Chapter 23

CARTRIDGE SELECTOR SWITCHES, TEDDINGTON, TYPE FJB SERIES

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LIST OF ILLUSTRATIONS

Introduction

1. The cartridge selector switches, Type FJB, are used in multi-breech turbo-starting systems to select an unused cartridge. They are used in conjunction with a time switch, such as the FHM/A/25, and may be suitable for either twin breech or triple breech installations.

2. The switch may have a starter push-switch built into the body; in another type the starter switch is remote from the selector switch. The internal wiring of the selector switch is so arranged that when one cartridge is selected, the others are earthed, to ensure that only one cartridge is fired at a time, and to safeguard against short-circuits between cartridge lines. Individual switches are described in A.P.4343C, Vol. 1, Book 2, Sect. 3.

DESCRIPTION

3. A typical twin breech selector switch with push-switch incorporated, the FJB/A/4, is illustrated in fig. 1 and 2. The circuit diagram, in conjunction with a time switch, Type FHM/A/25, is shown in fig. 3. When the push-switch is depressed, this closes a pair of contacts in the selector switch, which initiates the time switch mechanism and also energizes the hold-in coil of the selector switch through contacts in the time switch.

4. Mounted on the shaft of the ratchet mechanism is a drum, of which one side selects the next unused cartridge to be fired, and the other earths the remaining cartridges. Each side has one contact for each of the cartridges in the installation, and a wiping contact. As the push-switch is depressed, the pawl pushes the ratchet and the drum round,

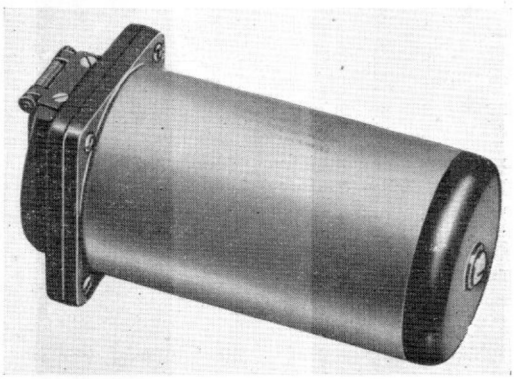

Fig. 1. Cartridge selector switch, Type FJB/A/4

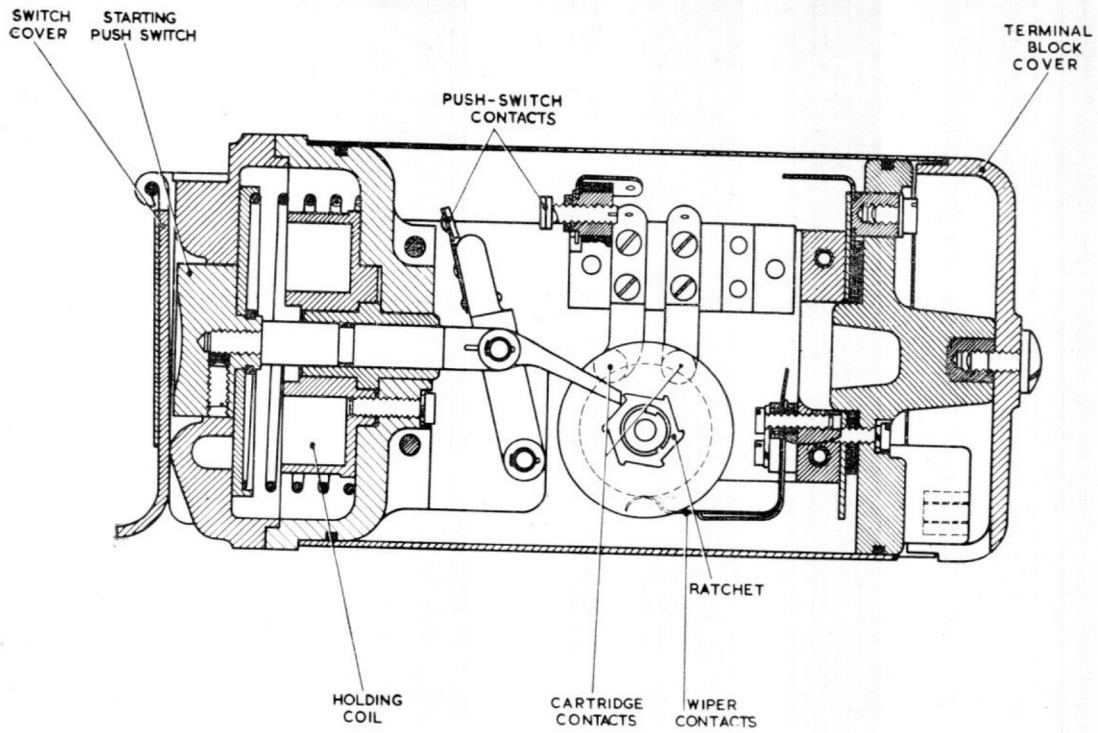

Fig. 2. Sectional view of selector switch

and the arrangement of contact sections on the drum provides for the appropriate connections on both the firing and earthing side.

5. The time switch has by now commenced to run, and after the appropriate interval the cartridge contacts will close to fire the selected cartridge.

6. Cartridge selector switches of this type are as listed below; they differ in being suitable for twin breech or triple breech installations, as indicated, and also in the manner of external connection; Types FJB/A/4 and /5 have numbered terminal blocks on the end face, but in the FJB/A/2 and /3 the cables are thence taken through a rubber multi-way grommet.

Type FJB/A/2 Twin breech; terminal block with grommet.
3 Triple breech; terminal block with grommet.
Type FJB/A/4 Twin breech; terminal block.
5 Triple breech; terminal block.

7. The Type FJB/A/6 is a twin-breech selector switch, but differs in having no push-switch incorporated. The starting switch is remote, and when closed energizes a Ledex rotary solenoid in the selector switch, initiates the operation of the time switch, and completes a hold-in circuit for the solenoid, as shown in fig. 4.

8. As the rotary solenoid operates, it selects a fresh cartridge, at the same time earthing the other cartridges. As it reaches the end of its travel it closes a pair of contacts in the supply line to the selected cartridge, which is fired when the appropriate contacts in the time switch close.

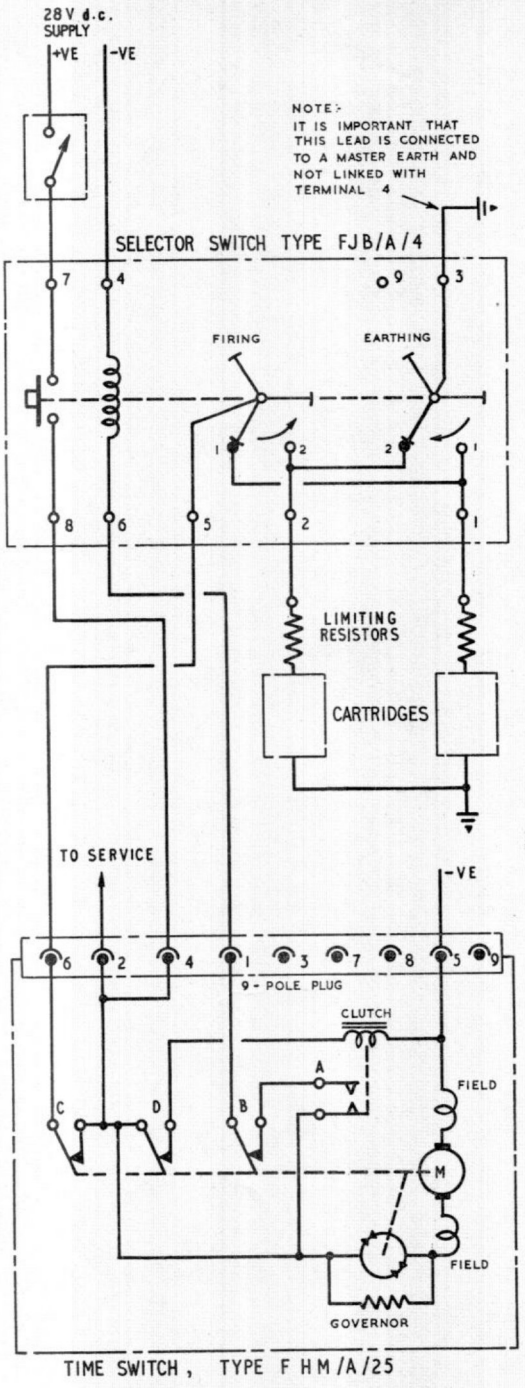

Fig. 3. Circuit diagram, Type FJB/A/4 with time switch

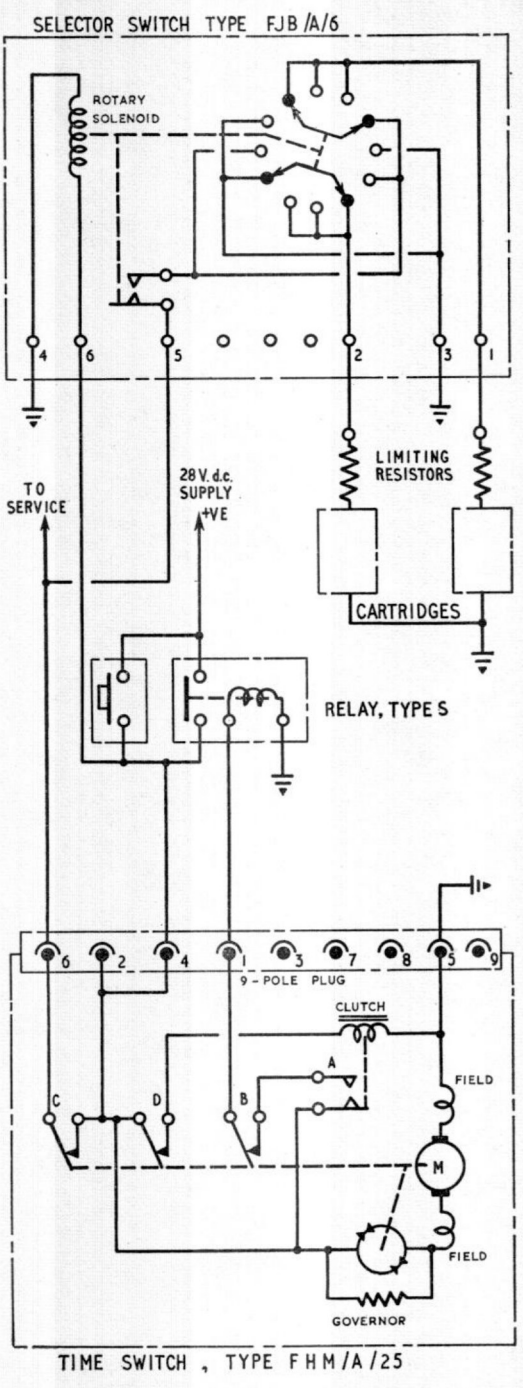

Fig. 4. Circuit diagram, Type FJB/A/6 with time switch

Note . . .

◀*Selector switch, Type FJB/A/6. It is important that the earth lead on terminal* 3 *is connected to a master earth, and not linked with terminal* 4.▶

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