

## Chapter 7

## A.R.I. 5771

## LIST OF CONTENTS

	Para.		Para.
<i>Introduction</i> ... ..	1	<b>SERVICING</b>	
<b>DESCRIPTION AND OPERATION</b>		<i>Precautions</i> ... ..	10
<i>Receiver - indicator</i> ... ..	3	<i>General</i> ... ..	11
<i>Trailing aerial</i> ... ..	6	<i>Trailing aerial</i> ... ..	12
<i>Aerial change-over</i> ... ..	7	<b>REMOVAL AND INSTALLATION</b>	
<i>Aerial loading unit</i> ... ..	8	<i>Precautions</i> ... ..	14
<i>Power supplies</i> ... ..	9		

## LIST OF TABLES

	Table
<i>Major items of equipment</i> ... ..	1
<i>Connectors for A.R.I. 5771</i> ... ..	2

## LIST OF ILLUSTRATIONS

	Fig.		Fig.
<i>A.R.I. 5771 installation details</i> ... ..	1	<i>Routeing chart</i>	
<i>Details of trailing aerial</i> ... ..	2	<i>A.R.I. 5771</i> ... ..	3

**Introduction**

1. The basic principle of the Loran installation is similar to that of Gee; the main difference lies in the method of operation in conjunction with the ground stations. The purpose of the equipment is to provide the navigator with a long range

navigational system, which will enable him to fix the aircraft's position from information displayed on the indicator unit.

2. The installation consists of a com-

**DESCRIPTION AND OPERATION**

removed, thereby giving improved access to the armament control panels.

4. The received pulse signals are displayed on a cathode ray tube; the display being magnified by a lens fitted to the

bined receiver-indicator operating in conjunction with a trailing wire-aerial. Details of the installation are illustrated in fig.1; the major items of equipment and connector assemblies being listed in Table 1 and 2 respectively. The equipment is fully described in A.P.2915B, Vol.1.

front of the indicator. A rubber visor may be fitted over the lens to shield unwanted light, or fitted in a stowage on the underside of the navigator's table leg console.

5. The receiver section operates on any

**RECEIVER - INDICATOR**

3. This unit is mounted on a hinged platform at former 6 (port), angled forward to face the routine attack navigator. The platform may be folded to lie flat against bulkhead 6A when the receiver-indicator is

RESTRICTED

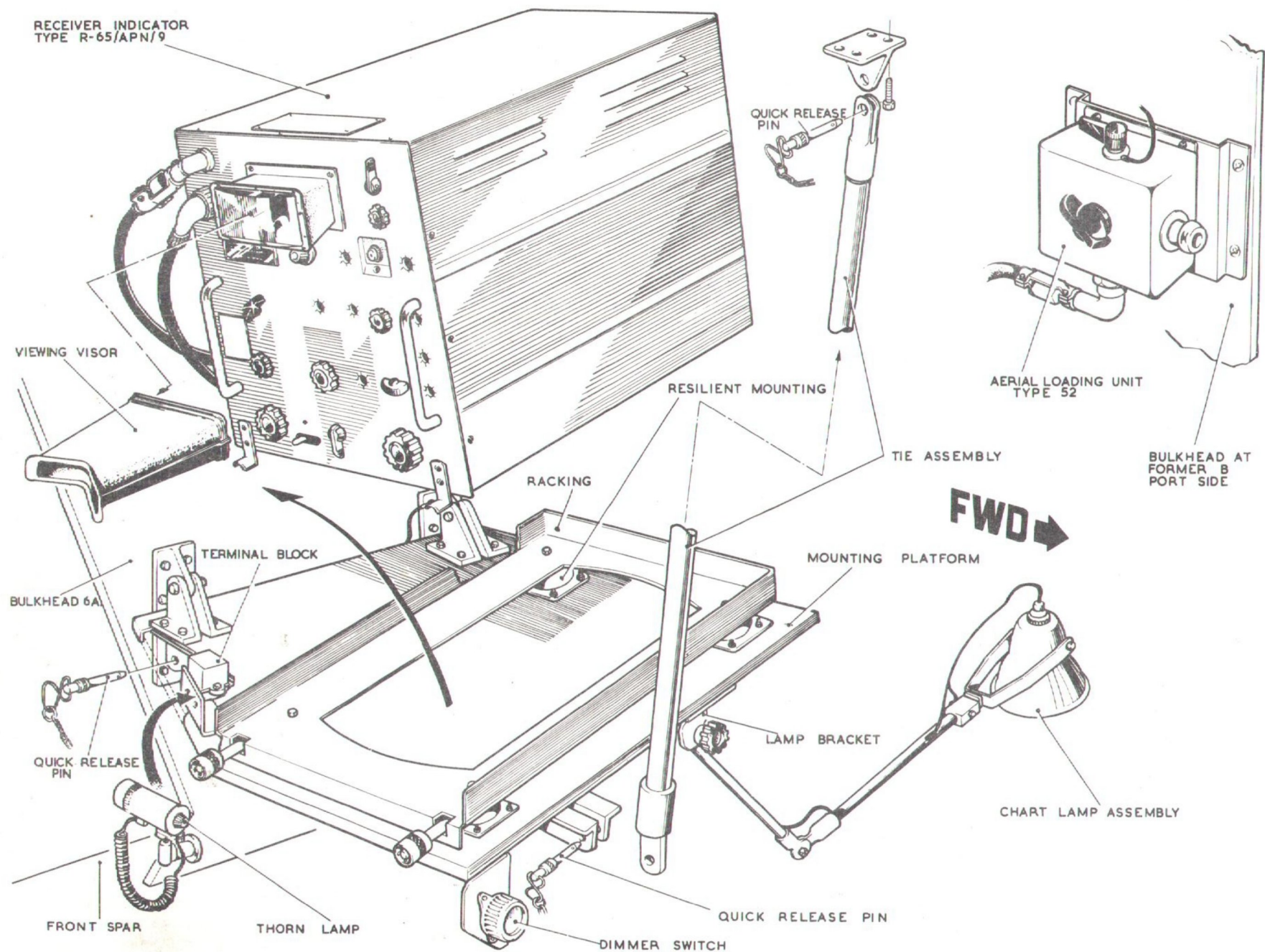


Fig.1 - A.R.I.5771 installation details

RESTRICTED



one of four preset frequency channels. All operational controls, including the channel selection switch, are located on the front panel of the unit, whilst two plugs accommodate the aerial and power supply connections. Power supply to the unit is controlled by the RECEIVER-GAIN switch, and indication of 'on' is provided by a pilot lamp. The supply is taken through a 2-amp fuse; a spare fuse being located in a clip beneath the lens holder.

#### TRAILING AERIAL

6. The trailing aerial is wound on a winch which is operated by an aerial winch Type 5, at the signaller's station. When required for use, the aerial is lowered

through a fairing on the port side of the fuselage. A series of lead weights attached to the aerial allows the wire to fall and unwind freely. The aerial fairing assembly is detailed in fig.2. A spare aerial reel is stowed on the floor at the signaller's station, aft of bulkhead B.

#### Aerial change-over

7. By means of a plugboard at the signaller's station, the Loran receiver may be connected to the fixed wire aeriels, the trailing aerial then being connected to the No.2 H.F. installation. For details of the fixed wire aeriels, refer to Sect.8, Chap.3 of this publication.

### SERVICING

#### Precautions

10. Before any servicing is attempted, the general servicing precautions outlined in Chapter 1 of this section should be noted.

#### General

11. At the appropriate servicing periods the receiver-indicator should be examined for damage, corrosion, security and correct bonding of the mounting. Connections to the aerial loading unit should be checked for security, and the selector switch for

smooth operation. Full instructions for setting up and operating the receiver-indicator are contained in A.P.2915B, Vol.1.

#### Trailing aerial

12. This item requires little servicing. Examination should be made periodically for the correct operation of the brake and ratchet assembly on the winch. When dry, the spindle grease trap should be cleaned, and filled with anti-freeze grease, Type XG. 275 (Ref.No.34B/9100512).

### REMOVAL AND INSTALLATION

#### Precautions

14. Prior to the removal of any item of equipment, the general instructions outlined in Chapter 1 of this section should be

noted.

15. As removal of the equipment is straightforward, detailed instructions are not considered necessary.

#### Aerial loading unit

8. The aerial loading unit is mounted on the forward face of bulkhead B, inside the top shelf compartment. A switch is provided on the face of the unit for making LONG-SHORT aerial matching selections.

#### POWER SUPPLIES

9. The equipment operates from a 115 volt, 1600 c/s, single-phase a.c. supply from the No.6 inverter, Type 201B, via a single-pole switch labelled LORAN on the radio power panel. For further details of the supply circuits, reference should be made to Sect.6, Chap.2B and 2C of this publication.

Further servicing information on the aerial winch is contained in A.P.1186, Vol.1, Part 4, Sect.6.

13. To test the insulation between the aerial and the airframe, 8 to 9 feet of the aerial should be run out, and a 500-volt insulation tester connected between the aerial and aircraft earth. With the aerial socket disconnected at the receiver-indicator, the insulation resistance of the aerial should be approximately 20 megohms under normal dry conditions.

RESTRICTED

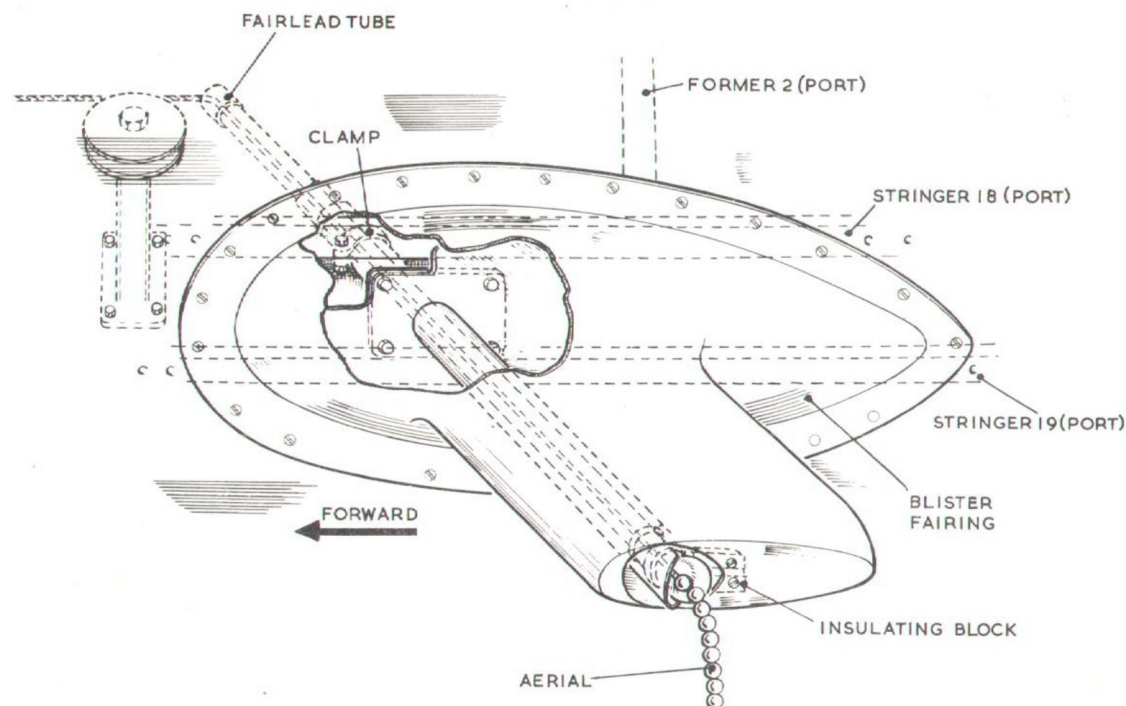


Fig.2 - Details of trailing aerial

TABLE 1

Major items of equipment

Equipment	Type	Ref. No.	A.P. Reference
Receiver-indicator	R-65/APN/9	110QB/71 )	A.P.2915B, Vol.1
Aerial loading unit	52	10BB/6840 )	
Trailing aerial winch	5	10B/9005	A.P.1186, Vol.1, Part 4, Sect.6

RESTRICTED

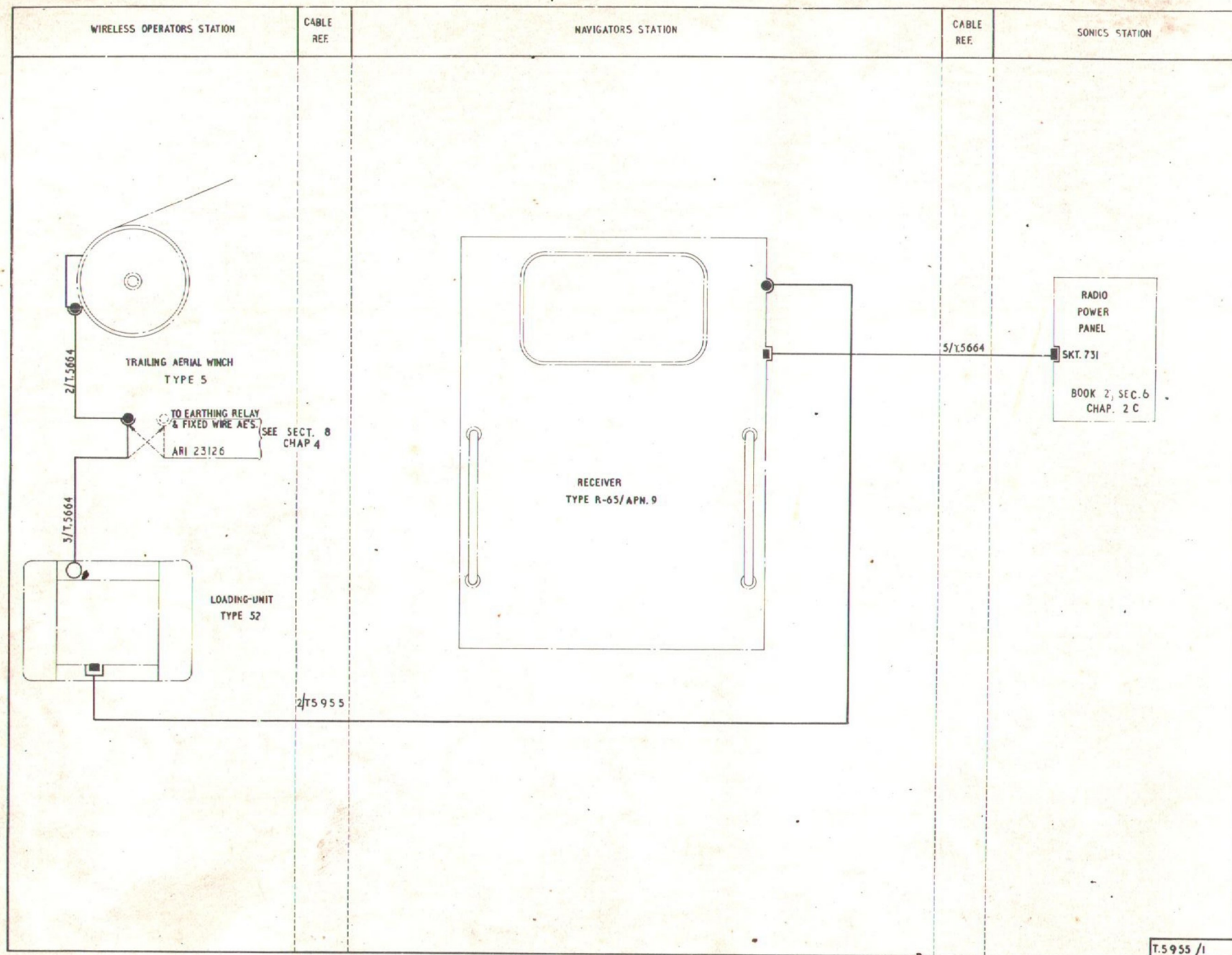
TABLE 2  
Connectors for A.R.I. 5771

Part No.	Cable form	Connecting
2/T.5955	Uniradio 67	Aerial loading unit to receiver.
2/T.5664	Uniradio 67, with outer sheath and braiding stripped over complete length	Trailing aerial to aerial plug break.
3/T.5664	Uninyvin 16, 1 off	Aerial plugbreak "Loran" to aerial loading unit.
5/T.5664	Uninyvinmet 20, 2 off (cables twisted together, approximately 6 twists per foot length).	Receiver to radio power panel, plug PL.731.

SH.1031

RESTRICTED





SH. 1032

Fig.3 - A.R.I.5771