

INSTALLATION INSTRUCTIONS FOR INSTALLING A RECORDER ACCUMULATOR UP-GRADING KIT IN A NATIONAL VENDORS[®], ACER 5220, ACER 5230, ACER 5230A, ACER 5231, OR ACER 5231A COIN MECHANISM

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. FIGURE 1 SHOWS ALL THE PARTS IN THE KIT. IF ANY PARTS ARE MISSING, CONTACT NATIONAL VENDORS' PARTS DEPARTMENT IMMEDIATELY.

These instructions cover the procedure for installing a Recorder Accumulator Up-grading Kit in a National Vendors ACER 5220, ACER 5230, ACER 5230A, ACER 5231, or ACER 5231A Coin Mechanism. This Kit reforms the Coin Mechanism to increase the maximum vending price from \$1.25 to \$1.50. The new vending price range will be 5¢ to \$.150 in 5¢ increments.

NOTE

In order to increase the vending price range from \$1.25 to \$1.50 on FM-72 Merchandisers, the \$1.50 Price Board Assembly and Monetary Harness must be ordered separately.

Read these instructions carefully and thoroughly before installing the Kit. Retain these instructions for part number and installation information.

These instructions apply to two different Kits.

Kit, Part Number 5230-230, applies only to ACER 5220, ACER 5230, or ACER 5231 and contains the following parts:

Part Number	Description	Quantity
5230-232	Printed Circuit Board	1
5250-214	Accumulator Assembly	1
5230-238	ACER Recorder Accumulator	
	Pakaged Parts consists of:	1
5201-290	Upgrading Label	1
5201-352	No.3 External Tooth Lockwasher	2
5220-215	Switch Housing	1
5220-216	Switch Board Spacer	4
5220-218	No.8-32 x 3/8 Nylon Screw	4
9900-078	No.6-32 Nut W/LW	3
9900-124	No.6-32 x 1/4 PHS Screw	3
9900-129	No.4-24 x 1/4 PHS T/C Screw	2
5250-207	Switch Arm Assembly	1
5230-235	Installation Instructions	1
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CAUTION

Use a sharp knife or scissors to cut the plastic packing away from the Accumulator Assembly included in the Kit. DO NOT bend or cut the Trip Wires while removing the plastic packing.

Kit, Part Number 5230-234, applies only to ACER 5230A, or ACER 5231A and contains the following parts:

Part Number	Description	Quantity
5250-208	Printed Circuit Board	1
5250-214	Accumulator Assembly	1
5230-238	ACER Recorder Accumulator	
	Pakaged Parts consists of:	1
5201-290	Upgrading Label	1
5201-352	No.3 External Tooth Lockwasher	2
5220-215	Switch Housing	1
5220-216	Switch Board Spacer	4
5220-218	No.8-32 x 3/8 Nylon Screw	4
9900-078	No.6-32 Nut W/LW	3
9900-124	No.6-32 x 1/4 PHS Screw	3
9900-129	No.4-24 x 1/4 PHS T/C Screw	2
5250-207	Switch Arm Assembly	1
5230-235	Installation Instructions	1
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Special Requirements: Petroleum Jelly

CAUTION

Use a sharp knife or scissors to cut the plastic packing away from the Accumulator Assembly included in the Kit. DO NOT bend or cut the Trip Wires while removing the plastic packing.

TO INSTALL THE KIT

CAUTION

All parts of the Kit must be installed or the Coin Mechanism will not work.

NOTE

Hardware, such as screws, nuts, washers, etc., removed during parts removal should be placed in an envelope. The envelope should be labeled to show where the parts came off the Coin Mechanism. The envelope should then be stored until the parts in the envelope are used when the Coin Mechanism is reassembled.

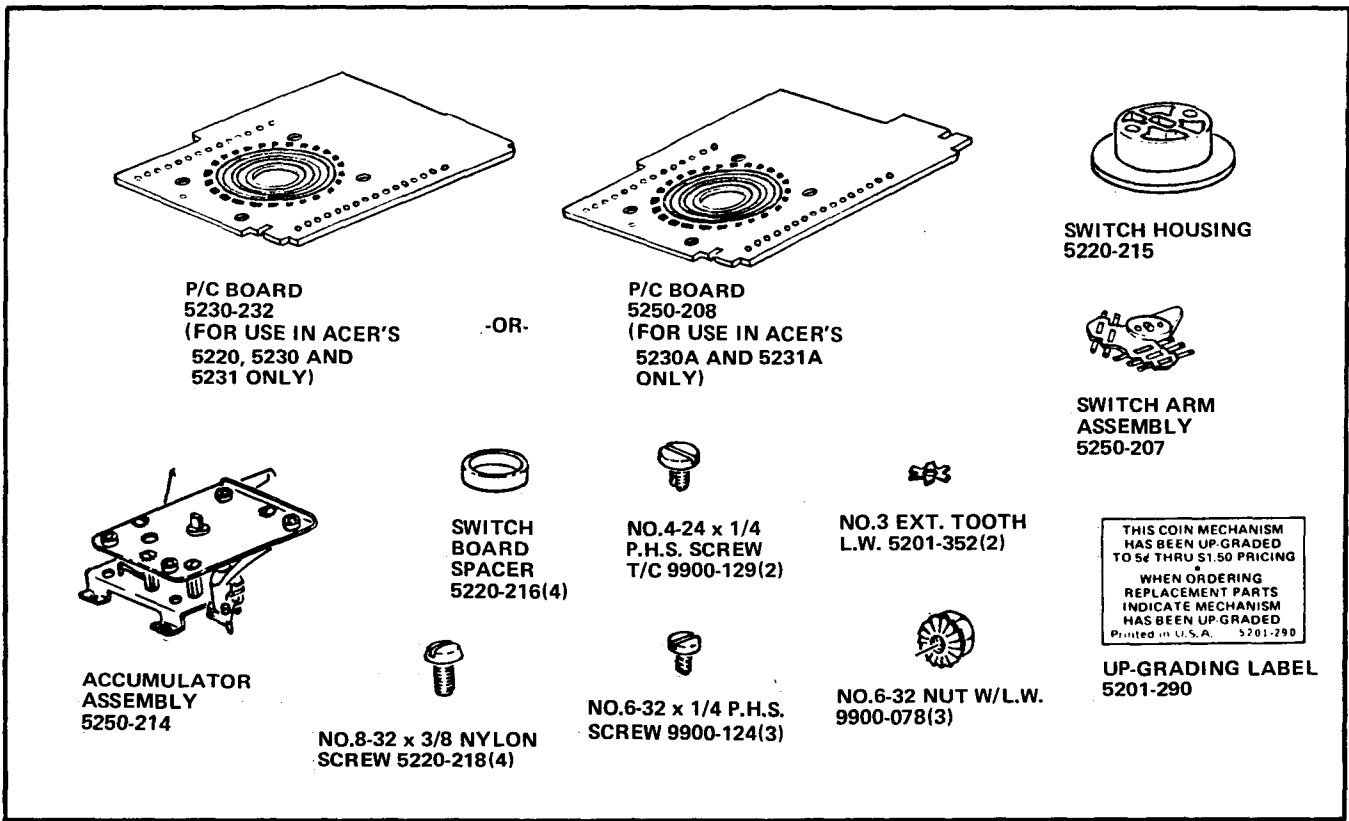


FIGURE 1

- A. Remove the Coin Mechanism from the Merchandiser.
- B. Remove the Slug Rejector Assembly from the Coin Mechanism.
- C. Place the Coin Mechanism on a flat surface with the Recorder Cover Plate up and the bottom end of the Coin Mechanism toward you.
- D. Remove the Upper Cover Plate as follows:
 1. Depress the Upper Cover Plate Latch and open the Cover Plate.
 2. Remove the two Screws attaching the bottom of the Upper Cover Plate to the right and left walls of the Rear Plate Assembly of the Coin Mechanism.
 3. Remove the Upper Cover Plate.
- E. Remove the eight Screws which attach the Escrow Cover and remove the Escrow Cover. The Screws are located on the right hand side of the Escrow Unit Assembly.
- F. Remove the Nickel Tube and Dime Tube as follows:
 1. Turn the Fastener on the Tube Retainer Assembly counter-clockwise and remove the Tube Retainer Assembly.
 2. Remove the Nickel Tube and Dime Tube.
- G. Remove the Recorder Unit Assembly as follows:
 1. Remove the Plugs of the Vending Pricing Coded Wires from the Pricing Receptacles on the Printed Circuit (PC) Board.
 2. Remove the Vending Pricing Coded Wires from under the plastic Wire Clip attached to the PC Board.

NOTE

Step G-3, below, applies only to ACER 5220, ACER 5230, or ACER 5231.

3. Remove the Mechanism Harness from under the Wire Clip at the right hand center of the Recorder Unit Assembly.
4. Turn the Coin Mechanism so the left sidewall is toward you.
5. Remove the two Screws which attach the Recorder Unit Assembly to the left sidewall of the Rear Plate Assembly.

6. Turn the Coin Mechanism so the bottom end is toward you.

NOTE

The Screw in step G-7, below, has a Fiber Washer on the rear side of the Recorder Unit Assembly. Loosen the Screw only until the Recorder Unit Assembly is free of the Rear Plate Assembly. DO NOT remove the Fiber Washer from the Screw. This will prevent the Fiber Washer from dropping down into the Coin Mechanism.

7. Loosen the Screw at the upper right hand corner of the Recorder Unit Assembly which attaches the Recorder Unit Assembly to the Rear Plate Assembly.
8. Lift the Recorder Unit Assembly by the Cover Lock Spring until it is far enough out of the Rear Plate Assembly to make possible the removal of the Cable Connector at the lower left of the PC Board; then remove the Cable Connector.
9. Lift the left side of the Recorder Unit Assembly up and out of the Rear Plate Assembly. Move the Recorder Unit Assembly diagonally to the top left and out of the Rear Plate Assembly.

H. Remove parts of the Recorder Unit Assembly as follows:

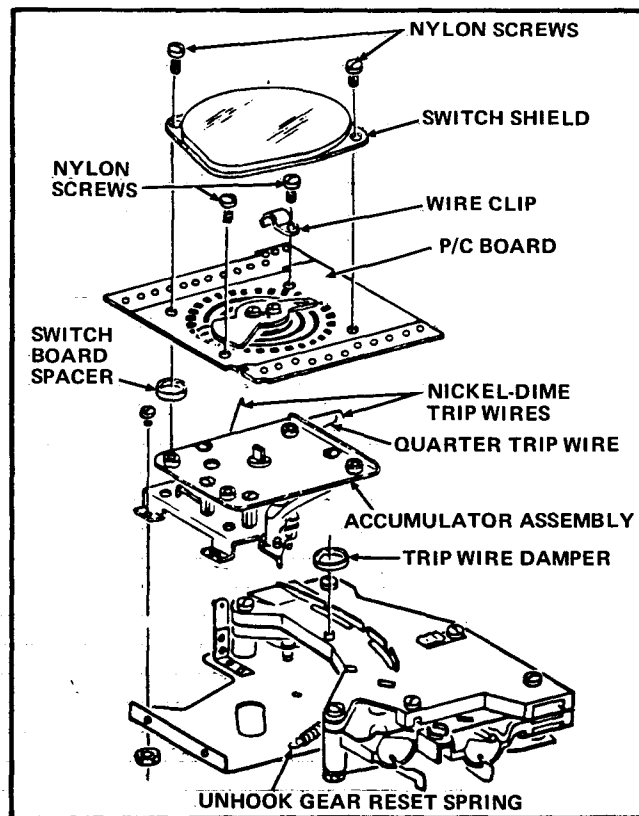


FIGURE 2

4. Remove the PC Board.

NOTE

The Trip Wire Damper in step H-5, below, will be used again when the Recorder Unit Assembly is reassembled.

5. Remove the four Switch Board Spacers and the Trip Wire Damper. Save and store the Trip Wire Damper for future use.
6. Unhook the Gear Reset Spring from the Accumulator Assembly.
7. Remove the 3-Screws and Nuts which attach the Accumulator Assembly.
8. Remove the Accumulator Assembly as follows:
 - a. Lift the Nickel-Dime Trip Wires out of the slots in the Nickel Channel.
 - b. Depress the Quarter Trip Wire and guide the Accumulator Assembly off the Recorder Mounting Plate Assembly.

CAUTION

DO NOT damage the Switch Shield on the Recorder Unit Assembly while performing the steps in these instructions. The Switch Shield will be used again when the Recorder Unit Assembly is reassembled.

1. Lay the Recorder Unit on a flat surface with the PC Board up.
2. Remove the two Nylon Screws which attach the Switch Shield and remove the Switch Shield. See Figure 2. Save and store the Switch Shield for future use.

NOTE

The Plastic Wire Clip in Step H-3, below, will be used again when the Recorder Unit Assembly is reassembled.

3. Remove the remaining two Nylon Screws which attach the PC Board. One Screw also attaches a Plastic Wire Clip. Save and store the Wire Clip for future use.

- I. Install replacement Kit parts in the Recorder Unit Assembly as follows:

NOTE

The replacement Accumulator Assembly has a RED SHAFT.

1. Install the Accumulator Assembly, Part Number 5250-214, included in the Kit, as follows:
 - a. Hold the Accumulator Assembly in the left hand with the index finger between the Nickel-Dime Trip Wires. The index finger will move the Nickel-Dime Trip Wire toward the bottom of the Accumulator Assembly. See Figure 3.
 - b. Depress the Quarter Trip Wire with the middle finger. The Quarter Trip Wire is the Wire on the back of the Assembly.
 - c. Install the Accumulator Assembly. Insert the Quarter Trip Wire under the Channels Assembly and into the slot in the Dime and Quarter Channel Assembly.

- d. Move the Accumulator Assembly into place on the Recorder Mounting Plate Assembly. Be sure the Nickel-Dime Trip Wires are in place in the proper two slots in the Nickel Channel.
- e. Attach the Accumulator Assembly with the three No.6-32 x 1/4" Pan Head Screws, Part Number 9900-124 and the three No.6-32 Nuts with Lockwashers, Part Number 9900-078, included in the Kit.
- f. Attach the Gear Reset Spring to the Accumulator Assembly. This Spring was removed in step H-6.
- g. Move the Reset Arm Assembly all the way to the left to set the Accumulator Assembly to the zero position as shown in Figure 4.

NOTE

The Nickel-Dime Trip Wires must be adjusted so when the Nickel-Dime Trip Wires are depressed the "click" is heard when the Trip Wires are at the Adjustment Marks on the Nickel-Dime Trip Wire slots. See Figure 4.

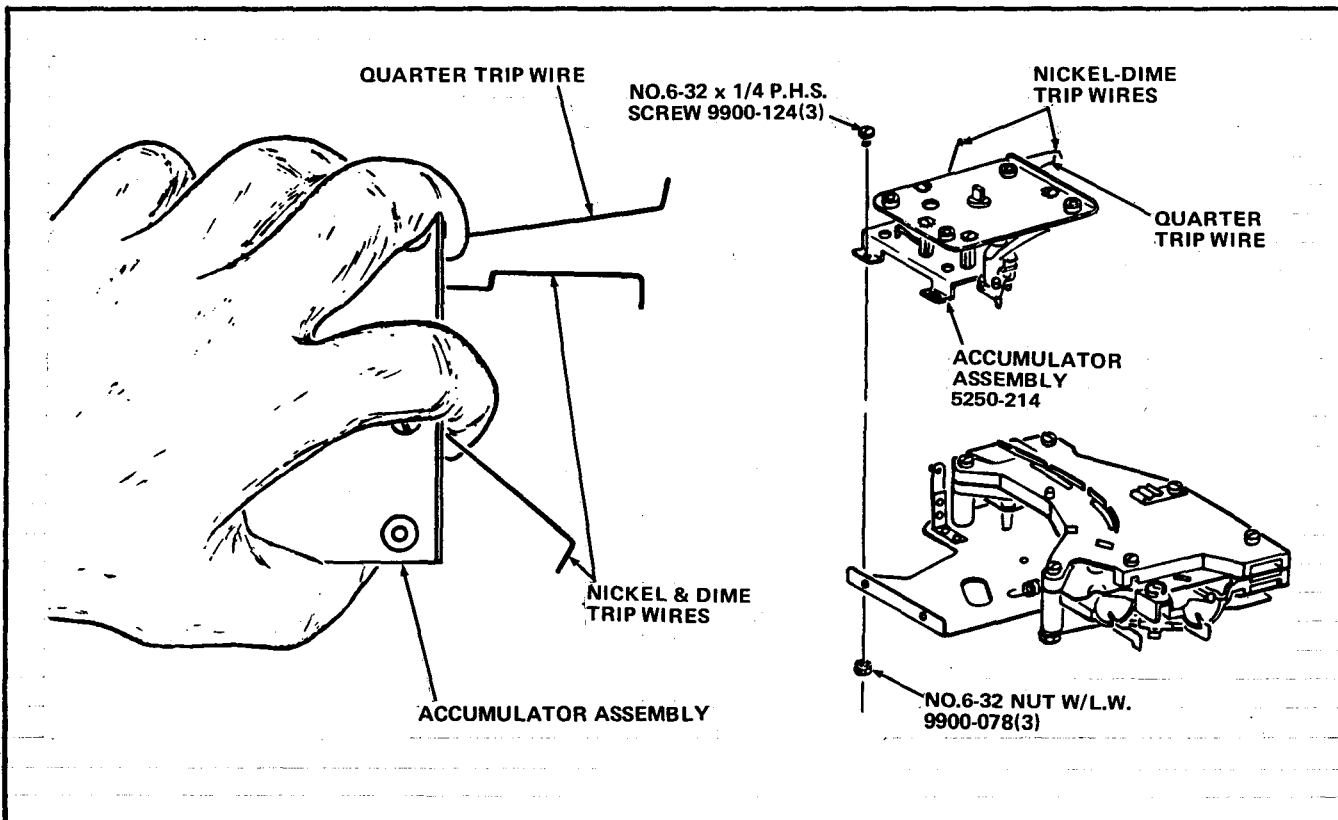


FIGURE 3

NOTE: As the Nickel-Dime Wires are depressed, the "click" should be heard as the Trip Wires cross the Adjustment Marks.

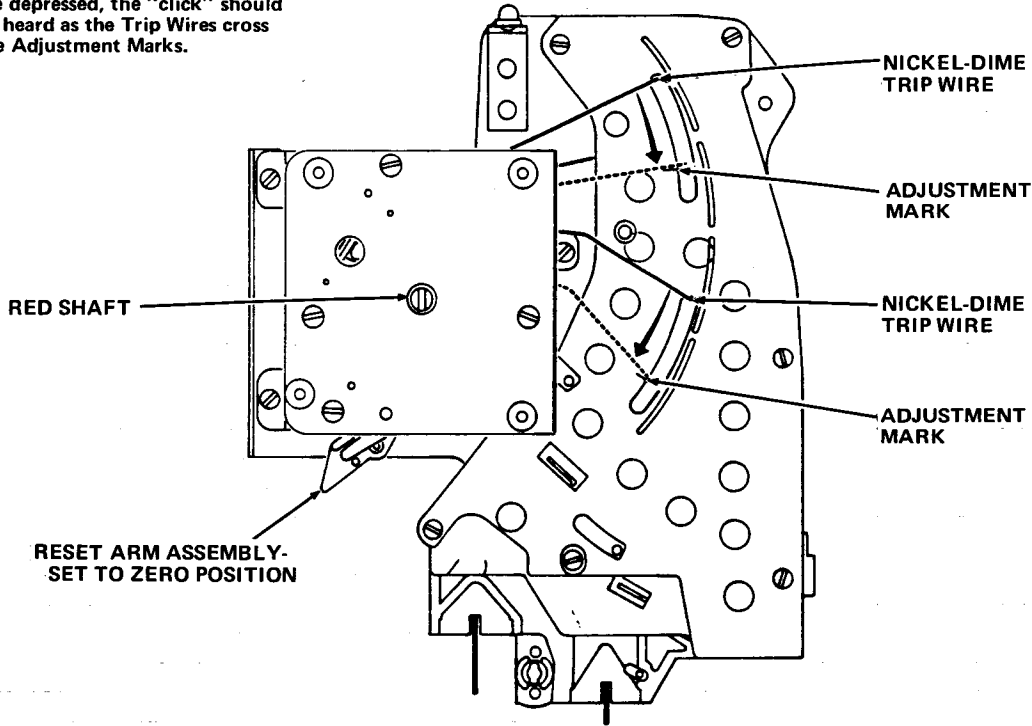


FIGURE 4

- h. Adjust the Nickel-Dime Trip Wires according to the above Note by bending the Trip Wires. Be sure not to twist the Trip Wires. The Trip Wires must move freely in the slots.

2. Install the PC Board as follows:

CAUTION

To eliminate excessive friction and to improve electrical contact, apply a thin coat of petroleum jelly to the round switch contact area of Printed Circuit Board and then wipe Board with a tissue before installation.

- a. Move the Reset Arm Assembly all the way to the left to set the Accumulator Assembly to the zero position.
- b. Install the Switch Housing, Part Number 5220-215, included in the Kit, on the Accumulator Assembly Shaft with the flat side down. See Figure 5.
- c. Install the four Switch Board Spacers, Part Number 5220-216, included in the Kit, and the Trip Wire Damper removed in Step H-5. See Figure 5.
- d. Place the PC Board, included in the Kit, in the mounting position with the Switch Contacts up and the hole for the Switch Cap Assembly over the Switch Housing installed in step I-2-b, above.

CAUTION

Start screws by hand before using a screwdriver to prevent damage to the threads.

- e. Attach the PC Board with two of the No.8-32 x 3/8 Pan Head Nylon Screws, Part Number 5220-218, included in the Kit. Install one Screw in the hole at the lower left of the Switch Contacts. Install the other Screw and the Plastic Wire Clip removed in step H-3 in the hole at the upper right of the Switch Contacts. See Figure 5.
- f. Set the Reset Arm Assembly to the zero position (Refer to step I-2-a).
- g. Install the Switch Arm Assembly, Part Number 5250-207, included in the Kit, as shown in Figure 5. Attach the Switch Arm Assembly to the Switch Housing installed in step I-2-b, using the two No.4-24 x 1/4 Pan Head T/Cutting Screws, Part Number 9900-129, and the two No.3 External Tooth Lockwashers, Part Number 5201-352, included in the Kit. Do not tighten the Screws all the way.

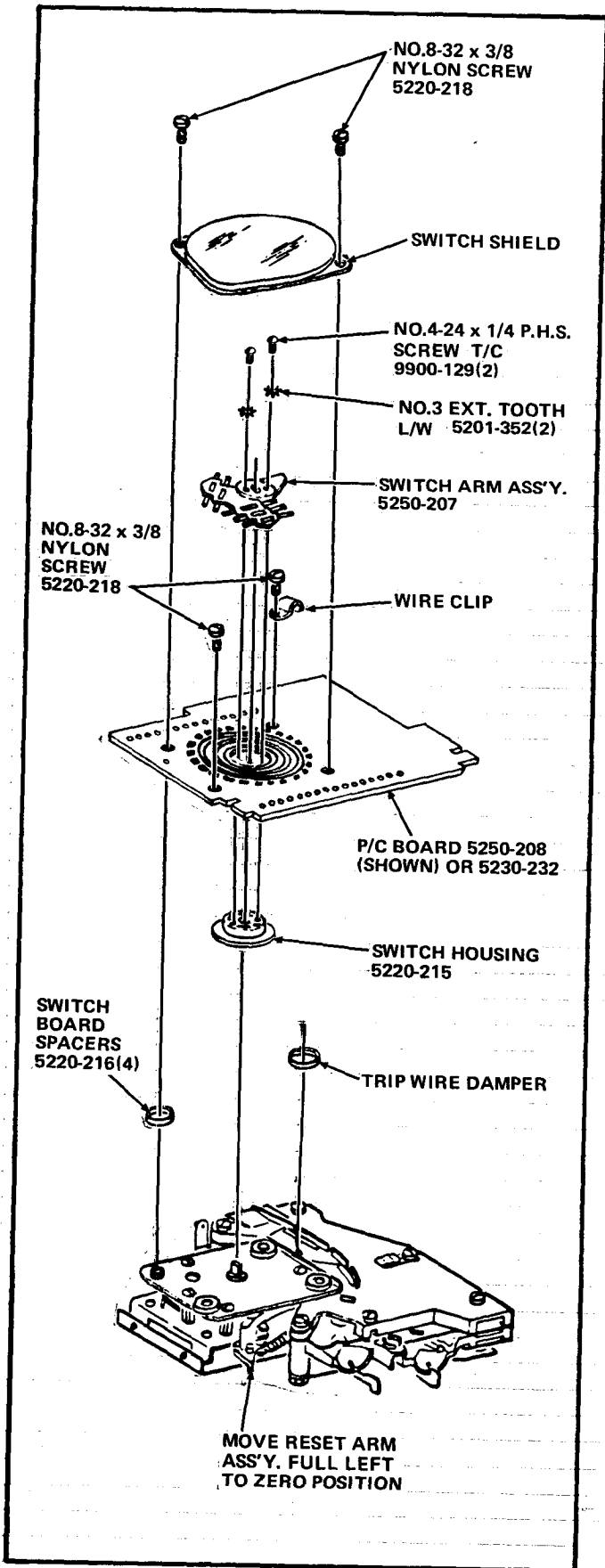


FIGURE 5

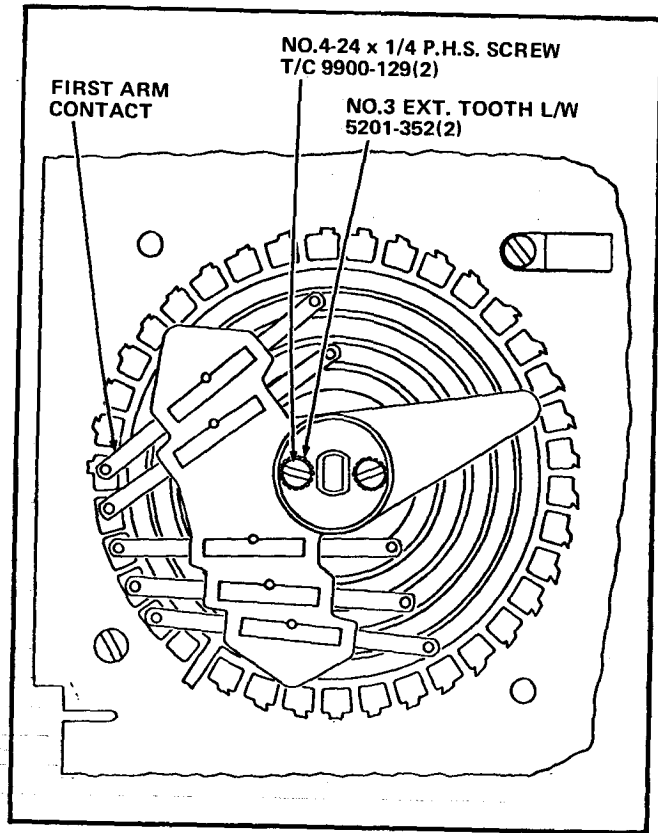


FIGURE 6

- h. Adjust the Switch Arm Assembly so the first Contact on the Arm fits in the upper part of the first Silver Colored Contact on the PC Board as shown in Figure 6. Tighten the two Screws left loose in step I-2-g, above.
 - i. Depress the Quarter Trip Wire. The Switch Arm Assembly should move 5 steps each time the Wire is depressed.
 - j. Depress the upper Nickel-Dime Trip Wire. The Switch Arm Assembly should move 1 step each time the Wire is depressed.
 - k. Depress the lower Nickel-Dime Trip Wire. The Switch Arm Assembly should move 1 step each time the Wire is depressed.
3. Install the Switch Shield removed in step H-2. Attach the Switch Shield with the two remaining No. 8-32 x 3/8 Pan Head Nylon Screws, Part Number 5220-218, from the Kit. See Figure 5.
- J. Install the Recorder Unit Assembly as follows:
1. Place the Coin Mechanism Rear Plate Assembly on its back with the bottom end toward you.

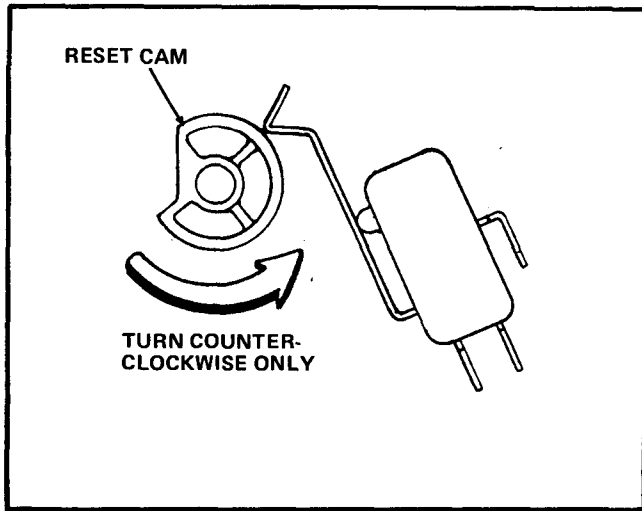


FIGURE 7

CAUTION

In step J-2, below, DO NOT rotate the Reset Cam CLOCKWISE.

2. Rotate the Reset Cam counter-clockwise until the flat side of the Cam is perpendicular to the bottom of the Changer. See Figure 7.
3. Attach a rubber band around the Dime Block Roller and onto the Printed Circuit Board Recorder Unit Assembly, as shown in Figure 8.
4. Set the Reset Arm Assembly to the zero position (Refer to step I-2-a).
5. Check to be sure the Fiber Washer is on the Screw at the top right hand corner of the Recorder Unit Assembly. See Figure 8. Do not install the Recorder Unit Assembly without this washer in place. Absence of the Washer will prevent the correct alignment of the Slug Rejector and the Recorder Unit Assembly.
6. Guide the right side of the Recorder Unit Assembly into place in the Rear Plate Assembly and hold the Recorder Unit on an angle while performing step J-7, below. On ACER 5230A, ACER 5231A, ACER 5250 and ACER 5251, fit the Mechanism Harness Assembly under the right edge of the P.C. Board.
7. Attach the Cable Connector, which was removed in Step G-8, to the PC Board.

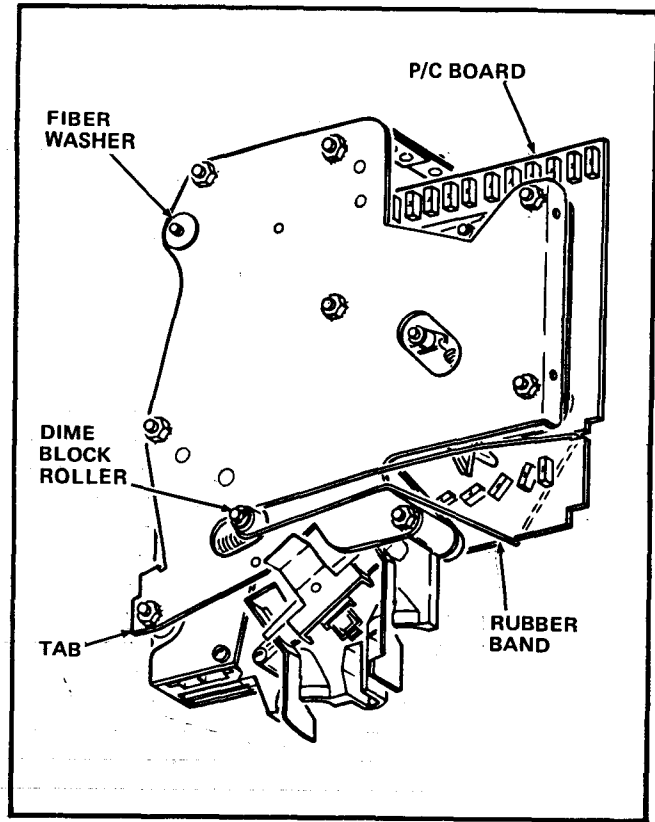


FIGURE 8

8. Lower the Recorder Unit Assembly into place in the Rear Plate Assembly. The Tab at the right bottom of the Recorder Unit Assembly, (See Figure 8) must fit into the Slot in the right side wall of the Rear Plate Assembly.

CAUTION

Do not allow the rubber band to remain on the Recorder Unit Assembly or to get lost inside the Changer when the rubber band is cut.

9. Hold one end of the rubber band securely and cut the rubber band. To free the one end of the rubber band, it may be necessary to push the Cable Connector back slightly from the PC Board. After the rubber band has been freed, reseat the Connector. Insert the blade of a screwdriver between the inside of the left wall of the Rear Plate Assembly and the Cable Connector and push the Connector back into place.
10. Tighten the Screw in the upper right hand corner of the Recorder Unit Assembly. This is the Screw with the Fiber Washer on it.
11. Install the Screws removed in Step G-5.

R | L

NOTE

Step J-12, below, applies only to ACER 5220, ACER 5230, or ACER 5231.

12. Place the Mechanism Harness Assembly under the Wire Clip at the right hand center of the Recorder Unit Assembly.
13. Carefully lift the open end of the Plastic Wire Clip on the PC Board and insert the Vending Pricing Coded Wires under the Wire Clip.

NOTE

The installation of this Kit does not alter the method of pricing. Vending prices are set the same as always except the new price range is now 5¢ to \$1.50 instead of 5¢ to \$1.25. However, to achieve \$1.50 pricing on a FM-72 Merchandiser, a \$1.50 Price Board Assembly and Monetary Harness must be ordered.

14. Insert the Plugs of the Vending Pricing Coded Wires in the proper Pricing Receptacles in the Printed Circuit Board.
- K. On the Escrow Cover, removed in step E, attach the Up-grading Label, Part Number 5201-290, included in the Kit directly above the Coin Mechanism Identification Plate.

- L. Install the Escrow Cover. Attach the Cover with the eight Screws removed in step E.
- M. Install the Upper Cover Plate removed in step D. Attach the Cover Plate with the two Screws removed in step D-2.
- N. Close and latch the Recorder Cover.
- O. Install the Nickel Tube and Dime Tube.
- P. Install the Tube Retainer Assembly removed in Step F.
- Q. Install the Slug Rejector in the Coin Mechanism.
- R. Place the Coin Mechanism in the Merchandiser.
- S. Test the Coin Mechanism.

NOTE

Any part supplied in this Kit may be purchased individually without purchasing a complete Up-grading Kit. If a part should need replacing in the future, order the part by the Part Number and Description listed in the front part of these Installation Instructions. Be sure to indicate on your order that the Coin Mechanism has been up-graded to 5¢ through \$1.50 pricing range.