# 9300-L/ 9302-L
# ELECTRONIC CHANGER
## OPERATION AND SERVICE MANUAL


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## INTRODUCTION

This manual contains information on installing, operating and maintaining the Coinco **9300-L** and **9302-L** coin changers. This manual is intended for owners, route operators and shop-level technicians as a primary source of information. Taking time to read this manual and becoming familiar with this information will help you obtain the best performance from your **Coinco** coin changer.

## MODELS

9300-L - 117 volts (full wave rectified)
9302-L - 24 volts (full wave rectified)

Both the 9300-L and 9302-L changers have a modular design to increase service ease.

## FOR YOUR RECORDS

A label indicating the coin changer model number and serial number is affixed to the side of the coin changer. Refer to the model and serial number whenever you call upon your **Coinco Service Center** for information or service. The first four digits of the serial number contain the manufacturing date code which indicates the beginning of the warranty period.

Example: Serial No. 268907053. First and second digits indicate week of manufacture. Third and fourth digits indicate year of manufacture.

## FEATURES

For use in electronically controlled vending machines.

Vend price range determined by vendor electronic controller board.

Change capacity of $40.55.

On-site field programming.

Pays out nickels, dimes and quarters form self-loading, high capacity change tubes.

Select high or low quarter tube level by flipping a switch.

Dollar coins and/or Canadian coins can be rejected by flipping a switch.

Heavy-duty payout solenoids provide fast, accurate payout.

State-of-the-art electronic logic system is designed for reliability and performance.

Lightweight, rugged plastic construction provides dependable, maintenance-free service.

Provides the fastest and most accurate coin acceptance of any electronic unit available today.

## AFTER UNPACKING

After unpacking the unit, inspect if for any possible shipping damage. If the unit is damaged, notify the shipping company immediately. Only the co-signee (the person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend that you retain the original carton and packing materials to reuse if you need to transport or ship your changer in the future.

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

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# SECTION 1: GENERAL INFORMATION

## SPECIFICATIONS

### POWER REQUIREMENTS

9300-L
117 volts (full wave rectified)
95 volts to 130 volts at 1.0 amps max.
+5 volts DC +/- 0.25 volts, 0.5 amps continuous

9302-L
24 volts (full wave rectified)
20 volts to 30 volts at 3.0 amps max.
+5 volts DC +/- 0.25 volts, 0.5 amps continuous

### OPERATING TEMPERATURE

0°F to 160°F
-18°C to 65°C

### STORAGE TEMPERATURE

-22°F to 160°F
-30°C to 72°C

### RELATIVE HUMIDITY

20% to 98% Noncondonsing

### PHYSICAL DIMENSIONS

Height: 14.81 inches high (base to top of coin return lever)
Width: 5.28 inches in width (acceptor latch to acceptor latch)
Depth: 2.86 inches (gate closed)

### PHYSICAL WEIGHT IN SHIPPING CARTON

4 pounds

### COIN TUBE CAPACITY

| | $.05 Tube | $.10 Tube | $.25 Tube | |
|---|---|---|---|---|
| | | | LO $.25 Option Switch Set to OFF position | LO $.25 Option Switch Set to ON position |
| Low Sensor Level | 7 | 9 | 7 | 7 |
| Full Sensor Level | 78 | 113 | 77 | 22 |
| Hand Load Level | 86 | 125 | 95 | 22 |

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## INSTALLING THE CHANGER

1. Remove power from vendor.

2. Remove the acceptor from the changer by releasing acceptor latches and pulling the top of the acceptor forward, away from changer. Unplug ribbon cable from changer. Free lower acceptor studs from changer housing. With the acceptor removed, set key holes in back of changer housing over mounting screw in the vendor. Tighten snugly.

3. Set desired changer options (See Option Switch Setting).

4. Replace the acceptor by inserting bottom acceptor studs into changer housing guides. Plug the acceptor ribbon cable into the changer. Press top of acceptor into changer housing until top acceptor studs lock into changer's acceptor latches.

5. Plug changer into 12-pin vendor socket.

6. Load coin tubes making sure all coins lie flat.

7. Apply power to vendor.

8. Test changer with a variety of coins to insure proper operation.

**NOTE: SAVE THE COIN CHANGER CARTON. Always store coin changer in its shipping carton when not in use. This will keep the unit clean and protected.**

## OPTION SWITCH SETTING

See Figure 2.0

1. Hinge acceptor down by releasing acceptor latches and pulling the top of the acceptor forward, away from changer.

2. Located in the upper portion of the changer, behind the acceptor, is a single switch module containing three rocker switches. When the top of the rocker switch is pushed in, it is the ON position. The switches correspond as follows:

1=USA/CAN ON: U.S. and Canadian coins will be accepted.
OFF: Canadian coins will be rejected

2=LO 25¢ ON: Quarters are directed to cash box once change tube has approxi mately 22 quarters.
OFF: Quarters are put into change tube until it is full

3=$ACPT ON: Dollar coin will be accepted
OFF: Dollar coin will be rejected

3. Set option switches to desired setting.

4. Return acceptor to operating position making sure acceptor latches secure acceptor.

5. Test with a variety of coins to insure proper operation.

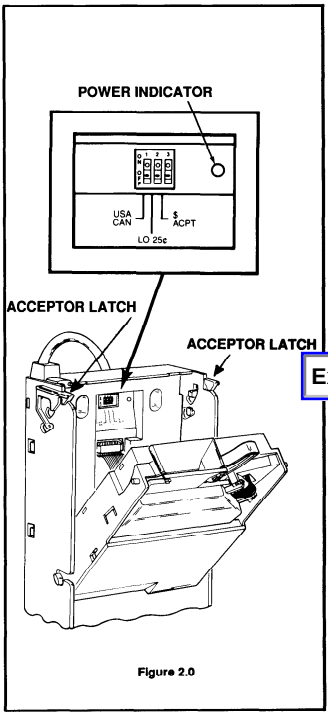


**Figure 2.0**

# SECTION 3: OPERATION

## GENERAL OPERATING PRINCIPLES

The basic operating principles of the 9300-L and 9302-L are the same.

## COIN RECOGNITION

See Figure 3.0

As a coin enters the changer through the acceptor funnel, its impact is absorbed by a white ceramic rail which debounces the coin and allows it to continue down the coin rail at a smooth and steady speed. As a coin rolls down the rail, it passes between two sets of LED sensors which measure the speed and size of the coin. The coin also passes between two sets of coils which measure the metallic content of the coin. These measurements are used to determine if the coin is valid and the value (denomination) of the coin.

## COIN SEPARATION

See Figure 3.0

After the coin's validity has been determined, the coin rolls off the end of the coin rail and enters the separator section of the acceptor. The UPPER (coin tube) gate and the LOWER (cash box) gate are opened and closed by their respective solenoids. These solenoids are energized and de-energized by an electrical signal from the acceptor logic board based of the following criteria.

- the validity of the coin
- the denomination of the coin
- the status (full or empty) of the appropriate coin tube

The positions of these two gates cause the coin to be routed to one of three places: the appropriate changer coin tube, the vendor cash box, or if the coin is rejected, the vendor coin return cup.

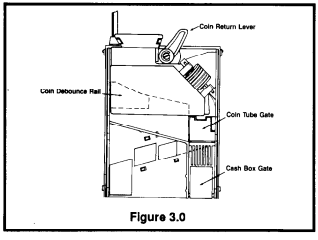


**Figure 3.0**

### Rejected Coin

See Figure 3.1

If a coin is rejected for any reason, both the UPPER (coin tube) gate and the LOWER (cash box) gate will remain closed. All rejected coins will drop into the vendor coin return cup via the coin changer coin return chute.

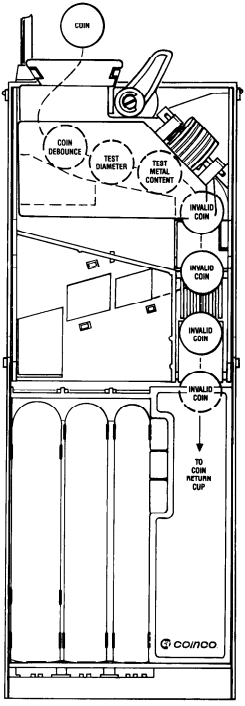


**Figure 3.1**
**Rejected Coin**

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**Accepted Coin**
See Figures 3.2 and 3.3

An accepted coin will be routed to either the vendor cash box or to one of the changer coin tubes. The (FULL) sensors in each coin tube determine which route the coin will take. If the coin tube corresponding to the validated coin is full (full sensor covered by coins in change tube), the cash box gate will open, allowing the coin to drop into the vendor cash box via the changer cash box chute. If the appropriate coin tube is not full (full sensor not covered by coins), the coin tube gate will open directing the coin down a ramp. Along the wall of the ramp are windows for entry into the coin tube. As the coin reaches a window of the appropriate size, it falls into the coin tube. All dollar coins are always directed to the cash box via the cash box chute.

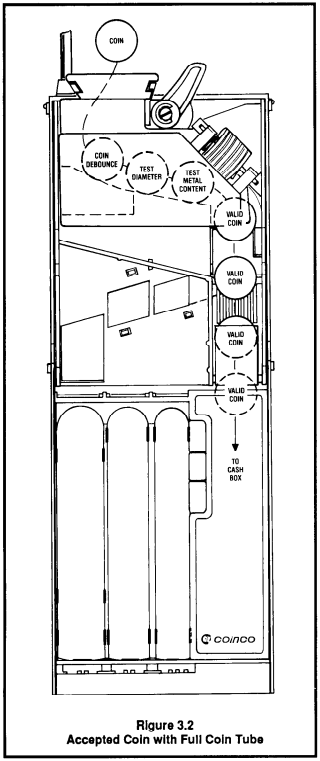


**Figure 3.2**
**Accepted Coin with Full Coin Tube**

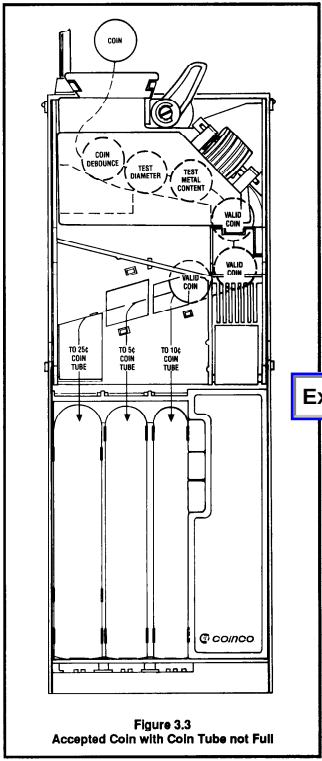


**Figure 3.3**
**Accepted Coin with Coin Tube not Full**

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# SECTION 3: OPERATION

## CREDIT AND ACCUMULATION

See Figure 3.4

There are two sensors, one in the separation section of the acceptor and one in the cash box path of the acceptor. As coins pass either one of these sensors, the changer sends credit information to the vendor electronic controller board where the coin credit is accumulated.

## VEND

Vend is a function of the vendor electronic controller board. The vendor controller board accumulates all credit information received from the coin changer. As credit is accumulated in the vendor controller board, vend selections can be made when their respective vend price settings are equalled.

## COIN PAYOUT

Coins are paid out from the coin changer when a change payback is required or when either of the vendor's $.05 -$.10 - $.25 dispense switches are manually operated. Coins are dispensed by D.C. solenoid-operated slides located at the bottom of each of the three coin tubes. These dispense solenoids are controlled b signals generated by the vendor controller board.

When a solenoid energizes, the upward motion of its plunger compresses a spring and draws the solenoid lever, which in turn pushes a payout slide forward. This loads the coin for payout. When the solenoid de-energizes, the spring force returns the plunger ti its de-energized state, which returns the solenoid lever and payout slide, dispensing a coin. Coin payout rate is determined by the vendor electronic controller board.

## CHANGE STORAGE

See Figure 3.5

The full tube sensors in each coin tube continually report the (full/not full) status to the coin changer logic board. The information is then used to determine the placement of the next accepted coin. This information controls the action of the acceptor coin tube and cash box gates.

EXAMPLE: If the quarter tube Is full (full sensor blocked by coins) the acceptor coin tube gate will remain closed and the cash box gate will open each time a quarter is accepted, routing all quarters

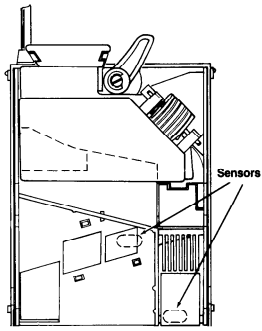


**Figure 3.4**
**Credit Sensors**

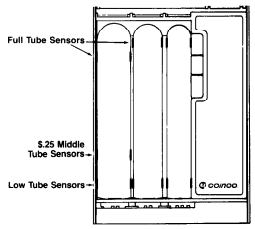


**Figure 3.5**
**Coin Tube Sensors**

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to the vendor cash box via the changer coin chute. After one or more quarters are paid out as change, leaving the full sensor exposed (not full), the acceptor coin tube gate will open each time a quarter is accepted, routing quarters to the changer coin tube until it is full again. **NOTE**: If the changer (LO-$.25) options switch is set to the ON position, accepted quarters will be routed to the cash box when (middle $.25 tube sensor) is blocked by coins.

The low tube sensors in each coin tube continually report the (blocked/not blocked) coin level status to the vendor controller board. This information is used by the vendor controller board to determine if a correct change payout can be made.

## CORRECT CHANGE OPERATION

The 9300-L and 9302-L coin changers continually report the status of the low tube sensors to the vendor's controller board. The logic control for correct change is initiated by the vendor controller board.

## ESCROW RETURN

Escrow return is a function of the vendor electronic controller board. Coins are always accepted regardless of the coin tube levels. (Exception: For dollar coins to be accepted, a minimum number of coins are required (low tube sensors blocked) for payback in the event of an escrow return request.)

The value of each coin is accumulated in the vendor controller board. If a coin return is requested, a signal is sent to the appropriate dispense solenoid(s) to pay back coins of the same denomination. If a dollar coin has been accepted, change will be returned in the least number of coins possible if an escrow return is requested.

## INTERFACE BETWEEN 9300-L/9302-L CHANGER AND CONTROLLER/VENDOR

See Figures 3.6 & 3.7

The power plug pin connectors for the 9300-L/9302-L changers are shown in Figure 3.5. Figure 3.6 shows the interface between the 9300-L/9302-L and a vendor using an electronic controller board.

The changer transmits data to the external controller via its "interrupt" and "data" lines. The controller responds to these messages via its "send" line. These three lines from the serial data link between changer and controller. The controller/vendor supplies power to operate the changer via its four power lines. In addition, the controller has five control lines that authorize coin payout, enable/inhibit coin acceptance, and reset the changer to its standby condition.

The following is the sequence of operations between the 9300-L/9302-L changer and the vendor controller:

- When a coin enters the changer, an "interrupt" signal is sent on Pin #4 to inform controller that the changer is ready to send credit information.

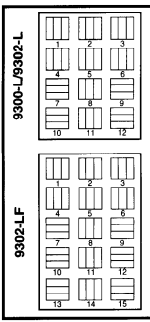
- When the controller receives this "interrupt" signal, it signals the changer via a "send" signal on Pin #3. This indicated to the changer that the controller is ready to accept "data".

- When the changer receives this "send" signal, it transmits a message on Pin #5 containing the following data:

  - Coin Value: 5¢, 10¢, 25¢ or $1.00
  - Coin Tube Status: low level sensors are covered/not covered.
  - Coin Direction: to coin tube or to cash box.

- If a coin is rejected, or there is a problem in the changer, certain default messages are sent to the controller on the "data" line. They are as follows:
  - Slug: coin entered but was not accepted. (Coin tube/cash box gate did not open.)
  - No Strobe: coin was accepted but did not actuate strobe. (Could indicate jam or defective strobe.)
  - Dollar coin rejected due to insufficient coins in the coin tubes.)
  - Defective sensor in coin tubes.
  - Power Up: indicated on coin changer was just reset or powered up.

When sufficient credit has been established in the controller to enable a vend and a vend is made, the controller performs the change making logic and sends control signal(s) to operate the appropriate 5¢, 10¢ or 25¢ dispenser solenoids in the changer for change (if needed).




**9300-L/9302-L PLUG**

| PIN # | FUNCTION |
|---|---|
| 1 | 5 VDC Supply Positive |
| 2 | 5 VDC Supply Return |
| 3 | Send (0-Volts Active) |
| 4 | Interrupt (0-Volts Active) |
| 5 | Data (0-Volts Active) |
| 6 | Accept Enable (0-Volts Active) |
| 7 | $.25 Dispense (0-Volts Active) |
| 8 | $.10 Dispense (0-Volts Active) |
| 9 | $.05 Dispense (0-Volts Active) |
| 10 | 117/24 VDC Supply Return |
| 11 | Reset (+5VDC Active) |
| 12 | 117/24 VDC Supply Positive (rectified unfiltered) |

**9302-LF PLUG**

| PIN # | FUNCTION |
|---|---|
| 1 | 5 VDC Supply Positive |
| 2 | 5 VDC Supply Return |
| 3 | Send (0-Volts Active) |
| 4 | Interrupt (0-Volts Active) |
| 5 | Data (0-Volts Active) |
| 6 | Accept Enable (0-Volts Active) |
| 7 | $.25 Dispense (0-Volts Active) |
| 8 | $.10 Dispense (0-Volts Active) |
| 9 | $.05 Dispense (0-Volts Active) |
| 10 | Not Used |
| 11 | Reset (+5VDC Active) |
| 12 | Not Used |
| 13 | 24 VDC Supply Return |
| 14 | Not Used |
| 15 | 24 VDC Supply Positive (rectified unfiltered) |

**Figure 3.6**
**Coin Changer Plug**

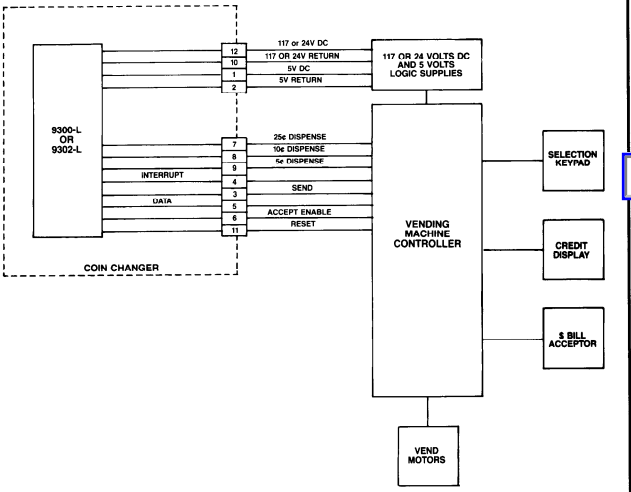



**Figure 3.7**
**9300-L / 9302-L Controller/Vendor Interface**

## ROUTINE MAINTENANCE

Routing maintenance will improve performance and extend the working life of the 9300 series changer and reduce the need for more involved repairs. Frequency of routine maintenance will depend on environment and number of transactions.

The coin changer should be kept in its original shipping carton when not in use. This will keep the changer clean and afford the best protection for the unit.

## REMOVING/REPLACING INDIVIDUAL MODULE ASSEMBLIES

Modular assembly replacement provides the basis of all 9300 series changer repair. Instructions for removing and replacing modules are provided below. These modules should be removed in the following sequence:

### Acceptor

To remove the acceptor, raise the two acceptor latches and pull the top of acceptor forward and away from the changer housing. Unplug ribbon cable from main logic board. Raise acceptor and pull outward until the acceptor clears the housing slots.

### Coin Tube and Tube Sensor Assembly

Remove logic board cover by spreading the changer housing slightly and pulling up on board cover. Unplug tube sensor ribbon cable from logic board. Spread the lower part of the housing slightly and pull out on tube assembly. To separate the coin tube assembly from the tube sensor board assembly, place the assembly face down. While freeing the four locking tabs, pull up on tube sensor board. Be careful not to damage sensors on logic board.

### Main Logic Board Assembly

Unplug payout solenoids and main harness assembly from logic board. Lift logic board out of housing.

### Payout Assembly

With payout solenoids disconnected from main logic board, remove the four screws - two from each side- at the bottom of the housing. Separate payout assembly from changer housing by releasing cash box chute locking tab on back of changer housing and pulling downward on payout assembly.

## CLEANING

The main material used in the manufacture of the 9300 series changer is a high-quality industrial grade plastic, which should only be cleaned with a warm water and mild detergent solution.

**CAUTION:**

- **NEVER SUBMERGE CHANGERS IN WATER.**
- **DO NOT USE PETROLEUM SOLVENTS, STEEL WOOL, SCOURING PADS OR A METAL BRUSH FOR CLEANING.**
- **DO NOT SPRAY ANY PART OF CHANGER WITH ANY TYPE OF LUBRICANT.**

Since all coins share a common coin ramp, heavy usage or a dirty environment can result in dirt build-up. To clean the coin ramp, lift the acceptor gate upward and diagonally to the right. Hold gate firmly to prevent it from snapping back. Wipe the exposed coin ramp and inner surface with a damp cloth. For excessively dirty units, use a damp cloth with a mild detergent.
**NOTE**: Do not submerge in water.

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For detailed cleaning of the acceptor, remove the front cover by pulling out and down on the front cover. Now remove the back cover by pushing in on two locking tabs on the side of the acceptor. To remove the coin sorting rail, desolder the four wires to the two sensors from the logic board to prevent damaging them. (Changers manufactured after June 1989 do not require desoldering). Now from the front of the acceptor, in area exposed by removing the front cover, locate the three locking tabs which secure the sorting rail. Using a small straight tip screwdriver, free the three locking tabs and remove sorting rail. See Figure 4.0.

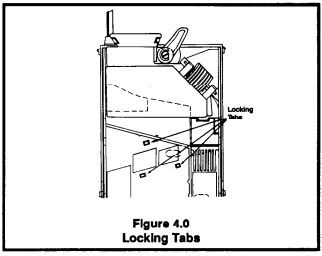


**Figure 4.0**
**Locking Tabs**

### Disassembling Payout Base for Cleaning

Remove the four Phillips head screws from the bottom plate. Remove bottom plate and individual slides. Clean parts with mild detergent and hot water as desired. DO NOT SUBMERGE SOLENOIDS IN WATER.

Replace slides making sure part numbers face up into changer. With the slides correctly seated on plunger tabs, reinstall the bottom plated, securing with bottom screws. Reinstall payout module into changer, securing with side screws.

## CLEARING COIN JAMS

Should a coin jam occur in the cash box chute area, use the following steps to help dislodge coins:

1. Remove change from vendor.
2. Keeping changer in an upright position, insert a narrow screwdriver into cash box chute or reject chute from bottom of changer to relieve jam. Access holes are also provided at the rear of the changer housing to help relieve coin jam.

**CAUTION**. Excessive screwdriver pressure or twisting can cause permanent damage to the coin changer.

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## TUNING THE COIN CHANGER TO ACCEPT COINS

1. With changer unplugged, remove acceptor and logic board cover from changer.

2. Locate the two (field tune) pins in the upper right-hand corner of the logic board and jump pins together using Coinco jumper, part number 906137 or equivalent.
   NOTE: Jumper must remain installed during entire tuning process.

3. Install acceptor into changer and apply power to changer by plugging into vendor or changer tester.

4 Changer power indicator light behind acceptor will flash indicating changer is in the field tune mode.

5. Determine which coin the changer is to be tuned for. For best results use 16 different coins of the denomination determined.

6. Drop all 16 coins one at a time, through the acceptor. Coins will be returned to the coin return cup.

7. Upon first coin insertion, the changer power indicator light will stay off constantly. After the 16th coin insertion, power light will start flashing, indicating tuning for coin is complete.

8. At this time the changer may be tuned for a different coin denomination following steps 5, 6 & 7, or the field tune mode may be aborted by removing power and tuning jumper installed in step 2.

9. If the field tune mode is interrupted, i.e. loss of power, jumper removed, 16 coin insertion interrupted by a different coin denomination, changer will automatically return to previous tuning and flash power light.

10. Unplug changer and remove acceptor and jumper. Install logic board cover and acceptor.

11. Test changer for proper operation.

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# SECTION 6: BENCH CHECK PROCEDURE

## INTRODUCTION

The bench check procedure is an efficient method of insuring that the changer operates correctly before installation in a microprocessor-controlled vending machine. This procedure is not intended to be used for troubleshooting.

**NOTE:** Do not plug or unplug changer with power applied.

**9300-L Tester part #406725**
**9302-L Tester part #406725-1**

## BENCH CHECK PROCEDURE FOR MODELS 9300-L AND 9302-L Using Appropriate COINCO Tester

| PROCEDURE | RESULT | FUNCTION VERIFIED |
|---|---|---|
| Set changer Coin Control Option switches as follows:<br>#1: (OFF) U.S. coins only<br>#2: (OFF) HI $.255 change tube<br>#3: (OFF) No $ coin accept | | |
| Plug changer into tester.<br>Set tester power switch ON. | "Changer Reset" and "HI $.25 Level" lamps illuminate<br>Power switch lamp illuminates | |
| Set the changer Enable/Disable switch to the Disable (down) position and insert (1) nickel, (1) dime and (1) quarter | All coins must reject | Coin reject (L6) (blocker function) |
| Set the changer Enable/Disable switch to the Enable (up) position and insert (1) nickel, (1) dime and (1) quarter | Coins are accepted and directed to respective changer coin tubes illuminating respective 5-10-25 "Accept" lamp and "Coin Tube" lamp | Coin accept (L6) (accepted function) |
| Actuate Changer Reset switch | "Accept" and "Coin tube" lamps go out. "Changer Reset" and "HI $.25 Level" lamps illuminate | Reset |
| Randomly insert (9) nickels, (11) dimes, and (9) quarters | Coins are accepted and directed to changer coin tubes illuminating respective 5-10-25 "Accept" lamp and "Coin Tube" lamp. 5-10-25 "Change Available" lamps should illuminate after all coins are inserted | Coin accept (L6)<br>Low change tube sensors |

Exit

| PROCEDURE | RESULT | FUNCTION VERIFIED |
|---|---|---|
| Turn tester power OFF. Remove acceptor from changer. Block the coin change high tube sensors by completely filling tubes with coins or by inserting a rolled up tube of paper into the three coin tubes. Replace acceptor, turn tester power switch on and insert (1) nickel, (1) dime and (1) quarter | Coins are accepted and directed to cash box illuminating respective 5-10-25 "Accept" lame and "Cash Box" lamp. NOTE: Defective coin tube lamp will illuminate if middle $.25 change tube sensor is not blocked. | High Tube Sensor |
| Insert (1) $ coin | $ coin is rejected | No $ accept switch |
| Insert a Canadian nickel, dime or quarter coin. | Coin is rejected | U.S. coins only switch |
| Open acceptor and set changer coin control option switches as follows:<br>#1: (ON) U.S. and Canadian coins<br>#2: (ON) Lo $.25 Change tube<br>#3: (ON) $ coin accept<br>Actuate changer reset switch | "Change Reset: and "LO $.25 Level" lamps illuminate | Lo $.25 switch |
| Insert (1) $ coin | Coin is accepted to cash box illuminating "$ Coin Accepted" and "Cash Box" lamps | $ accept switch |
| Insert a Canadian nickel, dime or quarter | Coin is accepted illuminating respective lamps | U.S. and Canadian accept switch |
| Block the middle $.25 change tube tube sensor without blocking the high tube sensor by partially filling $.25 change tube with coins (approx. $5.00) or by inserting a rolled up tube of paper far enough into $.25 change tube past the high sensor but far enough into tube to block the middle sensor. Insert (1) quarter. | Quarter is accepted to cash box illuminating "$.25 Accepted" and "Coin Tube" lamps | Middle $.25 tube sensor |

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# SECTION 6: BENCH CHECK PROCEDURE

| PROCEDURE | RESULT | FUNCTION VERIFIED |
|---|---|---|
| Unblock middle $.25 tube sensor and all high tube sensors by removing coins or paper tubes. Insert (1) $ coin. | $ coin is rejected illuminating "$ Coin Reject: and "Low $.25 Level" lamps. | No $ coin accept with insufficient $.25 in tube |
| Actuate changer coin return lever | "Coin Return Request" and "Low $.25 Level" lamps illuminate. | Escrow return |
| Manually operate each of the testers "Inventory Control" switches until all coins are dispensed. | Each dispense solenoid will energize in turn dispensing A coin | Manual dispense ($.50, $.10, $.25) |

If all of these procedures can be successfully completed, the changer is operating properly. Set Coin Control Option Switches as desired. Set price(s) in vendor. If USA/CAN option is chosen, repeat test with Canadian Coins.

Exit

## INTRODUCTION

The Troubleshooting Guide on the following pages is intended to help locate problems within the coin changer. If a changer cannot be repaired by following the guide, return the changer to the nearest Coinco service center for repair. If it is necessary to return the changer to Coinco, please accompany the changer with a brief description of the malfunction to help expedite the repair and return of the changer.

The vendor electronic controller board is in constant communication with the 9300-L/9302-L coin changer. The electronic controller board not only supplies operating voltage to the coin changer but is largely responsible for the operation and function of the coin changer. (Refer to Section 3, Figure 3.6)

Logic troubleshooting minimizes time spent in removing and replacing modules that are not defective. Some failures are caused by minor problems such as loose or faulty connections. Please check the following before replacing any parts:

Connectors are inserted correctly
Connector pins are not bent or broken
All wires are properly secured
Inventory tubes are filled to their correct levels

**NOTE: The following Troubleshooting Guide (Table 7.1) is based on the fact that the tester or vendor, with which the defective changer is being tested, functions properly when used with a known good changer.**

**This guide is not intended to cover all failures, but to cover the most common failures.**

More TroubleShooting - Click Here

## 9300-L / 9302-L TROUBLESHOOTING GUIDE

Exit

| TROUBLE | POSSIBLE CAUSE | PROCEDURE | REMEDY |
|---|---|---|---|
| No coin acceptance | No power | Make sure changer is plugged into vendor | Plug changer into vendor |
| | Acceptor | Check power/blocker LED behind acceptor. If LED is ON, replace acceptor with good acceptor and test. If changer functions properly | Replace acceptor |
| | | If still no coin acceptance | Replace changer main logic board |
| | | If still no coin acceptance | Replace changer main power harness |

# SECTION 7: TROUBLESHOOTING

| TROUBLE | POSSIBLE CAUSE | PROCEDURE | REMEDY |
|---|---|---|---|
| | | If still no coin acceptance | Replace changer main power harness |
| | | If power/blocker LED is off, check to see that acceptor cable and changer power harness are properly connected to changer main logic board. | Plug acceptor cable and/or changer power harness into changer main logic board |
| | | If still no coin acceptance | Replace changer main logic board |
| | | If still no acceptance | Replace changer main power harness |
| No coin acceptance or rejects percentage of good coins | Coin return lever | Make sure changer is mounted correctly and coin return lever is in proper position | Reposition changer and/or vendor coin return lever |
| | Acceptor is dirty or foreign matter in coin accept path | Check to see that acceptor coin path is clean and free of foreign matter | Clean acceptor and remove any foreign matter |
| | Improper tuning | Determine coins being rejected | Tune for coins being rejected |
| | | If still rejects good coins | Replace acceptor |
| | | If still rejects good coins | Replace changer main logic board |
| Accepts coins but gives no/or erratic credit | Acceptor | Replace acceptor with good acceptor and test. If changer functions properly | Replace defective acceptor |
| | | If still no/erratic credit | Replace changer main logic board |
| | | If still no/erratic credit | Replace changer main power harness |

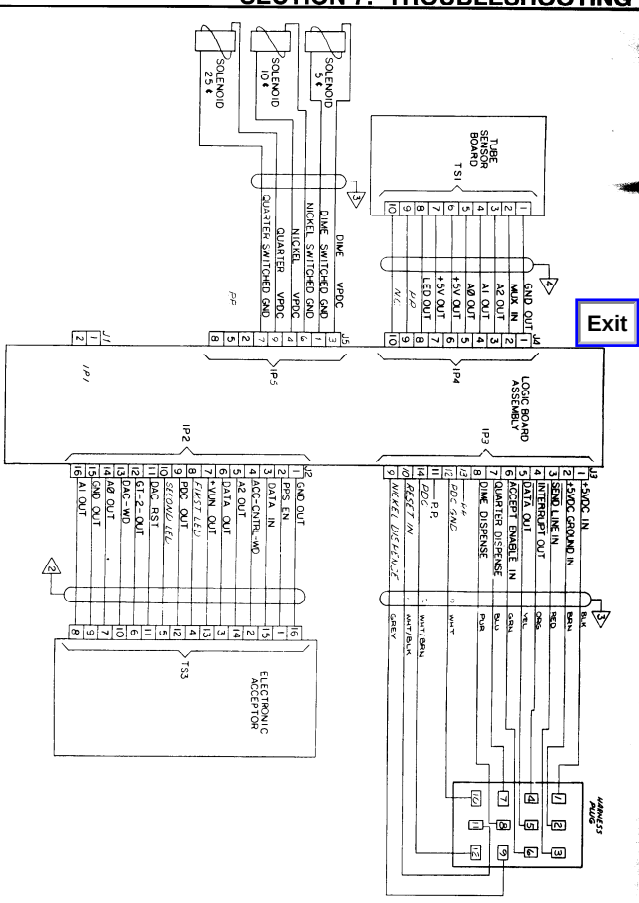
Exit

| TROUBLE | POSSIBLE CAUSE | PROCEDURE | REMEDY |
|---|---|---|---|
| Accepted coins always go to cash board | Tube sensor board or acceptor | Check the sensor board for loose or broken components. Make sure tube sensor board is properly secured to tube assembly. Check cable from sensor board for damage or improper connection | Replace tube sensor board |
| | | If coin still goes to cash box, replace acceptor with good acceptor and test. If changer functions properly | Replace acceptor |
| | | If coin still goes to cash box | Replace changer main logic board |
| Accepted coins always go to coin tubes | Coin tube gate in open position | Remove acceptor back cover, check solenoid for free operation | Replace acceptor |
| | Tube sensor board | Replace tube sensor board with good tube sensor board and test. If changer functions properly | Replace tube sensor board |
| | | If coins still go to coin tubes | Replace changer main logic board |
| Accepted quarters go to quarter coin tube when Lo-$.25 switch is ON | Quarter coin tube has less than 22 quarters | Check to see that quarter coin tube has a minimum of 22 quarters | Fill quarter coin tube with 22 quarters to cover Lo-$.25 sensor. |
| | Tube sensor board | Replace tube sensor board with good tube sensor board and test. If changer functions properly | Replace tube sensor board |
| | | If coins still go to quarter tube | Replace changer main logic board |
| Credits coins but does not escrow | Coin return lever | Make sure changer is mounted correctly and acceptor gate opens when vendor coin return lever is operated | Reposition changer and/or vendor coin return lever |

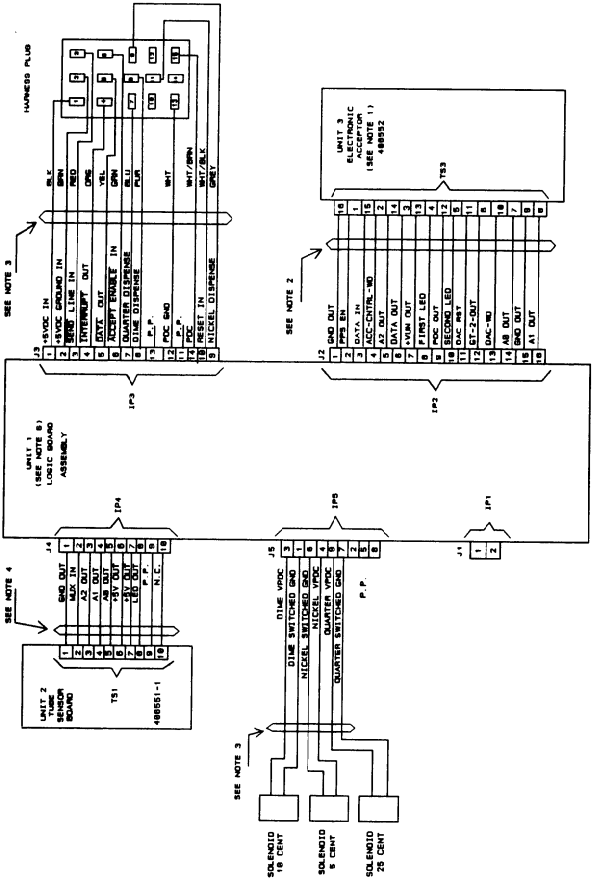
# SECTION 7: TROUBLESHOOTING

| TROUBLE | POSSIBLE CAUSE | PROCEDURE | REMEDY |
|---|---|---|---|
| | Acceptor | Replace acceptor with good acceptor and test. If changer functions properly | Replace defective acceptor |
| | | If still no escrow | Replace changer main logic board |
| No payout | Payout solenoid | Make sure solenoid wires are properly connected to changer main logic board | Plug solenoid wires into logic board |
| | | If still no payout, replace solenoid with good solenoid and test. If changer operates properly | Replace defective payout solenoid |
| | | If still no payout | Replace changer main logic board |
| | | If still no payout | Replace changer main power harness |

Exit



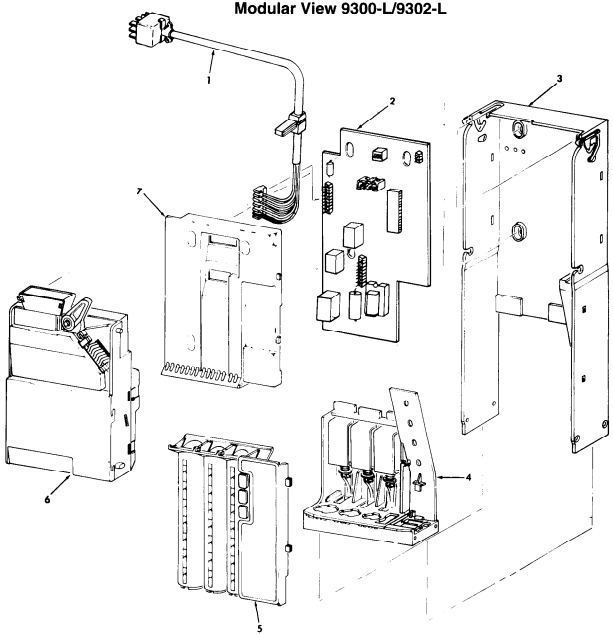

**9300-L / 9302-L Wiring Diagram**




9302-LF Wiring Diagram

Exit

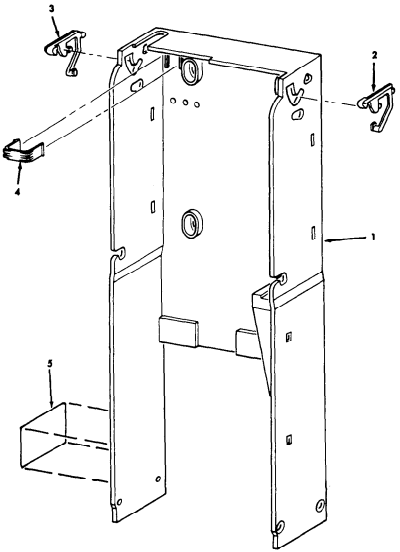
## Modular View 9300-L/9302-L




Exit

| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 406618 | Harness, 9300-L/9302-L | 1 |
| | 406618-1 | Harness, 9302-LF | 1 |
| | 406748 | Harness, 9340-L | 1 |
| | 406754 | Harness, 9342-L | 1 |
| 2 | 406848 | Logic Board, 9300-L | 1 |
| | 406848-1 | Logic Board, 9340-L | 1 |
| | 406849 | Logic Board, 9302-L/LF | 1 |
| | 406849-1 | Logic Board, 9342-L | 1 |
| 3 | 909100 | Changer Housing | 1 |
| 4 | 406739-3 | Payout Assembly, 9300-L | 1 |
| | 406739-4 | Payout Assembly, 9302-L | 1 |
| 5 | 406728-1 | Inventory tube & board assy. | 1 |
| 6 | 406700 | Acceptor | 1 |
| 7 | 406789 | Logic board cover assy. | 1 |

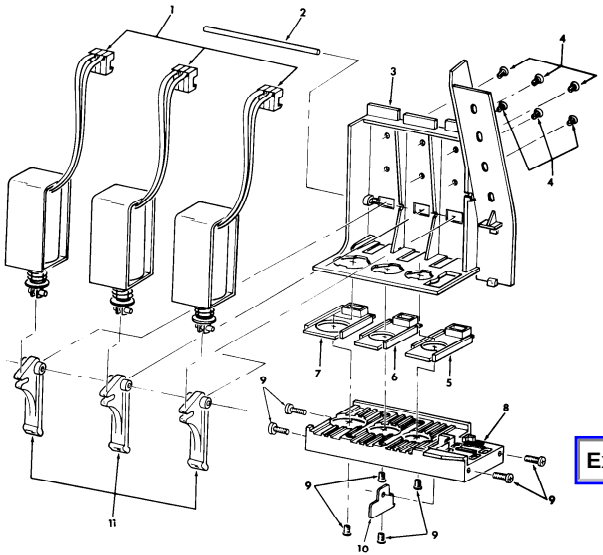
## Changer Housing




| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 909100 | Housing (only) | 1 |
| 2 | 902011-1 | Acceptor Latch, Right | 1 |
| 3 | 902010-1 | Acceptor Latch, Left | 1 |
| 4 | 904195 | Harness Clamp | 1 |
| 5 | 909729 | Label, Identification | 1 |

Exit

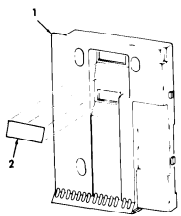
**9300-L 406739-3 Payout Assembly**
**9302-L 406739-4 Payout Assembly**




Exit

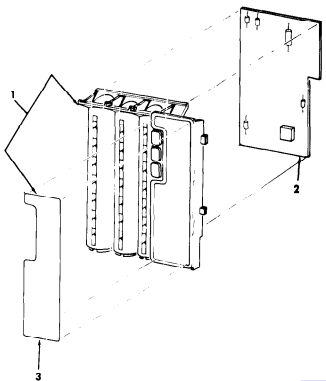
| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 406607-1 | Solenoid Assy., 110VDC | 3 |
| | 406607-4 | Solenoid Assy., 24VDC | 3 |
| 2 | 909113 | Pivot Shaft | 1 |
| 3 | 909141 | Upper Payout Base | 1 |
| 4 | 909630 | Screw, 6-32x3/16 FH undcut blk | 6 |
| 5 | 909105 | 10¢ Payout slide | 1 |
| 6 | 909104 | 5¢ Payout slide | 1 |
| 7 | 909103 | 25¢ Payout slide | 1 |
| 8 | 909102 | Lower payout base | 1 |
| 9 | 345P4R7 | Screw, 4x7/16 PH PHL PLAS, blk | 8 |
| 10 | 909135 | Coin Return Liner | 1 |
| 11 | 909106 | Solenoid Lever | 3 |

## Logic Board Cover
## 406789 Assembly




| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 909585-3 | Logic board cover | 1 |
| 2 | 909088 | Label, switch options | 1 |

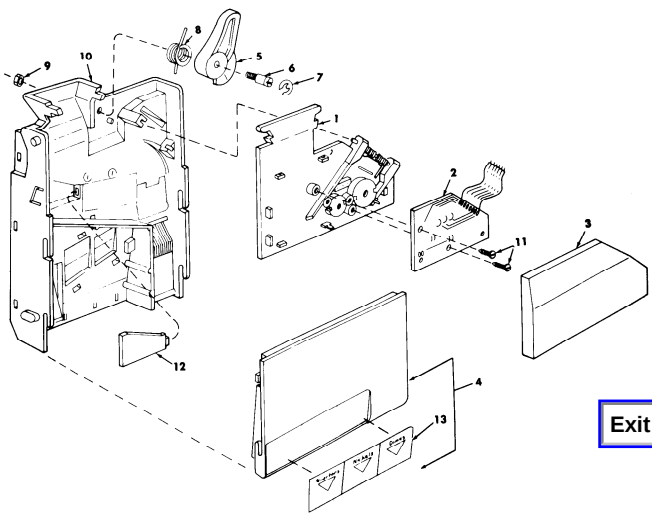
## Inventory Tube
## 406728-1 Assembly




Exit

| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 406727-1 | Inventory tubes | 1 |
| 2 | 407446-1 | Board Assy. tube sensor | 1 |
| 3 | 909115-1 | Inventory tube label | 1 |

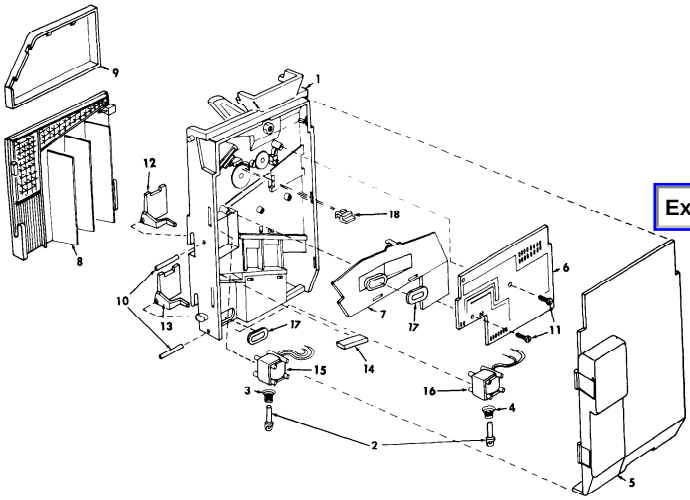
**Acceptor Front View**
**406700 Assembly**




Exit

| Item No. | Part No. | Description | Quanity |
|---|---|---|---|
| 1 | 406184-2 | Gate & Coil Assy. | 1 |
| 2 | 406567 | Gate Board Assy., LED | 1 |
| 3 | 906596-1 | Cover | 1 |
| 4 | 406810 | Front cover assy. (Incl Item #13) | 1 |
| 5 | 906606-1 | Operating Lever | 1 |
| 6 | 906624 | Screw, gate lever pivot | 1 |
| 7 | 751S21X | Retaining ring | 1 |
| 8 | 906618 | Spring, operating lever | 1 |
| 9 | 400-8 | Nut, 8-32 Lock | 1 |
| 10 | 406611 | Mainplate & Coil Assy. | 1 |
| 11 | 345-4R5 | Screw, 4x5/16 PH PHL PLAS | 2 |
| 12 | 906616 | Coin Rail | 1 |
| 13 | 909086 | Front cover decal only | 1 |

## Acceptor Back View
## 406700 Assembly




Exit

| Item No. | Part No. | Description | Quanity | Item No. | Part No. | Description | Quanity |
|---|---|---|---|---|---|---|---|
| 1 | 406611 | Mainplate & Coil Assy. | 1 | 10 | 906622 | Pin, diverter pivot | 2 |
| 2 | 406167 | Plunger & Yoke Assy | 2 | 11 | 345S4R7 | 4x7/16 PH PHL PLASS SS Screw | 2 |
| 3 | 906619-2 | Spring, copper-plated | 1 | 12 | 906600-1 | Diverter door, upper | 1 |
| 4 | 906619-1 | Spring, nickel-plated | 1 | 13 | 909092 | Diverter door, lower | 1 |
| 5 | 909096-1 | Back Cover | 1 | 14 | 909091 | Coin rail | 1 |
| 6 | 407506 | Board assy., 9300 acceptor | 1 | 15 | 406632 | Coil assy. solenoid, upper | 1 |
| 7 | 406612-1 | Rear chute & coil assembly | 1 | 16 | 406164-1 | Coil assy. solenoid, lower | 1 |
| 8 | 909095-2 | Front Cover | 1 | 17 | 406613-1 | Coil assy., Sensing | 1 |
| 9 | 906596-1 | Cover gate | 1 | 18 | 908845-1 | Plug, spring retention | 2 |

# NOTES

Exit