Chapter 2

TRANSFORMER, ROTAX TYPE P2201

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Transformer, Type P2201	*Stores Ref. 5UB/5919*
Input (3-phase, 400 c.p.s.)	*... 115V, a.c.*
Output (·5 p.f.)	*45V at 120 v.a.*
Coil resistance	
Primary (each phase)	*3·2 ± ·08 ohm*
Secondary (each phase)	*0·800 ± ·02 ohm*
Temperature range	*—65 deg. C. to + 70 deg. C.*
Altitude ceiling	*60,000 ft.*
Length	*4·812 in.*
Width	*2·781 in.*
Height	*2·625 in.*
Weight	*1·75 lb.*

Introduction

1. The transformer (*fig.* 1) is designed to operate in aircraft where there is a 3-phase, 400 c.p.s. supply voltage of 115 volts.

2. The primary and secondary phase of the transformer are star connected (*fig.* 2) and the output voltage is 45 volts at 120 volt/amperes.

DESCRIPTION

3. The transformer core is built up from alternate "T" and "U" laminations of silicon alloy which form the three limbs and the yokes of the unit. Three cylindrical coils are fitted, one on each limb, and the laminations are clamped by two pairs of steel brackets. An eight-way terminal block is mounted on the upper side of an extended clamping bracket.

4. The primary phase, which is connected to terminal B1, and the star point of the secondary winding, which is connected to the terminal E, are linked together to ensure that the potential between the transformer windings and the frame does not exceed 115 volts.

5. The transformer is self-cooled by natural air convection and care should be taken to ensure that a free flow of air passes over the unit.

INSTALLATION

6. The outside dimensions of the unit are given under Leading Particulars and four fixing holes 0·156 in. diameter, the centres of which form a rectangle 3·812 in. × 1·687 in., are provided in the frame mounting brackets.

Electrical connections

7. Electrical connections are made via S.B.A.C. Type 1, 19 ampere sockets (Stores Ref. 5H/121) secured in an eight-way terminal block with the following markings:—

A1, B1, C1: Primary windings
N: Primary windings star point
A, B, C: Secondary windings
E: Secondary windings
Star point and earth

Note . . .

Terminal E and terminal B1 are connected together by a short link and terminal N is blanked off.

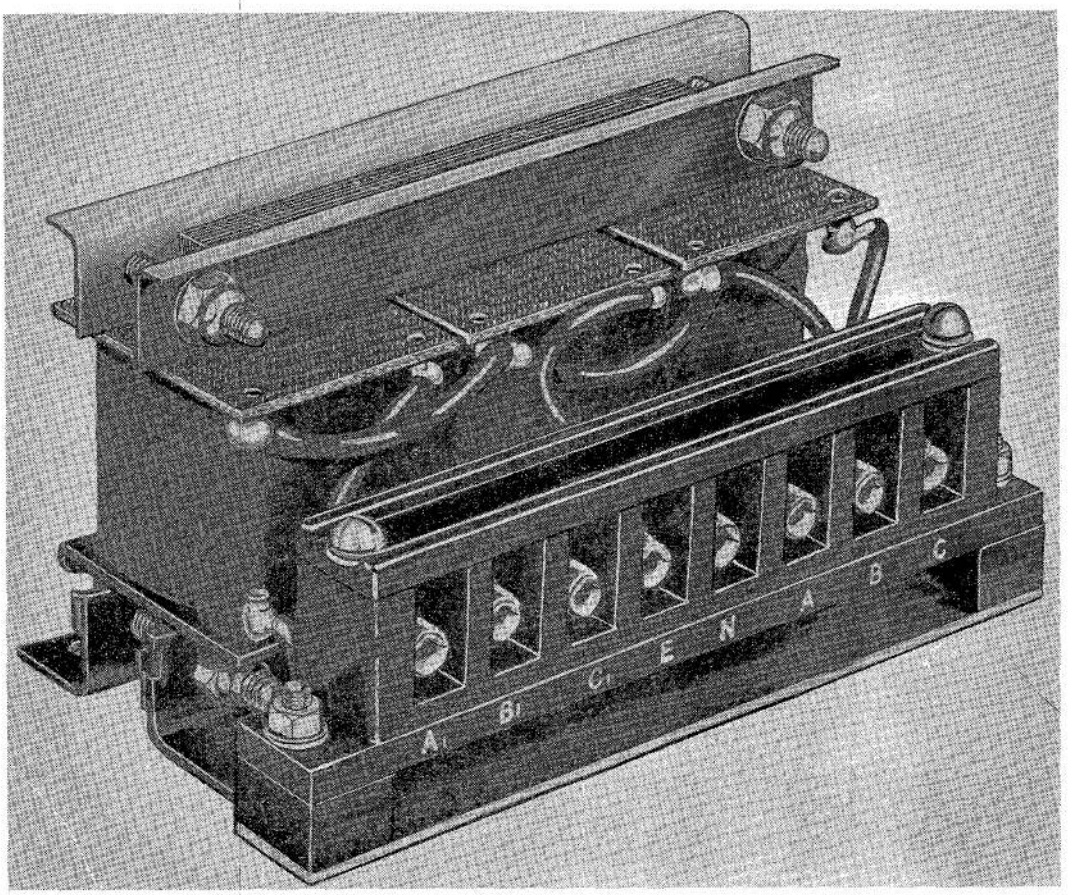

Fig. 1. General view of P2201 transformer

SERVICING

8. If the serviceability of the transformer is doubted, disconnect the load leads from the secondary winding terminals and, with a 115 volts, 3-phase 400 c.p.s. supply connected to the primary windings, measure the no load mean secondary voltage. This should be between 47·5 and 50·5 volts, and if the voltage is outside these limits the transformer should be considered unserviceable.

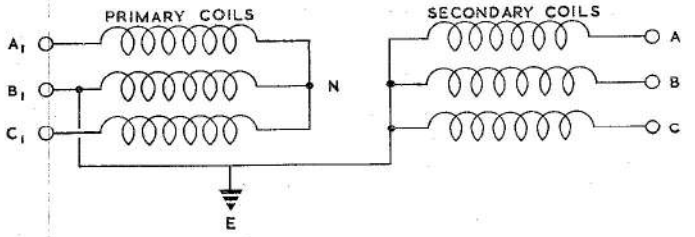

Fig. 2. Diagram of internal connections