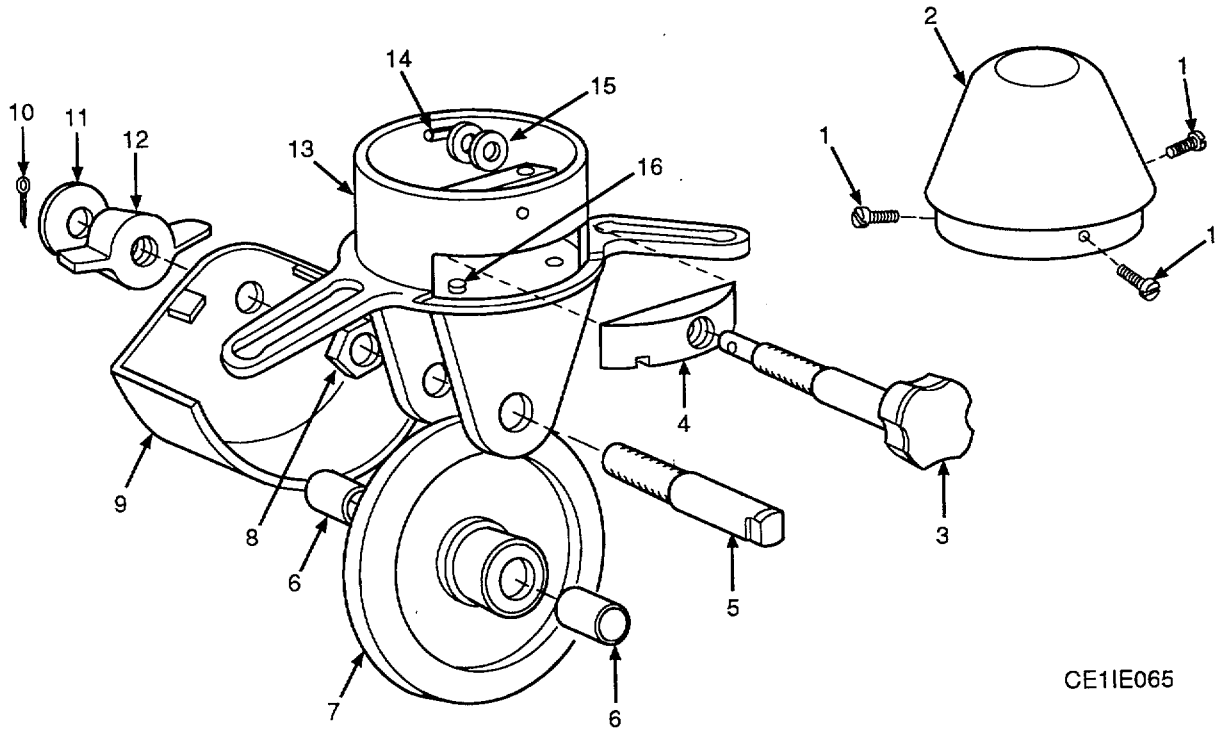


Figure F-5. Lifting Block

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 05 LIFTING BLOCK	
					FIGURE F-5.	
1	PAFZZ		K3456	B5797	SCREW, MACHINE	3
2	PAFZZ		K3456	5799	CONE	1
3	PAFZZ		K3456	5421	CLAMP SCREW	1
4	PAFZZ		K3456	5419	CLAMP SEGMENT	1
5	PAFZZ		K3456	5420	SPINDLE	1
6	PAFZZ		K3456	B5467	BEARING BRONZE	2
7	PAFZZ		K3456	5416	PULLEY	1
8	PAFZZ		K3456	5466	NUT	1
9	PAFZZ		K3456	5417	GUARD PULLY	1
10	PAFZZ		K3456	B4383	PIN	1
11	PAFZZ		K3456	B983	WASHER FLAT	1
12	PAFZZ		K3456	1576	NUT WING	1
13	PAFZZ		K3456	5415	LIFTING BLOCK	1
14	PAFZZ		K3456	B5468	PIN, SPRING	1
15	PAFZZ		K3456	B981	WASHER FLAT	2
16	PAFZZ		K3456	5469	PIN	1
					END OF FIGURE	

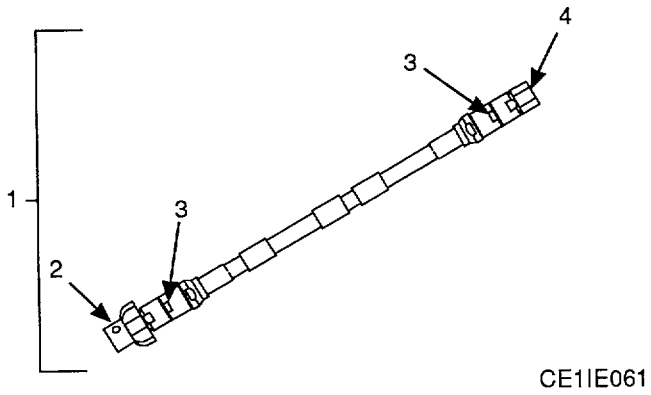


Figure F-6. Cable Assembly, RF

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 06 CABLE ASSEMBLY RF	
					FIGURE F-6.	
1	PAOFF	5995012876473	67032	09-2733594-4	CABLE ASSEMBLY, SPEC	1
2	PAFZZ	5935013326461	11556	1550-0454	CONNECTOR, PLUG, ELEC	1
3	PAFZZ	5935013674313	11556	1540-0323	ADAPTER, CABLE CLAMP	2
4	PAFZZ	5935013326462	11556	1550-0455	CONNECTOR, PLUG, ELEC	1
					END OF FIGURE	

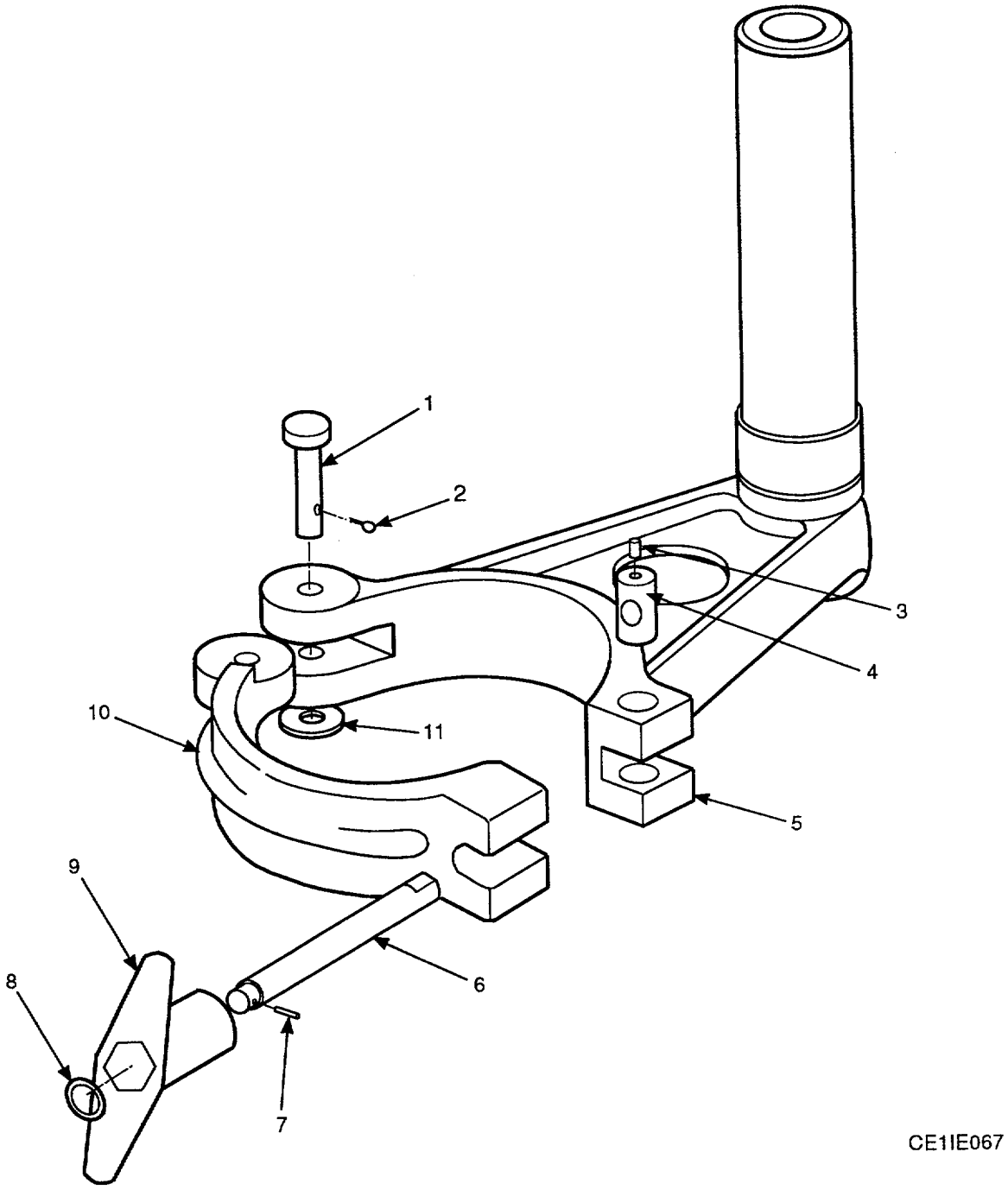


Figure F-7. Antenna Side Mount Adapter

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 07 ANTENNA SIDE MOUNT ADAPTER	
					FIGURE F-7.	
1	PAFZZ		K3456	6386	PIN HINGE	1
2	PAFZZ		K3456	B1742	PIN SPLIT COTTER	1
3	PAFZZ		K3456	B487	SOCKET GRABSCREW	1
4	PAFZZ		K3456	6385	PIN RIVET TH	1
5	PAFZZ		K3456	7650	BRACKET ASSY COLUMN	1
6	PAFZZ		K3456	7045	STUD	1
7	PAFZZ		K3456	B1608	PIN SPLIT COTTER	1
8	PAFZZ		K3456	5878	WASHER FLAT	1
9	PAFZZ		K3456	6380	HANDLE TEE	1
10	PAFZZ		K3456	7639	BRACKET CLAMP	1
11	PAFZZ		K3456	B984	WASHER FLAT	1
					END OF FIGURE	

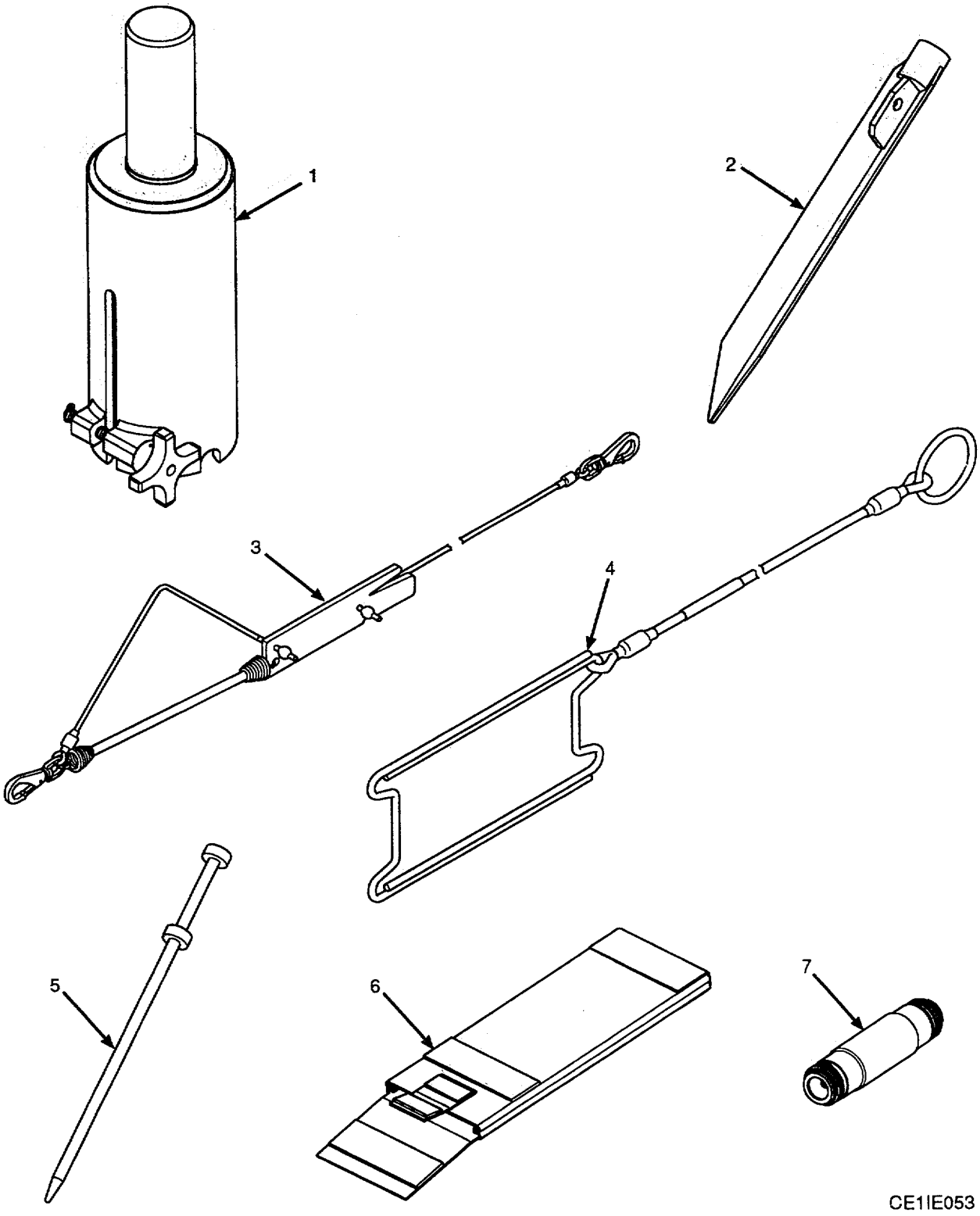


Figure F-8. Antenna Adapter Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 08 ANTENNA ADAPTER ASSEMBLY	
					FIGURE F-8.	
1	PAOFF	5985013719338	67032	03-2750613-1	ANTENNA SUPPORT GRO	1
2	PAOZZ	4030013711970	67032	82-2750614-1	STAKE, GUY	4
3	PAOZZ	4010013717903	67032	03-2750615-1	GUY	4
4	PAOZZ	5340013986548	67032	89-2750616-1	LINE, LOCATING	1
5	PAOZZ	4030013711647	67032	82-2735123-1	ANCHOR, GUY	1
6	PAOZZ	8105014002736	7D602	030168	BAG, SIGNAL EQUIPMEN	1
7	PAOZZ	5935010355650	81349	M55339/07-00029	ADAPTER, CONNECTOR	1
					END OF FIGURE	

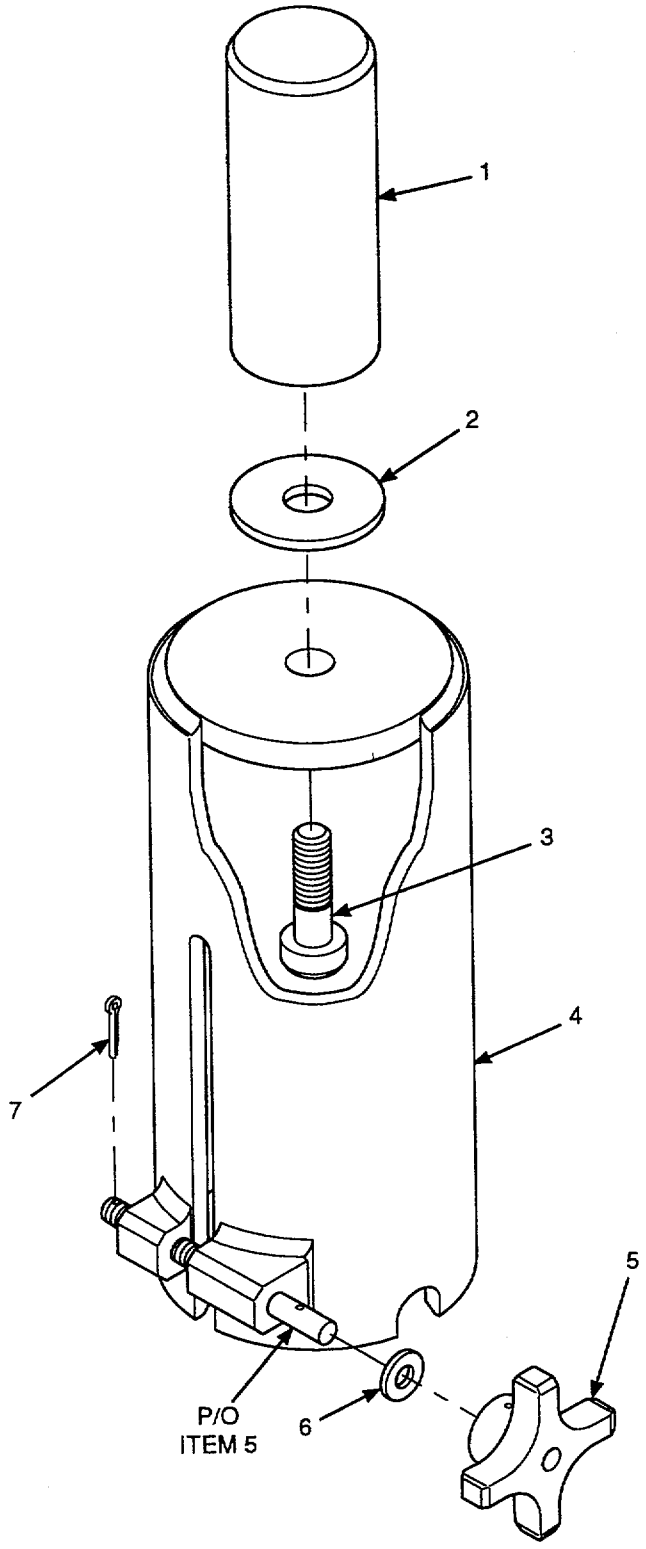


Figure F-9. Antenna Adapter

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0801 ANTENNA ADAPTER	
					FIGURE F-9.	
1	PAFZZ	5985013719339	67032	82-2750619-1	ANTENNA SUPPORT GRO	1
2	PAFZZ	3120013714704	67032	86-2750620-1	BUSHING, SLEEVE	1
3	PAFZZ	5305014071615	OC216	62N62KSS3	SCREW, SHOULDER	1
4	PAFZZ	3040013711372	67032	82-2750618-1	COLLAR, SHAFT	1
5	PAOOZ	5355013845698	67032	70-2750617-1	KNOB	1
6	PAOZZ	5310005339328	96906	MS51859-7	WASHER, FLAT	1
7	PAOZZ	5315002341854	96906	M524665-153	PIN, COTTER	1
					END OF FIGURE	

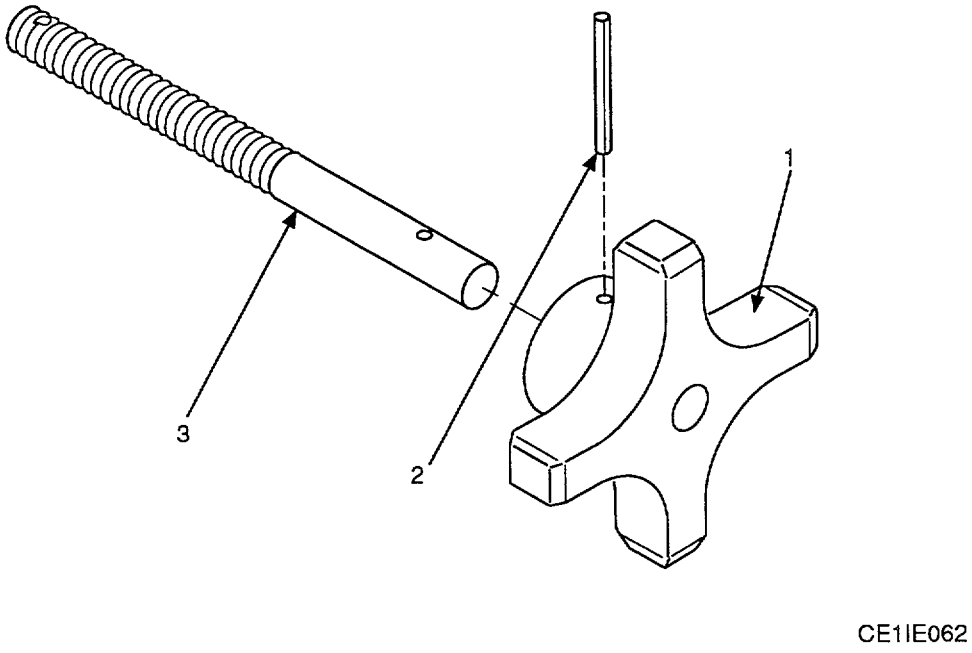


Figure F-10. Knob Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 080101 KNOB ASSEMBLY	
					FIGURE 10.	
1	PAOZZ	5355013716575	67032	82-1374648-11	KNOB	1
2	PAOZZ	5315008414442	96906	MS16562-224	PIN, SPRING	1
3	PAOZZ	3040013846523	67032	70-2750617-101	SHAFT, STRAIGHT	1
					END OF FIGURE	

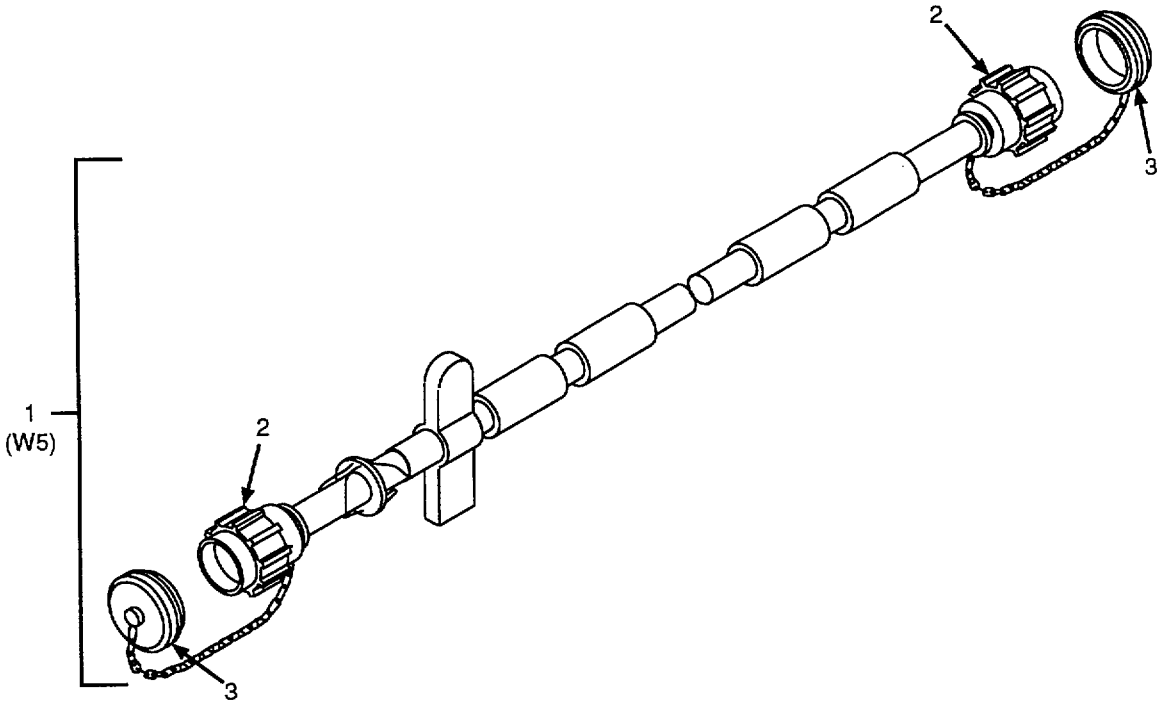


Figure F-11. Cable Assembly, W5

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0802 CABLE ASSEMBLY, H5	
					FIGURE F-11.	
1	PAOFF	5995013586770	67032	09-2734023-2	CABLE ASSEMBLY, SPEC	1
2	PAFZA	5935012631779	91836	1205-14-9	CONNECTOR, PLUG, ELEC	2
3	PAFZZ	5935010154400	91836	KN-89-12	COVER, ELECTRICAL CO	2
					END OF FIGURE	

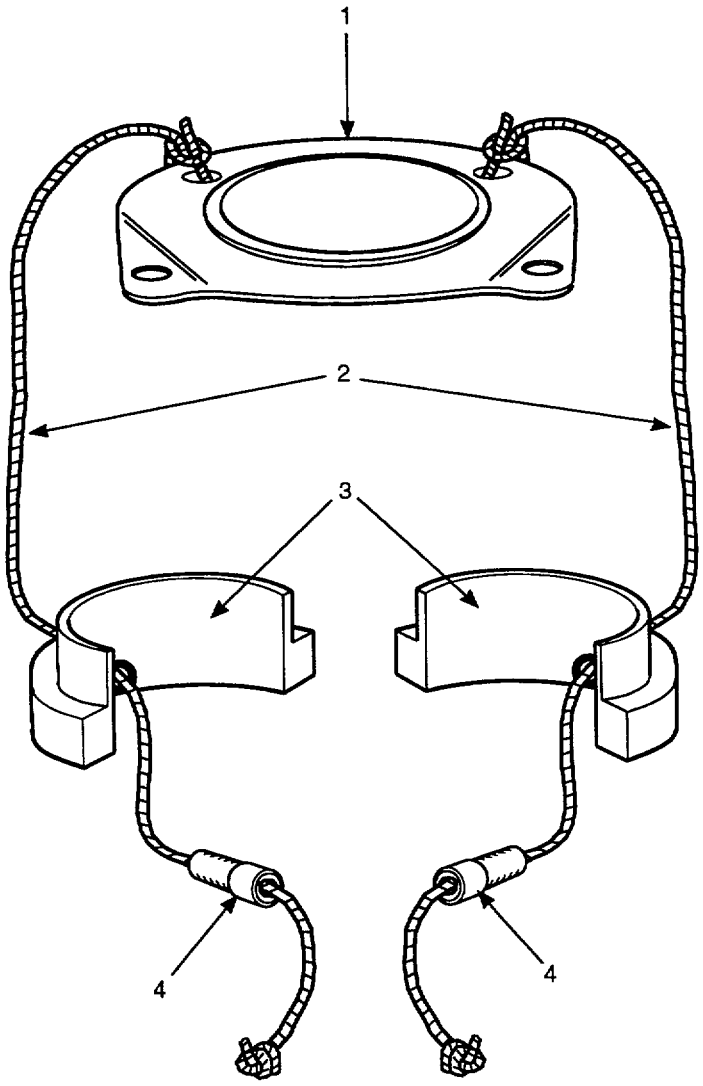


Figure F-12. Guy Collar

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 09 GUY COLLAR	
					FIGURE F-12.	
1	PAFZZ		K3456	5387/1	PLATE, GUY COLLAR	1
2	PAFZZ		K3456	B3860	CORD	2
3	PAFZZ		K3456	5388	RETAINING HALF GUY	2
4	PAFZZ		K3456	5389	SCREW	2
					END OF FIGURE	

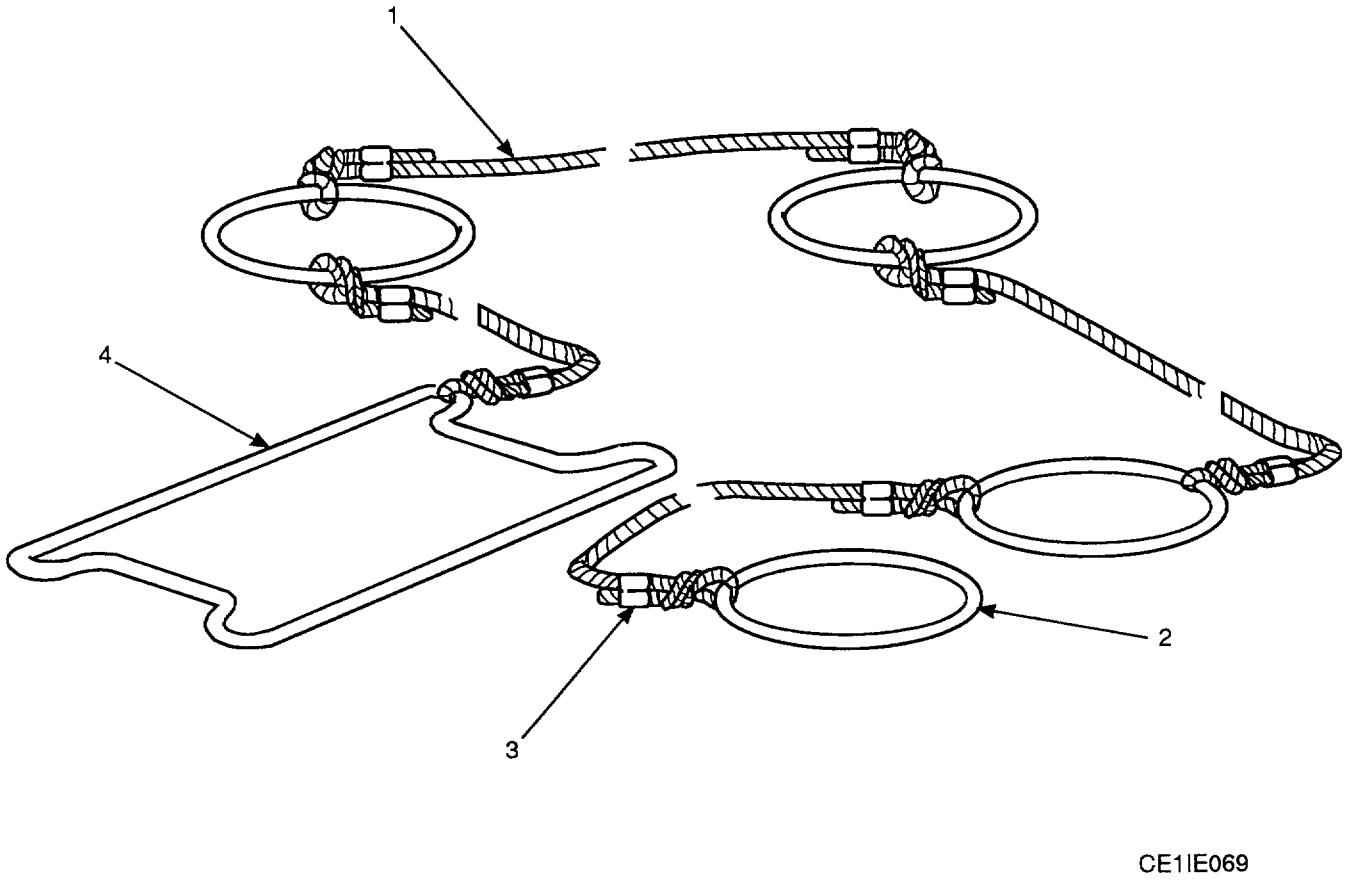


Figure F-13. Picket Location Line

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 10 PICKET LOCATION LINE	
					FIGURE F-13.	
1	PAFZZ		K3456	B3860	CORD	1
2	PAFZZ		K3456	5916	RING CONNECTING	4
3	PAFZZ		K3456	B4327	SLEEVE HOSE	8
4	PAFZZ		K3456	6554	SPOOL	1
					END OF FIGURE	

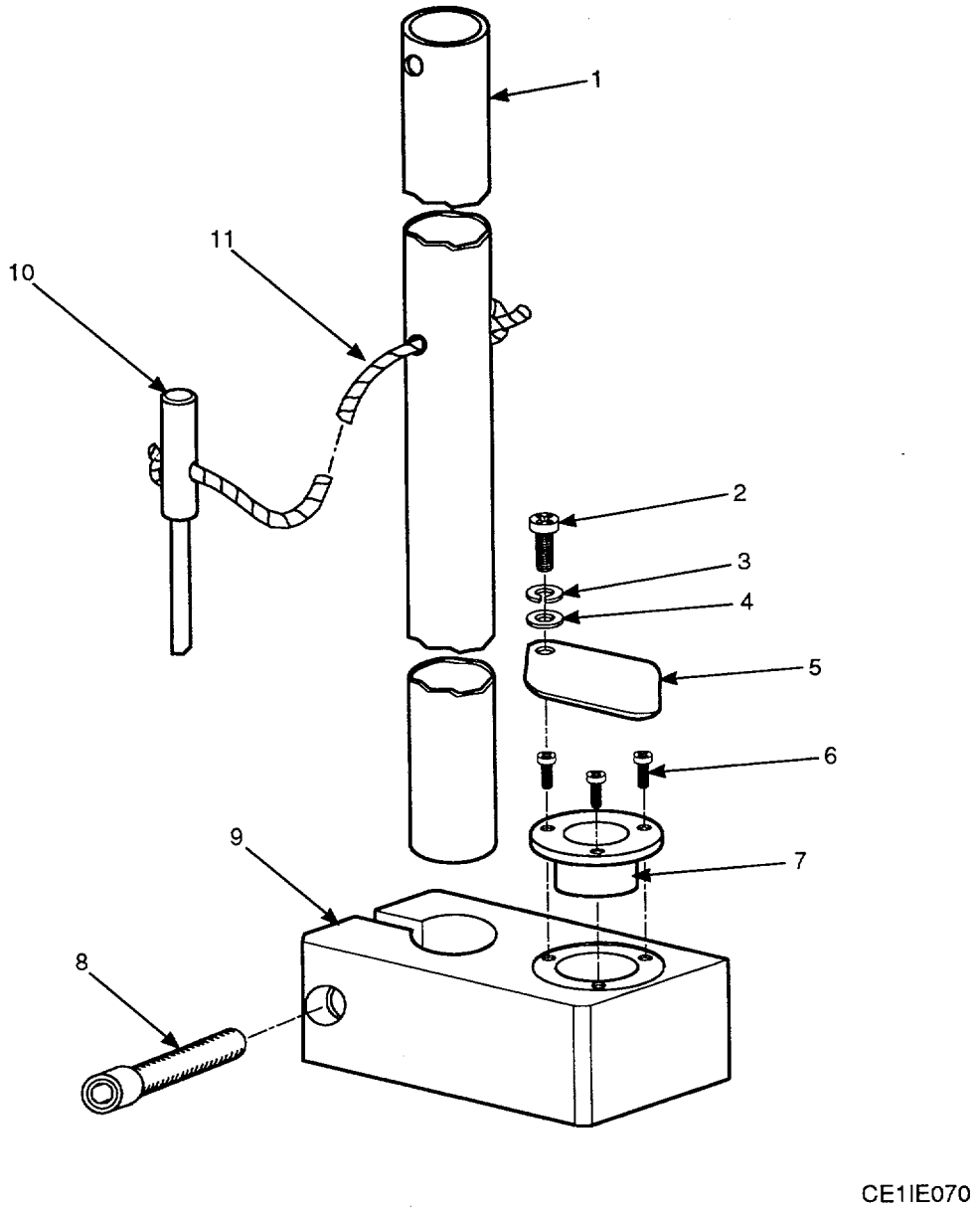


Figure F-14. Bubble Level

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 11 BUBBLE LEVEL	
					FIGURE F-14.	
1	PAFZZ		K3456	5429	EXTENSION ARM	1
2	PAFZZ		K3456	5357	SCREW PIVOT	1
3	PAFZZ		K3456	B635	HASHER, SPRING	1
4	PAFZZ		K3456	B43	WASHER FLAT	1
5	PAFZZ		K3456	5356	COVER, ACCESS	1
6	PAFZZ		K3456	B1440	SCREW	3
7	PAFZZ		K3456	B5314	LEVEL BUBBLE	1
8	PAFZZ		K3456	B5774	SOCKET	1
9	PAFZZ		K3456	5427	BLOCK LEVEL	1
10	PAFZZ		K3456	5428	LOCATING PIN	1
11	PAFZZ		K3456	B3860	CORD	1
					END OF FIGURE	

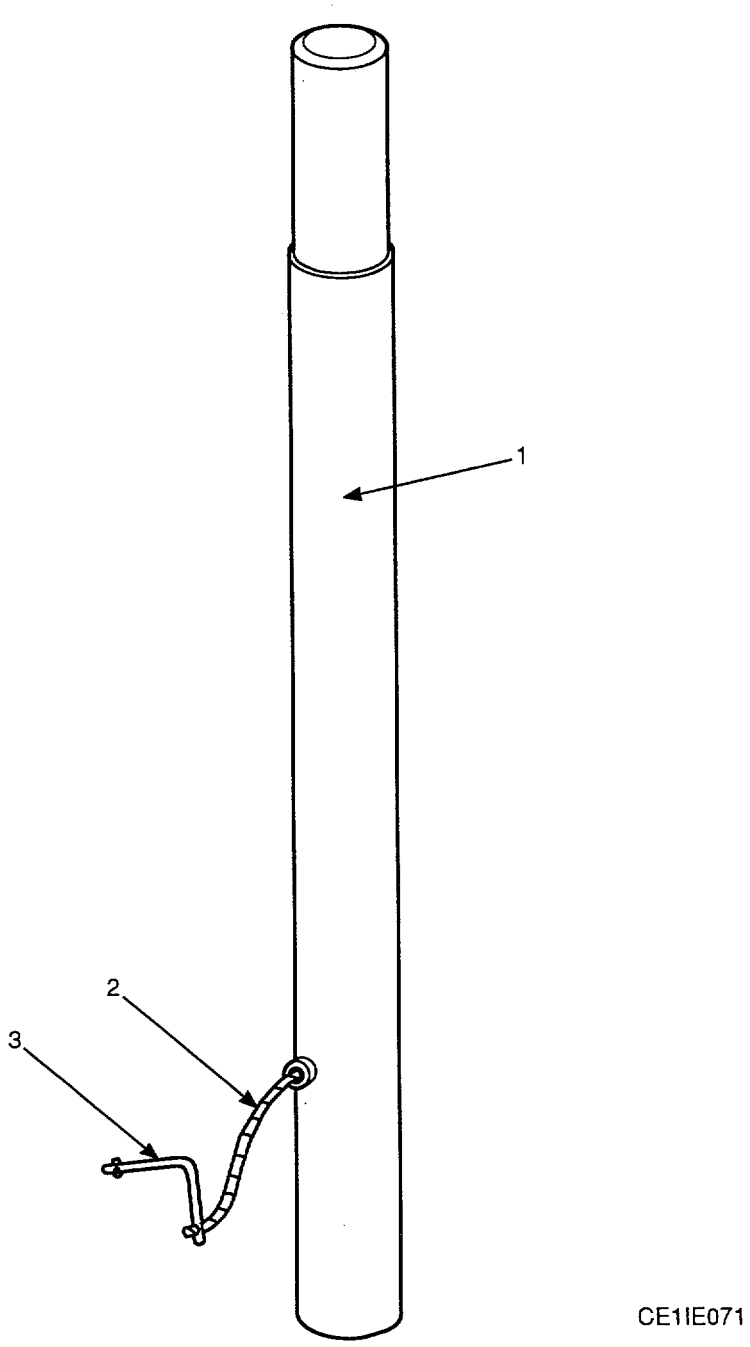


Figure F-15. Rotator Extension

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 12 ROTATOR EXTENSION	
					FIGURE F-15.	
1	PAFZZ	5985012666020	K3456	5817	SUPPORT, ANTENNA	1
2	PAFZZ		K3456	B4031	CORD, TENYLENE	1
3	PAFZZ		K3456	13703	PIN, DROP HEAD	1
					END OF FIGURE	

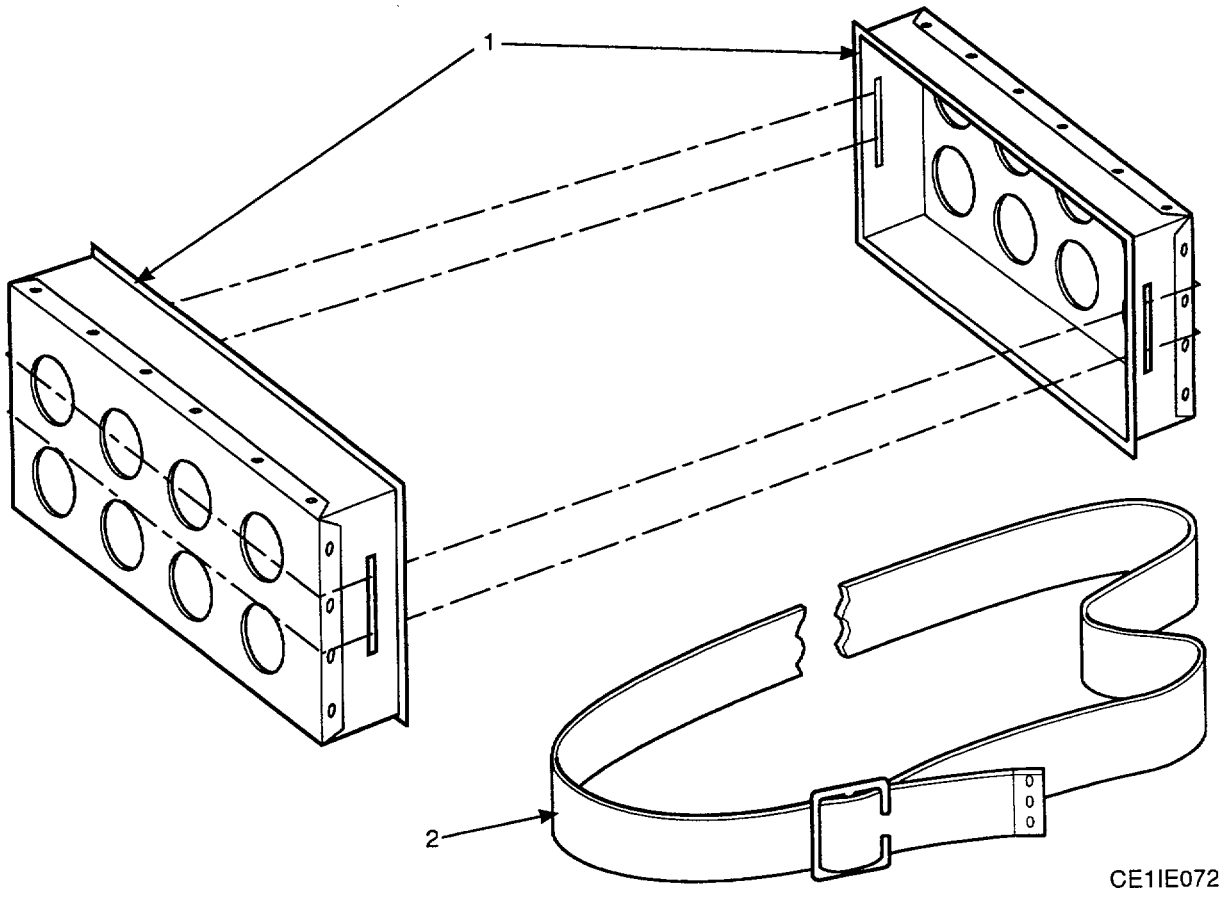


Figure F-16. Mast Section Carrier

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 13 MAST SECTION CARRIER	
					FIGURE F-16.	
1	PAFZZ		K3456	6064	END SECTION MAST	2
2	PAFZZ		K3456	5759	STRAP ASSY MAST	1
					END OF FIGURE	

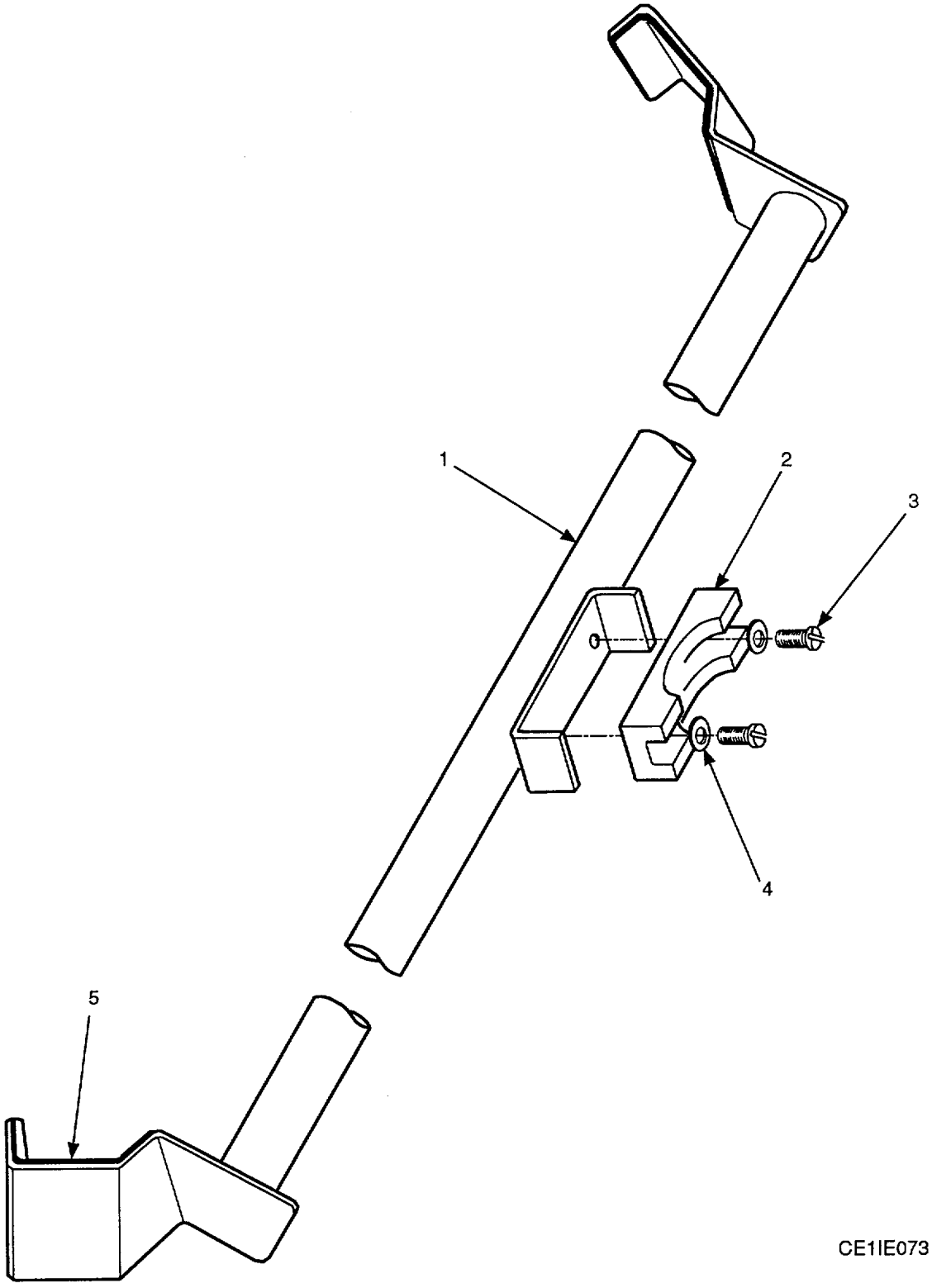


Figure F-17. Hoist Support Bar

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 14 HOIST SUPPORT BAR	
					FIGURE F-17.	
1	PAFZZ		K3456	7984	SHAFT STRAIGHT	1
2	PAFZZ		K3456	5970	PAD	1
3	PAFZZ		K3456	B293	SCRE	2
4	PAFZZ		K3456	B2264	WASHER FLAT	2
5	PAFZZ		K3456	7964	PAD, CUSHIONING	2
					END OF FIGURE	

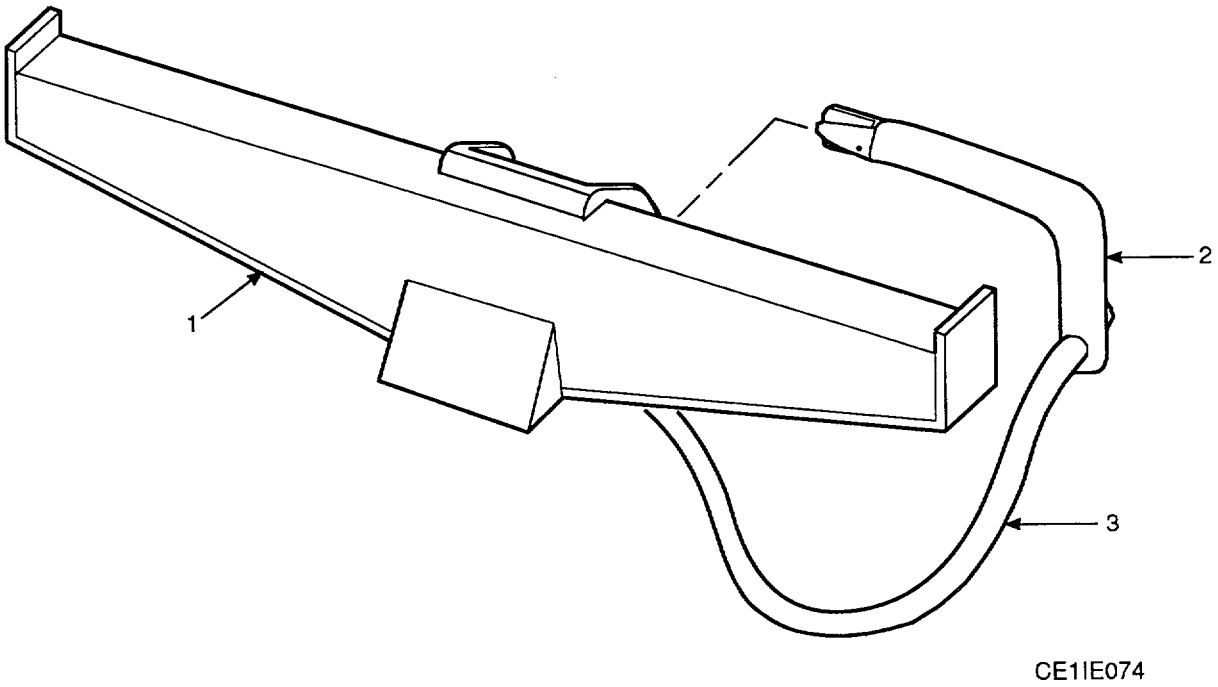


Figure F-18. Step Assembly

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 15 STEP ASSEMBLY	
					FIGURE F-18.	
1	PAFZZ		K3456	13430	STEP	1
2	PAFZZ		K3456	13703	PIN, DROP HEAD	1
3	PAFZZ		K3456	B3860	CORD	1
					END OF FIGURE	

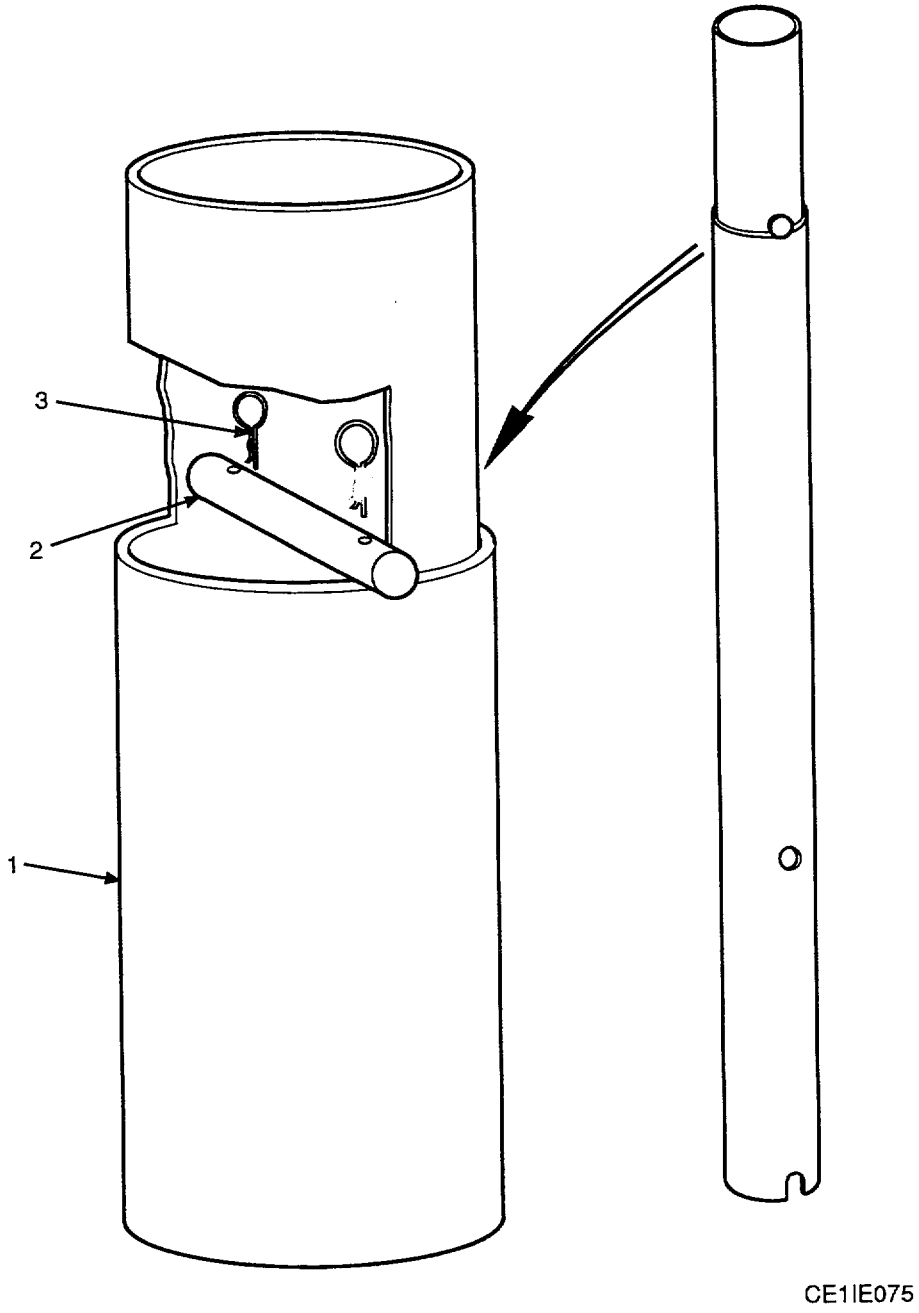


Figure F-19. Mast Section

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 16 MASTER SECTION	
					FIGURE F-19.	
1	PAFZZ		K3456	5294	TUBE ASSY	1
2	PAFZZ		K3456	13705	PIN ROUND	1
3	PAFZZ		K3456	B12126	PIN COTTER	2
					END OF FIGURE	

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NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5315-00-234-1854	F-9	7	5355-01-384-5698	F-9	5
5310-00-533-9328	F-9	6	3040-01-384-6523	F-10	3
5315-00-841-4442	F-10	2	5340-01-398-6548	F-8	4
5935-01-015-4400	F-11	3	8105-01-400-2736	F-8	6
5935-01-035-5650	F-8	7	5305-01-407-1615	F-9	3
5985-01-254-9559	F-1	17	5340-99-636-9251	F-2	3
5985-01-257-3138	F-1	11A	4030-99-663-1975	F-1	21
5985-01-257-3140	F-1	24	5340-99-780-2415	F-1	16
5985-01-257-3141	F-3	3			
5985-01-257-3144	F-I	4			
5985-01-257-3147	F-1	2			
5985-01-257-9917	F-1	10			
5210-01-258-5942	F-1	12			
3950-01-258-7162	F-1	9			
5935-01-263-1779	F-11	2			
4030-01-264-2755	F-1	5			
5985-01-266-6020	F-1	1			
	F-15	1			
5995-01-287-6473	F-6	1			
4030-01-293-6237	F-1	22			
5985-01-293-6238	F-1	6			
5985-01-297-0725	F-1	13			
5975-01-297-6677	F-1	7			
5985-01-299-8175	F-1	11			
	F-2	1			
5985-01-299-8176	F-2	2			
5985-01-323-6460	F-1	15			
5935-01-332-6461	F-6	2			
5935-01-332-6462	F-6	4			
5985-01-351-9084	F-1	18			
5995-01-358-6770	F-11	1			
5340-01-360-2243	F-1	27			
5985-01-360-2588	F-1	23			
5985-01-360-9005	F-1	8			
5985-01-360-9049	F-1	14			
5985-01-360-9050	F-1	20			
5985-01-360-9051	F-1	19			
5975-01-362-9255	F-1	10A			
5935-01-367-4313	F-6	3			
5340-01-368-8343	F-1	28			
8105-01-370-4085	F-1	29			
5985-01-370-4646	F-1	30			
3040-01-371-1372	F-9	4			
4030-01-371-1647	F-8	5			
4030-01-371-1970	F-8	2			
3120-01-371-4704	F-9	2			
5355-01-371-6575	F-10	1			
4010-01-371-7903	F-8	3			
5985-01-371-9338	F-8	1			
5985-01-371-9339	F-9	1			

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
K3456	B12126		F-19	3
K3456	B12170		F-4	22
K3456	B12174		F-4	26
KJ456	B12175		F-4	23
K3456	B12176		F-4	25
K3456	B12177		F-4	21
K3456	B1440		F-14	6
K3456	B1608		F-7	7
K3456	B1742		F-7	2
K3456	B2264		F-17	4
K3456	B2443		F-4	16
K3456	B293		F-17	3
K3456	B3860		F-4	19
			F-12	2
			F-13	1
			F-14	11
			F-18	3
K3456	B4031		F-15	2
K3456	B43		F-14	4
K3456	B4327		F-13	3
K3456	B4383		F-5	10
K3456	B4836		F-4	11
K3456	B487		F-7	3
K3456	B5314		F-14	7
K3456	B5467		F-5	6
K3456	B5468		F-5	14
K3456	B5770		F-4	14
K3456	B5772		F-3	7
			F-4	29
K3456	B5773		F-3	8
			F-4	34
K3456	B5774		F-14	8
K3456	B5797		F-5	1
K3456	B5904		F-4	35
K3456	B5905		F-4	33
K3456	B5998		F-4	9
K3456	B6267		F-3	3
K3456	B635		F-14	3
K5456	B8259		F-3	14
K3456	B981		F-5	15
K3456	B983		F-4	13
			F-5	11
K3456	B984		F-7	11
91836	KN-89-12	5935-01-015-4400	F-11	3
96906	MS16562-224	5315-00-841-4442	F-10	2
96906	MS24665-153	5315-00-234-1854	F-9	7
96906	MS51859-7	5310-00-533-9328	F-9	6
81349	M55339/07-00029	5935-01-035-5650	F-8	7
67032	03-2750613-1	5985-01-371-9338	F-8	I
67032	03-2750615-1	4010-01-371-7903	F-8	3
7D602	030168	8105-01-400-2736	F-8	6

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67032	09-2733594-4	5995-01-287-6473	F-6	1
67032	09-2734023-2	5995-01-358-6770	F-11	1
91836	1205-14-9	5935-01-263-1779	F-11	2
K3456	13396		F-3	4
K3456	13397		F-3	10
K3456	13399		F-3	9
K3456	13402		F-3	12
K3456	13430		F-18	1
K3456	13431		F-3	6
K3456	13675	4030-01-264-2755	F-1	5
67032	13694	5985-01-257-9917	F-1	10
67032	13695	5985-01-257-3144	F-1	4
K3456	13696	5985-01-266-6020	F-1	1
K3456	13697		F-4	18
K3456	13700		F-3	15
K3456	13701		F-3	5
K3456	13702		F-3	13
K3456	13703		F-3	2
			F-15	3
			F-18	2
K3456	13705		F-19	2
K3456	13708		F-4	12
K3456	13712		F-4	5
K3456	13721		F-4	31
K3456	13759	5340-01-368-8343	F-1	28
K3456	13764		F-4	30
K3456	13962		F-4	24
K3456	13964		F-3	11
67032	13981	5985-01-360-2588	F-1	23
67032	13982	5340-01-360-2243	F-1	27
67032	13984	5985-01-360-9005	F-1	8
67032	13985	5985-01-351-9084	F-1	18
67032	13986	5985-01-360-9049	F-1	14
67032	13987	5985-01-360-9050	F-1	20
67032	13988	5985-01-360-9051	F-1	19
67032	13989	5975-01-362-9255	F-1	10A
11556	1540-0323	5935-01-367-4313	F-6	3
11556	1550-0454	5935-01-332-6461	F-6	2
11556	1550-0455	5935-01-332-6462	F-6	4
K3456	1576		F-5	12
K3456	18067		F-4	8
K3456	1847	4030-99-663-1975	F-1	21
K3456	2046		F-3	19
K3456	2529		F-3	1
K3456	5237	5975-01-297-6677	F-1	7
67032	5246	5985-01-257-3140	F-1	24
K3456	5266		F-4	10
K3456	5267		F-4	1
K3456	5294		F-19	1
K3456	5356		F-14	5
K3456	5357		F-14	2

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
K3456	5373	5340-99-780-2415	F-1	16
K3456	5376	5985-01-299-8176	F-2	2
K3456	5387/1		F-12	1
K3456	5388		F-12	3
K3456	5389		F-12	4
K3456	5390		F-4	17
K3456	5394		F-4	15
K3456	5415		F-5	13
K3456	5416		F-5	7
K3456	5417		F-5	9
K3456	5419		F-5	4
K3456	5420		F-5	5
K3456	5421		F-5	3
67032	5422	5985-01-254-9559	F-1	17
67032	54Z6	5210-01-258-5942	F-1	12
K3456	5427		F-14	9
K3456	5428		F-14	10
K5456	5429		F-14	1
K3456	5431		F-4	2
K3456	5452		F-4	5
K3456	5433		F-4	4
K3456	5438		F-4	20
K3456	5466		F-5	8
K3456	5469		F-5	16
K3456	5472	5985-01-299-8175	F-1	11
			F-2	1
K3456	5759		F-16	2
K3456	5799		F-5	2
K3456	5809	5985-01-293-6238	F-1	6
K3456	5817	5985-01-266-6020	F-15	1
K3456	5878		F-7	8
K3456	5916		F-13	2
K3456	5970		F-17	2
K3456	6064		F-16	1
67032	6067	5985-01-323-6460	F-1	15
0C216	62N62KSS3	5305-01-407-1615	F-9	3
67032	63-2750612-1	5985-01-370-4646	F-1	30
67032	6314	5985-01-257-31338	F-1	11A
K3456	6316		F-4	27
K3456	6317		F-4	28
14933	6327	5985-01-297-0725	F-1	13
K3456	6354		F-13	4
K3456	6380		F-7	9
K3456	6385		F-7	4
K3456	6386		F-7	1
K3456	6409	4030-01-293-6237	F-1	22
K3456	6758		F-4	6
67032	70-2750617-1	5355-01-384-5698	F-9	5
67032	70-2750617-101	3040-01-384-6523	F-10	3
K3456	7045		F-7	6
K3456	7110		F-4	7

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PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
K3456	7547-B	5340-99-636-9251	F-2	3
K3456	7639		F-7	10
K3456	7641/1		F-4	32
K3456	7643		F-4	36
K3456	7650		F-7	5
K3456	7863	3950-01-258-7162	F-1	9
K3456	7964		F-17	5
K3456	7984		F-17	1
K3456	7985		F-3	18
K3456	7986		F-3	16
K3456	7989		F-3	17
67032	8130	5985-01-257-3147	F-1	2
67032	82-1374648-11	5355-01-371-6575	F-10	1
67032	82-2735123-1	4030-01-371-1647	F-8	5
67032	82-2750614-1	4030-01-371-1970	F-8	2
67032	82-2750618-1	3040-01-371-1372	F-9	4
67032	82-2750619-1	5985-01-371-9339	F-9	1
67032	8484	5985-01-257-3141	F-3	5
67032	86-2734992-2	8105-01-370-4085	F-1	29
67032	86-2750620-1	3120-01-371-4704	F-9	2
67032	89-2750616-1	5340-01-398-6548	F-8	4

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter 10 Millimeters 0 01 Meters 0 3937 Inches
1 Meter 100 Centimeters 1000 Millimeters 39 37 Inches
1 Kilometer 1000 Meters 0 621 Miles

WEIGHTS

1 Gram 0 001 Kilograms 1000 Milligrams 0 035 Ounces
1 Kilogram 1000 Grams 2 2 Lb
1 Metric Ton 1000 Kilograms 1 Megagram 1 1 Short Tons

LIQUID MEASURE

1 Milliliter 0 001 Liters 0 0338 Fluid Ounces
1 Liter 1000 Milliliters 33 82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter 100 Sq Millimeters 0 155 Sq Inches
1 Sq Meter 10 000 Sq Centimeters 10 76 Sq Feet
1 Sq Kilometer 1,000,000 Sq Meters 0 0386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter 1000 Cu Millimeters 0 06 Cu Inches
1 Cu Meter 1,000,000 Cu Centimeters 35 31 Cu Feet

TEMPERATURE

5/9 (F 32) C
212 Fahrenheit is equivalent to 100 Celsius
90 Fahrenheit is equivalent to 32 2 Celsius
32 Fahrenheit is equivalent to 0 Celsius
9/5 C + 32 F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2 540
Feet	Meters	0 305
Yards	Meters	0 914
Miles	Kilometers	1 609
Square Inches	Square Centimeters	6 451
Square Feet	Square Meters	0 093
Square Yards	Square Meters	0 836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0 405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29 573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0 907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubit Feet	35.315
Cubic Meters	Cubic Yards	1,308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1 102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621

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