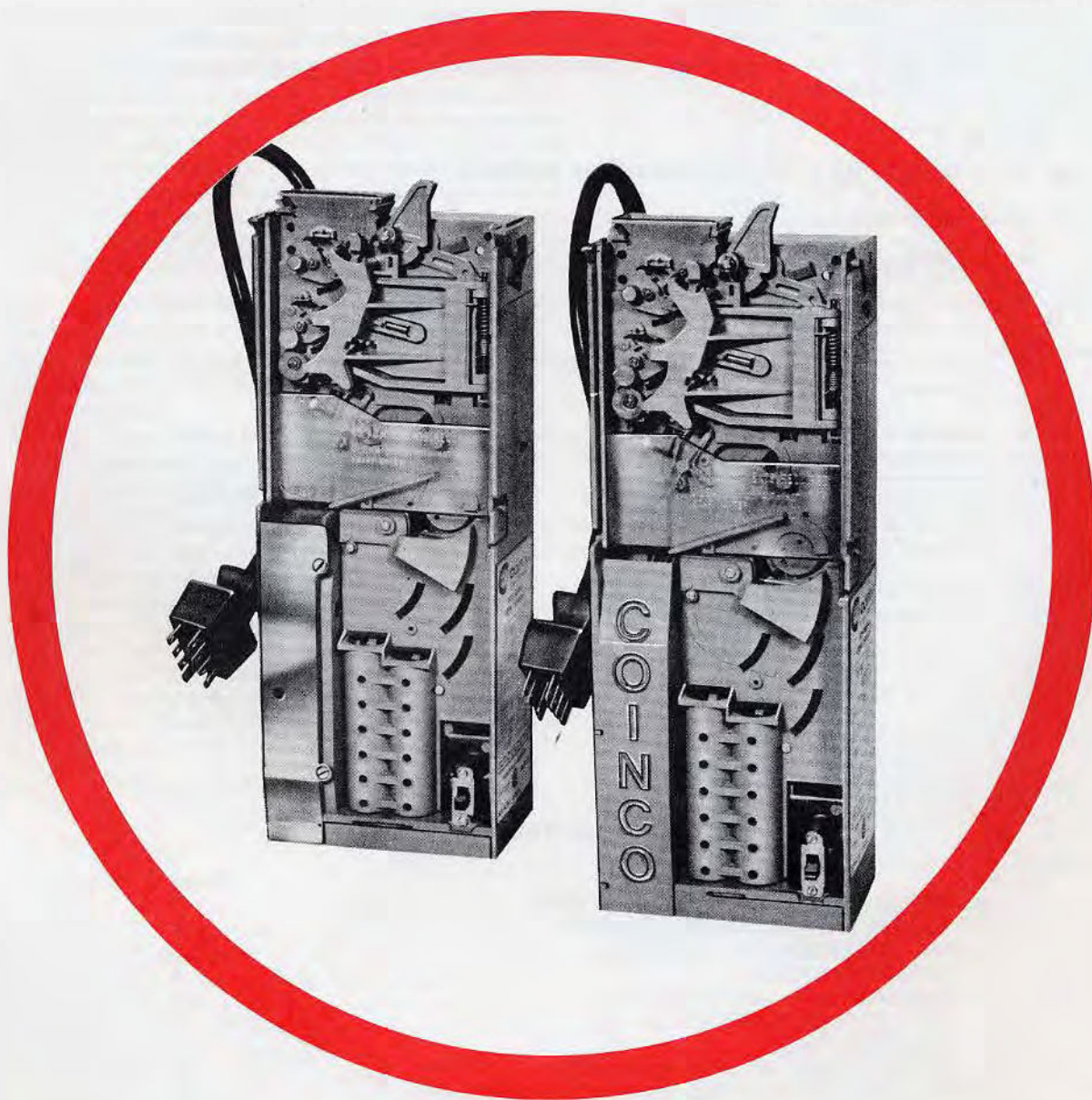


S75-9800A and S75-9800B COIN CHANGERS



OPERATION AND SERVICE MANUAL



INTRODUCTION

The S75-9800A, S759800B coin changer is the result of extensive research and development in computerized crediting systems. This greatly simplified unit provides many important features never before available in any coin changer.

Some of its many outstanding features

- C-MOS Technology . . .
- Select any vend price up to 75¢, or \$1.50 easily, in 5¢ increments . . .
- The S75-9800A, S75-9800B Electronic Logic System is a plug-in module, warranted for 2 years . . .
- All gold cross bar contact switches used throughout for greater contact reliability . . .
- Greater simplicity of operation . . . Fewer parts . . . Less to service . . . No electronic experience necessary to service the changer . . .
- The housing and many components of the S75-9800A, S75-9800B are fabricated of NORYL, General Electric's new super strong structural material which will not distort or corrode.
- With proper care, your new S75-9800A, S75-9800B coin changer will give many years of excellent service.

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SECTION 1 PRICING CHANGING INSTRUCTIONS

1. Remove the acceptor from the changer and place in an area free of dirt and foreign material.
2. The S75-9800B has one switch module with five rocker switches located on the upper portion of the printed circuit board. (Figure 1-1) (These switches correspond to prices as follows: #1=5¢, #2=10¢, #3=20¢, #4=40¢, and #5=80¢). When the top of the rocker switch is pushed in, the switch is in the ON position. Vend price is set by adding the value of all rocker switches in the ON position. **EXAMPLE:** Switches #2 and #3 in the ON position = 30¢ vend price.
3. The S75-9800A has four price select slide switches (2 black and 2 white) located on the upper portion of the printed circuit board. These switches are ON when in the up position. (Refer to figure 1-2)
Set the vend price by sliding sufficient price select slide switches into the UP position to total the desired price. Example: 10¢ and 40¢ in the up position = 50¢.
4. Vend price 25¢ and under. The S75-9800B is wired to accept quarters when the payout tubes are empty. If you do not want to accept quarters when the payout tubes are empty, remove the back coverplate and disconnect the white wire from the piggy-back terminal on the Common (red wire) of the tube empty switch. Reconnect this wire to the center, Normally Open, terminal of the same switch. (Figure 1-3) The quarter C.R.E.M. will now de-energize when the nickel payout tube is empty.
5. Replace the back coverplate.

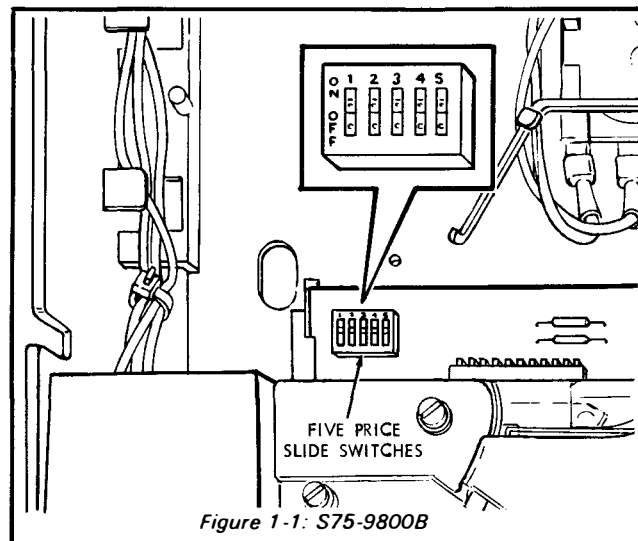


Figure 1-1: S75-9800B

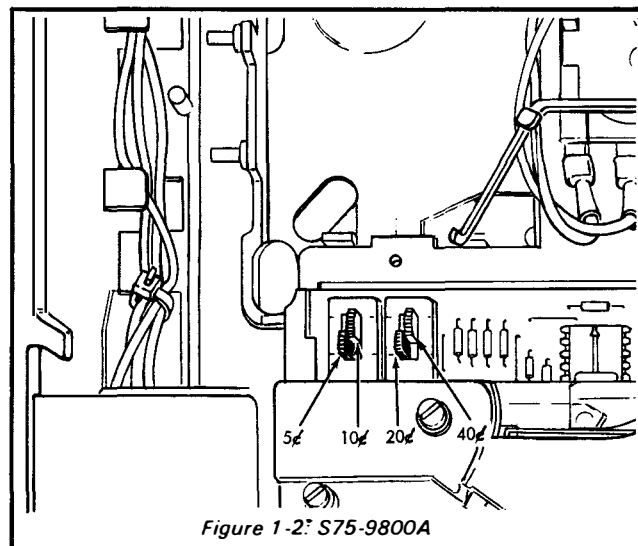


Figure 1-2: S75-9800A

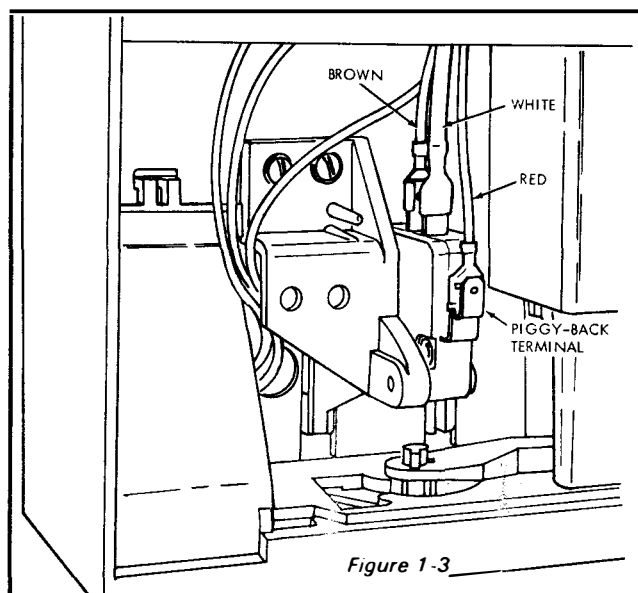


Figure 1-3

SECTION 2 INSTALLATION INSTRUCTIONS

- A. With the coin acceptor removed, set the three key holes in the back of the changer over the mounting screws in the vendor. Tighten snugly.
- B. Replace the acceptor in the changer.
- C. Plug the changer into the vendor.
- D. Load the two nickel coin tubes evenly making sure all nickels lie flat.

- E. Test with a variety of coins to insure the proper setting of the sales price and proper loading of the nickel tubes.

ELECTRICAL POWER NEEDED:
115 volts, 60 Hertz

SAVE THE COIN CHANGER CARTON

If the coin changer is being stored or used as a spare from time to time, always keep it in its shipping carton when not in use. This will keep it clean and afford the best protection for the unit.

SECTION 3 COMPONENT EXPLANATION

COIN CHANGER

A. ELECTRONIC LOGIC SYSTEM

The Electronic Logic System is a plug-in module located in the rear of the coin changer. In response to pulses received from the coin switches, the logic system will add the accepted coins, initiate a vend signal to start the vendor, determine if an over insertion has been made and program the change payback to the customer.

Also located on the logic board is a tilt device consisting of a ball and two brackets which prohibits credit to the logic board whenever the changer is physically abused.

The price switches located on the upper portion of the logic board, behind the acceptor, are used to set the sales price.

B. 5-10¢ COIN RETURN ELECTRO-MAGNET (Figure 3-1)

The 5-10¢ coin return electro-magnet (C.R.E.M.) is located in the front upper portion of the coin changer housing behind the acceptor. It has two blocking fingers which protrude into the 5¢ and 10¢ coin paths of the acceptor to reject coins while the electro-magnet is in a de-energized state. The electro-magnet is controlled by the vendor and is in a de-energized state while the vendor is in a vend cycle, or when the vendor is out of product.

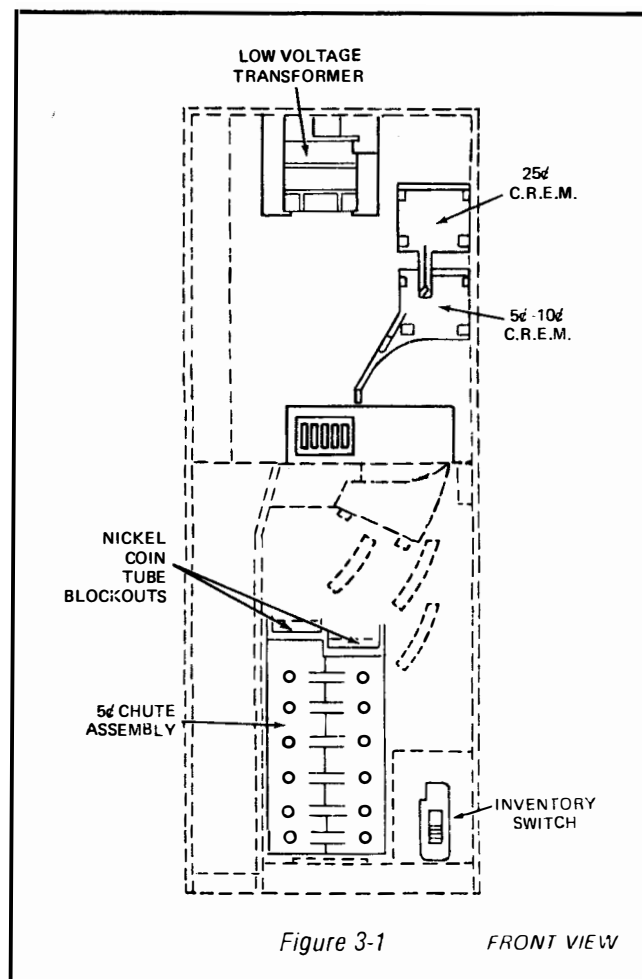


Figure 3-1 FRONT VIEW

**C. 25¢ COIN RETURN ELECTRO-MAGNET
(Figure 3-1)**

The 25¢ coin return electro-magnet is also located in the front upper portion of the coin changer housing behind the acceptor. It has one blocking finger which protrudes into the 25¢ coin path of the acceptor to reject quarters. This magnet is controlled by the vendor in the same manner as the 5-10¢ coin return electro-magnet and is also controlled by the tube empty switch.

**D. NICKEL COIN TUBE BLOCKOUTS
(Figure 3-1)**

The nickel tube coin blockouts, located above the two nickel coin tubes, are re-positioned by the last nickels the tubes will hold. In this position they project into the 5¢ chute to direct all subsequent nickels to the cash box.

**E. INVENTORY SWITCH
(Figure 3-1)**

This spring return slide switch is conveniently located in front lower portion of the changer. Sliding the switch into the UP position releases the coins from the coin tubes for inventory.

**F. 5¢ COIN SWITCH AND WIRE ASSEMBLY
(Figure 3-2)**

This switch is located in the upper rear portion of the changer housing. Its switch wire is a double entry wire that protrudes through the nickel coin chute ONLY. This switch when actuated by a nickel will supply a single pulse to the logic system.

**G. 10¢ COIN SWITCH AND WIRE ASSEMBLY
(Figure 3-2)**

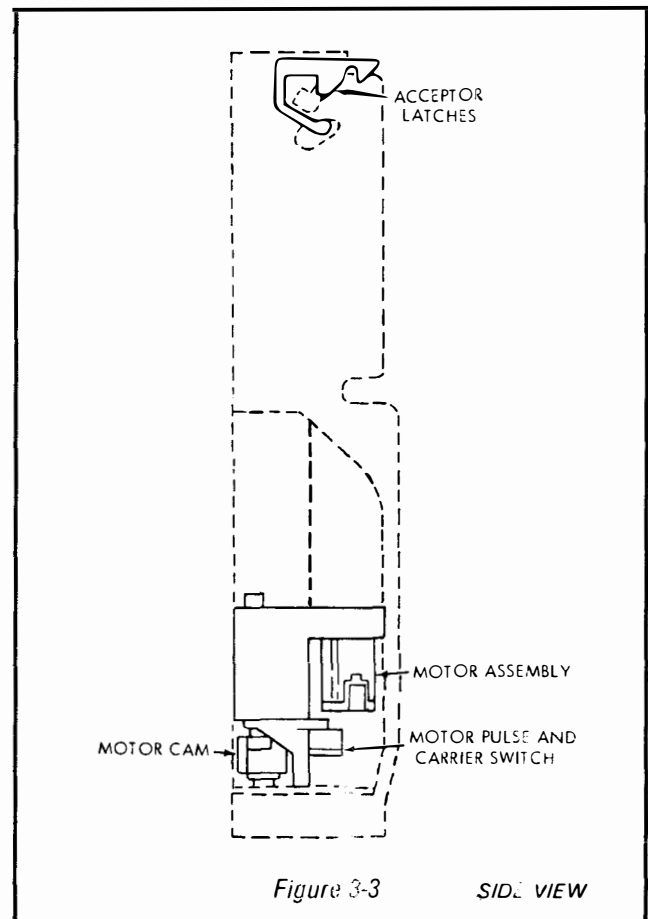
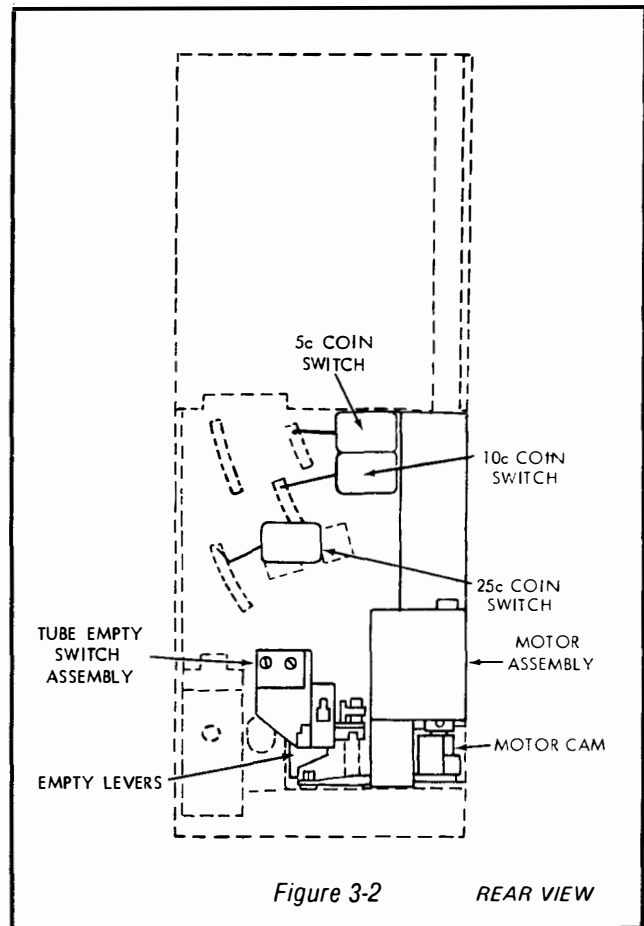
This switch is located directly below the 5¢ coin switch and is actuated by dimes ONLY. This switch, when actuated, will supply a single pulse to the logic system.

**H. 25¢ COIN SWITCH AND WIRE ASSEMBLY
(Figure 3-2)**

This switch is located directly below the 10¢ coin switch and is actuated by quarters ONLY. This switch, when actuated, will supply a single pulse to the logic system.

**I. TUBE EMPTY SWITCH AND LEVER ASSEMBLY
(Figure 3-2)**

This assembly is located in the lower rear portion of the coin changer housing and is composed of a switch which is actuated by a lever that pivots and extends into the coin tube. If nickels are present in the coin tubes, the nickels actuate the lever, which in turn actuate the tube empty switch. Actuation of this switch completes a circuit to (and energizes) the 25¢ coin return electro-magnet. This electro-



magnet allows the acceptance of quarters when energized. (Refer to 25¢ coin return electro-magnet explanation)

J. DC MOTOR AND GEAR CASE ASSEMBLY (Figure 3-2)

This assembly, located in the lower right corner in the rear of the changer, consists of a 5000 RPM motor attached to a gear train with an output of 30 RPM. a cam attached to the output shaft of the gear box moves the payout slide under the coin tubes by means of a driver link. When the motor runs, the slide pays out change alternately from the two nickel coin tubes.

K. MOTOR CARRIER AND PULSE SWITCH (Figure 3-3)

The switch is attached to the bottom of the gearbox assembly and is actuated by a motor

cam. This switch serves two purposes, first to complete the motor cycle back to the start position and secondly, it pulses the logic system each time a nickel is paid out.

L. LOW VOLTAGE TRANSFORMER (Figure 3-1)

This transformer assembly is located in the front upper portion of the coin changer housing behind the acceptor. It reduces the input line voltage to 18 volts A.C. to power the logic system.

M. THERMAL CUT-OFF

Located behind the transformer is a heat sensitive device that will open in the event of a shorted transformer winding. This in turn stops the voltage to the logic system.

ELECTRONIC LOGIC BOARD

(Figure 3-4, 3-5)

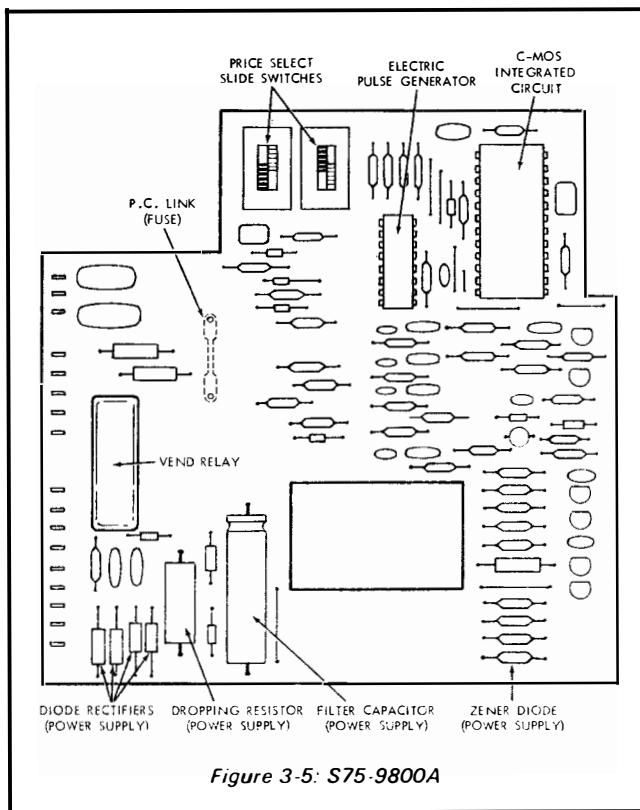
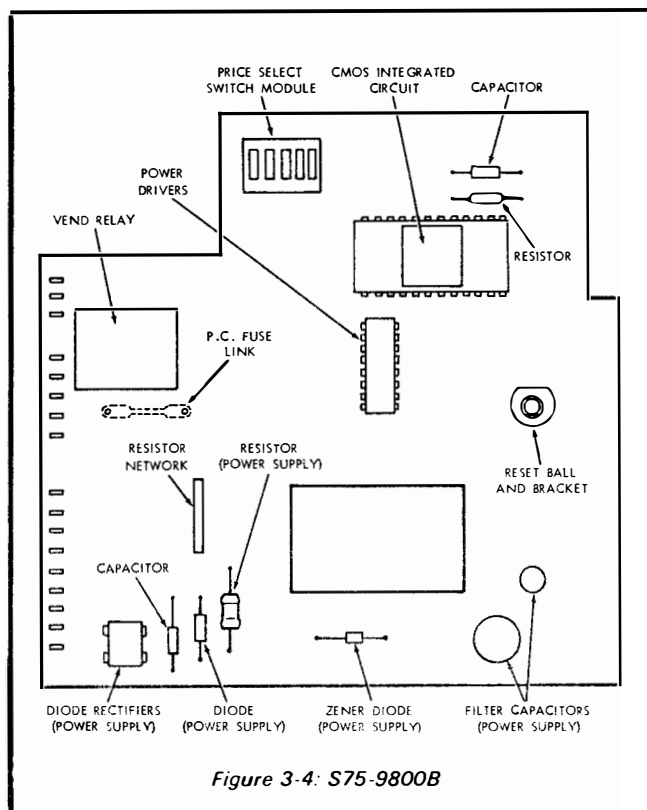
A. The S75-9800A and S75-9800B logic boards are directly interchangeable with no modifications required. The logic boards' inputs are connected to the three changer coin switches.

At a preset count determined by the sales price setting, the logic system will energize the vend relay initiating the vend signal to the vendor.

If the sales price setting is less than credit established, the logic system will also initiate a change payout.

B. POWER SUPPLY

The electronic logic system requires a low A.C. operating voltage from the coin changer. As



previously explained in the component explanation of the low voltage transformer, the changer input from the vendor is reduced from 115 volts (AC) to 18 volts (AC).

This 18 volts alternating current (AC) is then directed to the power supply, located on the printed circuit board, where it is changed from alternating current to a well filtered and regulated DC supply.

C. PC LINK

Located on the printed circuit board is a PC link. This device acts as a fuse and protects the vend relay contacts and printed circuit board in the event of a short in the vendor vend circuit.

SECTION 4 ELECTRICAL OPERATION SEQUENCE

A. STAND-BY (Figure 4-1)

In stand-by condition, with power applied, 115 VAC input power is supplied from the vending machine into Jones plug 1 and 2.

The hot line of the 115 VAC, "L1", is routed directly to the logic board pin 12 where it passes thru a 8 amp foil fuse. This fuse is a protective device, used to protect the changer against problems in the vending machine vend circuit such as a shorted vend motor or solenoid.

Once thru the foil fuse L1, 115 VAC, is routed out pin 14 of the logic board to the primary winding of the changer step-down transformer. It is also routed thru the vend relay N.C. contact, to logic board pin 13, and finally to Jones plug pin 7 where it will supply power for the vending machine vend circuits.

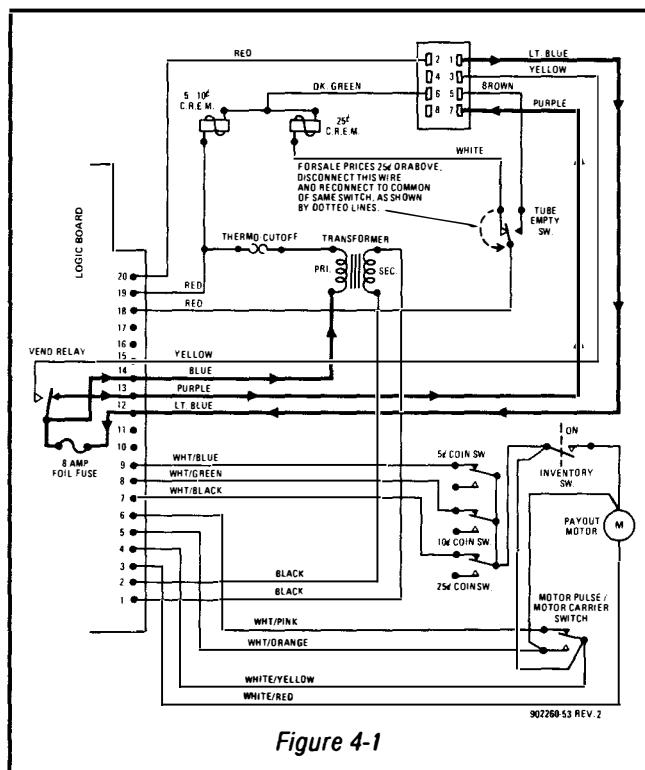


Figure 4-1

B. STAND-BY (Figure 4-2)

The low side of the 115 VAC input, "L2", is routed directly to the logic board pin 20. L2 is then routed to the logic board pins 18 and 19. From pin 19 it goes to one side of the 5-10¢ crem and also through the thermo-cut-off to the primary of the step-down transformer.

The thermo-cut-off is physically located behind the transformer, pressed against its windings. If for any reason the step-down transformer exceeds a temperature of approximately 244°F the breaker opens removing power to the transformer and preventing heat damage to the housing. This breaker is nonresetable and must be replaced when activated.

L2 from pin 18 of the logic board is routed to the common contact of the tube empty switch. The tube empty switch monitors the presence of coins in one of the alternately loaded payout tubes. When no coins are in the tubes, L2 is routed to the empty tube switch N.C. contact and to pin 5 of the Jones plug. From pin 5, L2 goes to the vending machine "use correct change only" light indicating coins are not available for change payout. Once sufficient coins are in the payout tubes the empty tube switch is activated, removing power from L5 and extinguishing the "use correct change only" light. At this time if the tube empty switch is wired for sales price below 25¢, L2 will flow thru its N.O. contact and energize the Quarter C.R.E.M.

C. STAND-BY (Figure 4-3)

In stand-by the vending machine provides 115 VAC, L1, to pin 6 of the changer Jones plug. Line 6 called the "C.R.E.M. control line", goes directly to one side of both the 5-10¢ and 25¢ C.R.E.M. This power energizes both C.R.E.M.s allowing coins to pass thru the changer and be credited.

Whenever the vending machine is unplugged, or in vend cycle, it ceases to supply power to line 6. At this time both C.R.E.M.s de-energize blocking the acceptance of coins.

The 115 VAC, L1 and L2, power applied to the step-down transformer primary produces 16-22 volts A.C. at the transformers secondary output. This 16-22 volts A.C. is then routed to the logic board pins 1 and 2. On the logic board the incoming 16-22 volts A.C. is converted to 18 volts pulsating D.C. and regulated D.C. The 18 volts pulsating D.C. will be used to power the D.C. payout motor.

D. INVENTORY (Figure 4-4)

The logic board supplies 18 volts D.C. from its pin 3 to the positive (+) side of the D.C. payout motor.

When the inventory switch is actuated a path is provided which routes a ground, negative D.C., potential from pin 4 of the logic board, thru the inventory switch, to the negative (-) side of the

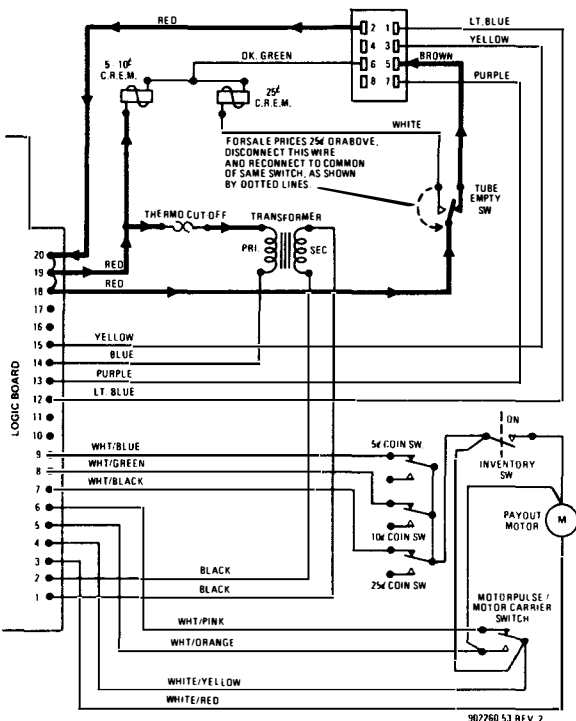


Figure 4-2

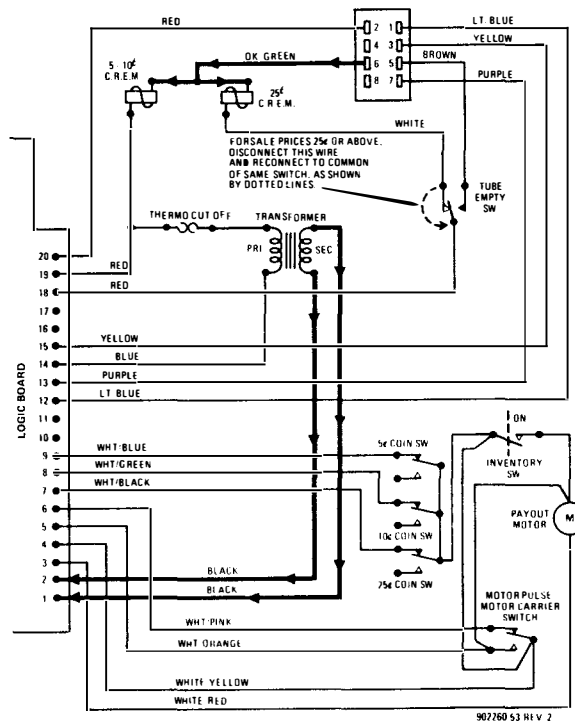


Figure 4-3

D.C. payout motor. With power now on both sides the D.C. payout motor begins to rotate.

Mechanically attached to the motor gearbox is a cam actuated motor pulse/motor carrier switch. A cam attached to the gearbox actuates the motor pulse/motor carrier switch after the motor has rotated a few degrees. The switch now makes contact with its N.O. contact and provides another path for ground to the D.C. payout motor.

This motor pulse/motor carrier switch, also called a full cycle switch, will supply power to the motor during the full payout cycle, causing it to always return to its proper stop position. At the stop position, the motor pulse/motor carrier switch is no longer actuated by the motor cam and removes the alternate ground path for the motor. If the inventory switch is still actuated the motor continues to turn, if not, the motor stops.

E. EXACT VEND—NICKEL INSERTIONS VEND PRICE SET @ 15¢ (Figure 4-5)

Inserted nickels pass thru the acceptor and are diverted to the 5¢ coin switch. When the nickel hits the 5¢ coin switch wire it actuates the switch moving the common contact to the N.O. contact. This breaks the path for ground, negative D.C., which has been going from logic

board pin 4 thru 5¢ coin switch to logic board pin 9. However, the nickel is not counted at this time.

When the nickel coin drops off the 5¢ switch wire, it allows the 5¢ switch common to return to its N.C. contact once again applying ground, negative D.C. to logic board pin 9. At this time the nickel is counted and remembered by the logic board.

When the 3rd nickel is inserted and counted by the logic board, the logic board energizes its vend relay. 115 volts AC, L1, is now routed to the vend relay N.O. contact, out logic board pin 15, to line 3, of the Jones plug.

The 115 volts AC at Jones plug line 3 energizes the vending machine credit relay and initiates the vend cycle. Also when the credit relay is energized it removes power going to line 6 of the Jones plug. This causes the changer C.R.E.M.s to de-energize blocking inserted coins.

The changer vend relay is energized for approximately 1/4 seconds; then returns to its rest position removing 115 volts AC from Jones plug line 3 and reapplying it to line 7.

The changer C.R.E.M.s remain de-energized while the vending machine is in vend cycle. After vend cycle, the credit relay de-energizes, and the C.R.E.M.s pull in.

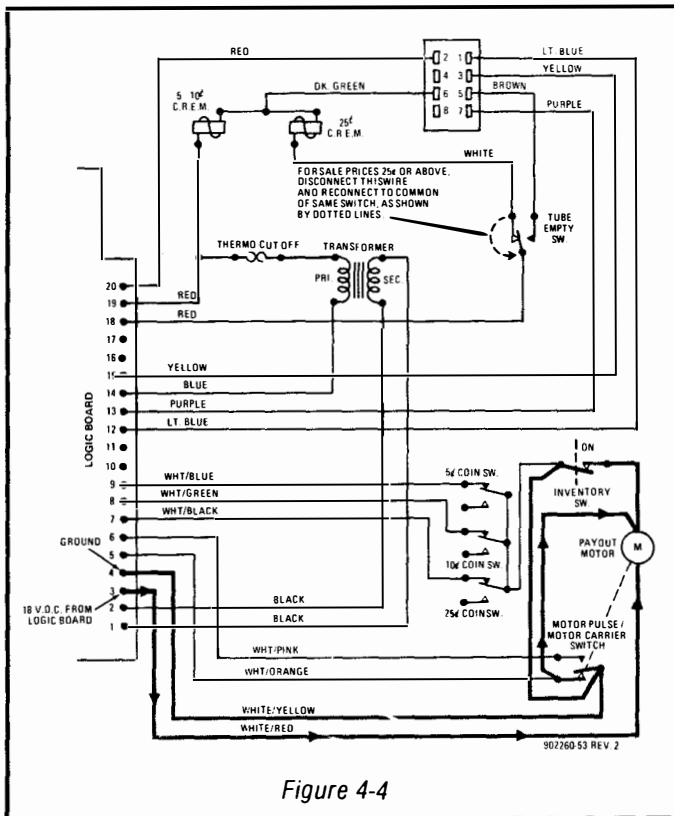


Figure 4-4

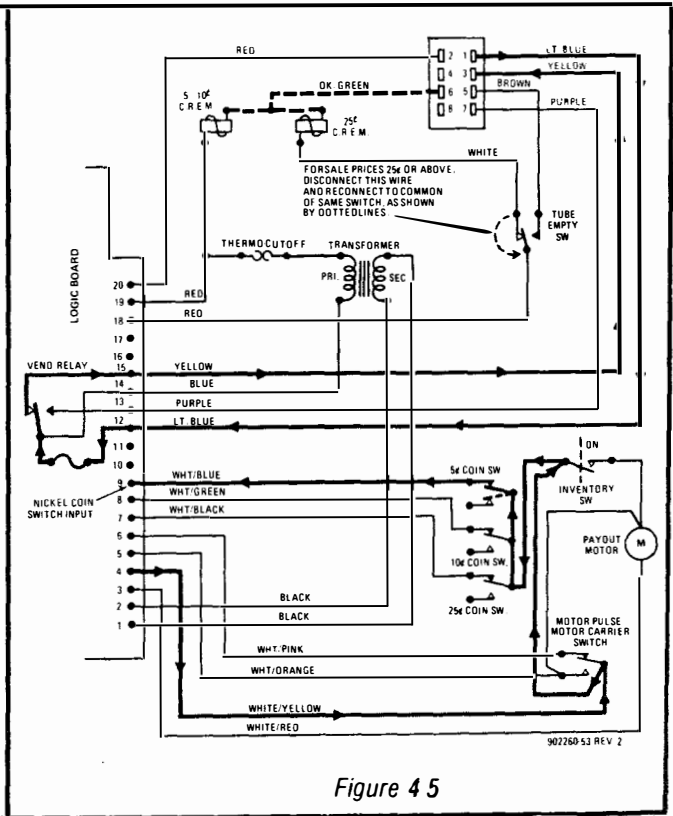


Figure 4-5

**F. CHANGE PAYOUT - 2 DIME INSERTION
VEND PRICE SET @ 15¢
(Figure 4-6)**

Inserted dimes pass thru the acceptor and are directed to the 10¢ coin switch. When the dime hits the 10¢ coin switch wire it actuates the switch moving the common contact to the N.O. contact. This breaks the path for ground, negative D.C., which has been going from logic board pin 4, thru the 10¢ coin switch to logic board pin 8. However the 10¢ is not counted at this time.

When the dime coin drops off the 10¢ switch wire, it allows the 10¢ coin switch to return to its N.C. contact once again applying ground, negative D.C., to logic board pin 8. At this time the dime is counted and remembered by the logic board.

When the 2nd dime is counted by the logic board, the logic board vend sequence begins and functions per the "exact vend" section. At this time the logic board also recognizes that a one (1) nickel payback is required.

The logic board now sends out of its payout motor control, pin 5, a ground signal to the negative side of the D.C. payout motor. This ground on one side, plus the permanent positive (+) voltage on the other side of the motor causes the motor to rotate.

As the motor and its gearbox cam assembly

rotate, they move the payout slide and actuate the motor pulse/motor carrier switch. Actuating the motor pulse/motor carrier switch removes the ground, negative D.C., which was going to logic board pin 6.

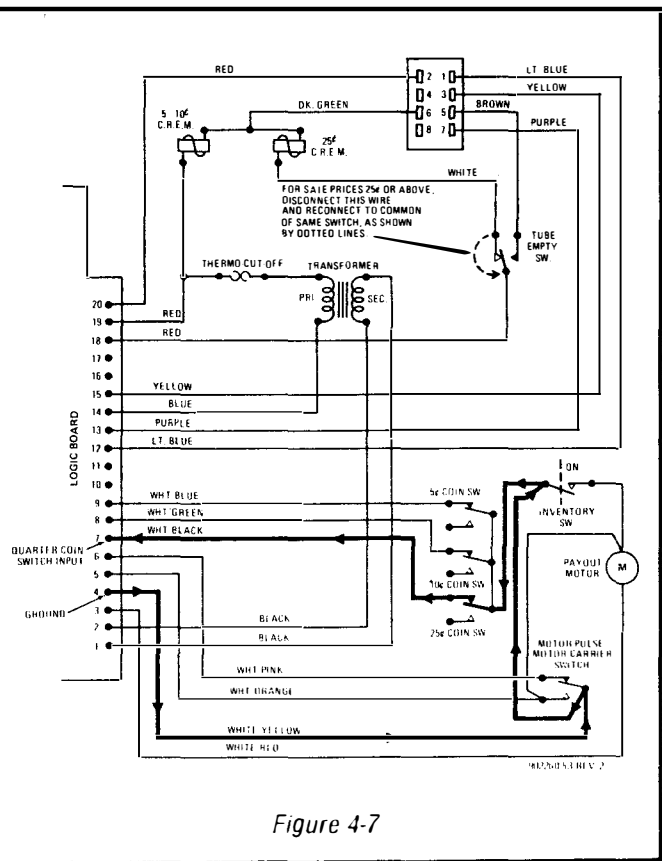
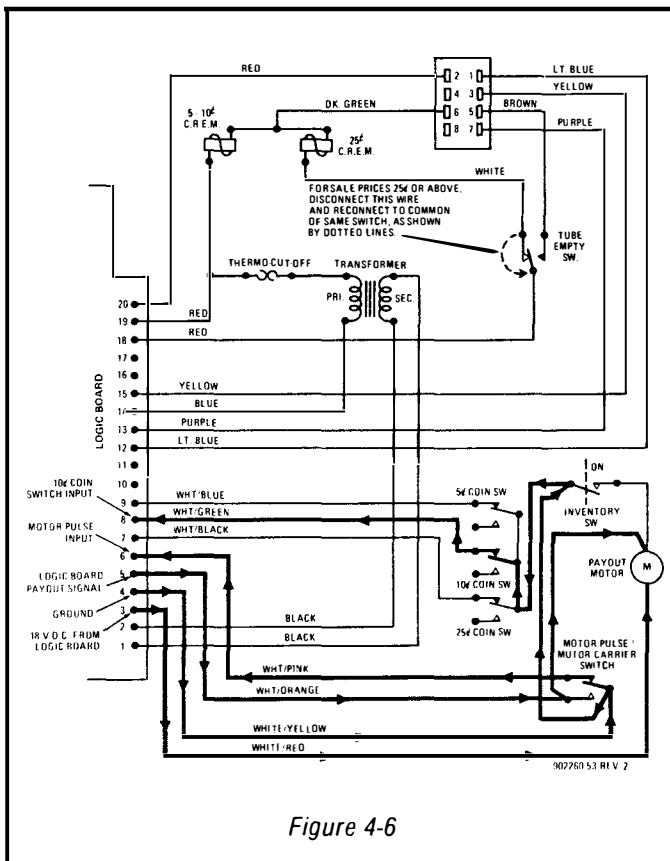
When the payout slide reaches its payout position, and pays out one nickel the motor pulse/motor carrier switch is released allowing it to return to its N.C. position. The ground, negative D.C., is now re-applied to logic board pin 6, and signals the logic board one (1) nickel has been paid out.

The logic board identifies that the transaction is complete and removes the ground, negative D.C., from its motor control pin 5. This stops the payout motor in its rest position and returns the changer to its stand-by condition.

**G. QUARTER INSERTION
(Figure 4-7)**

Inserted quarters pass thru the acceptor and are directed to the 25¢ coin switch. The quarter hitting the 25¢ coin switch wire actuates the switch removing the ground, negative D.C., from its N.C. contact. This breaks the path for ground going to logic board pin 7.

When the quarter falls off the switch wire the switch returns to its N.C. position signaling the logic board that a quarter has been inserted.



SECTION 5 MAINTENANCE

The most common cause of vendor or coin changer malfunction is the accumulation of foreign material in its working parts. Keeping your COINCO changer clean is a simple matter, since most of its components are made of Noryl. Usually a damp cloth is all that is required. The frequency of such cleaning will depend on where the equipment is located.

It is suggested that a regular cleaning program be set

up, particularly for the coin tubes, coin chutes, payout base and acceptor.

If heavy soil accumulates, remove the parts from the coin changer and clean with water and mild detergent or soap. Rinse with clean water and dry thoroughly before replacing in changer.

DO NOT USE A PETROLEUM BASE CLEANING SOLVENT.

SECTION 6 SERVICING THE COIN CHANGER

A. COIN SWITCHES

In rare instances, the tripping (or "break") position of the coin switch may require slight adjustment. If so, bend the wire carefully at the point where it is attached to the switch, after testing as follows:

1. Remove the back coverplate of the changer.
2. Remove the electronic logic board. (See removing the electronic board)
3. Move the switch wire downward and allow it to return to its rest position. The wire should ride in the middle of the slot all the way to the bottom.
4. Check the individual switch wire setting as follows: (See Figure 6-1)

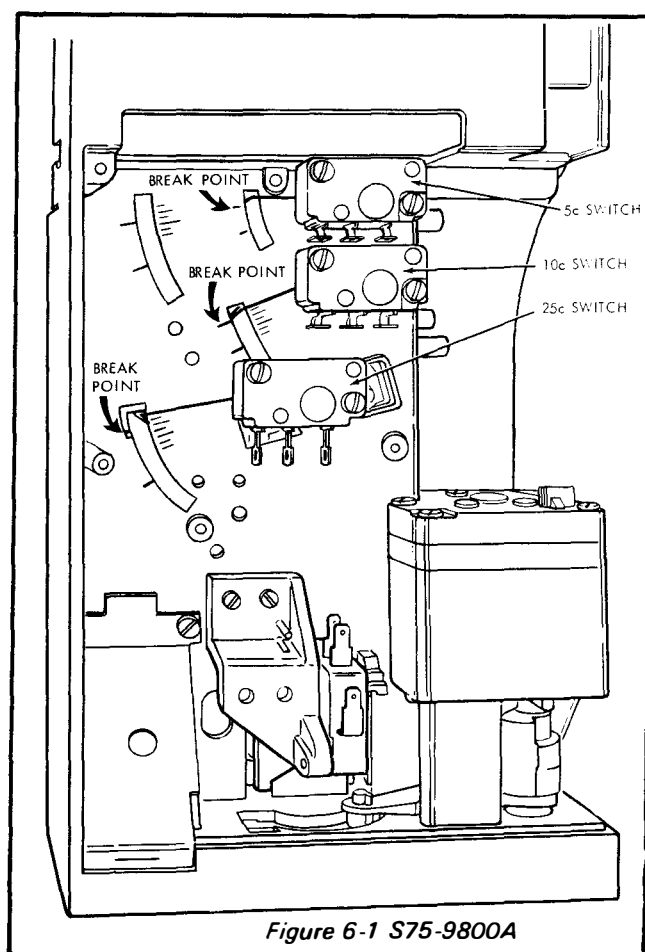
NOTE: The following steps (a, b, and c) pertain only to the S75-9800A. The S75-9800B has no calibration markings except for the 10¢ coin switch, which is the most critical because of the light weight of the 10¢ coin.

a. 25¢ Coin Switch and Wire Assembly

The switch wire should extend through the 25¢ chute **ONLY**. Check the break position of the switch by moving the wire downward and allowing it to return slowly while listening for the click. This should occur when the wire is at the top calibration mark on the left side of the switch slot as it returns to the rest position.

b. 10¢ Coin Switch and Wire Assembly

The 10¢ coin switch is checked in the same manner as the 25¢ coin switch.



Its wire should extend through the 10¢ coin chute **ONLY**. The make (downstroke) and break (upstroke) of the coin switch should occur between the two increment marks on the left side of its switch slot.

c. 5¢ Coin Switch and Wire Assembly

The 5¢ coin switch has a double ended switch wire that extends through the 5¢ coin chute **ONLY**. It is checked in the same manner as the 25¢ coin switch. The break position should occur at the top increment mark on the left side of the short switch slot.

d. Checking the Motor Pulse Switch (Normally Closed)

Set your Volt-Ohm Meter on resistance R X 1 scale. Connect the black (-) lead to logic board plug pin 4 and the red positive (+) lead to logic board plug pin 6.

You should read 0 resistance. With a small screw driver gently actuate the green button on the switch and you should read maximum resistance.

5. Checking the Coin Switches (Changer Unplugged)

Unplug the coin changer and remove the back cover. Gently lay the changer face down. Unplug and remove the logic board from the changer.

When performing the following test a failure to get the proper reading indicates a bad switch.

a. Checking the 5¢ Coin Switch (Normally Closed)

Set your Volt-Ohm Meter on resistance R X 1 scale. Connect the black (-) lead to logic board plug pin 4 and the red positive (+) lead to logic board plug pin 9.

You should read 0 resistance. Actuate the 5¢ coin switch wire down and you should read maximum resistance.

b. Checking the 10¢ Coin Switch (Normally Closed)

Set your Volt-Ohm Meter on resistance R X 1 scale. Connect the black (-) lead to logic board plug pin 4 and the red positive (+) lead to logic board plug pin 8.

You should read 0 resistance. Actuate the 10¢ coin switch wire down and you should read maximum resistance.

c. Check the 25¢ Coin Switch (Normally Closed)

Set your Volt-Ohm Meter on resistance R X 1 scale. Connect the black (-) lead to logic board plug pin 4 and the red positive (+) lead to logic board plug pin 7.

You should read 0 resistance. Actuate the 25¢ coin switch wire down and you should read maximum resistance.

6. A Simple Function Test on the Coin Switches

a. Remove the coin changer back cover. Remove the logic board and lay it to the side of the changer leaving it plugged in.

b. Be sure reset ball is disabled so changer accepts credit.

c. Carefully plug the coin changer into the changer tester.

d. Set the vend price slide switches to 5¢ sale.

1. Actuate the nickel coin switch **slowly** down. It should vend on every **return** actuation. If payout occurs, replace the 5¢ coin switch.*

e. Set the vend price slide switches to 10¢ sale.

1. Actuate the 10¢ coin switch wire **slowly** down. It should vend on every **return** actuation. If payout occurs, replace the 10¢ coin switch.*

f. Set the vend price slide switches to 25¢ sale.

1. Actuate the 25¢ coin switch wire **slowly** down. It should vend on every **return** actuation. If payout occurs, replace the 25¢ coin switch.*

***NOTE--If unit still fails after coin switch is replaced, the logic board is malfunctioning. Replace logic board.**

B. TUBE EMPTY SWITCH & LEVER ASSEMBLY

The tube empty switch is actuated by the tube empty lever assembly. It has a molded tube empty lever. The tube empty switch is in a fixed position and does not require any adjustment.

C. COIN RETURN ELECTRO-MAGNETS (CREM's)

The coin return electro-magnet or crem's, are equipped with one piece armatures which DO NOT require adjustment.

1. Checking the CREM coil

If it is suspected that an electro-magnet coil is open, disconnect the wires from the coil terminals and test with a volt-ohm meter set on DC resistance R X 100 scale. If the coil is good, the reading will be approximately 1650 ohms.

2. Removing the CREM from the Coin Changer

The 5-10¢ and 25¢ crem's are mounted by means of two flat head screws which enter the housing from the back of the changer.

3. Checking for Excessive Noise

- Look for foreign material between the armature and the shaded pole (center) of the lamination stack (point A figure 6-3) This would prevent proper seating of the armature and cause it to vibrate or buzz.
- Test the spring tension of the armature retaining spring. Too much or too little tension will cause buzzing.

1. With your finger, gently apply pressure to the retainer spring so that the armature is held firmly (point "B" figure 6-3). If this stops the buzzing, remove the armature and bend the spring to increase the tension.
2. If the buzzing continues, gently push the spring away from the armature. If this stops the buzzing, adjust by carefully bending the spring so that the tension is decreased.

NOTE: On changers manufactured after 1982, a new style crem has replaced the older, metal style. (See Figure 6-3) The new crem's DO NOT require any adjustments. The following instructions pertain only to the older crem's with a metal armature.

D. TRANSFORMER

This is a step down transformer. The primary winding has a higher resistance (ohms) than the secondary.

1. Checking the Primary Winding - Changer Unplugged

- Unplug the logic board. It is not necessary to remove the board.

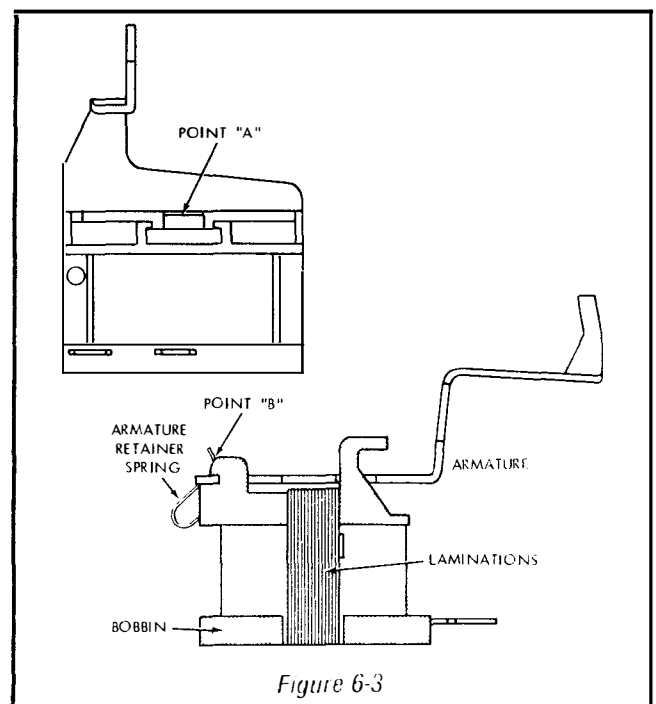
- Set your volt-ohm meter on DC resistance R X 1 scale.
- Connect the red positive meter lead to pin #19 of the logic board plug and connect the black negative meter lead to pin #14 of the same plug.
- You should get a meter reading of between 70 and 90 ohms.

NOTE: IF YOU DO NOT GET A READING, THE TROUBLE COULD BE EITHER THE TRANSFORMER WINDING OR THE THERMAL CUT-OFF (See checking the thermal cut-off).

2. Checking the Secondary Winding - Changer Unplugged

- Disconnect the logic board plug. It is not necessary to remove the logic board.
- Set your volt-ohm meter on DC resistance R X 1 scale.
- Connect the red positive meter lead to pin #1 of the logic board plug and black negative meter lead to #2.
- You should get a meter reading between 1.0 and 2.0 ohms.

NOTE: IF YOU DO NOT GET A READING, THE TRANSFORMER IS OPEN.



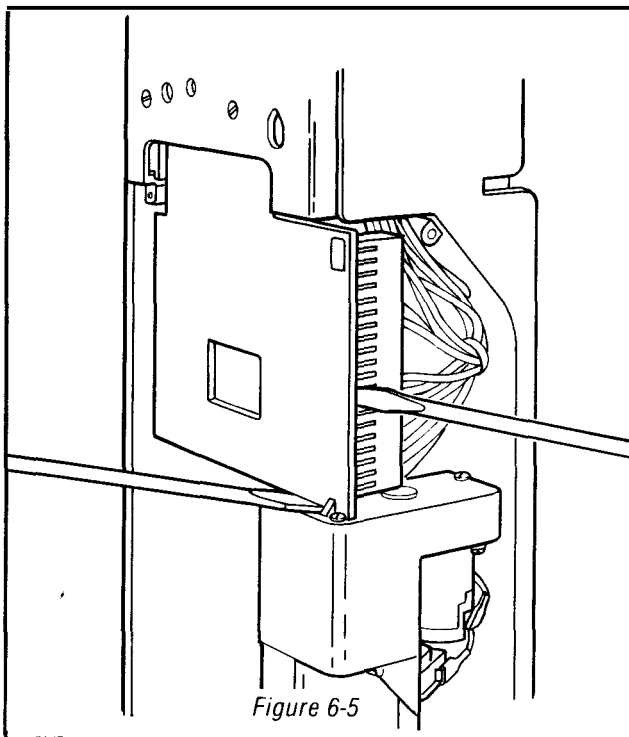
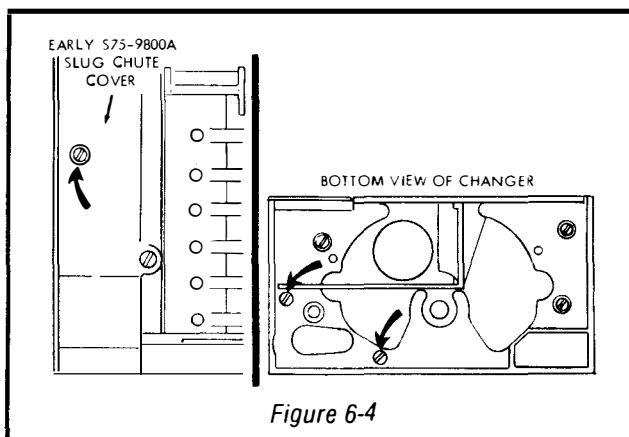
E. THERMAL CUT-OFF

This is a heat sensitive device, wired in series with the primary windings of the transformer and is located under the secondary winding.

1. Checking the Thermal Cut-Off

- Remove the transformer from the changer.
- Disconnect the double red wires from the transformer primary terminal.
- Remove the woven asbestos covering from the two red wires in step b. The silver cylindrical shaped object attached to the ends of the red wires is the thermal cut-off.
- Set your volt-ohm meter to D.C. resistance, RX1, scale and connect the leads to opposite ends of the thermal leads to the thermal cut-off. The reading should be zero ohms (complete deflection of the meter).

If the thermal cut-off is open, it will be necessary to replace the complete assembly, Coinco part number 403853-4. Since it is a heat sensitive device, any attempt to repair it by soldering in a new part will destroy it.



F. PAYOUT MOTOR

1. Checking the Payout Motor - Changer Unplugged

- Disconnect the logic board plug. Set your volt-ohm meter on R X 1 scale.
- Connect the two meter leads to pin #3 and pin #5 of the logic board plug.
- You should get a reading of between 40 and 100 ohms.

2. Changing the Payout Motor - (Figure 6-4)

The DC Payout Motor is attached to the motor gear box which is mounted by two screws through the bottom payout base.

On earlier S75-9800A models, there is also one screw through a hole in the slug chute cover.

After removing the gear box, the motor is easily changed by removing the two mounting screws on its mounting bracket.

G. ELECTRONIC LOGIC BOARD

1. Removing the Logic Board from the Coin Changer (Figure 6-5)

Be sure the changer is **UNPLUGGED**. Remove the two screws holding the back coverplate.

The board is locked into place by a post on the changer housing and a tab on the top of the motor assembly.

Insert a small screwdriver or similar device between the bottom of the P.C. board and top of the motor and wedge it up gently releasing it.

Unplug the board by again inserting a small screwdriver between the board and plug, gently prying the plug from the board. Extreme care must be exercised **NOT** to damage the plug or board terminals.

2. Checking the PC Link (Fuse)

A visual check of the PC link on the foil side of the P.C. board should indicate whether it is open or not.

3. Adding a New PC Link (Figure 6-6 & 6-7)

The new PC link will be soldered in place on the component side of the printed circuit board. You will need the following:

A 40 watt (max) soldering iron

1 #902791 PC Link (Fuse)

Rosin Core solder

2-1/2" pieces of 24 gage buss wire

Solder one end of each of the buss wires into the holes provided on the component side of the printed circuit board.

Insert the extended buss wire leads through the holes in the PC link. Slide the link down until flat on the board and solder in place. Clip off any excess lead.

Care Must be exercised, and good soldering techniques used, in the replacing of the PC Link . . . Excessive heat or poor workmanship can easily damage foil and components on a printed circuit board . . .

H. SERVICING AIDS

Several servicing aids are available from Coinco

1. Coin Changer Tester/Test Stand Coinco Part #405326

The coin changer is an integral part of the vending machine and certain functions by the coin changer are directly related to the operation of the vendor.

To simulate these functions when the changer is removed from the vendor, Coinco has made available a coin changer tester. Also available is a coin changer test stand which holds the coin changer and tester during testing. It has separate areas for the coin return and cash box outlets of the changer.

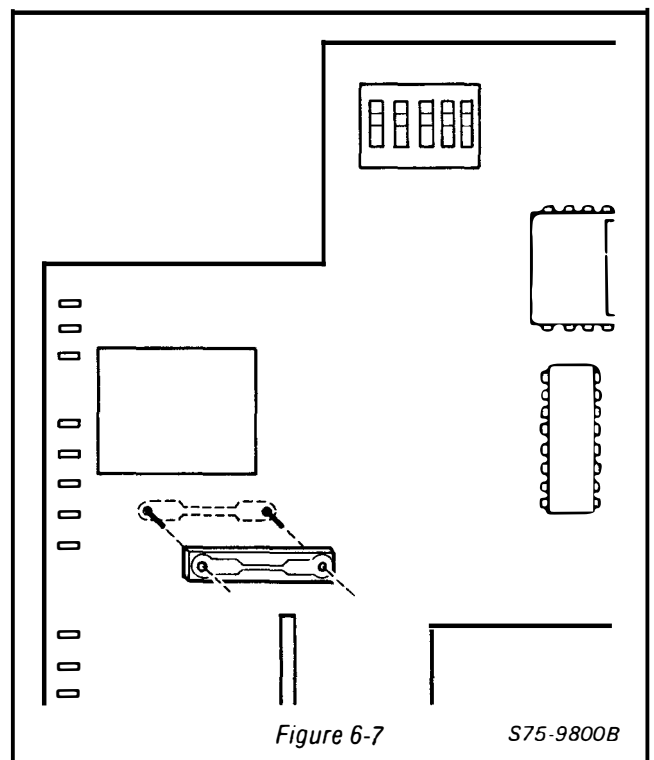
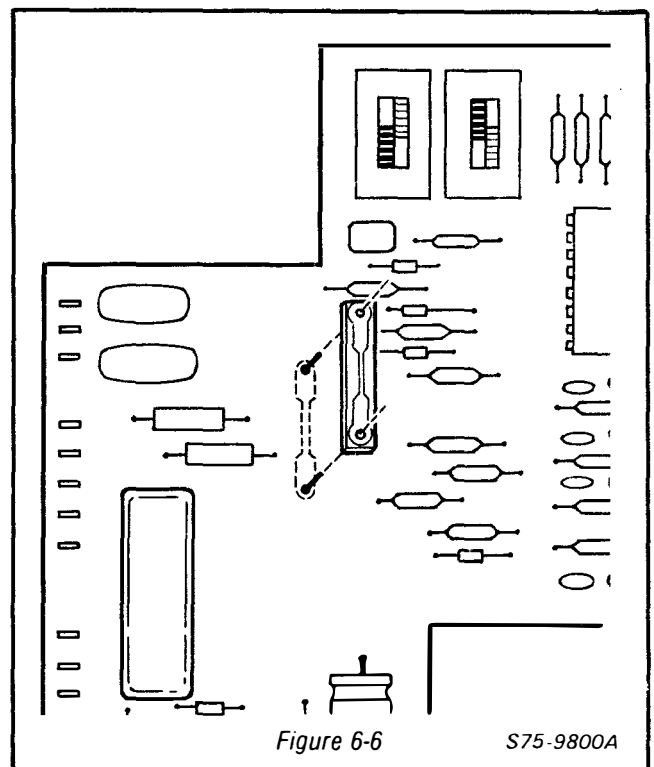
2. Volt-Ohm Meter - Coinco Part #902462

Coinco has also available a volt-ohm meter for the purpose of taking voltage and resistance readings throughout the changer.

If you decide to service the logic board yourself, other servicing aids are available.

3. Logic Probe - Coinco Part #404056

In some areas of trouble shooting the logic board with Coinco Publication #902868 it calls out the use of a logic probe. This is an electronic device used to detect voltage changes that are faster than the reaction time of a volt-ohm meter.



4. Test Probe - Coinco Part # 404057

The test probe is used to force some test points on the logic board to a high or low voltage state to check certain areas of the electronic circuit.

5. S75-9800B/C Logic Board Tester - P/N 404984

The S75-9800B/C Logic Board Tester provides instant testing of all components on the logic board. Its digital readout will display if the logic board is good or display the faulty component if the logic board is defective.

I. SOLDERING TECHNIQUES

Care must be exercised, and good soldering techniques used, in the repairing of printed circuit boards. Excessive heat or poor workmanship can easily damage foil and components on a printed circuit board.

It is recommended that soldering irons exceeding 60 watts maximum NOT be used. DO NOT use a soldering gun.

De-soldering components from printed circuit boards is not difficult to master if some simple rules are followed:

a. Soldering Iron

The soldering iron tip should be of the tapered type, 1/8" or less. For maximum heat transfer, the soldering iron must be kept clean and tinned.

b. Solder Wick #3

There are two different means of removing solder from a component pad on a printed circuit board. One, using a solder sipper, and two, using solder wick.

A solder sipper is a suction type device that draws the solder from the pad once melted. Solder wick is a copper braided material that absorbs the melted solder. Unless a person is proficient at using a solder sipper, we recommend using a solder wick.

#3 solder wick is approximately 1/8" wide and is available in 5 foot lengths from any electronic supply store.

c. De-soldering Procedure

1. Apply the solder wick to the pad to be desoldered, see figure 6-8.

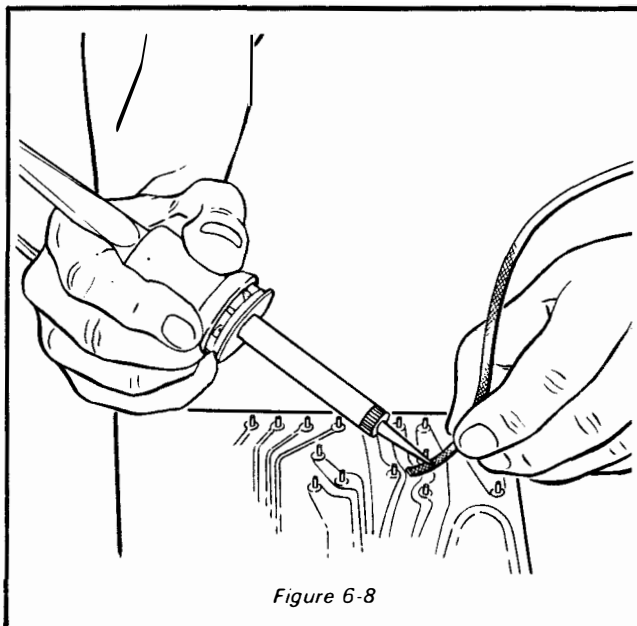


Figure 6-8

2. Place the soldering iron tip on the soldering wick directly over the pad to be desoldered. Press down, firmly but carefully.

The heat from the soldering iron will transfer through the solder wick to the pad. The melted solder from the pad will be drawn into the solder wick. Continue this process until the solder is removed from around the component lead.

3. With a pair of pliers, grasp the lead of the component to be desoldered where it extends through the printed circuit board. Gently move it from side to side to break any solder connection. Note: if the lead doesn't move freely in the hole, it may be necessary to repeat step #2.

SECTION 7

TROUBLE-SHOOTING THE COIN CHANGER

(See Figure 7-1)

Trouble-shooting the S75-9800A or S75-9800B coin changer is a simple matter since almost all functions of the coin changer are controlled by the electronic logic system mounted on one printed circuit board.

The printed circuit board was **not** designed or intended to be repaired in the field.

If the logic board is out of warranty, and you would prefer to service it yourself, electronic training and technical assistance is available from any of the Coinco Branch Offices.

Listed below are some visual checks that can be made on the board and changer, and also, a sequential test that you can make on the changer using the Coinco #405186 tester.

A. VISUAL CHECKS - LOGIC BOARD

1. Visually check to make sure there is no contamination on the logic board.

2. Check the solder connections of each component for a possible poor connection. Check the leads of the large 220 mfd capacitor in particular.
3. Visually check the various components and their leads to be sure they are not broken or touching.
4. Check the logic board for burnt components or an open fuse link.

B. VISUAL CHECKS - COIN CHANGER

1. Check all terminals to be sure they are not loose or disconnected. Check in particular for loose connections on the coin switches.
2. Check the harness for possible interference with the coin switch wires.

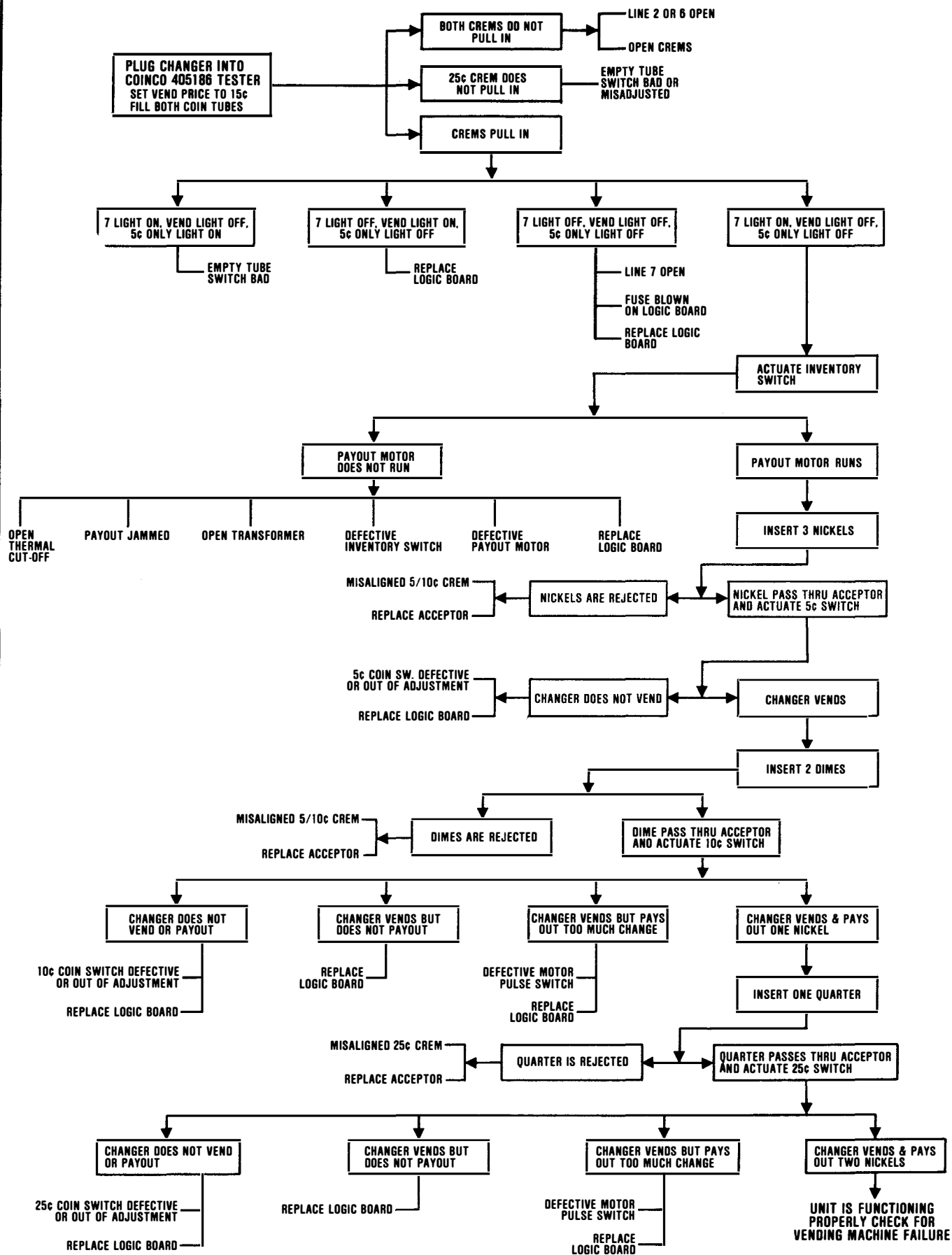


Figure 7-1

SECTION 8 ORDERING REPLACEMENT PARTS

When ordering replacement parts please direct your order to the COINCO office nearest you (See back of manual for listing). To expedite shipment as quickly as possible, please state the following on your purchase order:

Part No.

Quantity

Model number of the coin changer.

The model number can be found on the wiring diagram on the side of the coin changer.

LIMITED WARRANTY

Coin Acceptors, Inc., hereby warrants all products of its manufacture to be free from defects in material and factory workmanship for a period of twelve months from date of sale or eighteen months from date of manufacture, whichever date shall first occur, as determined by Coin Acceptors Inc. manufacturing date code, subject to the following conditions:

1. Coin Acceptors, Inc. will repair or replace, at its option, any part of its equipment which proves to be defective during normal use and service during said period of time.
2. All products or parts covered under this warranty are to be shipped, prepaid, or delivered, by Purchaser, to any Coin Acceptors, Inc. Sales and Service office.
3. If a complete unit or assembly containing defective parts is returned to Coin Acceptors, Inc., a charge will be made for labor to remove and replace said parts.
4. Complete written information must be supplied Coin Acceptors, Inc. in each warranty case, providing the model and serial numbers, date of purchase of unit, and a brief description of the defective action.
5. This warranty does not apply to any equipment which has been subjected to an electrical overload of its circuitry, or to any other kind of abuse, or accident, alteration, misuse, or neglect.
6. Subject to all of the above and foregoing conditions, Coin Acceptors, Inc. further warrants the Electronic Logic Board in its electronic units to be free from defects in material and factory workmanship for a period of two years, from the date of its manufacture, as determined by Coin Acceptors, Inc. manufacturing date code and agrees to repair or replace, at its option, any such defective board, free of charge, if its seal is intact and said board has not been tampered with or altered in any way after leaving Coin Acceptors, Inc. factory.

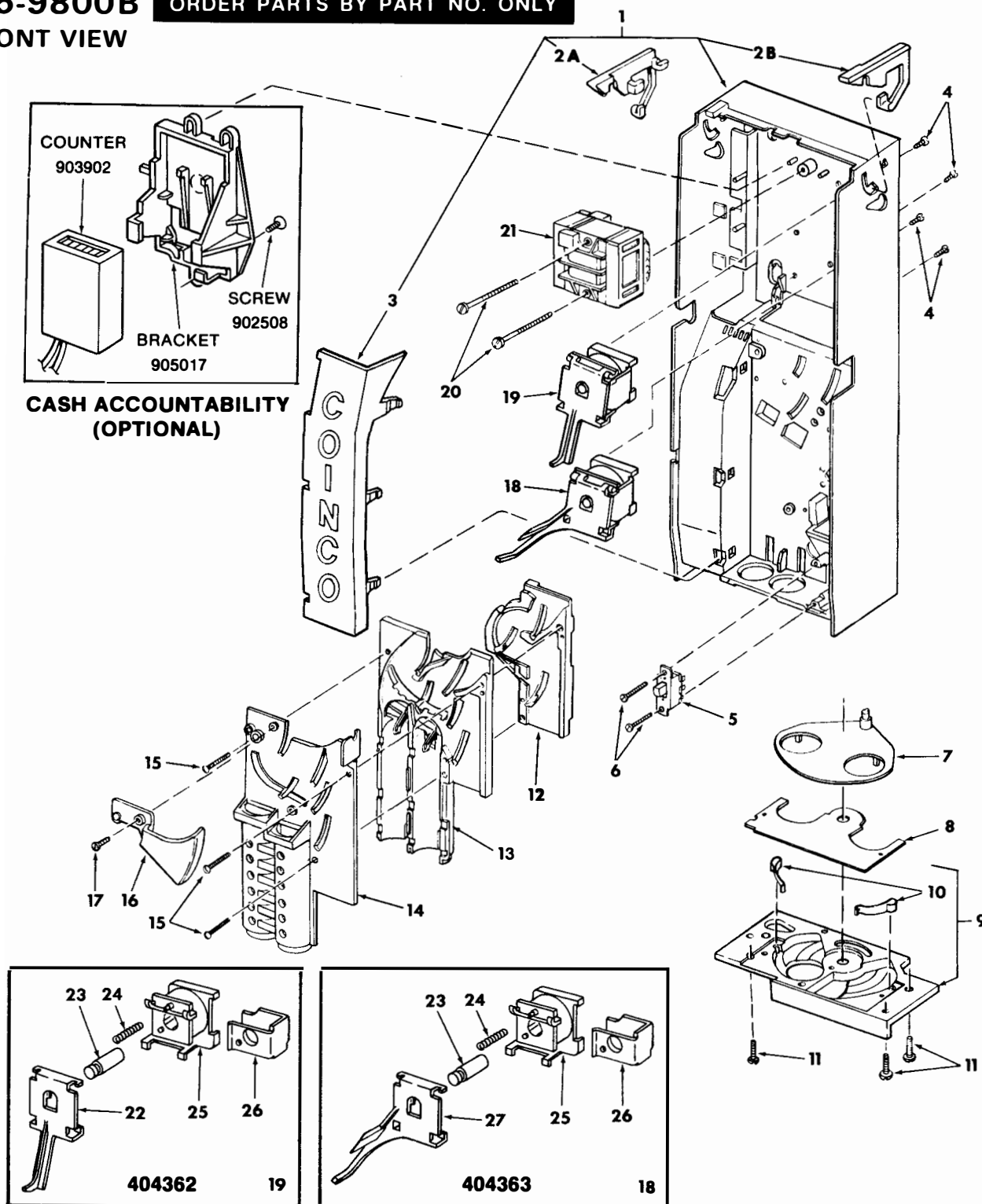
THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, ORAL OR WRITTEN, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. Coin Acceptors, Inc. liability is limited to repair or replacement, at its option, of defective items and does not include installation costs or incidental and consequential damages. No other obligation or liability is assumed, nor is any person authorized to make any other warranty on behalf of Coin Acceptors, Inc., or to obligate the Company to any liability not strictly in accordance with this warranty.

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S75-9800B

ORDER PARTS BY PART NO. ONLY

FRONT VIEW

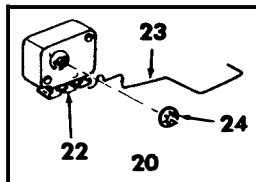


INDEX NO.	PART NO.	DESCRIPTION	QTY.
1	404370	Housing, Latch, Chute & Baffle Assy	1
2A	902010	Acceptor Latch, Left	1
2B	902011	Acceptor Latch, Right	1
3	904193	Slug Chute Cover	1
4	902508-1	Flat Head Screw	4
5	901303	Slide Switch	1
6	325-4-12	No. 4 x 3/4 Pan Head Screw Taprite	2
7	901941	Payout Slide	1
8	902093	Bottom Cover	1
9	400997	Base Chute Assembly	1
10	900613	Base Chute Spring	2
11	345-4-10	No. 4 x 5/8 Pan Head Screw	3
12	903207	10 - 25¢ Chute	1
13	400996	5¢ Chute Assembly	1
14	901496	5¢ Chute Cover	2

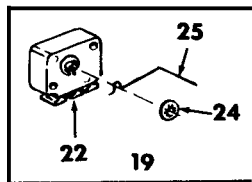
INDEX NO.	PART NO.	DESCRIPTION	QTY.
15	345-4-15	No. 4 x 15/16 Pan Head Screw	3
16	902825	Switch Wire Protector	1
17	345-4-5	No. 4 x 5/16 Pan Head Screw	1
18	404363	5 - 10¢ Coin Return Electro-Magnet Assembly	1
19	404362	25¢ Coin Return Electro-Magnet Assembly	1
20	325-4-20	No. 4 x 1-1/8 Pan Head Screw	2
21	403358	Transformer	1
22	904346	25¢ Coin Blockout	1
23	404330	Plunger	2
24	904350	Compression Spring	2
25	404321	C.R.E.M. Coil	2
26	904347	Magnetic Shunt	2
27	904345	5 - 10¢ Coin Blockout	1

S75-9800B REAR VIEW

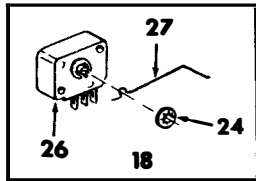
ORDER PARTS BY PART NO. ONLY



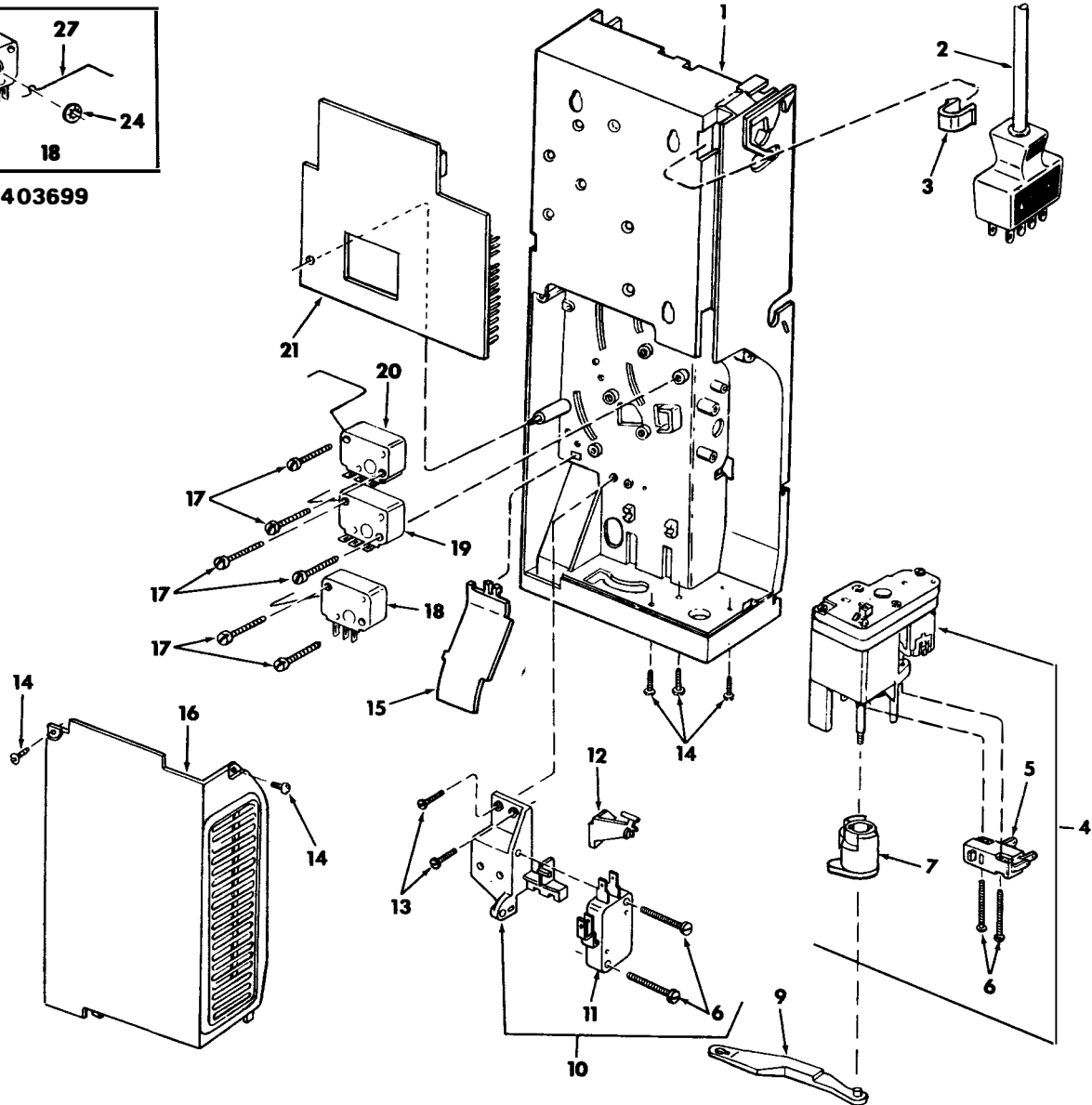
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403729



403699



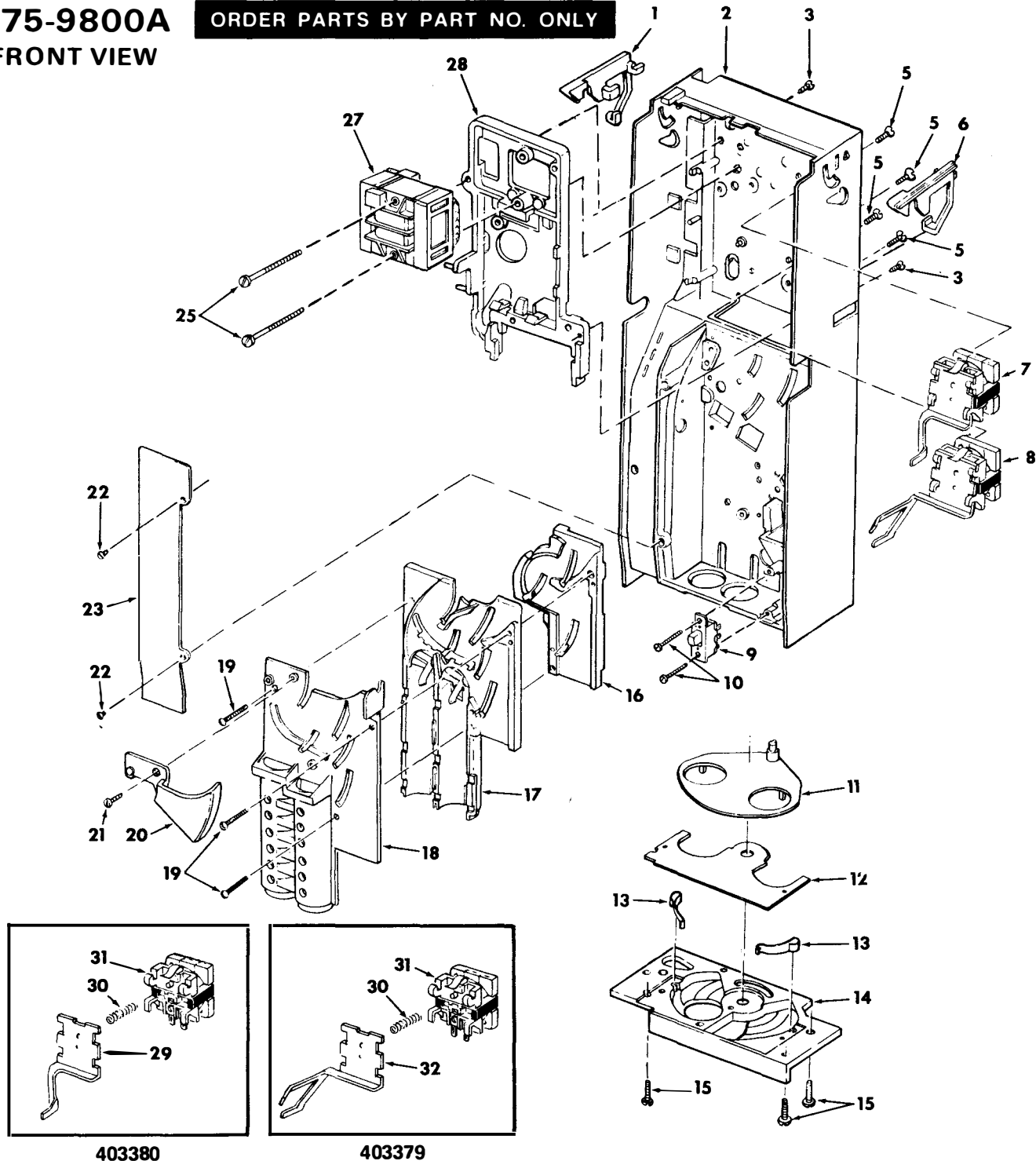
INDEX NO.	PART NO.	DESCRIPTION	QTY.
1	404370	Housing Assembly (Item 15 incl.)	1
2	404383	Harness	1
3	904195	Harness Clamp	1
4	403857	Motor and Gear Case Assembly	1
	403452-1	Motor only	1
5	902269	Switch	1
6	325-4-10	No. 4 x 5/8 Pan Head Screw	4
7	406072	Carrier & Pulse Cam Assembly	1
9	902067	Drive Link	1
10	404115-4	Empty Switch and Bracket Assembly	1
11	903867	Switch	1
12	903528	5¢ Tube Empty Lever	1
13	345-4-5	No. 4 x 5/16 Pan Head Screw	2

INDEX NO.	PART NO.	DESCRIPTION	QTY.
14	345-4-10	No. 4 x 5/8 Pan Head Screw	4
15	904191	Cash Box Baffle	1
16	902687-2	Back Cover	1
17	345-4-13	No. 4 x 13/16 Pan Head Screw	6
18	403699	25¢ Switch & Wire Assembly	1
19	403729	10¢ Switch & Wire Assembly	1
20	403836	5¢ Switch & Wire Assembly	1
21	903036-3	Logic Board	1
22	902814	Switch	2
23	902759	5¢ Switch Wire	1
24	900651	Switch Wire Retainer	3
25	901995-1	10¢ Switch Wire	1
26	902814-1	Switch	1
27	902816	25¢ Switch Wire	1

S75-9800A

FRONT VIEW

ORDER PARTS BY PART NO. ONLY



403380

403379

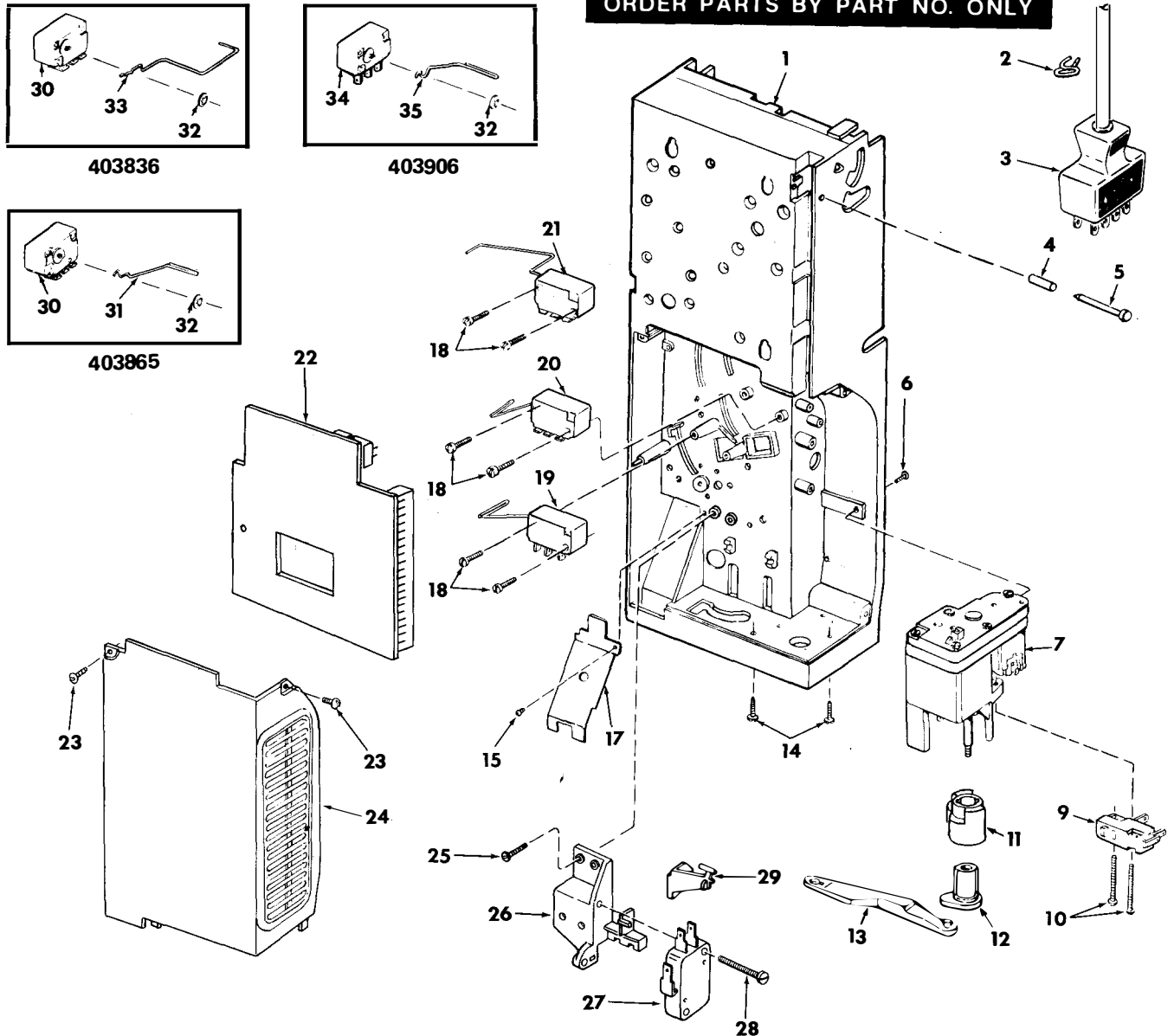
INDEX NO.	PART NO.	DESCRIPTION	QUANTITY
1	902010	Acceptor Latch Left	1
2	902013	Housing	1
3	902508	Flat Hd.Screw Special Plastite	4
4		OPEN	
5	902508-1	Flat Hd.Screw Special Plastite	4
6	902011	Acceptor Latch Right	1
7	403380	25¢ Coin Return Electro-magnet Ass'y	1
8	403379	5-10¢ Coin Return Electro-magnet Ass'y	1
9	901303	Slide Switch	1
10	325-4-12	#4 x 3/4 Pan Hd.Screw Taptite	2
11	901941	Payout Slide	1
12	902093	Bottom Cover	1
13	900613	Base Chute Spring	2
14	901494	Base Chute	1
15	345-4-10	#4 x 5/8 Pan Hd.Screw Plastite	3
16	903207	10-25¢ Coin Chute	1

INDEX NO.	PART NO.	DESCRIPTION	QUANTITY
17	400996	5¢ Chute Assembly	1
18	901496	5¢ Chute Cover	1
19	345-4-15	#4 x 15/16 Pan Hd.Screw Plastite	3
20	902825	Switch Wire Protector	1
21	345-4-5	#4 x 5/16 Pan Hd. Screw Plastite	1
22	102-6-5	#6-32 x 5/16" Flat Hd. Screw	2
23	900606	Slug Chute Cover	1
24		OPEN	
25	325-4-18	#4 x 1-1/8 Pan Hd. Screw Taptite	2
26		OPEN	
27	403358	Transformer Assembly	1
28	902303	Transformer Mtg. Bracket	1
29	902234	25¢ Electro-magnet Armature	1
30	902284	C.R.E.M. Compression Spring	2
31	403382	C.R.E.M. Assembly	2
32	902233	5-10¢ Electro-magnet Armature	1

S75-9800A

REAR VIEW

ORDER PARTS BY PART NO. ONLY



INDEX NO.	PART NO.	DESCRIPTION	QUANTITY
1	902013	Housing	1
2	902091	Cable Clamp	1
3	403853	Harness Kit	1
4	901414-47	Plastic Tubing	1
5	902077	Harness Retainer Pin	1
6	341-4-6	No. 4 x 3/8" Flat Head Screw Plastite	1
7	403461	DC Motor and Gear Case Assembly	1
8		Open	
9	902269	Switch	1
10	325-4-10	No. 4 x 5/8" Pan Head Screw Taptite	2
11	902650	Carrier and Pulse Cam	1
12	902651	Drive Arm Cam	1
13	902067	Drive Link	1
14	345-4-10	No. 4 x 5/8" Pan Head Screw Plastite	2
15	345-4-4	No. 4 x 1/4" Pan Head Screw Plastite	1
16		Open	
17	900648	Cash Box Baffle	1
18	345-4-13	No. 4 x 13/16" Pan Head Screw Plastite	6

INDEX NO.	PART NO.	DESCRIPTION	QUANTITY
19	403906	25¢ Coin Switch and Wire Assembly	1
20	403865	10¢ Coin Switch and Wire Assembly	1
21	403836	5¢ Coin Switch and Wire Assembly	1
22	903036	Lower Logic Board	1
23	345-4-10	No. 4 x 5/8" Pan Head Screw Plastite	2
24	902867-2	Back Cover	1
25	345-4-5	No. 4 x 5/16" Pan Head Screw Plastite	2
26	903527	Empty Lever and Switch Bracket	1
27	903867	Switch	1
28	325-4-10	No. 4 x 5/8" Pan Head Screw Taptite	2
29	903528	5¢ Tube Empty Lever	1
30	902814	Switch	2
31	901995-1	10¢ Coin Switch Wire	1
32	900651	Switch Wire Retainer	3
33	902759	5¢ Coin Switch Wire	1
34	902814-1	Switch	1
35	903203	25¢ Coin Switch Wire	1



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