# Chapter 9

# IGNITION SWITCH, B.T.H., TYPE XMC

## LIST OF CONTENTS



## LIST OF ILLUSTRATIONS



### Introduction

**1.** The Type XMC switch (Stores Ref. 5CW/4194) shown in fig. 1 is of a three-position type suitable for controlling the engine ignition system of aircraft in which it is fitted. The switch lever is spring-loaded so that it assumes a central position when not being manipulated by the pilot.

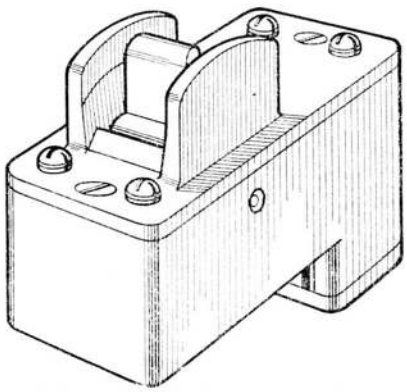

**Fig. 1. General view of switch**

## DESCRIPTION

### Casing

**2.** The casing of the switch comprises three mouldings of insulating material. The lid has an aperture for the operating lever and is secured by two csk/hd. screws to the main casing. The main casing, which is of box formation, forms the housing for three contact blades and the switch lever. The protruding portion at the underside is of hollow box formation and accommodates the three terminals of the switch. The letters C and O and the symbol + embossed near the terminals provide identification for external wiring. The third moulding is a cover for the terminals and is secured by screws to the base.

### Switch lever

**3.** The switch lever (*fig.* 2) is moulded from insulating material and has two lugs on its underside which act as cams to operate the switch contacts. Passing through the lever and acting as a pivot, is a metal spindle upon which is carried a spring. The ends of the spring extend outwards and upwards to bear on the underside of the lid of the switch. This spring ensures that the switch lever is returned to its central position when the switch is not being used to control ignition.

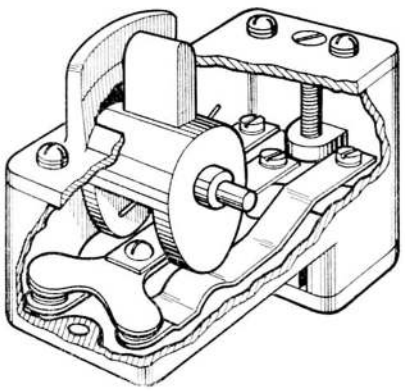

**Fig. 2. Interior view**

### Switch contacts

**4.** The two outer contact blades of the switch are of springy copper bent to a form whereby

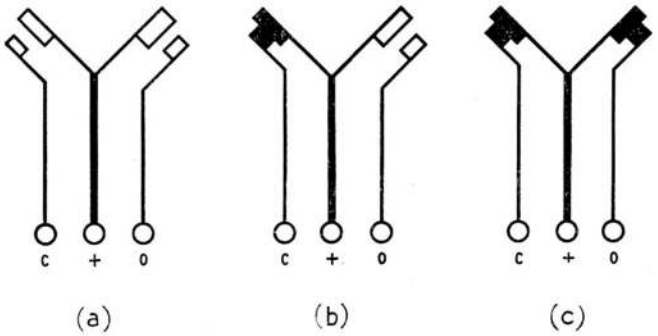


**Fig. 3. Switch connections**

the cams on the switch lever will engage with them to bring them into or out of contact with the central or main contact. The central contact is of heavier construction than the outer contacts and is of "Y" shape. The extremities of the free end of the main contact blade are located so that its contacts are immediately over the contacts on the free ends of the two outer blades. The anchored end of each of the contact blades is secured by a terminal screw which passes through the base of the casing into the terminal box.

### Operation

**5.** When the switch is in its central or neutral position, the internal connections are as shown in fig. 3(b), i.e., with the connection between C and + made and the connection O and + broken. When the switch lever is pressed to one side or the other of the central position, the contacts are both made or both broken as shown in fig. 3(a) and 3(c), according to the direction of movement of the switch lever.

### SERVICING

**6.** Normally no servicing of this switch is required, but during inspection periods ensure that the contacts are clean and not pitted, and that the switch makes and breaks efficiently.



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