

TECHNICAL MANUAL

ELECTRON TUBE TEST SETS TV-7/U, TV-7A/U, AND
TV-7B/U

TM 11-5083

DEPARTMENT OF THE ARMY

CHANGES No. 2

WASHINGTON 25, D. C., 8 February 1956

TM 11-5083/TO 16-35TV7-6, 29 September 1953, is changed as follows:

The title of the manual is changed to read: **Electron Tube Test Sets TV-7/U, TV-7A/U, and TV-7B/U.**

The following information changes TM 11-5083 so that the manual applies to Electron Tube Test Set TV-7B/U, procured on Order No. 28481-Phila-55.

Page 1, chapter 1 (C1), add the following to the note: Electron Tube Test Set TV-7B/U, procured on Order No. 28481-Phila-55, is similar to Electron Tube Test Sets TV-7/U and TV-7A/U covered in TM 11-5083. Information in the technical manual which applies to the Electron Tube Test Sets TV-7/U and TV-7A/U applies to Electron Tube Test Set TV-7B/U unless otherwise specified.

Change "(5Y3WGT on the TV-7A/U)" to read **(5Y3WGT on the TV-7A/U; 5Y3WGT/A on the TV-7B/U)** in the following places in manual:

Page 2, paragraph 4b, line 4.

Page 32, paragraph 38, "Corrective measures" column, item No. 7.

Page 38, figure 13.1. V102 designation.

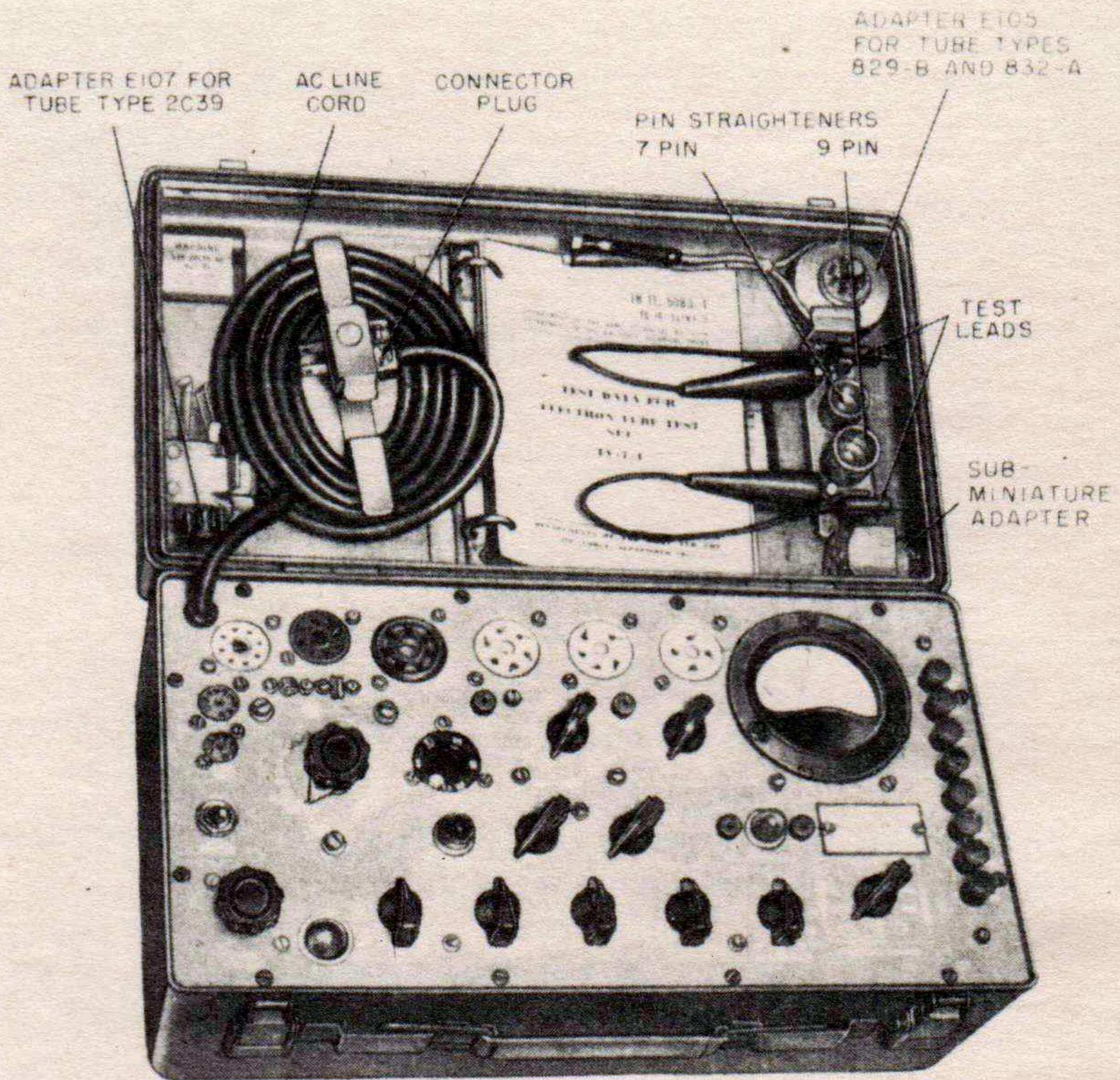
Page 39, paragraph 42a(6) and (7), line 2.

Page 42, figure 17.1, V102 designation.

Page 42, paragraph 42f, line 6.

Page 48, paragraph 45d(3); line 1.

Page 49, paragraph 51a, lines 1 and 2.



TM5083-C2-1

Figure 2.2 (Added) Electron Tube Test Set TV-7B/U, cover open.

Page 6, paragraph 8, delete the table and substitute:

TV-7/U	Quantity		Name	Reference symbol
	TV-7A/U	TV-7B/U		
2	1	1	Neon glow lamp, type NE-45	E101
2	1	1	Pilot lamp, type 47	E102
3	1	1	Fuse lamp, type 81	E103
1	1	1	Tube, type 83	V101
1			Tube, type 5Y3GT	V102
	1		Tube, type 5Y3WGT	V102
		1	Tube, type 5Y3WGT/A	V102

Page 10, figure 4 (C 1), change the "NOTE" to read: **ALL PANEL DESIGNATIONS APPLY TO THE TV-7A/U AND TV-7B/U.**

Page 13, paragraph 20 (C 1), make the following changes:
d, in line 2, add "and TV-7B/U" after TV-7A/U.
e, in lines 2 and 3, add "and TV-7B/U" after TV-7A/U.

Page 17, paragraph 22e(1), add the following after e(1):

Caution: Release the push button being depressed as soon as the pointer of the meter comes to rest. If the push button is depressed for too long a period of time, the tube under test may become damaged.

Page 28, paragraph 32c(1) (C 1), add the following after "5Y3WGT on the TV-7A/U:" or 5Y3WGT/A on the TV-7B/U.

Page 36, paragraph 42, make the following changes:

a(1), in line 2, change "10 percent" to read: **10 volts.**

a(2), in line 4, change "figure 14" to read: **figure 13.**

Page 38, figure 13, change the caption to read: *Simplified power supply circuit, TV-7/U.*

Page 38, figure 13.1 (C 1), change the caption to read: *Simplified power supply circuit, TV-7A/U and TV-7B/U.*

Page 39, figure 14, change the "NOTE" to read—

Notes. 1. ON TV-7A/U, RESISTORS R131 AND R132 ARE CONNECTED IN PARALLEL WITH RECTIFIER CR101.

2. ON TV-7B/U, VARIABLE RESISTOR R134 IS CONNECTED IN SERIES WITH 1-LINE ADJUST SWITCH S110-1 AND RESISTOR R124.

Page 39, paragraph 42, make the following changes:

b(1), add the following notes:

Notes. 1. On TV-7A/U, the rectifier bridge system is made up of copper oxide rectifier CR101 and resistors R123, R125, R131, and R132.

2. On TV-7B/U, the ac voltage obtained from points 19 and 37 of the power transformer is applied to the bridge network through variable resistor R134 and resistor R124.

b(2), in line 1, insert the following after resistor R124: (resistor R124 and variable resistor R134 on TV-7B/U).

c(1), add the following note:

Note. On the TV-7A/U and TV-7B/U, neon short test lamp E101 is shunted by resistor R109 and capacitor C105.

Page 40, figure 15, add the following note:

Note. ON THE TV-7A/U, AND TV-7B/U, CAPACITOR C105 IS CONNECTED IN PARALLEL WITH RESISTOR R109 AND NEON LAMP E101.

Page 42, figure 17, change the caption to read: *Simplified mutual conductance test circuit, TV-7/U.*

Page 42, figure 17.1 (C 1). Change the caption to read: *Simplified mutual conductance test circuit, TV-7A/U and TV-7B/U.*

Page 46, figure 20, add the following note:

Note. ON THE TV-7A/U AND TV-7B/U, CAPACITOR C105 IS CONNECTED IN PARALLEL WITH RESISTOR R109 AND NEON LAMP E101.

Page 51, paragraph 53 (C 1), chart, insert the following in the proper sequence:

Fig. No.	Caption
22.3	Internal view of Electron Tube Test Set TV-7B/U, front left oblique.
23.3	Internal view of Electron Tube Test Set TV-7B/U, front right oblique.
26.3	Internal view of Electron Tube Test Set TV-7B/U, direct rear view.
28.3	Electron Tube Test Set TV-7B/U, schematic diagram.

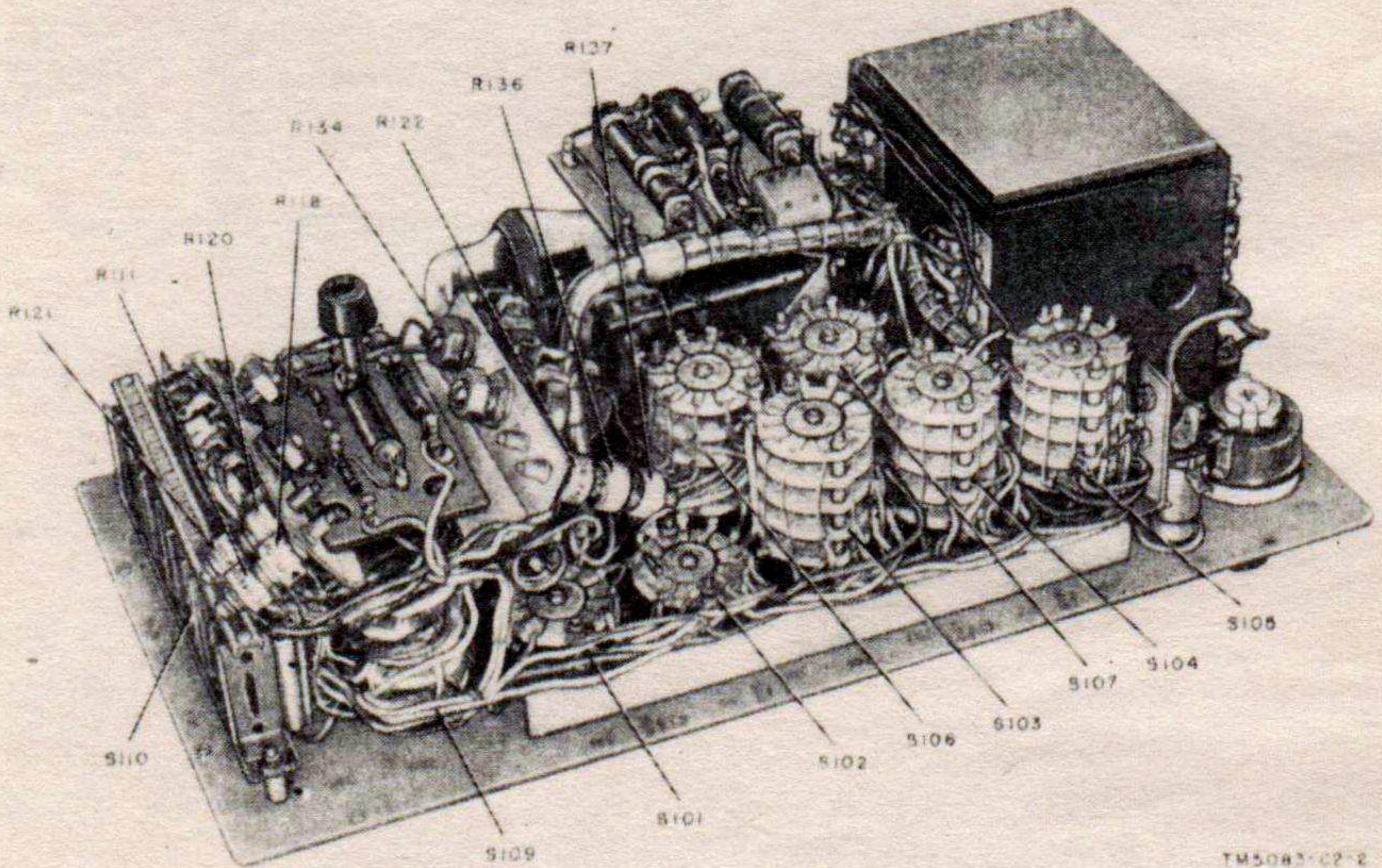
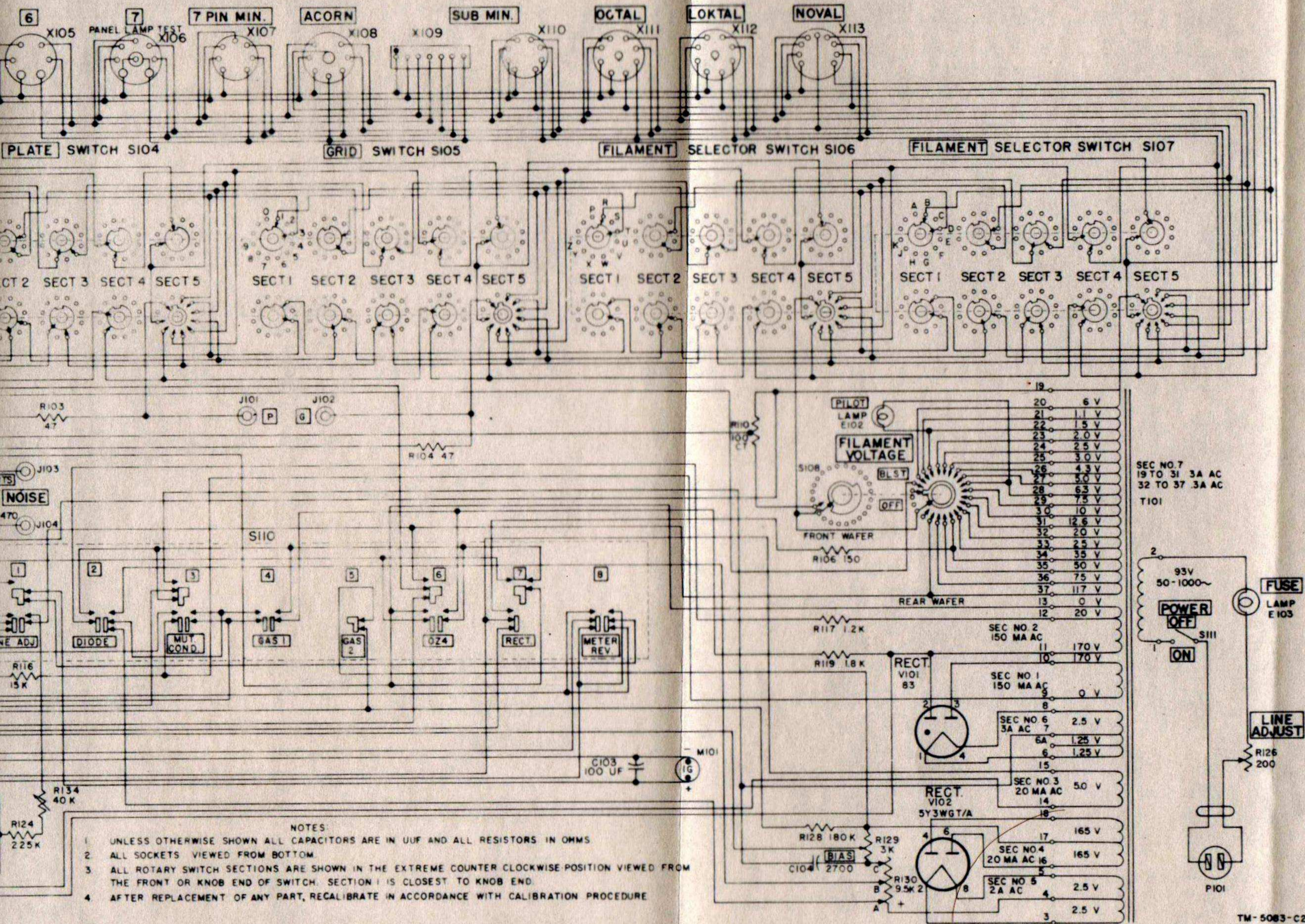


Figure 22.3 (Added) Internal view of Electron Tube Test Set TV-7B/U, front left oblique.



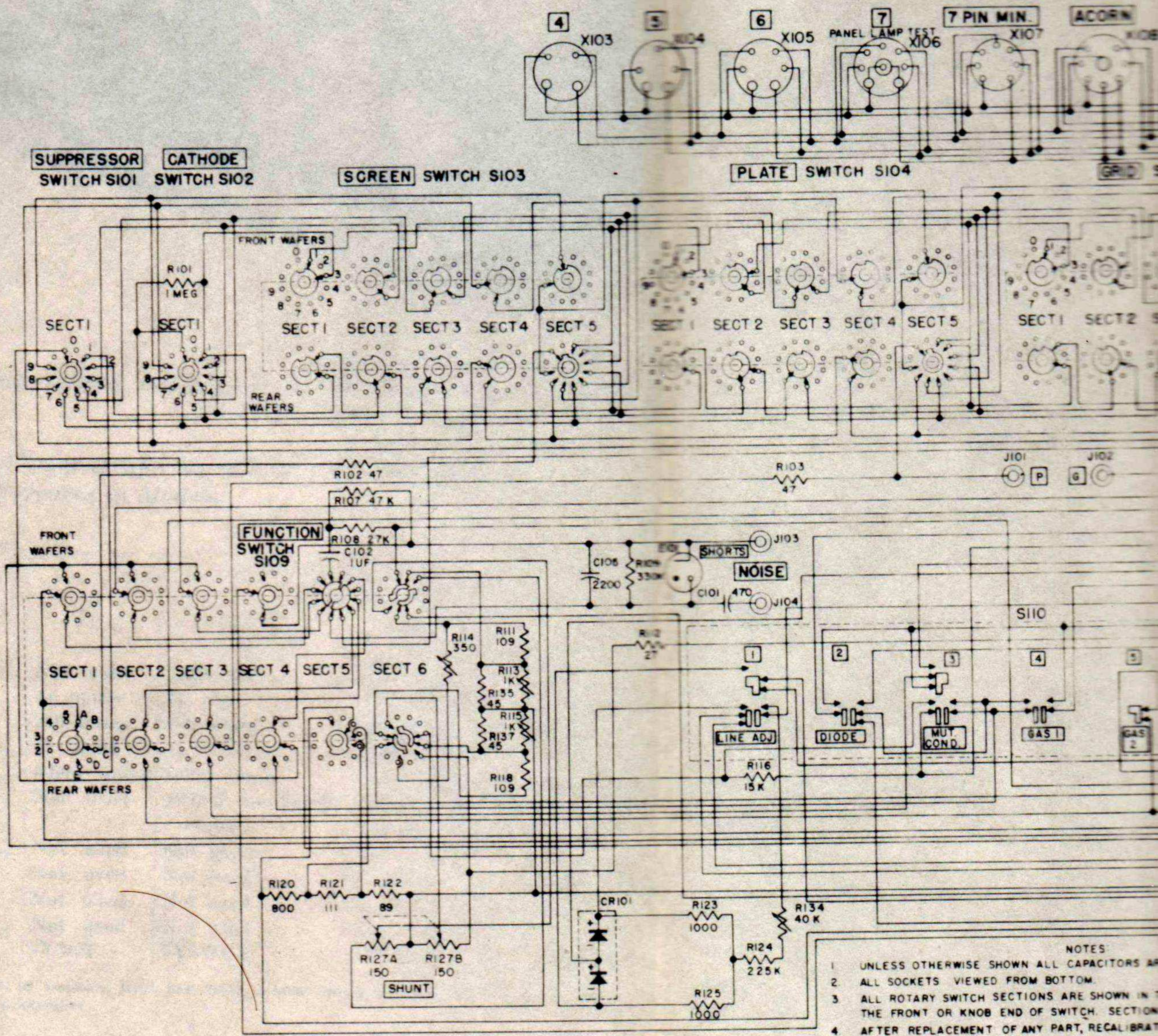


Figure 28.3. (Added) Electron Tube Test

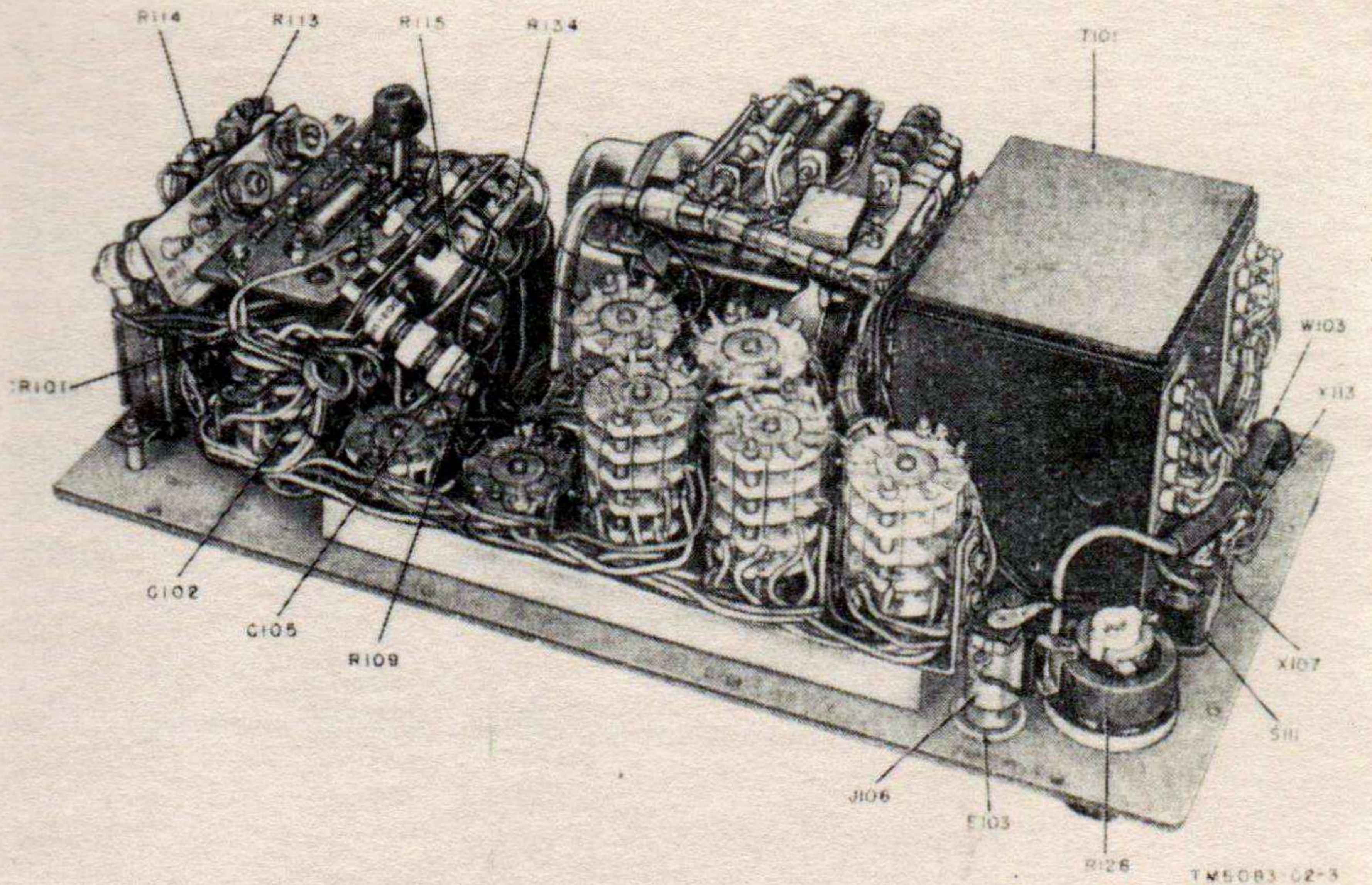


Figure 23.3. (Added) Internal view of Electron Tube Test Set TV-7B/U, front right oblique.

Page 57, paragraph 53, add the following after b:
 c. Differences in Models.

Component	Electron tube test set			
	TV 7/U	TV-7A/U		T B/U
		Serial No. 1 through 1200	Serial No. 1201 through 9192	
C105	Not used	2,200 uuf	2,200 uuf	2,200 uuf
R113	41 ohms	41 ohms	1,000 ohms	1,000 ohms
R114	280 ohms	280 ohms	280 ohms	350 ohms
R115	41 ohms	41 ohms	1,000 ohms	1,000 ohms
R130	8,500 ohms	8,500 ohms	9,500 ohms	9,500 ohms
R131 and R132.	Not used	10,000 to 20,000 ohms ¹ .	10,000 to 20,000 ohms ¹ .	Not used
R133	Not used	680 ohms	Not used	Not used
R134	Not used	Not used	45 ohms	40,000 ohms
R135	Not used	Not used	45 ohms	45 ohms
R137	Not used	Not used	Not used	45 ohms
V102	5Y3GT	5Y3WGT	5Y3WGT	5Y3WGT/A

¹The value of resistors R131 and R132, which ranges from 10,000 to 20,000 ohms, is determined in production.

Page 60, paragraph 58 (C 1), make the following changes:
 f. Change the subparagraph title to read: *Filament Voltage Table, TV-7/U.*
 f.1, change the subparagraph title to read: *Filament Voltage Table, TV-7A/U and TV-7B/U.*

Page 62, paragraph 60, make the following changes:

a. (C 1), in line 1, change "(figs. 26, 26.1, or 26.2)" to read: (figs. 26, 26.1, 26.2, or 26.3).

a(4) (C 1), add the following at the end of a(4): On the TV-7B/U, loosen and adjust clamp C (fig. 26.3) until the voltmeter indicates 40 volts plus or minus 1 volt.

a(7) (C 1), add the following at the end of a(7): On the TV-7B/U, press and hold the 3-MUT. COND. button. Loosen and adjust clamp A (fig. 26.3) of R130 until the voltmeter indicates 130 volts plus or minus 2 volts on the 150-volt scale.

c, change line 1 to read: **On the TV-7/U and TV-7A/U**, calibrate the meter line-adjust circuit as follows:

c.1 (Added). On the TV-7B/U, first determine and mark the midposition of resistor R134 (fig. 22.3). Then, calibrate the meter line-adjust circuit as follows:

(1) Follow the procedure outlined in paragraph 58a and b.

(2) Depress the 1-LINE ADJ. button.

(3) Adjust variable resistor R134 until the meter indicates 60 and tighten the shaft lock.

(4) If the setting of resistor R134 is approximately 45° or more to either side of the midposition, rectifier CR101 or resistor R134 may be defective. Correct the trouble.

(5) After the trouble has been corrected, repeat the calibration procedure outlined in (1) through (4) above.

d (C 1), change lines 1 and 2 to read as follows:

d. **On the TV-7A/U and TV-7B/U**, if variable resistor R114 (figs. 23.1, 23.2, or 23.3) is replaced, recalibrate range C as follows:

e (C 1), change lines 1 and 2 to read as follows:

e. **On the TV-7A/U and TV-7B/U**, if either variable resistor R113 or R115 (figs. 23.1, 23.2, or 23.3) is replaced, proceed with the calibration as follows:

Page 68, paragraph 62b (C 1), add the following at the end of

b. On the TV-7B/U, insert the test leads into the clips provided above and below the pin straighteners in the cover (fig. 2.2).

[AG 413.6 (7 Feb 56)]

By Order of *Wilber M. Brucker*, Secretary of the Army:

MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

Official:

JOHN A. KLEIN,
Major General, United States Army,
The Adjutant General.

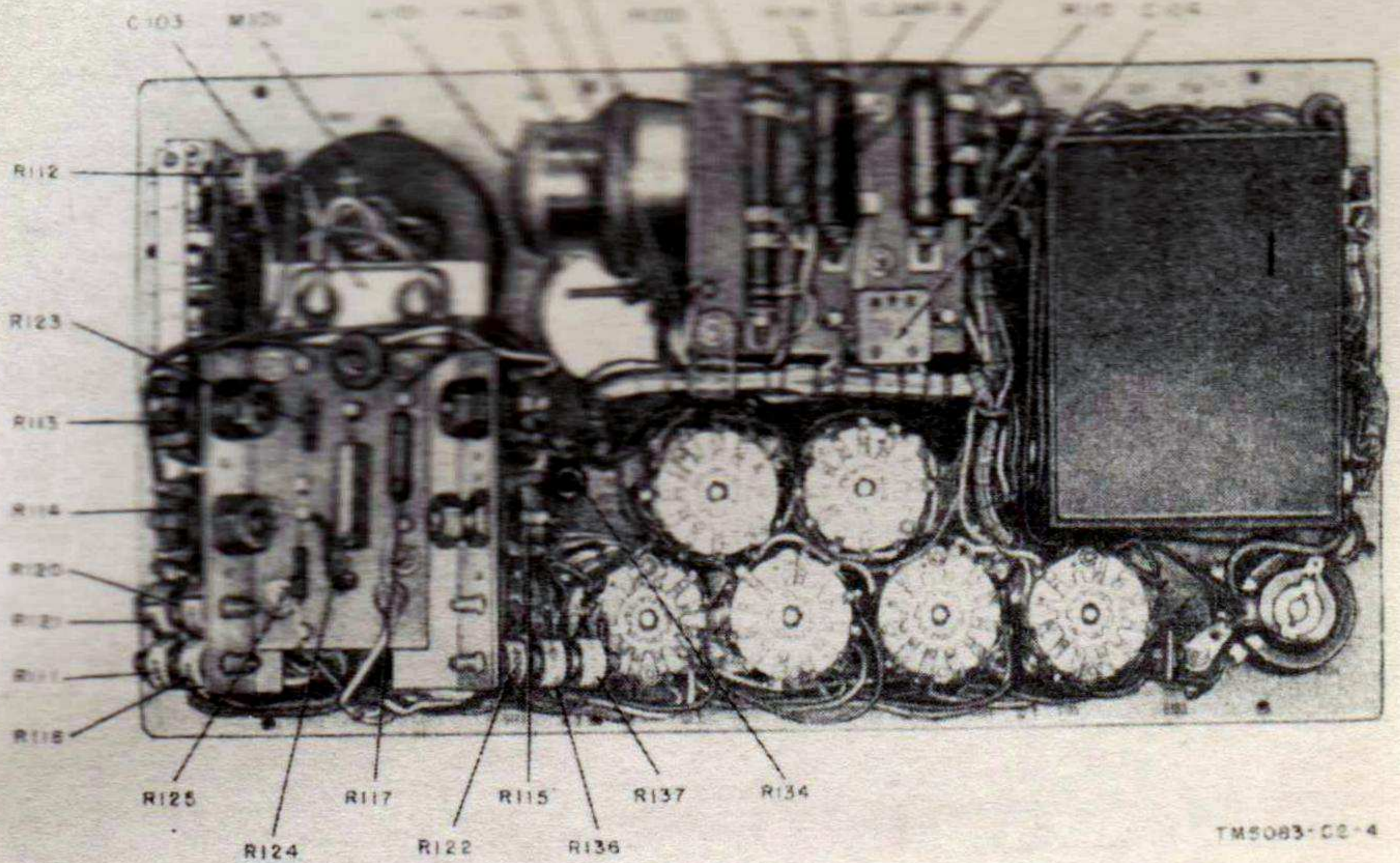


Figure 26.3. (Added) Electron Tube Test Set TV-7B/U, direct rear view.

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