Chapter 14

ACTUATOR, WESTERN, TYPE EJ50, Mk. 24

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Type EJ50, Mk. 24	Stores Ref. 5W/280
Voltage	24 d.c.
Weight	1 lb. 14 oz.
Nominal operating load	50 lb.
Length of stroke	2 in.
Time of stroke at nominal load	10·5 sec.
Distance between extended centres	10·022 in.
Distance between retracted centres	8·022 in.
Brush grade	Type H.A.L. (E.G.O.)
Resistance of motor field coils (both coils together)	2·75 to 3·0 ohms

Introduction

1. The linear actuator, Type EJ50, Mk. 24, is used for the remote control of such services as tail wheel locking; various details of operation are given under Leading Particulars. The actuator is controlled by suitably-positioned switches; for details of individual installations, reference should be made to the appropriate Aircraft Handbook.

DESCRIPTION

2. This actuator follows the general design described in the Appendix to A.P.4343, Vol. 1, Sect. 17, Chap. 2 dealing with Western actuators. The rating of the actuator is 1 minute at nomimal load, with a current consumption of 1·5 amp. The general internal construction can be seen in the sectional drawing given in fig. 1, where the piston is shown extended.

3. The motor is rated at 0·008 h.p. at 5,800 r.p.m., and the field coils also control the operation of the brake. The travel of the piston is controlled at its extreme positions by two limit switches, operated by a trip lever and connected as shown in the circuit diagram in fig. 2. They are of the make-and-break type, and are fitted with silver contacts. In addition, this actuator is provided with mid-switching.

4. Electrical connection is made to the actuator by a 4-pin plug (Stores Ref. 5X/4003), with pin identification as follows:—

Common negative	Pin A
Piaton extension	Pin B
Piston retraction	Pin C
Mid switching	Pin D

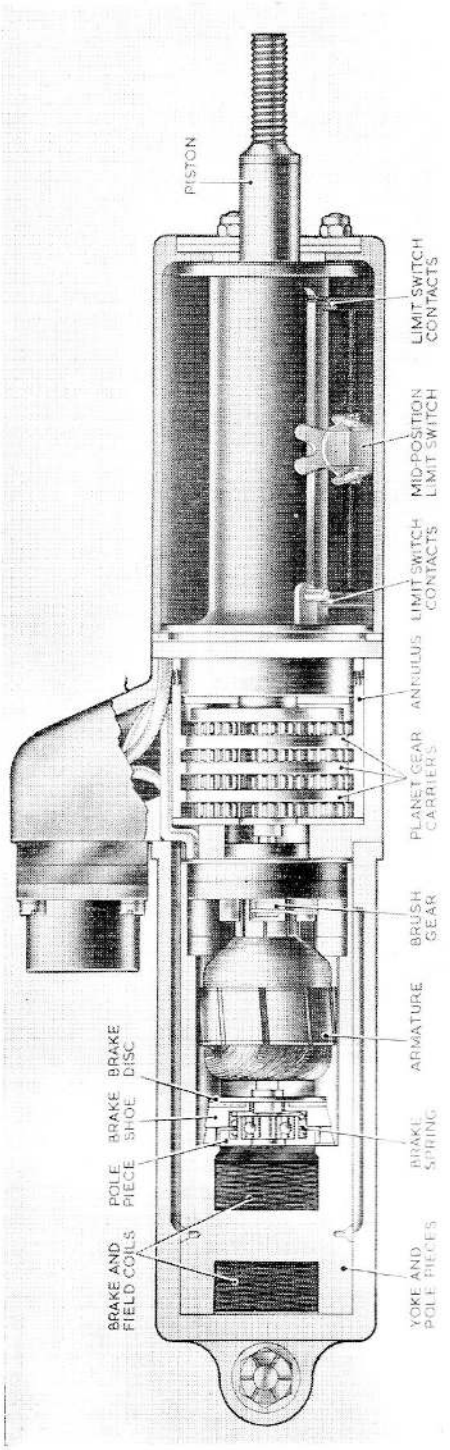

Fig. 1. Sectional view of actuator, Type EJ50, Mk. 24

SERVICING

5. The servicing of this actuator is as given in the Appendix to A.P.4343, Vol. 1, Sect. 17, Chap. 2 on Western actuators. A functioning test may be made as follows.

6. With a supply of 24 volts d.c., and loads of 0 lb., 50 lb. and 100 lb., the time taken to complete the full stroke of 2 in. should not exceed the values given below, the maximum current consumption being as shown :—

Load (lb.)	Max. current (amp.)	Max. time (sec.)
0	1·2	8·5
50	1·5	10·5
100	2·0	13·0

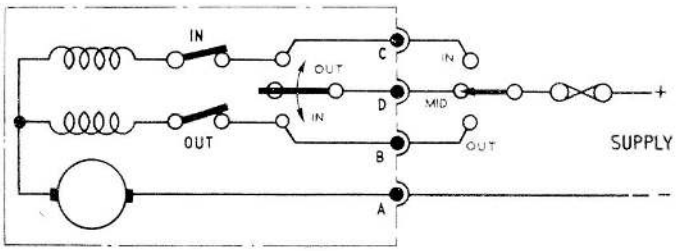

Fig. 2. Circuit diagram