

See AP113D-0413-1 held 'C'

**Chapter 15**

**TRANSFORMER-RECTIFIER UNIT, ROTAX, TYPE ZA12201**

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<b>Transformer-rectifier unit, Type ZA12201</b> ... ..	<i>Ref. No. 5UC/7370</i>
<i>Transformer input (a.c.)</i> ... ..	<i>200V, 1-phase, 400 c/s</i>
<i>Output (d.c.)</i> ... ..	<i>27V at 60 mA</i>
<i>Rating</i> ... ..	<i>Continuous</i>
<b>Overall dimensions</b>	
<i>Length</i> ... ..	<i>2.125 in.</i>
<i>Width</i> ... ..	<i>1.437 in.</i>
<i>Height</i> ... ..	<i>2.593 in.</i>
<i>Weight</i> ... ..	<i>Approx. 9 oz.</i>

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## Introduction

1. The transformer-rectifier unit, Type ZA 12201, is designed to provide a d.c. supply of 28V by full-wave rectification of a 200V, 400 c/s supply. Its normal application is to supply low-power d.c. for a magnetic indicator on Belfast aircraft.

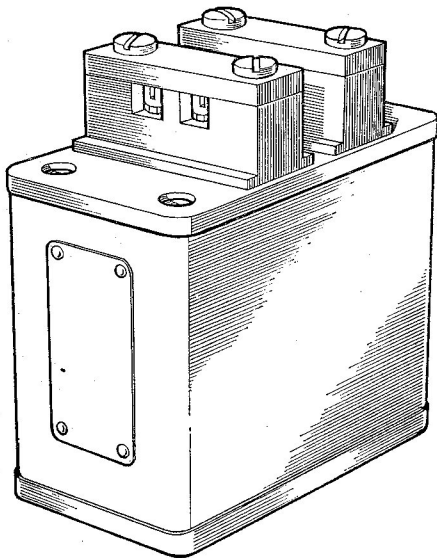


Fig. 1. Transformer-rectifier unit, Rotax, Type ZA12201

## DESCRIPTION

2. The unit (fig. 1 and 2) incorporates a toroidal transformer in conjunction with two silicon diodes and a metallized plastic foil 0.05  $\mu$ F capacitor. The components are mounted on opposite sides of a group board,

the transformer being on one side and the diodes and capacitor on the other. The whole assembly is vacuum-impregnated and contained within a steel case which is sealed with solder around its edges.

## Electrical connections

3. Two mouldings carrying the input (1 and 2) and output (3 and 4) terminals are situated centrally on the upper surface of the top cover. These terminals are 6 B.A. screws with captive washers.

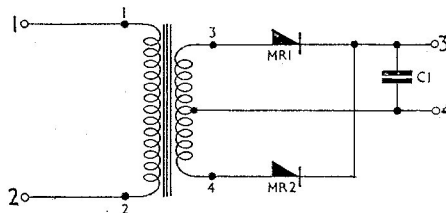


Fig. 2. Diagram of internal connections

## INSTALLATION

4. The unit may be mounted in any attitude by means of three 4 B.A. clearance bolt holes (sealed tubes running right through the unit), at 2.125 in. and 0.937 in. centres.

## SERVICING

5. No servicing is possible, apart from a visual inspection of all covers, terminals, connections etc. for security.

## Testing

6. If the serviceability of the unit is suspect it may be tested as laid down in Appendix A.

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## Appendix A

### STANDARD SERVICEABILITY TEST FOR TRANSFORMER RECTIFIER UNIT, ROTAX, TYPE ZA 12201

#### Introduction

1. The following tests may be applied to the unit before it is put into service, or at any time when its serviceability is suspect.

#### Test equipment

2. The following test equipment is required:
- (1) Insulation resistance tester, Type A (Ref. No. 5G/1621).
  - (2) Ammeter, 0—10 mA a.c. range (e.g. testmeter, Type F.)
  - (3) Voltmeter, 0—30 V d.c. range.

#### Testing

##### *Insulation resistance test*

3. (1) Common together terminals 1 and 2 and bring out the connection as a common lead.
- (2) Common together terminals 3 and 4 and bring out the connection as a second common lead.

(3) With the second common lead connected to the unit case, the insulation resistance between the first and second common leads must not be less than 5 megohms when tested with a 500-volt insulation resistance tester, the test voltage being held constant for not less than 5 seconds before taking the reading.

(4) Repeat test (3) with the first common lead connected to the case instead of the second.

##### *Magnetizing current and load test*

4. (1) With the secondary winding unloaded, connect the primary terminals (1 and 2) in series with a low-resistance 0—10 mA a.c. ammeter (e.g., testmeter, Type F) to a 200-volt, 400 c/s supply.
- (2) With the above ammeter short-circuited, connect a 470-ohms, 1.5-watt resistor across the output terminals (3 and 4) and measure the d.c. output voltage. The reading obtained should be between 26 and 28 volts, terminal 3 being the positive terminal.

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