

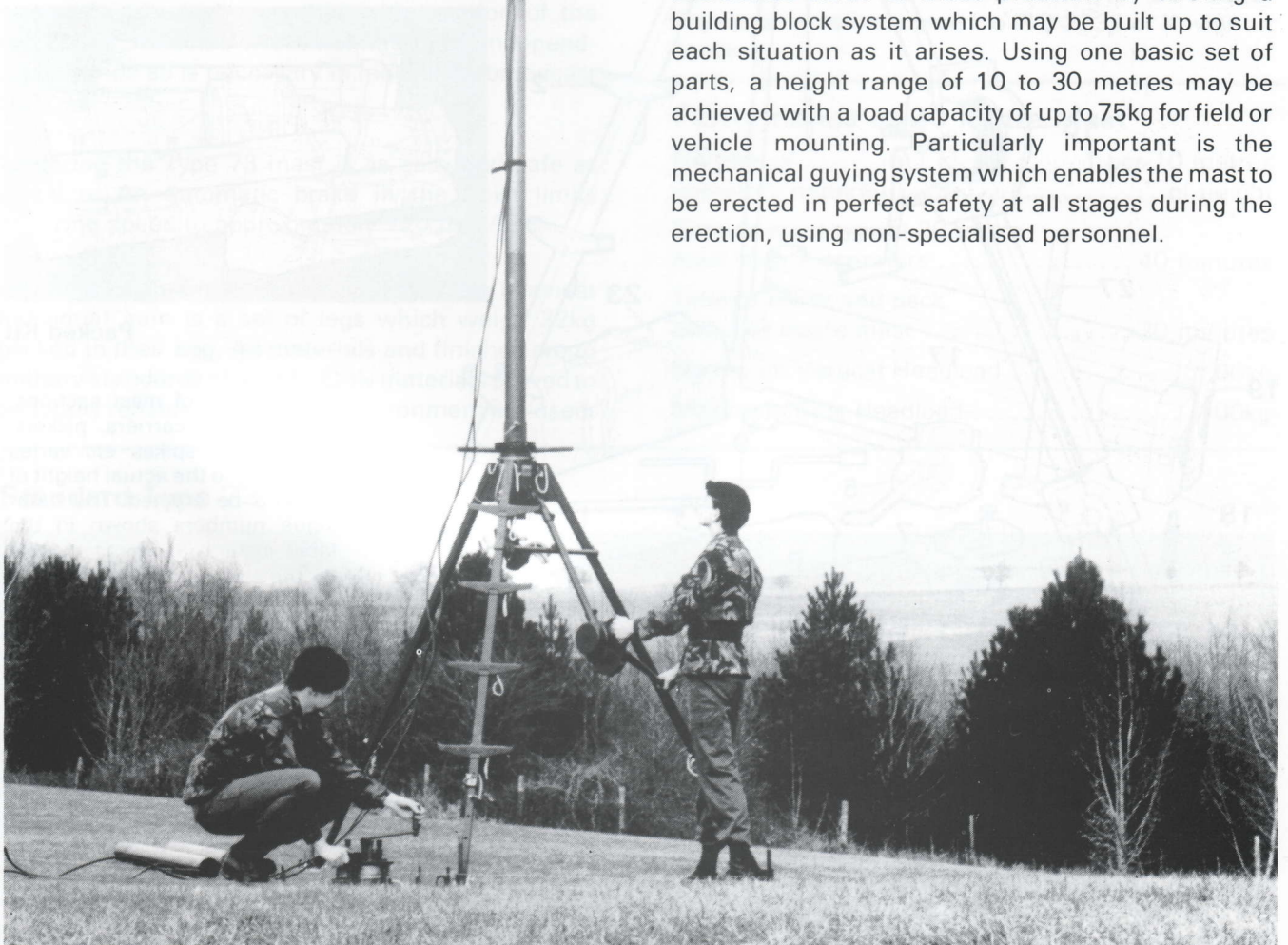
# CLARK MASTS™

## Type 73

**The mechanically  
extended tubular  
sectional mast  
for world-wide  
military use**

### Introduction

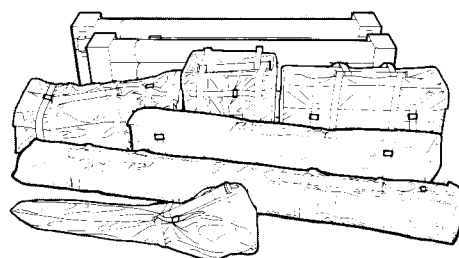
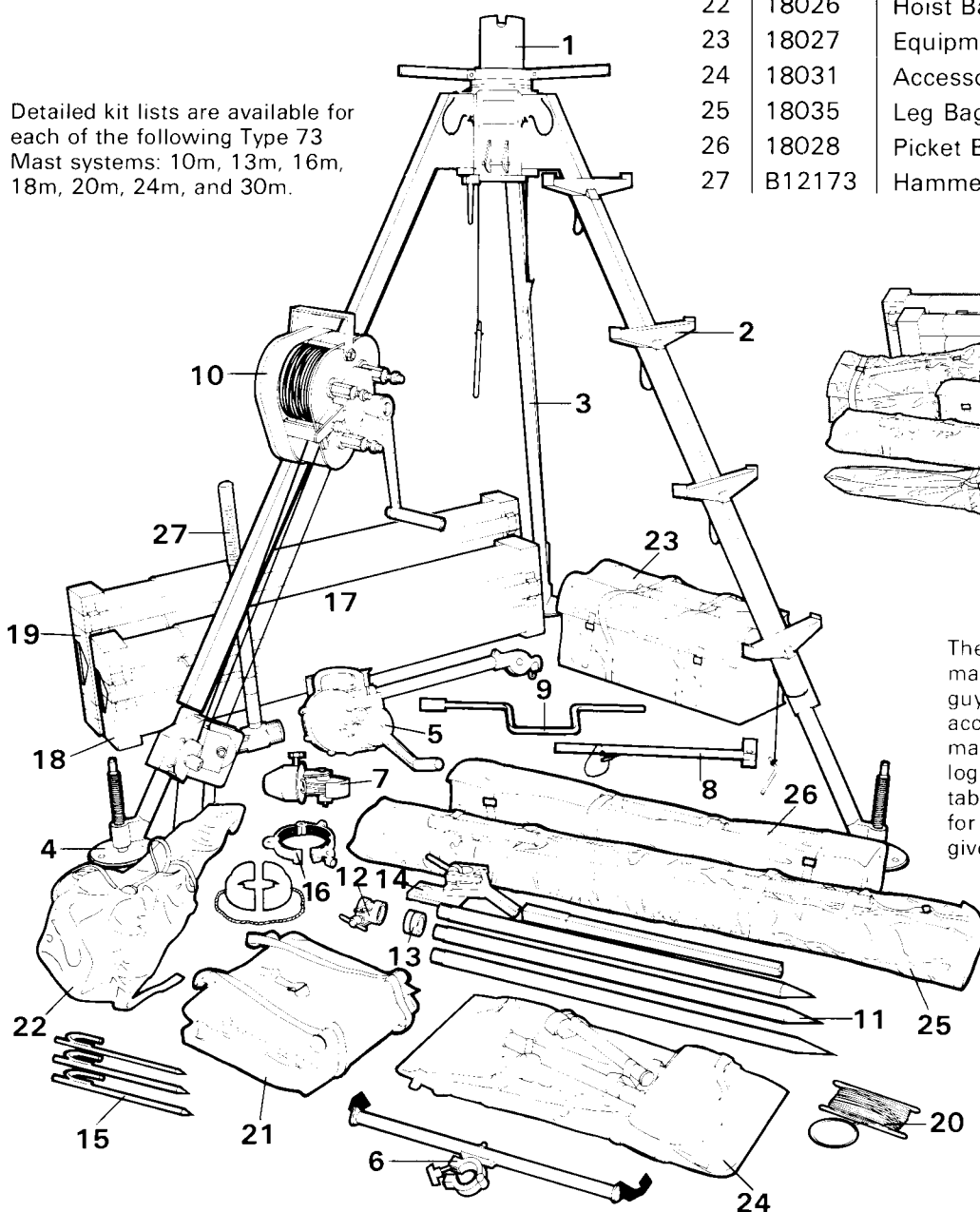
A problem associated with all transportable masts is predicting the erection site or the conditions. Even the height required to establish a satisfactory communication link is variable. The Type 73 mast overcomes some of those problems by offering a building block system which may be built up to suit each situation as it arises. Using one basic set of parts, a height range of 10 to 30 metres may be achieved with a load capacity of up to 75kg for field or vehicle mounting. Particularly important is the mechanical guying system which enables the mast to be erected in perfect safety at all stages during the erection, using non-specialised personnel.



## Standard Type 73 Kit Components

Item	Clark Part No.	Title	Qty. per Kit				
1	18205	Mast Guide Box	1	11	18037	Picket	3
2	10772	Step Assembly	4	12	18039	Picket Clamp	3
3	18020	Leg Assembly	3	13	18034	Picket Driving Cap	1
4	18114	Foot Assembly	3	14	18033	Picket Extractor	1
5	7600	Hoist	1	15	6409	Spike	3
6	13973	Hoist Support Bar	1	16	18022	Guy Collar Set	1
7	5246	Lifting Block	1	17	5231	Mast Section	7
8	5426	Bubble Level	1	18	14522	Mast Section Carrier (3 Sections)	1
9	5373	Foot Adjustment Brace	1	19	14523	Mast Section Carrier (4 Sections)	1
10	18021	Guy Winch Kit (Leg Mounted)	1	20	18150	Radius Line	1
				21	18025	Winch Bag	1
				22	18026	Hoist Bag	1
				23	18027	Equipment Bag	1
				24	18031	Accessory Bag	1
				25	18035	Leg Bag	1
				26	18028	Picket Bag	1
				27	B12173	Hammer	1

Detailed kit lists are available for each of the following Type 73 Mast systems: 10m, 13m, 16m, 18m, 20m, 24m, and 30m.



**Packed Kit**

The number of mast sections, mast section carriers, pickets, guy collars, spikes etc varies according to the actual height of mast to be erected. The catalogue numbers shown in the table include all items needed for the standard field mast kit to give the extended height stated.

The kit shown is a 10 metre mast, Cat. No. 18130. Here the guy winch unit is leg mounted. It can also be supplied for spiking to the ground, as shown on cover photograph.

General Description

The Type 73 mast is built around a specially drawn and machined aluminium alloy tube section, 4 inches diameter by 1.22 metres effective length. These plug one into another and are rotationally locked by a pin and slot arrangement. The erection gear consists of a guide box which is supported, tripod fashion, on three detachable legs. Tube sections are introduced into the guide box from the underside, and lifted by a hand cranked hoist specially designed for the purpose. Guy collars are attached to the mast during erection. Guy winch units, of which one is required per 8 metres of mast height, are spiked to the ground near the erection gear. The guy wires are spooled off the winch unit, passed round pulleys attached to ground pickets and back to the mast guy collar. A 3 guy system is used.

The winch unit enables each guy to be safely tensioned or slackened individually, enabling the mast to be set straight and vertical in any condition of ground slope or picket radius variation, with or without wind. A wide range of antenna attachments is available, including a mechanically operated rotator head which, together with rotation of the mast itself, enables two antennas to be independently turned as is necessary in movable rebroadcast stations.

Lowering the Type 73 mast is as easy and safe as erection. An automatic brake in the hoist limits lowering speed to approximately 120 mm/sec.

All the equipment is carried in bags. The heaviest individual item is a set of legs which weigh 32kg packed in their bag. All materials and finishes are to military standards of quality. Only materials proved to be totally reliable in a military environment are used.

Brief Specification

**Mast Section**  
Heat-treated light alloy to BS1471, 6082TF. Specially drawn and machined. Anodised to DEF STAN 03-25. Sections can be dyed green, gold or desert sand.

**Aluminium Alloys**  
Castings in LM6 alloy to BS 1490, gravity diecast.

**Steel**  
Where surface hardness is required, medium carbon steel to EN 8D, HF induction hardened. Elsewhere EN 1a.

**Finishes**  
Zinc plating and passivation to DEF STAN 03-20. Paint finishes to Military Green or other colours on demand.

**Bag Materials**  
Nylon decontaminable cloth to UK/SC3501 with approved straps and buckles. Stiffening is by means of low density polyethylene removable plates inside the bag.

**Guy Cable**  
Standard 6/19 galvanised steel to BS 3530. Stainless or nylon covered to ISO 2232 or Kevlar on demand.

Performance of 20 metre Mast

Number of operators required ..... 1 per 10 metres of height  
Time to erect typical 20 metre mast with 2 operators ..... 40 minutes  
Time to lower and pack away 20 metre mast ..... 30 minutes  
Maximum Vertical Headload ..... 60kg  
Maximum Side Headload ..... 100kg

Standard Type 73 Kits

Kit Cat. No.	Height metres	No. of sections	Max. vertical headload kg	Max. horizontal headload kg	Weight of mast kit kg (approx.)
18130	10	7	75	150	168
18131	13	9	75	130	180
18132	16	12	70	120	216
18133	18	13	70	110	220
18134	20	15	60	100	245
18135	24	18	55	80	295
18136	30	23	50	70	355

## Optional Kit Accessories

### Feeder Cable Strap. Cat. No. 5809

A simple and effective means of preventing feeder cables flapping in the wind. Weight: 0.09kg.

### Antenna Side Mounting Adaptor. Cat. No. 7631.

General purpose attachment. Clamps directly round mast section. Standard antenna spigot 40mm diameter. Other sizes available. Weight: 1.7kg.

### Mast Top Flange Fitting. Cat. No. 5244.

Fits over the top section of the mast giving a mounting flange 152mm square. Weight: 1.9kg.

### Flanged Antenna Spigot. Cat. No. 5242.

Adapts the above flange fitting to give a spigot for antenna attachment. Standard diameter 40mm. Other sizes available. Weight: 1.7kg.

### Antenna Rotator. Cat. No. 7901.

Fits on the mast top and is operated from the ground by a special ball rope. 360° rotation. Essential if a mast carries 2 antennas which must be pointed independently. Weight: 11kg.

### Rotator Extension Adaptor. Cat. No. 5817.

A 0.6 metre long extension piece necessary for use with certain types of antenna to avoid the antenna fouling the mast when the antenna is rotated. Weight: 1.4kg.

### Mast Head Tilt Unit. Cat. No. 13438.

A mast head fitting operated from the ground by a special ball rope to tilt antennas up or down 20°. Weight: 9.2kg.

### Halyard Pulley. Cat. No. 6374.

For lifting wire antennas or other headloads. Must be used in conjunction with top flange fitting Cat. No. 5244. Weight: 2.8kg.

### Lightning Protection Kit. Cat. No. 18140.

Fits flange fitting. Details may be modified to suit different antennas. 16mm<sup>2</sup> earthing cable and earthing spike are not included. Weight: 2kg. (Not illustrated).

### Crane Kit. Cat. No. 18030.

Using mast sections as a crane tower, this kit contains all other pieces necessary to build up a crane capable of lifting and mounting antennas weighing up to 75kg with safety and ease. Weight: 14.25kg. (Not illustrated).

### Guy Clamp. Cat. No. 18029.

Increases stability of mast. Also enables guy winch kits to be removed from site after mast erection. Weight: 0.90kg.

### Vehicle/Shelter Mounting Bracket. Cat. No. 10553.

May be attached to any flat face of vehicle or shelter. Forms mounting point for guide box. Weight: 9.02kg.

### Winch Protection Cover. Cat. No. 18038.

When fitted protects guy winch units from rain, snow and ice. Material is nylon coated cloth. Weight: 0.75kg.

### Hinged Antenna Adaptor. Cat. No. 8813.

This is typical of a number of special antenna mounting adaptors, details on request. (Not illustrated).

