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Chapter 6

CANBERRA CONVERSION BOX

LIST OF CONTENTS

	Para.
<i>Introduction</i>	1
Description	
<i>General</i>	2
<i>Operation</i>	3

LIST OF ILLUSTRATIONS

	Fig.
<i>General view of the box</i>	1
<i>Release light sequence</i>	2
<i>Canberra conversion box circuit</i>	3

LIST OF TABLES

	Table
<i>Cable connections</i>	1

Introduction

1. The Canberra conversion box Ref. No. 5G/3647, fig. 1, has been designed to enable the Canberra 12/24 way installation to be tested using the portable test box (Ref. No. 5G/3197). The conversion box can be connected up in different ways to cater for the various roles of Canberra aircraft.

DESCRIPTION**General**

2. The conversion box comprises a junction box and a set of cables, the junction box providing the stowage space for the cables.

The junction box and cables are connected between the test box and the aircraft system to be tested. The junction box consists of eight 12 way sockets and three 18 way plugs (fig. 1). The eight 12 way sockets are connected to the aircraft plugs, and sockets, in the bomb bay, and the three 18 way plugs are connected to the test box plugs 1, 2 and 3, by means of leads with sockets at each end. The various combinations in which the aircraft and conversion box are interconnected for various bombing roles, together with the connector details are given in table No. 1. A circuit diagram of the junction box is given in fig. 3.

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TABLE NO. 1 CABLE CONNECTIONS

REF. NO.	QUAN-TITY	ROLE	CONNECTS TO	TERM	Identifica-tion	END A		END B				LENGTH
						POLE	POLE	Identification	TERM	CONNECTS TO		
5G/NIV/ER25 /60/1	5	Practice Bombing	Conversion Box Skt. 1-5	12 pole Pl. Ref. No. 10H/560360	Conversion Box	L M	Blue Red	Release socket	5 pole Pl. Ref. No. 5D/515	Practice Bombing Release Socket	19ft. 6in.	
5G/NIV/ER25 /60/2	1	Combined Practice Bombing and Fuzing	Conversion Box Skt. 6	12 pole Pl. Ref. No. 10H/560360	Conversion Box	L M	Blue Spot Red Spot	Release socket	5 pole Pl. Ref. No. 5D/515	Fuzing Unit	14ft. 6 in. 5ft.	
						D	4	Fuzing Unit	7 pole Pl. clipper			
5G/NIV/ER25 /60/3	3	(1.) 3x2—1000lb. (2.) 2x3—1000lb.	Conversion Box (1.) SK. 1, 3, 6 (2.) SK. 2 and 5	12 pole Pl. Ref. No. 10H/560360	Conversion Box	A B C D E F G	1 2 3 4 5 6 7	Release socket	7 pole clipper Pl. Ref. No. 5D/1733	Secondary Bomb Beam (1.) Stations 1, 3 and 6 (2.) Stations 2 and 5	19ft. 6in.	
5G/NIV/ER25 /60/4	3	All	Conversion Box 18 pole Pl. 1-3	18 pole Skt. Ref. No. 10H/0560210	Conversion Box	4 cores to be cut back. B, C, E and Q not connected. Remainder Pin to Pin.		Test Set	18 pole Skt. Ref. No. 10H/0560210	18 pole Pl. 1-3	19ft. 6in.	
	2	Aircraft Testing Less Secondary Bomb gear Beam	Conversion Box	12 pole Pl. Ref. No. 10H/560360	Conversion Box	A B C D E F G H J	A B C D E F G H J	Aircraft Bomb Bay	12 pole Skt. Ref. No.	Breeze plugs Aircraft Bomb Bay		

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Fig. 1. General view of the box

Operation

3. The operation of the test set is described in para. 12-26, Chap. 4 of this Section. This description will apply with the conversion box connected between the test set, and the aircraft, as there is no change in the basic operation. It will therefore help the reader to refer to the previous chapter whilst reading this one.

4. There are three basic bombing roles for which the conversion box is required. Testing is carried out with the secondary bomb beam in position. The roles are :—

- (1) 3 carriers with 2×1000 lb. bombs on each.
- (2) 2 carriers with 3×1000 lb. bombs on each.
- (3) Practice bombs.

5. For role No. 1 the conversion box is connected to stations 1, 3 and 6 on the secondary bomb beam via sockets 1, 3 and 6 on the conversion box. In this role the bomb release lines will be connected as follows:—

- (1) Station No. 1—bomb release lines 3 and 4.
- (2) Station No. 3—bomb release lines 5 and 6.

- (3) Station No. 6—bomb release lines 1 and 2.

As stated in para. 19 of Chap. 4, when the nose and tail fuzing is selected in the aircraft the appropriate lamp should light on the test set. The release lamp sequence is as shown on the role card, fig. 2 (a). The number next to each position on the role card indicates the lamp which should light on the test set the circuit of which is shown in fig. 7 of the previous chapter. The number within the circle shown on the role card indicates the release which is delivering a supply to that indicator lamp.

6. In role No. 2 the conversion box is connected to stations 2 and 5 on the secondary bomb beam using two of the cables used in role No. 1. In this role the bomb release lines will be connected as follows :—

- (1) Station No. 2—bomb release lines 2, 3 and 4.
- (2) Station No. 5—bomb release lines 1, 5 and 6.

The selection of nose and tail fuzing in this case will give the same indications as those for the previous test. The release lamp sequence is as shown on the role card, fig. 2(b).

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A	3 X 2 X 1000 LB ROLE	B	2 X 3 X 1000 LB ROLE
1C3		1C3	
2C3		2C3	
3C3			
C	PRACTICE ROLE	D	AIRCRAFT CIRCUIT ONLY
1C3		1C3	

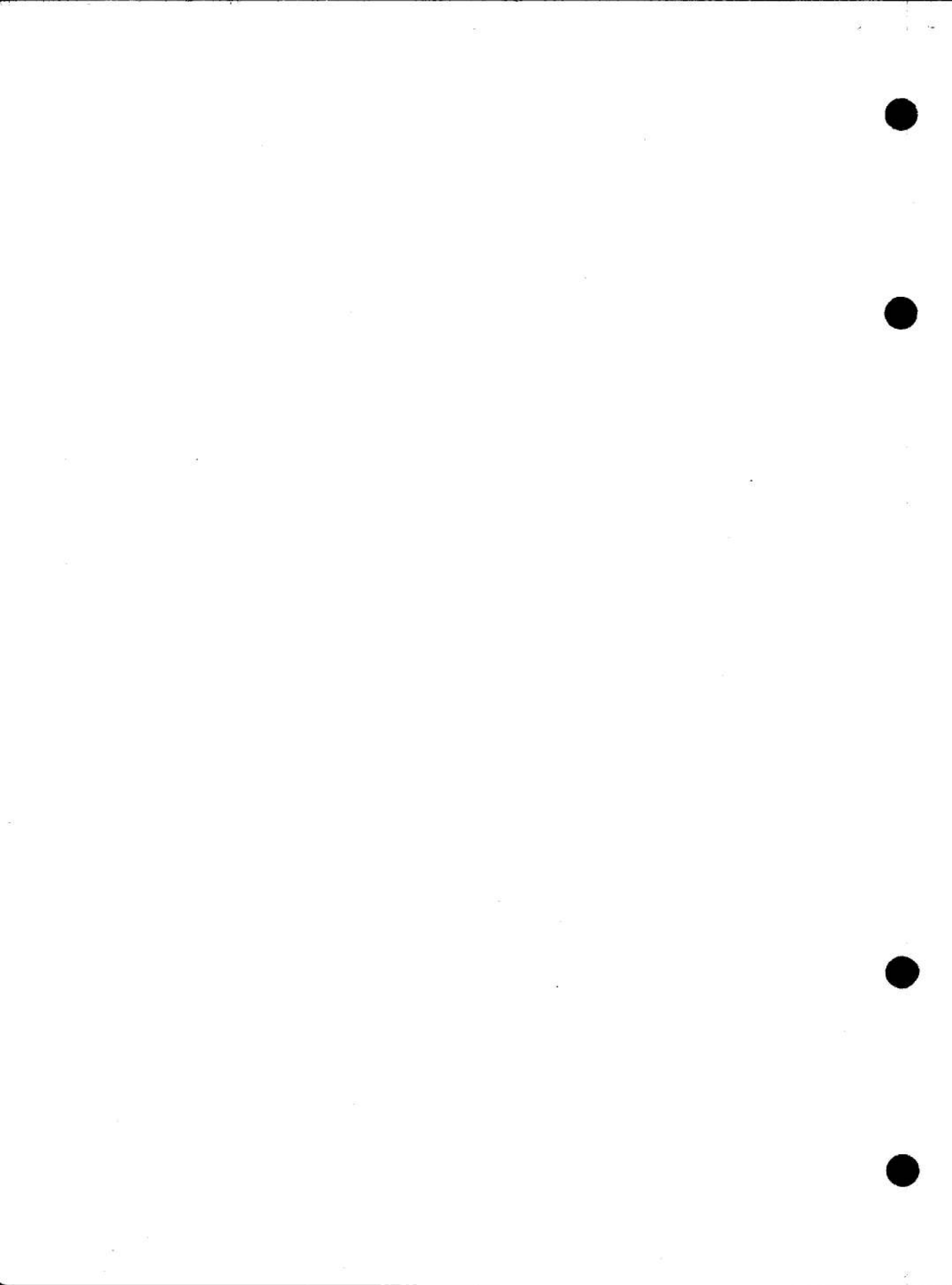
Fig. 2. Release light sequence

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7. In role No. 3 all six practice bombing stations are used and they are connected to sockets 1 to 6 on the conversion box. The release light sequence is shown on the role card, fig. 2(c). To test the aircraft without the bomb beam the two sockets on the conversion box marked "F" and "R" are connected to the two corresponding breeze plugs in the bomb bay. The release lamp sequence is as in fig. 2(d).

8. For all the above tests the three 18 way connectors on the conversion box numbered 1 to 3, connect with similar connectors on the test box. The cables used between the conversion box and the aircraft each carry a 12 pin plug at one end and at the other a 7 pin clipper plug to connect with the secondary bomb beam.

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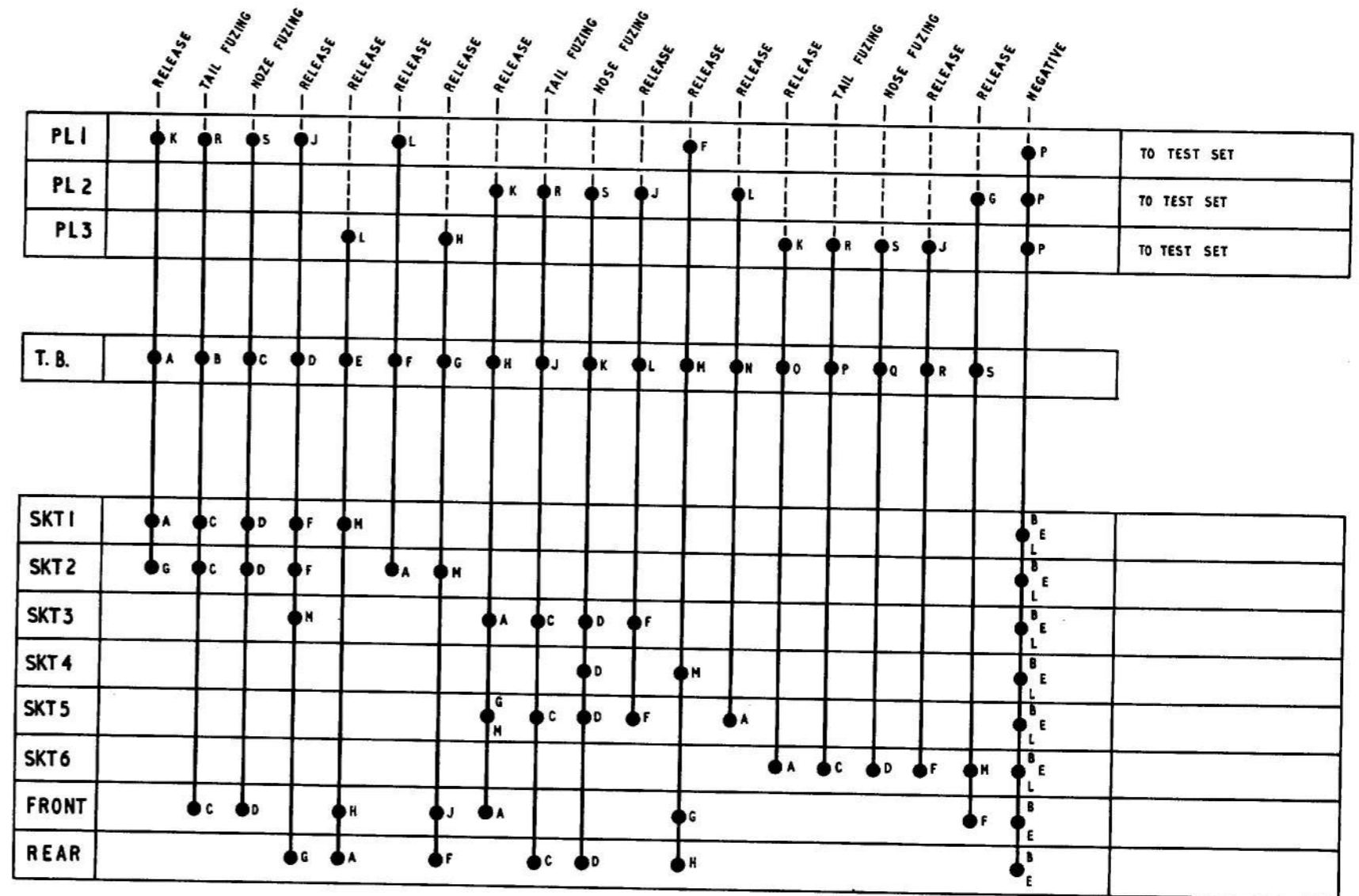


Fig.3

Canberra conversion box : circuit
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Fig.3

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