



Ministry  
of Defence

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16 January 2017

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The publication contains the operating instructions for the PU12 Telescopic mast and ancillaries made by Clark.

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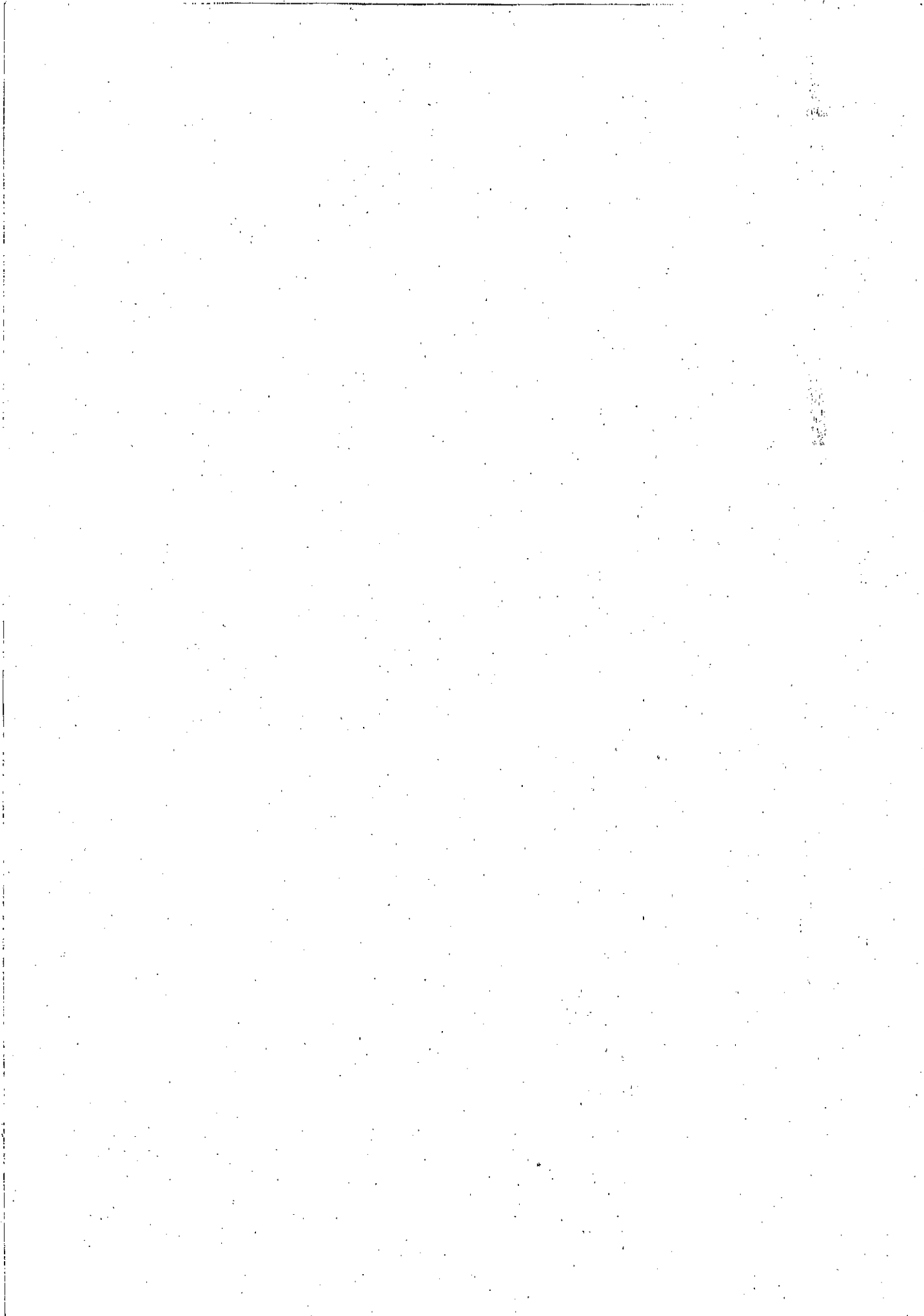
# **MAST AND ANCILLARIES TELESCOPIC PU12 (CLARK)**

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**USER HANDBOOK**

..... Manufacturer's  
Literature

**PREFACE**

**INTRODUCTION**

1 Service users should forward any comments on this publication through the channels prescribed in AESP 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on the AESP.

2 AESPs are issued under Defence Council authority and where AESPs specify action to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores, subject to the provisions of Para 3 below.

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**RELATED AND ASSOCIATED PUBLICATIONS**

**Related Publications**

4 The Octad for the subject equipment consists of the publications shown overleaf. All references are prefixed with the first eight digits of this publication. The availability of the publications can be checked by reference to the relevant Group Index (see AESP 0100-A-001-013).

Category/Sub-category		Information Level				
		1 User/Operator	2 Unit Maintenance	3 Field Maintenance	4 Base Maintenance	
1	0	Purpose and Planning Information	*	*	*	*
	1	Equipment Support Policy Directive	*	*	*	*
2	0	Operating Information	201	*	*	*
	1	Aide Memoire	*	*	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	201	*	*	*
4	1	Installation Instructions	201	*	*	*
	2	Preparation for Special Environments	*	*	*	*
5	1	Failure Diagnosis	*	*	*	*
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	3	Inspection Standards	201	*	*	524
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8	1	Modification Instructions	*	*	*	*
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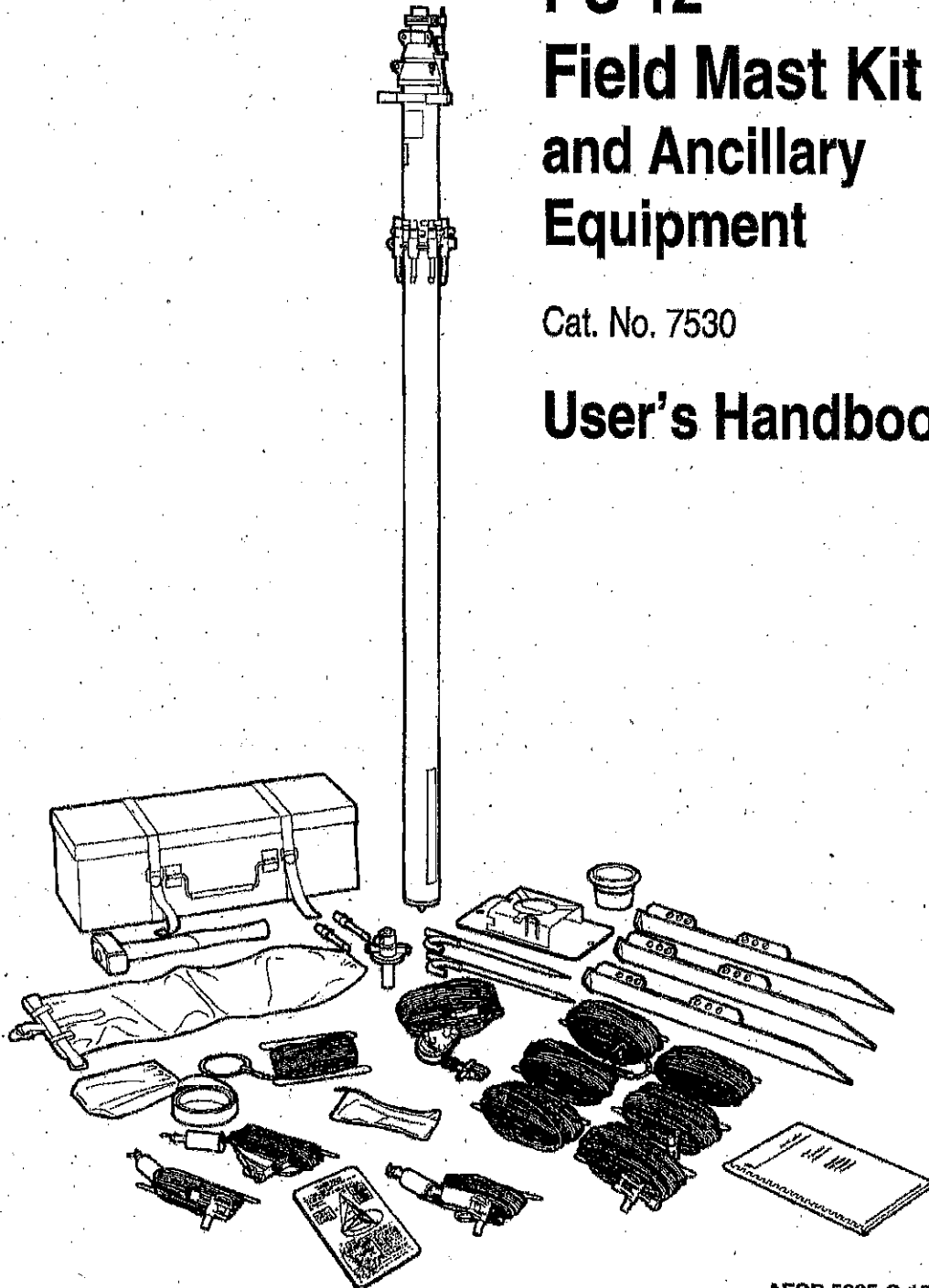


**CLARK MASTS™**

**PU 12  
Field Mast Kit  
and Ancillary  
Equipment**

Cat. No. 7530

**User's Handbook**



AESP 5985-C-106-201  
98/9 Edition 2

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All of our equipment is unquestionably guaranteed by us to be free from defects in materials, workmanship and function as defined by us when supplied.

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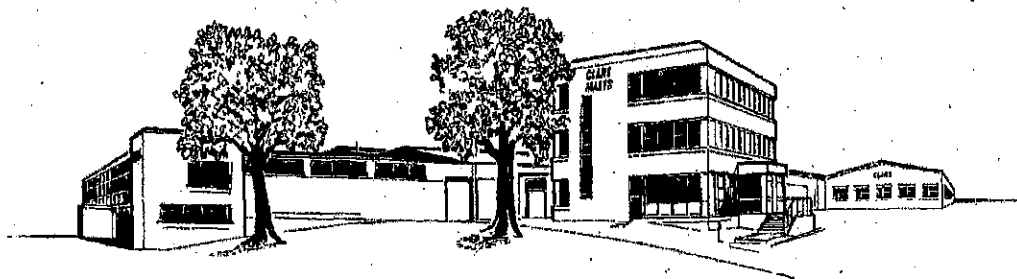
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### **CLARK MASTS TEKSAM LTD.,**

Binstead, Isle of Wight PO33 3PA, United Kingdom.  
Tel.: (01983) 563691 Fax: (01983) 566643  
e-mail: pds@clarkmasts.com



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**PU 12 FIELD MAST KIT  
AND ANCILLARY EQUIPMENT**

**USER'S HANDBOOK**

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# CHAPTER 1 INTRODUCTION

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## 101. General Description

The PU 12 mast comprises eight tubular sections constructed of 60 82 TF light alloy. The sections telescope inside one another and are erected manually. Each extended section is held in place by a cross pin which locks for safety. The built-in bubble level enables the user to plumb the mast vertical prior to extending the mast sections.

The kit contains an antenna adapter and a halyard pulley for deploying various antennas and head loads. The mast itself is not rotatable, however optional antenna rotators are available for rotating the head loads by rope from ground level when the mast is extended.

The kit contains all the guys and the equipment necessary to set out, extend and then conveniently store the mast and ancillaries for easy transportation.

### 101.1. Repair Philosophy

If the PU 12 mast unit is damaged beyond unit repair the mast must be returned for base/contract repair. (Refer to Chapter 5, Repair Charts and AESP preliminary pages.)

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## 102. Technical Specifications and Dimensions

### 102.1. Principal Dimensions and other Details of the PU 12 Mast and Ancillaries

Extended height of mast: 11.4 m (37 ft)

Retracted height of mast: 1.86 m (6 ft 1½ ins)

Maximum recommended headload: 10 kg (22 lbs)

Total time to set out and drive in pickets, erect and guy mast and attach antenna: 15 minutes

Time to extend mast: 2 minutes

Time to retract mast and pack up equipment: 6 minutes

Antenna socket size: 24 mm

Bottom section diameter: 76.20 mm (3 ins)

Top section diameter: 31.75 mm (1¼ ins)

Equipment box dimensions: 650 × 216 × 203 mm (25½ × 8½ × 8 ins)

Number of sections: 8

Weight of mast 12 kg (26.46 lbs)

Total weight of mast kit (approx.): 39.46 kg (86.99 lbs)

### 102.2. Finishes

Mast sections: Anodised to DEF STAN 03-25 and dyed green

Steel fittings: Zinc plated to DEF STAN 03-20

Paint: Nato green IR to DTD 5580

Mast material: Light alloy 60 82 TF, BS 1471

Equipment box: Steel, stoved paint finish

Castings: Gravity or pressure die-cast aluminium LM6, BS 1490

Canvas cover and carrying strap: Cloth-coated polyurethane, olive drab to UK/SC3501

Guys: 5 mm terylene green. Breaking strength 600 kg

Mast section bearing surfaces: Nylon

### 102.3. Erection Site Requirements

Area required: The mast, fully extended and guyed, will need an area large enough to accommodate the outer picket radius of 7 metres (23 ft)

Maximum slope of ground for field mounted mast: 20°

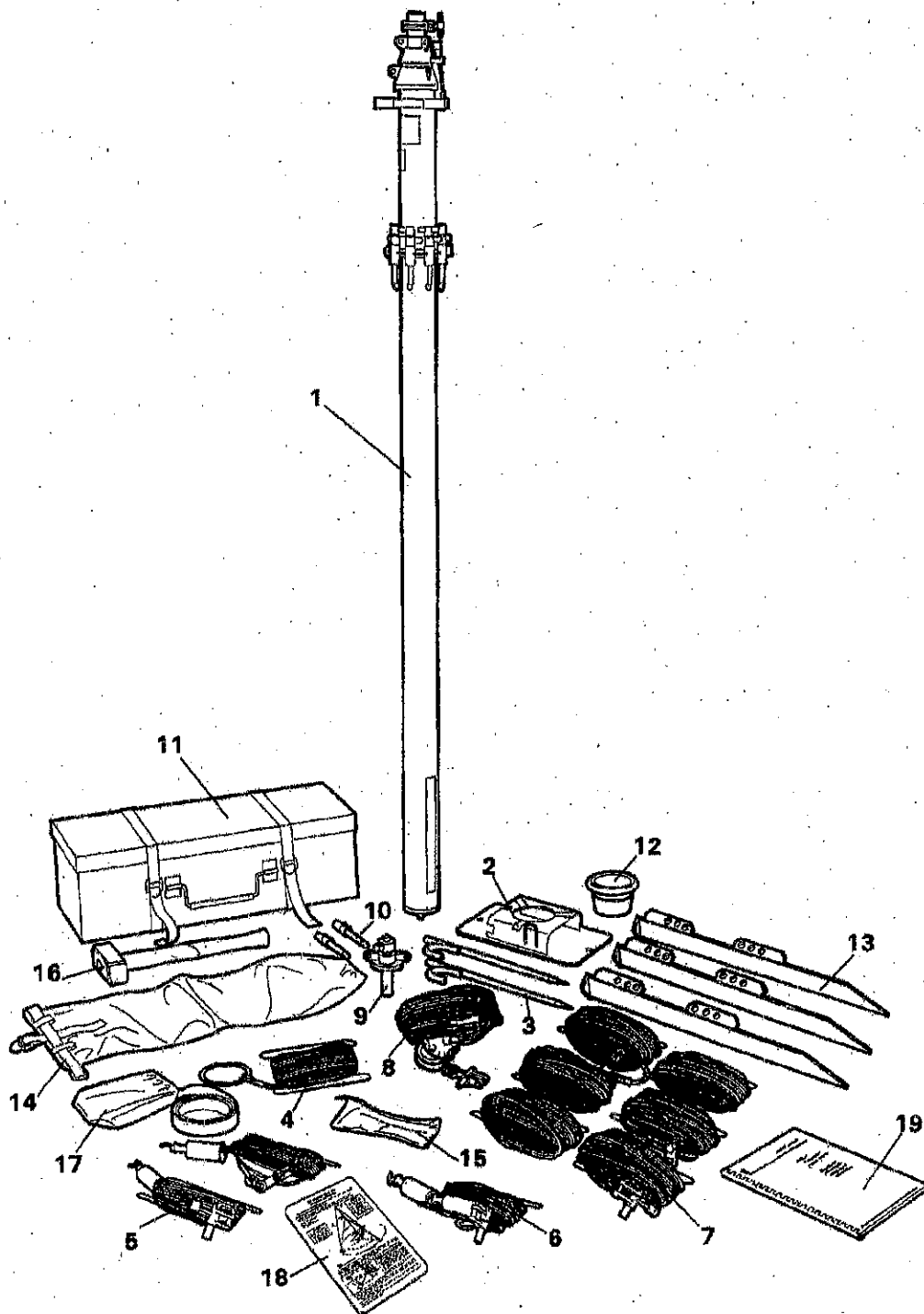
Picket Radius: 7 metres (23 ft)

Operating temperature range: -30°C to +55°C

Minimum number of personnel required for field erection: 2

Maximum recommended wind speed guyed: 130 km/hr (80 mph)

Maximum recommended wind speed during erection of the mast: 50 km/hr (31 mph)



**Fig. 1.**  
PU 12 FIELD MAST KIT Cat. No. 7530 NSN 5985-99-620-9718

### 103. Kit Components

Item	Clark Masts Ref.	Description	Unit Weight (approx.)	Qty. per Kit	NSN
1	6105	PU 12 Mast Unit	12.00 kg	1	5985-99-117-3751
2	6106	Base	1.94 kg	1	5985-99-117-3741
3	6409	Spike	0.45 kg	2	5985-99-620-2944
4	6108	Picket Location Line	0.23 kg	1	5985-99-117-3742
5	7745	Lower Guy Assembly	0.50 kg	2	5985-99-620-9724
6	7825	Anchor Lower Guy Assembly	0.62 kg	1	5985-99-620-9966
7	6110	Upper Guy Assembly	0.75 kg	6	5985-99-117-3744
8	6720	Halyard Rope Assembly	1.16 kg	1	5985-99-620-9726
9	7581	Antenna Adapter	0.31 kg	1	5955-99-620-9722
10	6233	Cross Pins (Spares)	0.06 kg	2	5985-99-620-2943
11	6251	Equipment Box	6.20 kg	1	5985-99-117-6180
12	6581	Base Insulator	0.25 kg	1	5985-99-637-0533
13	7532	24" Double Shackle Plate Picket	2.67 kg	3	4030-99-620-9729
14	7534	Canvas Cover	0.18 kg	1	5985-99-620-9725
15	6421	Set of Tools	0.14 kg	1	5985-99-620-2945
16	B2621	4 lb Hammer	1.73 kg	1	5120-99-949-4253
17	7624	Carrying Strap	0.08 kg	1	5985-99-337-0534
18	19502	Instruction Plate	0.09 kg	1	9905-99-212-1870
19	N/A	User's Handbook	N/A	1	N/A

**Total weight of mast kit (approx.): 39.46 kg**

## 104. Physical Description

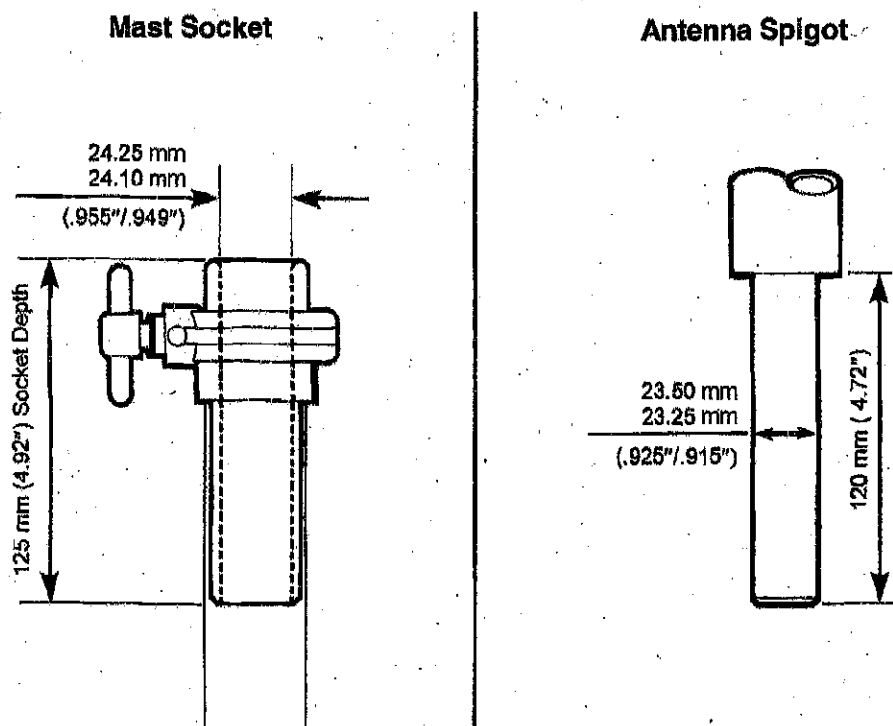
### 104.1. Mast Unit

The mast comprises eight tubular sections. Attached to the lower section are the lower guy collar and the pin carrier assembly (Fig. 5). The pin carrier holds the eight locking cross pins when they are not in use (Fig. 4). Seven cross pins are used when extending the mast and one is left spare in the pin carrier. The lower guy collar houses the tensioners of the two lower guys and the anchor lower guy when the mast is being extended (Fig. 3).

The base of the lower mast section has a spike which sits in the base insulator in the base casting. Yellow lines are painted on the mast section to aid the setting up of the mast (refer to 104.2 Base, Base Insulator and Spikes on page 7).

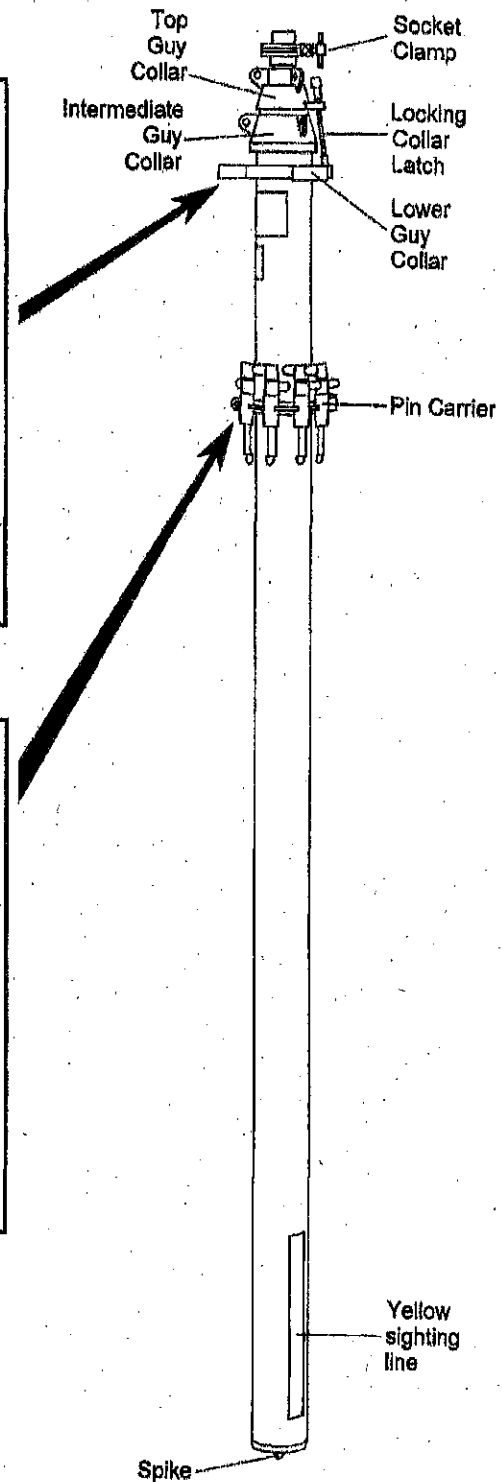
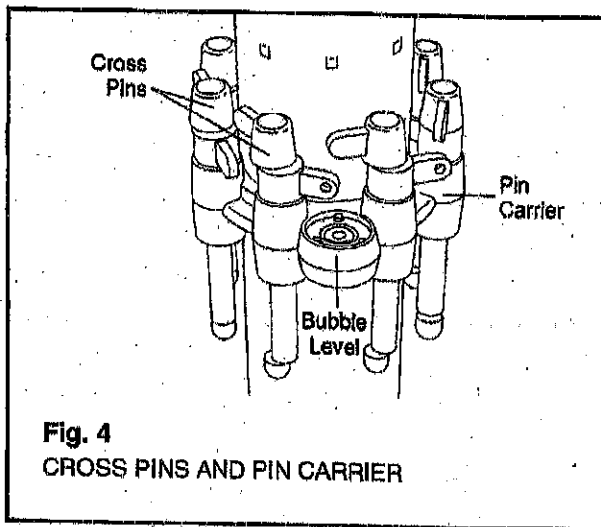
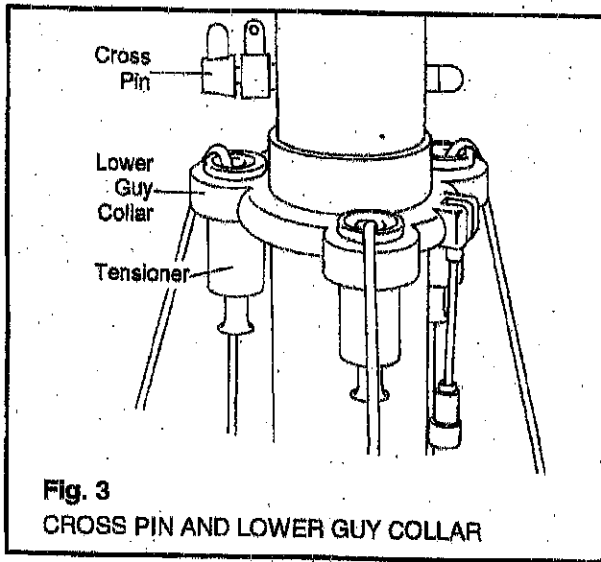
The mast has a top guy collar and an intermediate guy collar, both are fitted with three lugs for the attachment of guys. A locking collar latch secures the top, intermediate and lower guy collars when the mast is in transit.

The upper end of the top section has a 24 mm mast socket to accept an antenna mounting spigot. Actual dimensions of the mast socket and antenna spigot are shown in Fig. 2 below. The clamp has been designed to hold the antenna securely when clamped yet instantly released when unclamped, it holds without any shake.



The antenna should be fitted with a spigot of the above dimensions.

**Fig. 2**  
MAST SOCKET AND ANTENNA SPIGOT



**Fig. 5**  
PU 12 MAST UNIT

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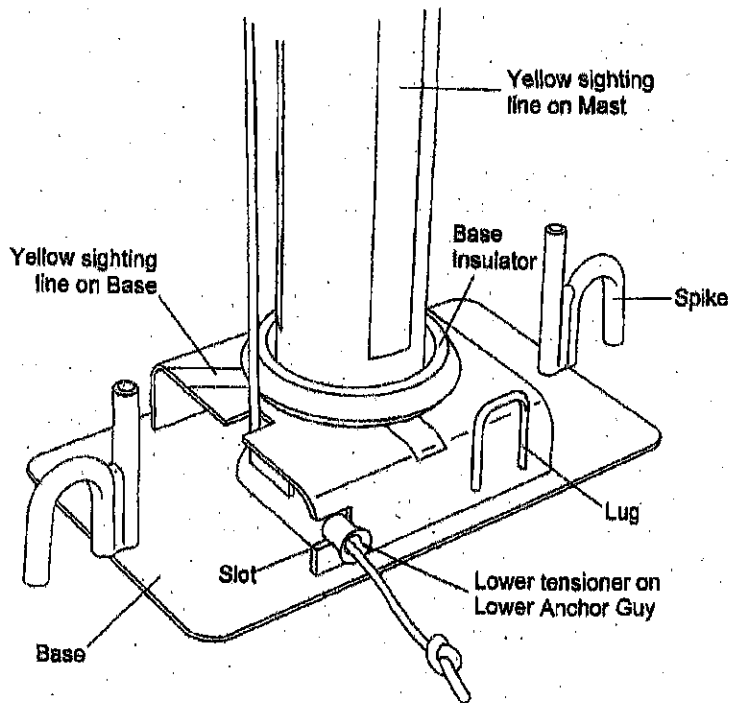
## 104.2. Base, Base Insulator and Spikes

The base is secured to the ground with the two spikes (Fig. 6).

The base of the lower mast section has a spike which sits in the base insulator which is located in the mast base. Three yellow sighting lines are painted on the mast and on the base to aid the setting up of the guys at 120°.

There is a slot in the base which holds the tensioner of the lower anchor guy.

The lug on the base is for clipping the snap hook of the halyard to when tensioning the tensioner on the halyard pulley after raising an antenna.



**Fig. 6**  
DEPLOYMENT OF BASE



### 104.3. Picket Location Line and 24" Double Shackle Plate Pickets

The picket location line is used to position the 24" double shackle plate pickets at the correct distance away from the mast base as illustrated in the Layout of Erected Mast on page 18. The picket location line consists of a ring at one end and approximately 7.3 metres of cord and a wire spool at the other end. The ring of the location line is placed over the vertical base mast section and with the use of the yellow sighting lines on the base plate the location line is pulled taut (Fig. 7). The pickets should be hammered in at the extent of the cord at the point where the spool is attached, this marks the 7 metre radius. After use the cord should be stored neatly on the wire spool.

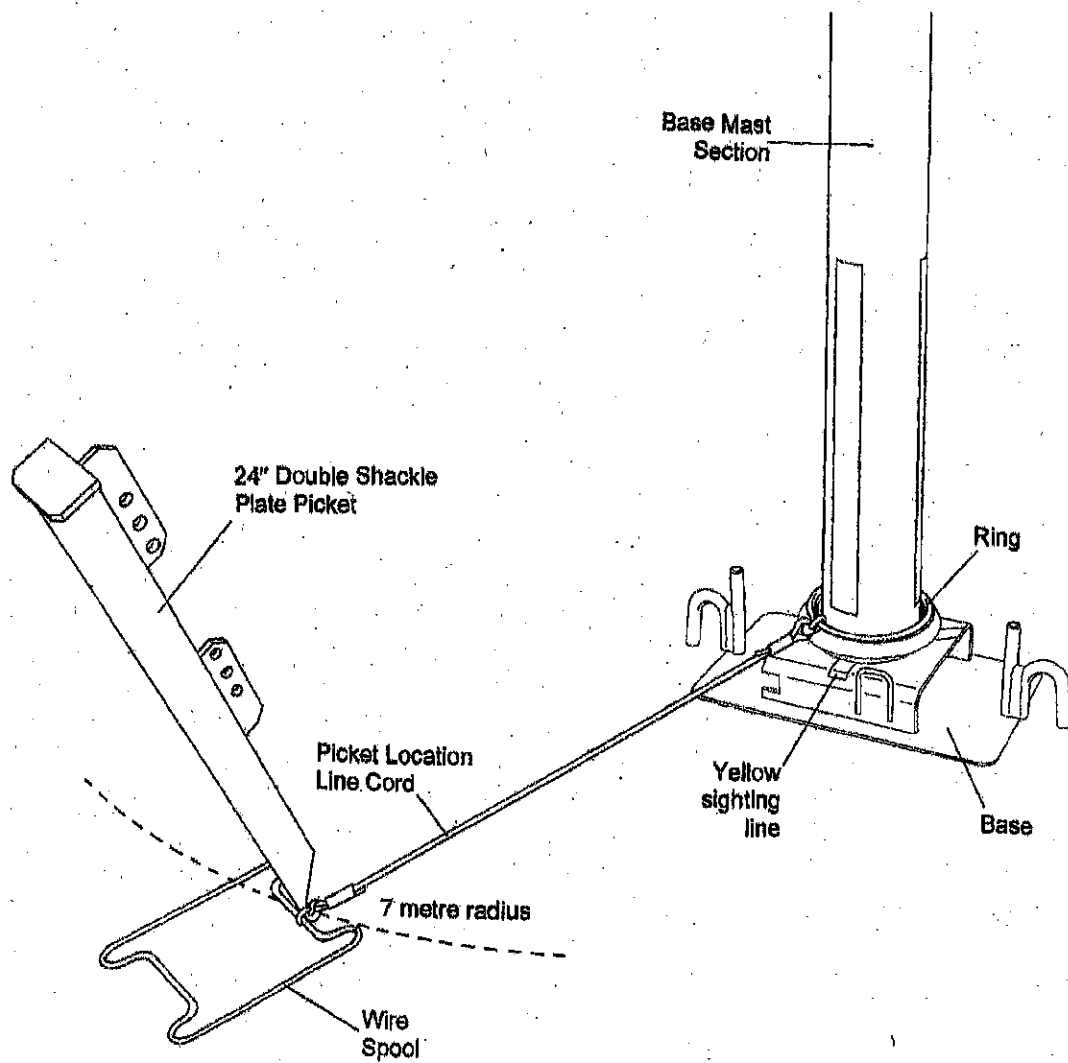


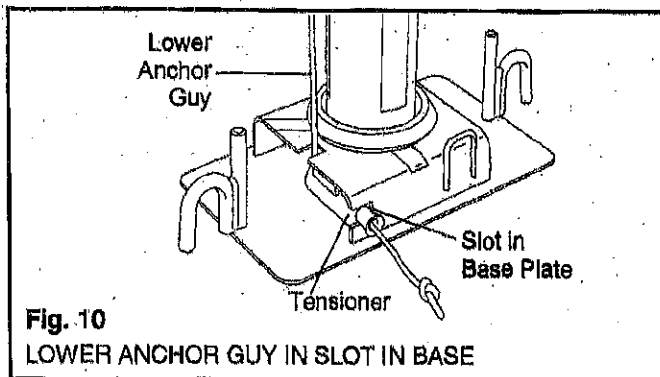
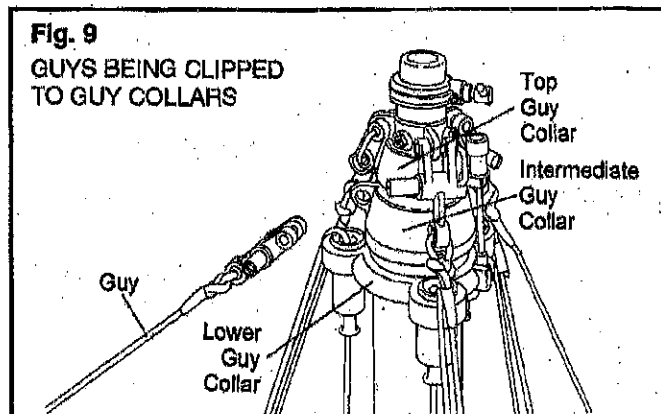
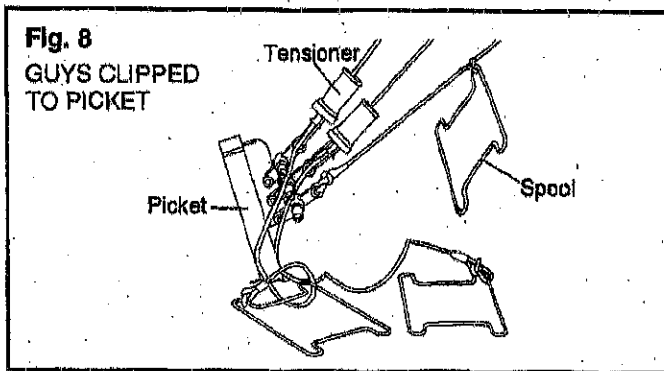
Fig. 7  
USE OF PICKET LOCATION LINE

#### 104.4. Lower Guy Assemblies, Anchor Guy Assembly and Upper Guy Assemblies

At the lower guying level there are two lower guy assemblies and one anchor guy assembly. The snap hooks of all of these three guy assemblies clip to the lower holes on the picket shackle plates of the three pickets (Fig. 8). The tensioners then slot into the three sockets in the lower guy collar (Fig. 9). The anchor guy is set up in a similar manner, however, it has an extra tensioner which is placed in the slot in the base and tensioned hard (Fig. 10). This anchor guy stops the mast being lifted. All three lower guys are tensioned before extension of the mast forming a stable 'tripod' around the base mast section.

There are six upper guy assemblies which form the intermediate and upper guying levels. Three guys clip to the three lugs on the top guy collar and the remaining three clip to the three lugs on the intermediate guy collar (Fig. 9). The snap hooks attached to the tensioners at the other end of the guys clip to the top three holes and the middle three holes of each of the shackle plates on the pickets (Fig. 8).

The guys are wound on to the spool when the assembly is not in use.



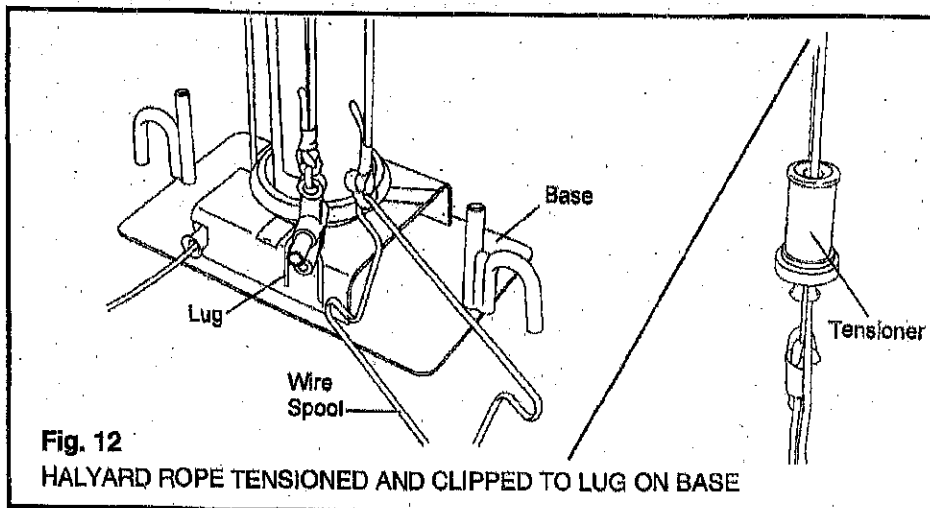
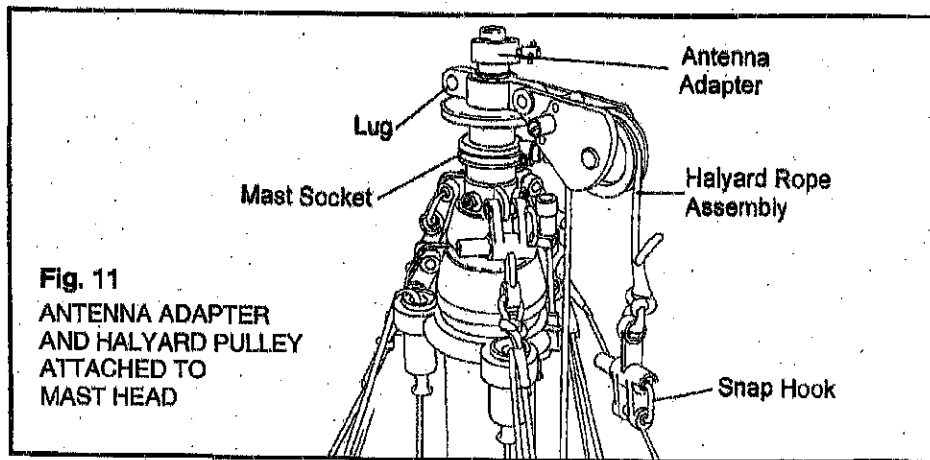
### 104.5. Halyard Rope Assembly and Antenna Adapter

The antenna adapter is clamped into the mast socket at the mast head. The antenna is clamped into the antenna adapter accordingly.

Two lugs are provided for attaching the pulley block to the halyard rope assembly (Fig. 11).

The halyard rope assembly has a snap hook at one end for attaching to the antenna, or headload, and a snap hook and tensioner at the other end for securing the rope to the lug on the base. The rope is then tensioned with the tensioner (Fig. 12).

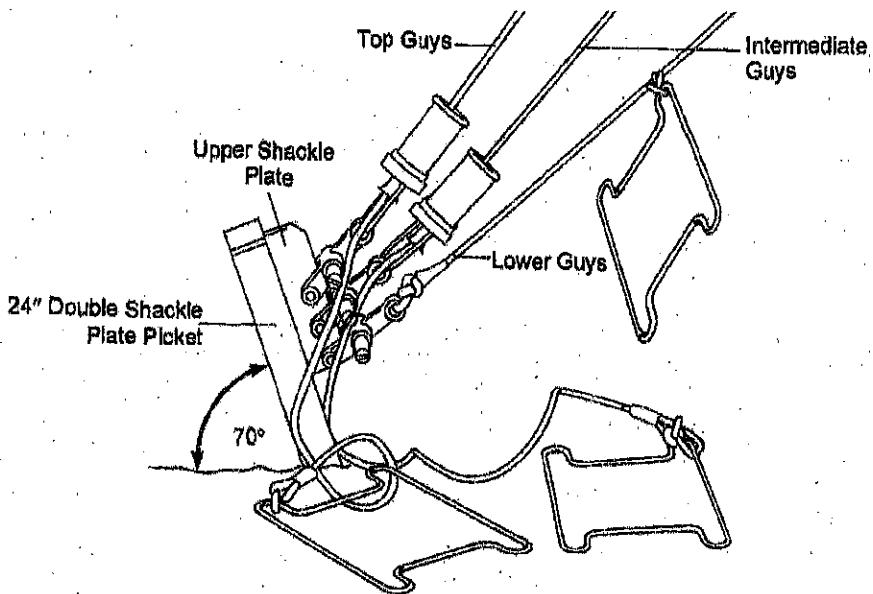
A wire spool is attached for storing the rope when the assembly is not in use.



### 104.6. 24" Double Shackle Plate Pickets

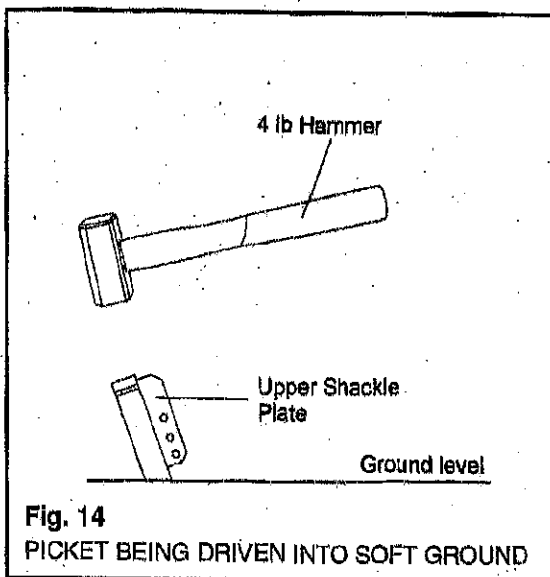
Three 24" double shackle plate pickets are supplied with the kit.

The snap hooks of the top, intermediate and lower guys clip to the three holes in one of the picket plates (Fig. 13) depending on weather conditions. If the ground is soft the pickets should be driven in so that just the upper shackle plate is just above ground level (Fig. 14). If the ground is hard the picket can be driven into the ground so that the lower shackle plate is just above ground level this reduces the leverage on pickets when the picket is unable to be driven as far into the ground as it can be when the ground is soft (Fig. 15). In either case the pickets must be hammered in to the ground at an angle of approximately 70° leaning away from the mast.



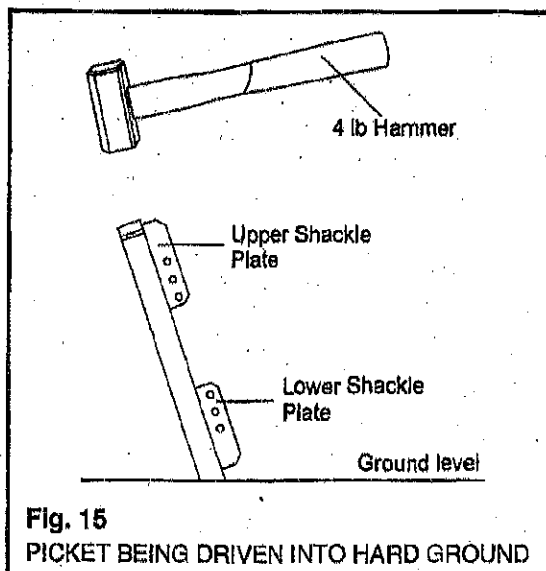
**Fig. 13**

GUYS CLIPPED TO THE THREE HOLES IN THE UPPER SHACKLE PLATE OF THE 24" PICKET



**Fig. 14**

PICKET BEING DRIVEN INTO SOFT GROUND



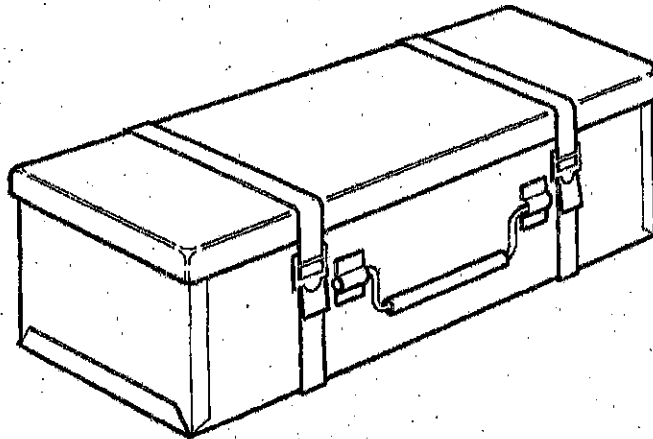
**Fig. 15**

PICKET BEING DRIVEN INTO HARD GROUND

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### 104.7. Equipment Box

The equipment box carries all of the mast accessories and equipment. There are metal slots in the interior of the box which retain the set of tools and the two spare cross pins.



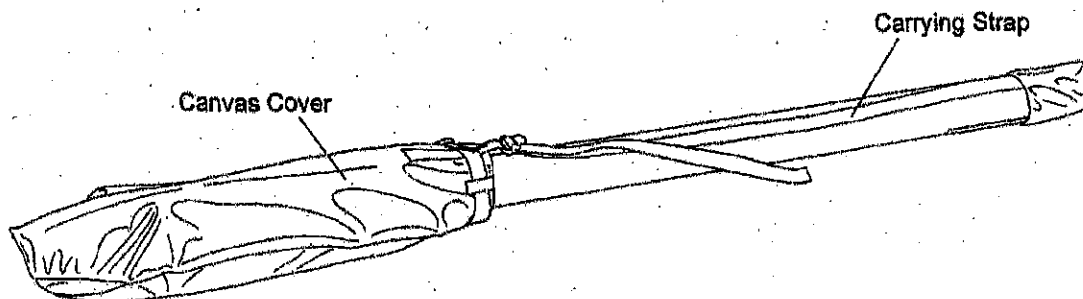
**Fig. 16**  
EQUIPMENT BOX

---

### 104.8. Canvas Cover and Carrying Strap

The canvas cover when placed over the mast head will prevent rain water from entering the open antenna socket of the mast when an antenna is not attached. The canvas cover also covers and protects the pin carrier and cross pins. The cover must be fitted whenever the mast is retracted to prevent the rain from entering the mast joints.

The carrying strap fits over the mast base and the strap buckles to the canvas cover providing a convenient shoulder strap for easy transportation.

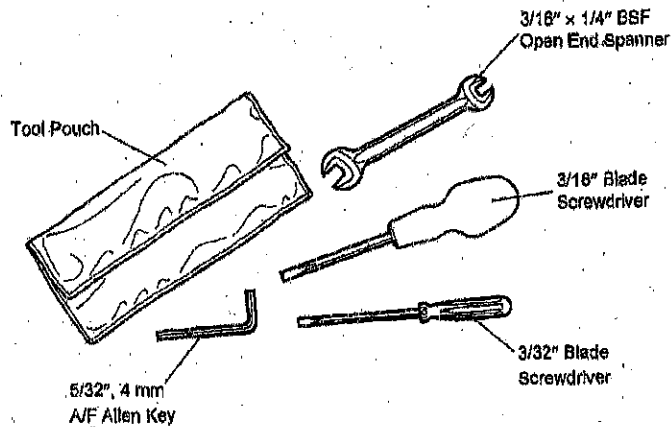


**Fig. 17**  
CANVAS COVER AND CARRYING STRAPS

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### 104.9. Set of Tools

The set of tools provided with the kit provides all the tools necessary to strip the mast down for overhaul and repair. The tools are stored in the tool pouch which itself fits conveniently onto a metal slot in the interior of the equipment box.

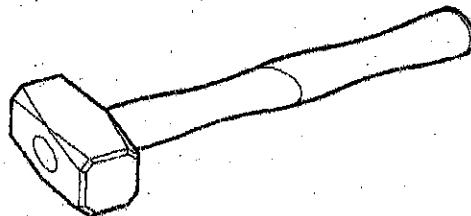


**Fig. 18**  
SET OF TOOLS

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### 104.10. 4 lb Hammer

The double-faced hammer is supplied for driving in the pickets and spikes.

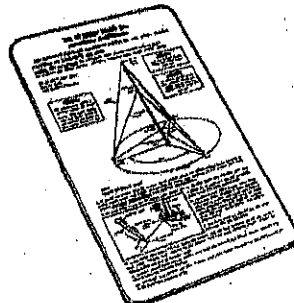


**Fig. 19**  
4 LB HAMMER

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### 104.11. Instruction Plate

An instruction plate is provided (Fig. 20) outlining the basic operating instructions for the mast. The plate also features an equipment check list and diagram. The plate is made from steel with a protective plastic coating.



**Fig. 20**  
INSTRUCTION PLATE

## CHAPTER 2

# OPERATING INSTRUCTIONS

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### IMPORTANT SAFETY PRECAUTIONS

#### WARNING

FAILURE TO COMPLY WITH THESE PRECAUTIONS COULD PRESENT PHYSICAL DANGER TO PERSONNEL AND/OR CAUSE DAMAGE TO EQUIPMENT.

#### BEFORE USING THE PU 12 FIELD MAST KIT AND ANCILLARY EQUIPMENT

1. Before attempting to use the mast and/or ancillary equipment the operator must ensure that he/she is familiar with the equipment and with all of the correct operating procedures and safety checks. The operator should also be satisfied that all the equipment is in a SAFE OPERATING CONDITION.
2. The mast **MUST NOT BE OPERATED** by an unauthorised person.
3. The mast and its ancillary equipment **MUST NOT BE USED FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED** as published in the manufacturer's literature.
4. Hard hats must be worn at all times by all operators on site and gloves must be worn to protect hands.

#### SITE SELECTION

5. It is important to check that there is clear space above the mast wherever the mast is to be extended. **NEVER ATTEMPT TO ERECT A MAST WHERE THERE ARE OVERHEAD OBSTRUCTIONS SUCH AS OVERHEAD POWER CABLES, TREES, BUILDINGS, BRIDGES ETC. ALWAYS CHECK FOR ANY OVERHEAD OBSTRUCTIONS.**
6. When selecting a site for extending the PU 12 mast the operator must ensure that the guy pickets when driven into the ground will not interfere with water or gas pipes or electricity cables.

#### OPERATION - GENERAL

7. Before extending or retracting the mast check the weather conditions. **IT IS DANGEROUS TO ATTEMPT TO ERECT OR RETRACT A MAST WHEN IT IS TOO WINDY.** If in any doubt **DO NOT** extend or retract the mast (refer to Weather Conditions on page 20). For reference the Beaufort Scale is printed on the inside back cover of this handbook.
8. **DO NOT EXCEED THE RECOMMENDED MAXIMUM HEADLOAD.** The recommended maximum headload for the PU 12 mast is 10 kg (22 lbs). The maximum recommended surface area for the headload is 1,000mm<sup>2</sup>.
9. When the mast is being set up the yellow line-up dots **MUST BE** on the side of the mast on which the antenna is being arranged (refer to page 19).
10. Before transportation of the mast the guy collars must be latched to prevent the mast sections from slipping out.

#### OPERATION - GUYING

11. **THE MAST MUST BE GUYED PROPERLY AT THE CORRECT PICKET RADIUS.** **DO NOT** reduce the radius or angle of the pickets. The pickets **MUST** be set out as shown in Fig. 21 Layout of Erected Mast on page 18.
12. As the mast extends ensure that the guys do not snag on other equipment or natural features eg rocks, trees.
13. In windy conditions it is important to man the guys at the picket radius as the mast extends, tensioning where necessary in order to keep an even tension at the top of the mast.

- 
14. Use the intermediate guys whenever the wind is any more than light.
  15. In severe weather conditions, and when carrying large frontal area antennas, the top two sections of the mast can be left retracted.
  16. When using an antenna which has a large wind load moment in the vertical plane ALWAYS USE both the upper and intermediate guys.
  17. If a long wire HF antenna is to be used with the halyard rope assembly the intermediate guys should ALWAYS be used.
  18. Snap hooks must be firmly tied to the guys with a bowline knot and secured with an identification sleeve.
  19. When clipping the guys to the guy collars and to the pickets ensure that the snap hooks are FULLY CLOSED AND SECURE.
  20. Do not over-tension the guys as this may lead to mast buckling should strong winds occur.
  21. Extreme caution must be taken when adjusting the pickets if the ground has softened due to heavy or prolonged rain (refer to page 27). This exercise MUST NOT be carried out in wind speeds higher than 50 km/hr (31 mph).

#### **OPERATION - EXTENDED MASTS**

22. If snow and ice has become excessive on an erected mast making the mast unstable the mast must be lowered safely.
23. Daily checks must be made on the condition of the guys, snaphooks and pickets. If the condition of the guys have deteriorated in any way the mast must be lowered and the guys replaced. The pickets must be driven deeper into the ground if the ground has been softened with rain.
24. The mast must be lowered, or the height reduced if the windspeed exceeds the design parameters.

#### **MAINTENANCE**

25. When carrying out maintenance or servicing DO NOT RETURN TO SERVICE any parts which are damaged, faulty or worn. Discard damaged items and replace with new parts. All available spare parts are listed in Chapter 5, Repair Charts 501 to 508.
26. Where silicone grease is recommended use silicone grease Clark Masts Part No. B3905. According to EEC criteria this product is not classified as a hazardous preparation.
27. When any equipment is to be decommissioned it must be disposed of in accordance with current environmental regulations.



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## 201. Site Selection

The field mounted PU 12 mast needs an area large enough to accommodate the picket radius of 7 metres. A team of two operators is necessary to carry the kit to the site and to erect and extend the mast. The mast and guys can be easily adjusted to deal with slopes of up to 20°.

### **WARNING**

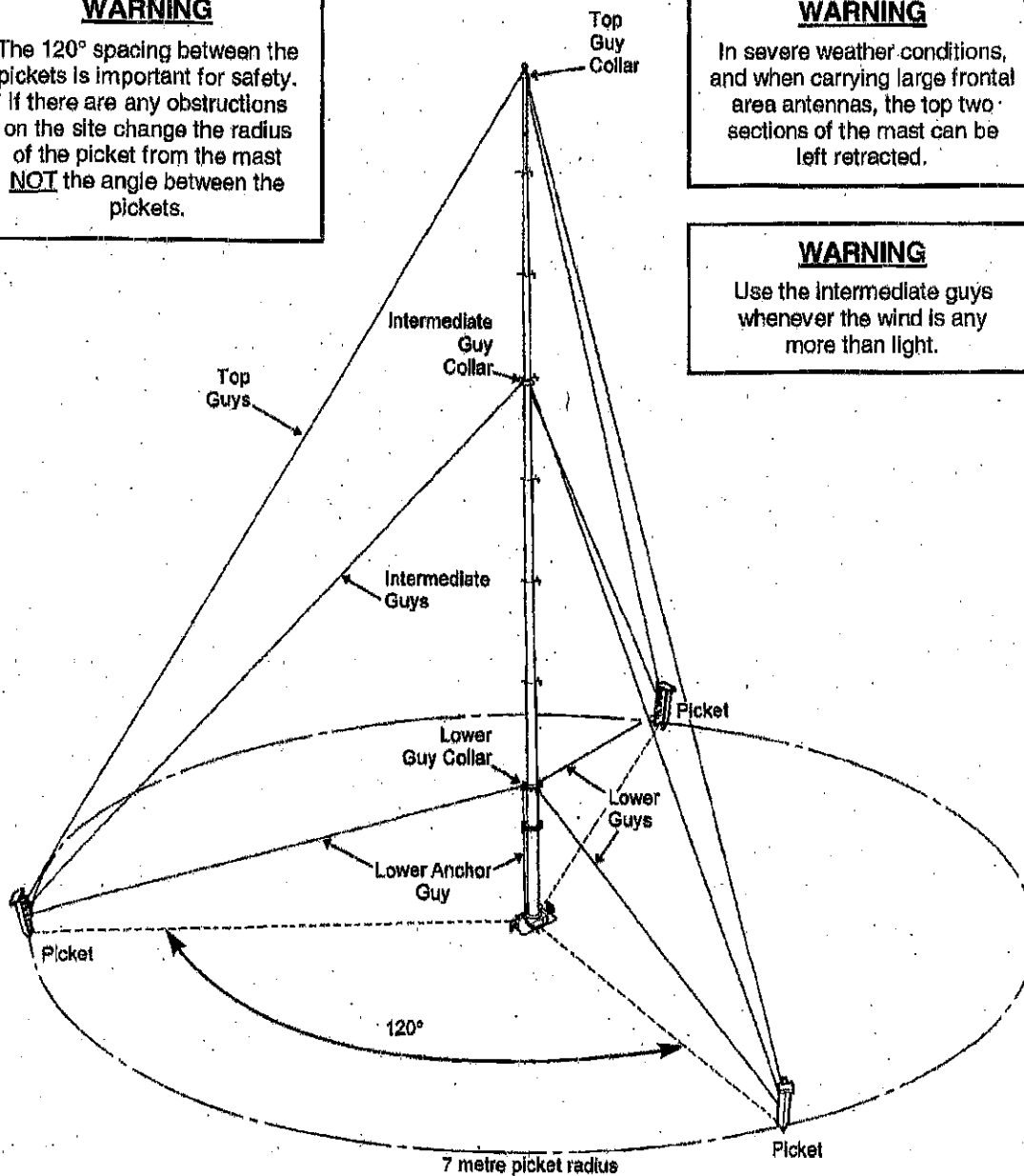
The 120° spacing between the pickets is important for safety. If there are any obstructions on the site change the radius of the picket from the mast **NOT** the angle between the pickets.

### **WARNING**

In severe weather conditions, and when carrying large frontal area antennas, the top two sections of the mast can be left retracted.

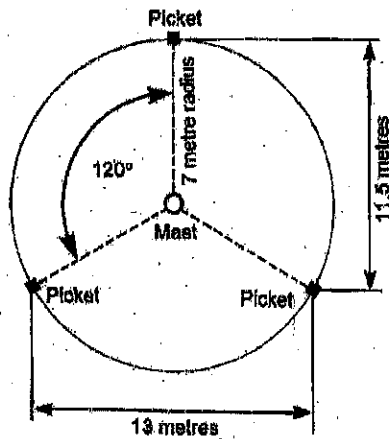
### **WARNING**

Use the intermediate guys whenever the wind is any more than light.



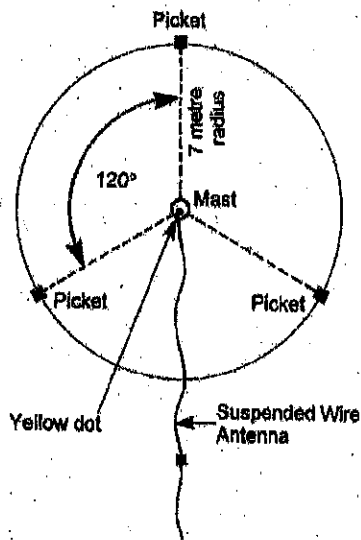
**Fig. 21**  
LAYOUT OF ERECTED MAST

**Fig. 22**  
SITE PLANS



**WARNING**

WHEN USING AN ANTENNA WHICH HAS A LARGE WIND LOAD MOMENT IN THE VERTICAL PLANE ALWAYS USE BOTH THE UPPER AND INTERMEDIATE GUYS.



**WARNING**

IF A LONG WIRE HF ANTENNA IS TO BE USED WITH THE HALYARD ROPE ASSEMBLY THE INTERMEDIATE GUYS SHOULD ALWAYS BE USED.  
WHEN THE MAST IS BEING SET UP THE YELLOW LINE-UP DOTS MUST BE ON THE SIDE OF THE MAST ON WHICH THE ANTENNA IS BEING ARRANGED AS SHOWN ABOVE.

## 202. WARNING - Weather Conditions

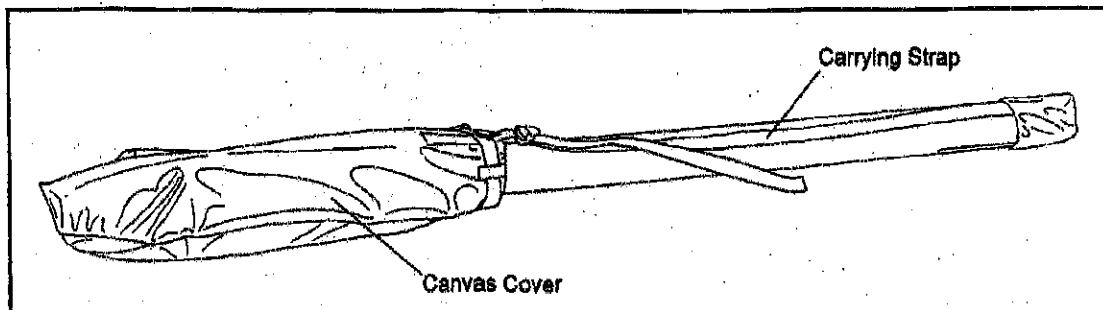
The following recommendations should be adhered to when erecting or retracting the PU 12 mast:

- a) When erecting or retracting the mast the maximum wind speed the mast can withstand is 50 km/hr (31 mph).
- b) In severe weather conditions and when carrying large frontal area antennas the top two sections of the PU 12 can be left retracted.
- c) When retracting a mast in winds of up to 50 km/hr (31 mph), it is important to man the top guys. This will keep the top of the mast evenly tensioned.
- d) Once extended and fully guyed the mast is capable of withstanding a maximum wind speed of 130 km/hr (80 mph). A copy of the Beaufort Wind Scale is printed on the inside back cover of this handbook for reference.
- e) The mast can be maintained erect in temperatures ranging from -30°C to +55°C.

### **WARNING**

**DO NOT ATTEMPT TO ERECT THE MAST IN HIGHER WIND SPEEDS THAN THOSE RECOMMENDED OTHERWISE INJURY TO PERSONNEL AND DAMAGE TO MAST MAY RESULT.**

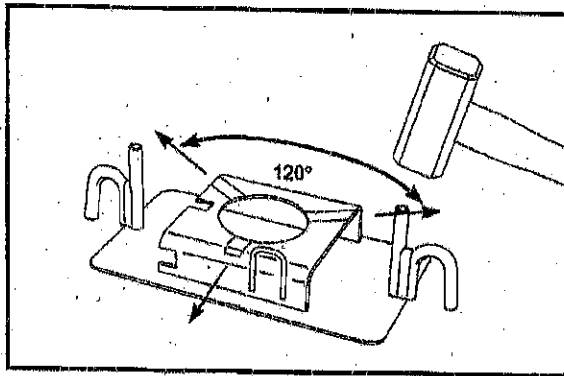
## 203. Erecting and Extending the Mast



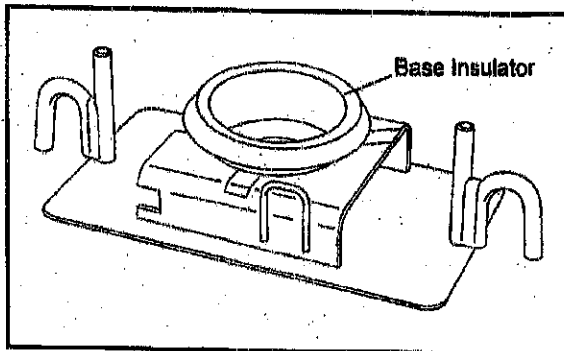
1. Carry the mast by the carrying strap.
2. Lay kit out adjacent to site. Check each item against the kit list on the lid of the equipment box (or on page 5 of this handbook) to make sure that all equipment is present.
3. The mast will need an area large enough to accommodate the picket radius of 7 metres. Plan in advance how the mast will be laid out in order to avoid obstacles such as rocks and trees. Remember that the pickets will need to be set out at 120°. The slope of the ground should be no more than 20°.

### **WARNING**

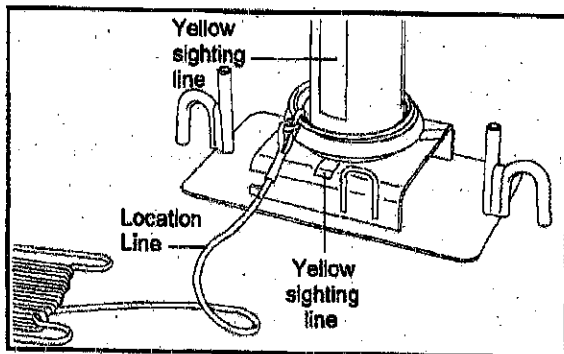
**NEVER ATTEMPT TO ERECT THE MAST WHERE THERE ARE OVERHEAD OBSTRUCTIONS SUCH AS TREES, POWER CABLES, BUILDINGS OR BRIDGES. ALWAYS CHECK FOR OVERHEAD OBSTRUCTIONS.**



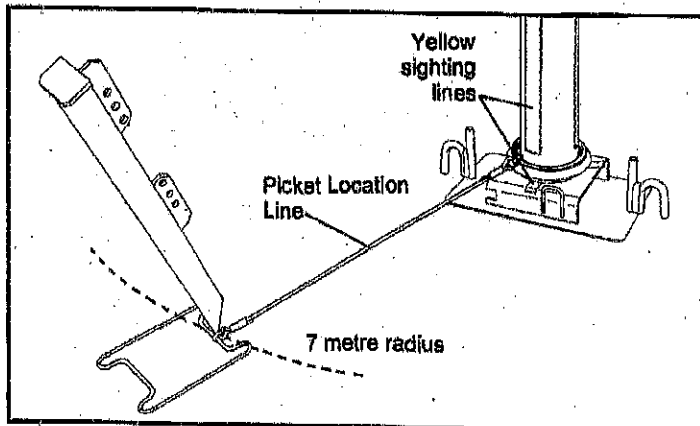
4. Lay the base plate in the centre of the site in a position which will allow the pickets to be placed at the correct radius of 7 metres from the base of the mast. **Note:** The yellow sighting lines painted on the base will dictate how the guys will be set out therefore place the base in the appropriate position for correct deployment of guys. Secure the base plate to the ground by driving in the two corner spikes.



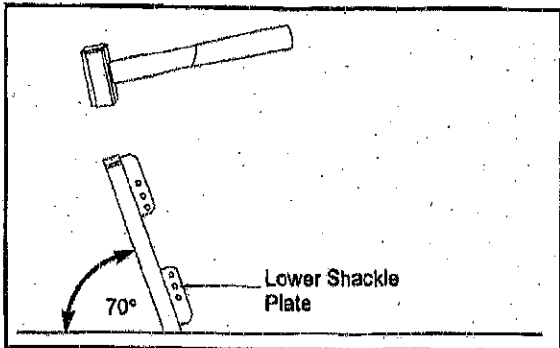
5. Insert the base insulator into the base plate.



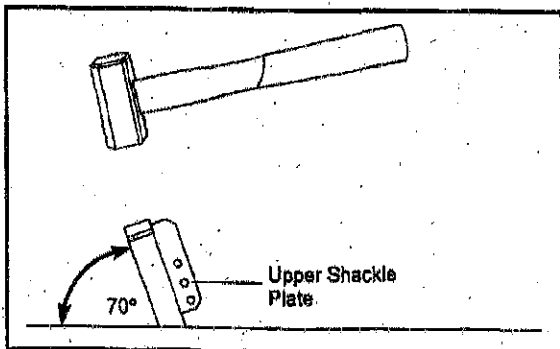
6. Remove the canvas cover and carrying strap from the mast. Place ring of location line over the base mast section and hold mast vertical in the base insulator. The yellow sighting lines on the base plate and on the base mast section should be in line - this will be essential when inserting the lower guy tensioners into the lower guy collar and clipping guys to pickets (refer to paragraphs 11 and 12).



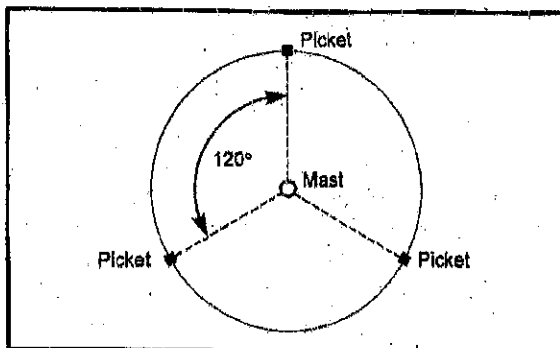
7. Unwind location line and using yellow sighting lines pull location line taut and position the picket at the spool at the end of the location line. This is the 7 metre picket radius.



8. If the ground is hard the picket must be driven into the ground so that the lower picket shackle plate is just above ground level. The picket should be at an angle of 70° facing away from the mast.

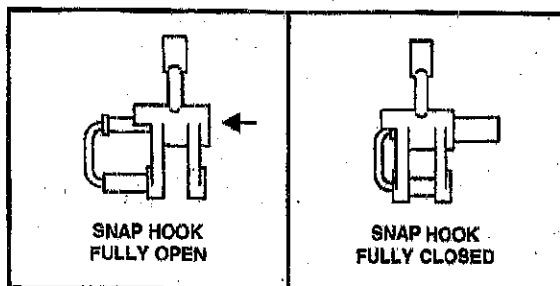


9. If the ground is soft then the picket must be driven into the ground so that the upper picket shackle plate is just above ground level. The picket should be at an angle of 70° facing away from the mast.



10. Repeat paragraphs 7 and 8 for the next two lines of pickets until all the pickets are set out as in the Site Plan (left).

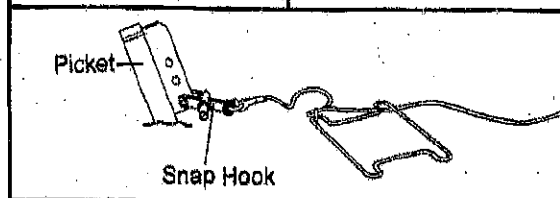
Wind up the location line and store in the equipment box.



11. Clip the two lower guys and the lower anchor guy to the lowest holes on the picket plates by means of the snap hooks and lay the other ends of the guys by the mast base.

**WARNING**

Check that these snap hooks are tied **FIRMLY** to the guys with a **BOWLINE** knot (see page 23) and secured with an identification sleeve.

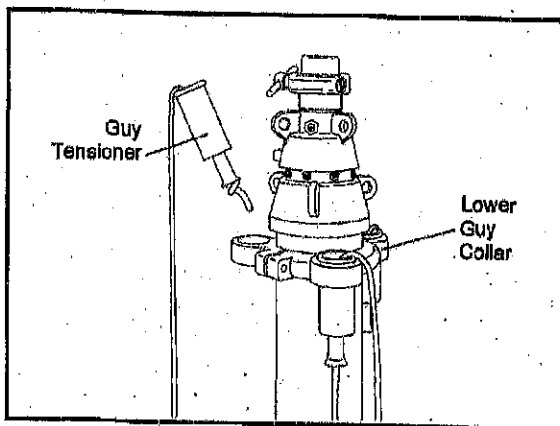
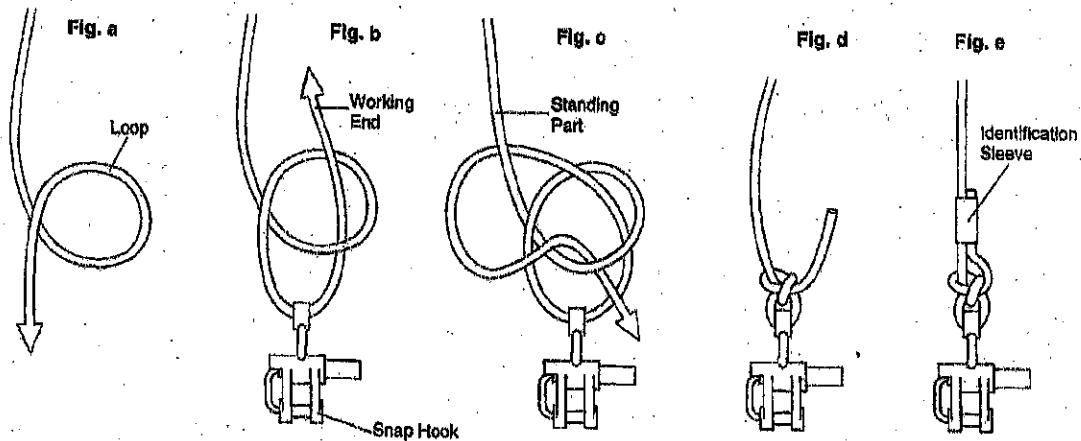


**WARNING**

Ensure that all snaphooks are **FULLY CLOSED** and **SECURE** (see Inset left).

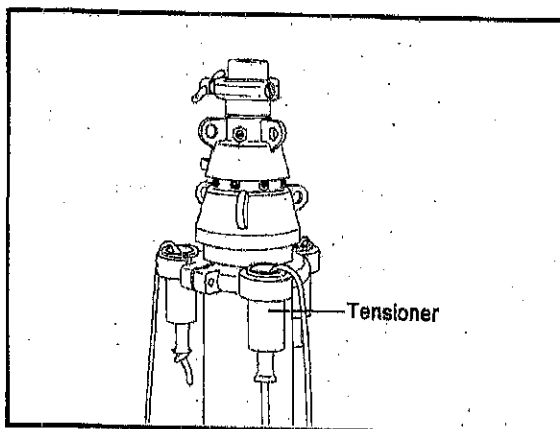
## TYING A BOWLINE KNOT

To tie the common Bowline knot first form a loop in the terylene guy as shown in Fig. a. Next, pass the working end of the guy through the snap hook and up through the eye of the loop (Fig. b). Now pass the working end of the guy around the back of the standing part, and then back down through the eye of the loop (Fig. c). Finally, pull the knot taut as shown in Fig. d. For extra safety the end of the guy should be secured with an identification sleeve or ferrule (Fig. e), this can be done when the equipment is serviced.

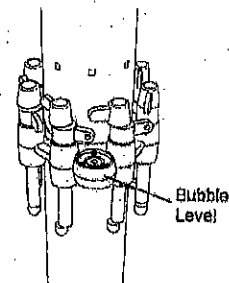


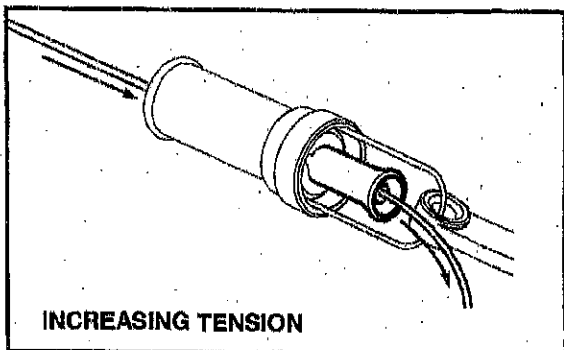
12. While one operator holds the mast upright in the base the second operator can slip the guy tensioners into the sockets in the lower guy collar (situated just below the intermediate guy collar). In the case of the lower anchor guy the first tensioner will pass right through the socket and should be put through the socket which is directly above the slot in the base plate (refer to paragraph 15).

**Note:** The yellow sighting lines painted on the base mast section and the base plate should be lined up (refer to paragraph 6).

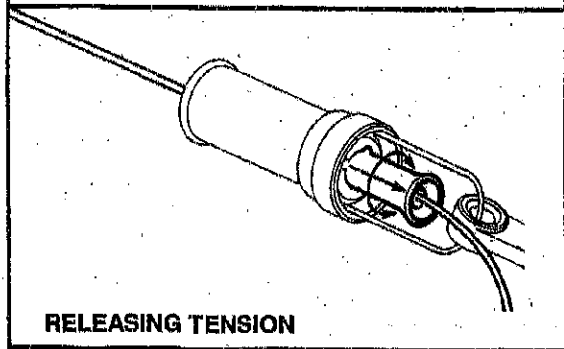


13. Tension the guys (refer to paragraph 14) until the mast is vertical as shown by the bubble level (see below).





**INCREASING TENSION**

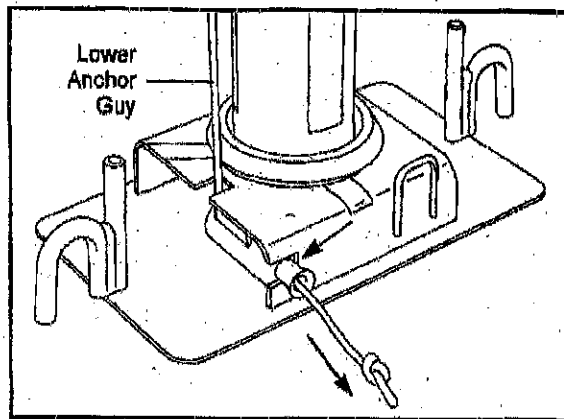


**RELEASING TENSION**

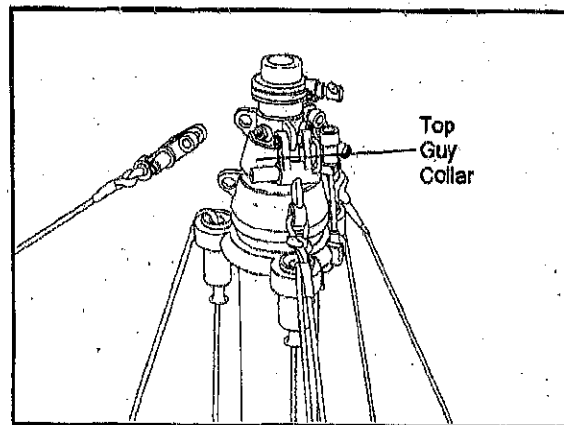
**14. TENSIONER OPERATION**

**To increase tension** - hold the body of the tensioner on one hand whilst pulling the free end of the guy through the tensioner with the other hand.

**To release tension** - The tensioner is held as above whilst pulling the beveled tube with the other hand. The tensioner can be locked in the free position by pulling out the beveled tube and at the same time rotating the tube in either direction as shown.

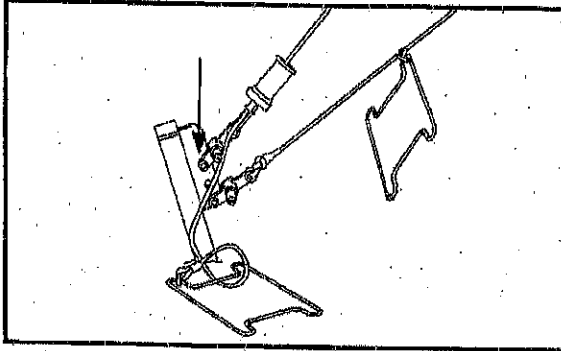


15. Place the second tensioner on the lower anchor guy into the slot in the base plate and tension hard. This anchor guy stops the mast being lifted.

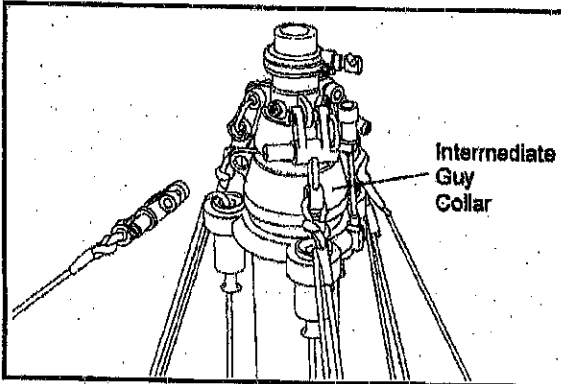


16. Unreel three of the terylene guys. The snap hooks, which are to be clipped to the three lugs on the top guy collar, are the ones attached with a Bowline to the terylene guy itself NOT the ones attached to the tensioners. Clip all three top guys to the lugs on the top guy collar.

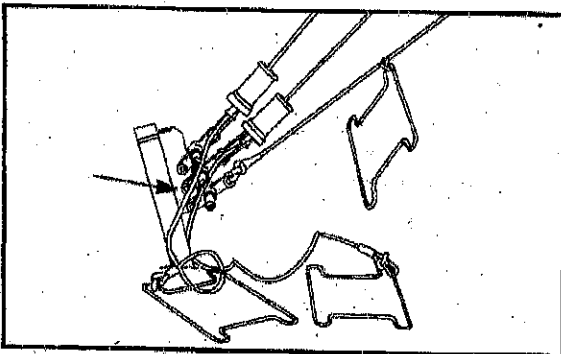




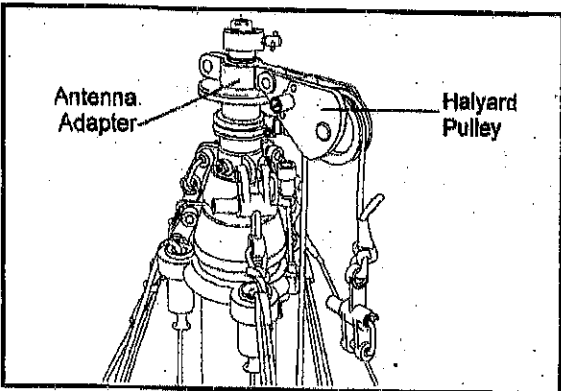
17. Attach the snap hooks, complete with tensioners, to the upper holes on the picket plate.



18. Clip the snap hooks of the three remaining terylene guys to the three lugs on the intermediate guy collar.

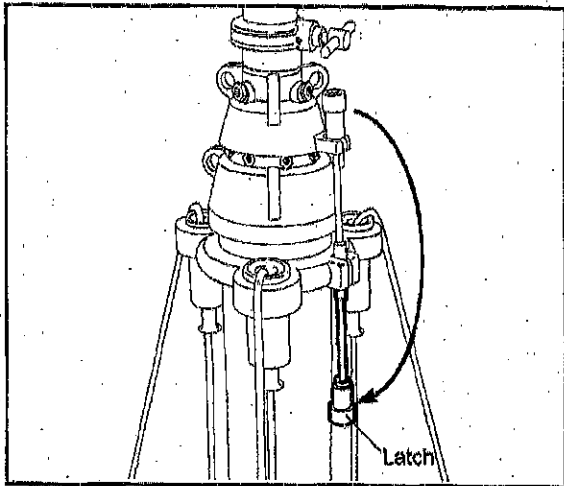


19. Attach the snap hooks, complete with tensioners, to the middle holes on the picket plate. Leave all tensioners at the picket points in the free-running position.



20. Attach the antenna adapter to the socket in the top of the mast and tighten the tee handle on the mast socket clockwise. Attach the antenna and/or halyard as required.

**Note:** The mast is non-rotatable therefore position the headload/antenna in the desired direction.



21. Release the spring-loaded latch (which stops the mast sections sliding out during transit). (Note:- Guys have been removed from the illustration for clarity.)

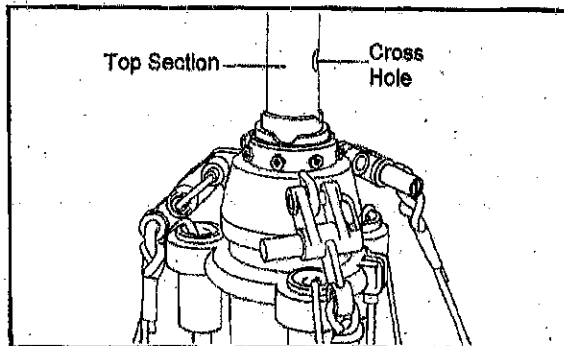
**CAUTION**

THE CROSS HOLES IN THE MAST AND THE NOTCHES AT THE TOP OF EACH MAST SECTION ARE PROVIDED WITH A YELLOW DOT ON ONE SIDE. THE DOTS MUST BE IN LINE. IF THE DOTS ARE NOT IN LINE THE LOWER MAST SECTION SHOULD BE TURNED TO LINE THEM UP.

**WARNING**

IN WINDY CONDITIONS IT IS IMPORTANT TO MAN THE GUYS AT THE PICKET RADIUS, TENSIONING WHERE NECESSARY IN ORDER TO KEEP AN EVEN TENSION AT THE TOP OF THE MAST.

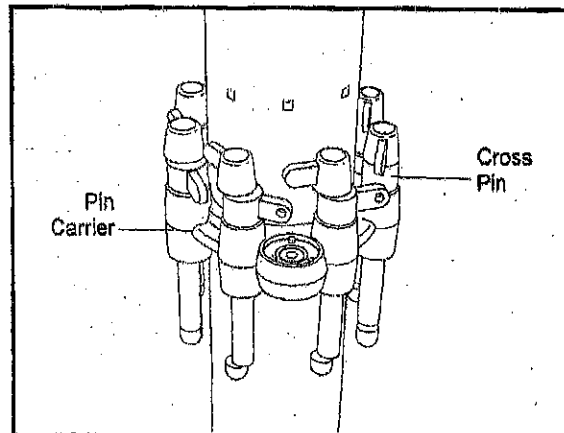
(REFER TO PARAGRAPH 202, WEATHER CONDITIONS, ON PAGE 20).



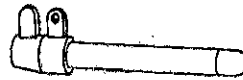
22. Lift up the top section by hand until the cross hole shows clear above the top of the next section.

**WARNING/SAFETY NOTE**

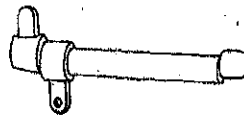
THERE IS AN AIR-CUSHION DEVICE ON EACH MAST SECTION WHICH WILL SAFEGUARD THE OPERATOR IF A MAST SECTION IS ALLOWED TO SLIP WHEN EXTENDING THE MAST.



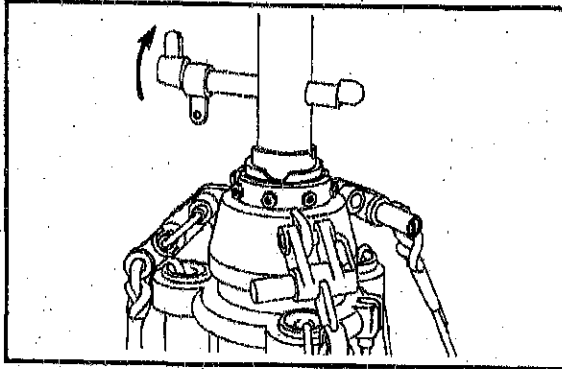
23. Unlock and remove a cross pin from the pin carrier.



CROSS PIN IN UNLOCKED POSITION



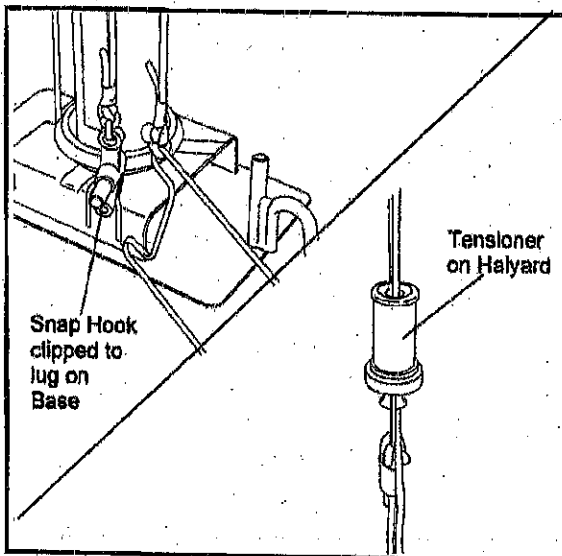
CROSS PIN IN LOCKED POSITION



24. Put the cross pin through the cross hole and lock by turning the tail half a turn.

25. The next mast section should now be pushed up and held with a cross pin as in paragraph 24. Repeat until mast is fully extended. There is one extra cross pin in the carrier and two spare cross pins in the equipment box.

26. Take up the slack in the top and intermediate guys by pulling the guys through the tensioners which are attached to the top and middle holes on the picket plate. Adjust so that the mast is vertical.



27. Raise the antenna using the halyard (if applicable). Clip the snap hook of the halyard to the lug on the base plate and tension the halyard with the tensioner.

**WARNING**

**DO NOT OVER-TENSION THE GUYS AS THIS MAY LEAD TO THE MAST BUCKLING SHOULD VERY STRONG WINDS OCCUR.**

28. Before leaving the site stow all equipment in the equipment box.

29. Check that mast and pickets are secure and that all guys are secure and fully tensioned.

30. If the mast is left extended for a long period daily checks will need to be made on the condition of the ground holding the pickets and the tension in the guys. If hard ground has become soft due to heavy or prolonged rain the pickets will need to be driven deeper into the ground and the guys repositioned from the lower picket shackle plate to the upper shackle plate. **WARNING:** The mast should be held firmly around the base tube by two operators whilst a third operator loosens the tension and unclips the guys at ONE picket point. The picket can then be driven further into the ground and the guys can be clipped to the holes in the upper picket plate. Adjustments can be made to the tensioners to ensure the mast is vertical. Check with the bubble level.

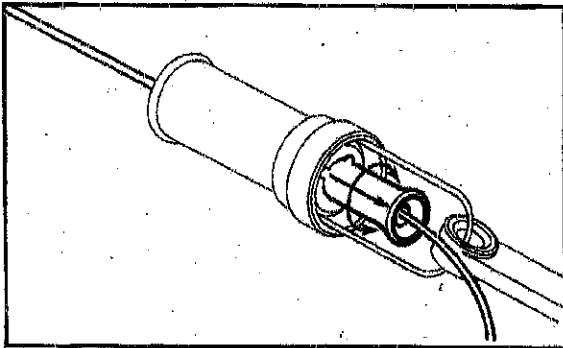
**WARNING**

**EXTREME CAUTION MUST BE TAKEN WHEN CARRYING OUT THE OPERATION DETAILED IN PARAGRAPH 30 IN WINDY CONDITIONS. THE EXERCISE MUST NOT BE ATTEMPTED IN WIND SPEEDS HIGHER THAN 50 KM/HR (31 MPH).**

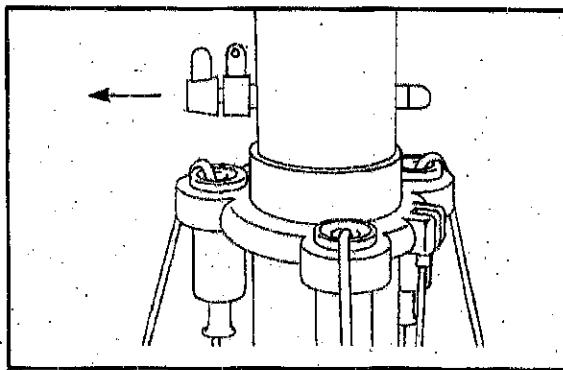
## 204. Retracting and Dismantling the Mast

### **WARNING**

**BEFORE ATTEMPTING TO RETRACT THE MAST ASSESS THE WIND CONDITIONS. THE MAST MUST NOT BE RETRACTED IN WIND SPEEDS OF 50 KM/HR (31 MPH) OR OVER. IN WINDY CONDITIONS IT IS IMPORTANT TO MAN THE GUYS AT THE PICKET RADIUS, TENSIONING WHERE NECESSARY IN ORDER TO KEEP AN EVEN TENSION AT THE TOP OF THE MAST. (REFER TO PARAGRAPH 202, WEATHER CONDITIONS, ON PAGE 20).**



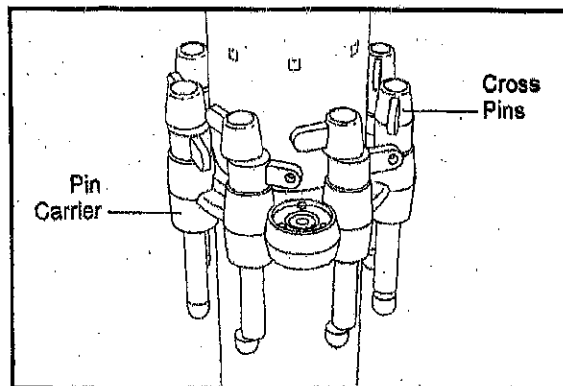
1. Release the tension on the top three guys.



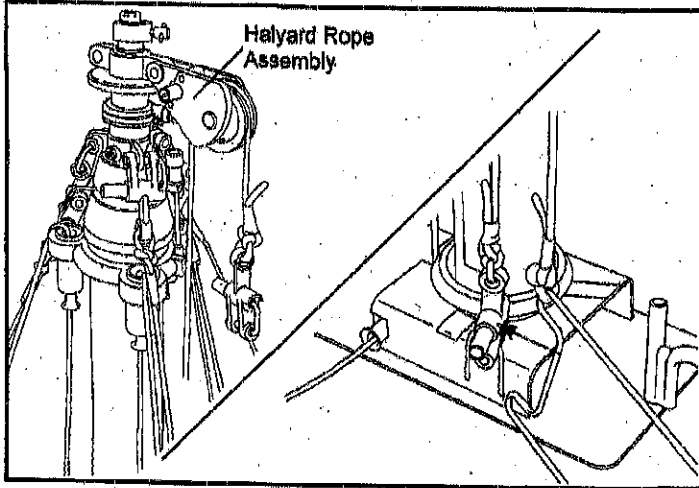
2. Lift the largest section slightly, unlock the cross pin and remove from the mast. Lower the section carefully by hand. Stow the cross pin in the carrier.

### **WARNING/SAFETY NOTE**

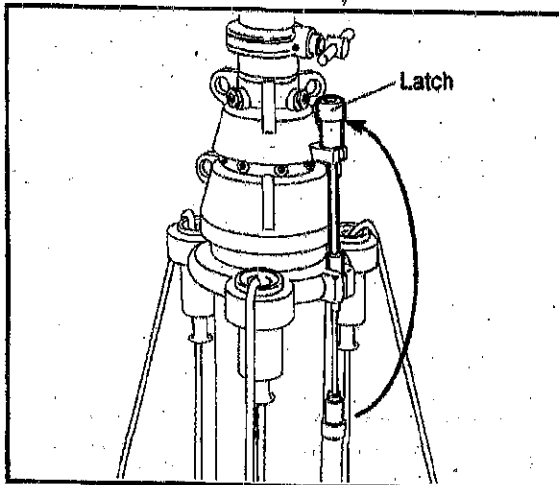
**THERE IS AN AIR-CUSHION DEVICE ON EACH MAST SECTION WHICH WILL SAFEGUARD THE OPERATOR IF A MAST SECTION IS ALLOWED TO SLIP WHEN RETRACTING THE MAST.**



3. Repeat the procedure in paragraph 2 until the mast is completely retracted. Stow all cross pins in the pin carrier in the locked position.

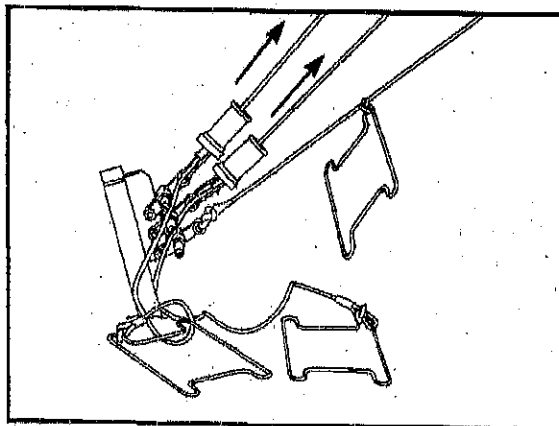


4. Lower the antenna and remove the antenna adapter and halyard. Unclip halyard snap hook from the base. Unclip all guys from the guy collars.

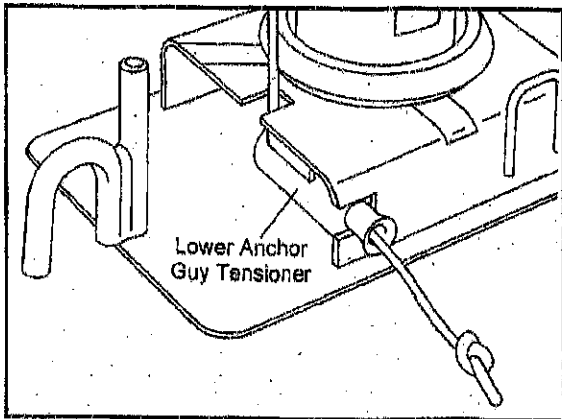


5. Latch the guy collars together with the latch.

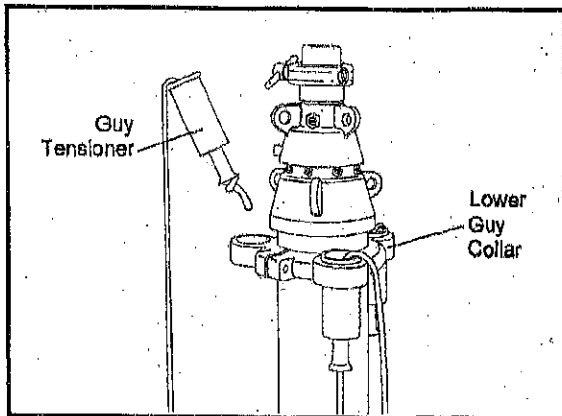
**WARNING**  
**THE GUY COLLARS MUST BE LATCHED TO PREVENT THE MAST SECTIONS FROM SLIDING OUT DURING TRANSPORTATION.**



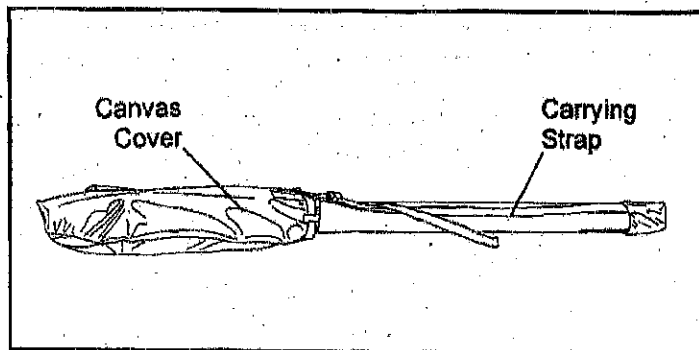
6. Unclip the top and intermediate guys from the picket shackle plate and wind up onto their spools.



7. While one operator holds the mast vertical the second operator can release the tension from the lower guys at the lower guy collar and anchor tensioner at the mast base. Remove the anchor guy tensioner from the slot in the mast base.



8. Remove all tensioners from the lower guy collar and wind on to their spools.



9. The mast can now be lifted from the base plate. Fit the canvas cover and carrying strap.

10. Pull the three pickets from the ground and the spikes from the base plate.

---

## 205. Stowage

Stow all equipment in the equipment box checking off each item against the kit list on the lid of the equipment box or on page 5 of this handbook. Report any defects in the mast or ancillary equipment.

The mast must always be stowed with the locking collar latch securing the guy collars (refer to paragraph 5 on page 29) and the canvas cover over the mast head.

## CHAPTER 3 INSPECTION STANDARDS

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### 301. Responsibility for Inspection

This is the responsibility of the unit technician or workshop personnel who are qualified to inspect masts.

### 302. Periodicity and Recording of Inspections

Inspections of the PU 12 mast unit, kit and all ancillary items should be carried out every three months. On completion of each inspection task a record must be held using a Unit Servicing log. Additionally all minor repairs and replacements should be recorded.

### 303. Tools for Inspection

The tools necessary in order to inspect the mast and ancillaries are contained in the Set of Tools which form part of the PU 12 mast kit (stored in the Equipment Box); these are as follows;

- 3/16" x 1/4" BSF Open End Spanner
- 3/16" Blade Screwdriver
- 3/32" Blade Screwdriver
- 5/32", 4 mm Allen Key

The following additional materials and equipment will be required:

- Silicone grease, Clark Part No. B3905
- Oil can
- Measuring tape

### 304. Inspection Standards

#### 304.1. Checking the Mast and Kit

Lay out the kit and, checking with the Kit Components List on page 5 of this handbook, make a visual examination to see that all equipment is present.

Following the sections 304.2 to 304.18 on the following pages, each part of the kit must now be scrutinised for mud, dirt, rust, condensation, paint condition, lack of lubricant and damage. Clean off any mud as inspection of each item takes place and lubricate screw threads. Lay aside any pieces of equipment which will need further attention. It is important to make a note of these items so that they can be returned to the kit when they have been repaired.

Cross reference to Section 104, Physical Description, on page 6 onwards will prove beneficial in identifying individual parts.

#### 304.2. Mast Unit

At the mast head check that the mast socket clamp is clean and clear and that the socket clamp screw is lubricated and not damaged. The locking collar latch should be able to move freely on its hinge and clip securely into its housing on the intermediate guy collar.

On the pin carrier check for any damage to the bubble level. All eight crosspins stored in the pin carrier must be present and functional; they should lock and unlock easily – oil if necessary.

At the base of the mast ensure that the three yellow sighting lines are clearly visible – repaint if necessary.

Make a check to ensure that the four drain holes in the base of the mast are not blocked.



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### **304.3. Base**

Clean mud off the base. The three yellow sighting lines painted on the base should be visible. The holes for spiking the base to the ground should be clear of mud and free from burrs. The lug for attaching the halyard to the base should be sound and undamaged. The slot in the base which houses the lower anchor guy tensioner must also be free from damage – check that the tensioner fits in the slot.

### **304.4. Spikes**

Check all spikes and make sure that they are not bent and are free from mud. Replace if badly damaged.

### **304.5. Picket Location Line**

Unreel the location line completely. The ring should be securely knotted with a bowline knot to the cord at one end and the wire spool at the other. Check that the length of the cord from the spool to ring is no less than 7 metres. If the cord has been cut and repaired in the field, reducing its overall length of 7 metres, it will need to be laid aside to be replaced.

### **304.6. Lower Guy Assembly, Anchor Lower Guy Assembly and Upper Guy Assembly**

Check the operation of each of the guy tensioners by pulling out, turning and releasing the centre tube. Ensure that the snap hook is securely attached to the tensioner. Check the function of this snap hook to make sure it fully opens and closes. Unwind the terylene guy completely and check the snap hook at the other end of the guy. This snap hook should be firmly attached to the guy by a bowline knot and identification sleeve. All snap hooks should be lightly lubricated. Examine all of the guys and make an inspection to see if they are frayed. Check that the wire spool on each guy is secure. Measure each of the terylene guys and if they have been cut and repaired in the field, reducing their overall length, it is important that they are laid aside to be replaced. Wind undamaged guys back on to their spools.

### **304.7. Halyard Rope Assembly**

The tensioner and the snaphooks should be checked in the same way as the guy assemblies (paragraph 304.6). The pulley on the pulley block assembly should operate freely and the snap hook which clips to the top guy collar should open and close easily.

### **304.8. Antenna Adapter**

Check the function of the tommy screw assembly, it should clamp and release easily. Clean any obstructions from the inside of the clamp and the holes in the two lugs.

### **304.9. Cross Pins**

Check the operation of the cross pins. They should lock and unlock easily.

### **304.10. Equipment Box**

The lid must be securely attached to the equipment box. Check the condition of the straps and buckles and the carrying handle. The straps should be securely attached to the equipment box with the screws. Clean off any mud on the inside and outside of the equipment box. The metal slots inside the equipment box which hold the tool pouch and the two spare cross pins should be free from damage.

### **304.11. Base Insulator**

Check the rubber base insulator for any signs of damage.

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### **304.12. 24" Double Shackle Plate Picket**

Check that the three holes in each steel plate of all of the pickets are clear of dirt and mud. There should be no burrs on the picket heads.

### **304.13. Canvas Cover and Carrying Strap**

Examine the canvas cover and carrying strap carefully for signs of fraying or tears. On the canvas cover check the buckle and strap which secures the carrying strap to the canvas cover. If this strap has become detached the mast will not be able to be transported by the carrying strap. Check the buckles and stitching. Wipe the covers clean of any mud or dirt.

### **304.14. Set of Tools**

The pouch which holds the tools should be intact. Check the stitching. All tools should be present (and in good condition. Refer to page 14 for a visual description of the items stored in the pouch.

### **304.15. 4 lb Hammer**

Check the condition of the hammer. The head should be secure on the shaft.

### **304.16. Instruction Plate**

Check that the instruction plate is present, clean and legible.

### **304.17. User's Handbook**

Check that the handbook is clean, legible and intact. There should be a front and back cover, introduction pages (i) to (iv) and internal pages numbered 1 to 56.

### **304.18. Stowage of the Kit**

Pack the kit away. The damaged items which will need to be repaired or repainted should be taken to the appropriate workshops.

## CHAPTER 4 MAINTENANCE AND SERVICING

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### 401. Responsibility for Inspection

This is responsibility of the unit technician or workshop personnel who are qualified to inspect masts.

### 402. Preventative Maintenance

The best form of preventative maintenance is to thoroughly check the mast and kit BEFORE they are put away for storage. This will ensure the kit, when retrieved for use will be clean, dry, oiled and functional.

### 403. Periodicity of Maintenance Checks on the Mast Unit

(Refer to Section 501, Repair Chart 101 -- PU 12 Mast Unit, on page 41.)

#### 403.1. Daily Tasks on an Erected Mast

Inspect guys for signs of fraying and check that they are without slack. Adjust as necessary, with the aid of the bubble level, to maintain vertical alignment of the mast.

Check that the pickets are firmly in the ground. During high winds and rain carry out frequent inspections to ensure that pickets are holding firm.

#### **WARNING**

The terylene guys WILL NOT SHRINK when wet and DO NOT need to be slackened in wet weather.

#### 403.2. Weekly Tasks

**Mast cleaning and lubrication:** The mast sections are self-lubricating. Internally the mast has a thin film of silicone grease on each section as a result of each telescoping action. Additional grease applied externally will only serve to attract quantities of wind-blown sand and dirt which will cause damage to the seals when the mast is retracted.

Inspect each section as it is extended and check that a thin, unbroken film of silicone grease is present. Remove all loose dirt with a soft cloth.

Raise and lower each mast section in turn and re-inspect the surfaces for the presence of lubricant. If surfaces are dry or patchy report the matter and arrange for the mast to be serviced and lubricated with the approved grease.

This periodic check is essential for efficient operation of the mast especially when it is in use in sub-zero temperatures.

#### 403.3. Monthly Tasks

Carry out the tasks detailed in the previous paragraph 'Weekly Tasks'. Inspect all guys, crosspins and the socket clamp. Check that:

- a) All terylene guys are sound with no fraying and that all snap hooks have adequate lubrication.
- b) The clamp socket is free from rust. Where necessary grease the thread wiping off the excess.
- c) The four drain holes in the base of the mast are not blocked.

Examine all mast fittings for corrosion, damage and rust; where necessary arrange for cleaning and painting by the supporting workshops.

#### 403.4. Periodicity of Servicing Mast

Every one to three years remove the mast sections, thoroughly clean inside and out, then re-grease with silicone grease.

Every five to ten years the mast will need to be completely stripped down, as all the perishable components such as sealing discs and 'O' rings will need to be replaced.

---

## 404. Periodicity of Maintenance Checks on Ancillary Items

(Refer to Section 508, Repair Chart 108 - PU 12 Field Mast Kit, on page 55.)

Carry out the monthly tasks detailed in paragraph 403.3. Inspect all guys, clamps and snap hooks.

The kit items detailed on the following pages must be checked six monthly and serviced every one to three years referring to the appropriate procedures below.

**CAUTION:** Where silicone grease is recommended use silicone grease Clark Part No. B3905, NSN 9150-99-710-9909. Where oil is recommended use any clean machine oil. Where grease is recommended use any good quality bearing grease.

### 404.1. Base

Repaint the three yellow sighting lines on the base if necessary. Repair any damage to the lug for attaching the halyard to the base, straightening and re-welding if necessary.

### 404.2. Spikes

File the tops of the spikes to remove any burrs which have resulted from hammering. File the point of the spikes and straighten the shafts if the spikes have become distorted or damaged. Replace if badly damaged.

### 404.3. Picket Location Line

(Refer to Section 502, Repair Chart 102 - Picket Location Line, on page 43.)

Check the cord especially at the ends where it is attached to the ring and the spool. If it has become detached it must be secured with a bowline knot and black sleeving. If the cord is badly damaged, enough to reduce its overall length, it must be replaced. Any reduction in cord length will affect the picket radius. The total length of the cord from spool to ring should be no less than 7 metres.

### 404.4. Lower Guy Assembly, Anchor Lower Guy Assembly and Upper Guy Assembly

(Refer to Sections 503, 504 and 505, Repair Charts 103, 104 and 105 - Lower Guy Assembly on page 45, Anchor Lower Guy Assembly on page 47 and Upper Guy Assembly on page 49.)

Replace any terylene guy, guy tensioner, snap hook or spool which appears worn. Snap hooks must be tied to the guys with a bowline knot. The ends of the guys should be sealed by a flame and the loose ends of the knot secured with plastic sleeving. Replace any terylene guys which have been cut or repaired in the field. The lower guy assembly must have a replacement  $\varnothing 5$  mm terylene guy of 9.7 metres, the anchor lower guy assembly a replacement  $\varnothing 5$  mm terylene guy of 11.2 metres and the upper guy assembly a replacement  $\varnothing 5$  mm guy of 19 metres.

### 404.5. Halyard Rope Assembly

(Refer to Section 506, Repair Chart 106 - Halyard Rope Assembly, on page 51.)

Replace the terylene ropes, tensioner, snap hook or spool if they appear worn. Snap hooks must be tied to the ropes with a bowline knot. The ends of the ropes should be sealed by a flame and the loose ends of the knot secured with plastic sleeving. Replace the terylene ropes if they have been cut or repaired in the field. The halyard rope assembly must have a replacement  $\varnothing 5$  mm terylene rope of 23.2 metres for the main part and a  $\varnothing 5$  mm terylene rope of 1.2 metres for the part which attaches the snap hook to the tensioner.

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#### **404.6. Antenna Adapter**

If the antenna adapter is not clamping correctly check, replacing if necessary, the tommy screw assembly, clamp segment and the screw. Replace the complete item if badly damaged.

#### **404.7. Cross Pins**

Replace any cross pins which are damaged.

#### **404.8. Equipment Box**

(Refer to Section 507, Repair Chart 107 - Equipment Box, on page 53.)

Replace the straps and buckles on the equipment box if they are badly damaged by removing the screws, hexagonal nuts and spacers. Hammer out any dents in the equipment box.

#### **404.9. Base Insulator**

If the base insulator is badly damaged it should be replaced.

#### **404.10. 24" Double Shackle Plate Picket**

Should the holes for guy attachment on the shackle plates of the pickets have become oval they should be drilled or filed round. Any burrs on the picket head should be removed with a file. Repaint where necessary. Replace any picket which is badly damaged.

#### **404.11. Canvas Cover and Carrying Strap**

Replace the complete item if the cloth-coated polyurethane becomes frayed or torn or if the straps have become detached.

#### **404.12. Set of Tools**

Replace any tool which is missing from the set. Repair the tool pouch if the stitching has become undone.

#### **404.13. 4 lb Hammer**

The hammer head should be secure on the shaft. If the hammer is badly damaged it should be replaced.

#### **404.14. Instruction Plate**

Replace the metal instruction plate if it has become illegible.

#### **404.15. Paint**

After overhaul check the paint condition on all items and repaint where necessary with the correct paint (refer to page 3).

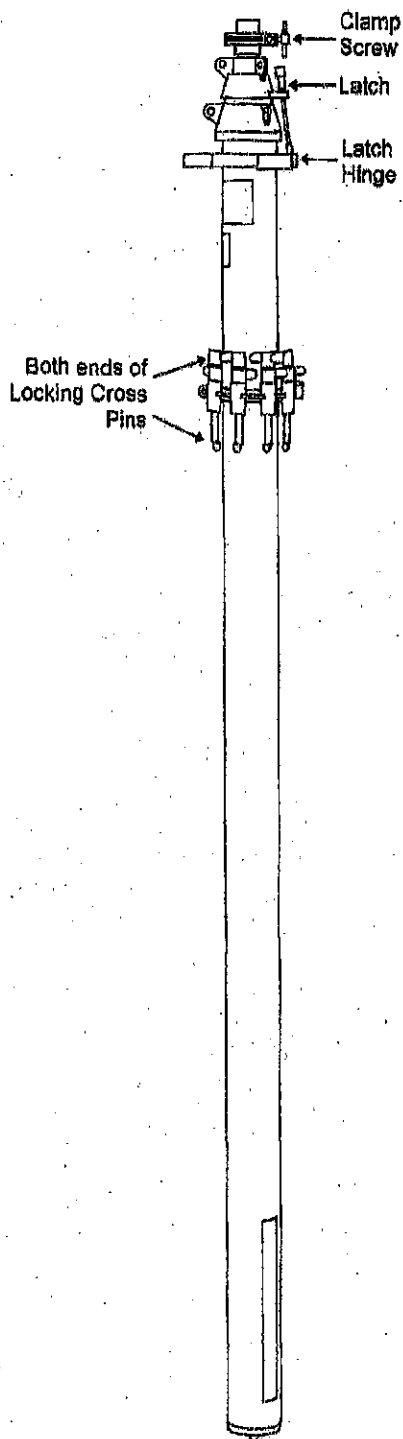
#### **404.16. Lubrication**

Where silicone grease is recommended use silicone grease Clark Part No. B3905, NSN 9150-99-710-9909. Where oil is recommended use any clean machine oil. Where grease is recommended use any good quality bearing grease.

The Lubrication Diagram, Fig. 23, on page 38 shows important oiling and greasing points on an assembled mast.

**CAUTION:** DO NOT allow mineral oil or grease to come into contact with the mast sections, piston 'O' rings or sealing discs.

**CAUTION:** Use ONLY silicone grease on the MAST SECTIONS.



**CAUTION**

**DO NOT ALLOW MINERAL OIL OR GREASE TO COME INTO CONTACT WITH THE MAST SECTIONS, PISTON 'O' RINGS OR SEALING DISCS AS THEY WILL BE IMMEDIATELY DAMAGED.**

**DO NOT USE GREASE CONTAINING MOLYDISULPHIDE.**

**SUCH ACTION RENDERS VOID ALL CONSEQUENTIAL GUARANTEE CLAIMS.**

**CAUTION**

**WHERE SILICONE GREASE IS RECOMMENDED USE ONLY SILICONE GREASE CLARK PART NO. B3905, NSN 9150-99-710-9909**

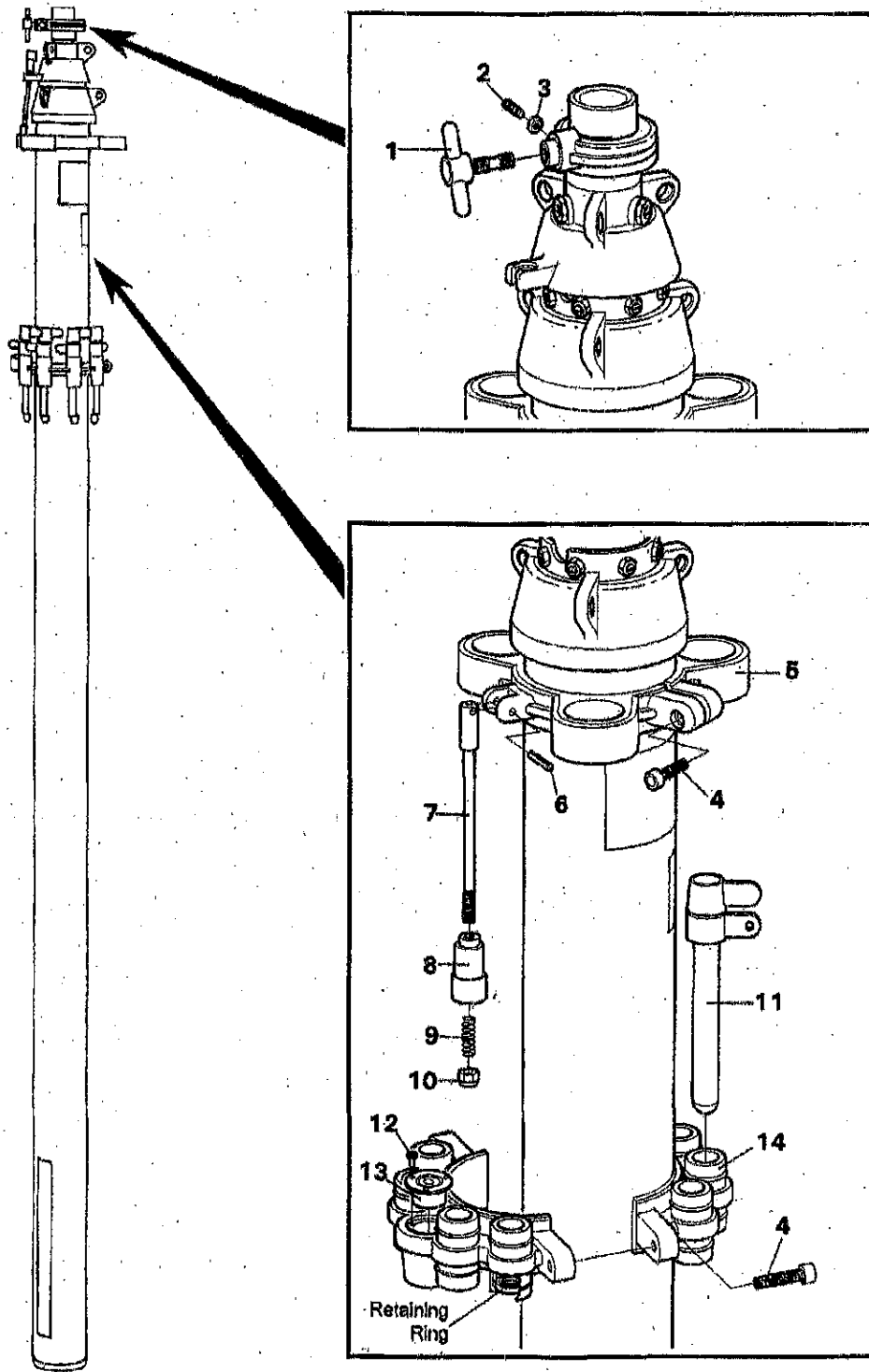
**Fig. 23**  
**LUBRICATION DIAGRAM**

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# CHAPTER 5 REPAIR CHARTS





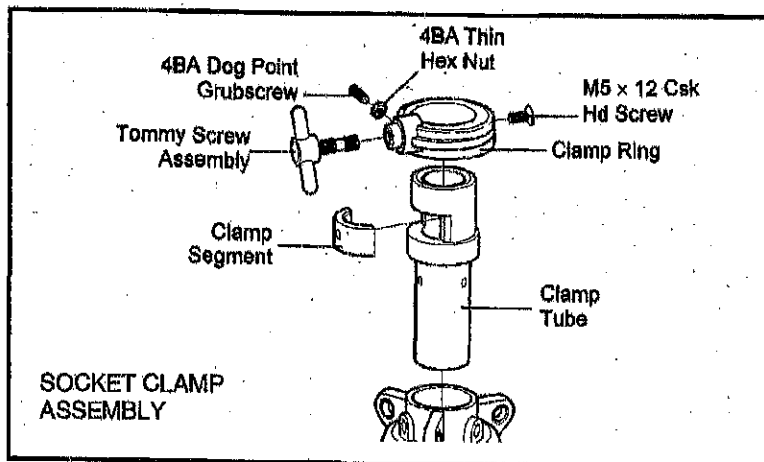
## 501. Repair Chart 101 - PU12 Mast Unit

Item	Clark Masts Ref.	Description	Qty.	NSN
1	6737	Tommy Screw Assembly	1	5985-99-624-8162
2	6773	4BA Dog Point Grub Screw	1	5305-99-624-8442
3	B3548	4BA Thin Hex Hd Nut	1	5310-99-120-0118
4	B6835	M5 x 25 Socket Hd Cap Screw	3	5305-99-122-6447
5	6124	Lower Guy Collar	1	5985-99-624-8136
6	B6896	Spring Pin	1	5985-99-638-1856
7	6244	Eye Bolt	1	5340-99-626-6200
8	6245	Spring Housing	1	5985-99-624-8164
9	B4560	Compression Spring	1	5360-99-624-8444
10	B1134	2BA Lock Nut	1	5310-99-101-2849
11	6233	Locking Cross Pin	8	5985-99-620-2943
12	B9438	ø2.2 Self Tap Screw	3	5305-99-142-3363
13	B5314	Circular Bubble Level	1	5210-99-628-7177
14*	15907	Pin Carrier Assembly	1	5985-99-737-5013

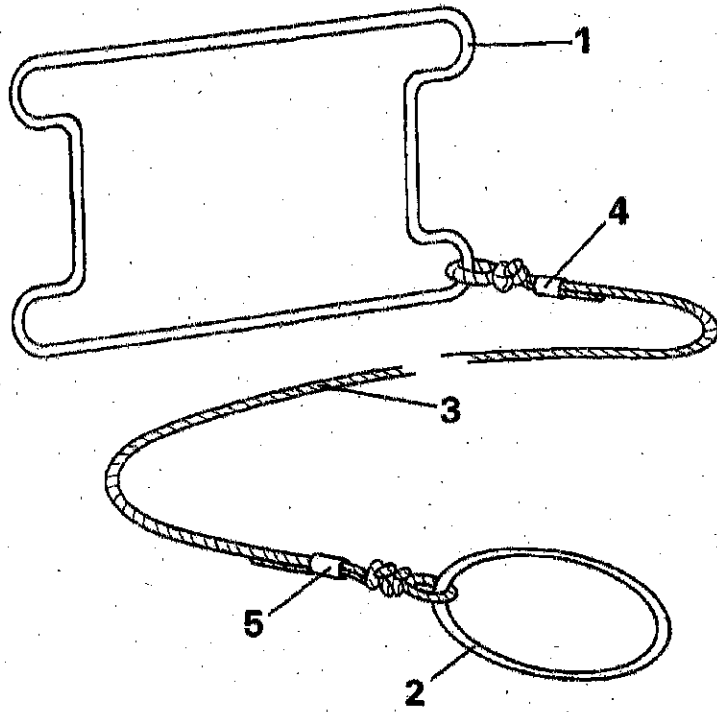
Items 4 (1 off), 5, 6, 7, 8, 9 and 10 make up Lower Guy Collar Assembly Part No. 6246, NSN 5985-99-624-8151.

Item 14 includes the two Pin Carrier Halves, eight Retaining Rings and Items 4 (2 off), 12 and 13.

Items 1, 2, and 3 are also available as part of the Socket Clamp Assembly Part No. 6762, NSN 5985-99-626-3414 as shown in the illustration below.



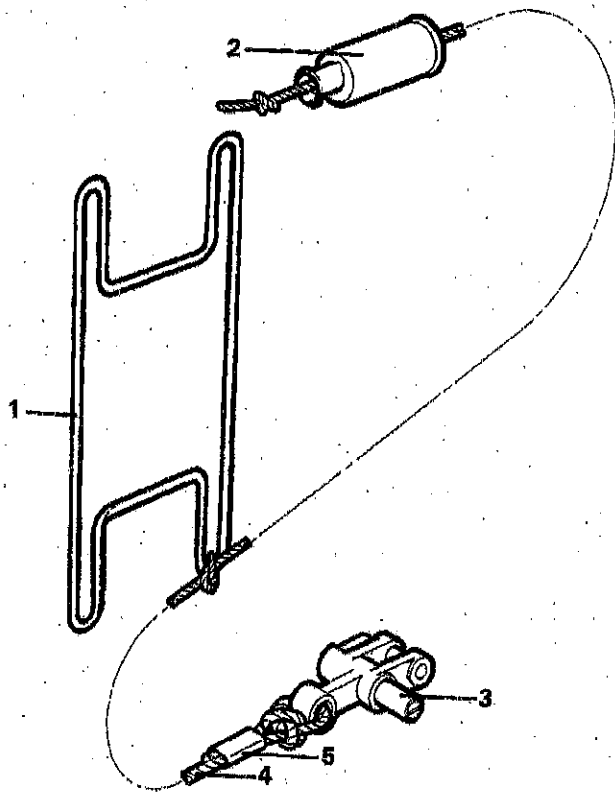
Note:- Detailed parts are listed in AESP 5985-C-106-524



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**502. Repair Chart 102 - Picket Location Line**

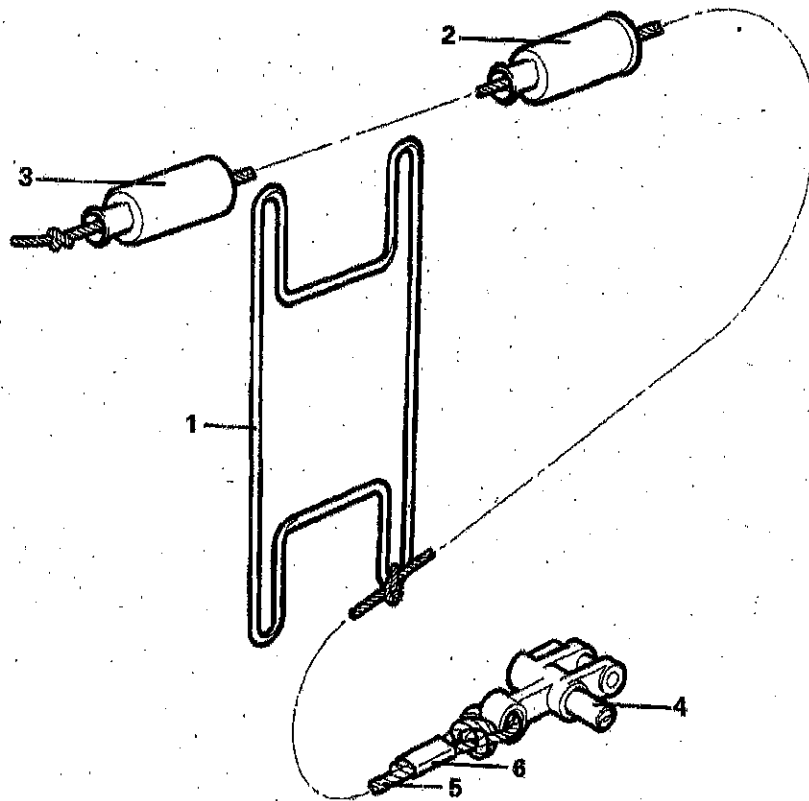
Item	Clark Masts Ref.	Description	Qty.	NSN
1	6354	Spool	1	5985-99-620-4871
2	6410	Ring	1	5365-99-624-8125
3	B3860	ø 4 mm White Rope (7.3 m)	1 length	4020-99-638-1601
4	B4327	Black Sleeve	1	5975-99-753-6594
5	8115/1	Identification Sleeve	1	N/A



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**503. Repair Chart 103 - Lower Guy Assembly**

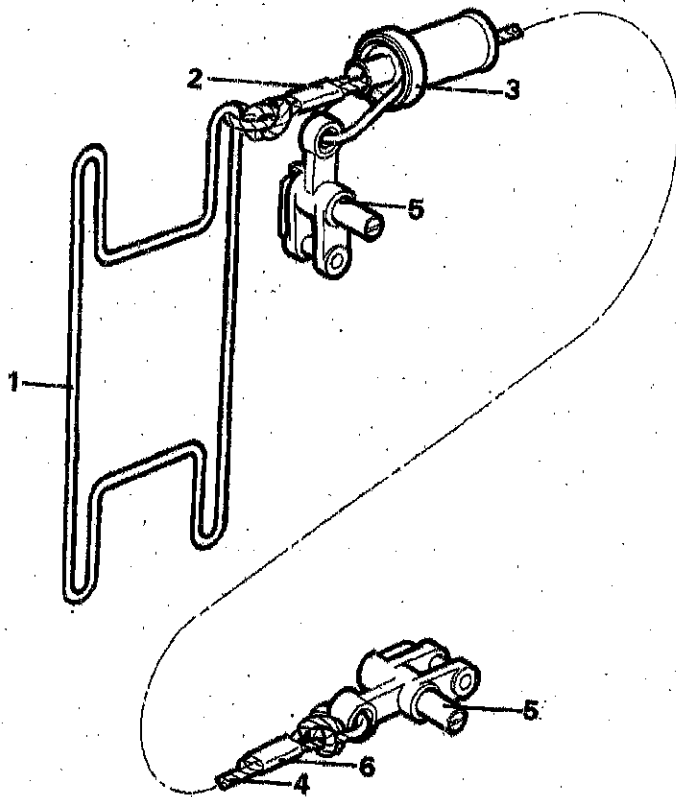
Item	Clark Masts Ref.	Description	Qty.	NSN
1	6354	Spool	1	5985-99-620-4871
2	6237	Guy Tensioner	1	5985-99-624-8178
3	7547	'Genk' Snap Hook	1	5820-99-636-9251
4	B4325	ø 5 mm Terylene Rope (9.7 metres)	1 length	4020-99-638-1600
5	8115/4	Identification Sleeve	1	N/A



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**504. Repair Chart 104 - Anchor Lower Guy Assembly**

Item	Clark Masts Ref.	Description	Qty.	NSN
1	6354	Spool	1	5985-99-620-4871
2	6237	Guy Tensioner	1	5985-99-624-8178
3	6400	Anchor Guy Tensioner	1	5985-99-624-8180
4	7547	'Genk' Snap Hook	1	5820-99-636-9251
5	B4325	ø 5 mm Terylene Rope (11.2 metres)	1 length	4020-99-638-1600
6	8115/5	Identification Sleeve	1	N/A

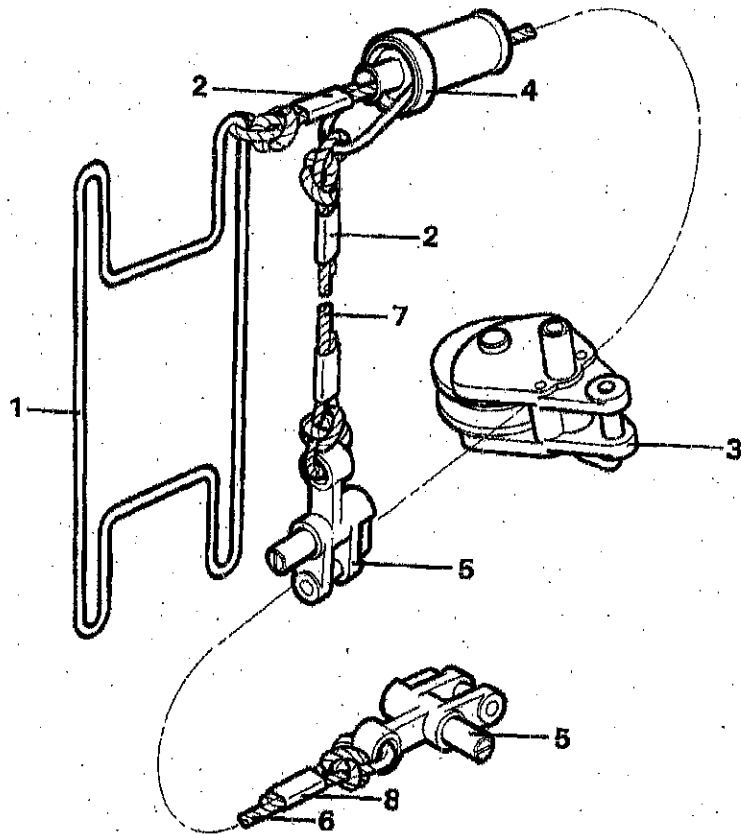




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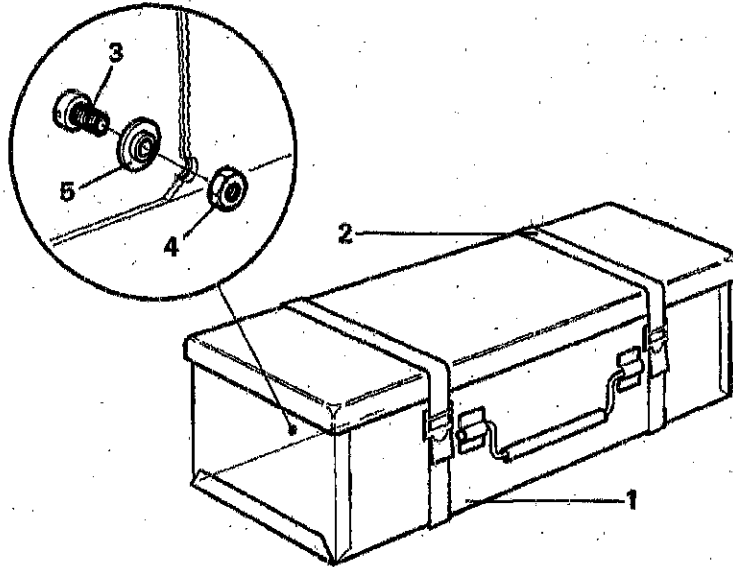
**505. Repair Chart 105 - Upper Guy Assembly**

Item	Clark Masts Ref.	Description	Qty.	NSN
1	6354	Spool	1	5985-99-620-4871
2	B4327	Black Sleeve	1	5975-99-753-6594
3	3870	Guy Tensioner	1	5985-99-624-7667
4	B4325	ø 5 mm Terylene Rope (19 metres)	1 length	4020-99-638-1600
5	7547	'Genk' Snap Hook	2	5820-99-636-9251
6	8115/2	Identification Sleeve	1	N/A



### 506. Repair Chart 106 - Halyard Rope Assembly

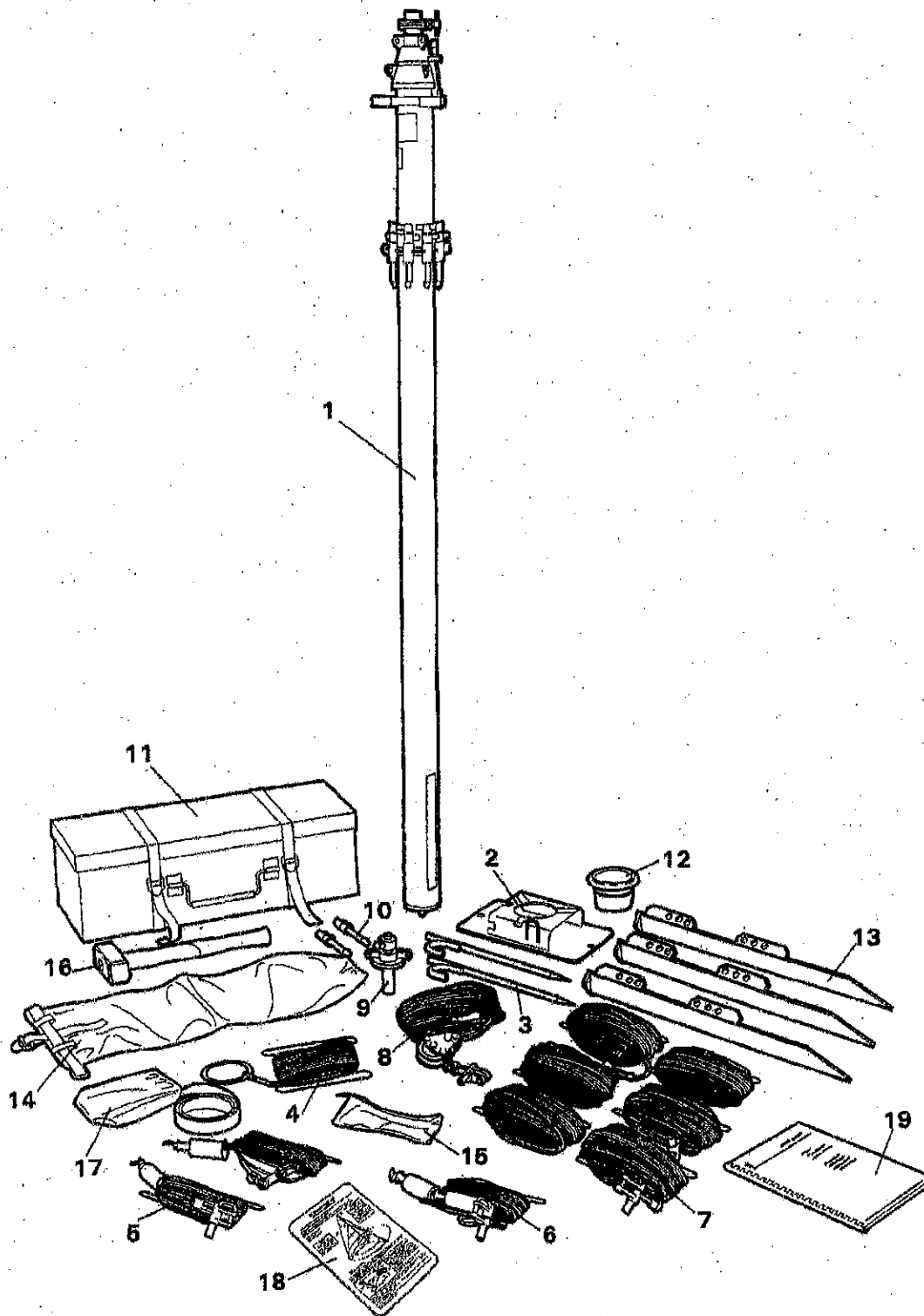
Item	Clark Masts Ref.	Description	Qty.	NSN
1	6354	Spool	1	5985-99-620-4871
2	B4327	Black Sleeve	3	5975-99-753-6594
3	6842	Pulley Block Assembly	1	5985-99-537-2216
4	3870	Guy Tensioner	1	5985-99-624-7667
5	7547	'Genk' Snap Hook	2	5820-99-636-9251
6	B4325	ø 5 mm Terylene Rope (23.2 metres)	1 length	4020-99-638-1600
7	B4325	ø 5 mm Terylene Rope (1.2 metres)	1 length	4020-99-638-1600
8	8115/3	Identification Sleeve	1	N/A



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**507. Repair Chart 107 – Equipment Box**

Item	Clark Masts Ref.	Description	Qty.	NSN
1	7201	Equipment Box	1	5985-99-638-1857
2	6359	Lid Strap	2	5985-99-626-7267
3	B604	2BA Ch Hd Screw	2	5305-99-979-7715
4	B220	2BA Thin Hex Nut	2	5310-99-948-9815
5	7765	Flanged Spacer	2	5365-99-840-5008
6	7770	Kit Contents Label (adhered to lid of box)	1	9905-99-993-0148



### 508. Repair Chart 108 - PU12 Field Mast Kit

Item	Clark Masts Ref.	Description	Qty.	NSN
1	6105	PU 12 Mast Unit	1	5985-99-117-3751
2	6106	Base	1	5985-99-117-3741
3	6409	Spike	2	5985-99-620-2944
4	6108	Location Line	1	5985-99-117-3742
5	7745	Lower Guy Assembly	2	5985-99-620-9724
6	7825	Anchor Lower Guy Assembly	1	5985-99-620-9966
7	6110	Upper Guy Assembly	6	5985-99-117-3744
8	6720	Halyard Rope Assembly	1	5985-99-620-9726
9	7581	Antenna Adapter	1	5985-99-620-9722
10	6233	Cross Pins (Spares)	2	5985-99-620-2943
11	6251	Equipment Box	1	5985-99-117-6180
12	6581	Base Insulator	1	5985-99-637-0533
13	7532	24" Double Shackle Plate Picket	3	4030-99-620-9729
14	7534	Canvas Cover	1	5985-99-620-9725
15	6421	Set of Tools	1	5985-99-620-2945
16	B2621	4 lb Hammer	1	5120-99-949-4253
17	7624	Carrying Strap	1	5985-99-337-0534
18	19502	Instruction Plate	1	9905-99-212-1870
19	N/A	User's Handbook	1	N/A

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## The Beaufort Wind Scale

Beaufort Number	Average Speed			Descriptive Title	Observations
	m.p.h.	kt.	km/hr		
0	0	0	0	Calm	Smoke rises vertically.
1	2	2	3	Light air	Direction shown by smoke but not wind sock.
2	5	5	8	Light breeze	Wind felt on face, weather vanes revolve.
3	10	9	16	Gentle Breeze	Leaves and twigs in motion; wind sock is filled but limp; wind extends light flag.
4	15	14	24	Moderate breeze	Small branches are disturbed; dust and loose papers raised.
5	21	19	33	Fresh breeze	Small trees in leaf begin to sway.
6	28	24	45	Strong breeze	Large branches in motion; telegraph wires whistle.
7	35	30	56	Moderate gale	Trees in motion; inconvenience felt when walking against the wind.
8	42	37	67	Fresh gale	Breaks twigs off trees; walking made difficult.
9	50	44	80	Strong gale	Slight structural damage occurs; chimney pots and slates are removed.
10	59	52	94	Whole gale	Trees uprooted; considerable damage occurs.
11	69	60	110	Storm	Rarely experienced; very widespread damage.
12	above			Hurricane	
	75	65	120		

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