Chapter 29

ROTARY SELECTOR SWITCHES, PAGE, C2000 SERIES

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LEADING PARTICULARS

Selector switch	
Voltage	28*V d.c.*
Contact current rating	2 *amp. per pair of contacts*
Push switch	
Voltage	28*V d.c.*
Contact current rating	1 *amp.*
Temperature range	—20 *deg. C. to* +50 *deg. C.*
Operational ceiling	40,000 *ft.*
Overall dimensions	
Length	3·187 *in.*
Barrel diam.	1·5 *in.*
Weight (without leads)	3·86 *oz.*

Introduction

1. The combined rotary selector switch and push button switch, Type C2000, is designed for mounting on the pilot's control column. The rotary selector switch may be used for communication and transmission selection, and the push switch is suitable for use on auto-pilot; press to talk; and similar circuits.

2. A typical switch is described and illustrated in this chapter, and details of individual types are given in the Appendices to this chapter.

DESCRIPTION

3. The switch mechanism is housed in a cylindrical aluminium alloy case, through the upper end of which protrudes the rotary action selector and the silicone rubber push button.

4. The rotary selector may have either two, three, or four-way double-pole switching,

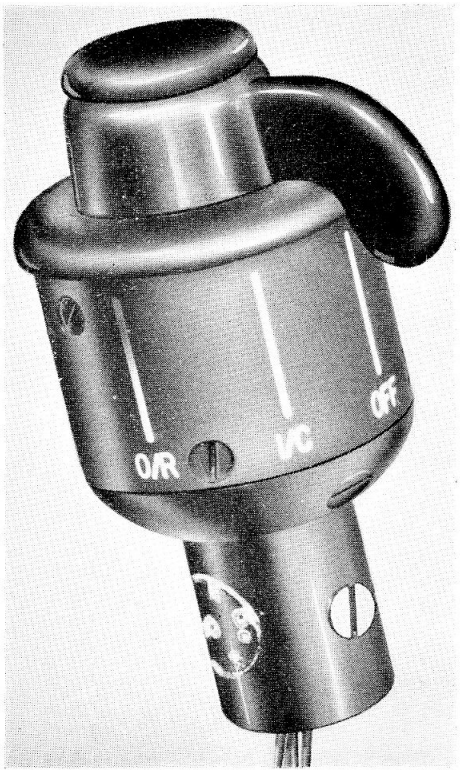

Fig. 1. Rotary switch, Type C2000

with spring biassing from either, or both, limits of travel.

5. A single-pole ' push to make ' or ' push to break ' push button switch may be fitted to certain models.

6. The switch unit is normally supplied complete with interconnecting leads, connection at the switch being by solder tags. All switches are potted to exclude moisture and foreign particles from the switch base and, because of the potting technique employed, the manufacturers consider it inadvisable to attempt any switch repairs. Switch assembly screws should never be loosened or removed.

7. A standard adapter, Part No. A1682, is usually supplied with the switch, but special adapters may be supplied as required. A waterproof cap, Part No. A1543, is also available.

8. The interconnecting leads are positioned inside the switch body by a retaining disc, which is held on the inboard side of the mounting screws pockets by the potting compound.

INSTALLATION

9. The switch is mounted in the control handle by two countersunk 4 B.A. screws, situated 180 deg. apart. When installing the switch it is essential that the securing screws are accurately cut to length, as over-length screws will bind on the metal insert at the base of the tapped hole. Following this, any additional pressure on the screws will cause the metal insert to rupture the potting or casing.

TESTING

10. During scheduled inspections of the aircraft the switch should be visibly inspected in situ for cracks; distortion; corrosion; and security of mounting. The switch should also be operated for evidence of mechanical and electrical efficiency.

Millivolt drop test

11. Using a test current of 1 amp. and measuring the volt drop at the cable ends, the millivolt drop should be the sum of (1) and (2):—

(1) Switch only—50 millivolts.

(2) Millivolt drop per return foot per ampere of integral cables.

Unipren 4 = 33 millivolts per return foot per amp.
Uni-nyvin 22 = 33 millivolts per return foot per amp.
Unipren 6 = 20 millivolts per return foot per amp.
Uni-nyvin 20 = 20 millivolts per return foot per amp.
Durawire. Green. 14/40 = 84 millivolts per return ft. per amp.

Example:—Switch wired with six foot loom of Uni-nyvin 22 cable,

Switch only .... 50 millivolts
Cable .... 6×33 millivolts
Total max. permissible volt drop = 248 millivolts.

12. The test should be repeated ten times for each pair of contacts, and a substantially consistent reading should be obtained for each set of tests.

Insulation resistance test

13. Using a 500V d.c. insulation resistance tester, test between each lead and the frame, with the switch lever and push button operated as necessary. A reading of not less than five megohms should be obtained in each case.

Appendix 1

ROTARY SELECTOR SWITCH, PAGE, TYPE C2000/0003

LEADING PARTICULARS

Switch, Type C2000/0003 .... *Ref. No. 5CW/*

1. The rotary switch, Type C2000/0003, is similar to that described and illustrated in the main chapter, the main differences being as follows.

2. The unit is supplied complete with eight interconnecting leads of Uniflex-pren 6, each lead being 6 ft. in length.

3. A 'press to make' push switch is incorporated in the unit, and the two-position rotary selector operates in an anti-clockwise direction from the 'OFF' position.

4. A waterproof cap, Part No. A1543, can be fitted if required.

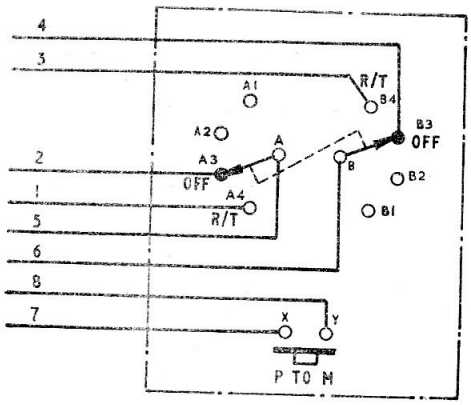

Fig. 1. Diagram of connections

Appendix 2

ROTARY SELECTOR, PAGE, TYPE C2000/0004

LEADING PARTICULARS

Switch, Type C2000/0004 .... *Ref. No. 5CW/*

1. The rotary switch, Type C2000/0004, is similar to that described and illustrated in the main chapter, the main differences being as follows.

2. The unit is supplied complete with eight interconnecting leads of Uniflex-pren 6, each lead being 6 ft. in length.

3. A ' press to make ' push switch is incorporated in the unit, and the two-position rotary selector operates in a clockwise direction from the ' OFF ' position.

4. A waterproof cap, Part No. A1543, can be fitted if required.

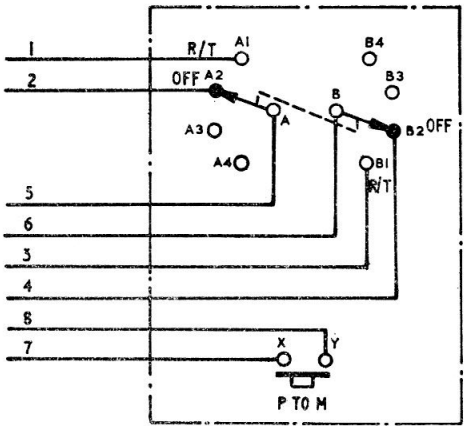

Fig. 1. Diagram of connections

Appendix 3

ROTARY SELECTOR SWITCH, PAGE, TYPE C2000/0013

LEADING PARTICULARS

Switch, Type C2000/0013 .... *Ref. No. 5CW/7896*

1. The rotary switch, Type C2000/0013, is similar to that described and illustrated in the main chapter, the main differences being as follows.

2. The unit is supplied complete with five interconnecting leads of Durawire, Green, 14/40, each lead being 6 ft. in length.

3. The four-position rotary selector, from the ' OFF ' position, operates in a clockwise direction for I/C and O/R, and in an anti-clockwise direction for R/T.

4. A waterproof cap, Part No. A1543, can be fitted if required.

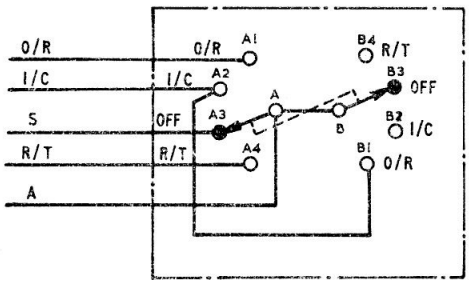

Fig. 1. Diagram of connections