OPERATOR'S AND UNIT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST EQUIPMENT DATA

MAST AB-1386/U
(NSN 5985-01-381-6341) (EIC:N/A)

OPERATOR PMCS
WITH
ELECTRICAL EQUIPMENT
MOUNTING
MT-6967/G
(NSN
MT-6968/G
(NSN 5975-01-390-9612) (EIC: N/A)

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 JULY 1996

CHANGE

No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 1 August 2000

**Operator's and Unit Maintenance Manual
Including Repair Parts and Special Tools List**

**Mast AB-1386/U
(NSN 5985-01-381-6341) (EIC: N/A)**

**With
Electrical Equipment Mounting Bases
MT-6967/G (NSN 5975-01-390-5770) (EIC: N/A)
MT-6968/G (NSN 5975-01-390-9612) (EIC: N/A)**

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Remove pages	*Insert pages*
LEP-A and LEP-B	LEP-A and LEP-B
4-5 and 4-6	4-5 through 4-6.2

2. File this change sheet in front of the manual for reference purposes.

By Order of the Secretary of the Army:

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Chief of Staff

Official:

JOEL B. HUDSON
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DEPARTMENT OF THE ARMY
No. 3 Washington, DC, 1 August 1999

Operator's and Unit Maintenance Manual
Including Repair Parts and Special Tools List

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Remove pages	*Insert pages*
C and D	C and D
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1-15 and 1-16	1-15 and 1-16
2-7 and 2-8	2-7 and 2-8
2-11 and 2-12	2-11 and 2-12
2-17 and 2-18	2-17 and 2-18
2-23 and 2-24	2-23 and 2-24
2-38.1 and 2-38.2(blank)	2-38.1 and 2-38.2(blank)
3-1 and 3-2	3-1 and 3-2
4-19 and 4-20	4-19 and 4-20
4-23 through 4-26.2	4-23 through 4-26.2
B-5 through B-8	B-5 through B-8
Fig C-2, SH-1 through Fig C-3	Fig C-2, Sh-1 through Fig C-3
C-7- 1 through C-7-2(blank)	C-7-1 through C-7-2(blank)
C-I-1 through C-I-8(blank)	C-I-1 through C-I-8(blank)
D-3 through D-6	D-3 through D-6

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No. 2

**HEADQUARTERS
DEPARTMENT OF THE ARMY**
Washington, DC, 1 April 1999

**Operator's and Unit Maintenance Manual
Including Repair Parts and Special Tools List**

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Remove pages	*Insert pages*
1-5 and 1-6	1-6 and 1-6
2-7 and 2-8	2-7 and 2-8
2-21 and 2-22	2-21 and 2-22
2-25 through 2-30	2-25 through 2-30
2-36.1 and 2-36.2	2-36.1 and 2-36.2
None	2-36.3 and 2-36.4
4-7 and 4-8	4-7 and 4-8
4-11 and 4-12	4-1 1 and 4-12
4-15 and 4-16	4-15 and 4-16
4-26.1 and 4-26.2	4-26.1 and 4-26.2
4-27 through 4-32	4-27 through 4-32
4-37 and 4-38	4-37 and 4-38
B-5 through B-8	B-5 through B-8
C-1-1 through C-18-1	C-1-1 through C-18-1
C-I-1 through C-I-7	C-I-1 through C-I-6
D-3 and D-4	D-3 and D-4

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No. 1

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DEPARTMENT OF THE ARMY
Washington, DC, 1 September 1997

**Operator's and Unit Maintenance Manual
Including Repair Parts and Special Tools List**

**Mast AB-1386/U
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Remove pages	*Insert pages*
C and D	C and D
i and ii	i and ii
1-1 through 1-16	1-1 through 1-16
2-1 and 2-2	2-1 and 2-2
2-5 and 2-6	2-5 and 2-6
None	2-6.1 and 2-6.2
2-7 through 2-36	2-7 through 2-36
None	2-36.1 and 2-36.2
2-37 and 2-38	2-37 and 2-38
None	2-38.1 and 2-38.2
2-41 through 2-46	2-41 through 2-46
2-51 through 2-58	2-51 through 2-58
4-5 through 4-18	4-5 through 4-18
4-25 and 4-26	4-25 and 4-26
None	4-26.1 and 4-26.2

Remove pages	*Insert pages*
4-37 and 4-38	4-37 and 4-38
4-49 through 4-52	4-49 through 4-52
B-3 through B-8	B-3 through B-8
C-7 through C-I-6	C-7 through C-I-7
D-1 through D-12	D-1 through D-6
E-1 and E-2	E-1 and E-2
F-1 through F-10	F-1 through F-10
None	G-1 through G-4
INDEX-1 and INDEX-2	INDEX-1 and INDEX-2
3- User DA Form 2028-2	3- User DA Form 2028-2
Cover	Cover

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NOTE: The portion of text affected by the changes is indicated by a vertical line in the outer margin of the page. Changes to illustrations are indicated by a vertical line adjacent to the title.

Date of issue for the original manual and changed pages/work packages are:

Original: 01 Jul 96
Change 1: 01 Sep 97
Change 2: 01 Aug 98
Change 3: 01 Aug 99
Change 4: 01 Aug 00

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 17 AD TOTAL NUMBER OF WORK PACKAGES IS 0, CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.	Page/WP No.	*Change No.
WARNINGS A and B (2 pgs)	0	2-28 and 2-29 (2 pgs)	2
WARNINGS C and D (2 pgs)	3	2-30 through 2-36 (7 pgs)	1
i and ii (2 pgs)	1	2-36.1 through 2-36.4 (4 pgs)	2
iii and 1-0 (2 pgs)	0	2-37 and 2-38 (2.pgs)	1
1-1	0	2-38.1	3
1-2	3	2-38.2 Blank	0
1-3	0	2-39 through 2-40 (2 pgs)	0
1-4 and 1-5 (2 pgs)	1	2-41 through 2-45 (5 pgs)	1
1-6	2	2-46 through 2-50 (5 pgs)	0
1-7	1	2-51 through 2-58 (8 pgs)	1
1-8 through 1-13 (6 pgs)	1	3-1	0
1-14	0	3-2	3
1-15	1	4-1 through 4-4 (4 pgs)	0
1-16	3	4-5 through 4-6.2 (4 pgs)	4
2-1 and 2-2 (2 pgs)	1	4-7 and 4-8 (2 pgs)	2
2-3 and 2-4 (2 pgs)	0	4-9	0
2-5 through 2-6.2 (4 pgs)	1	4-10	1
2-7	3	4-11	2
2-8	2	4-12 through 4-15 (4 pgs)	1
2-9	1	4-16	2
2-10 Blank	0	4-17	1
2-11	3	4-18 and 4-19 (2 pgs)	0
2-12	1	4-20	3
2-13	0	4-21 and 4-22 (2 pgs)	0
2-14 through 2-16 (3 pgs)	1	4-23	3
2-17	3	4-24 and 4-25 (2 pgs)	0
2-18 and 2-19 (2 pgs)	1	4-26 and 4-26.1 (2 pgs)	3
2-20	0	4-226.2 through 4-28 (3 pgs)	2
2-21	2	4-29	0
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2-23 and 2-24 (2 pgs)	3	4-33 through 4-36 (4 pgs)	0
2-25	2	4-37	1
2-26 and 2-27 (2 pgs)	1	4-38	2

*Zero in this column indicates an original page.

LIST OF EFFECTIVE PAGES/WORK PACKAGES (CONTINUED)

Page/WP No.	*Change No.	Page/WP No.	*Change No.
4-39 through 4-49 (11 pgs)	0	Fig C8 through C-18-1 (23 pgs)	2
4-50	1	C-18-2 Blank	0
4-51	0	C-I-1 through C-I-7 (7 pgs)	3
4-52	1	C-I-8	0
A-1 and A-2 (2 pgs)	0	D-1 and D-2 (2 pgs)	1
B-1 and B-2 (2 pgs)	0	D-3 through D-5 (3 pgs)	3
B-3	1	D-6	1
B-4	0	E-1	1
B-5 through B-8 (4 pgs)	3	E-2	0
C-1 through C-6 (6 pgs)	0	F-1	1
C-7	1	F-2	0
C-8	0	F-3 through F-5 (3 pgs)	1
Blank	0	F-6	0
Fig C-1, Sh 1 through 3 (3 pgs)	0	F-7	1
C-1-1	2	F-8	0
Fig C-2 through Fig C-3 (4 pgs)	3	F-9	1
C-3-1 through Fig C-7 (8 pgs)	2	F-10 Blank	0
C-7-1	3	G-1 through G-4 (4 pgs)	1
C-7-2	0	Index 1 and 2 (2 pgs)	1

*Zero in this column indicates an original page.

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**

FOR FIRST AID REFER TO FM 21-11

WARNING

Do not deploy the mast if power lines are less than 80 ft (24.4 m) from center of deployment site in any direction. Failure to observe this warning may result in severe personal injury or DEATH.

WARNING

Do not attempt to deploy or retrieve the mast during electrical storms or when winds exceed 25 mph (40 kph). Failure to follow this warning may result in severe personal injury or DEATH.

Helmet or hard hat, eye protection (safety goggles/glasses), gloves, and safety shoes or combat boots must be worn while working in mast area to prevent personal injury.

WARNING

Two or more operators are required for lifting or carrying any item weighing more than 42 lbs (19 kg). Failure to comply with this warning could result in severe personal injury.

WARNING

Mast must be kept vertical and straight during deployment and retrieval. Failure to do so may cause mast to topple resulting in extensive equipment damage and severe personal injury.

WARNING

Keep all unnecessary personnel away from the area while deploying or retracting the mast. Failure to observe this warning may result in severe injury or DEATH.

WARNING

Keep fingers away from the tripod hinge. Failure to do so may result in pinch injury. Care must be taken when using tripod to avoid tipping. Brace tripod if necessary. Failure to do so may cause equipment damage or injury to personnel.

WARNING

Wear goggles and gloves when installing antennas on the mast, or when assembling the antenna. DO NOT USE the AS-3 166 if the safety tip caps are missing from the antenna elements. Use field expedient means to replace the tip caps if necessary. DO NOT leave the antenna on the ground unassembled. DO NOT leave the mast in a retracted position when the AS-3166 antenna is mounted. Keep unnecessary personnel away from the antenna. Failure to observe this warning may result in severe injury or DEATH.

Note location of antenna radials when working in and around the AS-3166 antenna.

WARNING

Avoid placing hands between sliding clamp assemblies, support struts, or in joints while raising and lowering the mast when installed on a vehicle. Do NOT attempt to raise antenna if clamp assemblies are not tight. Failure to follow this warning could result in equipment loss or personal h-jury.

WARNING

The upper guy assemblies must be deployed when operating the mast when winds exceed 25 mph (40 kph). The upper guy assemblies must also be deployed when the mast sections are covered with ice. Failure to observe this warning could cause the mast to topple which could result in severe personal injury or DEATH.

WARNING

When installing the mast on a tracked vehicle, do not loosen the mast from its transit position before being instructed to do so. Failure to follow this could result in an unstable handhold that could cause the operator to fall from the vehicle.

CAUTION

When performing maintenance procedures ensure all nuts, bolts, and screws are securely tightened. Loose hardware can cause equipment damage.

CAUTION

Always reinstall quick-release pins in equipment after removing during maintenance procedures. Failure to re-install quick-release pins can cause equipment damage.

CAUTION

Maintenance procedures should be performed as stated in this manual in order to avoid equipment damage. When circumstances warrant, mast equipment repairs can be performed while mast is still mounted to a vehicle. It is not always necessary to dismount the mast before performing all repair procedures authorized. Proper judgement and precautions should always be followed.

CAUTION

When the antenna is collapsed do not tap it on any hard surface, or the ground, in order to try to loosen it, so that it will deploy easily. Damage to the equipment will result.

Technical Manual

No. 11-5985 426-12&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 1 July 1996

Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List

Mast AB-1386/U
(NSN 5985-01-381-6341) (EIC: N/A)

With
Electrical Equipment
Mounting Bases
MT-6967/G (NSN 5975-01-390-5770) (EIC: N/A)
MT-6968/G (NSN 5975-01-390-9612) (EIC: N/A)

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 the back of this manual direct to: Commander, U.S. Army Communications Electronics Command and Fort Monmouth, ATTN: AMSELLC-LEO-D-CS-CFO, Fort Monmouth, New Jersey 07703-5000. The fax number is 908-532-1413, DSN 992-1413. You may also e-mail your recommendations to AMSEL-LC-LEO-PUBS-CHG@cecom3.monmouth.army.mil
In either case a reply will be furnished to you.

TABLE OF CONTENTS

TABLE OF CONTENTS - Continued

HOW TO USE THIS MANUAL

This manual is designed to help you operate and maintain the equipment. All task descriptions will take you step-by-step through the procedure. Don't take shortcuts. Before you begin any task, you should read through the complete procedure. make sure you know what needs to be done, then go back and follow the steps as written.

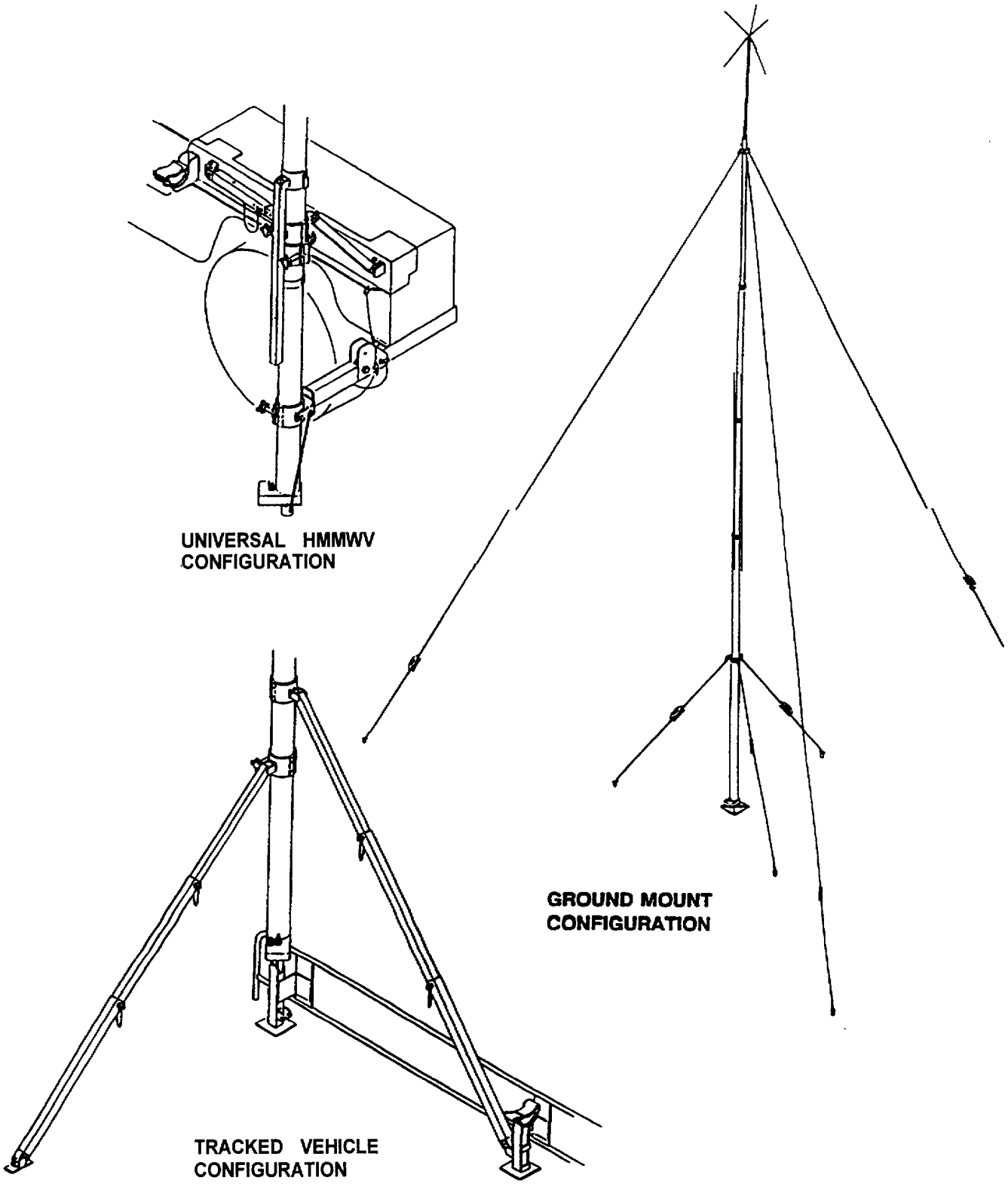
Pay particular attention to WARNINGS and CAUTIONS, as they contain information that will prevent injury to personnel or damage to equipment.

The front cover index identifies frequently used information. Each item is boxed and identified by topic and page number.

Bend the manual a bit and look at the edges of the pages. The black bars on the cover should line up with the pages which have black edge markers.

Flip through the pages to find the black marker that matches the one on the cover for the topic you want.

If the front cover index does not help locate a topic, use the alphabetical index at the back of the manual to find it.



Mast AB-1386/U and Electrical Equipment Mounting Bases

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE

This manual gives procedures for site selection and preparation, deployment, and retrieval of Mast AB-1386/U. The manual also contains maintenance procedures to be performed by operator and unit level personnel. A Repair Parts and Special Tools List for the mast is provided in Appendix C. Mounting instructions for selected antennas used with the mast can be found in 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

a. Reports of Maintenance and Unsatisfactory Equipment

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

b. Reporting of Item and Packaging Discrepancies

Fill out and forward SF 364 [Report of Discrepancy (ROD)] as prescribed in AR 735-11-2/DLAR 4140.55/ SECNAVINST4355.18/AFR 400-54/MCO 4430.35.

1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS - Continued

c. Transportation Discrepancy Report (TDR) (SF 361)

Fill out and forward SF 361 Transportation Discrepancy Report (TDR) (SF361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-4. DESTRUCTION OF ARMY ELECTRONICS MATERIEL

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

1-5. ADMINISTRATIVE STORAGE

Equipment issued to and by the Army activities will have preventive maintenance in accordance with Preventive Maintenance Checks and Services (PMCS) performed before being placed into storage. When removing the equipment from administrative storage, the PMCS checks should be performed to ensure operational readiness. Refer to paragraph 4-21 for preparation of the mast for storage or shipment.

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

If your equipment 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 07703-5000. We'll send you a reply.

1-7. WARRANTY INFORMATION

The AB-1386/U is warranted by Tri-Ex Tower Corporation for 1 year from date of delivery to the Government. For warranty information, refer to TB 11-5985-426-12.

1-8. NOMENCLATURE CROSS-REFERENCE LIST

The following list gives common names used in this manual for equipment nomenclature. Use official nomenclature when completing report forms.

Common Name	Nomenclature
Mast	Mast AB-1386/U
Universal HMMWV	Mount Electrical Equipment Mounting Base MT-6967/G
Tracked Vehicle Mount	Electrical Equipment Mounting Base MT-6968/G

1-8. NOMENCLATURE CROSS-REFERENCE LIST - Continued

Common Name	Nomenclature
HMMWV	Utility Truck: Cargo/Troop Carrier, 1-1/4 Ton, 4x4, M998
	Utility Truck: Cargo/Troop Carrier, 1-1/4 Ton, 4x4, w/Winch, M1038
	Utility Truck: Heavy Variant, 4x4, M1097
	Utility Truck: S250 Shelter Carrier, 4x4, M1037
	Utility Truck: S250 Shelter Carrier, 4x4, w/Winch, M1042
Tracked Vehicle	Armored Full-Tracked Personnel Carrier, M113A2
	Light Tracked Command Post Carrier, M577A2

1-9. LIST OF ABBREVIATIONS

The following list defines abbreviations used in this manual.

CCW	counterclockwise
cm	centimeter
CW	clockwise
ft	feet
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
in.	inch
kg	kilogram
kph	kilometers per hour
lb	pound
m	meter
MAC	Maintenance Allocation Chart
mm	millimeter
mph	miles per hour
PMCS	Preventive Maintenance Checks and Services
RPSTL	Repair Parts and Special Tools List
TMDE	Test, Measurement, and Diagnostic Equipment

1-10. GLOSSARY

An explanation of terms used in this manual is given below.

Term	Meaning
Baseplate Stakes	Stakes used to secure baseplate to ground.
Antenna	Antenna used with Mast AB-1386/U.
Base Section	Bottom section of mast to which gearbox is attached.

1-10. GLOSSARY - Continued

Term	Meaning
Baseplate	Ground support for mast.
Deployment	Term which refers to siting, assembling, and erecting mast.
Gearbox	Manually driven gear mechanism mounted on the base section to deploy and retrieve mast sections.
Elevation	Vertical movement of antenna.
Guy Anchor Position	One of six locations for guy stakes. The inner ring of three guy stakes is located 6.2 ft (1.9 m) from center of baseplate. The outer ring is 33.5 ft (10.2 m) from the center.
Guy Assembly	Kevlar ropes with attached snap hooks and tensioner. Used to provide vertical rigidity and straightness of mast.
Guy Rings	Mast weldments that provide attachment points for guy assemblies at the mast base and top sections.
Guy Stakes	Stakes used to anchor guy assemblies.
Mast Section	Any of three intermediate telescoping sections of the mast.
Retrieval	Term which refers to disassembly of erected mast.
Snap Hooks	Attachment devices used to secure the guy assemblies to mast guy rings and guy stakes.
Tensioner	Device used to store or place tension on guy assembly.
Top Section	Top component of mast on which antenna adapter is mounted.
Transport Container	Case used to store and transport the mast.
Tripod	Collapsible three-legged device used during mast deployment to support the mast when installing the antenna.

Section II. EQUIPMENT DESCRIPTION

1-11. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

a. Characteristics

(1) Manportable, manually erected, guyed mast.

(2) Resists water and other environmental elements.

(3) Mast height is variable by deploying only as much height as is required.

b. Capabilities and Features

(1) Supports Antenna AS-3166/GRC, Antenna Base MP-68, Antenna Element A3005068-1 with Antenna Adapter A3004947, or Antenna AS-4292/U.

(2) Permits antenna heights from 8.3 to 33.1 ft (2.5 to 10.1 m).

(3) Can be deployed or retrieved by an experienced two-member team in 7 1/2 minutes under tactical conditions, or by a single operator in 15 minutes.

(4) Can be deployed on maximum 10-degree (17.6 percent) slope.

(5) Can be deployed in winds up to 25 mph (40 kph). Directional pointing accuracy is maintained in winds up to 60 mph (96 kph). Maximum survival wind speed is 80 mph (128 kph).

1-12. EQUIPMENT CONFIGURATIONS

a. Ground Mount Configuration

Mast AB-1386/U contains all the equipment required for a ground mount configuration. When deployed directly on the ground, the mast is anchored to a baseplate and secured with guy assemblies and stakes.

1-12. EQUIPMENT CONFIGURATIONS - Continued

b. Universal HMMWV Configuration

When deployed on a HMMWV, the mast is secured to the vehicle with a universal HMMWV mount (MT-6967/G). When operating the mast on a HMMWV in unusual weather conditions, guy assemblies and guy stakes must also be used.

WARNING

Never drive HMMWV with mast deployed. Always stow mast before HMMWV is operated. Failure to do so may cause mast to topple resulting in extensive equipment damage and severe personal injury.

c. Tracked Vehicle Configuration

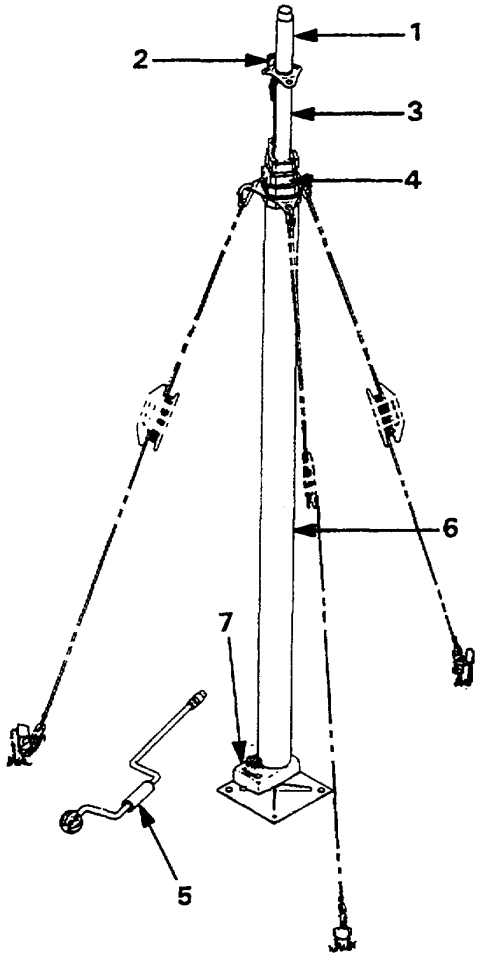
When deployed on a tracked vehicle, the mast is secured to the vehicle with a tracked vehicle mount (MT-6968/G). When operating the mast on a tracked vehicle in unusual weather conditions, guy assemblies and guy stakes must also be used.

WARNING

Never drive tracked vehicle with mast deployed. Always stow mast before tracked vehicle is operated. Failure to do so may cause mast to topple resulting in extensive equipment damage and severe personal injury.

1-13. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

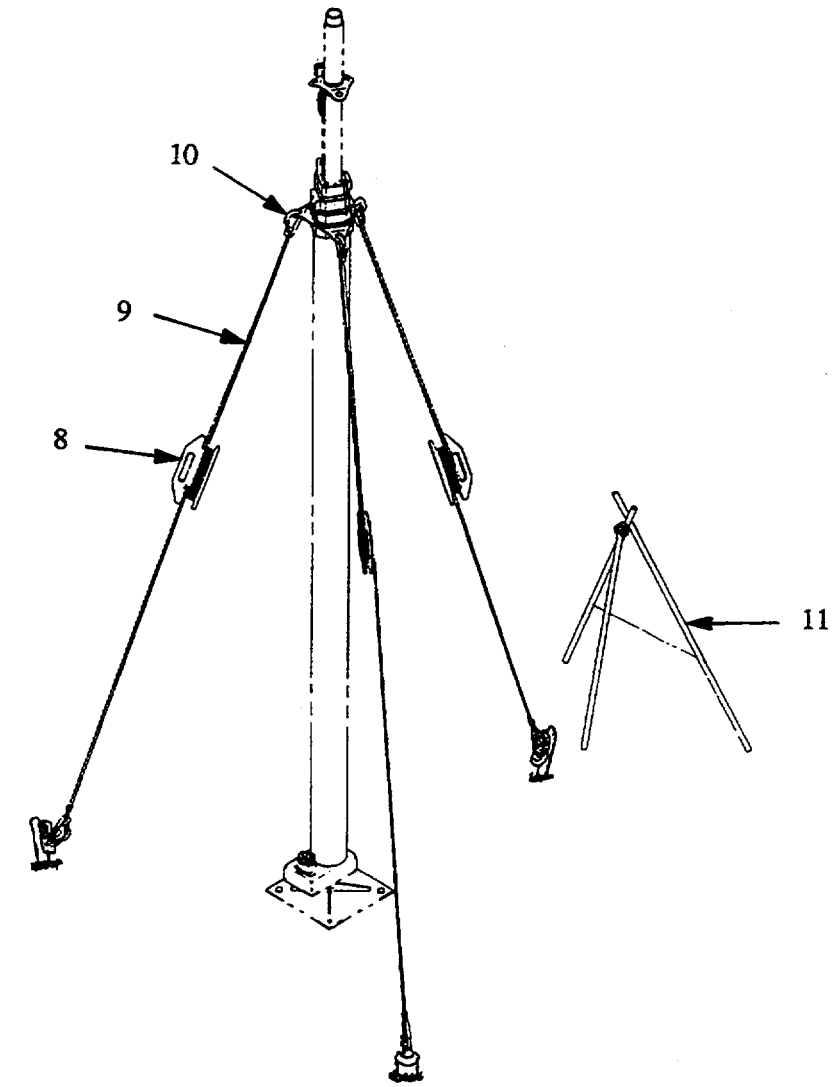
a. Mast AB-1386/U Ground Mount Configuration



Key	Common Name	Function
1	Antenna Adapter	Attachment and support for antenna.
2	Cable Clamp	Secures antenna cable.
3	Top Section	Accepts antenna adapter and provides support for top guy ring.
4	Mast Section	Provides intermediate vertical support. Each mast section is marked at two-foot intervals to indicate height.
5	Hand Crank	Used to extend and retract mast top and intermediate sections.
6	Base Section	Provides support and stability for mast.
7	Gearbox	Drive mechanism used to deploy and retrieve mast sections.

1-13. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

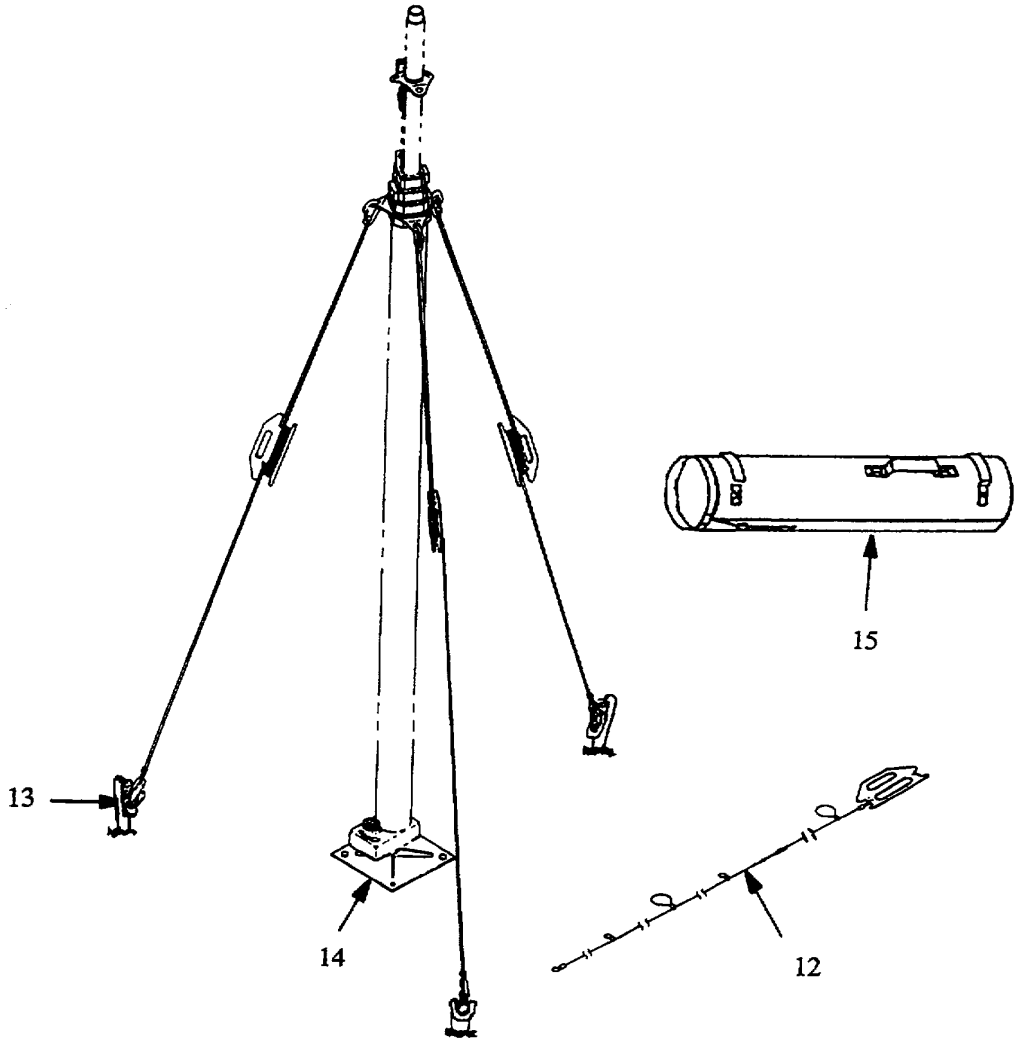
a. Mast AB-1386/U Ground Mount Configuration - Continued



Key	Common Name	Function
8	Tensioner	Provides storage for and tensioning of guy assemblies after mast deployment. One tensioner is used for each guy assembly.
9	Guy Assembly	Stabilizes mast during and after deployment. Two sets of three guy assemblies are available. One set attaches to the base section and one set secures the top section.
10	Snap Hook	Provides for attachment of guy assembly to mast and guy stakes.
11	Tripod	Supports mast for installing antenna.

1-13. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

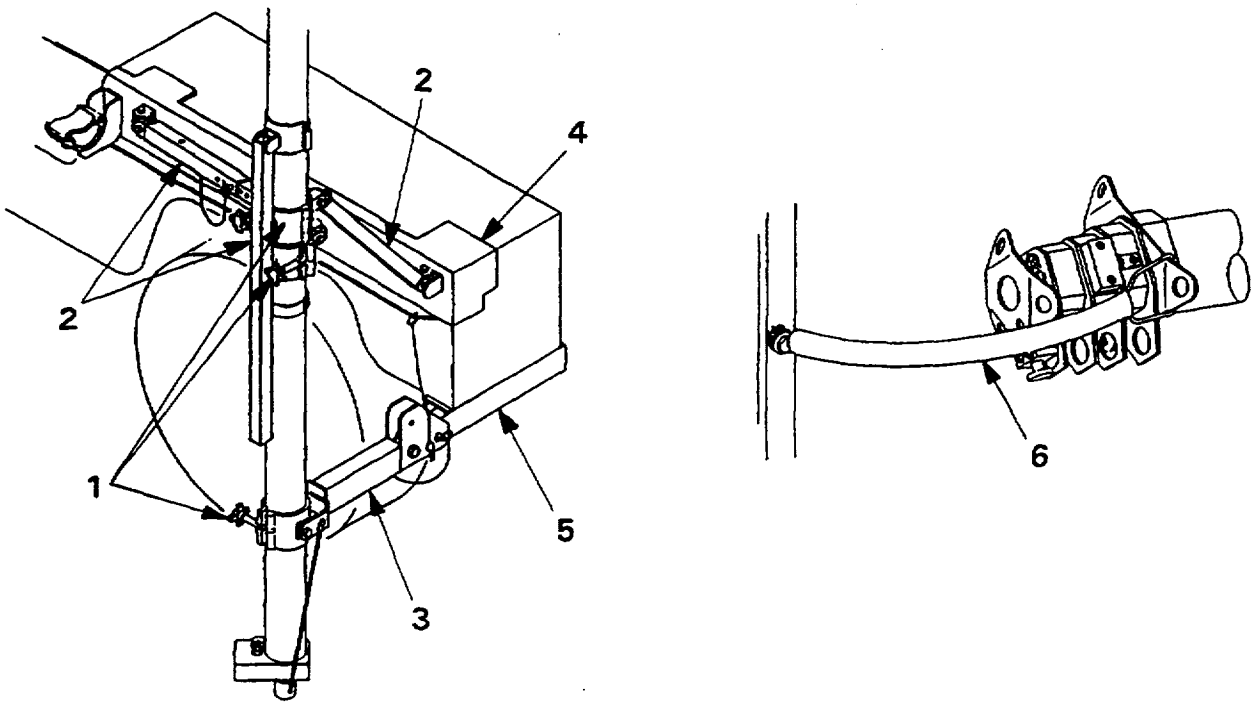
a. Mast AB-1386/U Ground Mount Configuration - Continued



Key	Common Name	Function
12	Radius Rope	Used to lay out guy stake positions. The rope has three small and two large loops for locating the guy stake positions.
13	Guy Stake	Secures guy assembly to ground. One guy stake is used with each of six guy assemblies.
14	Baseplate	Supports mast on ground in the ground mount configuration. Two anchor stakes are used to secure the baseplate.
15	Accessory Bag	Used to store and transport mast accessory items.

1-13. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

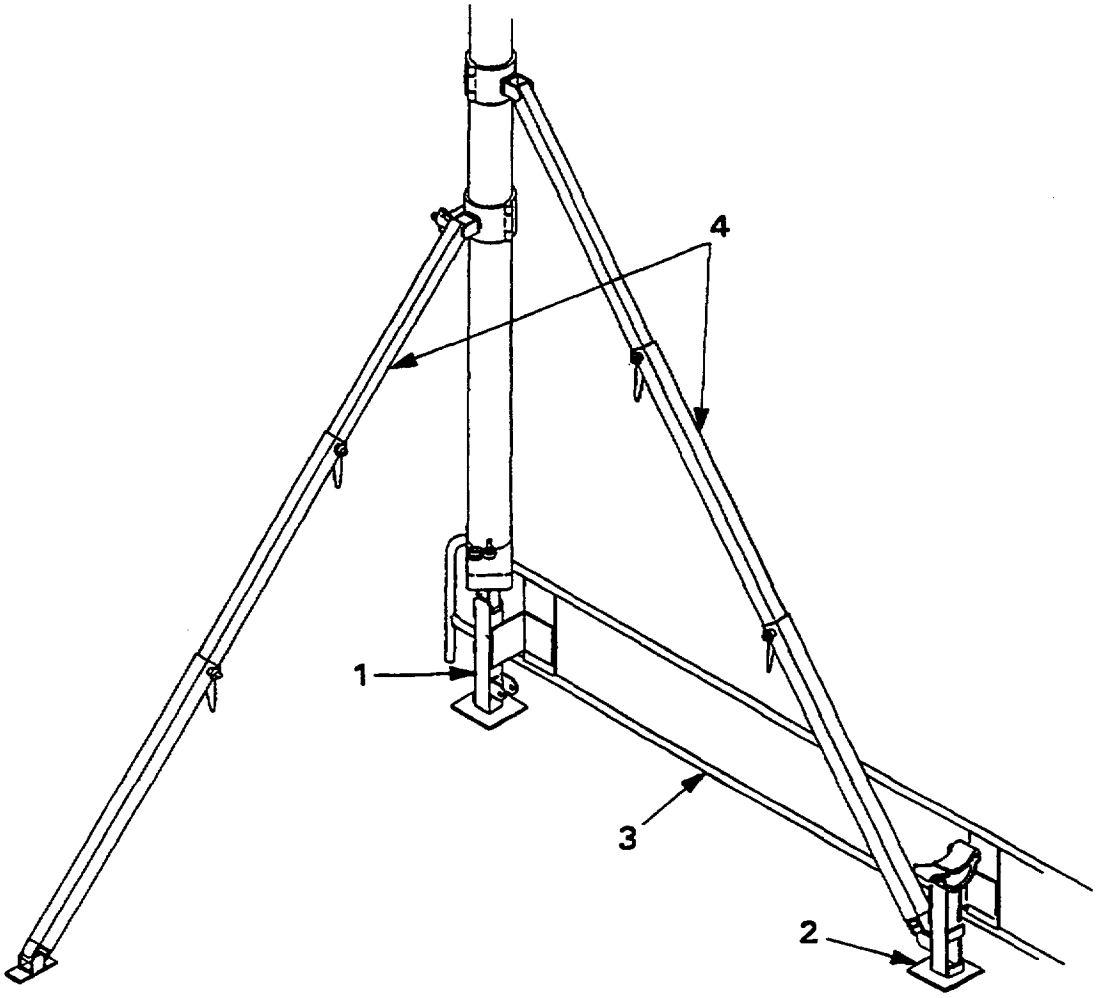
b. Universal HMMWV Mount Configuration



Key	Common Name	Function
1	Clamp Assembly	Hinged clamping devices used to secure the short and long struts and the hinged mast support to the mast base section.
2	Struts	There are three struts. Long and short struts help to secure and stabilize the mast when deployed under normal weather conditions. An antenna loading strut is used to install and remove the antenna during mast deployment and retrieval.
3	Hinged Mast Support	Anchors the base of the mast in the deployed position (hinged mast support "down") and in the transport mode (hinged mast support "up").
4	Strut Support	Weldment mounted on the side of the HMMWV that anchors the long and short struts and has an integral storage cradle for securing the mast in the transport mode.
5	Mast Support	Weldment mounted on the rear of the HMMWV that anchors the hinged mast support to the vehicle.
6	Brush Guard	Helps to prevent brush from being trapped between the mast and the vehicle while in the transport mode.

1-13. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

c. Tracked Vehicle Mount Configuration



Key	Common Name	Function
1	Pedestal Assembly	Anchors the base of the mast to the vehicle.
2	Cradle Assembly	Secures the mast in the horizontal position for transportation/ storage.
3	Brush Guard	Helps to prevent brush from being entangled on the mast while in the transport mode.
4	Struts	One lateral and one longitudinal strut stabilize the mast when deployed under normal weather conditions.

1-14. EQUIPMENT DATA

Temperature Ranges:	
Operating	-40 °F to 125 °F (-40 °C to 52°C)
Storage	-50 °F to 160°F (-46 °C to 71°C)
Mast Type	Vertical-raising, telescoping, tubular aluminum
Extended Height	33.1 ft (10.1 m)
Nested Height	8.3 ft (2.5 m)
Max. Operational Wind Speed	60 mph (97 kph)
Max. Survival Wind Speed	80 mph (128 kph)
Guy Assembly Lengths:	
Top	54 ft (16.5 m)
Bottom	19 ft (5.8 m)
Weights:	
Mast	42 lbs. (19.1 kg) unpacked
Universal HMMWV Mount	56 lbs. (25.4 kg)
Tracked Vehicle Mount	40 lbs. (12.2 kg)

Section III. PRINCIPLES OF OPERATION

1-15. GENERAL

In the ground mount configuration, the mast employs a baseplate as the ground base element. Total mast height is variable from 8.3 to 33.1 ft (2.5 to 10.1 m) with all mast sections fully deployed.

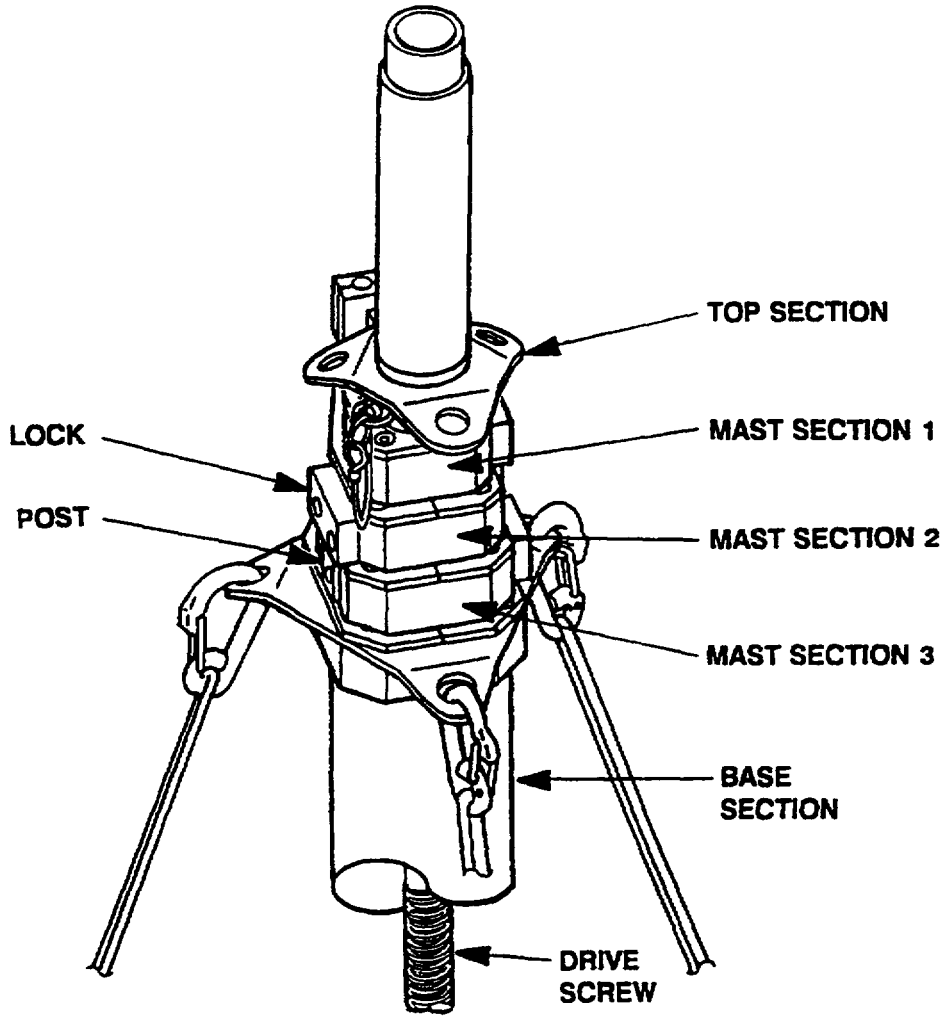
Accessories are provided to assist with guying, anchoring, and operating the mast in its ground mount configuration. They include a hammer, a tripod, guy assemblies, guy stakes, baseplate stakes, crank handle, baseplate, and a radius rope.

Two mounting kits may be used to adapt the HMMWV and the tracked vehicle with brackets and hardware to deploy the mast. The mounting kits are used to anchor the mast to the vehicle and to stabilize the mast when deploying it under normal conditions (i.e., winds below 25 mph [40 kph]).

1-16. RADIUS ROPE

The radius rope is a lightweight Kevlar rope, with loops at predetermined locations along its length. The radius rope is used to lay out the deployment site area and determine the guy stake locations. For the ground mount application, the rope has marker loops for the inner guy stakes and loops for the outer guy stakes. For the vehicle applications, the radius rope has marker loops to designate mast center and location points for the outer guy stakes. For night deployments the radius rope also has crimp markers. The inner guy stake loops are single crimped, and the outer guy stake loops are double crimped.

1-17. MAST SECTIONS



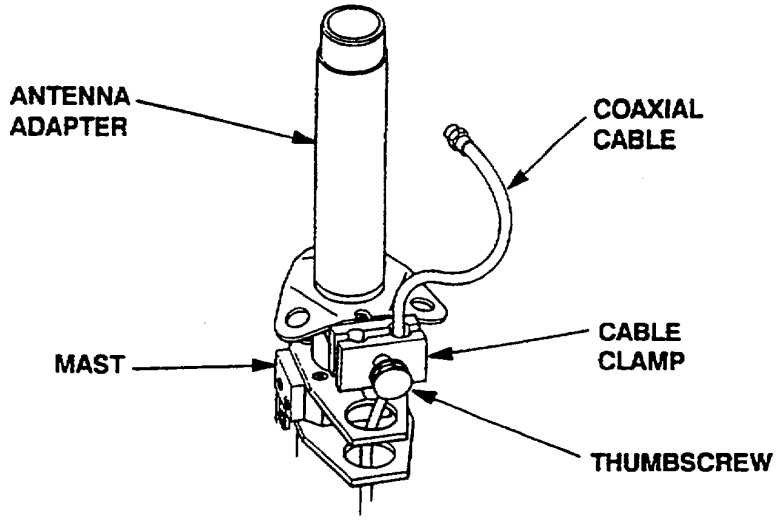
The mast consists of a base section, three intermediate telescoping mast sections, and a telescoping top section.

A drive screw deploys the top section and the three intermediate mast sections, one at a time beginning with the top section. The screw is driven by a mechanical gearbox mounted on the base section. The gearbox is manually operated via a detachable hand crank. Turning the hand crank counterclockwise turns the drive screw and extends the top section. A lock pad, attached near the bottom of the top section, engages the lock mounted on top of mast section 1. This action disengages the lock from the post mounted on mast section 2, allowing section 1 to begin deploying. In an identical fashion, mast sections 2 and 3 are deployed and latched until the fully deployed height of 33.1 ft (10.1 m) is attained.

The top section and the three intermediate mast sections are retrieved in a similar manner by turning the gearbox crank handle in a clockwise direction. Each section is retrieved completely beginning with the mast section 3.

The top section is the attachment point for the antenna adapter with antenna and the three outer guy assemblies.

1-18. ANTENNA MOUNTING BRACKET

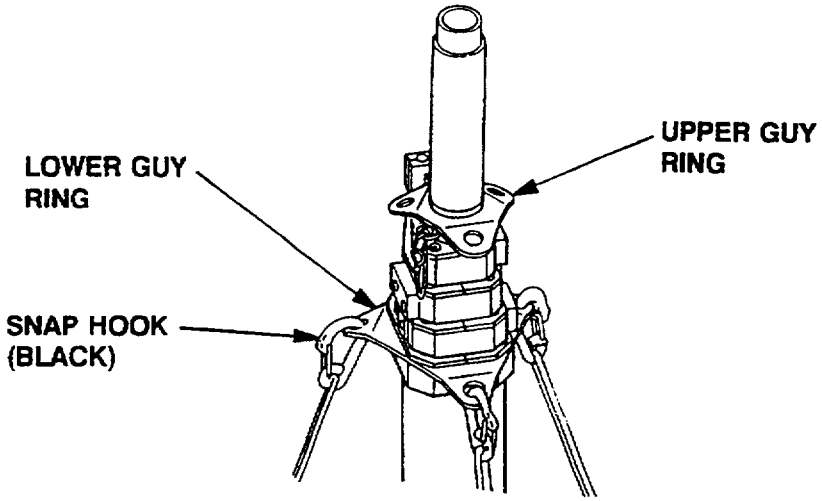


The antenna adapter provides the attachment point between the antenna and the top of the mast. The antenna coaxial cable is attached to the top section using a cable clamp with a captive thumbscrew.

CAUTION

The coaxial cable should always be fastened by the cable clamp. Failure to secure the cable could result in equipment damage.

1-19. GUYING SYSTEM



Two guy rings are attached to the mast, one at the top (upper) section and one at the base (lower) section. Each guy ring provides anchor points for three guy assemblies. Struts are used in lieu of the lower guy ring for vehicle-mounted masts.

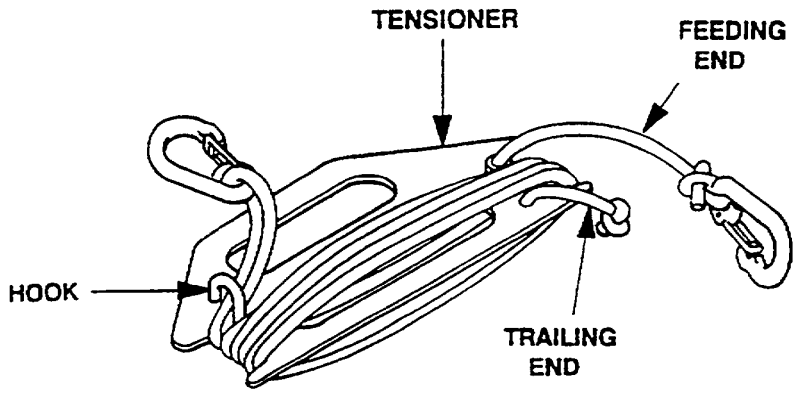
1-19. GUYING SYSTEM - Continued

NOTE

The upper guy ring and upper guy assembly snap hooks are color-coded green. The lower guy ring and lower guy assembly snap hooks are black.

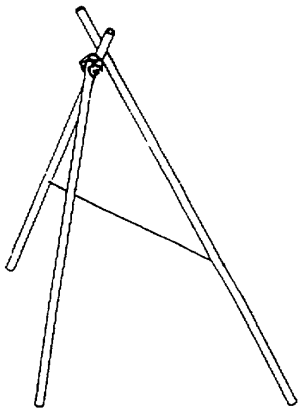
Three guy holes on the ring allow attachment of guy assemblies via snap hooks. The guy holes are angled down toward the guy stake positions.

1-20. GUY ASSEMBLY TENSIONER



The guy assembly tensioner is a flat metal device on which the slack guy assembly is wound during mast deployment. The proper guy assembly tension is maintained by securing the rope under a hook on the tensioner.

1-21. TRIPOD



NOTE

Brace tripod as necessary to avoid tipping

The tripod is a collapsible three-legged device used during mast deployment by a single operator for the ground mount configuration. The tripod is a resting place for the mast as the antenna is mounted on the mast.

After deployment, the tripod is collapsed and stowed in the accessory bag.

CHAPTER 2

OPERATING INSTRUCTIONS

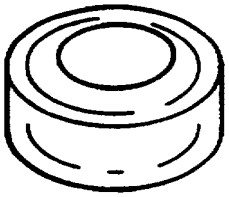
Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. SCOPE

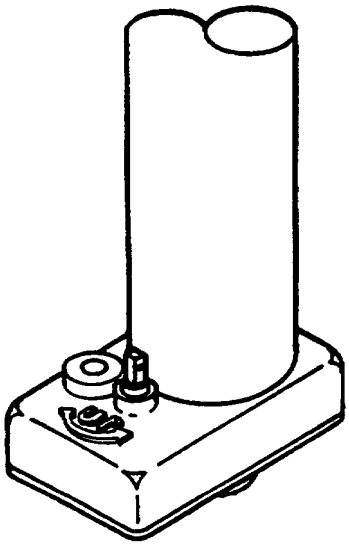
This section describes operator controls and indicators for the mast.

2-2. CONTROLS AND INDICATORS

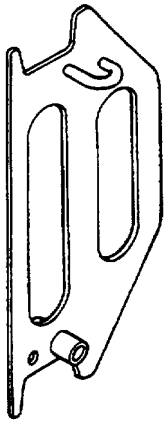
Key	Name	Type	Function
Page 2-2	Level Indicator	Bubble	Permits accurate leveling of mast during deployment.
Page 2-2	Gearbox	Mechanical Control	Used for raising and lowering mast sections during deployment and retrieval.
Page 2-2	Guy Assembly Tensioner	Mechanical Control	Used for adjustment of individual guy assemblies as the mast is deployed.
Page 2-2	Radius Rope	Mechanical Control	Used to determine correct positions for guy stakes during mast deployment. The radius rope is marked with loops at approximately 6.2, 16.8, 33.5, and 91.8 ft (1.9, 5.1, 10.2, and 28 m).
Page 2-2	Height Indications	Indicator	Markings on the mast sections at two-foot increments indicate height in feet. Used to determine height of mast during deployment.



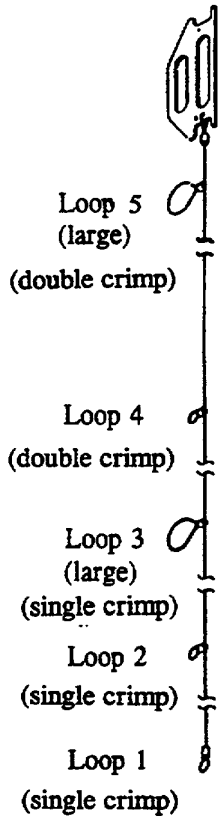
Level Indicator



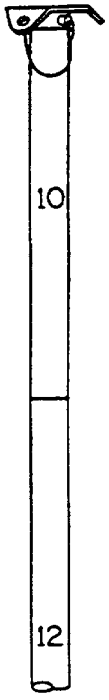
Gearbox



Guy Assembly Tensioner



Radius Rope



Height Indications

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-3. GENERAL

Preventive Maintenance Checks and Services (PMCS) are those scheduled procedures which are essential to the efficient operation of the equipment. PMCS prevent possible damage that might occur through neglect or failure to observe warning symptoms on time. Ensure all noted discrepancies are corrected.

2-4. OPERATOR PMCS TABLE

Table 2-1 lists all scheduled maintenance tasks required for the mast and its mounting components and accessories. The columns of Table 2-1 are described below.

a. Column (1) - Item Number (Item No.)

This column contains a number for each procedure to be performed. When reporting malfunctions or failures on DA Form 2404, Equipment Inspection and Maintenance Worksheet, enter this number in the "TM Item No." column.

b. Column (2) - Interval (Interval B, D, A, S)

These columns tell when to perform a procedure. A dot in a column tells which procedures apply. Some procedures will have more than one dot.

c. Column (3) - Item To Be Inspected

This column has the name of the item to be inspected.

d. Column (4) - Procedure

This column tells how to do the required checks and services. Carefully perform these instructions in the order listed.

2-4. OPERATOR PMCS TABLE - Continued

e. Column (5) - Equipment Is Not Ready/Available If

This column states conditions that will cause the equipment not to be ready for operation.

2-5. PREVENTIVE MAINTENANCE PROCEDURES

NOTE

Within designated intervals, these checks are to be performed in the order listed. If the mast must be kept in continuous operation, check and service only those items that can be accessed without interrupting operations. Complete checks and services when the mast can be retrieved.

a. Before You Operate

Perform before (B) PMCS in Table 2-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

b. While You Operate

Perform during (D) PMCS in Table 2-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

c. After You Operate

Perform after (A) PMCS in Table 2-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

d. Semi-annually

Perform semi-annual (S) PMCS in Table 2-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

e. Order

Always do preventive maintenance in the same order.

f. Reporting

Any discrepancies shall be recorded on DA Form 2404 and reported to higher level maintenance.

Table 2-1. Operator Preventive Maintenance Checks and Services

NOTE

Within designated intervals, these checks are to be performed in the order listed.

B-Before operation D-During operation A-After operation S-Semi-annually

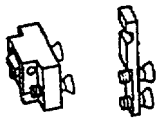
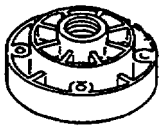
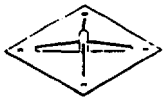
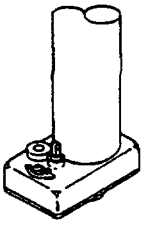
(1) Item No.	(2) Interval				(3) Item To Be Inspected	(4) Procedure	(5) Equipment Is Not Ready/Available If:
	B	D	A	S			
1	•		•	•	Locks and Latches 	Check if loose.	Screws missing or can not be tightened.
2	•			•	Mast Section Tube Nut 	Check mast section tube nut prior to deployment of mast. Check that when top section of mast is gently pulled it does not separate from lower mast sections.	Top section of mast separates easily from lower mast sections.
3	•		•	•	Baseplate  (ground mount configuration)	Inspect baseplate for damage and cracks.	Baseplate damaged.
4	•		•	•	Gearbox 	Check for damage preventing normal operation. Check that level indicator is present and not damaged, and that gears turn freely with little, resistance.	Any damage or gear binding.

Table 2-1. Operator Preventive Maintenance Checks and Services - Continued

B-Before operation D-During operation A-After operation S-Semi-annually

(1) Item No.	(2) Interval				(3) Item To Be Inspected	(4) Procedure	(5) Equipment Is Not Ready/Available If:
	B	D	A	S			
5	•		•	•	Baseplate Stakes  (ground mount configuration)	Check that baseplate stakes are not broken, head or tip is not missing, head is not crushed.	Any baseplate stake is damaged.
6	•		•	•	Base Section 	Check that base section is not damaged.	Damaged base section prevents mast deployment to desired height.
7	•		•	•	Antenna Adapter 	Check for damage or corrosion.	Part damaged or corroded.
8	•		•	•	Radius Rope 	Check for damage.	Radius rope damaged or unusable.

Table 2-1. Operator Preventive Maintenance Checks and Services - Continued

B-Before operation D-During operation A-After operation S-Semi-annually

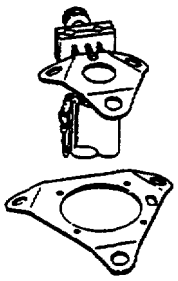
(1) Item No.	(2) Interval				(3) Item To Be Inspected	(4) Procedure	(5) Equipment Is Not Ready/Available If:
	B	D	A	S			
9	•		•	•	Guy Rings 	Check for damage or elongated guy attachment points.	Damage is present.
10		•			Guy Stakes 	Check each guy stake for firm hold during mast operation.	Guy stakes are loose.
	•		•	•		Check guy stake head and tip for damage.	Any guy stake head is crushed or missing, or tip is missing.

Table 2-1. Operator Preventive Maintenance Checks and Services - Continued

B-Before operation D-During operation A-After operation S-Semi-annually

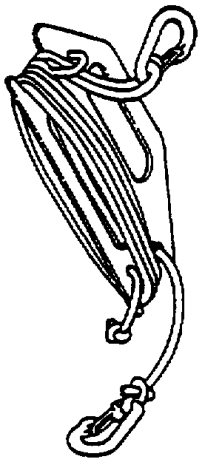
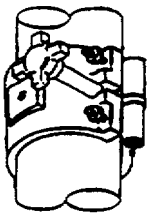
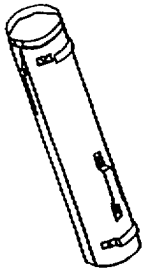
(1) Item No.	(2) Interval				(3) Item To Be Inspected	(4) Procedure	(5) Equipment Is Not Ready/Available If:
	B	D	A	S			
11	•		•	•	Guy Assemblies 	Check for frayed rope strands, loose or missing knots.	Guy assemblies are damaged or frayed.
	•		•	•		Check guy assembly tensioner for damage and cracks.	Guy assembly tensioner is damaged.
	•		•	•		Check snap hooks for damage.	Any snap hook is broken or severely bent.
12	•		•	•	Hand Crank 	Check that pivot joint works freely.	Any damage or pivot joint binding.

Table 2-1. Operator Preventive Maintenance Checks and Services - Continued

B-Before operation D-During operation A-After operation S-Semi-annually

(1) Item No.	(2) Interval				(3) Item To Be Inspected	(4) Procedure	(5) Equipment Is Not Ready/Available If:
	B	D	A	S			
13	•		•	•	Vehicle Mount (vehicle mount configuration) 	Inspect for damage and cracks. Inspect for loose, missing, or damaged attaching hardware.	Vehicle mount damaged and/or loose or missing attaching hardware.
		•				Inspect for tight clamp assemblies. Adjust clamp assembly setscrews (para. 3-1).	Clamp assemblies can not be tightened, do NOT attempt to raise antenna.
14	•	•	•	•	Accessory Bag 	Inspect for worn areas, cuts, or holes.	Holes or cuts in bag allow sharp objects to protrude.

Section III. OPERATION UNDER USUAL CONDITIONS

NOTE

This section discusses the installation and operation of the mast in the ground mount configuration. For vehicular installations, refer to Technical Bulletin TB 11-5985-426-20 for installation and Section IV of this chapter for operation.

2-6. SITE SELECTION AND PREPARATION

a. Site Selection Criteria

The mast is designed for deployment on various terrain. However, the more level the site, the easier it is to deploy and retrieve the mast. Sites which contain large rocks, dense trees, or dense bushes should be avoided. In selecting a deployment site, comply with the following:

(1) Perform site survey prior to deployment of mast. An area of approximately 34 ft (10.4 m) in radius is required for deployment of a single mast.

(2) Select terrain which does not slope more than 10 degrees (or 17.6 percent).

(3) Avoid mast deployment on or over roads and traveled areas.

(4) Select deployment site for soil conditions compatible with use of guy stakes.

(5) Plan for reasonably clear path for guy assemblies from mast to guy stake positions. Avoid obstructions, such as tree branches, that will interfere with top guy assembly runs to guy stakes.

(6) Provide for tactical situation, security, and other requirements determined by system planners. Select site that provides for any tactical requirements, such as camouflage and transmission line-of-sight.

(7) Refer to specific manual for other site considerations for any ancillary equipment.

2-6. SITE SELECTION AND PREPARATION - Continued

b. Nearby Power Lines

Power lines should be at least 80 ft (24.4 m) away from the mast in any direction.

2-7. UNPACKING EQUIPMENT

WARNING

Two or more operators are required for lifting or carrying any item weighing more than 42 lbs. (19 kg). Failure to comply with this warning may result in personal injury.

Safety shoes or combat boots are required for unloading the mast. Failure to wear safety shoes or combat boots may result in personal injury.

a. Open mast shipping box (or transport container) and check its contents. Refer to Appendix D in back of this manual for an illustrated inventory listing of all mast components (Appendix D, items 1 through 8).

b. Open accessory bag (Appendix D, item 9) and check its contents (Appendix D, items 10 through 21).

c. For an illustrated inventory of all mast additional authorized items, including the Universal HMMWV Mount and Tracked Vehicle Mount, refer to Appendix G in the back of this manual.

2-8. DEPLOYING MAST

WARNING

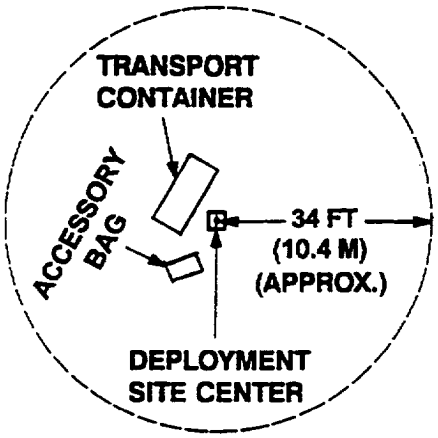
Do not attempt to deploy the mast during electrical storms or when winds exceed 25 mph (40 kph). Failure to follow this warning may result in personal injury or DEATH.

Hard hats, eye protection, gloves, and safety shoes or combat boots must be worn while working in mast area to prevent personal injury.

NOTE

The following deployment procedure is for the mast in its ground mount configuration. One or two operators are required to deploy the mast. Unless otherwise noted, all procedures are for two-operator deployments. Two operator deployments should always be practiced whenever MOPP conditions exist.

a. Laying Out Equipment



(1) Select approximate center of deployment site.

(2) Place mast transport container and accessory bag near center of deployment site.

(3) Remove radius rope from accessory bag.

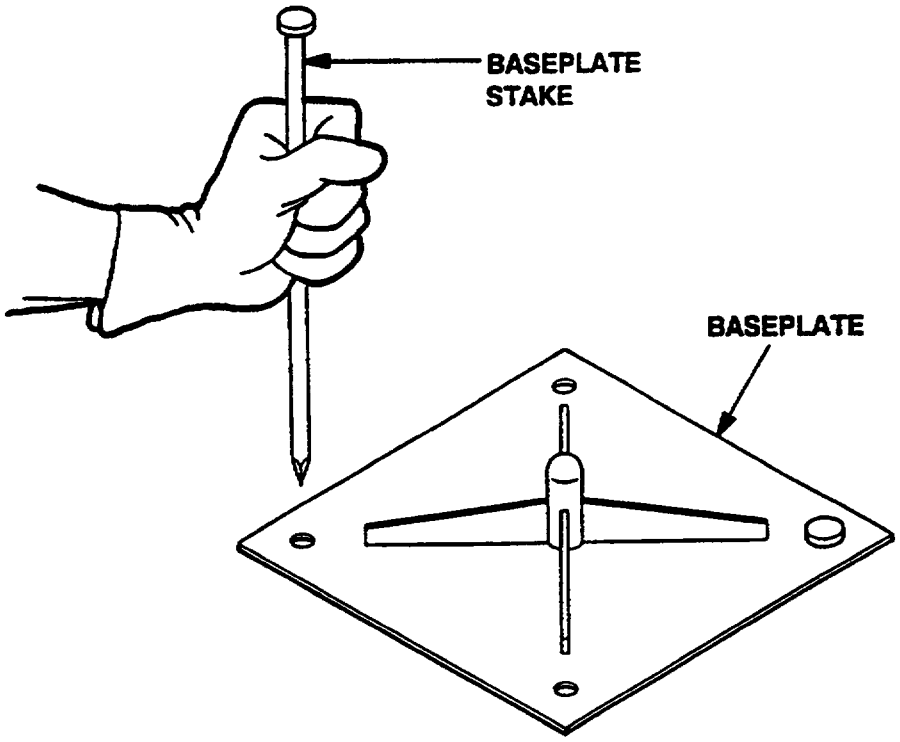
(4) Operator 1: Stand at selected center of deployment site holding end of radius rope.

Operator 2: Unwind radius rope to fourth loop. Holding loop in hand, walk directly outward until radius rope is tensioned, and then in a circular path to ensure site is free of obstructions for deployment of upper and lower guy assemblies.

(5) Mark center of deployment site. Wind radius rope onto its spool.

2-8. DEPLOYING MAST - Continued

b. Securing Antenna Baseplate



(1) Remove baseplate from accessory bag.

(2) Orient baseplate flat on ground at center of deployment site.

WARNING

Wear eye protection and gloves while driving baseplate stakes with hammer. Failure to do so may result in personal injury.

(3) Remove two baseplate stakes and hammer from accessory bag.

(4) Use hammer to drive baseplate stakes through diagonally opposite holes in baseplate. Drive stakes in perpendicular (90 degree angle) to the ground.

2-8. DEPLOYING MAST - Continued

c. Locating Inner Guy Stake Positions

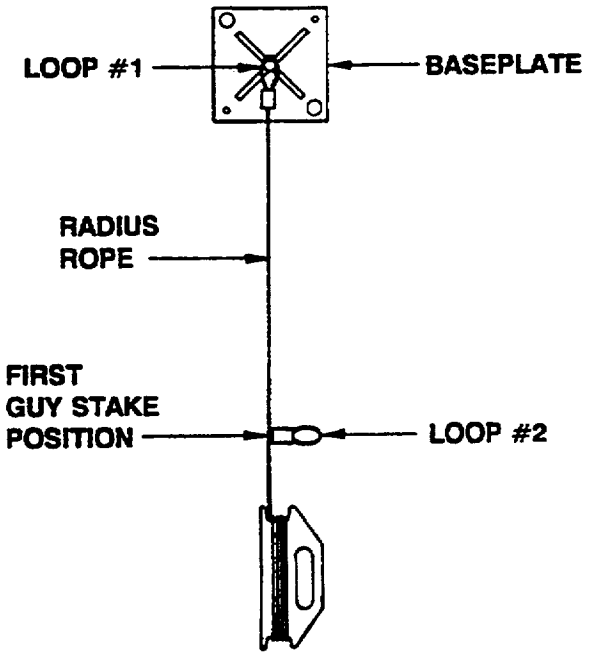
WARNING

Improper or inadequate installation of guy stakes may result in the mast toppling over, causing severe personal injury or DEATH.

NOTE

Under normal operating conditions, it is only necessary to install the lower guy stakes and guy assemblies. However, unusual operating conditions such as winds in excess of 25 mph (40 kph) and/or icing, will require the use of upper guy assemblies. Refer to paragraph 2-11.

Guy stake positions have a tolerance of 2 ft (0.61 m) in any direction before significant loss of strength occurs.



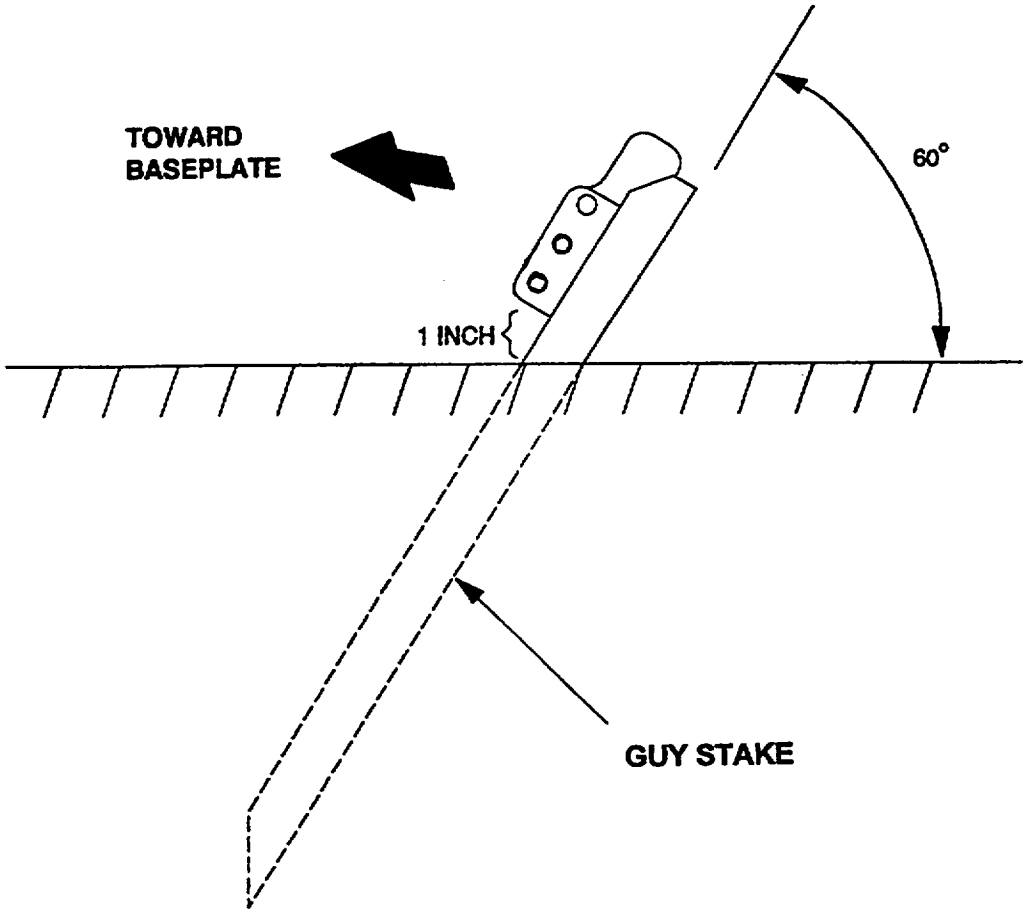
(1) Hook loop #1 of radius rope over post of baseplate.

(2) Operator 1: Walk directly outward from baseplate and unwind radius rope to loop #2 of radius rope. Find exact guy stake position by lining up radius rope and baseplate.

(3) Operator 2: Carry one guy stake and hammer to first guy stake position.

2-8. DEPLOYING MAST - Continued

c. Locating Inner Guy Stake Positions - Continued



WARNING

Wear gloves and safety goggles/glasses while driving guy stakes. Failure to do so may result in personal injury.

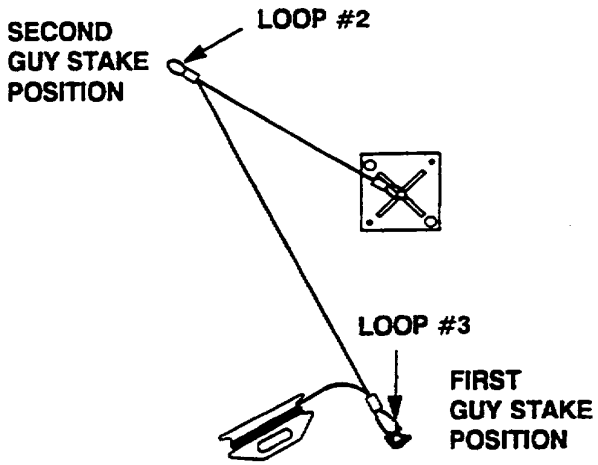
NOTE

Each guy stake should be oriented so that the head of the stake is facing the baseplate and the top of the stake is tilted at a 60 degree angle to the ground.

(4) Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-8. DEPLOYING MAST - Continued

c. Locating Inner Guy Stake Positions - Continued



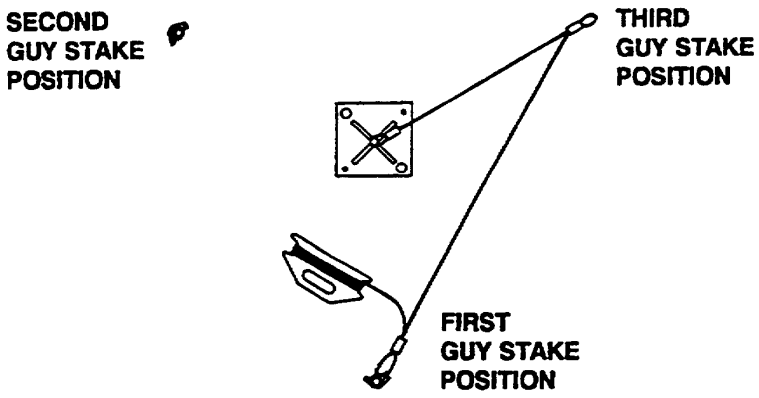
(5) Place loop #3 (large loop) of radius rope over first guy stake.

(6) Locate second guy stake position as follows:

Operator 1: While holding radius rope at loop #2, walk to left until there is no slack in either long and short sections of radius rope.

Operator 2: Carry one guy stake and hammer to second guy stake position.

(7) Use hammer to drive second guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.



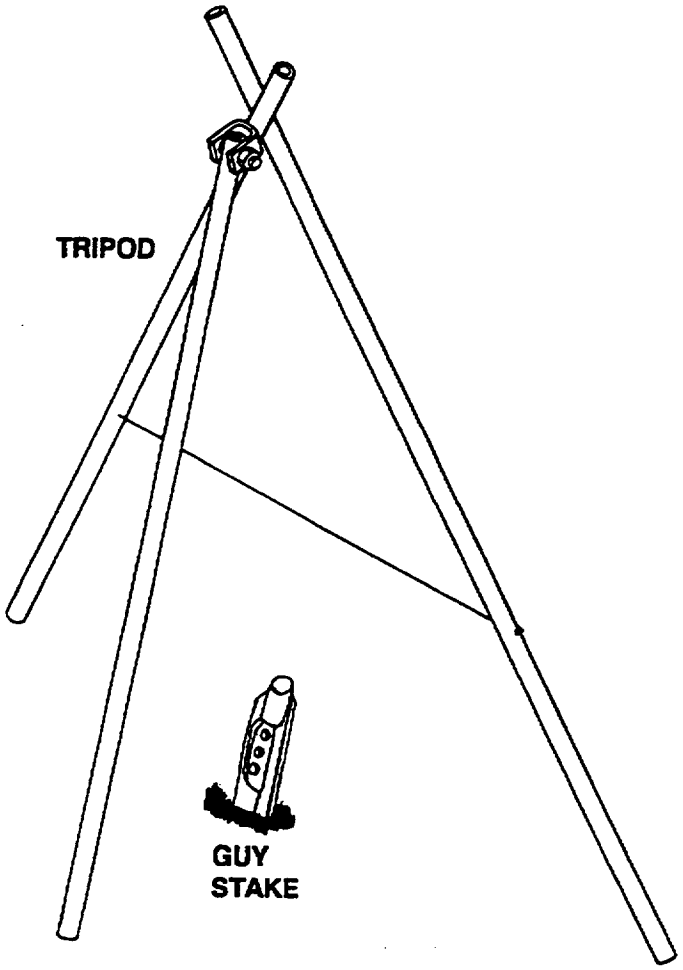
(8) Locate third guy stake position by repeating step 6 while walking to right from first guy stake position.

(9) Use hammer to drive third guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

(10) Remove loop #3 of radius rope at first guy stake position. Wind radius rope onto its spool and stow with hammer in accessory bag.

2-8. DEPLOYING MAST - Continued

d. Installing Antenna



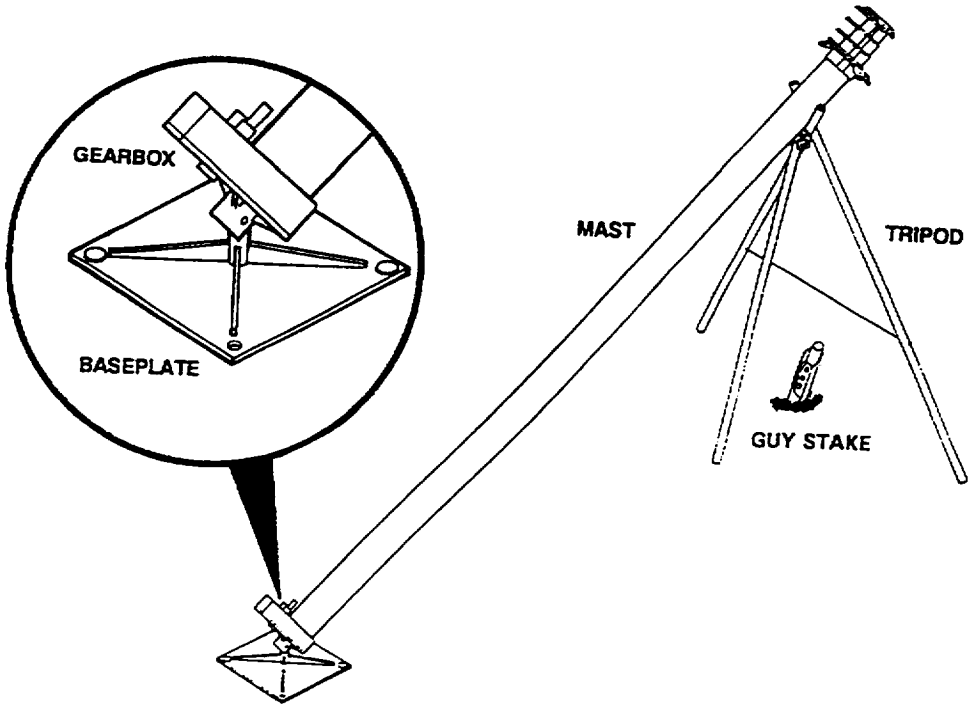
WARNING

Check that mast is vertical and straight during the following procedure. Adjust tension of each lower guy assembly as necessary to maintain mast in straight and vertical position. Failure to do so may result in mast toppling and severe personal injury.

(1) Remove tripod from accessory bag and set it up over one of inner guy stakes.

2-8. DEPLOYING MAST - Continued

d. Installing Antenna - Continued



WARNING

Two or more operators are required for lifting or carrying any item weighing more than 42 lbs. (19 kg). Failure to comply with this warning could result in personal injury.

Safety shoes or combat boots are required for unloading the mast. Failure to wear safety shoes could result in severe personal injury.

CAUTION

When antenna is collapsed do not tap it on any hard surface, or the ground, in order to try to loosen it, so that it will deploy easily. Damage to the equipment will result.

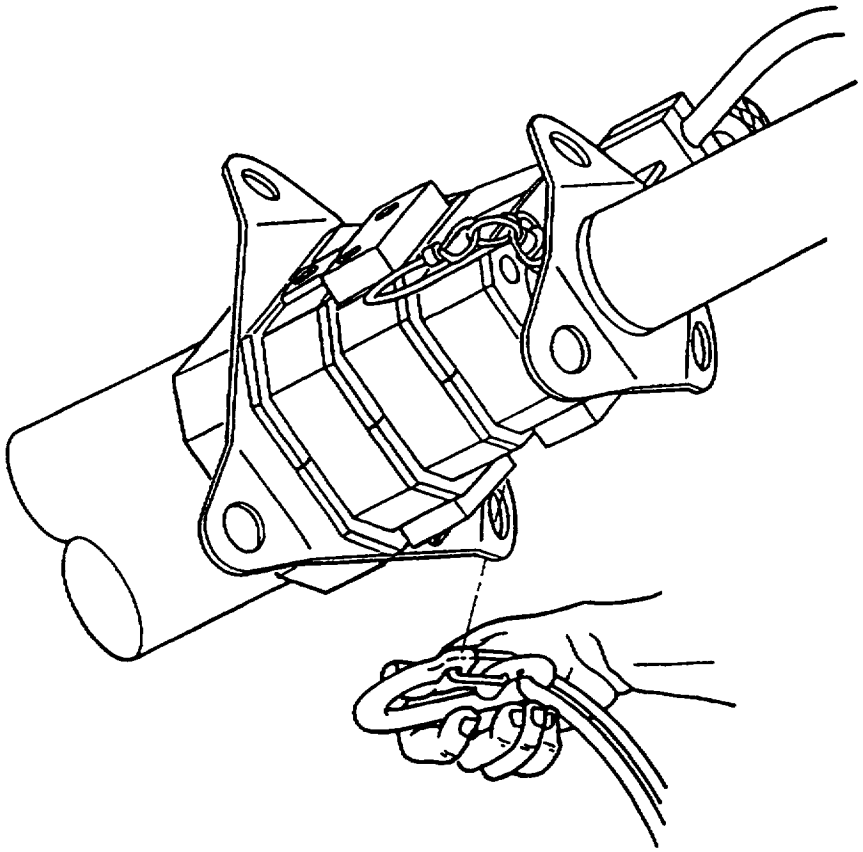
(2) Remove mast from transport container and carefully rest base section on tripod while engaging notch in socket on bottom of gearbox with post on baseplate.

(3) Refer to Appendix F and install antenna to mast.

(4) Thread antenna lead through cable guides and secure with cable clamp. Then connect antenna lead.

2-8. DEPLOYING MAST - Continued

e. Raising Mast



NOTE

The lower guy assemblies are color coded with black snap hooks. They are also shorter than the upper guy assemblies.

Snap hooks should be fastened from underneath guy ring, as shown.

(1) Remove three lower guy assemblies (black snap hooks) from accessory bag.

(2) Select first guy assembly and unwrap rope ends from tensioner.

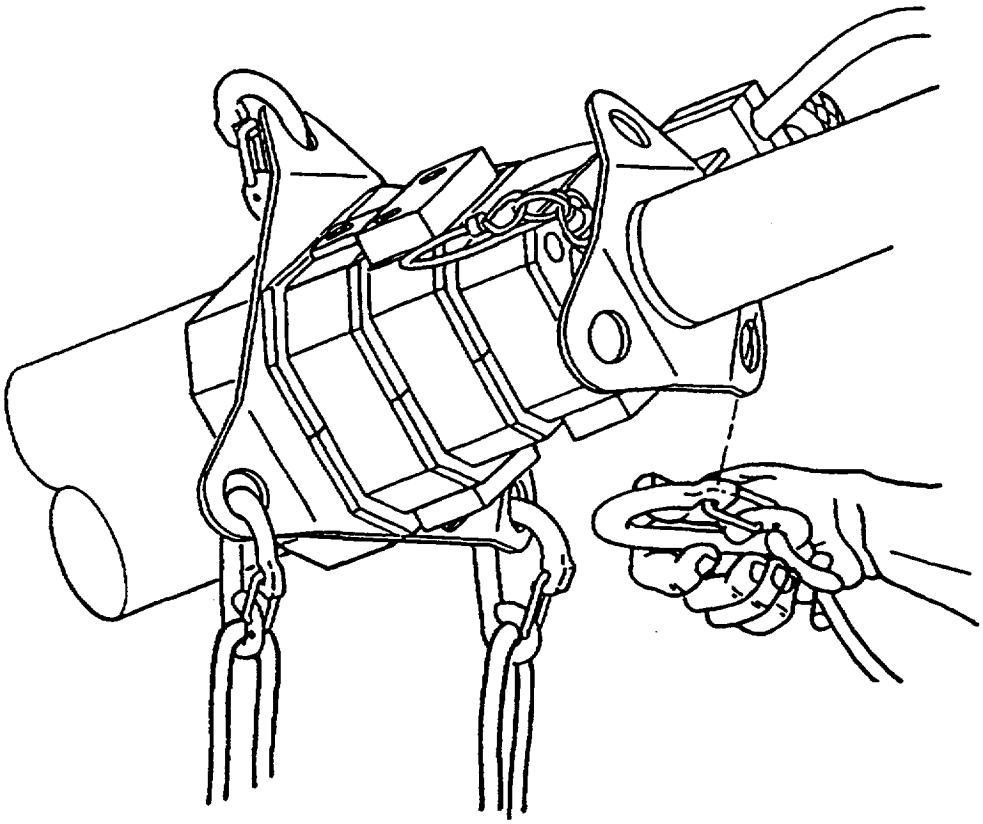
(3) Attach black snap hook on double side of guy assembly to lower guy ring as shown.

(4) Attach snap hook on single side of guy assembly to first guy stake.

(5) Repeat steps 2, 3, and 4 for second and third guy stake positions.

2-8. DEPLOYING MAST - Continued

e. Raising Mast - Continued



NOTE

The lower guy assemblies must be installed when operating the mast under normal operating conditions. However, it is recommended that if winds exceeding 25 mph (40 kph) or icing conditions are expected, the upper guy assemblies should be connected to the top section in anticipation of their being deployed. Refer to paragraph 2-11.

The unanchored upper guy assembly tensioners should be secured in a manner so as to not interfere with the daily operation of the mast.

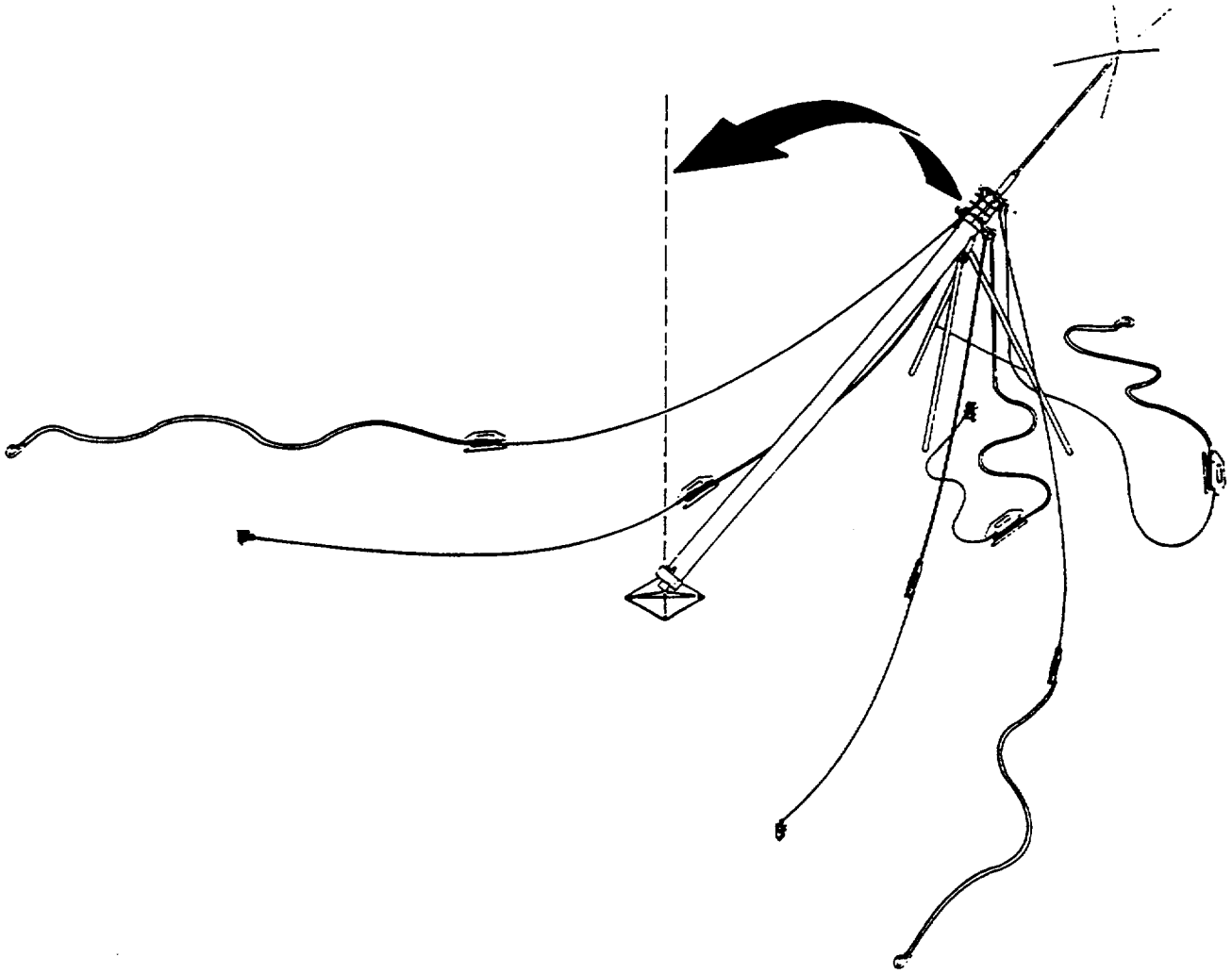
The upper guy assemblies are color coded with green snap hooks. They are also longer than the lower guy assemblies.

(6) Remove three remaining guy assemblies from accessory bag.

(7) Unwrap guy assemblies and attach one each to green guy ring holes in top section as shown with single (free) end of each rope attached to mast.

2-8. DEPLOYING MAST - Continued

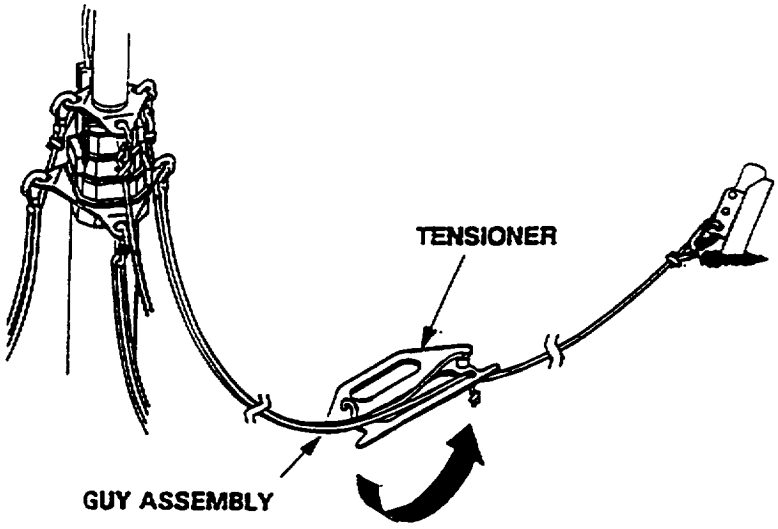
e. Raising Mast - Continued



(8) Lift mast off tripod and raise to vertical position.

2-8. DEPLOYING MAST - Continued

e. Raising Mast - Continued



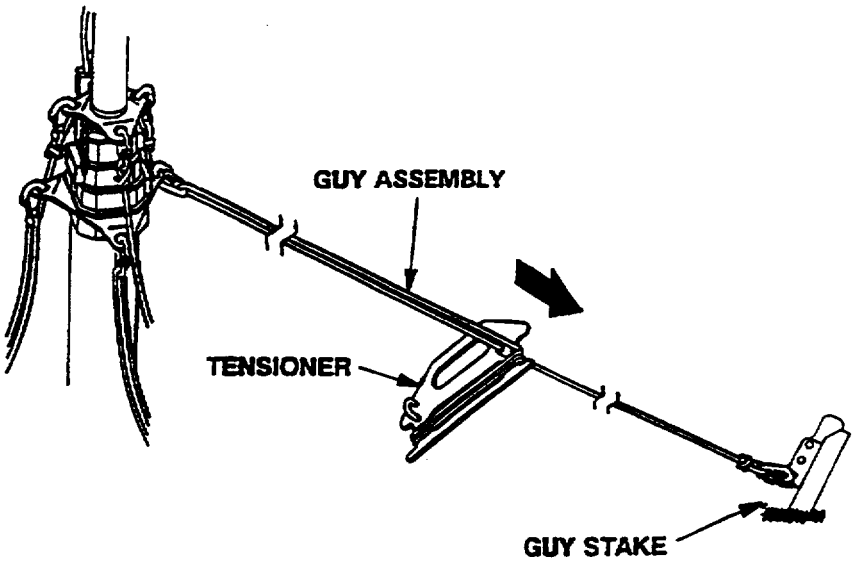
(9) Tension lower guy assemblies as follows:

NOTE

If mast is being deployed by only one operator, the mast is supported by the operator's shoulder and arm while the lower guy assemblies are being tensioned.

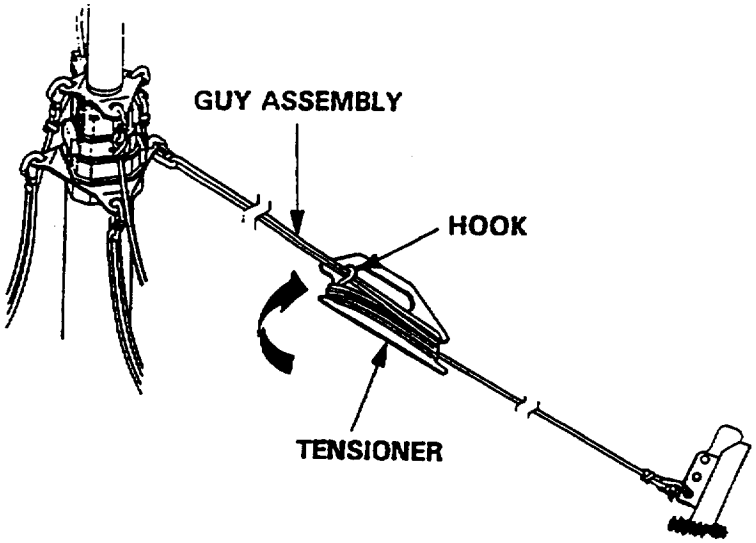
Operator 1: Steady mast in vertical position.

Operator 2: Take up slack on first lower guy assembly by winding trailing end of guy assembly around tensioner as shown above. Tension guy assembly by sliding tensioner toward guy stake (as shown below) and lock tensioner by catching guy assembly under hook (as shown on following page).

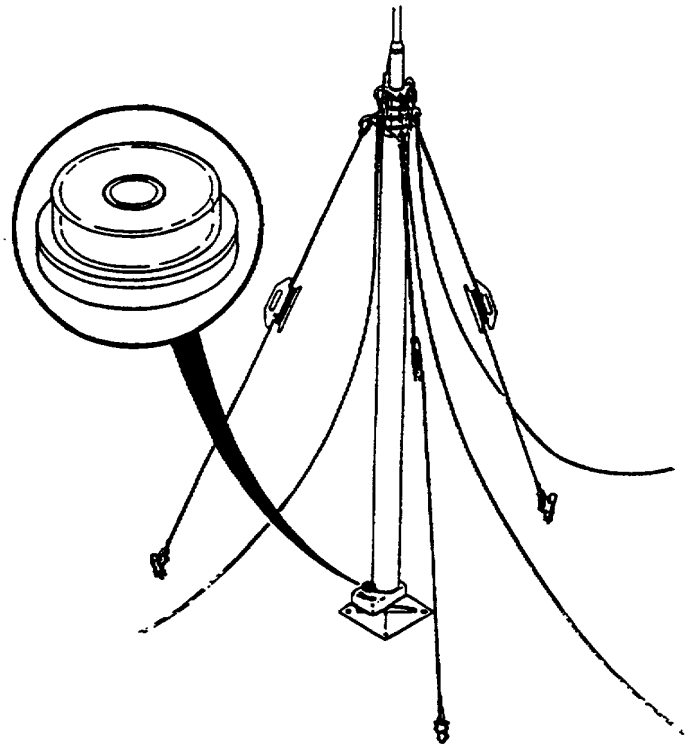


2-8. DEPLOYING MAST - Continued

e. Raising Mast - Continued



(10) Repeat step 9 for other two lower guy assemblies.

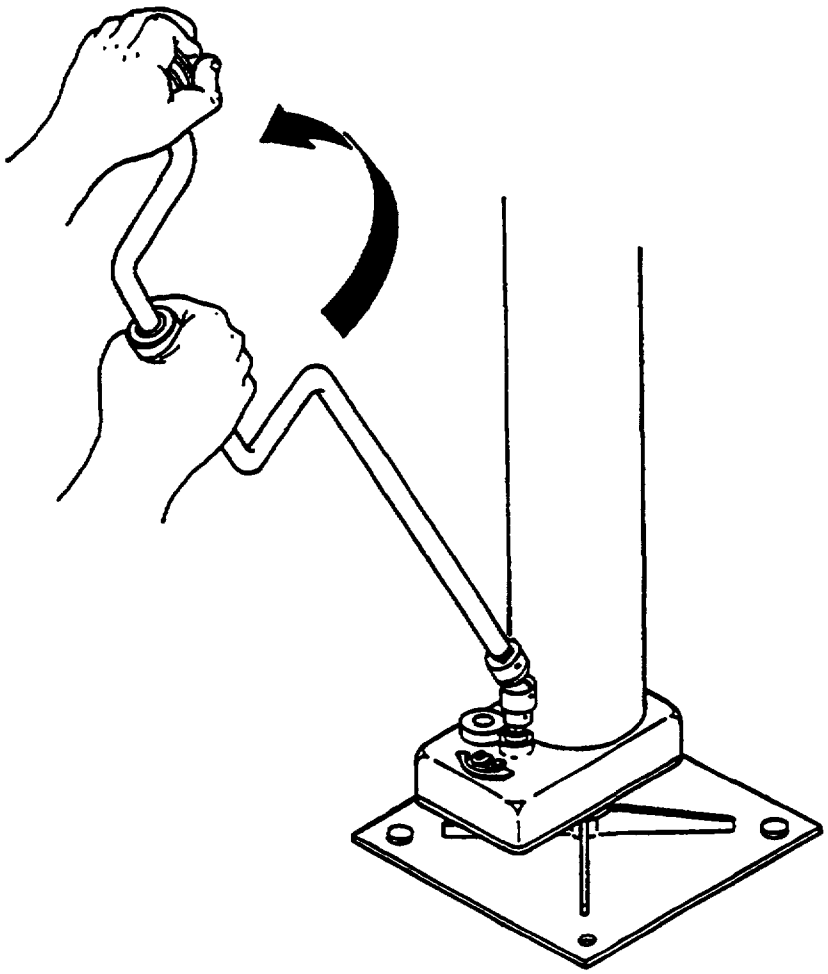


(11) Check level indicator and ensure that bubble is centered. If necessary, adjust lower guy assemblies to center bubble in level indicator.

(12) Collapse tripod and stow in accessory bag.

2-8. DEPLOYING MAST - Continued

e. Raising Mast - Continued



(13) Remove hand crank from accessory bag.

(14) Slip hand crank coupling over drive on gearbox.

(15) Turn hand crank counterclockwise and ensure that top section deploys as crank is turned. If antenna binds back the crank off approximately 12 inches and gently attempt to crank forward past the obstruction.

(16) Continue to turn hand crank until mast is deployed to desired height. Check height indications on mast sections to determine deployed mast height If necessary, unhook top section guy assembly(s) at tensioner(s) and unwind guy assemblies(s) to allow slack in guy rope(s) during deployment Upper guy assemblies are left loosely draped against the mast. Deploying the outer guy stakes and anchoring the upper guy assemblies can be delayed until just prior to unusual weather.

(17) Remove hand crank and stow in accessory bag.

(18) Tie down or secure unanchored upper guy assembly tensioners.

2-9. RETRIEVING MAST

WARNING

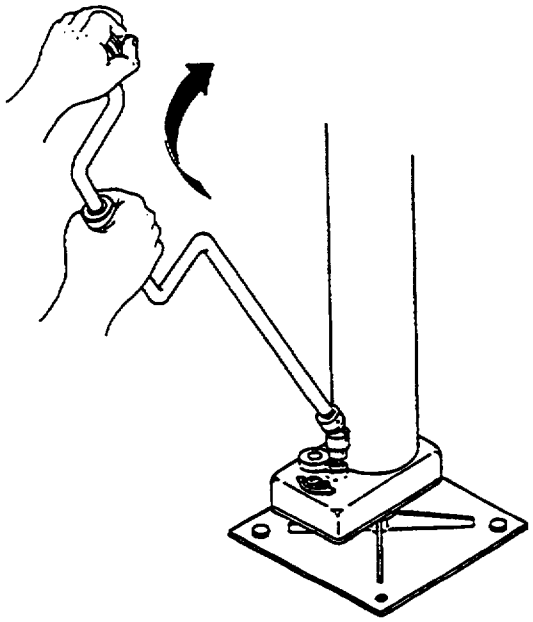
Do not attempt to retrieve mast during electrical storms or when winds exceed 25 mph (40 kph). Failure to follow this warning could result in or severe personal injury or DEATH.

Helmet or hard hat, eye protection (goggles/glasses), gloves, and safety shoes or combat boots are required when retrieving mast.

NOTE

One or two operators are required to retrieve the mast. Unless otherwise noted, all procedures are for two-operator retrievals.

a. Lowering Mast



(1) Remove hand crank from accessory bag.

(2) Slip hand crank coupling over drive on gearbox.

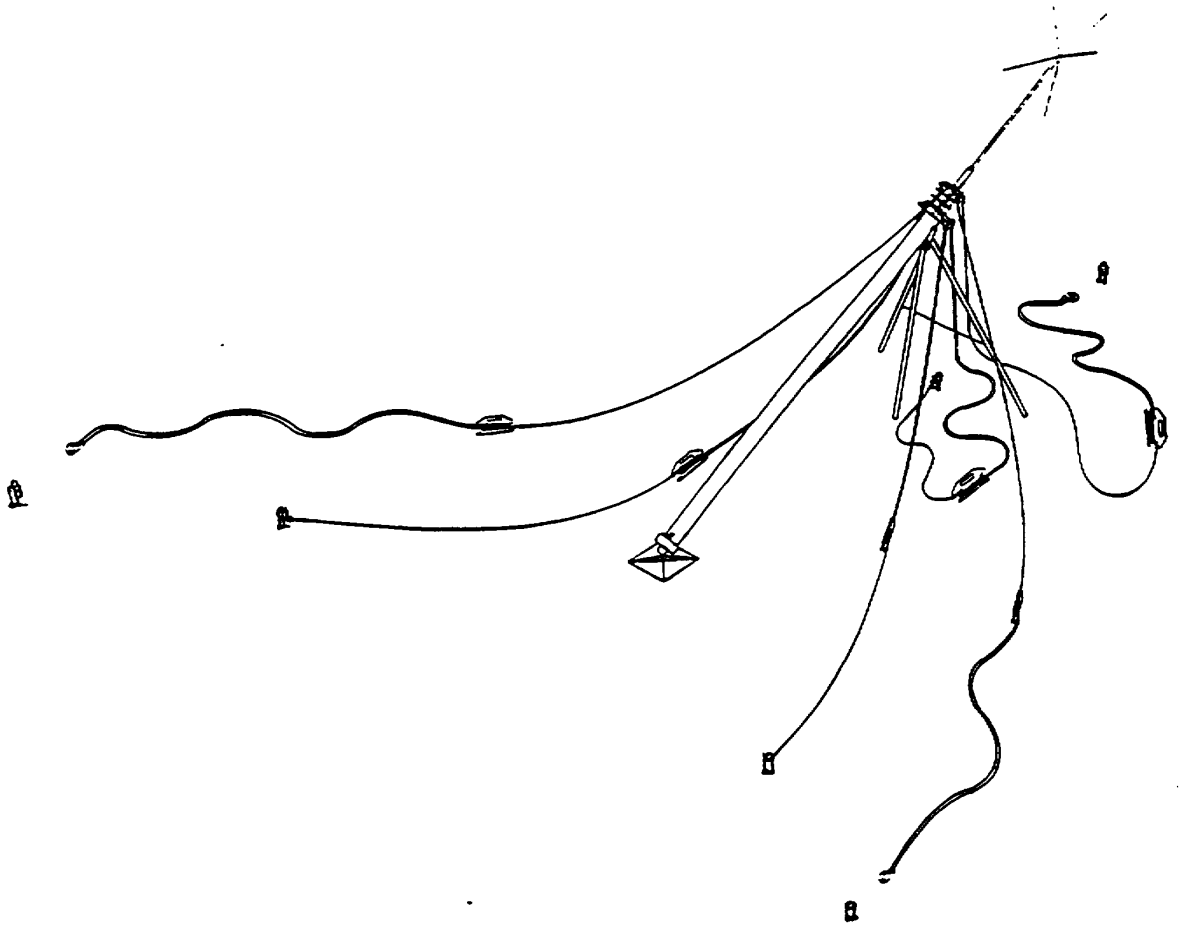
(3) Turn hand crank clockwise to lower mast If antenna binds back the crank off approximately 12 inches and gently attempt to crank downward past the obstruction.

(4) Continue to turn hand crank until mast is lowered as far as it will go with antenna installed.

(5) Remove hand crank and stow in accessory bag.

2-9. RETRIEVING MAST - Continued

a. Lowering Mast - Continued



(6) If installed, unhook each upper guy assembly at its tensioner to slacken guy assembly and disconnect guy assemblies at fourth, fifth, and sixth guy stakes.
(7) Remove tripod from accessory bag and set it up near one of the inner guy stakes.
(8) Slacken lower guy assembly as follows:

NOTE

If mast is being retrieved by only one operator, the mast is supported by the operator's shoulder and arm while the lower guy assemblies are slacken.

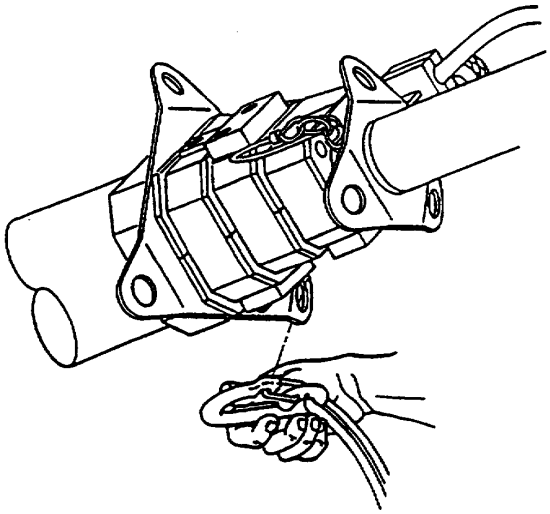
Operator 1: Maintain mast in vertical position.

Operator 2: Unhook any lower guy assembly at its tensioner to slacken guy assembly. Slacken two remaining lower guy assemblies.

(9) Lower mast until base section rests on tripod.

2-9. RETRIEVING MAST - Continued

a. Lowering Mast - Continued



WARNING

Two or more operators are required for lifting or carrying any item weighing more than 42 lbs (19 kg). Failure to comply with this warning could result in personal injury.

Safety shoes or combat boots are required for unloading the mast. Always wear gloves when handling guy assemblies. Failure to wear safety shoes and gloves could result in personal injury.

(10) Disconnect lower guy assemblies at lower guy ring on base section. If installed, disconnect upper guy assemblies at upper guy ring on top section.

(11) If used, wind up upper guy assemblies on tensioners and stow in accessory bag.

(12) Disconnect and remove antenna lead cable.

(13) Refer to Appendix F and remove antenna.

(14) Disconnect lower guy assemblies at first, second, and third guy stakes and wind up guy assemblies on tensioners and stow in accessory bag.

(15) Remove and stow mast in transport container or shipping box.

(16) Collapse tripod and stow in accessory bag.

2-9. RETRIEVING MAST - Continued

b. Removing Guy Stakes and Baseplate

WARNING

Wear eye protection (safety goggles/glasses) when removing guy stakes. Failure to do so may result in severe personal injury.

(1) Use hammer to loosen guy stakes.

(2) Remove and stow all guy stakes.

(3) Use hammer to loosen both baseplate stakes.

(4) Remove baseplate stakes and stow stakes, baseplate, and hammer in accessory bag.

2-10. PACKING EQUIPMENT

a. Ensure that mast is properly stowed in the transport container or vehicular mount. Refer to Appendix D in the back of this manual for an illustrated inventory listing of all mast components (Appendix D, items 1 through 8).

b. Ensure that all accessory items (Appendix D, items 10 through 21) are stowed in the accessory bag (Appendix D, item 9).

NOTE

The antenna adapter, baseplate stakes, balldriver, and hex key are stored inside the inner pouch within the accessory bag.

c. For an illustrated inventory of all mast additional authorized items, including the Universal HMMWV Mount and Tracked Vehicle Mount, refer to Appendix G in the back of this manual.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-11. UNUSUAL WEATHER

a. General

There are three unusual operating conditions described in this section: preparing the mast for operation in high wind/ice, installing guy stakes in frozen ground, and burying guy stakes in loose (sandy) soil.

b. Preparing the Ground-Mounted Mast for High Wind/Ice Conditions

WARNING

Do not attempt to deploy or retrieve the mast during electrical storms or when winds exceed 25 mph (40 kph).

The upper guy assemblies must be installed when operating the mast in winds exceed 25 mph (40 kph). The upper guy assemblies must also be installed when the mast sections are covered with ice.

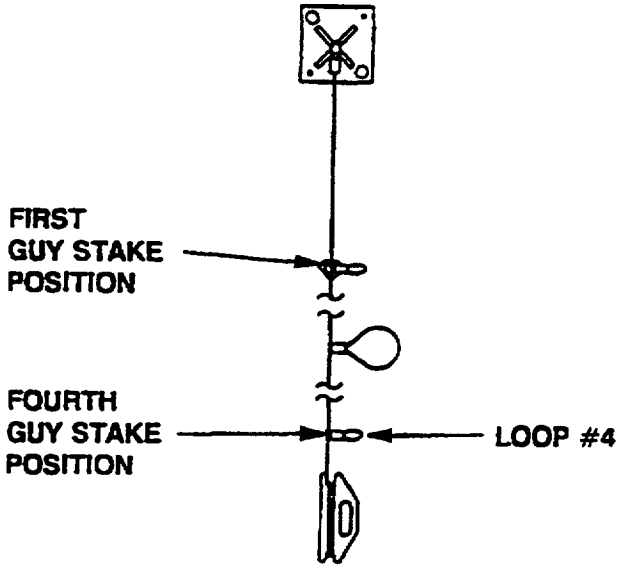
Failure to observe this warning could cause the mast to topple which could result in severe personal injury or DEATH.

2-11. UNUSUAL WEATHER - Continued

b. Preparing the Ground-Mounted Mast for High Wind/Ice Conditions - Continued

NOTE

If icy conditions are expected, the upper guy assemblies should be attached to the top section since retrieving the mast to install these ropes will be difficult with the mast sections coated with ice. However, deploying the outer guy stakes and anchoring the upper guy assemblies can be delayed until the mast is actually iced or until needed.



(1) Secure baseplate and locate inner guy stake positions 1 thru 3 (refer to paragraph 2-8c).

(2) Locate outer guy stake positions beginning with fourth guy stake position as follows:

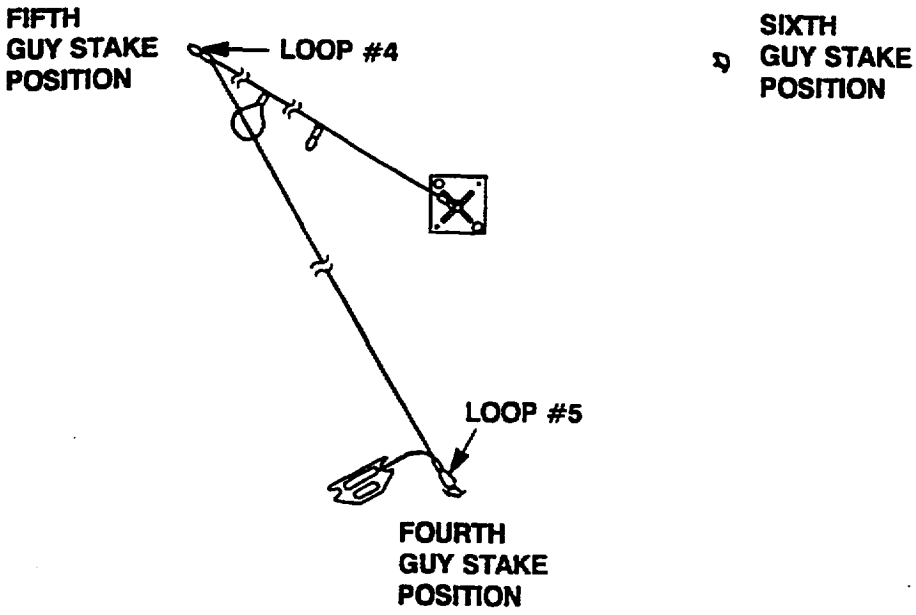
Operator 1: Attach loop #l of radius rope to antenna baseplate. Then while holding loop #4, walk away from baseplate at first guy stake position until there is no slack in radius rope.

Operator 2: Carry one guy stake and hammer to fourth guy stake position.

(3) Use hammer to drive fourth guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-11. UNUSUAL WEATHER - Continued

b. Preparing the Ground-Mounted Mast for High Wind/Ice Conditions - Continued



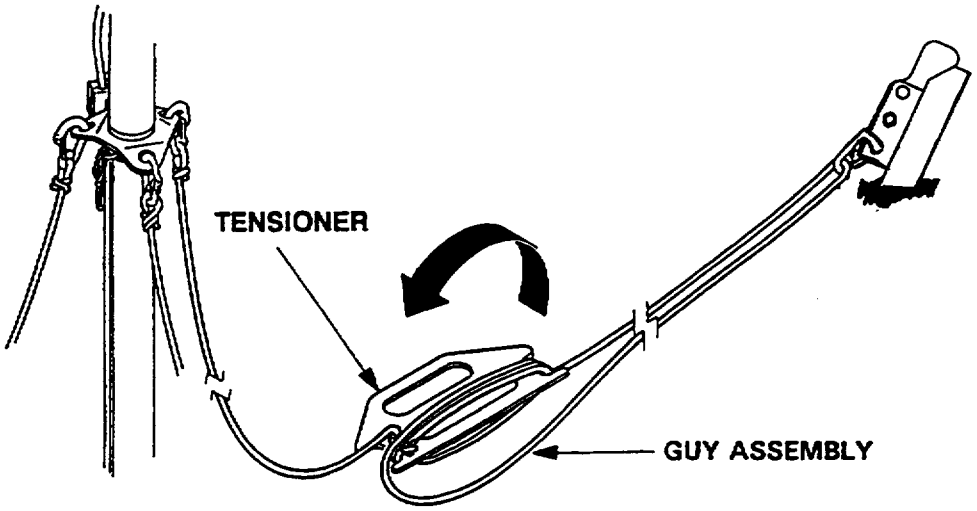
(4) Locate fifth and sixth guy stake positions by placing radius rope loop #5 (second large loop) over fourth guy stake and by using radius rope loop #4 to locate fifth and sixth guy stake positions. Use hammer to drive stakes into ground until head is 1 in. (approximately 2.5 cm) above ground.

(5) Wind radius rope onto its spool and stow with hammer in accessory bag.

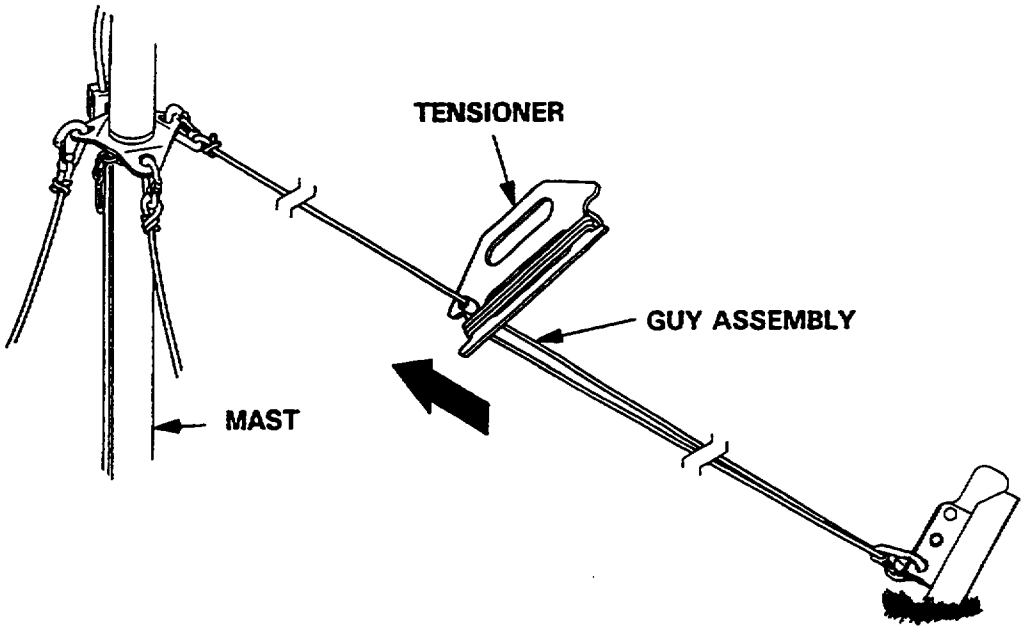
(6) Attach one each snap hook on doubled end of guy assemblies to fourth, fifth, and sixth guy stakes.

2-11. UNUSUAL WEATHER - Continued

b. Preparing the Ground-Mounted Mast for High Wind/Ice Conditions - Continued

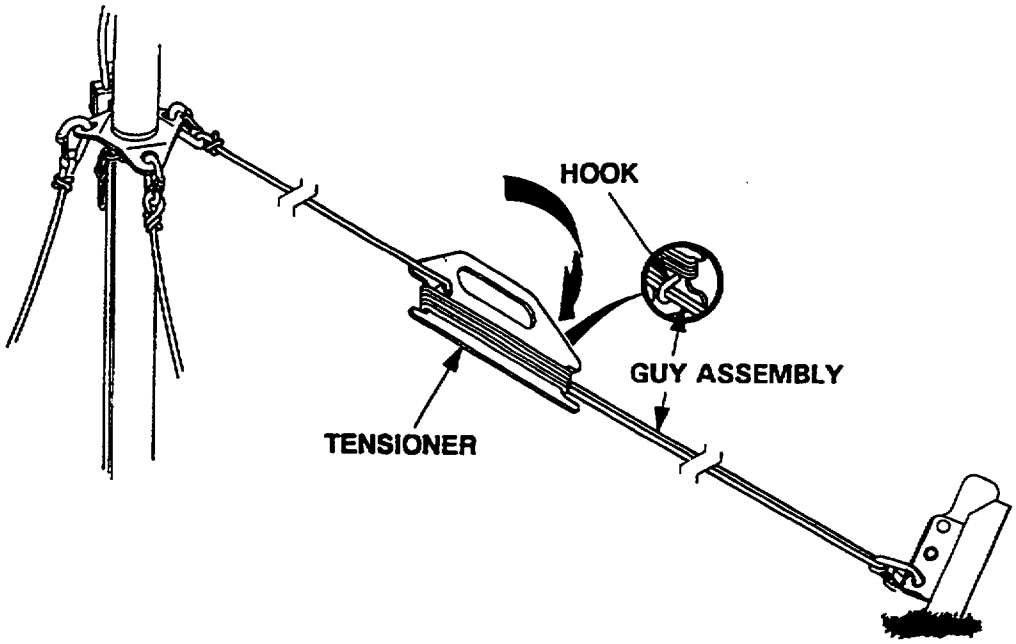


(7) Tension upper guy assembly by winding trailing end of guy assembly around tensioner as shown above. Tension guy assembly by sliding tensioner toward mast (as shown below) and lock tensioner by catching guy assembly under hook (as shown on opposite page).



2-11. UNUSUAL WEATHER - Continued

b. Preparing the Ground-Mounted Mast for High Wind/Ice Conditions - Continued



(8) Repeat step 7 for other two upper guy assemblies.

2-11. UNUSUAL WEATHER - Continued

c. Frozen Ground

NOTE

For artic, rocky, or similar hard soil conditions Guy Stake CP-112/G (NSN 4030-00-291-9354) or 425-658-1 (NSN 4030-00-437-1798) can be requisitioned.

Deploying the guy stakes in frozen ground will require special procedures. The guy stakes can be installed as follows.

WARNING

Wear gloves and safety glasses/goggles while driving guy stakes. Failure to do so may result in severe personal injury.

(1) Establish guy stake locations as described in paragraph 2-8c.

(2) Using guy stake and hammer, chisel frozen ground, chipping away top layer of frozen ground. Turn guy stake with each blow of hammer.

NOTE

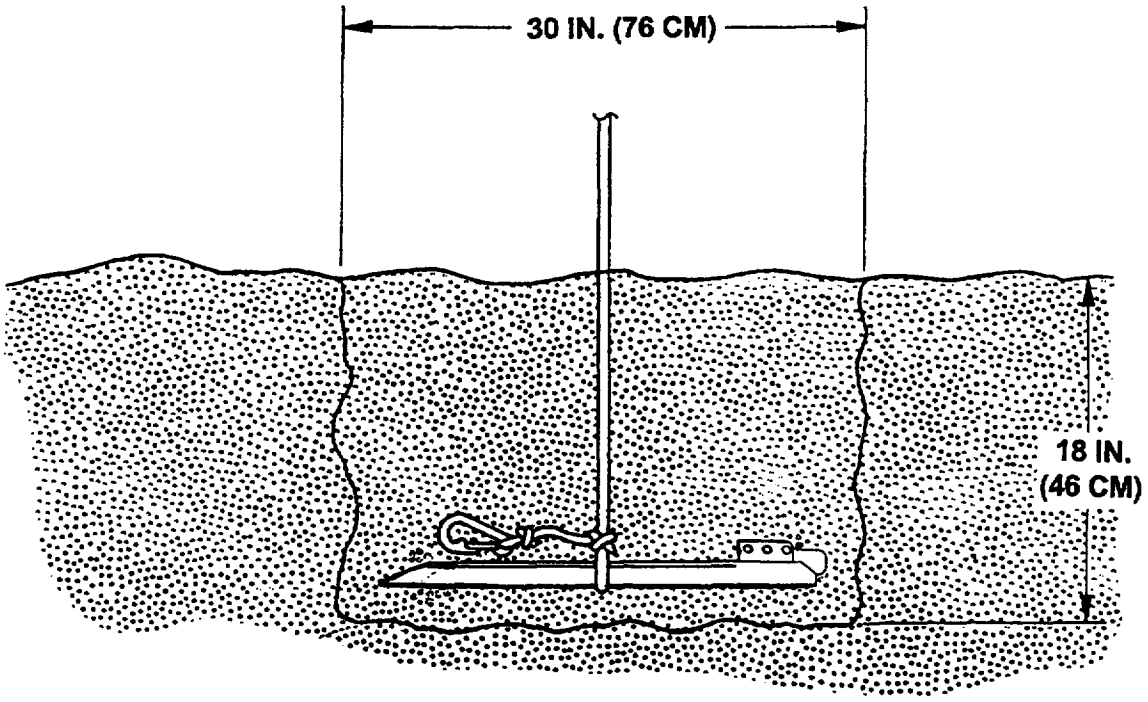
Each guy stake should be oriented so that the head of the stake is facing the baseplate and the top of the stake is tilted at a 60 degree angle to the ground.

(3) Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-11. UNUSUAL WEATHER - Continued

d. Loose Soil Conditions

Deploying the guy stakes in loose or sandy soil conditions will require the use of special procedures to ensure that they will not pull out of the ground. To accomplish this, the guy stakes must be buried as follows.



(1) Establish guy stake locations as described in paragraph 2-8c.

(2) Dig 30-inch (76 cm) hole that is at least 18 in. (46 cm) deep at each guy stake position.

(3) Secure an appropriate guy assembly to each guy stake as shown.

(4) Bury guy stakes in ground as shown.

(5) Tension guy assemblies as described in steps 9 thru 11 of paragraph 2-8e.

2-12. EMERGENCY PROCEDURES

a. Nuclear, Biological, or Corrosive Material Contamination

In the event of nuclear, biological, or corrosive material contamination, abandon the mast. Do not attempt to decontaminate the mast or its accessories.

b. Disabled Ground-Mounted Mast Retrieval

Perform the following procedures when an erected mast is jammed and can not be lowered using the crank handle.

WARNING

Do not attempt to retrieve mast during electrical storms or when winds exceed 25 mph (40 kph).

Helmet or hard hat, eye protection (goggles/glasses), gloves, and safety shoes or combat boots are required when retrieving mast.

Operator performing mast walk back procedure should be kept aware of where top guy ropes are (if present) at all times. This will prevent entanglement of operator's feet with guy ropes.

Always maintain complete control of mast during its decent. Never let mast fall on its own.

A minimum of two operators are required to safely retrieve mast. Additional operators should be used, if available.

Ground area below where mast and antenna will come to rest must be cleared of all personnel and must be guarded until all antenna elements are removed.

Failure to follow this warning when retrieving mast may result in severe personal injury or DEATH.

(1) If top guy ropes are installed, relieve guy rope tension and remove snap rings from guy stakes. Let snap rings hang/drape at will.

(2) Determine side where wind is blowing into mast. On opposite side of mast dig a hole 6 inches deep by 9 inches square no more than 4 inches from baseplate.

b. Disabled Ground-Mounted Mast Retrieval - Continued

(3) Proceed as follows:

Operator 1: Grasp mast at base section and maintain mast vertical integrity.

Operator 2: Relieve guy rope tension of guy rope on wind blowing side of mast most in line with mast and hole in back of it. Release guy rope snaphook from guy stake.

(4) Both operators lift mast 1 inch off baseplate and position gearbox into dug hole.

(5) Proceed as follows:

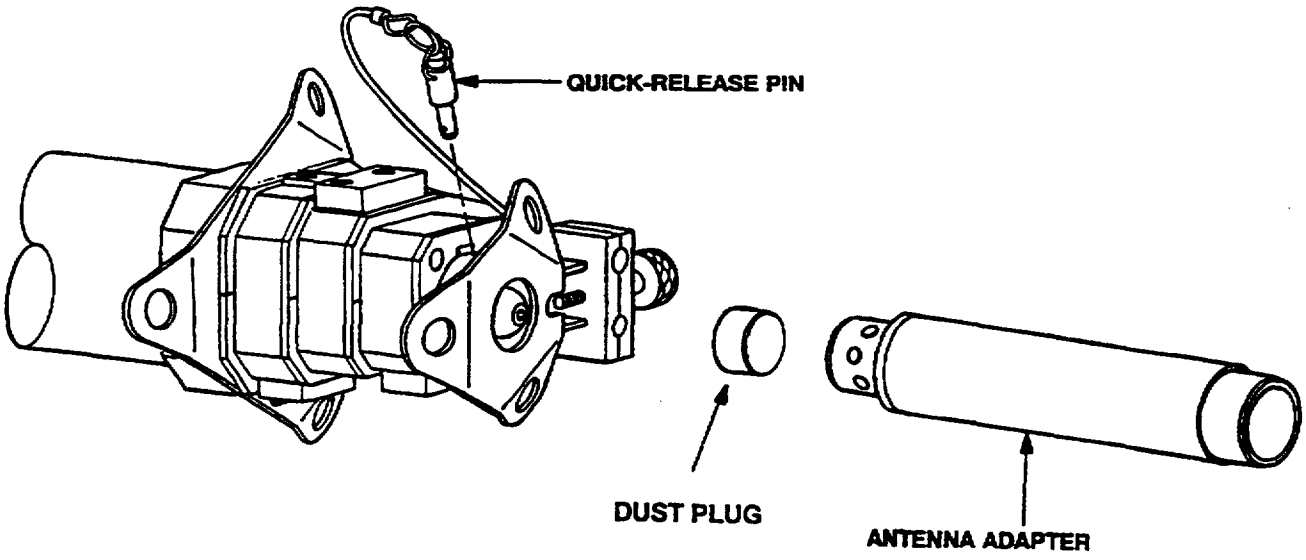
Operator 1: Grasp mast at base section and maintain mast vertical integrity.

Operator 2: Wrap doubled guy rope which was disconnected from guy stake around one hand. Hold rope with both hands and use rope to maintain constant support control of mast. Approach gearbox in hole, and carefully put weight of one foot on gearbox to keep it from slipping out of hole.

Operator 1: Tilt mast into wind and proceed to walk back, lower, and place mast on ground.

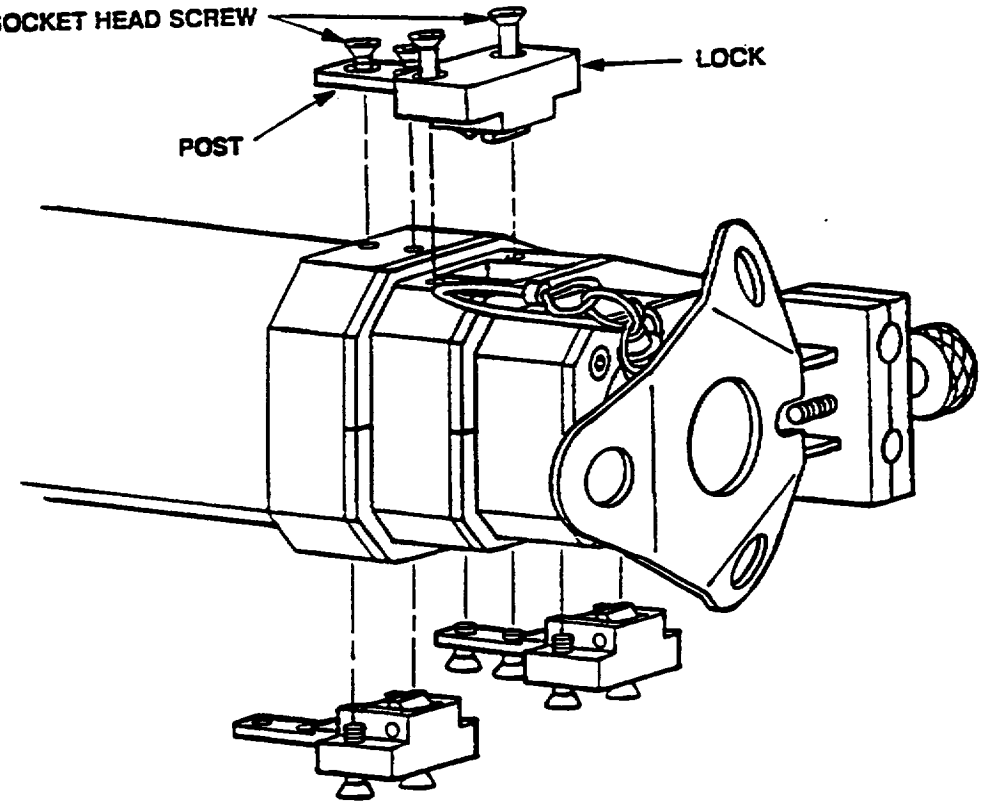
(6) Remove antenna assembly and cable from mast and stow.

(7) Remove quick-release pin, antenna adapter, and dust plug from mast and stow antenna adapter in accessory bag.



b. Disabled Ground-Mounted Mast Retrieval - Continued

(8) Using hex key, loosen and remove socket head screws securing all three mast lock and post assemblies.



(9) Slide top 2.0 mast section into adjoining 2.5 mast section, and then these two nested sections into adjoining 3.0 mast section.

(10) Using hex key, loosen and remove four socket head screws securing upper slide mounted to 3.5 mast section.

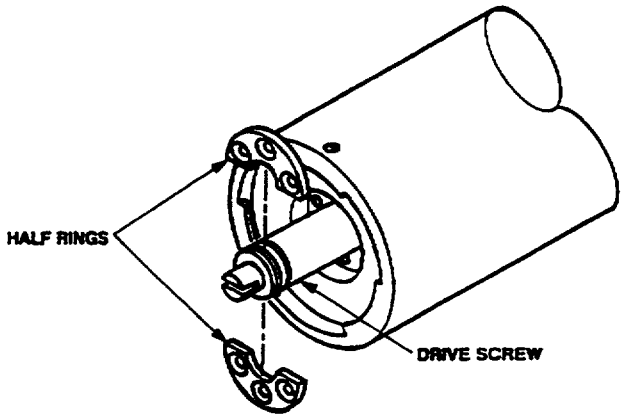
(11) Remove three nested 2.0, 2.5, and 3.0 mast sections from 3.5 mast section.

(12) Using hex key, loosen socket head screw securing gearbox.

(13) Rotate gearbox one-sixth turn in either direction and remove gearbox.

b. Disabled Ground-Mounted Mast Retrieval - Continued

(14) Using hex key, remove six socket head screws at drive end of mast securing drive screw. Push 3.5 mast section into 4.0 mast section a depth of 1 inch to disengage and remove two half rings.



(15) Using hex key, loosen and remove four socket head screws securing upper slide mounted to 4.0 mast section.

(16) Remove 3.5 mast section and drive screw from 4.0 mast section.

(17) Remove drive screw from 3.5 mast section by unscrewing it from tube nut at bottom of mast section.

NOTE

If drive screw can not be unscrewed from tube nut, use hex key and remove socket head screws securing tube nut to bottom of mast section. Unscrew nut from drive screw and reinstall tube nut to bottom of mast section.

(18) Carefully insert 3.5 mast section into 4.0 mast base section.

(19) Using hex key, secure slide to 4.0 mast section by tightening four socket head screws.

(20) Carefully insert nested 2.0, 2.5, and 3.0 mast sections into nested 3.5 and 4.0 mast sections.

(21) Using hex key, secure slide to 3.5 mast section by tightening four socket head screws.

(22) Using hex key, install all three mast lock and post assemblies.

(23) Replace drive screw, half rings, dust plug, and quick-release pin (refer to paragraph 4-12b steps (1) through (6).

(24) Replace gearbox (refer to paragraph 4-11b).

(25) Report mast malfunction.

2-13. OPERATING MAST - HMMWV CONFIGURATION

a. Deploying Mast Mounted on HMMWV

WARNING

Do not attempt to deploy the mast during electrical storms or when winds exceed 25 mph (40 kph). Failure to follow this warning could result in personal injury or DEATH.

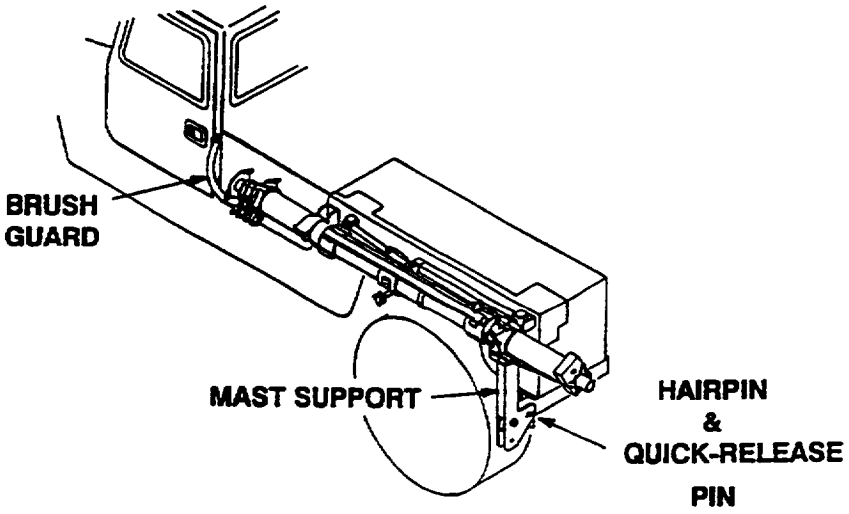
Hard hats, eye protection, gloves, and safety shoes or combat boots must be worn while working in mast area to prevent personal injury.

Avoid placing hands between the sliding clamp assemblies, support struts, or in joints while raising and lowering the mast.

NOTE

There are two support struts, one short and one long, required to deploy and operate the mast. The long support strut is made up of two telescoping sections while the short strut is not adjustable.

There is also a non-telescoping antenna loading strut attached to the mast. This strut will be used only to support the mast while installing the antenna to the mast.

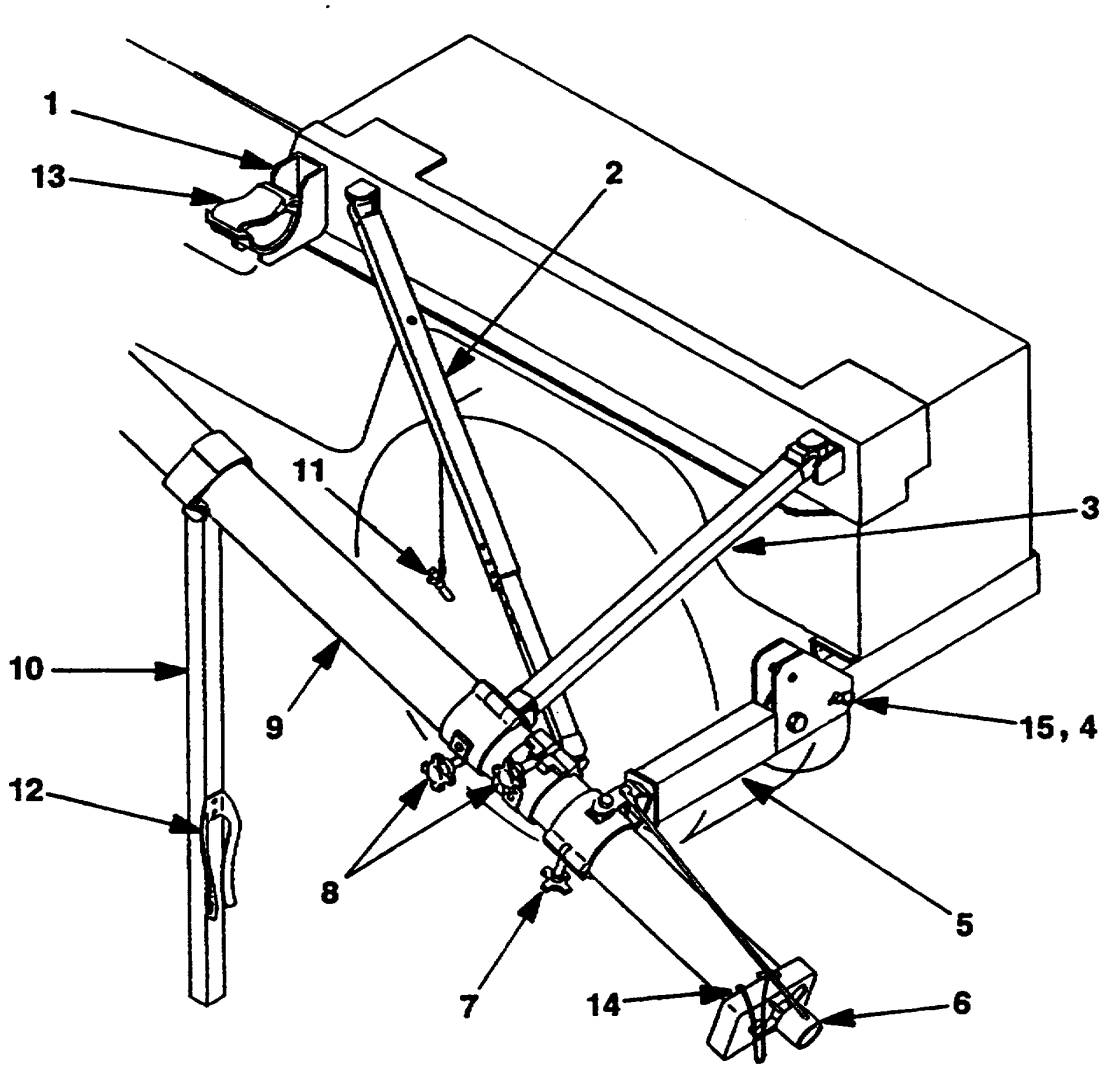


(1) Remove brush guard.

(2) Remove hairpin and quick-release pin securing hinged mast support in its stowed position (up).

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

a. Deploying Mast Mounted on HMMWV - Continued



NOTE

Do not loosen or move bottom clamp assembly (7) fixed to hinged mast support (5) as it will help to maintain tension on mast support cable fixed to socket (6) on bottom of mast gearbox.

(3) Unhook velcro strap (13) securing mast in transport cradle (1). Unhook velcro strap (12) securing antenna loading strut (10). Loosen knobs on both support strut clamp assemblies (8) only enough to allow them to slide and rotate easily on mast base section (9). Remove hairpin (14) securing gearbox drive. Lift mast approximately 4 in. (10.16 cm) out of cradle and, while grasping mast, remove quick-release pin (11) from long support strut (2).

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

a. Deploying Mast Mounted on HMMWV - Continued

(4) Lift mast out of transport cradle (1) and lower it out and away from side of vehicle. This is accomplished by sliding and rotating short support strut (3) clamp assembly (8) toward mast gearbox while rotating long support strut (2) clamp assembly (8) leaving it down and next to bottom clamp assembly (7).

(5) Adjust mast and antenna loading strut (10) so top of mast is angled away from front of vehicle and off of ground. Install quick-release pin (15) and hairpin (4) securing hinged mast support in its deployed position (down). Install quick-release pin (11) by aligning holes in both sections of long support strut (2) and tighten both strut clamp assemblies (8).

(6) If necessary, remove guy assemblies from accessory bag and install one each to green guy ring holes with single (free) end attached to mast (refer to paragraph 2-8e step 7).

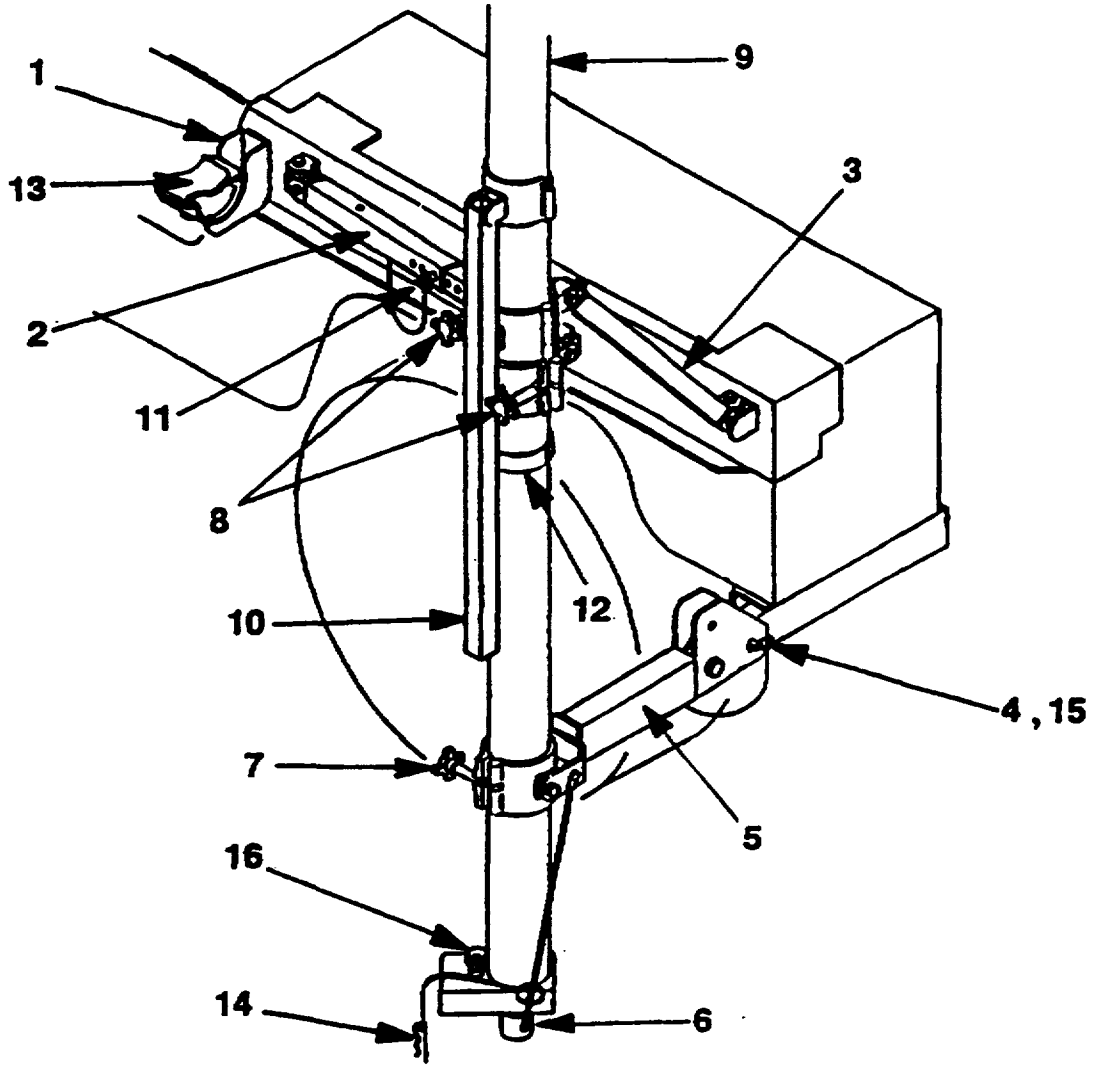
(7) Refer to Appendix F and install antenna element and antenna adapter.

NOTE

It is recommended that if high wind or icing conditions are expected, the guy assemblies should be connected to the mast top section in anticipation of their being deployed. The guy assemblies are left loosely draped against the mast. Anchoring the guy assemblies can be delayed until just prior to unusual weather. When necessary, locate the guy stake positions as described in paragraph 2-13c.

2-13. OPERATING MAST - HMMWV -Continued

a. Deploying Mast Mounted on HMMWV - Continued



(8) Remove quick-release pin (11) from long support strut (2). Then loosen knobs on both support strut clamp assemblies (8) only enough to allow them to slide and rotate easily on mast base section (9). Be sure clamp set screws are not loose.

(9) Raise mast to its vertical position by rotating long support strut (2) clamp assembly (8) while sliding and rotating short support strut (3) clamp assembly (8) toward top of mast. Tighten short support strut clamp assembly when mast is close to vertical as indicated on level indicator (16).

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

a. Deploying Mast Mounted on HMMWV - Continued

(10) Without letting go of mast (9), slide long support strut (2) clamp assembly (8) up mast base section until it touches short support strut (3) clamp assembly (8). Then tighten long support strut clamp assembly and install quick-release pin (11) in long support strut (2), use closest set of aligned holes.

(11) Check level indicator (16) to ensure that mast is level. Adjust by loosening and repositioning two support strut clamp assemblies (8) as needed.

(12) Verify that all quick-release pins (4 and 11) are installed and that both clamp assemblies (8) are tight. Secure antenna loading strut (10) to mast base section with velcro strap (12).

(13) Raise mast (refer to paragraph 2-8e, steps 13 thru 17).

b. Retrieving Mast Mounted on HMMWV

(1) Lower mast as far as it will go with antenna installed (refer to paragraph 2-9a, steps 1 thru 6).

(2) Unhook velcro strap (12) securing antenna loading strut (10) to mast base section (9).

(3) While supporting mast in its vertical position, remove quick-release pin (11) in long support strut (2) and loosen knob on its clamp assembly (8). Slide clamp assembly (8) down mast base section (9) until it contacts lower clamp assembly (7). Do not tighten clamp assembly (8) at this time.

(4) Loosen knob on short support strut (3) clamp assembly (8) only enough to allow it to slide and rotate easily on mast base section (9).

(5) Slowly lower mast to its antenna unloading position by rotating long support strut (2) clamp assembly (8) while rotating and sliding short support strut (3) clamp assembly (8) toward mast gearbox. Allow mast to rest on antenna loading strut (10) with mast angled away from front of vehicle and off of ground. Install quick-release pin (11) in long support strut (2) and tighten clamp assemblies (8).

(6) Refer to Appendix F and remove antenna element and antenna adapter.

(7) Remove and stow guy assemblies (if installed).

(8) Remove quick-release pin (11) in long support strut (2). Loosen knobs on both support strut clamp assemblies (8) only enough to allow them to slide and rotate easily on mast base section. Then remove hairpin (4) and quick-release pin (15) securing hinged mast support (5) in its deployed position (down).

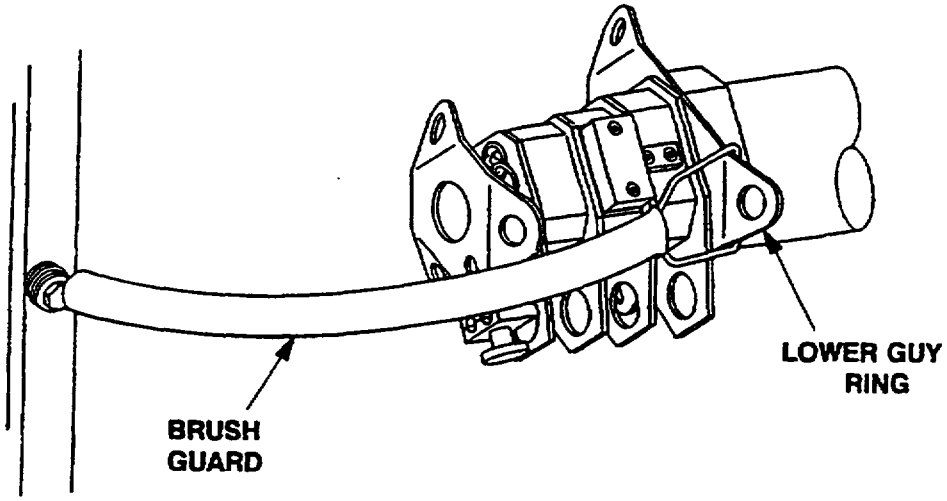
(9) Raise mast and set it in its transport cradle (1) by lifting hinged mast support (5) while rotating long support strut (2) clamp assembly (8) and sliding/rotating short support strut (3) clamp assembly (8) toward top of mast.

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

b. Retrieving Mast Mounted on HMMWV - Continued

(10) Install quick-release pin (15) and hairpin (4) to secure hinged mast support (5) in stowed position (up). Rotate antenna loading strut (10) up and secure to mast base section with velcro strap (12). Slide long support strut (2) until two holes line up and install quickrelease pin (11). Then tighten both clamp assemblies (8) and secure mast to transport cradle (1) with velcro strap (13).

(11) Install hairpin (14) in hole in gearbox drive.



(12) Install brush guard by hooking looped end over the outside of lower guy ring mounted to base section of mast.

(13) Remove and stow guy stakes (if installed), (refer to paragraph 2-9b, steps 1 and 2).

c. Preparing the HMMWV-Mounted Mast for High Wind/Ice Conditions

WARNING

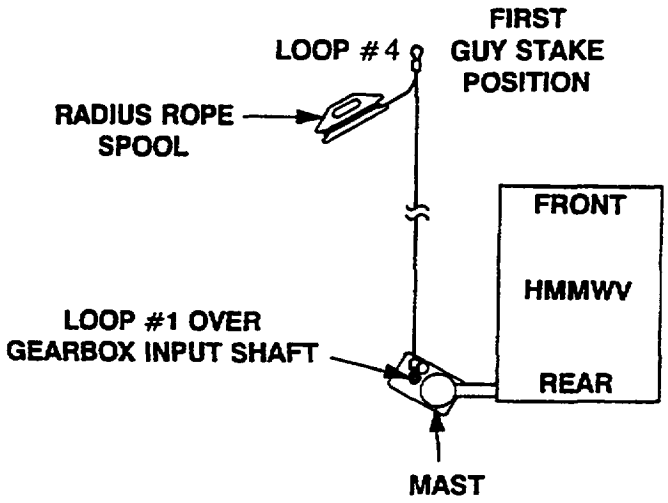
Do not attempt to deploy or retrieve the mast during electrical storms or when winds exceed 25 mph (40 kph).

The guy assemblies must be installed when operating the mast in winds exceeding 25 mph (40 kph). The guy assemblies must also be installed when the mast sections are covered with ice.

Failure to observe this warning could cause the mast to topple which could result in severe personal injury or DEATH.

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

c. Preparing the HMMWV-Mounted Mast for High Wind/Ice Conditions - Continued



(1) Deploy HMMWV-mounted mast (refer to paragraph 2-13a).

(2) Locate first guy stake position as follows:

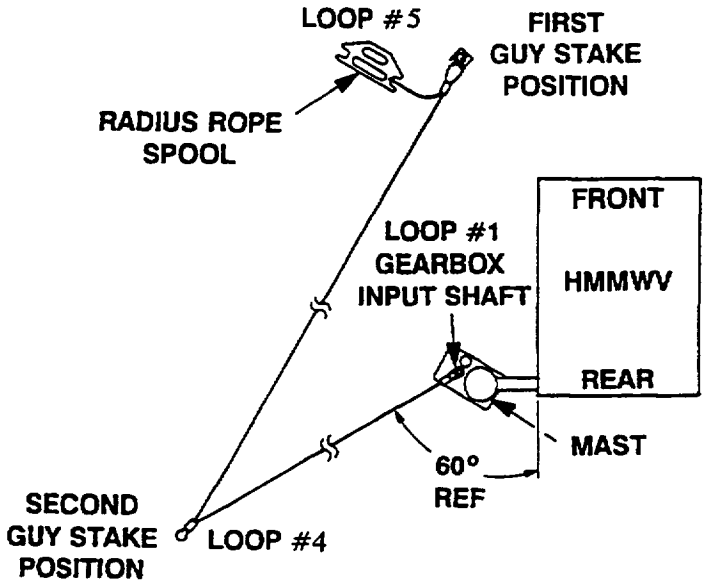
Operator 1: Attach loop #1 of radius rope to gearbox input shaft. Then while holding loop #4, walk away from mast (toward front of vehicle) on a line parallel with vehicle until there is no slack in radius rope.

Operator 2: Carry one guy stake and hammer to first guy stake position.

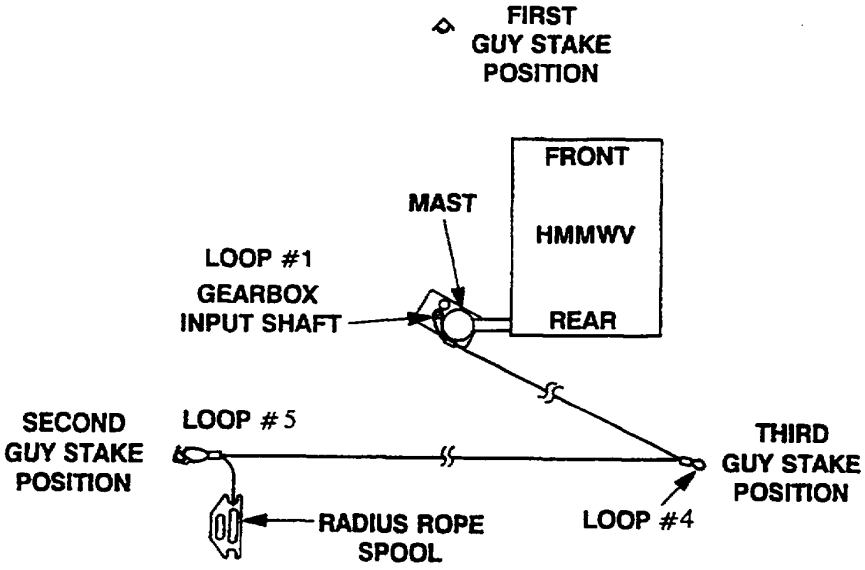
(3) Use hammer to drive first guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

c. Preparing the HMMWV-Mounted Mast for High Wind/Ice Conditions - Continued



(4) Locate second guy stake position by placing radius rope loop #5 (large loop) over first guy stake and by using radius rope loop #4 to locate second guy stake position. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.



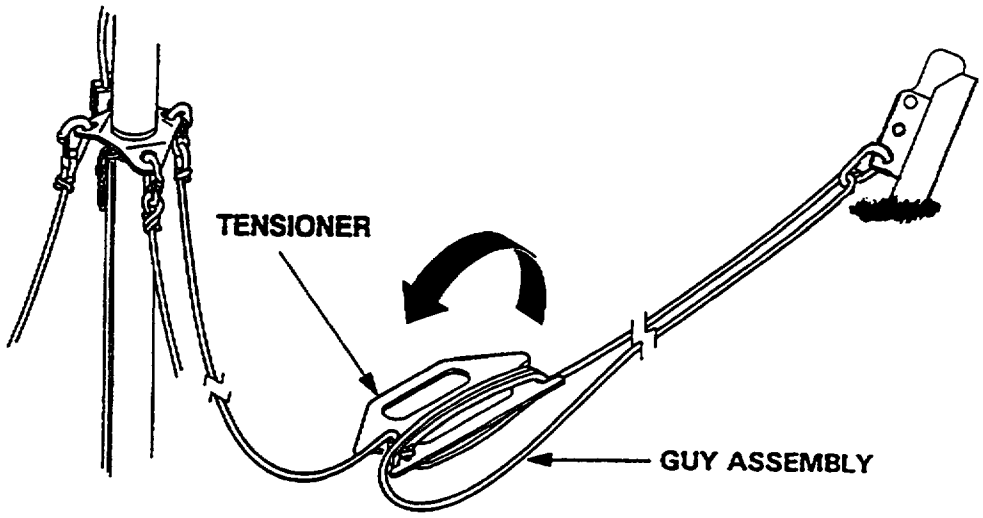
(5) Locate third guy stake position by placing radius rope loop #5 (large loop) over second guy stake and by using radius rope loop #4 to locate third guy stake positions. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

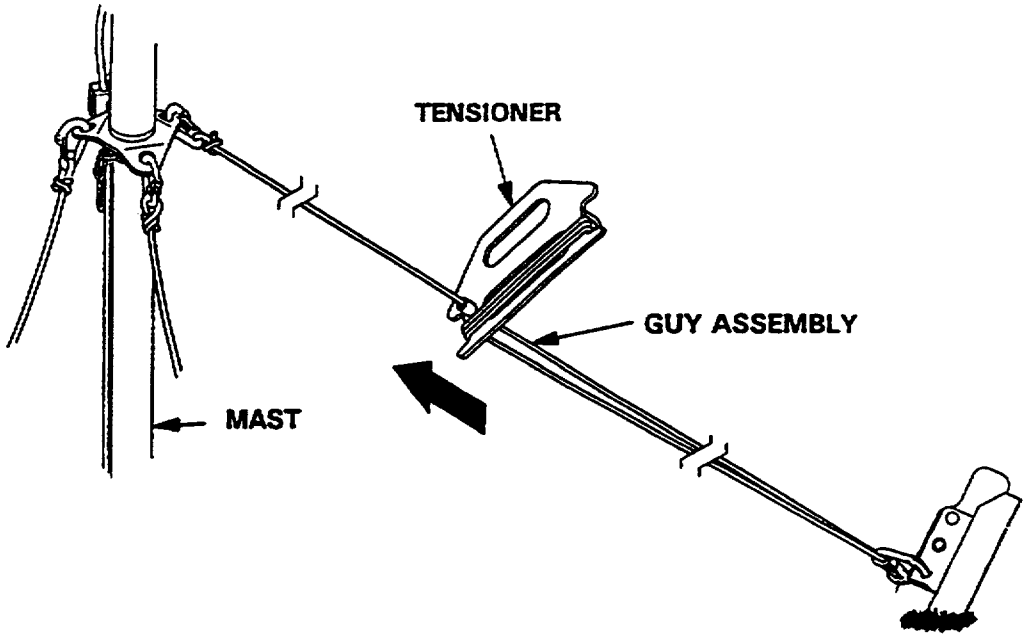
c. Preparing the HMMWV-Mounted Mast for High Wind/Ice Conditions - Continued

(6) Wind radius rope onto its spool and stow with hammer in accessory bag.

(7) Attach one each snap hook on doubled end of a guy assembly at each guy stake.

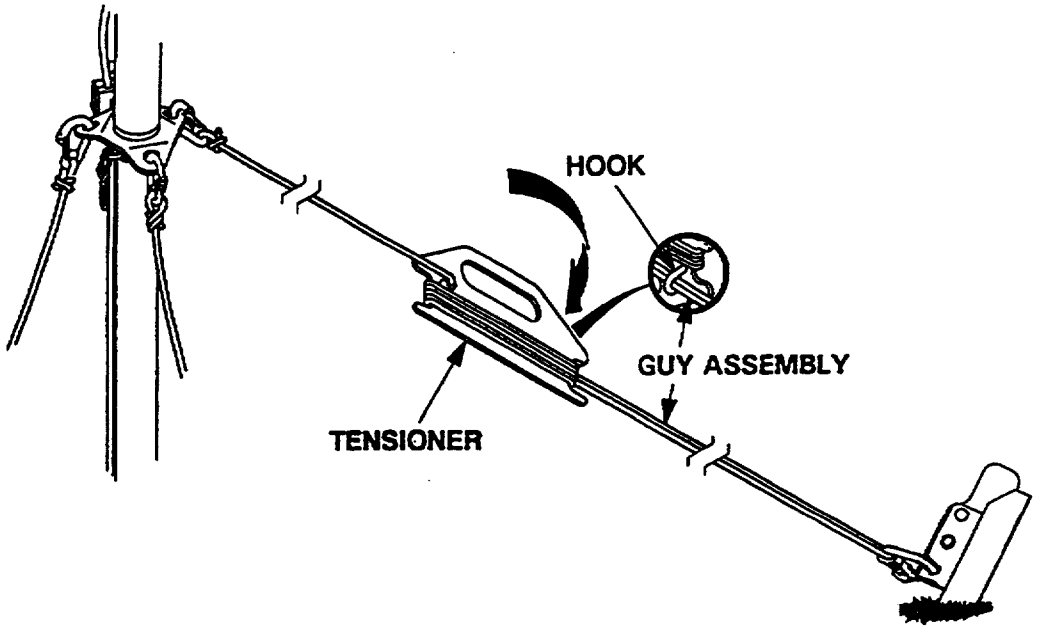


(8) Tension guy assembly by winding trailing end of guy assembly around tensioner as shown above. Tension guy assembly by sliding tensioner toward mast (as shown below) and lock tensioner by catching guy assembly under hook (as shown on following page).



2-13. OPERATING MAST - HMMWV CONFIGURATION - Continued

c. Preparing the HMMWV -Mounted Mast for High Wind/Ice Conditions - Continued



(9) Repeat step 8 for other two guy assemblies.

2-14. OPERATING MAST - TRACIKED VEHICLE CONFIGURATIONS

a. Deploying Mast Mounted on Tracked Vehicle

WARNING

Do not attempt to deploy the mast during electrical storms or when winds exceed 25 mph (40 kph).

Failure to follow this warning could result in personal injury or DEATH.

Hard hats, eye protection, gloves, and safety shoes or combat boots must be worn while working in mast area to prevent personal injury. Remove all unnecessary personnel from the area.

Ensure all external whip antennas within 30 in. (0.76 m) of operators are deenergized before performing this procedure.

NOTE

Two support struts are required to deploy and operate the mast. One strut is anchored to the mast stowage cradle and is stowed parallel to the mast, while the second is anchored to a bracket and stowed on the other side of the vehicle. Each support strut is made up of three telescoping sections.

(1) If necessary, remove guy assembly from accessory bag and install one each to green guy ring holes with single (free) end attached to mast (refer to paragraph 2-8e, step 7).

(2) Refer to Appendix F and assemble antenna to antenna adapter but do not install on mast. If installing AS-3166 antenna, assemble feedcone with top radials only.

(3) Clear area in front and to rear of vehicle.

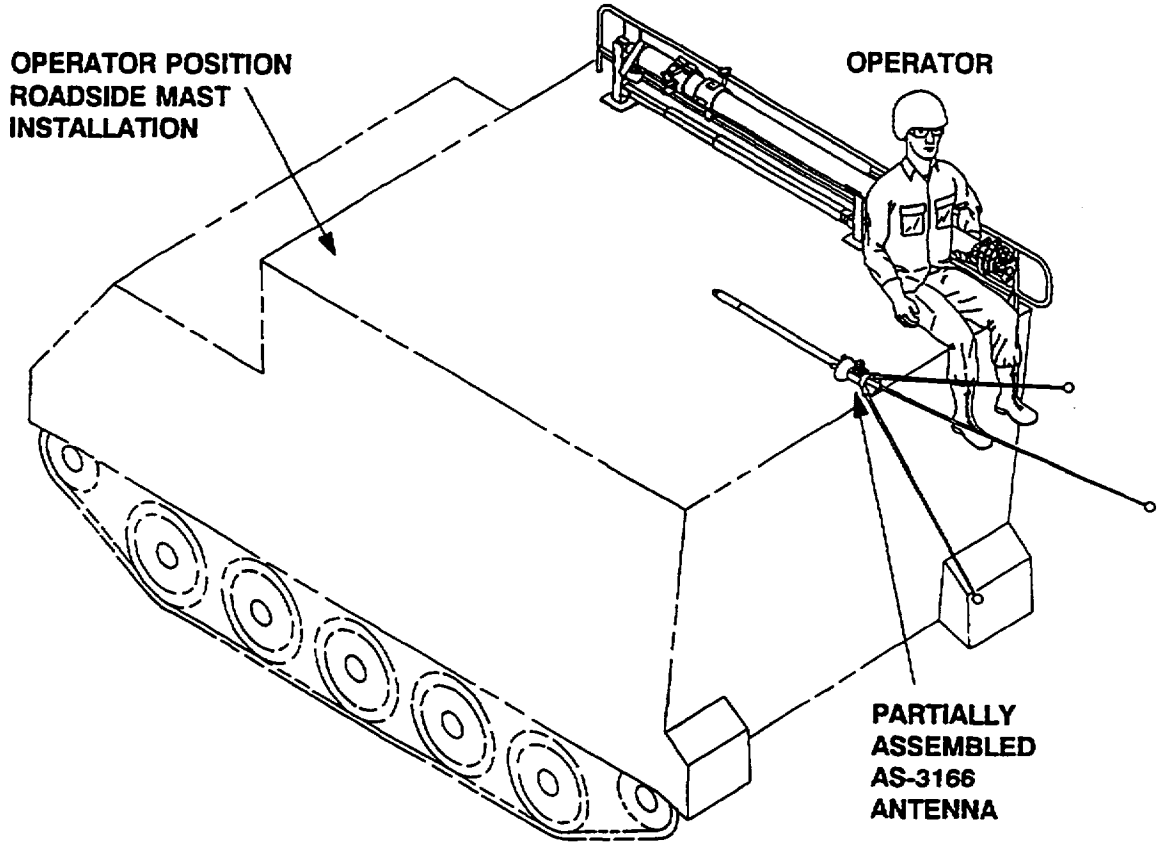
(4) Set assembled antenna on center of vehicle within operator's reach. If installing antenna AS-3166, place lower radials near partially assembled antenna within operator's reach.

WARNING

Do not loosen mast from its transit position prior to performing the following procedure. Failure to follow this warning could result in personal injury.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

a. Deploying Mast Mounted on Tracked Vehicle - Continued



(5) Using mast or brush guard as handhold, sit on edge of vehicle with legs over edge, next to mast facing out from vehicle.

(6) Holding mast or brush guard with left hand, grasp antenna with mast antenna adapter with right hand and insert into mast top section. Align holes in mast antenna adapter with antenna mount in mast top section. Install quick-release pin.

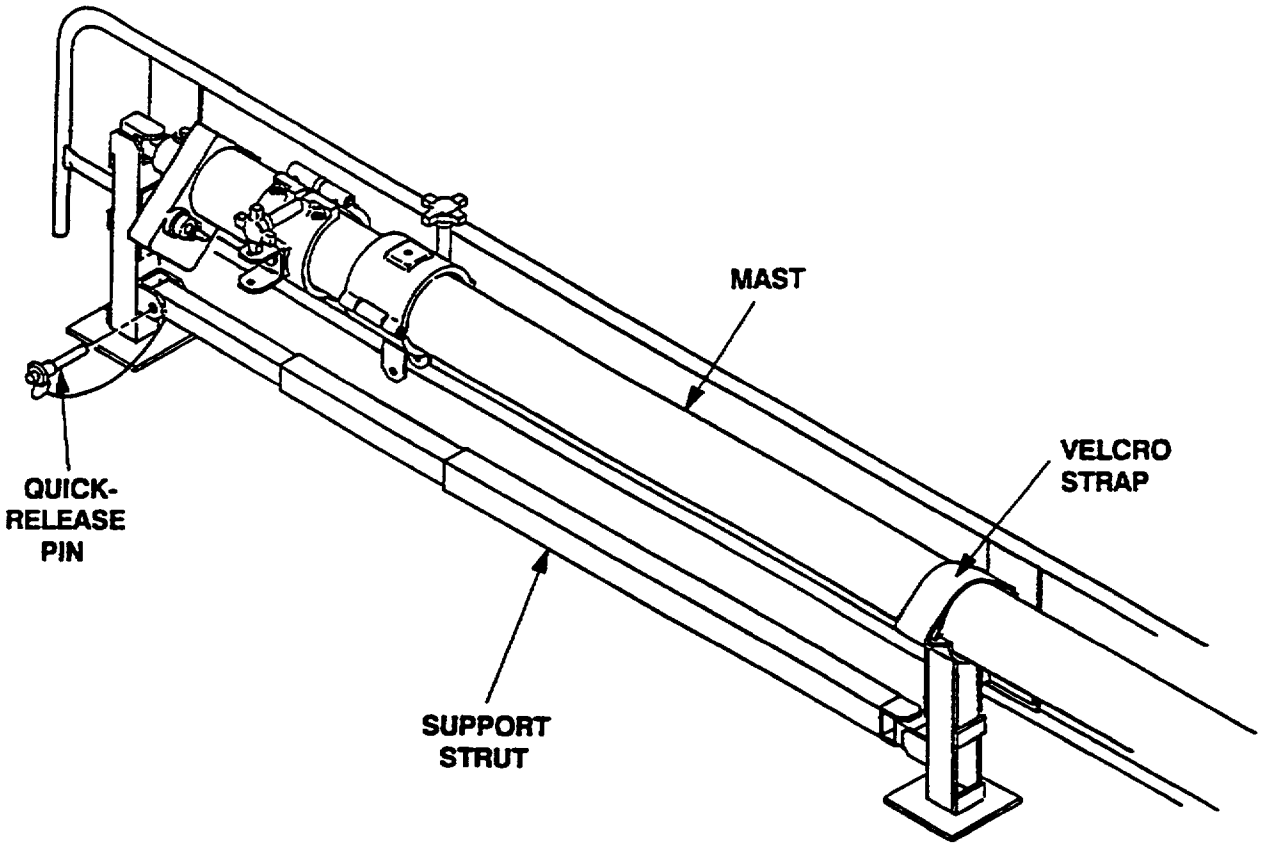
(7) If installing antenna AS-3166, grasp insulating section of antenna with right hand. Then place mast antenna adapter over post of antenna AS-3166. Twist and pull antenna insulating section toward you with both hands to lock both components in place.

(8) Refer to Appendix F and connect RF cable.

(9) Grasp insulating section of antenna with free hand and insert lower antenna radials, except for bottom antenna radial. Then recheck seating of mast antenna adapter and antenna AS-3166.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

a. Deploying Mast Mounted on Tracked Vehicle - Continued



WARNING

Note location of antenna radials before moving. Failure to observe this warning could result in severe personal injury.

(10) Carefully move away from edge of vehicle without standing up, using mast or brush guard as handhold.

(11) Remove quick-release pin securing pinned end of each support strut to their stowage brackets.

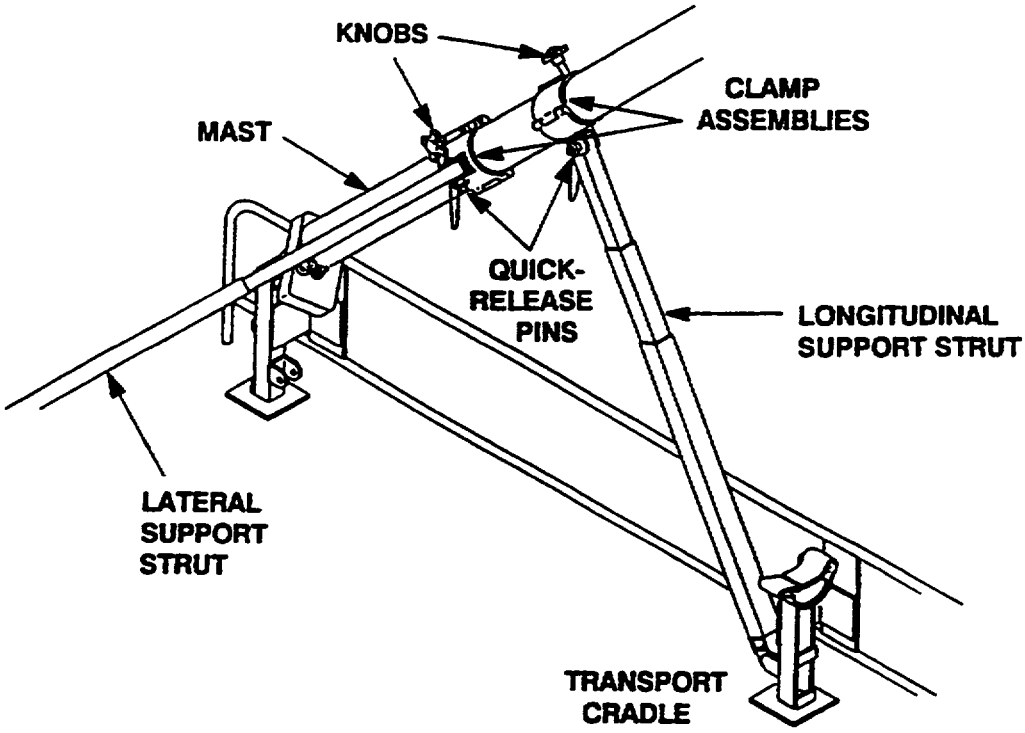
(12) Release velcro strap securing mast in transport cradle.

(13) Loosen knob on clamp assemblies and position top clamp assembly half-way up mast base section. Position bottom clamp assembly approximately 12 in. (30.5 cm) below the top clamp assembly.

(14) Check clamp assemblies for tightness. If necessary, adjust clamp assemblies, refer to paragraph 3-1.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

a. Deploying Mast Mounted on Tracked Vehicle - Continued



CAUTION

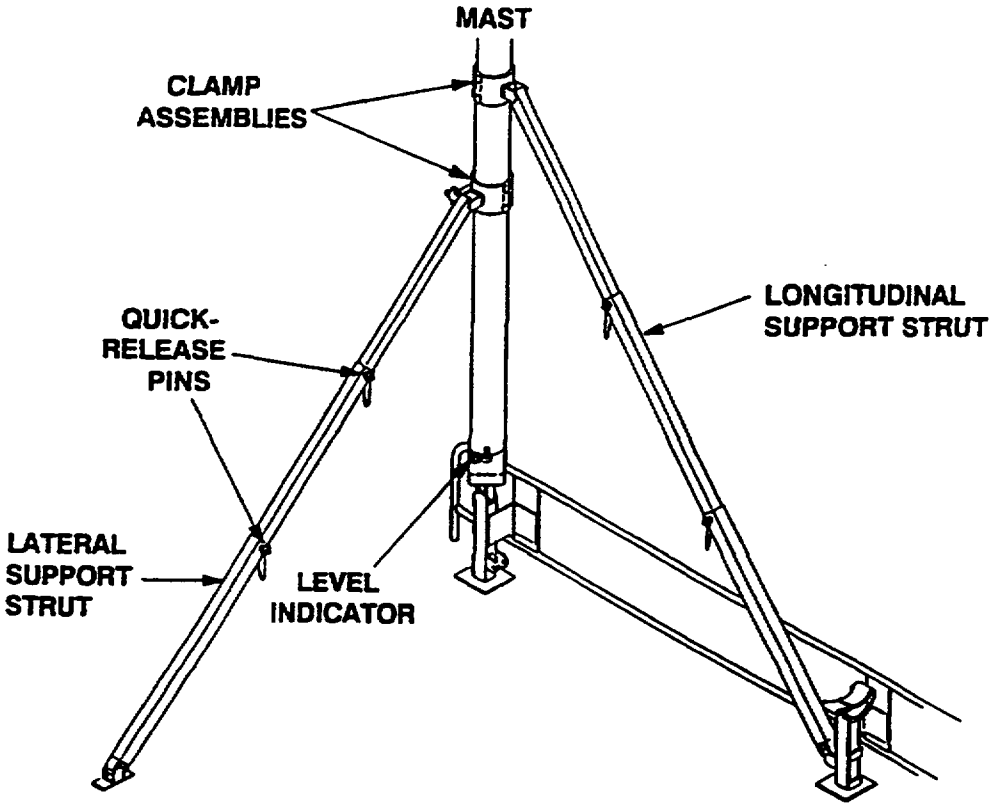
Use care when telescoping mast support struts to avoid sections becoming separated.

(15) With mast still resting in its transport cradle, fully extend lateral support strut and attach it to bottom clamp assembly by inserting quick-release pin. Install both quick-release pins to lock this support strut.

(16) Raise mast off of its transport cradle and attach longitudinal support strut anchored to transport cradle to top clamp assembly by inserting quick release pin. Do not extend this strut at this time, leave it collapsed. Then, if installing AS-3166 antenna, install remaining lower bottom antenna radial.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

a. Deploying Mast Mounted on Tracked Vehicle - Continued



NOTE

It is recommended that if high wind or icing conditions are expected, the guy assemblies should be connected to the mast top section in anticipation of their being deployed. The guy assemblies are left loosely draped against the mast. Anchoring the guy assemblies can be delayed until just prior to unusual weather. When necessary, locate the guy stake positions as described in paragraph 2-14c.

(17) Raise mast until longitudinal support strut is fully extended. Line up holes in telescoping section and install both quick-release pins.

(18) Check level indicator to ensure that mast is level. Adjust by loosening and repositioning clamp assemblies, one at a time, as needed. If necessary, remove quick-release pin and realign holes in support struts, one at a time. Reinstall quick-release pin and tighten clamp assemblies.

(19) Verify that all quick-release pins are installed and that both clamp assemblies are tight.

(20) Raise mast (refer to paragraph 2-8e, steps 13 thru 18).

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

b. Retrieving Mast Mounted on Tracked Vehicle

(1) Clear area in front and to rear of vehicle.

(2) Lower mast as far as it will go with antenna installed (refer to paragraph 2-9a, steps 1 thru 6). If AS-3166 antenna is installed, remove lower bottom antenna radial.

(3) Remove quick-release pins securing sections of longitudinal support strut attached to top clamp assembly. Then carefully lower mast until strut is completely collapsed. Balance mast on collapsed strut.

(4) Remove quick-release pin securing lateral support strut attached to bottom clamp assembly. Lay this strut aside.

(5) Remove quick-release pin securing longitudinal support strut to top clamp assembly. Then lower mast onto its transport cradle. Hook velcro strap to retain mast.

(6) Using mast or brush guard as handhold, sit on edge of vehicle with legs over edge, next to mast facing out from vehicle.

(7) If removing antenna AS-3166, hold mast or brush guard with left hand and remove remaining two lower antenna radials.

(8) Holding mast or brush guard with left hand, remove quick-release pin securing mast antenna adapter to mast top section. Then grasp antenna and mast antenna adapter with right hand and remove it, carefully placing it to your right.

WARNING

Note location of antenna and antenna radials before moving. Failure to follow this procedure could result in severe personal injury.

(9) Carefully move away from edge of vehicle without standing up, using mast or brush guard as handhold.

(10) Refer to Appendix F and disassemble antenna/adapter.

(11) Remove and stow guy assemblies (if installed).

(12) Completely nest both support struts. Secure longitudinal support strut anchored to mast cradle to base of mast pedestal. Insert quick-release pin. Secure lateral support strut to bracket mounted to vehicle on opposite side. Insert quick-release pin. Ensure all remaining support strut quick-release pins are installed.

(13) Remove and stow guy stakes (if installed), (refer to paragraph 2-9b).

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

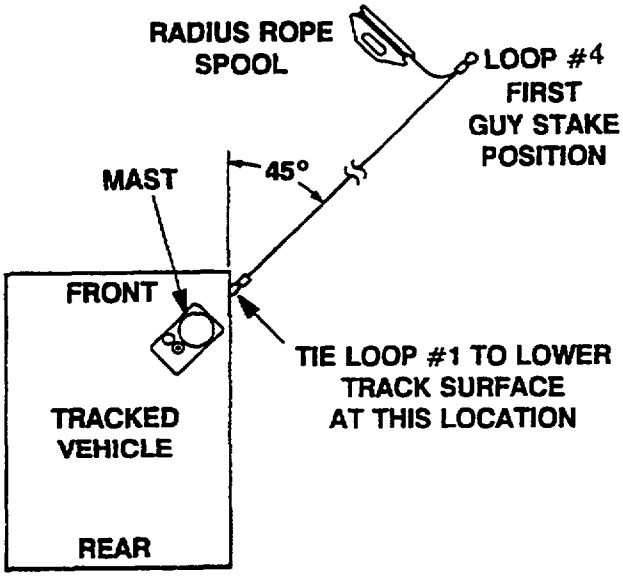
c. Preparing the Tracked Vehicle, Curb-Side Front-Mounted Mast for High Wind/Ice Conditions

WARNING

Do not attempt to deploy or retrieve the mast during electrical storms or when winds exceed 25 mph (40 kph).

The guy assemblies must be installed when operating the mast in winds exceeding 25 mph (40 kph). The guy assemblies must also be installed when the mast sections are covered with ice.

Failure to observe this warning could cause the mast to topple which could result in severe personal injury or DEATH.



(1) Deploy tracked vehicle-mounted mast (refer to paragraph 2-14a).

(2) Locate first guy stake position as follows:

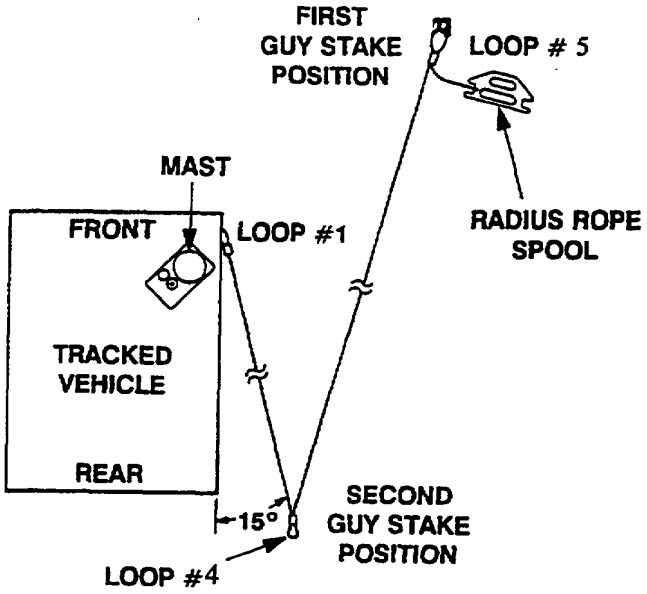
Operator 1: Tie loop #1 of radius rope to lower track surface (front-right of vehicle). Then while holding loop #4, walk away from mast (toward right-front of vehicle) on a 45° diagonal line from vehicle until there is no slack in radius rope.

Operator 2: Carry one guy stake and hammer to first guy stake position.

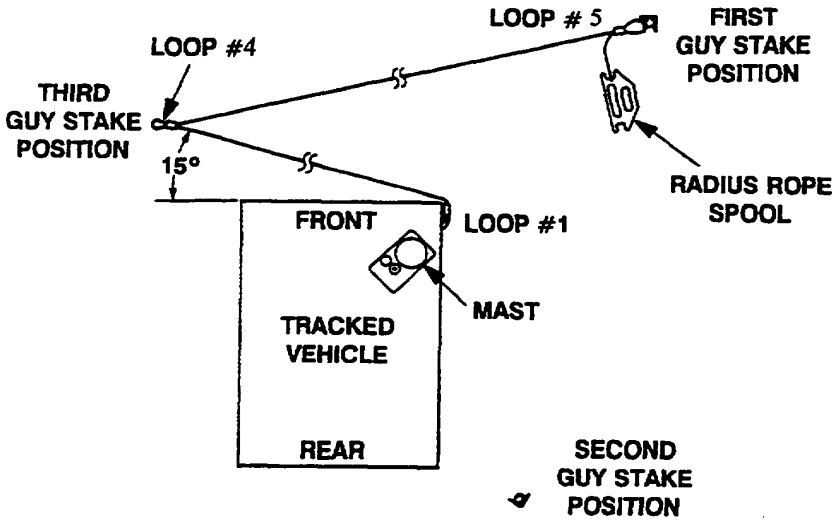
(3) Use hammer to drive first guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

c. Preparing the Tracked Vehicle, Curb-Side Front-Mounted Mast for High Wind/Ice Conditions - Continued



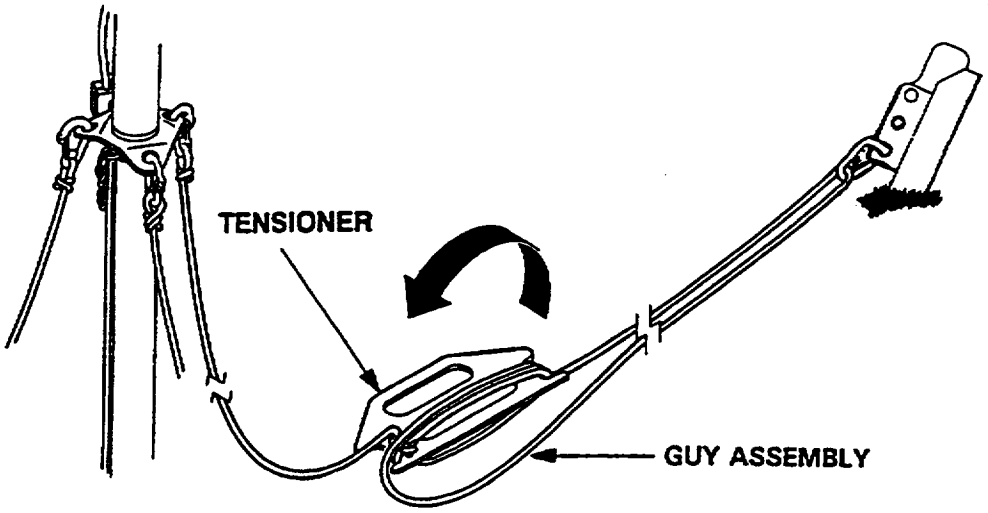
(4) Locate second guy stake position by placing radius rope loop # 5 (large loop) over first guy stake and by using radius rope loop #4 to locate second guy stake position. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.



(5) Locate third guy stake position by leaving radius rope loop # 5 (large loop) over first guy stake and by using radius rope loop #4 to locate third guy stake position. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

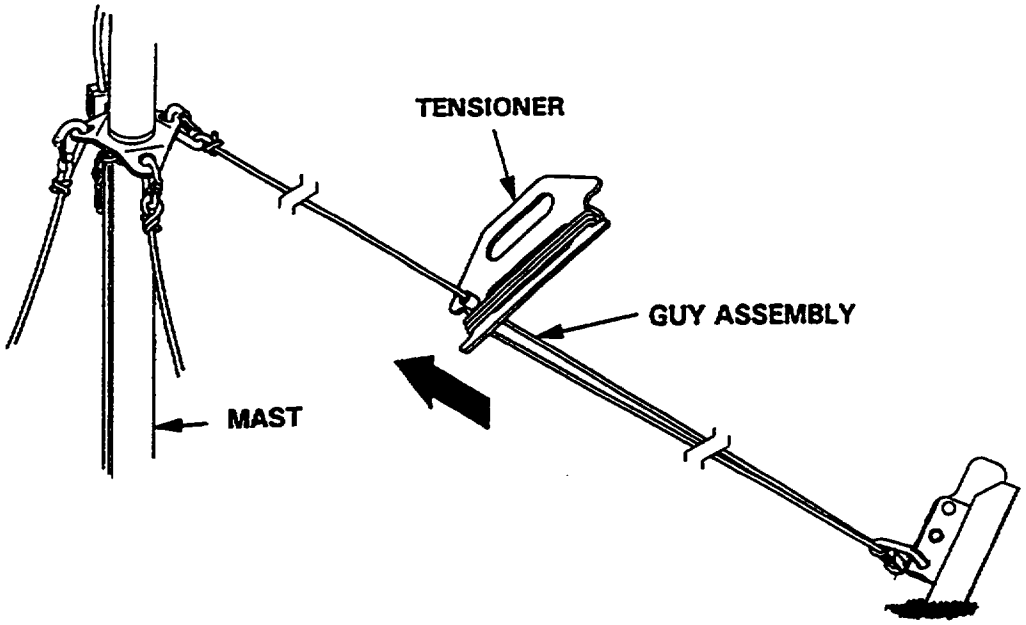
c. Preparing the Tracked Vehicle, Curb-Side Front-Mounted Mast for High Wind/Ice Conditions - Continued



(6) Wind radius rope onto its spool and stow with hammer in accessory bag.

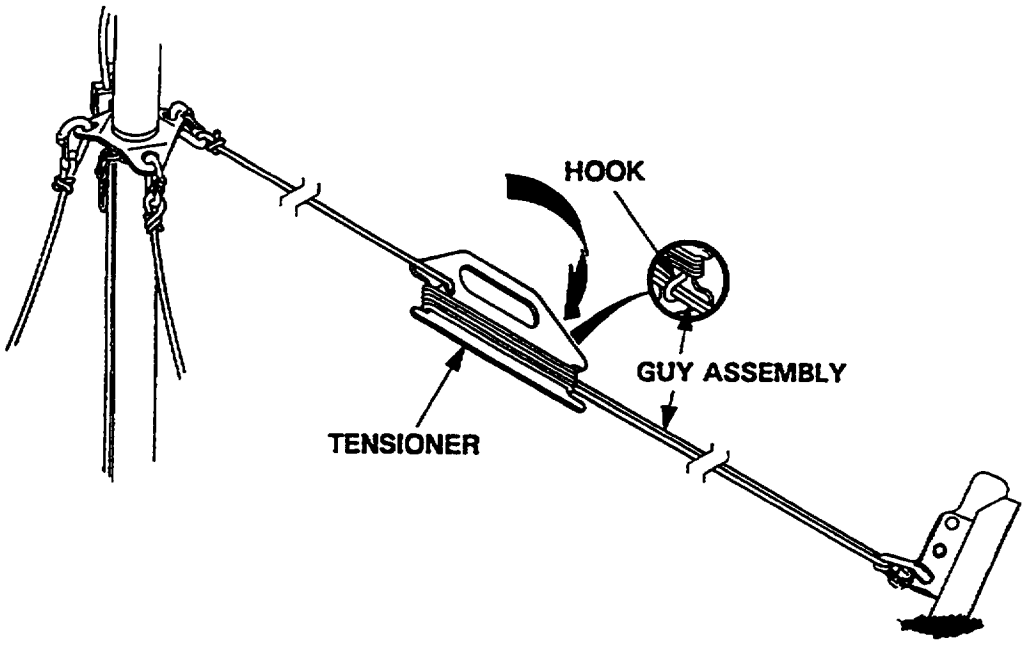
(7) Attach one each snap hook on doubled end of a guy assembly to each guy stake.

(8) Tension guy assembly by winding trailing end of guy assembly around tensioner as shown above. Tension guy assembly by sliding tensioner toward mast (as shown below) and lock tensioner by catching guy assembly under hook (as shown on following page).



2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

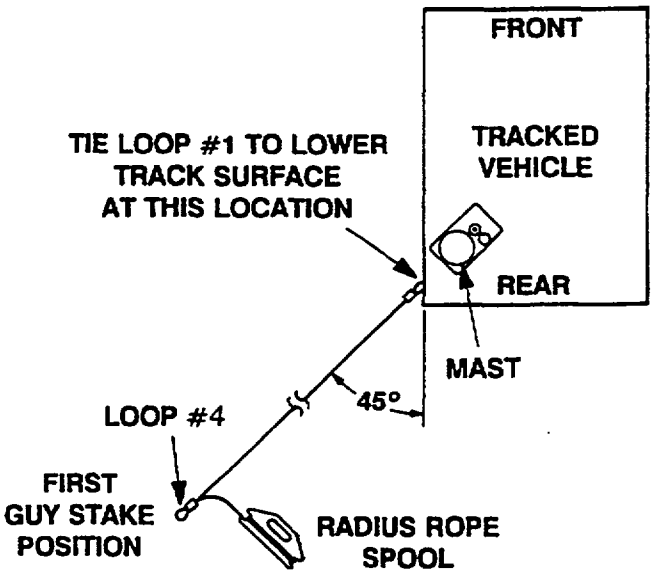
c. Preparing the Tracked Vehicle, Curb-Side Front-Mounted Mast for High Wind/Ice Conditions - Continued



(9) Repeat step 8 for other two guy assemblies.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

d. Preparing the Tracked Vehicle, Road-Side Rear-Mounted Mast for High Wind/Ice Conditions



(1) Deploy tracked vehicle-mounted mast, refer to paragraph 2-14a.

(2) Locate first guy stake position as follows:

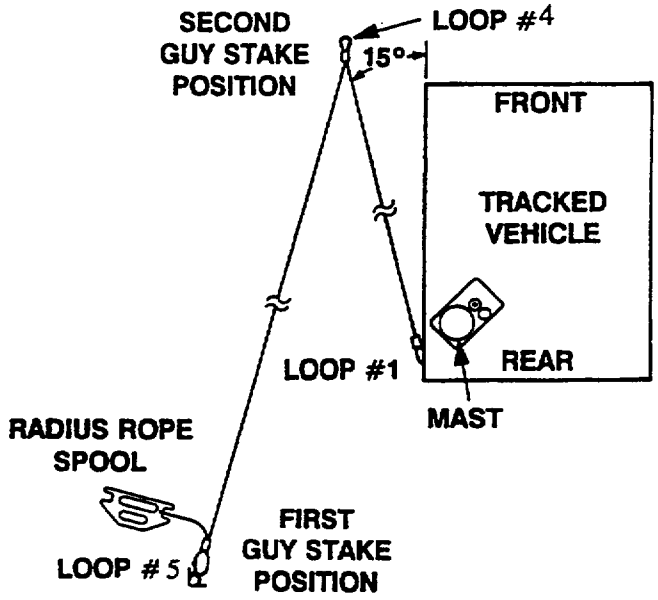
Operator 1: Tie loop #1 of radius rope to lower track surface (rear-left side of vehicle). Then while holding loop #4, walk away from mast (toward left-rear of vehicle) on a 45° diagonal line from vehicle until there is no slack in radius rope.

Operator 2: Carry one guy stake and hammer to first guy stake position.

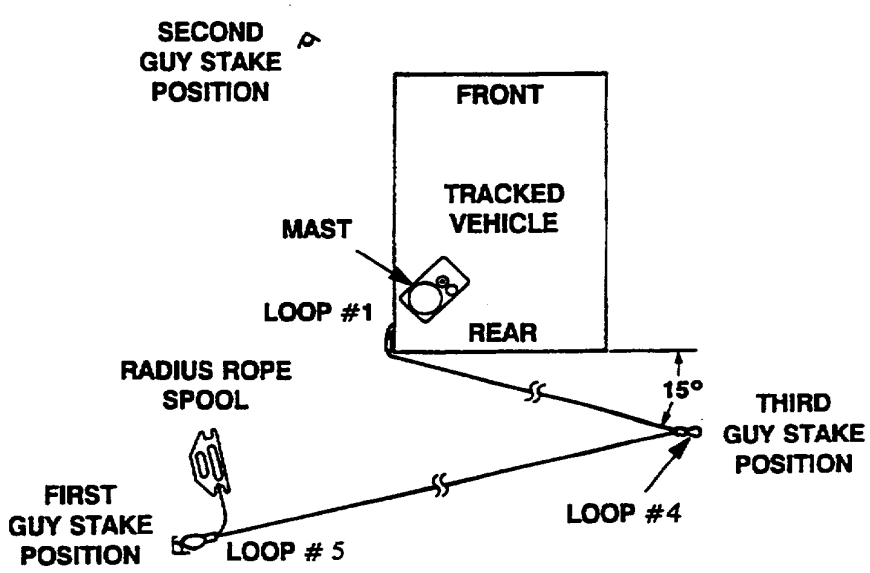
(3) Use hammer to drive first guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

d. Preparing the Tracked Vehicle, Road-Side Rear-Mounted Mast for High Wind/Ice Conditions - Continued



(4) Locate second guy stake position by placing radius rope loop # 5 (large loop) over first guy stake and by using radius rope loop #4 to locate second guy stake position. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.



(5) Locate third guy stake position by leaving radius rope loop # 5 (large loop) over first guy stake and by using radius rope loop #4 to locate third guy stake position. Make sure both sections of radius rope are taut. Use hammer to drive guy stake into ground until head is 1 in. (approximately 2.5 cm) above ground.

2-14. OPERATING MAST - TRACKED VEHICLE CONFIGURATIONS - Continued

d. Preparing the Tracked Vehicle, Road-Side Rear-Mounted Mast for High Wind/Ice Conditions - Continued

(6) Wind radius rope onto its spool and stow with hammer in accessory bag.

(7) Attach one each snap hook on doubled end of a guy assembly to each guy stake.

(8) Tension each guy assembly as described in paragraph 2-14c, steps 8 and 9.

2-15. HMMWV/TRACKED VEHICLE CAMOUFLAGE SCREEN DEPLOYMENT

a. Installation Procedure

(1) Deploy mast and antenna with upper guy ropes installed in accordance with paragraph 2-13 for HMMWV configuration or paragraph 2-14 for tracked vehicle configurations, as applicable.

(2) Unpack camouflage netting screen equipment.

(3) Spread camouflage netting screen out on ground and seam sew the required pattern to cover the vehicle in accordance with applicable screen operator's technical manual. Leave section of screen pattern which will be positioned around antenna mast unsewn. Position the netting design so that the deployed mast location will be adjacent to a camouflage net seam.

(4) Using camouflage netting screen spreaders, carefully maneuver and position screen netting over entire vehicle beneath the upper guy rope(s).

(5) Seam sew the remaining net section around the antenna mast and into the main netting screen pattern.

CAUTION

Ensure that the netting is positioned below the mast base tube guy plate. This is to avoid the netting from getting lodged in the locking assembly.

(6) In accordance with applicable screen operator's technical manual, complete netting installation and stake screen to ground taking care not to interfere with guy ropes.

b. Removal Procedure

(1) Unstake screen netting.

(2) Unseam sew net section from the main screen pattern which is positioned around the antenna mast.

2-15. HMMWV/TRACKED VEHICLE CAMOUFLAGE SCREEN DEPLOYMENT - Continued

b. Removal Procedure - Continued

(3) Using camouflage netting screen spreaders, carefully maneuver and remove screen netting from vehicle.

(4) Retrieve antenna and antenna mast, and guy wires, in accordance with paragraph 2-13 for HMMWV configuration or paragraph 2-14 for tracked vehicle configurations, as applicable.

(5) Unseam sew camouflage netting screen pattern.

(6) Fold screens and stow camouflage netting screen equipment in accordance with applicable screen operator's technical manual.

CHAPTER 3

OPERATOR MAINTENANCE

Section I. LUBRICATION INSTRUCTIONS

None

Section II. OPERATOR MAINTENANCE PROCEDURES

3-1. CHECKS, ADJUSTMENTS, AND ALIGNMENTS

The operator must perform daily checks on the mast when it is deployed.

WARNING

Always wear gloves when handling guy assemblies and wear eye protection (safety goggles/glasses) when driving guy stakes. Failure to do so may result in personal injury.

NOTE

If the mast must be kept in continuous operation, check and service only those items that can be accessed without affecting operation. Perform complete checks and services when operational requirements permit.

Component	Check	Adjustment or Alignment
Guy Stakes	Stakes not pulled up or out due to guy assembly tension.	Drive guy stakes into ground more firmly, use additional guy stakes or apply weight to stakes.
Guy Assemblies	Guy assemblies are not slack.	Adjust tension of any slack guy assembly.

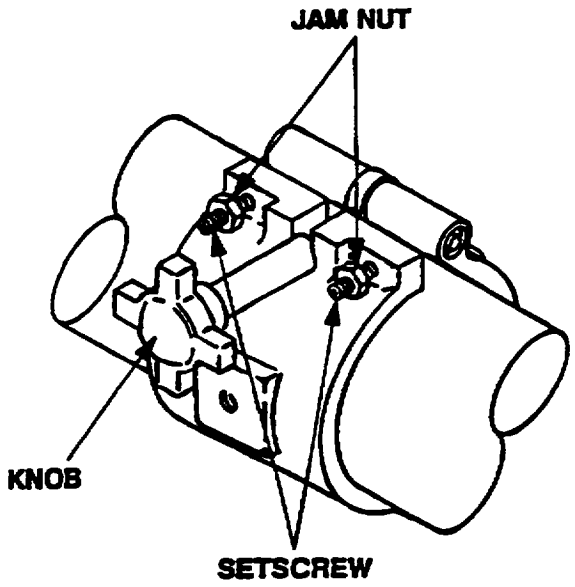
3-1. CHECKS, ADJUSTMENTS, AND ALIGNMENTS - Continued

Component	Check	Adjustment or Alignment
Mast	Mast is vertical and straight. Check bubble on level indicator.	Adjust tension of inner and outer guy assemblies to realign mast.

NOTE

In addition, inspect the following components if mast is being operated from a vehicle.

Hardware	Check for loose/missing attaching hardware.	Tighten/replace attaching hardware.
Struts and Pins	Ensure all pins are in place. Inspect support struts for damage.	Install pin(s).
	Ensure clamp assemblies are tight.	Tighten clamp assemblies. If necessary, Adjust setscrews as follows:



WARNING

Do NOT attempt to raise antenna if setscrews are not tight.

NOTE

The setscrews can only be adjusted after the clamp assembly has been installed on the mast with its knob latched.

(1) Using wrench handle with 7/16-in. socket, loosen jam nuts and using hex key, back out setscrews so that they are not touching other clamp half.

(2) Tighten knob by hand until clamp assembly begins to grip mast section. To establish proper clamping force, turn knob an additional 1/4 turn or until it cannot be turned by hand.

(3) Using hex key, turn each setscrew in until it makes contact with other clamp half. Then using wrench handle with 7/16-in. socket, tighten both jam nuts.

CHAPTER 4

UNIT MAINTENANCE

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

4-1. COMMON TOOLS AND EQUIPMENT

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

4-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

All tools, TMDE, and support equipment required to perform maintenance procedures in this chapter are listed in the Maintenance Allocation Chart (MAC) in Appendix B of this manual.

4-3. REPAIR PARTS

Repair parts are listed and illustrated in Appendix C, Repair Parts and Special Tools List (RPSTL).

Section II. SERVICE UPON RECEIPT

4-4. SERVICE UPON RECEIPT OF EQUIPMENT

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 361 Transportation Discrepancy Report.

4-4. SERVICE UPON RECEIPT OF EQUIPMENT - Continued

b. Check the 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.

c. Check DA Pam 25-30 to see whether the equipment has been modified.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4-5. GENERAL

Preventive Maintenance Checks and Services (PMCS) are essential to the efficient operation of the mast. PMCS prevent possible damage that might occur through neglect or failure to observe warning symptoms on time. Ensure all noted discrepancies are corrected. PMCS covers those scheduled procedures which are essential to operation of mast.

4-6. PMCS TABLE

Table 4-1 lists scheduled maintenance tasks required for the mast. The columns of Table 4-1 are described below.

a. Column (1) - Item Number (Item No.)

This column contains a number .for each procedure to be performed. When reporting malfunctions or failures on DA Form 2404, Equipment Inspection and Maintenance Worksheet, enter this number in the "TM Item No." column.

b. Column (2) Interval (Interval B, M, S)

These columns tell when to perform a procedure. A dot in a column tells which procedures apply.

c. Column (3) - Item To Be Inspected

This column contains the name of the item to be inspected.

d. Column (4) - Procedure

This column tells how to perform the required checks and services on the appropriate item. Carefully perform these instructions in the order listed.

4-7. PREVENTIVE MAINTENANCE PROCEDURES

NOTE

Within designated intervals, these checks are to be performed in the order listed. If the mast must be kept in continuous operation, check and service only those items that can be accessed without interrupting operations. Complete checks and services when the mast can be disassembled.

a. Before You Operate

Perform before (B) PMCS in Table 4-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

b. Monthly

Perform monthly (M) PMCS in Table 4-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

c. Semi-annually

Perform semi-annual (S) PMCS in Table 4-1. Observe WARNINGS and CAUTIONS contained in this manual and on plates installed on equipment.

d. Order

Always do preventive maintenance in the same order.

e. Reporting

Report any discrepancies on DA Form 2404.

4-7. PREVENTIVE MAINTENANCE PROCEDURES - Continued

Table 4-1. Unit Preventive Maintenance Checks and Services

B-Before M-Monthly S-Semi-annually

(1) Item No.	(2) Interval			(3) Item to Be Inspected	(4) Procedure
	B	M	S		
1		•		Mast Assembly	Inspect mast for paint deterioration, bare metal, damage, and corrosion. Refer to TB 43-0118 for instructions on maintaining equipment surfaces.
2		•		Guy Assemblies	Inspect guy assemblies general condition. Inspect for deterioration and frayed/broken strands. Inspect tensioners for any missing or broken hooks.
3		•		Vehicle Mount	Inspect vehicle mount for paint deterioration, bare metal, damage, and corrosion. Refer to TB 43-0118 for instructions on maintaining equipment surfaces. Inspect all attach points for loose or missing hardware.

Section IV. TROUBLESHOOTING

4-8. GENERAL

If faults or failures are detected, take corrective action. This mast can be disassembled and repaired at the unit level.

4-9. TROUBLESHOOTING

WARNING

Two personnel should always be present during troubleshooting procedures. Failure to do so could result in equipment damage or personal injury.

Fault Symptom	Action	Reference
Difficulty in retrieving and/or erecting mast.	Troubleshoot mast as indicated in Malfunction 1.	Page 4-6

The following troubleshooting table lists the possible failure scenarios, the steps required and the corrective actions needed to restore the mast to an operational condition. Troubleshooting of the mast can be broken down to several elementary concepts.

If the mast exhibits excessive binding at a lock location, the user should lower the mast approximately one-half foot by turning the hand crank clock-wise several revolutions, stop and then continue turning the hand crank in a counter clock-wise manner. This procedure should be repeated several times. If this does not correct the binding problem, it is more than likely that the locks and posts need to be removed, cleaned and possibly adjusted. If this does not correct the problem, the other possible corrective actions include replacing the delrin nuts and/or replacing the drive screw. If the gearbox "free spins" at any height interval, it is more than likely that the gearbox has failed.

MALFUNCTION	STEP	CORRECTIVE ACTION
1. Difficulty in retrieving and/or extending mast.	1. Check that hand crank turns freely.	1. If defective, replace hand crank.
	2. Inspect mast for ice, snow and/or debris.	2. If ice, snow and/or debris are present, remove ice, snow and/or debris by chipping, brushing and/or wiping.
	3. Erect Mast.	3. If mast does not erect, proceed to the following step.
	4. Check to if the binding occurs at the lock section.	4. Lower the mast approximately one half-foot, stop and continue to raise the mast. Continue procedure, as necessary. If mast does not erect, proceed to the following step.
	5. Remove lock and post at appropriate mast section and check for debris (para 4-13).	5. If debris is present, clean with a water dampened cloth.
	6. Reattach lock and post to appropriate mast section (para 4-14).	6. N/A
	7. Erect Mast.	7. If mast does not erect, proceed to the following step.
	8. Remove lock and post at appropriate mast section and perform adjustment (para 4-9A).	8. If adjustment does not correct the problem, replace lock and post assembly (para 4-13b)
	9. Erect Mast.	9. If mast does not erect, proceed to the following step.
	10. Remove gearbox (para. 4-11 a) and check gearbox for binding.	10. If defective, replace gearbox (para. 4-11b).
	11. Erect Mast. the following step.	1 . If mast does not erect, proceed to
	12. Remove and inspect drive screw for damage (para. 4-12a).	12. If damaged, replace drive screw (para. 4-12b).
	13. Erect Mast.	13. If mast does not erect, proceed to the following step.

4-9. TROUBLESHOOTING - Continued

	14. Remove and inspect top section for damage/distortion (para. 4-14a).	14. If damaged/distorted, replace top section (para. 4-14b).
	15. Remove intermediate mast sections (para. 4-15a). Inspect intermediate mast sections for damage/distortion. Replace mast base section (para. 4-16).	15. If damaged/distorted, replace damaged intermediate mast section(s) (para. 4-15b).
	16. Erect Mast.	16. If mast does not erect, proceed to the following step.

4-9A. ADJUSTMENT OF LOCK/POSI

NOTE

The post and lock are the assemblies that secure and release the mast sections during erection and retraction. If the post is not correctly aligned, binding can occur. This procedure should only be performed if heavy binding occurs at the mast section where the lock and post engages and disengages.

a. Adjustment of post inward

(1) Remove the appropriate lock (refer to paragraph 4-13a).

(2) While the post is secure to the mast section, gently push the post towards the mast.

NOTE

This slight adjustment, although it may not be visible to the eye, can correct binding problems caused by a slightly bent post.

(3) Reinstall lock (refer to paragraph 4-13b).

(4) If this procedure does not correct the binding, or if the binding condition is worsened, adjustment of the post outward (refer to paragraph 4-9B) may be required.

b. Adjustment of post outward

(1) Remove the appropriate lock (refer to paragraph 4-13a)

(2) While the post is secure to the mast section, gently pull the post away from the mast.

NOTE

This slight adjustment, although it may not be visible to the eye, can correct binding problems caused by a slightly bent post.

(3) Reinstall lock (refer to paragraph 4-13b).

(4) If this procedure does not correct the binding, or if the binding condition is worsened, adjustment of the post inward (refer to paragraph 4-9B) may be required.

(5) If these adjustment procedures do not correct the binding, and the binding has been isolated to this lock and post assembly, a new lock and post should be requisitioned.

Section V. MAINTENANCE PROCEDURES

Section V. MAINTENANCE PROCEDURES - Continued

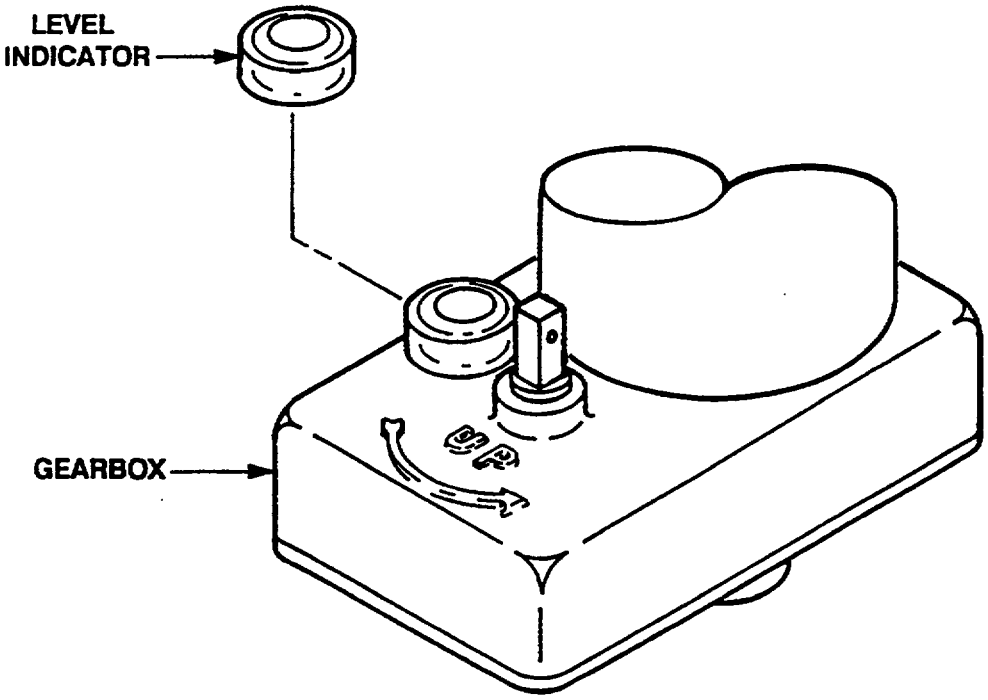
NOTE

Some removable/replaceable assemblies are secured with socket head screws. When removing such assemblies, back out screws only enough to free the assembly, leaving the screws in place.

Socket head screws are backed out, removed, and tightened with hex key (item 15, Appendix D). For user's convenience, a balldriver (item 14, Appendix D) is provided to assist in the removal and replacement of the socket head screws. However, the hex key should always be used to assure that the socket head screws are properly tightened.

A work area that is approximately 16 ft (4.9 m) long is required to perform the maintenance tasks described in this section.

4-10. LEVEL INDICATOR REMOVAL AND REPLACEMENT



a. Removal

(1) Remove old level indicator and any traces of glue with knife or similar tool.

(2) Thoroughly clean mounting surface with a fine crocus cloth. If necessary, touch up painted surface.

b. Replacement

(1) Mix two-part epoxy glue, following manufacturer's packaging instructions.

(2) Glue new level indicator on gearbox.

4-11. GEARBOX REMOVAL AND REPLACEMENT

a. Removal

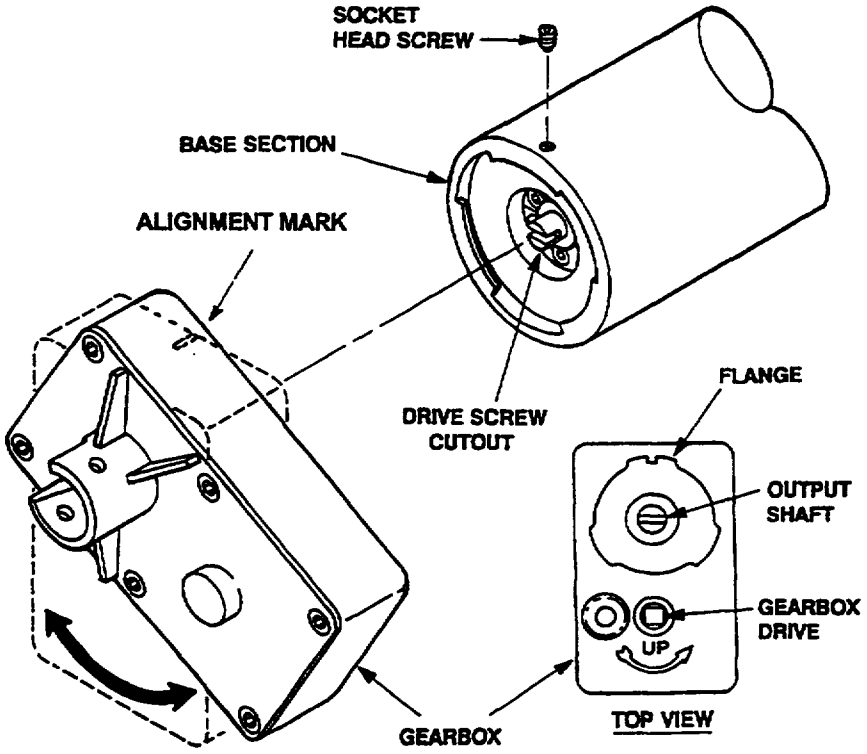
(1) Place mast on a flat elevated work space.

NOTE

Removal of the gearbox requires the requisition of a new socket head screw. The socket head screw contains a locktite substance that once broken cannot be reused. Discard and replace the socket head screw each time it is removed.

(2) Using hex key, remove and discard socket head screw.

(3) Rotate gearbox one-sixth turn in either direction and remove gearbox.



b. Replacement

(1) Align flanges on gearbox with notches on mast base section.

(2) Rotate gearbox drive by hand to align gearbox output shaft with cutout in drive screw while applying forward pressure to insert gearbox into base section.

(3) Align mark on gearbox housing with socket head screw hole.

(4) Using hex key, secure gearbox to base section with a new socket head screw.

(5) Using hand crank, check gearbox for proper operation.

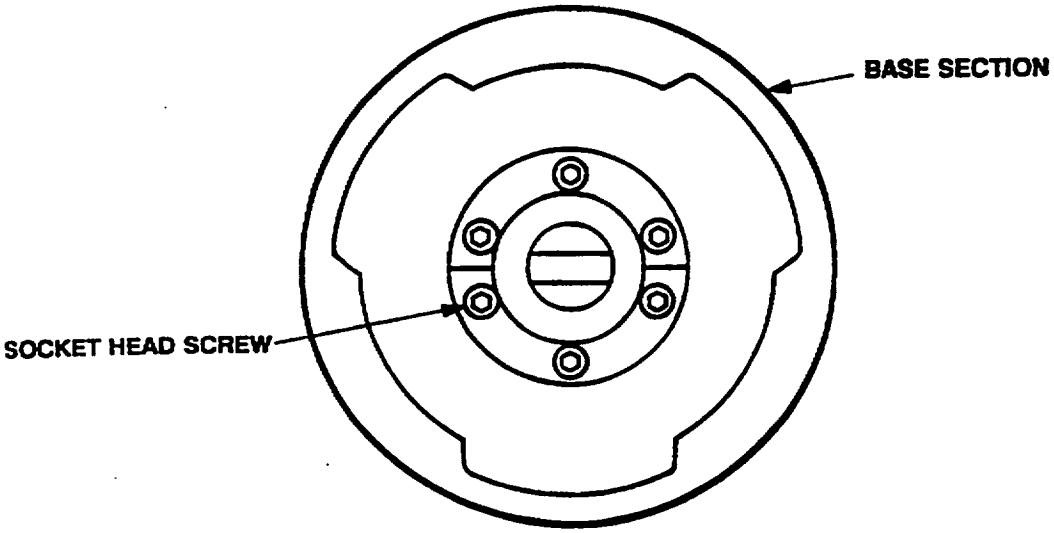
4-12. DRIVE SCREW REMOVAL AND REPLACEMENT

a. Removal

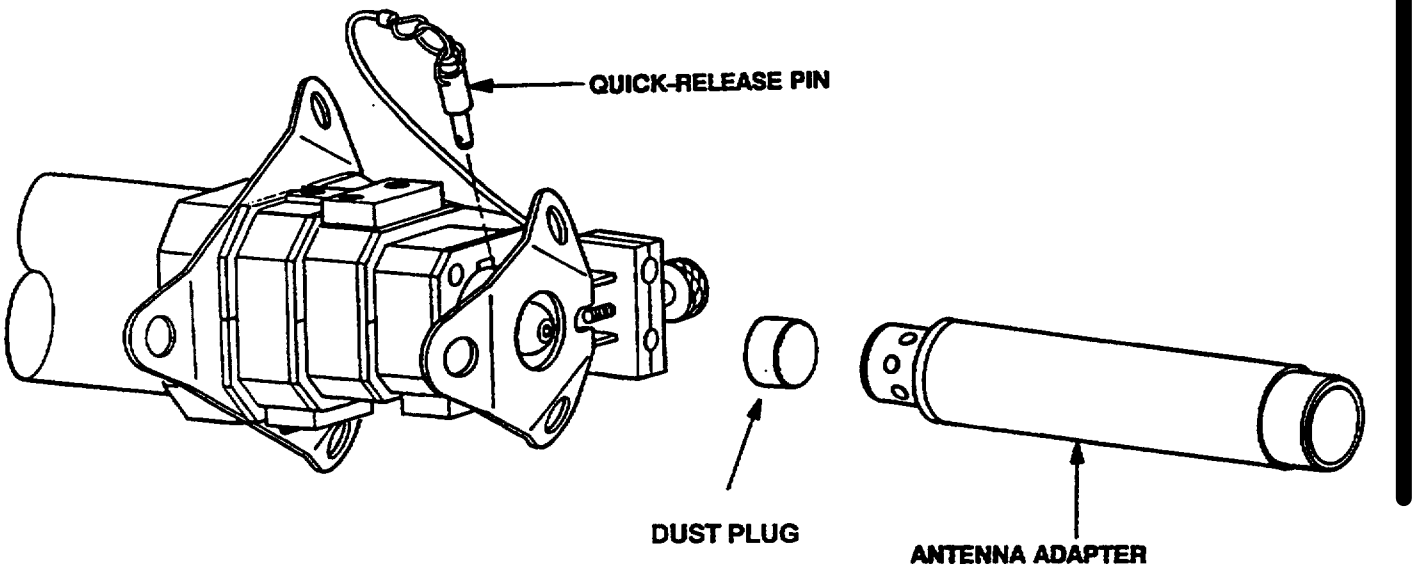
(1) Place mast on flat elevated work space.

(2) Remove gearbox (refer to paragraph 4-11).

(3) Using hex key, loosen and remove six socket head screws from drive end of base section.



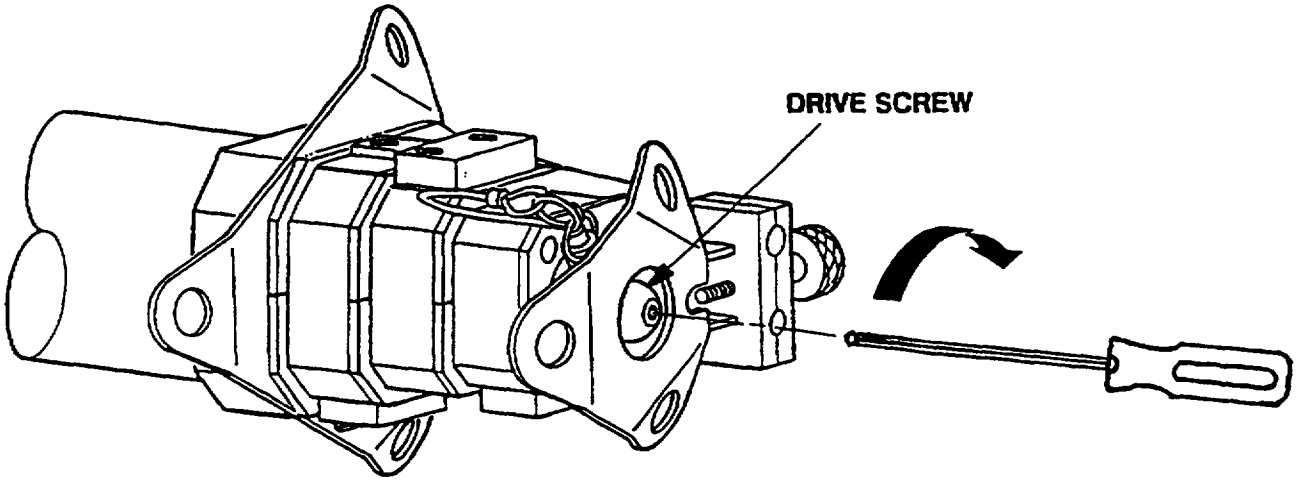
(4) Remove quick-release pin, antenna adapter (if installed), and dust plug.



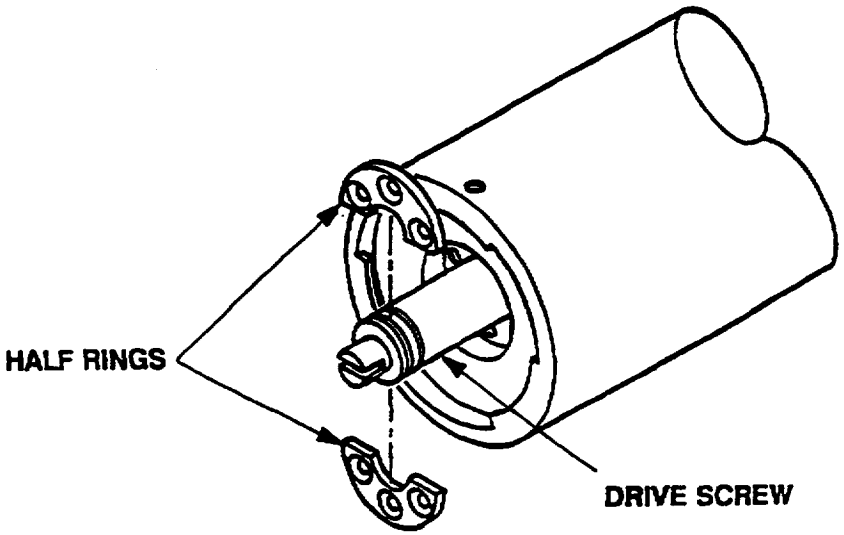
4-12. DRIVE SCREW REMOVAL AND REPLACEMENT - Continued

a. Removal- Continued

(5) Using balldriver, turn drive screw clockwise, one full turn.



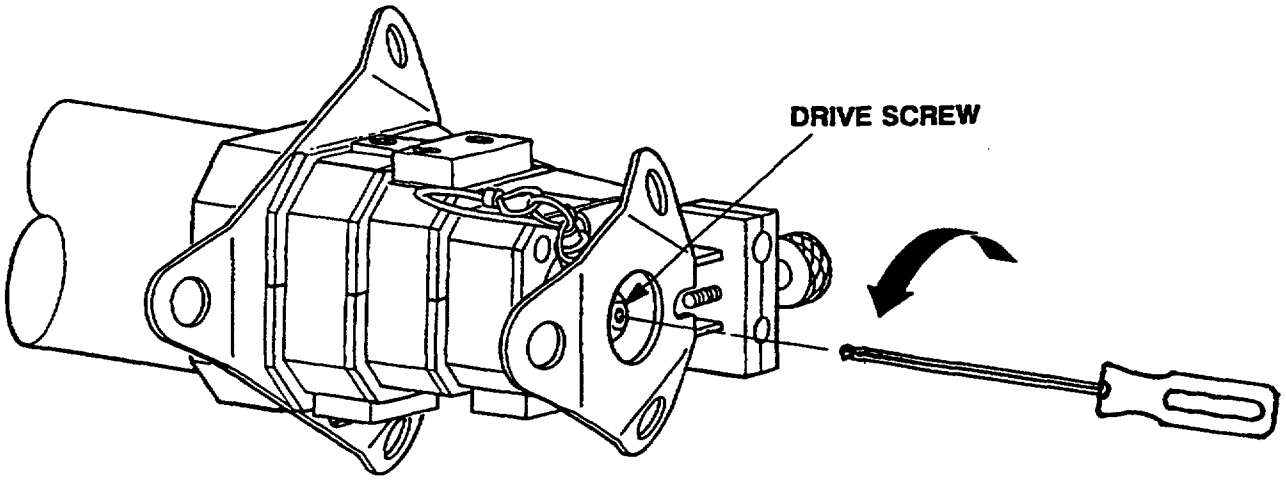
(6) Remove two half rings at drive end of mast securing drive screw.



4-12. DRIVE SCREW REMOVAL AND REPLACEMENT - Continued

a. Removal - Continued

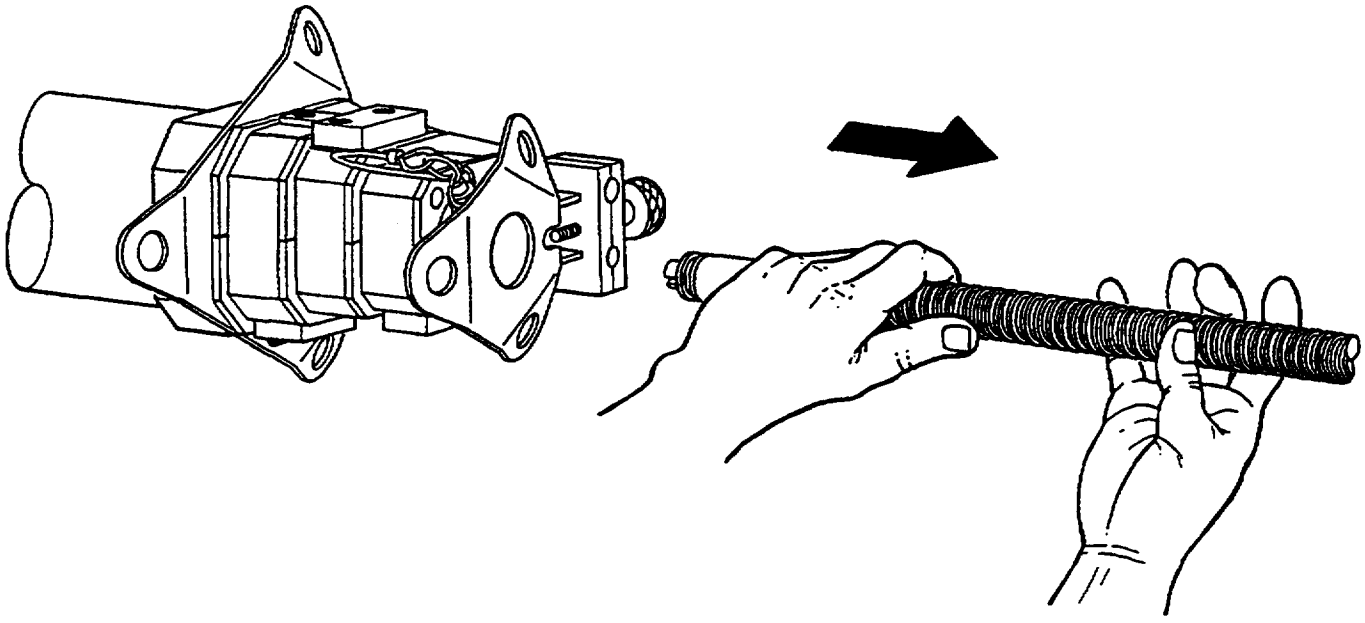
(7) Using balldriver, turn drive screw counterclockwise until drive screw is free.



CAUTION

Use care when removing and handling the drive screw to prevent damage to its machined surfaces.

(8) Remove drive screw.

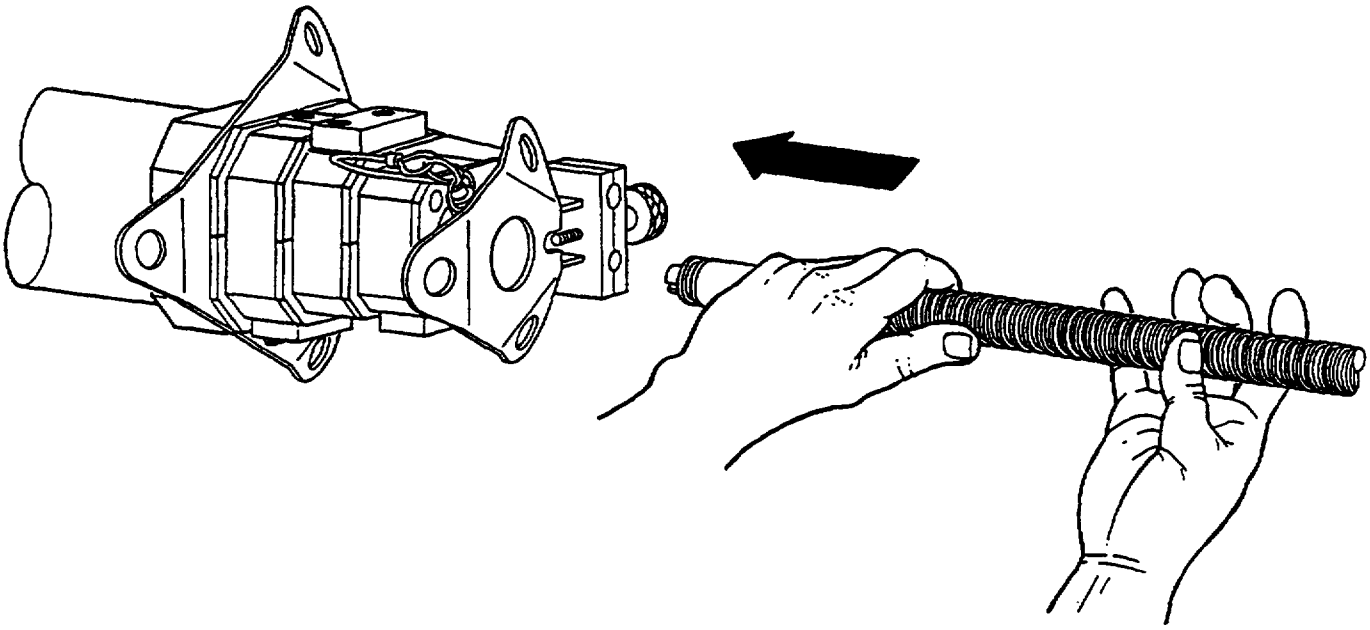


4-12. DRIVE SCREW REMOVAL AND REPLACEMENT - Continued

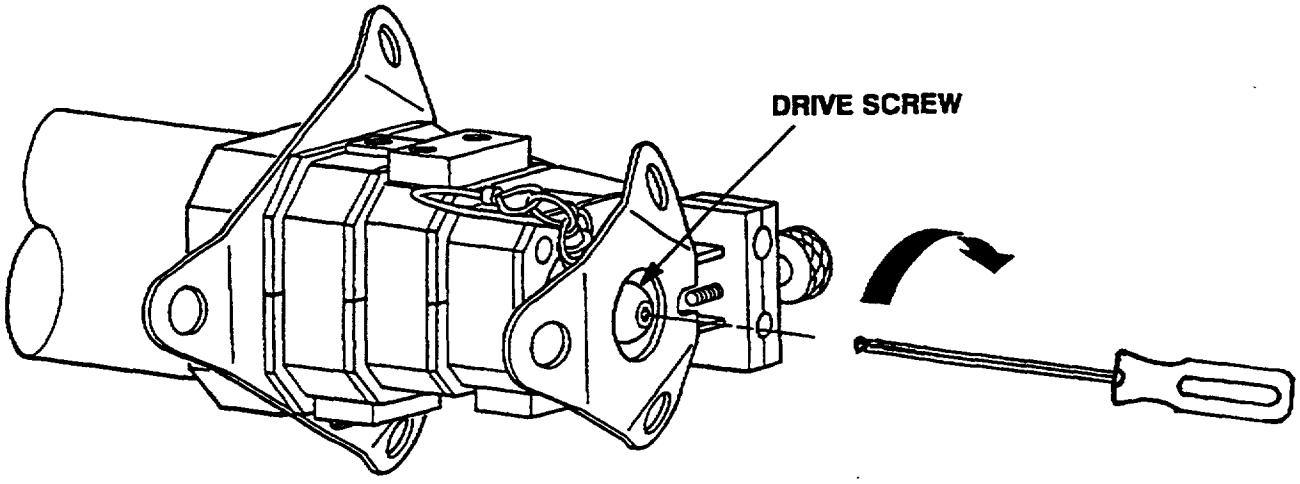
b. Replacement

> **CAUTION**
>
> **Use care when handling and installing the drive screw to prevent damage to its machined surfaces.**

(1) Carefully insert drive screw into mast at top end.



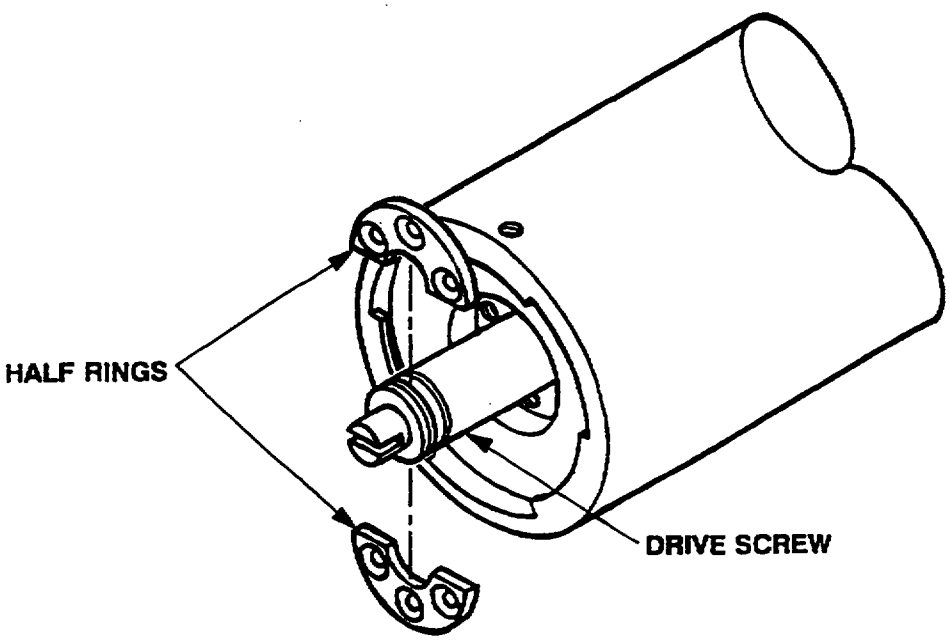
(2) Using balldriver, turn drive screw clockwise, two full turns.



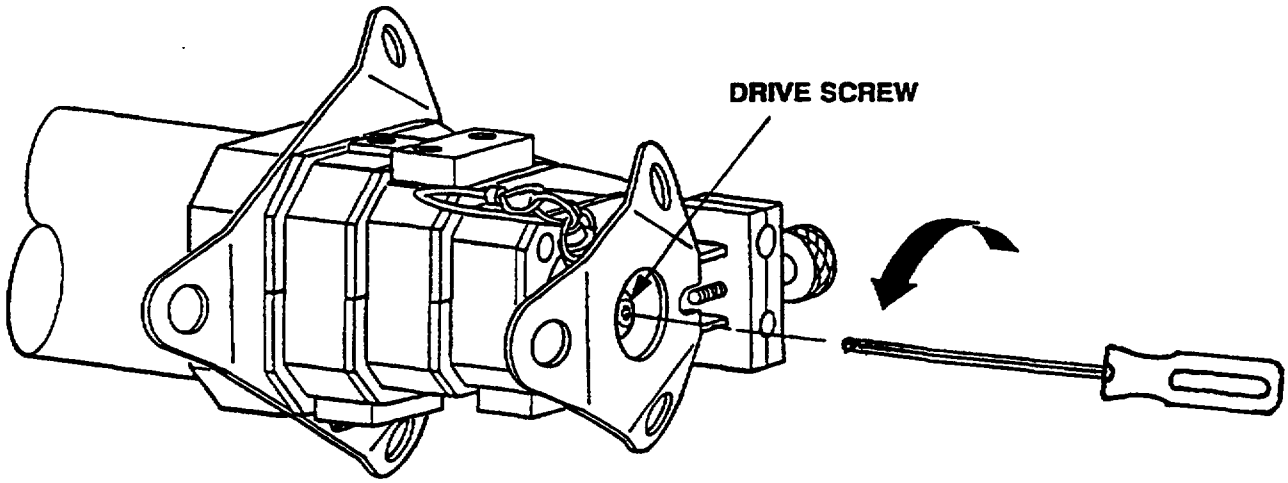
4-12. DRIVE SCREW REMOVAL AND REPLACEMENT - Continued

b. Replacement - Continued

(3) Install two half rings at drive end of mast.



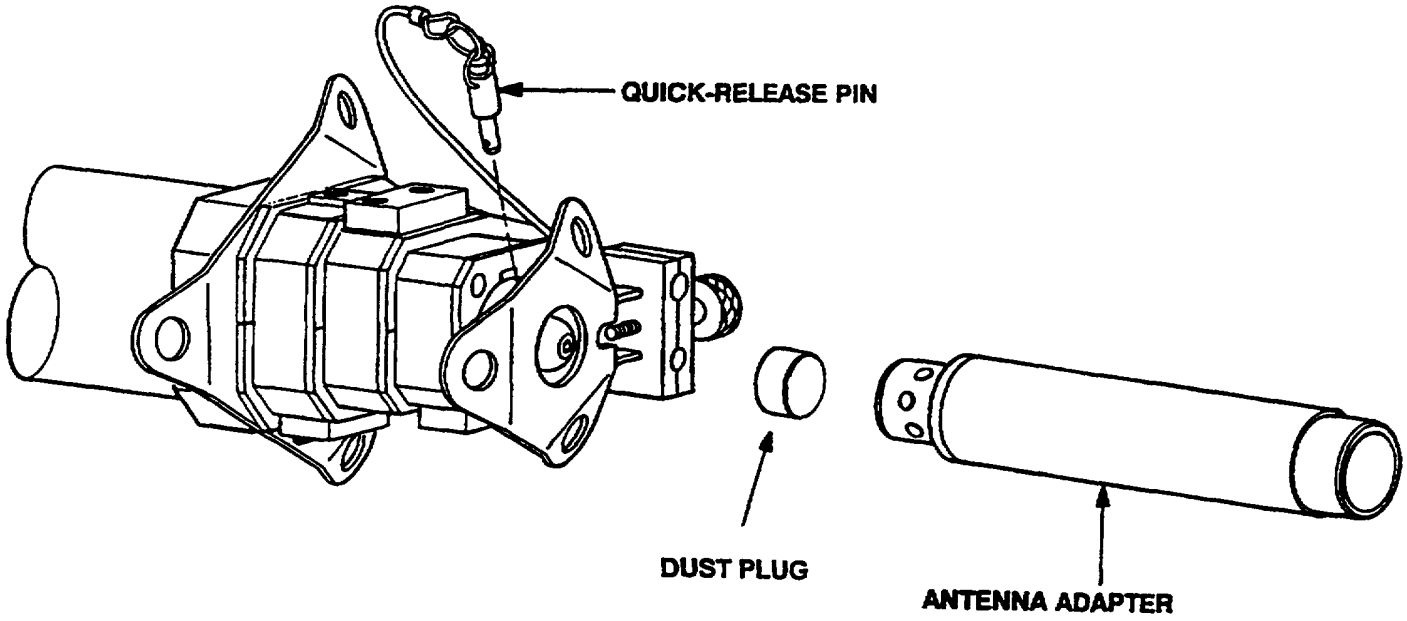
(4) Using balldriver, turn drive screw counterclockwise, one full turn.



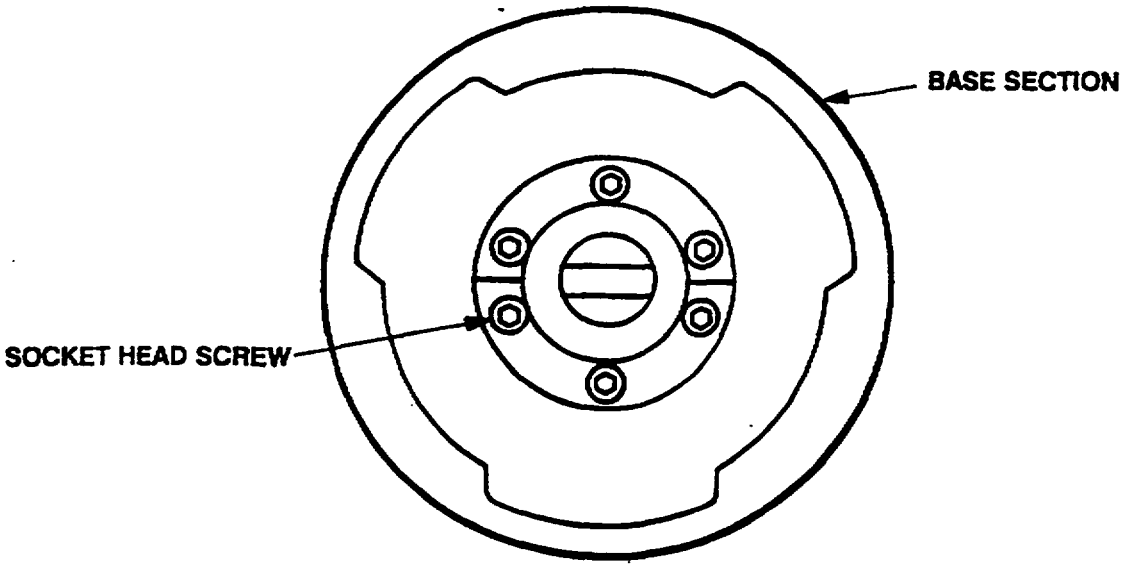
4-12. DRIVE SCREW REMOVAL AND REPLACEMENT - Continued

b. Replacement - Continued

(5) Replace dust plug, antenna adapter (if required), and quick-release pin.



(6) Using hex key, install and tighten six socket head screws securing two half rings.



(7) Replace gearbox (refer to paragraph 4-11b).

(8) Using hand crank, check gearbox and drive screw for proper operation.

4-13. LOCK AND POST REMOVAL AND REPLACEMENT

NOTE

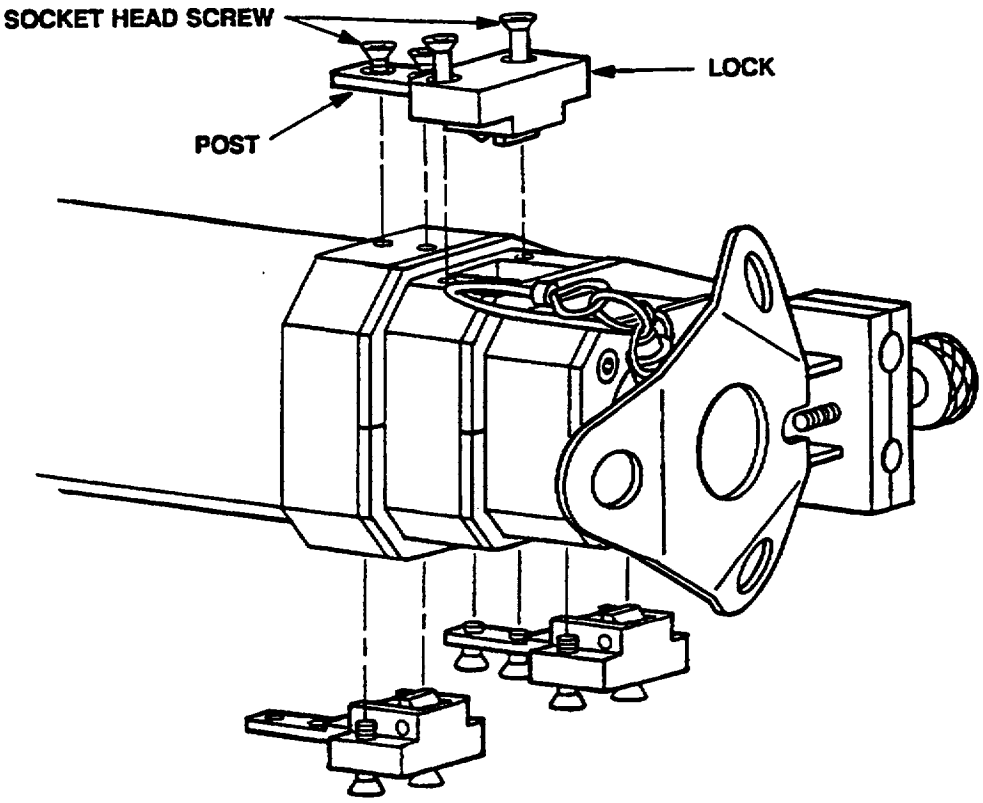
The following describes the removal and replacement of a typical lock and post. All three locks and posts are identical.

a. Removal

(1) Using hex key, loosen two socket head screws securing lock to mast section.

(2) Using hex key, loosen and remove (if required), two socket head screws securing post to mast section.

(3) Remove lock and post.



b. Replacement

(1) Install lock and post on mast sections.

CAUTION

Failure to properly tighten the lock and post may result in damage to equipment.

(2) Using hex key, secure lock and post with four socket head screws.

4-14. TOP SECTION REMOVAL AND REPLACEMENT

a. Removal

(1) Place mast on flat elevated work space.

(2) Remove top section lock and post (refer to paragraph 4-13a).

(3) Remove gearbox (refer to paragraph 4-11a).

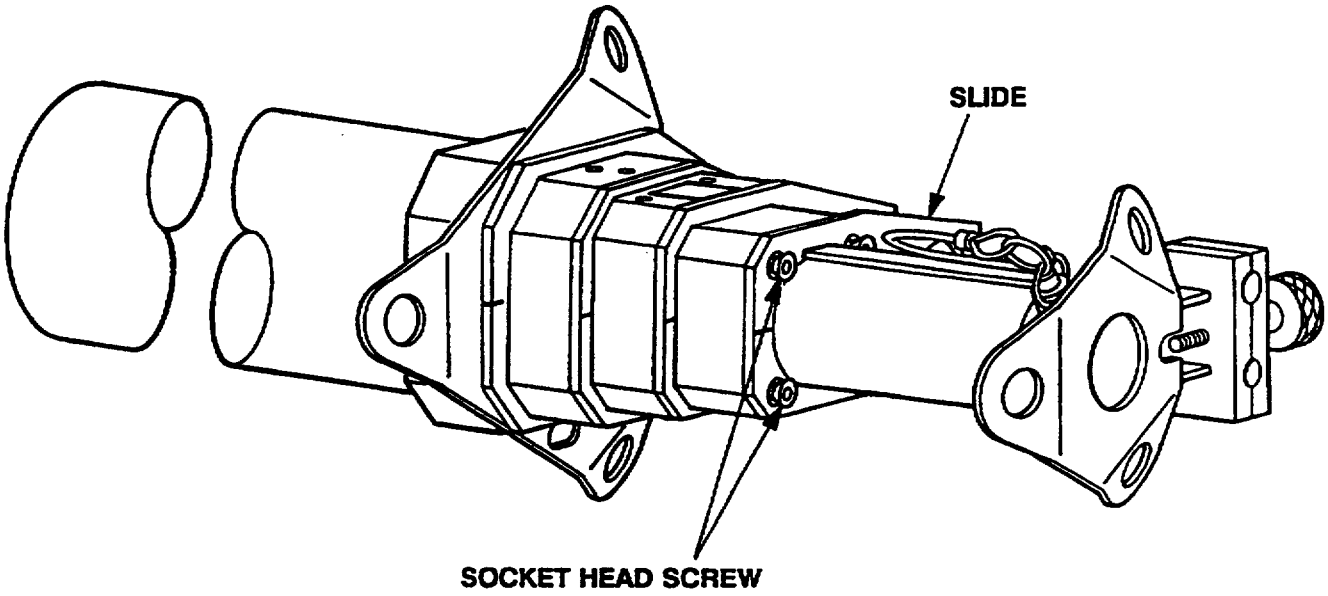
(4) Remove drive screw (refer to paragraph 4-12a).

(5) Slide top section out one foot (0.3 m). Then using hex key, loosen four socket head screws securing slide.

CAUTION

Use care when removing and handling the top section to prevent damage to its machined surfaces.

(6) Carefully remove top section.



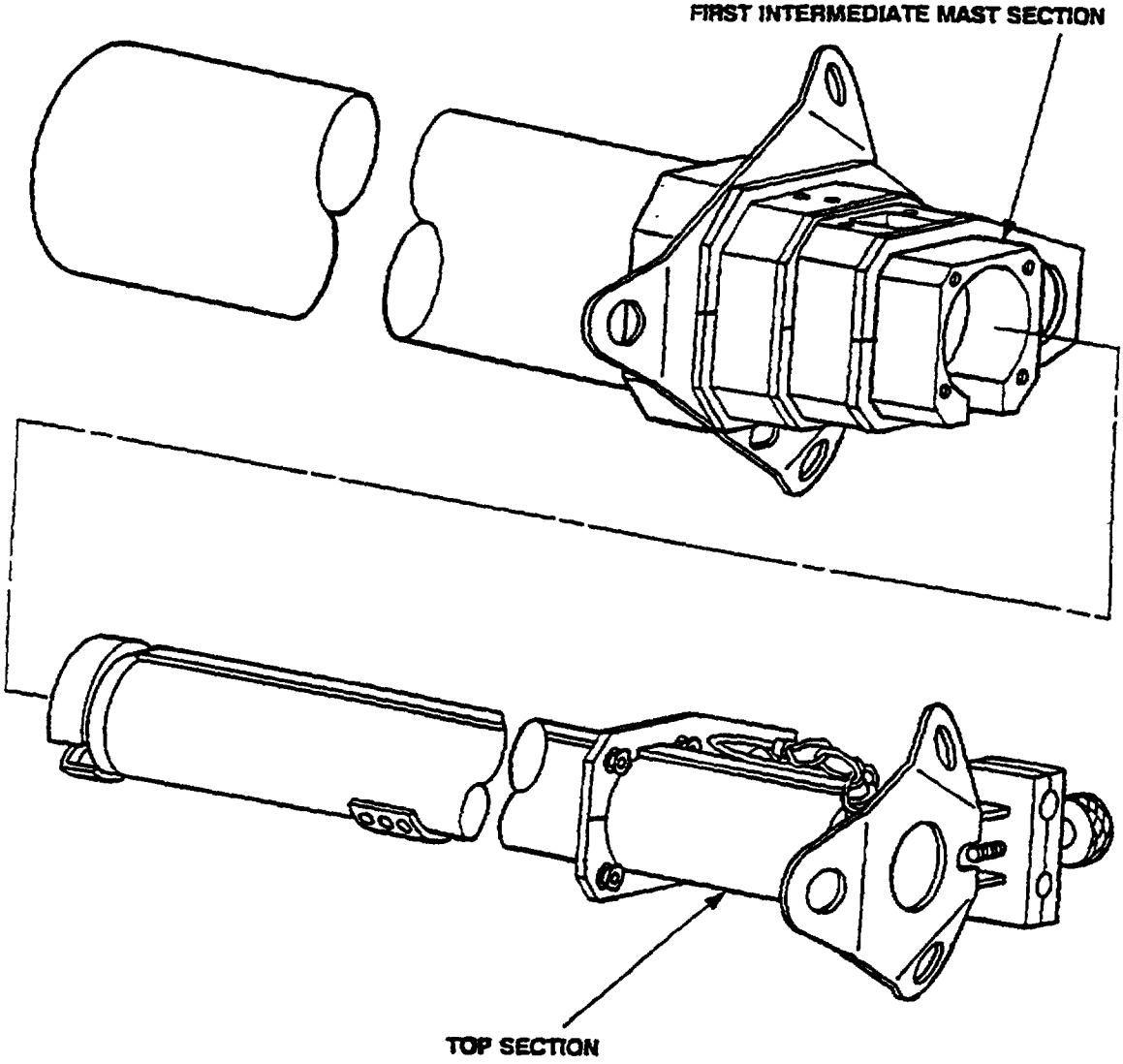
4-14. TOP SECTION REMOVAL AND REPLACEMENT - Continued

b. Replacement

CAUTION

Use care when handling and installing the top section to prevent damage to its machined surfaces.

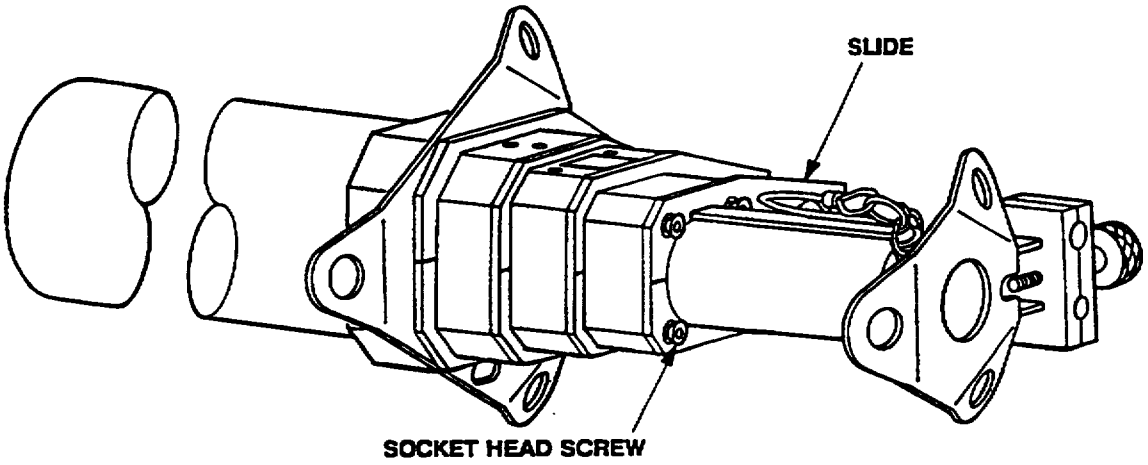
(1) Carefully insert top section into first intermediate mast section.



4-14. TOP SECTION REMOVAL AND REPLACEMENT - Continued

b. Replacement- Continued

(2) Using hex key, secure slide with four socket head screws.

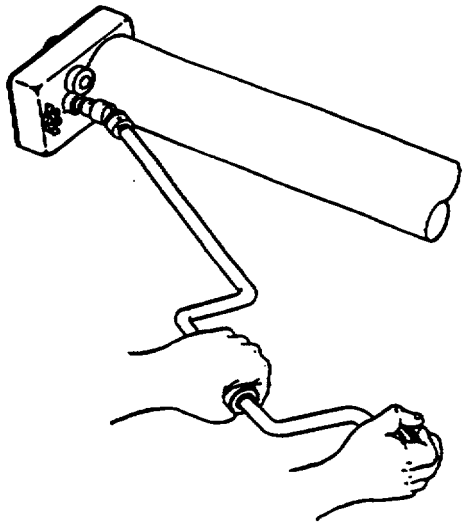


(3) Install top section lock and post (refer to paragraph 4-13b).

(4) Replace drive screw (refer to paragraph 4-12b).

(5) Replace gearbox (refer to paragraph 4-11b).

(6) Using hand crank, check gearbox and drive screw for proper operation. Ensure top section moves in and out smoothly without binding. If antenna binds back the crank off approximately 12 inches and gently attempt to crank past the obstruction.



4-15. INTERMEDIATE MAST SECTION REMOVAL AND REPLACEMENT

NOTE

The following describes the removal and replacement of any intermediate mast section. All are removed in an identical manner.

a. Removal

(1) Place mast on flat elevated work space.

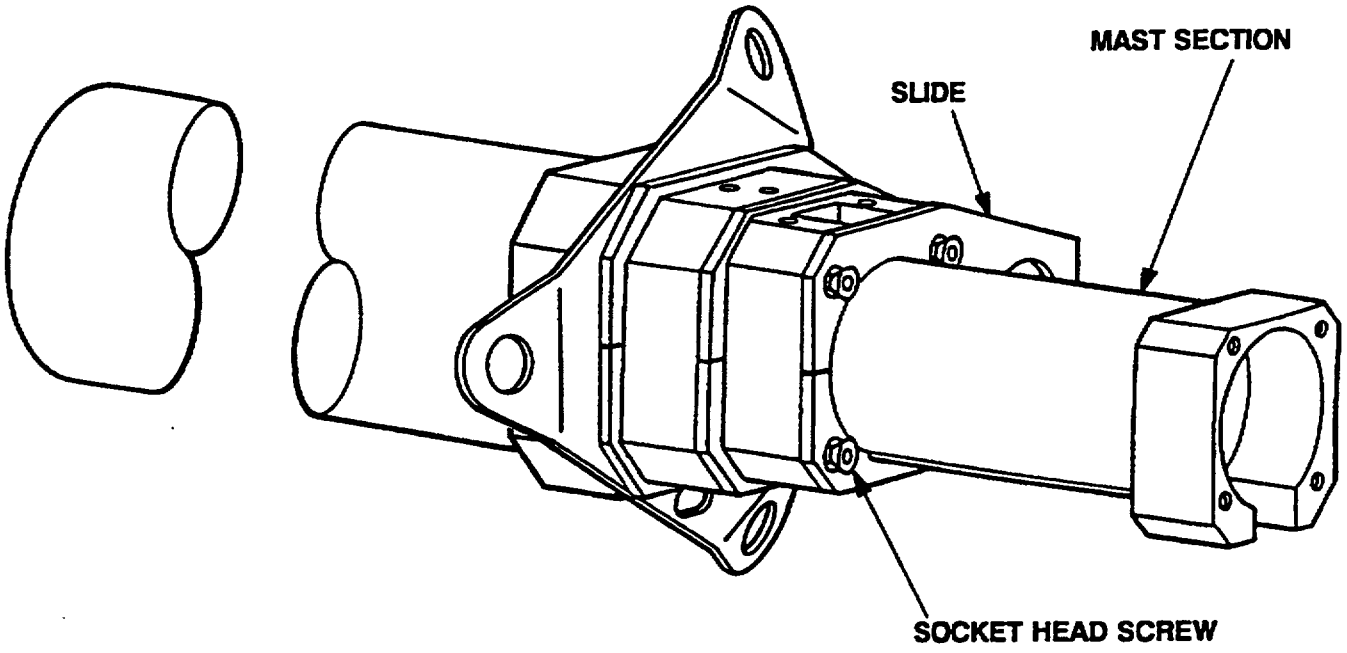
(2) Remove gearbox (refer to paragraph 4-11a).

(3) Remove drive screw (refer to paragraph 4-12a).

(4) Remove all three locks and posts (refer to paragraph 4-13a).

(5) Remove top section (refer to paragraph 4-14a).

(6) Slide intermediate section out one foot (0.3 m). Then using hex key, loosen four socket head screws securing slide of mast section.



4-15. INTERMEDIATE MAST SECTION REMOVAL AND REPLACEMENT - Continued

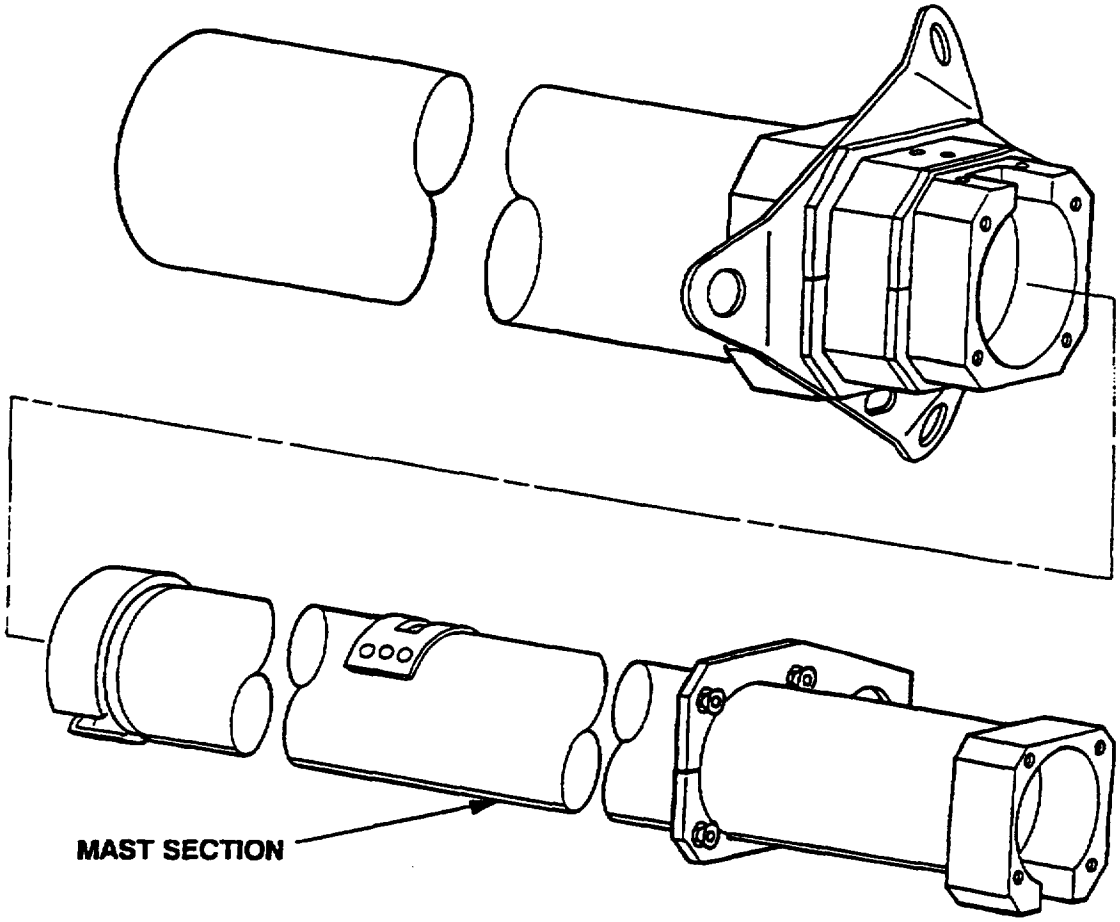
a. Removal - Continued

CAUTION

Use care when removing and handling the mast section to prevent damage to its machined surfaces.

(7) Carefully remove mast section.

(8) Repeat steps 6 and 7 to remove other intermediate sections as required.



b. Replacement

CAUTION

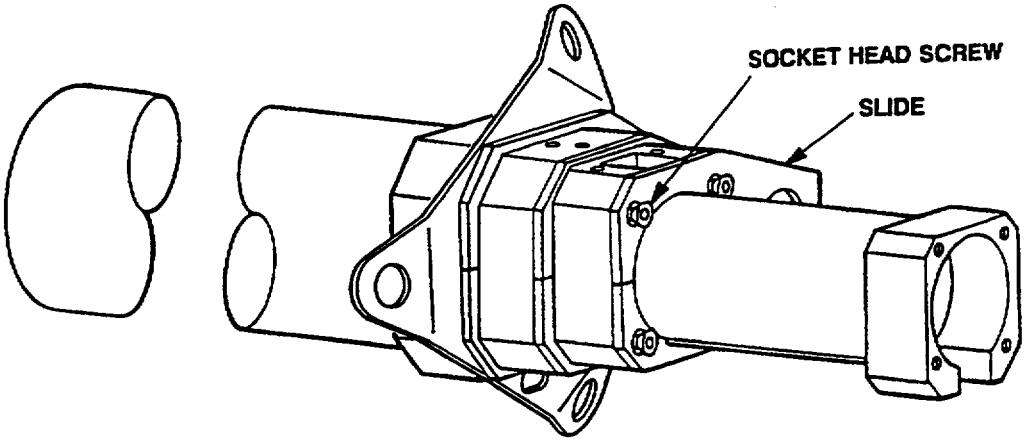
Use care when handling and installing the mast section to prevent damage to its machined surfaces.

(1) Carefully insert mast section into preceding mast section aligning lock and post mounting holes between sections.

4-15. INTERMEDIATE MAST SECTION REMOVAL AND REPLACEMENT - Continued

b. Replacement - Continued

(2) Using hex key, secure slide with four socket head screws.



(3) Repeat steps 1 and 2 for other intermediate mast sections as required.

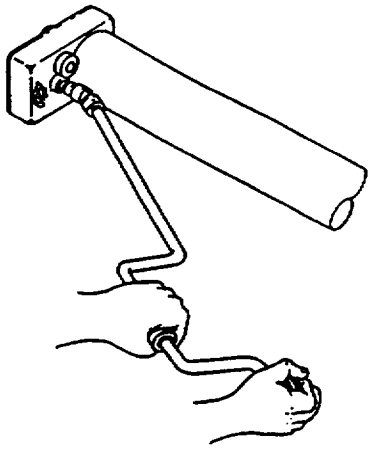
(4) Replace top section (refer to paragraph 4-14b).

(5) Replace all locks and posts (refer to paragraph 4-13b).

(6) Replace drive screw (refer to paragraph 4-12b).

(7) Replace gearbox (refer to paragraph 4-11b).

(8) Using hand crank, check gearbox and drive screw for proper operation. Ensure all mast sections move in and out smoothly without binding. If antenna binds back the crank off approximately 12 inches and gently attempt to crank past the obstruction.



4-16. BASE SECTION REMOVAL AND REPLACEMENT

a. Removal

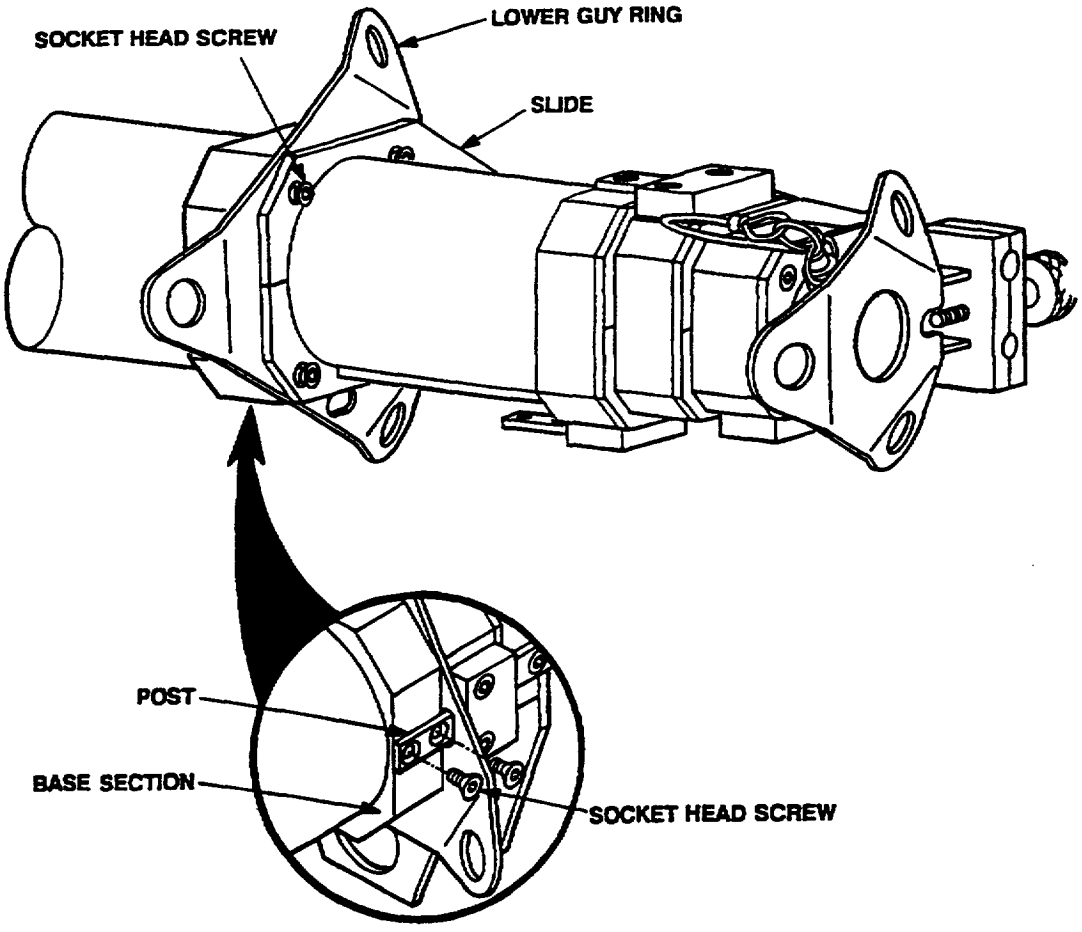
(1) Place mast on flat elevated work space.

(2) Remove gearbox (refer to paragraph 4-11a).

(3) Remove drive screw (refer to paragraph 4-12a).

(4) Using hex key, loosen and remove two socket head screws securing post to base section.

(5) Slide mast section 3 out one foot (0.3 m). Then using hex key, loosen four socket head screws securing slide and lower guy ring.



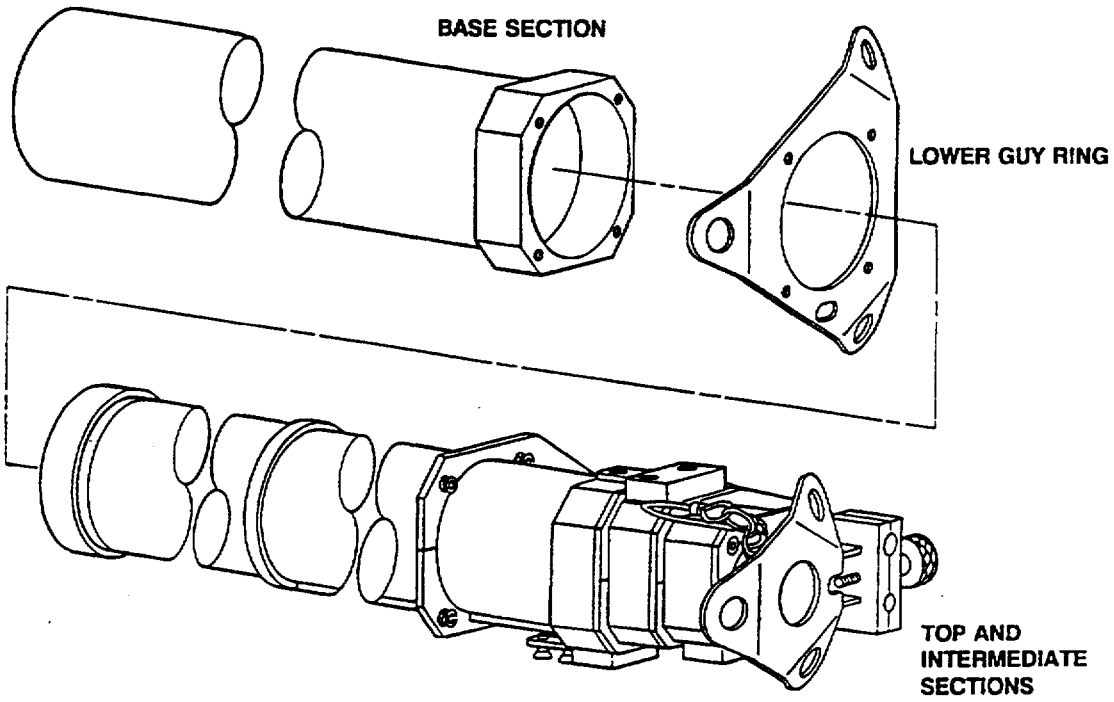
4-16. BASE SECTION REMOVAL AND REPLACEMENT - Continued

a. Removal - Continued

CAUTION

Use care when removing and handling top and intermediate mast sections to prevent damage to their machined surfaces.

(6) Carefully remove top section with intermediate sections and lower guy ring from base section.



b. Replacement

CAUTION

Use care when handling and installing top and intermediate mast sections to prevent damage to their machined surfaces.

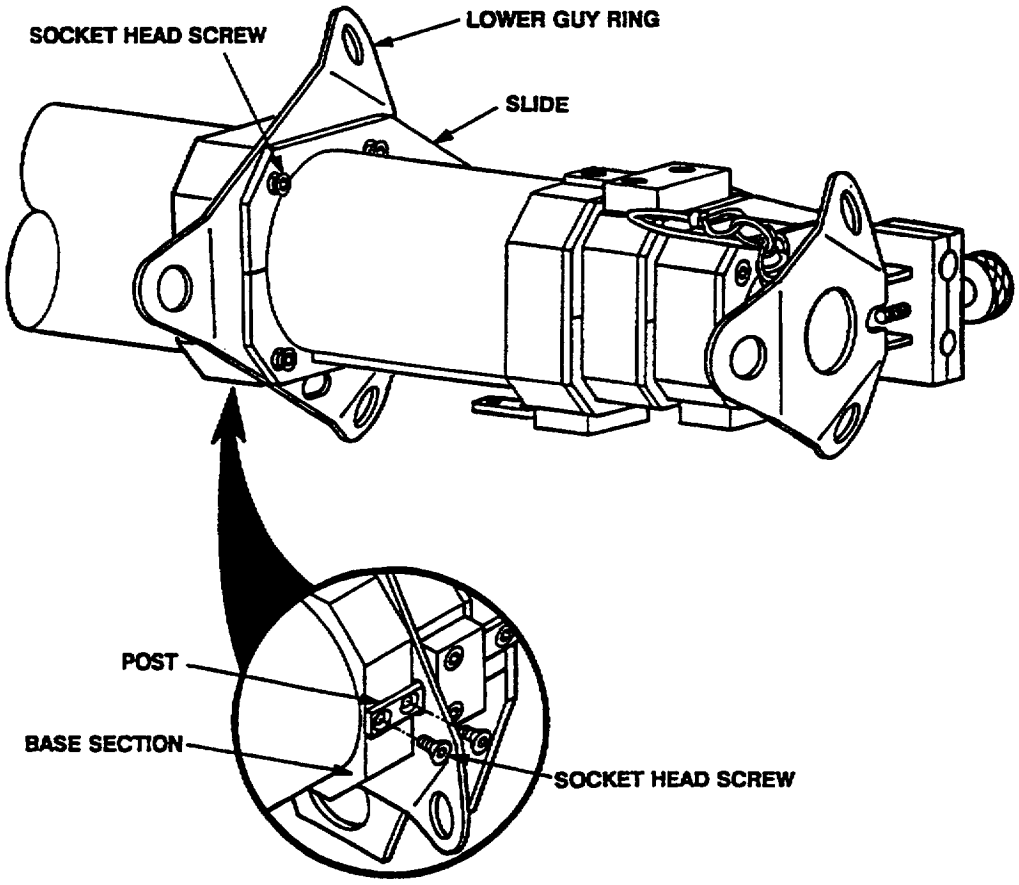
(1) Carefully insert top and intermediate mast sections with lower guy ring into base section.

4-16. BASE SECTION REMOVAL AND REPLACEMENT - Continued

b. Replacement - Continued

(2) Using hex key, secure post to base section with two socket head screws.

(3) Using hex key, secure slide and lower guy ring with four socket head screws.



(4) Replace drive screw (refer to paragraph 4-12b).

(5) Replace gearbox (refer to paragraph 4-11b).

(6) Using hand crank, check gearbox and drive screw for proper operation. Ensure all mast sections move in and out smoothly without binding. If Antenna binds back the crank off approximately 12 inches and gently attempt to crank past the obstruction.

4-16A. MAST SECTION TUBE NUT REMOVAL AND REPLACEMENT

a. Removal

(1) Place mast on flat elevated work space.

(2) Remove gearbox (refer to paragraph 4-11a).

(3) Remove drive screw (refer to paragraph 4-12a).

(4) Remove appropriate locks and posts (refer to paragraph 4-13a).

(5) Remove appropriate mast section(s) (refer to paragraph 4-14a, 4-15a, or 4-16a).

(6) Using a hex key, remove the four screws securing the plastic nut to the bottom of the mast section.

(7) Remove nut.

b. Replacement

(1) Using a hex key, install the four screws securing the plastic nut to the bottom of the mast section.

(2) Replace appropriate mast section(s) (refer to paragraph 4-14b, 4-15b, or 4-16b).

(3) Replace appropriate locks and posts (refer to paragraph 4-13b).

(4) Replace drive screw (refer to paragraph 4-12b).

(5) Replace gearbox (refer to paragraph 4-11b).

(6) Using hand crank, check gearbox and drive screw for proper operation. Ensure all mast sections move in and out smoothly without binding. If antenna binds back the crank off approximately 12 inches and gently attempt to crank past the obstruction.

4-16B. MAST SECTION SLIDE REMOVAL AND REPLACEMENT

NOTE

Original equipment issue slides are one piece items. These slides can be removed and replaced, if necessary, by carefully twisting them down the mast tube section over the riveted stop plate or other mast tube outer surface obstacles. Four socket head screws install these slides.

Replacement slides come in two pieces. Each slide half is either removed or installed by two socket head screws.

a. Removal

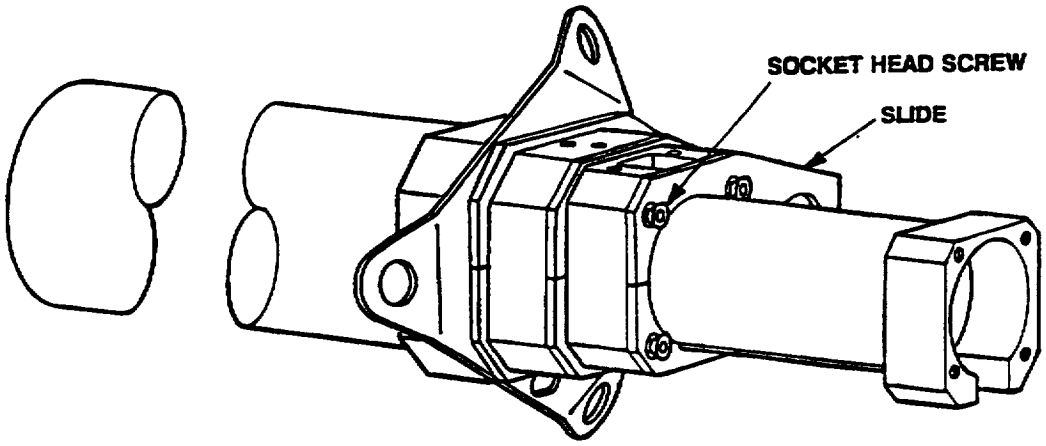
(1) Using hex key, loosen two socket head screws securing slide half.

(2) Repeat procedure for other slide half.

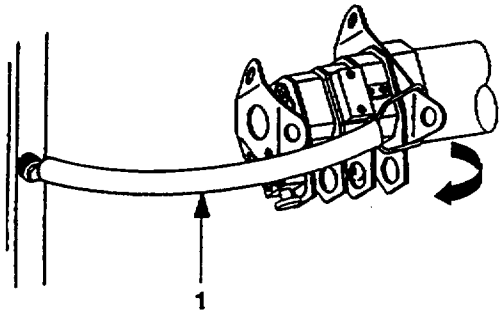
b. Replacement

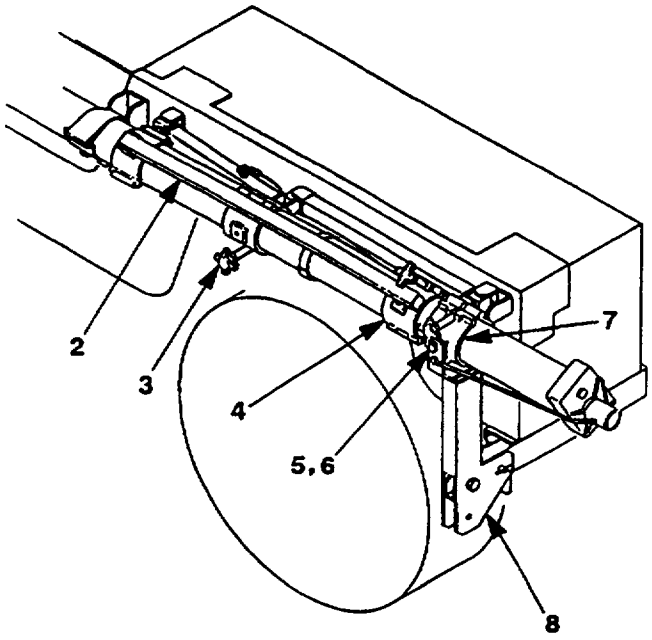
(1) Using hex key, secure slide half with two socket head screws.

(2) Repeat procedure for other slide half.



4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT





a. Remove and Stow Mast

WARNING

The clamp assemblies present hazardous pinch points. Use care to avoid personal injury when installing and tightening the clamps.

(1) Unhook brush guard (1) at lower guy ring (black guy ring).

(2) Loosen velcro straps securing antenna loading strut (2) then remove strut.

NOTE

It will be necessary for one operator to lift the mast from the cradle in order to remove the strut clamp assemblies.

(3) Loosen and remove strut clamp assemblies (3 and 4) from mast.

(4) Using 9/16-in. open/box wrench, remove two hex head screws (5) and shouldered washers (6) securing lower clamp assembly (7) to hinged mast support (8).

(5) Remove and stow mast.

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT -Continued

b. Install Mast

WARNING

The clamp assemblies present hazardous pinch points. Use care to avoid personal injury when installing and tightening the clamps.

NOTE

It will be necessary for one operator to lift the mast from the cradle and move it to enable installation of the clamps by the second operator.

The clamps must not be fully tensioned (tightened) until instructed to do so. Keeping them loosely installed will allow them to slide up and down the mast during the following installation procedure.

(1) Place mast on cradle aligning mounting holes in lower clamp assembly (7) with hinged mast support (8). Using 9/16-in. open/box wrench, install two hex head screws (5) and shouldered washers (6). Using 0-50 lb-ft torque wrench, and 9/16-in. socket, torque screws to 15 lb-ft (20.3 Nm).

(2) Open clamp assembly (3) attached to short strut then place clamp around mast. Orient clamp with its tensioning knob below the mast and pointing away from vehicle.

(3) Open clamp assembly (4) attached to long strut and then place clamp around mast. Orient clamp with its tensioning knob above mast and pointing away from vehicle.

(4) Place mast in its cradle.

(5) Rotate short strut clamp (3) by lifting strut to provide clearance between strut and vehicle. Tighten both strut clamp assemblies (3 and 4) by tightening tensioning knobs.

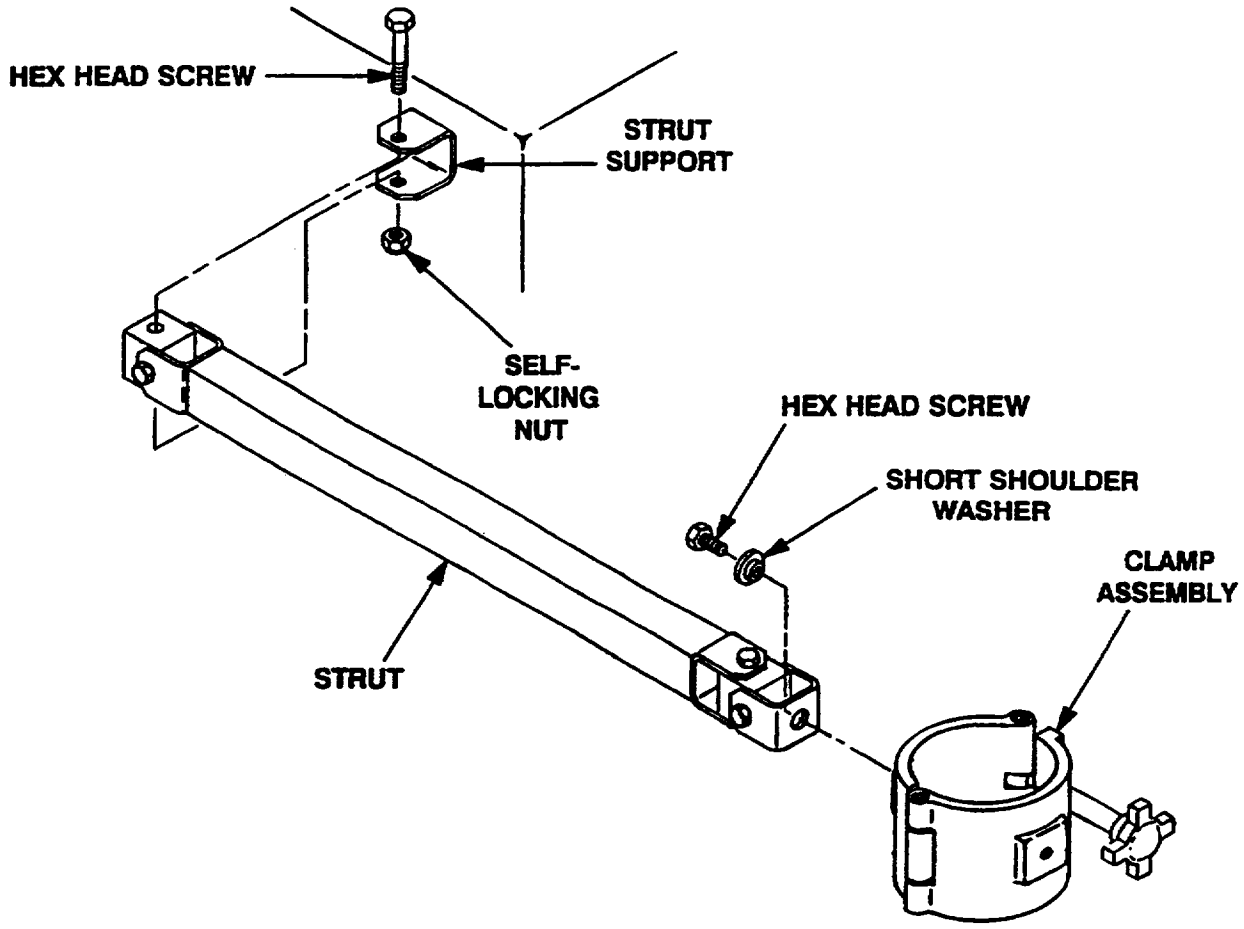
(6) Install antenna loading strut (2) on mast so that support leg end rests on mast clamp as shown. Then secure antenna loading strut to mast with velcro straps.

(7) Install brush guard (1) by hooking loose end over lower guy ring (black guy ring). Ensure brush guard is not slack.

NOTE

Mount components can be removed and replaced while the mast is still mounted to the vehicle. It is not always necessary to remove the mast.

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



c. Long or Short Strut Removal

(1) Using 9/16-in. open/box end wrench, remove hex head screw and short shoulder washer securing clamp assembly to strut.

(2) Using 9/16-in. open/box end wrenches, remove self-locking nut and hex head screw securing strut to strut support.

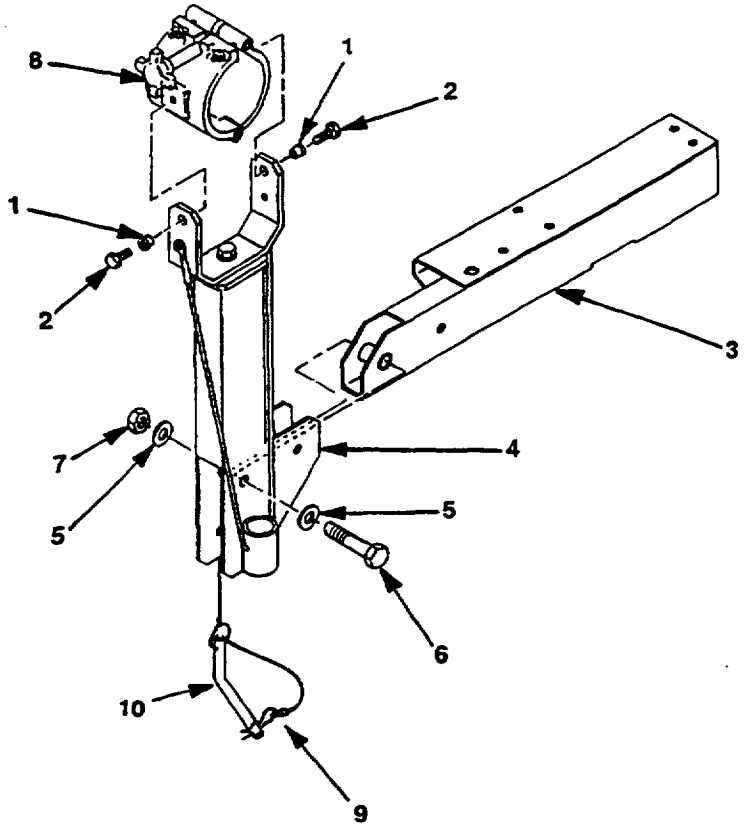
(3) Discard self-locking nut but retain all other attaching hardware.

d. Long or Short Strut Replacement

(1) Using 9/16-in. open/box end wrenches, attach strut to strut support with hex head screw and new self-locking nut. Torque hardware only enough to take up clearance between strut bracket and block while still allowing strut to move freely.

(2) Using 9/16-in. open/box end wrench, attach clamp assembly to strut with short shoulder washer and hex head screw.

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



e. Hinged Mast Support Removal

(1) If installed, remove hairpin cotter (9) and lock pin (10).

(2) Using 9/16-in. open/box end wrench, remove two hex head screws (2) and long shoulder washers (1) securing clamp assembly (8) to hinged mast support (4).

(3) Support mast and using 15/16-in. open/box end wrenches, remove hex head screw (6), flatwashers (5), and self-locking nut (7) securing hinged mast support (4) to mast support tube (3).

(4) Discard self-locking nut (7) but retain all other attaching hardware.

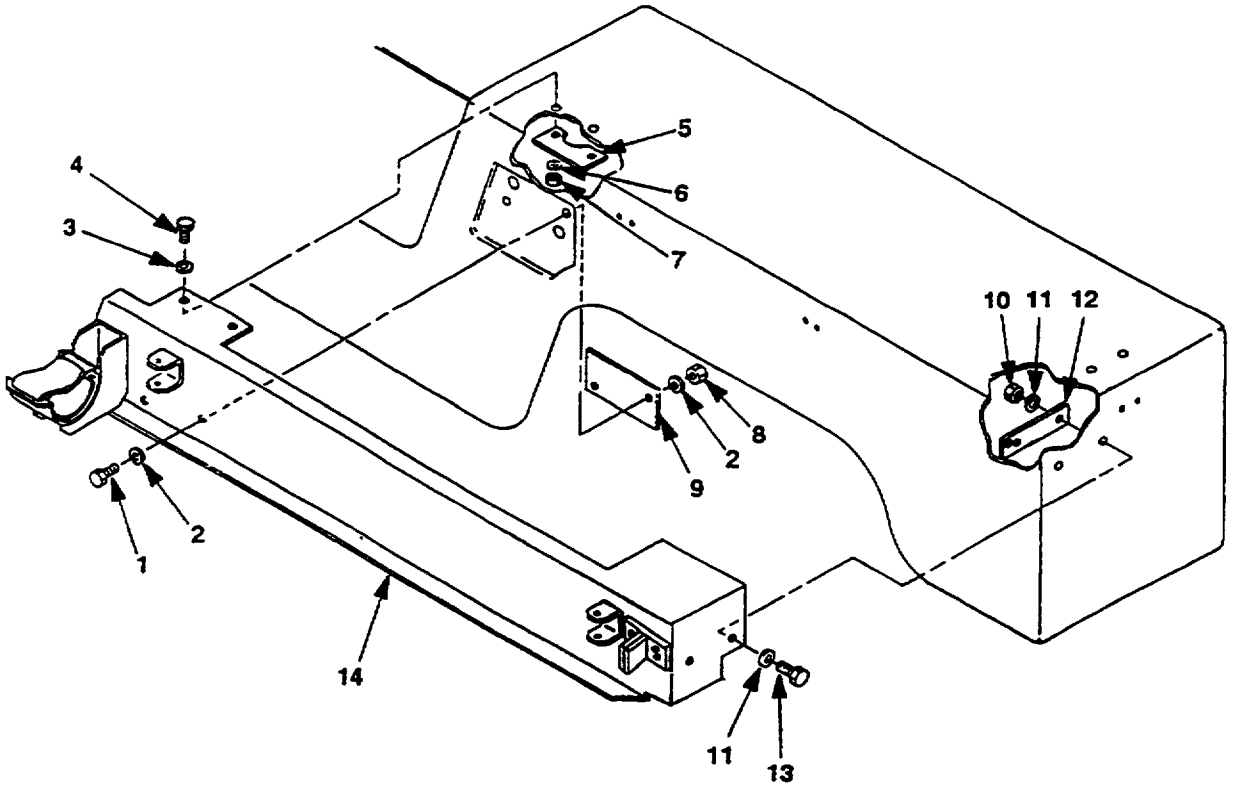
4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued

f. Hinged Mast Support Replacement

(1) Using 15/16-in. open/box end wrenches, install hinged mast support (4) on mast support tube (3) with hex head screw (6), flatwashers (5), and new self-locking nut (7). Do not overtighten nut as hinged mast support should be free to raise and lower.

(2) Align clamp assembly (8) to hinged mast support (4) and using 9/16-in. open/box end wrench, install two long shoulder washers (1) and hex head screws (2). Using 0-50 lb-ft torque wrench and 9/16-in. socket, torque screws to 15 lb-ft (20.3 Nm).

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



g. Strut Support Removal

(1) If necessary, remove mast (refer to paragraph 4-17a).

(2) Remove long and short struts (refer to paragraph 4-17c).

(3) Using 7/16-in. open/box end wrenches, remove two hex head screws (1), flatwashers (2), and self-locking nuts (8) with reinforcing plate (9) securing front side of strut support (14) to vehicle cargo box.

(4) Using 1/2-in. open/box end wrenches, remove two hex head screws (13), flatwashers (11), and self-locking nuts (10) with reinforcing plate (12) securing rear of strut support (14) to vehicle cargo box.

(5) Support strut support (14), and using 7/16-in. open/box end wrenches, remove two hex head screws (4), flatwashers (3), and self-locking nuts (7) with reinforcing plate (5) securing top of strut support to vehicle cargo box.

(6) Remove strut support (14).

(7) Discard self-locking nuts but retain all other attaching hardware.

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued

h. Strut Support Replacement

NOTE

At each attach point, install reinforcing plate, flatwashers, and self-locking nuts from under cargo box wheelwell.

(1) Install strut support (14), lining up mounting holes. Then using 7/16-in. open/box end wrenches, install two hex head screws (4), flatwashers (3), and new self-locking nuts (7) with reinforcing plate (5).

(2) Using 1/2-in. open/box end wrenches, install two hex head screws (13), flatwashers (11), and new self-locking nuts (10) with reinforcing plate (12).

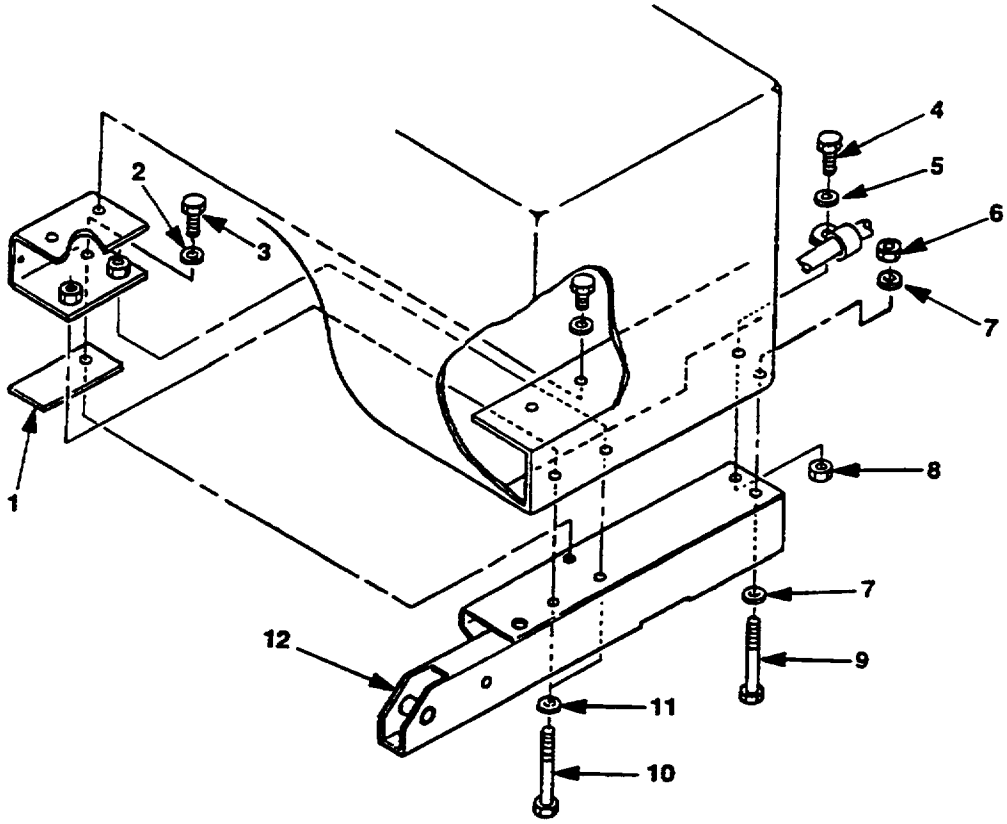
(3) Using 7/16-in. open/box end wrenches, install two hex head screws (1), flatwashers (2), and new self-locking nuts (8) with reinforcing plate (9).

(4) Using 0-50 lb-ft torque wrench with 1/2 or 7/16-in. socket, torque all hardware (six places) securing strut support (14). Torque 5/16-in. hardware to 9 lb-ft (12.2 Nm) and 1/4-in. hardware to 5 lb-ft (6.8 Nm).

(5) Install long and short struts (refer to paragraph 4-17d).

(6) If removed, install mast (refer to paragraph 4-17b).

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



i. Mast Support Removal

(1) Remove hinged mast support (refer to paragraph 4-17e).

(2) Using 1/2-in. socket with 5-in. extension, remove two long hex head screws (10) with flatwashers (11) securing mast support (12) to vehicle.

(3) Using 1/2-in. socket with 5-in. extension and 1/2-in. open/box end wrenches, remove self-locking nut (6) and remaining long hex head screw (9) with flatwashers (7).

(4) Support mast support and using 1/2-in. open/box end wrenches, remove self-locking nut (8) and hex head screws (3 and 4) with flatwashers (2 and 5). Remove mast support (12) and spacer (1).

(5) Discard self-locking nuts but retain all other attaching hardware.

4-17. UNIVERSAL HMMWV MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued

j. Mast Support Replacement

(1) Position mast support (12) and spacer (1) under lower vehicle cargo frame member and using 1/2-in. open/box end wrenches, install hex head screws (3 and 4) with flatwashers (2 and 5) securing one screw (4) with a new self-locking nut (8). Do not tighten at this time.

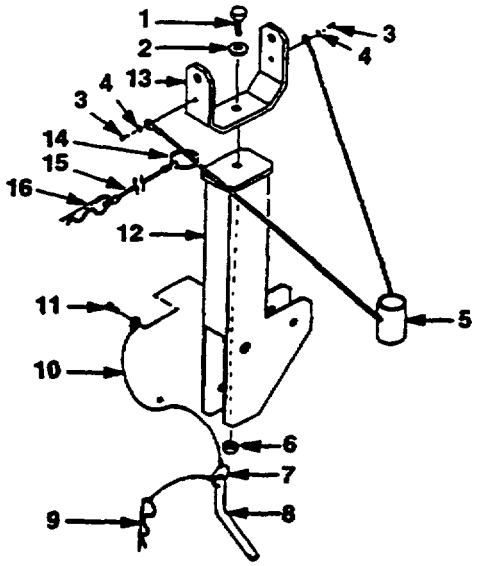
(2) Using 1/2-in. socket with 5-in. extension and 1/2-in. open/box end wrench, install one long hex head screw (9) with flatwashers (7) and secure with new self-locking nut (6). Do not tighten at this time.

(3) Using 1/2-in. socket with 5-in. extension, install remaining two long hex head screws (10) with flatwashers (11).

(4) Using 0-50 lb-ft torque wrench and 1/2-in. socket, torque all hardware (four places) to 9 lb-ft (12.2 Nm).

(5) Install hinged mast support (refer to paragraph 4-17f).

4-18. UNIVERSAL HMMWV MOUNT COMPONENT REPAIR



a. Mast Support Assembly Repair

(1) Using hex key, remove shoulder bolts (3) and lockwashers (4) securing cable assembly (5). If necessary, remove connector ring (14), lanyard (15), and hairpin cotter (16).

(2) Using 3/4-in. socket with two 12-in. extensions and wrench handle and a 3/4 in. open/box end wrench, remove hex head screw (1), shoulder washer (2), and self-locking nut (6) securing yoke bracket (13) to weldment (12). Remove yoke bracket.

(3) Using cross-tip screwdriver, remove self-tapping screw (11) securing lanyard (10) to weldment (12).

(4) If necessary, remove connector ring (7) securing lanyard (10), lock pin (8), and hairpin cotter (9).

(5) Discard self-locking nut but retain all other attaching hardware.

(6) Assemble lanyard (10), lock pin (8), and hairpin cotter (9) with connector ring (7).

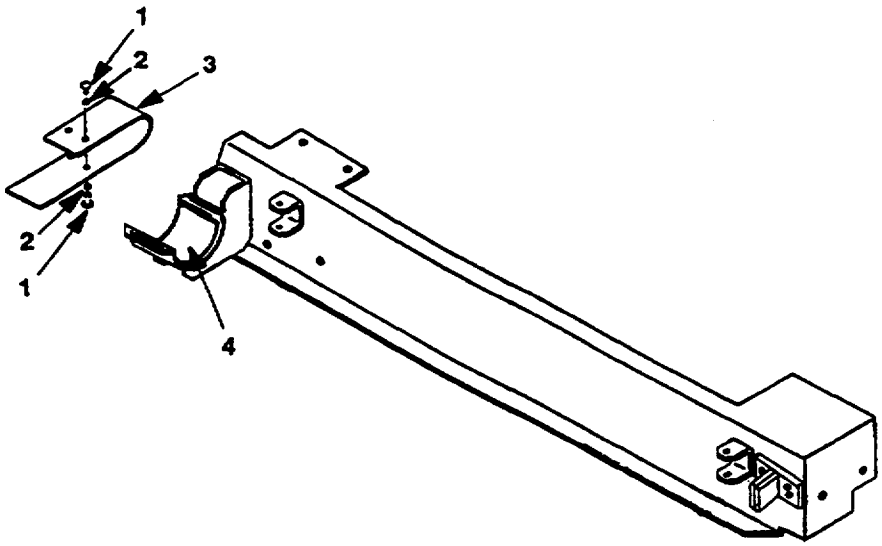
(7) Using 3/4-in. open/box end wrench and a 3/4-in. socket with two 12-in. extensions and wrench handle, install yoke bracket (13) on weldment (12) with hex head screw (1), shoulder washer (2), and new self-locking nut (6). Using 0-100 lb-ft torque wrench with two 12-in. extensions and 3/4-in. socket, torque hex head screw (1) and self-locking nut (6) from 70 to 80 lb-ft (94.9 to 108.5 Nm).

(8) Using cross-tip screwdriver, attach lanyard (10) to weldment (12) with self-tapping screw (11).

(9) If removed, install connector ring (14), lanyard (15), and hairpin cotter (16). Then using hex key, install cable assembly (5) to yoke bracket (13) with shoulder bolts (3) and lockwashers (4).

b. Paragraph Deleted

4-18. UNIVERSAL HMMWV MOUNT COMPONENT REPAIR - Continued



c. Mast Strut Support Assembly Repair

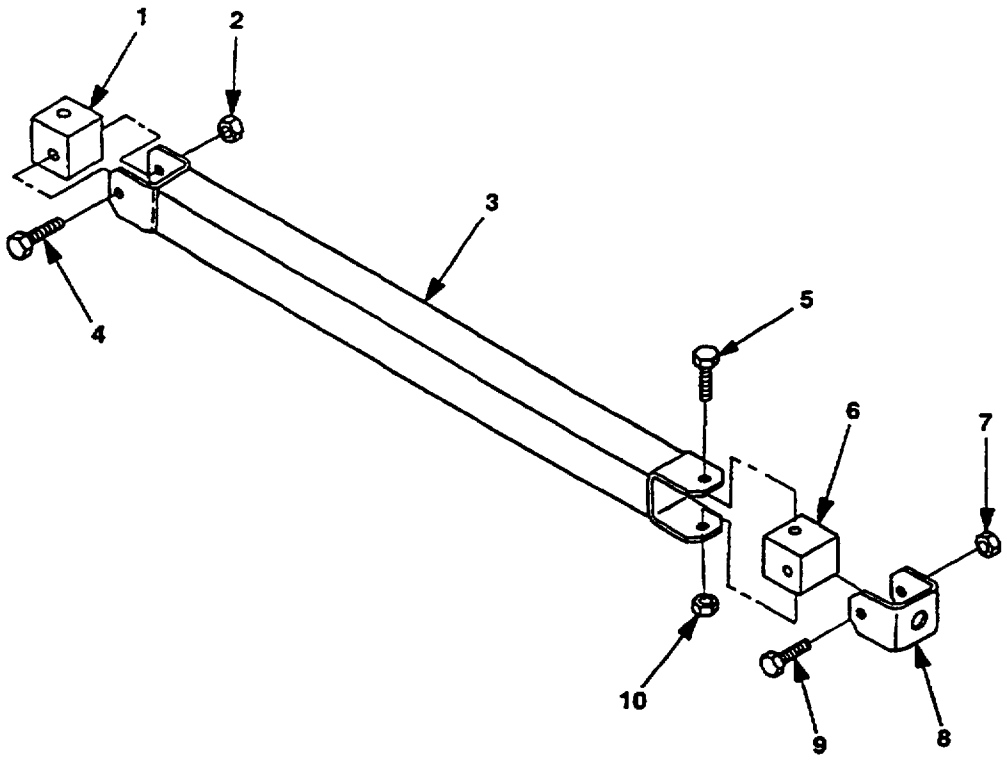
(1) Using flat-tip screwdriver, remove screw posts (1) and flatwashers (2) securing holddown strap (3). Then remove holddown strap.

(2) If damaged, use knife to remove mast cushion (4). Ensure all remnants of mast cushion and its adhesive are removed. Use fine crocus cloth to thoroughly clean mast cradle.

(3) If removed, install new mast cushion (4). Apply adhesive to entire surface of new mast cushion (4). Then center cushion in both directions on inside diameter of mast cradle area. Ensure entire surface area of cushion is sealed securely in place.

(4) Thread holddown strap (3) through mast cradle. Then using flat-tip screwdriver, secure holddown strap with screw posts (1) and flatwashers (2).

4-18. UNIVERSAL HMMWV MOUNT COMPONENT REPAIR - Continued



d. Short Strut Assembly Repair

(1) Using 9/16-in. open/box end wrenches, remove hex head screws (4 and 5) and self-locking nuts (2 and 10).

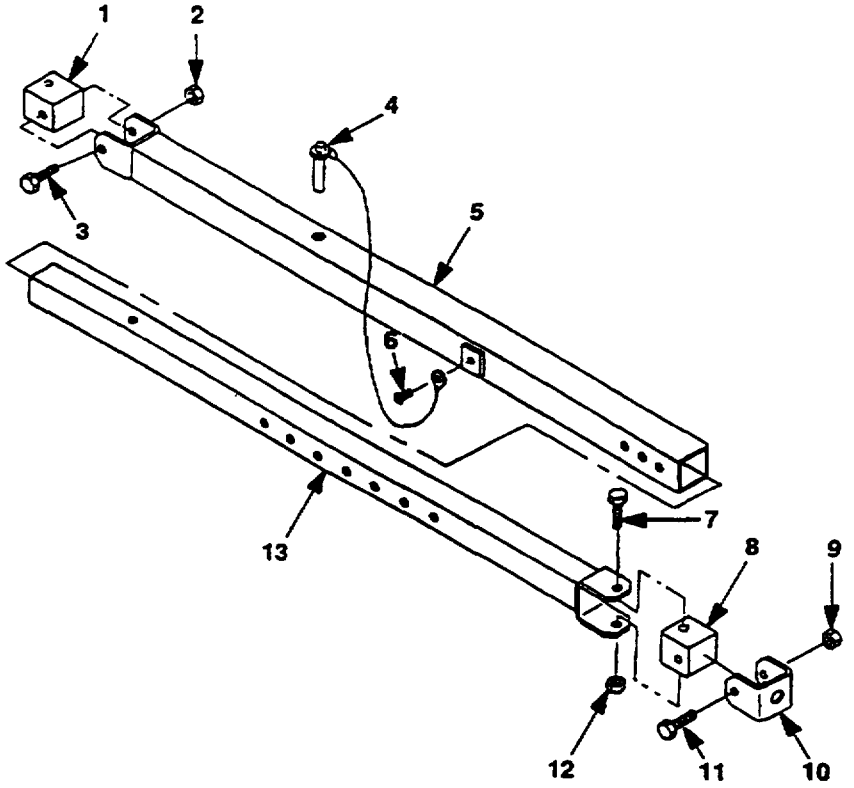
(2) Remove union bracket (8) and union blocks (1 and 6).

(3) Discard all self-locking nuts but retain all remaining attaching hardware.

(4) Using 9/16-in. open/box end wrenches, install union blocks (land 6) on strut weldment (3) and secure with hex head screws (4 and 5) and new self-locking nuts (2 and 10).

(5) Using 9/16-in. open/box end wrenches, install union bracket (8) to union block (6) and secure with hex head screw (9) and new self-locking nut (7).

4-18. UNIVERSAL HMMWV MOUNT COMPONENT REPAIR - Continued



e. Long Strut Assembly Repair

(1) Using 9/16-in. open/box end wrenches, remove hex head screws (3, 7, and 11) and self-locking nuts (2, 9, and 12).

(2) Remove union bracket (10) and union blocks (1 and 8).

(3) Using cross-tip screwdriver, remove self-tapping screw (6) and pin and lanyard (4).

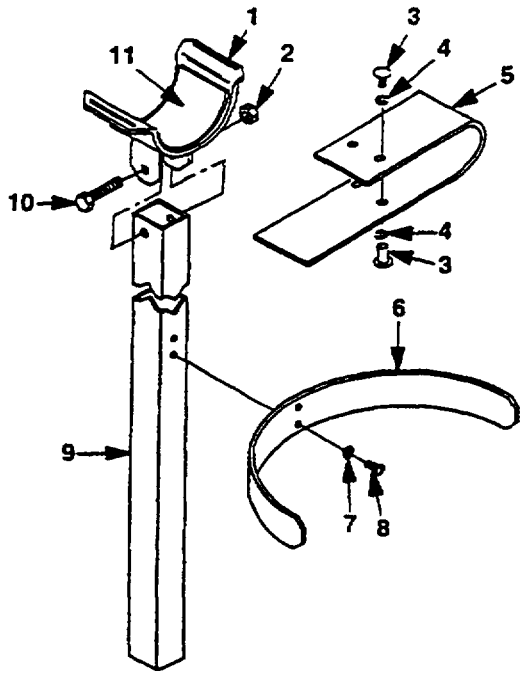
(4) Discard all self-locking nuts but retain all remaining attaching hardware.

(5) Using 9/16-in. open/box wrenches, install union blocks (1 and 8) on strut weldments (5 and 13) and secure with hex head screws (3 and 7) and new self-locking nuts (2 and 12).

(6) Using 9/16-in. open/box end wrenches, install union bracket (10) to union block (8) and secure with hex head screw (11) and new self-locking nut (9).

(7) Using cross-tip screwdriver, install pin and lanyard (4) and self-tapping screw (6).

4-18. UNIVERSAL HMMWV MOUNT COMPONENT REPAIR - Continued



f. Antenna Loading Strut Assembly Repair

(1) Using flat-tip screwdriver, remove screw posts (3) and flatwashers (4) securing holddown strap (5). Then remove holddown strap.

(2) Using cross-tip screwdriver, remove self-tapping screws (8) and flatwashers (7) securing holddown strap (6). Then remove holddown strap.

(3) Using 9/16-in. open/box end wrenches, remove hex head screw (10) and self-locking nut (2) securing clamp (1).

(4) Discard self-locking nut but retain all other attaching hardware.

(5) If damaged, use knife to remove mast cushion (11). Ensure all remnants of mast cushion and its adhesive are removed. Use fine crocus cloth to thoroughly clean clamp (1).

(6) If removed, install new mast cushion (11). Apply adhesive to entire surface of new mast cushion (11). Then center cushion in both directions on inside diameter of clamp (1) area. Ensure entire surface area of cushion is sealed securely in place.

(7) Using 9/16-in. open/box end wrenches, secure clamp (1) to strut weldment (9) with hex head screw (10) and new self-locking nut (2).

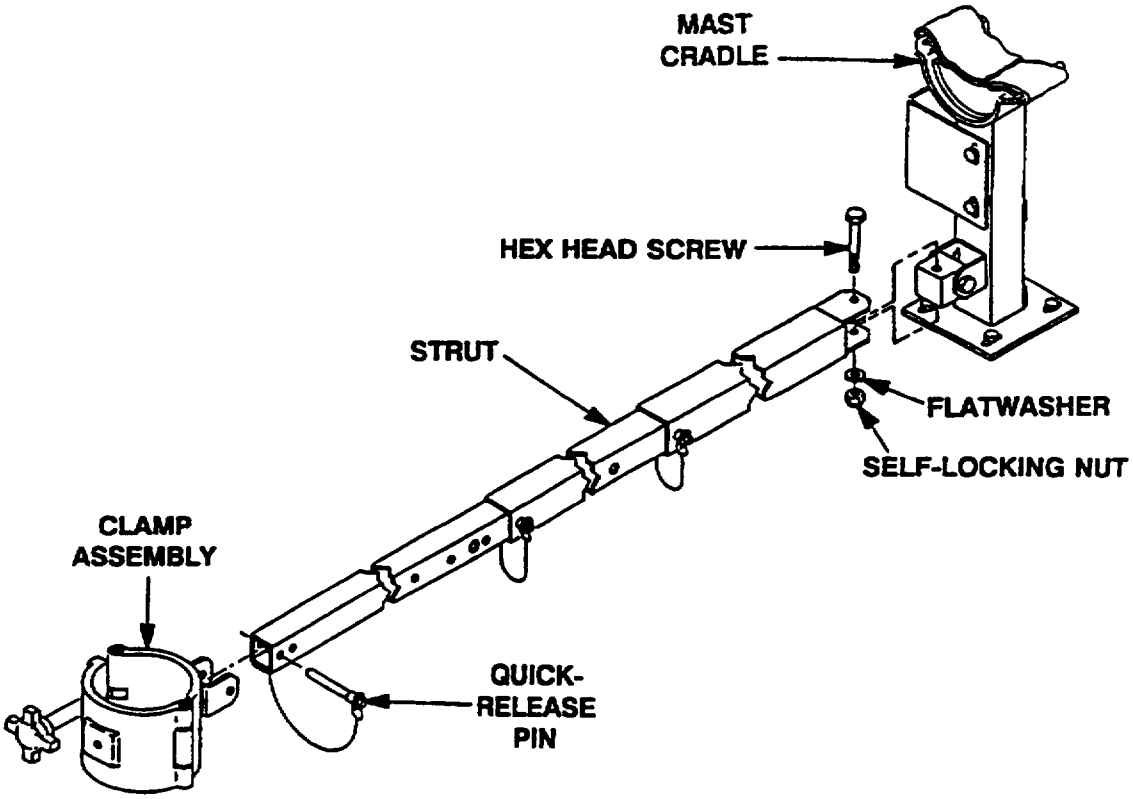
(8) Thread holddown strap (5) through clamp (1). Then using flat-tip screwdriver, secure holddown strap with screw posts (3) and flatwashers (4).

(9) Using cross-tip screwdriver, secure holddown strap (6) to strut weldment (9) with self- tapping screws (8) and flatwashers (7).

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT

NOTE

Remove the mast and place it away from the work area before performing maintenance on the vehicle mount.



a. Strut Removal

(1) Remove quick release pin securing clamp assembly to strut (if not removed). Stow clamp assembly with mast.

(2) Using 9/16-in. open/box end wrenches, remove hex head screw, flatwasher, and self-locking nut securing strut to support bracket or mast cradle.

(3) Discard self-locking nut but retain all other attaching hardware.

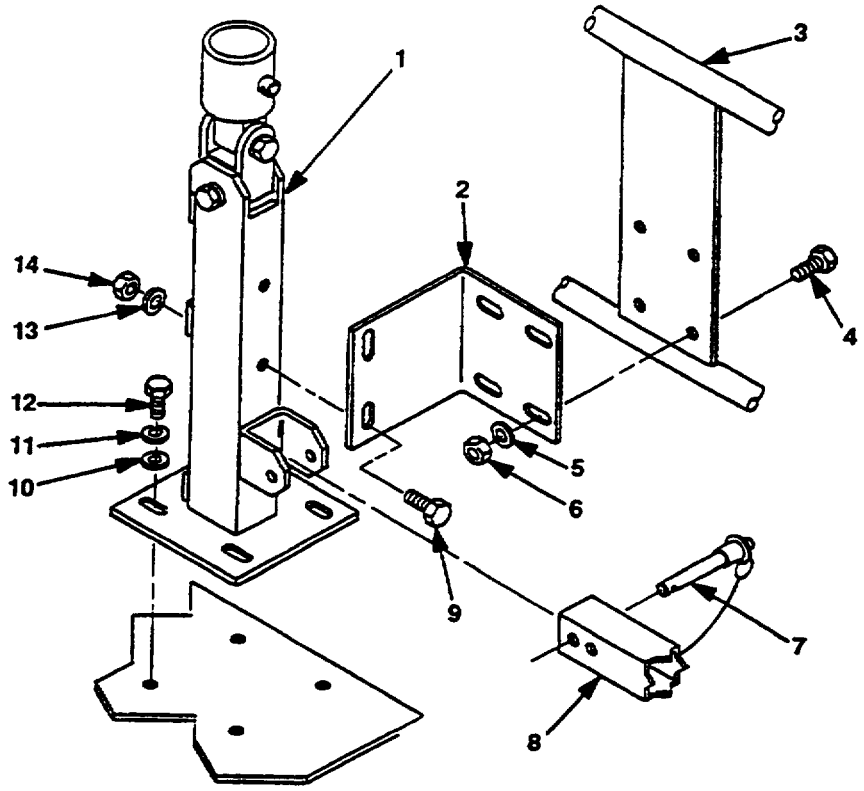
b. Strut Replacement

(1) Using 9/16-in. open/box end wrenches, install strut with hex head screw, flatwasher, and new self-locking nut to support bracket or mast cradle.

(2) Using 0-50 lb-ft torque wrench with 9/16-in. socket, torque hardware to 15 lb-ft (20.3 Nm).

(3) Secure clamp assembly to strut with quick-release pin.

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



c. Mast Pedestal Removal

(1) Remove quick-release pin (7) securing longitudinal strut (8) to pedestal (1) (if not removed).

(2) Using 9/16-in. open/box end wrenches, remove hex head screws (4), flatwashers (5), and self-locking nuts (6) securing brush guard (3) to brush guard support angle (2).

(3) Using 9/16-in. open/box end wrench, remove hex head screws (12), flatwashers (10), and lockwashers (11) securing pedestal (1) to vehicle.

(4) Using 9/16-in. open/box end wrenches, remove hex head screws (9), flatwashers (13), and self-locking nuts (14) securing brush guard support angle (2) to mast cradle (1).

(5) Discard all self-locking nuts but retain all other attaching hardware.

d. Mast Pedestal Replacement

(1) Inspect tapped mounting holes for damaged threads and debris. Clean out tapped mounting holes.

(2) Using 9/16-in. open/box end wrenches, install brush guard support angle (2) to pedestal (1) with two hex head screws (9), flatwashers (13), and new self-locking nuts (14).

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued

d. Mast Pedestal Replacement - Continued

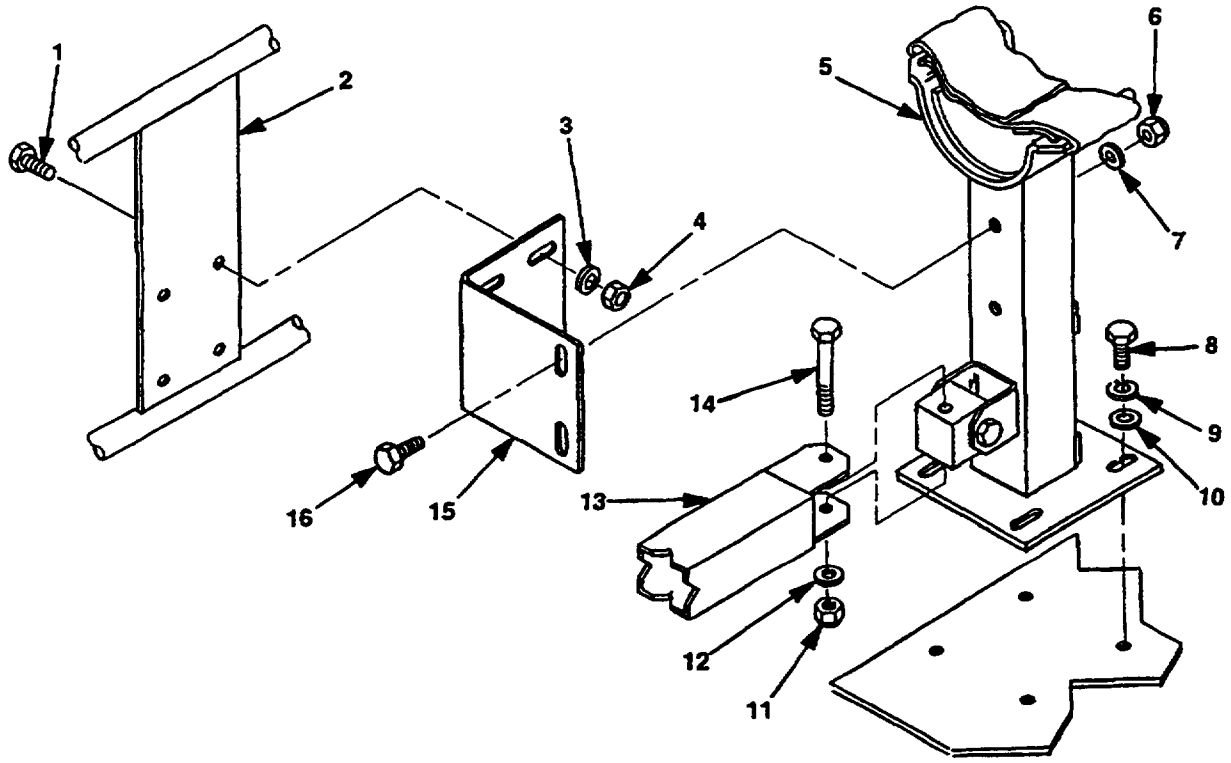
(3) Using 9/16-in. open/box end wrench, install pedestal (1) to vehicle with hex head screws (12), lockwashers (11), and flatwashers (10).

(4) Using 9/16-in. open/box end wrenches, attach brush guard (3) to brush guard support angle (2) with hex head screws (4), flatwashers (5), and new self-locking nuts (6).

(5) Using 0-50 lb-ft torque wrench with 9/16-in. socket, torque all attaching hardware to 15 lb-ft (20.3 Nm).

(6) Attach longitudinal strut (8) to pedestal (1) with quick-release pin (7).

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



e. Mast Cradle Removal

(1) Using 9/16-in. open/box end wrenches, remove hex head screw (14), flatwasher (12), and self-locking nut (11) securing strut (13) to mast cradle (5) (if not removed).

(2) Using 9/16-in. open/box end wrenches, remove hex head screws (1), flatwashers (3), and self-locking nuts (4) securing brush guard (2) to brush guard support angle (15).

(3) Using 9/16-in. open/box end wrench, remove hex head screws (8), lockwashers (9), and flatwashers (10) securing mast cradle (5) to vehicle.

(4) Using 9/16-in. open/box end wrenches, remove hex head screws (16), flatwashers (7), and self-locking nuts (6) securing brush guard support angle (15) to mast cradle (5).

(5) Discard all self-locking nuts but retain all other attaching hardware.

f. Mast Cradle Replacement

(1) Inspect tapped mounting holes for damaged threads and debris. Clean out tapped mounting holes.

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued

f. Mast Cradle Replacement - Continued

(2) Using 9/16-in. open/box end wrenches, install brush guard support angle (15) to mast cradle (5) with hex head screws (16), flatwashers (7), and new self-locking nuts (6).

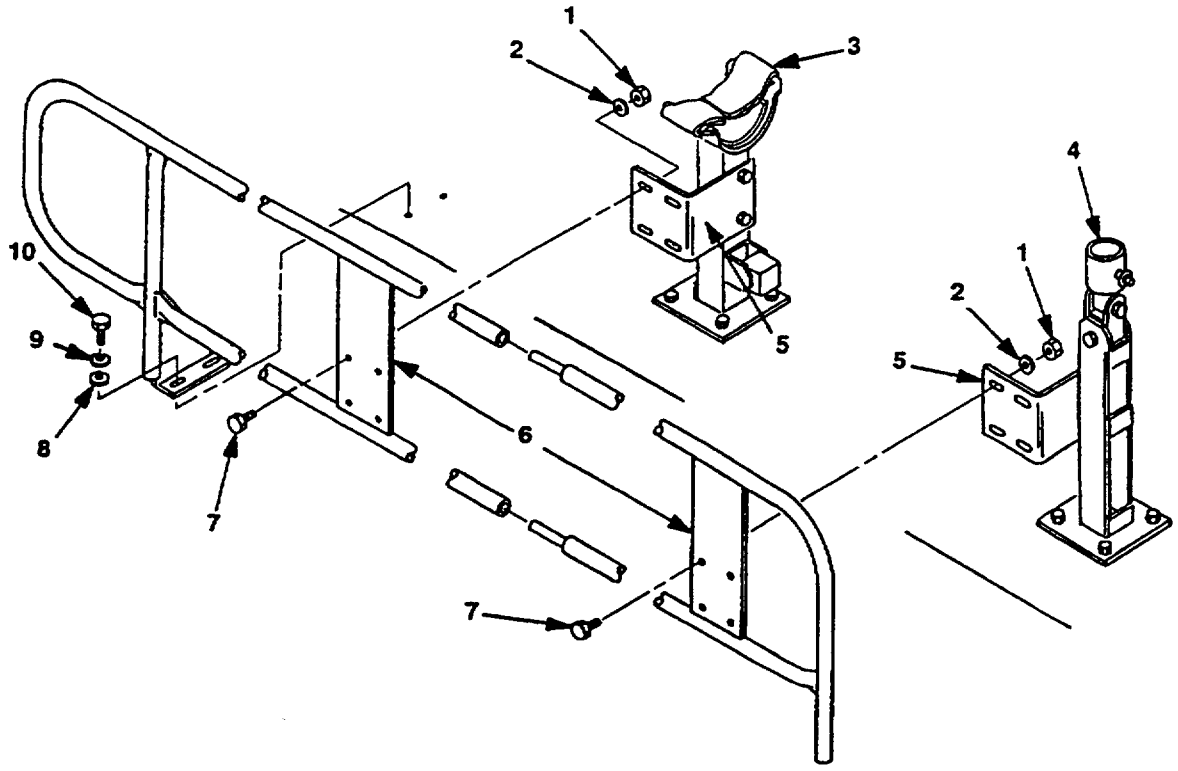
(3) Using 9/16-in. open/box end wrench, install mast cradle (5) to vehicle with hex head screws (8), lockwashers (9), and flatwashers (10).

(4) Using 9/16-in. open/box end wrenches, attach brush guard (2) to brush guard support angle (15) with hex head screws (1), flatwashers (3), and new self-locking nuts (4).

(5) Using 9/16-in. open/box end wrenches, attach strut (13) to mast cradle (5) with hex head screw (14), flatwasher (12), and new self-locking nut (11).

(6) Using 0-50 lb-ft torque wrench with 9/16-in. socket, torque all attaching hardware to 15 lb-ft (20.3 Nm).

4-19. TRACKED VEHICLE MOUNT COMPONENT REMOVAL AND REPLACEMENT - Continued



g. Brush Guard Removal

(1) Using 9/16-in. open/box end wrench, remove hex head screws (10), lockwashers (9), and flatwashers (8) securing brush guard (6) to vehicle.

(2) Using 9/16-in. open/box end wrenches, remove hex head screws (7), flatwashers (2), and self-locking nuts (1) securing brush guard to brush guard support angles (5) at pedestal (4) and cradle (3).

(3) Discard all self-locking nuts but retain all other attaching hardware.

h. Brush Guard Replacement

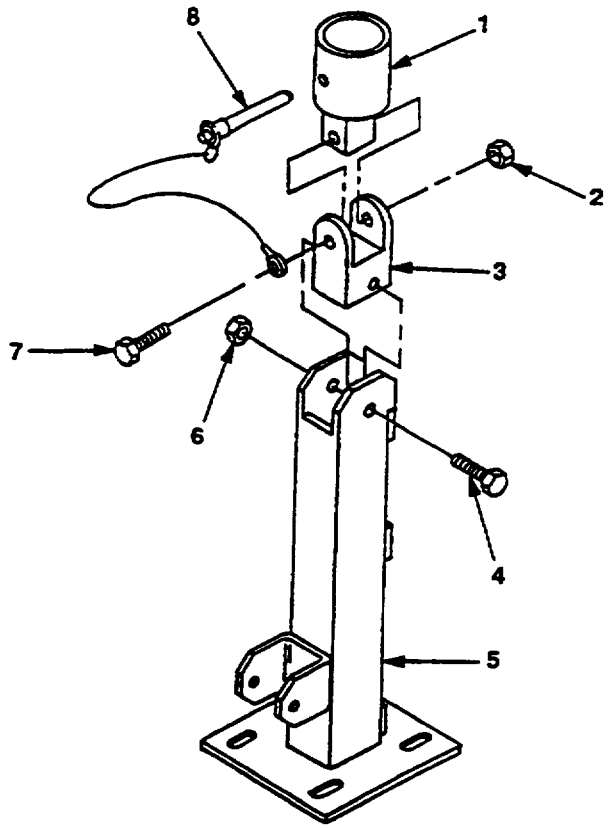
(1) Inspect tapped mounting holes for damaged threads and debris. Clean out tapped mounting holes.

(2) Using 9/16-in. open/box end wrenches, secure brush guard (6) to support angles (5) at pedestal (4) and cradle (3) with hex head screws (7), flatwashers (2), and new self-locking nuts (1).

(3) Using 9/16-in. open/box end wrench, install brush guard (6) to vehicle with hex head screws (10), lockwashers (9), and flatwashers (8).

(4) Using 0-50 lb-ft torque wrench with 9/16-in. socket, torque all attaching hardware to 15 lb-ft (20.3 Nm).

4-20. TRACKED VEHICLE MOUNT COMPONENT REPAIR



a. Pedestal Assembly Repair

(1) Using 9/16-in. open/box end wrenches, remove hex head screw (7) and self-locking nut (2) securing pin and lanyard (8) and mast adapter (1) to clevis (3).

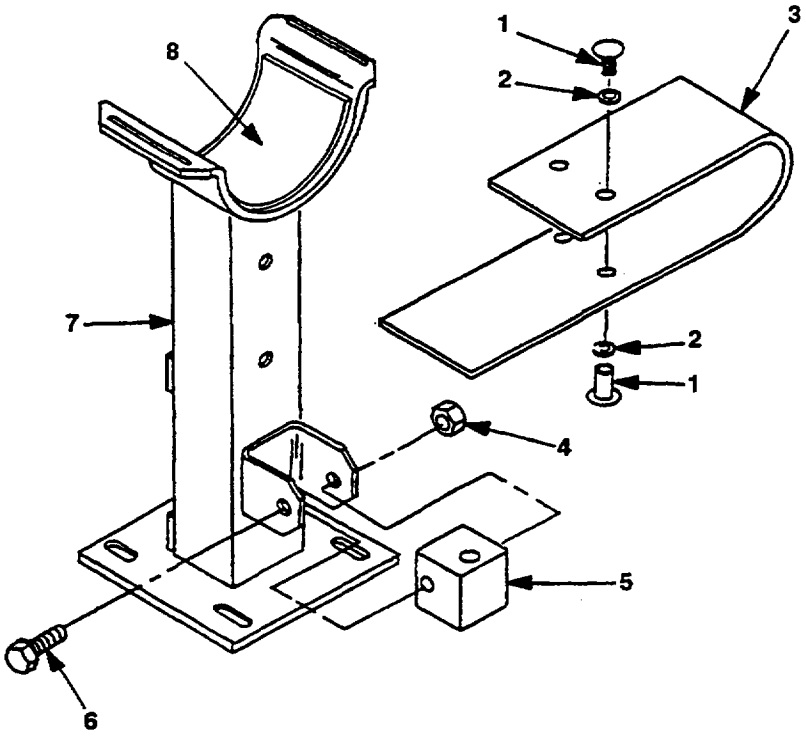
(2) Using 9/16-in. open/box end wrenches, remove hex head screw (4) and self-locking nut (6) securing clevis (3) to pedestal weldment (5).

(3) Discard all self-locking nuts but retain all other attaching hardware.

(4) Using 9/16-in. open/box end wrenches, install clevis (3) on pedestal weldment (5) and secure with hex head screw (4) and new self-locking nut (6).

(5) Using 9/16-in. open/box end wrenches, attach pin and lanyard (8) and mast adapter (1) to clevis (3) with hex head screw (7) and new self-locking nut (2).

4-20. TRACKED VEHICLE MOUNT COMPONENT REPAIR - Continued



b. Cradle Assembly Repair

(1) Using flat-tip screwdriver, remove screw posts (1) and flatwashers (2) securing holddown strap (3). Then remove holddown strap.

(2) Using 9/16-in. open/box end wrenches, remove hex head screws (6) and self-locking nuts (4) securing union block (5) to cradle weldment.

(3) Discard self-locking nut but retain all other attaching hardware.

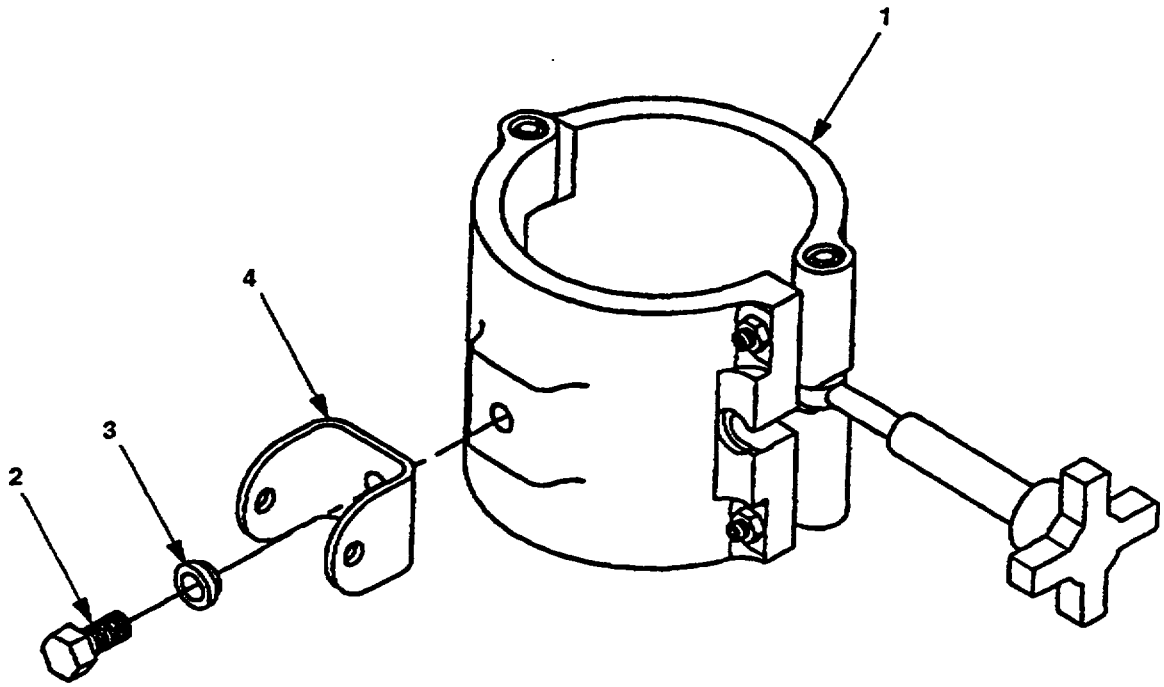
(4) If damaged, use knife to remove mast cushion (8). Ensure all remnants of mast cushion and its adhesive are removed. Use fine crocus cloth to thoroughly clean cradle weldment (7).

(5) If removed, install new mast cushion (8). Apply adhesive to entire surface of new mast cushion (8). Then center cushion in both directions on inside diameter of cradle weldment area. Ensure entire surface area of cushion is sealed securely in place.

(6) Using 9/16-in. open/box end wrenches, secure union block (5) to cradle weldment (7) with hex head screw (6) and new self-locking nut (4).

(7) Thread holddown strap (3) through cradle weldment. Then using flat-tip screwdriver, secure holddown strap with screw posts (1) and flatwashers (2).

4-20. TRACKED VEHICLE MOUNT COMPONENT REPAIR - Continued

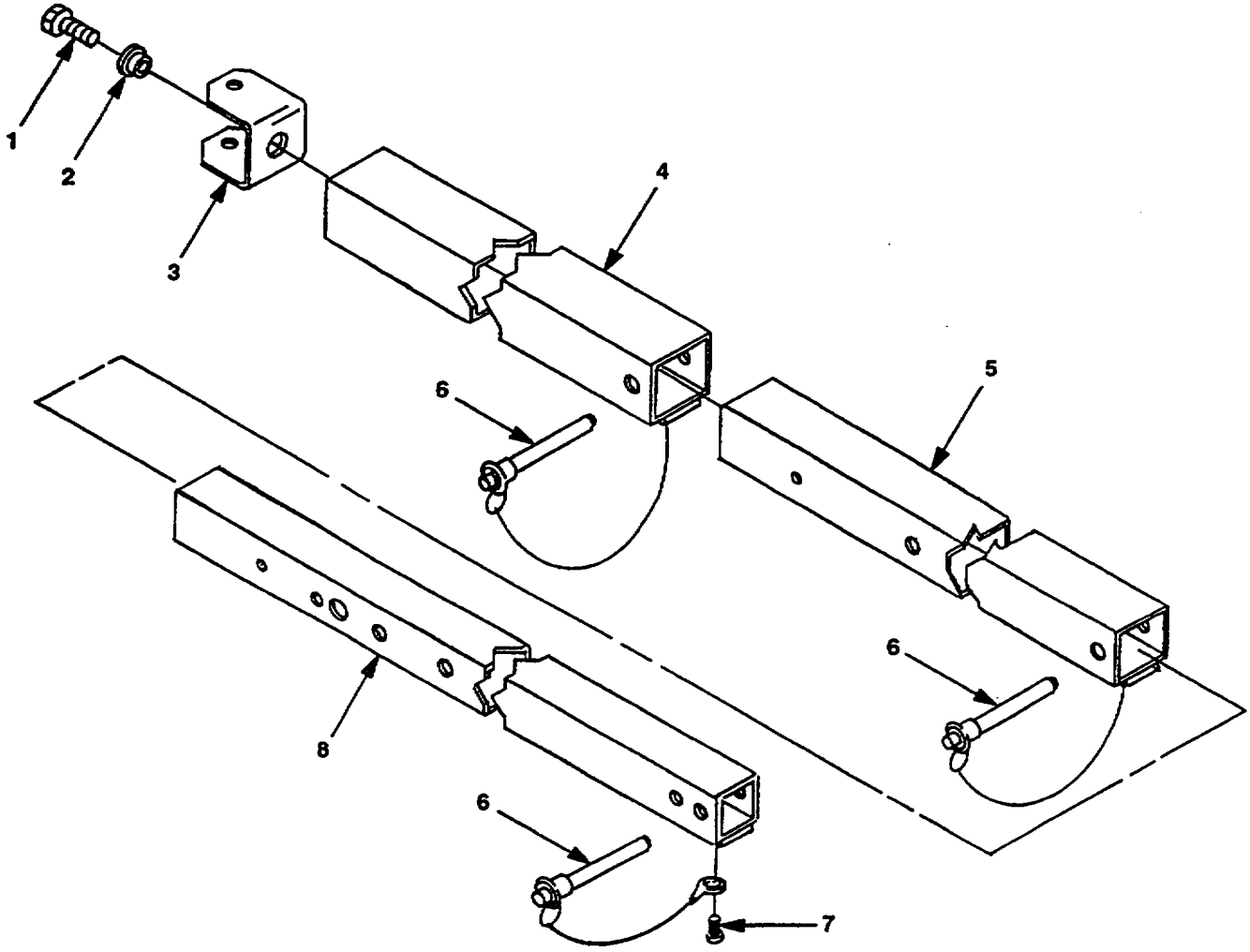


c. Clamp Assembly Repair

(1) Using 9/16-in. open/box end wrench, remove hex head screw (2) and shoulder washer (3) securing union bracket (4) to clamp assembly (1).

(2) Using 9/16-in. open/box end wrench, secure union bracket (4) to clamp assembly (1) with hex head screw (2) and shoulder washer (3).

4-20. TRACKED VEHICLE MOUNT COMPONENT REPAIR - Continued



d. Strut Assembly Repair

(1) Using 9/16-in. open/box end wrench, remove hex head screw (1) and shoulder washer (2) securing union bracket (3) to strut weldment (4).

(2) Using cross-tip screwdriver, remove self-tapping screws (7) and pin and lanyards (6).

(3) Using cross-tip screwdriver, secure pin and lanyards (6) to strut weldments with self-tapping screws (7).

(4) Using 9/16-in. open/box end wrench, secure union bracket (3) to strut weldment (4) with hex head screw (1) and shoulder washer (2).

Section VI. PREPARATION FOR STORAGE OR SHIPMENT

4-21. PREPARATION FOR STORAGE OR SHIPMENT

a. Perform PMCS on mast and mount before storage or shipment.

b. Package all components as described in paragraph 2-10.

c. Ensure vehicular-mounted mast is in its stowed position when vehicle is to be transported on rotary or fixed wing aircraft.

d. Avoid deterioration by using dry storage whenever possible.

APPENDIX A

REFERENCES

A-1. SCOPE

This appendix lists all forms and publications that are referenced in this manual.

A-2. PAMPHLETS

DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms
DA Pam 738-750	The Army Maintenance Management System (TAMMS)

A-3. FORMS

DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2028-2	Recommended Changes to Equipment Technical Publications
SF 361	Transportation Discrepancy Report
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report

A-4. SUPPLY BULLETINS

SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment

A-5. TECHNICAL BULLETINS

TB 11-5985-426-12	Warranty Program for Mast AB-1386/U
TB 11-5985-426-20	Installation Instructions for Mast AB-1386/U on Utility Truck, M998; Utility Truck, M1038; Utility Truck, M1097; Utility Truck, M1037; Utility Truck, M1042; Armored Full-Tracked Personnel Carrier, M113A2; and Light Tracked Command Post Carrier, M577A2.
TB 43-0118	Field Instructions for Painting and Preserving Communications-Electronics Equipment
TB 43-0125	Installation of Communications-Electronic Equipment: Hookup of Electrical Cables to Mobile Generator Sets on Fielded Equipment to Meet Electrical Safety Standards

A-5. TECHNICAL BULLETINS - Continued

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.
TB 385-4	Safety Requirements for Maintenance of Electrical and Electronic Equipment.

A-6. TECHNICAL MANUALS

TM 43-0139	Painting Instructions for Field Use
TM 750-244-2	Procedures for Destructions of Electronics Materiel to Prevent Enemy Use (Electronics Command)

A-7. FIELD MANUALS

FM 21-11	First Aid for Soldiers

A-8. MISCELLANEOUS PUBLICATIONS

CTA 50-970	Expendable Items (Except: Medical, Class V, Repair Parts and Heraldic Items)

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. THE ARMY MAINTENANCE SYSTEM

a. This introduction (section I) provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit - includes two subcolumns, C (operator/crew) and O (organizational) maintenance.

Direct Support - includes an F subcolumn.

General Support - includes an H subcolumn.

Depot - includes a D subcolumn.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

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

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical, or gases.

B-2. MAINTENANCE FUNCTIONS- Continued

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

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

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place.

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

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

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

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

a. Column (1) - Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules within the next higher assembly.

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

c. Column (3) - Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2.

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

d. Column (4) - Maintenance Level. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition and typical field operating conditions. This time includes preparation time, (including necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance function authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C - Operator/Crew (Unit Level Maintenance)
O - Organizational (Unit Level Maintenance
F - Direct Support
H - General Support
D- Depot

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

f. Column (6) - Remarks. Column 6 identifies remarks defined in Section IV of the MAC.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT, REQUIREMENTS, SECTION III

a. Column (1) - Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, column 5.

b. Column (2) - Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column (3) - Nomenclature. This column lists the name and nomenclature of the tools and test equipment required to perform the maintenance function.

d. Column (4) - National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Column (5) - Tool Number. This column lists the manufacturer's part number of the tool followed by the Commercial and Government Entity Code (CAGEC) (five digit) in parenthesis.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV

a. Column (1) - Reference Code. This code refers to the appropriate item in Section II, Column 6 of the MAC.

b. Column (2) - Remarks. This column provides the required explanatory information necessary to clarify items appearing in Section II of the MAC.

Section II. MAINTENANCE ALLOCATION CHART FOR MAST AB-1386/U and Electrical Equipment Mounting Bases MT-6967/G, MT-6968/G

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
00	MAST AB-1386/U AND ELECTRICAL MOUNTING BASES MT-6967/G, MT-6968/G	INSPECT REPLACE REPAIR	0.1	 0.2 0.2					A
01	MAST AB-1386/U	INSPECT REPLACE REPAIR	0.1	 0.2 0.25				 1 1	A, B C
0101	SECTION ASSY, 4.0 A3209818	INSPECT REPLACE REPAIR	0.1	 0.5 0.5					 H H
0102	SECTION ASSY, 3.5 A3209817	INSPECT REPLACE REPAIR	0.1	 0.4 0.4					 H H
0103	SECTION ASSY, 3.0 A3209816	INSPECT REPLACE REPAIR	0.1	 0.4 0.4					 H H
0104	SECTION ASSY, 2.5 A3209815	INSPECT REPLACE REPAIR	0.1	 0.3 0.3					 H H
0105	SECTION ASSY, 2.0 A3209814	INSPECT REPLACE REPAIR	0.1	 0.3 0.3					 H H
02	ELECTRICAL MOUNTING BASE, MT-69671G (UNIVERSAL HMMWV MOUNT)	INSTALL INSPECT REPAIR	 0.1	2.0 0.5				1-16 1-6	D, E, I B F
0201	MAST SUPPORT A3210020	INSPECT REPLACE REPAIR	0.1	 0.1 0.2				 1-6 1-6	 G
0203	MAST STRUT SUPPORT ASSY A3210018	INSPECT REPLACE REPAIR	0.1	 0.2 0.2				 1-6 	 G

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment Ref Code	(6) Remarks Code
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
0204	STRUT ASSY,	INSPECT	0.1						
	SHORT	REPLACE		0.1				1-6	
	A3210005	REPAIR		0.2				1-6	G
0205	STRUT ASSY,	INSPECT	0.1						
	LONG	REPLACE		0.1				1-6	
	A3210006	REPAIR		0.2				1-6	G
0206	STRUT ASSY	INSPECT	0.1						
	A3210014	REPLACE		0.1				1-6	
		REPAIR		0.2				1-6	G
03	ELECTRICAL	INSTALL		2.0				1-11	D, E, I
	MOUNTING BASE,	INSPECT	0.1					1-6	B
	MT-69681G	REPAIR		0.5					F
	(TRACKED VEHICLE MOUNT)								
0301	PEDESTAL ASSY	INSPECT	0.1						
	A3209948	REPLACE		0.2				1-6	
		REPAIR		0.2				1-6	G
0302	CRADLE ASSY	INSPECT	0.1						
	A3209961	REPLACE		0.2				1-6	
		REPAIR		0.2				1-6	G
0303	CLAMP ASSY	INSPECT	0.1						
	A3209971	REPLACE		0.1				1-6	
		REPAIR		0.2				1-6	G
0304	STRUT ASSY	INSPECT	0.1						
	A3209979	REPLACE		0.1				1-6	
		REPAIR		0.1				1-6	G

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
NOTE: THE ONLY TOOLS REQUIRED TO REPAIR THE AB-1386/U MAST ARE THE HEX KEY AND BALLDRIVER. THESE TOOLS ARE PROVIDED WITH THE MAST. THE ITEMS LISTED DIRECTLY BELOW ARE REQUIRED TO REPAIR THE VARIOUS VEHICLE MOUNTS.				
1	O	Tool Kit, Electronic Equipment, TK-101/G	5180-00-064-5178	
2	O	(2) Extension, 12-in.	5120-00-243-1691	
3	O	(2) 5/16" Wrench	5120-00-228-9503	
4	O	3/4" Wrench	5120-00-228-9510	
5	O	15/16" Wrench	5120-00-228-9513	
6	O	7/16" Wrench	5120-00-228-9505	
NOTE: TOOLS BELOW ARE USED DURING VARIOUS MOUNT INSTALLATIONS IAW TB 11-5985-426-20. ALTHOUGH CODED AS AN ORGANIZATIONAL TASK, INSTALLATION OF THESE VARIOUS MOUNTS SHOULD BE PERFORMED AT DIRECT SUPPORT.				
7	O	Electric Drill	5130-00-889-8994	
8	O	Tap Set	5136-00-918-2619	
9	O	Tape Measure, 16-ft	5120-00-150-2920	
10	O	Scribe, Machinist's	5120-00-221-7063	
11	O	Drill Bit, 5/16-in.	5133-00-227-9662	
12	O	Drill Bit, 11/32-in.	5133-00-227-9664	
13	O	Drill Bit, 9132-in.	5133-00-222-9374	
14	O	Drill Bit, 13/64-in.	5133-00-243-9612	
15	O	Drill Bit, 13/32-in.	5133-00-227-9668	
16	O	Drill Bit, 3/16-in.	5133-00-227-9654	

Section IV. REMARKS

REMARKS CODE	REMARKS
A	Preventive Maintenance Checks and Services (PMCS)
B	Visual and mechanical inspection of the equipment.
C	Repair by replacement of the crank handle assy, the antenna mount, the guy ring, the mast sections, the screw assy, and various attaching hardware.
D	See TB 11-5985-426-20 for Installation Instructions.
E	The user will receive and install the appropriate kit for ground or vehicular application.
F	Repair is limited to the replacement of the MT-6967/G, MT-6968/G.
G	Repair is limited to the replacement of various attaching hardware.
H	Repair requires either a hex key and/or ball driver provided with the AB-13861U.
I	Depending on mission, the Unit will receive either the basic ground configuration, Universal HMMWV Mount, or the Tracked Vehicle Mount. Special tools are provided, and listed, in Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS.

APPENDIX C

REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION

C-1. SCOPE

This RPSTL lists and authorizes spares and repair parts required for performance of unit maintenance of the Mast AB-1386/U. It authorizes the requisitioning, issue, and disposition of spares, repair parts as indicated by the source, maintenance and recoverability (SMR) codes.

C-2. GENERAL

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

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

b. Section III. Special Tools List. (Not Applicable.)

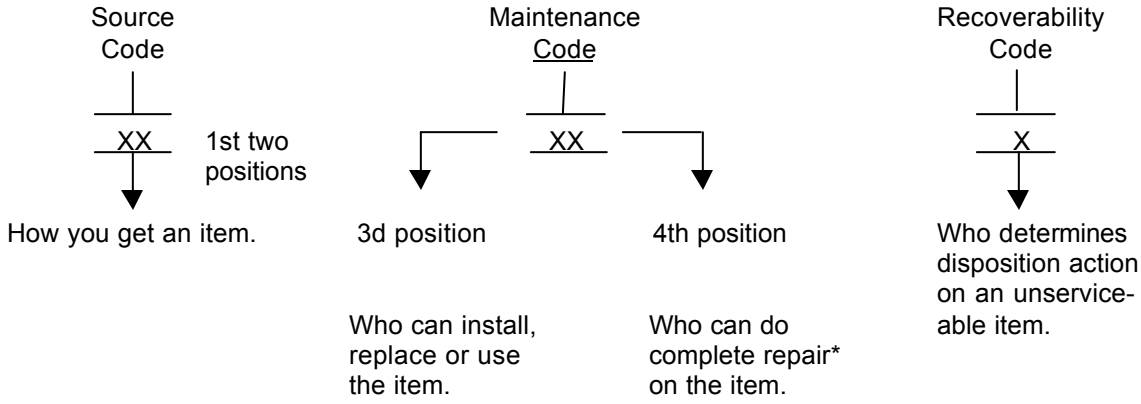
c. Section IV. Cross Reference Indexes. A list, in National Item Identification Number (NUN) sequence, of all national stock numbered items appearing in the listing, followed by a list in stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross references NSN, CAGEC, and part numbers.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III)

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

b. SMR Code (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) - Continued



*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 3rd position of the SMR code. ****NOTE: Items coded PC are subject to deterioration.**

Code	Explanation
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 3rd position of the SMR code. The complete kit must be requisitioned and applied.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) - Continued

Code	Explanation
MO- (Made at org/ AVUM Level) MF- (Made at DS/ AVIM Level) MH- (Made at GS Level) 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 list in this RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO- (Assembled by org/AVUM Level) AF- (Assembled by DS/AVIM Level) AH- (Assembled by GS Category) AL- (Assembled by SRA) AD- (Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.

XA - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
XB - If an 'XB" item is not available from salvage, order it using the FSCM and part number given.
XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD - Item is not stocked. Order an 'XD"-coded item through normal supply channels using the FSCM and part number given, 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 700-42.

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the 3rd and 4th positions of the SMR Code as follows:

(a) The maintenance code entered in the 3rd position tells you the lowest maintenance level authorized to remove, replace. and use an item. The maintenance code entered in the 3rd position will indicate authorization to one of the following levels of maintenance.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) - Continued

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

(b) The maintenance code entered in the 4th position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions.) (NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR Codes.) This position will contain one of the following maintenance codes.

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

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) - Continued

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the 5th position of the SMR Code as follows:

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

c. CAGEC (Column (3)). The Contractor 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.

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.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) - Continued

NOTE: When you use an 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 usable on code when applicable (para C-5).

(3) The statement "END OF FIGURE" appears just below the last item description in column (5) for given figure in both Section II and Section III.

f. QTY (Column (6)). Indicates the quantity (QTY) of the item used in the breakdown shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly.

C-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:

NSN
(i.e., 5305-01-674-1467).
NIIN

When using this column to locate an item, ignore the first 4 digits of the NSN. When requisitioning items, use the complete NSN (13 digits) sequence.

(2) FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. Column. This item is also identified by the NSN listed on the same line.

b. Part Number Index. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by numbers 0 through 9 and each following letter or digit in like order).

(1) CAGEC Column. This column lists the Commercial and Government Entity Code (CAGEC).

C-4. EXPLANATION OF COLUMNS (SECTION IV) - Continued

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

(3) STOCK NUMBER Column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and 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 III.

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

C-5. SPECIAL INFORMATION Use the following subparagraphs as applicable:

a. Associated Publications. The publication(s) listed below pertain to Mast AB-1386/U and its components:

TB 11-5985-426-20 Installation Instructions for Mast AB-1386/U (on utility and tracked vehicles)

b. 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-MM, Fort Monmouth, NJ 07703-5007 for the part required to support your equipment.

C-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 Lists for the figure to find the part number for the item number noted on the figure.

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

b. When National Stock Number or Part Number is Known.

(1) First. Using the index of National stock numbers and part numbers, find the pertinent National stock number or part number. The NSN index is in National Item Identification Number (NIIN) sequence (refer to C-4.a(1)). The part numbers in the part number index are listed in ascending alphanumeric sequence (C-4.b). 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're looking for, then locate the item number in the repair parts list for the figure.

7. ABBREVIATIONS (Not Applicable)

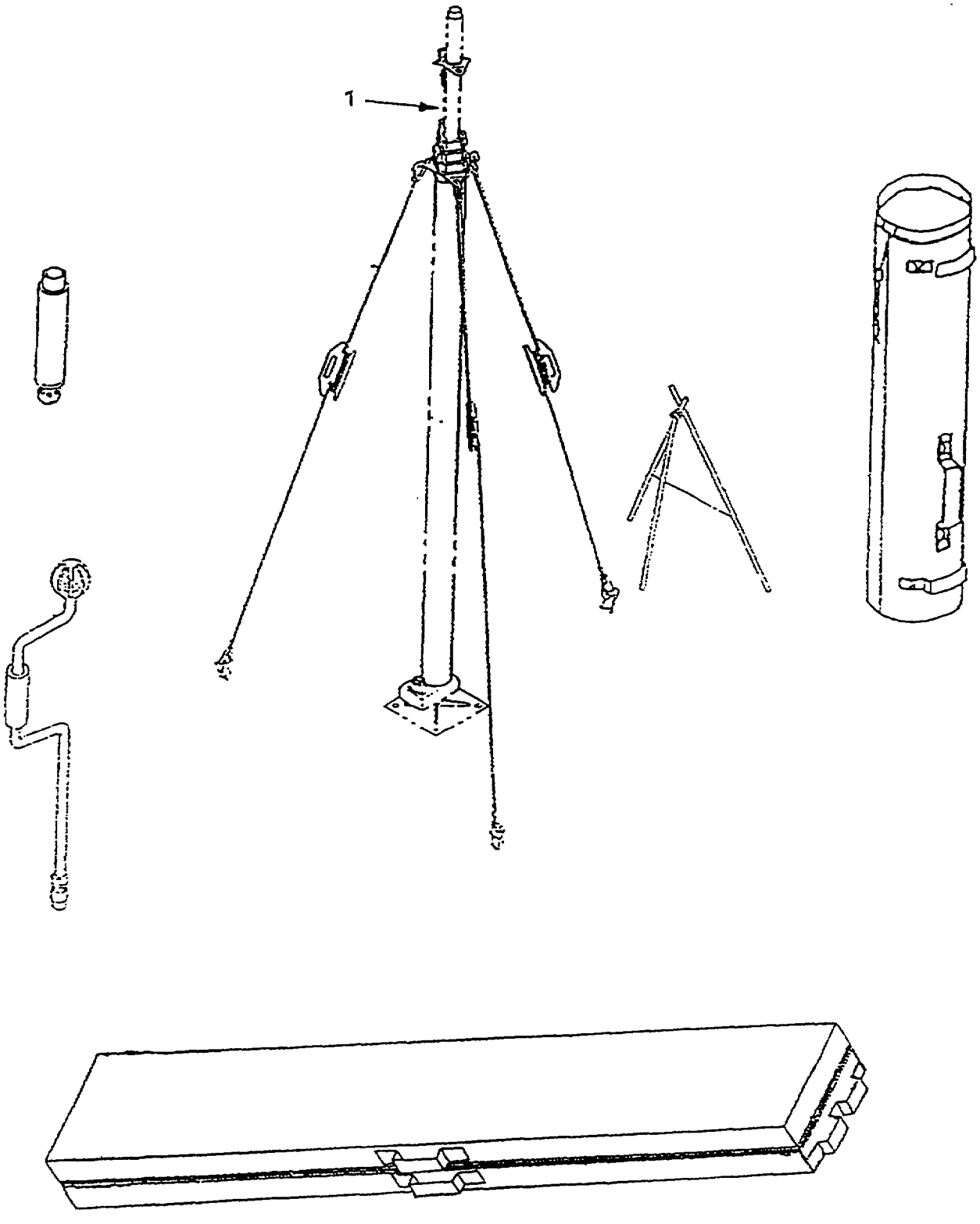
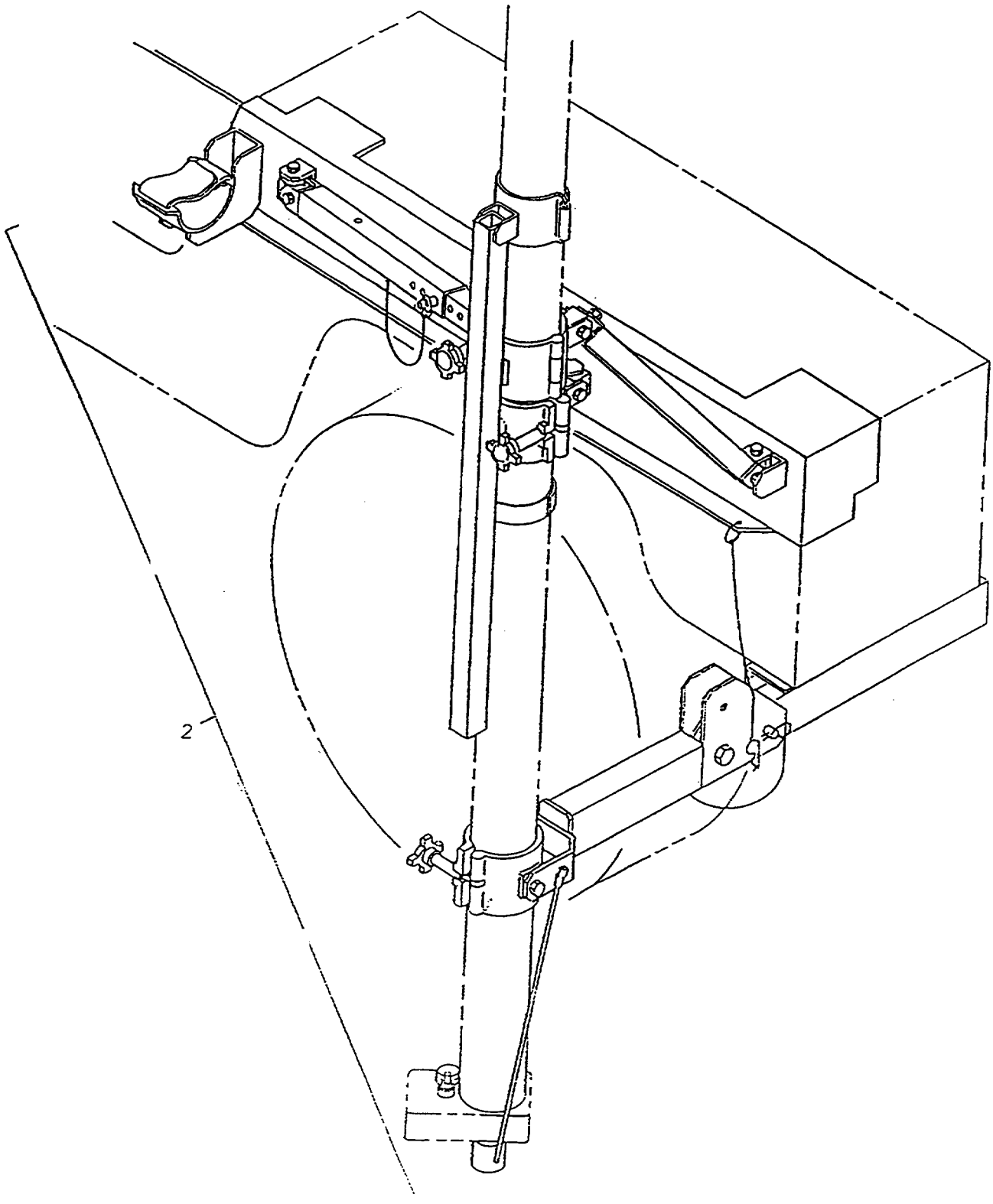


Figure C-1. Mast, AB-1386/U. (Sheet 1 of 3)



CE2QM002

Figure C-1. Universal HMMWV Vehicle Mount, MT-6967/U. (Sheet 2 of 3)

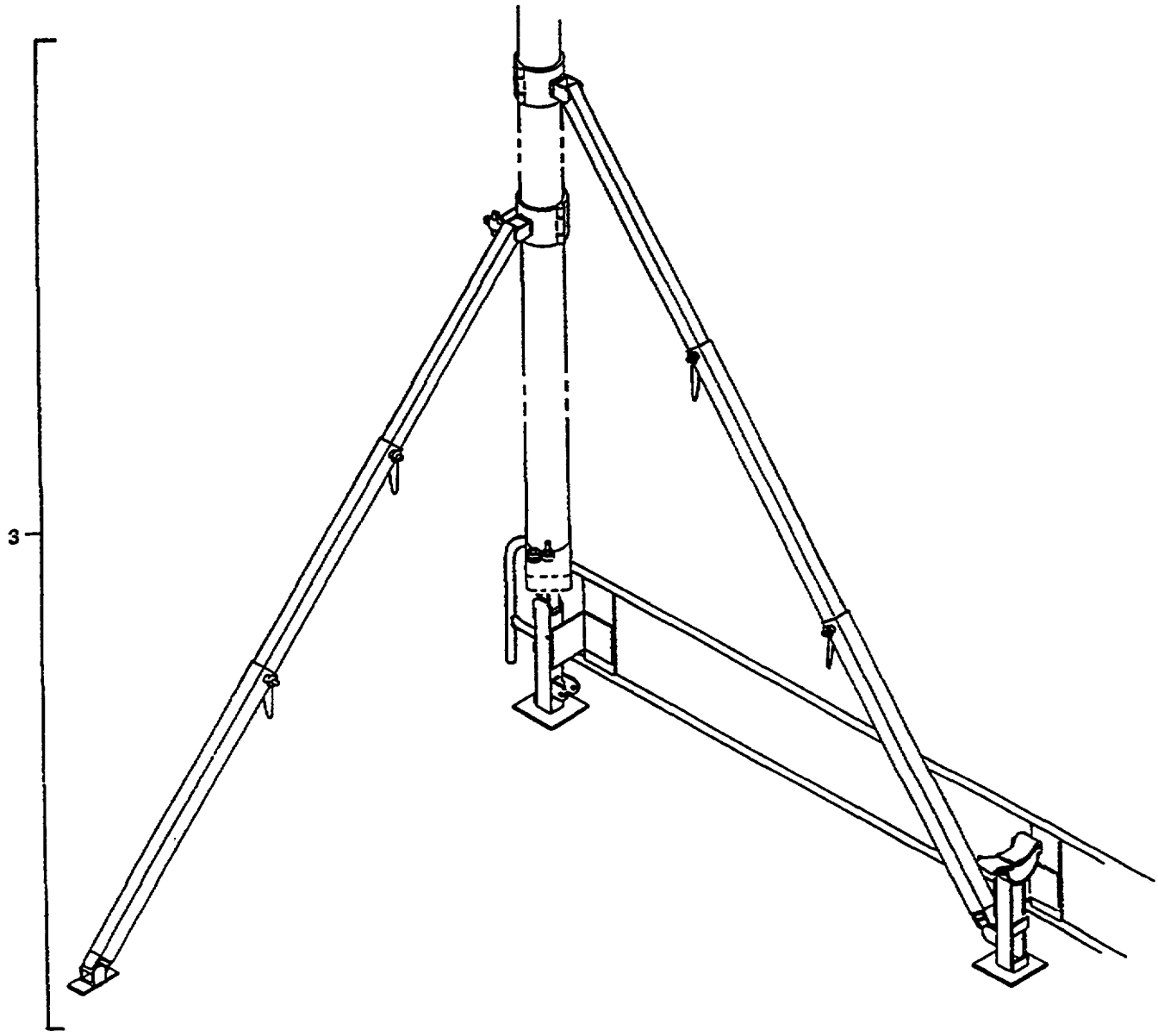


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Figure C-1. Tracked Vehicle Mount, MT-6968/U. (Sheet 3 of 3)

(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 AB-1386/U AND ELECTRICAL MOUNTING BASES. MT-6967/U. MT-6968/U. FIGURE C-1.	
1	PDOOO	5985013816341	80058	AB-1386/U	MAST..... UOC: KFM	1
2	XBOOO	5975013905770	80058	MT-6967/G	MOUNTING BASE. ELECT (UNIVERSAL..... HMMWV MOUNT NT-6967/G. SEE FIGURE C-8 FOR PARTS)	1
3	XBOOO	5975013909612	80058	NT-6968/G	MOUNTING BASE. ELECT (TRACKED..... VEHICLE MOUNT WT-6968/6 SEE FIGURE C-14 FOR PARTS)	1

END OF FIGURE

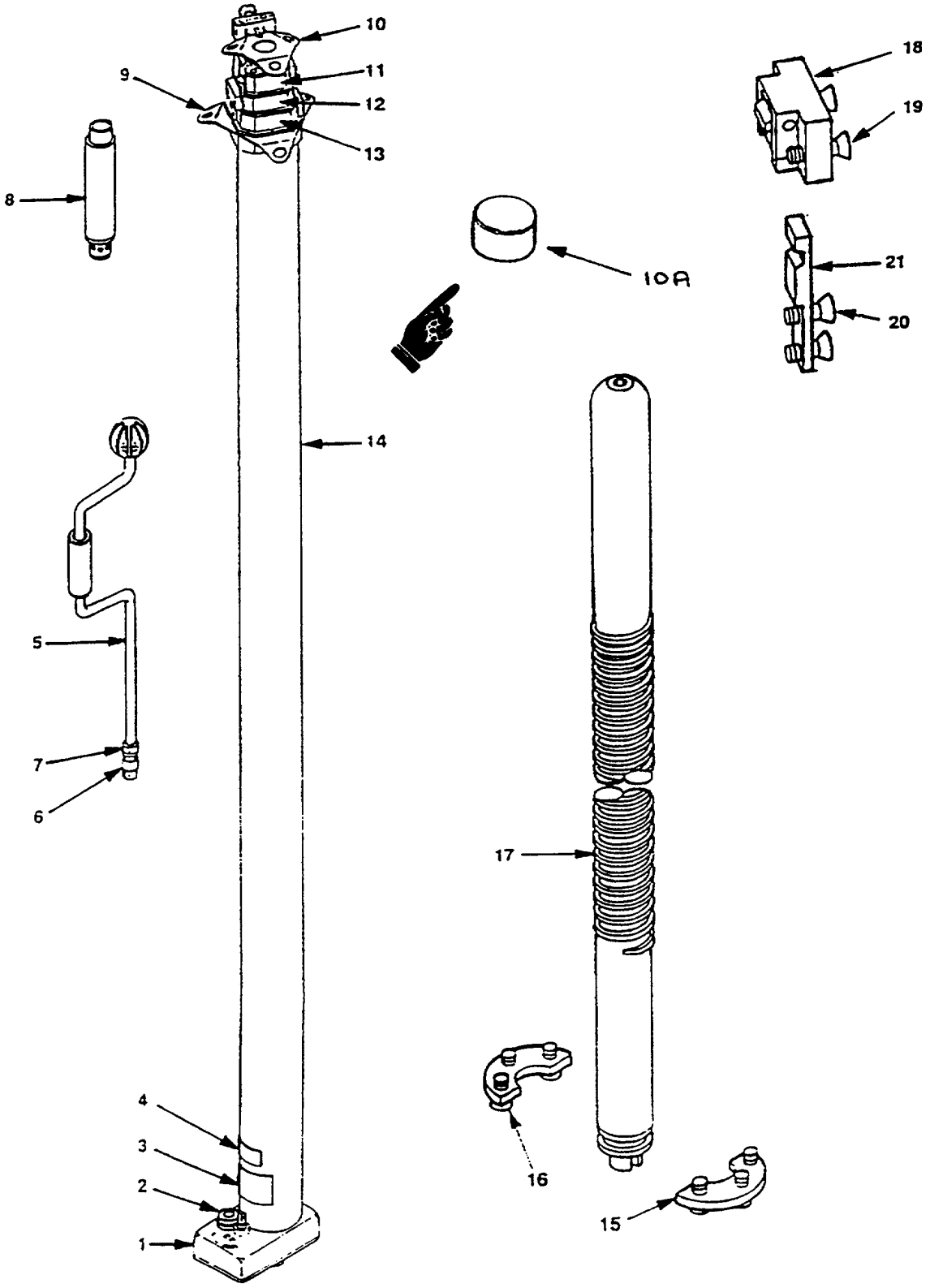

Figure C-2. MAST AB-1386/U (Sheet 1 of 2)

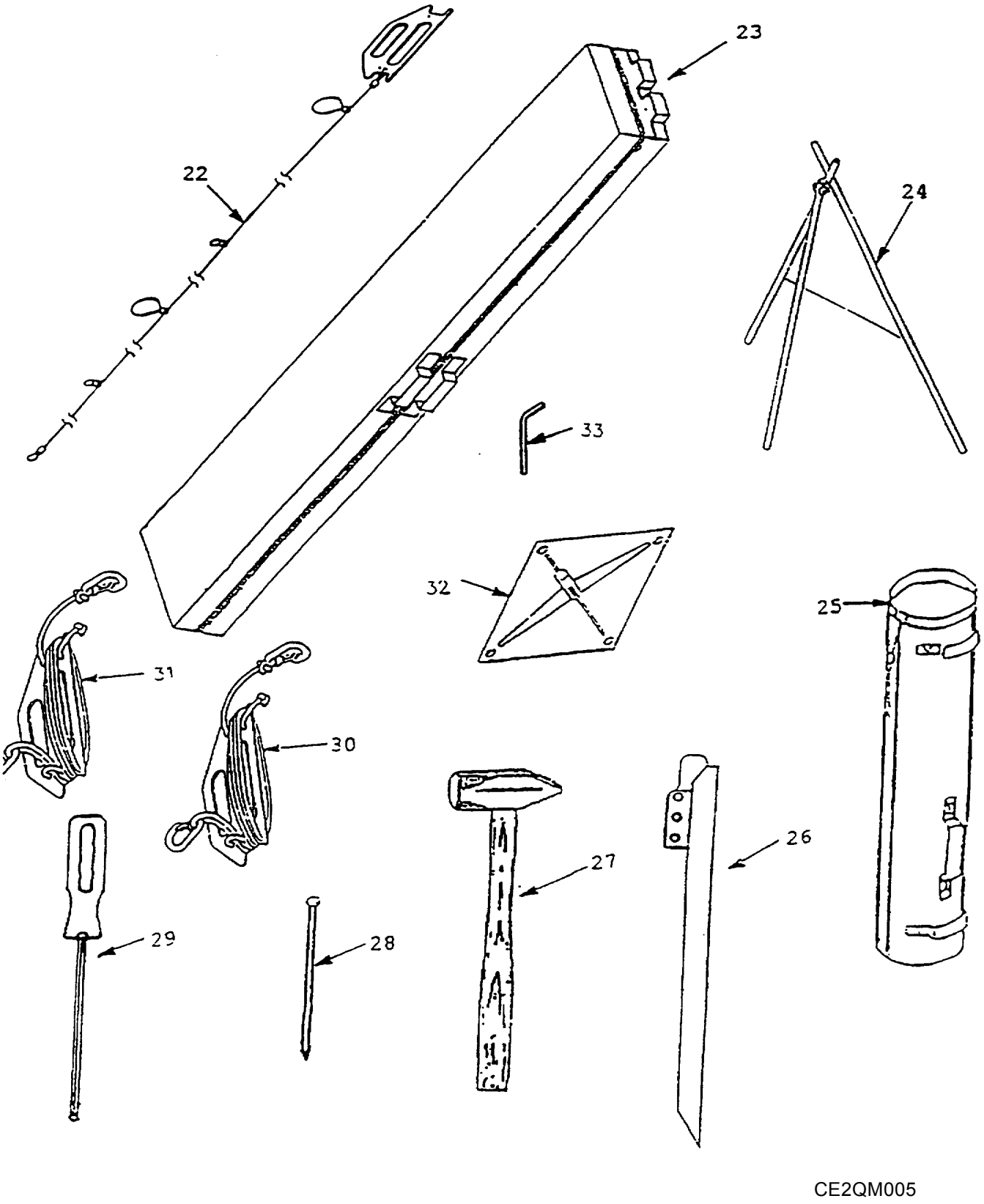

Figure C-2. MAST AB-1386/U (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART100 NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 01 MAST AB-1386/U FIGURE C-2.	
1	PAOZZ	3010014216827	80063	A3209801	DRIVE UNIT ANGLE	1
2	PAOZZ	5210014247408	82084	1-18530	LEVEL, CYLINDRICAL, C	1
3	XBOZZ		80063	A3209888	IDENTIFICATION PLAT	1
4	XBOZZ		80063	A3209889	PLATE, WARRANTY	1
5	PAOZZ	5340014241503	80063	A3209918	HANDLE, CRANK	1
6	PAOZZ	3040014211593	80063	A3209877	DRIVE, CONSTANT	1
7	PAOZZ	5360014622641	92830	C0180-022-0310S	PIN, SPRING	1
8	PAOZZ	5995014238576	80063	A3209920	BASE, ANTENNA	1
9	XBOZZ		80063	A3209791	GUY RING, LOWER	1
10	XBOOO		80063	A3209814	SECTION ASSY, 2.0 (SEE FIGURE C-7 FOR PARTS)	1
10A	PAOZZ	5340014511729	80063	A3210123	DUST PLUG UOC: KFM	1
11	XBOOO		80063	A3209815	SECTION ASSY, 25 (SEE FIGURE C-6 FOR PARTS)	1
12	XBOOO		80063	A3209816	SECTION ASSY, 3.0 (SEE FIGURE C-5) FOR PARTS)	1
13	XBOOO		80063	A3209817	SECTION ASSY, 3.5 (SEE FIGURE C-4) FOR PARTS)	1
14	XBOOO		80063	A3209818	SECTION ASSY, 4.0 (SEE FIGURE C-3) FOR PARTS)	1
15	PAOZZ	5340014616618	80063	A3210153	MORTISE, LOCK	1
16	PAOZZ	5305014222972	80063	A3209825	SCREW, MACHINE	6
17	XBOZZ		80063	A3209844	SCREW, ASSEMBLY (INTERNAL)	1
18	PAOZZ	5340014616618	80063	A3210153	LOCK ASSEMBLY	3
19	PAOZZ	5305014222974	80063	A3209830	SCREW, MACHINE	6
20	PAOZZ	5305014222971	80063	A3209831	SCREW, MACHINE	6
21	PAOZZ	5340014212002	80063	A3209895	LATCH, MORTISE	3
22	PAOZZ	4010014210434	80063	A3209946	WIRE, ROPE ASSEMBLY	1
23	PAOZZ	5985014512963	80063	A3210149	CASE, ANTENNA (AAL ITEM, ORDER SEPARATELY)	1
24	PAOZZ	5985014247413	80063	A3209930	TRIPOD, ANTENNA	1
25	PAOZZ	8105014370820	80063	A3210137	SPECIAL ITEM	1
26	PAOZZ	4030004371789	81868	425-858-1	STAKE, GUY (ALTERNATE ITEM, FOR ROCKY, HARD OR ARTIC TERRAIN)	6
26	PAOZZ	5985014824106	80063	A3210143-3	SUPPORT, ANTENNA	1
27	PAOZZ	5120002244128	58536	A-A-1292	HAMMER, HAND	1
28	PAOZZ	4030014210432	80063	A3210085	BASEPLATE, STAKE	2
29	PAOZZ	5120014436895	80063	A3210145	BALLDRIVER	1
30	PAOZZ	4030014210433	80063	A3209795	GUY ATTACHMENT	3
31	PAOZZ	4030014210429	80063	A3209907	GUY ATTACHMENT	3
32	PAOZZ	4030014221914	12058	A3209940	PLATE, BASE, TOWER SU	1
33	PAOZZ	5120011511840	31734	10907	KEY, SOCKET HEAD SCR	1

END OF FIGURE

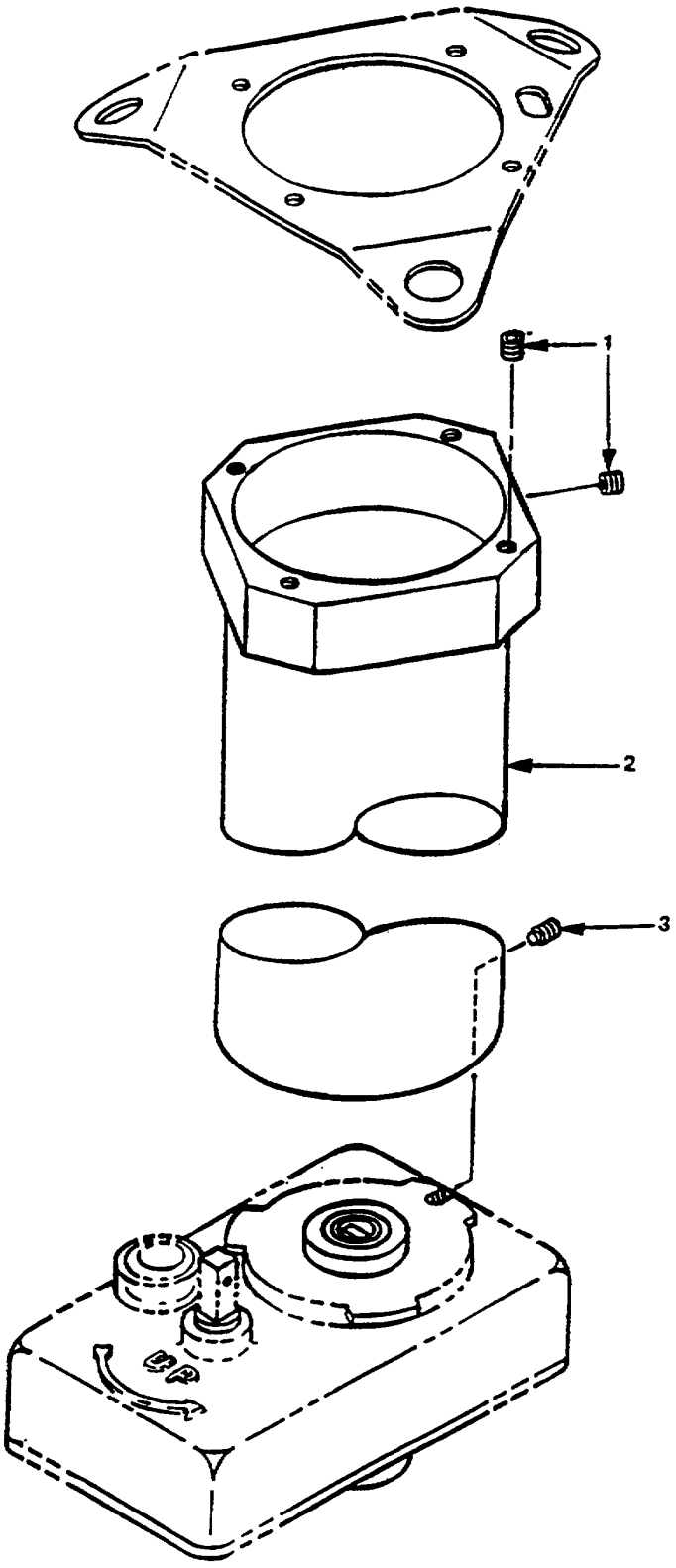

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Figure C-3. Section Assembly, 4.0

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0101 SECTION ASSEMBLY, 4.0 FIGURE C-3.	
1	PAOZZ	5325010164937	96906	MS21209-F-10L	INSERT. SCREW THREAD	12
2	PAOZZ	4710014426214	12058	A3209863	TUBE ASSEMBLY, METAL	1
3	PAOZZ	5305014224350	80063	A3210114-1	SETSCREW	1

END OF FIGURE

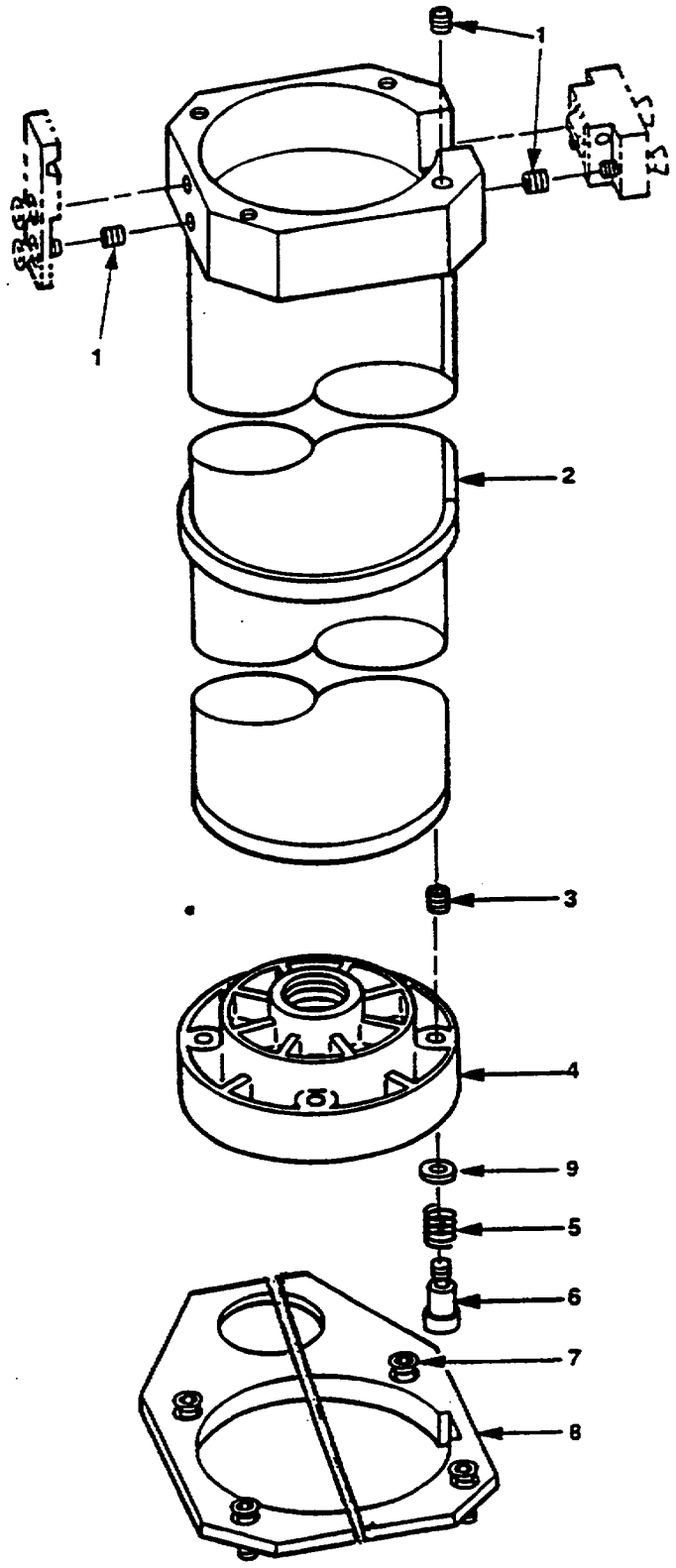

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Figure C-4. Section Assembly, 3.5

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0102 SECTION ASSEMBLY, 3.5. FIGURE C-4.	
1	PAOZZ	5325010164937	96906	MS21209-F1-10L	INSERT, SCREW THREAD	8
2	PAOZZ	4710014426210	12058	A3209882	TUBE ASSEMBLY, METAL	1
3	PAOZZ	5325013955075	96906	MS21209-C1-10L	INSERT, SCREW THREAD	4
4	PAOZZ	5310014228048	80063	A3210109	NUT, SLEEVE	1
5	PAOZZ	5360014216056	80063	A320988	SPRING, HELICAL, COMP	4
6	PAOZZ	5305014225959	80063	A3209896	BOLT, SHOULDER	4
7	PAOZZ	5305014222970	80063	A3209832	SCREW, MACHINE	4
8	PAOZZ	5340014558807	80063	A3210159	BRACKET, MOUNTING	1
9	PAOZZ	5310014345050	80063	A3210097-9	WASHER, FLAT UOC :KFM	1

END OF FIGURE

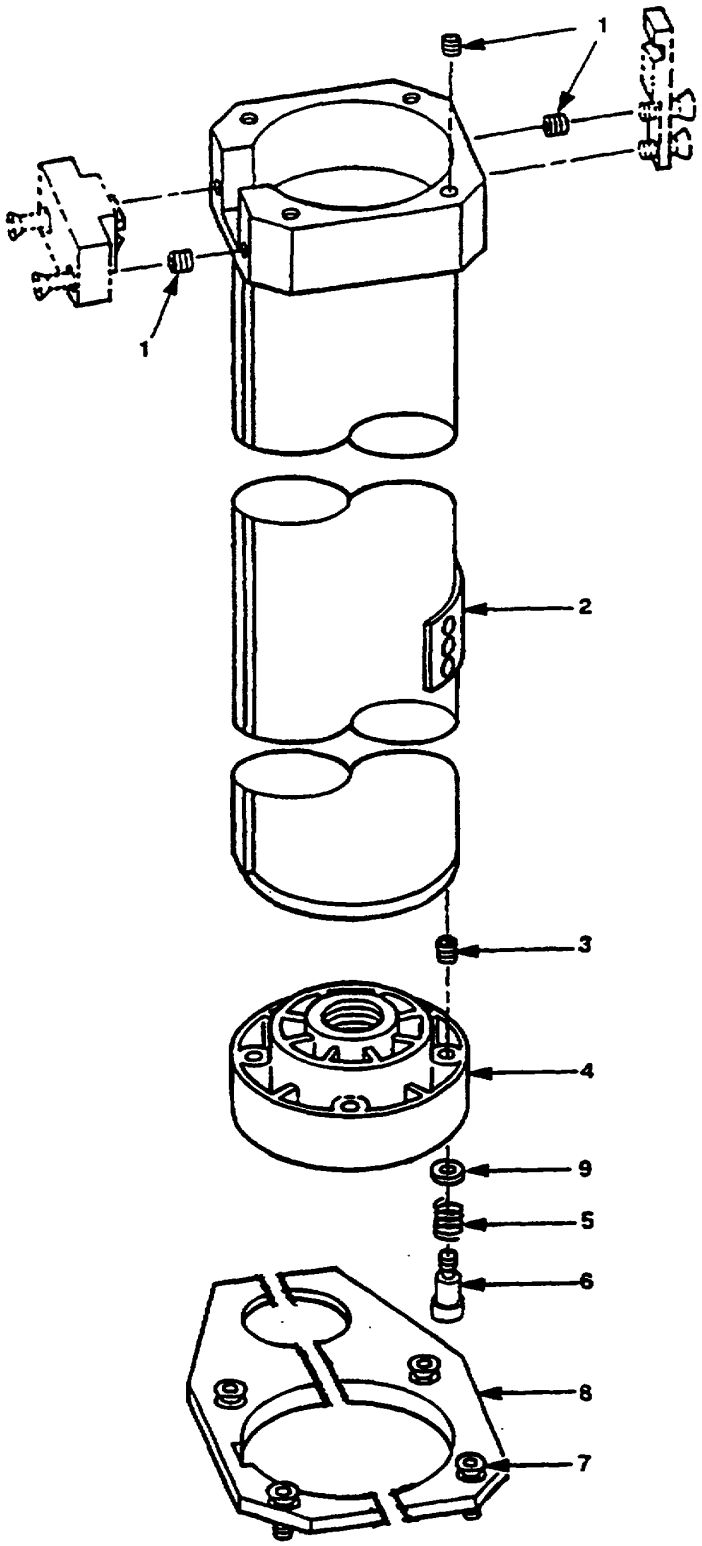

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Figure C-5. Section Assembly, 3.0

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0103 SECTION ASSEMBLY, 3.0. FIGURE C-5.	
1	PAOZZ	5325010164937	96906	MS21209-F1-10L	INSERT, SCREW THREAD	8
2	PAOZZ	4710014428226	12058	A3209865	TUBE ASSEMBLY, METAL	1
3	PAOZZ	5325013955075	96906	MS21209-C1-10L	INSERT, SCREW THREAD	4
4	PAOZZ	5310014228053	80063	A3210108	NUT, SLEEVE	1
5	PAOZZ	5380014216056	80063	A3208980	SPRING, HELICAL, COMP	4
6	PAOZZ	5305014225959	80063	A3209896	BOLT, SHOULDER	4
7	PAOZZ	5305014222970	80063	A3209832	SCREW, MACHINE	4
8	PAOZZ	5340014558810	80003	A3210158	BRACKET, MOUNTING	1
9	PAOZZ	5310014345050	80063	A3210097-9	WASHER, FLAT UOC:KFM	1

END OF FIGURE

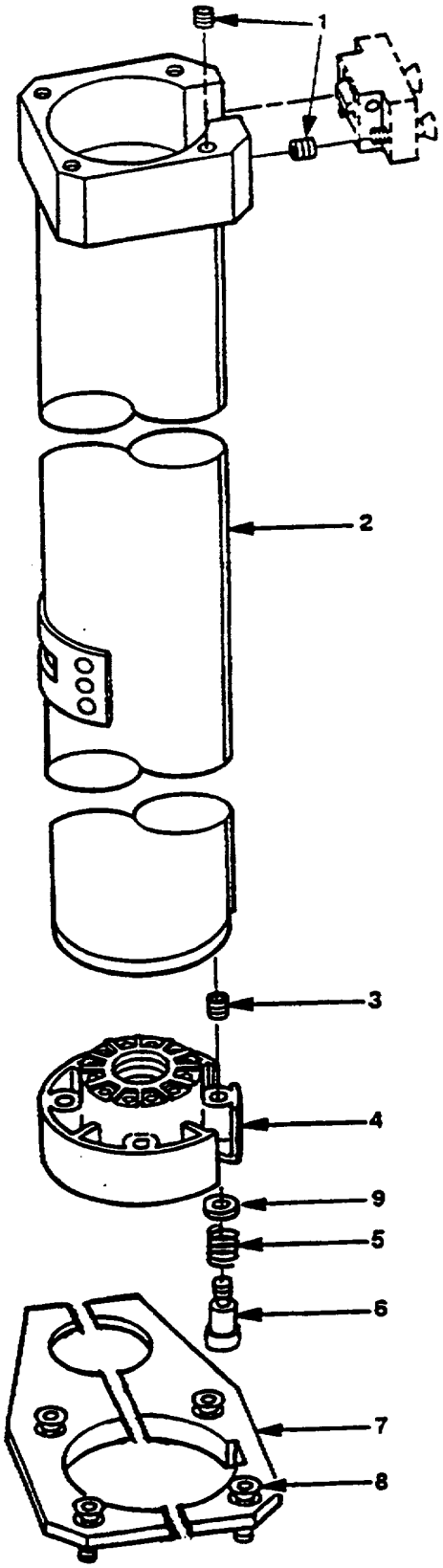

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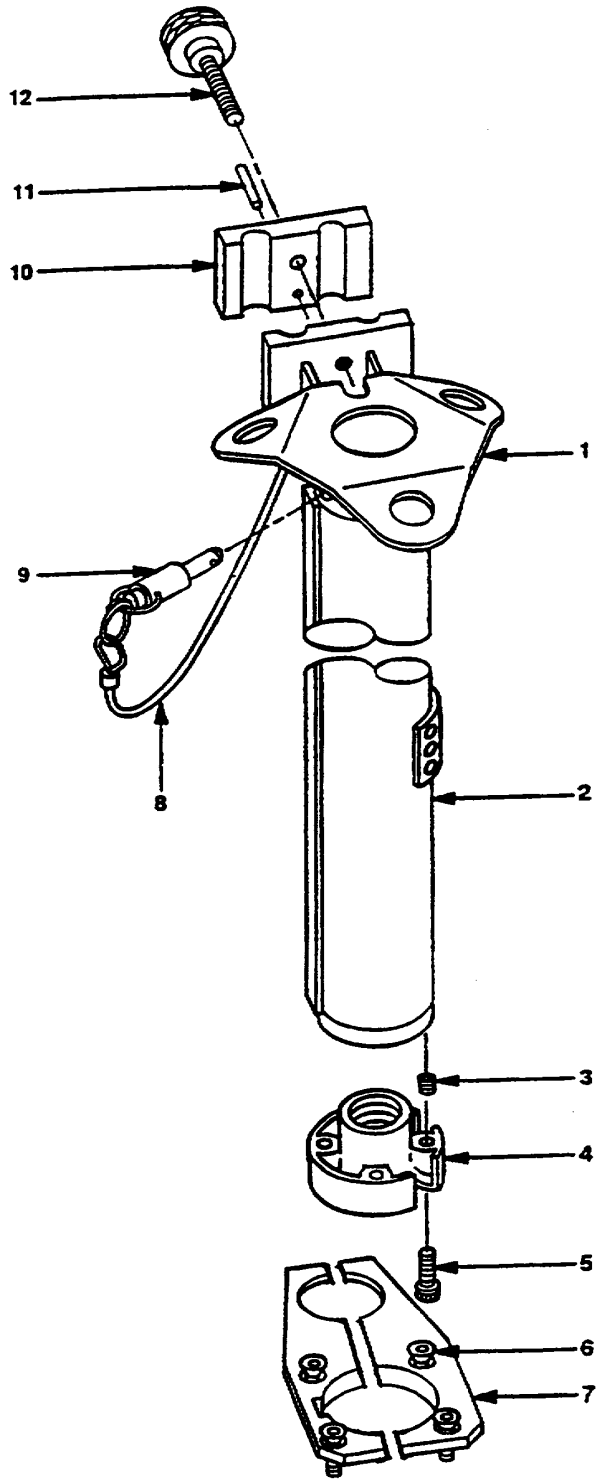
Figure C-6. Section Assembly, 2.5

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0104 SECTION ASSEMBLY. 2.5.	
					FIGURE C-6.	
1	PAOZZ	5325010164937	96906	52120-F1-10L	INSERT, SCREW THREAD	6
2	PAOZZ	4710014426217	12018	A3209864	TUBE ASSEMBLY, METAL.....	1
3	PAOZZ	5325013955075	96906	1S21209-C1-10L	INSERT, SCREW THREAD	4
4	PAOZZ	4730014262339	80063	A3210107	NUT, PLAIN, BARREL.....	1
5	PAOZZ	5380014216066	80063	A3209898	SPRING, HELICAL, COMP.....	4
6	PAOZZ	5306014225959	80063	A3209896	BOLT, SHOULDER.	4
7	PAOZZ	5340014558808	80063	A3210157	BRACKET, MOUNTING.....	1
8	PAOZZ	5305014222970	80063	A32082	SCREW, MACHINE	
9	PAOZZ	5310014345050	80063	A3210097-9	WASHR, FLAT	1

END OF FIGURE



CE2QM009

Figure C-7. Section Assembly, 2.0

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0105 SECTION ASSEMBLY, 2.0	
					FIGURE C-7.	
1	XBOZZ		80063	A3209866	MOUNT, ANTENNA	1
2	PAOZZ	4710014426227	12058	A3209875	TUBE ASSEMBLY, METAL	1
3	PAOZZ	5325013955075	96906	MS21209-C1-10L	INSERT, SCREW THREAD	4
4	PAOZZ	4730014262344	80063	A3210106	NUT, PLAIN, BARREL	1
5	PAOZZ	5306014225995	80063	A3210133	BOLT, SHOULDE R	4
6	PAOZZ	5305014222970	80063	A3209832	SCREW, MACHINE	4
7	PAOZZ	5340014558806	80063	A3210156	BRACKET, MOUNTING	1
8	PAOZZ	4010014210428	80063	A3209883	WIRE ROPE ASSEMBLY	1
9	PAOZZ	5315006283806	12058	A3210113-1	PIN, QUICK RELEASE	1
10	PAOZZ	5340014212789	80063	A3209870	CLAMP, LOOP	1
11	PAOZZ	5315000637312	80063	A3210112-2	PIN, STRAIGHT, HEADLE	1
12	PAOZZ	5305014222436	80063	A3209871	SCREW, THUMB	1

END OF FIGURE

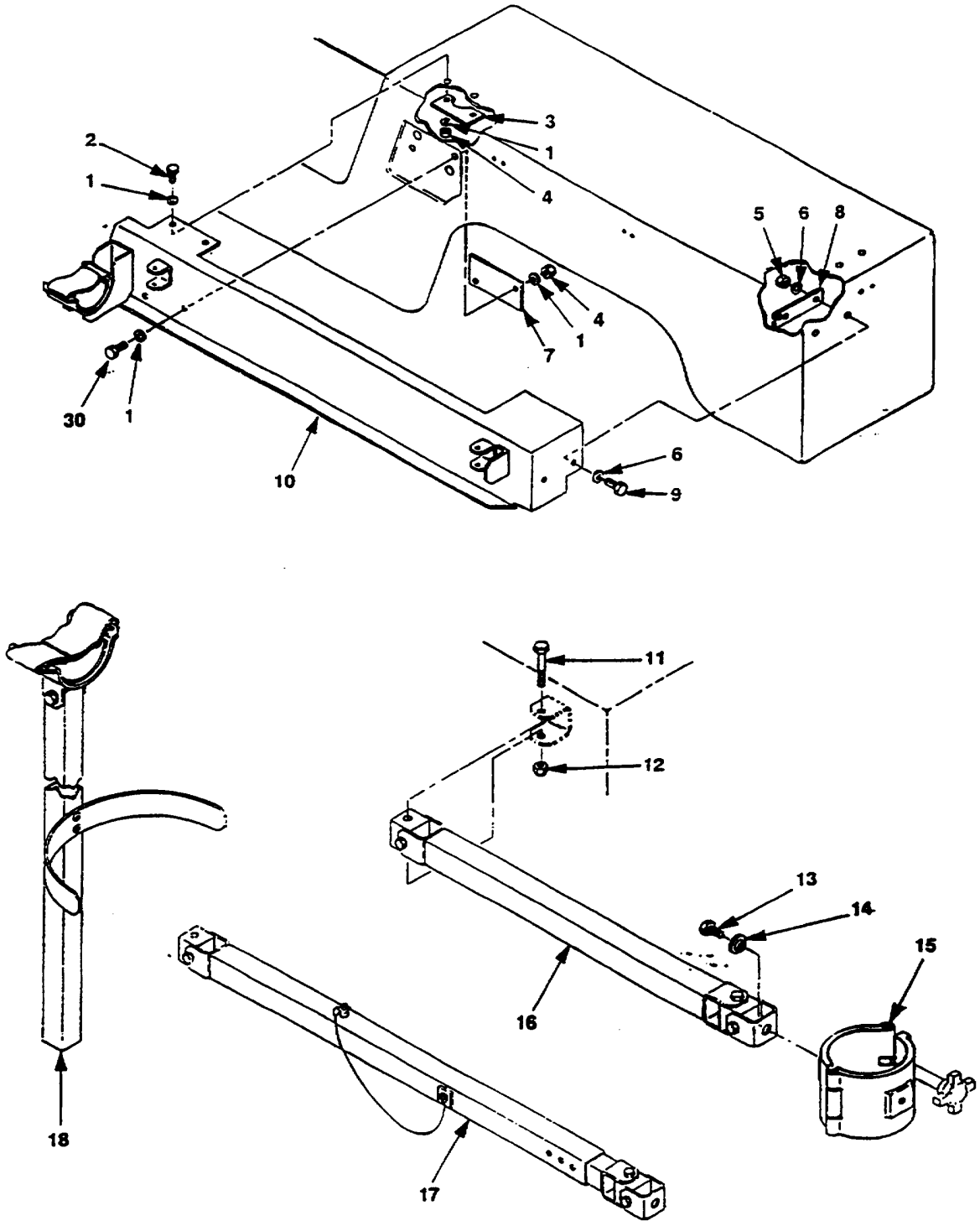


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Figure C-8. Universal HMMWV Vehicle Mount, MT-6967/G. (Sheet 1 of 2)

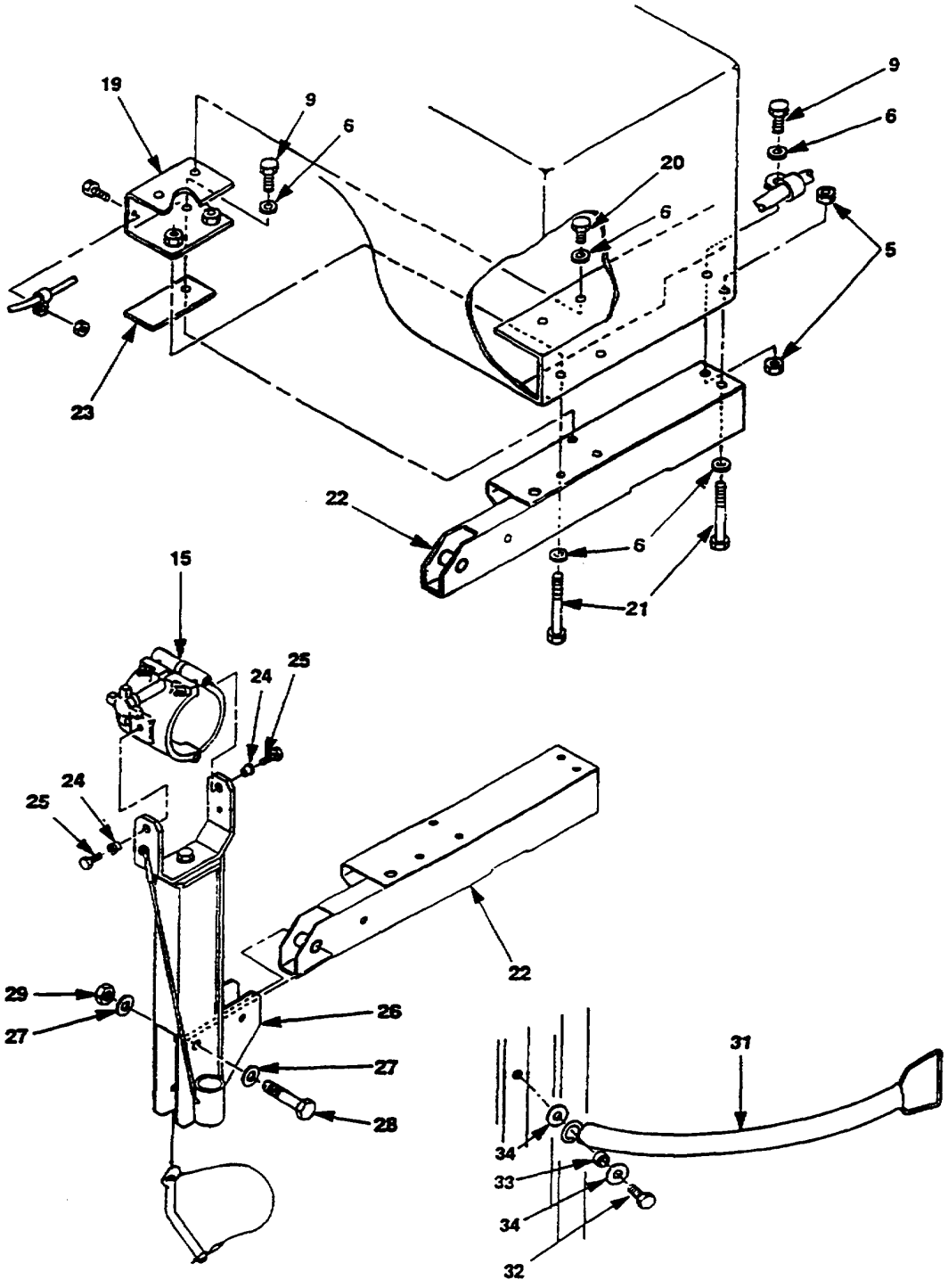

Figure C-8. Universal HMMWV Vehicle Mount, MT-6967/G. (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 02 UNIVERSAL HMMWV VEHICLE MOUNT, MT-6967/G.	
					FIGURE C-8.	
1	PAOZZ	5310013917504	96906	MS15795-810	WASHER, FLAT	16
2	PAOZZ	5305014221814	80063	A3210094-2	SCREW, CAP, HEXAGON	2
3	XBOZZ		80063	A3210026	PLATE, REINFORCEMEN	1
4	PAOZZ	5310014211853	80063	3210098-1	NUT, SELF-LOCKING	4
5	PAOZZ	5310014211848	80083	A32100S8-2	NUT, SELF-LOCKING.HE	4
6	PAOZZ	5310006255756	96906	MS15795-812	WASHER, FLAT	19
7	XBOZZ		80063	A3210027	PLATE, REINFORCEMEN	1
8	XBOZZ		80083	A3210028	PLATE, REINFORCEMEN	1
9	PAOZZ	5305014224349	80083	A3210068-2	SCREW, CAP, HEXAGON	3
10	XBOOO		830063	A3210018	MAST STRUT SUPPORT (SEE FIGURE C-12 FOR PARTS)	1
11	PAOZZ	5305007208481	80083	A3210095-5	SCREW, CAP, HEXAGON	2
12	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	2
13	PAOZZ	5305100632277	80063	A3210095-1	SCREW, CAP, HEXAGON H	2
14	PAOZZ	5310014212006	80063	A3209992	WASHER, SHOULDERED	2
15	PAOZZ	5340014241518	80083	A3200994	CLAMP, LOOP	3
16	XBOOO		80063	A3210005	STRUT ASSY (SEE FIGURE C-11 FOR PARTS)	1
17	XBOOO		80063	A3210006	STRUT ASSY (SEE FIGURE C-12 FOR PARTS)	1
18	XBOOO		80063	A3210014	STRUT ASSY (SEE FIGURE C-13 FOR PARTS)	1
19	XBOZZ		80063	A3210001	CHANNEL, WIRING SHI	1
20	PAOZZ	5305014225964	80063	A3210060-1	SCREW, CAP, HEXAGON	3
21	PAOZZ	5305010854877	98906	MS51109-32	SCREW, CAP, HEXAGON H	3
22	XBOZZ		80083	A3210032	TUBE, MAST SUPPORT	1
23	XBOZZ		83003	A3210004	PLATE SPACER	1
24	PAOZZ	5310014230887	80083	A3210078	WASHER, SHOULDER	2
25	PAOZZ	5305005765417	96306	MS35307-360	SCREW, .CAP, HEXAGON H	2
26	XBOOO		80063	A3210020	MAST SUPPORT (SEE FIGURE C-10 FOR PARTS)	1
27	PAOZZ	5310014225878	80063	A3210097-7	WASHER, FLAT	2
28	PAOZZ	5305009432092	80063	A3210061-1	SCREW, CAP, HEXAGON H	1
29	PAOZZ	5310014211851	80063	A3210098-5	NUT, SELF-LOCKING, HE	1
30	PAOZZ	5305014221810	80063	A3210094-3	SCREW, CAP, HEXA GON H	2
31	XBOZZ		80063	A3210124	BRUSH GUARD ASSEMBL	1
32	PAOZZ	5305001275692	19206	WTVB23019	SCREW, SHOULDER	1
33	PAOZZ	5365010138607	87045	D2477P	SPACER, SLEEVE	1
34	PAOZZ	5310014252436	80063	A3210097-8	WASHER, FLAT	2

END OF FIGURE

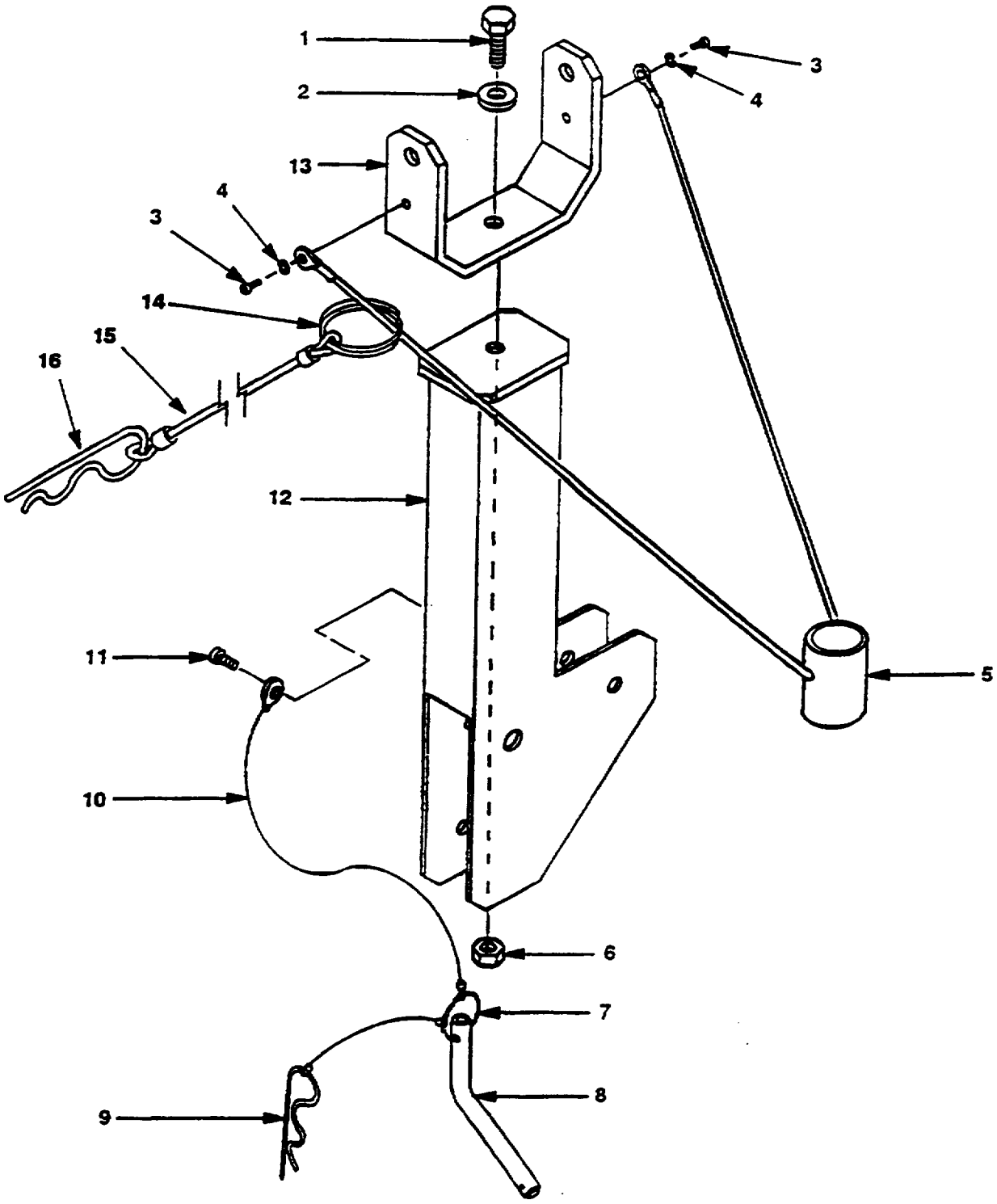

Figure C-9. Mast Support Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0201 MAST SUPPORT ASSEMBLY.	
					FIGURE C-9.	
1	PAOZZ	5305014225877	80063	A3210096-1	SCREW, CAP, HEXAGON	1
2	PAOZZ	5310014212020	51506	15668-0.095-0.345-SS-1	WASHER, SHOULDERED	1
3	PAOZZ	5306014223024	80063	A3210058	SCREW, SHOULDER	2
4	PAOZZ	5310014212021	80063	A3210100-1	WASHER, LOCK	2
5	PAOZZ	4010014258688	80063	A3210037	CABLE ASSEMBLY, SPEC	1
6	PAOZZ	5310014211850	80063	A3210098-4	NUT, SELF-LOCK, HEX	1
7	PAOZZ	5325014210435	80063	A3210069	RING, CONNECTOR	1
8	PAOZZ	5315014212011	80063	A3210041	PIN, LOCK	1
9	PAOZZ	5315014212003	80063	A3210043	COTTER, HAIRPIN	1
10	PAOZA	4010013394312	77445	CL-23-KA-12-LR	WIRE ROPE ASSEMBLY	2
11	PAOZZ	5305014224348	80083	A3210104-1	SCREW, TAPPING	1
12	XBOZZ		80063	A3210072	MAST SUPPORT WELDME	1
13	XBOZZ		80063	A3210011	BRACKET YOKE	1
14	PAOZZ	5315014246539	80063	A3210083	COTTER, PIN	1
15	PAOZZ	4010013772684	80063	CL-23-KA-18LR	WIRE ROPE	1

END OF FIGURE

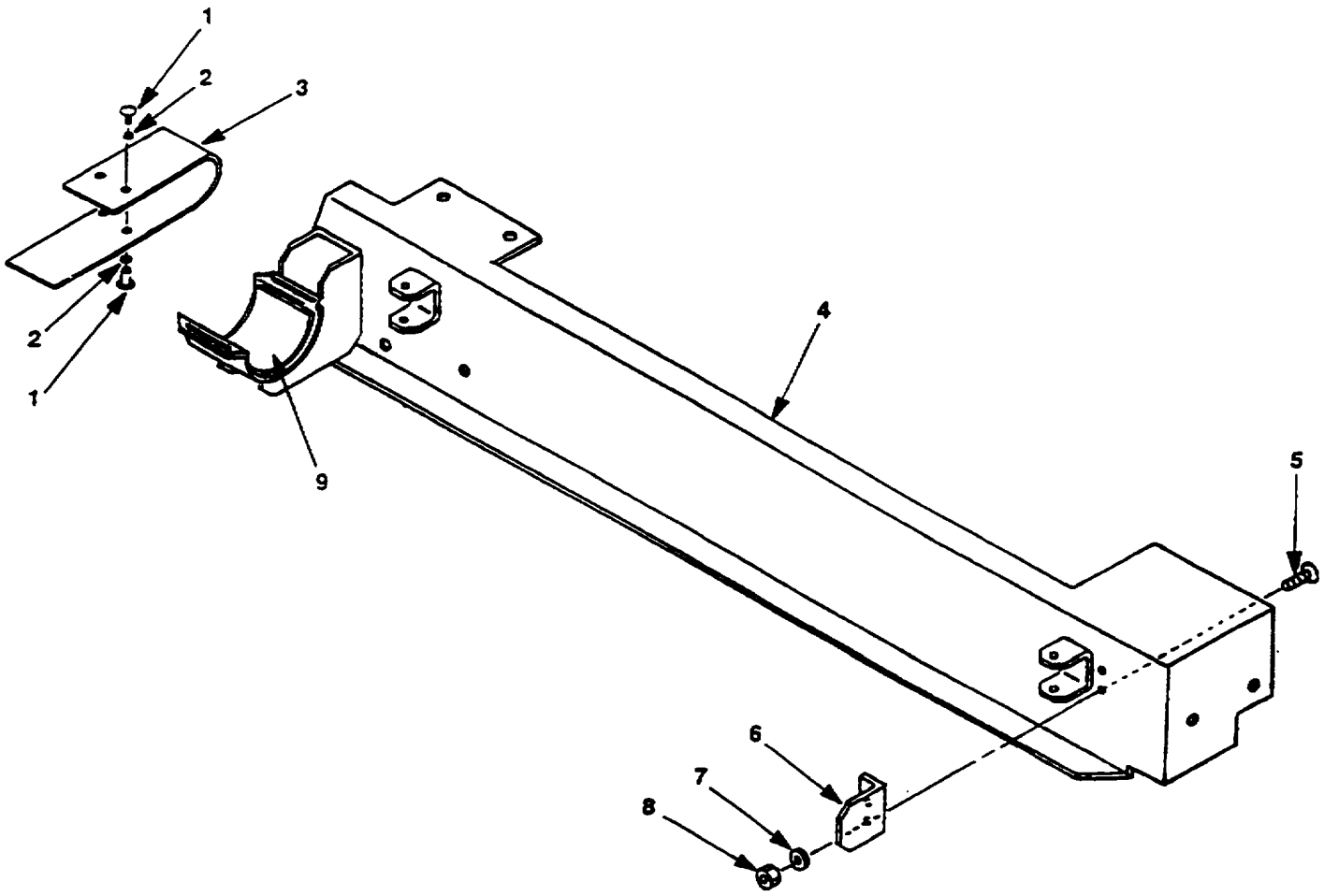

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Figure C-10. Mast Strut Support Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0203 MAST STRUT SUPPORT ASSY.	
					FIGURE C-10.	
1	PAOZZ		96906	AA175-1	POST, SCREW ..... UOC: KFM	2
2	PAOZZ	5310006506054	96906	MS15795-809	WASHER, FLAT.....	4
3	PAOZZ	5340014212790	80063	A3209965	STRAP, RETAINING	1
4	XBOZZ		80063	A3210039	BRACKET WELDMENT, V	1
5	PAOZZ	8135014242266	12058	A3210121	CUSHION, SHIPPING AN.....	1

END OF FIGURE

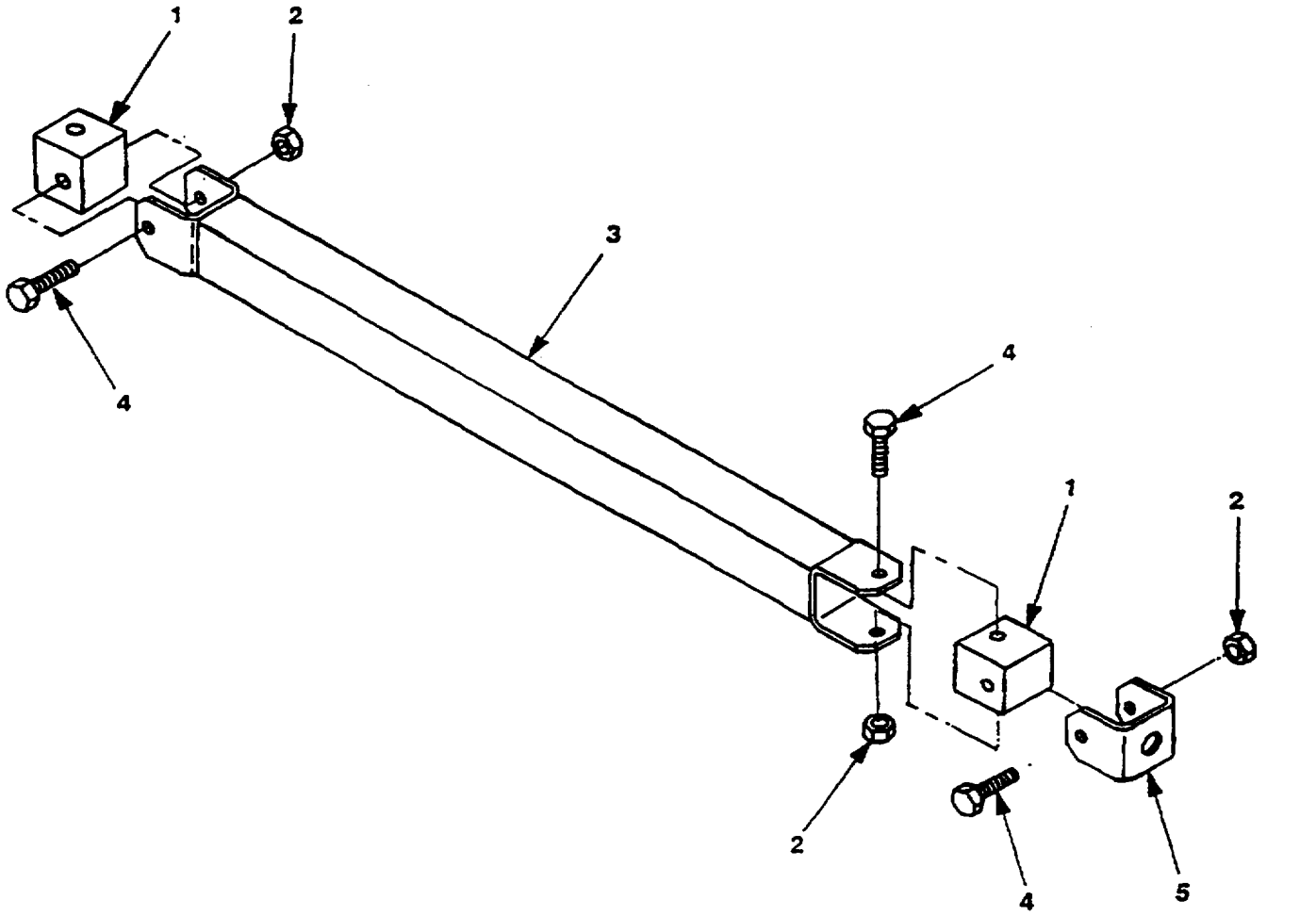

Figure C-11. Short Strut Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0204 SHORT STRUT ASSEMBLY.	
					FIGURE C-11.	
1	XBOZZ		80063	A3209960	BLOCK, UNION	2
2	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	3
3	XBOZZ		80063	A3210044	STRUT WELDMENT, 1.5	1
4	PAOZZ	5305007208491	80063	A3210095-5	SCREW, CAP, HEXAGON	3
5	XBOZZ		80063	A3210081	BRACKET, UNION	1

END OF FIGURE

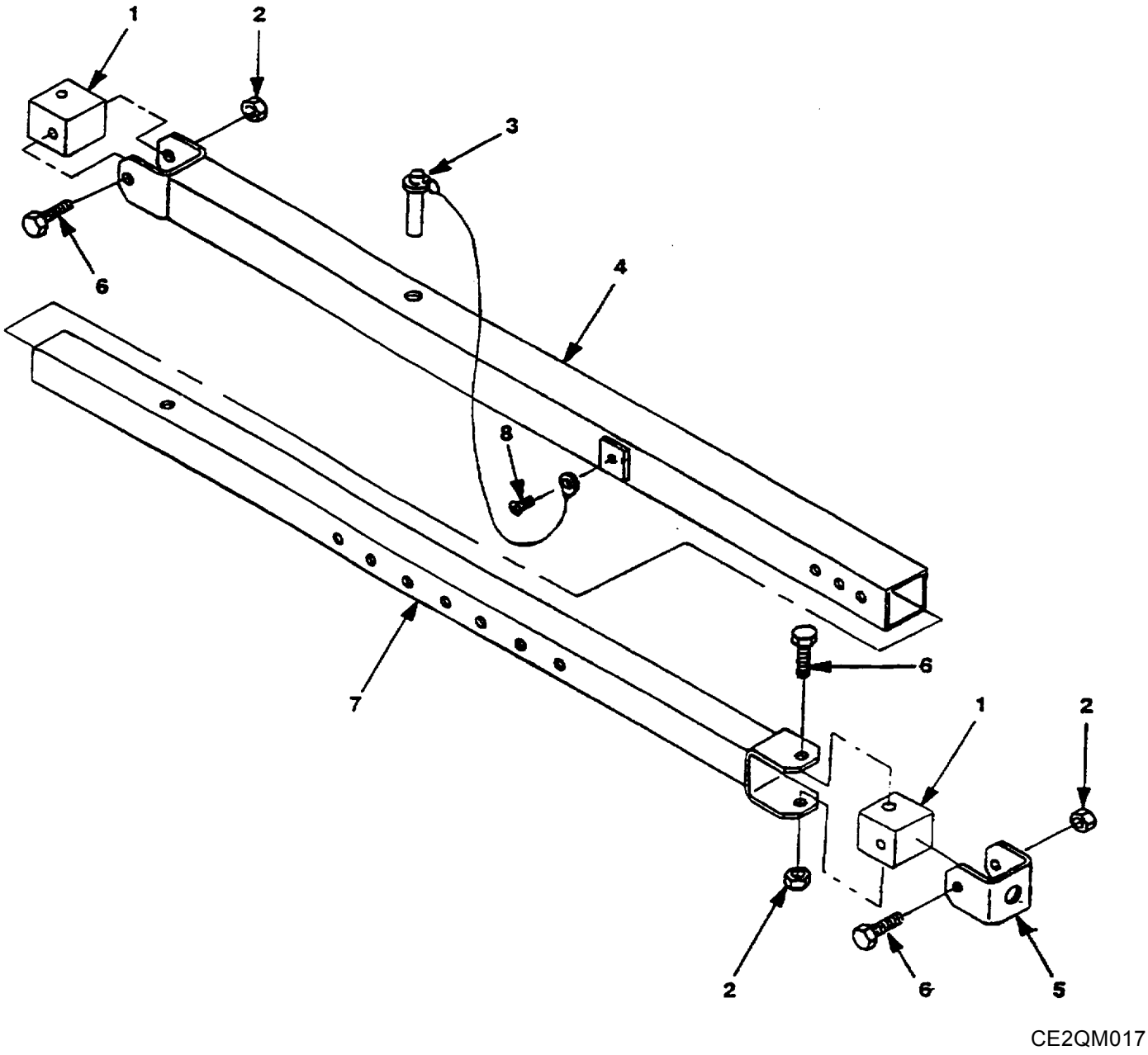

Figure C-12. Long strut Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0205 LONG STRUT ASSEMBLY.	
					FIGURE C-12.	
1	XBOZZ		80063	A3209960	BLOCK, UNION	2
2	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	3
3	PAOZZ	4010014208680	80063	A3210015-1	WIRE ROPE ASSEMBLY	1
4	XBOZZ		80063	A3210048	STRUT WELDMENT, 1.5	1
5	XBOZZ		80063	A3210081	BRACKET, UNION	1
6	PAOZZ	5305007208401	80063	A3210065-5	SCREW, CAP, HEXAGON	3
7	XBOZZ		80063	A3210050	STRUT WELDMENT, 1.2	1
8	PAOZZ	5306014224348	80063	A3210104-1	SCREW, TAPPING	1

END OF FIGURE

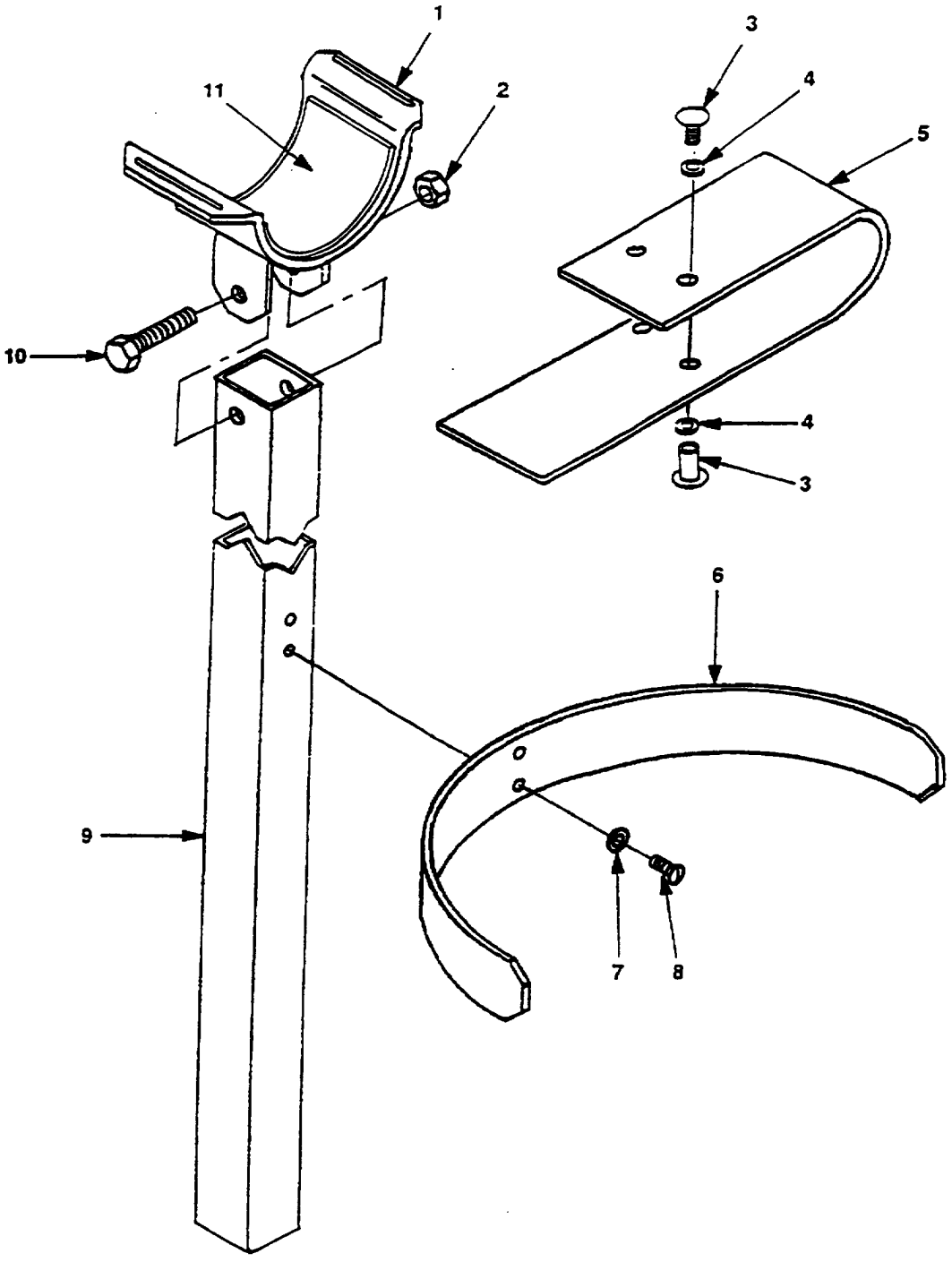

Figure C-13. Strut Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0206 STRUT ASSEMBLY.	
					FIGURE C-13.	
1	XBOZZ		80063	A3210019	CLAMP, WELDED ASSY	1
2	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	1
3	PEOOO	5985014238577	80063	A3209999	ACCESSORY KIT, ANTEN	2
4	PAOZZ	5310005505054	96906	MS15795-809	WASHER, FLAT	4
5	PAOZZ	5340014212790	80063	A3209985	STRAP, RETAINING	1
6	PAOZZ	5340014212791	80063	3210062	STRAP, RETAINING	1
7	PAOZZ	5310008839384	96906	15795-842	WASHER, FLAT	2
8	PAOZZ	5305004770120	96906	MS51861-46C	SCREW, TAPPING	2
9	XBOZZ		80063	A3210078	STRUT, WELDMENT 1.5	1
10	PAOZZ	5305007208491	80063	A3210095-5	SCREW, CAP, HEXAGON	1
11	PAOZZ	8135014242266	12068	A3210121	CUSHION, SHIPPNG AN	1

END OF FIGURE

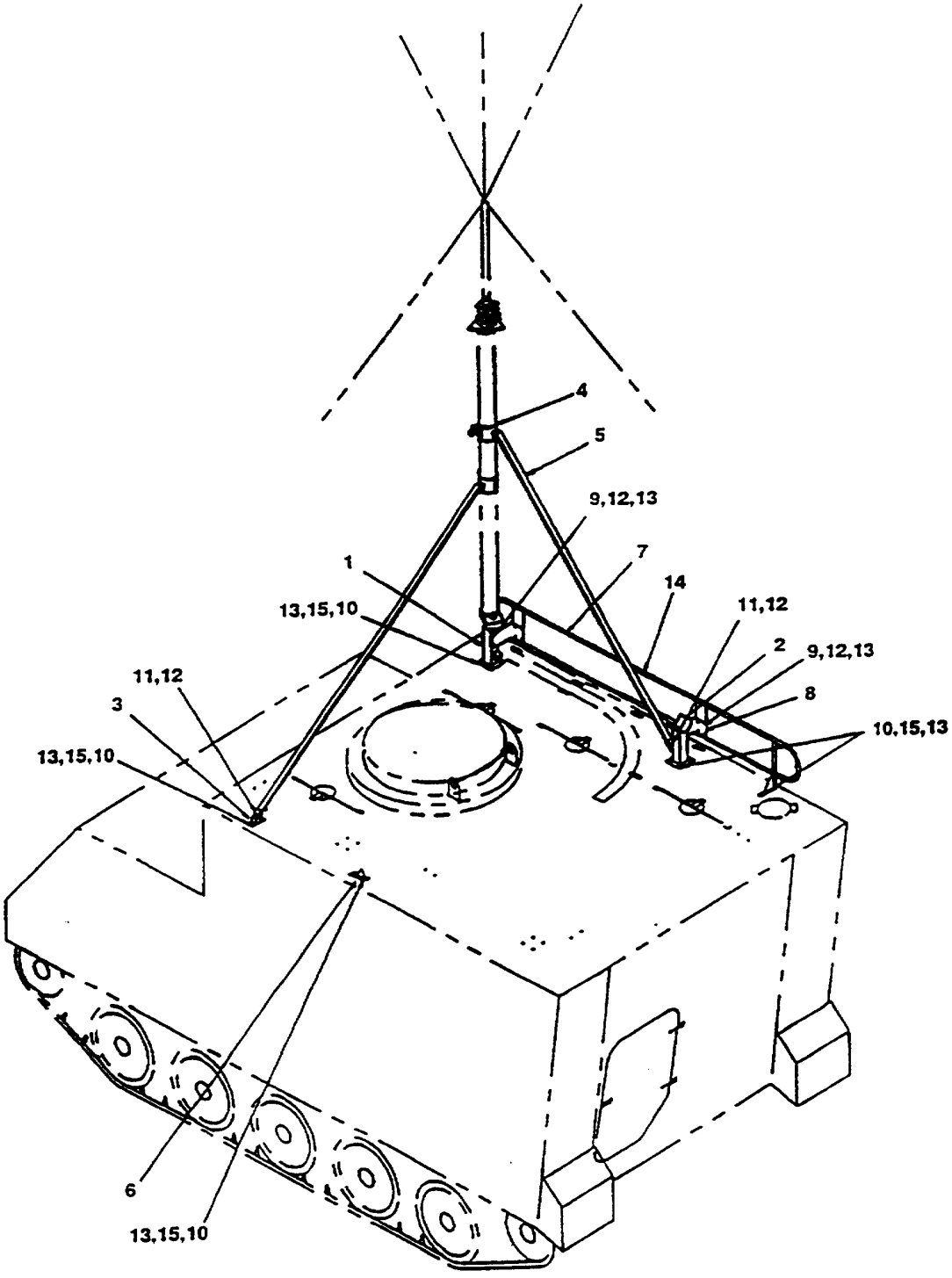

Figure C-14. Tracked Vehicle Mount, MT-6968/G.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 03 TRACKED VEHICLE MOUNT. NT-6968/6.	
					FIGURE C-14.	
1	XBOOO		80063	A3209948	PEDESTAL ASSEMBLY (SEE FIGURE C-15 FOR PARTS)	1
2	XBOOO		80063	A3209S61	CRADLE ASSEMBLY (SEE FIGURE C-16 FOR PARTS)	1
3	XBOZZ		80063	A3209957	MOUNT, STRUT	1
4	XBOOO		80063	A3209971	CLAMP ASSEMBLY (SEE FIGURE C-17 FOR PARTS)	2
5	XBOOO		80063	A3209979	STRUT ASSEMBLY (SEE FIGURE C-18 FOR PARTS)	2
6	XBOZZ		80063	A3209958	MOUNT, STRUT	1
7	XBOZZ		80063	A3210092	BRUSH GUARD	1
8	XBOZZ		80063	A3209954	ANGLE, MOUNTING	2
9	PAOZZ	5305005765417	80063	A3210095-3	SCREW, CAP, HEXAGON	12
10	PAOZZ	5305007175460	80063	A3210095-2	SCREW, CAP, HEXAGON H.	14
11	PAOZZ	5305007208491	80063	A3210095-5	SCREW, CAP. HEXAGON	2
12	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	14
13	PAOZZ	5310007737818	96906	MS15795-814	WASHER, FLAT	38
14	XBOZZ		80063	A3210091	BRUSH GUARD	1
15	PAOZZ	5310014212005	80063	A3210100-2	WASHER	14

END OF FIGURE

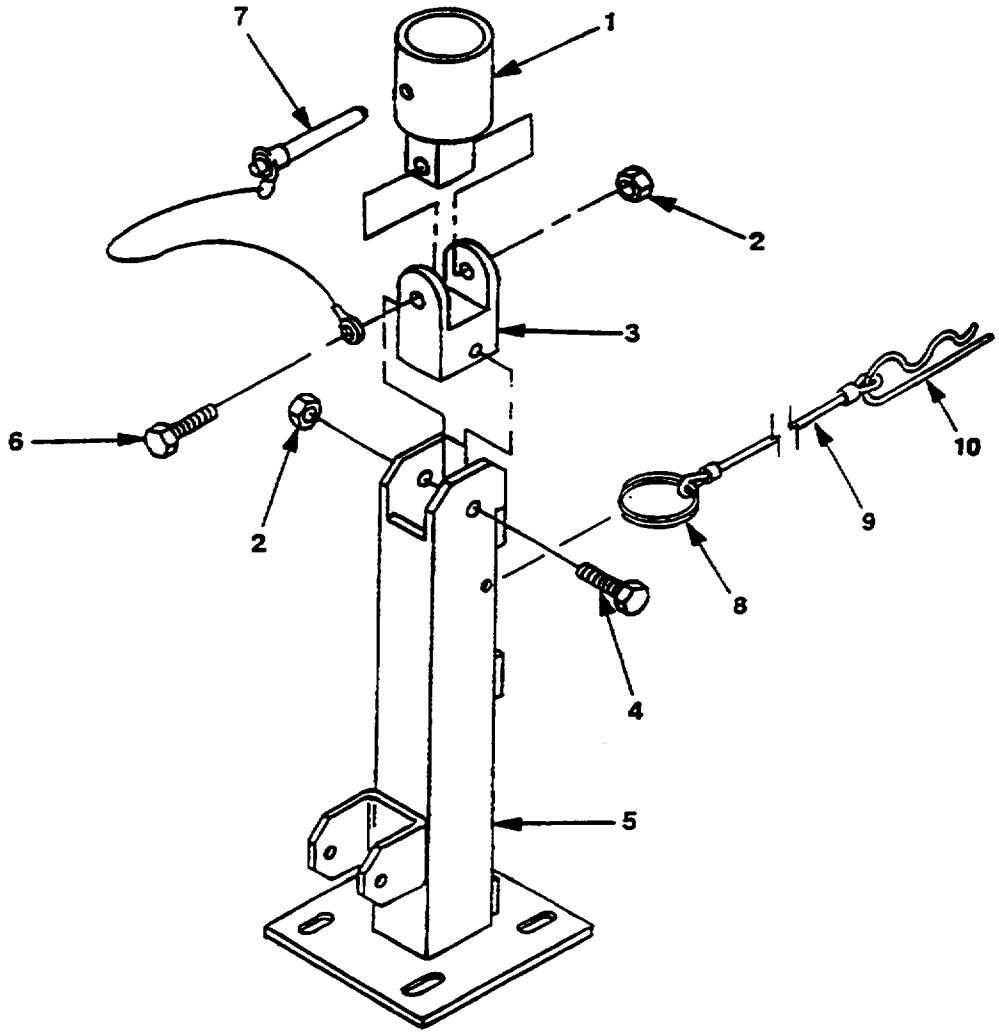

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Figure C-15. Pedestal Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0301 PEDESTAL ASSEMBLY.	
					FIGURE C-15.	
1	XBOZZ		80063	A3209955	ADAPTER, LAST	1
2	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	2
3	XBOZZ		80063	A3209952	CLEVIS	1
4	PAOZZ	5305008225853	80063	A3210095-6	SCREW, CAP, HEXAGON H	1
5	XBOZZ		80083	A3209949	PEDESTAL WELDMENT	1
6	PAOZZ	5306007208491	80063	A3210095-5	SCREW, CAP, HEXAGON	1
7	PAOZZ	4010014208682	80063	A321008	WIRE ROPE ASSEMBLY	1
8	PAOZZ	5325014210435	80063	A3210069	RING, CONNECTOR	1
9	PAOZZ	4010013772684	99862	CL-23-KA-18LR	WIRE ROPE ASSEMBLY	1
10	PAOZZ	5315014248539	80063	A3210083	COTTER, HAIRPIN	1

END OF FIGURE

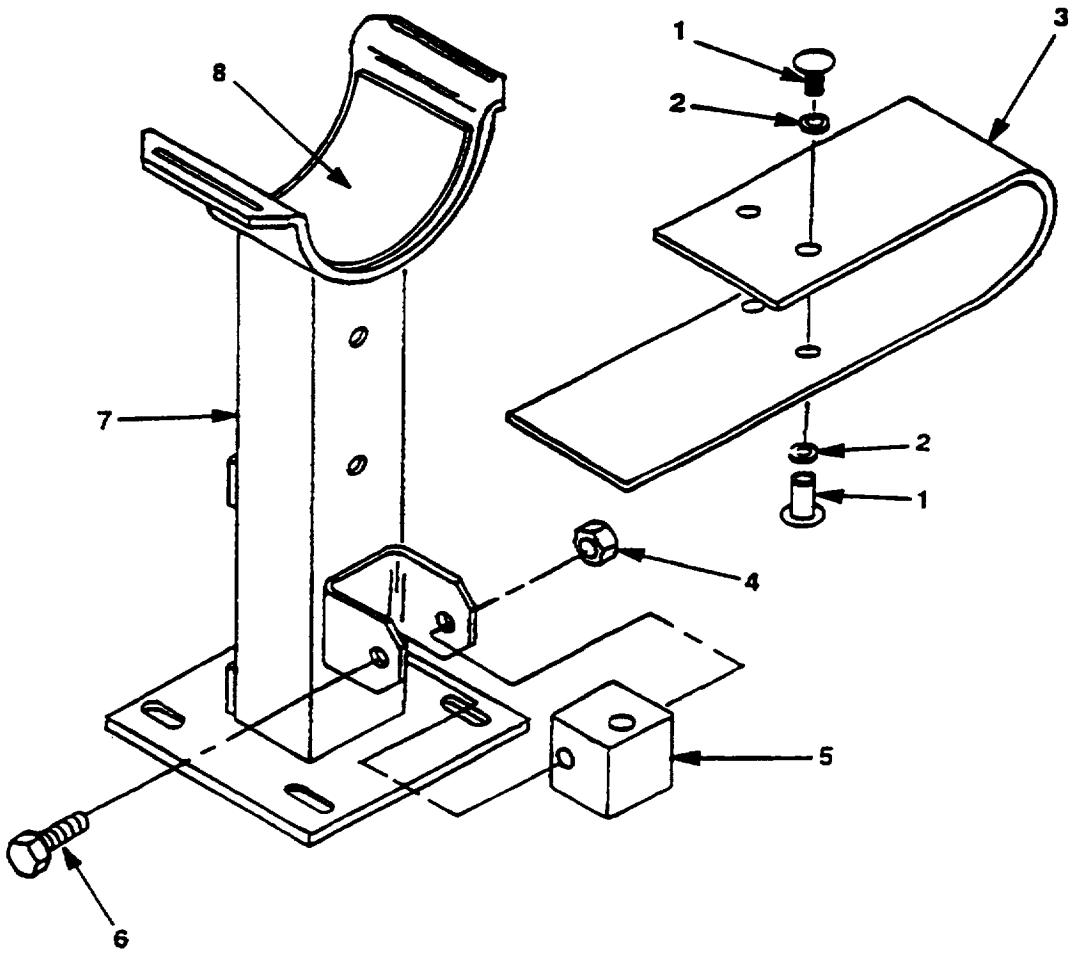

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Figure C-16. Cradle Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0302 CRADLE ASSEMBLY.	
					FIGURE C-16.	
1	PEOOO	5985014238577	80063	A3209999	ACCESSORY KIT, ANTEN	2
2	PAOZZ	5310005505054	96906	MS15795-809	WASHER, FLAT	4
3	PAOZZ	5340014212790	80063	A3209965	STRAP, RETAINING	1
4	PAOZZ	5310014211857	80063	A3210099-1	NUT, HEXAGON	1
5	XBOOO		80063	A3209690	BLOCK, UNION	1
6	PAOZZ	5305007208491	80063	A3210095-5	SCREW, CAP, HEXAGON	1
7	XBOZZ		80063	A3209982	CRADLE WELDENT	1
8	PAOZZ	8135014242268	12058	A3210121	CUSHION, SHIPPING AN	1

END OF FIGURE

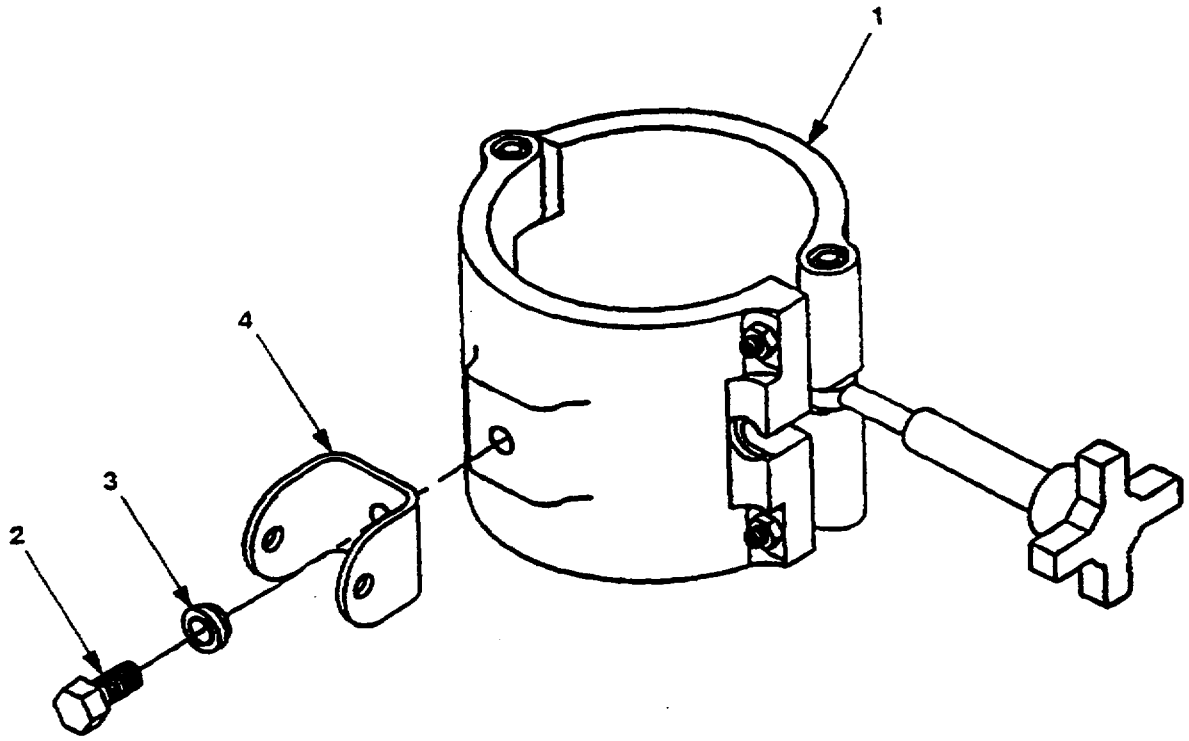

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Figure C-17. Clamp Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0303 CLAMP ASSEMBLY.	
					FIGURE C-17.	
1	PAOZZ	5340014241516	80063	A3209994	CLAMP, LOOP	1
2	PAOZZ	5305007175460	96906	MS35307-359	SCREW, CAP, HEXAGON H	1
3	PAOZZ	5310014212006	80063	A3209992	WASHER, SHOULDERED	1
4	XBOZZ		80063	A3210081	BRACKET, UNION	1

END OF FIGURE

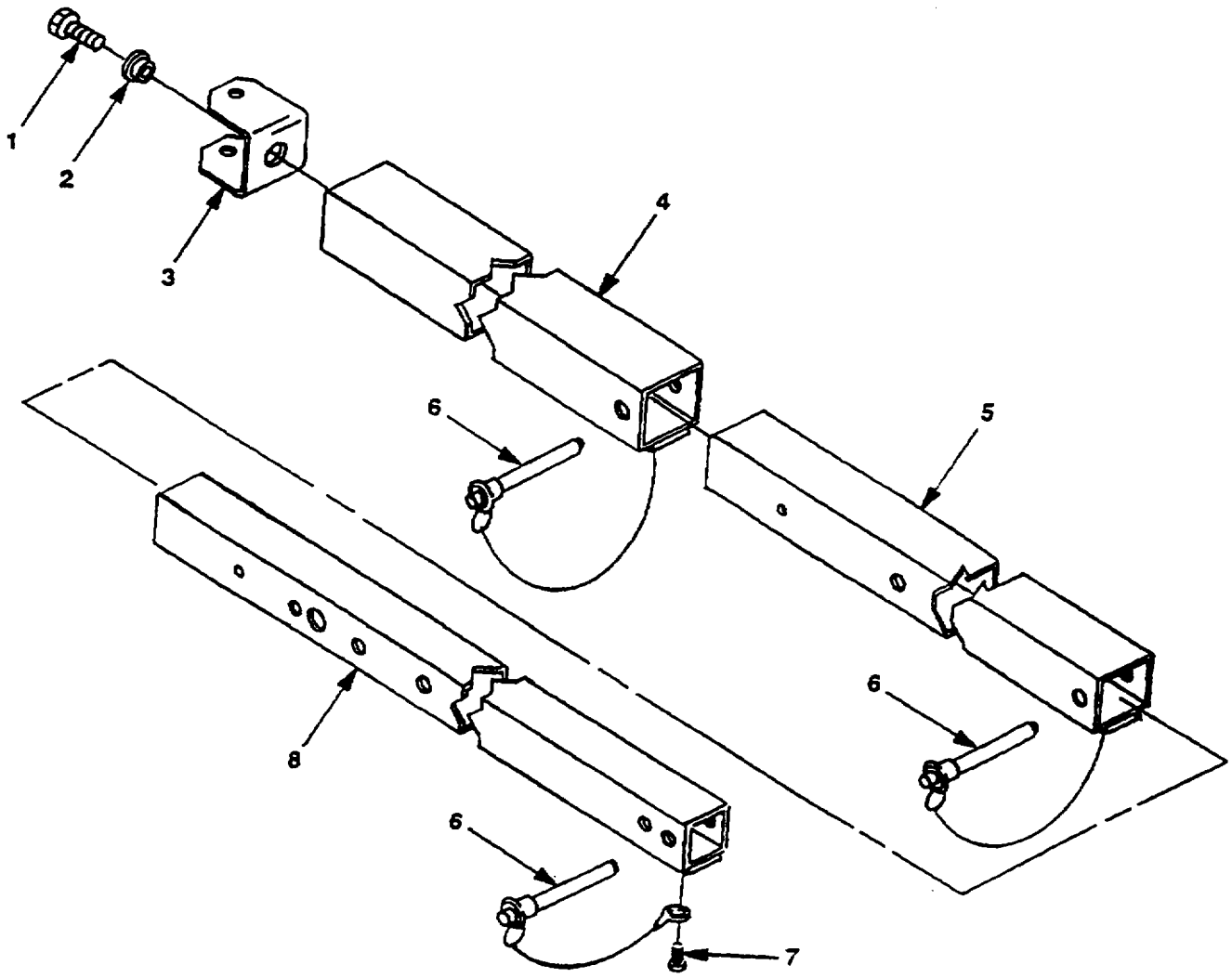

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Figure C-18. Strut Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
					GROUP 0304 STRUT ASSEMBLY.	
					FIGURE C-18.	
1	PAOZZ	5305005785417	80063	A3210095-3	SCREW, CAP, HEXAGON.....	1
2	PAOZZ	5310014212006	80063	A3209992	WASHER, SHOULDERED	1
3	XBOZZ		80063	A3210081	BRACKET, UNION	1
4	XBOZZ		80063	A3209980	STRUT WELDMENT	1
5	XBOZZ		80063	A3209984	STRUT WELDMENT, 1.50	1
6	PAOZZ	4010014208683	80063	A3210015-2	WIRE ROPE ASSEMBLY	3
7	PAOZZ	5305014224348	80063	A3210104-1	SCREW, TAPPING	3
8	XBOZZ		80063	A3209986	STRUT WELDMENT, 1.25	1

END OF FIGURE

CROSS-REFERENCE INDEXES

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5315-00-063-7312	C-7	11
5306-00-127-5692	C-8	32
5120-00-224-4128	C-2	27
4030-00-437-1798	C-2	25
5305-00-477-0120	C-13	8
5310-00-550-5054	C-10	2
	C-13	4
	C-16	2
5305-00-576-5417	C-8	25
	C-14	9
	C-18	1
5310-00-625-5756	C-8	6
5315-00-628-3806	C-7	9
5305-00-632-2777	C-8	13
5305-00-717-5460	C-14	10
	C-17	2
5305-00-720-8491	C-8	11
	C-11	4
	C-12	6
	C-13	10
	C-14	11
	C-15	6
	C-16	6
5310-00-773-7618	C-14	13
5305-00-822-5853	C-15	4
5310-00-883-9384	C-13	7
5305-00-943-2092	C-8	28
5385-01-013-6607	C-8	33
5325-01-016-4937	C-3	1
	C-4	1
	C-5	1
	C-6	1
5305-01-085-4877	C-8	21
5120-01-151-1804	C-2	33
4010-01-339-4312	C-9	10
4010-01-377-2684	C-15	9
5985-01-381-6341	C-1	1
5310-01-391-7504	C-8	1
5325-01-395-5075	C-4	3
	C-5	3
	C-6	3
	C-7	3
4010-01-420-8680	C-12	3
4010-01-420-8682	C-15	7
4010-01-420-8683	C-18	6
5365-01-420-8871	C-2	15
4010-01-421-0428	C-7	8
4030-01-421-0429	C-2	31
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4030-01-421-0433	C-2	30
4010-01-421-0434	C-2	22
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5340-01-421-2002	C-2	21
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5310-01-421-2005	C-14	15
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5340-01-421-2790	C-10	3
	C-13	5
	C-18	3
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	C-6	5
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5305-01-422-2970	C-4	7
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	C-6	8
	C-7	6
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5306-01-422-2972	C-2	16
5305-01-422-2974	C-2	19
5305-01-422-3024	C-9	3
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CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-01-422-5877	C-9	1			
5310-01-422-5878	C-8	27			
5305-01-422-5959	C-4	6			
	C-5	6			
	C-6	6			
5305-01-422-5964	C-8	20			
5306-01-422-5995	C-7	5			
5310-01-422-8048	C-4	4			
5310-01-422-8053	C-5	4			
5310-01-423-0887	C-8	24			
5985-01-423-8576	C-2	8			
5985-01-423-8577	C-13	3			
	C-16	1			
5340-01-424-1503	C-2	5			
5340-01-424-1504	C-2	15			
5340-01-424-1516	C-8	15			
	C-17	1			
8135-01-424-2266	C-10	5			
	C-13	11			
	C-16	8			
5315-01-424-6539	C-9	14			
	C-15	10			
5210-01-424-7408	C-2	2			
5985-01-424-7413	C-2	24			
5310-01-425-2436	C-8	34			
4010-01-425-8698	C-9	5			
4730-01-426-2339	C-6	4			
4730-01-426-2344	C-7	4			
5310-01-434-5050	C-4	9			
	C-5	9			
	C-6	9			
8105-01-437-0820	C-2	25			
4710-01-442-6210	C-4	2			
4710-01-442-6214	C-3	2			
4710-01-442-6217	C-6	2			
4710-01-442-6226	C-5	2			
4710-01-442-6227	C-7	2			
5120-01-443-8895	C-2	29			
5985-01-451-2963	C-2	23			
5340-01-455-8806	C-7	7			
5340-01-455-8807	C-4	8			
5340-01-455-8808	C-6	7			
5340-01-455-8810	C-5	8			
5340-01-461-6618	C-2	18			
5360-01-482-2641	C-2	7			
5985-01-462-4106	C-2	26			

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
58536	A-A-1292	5120-00-224-4128	C-2	27
96906	AA175-1		C-10	1
80058	AB-1386/U	5985-01-381-6341	C-1	1
80063	A210123		C-2	10A
80063	A3209791		C-2	9
80063	A3209795	4030-01-421-0433	C-2	30
80063	A3209797	5365-01-420-8871	C-2	15
80063	A3209801	3010-01-421-6827	C-2	1
80063	A3209814		C-2	10
80063	A3209815		C-2	11
80063	A3209816		C-2	12
80063	A3209817		C-2	13
80063	A3209818		C-2	14
80063	A3209825	5305-01-422-2972	C-2	18
80063	A3209830	5305-01-422-2974	C-2	19
80063	A3209831	5305-01-422-2971	C-2	20
80063	A3209832	5305-01-422-2970	C-4	7
			C-5	7
			C-6	8
			C-7	6
80063	A3209844		C-2	17
12058	A3209862	4710-01-442-6210	C-4	2
12058	A3209863	4710-01-442-6214	C-3	2
12058	A3209864	4710-01-442-6217	C-6	2
12058	A3209865	4710-01-442-6226	C-5	2
80063	A3209866		C-7	1
80063	A3209870	5340-01-421-2789	C-7	10
80063	A3209871	5305-01-422-2436	C-7	12
12058	A3209875	4710-01-442-6227	C-7	2
80063	A3209877	3040-01-421-1593	C-2	6
80063	A3209883	4010-01-421-0428	C-7	8
80063	A3209888		C-2	3
80063	A3209889		C-2	4
80063	A3209895	5340-01-421-2002	C-2	21
80063	A3209896	5305-01-422-5959	C-4	6
			C-5	6
			C-6	6
80063	A3209897	5340-01-424-1504	C-2	15
80063	A3209898	5360-01-421-6056	C-4	5
			C-5	5
			C-6	5
80063	A3209907	4030-01-421-0429	C-2	31
80063	A3209918	5340-01-424-1503	C-2	5
80063	A3209920	5985-01-423-8576	C-2	8
80063	A3209930	5985-01-424-7413	C-2	24
12058	A3209940	5445-01-422-1914	C-2	32
80063	A3209946	4010-01-421-0434	C-2	22
80063	A3209948		C-14	1
80063	A3209949		C-15	5
80063	A3209952		C-15	3
80063	A3209954		C-14	8

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80063	A3209955		C-15	1
80063	A3209957		C-14	3
80063	A3209958		C-14	6
80063	A3209960		C-11	1
			C-12	1
			C-16	5
80063	A3209961		C-14	2
80063	A3209962		C-16	7
80063	A3209965	5340-01-421-2790	C-10	3
			C-13	5
			C-16	3
80063	A3209971		C-14	4
80063	A3209979		C-14	5
80063	A3209980		C-18	4
80063	A3209984		C-18	5
80063	A3209986		C-18	8
80063	A3209992	5310-01-421-2006	C-8	14
			C-17	3
			C-18	2
80063	A3209994	5340-01-424-1516	C-8	15
			C-17	1
80063	A3209999	5985-01-423-8577	C-13	3
			C-16	1
80063	A3210001		C-8	19
80063	A3210004		C-8	23
80063	A3210005		C-8	16
80063	A3210006		C-8	17
80063	A3210011		C-9	13
80063	A3210014		C-8	18
80063	A3210015-1	4010-01-420-8680	C-12	3
80063	A3210015-2	4010-01-420-8683	C-18	6
80063	A3210018		C-8	10
80083	A3210019		C-13	1
80063	A3210020		C-8	26
80063	A3210026		C-8	3
80063	A3210027		C-8	7
80063	A3210028		C-8	8
80063	A3210032		C-8	22
80063	A3210037	4010-01-425-8698	C-9	5
80063	A3210039		C-10	4
80063	A3210041	5315-01-421-2011	C-9	8
80063	A3210043	5315-01-421-2003	C-9	9
80063	A3210044		C-11	3
80063	A3210048		C-12	4
80063	A3210050		C-12	7
80063	A3210058	5305-01-422-3024	C-9	3
80063	A3210060-1	5305-01-422-5964	C-8	20
80063	A3210060-2	5305-01-422-4349	C-8	9
80063	A3210061-1	5305-00-943-2092	C-8	28
80063	A3210062	5340-01-421-2791	C-13	6
80063	A3210069	5325-01-421-0435	C-9	7

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80063	A3210069	5325-01-421-0435	C-15	8
80063	A3210072		C-9	12
80063	A3210076		C-13	9
80063	A3210078	5310-01-423-0887	C-8	24
80063	A3210081		C-11	5
			C-12	5
			C-17	4
			C-18	3
80063	A3210083	5315-01-424-6539	C-9	14
			C-15	10
80063	A3210085	4030-01-421-0432	C-2	28
80063	A3210086	4010-01-420-8682	C-15	7
80063	A3210091		C-14	14
80063	A3210092		C-14	7
80063	A3210094-2	5305-01-422-1814	C-8	2
80063	A3210094-3	5305-01-422-1810	C-8	30
80063	A3210095-1	5305-00-632-2777	C-8	13
80063	A3210095-2	5305-00-717-5460	C-14	10
80063	A3210095-3	5305-00-576-5417	C-14	9
			C-18	1
80063	A3210095-5	5305-00-720-8491	C-8	11
			C-11	4
			C-12	6
			C-13	10
			C-14	11
			C-15	6
			C-16	6
80063	A3210095-6	5305-00-822-5853	C-15	4
80063	A3210096-1	5305-01-422-5877	C-9	1
80063	A3210097-7	5310-01-422-5878	C-8	27
80063	A3210097-8	5310-01-425-2436	C-8	34
80063	A3210097-9	5310-01-434-5050	C-4	9
			C-5	9
			C-B	9
80063	A3210098-1	5310-01-421-1853	C-8	4
80063	A3210098-2	5310-01-421-1848	C-8	5
80063	A3210098-4	5310-01-421-1850	C-9	6
80063	A3210098-5	5310-01-421-1851	C-8	29
80063	A3210099-1	5310-01-421-1857	C-8	12
			C-11	2
			C-12	2
			C-13	2
			C-14	12
			C-15	2
			C-16	4
80063	A3210100-1	5310-01-421-2021	C-9	4
80063	A3210100-2	5310-01-421-2005	C-14	15
80063	A3210104-1	5305-01-422-4348	C-9	11
			C-12	8
			C-18	7
80063	A3210106	4730-01-426-2344	C-7	4

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80063	A3210107	4730-01-428-2339	C-6	4
80063	A3210108	5310-01-422-8053	C-5	4
80063	A3210109	5310-01-422-8048	C-4	4
80063	A3210112-2	5315-00-063-7312	C-7	11
12058	A3210113-1	5315-00-628-3806	C-7	9
80083	A3210114-1	5305-01-422-4350	C-3	3
12058	A3210121	8135-01-424-2266	C-10	5
			C-13	11
			C-16	8
80063	A3210124		C-8	31
80063	A3210133	5306-01-422-5995	C-7	5
80063	A3210137	8105-01-437-0820	C-2	25
80063	A3210143-3	5985-01-452-4106	C-2	26
80063	A3210145	5120-01-443-6895	C-2	29
80063	A3210149	5985-01-451-2963	C-2	23
80063	A3210153	5340-01-461-6618	C-2	18
80063	A3210156	5340-01-455-8806	C-7	7
80063	A3210157	5340-01-455-8808	C-6	7
80063	A3210158	5340-01-455-8810	C-5	8
80063	A3210159	5340-01-455-8807	C-4	8
77445	CL-23-KA-12-LR	4010-01-339-4312	C-9	10
80063	CL-23-KA-18LR		C-9	15
		4010-01-377-2684	C-15	9
92830	C0180-022-0310S	5360-01-462-2641	C-2	7
87045	D2477P	5365-01-013-6607	C-8	33
96906	MS15795-809	5310-00-550-5054	C-10	2
			C-13	4
			C-16	2
96906	MS15795-810	5310-01-391-7504	C-8	1
96906	MS15795-812	5310-00-625-5756	C-8	6
96906	MS15795-814	5310-00-773-7618	C-14	13
96906	NS15795-842	5310-00-883-9384	C-13	7
96906	MS21209-C1-10L	5325-01-395-5075	C-4	3
			C-5	3
			C-6	3
			C-7	3
96906	MS21209-F1-10 L	5325-01-016-4937	C-3	1
			C-4	1
			C-5	1
			C-6	1
96906	MS35307-359	5305-00-717-5460	C-17	2
96906	MS35307-360	5305-00-578-5417	C-8	25
96906	S551109-32	5305-01-085-4877	C-8	21
96906	S51861-46C	5305-00-477-0120	C-13	8
80058	MT-6967/G		C-1	2
80058	MT-6968/G		C-1	3
19206	WTVB23019	5305-00-127-5692	C-8	32
82084	1-18530	5210-01-424-7408	C-2	2
31734	10907	5120-01-151-1804	C-2	33
51506	15668-0.095-0.34 5-SS-1	5310-01-421-2020	C-9	2

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81888	425-658-1	4030-00-437-1798	C-2	26

APPENDIX D

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists components of end item and basic issue items for Mast AB-1386/U to help you inventory items required for safe and efficient operation.

D-2. GENERAL

The components of end item and basic issue items lists are divided into the following sections.

a. Section II. Components of End Item

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

b. Section III. Basic Issue Items

These are the minimum essential items required to place the AB-13861U in operation, to operate it, and perform emergency repairs. Although shipped separately, packaged BII must be with the AB-13861U during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard to identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

D-3. EXPLANATION OF COLUMNS

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

a. Column (1) - Illustration Number (Illus. No.)

This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number

Indicates the national stock number assigned to the item and will be used for requisitioning purposes.

D-3. EXPLANATION OF COLUMNS - Continued

c. Column (3) - Description (Description (CAGEC) and Part Number)

Indicates the item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code (in parentheses) followed by the part number.

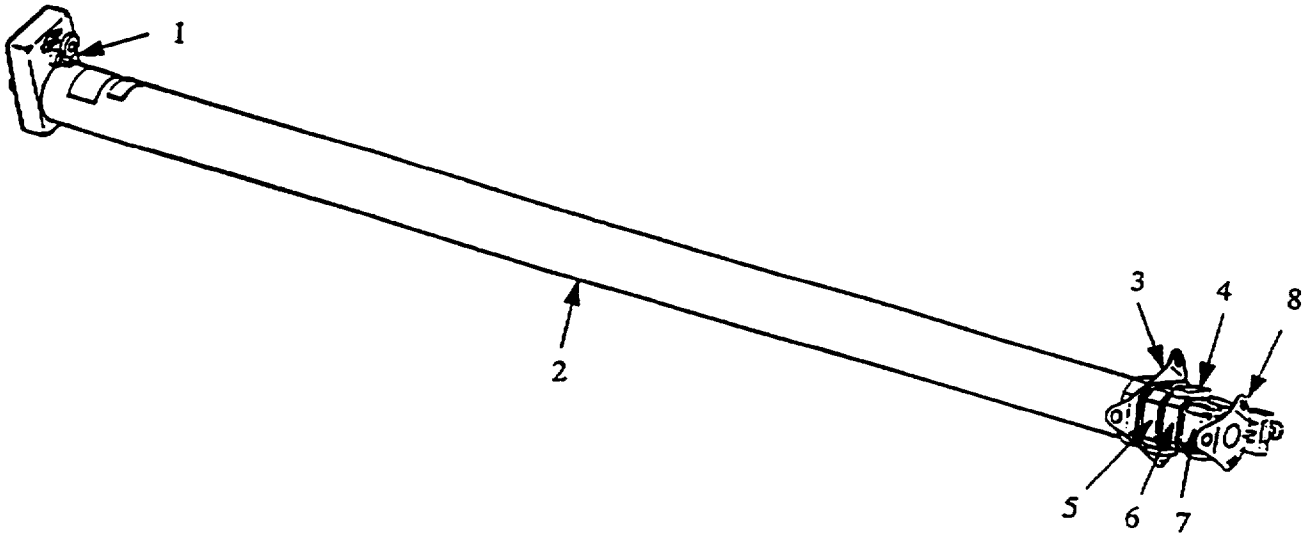
d. Column (4) - Unit of Measure (U/M)

Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR).

e. Column (5) - Quantity Required (Qty Reqd)

Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM



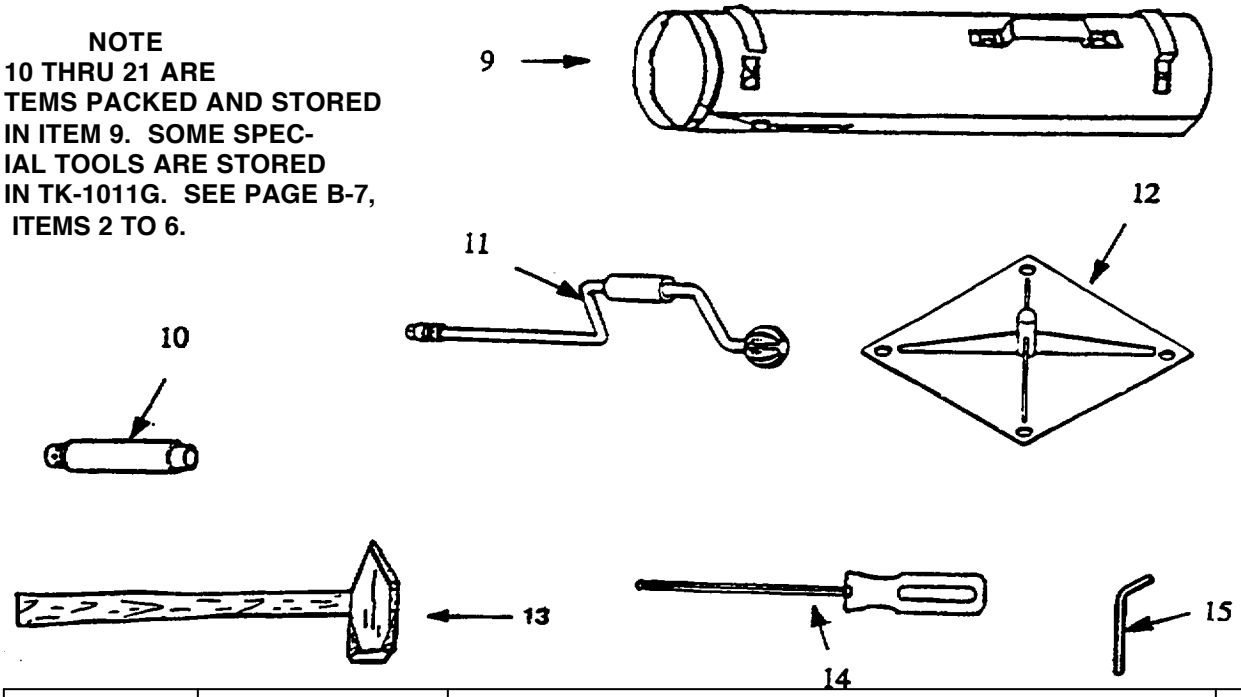
NOTE

ITEMS 1 THRU 8 ARE ASSEMBLED AS A SINGLE UNIT. THESE ITEMS CAN BE PACKED AND STORED IN A TRANSPORT CONTAINER WHICH IS AVAILABLE AS AN ADDITIONAL AUTHORIZED ITEM (SEE APPENDIX G, ITEM 1).

(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
	5985-01-381-6341	Mast AB-1386/U (80063) A3209788 consisting of:	EA	1
1	3010-01-421-6827	Gearbox (80063) A3209801	EA	1
2		Base Section, Mast (80063) A3209818	EA	1
3		Guy Ring, Lower (80063) A3209791	EA	1
4	5340-01-424-1504	Lock Assembly (80063) A3210153	EA	3
5		Mast Section, Lower Intermediate (80063) A3209817	EA	1
6		Mast Section, Middle Intermediate (80063) A3209816	EA	1
7		Mast Section, Upper Intermediate (80063) A3209815	EA	1
8		Mast Section, Top (80063) A3209814	EA	1

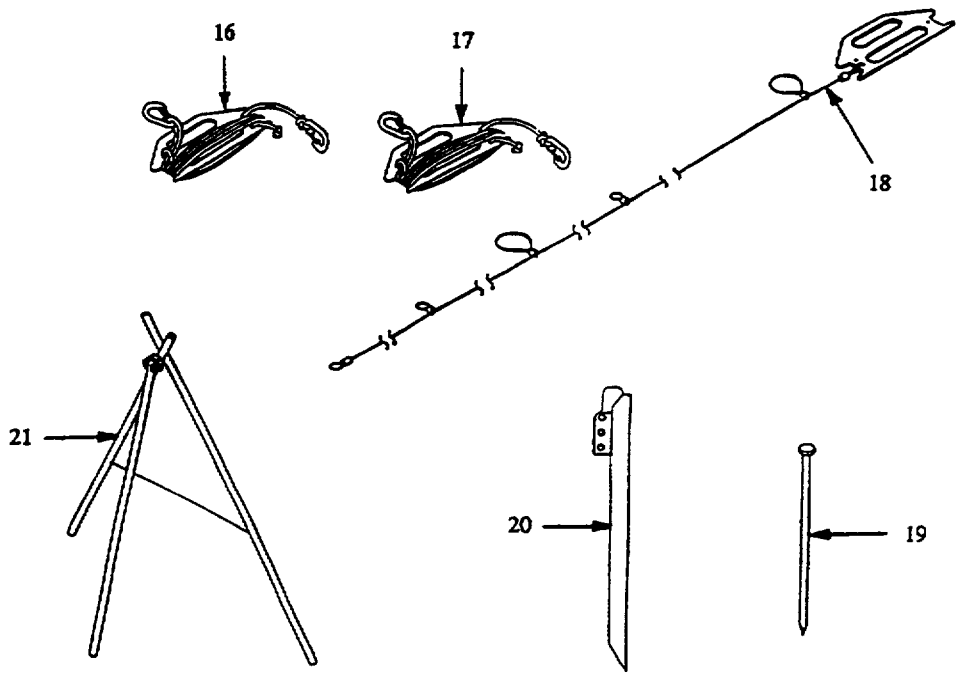
Section II. COMPONENTS OF END ITEM - Continued

NOTE
10 THRU 21 ARE TEMS PACKED AND STORED IN ITEM 9. SOME SPECIAL TOOLS ARE STORED IN TK-1011G. SEE PAGE B-7, ITEMS 2 TO 6.



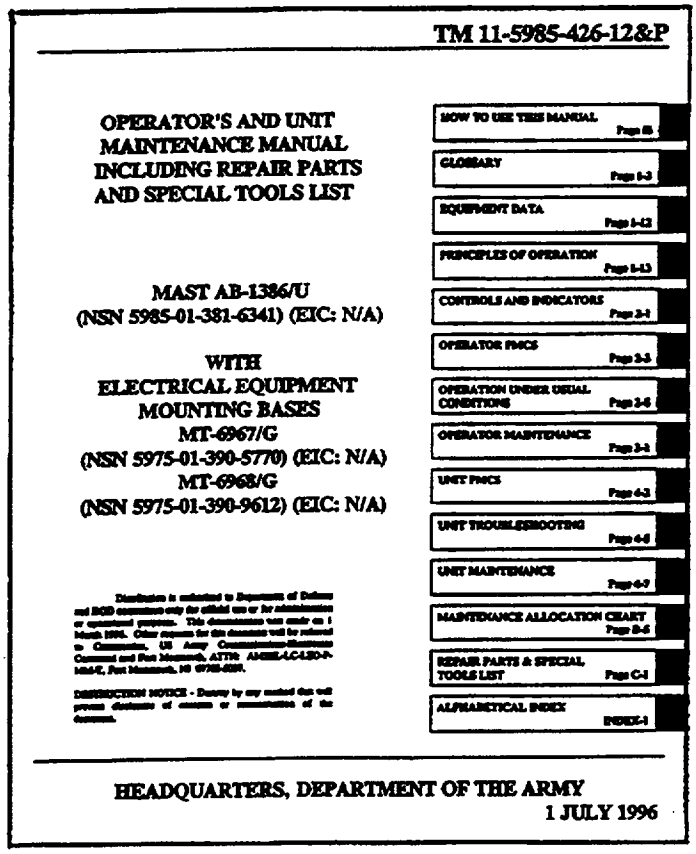
(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
9	8105-01-437-0820	Accessory Bag (80063) A3210137	EA	1
10	5985-01-423-8576	Adapter, Antenna (80063) A3209920	EA	1
11	5340-01-424-1503	Hand Crank, Gearbox (80063) A3209918	EA	1
12	5445-01-422-1914	Baseplate (80063) A3209940	EA	1
13	5120-00-902-0094	Hammer (58536) A-A-1292	EA	1
14	5120-01-443-6895	Balldriver (80063) A3210145	EA	1
15	5120-00-151-1804	Hex Key (31734) 10907	EA	1

Section II. COMPONENTS OF END ITEM - Continued



(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
16	4030-01-421-0429	Guy Assembly, Inner (80063) A3209907	EA	3
17	4030-01-421-0433	Guy Assembly, Outer (80063) A3209795	EA	3
18	4010-01-421-0434	Rope, Radius (80063) A3209946	EA	1
19	4030-01-421-0432	Stake, Baseplate (80063) A3210085	EA	2
20	5985-01-264-2764	Stake, Guy (80063) A3210143-3	EA	6
21	5985-01-424-7413	Tripod, Mast Support (80063) A3209930	EA	1

Section III. BASIC ISSUE ITEMS


TM 11-5985-426-12&P

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

MAST AB-1386/U
(NSN 5985-01-381-6341) (EIC: N/A)

WITH
ELECTRICAL EQUIPMENT MOUNTING BASES
MT-6967/G
(NSN 5975-01-390-5770) (EIC: N/A)
MT-6968/G
(NSN 5975-01-390-9612) (EIC: N/A)

HOW TO USE THIS MANUAL
GLOSSARY
EQUIPMENT DATA
PRINCIPLES OF OPERATION
CONTROLS AND INDICATORS
OPERATOR PMCS
OPERATION UNDER USUAL CONDITIONS
OPERATOR MAINTENANCE
UNIT PMCS
UNIT TROUBLESHOOTING
UNIT MAINTENANCE
MAINTENANCE ALLOCATION CHART
REPAIR PARTS & SPECIAL TOOLS LIST
ALPHABETICAL INDEX

HEADQUARTERS, DEPARTMENT OF THE ARMY
1 JULY 1996

1

(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
1		Technical Manual TM 11-5985-426-12&P	EA	1

APPENDIX E

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE

This appendix lists the expendable supplies and materials you will need to operate and maintain the Mast AB-1386/U. These items are authorized to you by CTA 50-970, Expendable Items (except Medical, Class V, Repair Parts and Heraldic Items).

E-2. FORMS

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 1, app E).

b. Column (2) - Level

This column identifies the lowest level of maintenance that requires the listed item. One of the following codes appears in column (2).

C - Operator/Crew (Unit)
O - Organizational (Unit)

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 Federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number.

e. Column (5) - Unit of Measure (U/M)

Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O	8020-00-721-9657	Brush, Paint, 2-in. wide	EA
2	O	8040-01-137-8418	Epoxy, Two-Part, EA9330 (33564)	KT
3	O	8010-01-229-7546	Paint, Green (Color #383) (81349) MIL-C-53039	QT
4	O	5350-00-221-0872	Crocus Cloth, Fine, P-C-458	EA
5	O	8040-00-973-4870	Adhesive, MIL-A-21366	QT

APPENDIX F

MOUNTING OF ANTENNAS

F-1. SCOPE

This appendix provides detailed instructions for mounting the two antennas and two antenna adapters used with the mast.

F-2. INSTALLATION OF ANTENNA AS-3166

a. Installation

The following procedure is used to install the AS-3166 on the mast.

WARNING

Wear goggles and gloves when installing antenna on mast. Raise the mast as soon as possible after antenna installation.

DO NOT USE the AS-3166 if the safety tip caps are missing from the antenna elements. Use field expedient means to replace the tip caps if necessary. DO NOT leave the antenna on the ground assembled. DO NOT leave the mast in a retracted position when the AS-3166 is mounted. Keep unnecessary personnel away from the antenna.

Ensure that external whip antennas are deenergized and disconnected when performing this operation or are located within 30 inches (7.62 m) of personnel.

Failure to observe this warning may result in severe personal injury or DEATH.

(1) Remove mast antenna adapter from accessory bag.

(2) Install mast antenna adapter onto post of antenna AS-3166. Turn antenna adapter until two cams (internal in each component) lock in place.

(3) Install hand crank (refer to paragraph 2-8e, steps 13 thru 15).

(4) Crank mast up 4 in. (10.2 cm).

(5) Slide RF cable through mast cable loops.

(6) Insert RF cable through strain relief, allowing enough cable to make connection at antenna.

F-2. INSTALLATION OF ANTENNA AS-3166 - Continued

a. Installation - Continued

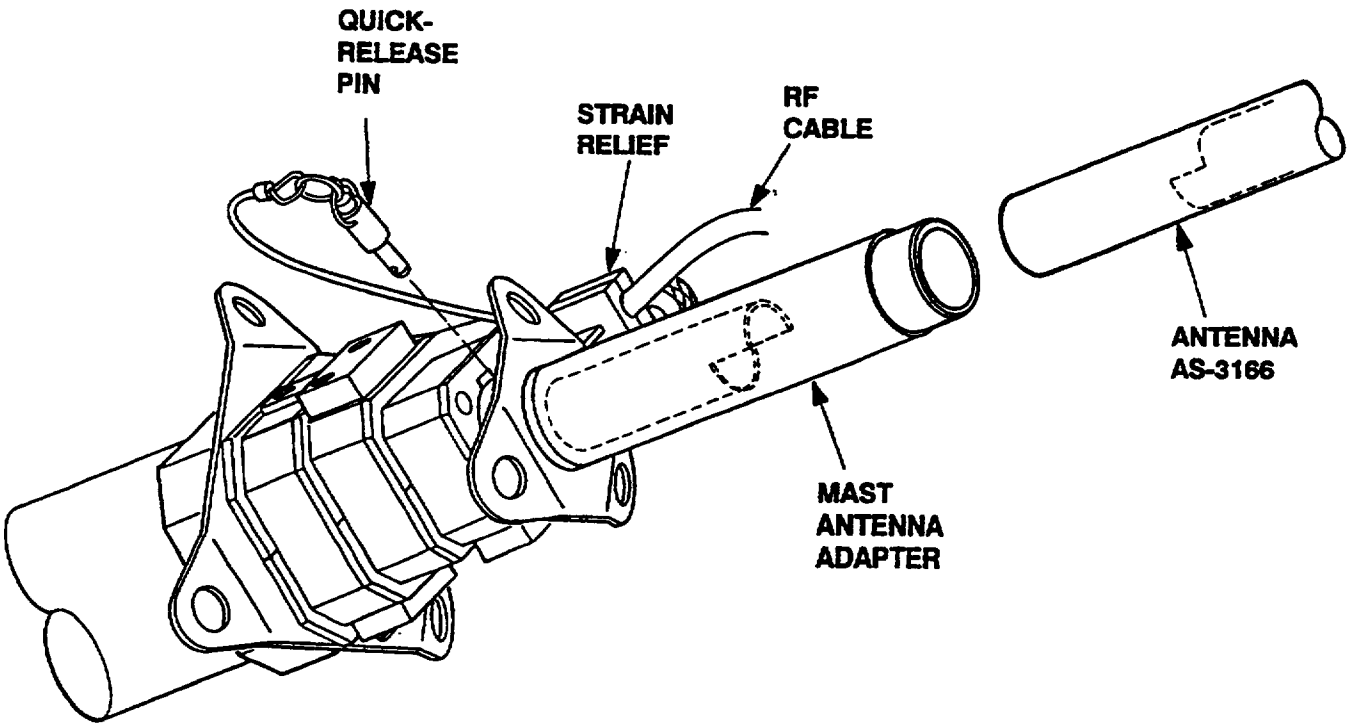
NOTE

When installing antenna AS-3166, ensure that the antenna rods do not cover the gearbox to avoid interference when deploying the mast. When installing the antenna in the HMMWV configuration, align antenna cable connector with mast cable clamp and cable guides.

(7) Install mast antenna adapter with AS-3166 into mast top section. Align holes in mast antenna adapter with antenna mount in mast top section. Install quick-release pin.

(8) Connect RF cable at antenna and hand tighten connector.

(9) Tighten strain relief knob.



F-2. INSTALLATION OF ANTENNA AS-3166 - Continued

b. Removal

The following procedure is used to remove the AS-3166.

WARNING

Wear goggles and gloves when removing antenna from mast. Never leave assembled antenna on the ground or on the mast in its retracted position.

Ensure that external whip antennas are deenergized and disconnected when performing this operation or are located within 30 inches (7.62 m) of personnel.

Failure to observe this warning may result in severe personal injury or DEATH.

(1) Loosen strain relief knob.

(2) Disconnect RF cable at antenna.

(3) Remove quick-release pin. Remove mast antenna adapter with antenna AS-3166 from mast top section. Reinstall quick-release pin.

(4) Slide RF cable through strain relief and mast cable loops.

(5) Install hand crank (refer to paragraph 2-9a, steps 1 thru 3).

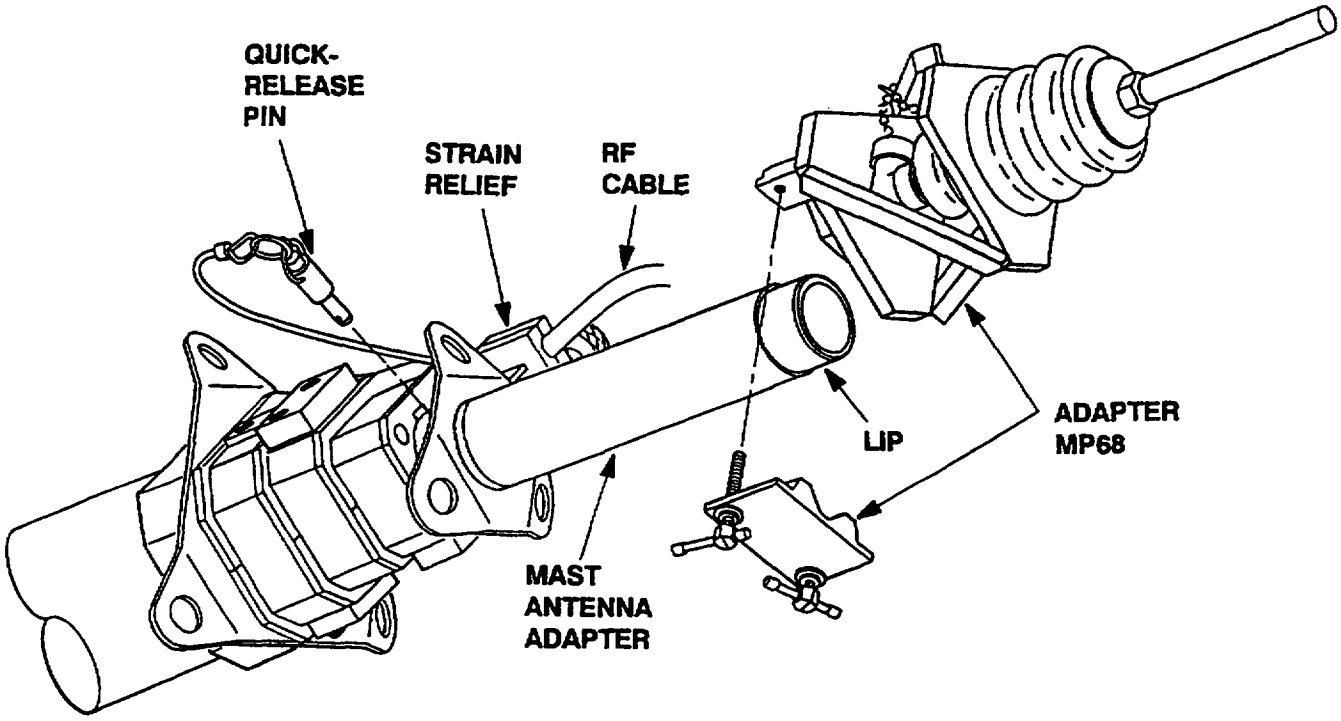
(6) Retract mast to its fully nested position.

(7) Separate mast antenna adapter and antenna AS-3166. Turn antenna adapter until two cams (internal in each component) separate.

(8) Stow mast antenna adapter in accessory bag.

F-3. INSTALLATION OF ADAPTER MP68

a. Installation



(1) Remove mast antenna adapter from accessory bag.

(2) Loosen two screws securing clamp on bottom of MP68 adapter.

(3) Slide MP68 adapter over mast antenna adapter until bracket bottoms on 2-inch lip of mast antenna adapter.

(4) Tighten two screws securing clamp on MP68 adapter.

(5) Install hand crank (refer to paragraph 2-8e, steps 13 thru 15).

(6) Crank mast up 4 in. (10.2 cm).

(7) Slide RF cable through mast cable loops.

F-3. INSTALLATION OF ADAPTER MP68 - Continued

(8) Insert RF cable through strain relief, allowing enough cable to make connection at antenna.

(9) Install mast antenna adapter with MP68 adapter into mast top section. Align holes in mast antenna adapter with antenna mount in mast top section. Install quick-release pin.

(11) Connect RF cable at antenna and hand tighten connector.

(12) Tighten strain relief knob.

b. Removal

(1) Loosen strain relief knob.

(2) Disconnect RF cable at antenna.

(3) Remove quick-release pin. Remove mast antenna adapter with MP68 adapter from mast top section. Reinstall quick-release pin.

(4) Slide RF cable through strain relief and mast cable loops.

(5) Install hand crank (refer to paragraph 2-9a, steps 1 thru 3).

(6) Retract mast to its fully nested position.

(7) Loosen two screws securing clamp on bottom of MP68 adapter.

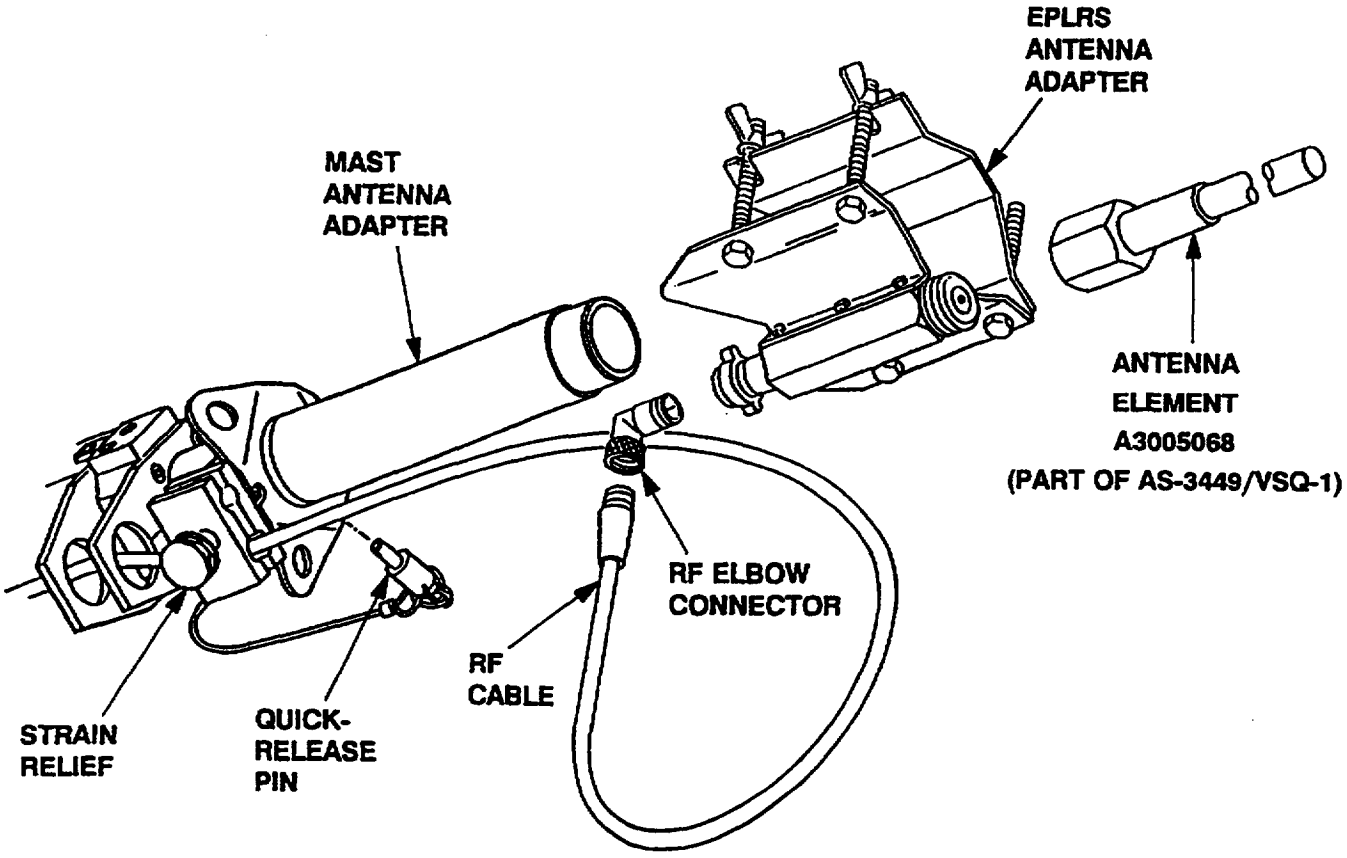
(8) Separate MP68 adapter and mast antenna adapter.

(9) Tighten two screws securing clamp on MP68 adapter.

(10) Stow mast antenna adapter in accessory bag.

F-4. INSTALLATION OF EPLRS ANTENNA ADAPTER AND AS-3449/VSQ-1 ANTENNA ELEMENT

a. Installation



(1) Attach RF elbow connector to EPLRS antenna adapter and secure using thumbwheel.

(2) Loosen wing nuts on clamp screws of EPLRS antenna adapter.

(3) Slide EPLRS antenna adapter over mast antenna adapter. EPLRS antenna adapter should be positioned high up on the 2-inch clamping area of the mast antenna adapter.

F-4. INSTALLATION OF EPLRS ANTENNA ADAPTER AND AS-3449/VSQ-1 ANTENNA ELEMENT - Continued

a. Installation - Continued

(4) Tighten wing nuts on clamp screws.

(5) Install hand crank (refer to paragraph 2-8e, steps 13 thru 15).

(6) Crank mast up 4 in. (10.2 cm).

(7) Slide RF cable through mast cable loops.

(8) Insert RF cable through strain relief, allowing enough cable to make 360-degree loop.

(9) Install mast antenna adapter with EPLRS antenna adapter into mast top section. Align holes in mast antenna adapter with antenna mount in mast top section. Install quick-release pin.

(10) Connect RF cable to RF elbow connector and hand tighten.

(11) Tighten strain relief knob.

(12) Extend mast enough to attach antenna element.

b. Removal

(1) Remove antenna element.

(2) Loosen strain relief knob.

(3) Disconnect RF cable at RF elbow connector.

(4) Remove quick-release pin. Remove mast antenna adapter with EPLRS antenna adapter from mast top section. Reinstall quick-release pin.

(5) Slide RF cable through strain relief and mast cable loops.

(6) Install hand crank (refer to paragraph 2-9a, steps 1 thru 3).

(7) Retract mast to its fully nested position.

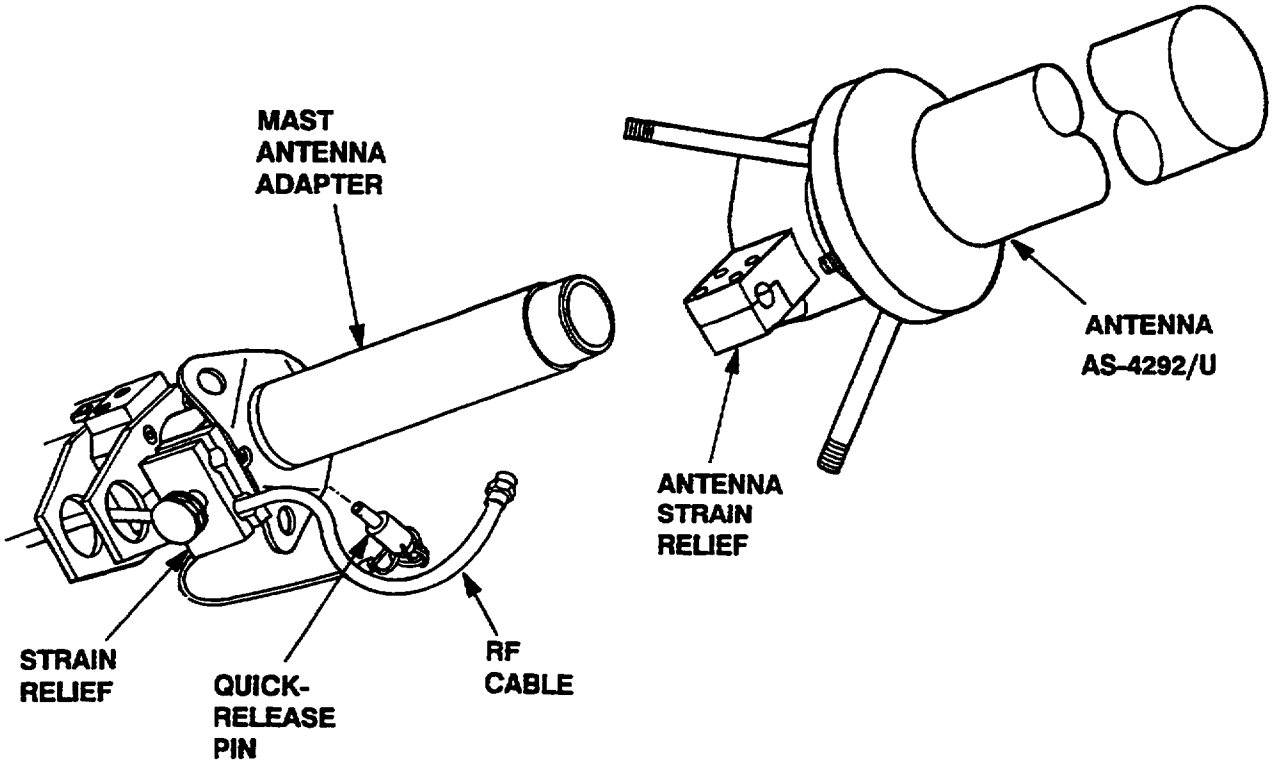
(8) Loosen wing nuts on clamp screws and separate EPLRS antenna adapter and mast antenna adapter. Then engage clamp screws and retighten wing nuts.

(9) Remove RF elbow connection at EPLRS antenna adapter.

(10) Stow mast antenna adapter in accessory bag.

F-5. INSTALLATION OF ANTENNA AS-4292/U

a. Installation



(1) Loosen antenna AS4292/U clamping device.

(2) Slide base of antenna AS-4292/U over mast antenna adapter.

(3) Tighten antenna AS-4292/U clamping device.

(4) Install hand crank (refer to paragraph 2-8e, steps 13 thru 15).

(5) Crank mast up 4 in. (10.2 cm).

(6) Slide RF cable through mast cable loops.

(7) Insert RF cable through strain relief, allowing enough cable to make connection at antenna.

F-5. INSTALLATION OF ANTENNA AS-4292/U - Continued

a. Installation - Continued

(8) Install mast antenna adapter with AS-4292/U into mast top section. Align holes in mast antenna adapter with antenna mount in mast top section. Install quick-release pin.

(9) Loosely clamp RF cable in antenna strain relief. Then connect cable at antenna connector and hand tighten.

(10) Tighten both strain reliefs.

b. Removal

(1) Loosen both strain reliefs.

(2) Disconnect RF cable at antenna AS-42921U.

(3) Remove quick-release pin. Remove mast antenna adapter with AS-4292/U from mast top section. Reinstall quick-release pin.

(4) Slide RF cable through strain relief and mast cable loops.

(5) Install hand crank (refer to paragraph 2-9a, steps 1 thru 3).

(6) Retract mast to its fully nested position.

(7) Loosen antenna AS-4292/U clamping device.

(8) Separate antenna AS4292/U and mast antenna adapter. Then retighten antenna AS-4292/U clamping device.

(9) Stow mast antenna adapter in accessory bag.

APPENDIX G

ADDITIONAL AUTHORIZED LIST

Section I. INTRODUCTION

G-1. SCOPE

This appendix lists additional items you are authorized for support of Mast AB-1386/U.

G-2. GENERAL

This list identifies items that do not accompany Mast AB-1386/U and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

G-3. EXPLANATION OF COLUMNS

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

a. Column (1) - Illustration Number (Illus. No.)

This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number

Indicates the national stock number assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description (Description (CAGEC) and Part Number)

Indicates the item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) Code (in parentheses) followed by the part number.

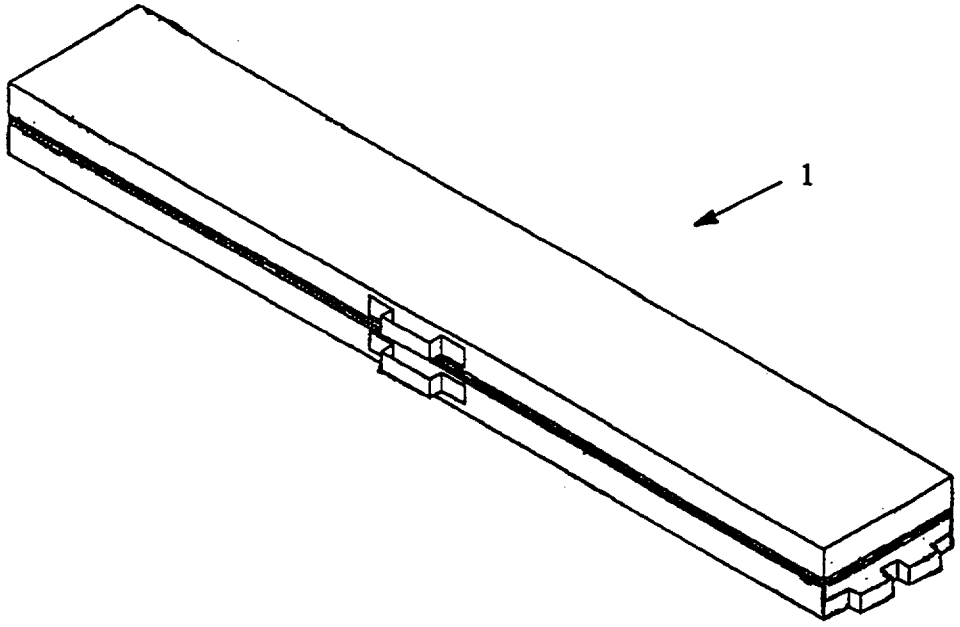
d. Column (4) - Unit of Measure (U/M)

Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR).

e. Column (5) - Quantity Required (Qty Reqd)

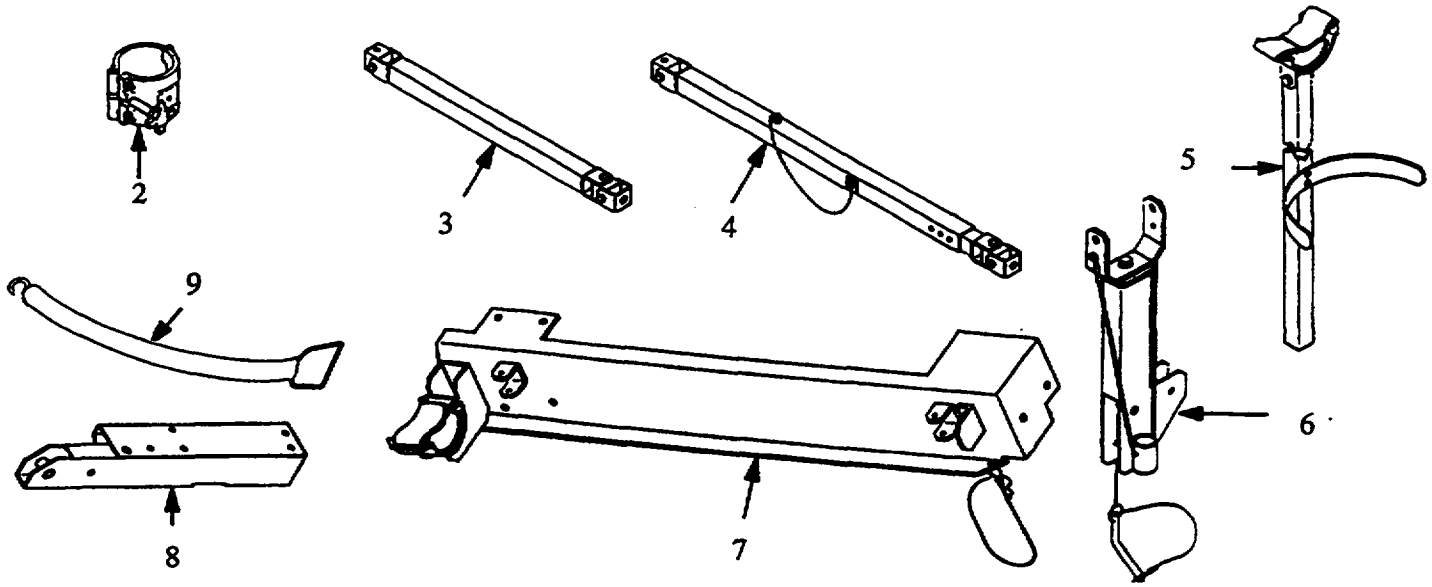
Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. ADDITIONAL AUTHORIZED LIST ITEMS



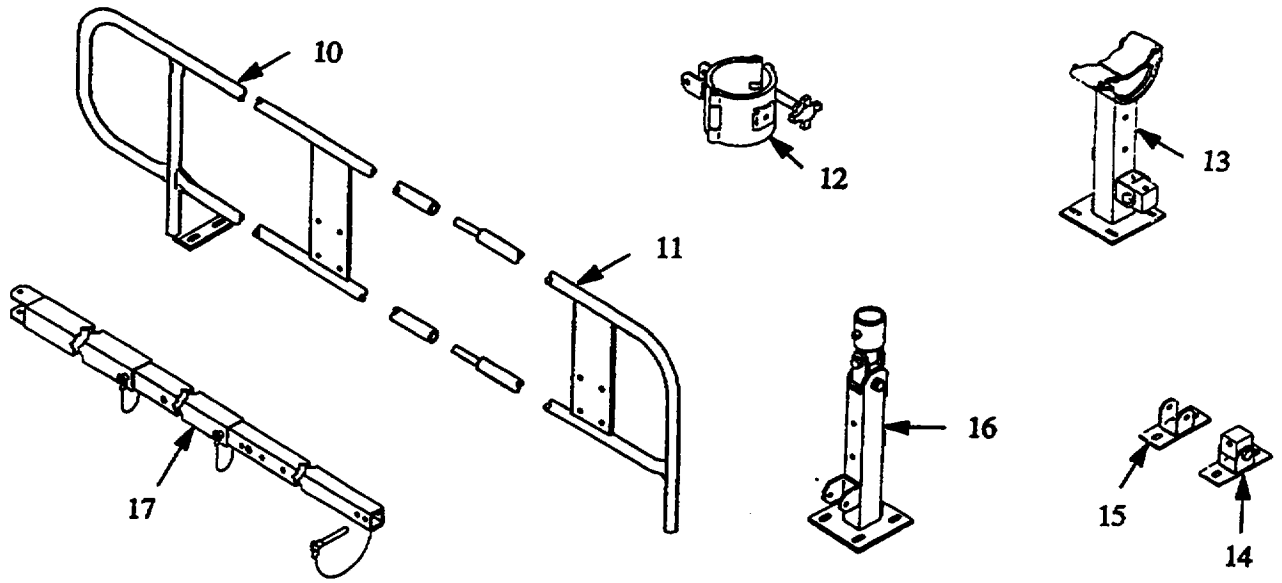
(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
1		Container, Transport (80063) A3210149	EA	1

Section II. ADDITIONAL AUTHORIZED LIST ITEMS - Continued



(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
	5975-01-390-5770	Mounting Base, Electrical Equipment MT-6967/G (Universal HMMWV Mount) (12058) TM6005 consisting of:	EA	1
2	5340-01-424-1516	Clamp Loop (80063) A3209994	EA	3
3		Stut, Short (80063) A3210005	EA	1
4		Strut, Long (80063) A3210006	EA	1
5		Strut, Antenna Loading (80063) A3210014	EA	1
6		Support, Hinged Mast (80063) A3210020	EA	1
7		Support, Strut (80063) A3210018	EA	1
8		Tube, Mast Support (80063) A3210032	EA	1
9		Brush Guard (80063) A3210124	EA	1

Section II. ADDITIONAL AUTHORIZED LIST ITEMS - Continued



(1) Illus. No.	(2) National Stock Number	(3) Description (CAGEC) and Part Number	(4) U/M	(5) QTY Reqd
	5975-01-390-9612	Mounting Base, Electrical Equipment MT-6968/G (Tracked Vehicle Mount) (12058) TM6006 consisting of:	EA	1
10		Brush Guard (80063) A3210091	EA	1
11		Brush Guard (80063) A3210092	EA	1
12		Clamp Assembly (80063) A3209971	EA	1
13		Cradle Assembly (80063) A3209961	EA	1
14		Mount, Strut (80063) A3209957	EA	1
15		Mount, Strut (80063) A3209958	EA	1
16		Pedestal Assembly (80063) A3209948	EA	1
17		Strut Assembly (80063) A3209979	EA	1

ALPHABETICAL INDEX

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DATE SENT
10 July 1975

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

BE EXACT PIN-POINT WHERE IT IS				IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
PAGE NO	PARA GRAPH	FIGURE NO	TABLE NO	
2-25	2-28			Recommend that the installation antenna alignment procedure be changed throughout to specify a 20 IFF antenna lag rather than 10. REASON: Experience has shown that with only a 10 lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing stress to the drive train. Hunting is minimized by adjusting the lag to 20 without degradation of operation.
3-10	3-3		3-1	Item 5, Functional Description. Change 13 2 dB" to 0 3 dB". REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 dB (500 watts) adjustment to light the TRANSMITTER FAULT indicator.
5-6	5-8			... new step f.1 to read, OReplace cover plate removed in step ... above." REASON: To replace the cover plate.
		FO-3		)tone C 3. On 51-2, change Cl+24 VDC" to □+5 VDC". REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

SAMPLE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE
SSG I M. DeSpiritof 999-1776	

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