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ELEVATED AERIAL, 23-38Mc/s, KIT NO 1

ELEVATED AERIAL, 36-60Mc/s, KIT NO 1

TECHNICAL HANDBOOK - TECHNICAL DESCRIPTION

INTRODUCTION

Role and purpose of the equipment

1. The kits are designed to be used in conjunction with the Mast, telescopic 27 ft, (Tels L 040 refers), to increase the range of the following:

- (a) Elevated aerial 23-38Mc/s: SR A42, B48, C45
- (b) Elevated aerial 36-60Mc/s: SR A41, B47, C42

Main parameters

2. The two kits are similar in construction and content, however certain dimensions of the aerial assembly and stay assembly vary according to the different frequency coverage. These variations are as follows:-

- (a) Elevated aerial 23-38Mc/s, Kit No 1:  
aerial assembly: 128 in. fully extended,  
52 in. closed.  
stay assembly: 9ft 6 in. of steel wire,  
55 ft overall length
- (b) Elevated aerial 36-60Mc/s, Kit No 1:  
aerial assembly: 81.5 in. fully extended,  
37 in. closed  
stay assembly: 5 ft of steel wire  
55 ft overall length

TECHNICAL DESCRIPTION

Construction

Mounting, aerial and plug assembly (Fig 1)

3. This item comprises three basic parts, the stay plate, the cover and the socket assembly.
4. The stay plate is a saucer shaped plate with three equi-spaced slots cut into its periphery. Bolted to the centre, and projecting below the plate, is a stub which fits into the aerial clamp of the Mast, telescopic 27 ft.
5. Secured to the stay plate by six screws and nuts is the cover, which serves two roles. The first as a mounting for the cable clamp and the co-axial plug and the second as a protection for the pigtail connection between the plug and the bottom of the socket assembly.
6. The socket assembly is a black polythene moulding into which is set an aerial socket and clamp, together with a circular drilled plate to which the cover is secured.

Cable r.f. 50 ft

7. This is a standard 70Ω connector, terminated either end in a socket.

Stay assembly

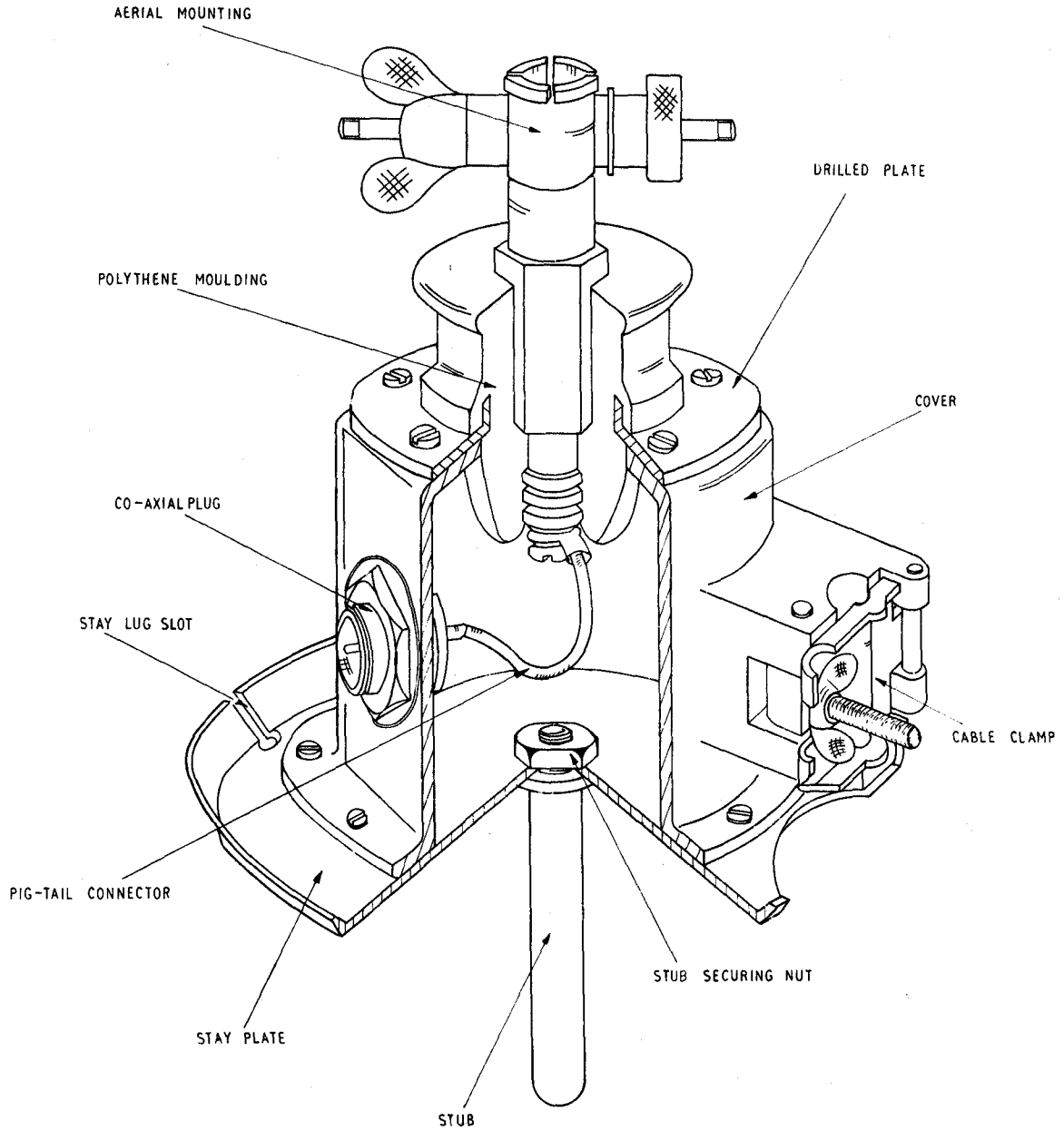
8. The three stays are part terylene cord and part steel wire. The free ends of the steel portions have thimbles sweated to them which fit into the three slots cut into the stay plate of the Mounting, aerial and plug assembly. The steel section of the stays, in conjunction with the stay plate, form the ground plane element of the aerial system, and replace the top set of mast stays of the Mast, telescopic 27 ft.

Case, aerial

9. This is a resin bonded tube in which the aerial assembly is carried when not required for use.

Aerial assembly

10. The aerial assembly comprises three elements of phosphor-bronze, designated top, intermediate and lower respectively, which act as the vertical half-wave radiating element of the aerial system. The length of the assembly may be altered by a simple adjustment so as to resonate at any frequency within the specified range. Swaged grooves at intervals throughout the length of the top and intermediate elements, each identified by an adjacent engraved flat, provide easy frequency selection.
11. A split taper at the upper end of the lower and intermediate elements is shrouded by an internally tapered coupling sleeve which, when tightened, compresses the outer element onto the inner. A groove at the end of the tapered portion mates with one of the grooves of the inner element and thus locks the two sections together.



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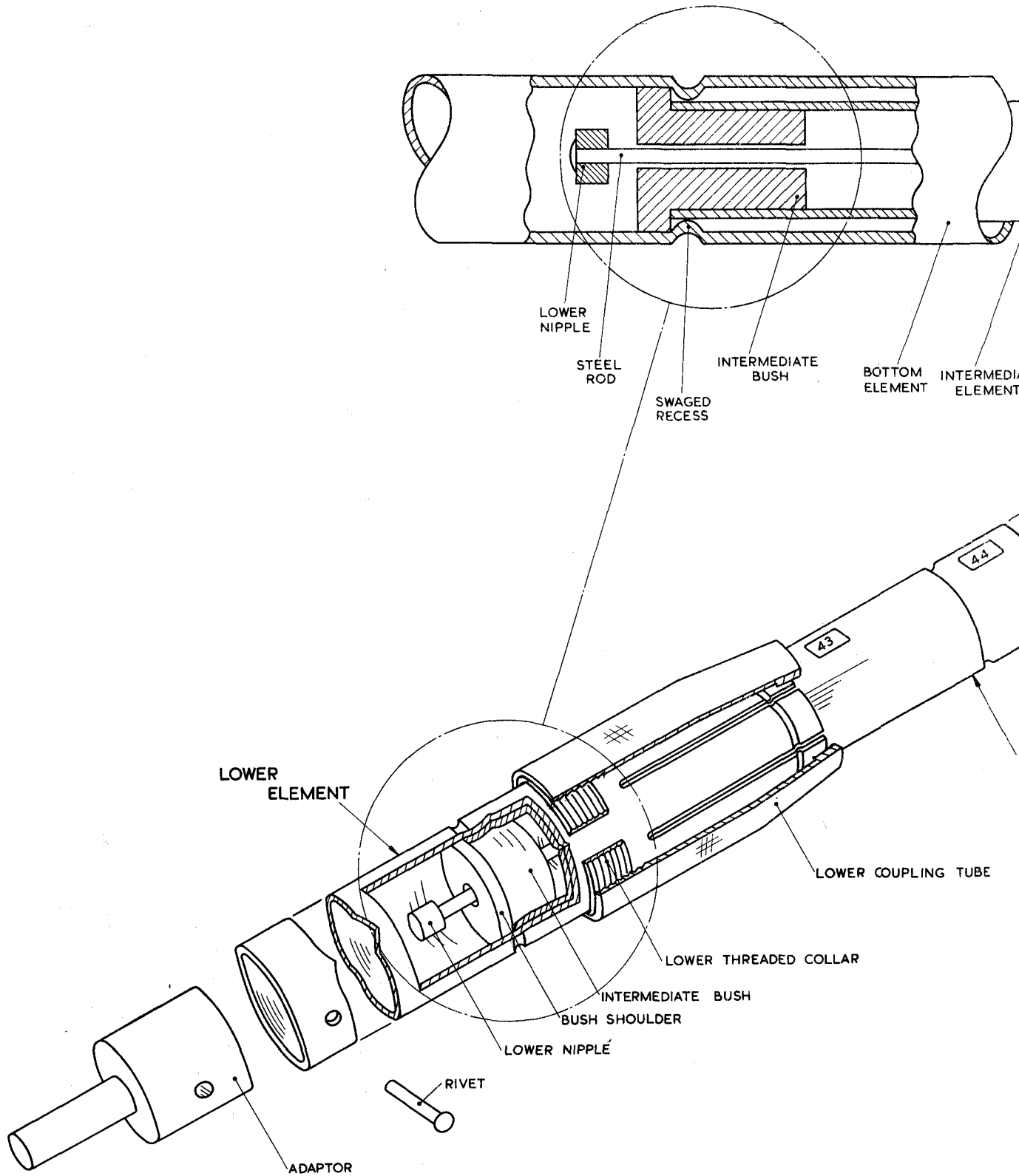
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Fig 1 - Sectioned detail of mounting aerial and plug assembly  
Issue 1, 2 May 63

12. The lower ends of the top and intermediate elements are bushed. The intermediate bush has a lip which butts against a groove at the top of the lower element when the element is fully drawn through. A brass rod passes through both bushes and has a nipple at either end, so that when the top element is fully extended the nipples butt against their respective bushes and inhibit further travel.

13. All items of the kit, with the exception of the aerial assembly are carried in a satchel, the whole weighing 5 lb.

Note: The next Page is Page 1001



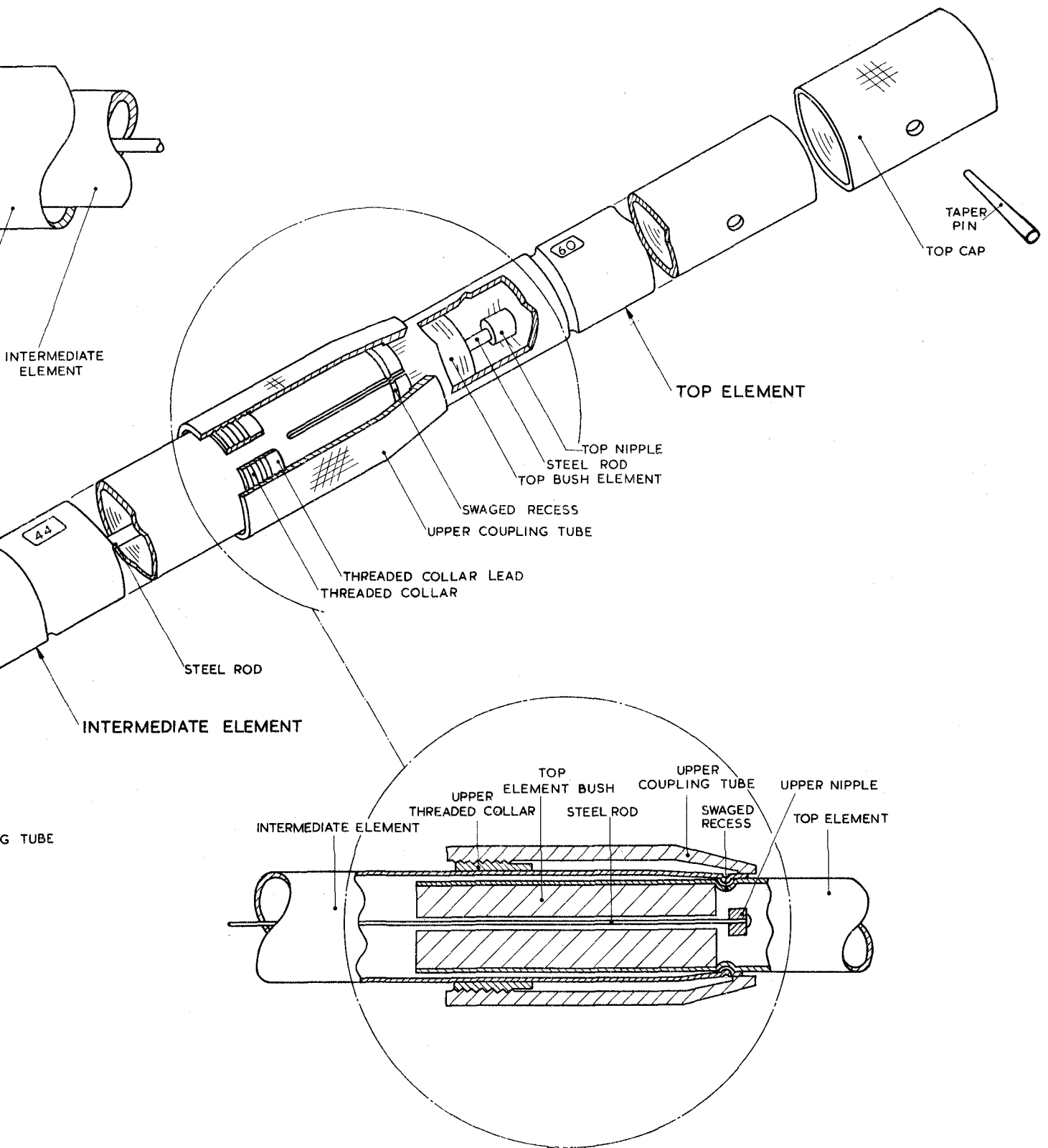
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Fig 2001 - Section detail of telescopic

END





telescopic aerial assembly

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