Appendix I RADAR INSTALLATION

Note . . .

This Appendix deals with aircraft fitted with ejector seats (Mod. N.600). Earlier aircraft are covered in Chapter 2.

LIST OF GROUPS

Group A—A.R.I.5284 (A.Y.F.) INSTALLATION

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Introduction

1. This group describes the A.Y.F. radio altimeter installation. Also included are servicing notes and removal instructions, together with an illustration showing the location of equipment in the aircraft and a block schematic wiring diagram showing the interconnection of units, cable breakdown points and a reference to the power supply.

Description

2. This equipment is an airborne radio altimeter which measures the aircraft's vertical height above the terrain as distinct from the normal barometric altimeter which gives height above sea level. The range of the radio altimeter is from zero to four hundred feet, the height being read from an indicator fitted on the lower port side of the instrument panel. The power supply to the equipment is controlled by a switch in the bottom left-hand corner of the indicator. A further switch, in the top right-hand corner of the indicator, increases the range of the equipment to 4,000 feet. This range is not used in naval aircraft and the switch is either wire-locked on the four hundred feet range or the switch knob removed.

3. The installation comprises the following items:— A transmitter-receiver, Type RT7/APN-1, mounted on a rack behind the pilot's seat; a height indicator, Type 1D-14/APN-1, and two dipole aerials. One aerial beneath the starboard wing trailing edge inboard of the starboard tail boom is the transmitter aerial. The other, the receiver aerial, is situated under the trailing edge of the port wing just inboard of the wing fold.

Servicing

4. Servicing is confined to in situ checks of the equipment for its general condition during service. Servicing and testing of the equipment is fully described in A.P.2533C, Vol. 1, together with a full technical description of units and internal circuit. Before servicing is attempted, the aircraft must be made electrically safe by opening the battery isolation switch.

5. To gain access to the transmitter-receiver, it will first be necessary to remove the pilot's ejector seat in accordance with the instructions contained in A.P.4288N, Vol. 1. After this has been done, the unit should be inspected for damage and deterioration. Inspect all plugs and sockets for security and cleanliness. All plug pins should be clean and undamaged, and all coaxial plugs secure with no acute bends in the coaxial feeders. The mounting tray should be inspected to ensure that no foreign bodies are trapped between the mounting tray and rack; also, the shockmounts should be checked for condition and effectiveness. Ensure that the knurled locking screws in the front of the unit are secure and that the slide fasteners are wirelocked. Check that the indicator unit glass is clean and intact and that the plug and socket are undamaged and secure.

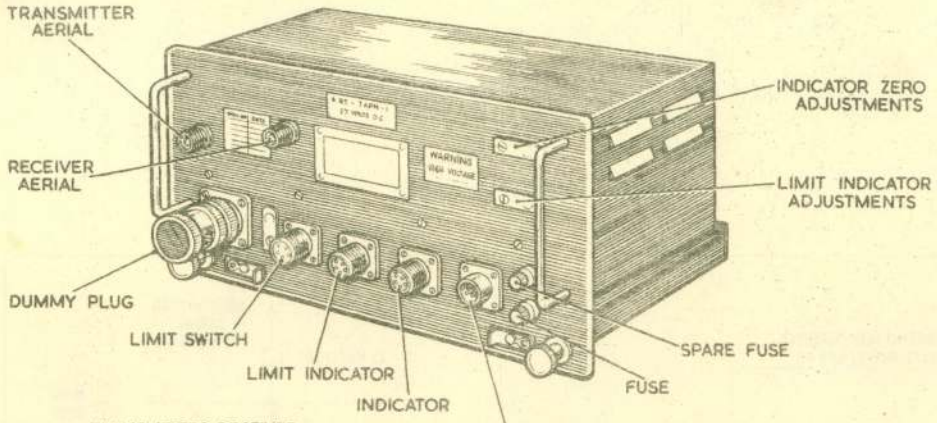
6. Each aerial must be checked to ensure that it has not been damaged or bent. If the aerial has been bent and straightened again it must be renewed. The insulator must be clean and free from cracks. A cracked insulator makes the aerial unserviceable and should be changed.

Removal and refitting

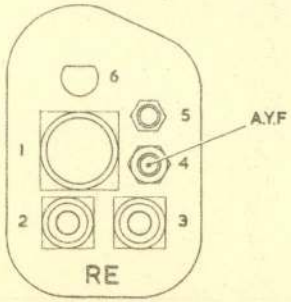
7. To remove the A.Y.F. transmitter-receiver it will be necessary not only to remove the pilot's ejector seat, but also to release the upper end of the seat guide rail and to tilt it forward. Remove all plugs and sockets from the transmitter-receiver and the locking wire from the two slide fasteners. Release the slide fasteners and withdraw the set from its mounting tray. Reverse the procedure when refitting taking care to re-wirelock the slide fasteners when the unit is in position.

8. To remove the indicator unit, the instrument panel must first be lowered by releasing the four fasteners and lowering the panel. Disconnect the plug at the rear of the instrument and then detach the two screws that secure it to the panel. The indicator can then be removed. Refitting is the reverse of removal.

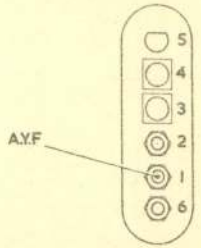
9. When removing the aerials the procedure is identical for both aerials. First unscrew the four 2 B.A. rd/hd. screws securing the aerial to the aircraft skin, then disconnect the coaxial cable. Refitting is the reverse of removal. Ensure that the surface of the aircraft skin is cleaned locally to maintain efficient bonding of the aerial base plate to the aircraft.



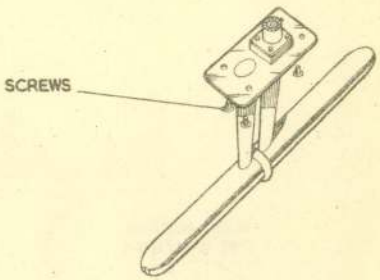
TRANSMITTER RECEIVER TYPE RT-7/APN-1
DETAIL A



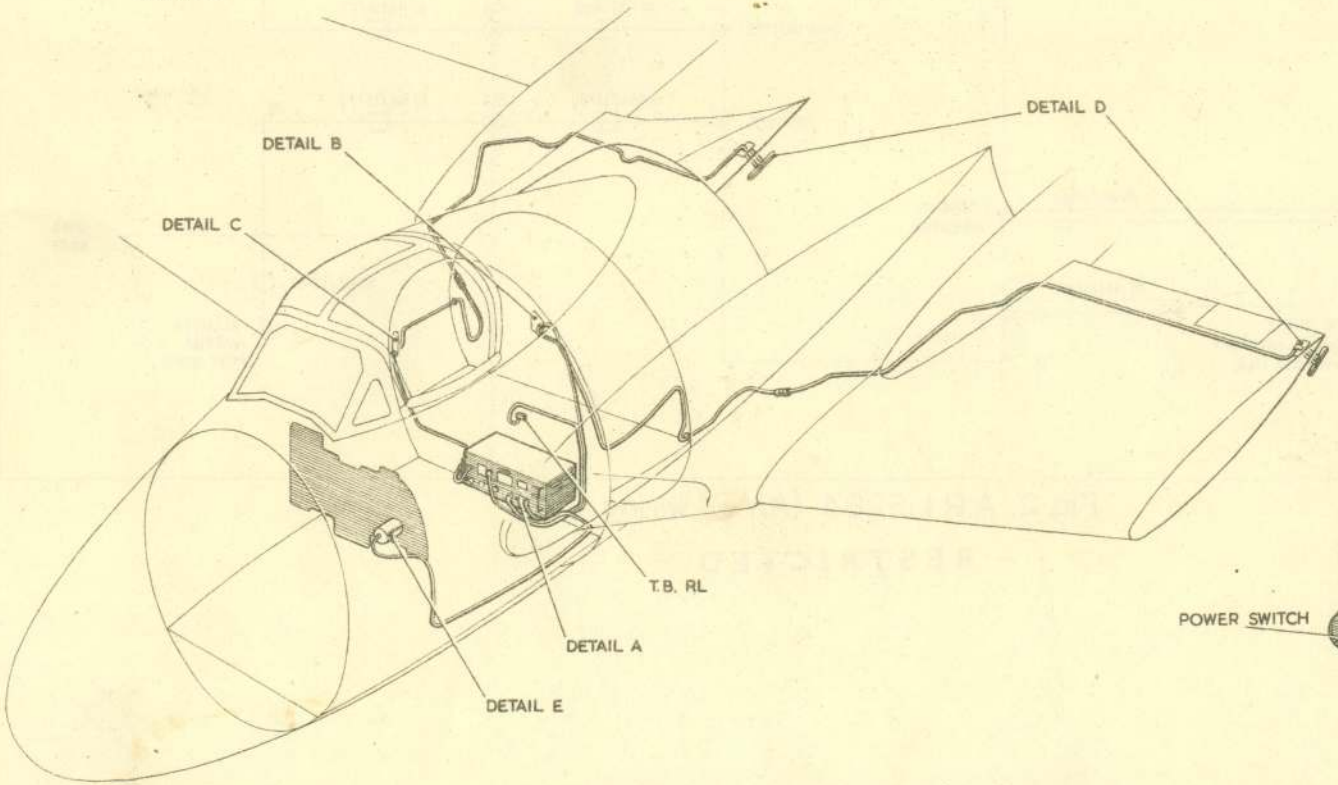
SEALING PLATE RE
DETAIL B

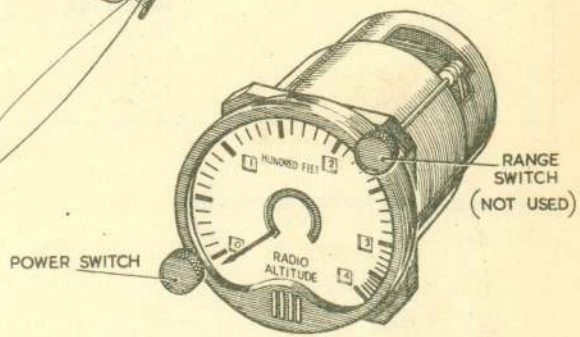


SEALING PLATE RD
DETAIL C



AERIAL TYPE AT-4/ARN-1
DETAIL D





HEIGHT INDICATOR TYPE ID-14/APN-1
DETAIL E

F.S./2

Fig.1. A.R.I. 5284 (A.Y.F.) installation

21. R. 3.

(A.L.36, Feb.56)

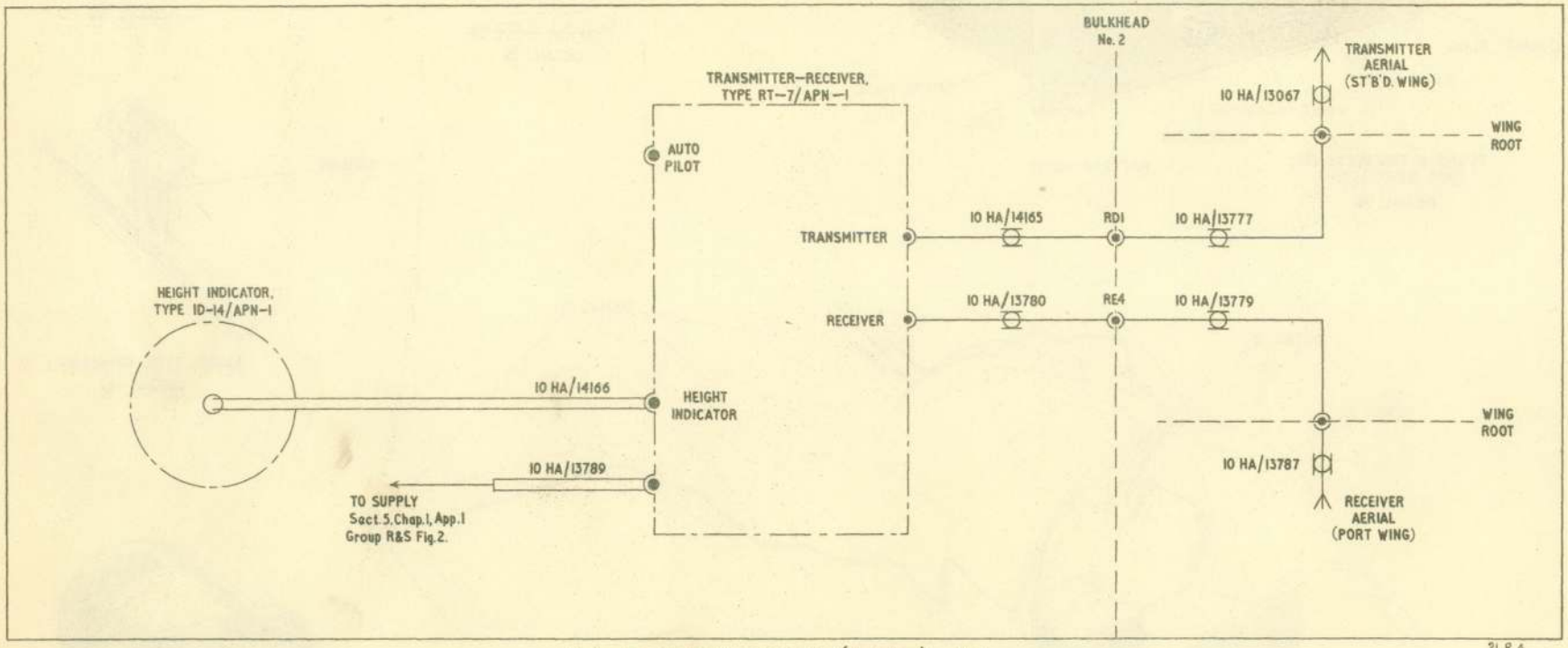


Fig. 2. A.R.I. 5284 (A.Y.F.) wiring.

Dmd 5875 583560 750 7/56 AB 979/3 1102