Chapter 83

ROTARY SWITCHES, ALBRIGHT, TYPES SW.73/1 and SW.78/1

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

LEADING PARTICULARS

*Rotary switch, Type SW.*73/1	*Ref. No.* 5*CW*/6680
*Rotary switch, Type SW.*78/1	*Ref. No.* 5*CW*/
*Voltage, SW.*73/1 *switch*	200 *to* 208*V*, 3-*phase*, 400 *c/s*
*Voltage, SW.*78/1 *switch*	28*V d.c.*
Current rating of switches	5 *amp.*
Temperature range	−55 *to* +70 *deg. C*
Max. operating altitude	25,000 *ft.*
Overall dimensions of switch (*excluding spindle*) (*in.*)	1·937 × 1·750

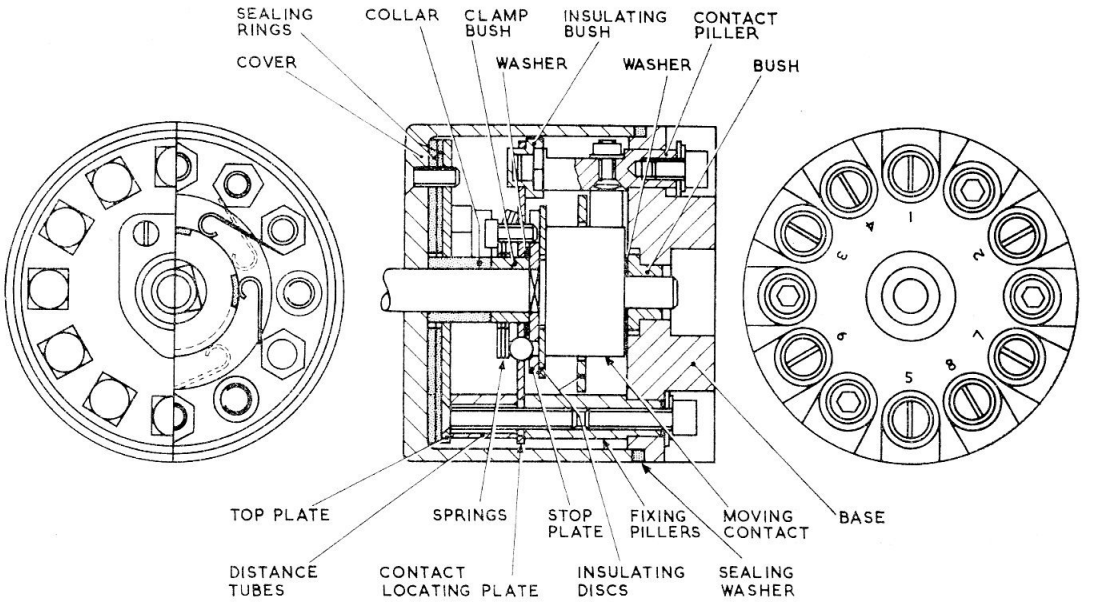

Fig. 1. Sectional view of switch

Introduction

1. The switches, Type SW.73/1 and SW.78/1, though of similar design, are used for different services in aircraft.

2. The SW.73/1 switch is used in conjunction with a twin a.c. motor Dunlop Maximue windscreen wiper unit, to give two positions i.e. "OFF SLOW" (1 motor), "FAST" (2 motors).

3. The SW.78/1 switch is used in conjunction with a solenoid-operated Hot/Cold Air system for heating and ventilated suit.

DESCRIPTION

4. A sectional view of the switch is shown in fig. 1. Both switches are manually operated from the "OFF" position.

5. The SW.73/1 three position switch is designed to function when fitted in a 208 volt, 400 cycles, 3-phase a.c. supply, to control a windscreen wiper motor, while the SW.78/1 2-pole, 3-way switch is designed to function when fitted in a 28V d.c. supply to control a solenoid-operated Hot/Cold air system. Both switches operate efficiently up to a load of 5 amp. maximum. Fitted at the base of the switch are the eight 4 B.A. terminals for taking the 5 amp. connectors.

Operation

6. The SW.73/1 three-position switch is operated from the OFF position in a clockwise direction. Fig 2 shows position 1 (OFF), all contacts open, position 2 (SLOW), three contacts make (position 2 contacts remain made) and at position 3 (FAST), further three contacts make.

7. With the SW.78/1, 2-pole, 3-way switch (fig. 2) when operated gives three contact positions on each pole.

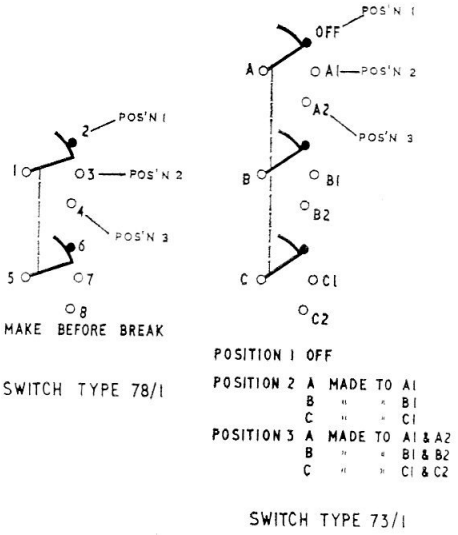

Fig. 2. Switch positions

INSTALLATION

8. The switches, which can be installed in any attitude, are panel mounted, the panel thickness can vary between $\frac{1}{32}$ and $\frac{3}{16}$ in. Three fixing holes, equally spaced, tapped 4 B.A. for securing switch to mounting panel are located at head of switch, fig. 3.

SERVICING

9. Little servicing is necessary with this type of switch beyond inspection for signs of corrosion, freedom from damage and a check for positive operation. If switch is faulty it must be replaced by a serviceable switch of the same design.

Testing

10. The switch is to be tested at full electrical rating (5 amp.) for a total of 50 operations.

11. After the above test a millivolt drop test is to be carried out across each pair of contacts; the drop should not exceed 100 millivolts (actual—40 millivolts max.).

12. Using a 500V megger for the SW.73/1 200V switch and a 250V megger for the SW.78/1 28V switch, test the insulation resistance between contacts and all contacts to switch frame. The reading should not be less than 5 megohms (R.A.F.) and 0·5 megohms (R.N.).

13. The switch action should be smooth in each case and give positive location with reasonable hand force applied to turn, using a control knob no greater than 1 in. diameter.

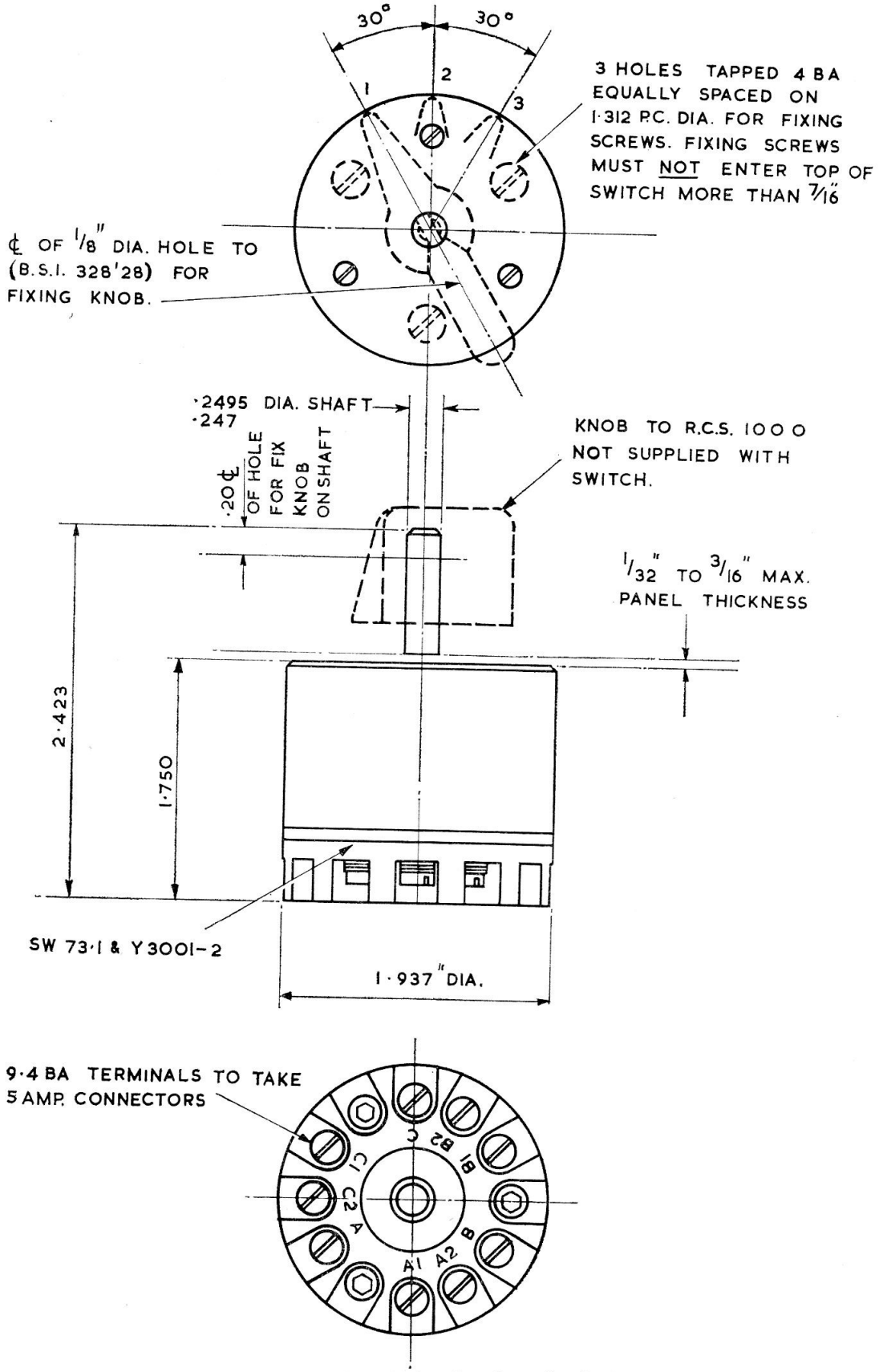

Fig. 3. Installation drawing of switch

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