Radio Shack®

Service Manual

26-1120

TRS-80

LEVEL II BASIC KIT (ROM)

Catalog Number: 26-1120

CUSTOM MANUFACTURED IN U.S.A. BY RADIO SHACK TC A DIVISION OF TANDY CORPORATION

TRS-80
Level II BASIC Kit (ROM)

Before beginning the Level I BASIC to Level II BASIC modification, determine whether the TRS-80 Microcomputer is a 4K or a 16K machine.

DISASSEMBLY

1. Position the computer with the key caps down. Use a padded surface; the key caps are easily scratched.

2. Remove the six screws from the bottom of the case. Notice the three different screw lengths and set them aside in pairs.

3. Set the computer on its feet in operating position and carefully separate the top of the case from the bottom.

NOTE

LED mounting differences (refer to Figure 1):

There are two types of LED mounting positions. A double-sided plated-hole Keyboard PCB uses an LED mounted into the top half of the case through the use of a socket and a retainer ring. Long wires connect the LED to the Keyboard PCB. Slip the ring off the socket body using needlenose pliers. Allow the ring to slide down to the Keyboard PCB. Use an eraser-tipped pencil to push the LED down through the plastic case from the top. You can then remove the LED from underneath the case. Bend the LED leads slightly to prevent the retainer ring from getting lost.

The second mounting technique has the LED soldered directly to a single-sided Keyboard PCB. No retainer ring is used because the LED is not held by the top of the case. The top half of the case simply fits over the Keyboard and the LED (see the Inset, Figure 1).

4. Set the top of the case aside. Lift the Keyboard off of the plastic bosses. **Avoid putting undue strain on the interconnect cable at the lower left corner of the case.**

5. Notice the five PCB spacers – 3/8" (9.5 mm) long – between the Keyboard PCB and the Logic PCB. Make a mental note (refer to Figure 1) of which plastic bosses the spacers are on, then remove them.

6. Carefully lift the Logic Board out of the main case while holding both Boards. **Do not put undue strain on the interconnect cable!**

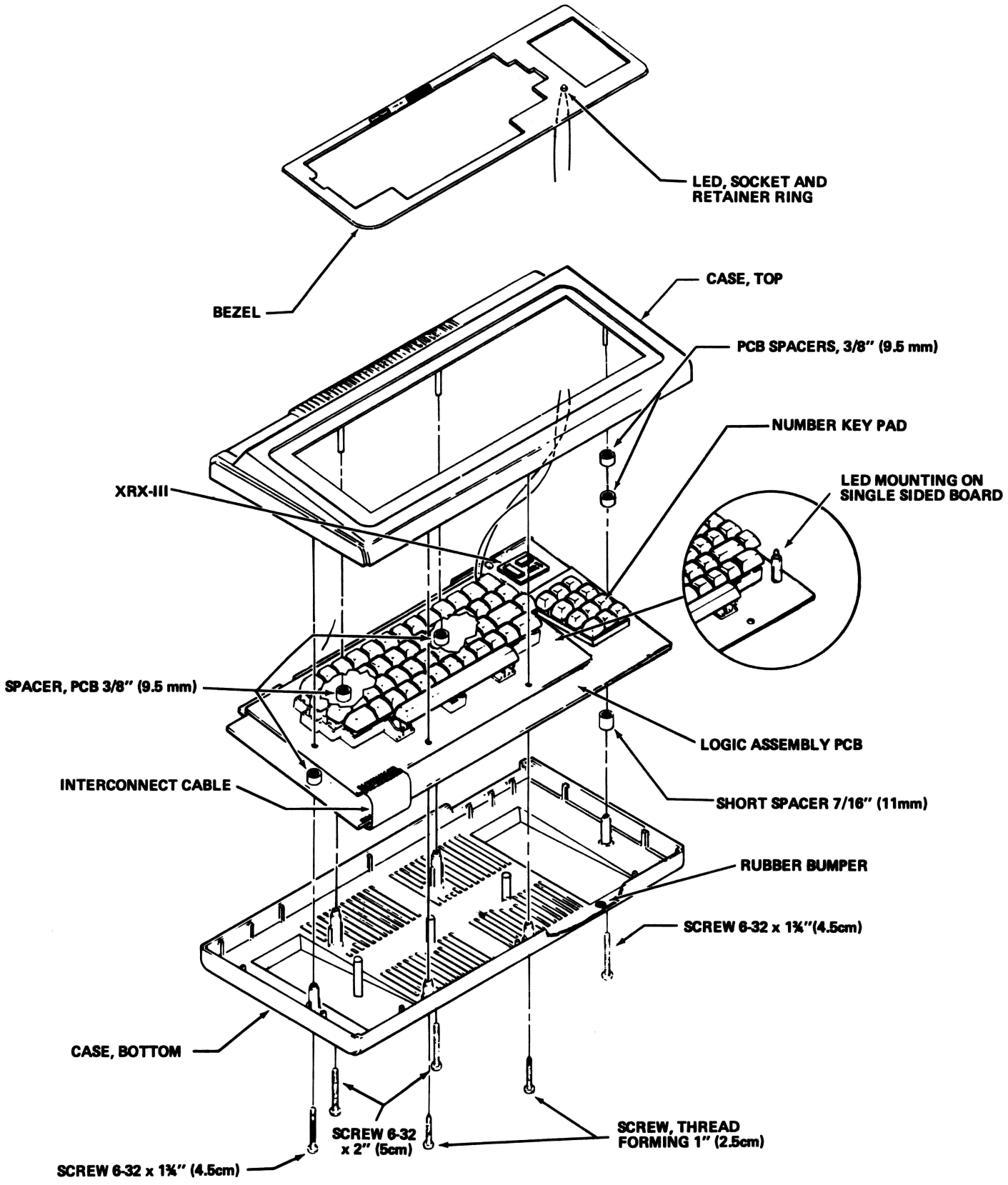

FIGURE 1. DISASSEMBLY

PROCEDURE

See Figure 2 and perform the following steps:

1. Remove the DIP Shunt that is presently installed in the Z3 location.

2. Remove Integrated Circuits Z33 and Z34. They will not be reinstalled.

3. For machines with white sockets in the Z33 location, use a sharp knife to trim off the lips of the socket.

NOTE

On 4K and 16K machines using a Level "A" Logic Board (TRS-80 1700069A), the 16-pin DIP Shunt will not fit into the 14-pin socket. Install the DIP Shunt in the socket so that pins 8 and 9 hang over the end of the socket.

4. Install the new DIP Shunt in the Z3 socket.

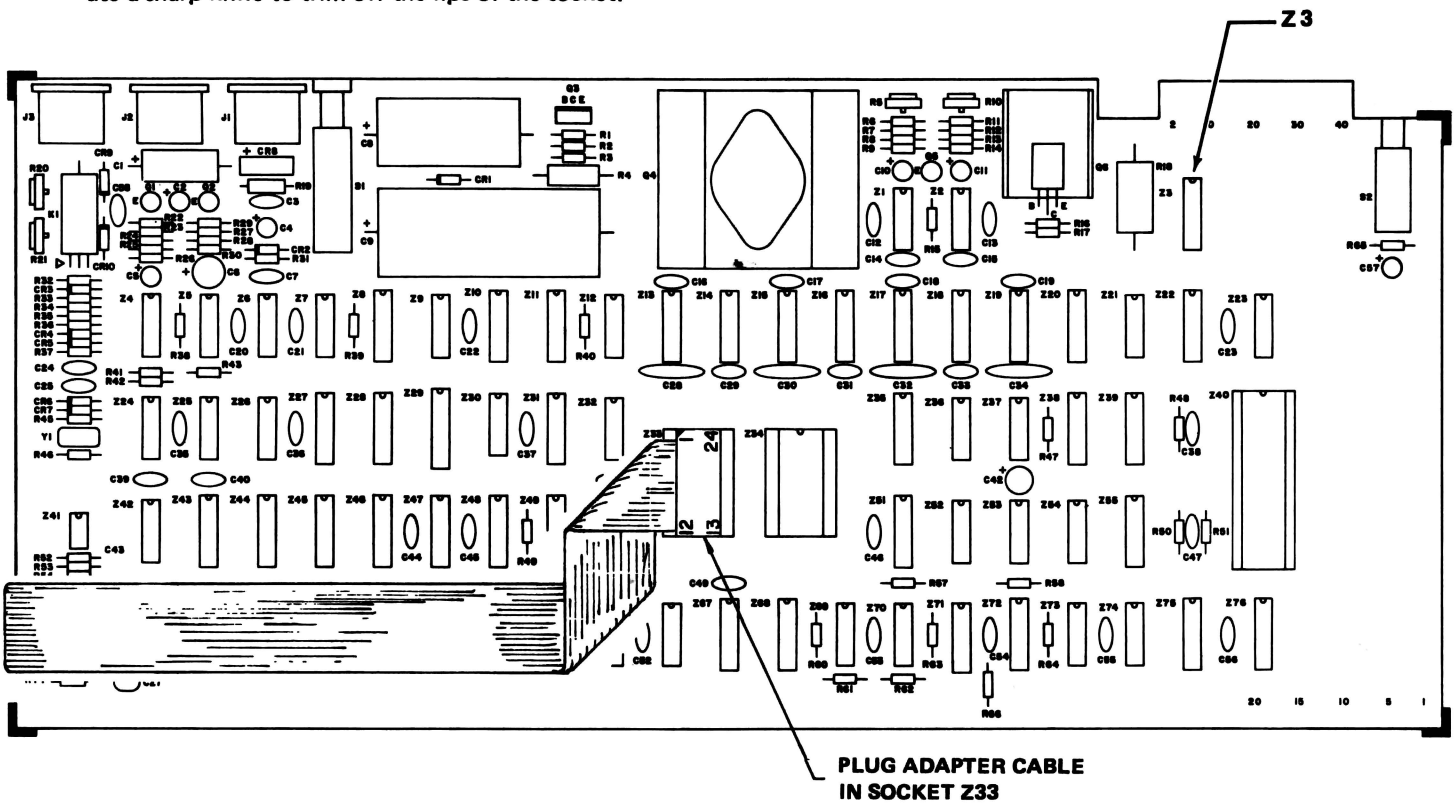

FIGURE 2. LOGIC PRINTED CIRCUIT BOARD (TOP VIEW).

5. If you have a 4K machine, cut the DIP Shunt jumpers between pins 3 and 14, 4 and 13 and 5 and 12 as shown in Figure 3A.

6. If you have a 16K machine, no cuts are required (see Figure 3B).

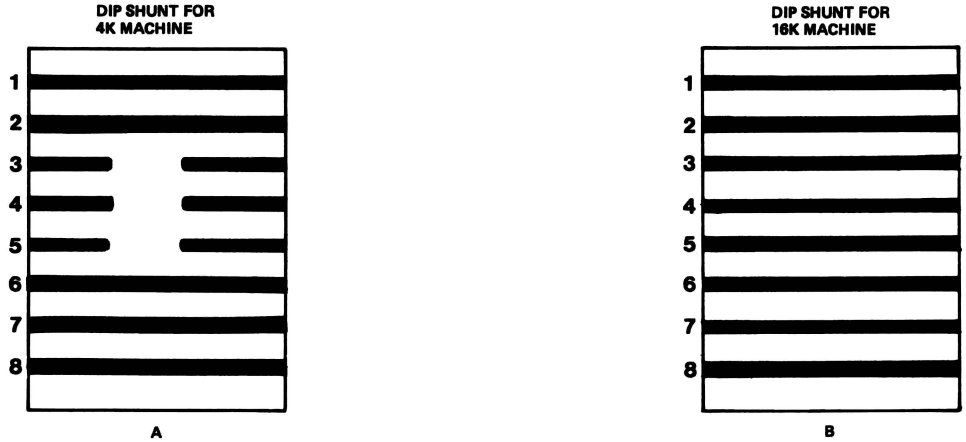

FIGURE 3. DIP SHUNTS.

CAUTION

The plug on the cable assembly is very easily damaged. If you bend the pins, you will break them. The cable connector pins are numbered 1 through 24. Ensure that pin 1 of the cable connector matches pin 1 of the Z33 socket.

7. Install the cable connector into the Z33 socket.

8. Dress the cable toward the left side of the Board as illustrated in Figure 2.

9. Remove the backing from the double sided tape that is attached to the Level II BASIC Board.

10. Turn the Logic Board over and position the Level II BASIC Board as shown, then press into place.

11. Connect and solder the 6-Conductor Ribbon Cable as shown in Figure 4.

NOTE

Perform steps 12 and 13 only on "A" and "D" Level Boards.

12. Solder the 220 ohm 1/2 watt resistor between J3 - 4 and J3 - 2.

13. On the Logic Board edge connector, cut the etch on pin 39. Then solder a jumper wire between pin 39 and pin 37.

14. Before reassembly, align the left edges of the Keyboard PCB and the Logic Board PCB (as viewed from the front of the Keyboard).

15. Now reassemble the case, making sure that the LED is seated securely (press it in until it snaps into place).

16. Affix the Level II BASIC label to the bottom of the case. Oh yes, don't forget to lacquer a screw head to maintain the warranty.

NOTE

Be sure that you send the LEVEL II Manuals and Tapes to the customer when you return the modified Computer.

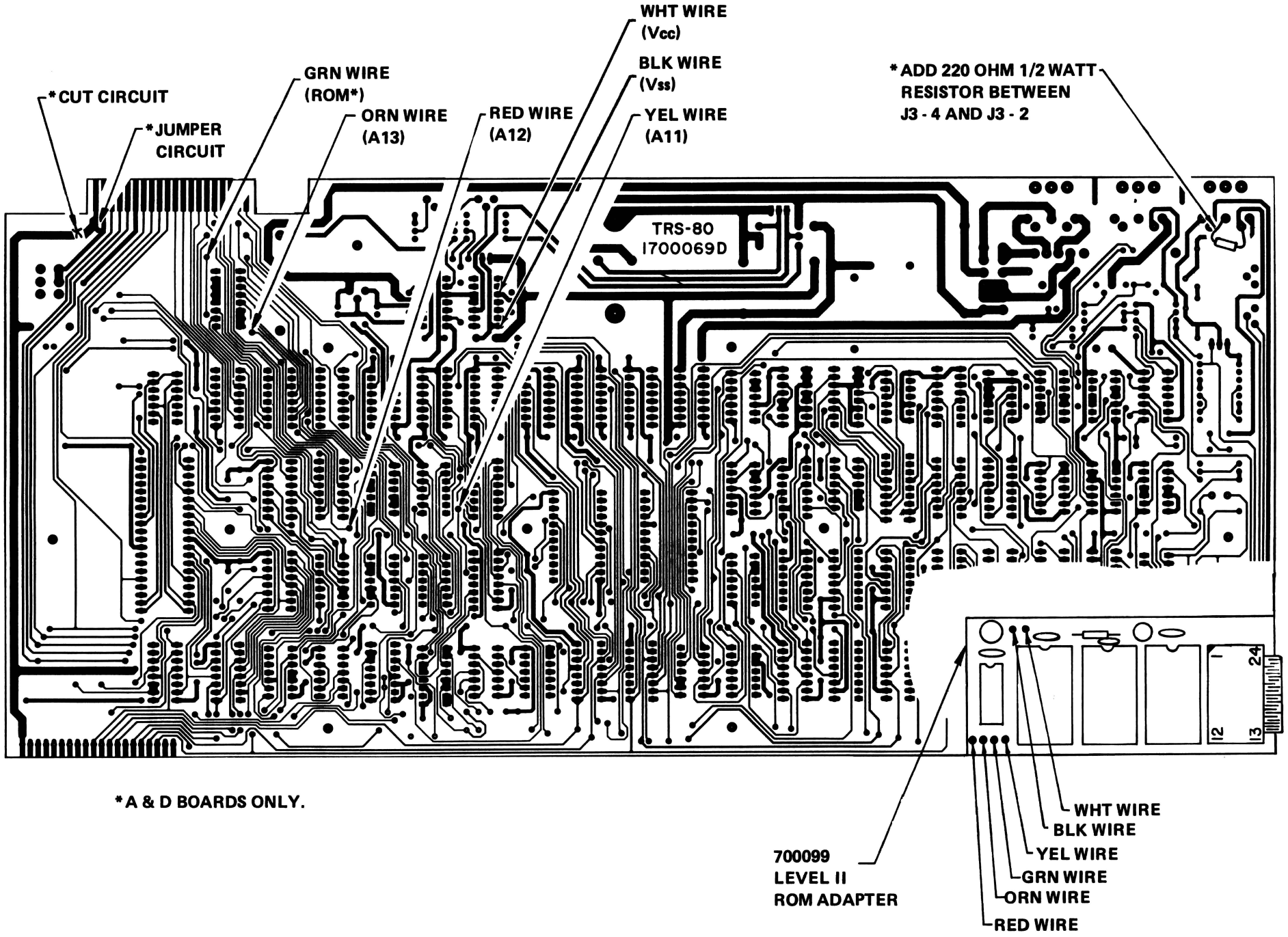

FIGURE 4. LOGIC PRINTED CIRCUIT BOARD
(BOTTOM VIEW).

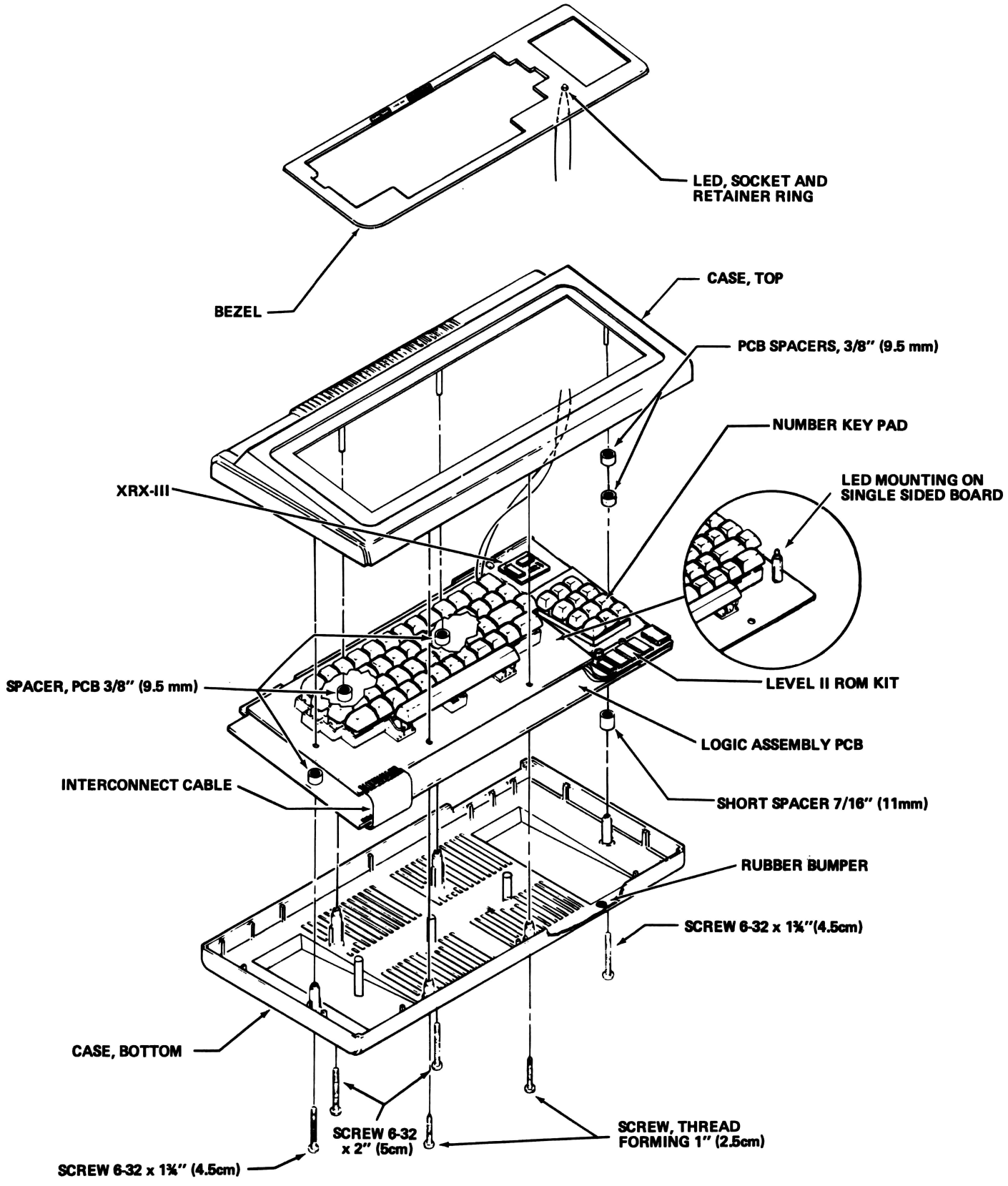

FIGURE 5. EXPLODED VIEW OF TRS-80 MICROCOMPUTER

PARTS LIST

Description	Quantity	Part Number
Assembly, Level II ROM Adapter	1	9112002
Cassette Tape, Recorded Program — Conversion, 4K, Side 1 — Conversion, 16K, Side 2	1	8791001
Manual, Program Conversion and Data Conversion	1	8749068
Cassette Tape, Recorded Program — KBFIX, Side 1 — RELO, Side 2	1	8791013
Manual, Keyboard Debounce and Real Time Clock	1	8749069
Cassette Tape, Recorded Program — Data Conversion	1	8791002
Manual, Level II BASIC Reference	1	8747001
DIP Shunt, 16-pin	1	8489001
* Resistor, Fixed, 220 ohm, 1/2W, 5%	1	8217122
Cable, connecting	1	8709011
Cassette Tape, Recorded Program — Blackjack, Level II, Side 1 — Backgammon, Level II, Side 2	1	8791003
Manual, Blackjack/Backgammon	1	8749009

* Used only on "A" and "D" level Boards.

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