

## GROUP 1.A

### INSTALLATION DETAILS

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#### Introduction

1. This group contains a general description of the aircraft instrument installation, including the general servicing information required to maintain the installation in an efficient condition. For a detailed description and information on the standard instruments employed, reference should be made to the appropriate Air Publications, which are listed in the various groups of this chapter. For details of the circuit codes of the electrically operated instruments, reference should be made to the circuit index in Section 5, Chapter 1, Group A.1.

#### DESCRIPTION

#### General

2. The instrument installation includes

electrical, mechanical and air pressure operated instruments. The electrically operated instruments, with the exception of the tachometer, which generates its own power, are supplied from the aircraft's normal 28 volt d.c. system or from the 115 volt, 3-phase a.c. system, as described in Sect.5, Chap.1. A separate standby 24 volt battery supply is also available for the emergency operation of the turn and slip indicator. The air pressure operated instruments are supplied from a pressure head projecting forward from the port wing tip, as explained in Group 3.A.

3. The majority of instruments are mounted on four separate instrument panels and two cabin shelves. The instrument panels are attached by anti-vibration and rubber mounting assemblies to a

structure extending across the top of frame 8. The cabin shelves extend aft, one on each side of the cabin, from the instrument panels to frame 12. The gyro gun sight and camera recorder are carried on a mounting above the centre instrument panel.

#### Instrument panel mounting structure

4. This structure consists of a tie member extending transversely across the top of frame 8 and two large brackets, which project towards each other from the inboard edges of frame 8 below the tie member. Each of these brackets is stiffened by a strut extending from its inner end to frame 7 and a cross tube, supporting the electrical cables forward of the instrument panels, passes between these two struts. The tie member carries two brackets at its

outboard ends, to each of which is assembled a pair of anti-vibration mountings and a further pair of anti-vibration mountings are incorporated at the inboard end of each of the brackets below the tie member. Each outboard end of these latter brackets has a smaller bracket attached, which projects aft and carries a rubber mounting block assembly. Further brackets, with rubber mounting assemblies are mounted on the underside of the port top longeron, the windscreen port platform and on each side of the decking.

5. The centre instrument panel is supported by brackets on the four pairs of anti-vibration mountings, the port and starboard instrument panels are carried on the rubber mounting assemblies and the port windscreen arch panel is attached to the port glare shield structure. Each instrument panel is bonded to the aircraft structure by earthing connectors at each of the anti-vibration mounting and at four of the rubber mounting assemblies.

#### **Panels and shelves**

6. The instrument panels and cabin shelves are all constructed of light-alloy sheet, which is lightly shot blasted and finished matt black. The instruments, indicators and switches are mounted through suitable holes in the panels and are identified where necessary by eau-de-nil coloured lettering. For a description of the mountings of the cabin shelves,

reference should be made to Section 5, Chapter 1, Group A.1.

#### **Instruments**

7. The majority of the instruments are standard items of equipment, which are fully described in the relevant volumes of A.P.1275 and A.P.4343 series, to which reference should be made when detail information not given in this chapter is required.

### **SERVICING**

#### **Instrument panels**

8. The instrument panels should be examined periodically for distortion, security and to ensure that the anti-vibration mountings are serviceable and not damaged. If damaged, they must be replaced without delay. All the earthing connectors at the anti-vibration mountings should also be examined to ensure that they are not broken and that they are making good electrical connections. When refitting earthing connectors, care must be taken to ensure that the surfaces in contact are perfectly clean and in particular, free from grease and paint. Completed assemblies should be protected by applying one coat of blue oil-base paint to D.T.D. Spec.827. The mounting structure for the panels should also be examined for damage and distortion. All the instruments on the panels should be examined for security and any insecure attachments rectified.

#### **Cabin shelves**

9. For the general servicing information required for these shelves, reference should be made to Section 5, Chapter 1, Group A.1.

#### **Instruments**

10. The necessary servicing to maintain the instruments in an efficient condition and the standard serviceability tests which should be applied together with the equipment to be used and the method of conducting the tests, is contained in the relevant Air Publications for the instrument concerned. Reference is made to these publications in the appropriate groups of this chapter. Before servicing or removing any of the electrically-operated instruments, the aircraft must be rendered electrically safe, as described in Section 5, Chapter 1, Group A.1.

### **REMOVAL AND ASSEMBLY**

#### **General**

11. The removal of the instrument panels installed in the cabin is described in Group 1.B. Once access has been obtained, the removal of the instruments from the panels, should present no difficulty. The location and access to all the instruments and their associated equipment is indicated in Group 1.C.

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