

## Chapter 59

### SLIDER TYPE TRIM SWITCHES, DUNLOP SERIES

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#### Introduction

1. These trim switches are slide operated, designed for incorporation in control handles of aircraft to provide a convenient means of control of trim actuation. They are small, single-pole double-throw switches with spring return to a central "off" position. Connecting cables are crimped to the switch during assembly. A typical switch is described and illustrated in this Chapter and details of individual types are given in Appendix 1 to this Chapter.

#### DESCRIPTION

2. Section views of a typical switch are shown in fig. 1. The switch is contained in a bakelite housing to the front of which is mounted the slider. A return spring is fitted within the slider and a fork attachment projects into the switch housing. A ball bearing and pivot assembly and the operating lever are fitted within the housing.

3. The moving contact pad, which moves in a recess in the base moulding, has a slot in the middle of it. A contact pin is fitted through the contact pad, at right-angles to the slot and passing through it. The lower end of the operating lever is shaped to fit over the contact pin.

#### OPERATION

4. When the slider is pushed upwards, i.e. to trim the nose of the aircraft down, the ball bearing is moved upwards. The pivot spring, which is compressed in the "off" position, exerts pressure on the ball pin. The ball bearing in turn exerts pressure on the top end of the operating lever, causing it to rock on the top corner of the projection of the switch housing. The lower end of the operating lever moves the contact pad to make with the nose down fixed contact.

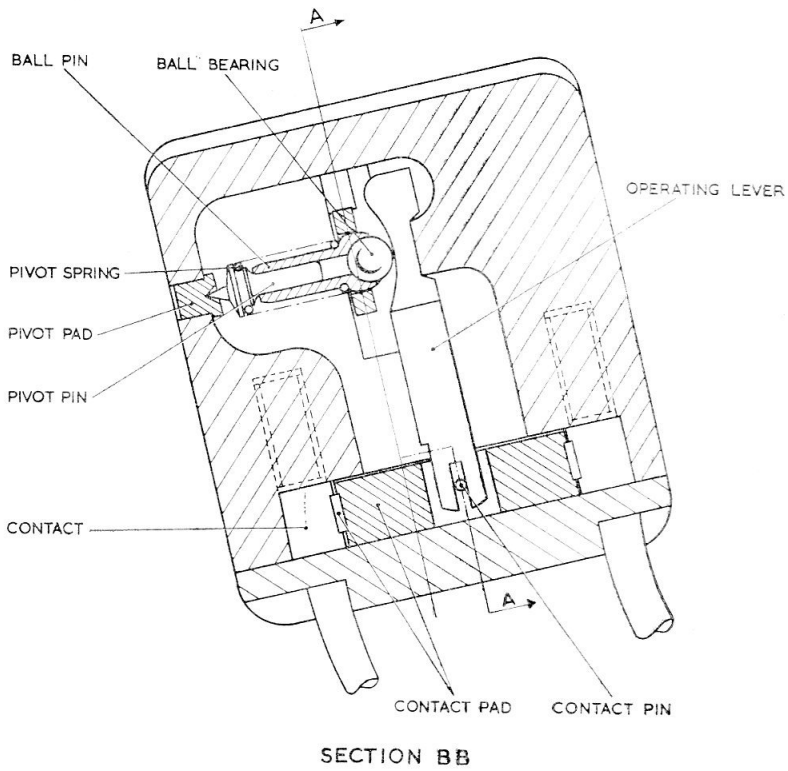
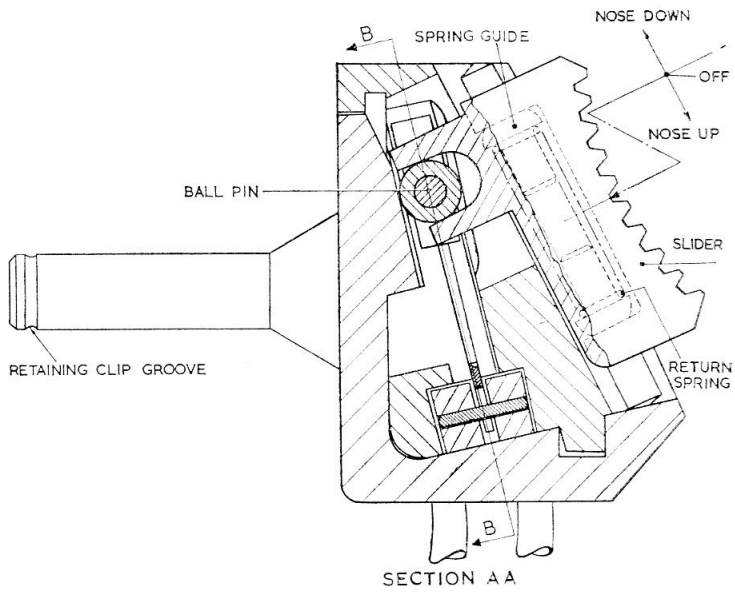
5. On releasing the slider the return spring returns it to the central "off" position, the ball bearing moves downwards keeping the operating lever flat against the projection of the switch housing, and the switch is broken.

6. When the slider is pushed downwards, i.e. to trim the nose of the aircraft up, the switch action is similar but opposite in direction to that described in para. 4.

#### INSTALLATION

7. The switch is designed to fit into a recess in the control handle of an aircraft. It is secured by a retaining clip aligning with a groove on the switch.

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**Fig. 1. Section views of typical switch**

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**SERVICING**

8. Little servicing is possible with these switches, beyond an inspection for freedom from damage and a check for security of connection. An unserviceable switch should be removed and replaced by a serviceable switch, complete with the attached connecting cables.

**Millivolt drop test**

9. Measure the millivolt drop at the end of each pair of connecting cables with 2 amp.

flowing. Measure the millivolt drop over the same length of a similar pair of cables at 2 amp. The difference between the two readings should not exceed 100 mV.

**Insulation resistance<sup>5</sup> test**

10. Using a 250-volt insulation resistance tester measure the insulation resistance between each contact and each other contact with the switch in the centre "off" position. A reading of not less than 5 megohms should be obtained for each test.

## Appendix 1

### LEADING PARTICULARS

Rating ... .. 2 amp. at 29V d.c.

Type	Ref. No.	Cable
AC 12352		15½ in. copper braid in rubber sleeves
AC 12678	27J/397	11 in. equip. wire, Type 2, 14/0-0076
AC12679	27J/398	11 in. equip. wire, Type 2, 14/0-0076
AC 14864	5CW/6927	7 ft. Uniflexpren 6

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