

Chapter 5

TRANSFORMER, B.T.H., TYPE LTS. 50, FORM Z1/1

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LEADING PARTICULARS

Type of winding	Auto
Input voltage	115V, a.c. (r.m.s.)
Input frequency	400 c/s
Output voltage (on open circuit)	26.5 to 27.5V, a.c. (r.m.s.)
Output on load	50VA, 0.25 p.f. at a nominal 26V, a.c. (r.m.s.)
External connections	3-pole miniature plug (Inter. Ser. Ref. Z.560060)
Weight	14 oz.

Introduction

1. The Type LTS 50, Form Z1/1 transformer (*fig. 1*) is designed to provide a low-voltage, high-frequency alternating current supply for aircraft instrumentation purposes.

2. The transformer operates from a 115V (r.m.s.) 400 c/s supply and delivers 50VA, 0.25 p.f. at a nominal voltage of 26V (r.m.s.).

DESCRIPTION

3. The transformer is auto-wound and consists of one winding on a laminated iron core. The core is constructed by winding cold-rolled, grain-oriented, silicon-steel strip on a mandrel, and then bonding the roll firmly together. The core is then machined to form two "C" shaped pieces, the mating faces of which are ground so that they butt together making a joint with no appreciable air-gap.

4. The winding is wound on a spool which is assembled on two mating limbs of the "C" shaped pieces. These are then clamped

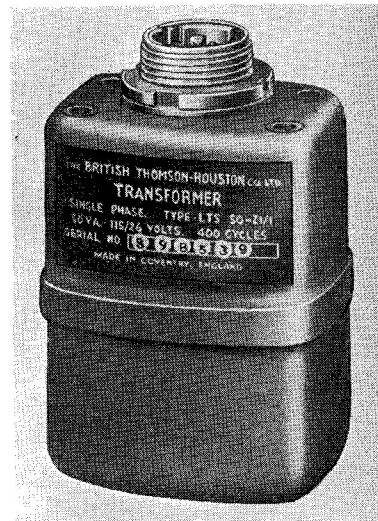


Fig. 1. General view, transformer, Type LTS.50, Form Z1/1

(A.L.2, Nov. 57)

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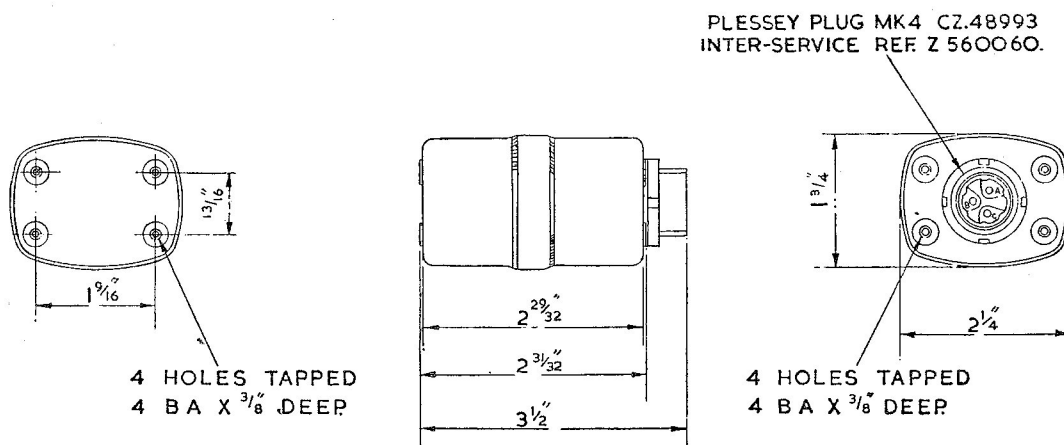


Fig. 2. Installation drawing

together by a steel retaining band, the band is tightened securely and its joint is then soldered to prevent movement.

5. After impregnation the wound core assembly is enclosed in a hermetically-sealed case partly filled with a rubber compound to prevent any movement.

6. The leads from the winding are brought out to a 3-pole Mk. 4 miniature plug (Inter. Ser. No. Z.560060).

INSTALLATION

7. The transformer may be mounted in any position using either of the two sets of four fixing holes. It must not be placed in any position where the temperature is likely to

exceed 85° C. The overall and fixing dimensions are given in fig. 2 and the circuit diagram in fig. 3.

SERVICING

8. Very little servicing can be done except to ensure that the transformer is securely fixed and that the plug connections are sound.

TESTING

9. If a transformer is faulty, it must be removed from the aircraft and tested as follows:—

- (1) Check the resistance of the winding from B to C, which should be between the limits of 0.31 and 0.35 ohm at 20 deg. C.
- (2) Check the resistance of the winding from A to B, which should be between the limits of 4.7 and 5.4 ohm at 20 deg. C.
- (3) Check that when a 115V (r.m.s.) 400 c/s. supply is connected across pins A and C, the input current on no-load does not exceed 0.045 amp. and the open circuit output voltage measured across pins B and C is within the limits 26.5 and 27.5V (r.m.s.).
- (4) If a 115V supply (3) is not available, test the transformer on an input voltage of 14.5V (r.m.s.), 50 c/s. The input current, on no-load, must not exceed 0.045 amp., and the open circuit output voltage must be within the limits of 3.4 and 3.5V (r.m.s.).

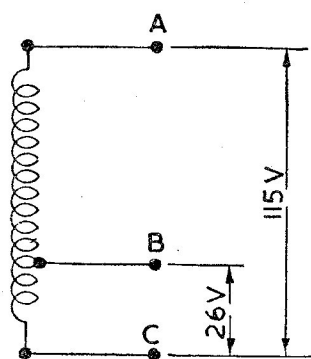


Fig. 3. Circuit diagram

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