Appendix 1

GENERATOR TEST BOXES (26SR/95295)

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LIST OF ILLUSTRATIONS

DESCRIPTION AND OPERATION

Introduction

1. The test boxes are provided to facilitate the testing of the generator circuits, the checking of the aircraft voltmeter, and the setting up the voltage only of the rotary transformers. Connectors, carried in a stowage fixed on the side of each test box, are provided for plugging into sockets on the generator trimmer panel on the aircraft. The ammeters in the test boxes may then be selected as required by means of switches mounted on the front panels. Voltage readings are made by setting the voltage selector switches on the trimmer panel in the aircraft at the appropriate position.

Note . . .

Test box No. 1 *is suitable for use only on aircraft NOT EMBODYING Mod.* 2454 (*provision of three ammeters in the rotary transformer circuits at the Air Electronics Officer's position*).

Test box No. 2 (*a No.* 1 *box modified by Mod. GE* 2845) *may be used on aircraft pre and post Mod.* 2454. *In tests on aircraft NOT EMBODYING Mod.* 2454, *IT IS ESSENTIAL THAT THE AMMETER SELECTOR SWITCHES SHOULD BE OPERATED TO THE* 100*m/v POSITION ONLY TO AVOID RISK OF BURNING OUT THE* 50 *m/v METER.*

Description of test box No. 1 (Mod. G.E. 1339)

2. A double-scale moving-coil voltmeter, calibrated 0–30 volts and 0–150 volts, a 100 m/v ammeter calibrated 0–300 amps. and four on/off generator circuit selector switches are all mounted on the front panel of the test box. The meters and the panel are protected by an additional panel of Perspex which has holes to provide access to the meter zero adjustment screws and to the four switches. Grommets in the side of the test box allow the six connector cables to pass into the canvas stowage which is fixed to the box. The meter panel, the additional Perspex panel and the beading on which it is supported are secured by round-headed screws engaging

in anchor nuts fitted to the box structure. A leather carrying handle is provided. The test box is illustrated in Fig. 3, whilst Fig. 1 shows the internal wiring.

Note . . .

The ammeters in these boxes have been re-calibrated 0–200 *amps.*

Use of the test box No. 1—voltmeter

3. The output voltage of any 112-volt generator may be checked by plugging the connector coded 112v. into the appropriate 112-volt socket provided on the trimmer panel in the aircraft and selecting the required position on the voltmeter selector switch. To check the output of the 28-volt rotary transformers, the test box connector coded 24v. must be plugged into the 28-volt socket on the trimmer panel. Each of the rotary transformers may then be selected for test as required by means of the selector switch provided on the trimmer panel. The readings are made on the voltmeter 0–30v. scale.

Use of the test box No. 1—ammeter

4. Each of the four ammeter connectors on the test box must be plugged into the appropriate ammeter test socket provided on the trimmer panel. Only the 112-volt systems may be tested. The on/off switches on the test box, engraved No. 1–No. 4, controlling each circuit to the ammeter, are spring-loaded to the off position. It is important that only one switch at a time should be pressed to the on position. Observe Note in Para. 1.

5. It is essential that the paragraphs relating to the 112-volt system and the 28-volt system voltmeter and ammeter sockets, in Sect. 5, Chap. 1, Group 2, should be studied before using the test box.

Description of test box No. 2 (Mod. G.E. 2845)

6. The front panel of the test box contains a double-scale moving-coil voltmeter calibrated 0–30v., and 0–150v., and also two ammeters calibrated 0–200 amps.; one ammeter has a 100 m/v movement whilst the other has a 50 m/v movement. Four two-way selector switches, spring-loaded to centre off, are mounted on the panel to allow either the 50 m/v ammeter on the 100 m/v ammeter to be selected at will and connected to the generator circuit required. The construction is generally similar to that of the No. 1 test box, an additional protective Perspex panel being fitted and the six connectors being carried in a canvas stowage fixed to the side of the test box. The test box No. 2 is illustrated in Fig. 4, while Fig. 2 shows the integral wiring.

Use of the test box No. 2—voltmeter

7. The output voltage of any 112-volt generator may be checked by plugging the connector coded 112v. into the appropriate 112-volt socket provided on the trimmer panel in the aircraft and selecting the required position on the aircraft voltmeter selector switch. The readings are taken on the 0–150v. scale. To check the output of the 28-volt rotary transformers, the test box connector coded 24v. must be plugged into the 28-volt socket on the trimmer panel. Each of the rotary transformers may then be selected for test as required by means of the selector switch provided on the trimmer panel. The readings are taken on the 0–30v. scale.

Use of the test box No. 2—ammeters

8. Each of the four ammeter connectors on the test box must be plugged into the appropriate ammeter test socket provided on the trimmer panel. Only the 112-volt system may be tested. The four switches on the test box are spring-loaded to centre off. When pressed to the right, the 50 m/v ammeter is connected in circuit; when pressed to the left, the 100 m/v ammeter is connected. It is important that only one switch at a time should be operated to an "on" position.

WARNING . . .

For Aircraft pre Mod. 2454—select 100 m/v.

For Aircraft post Mod. 2454—select 50 m/v.

9. It is essential that the paragraphs relating to the 112-volt system and the 28-volt system voltmeters and ammeter sockets, in Sect. 5, Chap. 1, Group 2, should be studied before using the test box.

SERVICING

Care and maintenance of the test boxes.

10. The test boxes should be handled carefully to prevent damage to the moving-coil movement of the meters. A damaged movement, however slight the damage, will give erroneous readings. Before testing the relevant circuit, check the meter for zero reading. Adjustment to the meter is effected by inserting a small screwdriver through an opening in the Perspex panel, engaging a slotted screw on the instrument face, and turning clockwise or anti-clockwise as required. A periodic check of the meters' accuracy against a first grade instrument should be carried out.

11. Frequent continuity and insulation tests should be carried out on the test boxes' wiring and connectors.

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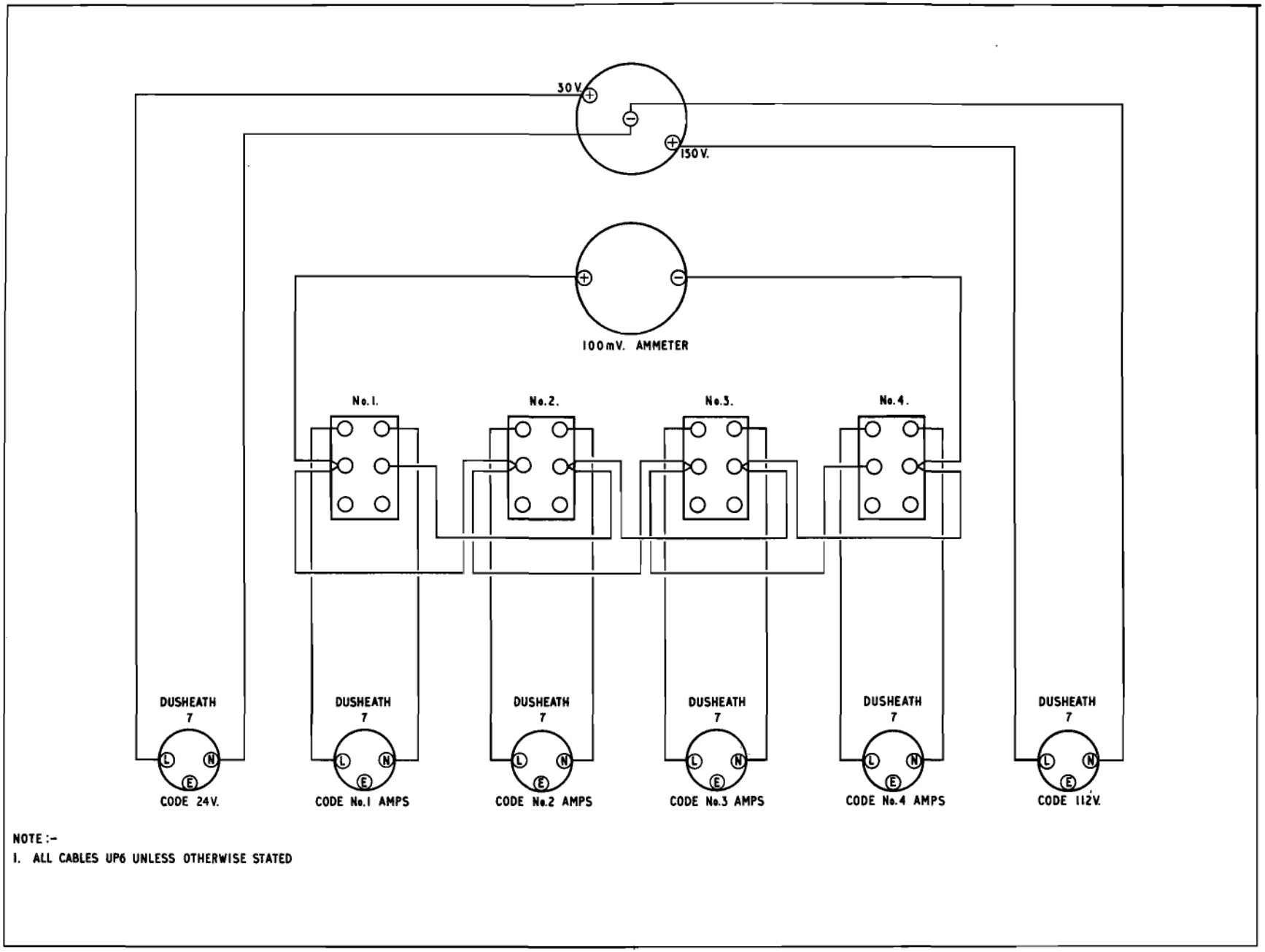

NOTE :-
1. ALL CABLES UP6 UNLESS OTHERWISE STATED

Fig. 1 Generator test box No. 1. (Mod. G.E. 1339)

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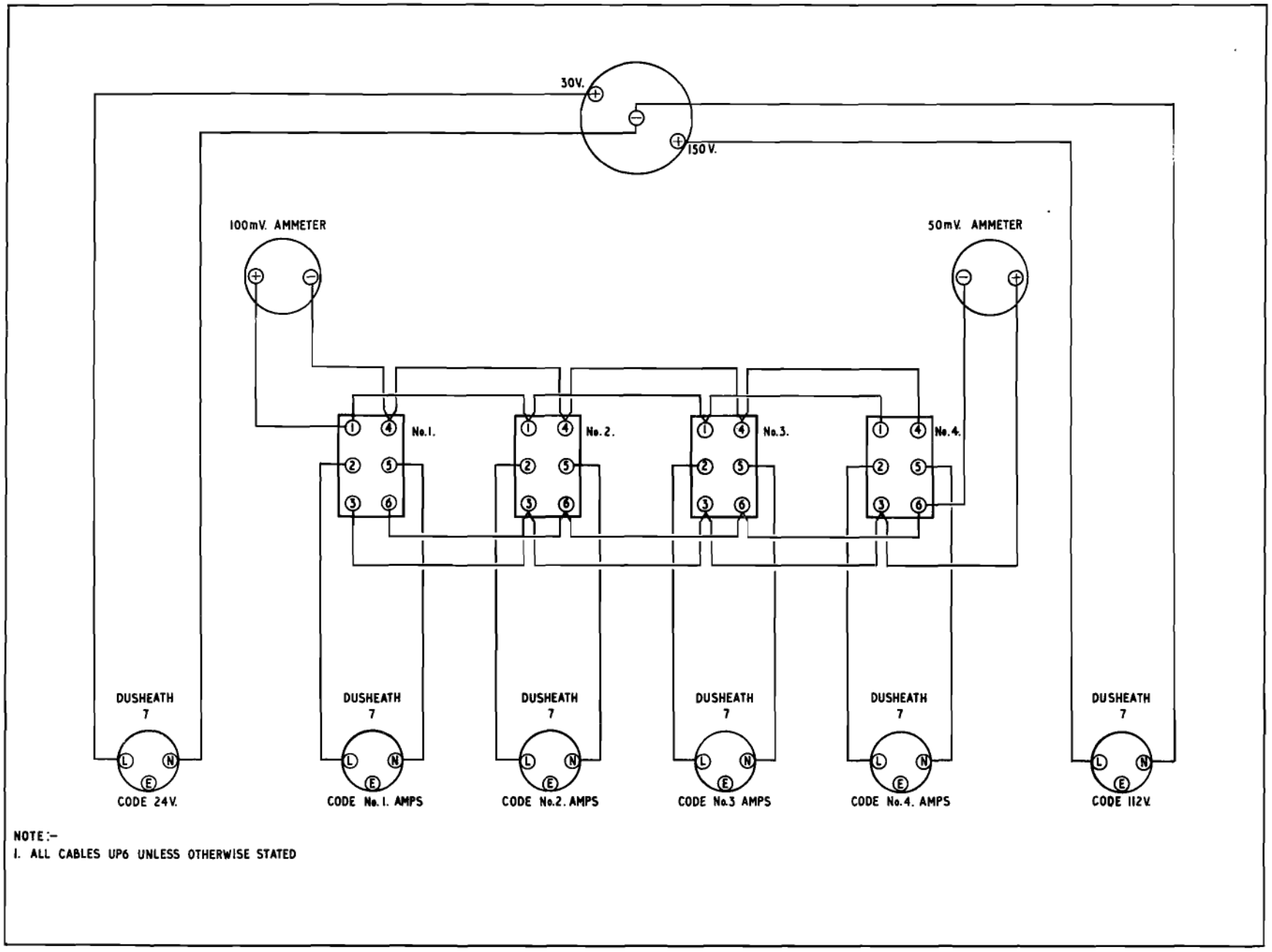

NOTE:-
1. ALL CABLES UP6 UNLESS OTHERWISE STATED

Fig. 2 Generator test box No. 2 (Mod.G.E.2845)

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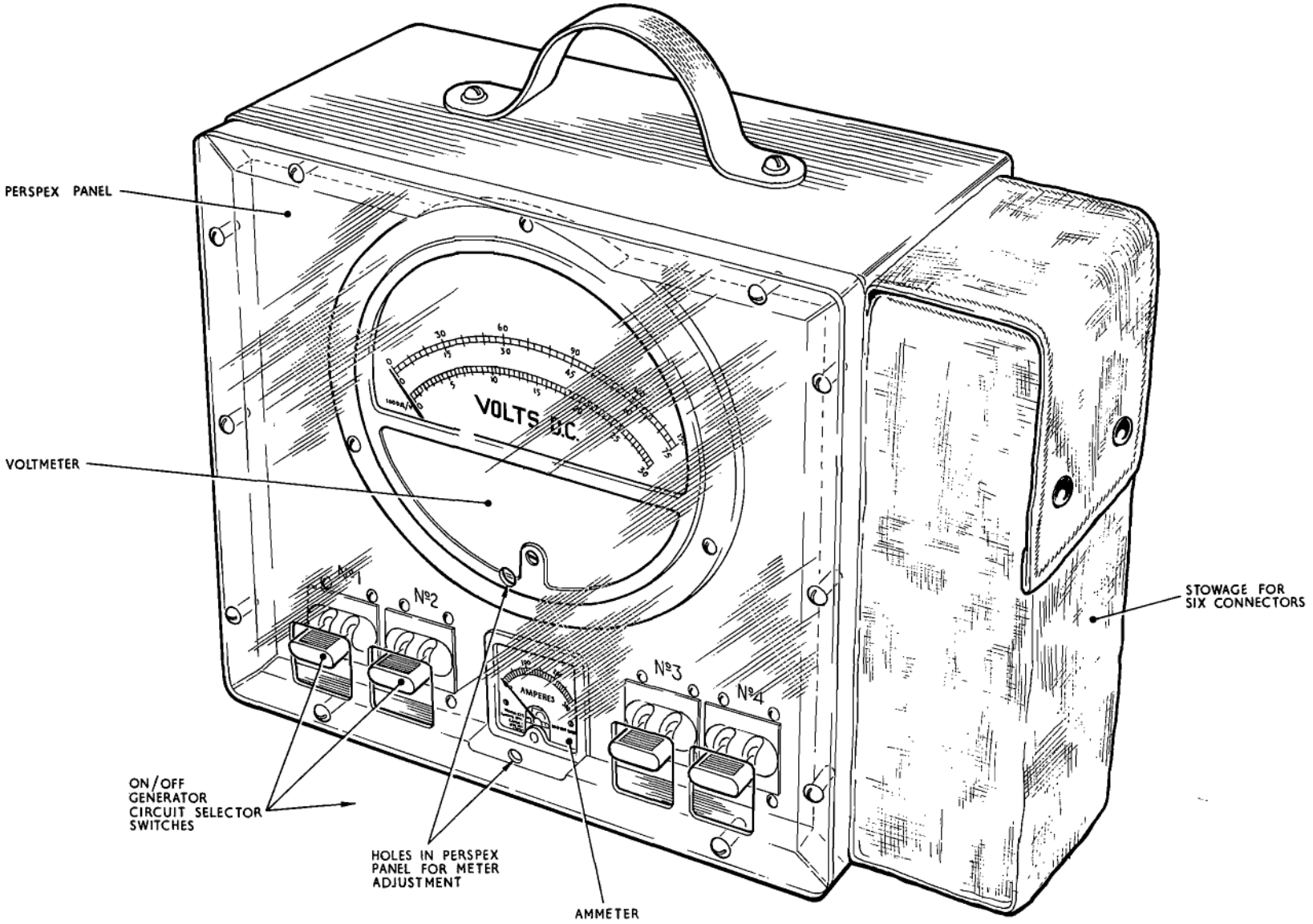

Fig. 3. Generator test box No.1 (Mod. G.E. 1339)

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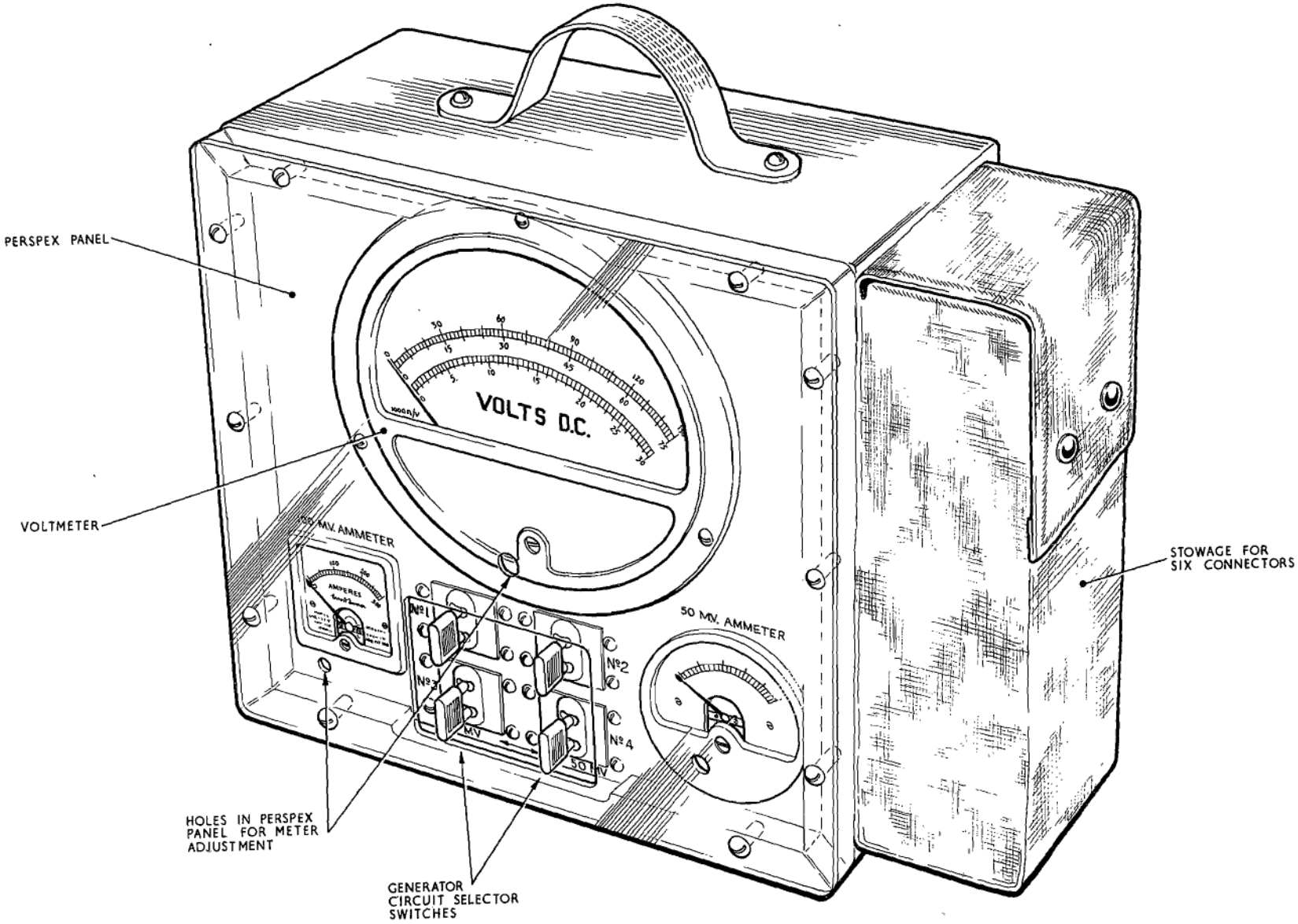

Fig. 4. Generator test box No.2 (Mod. G.E. 2845)

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