

## Chapter 10

### ACTUATOR, WESTERN, TYPE EJ. 25, Mk. 9A

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#### LEADING PARTICULARS

|                                      |                     |
|--------------------------------------|---------------------|
| Actuator, Western Type EJ 25, Mk. 9A | Stores Ref. 5W/408  |
| Voltage                              | 28 volt d.c.        |
| Weight                               | 1 lb. 10 oz.        |
| Normal working load                  | 25 lb.              |
| Maximum working load                 | 50 lb.              |
| Length of stroke                     | 0.78 in.            |
| Time of stroke at nominal load       | 3.15 sec.           |
| Distance between extended centres    | $7.13 \pm 0.02$ in. |
| Distance between retracted centres   | $6.35 \pm 0.02$ in. |
| Rating of motor                      | 1 min.              |

#### Introduction

1. The linear actuator, Type EJ 25, Mk. 9A, is designed to operate within the ranges given under the heading Leading Particulars. It is rated to operate for 1 minute at a nominal load of 25 lb. with a current consumption not exceeding 1.2 amp.

#### DESCRIPTION

2. The Western Type EJ 25 series of actuators is described in A.P.4343, Vol. 1, Sect. 17, Chap. 2, App. 7. The Mk. 9A varies from others in this series in respect of fixing centres, type of end fittings, gear-box reduction ratio, also operating times and current consumption.

3. The gearbox is identical in basic design with that described in A.P.4343, Vol. 1, Sect. 17, Chap. 2 and App. 7, dealing with Western Type actuators. The total reduction ratio for this actuator is 78.6 : 1.

4. The actuator is secured at the moving end by means of a bolt passing through a

self-aligning eye and the fixed end by a bolt passing through two fixed lugs integral with the motor housing.

#### Application and loading

5. Two snap action limit switches which are adjusted during assembly, provide a 0.78 in. stroke of the piston. A functional test should be performed by connecting the actuator to a 28 volt d.c. supply and applying loads of 0, 25 and 37 lb. The maximum current consumption and the time the piston takes to complete its 0.78 in. travel should not exceed the values given in the following table :—

| Load<br>(lb.) | Max.<br>current<br>(amp.) | Max.<br>time<br>(sec.) |
|---------------|---------------------------|------------------------|
| 0             | 0.9                       | 2.81                   |
| 25            | 1.2                       | 3.15                   |
| 37            | 1.45                      | 3.60                   |

#### Electrical connection

6. A 3-pole Breeze plug is fitted. Internal

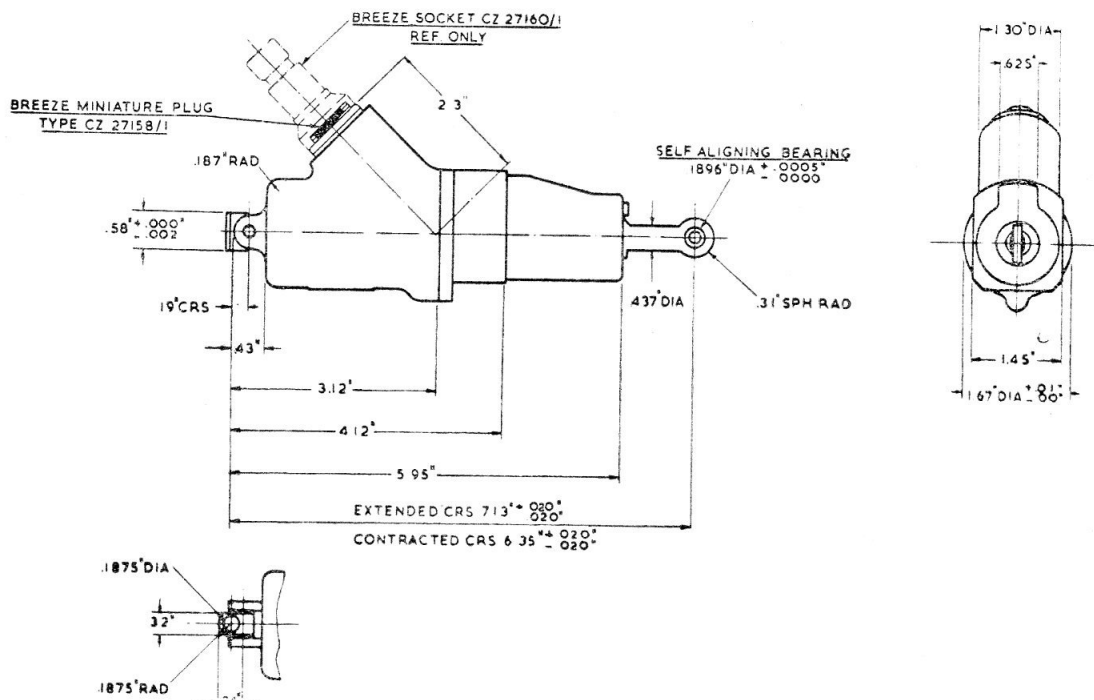


Fig. 1. Installation drawing of actuator

wiring connections are given in the circuit diagram (fig. 2).

#### Installation and servicing

7. Installation and servicing instructions are contained in A.P.4343, Vol. 1, Sect. 17, Chap. 2 and App. 7.

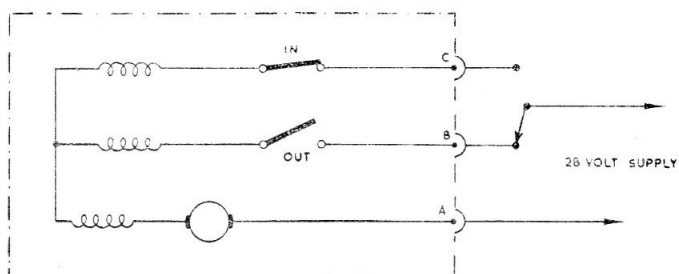


Fig. 2. Circuit diagram

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