Chapter 57

SWITCH, PUSH, Dunlop Types ACM17854, 17856, 17858 and 18864

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Type	Stores Ref.	Current Rating	Connecting wires
ACM17854	*5CW/5921*	*2 amp.*	*17 ins. Type 2 (Stores Ref. 5E/100180)*
ACM17856	*5CW/5518*	*2 amp.*	*7 ft. copper braid (16/3/0032 gauge) in yellow sleeve*
ACM17858		*2 amp.*	*7 ft. Type 2 (Stores Ref. 5E/100180)*
ACM18864	*5CW/5999*	*2 amp.*	*7 ft. Uniflexpren (Stores Ref. 5E/3311)*

Introduction

1. These push switches are of the same design, and are single pole, snap action, "push to make" and "release to break" type, intended for use on 28 volt d.c. systems. They are embodied in certain control handles for aircraft but may have other applications (e.g. relight control) in aircraft. The types quoted in the leading particulars of this chapter, differ only in the length and type of wires which are crimped to the switch during assembly.

DESCRIPTION

General (*fig. 1*)

2. The switch is contained in a light metal cylindrical case through the upper end of which the operating knob protrudes while the lower end holds the insulating base to which the connecting cables, lying in grooves, are bound with thread. The switch mechanism is held in the case by four tongues of the metal case which are bent into recesses in the switch base.

Switch mechanism (*fig. 2*)

3. The switch mechanism is shown in part section in figure 2. The core of the connecting cable is crimped into the hollow leg of a contact rod and two such rods are held sandwiched between the insulating retainer and the insulating base. This complete assembly is pressed against the groove inside the case where it is retained when the four tongues of the outer case are bent into the grooves in the underside of the base.

4. The moving contact plate, which moves in a recess in the base moulding, is a loose fit over the bottom of a "U" shaped contact spring so permitting of self alignment. The contact spring can move freely in the slots in the retainer moulding. Two leaf struts (*fig. 2*), fitted between the grooves in the arms of the contact spring and the pivoting slots on the plunger, transmit plunger movement to the moving contact.

5. The plunger rod, over which is fitted a coiled spring, is surmounted by an insulating knob the flange of which takes against the metal case. This spring, at its lower end, locates in a recess in the retainer moulding.

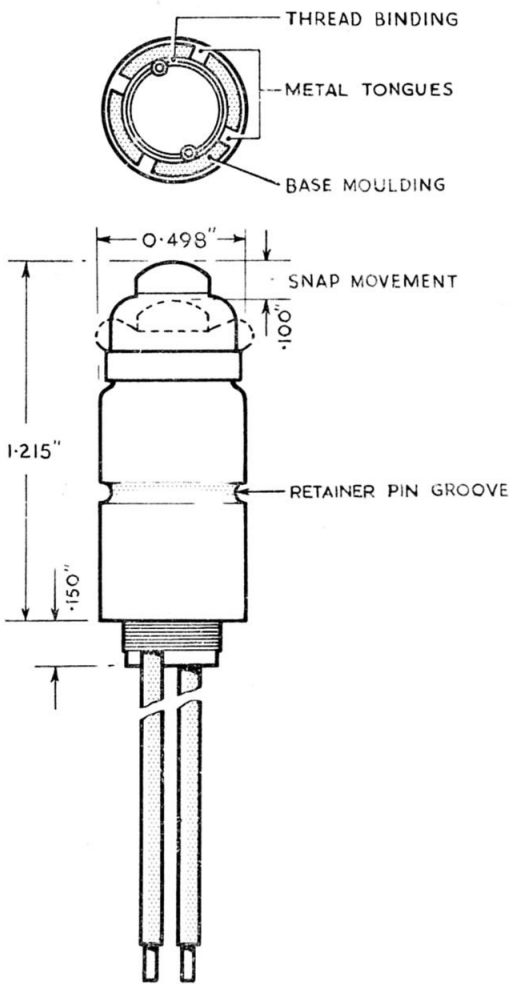

Fig. 1. Push switch, general arrangement

The operating knob has a circular groove into which a rubber cover over the switch, is fitted.

Operation

6. When the button is initially depressed the arms of the contact spring are forced apart by the leaf struts until these are at dead centre with the grooves in the plunger. Further plunger movement carries these grooves below dead centre. The leaf struts will then move upward and the contact spring arms will close so lifting this spring, complete with the moving contact, rapidly upward. The moving contact plate will make firm self aligning contact with the two fixed contact rods and will be held in contact while the button is depressed.

7. The plunger spring is compressed during the "make" action so that when the button is released this spring will push the plunger upward, cause the leaf struts to open, and the arms of the contact spring to pass the dead centre position. The contact arms will then close causing the contact spring and moving contact to move rapidly downward so producing a rapid "break" action.

Installation

8. The switch is designed to fit into a circular recess and to be supported on the lower edge of the metal case. It is secured by a retainer pin aligning with the waist groove in the case. This groove is designed to accept a pin 0·048 inch diameter.

Servicing

9. It is not intended that these switches would normally be stripped for repair since a new case would then be required. In the event of a switch becoming unserviceable it should be removed and replaced by a serviceable switch, complete with the attached connecting wires.

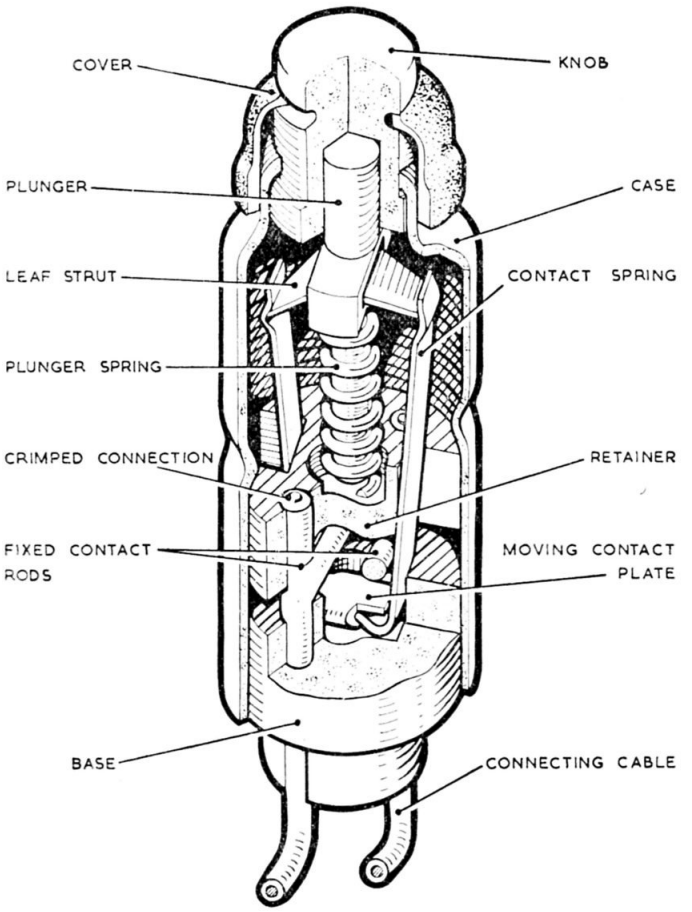

Fig. 2. Switch mechanism, part section