

Chapter 5

ARMAMENT INSTRUMENTS

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Introduction

1. This chapter contains descriptive and servicing information on the armament instruments installed in the aircraft. The

units are:-

- (1) Reflector sight, Mk.3A
- (2) Low level bombsight, Mk.3
- (3) Periscope

The units are listed in Table 1 together with references to the appropriate Air Publication. The turret electrical supplies are dealt with in Book 2, Sect.6, Chap.3N of this publication.

DESCRIPTION AND OPERATION

REFLECTOR SIGHT, MK.3A*

2. A Boulton-Paul nose gun mounting, Type N, Mk.1 may be installed in the nose of the aircraft. A reflector sight, Mk.3A*

is secured in a clamp at the forward end of the sighting head. The electrical supply for the reflector sight is from the main aircraft d.c. supplies and is controlled by a dimmer switch (Book 2, Sect.6, Chap.3N).

LOW LEVEL BOMBSIGHT, MK.3

3. The low level bombsight mounted on a spigot at the air bomber's station is intended for use below 1000 feet. Pro-

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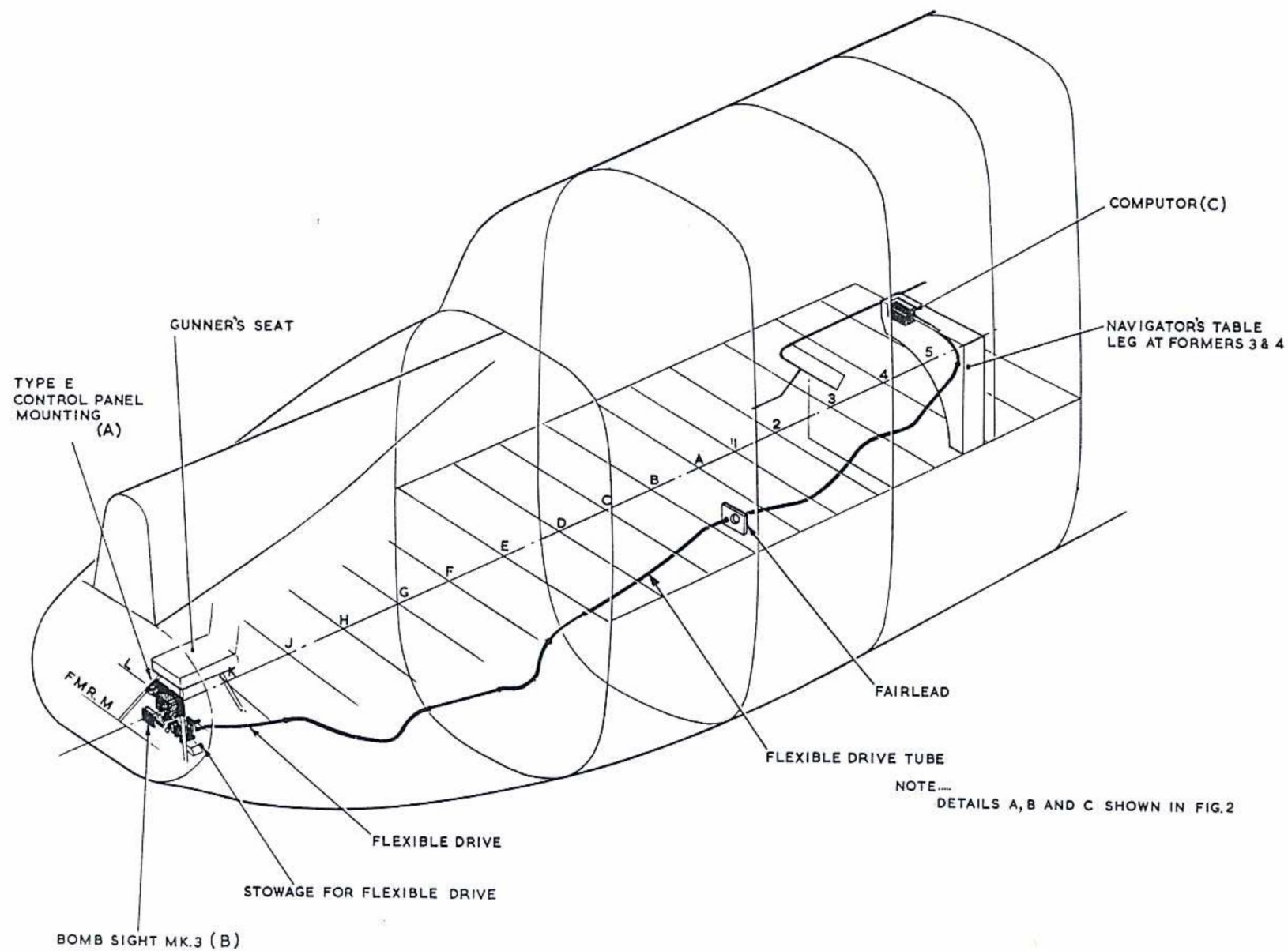


Fig. 1 Location of bombsight equipment

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vision is made on the spigot for alignment with the fore and aft axes of the aircraft (fig.2).

4. A gyro is fitted in the bombsight for operation of the pitch stabilized reflector. Should a roll or pitch of 50 deg. be exceeded, the gyro will topple. A suction of 4.5 to 5.5 in. of mercury is required to drive the gyro.

5. A motor is also part of the bombsight for operation of the graticule cylinder at 3,000 r.p.m. Graticule illumination is through slots cut in the cylinder at right-angles to the axis of the cylinder. Four 24-volt lamps are used for lighting.

6. The four lamps are fitted in a lamp assembly located at the forward end of the graticule cylinder. Brightness of the lamps is controlled by a dimmer switch mounted on a panel, Type E (para.9).

Computer

7. The computer, fitted at the tactical navigator's station consists essentially

of a cylindrical drum carrying a chart and a screw shaft, which moves a pointer over the chart. Allowance is made for the ballistic properties of different types of bomb, by providing charts for each type.

8. Height is set on the computer by rotating the drum until the appropriate height on the scale at the end of the chart is opposite a fixed height pointer. The chart carries a series of lines corresponding to different ground speeds; ground speed is set in by rotating the screw shaft until the moveable pointer is against the appropriate ground speed curve. The setting of the ground speed pointer thus involves both height and ground speed. The rotation of the screw shaft is transmitted by a flexible drive to the bombing angle shaft in the sighting head. Screwed coupling nuts connect the flexible drive to the sighting head and the computer.

Control panel, Type E

9. The aircraft 28-volt d.c. supply is connected to the control panel, Type E, and thence by means of a control switch to

the motor and to the dimmer switch (para.6).

10. The control panel, Type E, is located in the recess formed by the gunner's seat support tubes, above the air bomber's window. To the port of, and adjacent to the control panel is a stowage lamp holder assembly providing stowage for four bombsight lamps. The complete installation is illustrated in fig.1 and 2.

PERISCOPE

11. A periscope, H.S.A. Part No.1/Z 11366, illustrated in fig.3, is used for inspection of the bomb bay when the aircraft is in flight and the bomb doors closed.

12. An access door in the floor near the galley (formers 20 and 21), when lifted, exposes a guide tube through which the periscope can be inserted.

13. When not in use the periscope is stowed on the forward face of the bulkhead near the toilet door (Stbd. side).

REFLECTOR SIGHT, MK.3A*

14. The reflector sight is of robust construction and should normally not require any servicing. The reflector glass may be cleaned with soft tissue

which can be moistened with methylated spirit if the glass is greasy.

LOW LEVEL BOMBSIGHT, MK.3

15. The servicing which may be carried

out is contained in the publication listed in Table 1. The sight should be returned to the appropriate repair unit should the necessity to dismantle or repair exceed the instructions given in the Air Publication quoted.

REMOVAL AND INSTALLATION

sight. The sight can now be lifted out of the lower half clamp.

17. Installation is the reverse of the above procedure ensuring that new split pins are used and the electrical connections to the terminal block are secure.

LOW LEVEL BOMBSIGHT, MK.3

18. To remove the bombsight, disconnect the electrical supply on the control panel, Type E, also the suction pipe and the flexible cable drive. Next depress the sighting head securing catch. Supporting

REFLECTOR SIGHT, MK.3A*

16. The reflector sight may be removed by disconnecting the sight electrical supply at the terminal block on the sighting head. Next remove the split pins and nuts, and the half clamp securing the

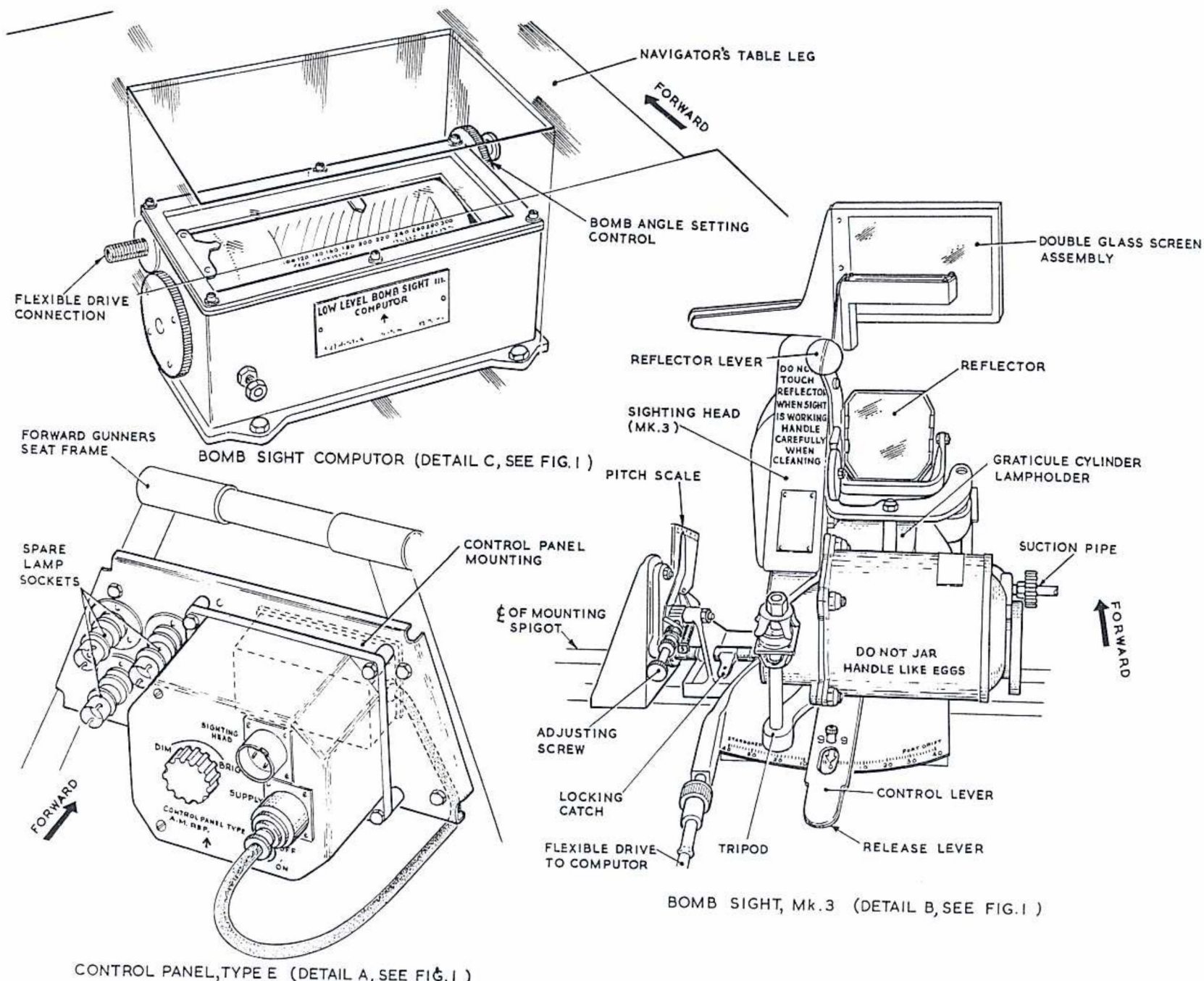


Fig.2 .Low level bomb sight equipment

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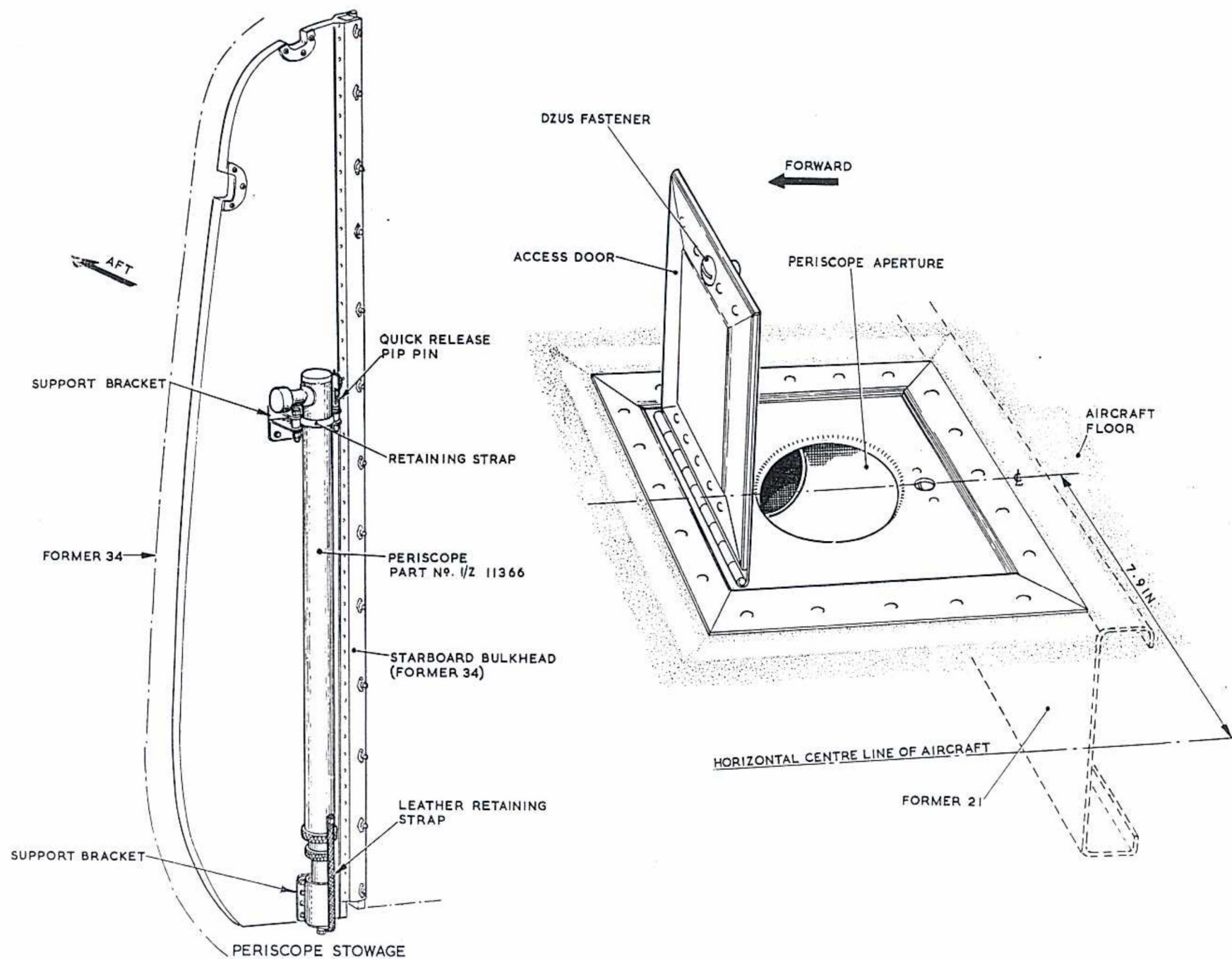


Fig. 3 Bomb bay inspection periscope
 (Access door assembly re-drawn)

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the sight by the base, slide it off to the starboard side of the aircraft.

pipe and the flexible cable drive are provided.

above procedure making sure that the electrical connections are secure and that the sight is located properly on its spigot.

NOTE...

Stowage facilities for the suction supply

19. Installation is the reverse of the

TABLE 1

Major items of equipment

Equipment	Type	A.P. Reference
Reflector sight	Mk.3A*	A.P.1275E, Vol.1, Sect.3
Low level bombsight	Mk.3	◀ A.P.1275D, Vol.1, Sect.4 ▶
Control panel	Type E	
Computer	-	
Periscope	H.S.A. 1/Z11366	-

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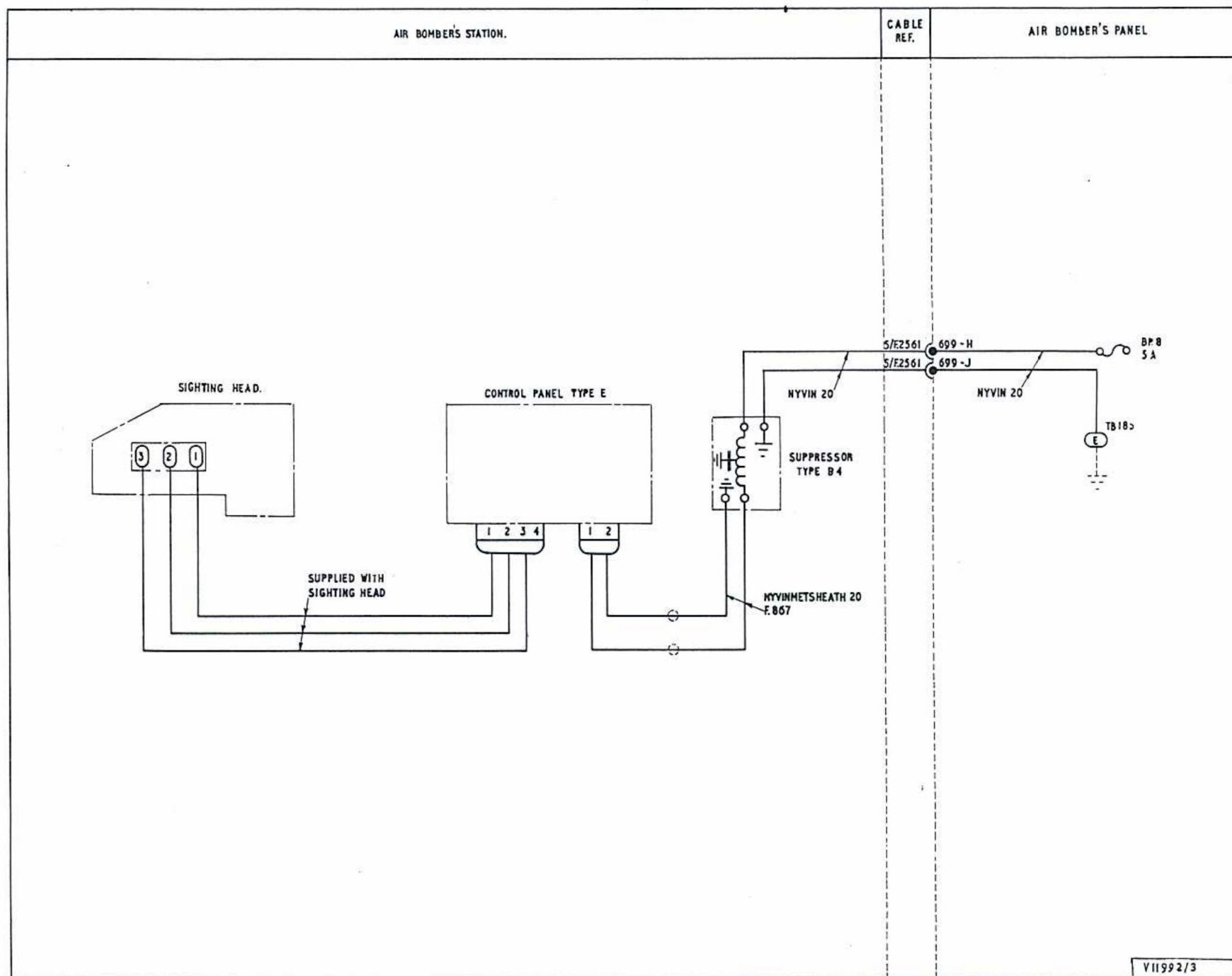


Fig.4 Low level bombsight, Mk.3

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