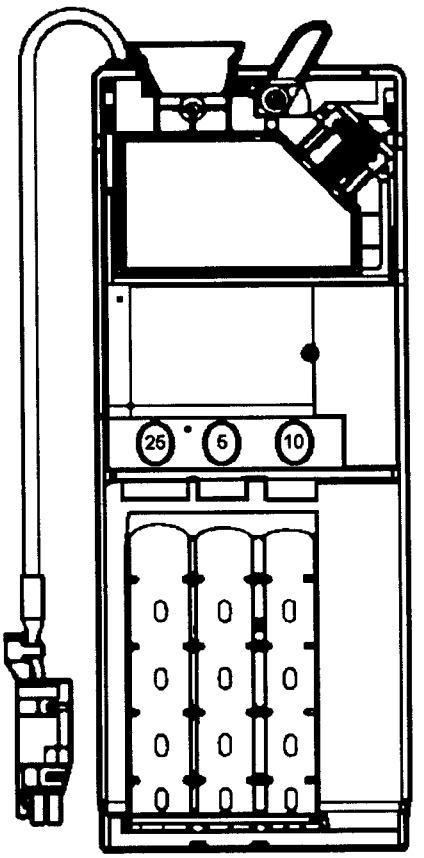
TRC-6512
COIN CHANGER

Operation
and
Service Guide



MARS
ELECTRONICS
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Overview

The TRC-6512 Operation and Service Guide contains important information on installing, operating and maintaining Mars Electronics™ TRC-6512 MDB Coin Changers. These coin changers are designed for use in MDB controller applications / Vending Machine Controllers **(VMC)**. To obtain the best performance from your coin changer, read through this manual before installing and using the unit.

Product Summary

Acceptance of US coins

The TRC-6512 MDB configuration operates on a 34 VDC power supply from the VMC in the vending machine. It is factory-tuned to accept US nickels, dimes, quarters, and dollar coins, but can be re-tuned in the field to accept tokens.

Electronic Coin Recognition

The TRC-6512 MDB maximizes the acceptance of valid coins, and minimizes acceptance of slugs. As coins are inserted, the TRC-6512 MDB adjusts itself to maintain the optimum operating range. To ensure continued peak performance after module replacement, the changer features a special tuning mode (see Tuning, page 13).

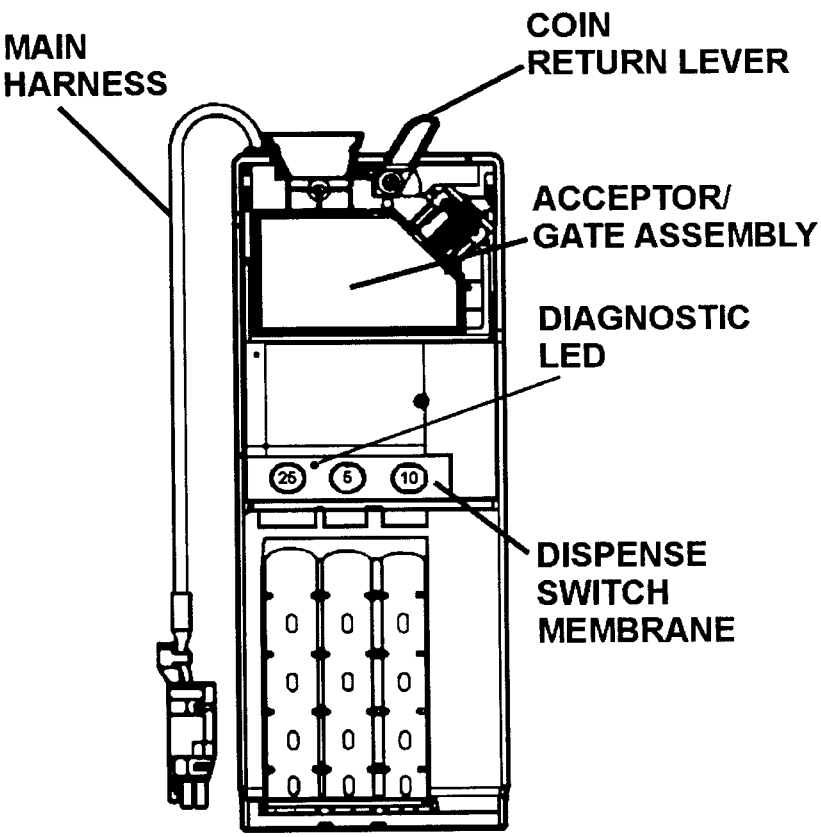


Figure 1: The TRC6512 MDB Coin Changer

Acceptance of nickels, dimes and quarters with dollar coin accept/reject switch.

The changer is preset to accept US and Susan B. Anthony dollar coins.

High or low quarter level.

The level of quarter storage in the coin tube is switch-selectable.

Dollar Coin Acceptance

Dollar Coin Acceptance is switch-selectable.

Fewest coin payout

Coins of the highest denomination are selected for change, enabling the changer to pay out the fewest number of coins. If quarters are not available, dimes and nickels will be paid.

Inflation-proof price setting

Vend price is set by way of the VMC in the vending machine, refer to the machine manual for set price procedure.

Only two moving parts for coin acceptance and separation

Valid coins enter the changer through a solenoid-operated Accept Gate. If the coin tube for the accepted coin is full, the coin goes directly to the cash box. If the coin tube is empty, a solenoid-operated Separator Gate diverts the coin to the tube. Dollar coins, if accepted, are always directed to the cash box.

Individual coin tube overflow

Electronic sensors monitor the full/empty status of the coin tubes. Each tube is monitored individually to maximize coins available for change.

Easy cleaning and maintenance

No special tools are required for cleaning, setting prices, or normal field maintenance of the TRC-6512 MDB.

Specifications

Power Requirements

34 Volts DC ±20 Volts, 60 Hz

1.0 Amp continuous, 3.2 Amp peak (when dispensing coins)

UL Approval

The TRC-6512 MDB Coin Changer is UL listed under file number E 57869.

Physical Characteristics

Height: 370 mm (14.67") base to top of coin return lever

Width: 136 mm (5.35")

Depth: 76 mm (2.99")

Weight: 2.6 kg (5 lbs. 12 ozs.) in shipping container

Coin Tube Capacity

	5¢ Tube	10¢ Tube	25¢ Tube	
			Low 25¢ Option Switch Set to OFF Position	Low 25¢ Option Switch Set to ON Position
Low Sensor Level	6-8	7-8	5-6	5-6
High Sensor Level	66-67	98-99	68-69	5-6

Table 1. Coin Tube Capacities

Vend Price Range

Vend price range is determined by the VMC in the vending machine, refer to the vending machine manual for price range.

Unpacking the Changer

Unpack the changer and immediately inspect it for any possible shipping damage. If the unit is damaged, return it to its original carton, along with packing materials. Notify the delivering carrier of damages and request immediate inspection. Send a letter of intent to file claim to the delivering carrier within 72 hours from the time of delivery. Send a copy of the letter to the shipper.

Only the consignee (the person or company receiving the changer) can file a claim against the carrier for concealed damages.

Retain original carton and packing materials for future use in shipping or transporting the changer.

Warranty Information

Once the unit has been inspected, record the serial and model numbers from the label located on the side of the changer. Refer to these numbers whenever you call your Mars Electronics dealer for information or service.

The first three digits of the serial number contain the manufacturing date code. This code indicates the beginning of the warranty period.

The first two digits indicate the week of manufacture, the third digit indicates the year of manufacture. For example, a changer with serial number ***05810000876*** was manufactured in the 5th week of 1998.

WARNING ! ! !
DO NOT CONNECT CHANGER TO THE VENDING MACHINE WITH POWER APPLIED

Installation

To install the TRC-6512 changer in a vending machine, follow the step-by-step instructions provided below. For more detailed instructions, refer to the Installation Guide shipped with the changer.

- Lower the Acceptor Gate Assembly by depressing both spring clips (Figure 2). Hinge the Acceptor forward.

- Set the three option switches using a retractable ball point pen or small screwdriver. Do not use a graphite pencil point. The option switches are located on the back of the flight deck assembly. (Figure 3)

- Set the vend prices on the vending machine, refer to vending machine manual for the exact procedure.

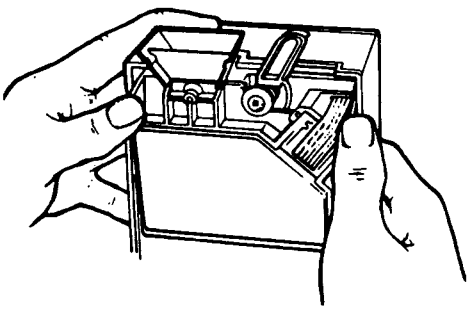


Figure 2 : Lowering the Acceptor Assembly

- Install the changer in the vending machine. Adjust the vendor mounting screws to stand off a minimum of 1/8". Align the changer access holes in the changer with the mounting screws. Tighten all screws to secure the changer in place. Changer must be vertical within +/- 3°.

- Before connecting the changer, remove power from the vendor. Connect the changer power plug to the VMC and then apply power to the changer. Position or clamp the Main Harness clear of the Coin Cup and Coin Return Lever.

- Press the Acceptor/Gate Assembly back into the housing until the spring clips engage.

- Fill the coin tubes to the desired levels by inserting coin into the loading slots located on the coin tube front (Figure 4 located on the next page).

- Or by manually depositing coins through the top of the changer, refer to vending machine manual to see if this second option is available.

  Refer to Table 1 on page 3 for coin tube levels.

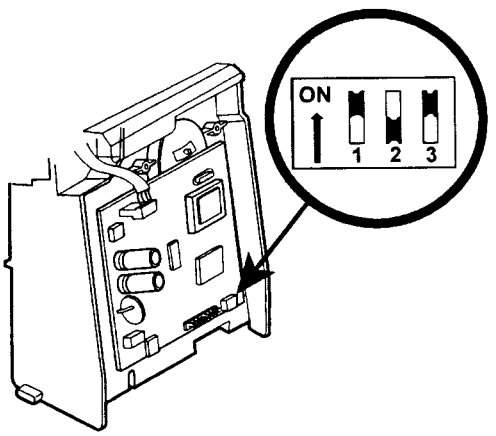


Figure 3: Location of Option Switches on TRC6512
(Shown with Control Board Cover removed)

Warning

To avoid a possible shock hazard, use care when performing any procedure that involves installing the Flight Deck / Control Board / Backplate Assembly. Route the Main Harness and Ribbon Harness in such a way that they cannot be pinched between the Backplate and Housing.

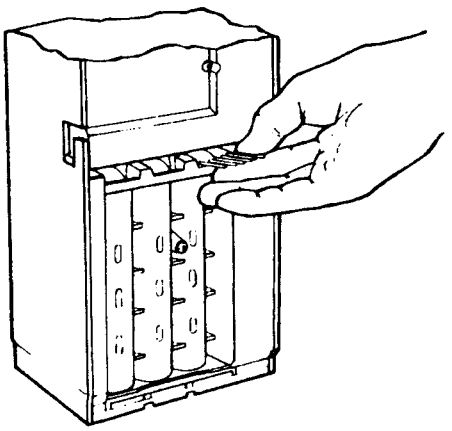


Figure 4: Manually filling the Coins Tubes

Switch	Setting	Function
1 (High/low quarter inventory)	ON	Stores 4 to 6 quarters for change (LOW)
	OFF	Stores 67 to 74 quarters for change (HIGH)
2 (Dollar Coin Acceptance)	ON	Accepts $ Coins
	OFF	Rejects $ Coins
3. (Acceptance status)	ON	Maximum Security
	OFF	Maximum Acceptance

Table 2: TRC-6512 Option Switches

Checklist

- Check that:
  - √ Power is removed while connecting the TRC-6512.
  - √ Changer is flush against the vender wall.
  - √ Coin insert chute is aligned above the center of the coin cup.
  - √ Changer reject and cash box chutes are aligned with vender reject and cash box chutes.
  - √ Vender coin return lever should fully depress changer coin return lever but not touch when released.

- Check changer operation:

  √ Test each dispense line through the changer on the front of the changer in sequence for 1 to 2 seconds.

  NOTE: Holding dispense switch longer than 4 seconds will cause the solenoid to continuously dispense. To stop dispensing of the coin, simply depress any switch once.

  √ Make sure a vend price is set. Do a test vend, by inserting more than the vend price. Make sure that the proper change is paid back, and that there are sufficient coins in the coin tubes to make proper change. Replace dispensed coins in tubes. Refer to vending machine manual for operation of set price mode.

  √ Check escrow return by inserting coins of various denominations to within 5¢ or more of vend price. Request escrow return by depressing the return button.

Note: No escrow may be paid if the VMC is set for No Escrow Return. Refer to Vending Machine Manual for operation, if applicable.

Multi-Drop Bus Interface

Multi Drop Bus (MDB) Specifications

The TRC-6512 is configured as a peripheral to a ***VMC*** along with the bill validator, card reader etc. It relies fully on the VMC for a constant communications that occurs during both idle an operational procedure. The two lines that are utilized for this process are: TX data line ***(Transmit Data)*** and RX data ***(Receive Data)*** lines. These lines operate at a 9600 baud rate.

- **RX Data** - enables acceptance of the changer, informs the changer that it is ready to receive data, the vended value; the changer determines what change will be dispensed.

- **TX Data** - what denomination has been accepted, inform the microprocessor that a vend cycle has been initiated.

This communication enables or disables acceptance, along with dispensing of coins during a transaction. At this same time the changer communicates with the VMC as to the type of coin that has been accepted. Along with the availability of change that maybe required for the next transaction. The routing of the coin, either to the cash box or coin tubes is determined by the changer. Figure 6 on the following page shows the power plug of the TRC-6512 coin changer.

NOTE: When VMC exceeds the highest programmed price, acceptance will cease.

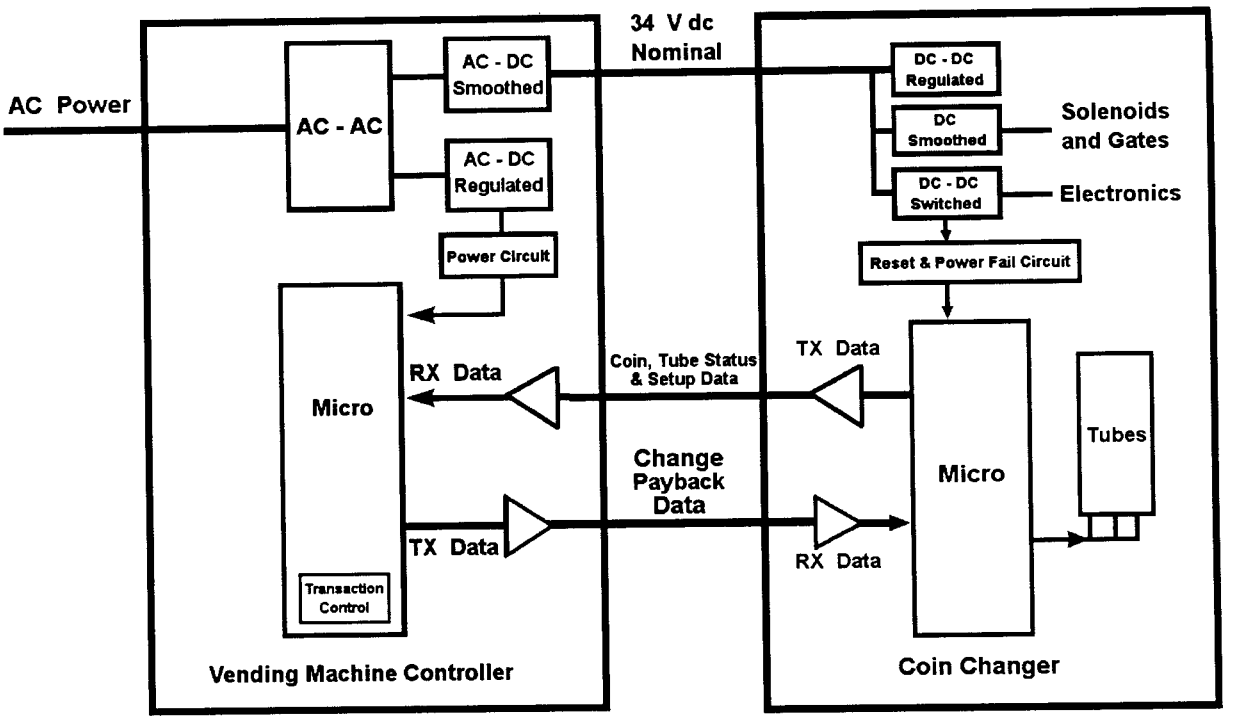


Figure 5: MDB Block Diagram

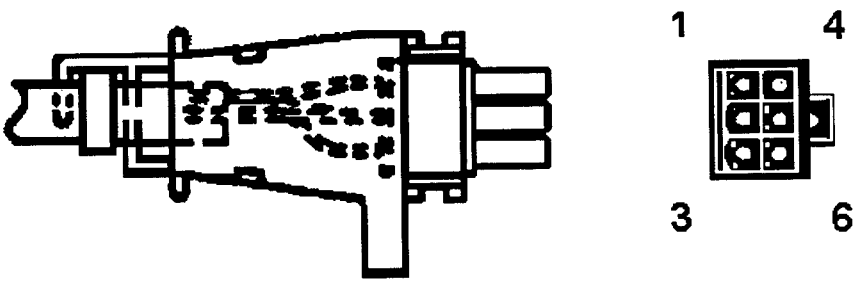


Figure 6: TRC-6512 Power Plug

PIN #	DESCRIPTION	PIN #	DESCRIPTION
1	34VDC (supply)	4	Master Receive
2	34VDC (return)	5	Master Transmit
3	No Connection	6	Communication Common

Table 3: TRC-6512 Pinouts

Diagnostics

The diagnostics LED can be found on the Membrane Dispense Switch plate (Figure 7) located on the front of the coin changer. The table below explains the status of the RED LED.

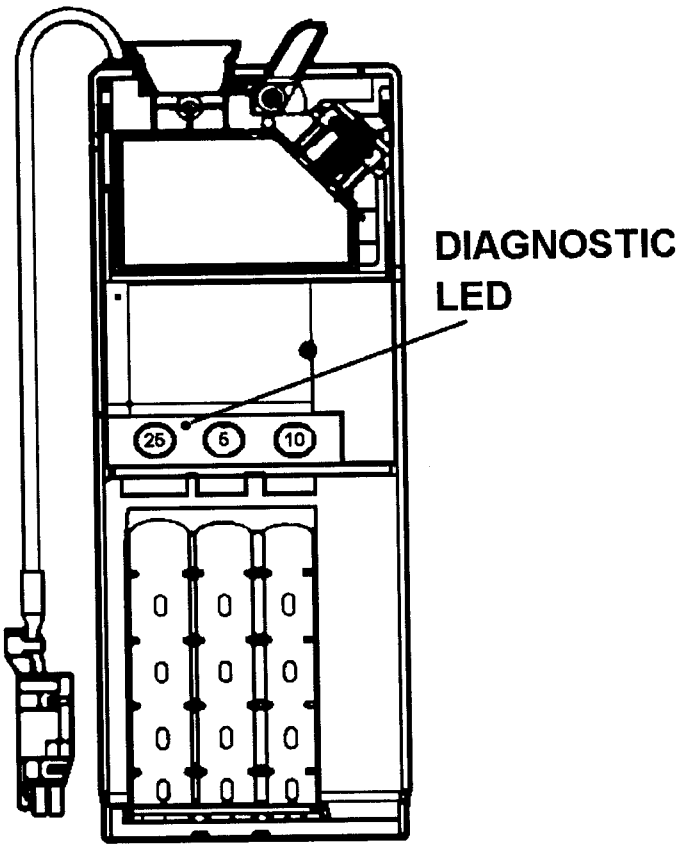


Figure 7: Diagnostics LED

LED	STATUS	LED	STATUS
ON	unit OK	4 flash	no credit
OFF	power OFF	5 flash	flight deck lid open
1 flash	acceptor jam	continuous flashing - ***slow***	unit needs to be serviced
2 flash	unit disabled from VMC	continuous flashing - ***fast***	unit in teaching mode
3 flash	invalid coin / needs cleaning		

Table 4: TRC-6512 LED Diagnostics Codes

Coin Acceptance

When coins are inserted into the vending machine, they enter via the Coin Cup of the Acceptor/Gate Assembly. The coins hit two snubbers that absorb the impact and allow the coins to roll smoothly down the coin ramp.

As the coins roll along the ramp, they pass two electronic sensors embedded in the plastic behind the coin path and the Acceptor Lid (Figure 8). The recognition sensors measure coin diameter/metal content and coin thickness. These values, which are sent to the changer's microcomputer for analysis, determine whether or not the coin will be accepted.

The microcomputer compares the information received about the inserted coin to the predetermined coin acceptance criteria stored in memory. If a coin falls within the range of acceptable specifications, it is accepted. The microcomputer sends a signal to the Accept Gate, opening the Accept Gate and routing the coin to the Separator section.

As the coin enters the Separator section, it passes the Strobe Sensor. This electromagnetic coil signals the microcomputer that a coin has been accepted. The microcomputer then accumulates credit equal to the value of the accepted coin, and closes the Accept Gate in preparation for the next inserted coin.

Coins not meeting the acceptable specifications are rejected. The Accept Gate remains closed, and the rejected coin rolls off the top of the gate and down a ramp to the reject chute, and drops into the coin return cup.

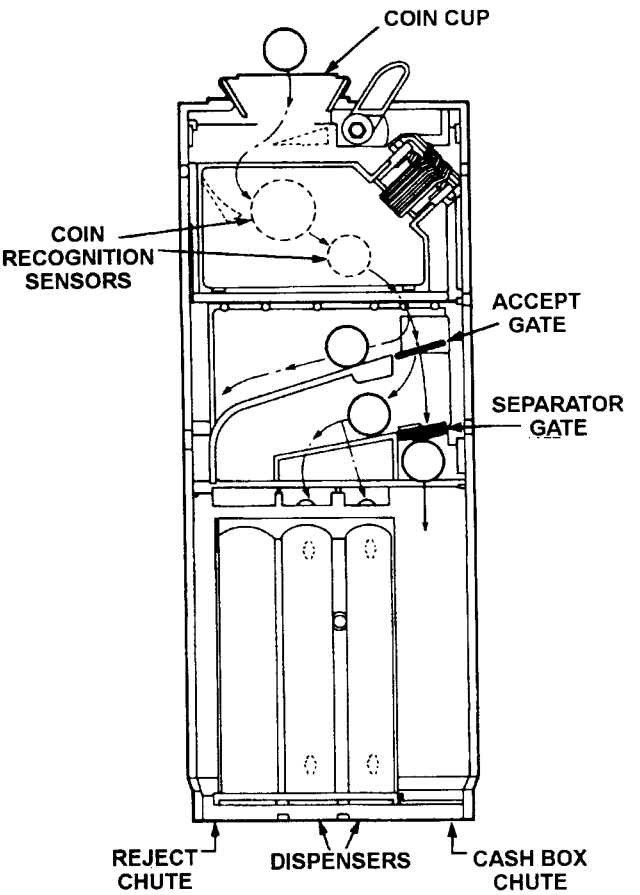


Figure 8: Coin Paths

Coin Separation

Accepted coins are directed to the coin tubes or cash box by the Separator Gate. Each time a transaction occurs, the microcomputer checks the upper coin tube sensors to determine whether or not the tubes require coins. The Separator Gate is directed accordingly.

If the appropriate coin tube is full (sensor covered) or the coin is not stored for change, the Separator Gate remains open. This sends the coin directly to the cash box via the cash box chute.

If the tube requires coins (sensor exposed) and the coin is stored for change, the changer microcomputer closes the Separator Gate. This directs the coin down a path that contains windows leading into the coin tubes. As the coin reaches a window of the correct diameter, it falls into that window's tube.

Coin Payout/Coin Return

Coin payout can result from a transaction, escrow return request, exact change condition, or change-making from a completed vend or by manually reducing the inventory levels in the coin tubes. Coins selected are paid out by the Dispenser Assembly.

Whenever possible, escrow return is paid coin-for-coin from the coin tubes. Escrow for coins that are not stored for change is paid utilizing the highest denomination coins available in the coin tubes.

In general, escrow return for dollar coins and bills is paid in the highest denomination coins available from the coin tubes. Payback is assured by the minimum coin tube levels required for dollar coin and bill acceptance.

Note:
If No Escrow Return is selected, there is no minimum coin tube requirement for the acceptance of dollar coins or bills. As this requirement is not considered, full payback may not be possible.

Change Making

Change is paid out by the Dispenser Assembly utilizing solenoid-operated slides. Each time a transaction occurs, the changer microcomputer checks the status of the lower coin tube sensors to see which coins are available for change. Highest denomination coins are paid back first.

During a transaction, nickels, dimes and quarters are paid out to the level of the lower coin tube sensors. When used with a MDB interface to a bill acceptor, the TRC-6512 MDB will not allow acceptance of a dollar bill if the lower nickel and quarter sensors are uncovered as more than seven nickels would be required for change.

Manual Dispensing of Coins

Operating the manual dispense switches reduces the level of coins in the coin tubes by operating the proper dispenser solenoid. Each switch must be operated individually. Coins are dispensed at a rate of two per second until the switch is turned off. Manual dispense switches are located on the Manual Dispense Switch Membrane.

NOTE: Depressing and holding of the dispense switch for longer than 4 dispense cycles will cause the solenoid to continuously dispense. To stop dispensing of the coin, simply depress any dispense switch once.

Solenoid Operation

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 (Figure 9).

This loads a coin for payout. When the solenoid de-energizes, the spring force returns the plunger to its de-energized state, which returns the solenoid lever, returning the payout slide, paying out a coin.

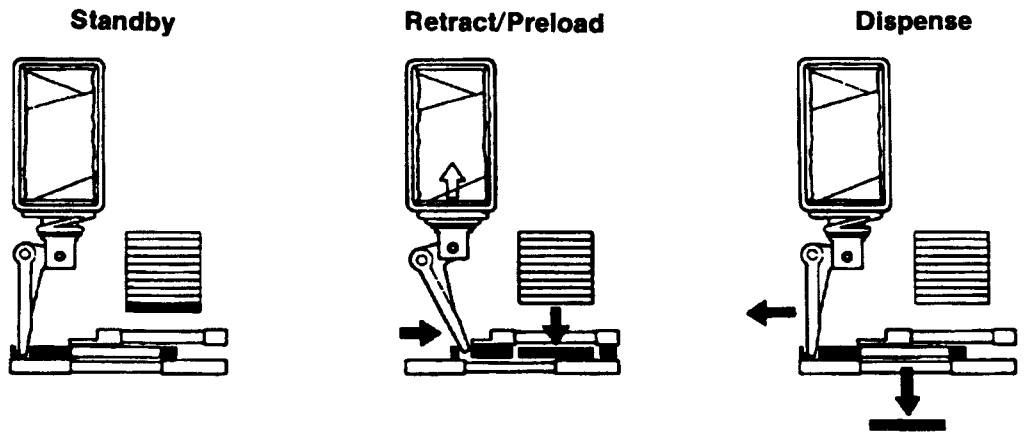


Figure 9: Solenoid Operation

Tuning of the TRC-6512 MDB Changer

TRC-6512 MDB changers are factory preset to maximize valid coin acceptance. However, periodic adjustments may be required to correct frequency differences that can occur when the Acceptor/Gate Assembly and/or the Control Boad/Backplate Assembly are replaced. Because of a unique changer feature, no special equipment is required.

In the tuning mode, the changer is taught to recognize a set of coins. As the coins are inserted through the Coin Cup, they are placed into ten different tuning locations - two locations per denomination (nickel, dime, quarter, dollar, US and Token). Two coins of the same coinage may be used if acceptance of the alternative coinage is not required. The TRC-6512 MDB may also be taught to accept a token. Dimensions and metal content will affect the degree of success in using a token.

After tuning, the changer switches to a calibration mode. This mode serves as a fine-tuning function. Acceptance will improve with the number of coins inserted.

Preparation

If tuning is required on the vendor, perform these steps first.

- Set one price on the VMC for the highest programmed price. This allows the continued acceptance of coins. Thus eliminating the need to stop and vend product from the machine.
- Activate door switch, to save programmed price.
- Remove power from the vending machine.
- Lower the Acceptor/Gate Assembly.
- Set the changer option switches as follows:

1 - OFF	High 25¢ Sensor
2 - ON	$ Coin Acceptance
3 - OFF	Maximum Acceptance

- Short the set of tuning pins by touching both simultaneously with the tip of a metal screwdriver/tuning plug (Figure 10 on page 15).
- With the screwdriver/tuning plug still touching the tuning pins, reinstate power to the vending machine.
- Remove the screwdriver/tuning plug after message appear on display, if applicable.
- Press the Acceptor/Gate Assembly back into position until the spring clips engage.

The changer is now in the tuning mode.

Tuning Coin Sets

- Insert a US nickel; it will be rejected.
- Insert a US nickel; it will be rejected.
- Insert a US dime; it will be rejected.
- Insert a US dime; it will be rejected.
- Insert a US quarter; it will be rejected.
- Insert a US quarter; it will be rejected.
- Insert a Susan B. Anthony dollar coin; it will be rejected or depress the escrow return lever if no acceptance of dollar coins is required.
- Insert a Susan B. Anthony dollar coin; it will be rejected or depress the escrow return lever if no acceptance of dollar coins is required.

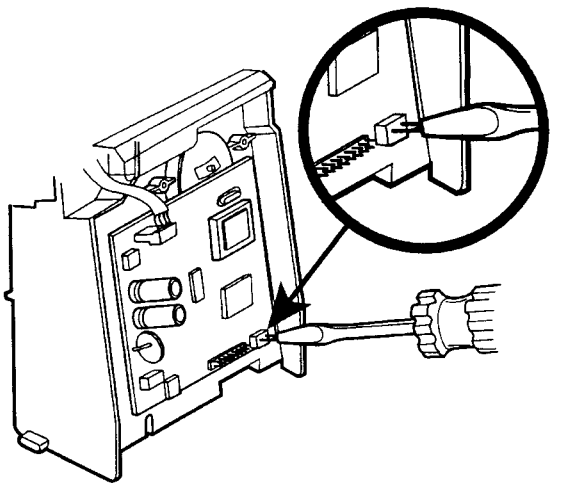


Figure 10: Shorting the Tuning Pins

- Depress escrow return lever twice if no acceptance of tokens is required. The nickel dispenser will operate once.
- Calibrate the changer by dropping fifteen coins of each denomination into the changer following the tuning order.

To tune a changer for one coinage only, depress the Coin Return Lever after each insertion to move to the next denomination coin. Or, insert a second coin of the same coinage and denomination, rather than depressing the Coin Return Lever.

Routine Maintenance

Periodic routine maintenance improves the performance and extends the optimum working life of the changer. It can also reduce the need for more costly repair or replacement measures. Frequency of routine maintenance will depend on environment and number of transactions.

Cleaning

Before cleaning, turn machine power off and unplug changer. The TRC-6512 should be cleaned only with a warm water and mild detergent solution.

Caution
• ***Never immerse the changer in water.***
• ***Do not use solvents, steel wool, scouring pads, or metal brushes for cleaning.***
• ***Do not spray the changer with any types of lubricant.***

Since all coins roll down a common coin ramp, heavy use can result in dirt buildup. To clean the Acceptor and coin ramp:

- Swing the Acceptor lid diagonally upward and to the right (Figure 11). Hold the lid firmly so that it does not snap back down.

- Wipe the exposed coin ramp and inner surface of the lid with a damp cloth. For problem cleaning, dampen the cloth with water and mild, non-abrasive soap.

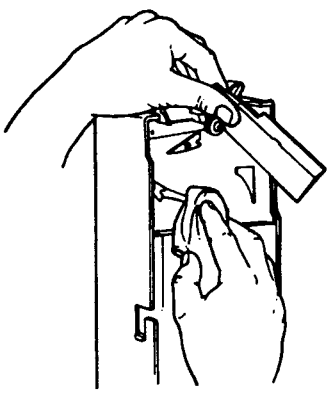


Figure 11: Cleaning the Acceptor Coin Ramp

Cleaning - con't

To clean the Dispenser Slides, detach the Bottom Plate by removing the seven Phillips head screws - one screw on each side (A), one recessed screw on the back (B), and four screws on the bottom of the changer (C) (Figure 12).

Lift out the Bottom Plate and individual slides. Clean them with a mild soap solution. Do not spray with any type of lubricant.

Once the slides are clean, set them on the Bottom Plate with the numbered sides facing up into the changer. Align plunger tabs with the bolts in each side and seat the Bottom Plate. Insert opposite screws (C) first to hold the slides in place. Install the remaining screws.

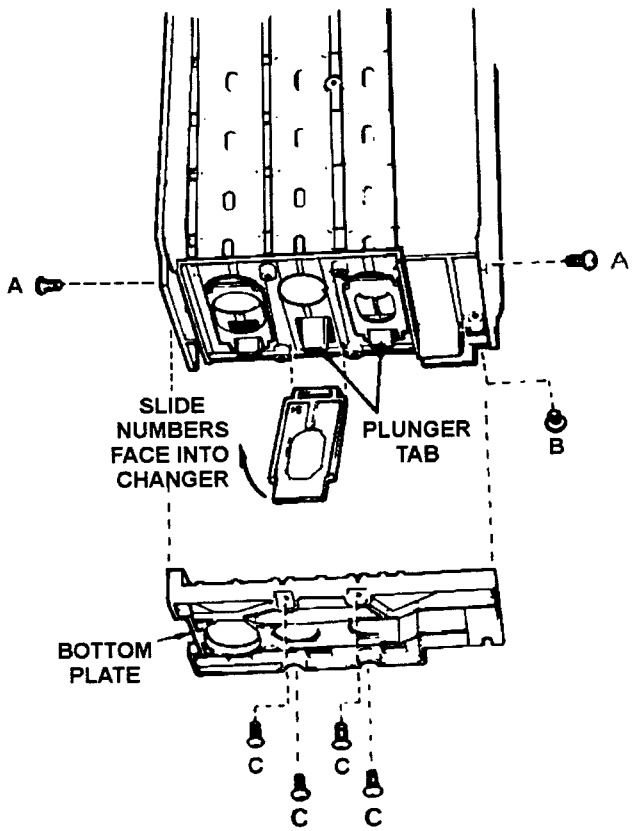


Figure 12: Clearing the Dispenser Slides

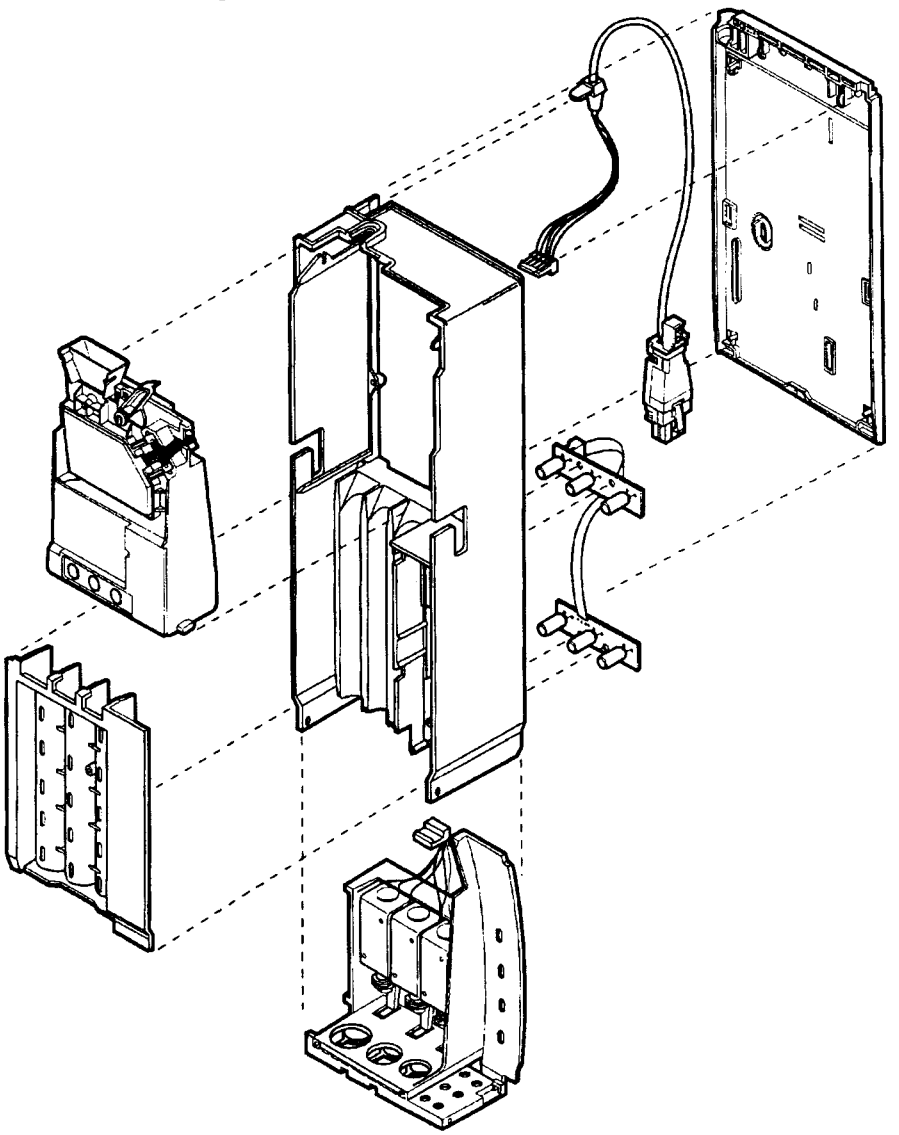
Clearing Coin Jams

If coins jam in the cash box chute, dislodge them via the access holes at the rear of the Dispenser Assembly.

Removing/Replacing Individual Module Assemblies

The TRC-6512 changers are designed around a series of modules (Figure 13). This modular concept simplifies troubleshooting and repair, as the modules are easily replaced in the field.

Figure 13: TRC-6512 Modules



Acceptor/Gate Assembly

Note:
Check changer acceptance whenever the Acceptor/Gate Assembly is replaced. If acceptance is satisfactory, calibrate the unit by inserting 15 coins of each accepted denomination. If acceptance is poor, tune and calibrate the unit following the instructions in Tuning of the TRC-6512 MDB Coin Changers.

The Acceptor/Gate Assembly performs these functions:

- Sends coin recognition information to the microcomputer for validation purposes.
- Accepts or rejects coins at a signal from microcomputer.
- Generates strobe signal to accumulate value of accepted coin.
- Directs coins to coin tubes or the cash box at a signal from the microcomputer.
- Separates coins into correct coin tubes
- Initiates escrow return request

The TRC-6512 Control Board performs these functions:

- Accepts or rejects coins
- Authorizes coin acceptance based on vend cycle status
- Accumulates credit equal to value of accepted coins
- Monitors tube sensors for high/low status of the tubes
- Drives the Accept Gate and Separator Gate
- Fires Dispenser Solenoids upon VMC requests

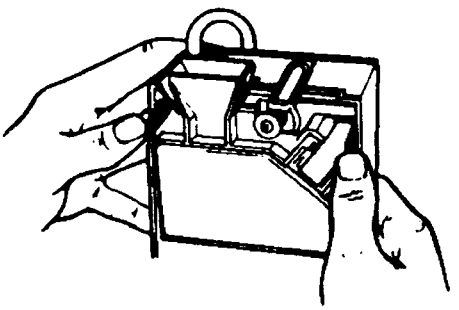
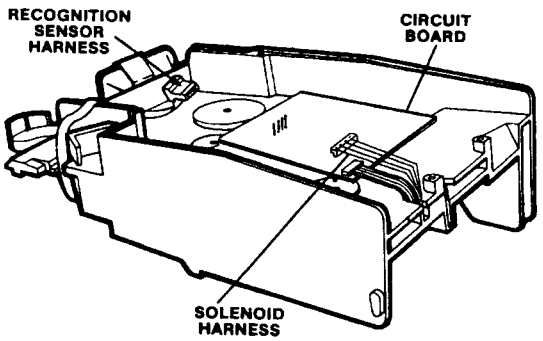


Figure 14: Lowering the Acceptor Gate Assembly

Removing the Acceptor Gate Assembly

- Lower the Acceptor/Gate Assembly by depressing the spring clips located on either side of the Acceptor (Figure 14).



- Remove cover from the back of the acceptor.
- Disconnect the dispenser / coin tube ribbon and power harness from the back of the Acceptor (Figure 15).

Figure 15: Disconnecting the dispenser / coin tube ribbon and power harness from the back of the Acceptor

- Grasp the Coin Cup. Slide the Acceptor up and forward until the Acceptor tabs clear the Housing mounting slots (Figure 16).

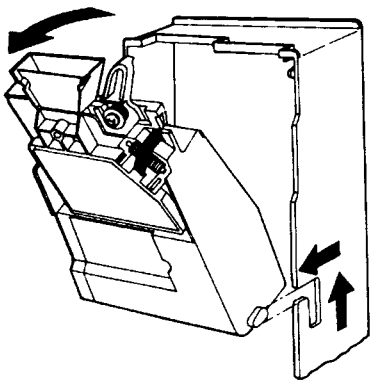


Figure 16: Removing the Acceptor from the Housing

Removing the Gate Assembly

- With the Acceptor/Gate Assembly removed from the changer, lay the Acceptor face down.
- Remove the Phillips head screw that holds the black, protective circuit board cover in place. Remove the cover.
- Disconnect the Dispenser and Solenoid Harness from the back of the Acceptor (Figure 17).
- Remove the Phillips head screw from the Gate Cover (Figure 18). Pull the cover up and to the right so that it clears the retaining tab located in the upper-left corner of the assembly.

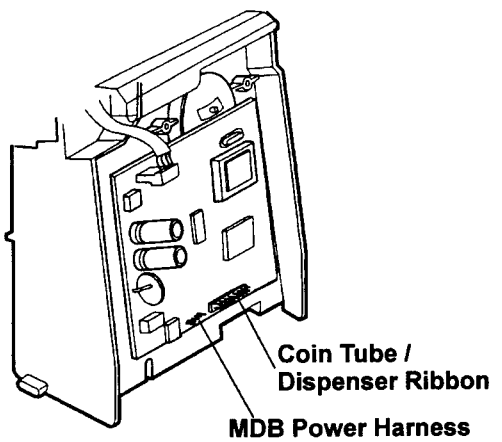


Figure 17: Removing the Recognition Sensor Harness and the Solenoid Harness

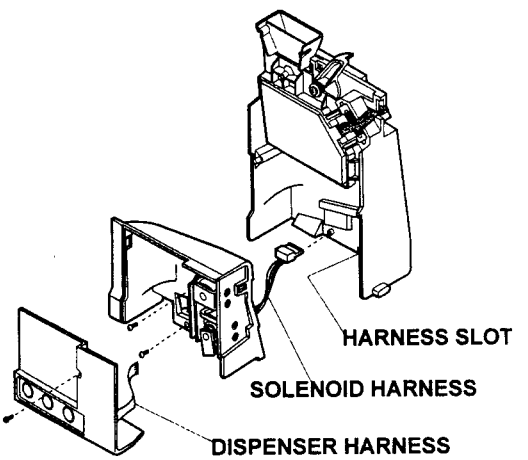


Figure 18: Removing the Gate Assembly

- Remove the two Phillips head screws holding the Gate Assembly in place (Figure 18). One screw is located above the 10¢ window; the other is below the 5¢ window. Lift out the Gate Assembly.

- Remove the Solenoid Harness from its slot in the bottom of the Acceptor Assembly (Figure 17). The Gate Assembly can now be repaired or replaced.

Backplate Assembly

Removing the Backplate Assembly

Warning

To avoid a possible shock hazard, use care when performing any procedure that involves installing the Control Board/Backplate Assembly. Route the Main Harness and Dispenser Harness wires in such a way that they cannot be pinched between the Backplate and Housing.

- Remove the three Phillips head screws from the Backplate.

- Lift the Backplate enough to grasp the base of the Control Board. Slide the Backplate out from under the tabs at the top of the Housing (Figure 19).

- Unplug the main harness from the base of the board. The Backplate can now be removed.

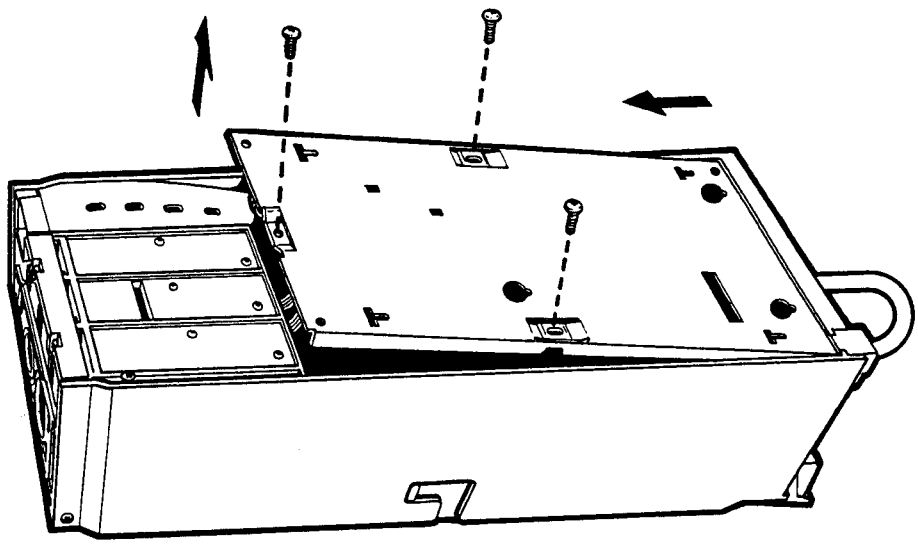


Figure 19: Removing the Backplate Assembly

Dispenser Assembly

The Dispenser Assembly utilizes solenoid-operated slides. When a solenoid is energized, its plunger retracts and compresses the spring that surrounds it. The upward motion of the plunger draws the link arm assembly, with its payout slide, back. The coin drops into the slide for payout. When the solenoid is de-energized, the plunger returns by spring force. The link arm pushes the Dispenser Slide forward, dispensing a coin.

The Dispenser Assembly:

- Pays back change
- Pays back escrow
- Pays automatic coin return for exact change conditions

Removing the Dispenser Assembly

- Follow the instructions above to remove the Control Board/Backplate Assembly.
- Remove the four screws that hold the Dispenser in the Housing - two screws in the Housing side panels (A), one screw at the lower right-hand side of the Dispenser (B), and one screw in the top left-hand corner of the Bottom Plate (C) (Figure 20).
- Grip the Dispenser and rock slightly to loosen. Once free, lift the Dispenser up and out of the Housing (Figure 21).

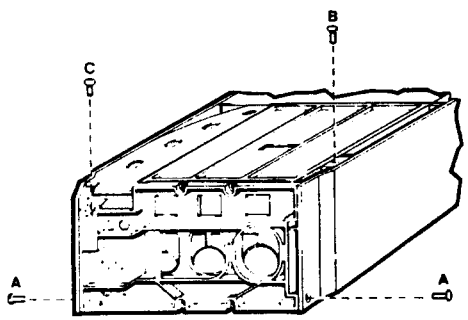


Figure 20: Removing Dispenser Screws

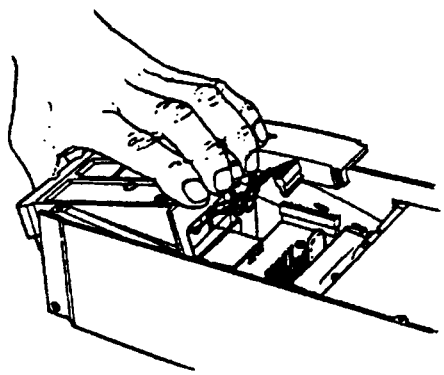


Figure 21: Removing the Dispenser Assembly

Removing the Upper and Lower Sensor Assemblies

- Remove the Backplate Assembly and Dispenser Assembly as described on pages 21, 22.
- Remove the two Phillips head screws from the Upper Sensor Assembly (Figure 22). Lift out the assembly so that the coin tube sensors clear the Housing depressions.
- Remove the two Phillips head screws from the Lower Sensor Assembly. Remove the harness from the stress relief slot beneath the upper assembly. Remove the Lower Sensor Assembly.

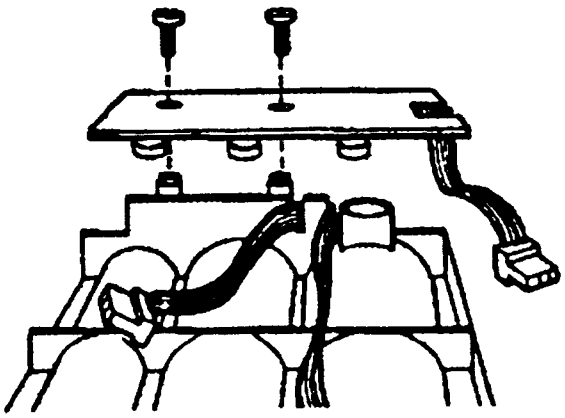


Figure 22: Removing the Upper and Lower Sensor Assemblies

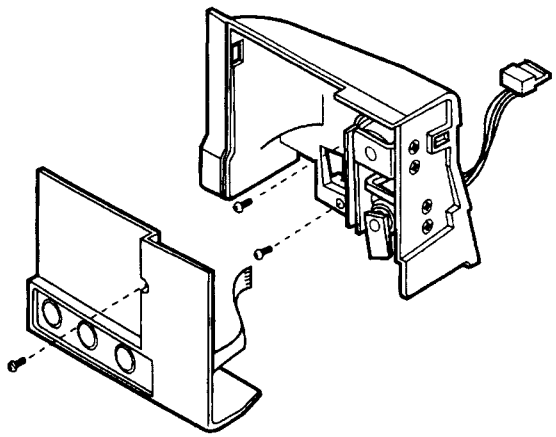


Figure 23: Removing the Dispenser Switch Membrane

NOTE: When replacing with another assembly, it is important to ensure that sensors are flush with the coin tubes.

Removing the Manual Dispense Switch Assembly

- Lower acceptor and remove power from changer.
- Disconnect power plug and ribbon harness.
- With the Acceptor/Gate Assembly removed from the changer, lay the Acceptor face down.
- Remove the Phillips head screw that holds the black, protective circuit board cover in place. Remove the cover.
- Unplug the Dispense Switch and Solenoid harness from the control board and remove three screws from the changer as shown in Figure 23.
- Grasp the gate cover. Slowly pull it forward and out of its mounting grooves until harness clears the access hole in the Housing.

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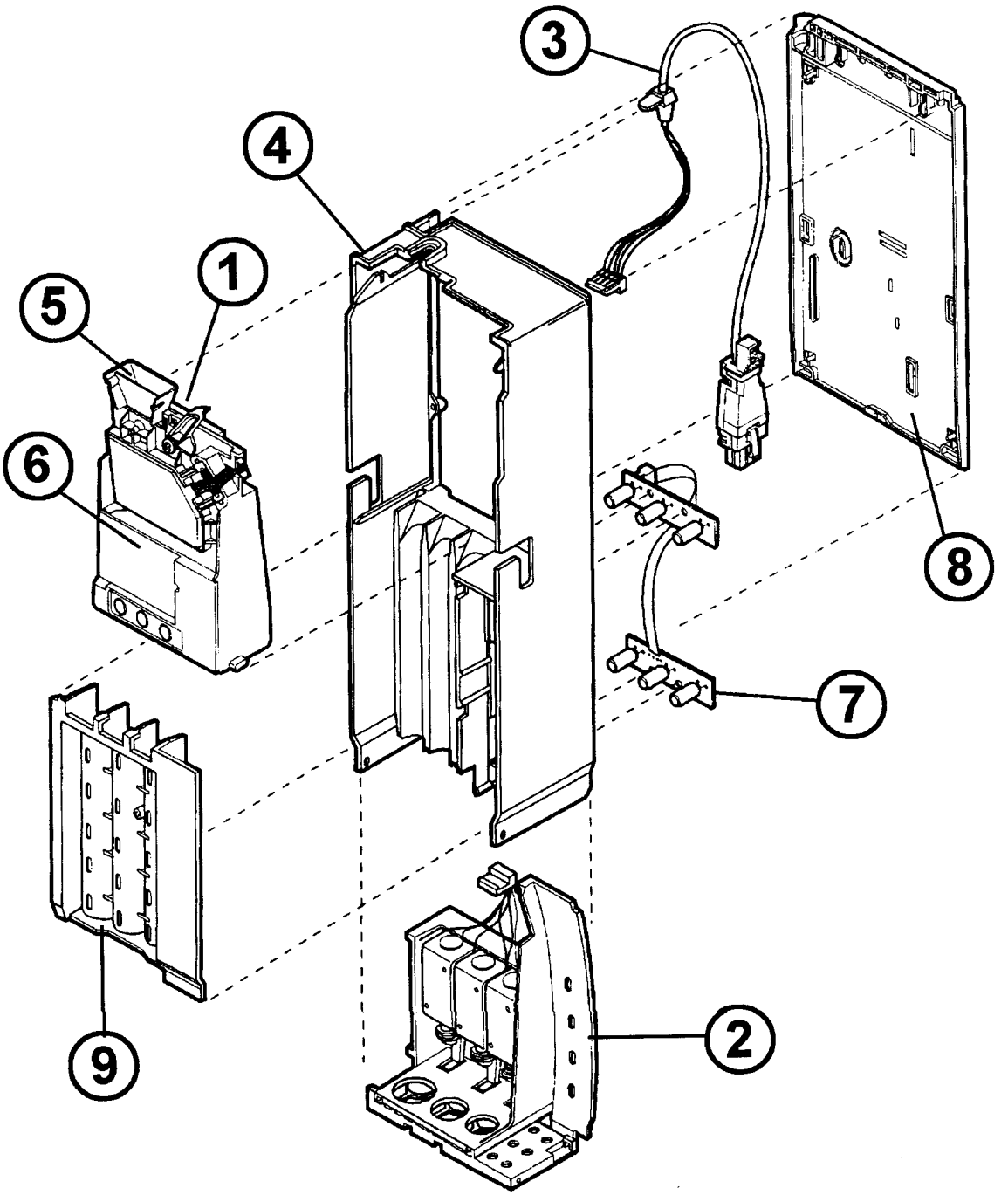
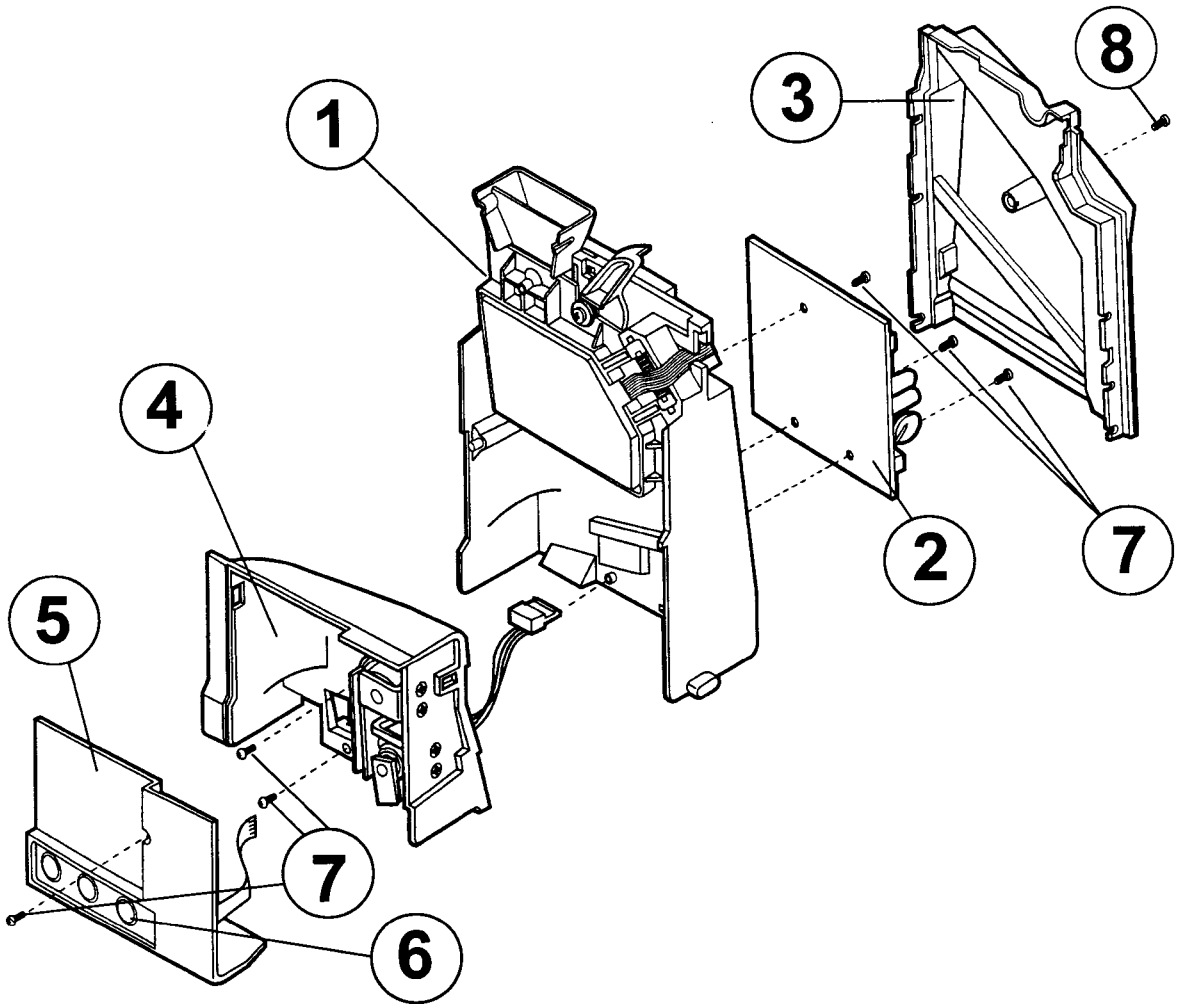
TRC6512 MDB Coin Changer Assembly



TRC6512 MDB Coin Changer Assembly

Ref Num	Description	Qty	Part Number
1	Control Board Assembly - on back of flight deck	1	Ref.
2	Dispenser Assembly	1	Ref.
3	Main Harness Assembly	1	200608023
4	Housing Assembly	1	200600027
5	Flight Deck and Lid Assembly	1	117540031
6	Gate Assembly	1	Ref.
7	Coin Tube Sensor Assembly	1	Ref.
8	Backplate	1	Ref.
9	Coin Tube Front	1	04-04-014
10	#4 Screw - not shown	14	08-00-121
11	Captive Screw - not shown	1	08-00-232

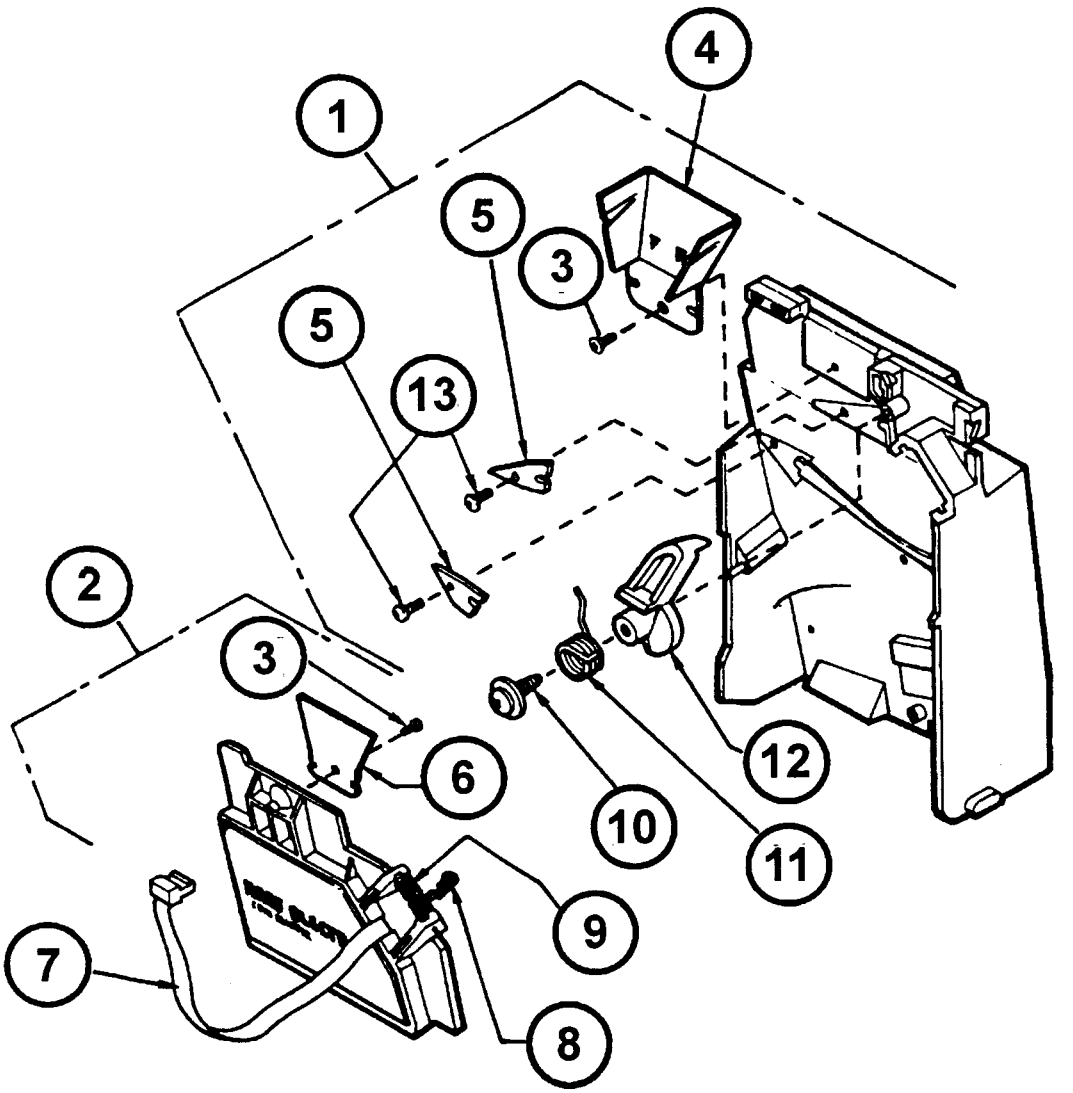
Flight Deck Assembly



Flight Deck Assembly

Ref Num	Description	Qty	Part Number
1	Flight Deck and Lid Assembly	1	Ref
2	Control Board - on back of flight deck	1	117542030
3	Control Board Cover	1	200601013
4	24V Gate Assembly	1	91-17-019-4
5	Gate Cover	1	200609014
6	Dispenser Switch Membrane	1	117544034
7	#4 Screw	6	08-00-121
8	#6 Screw	1	08-00-242

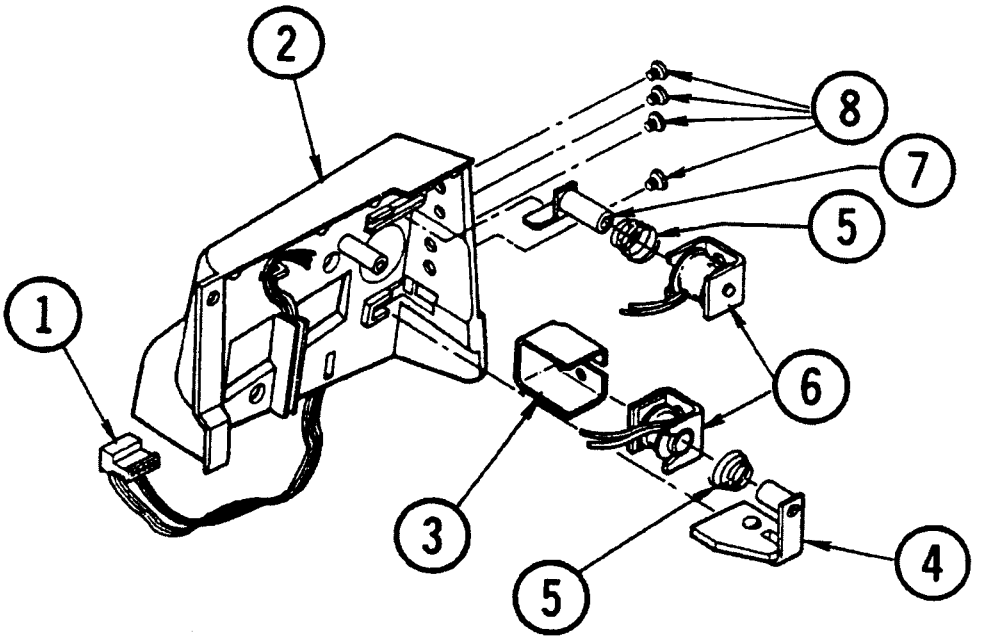
Flight Deck and Lid Assembly



Flight Deck and Lid Assembly

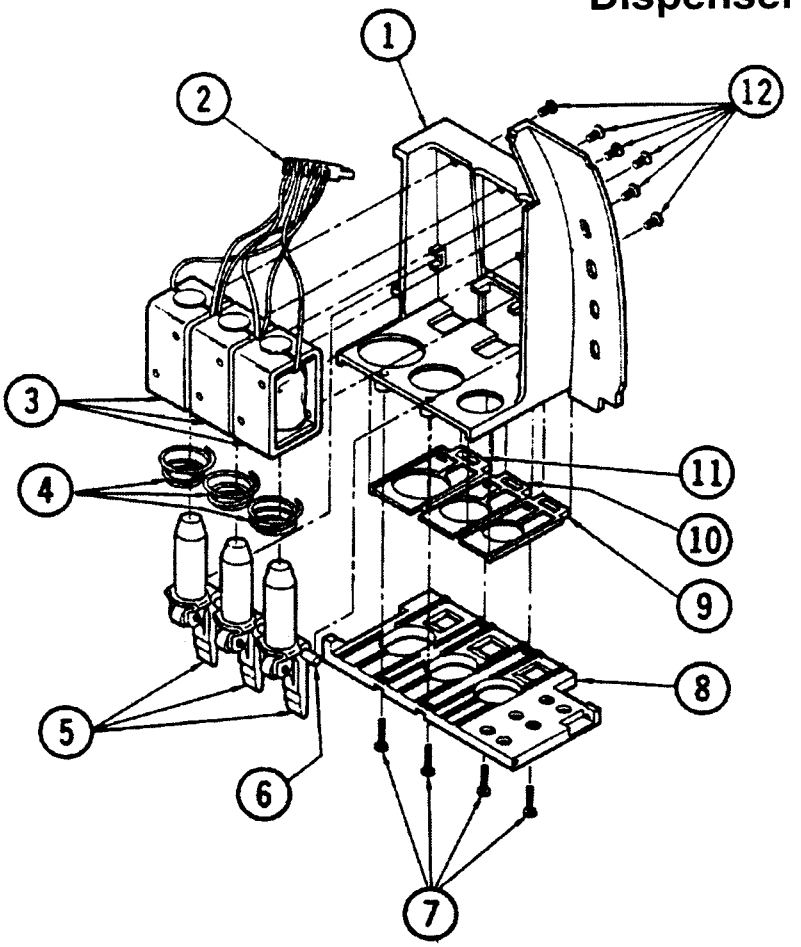
Ref Num	Description	Qty	Part Number
1	Flight Deck Assembly	1	117546033
2	Flight Deck Lid Assembly	1	117548032
3	Flight Deck Cover	1	04-00-160
4	Coin Cup	1	05-00-193
5	ASIC Entrance Snubber ASIC Ramp Snubber	1 1	05-10-013 05-10-014
6	Back Plate Coin Cup	1	05-00-102
7	Flight Deck Lid Cable Assembly	1	01-12-082
8	Right Hand Hinge Spring	1	08-14-014
9	Left Hand Hinge Spring	1	08-14-015
10	Screw	1	08-00-309
11	Reject Lever Spring	1	08-14-011
12	Return Lever	1	04-02-013
13	#4 Screw	3	08-00-121
14	#4 Screw	2	08-00-145

Gate Assembly



Ref Num	Description	Qty	Part Number
1	5 Position Connector	1	01-00-277
2	Window Plate with Ferrite Disk	1	04-99-014
3	Magnetic Shield	1	05-00-030
4	Second Gate Assembly	1	91-17-025-1
5	Conical Spring	2	08-14-004
6	Gate Solenoid 24V	2	117547002
7	Accept Gate Assembly	1	91-17-024-1
8	Screw	4	08-00-206

Dispenser Assembly



Ref Num	Description	Qty	Part Number
1	Dispenser Bracket	1	04-00-026
2	6 Position Connector	1	01-00-278
3	Dispenser Solenoid 24V	3	117543004
4	Dispenser Spring	3	08-14-003
5	Plunger Assembly	3	91-12-018-1
6	Dispense Pin	1	05-06-015
7	#4 Screw	4	08-00-121
8	Bottom Plate	1	202820001
9	10¢ Slide	1	04-02-010
10	5¢ Slide	1	04-02-009
11	25¢ Slide	1	04-02-011
12	#6 Screw	6	08-00-213