Chapter 30

ACTUATORS, WESTERN, TYPE EJ50, Mk. 35 AND 35A

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Type EJ50, Mk. 35 **Type EJ50, Mk. 35A**	*Ref. No. 5W/352*
Voltage	*28V d.c.*
Weight	*1·87 lb*
Nominal operating load	*50 lb*
Length of stroke	*1·0 in*
Time of stroke on nominal load	*33·0 sec*
Distance between extended centres	*9·32 in*
Distance between retracted centres	*8·32 in*
Brush grade	*Type H.A.L. (E.G.O)*
Resistance of motor field coils (both coils together)	*2·75 to 3 ohms*

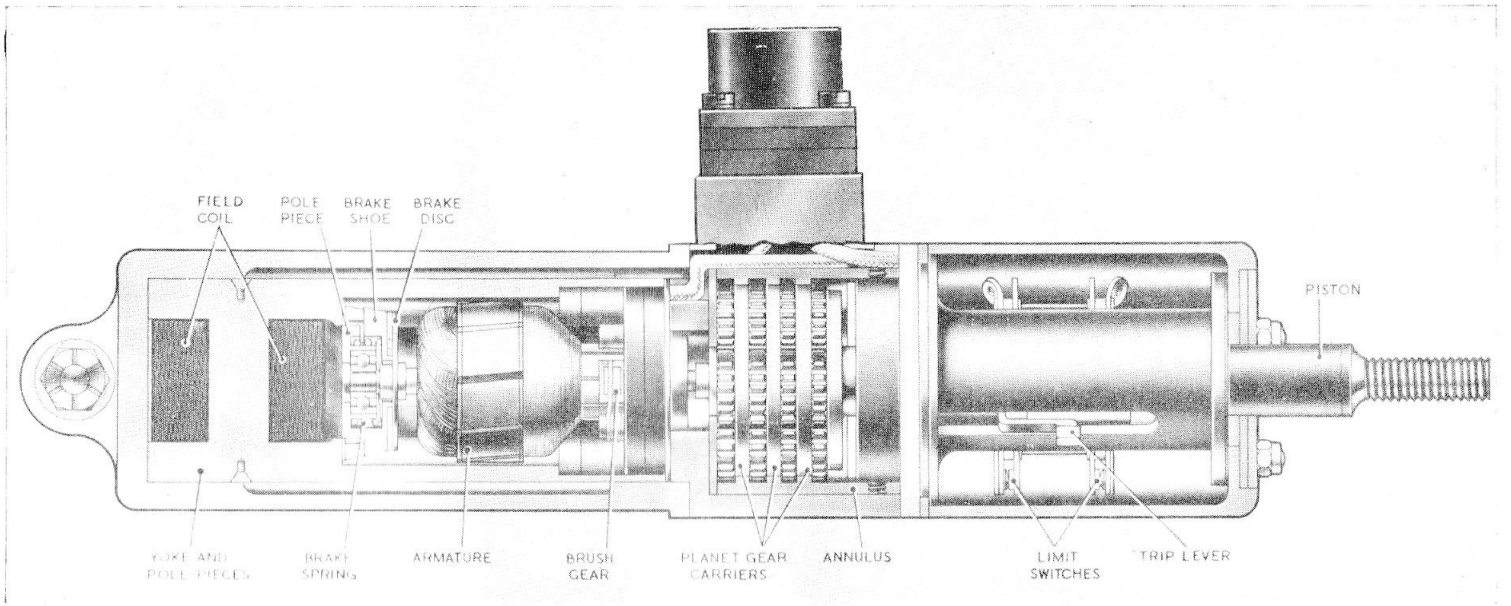

Fig. 1. Sectional view of actuator, Type EJ50, Mk. 35 and 35A

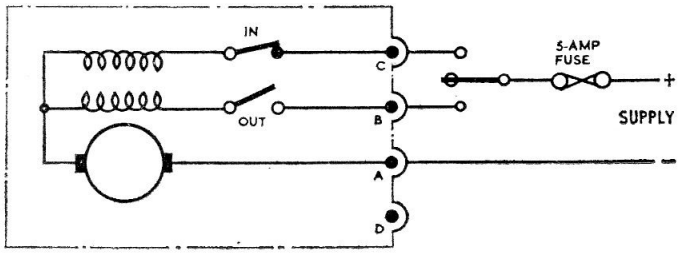

Fig. 2. Circuit diagram

Introduction

1. The linear actuator, Type EJ50, Mk. 35 and 35A are used on aircraft to operate small surfaces such as trim tabs, shutters, etc.; 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. These actuators (which are identical) follow 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 nominal load, with a current consumption of 1·25 amp. The general internal construction can be seen in the sectional drawing given in fig. 1, where the piston is shown partly 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.

4. Electrical connection is made to the actuator by a 4-pole plug (Ref. No. 5X/4003), with pin identification as follows : —

Common negative	.....	Pin A
Piston extension	.....	Pin B
Piston retraction	.....	Pin C

Pin D is not used

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 28 volts d.c., and loads of 0 lb, 50 lb and 100 lb, the time taken to complete the stroke of 1 in. should not exceed the values given below, the maximum current consumption being as shown.

Load (lb)	*Time (sec)*	*Max. current (amp)*
0	32	1·2
50	33	1·25
100	34	1·3

RESTRICTED

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