

Chapter 4-9

REPAIR AND RECONDITIONING ARTIFICIAL HORIZON, MK.6H

Procedure (fig.1)

1. The procedure for the overhaul of an artificial horizon Mk.6H is similar to the procedure for an artificial horizon Mk.6 described in Chap.4-1 to which reference should be made. ◀ Para. numbers referred to in the text relate to Chap.4-1. ▶
2. A minor difference occurs in the procedure due to an erection relay being fitted in lieu of the gimbal clamp. This difference is described in para.3 to 11. Further differences occur in the construction of the fast erection switch and in the terminal box assembly due to a 12-pole plug being fitted in place of a plug and cable assembly.

DISMANTLINGRemoval of fast erection switch (fig.1)

3. For the procedure detailed in para. 13, 17, 18, substitute the following:-
 - (1) Remove the four 6BA captive screws securing the terminal box cover.
 - (2) Disconnect the wires to the 12-pole plug and remove the cover complete with the plug.
 - (3) Unsolder the connections from the switch to the terminal seals.
 - (4) Remove the two 8BA screws to release the switch cover and the two 8BA screws to release the push switch assembly to the locating block on the terminal box.
 - (5) Remove the two 6BA screws securing the locating block to the terminal box.

Dismantling backplate and back casting (fig.2)

4. Carry out the procedure in Chap.4-1 except for the removal of the gimbal clamp described in para.40. To remove the erection relay, unscrew the two 6BA screws securing the relay bracket and separate the relay from the backplate.

CLEANING, INSPECTION AND TESTInspection and test for individual components

5. For the procedure detailed in para.103 and 104, substitute the following:-
 - (1) Check that the relay contacts are clean and not pitted or burnt.

ASSEMBLY

Assembly of outer gimbal to main frame (fig.2)

6. For the procedure detailed in para.327 and 328, substitute the following:-

- (1) Fit the relay to the backplate with two 6BA x $\frac{3}{16}$ in. ch.hd. stainless steel screws.
- (2) Complete the wiring of the gimbal centring and erection relay assemblies in accordance with fig.3.

Final assembly

7. For the procedure detailed in para.334, 336, 337 and 343, substitute the following:-

- (1) Connect 6 in. yellow and green wires to the contacts, the yellow wire to the moving contact. Cover the soldered joints with neoprene sleeves.
- (2) Fit the locating block to the terminal box with two 6BA $\frac{9}{32}$ in. ch. hd. m.s. c.p. screws and fit the switch box to the terminal box with two 8BA $\frac{5}{32}$ in. ch. hd. m.s. c.p. screws.
- (3) Connect the wires from the terminal seals and push switch to the 12-pole plug as in fig.4.

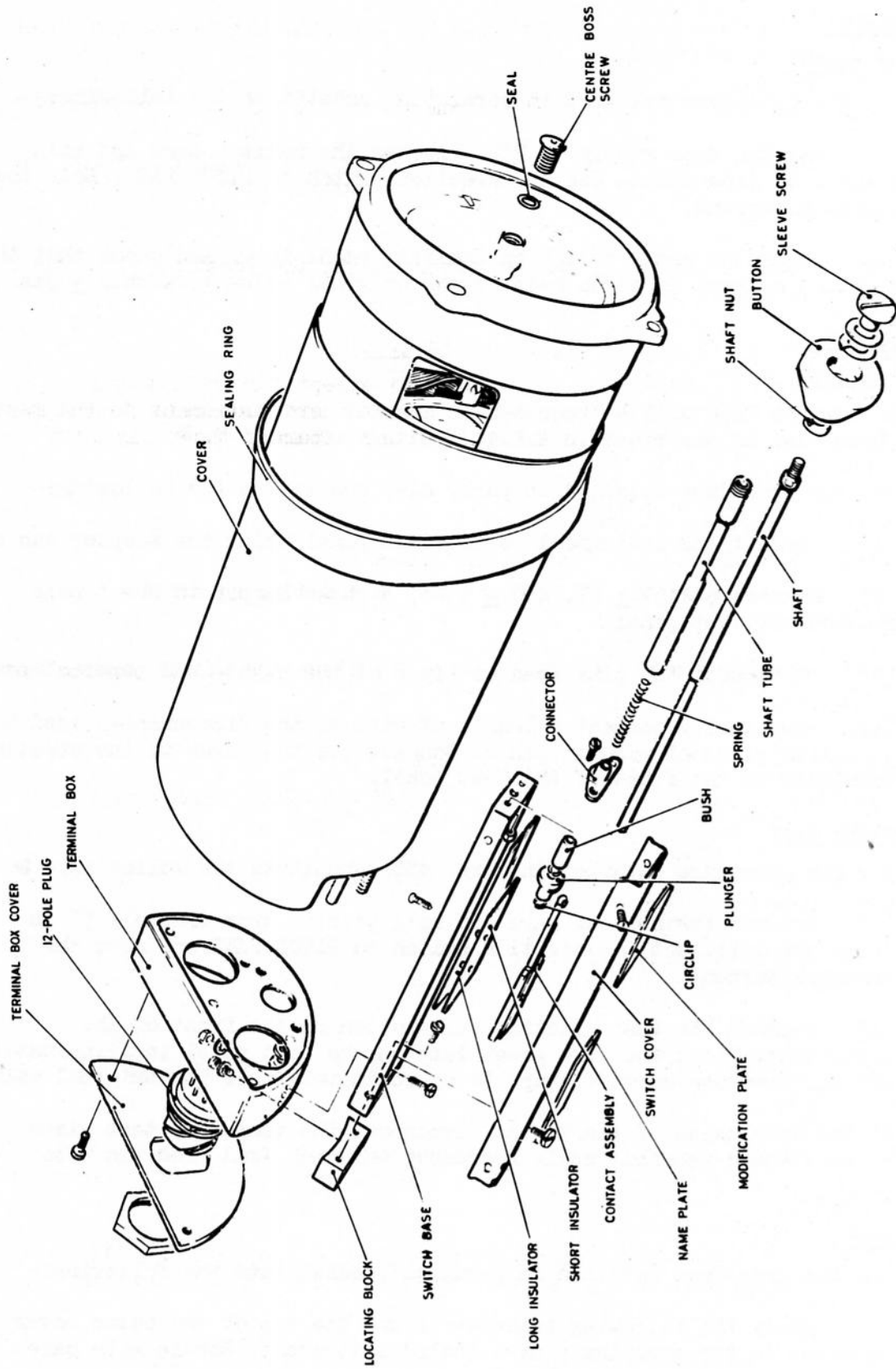


Fig. 1 Instrument with outer cover removed

FINAL TESTS

Unsealed tests

8. For the procedure detailed in para. 398, substitute the following:-

- (1) Set the d.c. supply to 21V. Precess the horizon bars and roll pointer 5° from datum. Set the erection switch to PITCH BANK. Note the erection current.
- (2) Place the brake switch on the test panel to ON and check that the erection current drops to half of the original value to within $\pm 5\text{mA}$.

SEALED TESTS

Method of test

9. An adapter lead will be required to connect the instrument to the test panel. This lead is described in A.P.112T-0114-1, Chap. 1-7. ►

10. For the procedure detailed in para. 449, substitute the following:-

- (1) Connect the instrument to the test panel using the adapter cable.
- (2) Connect a $115\text{V} \pm 2\text{V}$, $400 \pm 5\text{ Hz}$, 3-phase supply to the 3-pole plug on the test panel.
- (3) Disconnect the pink lead to pin 6 of the right-hand terminal seal.
- (4) Temporarily connect a length of wire to the disconnected lead and a similar piece of wire to pin 6. Connect the two wires to the erection terminals on the front of the test panel.

Push-switch test

◀ 11. For the procedure detailed in para. 456 substitute the following:- ►

- (1) Precess the horizon bars and roll pointer approximately 5° in pitch and roll. Set the erection switch to PITCH BANK and note the erection current.
- (2) Depress the fast erection push-button on the front of the instrument. Check that the green lamp on the test panel is illuminated and the erection current drops to approximately half its original value.

12. At the conclusion of the tests, disconnect the temporary test wires from the right-hand terminal seal. Reconnect the pink lead from pin 2 to pin 6.

Finishing

13. For the procedure detailed in para. 483, substitute the following:-

- (1) Apply the following transfer around the top of the outer cover adjacent to the mounting plate. Sealed instrument. Handle with care.

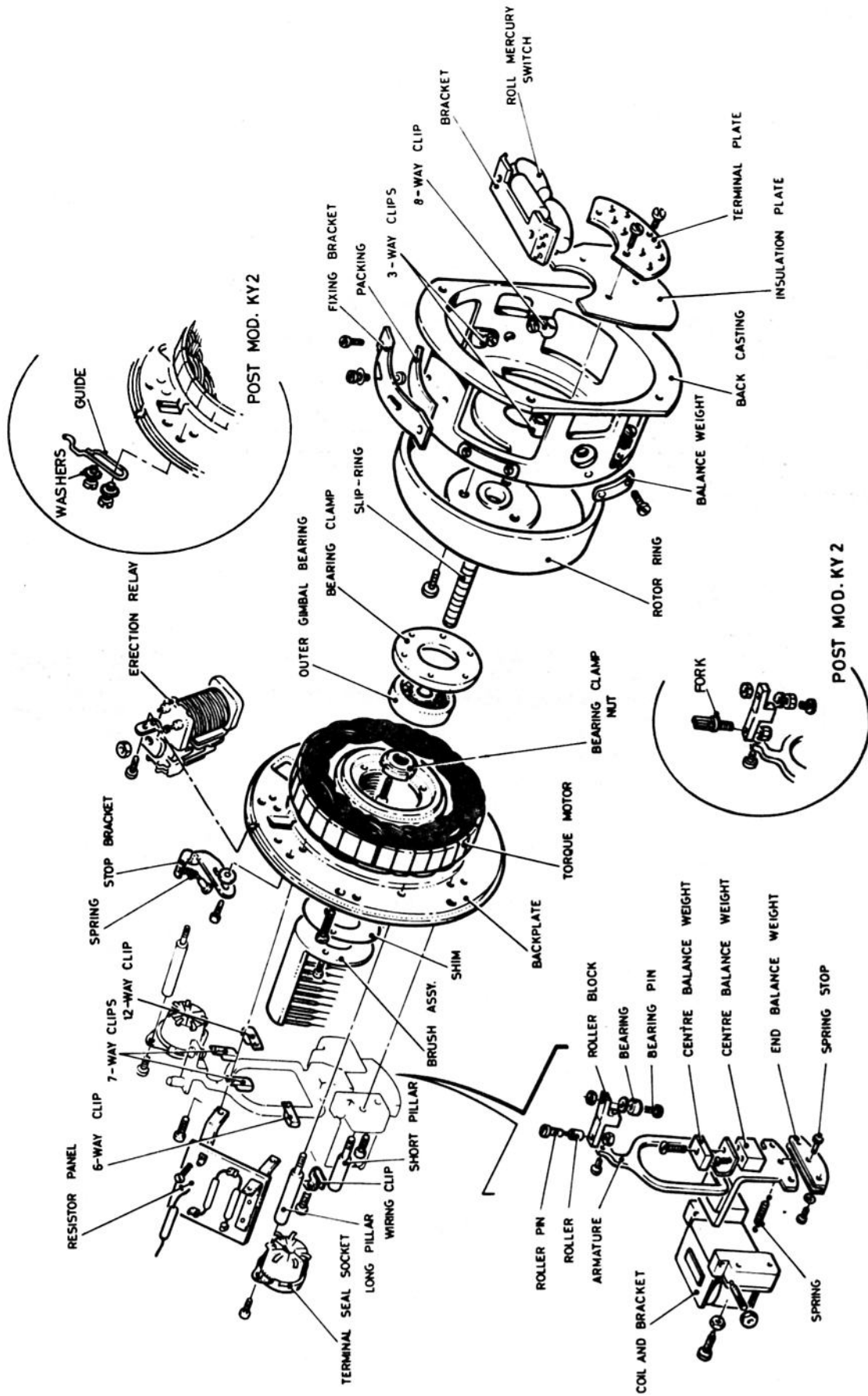


Fig. 2. Back casting and backplate

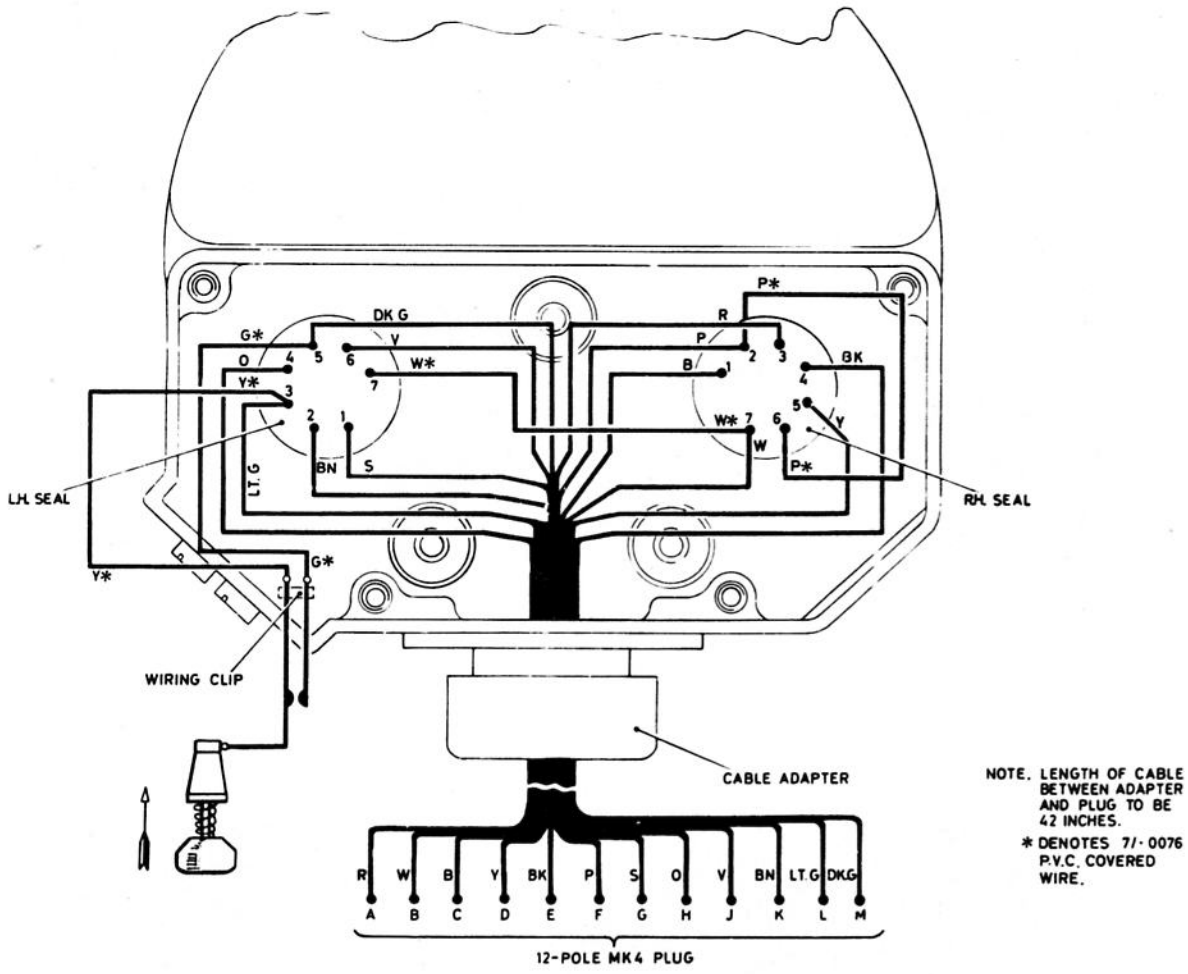


Fig. 3. Wiring diagram for backplate

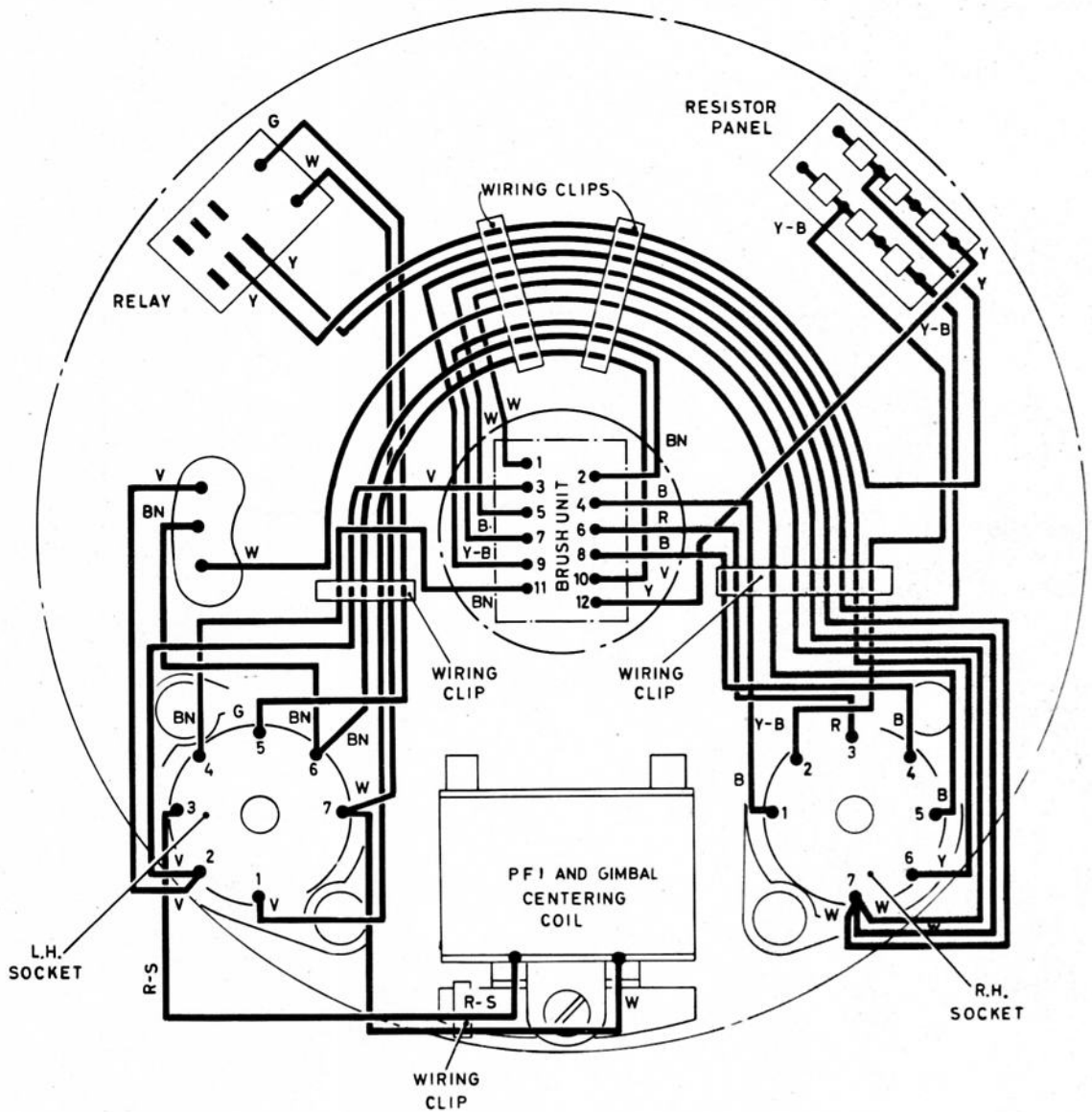


Fig.4 Wiring diagram for fast erection switch and plug