# 10

## Component Replacement: Wagering and Monetary Hardware

This chapter describes the following replacement and maintenance procedures for wagering and monetary hardware:

- ♦ Replacing the bill acceptor
- ♦ Calibrating the bill acceptor
- ♦ Replacing the coin acceptor
- ♦ Replacing the coin optics boards
- ♦ Replacing the hard meters
- ♦ Adjusting the hopper coin-out sensor
- ♦ Changing the coin denomination
- ♦ Replacing the denomination cap
- ♦ Replacing the slot arm
- ♦ Replacing the slot arm microswitch
- ♦ Replacing the ticket printer

# Overview

This chapter contains service and replacement procedures for waging and monetary hardware. Figure 10-1 shows the locations of the following components:

♦ Bill acceptor

♦ Coin acceptor

♦ Coin optics boards

♦ Hard meters

♦ Currency cartridge

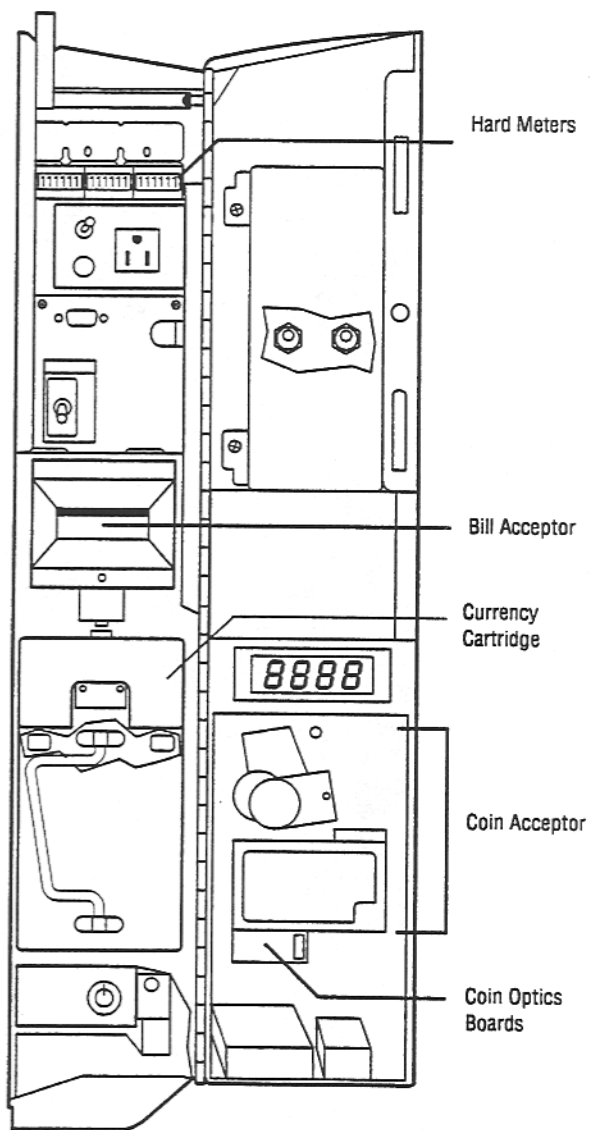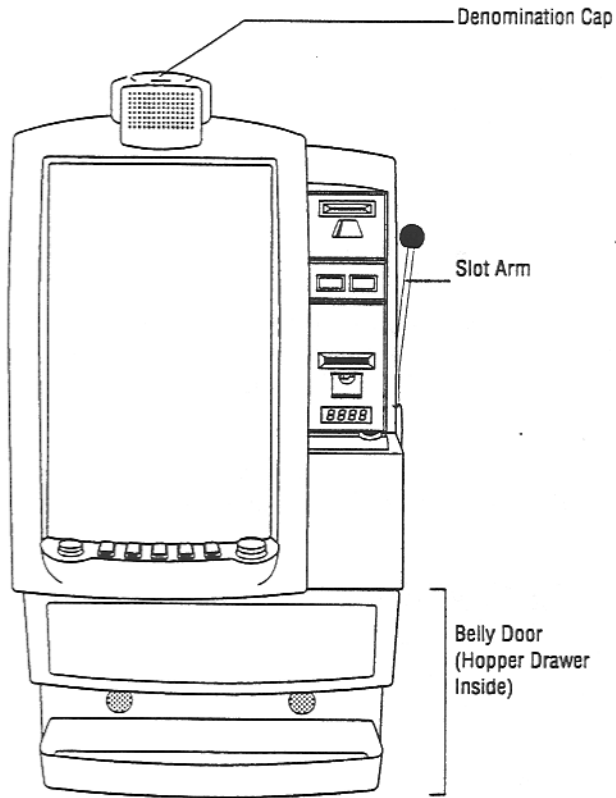*Figure 10-1*    **Currency Column**

Figure 10-2 shows locations for the following:

♦ Hopper drawer

♦ Denomination cap

♦ Slot arm

*Figure 10-2*     **Front View of Odyssey Slot Machine**



The components involved in a coin denomination change vary, depending on the denomination. For information about the components and their locations, refer to "Changing the Coin Denomination" on page 10-22.

The ticket printer is in the hopper drawer. For the location of the slot arm microswitches, see Figure 10-58 on page 10-67.

The following table lists the procedures in this chapter.

| | See |
|---|---|
| Replacing the Bill Acceptor | page 10-4 |
| Calibrating the Bill Acceptor | page 10-5 |
| Replacing the Coin Acceptor | page 10-6 |
| Replacing the Coin Optics Boards | page 10-8 |
| Replacing a Hard Meter | page 10-12 |
| Adjusting the Hopper Coin-Out Sensor | page 10-18 |
| Changing the Coin Denomination | page 10-22 |
| Replacing the Denomination Cap | page 10-50 |
| Replacing the Slot Arm | page 10-51 |
| Replacing the Slot Arm Microswitches | page 10-61 |
| Replacing the Ticket Printer | page 10-70 |

# Replacing the Bill Acceptor

The acceptor is located above the currency cartridge in the currency column. Its function is to accept and validate bills. The slot machine contains either a Mars ZT1000 or a Mars ZT1100 bill acceptor. The model number is marked on the top of the bill acceptor.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Bill Acceptor |
|---|
| "Removing the Bill Acceptor" on page 10-4 |
| "Installing the Bill Acceptor" on page 10-5 |
| "Verifying Bill Acceptor Operation" on page 10-5 |

## Removing the Bill Acceptor

Before beginning the procedure, be sure to turn the power off.

To turn the power off, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

    ◆ Warning: Failure to turn off the machine can result in personal injury or damage to equipment.

To remove the bill acceptor from the bill acceptor chassis, perform the following steps:

1. Hold the bill acceptor with one hand and, using the other hand, pull forward on the spring-loaded black securing-bracket above the bill acceptor.

2. With the securing-bracket pulled forward, pull the bill acceptor halfway out.

3.  Check for a cable with a 10-pin connector hanging to the left of the bill acceptor. Older bill acceptors have this cable. Newer bill acceptors and older bill acceptors that have been upgraded do not. If you find the cable, unplug the connector.

4.  Pull the bill acceptor all the way out of the bill acceptor chassis.

## Installing the Bill Acceptor

To install the bill acceptor in the bill acceptor chassis, perform the following steps:

1.  Insert the bill acceptor halfway into the cavity.

2.  If you disconnected a cable with a 10-pin connector hanging to the left of the bill acceptor, plug the 10-pin connector on the bill acceptor into this cable.

3.  Push the bill acceptor all the way into the cavity until it locks in place.

4.  Refer to the *ZT1000 Bill Acceptor User Manual* or the *ZT1100 Bill Acceptor User Manual* to set the option switches. These switches enable and disable the acceptance of individual bill denominations. The switches also determine the acceptable orientation of bills when they are inserted into the bill acceptor. The switch settings work in conjunction with the MMS.

    ♦   For the ZT1000 bill acceptor: Only the MMS determines whether a bill is accepted or rejected. The bill acceptor option switch setting for a two-way or one-way acceptance is ignored. The bill acceptor only accepts bills in a two-way orientation, with the bill facing up (so that the president's picture is showing).

    ♦   For the ZT1100 bill acceptor: A bill denomination is accepted only if the MMS is enabled and the option switch setting is set to accept the denomination.

        If the option switch is set to the four-way accept position, the bill acceptor accepts bills in all four orientations. If the option switch is set to the two-way accept position, the bill acceptor accepts bills in a two-way orientation, with the bill facing up (so that the president's picture is showing).

## Verifying Bill Acceptor Operation

To verify bill acceptor operation, perform the following steps:

1.  Flip the power switch for the slot machine to the On position.

2.  Calibrate the bill acceptor. Refer to "Calibrating the Bill Acceptor," below.

3.  Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

# Calibrating the Bill Acceptor

To calibrate the bill acceptor, perform the following steps:

1.  Inspect and clean the bill acceptor. Refer to "Maintaining the Bill Acceptor" on page 7-6.

2.  Invoke the MMS and access the MMS **Diagnostics** page, as described in "Invoking the MMS" on page 2-23.

3.  Touch the *Calibrate* button. The button label changes to *Insert calibration paper*.

4.  Special reusable paper is required to calibrate the bill acceptor. Insert the paper into the bill acceptor and the bill acceptor calibrates automatically. When calibration is completed, the button label changes to *Calibration complete*.

    *Note:* For more information on the bill acceptor, see the *ZT1000 Bill Acceptor User Manual* and the *ZT1100 Bill Acceptor User Manual* from Mars Electronics International; 1301 Wilson Drive; West Chester, PA 19380.

5.  Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

# Replacing the Coin Acceptor

The coin acceptor detects whether a coin is valid. It is located in the currency column door, below the diagnostics display.

*Note:* Some machines do not have coin acceptors.

Coin acceptors are available for 25¢, $1, and $5 denominations. Be sure you are replacing the coin acceptor with the same denomination as the one you are removing.

*Important:* To upgrade to a higher denomination, you must do more than replace the coin acceptor. See "Changing the Coin Denomination" on page 10-22.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Coin Acceptor |
| --- |
| "Removing the Coin Acceptor" on page 10-6 |
| "Installing the Coin Acceptor" on page 10-8 |
| "Verifying Coin Acceptor Operation" on page 10-8 |

## Removing the Coin Acceptor

Before beginning the procedure, be sure to turn the power off.

**To turn the power off, perform the following steps:**
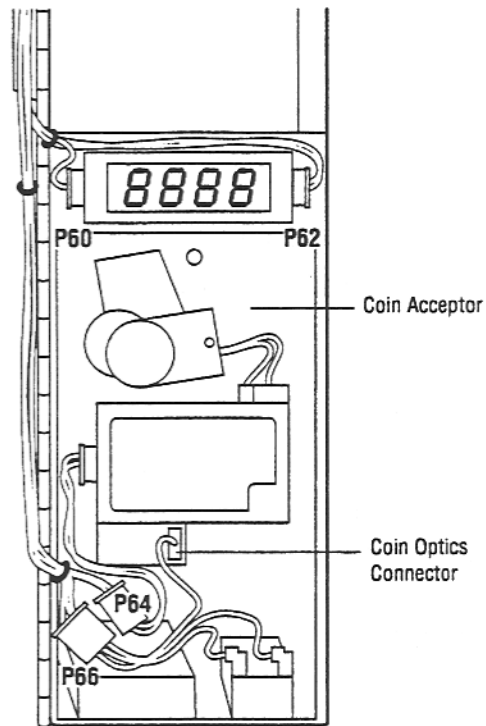
1.  Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2.  Flip the power switch to the Off position.

    *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

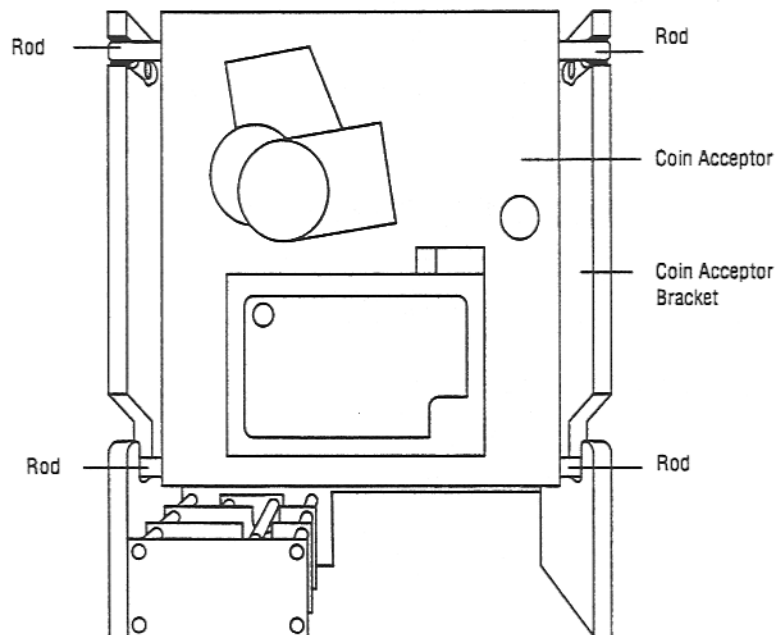**To remove the coin acceptor from the coin acceptor bracket, perform the following steps:**

1.  Refer to Figure 10-3 on page 10-7 and unplug the coin comparator harness connector Q64 from the P64 main harness connector.

*Figure 10-3*     **Coin Acceptor and Connectors**



2. The coin acceptor has four rods, one in each corner. The rods fit into holes in the coin acceptor bracket, as shown in Figure 10-4. Pull the coin acceptor from the bracket and set it on a flat surface.

*Figure 10-4*     **Coin Acceptor and Coin Acceptor Bracket**

## Installing the Coin Acceptor

To install the coin acceptor in the coin acceptor bracket, refer to Figure 10-4 and perform the following steps:

1.  Align the bottom two rods on the coin acceptor with the two slots in the bracket.

2.  Align the top two rods on the coin acceptor with the two $U$-shapes on the clips (in the bracket).

3.  Push the coin acceptor into the bracket until it is secure.

4.  Refer to Figure 10-3 on page 10-7 and plug the coin comparator harness connector Q64 into the P64 main harness connector.

## Verifying Coin Acceptor Operation

To verify operation of the coin acceptor, perform the following steps:

1.  Flip the power switch for the slot machine to the On position.

2.  Invoke the MMS and access the MMS **Diagnostics** page. Refer to "Invoking the MMS" on page 2-23.

3.  Test the coin path. Refer to "Testing the Coin Path" on page 3-37.

4.  Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

5.  Close the display cavity bezel. Refer to "Closing the Display Cavity Bezel" on page 2-9.

# Replacing the Coin Optics Boards

The coin optics boards are two boards that detect whether a coin is inserted into or removed from the coin acceptor in the slot machine. The boards are stacked, one in front of the other, in the currency column door, below the coin acceptor.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Coin Optics Boards |
| --- |
| **Removing the Coin Optics Boards** |
| "Removing the Coin Acceptor" on page 10-6 |
| "Removing the Coin Acceptor Bracket" on page 10-9 |
| "Removing the Coin Optics Boards from the Bracket" on page 10-10 |
| **Installing the Coin Optics Boards** |
| "Attaching the Detector Mount" on page 10-10 |
| "Attaching the PCBs" on page 10-10 |
| "Installing the Coin Acceptor Bracket" on page 10-11 |
| "Installing the Coin Optics Boards in the Bracket" on page 10-11 |
| **"Verifying Coin Optics Board Operation" on page 10-12** |

## Removing the Coin Optics Boards

Before beginning the procedure, be sure to turn the power off.

**To turn the power off, perform the following steps:**

1.  Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

> **Warning:** Failure to turn off the machine can result in personal injury or damage to equipment.

To remove the coin optics boards, you must remove the coin acceptor from the coin acceptor bracket and the coin acceptor bracket from the currency column door.
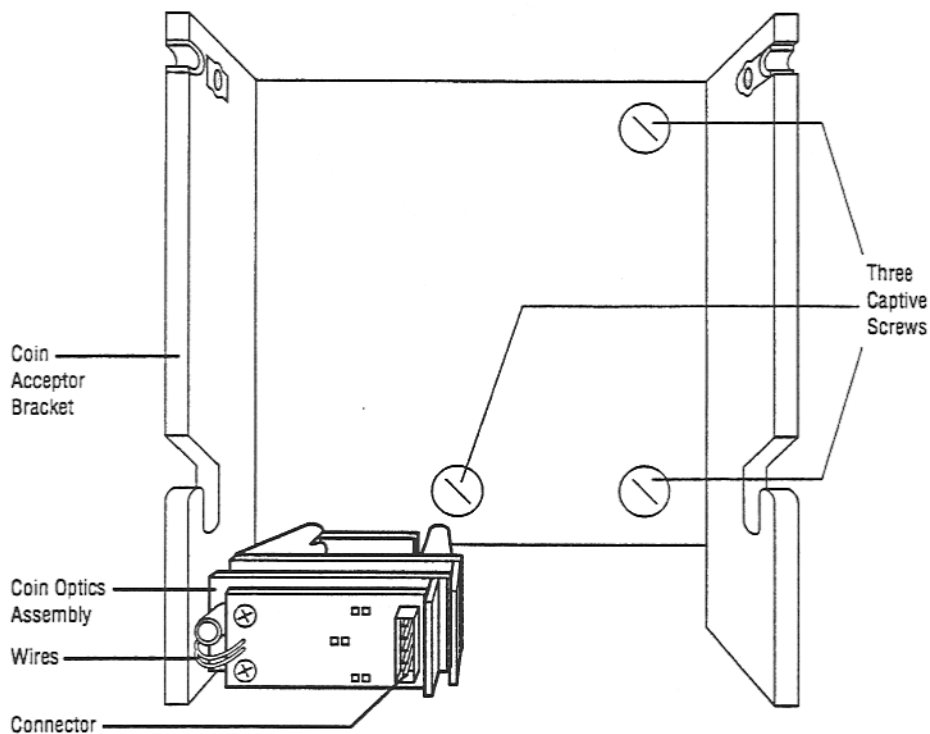
### Removing the Coin Acceptor

Refer to "Removing the Coin Acceptor" on page 10-6.

### Removing the Coin Acceptor Bracket

**To remove the coin acceptor bracket from the currency column door, perform the following steps:**

1.  Using a screwdriver, loosen the three captive screws in the coin acceptor bracket. Refer to Figure 10-5.

2. Pull the bracket from the currency column.

*Figure 10-5*    **Coin Acceptor Bracket**

### Removing the Coin Optics Boards from the Bracket

To remove the coin optics boards from the coin acceptor bracket, perform the following steps:

1. See Figure 10-5 on page 10-9 to locate the coin optics assembly. The coin optics boards are stacked, one in front of the other, beneath the area for the coin acceptor. Remove the four screws that secure the unit to the bracket.

2. Remove the assembly.

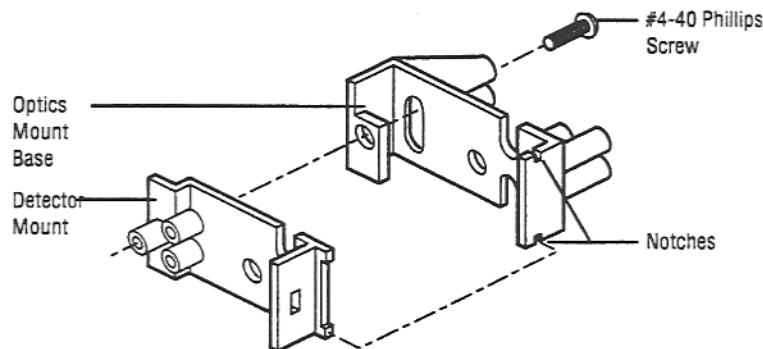## Installing the Coin Optics Boards

The main components of the coin optics assembly include a detector mount, an optics mount base, a large PCB, and a small PCB. You must assemble these components before installing the coin optics boards.

### Attaching the Detector Mount

To attach the detector mount to the coin optics base, refer to Figure 10-6 and perform the following steps:

1. Insert a #4-40 Phillips screw into the optics mount base.

2. Place the detector mount on the optics mount base so that the detector mount fits into the two notches in the optics mount base.

3. Push the end of the screw through the hole in the tab on the optics mount base and through the hole in the detector mount.

4. Tighten the screw, securing the detector mount to the optics mount base.

*Figure 10-6*    **Detector Mount on Optics Mount Base**



### Attaching the PCBs

To attach the PCBs, refer to Figure 10-7 on page 10-11 and perform the following steps:

1. Attach the large PCB to the detector mount as follows:

   a. Insert the tab of the large PCB into the hole in the detector mount.

   *Important:* Ensure that the connector on the PCB is facing away from the detector mount, as shown in the figure.
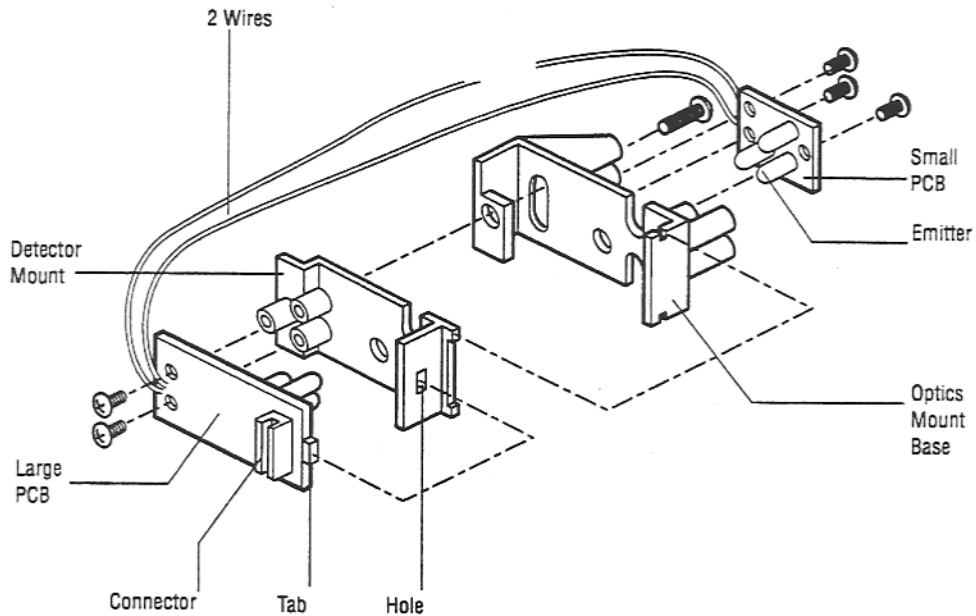
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   **b.**  Secure the PCB to the mount, using two Phillips #4-40 screws.

**2.** Attach the small PCB to the optics mount base as follows:

   **a.**  Place the PCB on the base so it is oriented as shown in Figure 10-7.

   *Important:* Ensure the two wires are in place, as shown in the figure, and that the glass emitters are pointing toward the optics mount base.

   **b.**  Secure the PCB to the base, using three #4-40 Phillips screws.

*Figure 10-7*    **Coin Optics Assembly**



## Installing the Coin Acceptor Bracket

To install the coin acceptor bracket in the currency column door, perform the following steps:

**1.** Align the three captive screws in the coin acceptor bracket, shown in Figure 10-5 on page 10-9, with the screw holes in the door.

**2.** Tighten the screws, securing the bracket to the door.

   *Important:* Do not over-tighten the screws.

## Installing the Coin Optics Boards in the Bracket

To install the coin optics assembly in the coin acceptor bracket, perform the following steps:

**1.** Attach the coin optics assembly to the coin acceptor bracket by aligning the four holes at the bottom left of the bracket with the four legs of the coin optics assembly.

   *Important:* Ensure that the wires of the coin optics assembly are to the left and the coin optics connector is to the right, as shown in Figure 10-5 on page 10-9.

2.  From the outside of the coin acceptor bracket, secure the coin optics assembly to the bracket, using the four #4-40 screws in the upgrade kit.

3.  Refer to Figure 10-3 on page 10-7 and plug the coin comparator harness connector Q64 into the P64 main harness connector.

## Verifying Coin Optics Board Operation

To verify operation of the coin optics boards, perform the following steps:

1.  Flip the power switch for the slot machine to the On position.

2.  Invoke the MMS and access the MMS **Diagnostics** page. Refer to "Invoking the MMS" on page 2-23.

3.  Touch the *Coin Acceptor* button on the page.

4.  Insert a test coin and verify that the *Accept* message is displayed.

5.  Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

6.  Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

# Replacing a Hard Meter

The hard meters are in the meter bracket, located above the power switch. Depending on the jurisdiction, the meter bracket contains up to six meters. Figure 10-1 on page 10-2 is an example of a currency column with three meters.

The coin-in, coin-out, and coin-drop meters are in all machines and are always in position from left to right as you face the machine. If the machine contains an additional three meters, they are located on top of the coin-in, coin-out, and coin-drop meters. They may have labels such as *JACKPOT, GAMES,* and *SPARE.*

To replace a hard meter, you need the following tools and supplies:

♦  Molex Mini-Fit pin remover

♦  Two female Molex pins for each meter you are replacing

♦  Wire crimper

♦  Wire cutter

♦  Pre-printed gummed label for identifying the new meter

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing a Hard Meter |
| --- |
| **Removing a Hard Meter** |
| "Removing the Bill Acceptor" on page 10-4 |
| "Moving the AC Isolation Box" on page 10-13 |
| "Removing the Meter Bracket" on page 10-14 |
| "Removing the Meter" on page 10-14 |
| **Installing a Hard Meter** |
| "Installing the Meter" on page 10-15 |
| "Installing the Meter Bracket" on page 10-16 |
| "Installing the AC Isolation Box" on page 10-17 |
| "Installing the Bill Acceptor" on page 10-5 |
| **"Verifying Hard Meter Operation" on page 10-17** |
| *Important:* Do not skip this procedure. It includes information on incrementing meters. |

## Removing a Hard Meter

Before beginning the procedure, be sure to turn the power off.

**To turn the power off, perform the following steps:**

1.  Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2.  Flip the power switch to the Off position.

    *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

To access the hard meters, you must remove the bill accepter and move the AC isolation box.

### Removing the Bill Acceptor

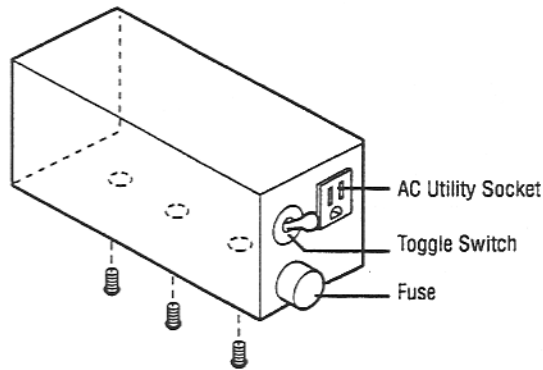Refer to "Removing the Bill Acceptor" on page 10-4.

### Moving the AC Isolation Box

To access the meters, you must move the AC isolation box out of your way.

**To move the AC isolation box, refer to Figure 10-8 on page 10-14 and perform the following steps:**

1.  Unplug the thick, black AC power cable from the back of the AC isolation box.

2.  Remove the three screws that attach the box to the shelf that supports them.

3.  Lift up the AC isolation box and push it back (into the cabinet).

*Figure 10-8*    **AC Isolation Box**

AC Utility Socket

Toggle Switch

Fuse

## Removing the Meter Bracket

To remove the meter bracket from the meter bracket shelf, perform the following steps:

1. Using a right-angle screwdriver on the underside of the cabinet shelf that supports the bracket, remove the two screws and flat washers that secure the meter bracket to the front of the shelf.

2. Pull the meter bracket off the shelf.

## Removing the Meter

To remove the meter from the meter bracket, perform the following steps:

1. Refer to Figure 10-9 on page 10-15 and turn the bracket around so you can see the wires coming through the back.

   *Note:*  References to right and left in the figure are reversed because you are looking at the back of the meter box.

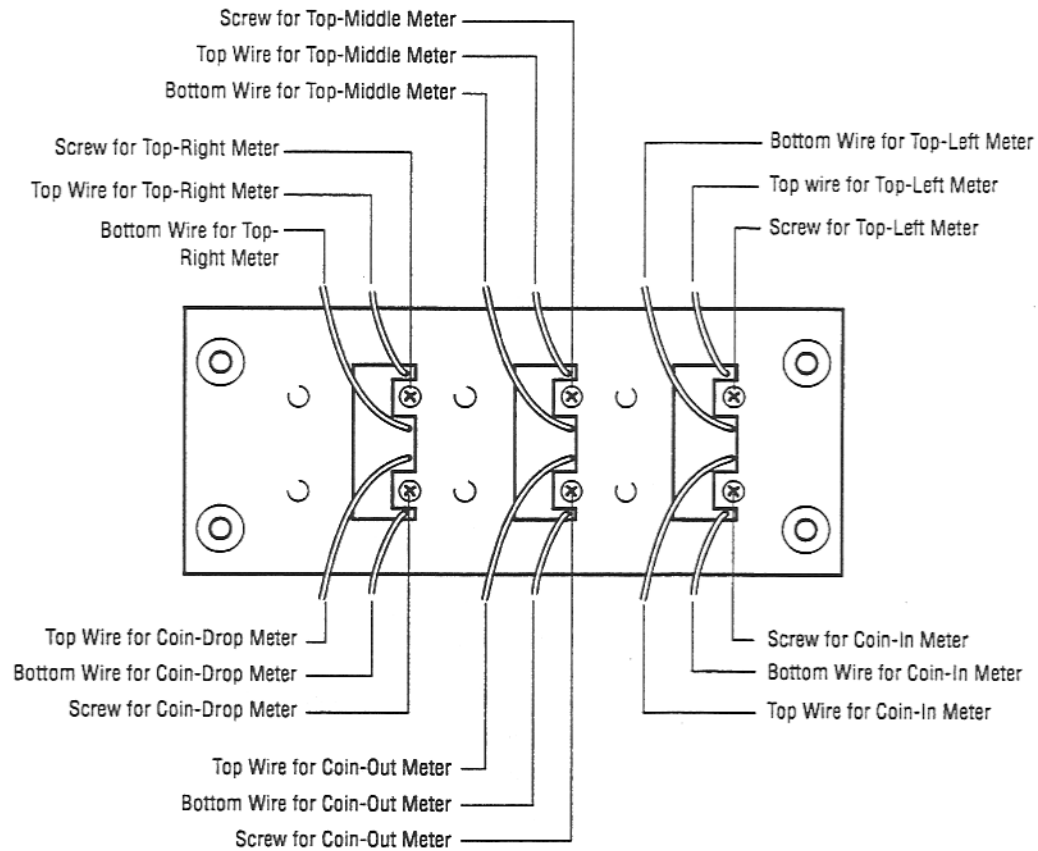   Two wires are connected to each meter. A screw secures each meter to the bracket.

2. Refer to Figure 10-9 on page 10-15 and select the two wires for the meter you are removing.

   *Warning:*  Ensure the power is still off.

   Using a wire cutter, cut the two wires halfway between the meter and the wire connector.

3. Using a Molex Mini-Fit pin remover, remove the two cut wires and the attached pins from the connector.

4. Remove the screw securing the meter to the bracket.

5. Remove the meter from the meter bracket.

*Figure 10-9*    **Back View of Meter Bracket**

Screw for Top-Middle Meter ————

Top Wire for Top-Middle Meter ————

Bottom Wire for Top-Middle Meter ————

Screw for Top-Right Meter ————

Top Wire for Top-Right Meter ————

Bottom Wire for Top-Right Meter ————

Bottom Wire for Top-Left Meter ————

Top wire for Top-Left Meter ————

Screw for Top-Left Meter ————

Top Wire for Coin-Drop Meter ————

Bottom Wire for Coin-Drop Meter ————

Screw for Coin-Drop Meter ————

Screw for Coin-In Meter ————

Bottom Wire for Coin-In Meter ————

Top Wire for Coin-In Meter ————

Top Wire for Coin-Out Meter ————

Bottom Wire for Coin-Out Meter ————

Screw for Coin-Out Meter ————

# Installing a Hard Meter

After threading the wires of the hard meter through the meter bracket, you must install the meter, meter bracket, AC isolation box, and bill acceptor.
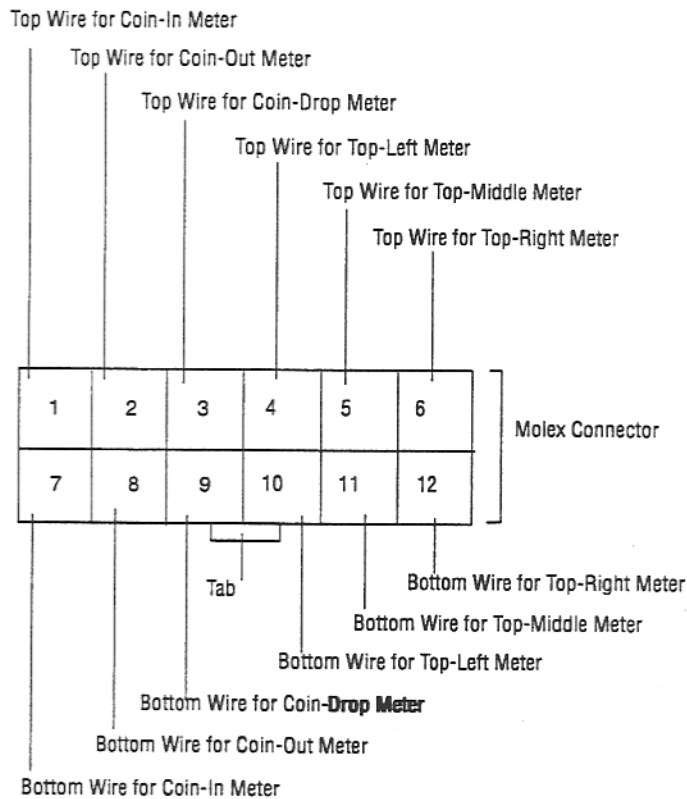
## Installing the Meter

To install the hard meter in the meter bracket, perform the following steps:

1.  Place the new meter halfway into the meter bracket.

2.  Refer to Figure 10-9 and thread the two meter wires (coming from the back of the meter) through the holes of the meter bracket. Be sure to thread the wires through the correct holes.

3.  Push the meter all the way into the bracket and secure it to the bracket, using the screw you removed from the defective meter. The screw goes through the screw hole closest to the wire hole for the meter. See Figure 10-9.

4.  The wires from the other meters (those you are not replacing) are attached to a 12-pin male Molex connector. Connect the two meter wires from the new meter to the 12-pin connector as follows:

    a.  Cut the two wires on the new meter 6" long and strip the ends.

    b.  Using a wire crimper, crimp a female Molex pin onto the end of each wire.

c.  Insert the two pins into the 12-pin male connector so that the wires shown in
    Figure 10-9 on page 10-15 go into the Molex connector holes indicated in
    Figure 10-10.

*Figure 10-10*    **Molex Connector for Hard Meter Wires**

Top Wire for Coin-In Meter

Top Wire for Coin-Out Meter

Top Wire for Coin-Drop Meter

Top Wire for Top-Left Meter

Top Wire for Top-Middle Meter

Top Wire for Top-Right Meter

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| 7 | 8 | 9 | 10 | 11 | 12 |

Molex Connector

Tab

Bottom Wire for Top-Right Meter

Bottom Wire for Top-Middle Meter

Bottom Wire for Top-Left Meter

Bottom Wire for Coin-**Drop Meter**

Bottom Wire for Coin-Out Meter

Bottom Wire for Coin-In Meter

## Installing the Meter Bracket

To install the meter bracket in the currency column, perform the following steps:

1.  Place the meter bracket on the cabinet shelf so that the meter numbers face you.

2.  Place the two washers on the two screws you previously removed from the shelf.

3.  From under the shelf, insert the two screws into the bracket, securing the bracket
    to the shelf.

4.  Hand-tighten the screws.

5.  Apply the appropriate label to the front of the new meter. The jurisdiction dictates
    the label.

    *Note:* The labels on the bottom three meters read, from left to right: *coin in,*
    *coin out,* and *coin drop.*

### Installing the AC Isolation Box

To install the AC isolation box, perform the following steps:

1.  Place the AC isolation box on the shelf above the meters and secure it to the shelf from underneath with three screws.

2.  Plug the thick, black AC power cable into the back of the isolation box.

### Installing the Bill Acceptor

Refer to "Installing the Bill Acceptor" on page 10-5.

## Verifying Hard Meter Operation

To verify hard meter operation, perform the following steps:

1.  Write down the meter names and the corresponding numbers displayed on each of the meters.

    *Important:* Do not skip this step. If you happen to increment the wrong meter you will not be able to report the correct number to the casino accounting department.

2.  Flip the power switch for the slot machine to the On position.

3.  Invoke the MMS and access the MMS **Diagnostics** page. Refer to "Invoking the MMS" on page 2-23.

4.  Touch the *Hard Meters* button.

5.  If necessary, touch the up-arrow or the down-arrow until the name of the meter you installed is displayed.

6.  Touch the appropriate button to increment the meter one time.

    *Important:* These meters cannot be reset. When testing, do not increment the meter more than twice.

7.  Record the new number on the meter and report this information to the casino accounting department.

8.  Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

9.  Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

# Adjusting the Hopper Coin-Out Sensor

To ensure proper operation of the hopper, you must make a coin-in adjustment and a coin-out adjustment. To make these adjustments, you must remove the hopper drawer from the machine.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Adjusting the Hopper Coin-Out Sensor |
| --- |
| "Removing the Hopper Drawer" on page 2-9 |
| "Making a Coin-In Adjustment" on page 10-19 |
| "Making a Coin-Out Adjustment" on page 10-21 |
| "Installing the Hopper Drawer" on page 2-10 |
| "Verifying Hopper Operation" on page 2-10 |

## Removing the Hopper Drawer

To remove the hopper drawer, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

   ◆ *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

3. Remove the hopper drawer. Refer to "Removing the Hopper Drawer" on page 2-9.

## Making a Coin-In Adjustment

A coin-in adjustment requires a coin beneath the hopper roller. See Figure 10-11.

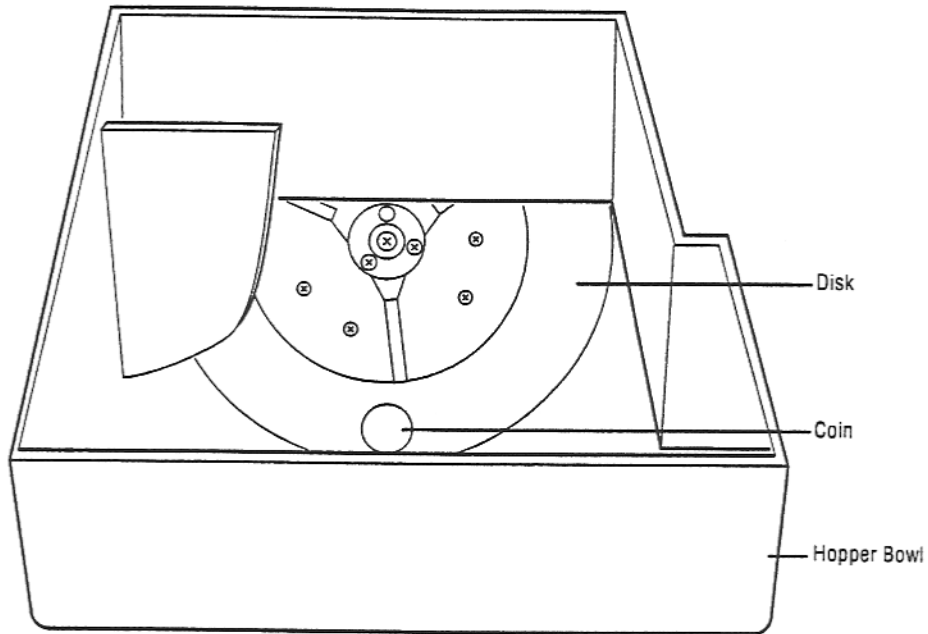*Figure 10-11*    **Front View of Hopper, Showing Coin Centered Under Roller**



To make a coin-in adjustment, perform the following steps:

1.  Drop a coin (or casino token) into the hopper bowl and allow it to roll onto the disk inside the hopper bowl. See Figure 10-12 on page 10-20.
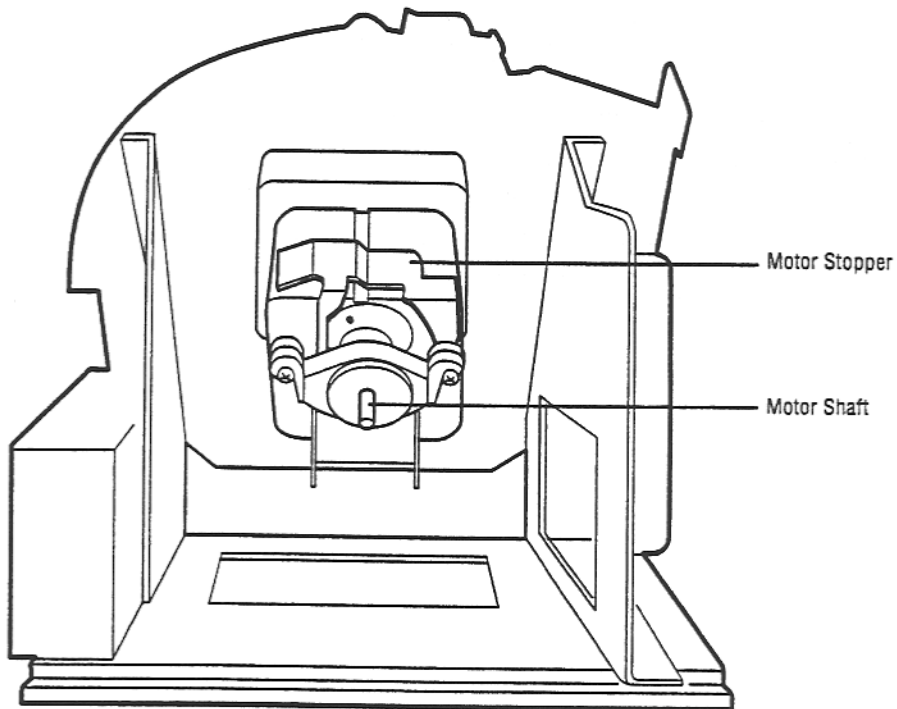
    *Important:* The coin or token must be for the correct denomination for the machine. The denomination cap, located on top of the candle lens, indicates the denomination of the machine.

*Figure 10-12*    **Coin on Disk in Hopper Bowl**



2.    Refer to Figure 10-13 to locate the motor stopper and the motor shaft in the back of the hopper.

*Figure 10-13*    **Back View of Hopper, Showing Motor Stopper and Motor Shaft**

3.  Press down on the motor stopper while rotating the motor shaft, until the coin is centered under the roller on the front of the hopper, as shown in Figure 10-11 on page 10-19.
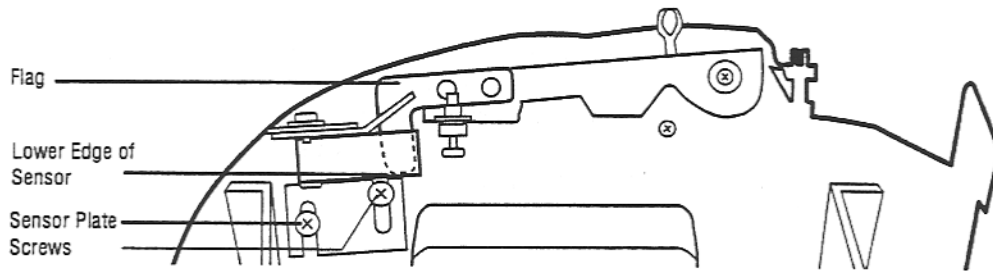
    *Important:* To avoid creating rust on the motor shaft, turn the shaft with a cloth.

4.  The flag on the back side of the hopper, shown in Figure 10-14, is now in its lowest position.

    Loosen the two sensor plate screws shown in the figure.

5.  Adjust the sensor so that the lower edge of the flag is flush with the lower edge of the sensor, as shown in Figure 10-14.

6.  Tighten the two sensor plate screws to secure the sensor.

*Figure 10-14*   **Back View of Hopper with Coin Centered Under Roller**



## Making a Coin-Out Adjustment

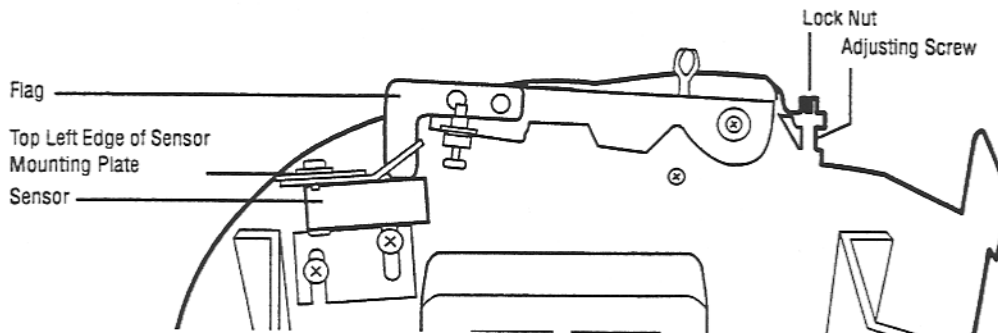A coin-out adjustment requires removal of the coin from beneath the hopper roller.

**To make a coin-out adjustment, perform the following steps:**

1.  To release the coin from under the roller, press down on the motor stopper while rotating the motor shaft. Figure 10-13 on page 10-20 shows the locations of the motor stopper and motor shaft.

    *Important:* To avoid creating rust on the motor shaft, turn the shaft with a cloth.

2.  When the coin is released, the flag is at its highest position. See Figure 10-15.

*Figure 10-15*   **Back View of Hopper When No Coin Is Under Roller**

Loosen the lock nut shown in the figure.

3. Turn the adjusting screw, shown in Figure 10-15 on page 10-21, to align the tip of the flag with the top-left edge of the sensor mounting plate.

4. Tighten the lock nut to secure the flag.

### Installing the Hopper Drawer

Refer to "Installing the Hopper Drawer" on page 2-10.

### Verifying Hopper Operation

Refer to "Verifying Hopper Operation" on page 2-10.

## Changing the Coin Denomination

This procedure describes how to replace the necessary components that allow the slot machine to accept a coin denomination higher than 25¢. It also describes how to upgrade a 25¢ machine with cosmetic changes and enhancements that make future changes to a higher denomination easier. (It does not show how to downgrade to a denomination smaller than the one currently installed, nor how to upgrade from a $1 denomination to a $5 denomination.)

Table 10-1 shows the described denomination changes.

*Table 10-1*    **Denomination Changes**

| From | To |
|------|------|
| 25¢ | Updated 25¢ |
| 25¢ | $1 |
| 25¢ | $5 |

When you order a denomination upgrade kit, be sure to specify the denomination you are changing to and the current player tracking system installed in the machine.

*Important:* This procedure is only for machines that have coin acceptors.

The procedure requires the performance of a SafeClear, which you cannot do unless you open the electronics box door. Slot machines that are connected to a Wide Area Progressive System have a tamper-proof seal that prevents you from opening this door. Do not break the seal unless you are an authorized Silicon Gaming field engineer. To change the coin denomination, call 1-888-44-SLOTS.

### Overview

When you replace a coin denomination, you perform only those sections of the procedure that pertain to the type of denomination change you are making (25¢, $1, or $5). This overview explains the tools, supplies, and components you need and the sections to perform for each coin denomination.

To make a denomination change, perform the following steps:

1. Read all of this overview.

2. Refer to Table 10-2 to determine the tools and supplies you need for the new denomination.

*Table 10-2*    **Required Tools and Supplies**

| Tools and Supplies | Upgrade to 25¢ | Upgrade to $1 | Upgrade to $5 |
|---|---|---|---|
| SGI 25¢ Upgrade Kit | X | | |
| SGI $1 Upgrade Kit | | X | |
| SGI $5 Upgrade Kit | | | X |
| #2 Phillips-head screwdriver | X | X | X |
| #4-40 Phillips-head screwdriver | | X | X |
| #8 X 1/4" Phillips-head screwdriver | | X | X |
| Stubby Phillips-head screwdriver | X | X | X |
| Two 7mm wrenches | | X | X |
| Feeler gauge or Silicon Gaming business card | | X | X |
| Locktite | | X | |
| Clean Cloth | | X | |

3. Open the denomination upgrade kit, and depending on the denomination, refer to the correct table in Appendix B to ensure that you have all the correct components:

   ♦ Table 13-1 on page B-14 for components in the SGI 25¢ denomination kit

   ♦ Table 13-2 on page B-15 for components in the SGI $1 denominating kit

   ♦ Table 13-3 on page B-15 for components in the SGI $5 denomination kit

4. If you are upgrading to a $1 denomination, ensure that you have all of the components in the hopper upgrade kit. Table 13-5 on page B-16 shows the components.

5. Refer to the table below to determine which of the sections of the coin denomination procedure you must perform for the denomination you are installing. Perform the sections in sequence as they are listed in the table.

| Changing the Coin Denomination | Upgrade to 25¢ | Upgrade to $1 | Upgrade to $5 |
|---|:---:|:---:|:---:|
| "Checking Machine Status" on page 10-25 | X | X | X |
| "Removing the Coin Acceptor and Coin Head" on page 10-25 | X | X | X |
| "Removing the Coin Acceptor Bracket and Coin Guard" on page 10-26 | X | X | X |
| "Removing the Hopper" on page 10-28 | | X | X |
| "Upgrading the Hopper" on page 10-28 | | X | |
| "Adjusting the Hopper Coin-Out Sensor" on page 10-42 | | | |
| "Making a Coin-In Adjustment" on page 10-19 | | X | X |
| "Making a Coin-Out Adjustment" on page 10-21 | | X | X |
| "Performing a Full SafeClear" on page 10-42 | | X | X |
| "Installing the Hopper" on page 10-43 | | X | X |
| "Assembling the Coin Optics Components" on page 10-43 | | X | X |
| "Installing the Coin Optics Assembly" on page 10-43 | | X | X |
| "Installing the Coin Acceptor Bracket" on page 10-44 | X | X | X |
| "Installing the Coin Head and Coin Acceptor" on page 10-45 | X | X | X |
| "Installing the Coin Guard" on page 10-46 | X | X | X |
| "Installing the Payout Tube Block" on page 10-47 | | | X |
| "Configuring the Machine Money Settings" on page 10-47 | | X | X |
| "Verifying Hopper Operation" on page 10-48 | | X | X |
| "Verifying Coin Acceptor Operation" on page 10-48 | X | X | X |
| "Changing the Denomination Cap" on page 10-49 | | X | X |
| "Replacing the Currency Column Cover and Label" on page 10-49 | | X | X |

*Important:* When removing components from the machine, be sure to keep the old components separate from the new ones you are installing. The new and old components look alike and you can easily confuse them. Bag and label the components by assembly.

Save all removed components in two boxes:

♦ One for the components you reinstall in the current machine

♦ One for those you do not reinstall but can use in other machines

The procedures will tell you whether or not the component is reinstalled in the current machine.

*Important:* For proper functioning of the machine, you must use all components in the upgrade kit.

## Checking Machine Status

Before starting the upgrade, you must check the status of the machine.

**To check machine status, perform the following steps:**

1. Ensure that no cash transactions are in progress as follows:

   ♦ Remove any bills from the bill acceptor.

   ♦ Remove any coins from the coin hopper.

   ♦ Ensure no cash-outs or award payouts are in progress.

   ♦ Ensure no active wagers are in progress.
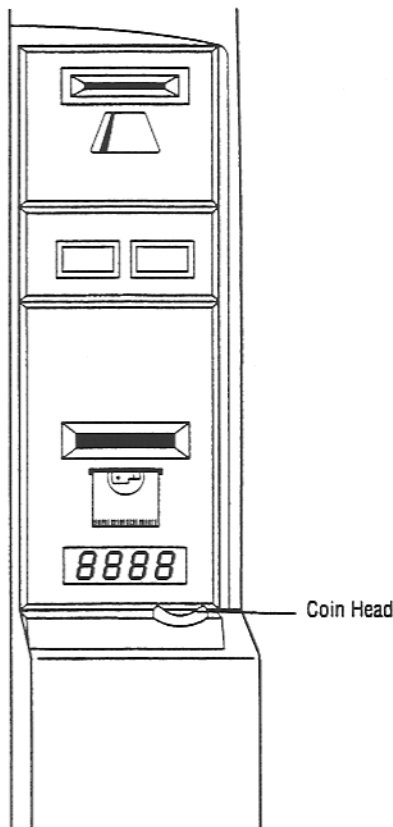
2. Ensure that no credits are on the machine.

## Removing the Coin Acceptor and Coin Head

To remove the coin acceptor, refer to "Removing the Coin Acceptor" on page 10-6.

**To remove the coin head from the currency column door, perform the following steps:**

1. Refer to Figure 10-16 to locate the coin head on the front of the currency column door.

*Figure 10-16*    **Coin Head on Currency Column**



Coin Head

2  Open the door and, on the inside of the door, in the approximate location of the coin head, locate the wicket clip shown in Figure 10-17.

*Figure 10-17*    **Wicket Clip**



3  Remove the wicket clip by removing the two screws securing it to the inside of the door. Discard this clip.

4  Refer to Figure 10-16 on page 10-25 and lift the coin head from the front of the currency column door.

## Removing the Coin Acceptor Bracket and Coin Guard

To remove the coin acceptor bracket from the currency column door, perform the following steps:

1.  Using a screwdriver, loosen the three captive screws in the coin acceptor bracket. Refer to Figure 10-18 on page 10-27.

2  Pull the bracket from the currency column.

*Figure 10-18*    **Coin Acceptor Bracket**



To remove the coin guard from the bottom-right corner of the display monitor, refer to Figure 10-19 and perform the following steps:

1. Remove the two flat-head screws to the left of the guard and the two round-head screws to the right of the coin guard.

2. Remove and discard the coin guard.

3. The vertical security flange is attached to the coin guard with double-sided tape. Peel the flange from the coin guard and set it aside for later use in this machine.

4. If you are upgrading a 25¢ denomination, proceed to "Installing the Coin Acceptor Bracket" on page 10-44.

*Figure 10-19*    **Screws Securing Coin Guard**

## Removing the Hopper

To remove the hopper from the hopper drawer, perform the following steps:

1.  Remove the hopper drawer from the machine. Refer to "Removing the Hopper Drawer" on page 2-9.

2.  Remove any coins from the hopper bowl.

3.  Refer to Figure 10-20 and grasp the handle of the hopper with your left hand.

*Figure 10-20*     **Hopper**



4.  Place your right hand under the hopper bowl and lift up on the bowl.

5.  Pull the hopper toward you until it is free from the hopper guides and out of the hopper drawer.

    *Note:* If you are upgrading to a $5 denomination, you can either return the hopper to Silicon Gaming or save it for use in another machine. If you are upgrading a 25¢ denomination, set the hopper aside for installation later in this procedure.

6.  If you are performing an upgrade to a $5 denomination, proceed to "Adjusting the Hopper Coin-Out Sensor" on page 10-42.

## Upgrading the Hopper

The upgrade kit for the hopper contains the following:

♦ Disk assembly

♦ Knife assembly

♦ Coin chute assembly

♦ Jump assembly

- Coin separator assembly
- Modified hopper bowl

The components in each assembly are listed in "Coin Denomination Replacement Kits" on page B-14. Be sure to use all the components in the upgrade kit.

**To remove hopper components for the upgrade, perform the following steps:**

1. Using a #2 Phillips-head screwdriver, remove the four hopper bowl mounting screws and springs. Figure 10-20 on page 10-28 shows the top-left and bottom-left screws. The screws for the right side of the hopper are not shown.

   *Important:* The mounting springs are two different colors. The top springs are light colored. The bottom springs are black. Keep the different colored springs separate from each other.

   *Note:* You can save the hopper bowl for use in another machine or return it to Silicon Gaming.

2. Figure 10-21 on page 10-30 shows the front of the hopper with the bowl removed. It also shows the coin separator assembly. Refer to this figure and Figure 10-22 on page 10-30 and remove the coin separator assembly from the front of the hopper as follows:

   a. Remove the screw from the assembly. ·

   b. Pull the washer, separator retainer, and coin separator from the hopper.

   *Note:* You do not need these components for this upgrade, but you may want to save them in case you later need to change a machine to the 25¢ denomination.
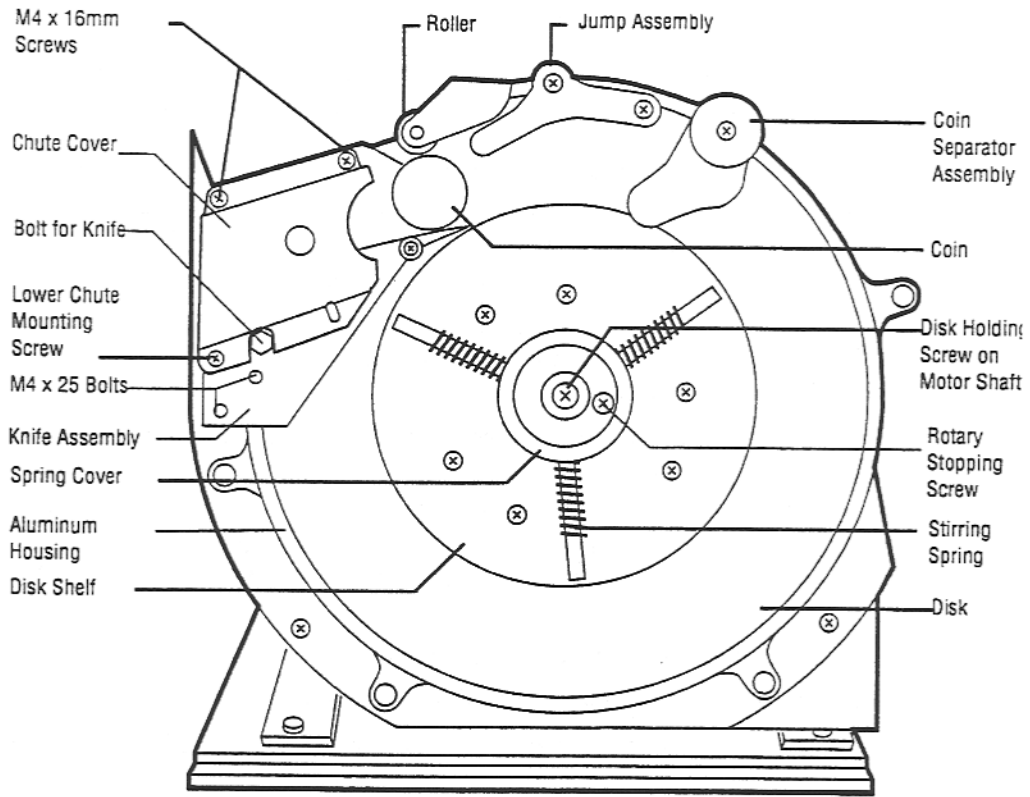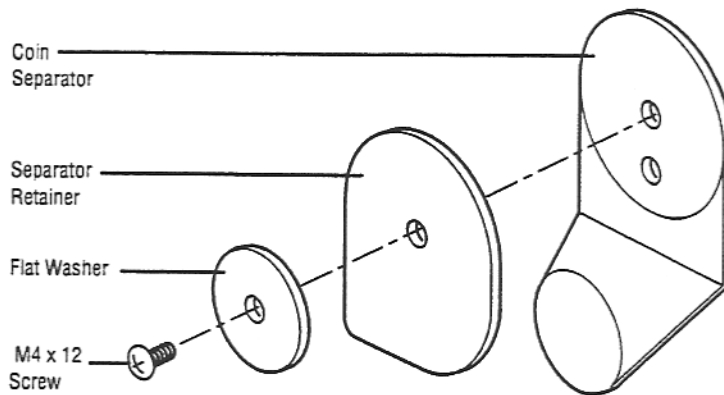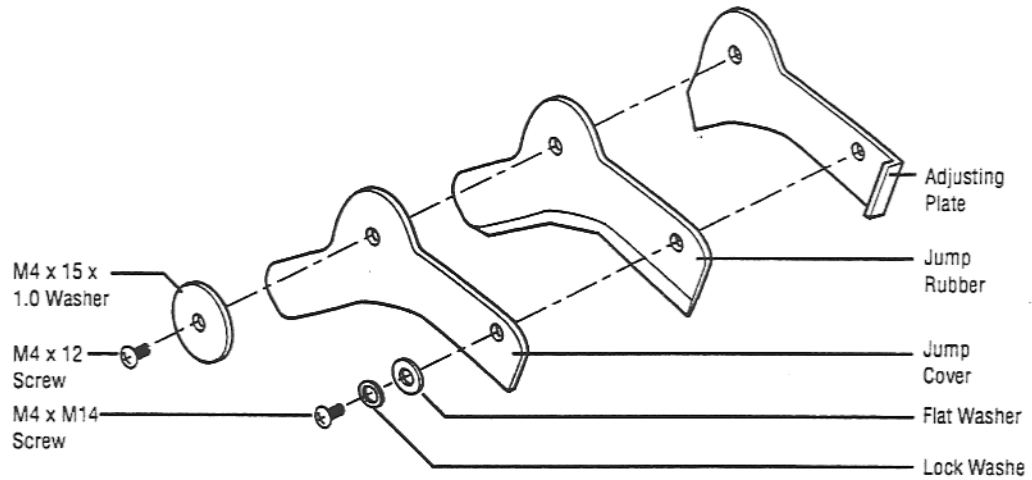
*Figure 10-21*    **Front View of Hopper**



*Figure 10-22*    **Coin Separator Assembly**



**3.** Refer to Figure 10-21 to find the jump assembly on the front of the hopper. Refer to Figure 10-23 on page 10-31 and remove the jump assembly as follows:

  **a.** Remove the three washers and two screws securing the washer, jump cover, jump rubber, and adjusting plate components.

  **b.** Remove the components and set them aside with the coin separator components.

> *Note:* You do not need these components for this upgrade, but you may want to save them in case you later need to change a machine to the 25¢ denomination.

Figure 10-23   **Jump Assembly**



4.  Refer to Figure 10-24 and Figure 10-25 on page 10-32 and remove the coin chute assembly and anti-gaff hopper guard as follows:

    a.  Remove the lower chute mounting screw, lock washer, and flat washer. Removal of the screw loosens the anti-gaff hopper guard.

    b.  Remove the top two M4 x 16mm screws and two flat washers.

    c.  Remove the chute cover.

    d.  Remove the coin guide and coin spacer from under the chute cover.

    > *Note:* You do not need these components for this upgrade, but you may want to save them in case you later need to change a machine to the 25¢ denomination.

Figure 10-24   **Coin Chute Assembly and Anti-Gaff Hopper Guard**
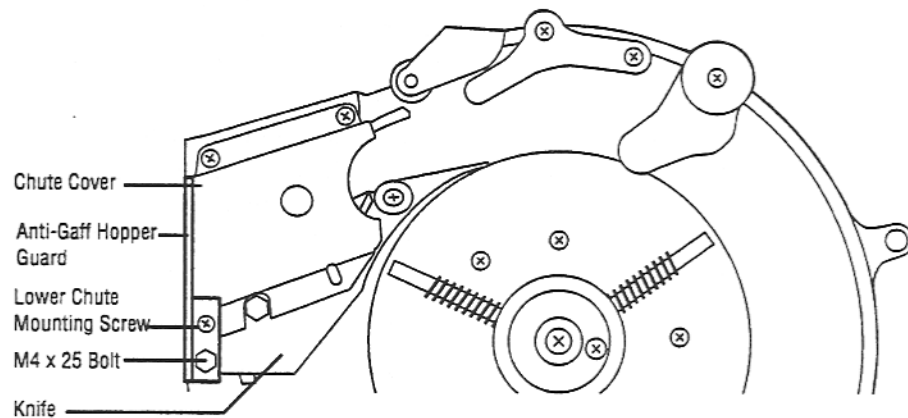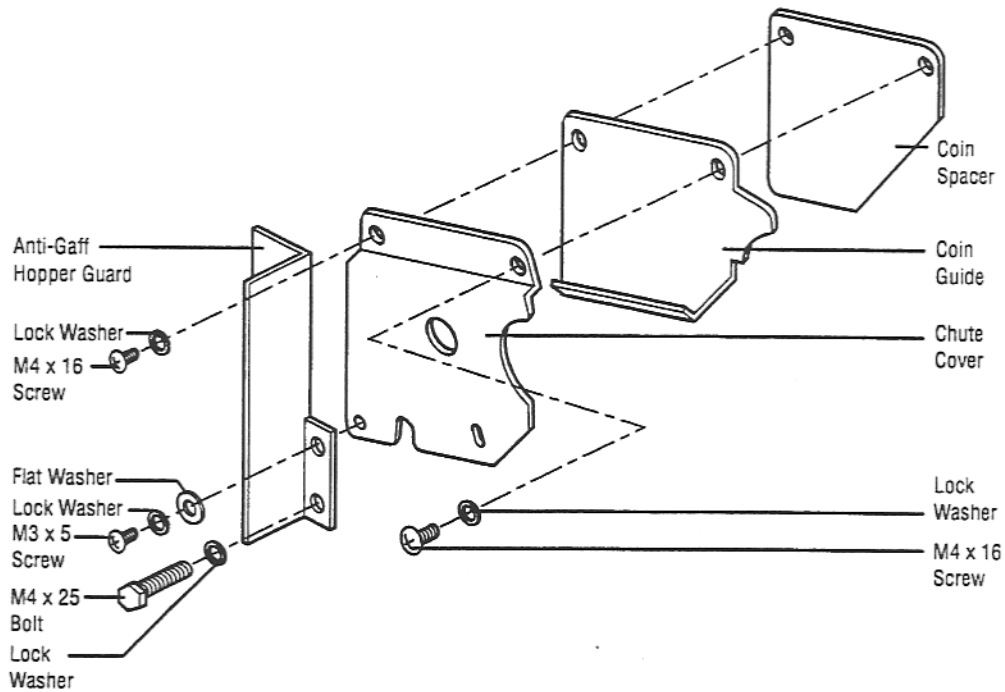
Figure 10-25    Coin Chute Assembly for 25¢ Denomination



5. Refer to Figure 10-24 on page 10-31. Using two 7mm wrenches, remove the knife assembly and anti-gaff hopper guard by removing the two M4 x 25 bolts with lock nuts.

   ● *Important:* Removal of the lower bolt, releases the anti-gaff hopper guard.

   When you lift the knife assembly, you may find a shim washer between the knife and the aluminum housing. If you find one, remember its location so you can put it back in the same place when you install the new knife assembly. To ensure the washer stays with the correct bolt, put the washer on the bolt and set it aside for later use.

   Take note of the distance between the blade of the knife and the disk shelf and the distance between the blade of the knife and the disk. The knife should be as close to the shelf and the disk as possible, without touching them. This knife placement will be the same when you install the new knife.

6. Refer to Figure 10-21 on page 10-30 and remove the disk as follows:

   a. Remove the rotary stopping screw and the disk holding screw.

   b. Remove the spring cover, three stirring springs, and the disk.

   c. Place your hand over the disk and invert the disk so the disk and bearings drop into your hand. See Figure 10-26 on page 10-33. The base of the hopper is now exposed.

   ● *Important:* Do not remove the bearings from the retainer.

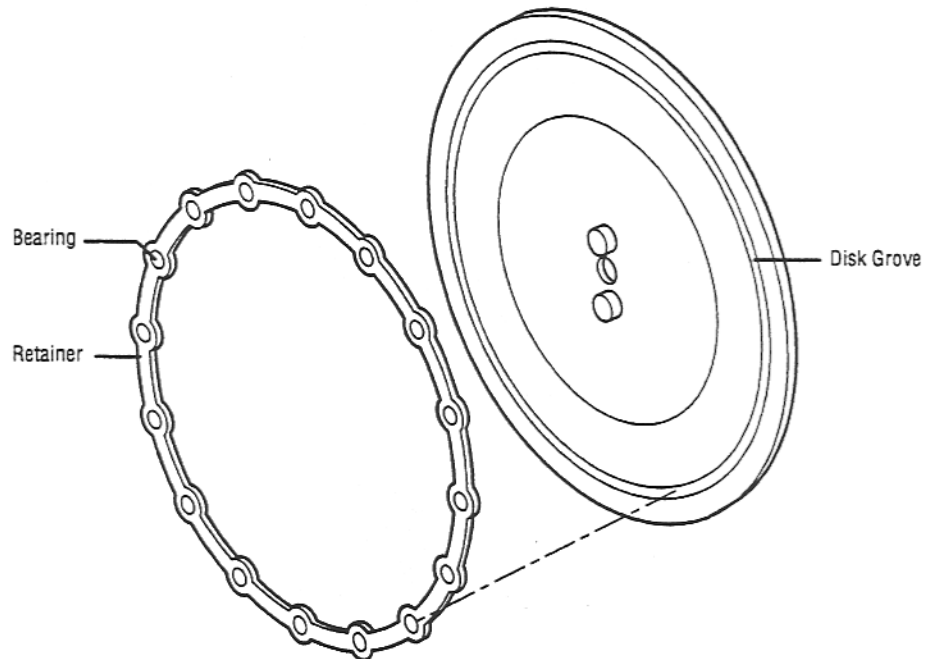   d. Save all components, except the disk, for later use in this machine.

*Note:* You do not need the disk for this upgrade, but you may want to save it in case you later need to change a machine to the 25¢ denomination.

*Figure 10-26*    **Disk and Bearings**



To install the new hopper components for the upgrade, perform the following steps:

*Important:* To prevent screws and nuts from loosening, apply Locktite to them as you reassemble the hopper.

1.  Install the disk as follows:

    a.  Remove the new disk from the upgrade kit.

        *Important:* Be sure you have the upgrade kit for the correct denomination. The diameter of the shelf on the disk differs, depending on the coin size.

    b.  Remove any dirt or dust from the base (where the disk was resting) with a clean cloth.

        *Important:* Dirt and dust can affect the performance of the hopper.

    c.  Hold the disk in your hand, with the grooved side up, and place the bearings, with the retainer, in the disk groove. See Figure 10-26.

    d.  Refer to Figure 10-21 on page 10-30 to locate the motor shaft. Invert the body of the hopper and slide the disk up the motor shaft until it is in place.
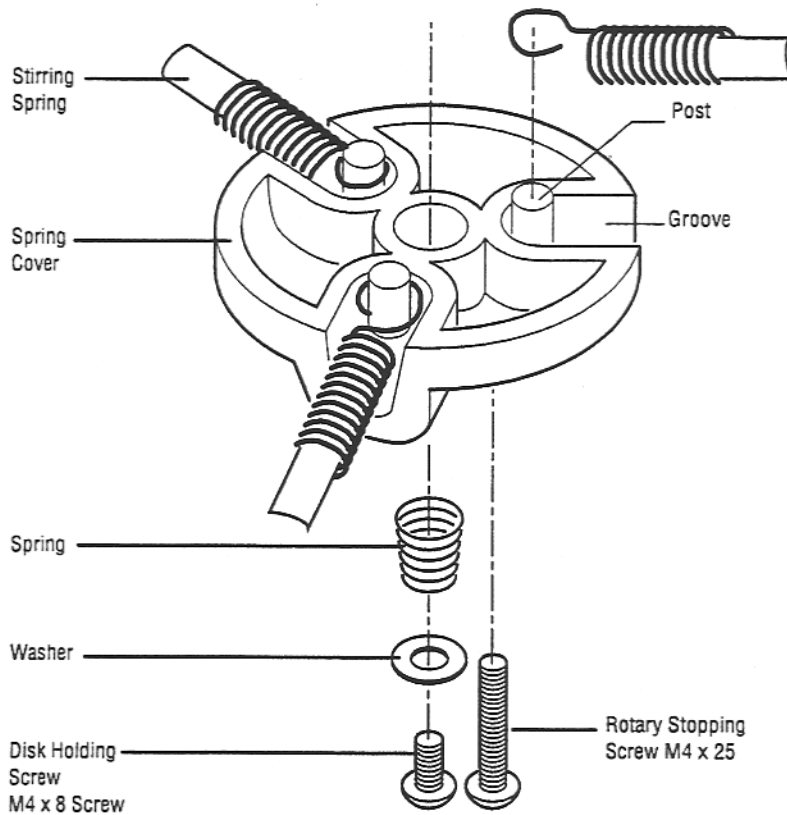
    e.  Set the hopper back on the table so that it is in operational position.

    f.  Rotate the disk with your hand. If the bearings are properly positioned, the disk rotates.

    *Note:*  Do not expect the disk to rotate a complete 360°.

2   Install the spring cover as follows:

    a.  Locate the three posts on the back of the spring cover and hook the three stirring springs to the posts, keeping the hook on the top side of the spring. Ensure that the three springs are seated in the three grooves of the spring cover. See Figure 10-27.

*Figure 10-27*   **Stirring Springs and Spring Cover**



    b.  Refer to Figure 10-21 on page 10-30 to locate the motor shaft. Refer to Figure 10-27 and assemble the spring, washer, and screws for the stirring cover as shown.

    c.  Place the spring cover, with the stirring springs, onto the motor shaft.

    d.  Align the three posts in the back of the spring cover with the three holes in the disk.

    e.  Install the spring, wide end toward the disk, and install the washer on the M4 x 8 (#2 Phillips) disk holding screw.

    f.  Secure the assembly, using the screw.
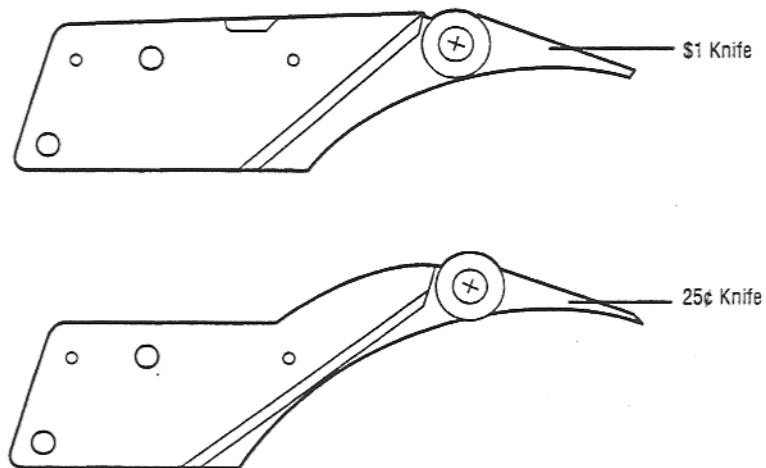
    g.  Turn the disk clockwise until it stops.

h. Insert the M4 x 25 rotary stopping screw into the hole in the spring cover and tighten it until it touches the spring cover. Then tighten it 1/4 turn more.

⊘ *Caution:* Over-tightening the screw can cause the spring cover to deform.

3. Install the knife assembly as follows:

a. Remove the new knife from the hopper upgrade kit and ensure that it is the correct knife for the coin denomination. Figure 10-28 shows the difference between the 25¢ and the $1 knives.

*Figure 10-28*   **Hopper Knives**



b. Attach the knife to the aluminum housing of the hopper, using two M4 x 25 bolts and two lock nuts. See Figure 10-21 on page 10-30 and Figure 10-29 on page 10-36.

*Important:* If any bolt you removed from the knife contains a shim washer, be sure to put the shim washer in the same location on the new assembly as it was in the old assembly.

Do not tighten the bolts yet.

*Figure 10-29*    **Knife Attached to Aluminum Housing**



c. To ensure clearance between the disk face and the back side of the knife, depress the motor stopper with one hand and rotate the disk with your other hand. Figure 10-30 on page 10-37 shows the location of the motor stopper.

*Figure 10-30*     **Back View of Hopper, Showing Motor Hopper and Motor Shaft**



Motor Stopper

Motor Shaft

**d.** Refer to Figure 10-31 and ensure a 0.2 mm clearance between the disk shelf and the knife and between the knife and the disk.

> *Note:*  A 0.2 mm clearance is approximately the thickness of a Silicon Gaming business card. The disk shelf should be close to the knife but not touching it. The same is true of the disk and the knife. You can also measure the distance with a feeler gauge.

*Figure 10-31*     **Knife on Disk**



Disk Face

0.2 mm Clearance Between Disk Shelf and Knife

Knife

Disk Shelf

4. Refer to Figure 10-32 and Figure 10-33 and install the chute cover assembly and anti-gaff hopper guard as follows:

   a. Place the chute cover over the coin guide.

   Figure 10-32    Coin Chute Assembly for $1 Denomination



   b. Secure the assembly to the aluminum housing, using two M4 x 16 screws and two lock washers.

   Figure 10-33    Installed Chute Cover, Jump, and Coin Separator Assemblies



   c. Remove the lower M4 x 25 bolt securing the knife to the aluminum housing.

**d.** Place the anti-gaff hopper guard, shown in Figure 10-34, in a vertical position over the coin chute cover and the knife.

*Figure 10-34*    **Anti-Gaff Hopper Guard**



**e.** Refer to Figure 10-35 to find the hole for the lower chute mounting screw.

**f.** Align the top screw hole on the guard with the hole for the lower chute mounting screw.

**g.** Refer to Figure 10-35 to find the bottom hole for the M4 x 25 bolt for the knife.

**h.** Align the bottom screw hole on the guard with the bottom hole in the knife.

*Figure 10-35*    **Screw Holes for Anti-Gaff Hopper Guard**



**i.** Refer to Figure 10-36 on page 10-40 for placement of the anti-gaff hopper guard.

*Figure 10-36*    **Chute Cover, Anti-Gaff Hopper Guard, and Knife**



Chute Cover

Anti-Gaff Hopper Guard

Lower Chute Mounting Screw

M4 x 25 Bolt

Knife

**j.** Secure the chute cover and anti-gaff hopper guard to the aluminum housing, using the lower chute mounting screw, a lock washer, and a flat washer. The two washers go between the screw head and the anti-gaff hopper guard.

**k.** Secure the lower part of the anti-gaff hopper guard to the knife and the aluminum housing, using the M4 x 25 bolt you just removed from the knife.

**l.** Tighten the two bolts on the knife

**5.** Refer to Figure 10-33 on page 10-38 and Figure 10-23 on page 10-31 and install the jump assembly as follows:

**a.** Remove the new jump assembly components from the hopper upgrade kit.

**b.** Assemble the flat washer, lock washer, jump cover, jump rubber, and adjusting plate, as shown in Figure 10-23 on page 10-31.

**c.** Secure the assembly to the aluminum housing, using the M4 x 12 screw and the M4 x 14 screw, shown in Figure 10-23 on page 10-31.

**6.** Refer to Figure 10-33 on page 10-38 and install the coin separator assembly as follows:

**a.** Assemble the coin separator components as shown in Figure 10-22 on page 10-30.

**b.** Secure the coin separator assembly to the aluminum housing, using the M4 x 15 screw.

**7.** Using a #2 Phillips-head screwdriver, attach the new hopper bowl to the hopper base as follows:

**a.** Lift the hopper bowl and place it on the hopper base. See Figure 10-38 on page 10-42.

**b.** Refer to

♦ Table 10-3 on page 10-41 to determine the hardware and quantities needed to secure the hopper bowl to the base for the $1 denomination

♦ Figure 10-37 on page 10-41 to see the screw assembly

---

♦ Figure 10-38 on page 10-42 to see the placement of the hopper bowl on the base

*Table 10-3*     **Securing Hardware for Hopper Bowl**

| Hopper Bowl Location | Hardware Needed | 25¢ Denomination | $1 Denomination |
|---|---|---|---|
| Upper left | Hopper head mounting screw | x | x |
| | Hard black spring | x | x |
| Upper right | Hopper head mounting screw | x | x |
| | Hard black spring | x | x |
| | Collar | | x |
| Lower left | Hopper head mounting screw | x | x |
| | Soft (light-colored) spring | x | x |
| Lower right | Hopper head mounting screw | x | x |
| | M4 nut | x | |
| | Soft (light-colored) spring | x | |
| | Collar | | x |

> *Important:* Ensure that you use the correct spring (either hard black or soft light-colored) and that you install each spring correctly. The efficiency of the spring differs in each spring location.

*Figure 10-37*     **Screw Assembly for Securing Hopper Bowl to Hopper Base**



Hopper Base Aluminum Housing

Hopper Bowl

Hopper Head Mounting Screw

Spring (Hard, Black or Soft, Light-Colored)

Collar (Used Only on Right Side of Hopper)

> *Important:* Not all of the components in the screw assembly are used with each screw. To determine which components to use, see Table 10-3.

Figure 10-38    **Hopper Bowl on Hopper Base**



— Hopper Bowl

— Hopper Mounting Screws

c. To attach the bowl to the base, perform the following steps:

Secure the top left of the hopper bowl with a hopper head mounting screw and a black hard spring.

Secure the top right of the hopper bowl with a hopper head mounting screw, a hard black spring and a collar. Figure 10-37 on page 10-41 shows the assembly of the securing hardware. Be sure to install the collar between the hopper base and the hopper bowl.

Secure the lower left of the hopper bowl with a hopper head mounting screw, M4 nut, and a soft (light-colored) spring.

Secure the lower right of the hopper bowl with a hopper head mounting screw and a collar. Figure 10-37 on page 10-41 shows the assembly of the securing hardware. Be sure to install the collar between the hopper base and the hopper bowl.

## Adjusting the Hopper Coin-Out Sensor

To ensure proper operation of the hopper, you must make a coin-in adjustment and a coin-out adjustment.

### Making a Coin-In Adjustment

Refer to "Making a Coin-In Adjustment" on page 10-19.

### Making a Coin-Out Adjustment

Refer to "Making a Coin-Out Adjustment" on page 10-21.

## Performing a Full SafeClear

🖉 *Important:* Before installing the hopper drawer, perform a full SafeClear. Refer to "Performing a SafeClear" on page 2-25.

## Installing the Hopper

*Note:* For the $1 denomination, you install the upgraded hopper. For the $5 denomination, you install a new hopper.

To install the hopper in the hopper drawer, perform the following steps:

1. Refer to Figure 10-20 on page 10-28 and align the hopper with the rails in the hopper drawer.

2. Push the hopper on the rails and into the hopper until it is secure.

3. Re-install the hopper drawer. Refer to "Installing the Hopper Drawer" on page 2-10.

## Assembling the Coin Optics Components

The main components of the coin optics assembly include a detector mount, an optics mount base, a large PCB, and a small PCB.

To attach the detector mount to the coin optics base, refer to "Attaching the Detector Mount" on page 10-10.

To attach the PCBs to the base and the mount, refer to "Attaching the PCBs" on page 10-10.

## Installing the Coin Optics Assembly

To install the coin optics assembly in the new coin acceptor bracket, perform the following steps:

1. Ensure that the power switch is in the Off position.

   *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

2. Remove the new coin acceptor bracket, shown in Figure 10-39 on page 10-44, from the upgrade kit.

   *Important:* If you are upgrading a 25¢ denomination, you have no new coin acceptor in the upgrade kit. Reinstall the old coin acceptor.

   *Note:* The new coin acceptor bracket is cut away at the bottom and has a shelf across the top. Figure 10-39 shows the new coin acceptor. Figure 10-18 on page 10-27 shows the old coin acceptor.

3. Attach the coin optics assembly to the coin acceptor bracket as follows:

   a. Align the four holes at the bottom left of the bracket with the four legs of the coin optics assembly.

      *Important:* Ensure that the wires of the coin optics assembly are to the left and the coin optics connector is to the right, as shown in Figure 10-39.

*Figure 10-39*    **Coin Optics Assembly in Coin Acceptor Bracket**



**b.**    From the outside of the coin acceptor bracket, secure the coin optics assembly to the bracket, using the four #4-40 screws in the upgrade kit.

## Installing the Coin Acceptor Bracket

Before installing the coin acceptor bracket, you must attach two coin clips to the bracket.

**To attach the coin clips to the coin acceptor bracket, perform the following steps once for each clip:**

**1.**    Place the new coin acceptor bracket on its side and insert the new clip into the oblong hole on the inside of the bracket, so the clip aligns with the hole shown in the top drawing in Figure 10-40 on page 10-45.

*Figure 10-40*    **Inserting Clip Into Coin Acceptor Bracket**



2.   From the inside of the coin bracket, place the tip of a stubby Phillips-head screw driver into the hole on the clip and press down until the clip passes through the hole in the coin bracket.

3.   To secure the clip in the bracket, rotate the clip 90° with your hand. Figure 10-40 shows the alignment of the clip in the bracket.

To install the coin acceptor bracket in the currency column door, refer to "Installing the Coin Acceptor Bracket" on page 10-11.

## Installing the Coin Head and Coin Acceptor

To attach the new coin head to the currency column door, refer to Figure 10-41 on page 10-46 and perform the following steps:

1.   The coin head contains a wicket back, a wicket base, and a denomination insert. Remove these three components from the upgrade kit.

2.   Attach the wicket back to the wicket base as follows:

   a.   Align the two screw holes in the wicket back with the two screw holes in the wicket base.

   b.   Secure the back to the base, using two #4-40 screws.

3. Place the denomination insert into the hole in the wicket base.

4. From the inside of the door, secure the wicket assembly to the coin acceptor bracket, using two #8 x 1/4" Phillips-head screws.

   🔴 *Important:* No wicket clip is needed for attaching the new assembly.

   *Figure 10-41*    **Coin Head Assembly**



To install the coin acceptor in the coin acceptor bracket, refer to "Installing the Coin Acceptor" on page 10-8.

## Installing the Coin Guard

**To attach the coin guard outside the bottom-right corner of the display monitor chassis, refer to Figure 10-19 on page 10-27 and perform the following steps:**

1. Using the double-sided tape on the old vertical security flange, align the screw holes in the old flange with the screw holes in the new coin guard and secure the flange to the coin guard.

2. Align the two screw holes on the left of the guard with those on the corner of the chassis.

3. Secure the guard and the flange to the chassis with two flat-head screws on the left of the guard.

4. Align the two screw holes on the right of the guard with those in the bracket on the right cabinet wall.

5. Secure the right side of the guard to the bracket with two round-head screws.

6. If you are upgrading a 25¢ denomination, proceed to "Verifying Coin Acceptor Operation" on page 10-48.

   If you are upgrading to a $1 denomination proceed to "Configuring the Machine Money Settings" on page 10-47.

## Installing the Payout Tube Block

To install the payout tube block, perform the following steps:

1. Machines shipped before January 1998 contain a square, flat piece of metal inside and perpendicular to the rectangular hole on the inside of the belly door. See Figure 10-42 and locate this component, which is called a payout tube baffle. If you find no baffle, skip the following two steps.

2. Remove the square piece of plastic, called the payout tube block, from the upgrade kit. One side of the block is covered with double-sided tape.

*Figure 10-42*   **Payout Tube Baffle Location**

Baffle (Inside)



3. Align the taped side of the payout tube block with the four edges of the payout tube baffle and apply pressure until the block is secure against the baffle.

## Configuring the Machine Money Settings

To configure the software for the new denomination, perform the following steps:

1. Flip the power switch to the On position and wait for the Game Menu to display.

2. Invoke the MMS and access the **Money Configuration** page. Refer to "Invoking the MMS" on page 2-23.

> *Note:* To access the **Configuration** tab, a door must be open.

The current machine denomination is displayed as shown in Figure 10-43.

*Figure 10-43*   **Money Configuration Page**



| Machine | Money | Games | Network | |
|---------|-------|-------|---------|-|
| Machine Denomination | | | Quarters $0.25 | |
| Denomination may only be changed after clearing the Safe-Store | | | | |

3. To display the dialog box shown in Figure 10-44, touch the *Change Denomination* button (not shown in the figure).

   *Figure 10-44*     **Denomination Change Sequence**

   

4. Touch the *Continue* button.

5. Select the new coin denomination and touch the *Save* button.

   ✐ *Important:* After modifying the machine denomination, verify that denomination settings for the bill acceptor are configured as desired. Bill denominations smaller than the machine denominations are not allowed.

## Verifying Hopper Operation

To ensure the hopper ejects the correct number of coins, perform the following steps:

1. Check that the power switch for the slot machine is still in the On position.

2. Pull out the hopper drawer.

3. Test the hopper. Refer to "Verifying Hopper Operation" on page 2-10.

## Verifying Coin Acceptor Operation

To verify operation of the coin acceptor for the new denomination, perform the following steps:

1. Touch the **Diagnostics** tab on the screen. The **Diagnostics** page is displayed.

2. Test the coin acceptor. Refer to "Testing the Coin Path" on page 3-37.

3. Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

4. If you are upgrading the 25¢ denomination, you have completed the coin denomination replacement procedure.

## Changing the Denomination Cap

To replace the denomination cap, perform the following steps:

1.  Remove the cap. Refer to "Replacing the Denomination Cap" on page 10-50.

2.  If the machine is a 25¢ denomination, close the currency column door. Turn the door key counter-clockwise until it stops and remove the key

## Replacing the Currency Column Cover and Label

To remove the currency column cover and label, perform the following steps:

1.  Remove the cover from the currency column door by removing the screws securing the cover to the door and pulling the cover to the left.

    *Note:* Some covers are secured with three screws and others with five screws.

    Save the cover in case you need it later for another machine.

2.  Unplug the P56 main harness connector.

3.  Loosen the two nuts around the microswitches for the *Change* and *Cash/Credit* buttons in the currency column door.

4.  Pull the microswitches from each of the buttons by wiggling each microswitch from side to side until it is free from the button.

    *Tip:* Do not press on the button while removing the microswitch. Instead, place your fingers on each side of the button to steady it.

To install the currency column cover and label, perform the following steps:

1.  Remove the new cover and the label from the upgrade kit and ensure that the label is for the correct player tracking system (CDS, Bally, SDS, or IGT) and the correct coin denomination (25¢, $1, or $5).

2.  Peel the adhesive off the back of the label.

3.  Attach the label to the cover as follows:

    a.  Lightly place the label over the front of the cover, aligning the edges of the label with the edges of the cover.

    b.  Starting from the bottom of the cover, use your hand to apply pressure to the label. Smooth out the label as you move your hand up the cover until the label adheres firmly to the cover.

4.  Install the microswitches in the *Change* and *Cash/Credit* buttons as follows:

    a.  Insert the two microswitches into the *Change* and *Cash/Credit* buttons, aligning the notches with the indentations.

    b.  Snap the microswitches into the buttons.

        *Tip:* Do not press on the button while installing the microswitch. Instead, place your fingers on each side of the button to steady it.

5.  Attach the cover to the currency column door as follows:

    a.  With the currency column door open, slide the cover onto the front of the door from the left.

    **b.** Pull the harness and connector through the hole in the door so that they are on the inside of the door.

    **c.** Plug in the P56 main harness connector.

    **d.** Secure the cover to the left side of the door, using the screws you previously removed.

    **e.** Hand-tighten the screws.

**6.** Close the currency column door. Turn the door key counter-clockwise until it stops and remove the key.

## Replacing the Denomination Cap

The color of the denomination cap, located on top of the candle lens, indicates the denomination of the machine. Table 10-4 shows the colors and denominations.

*Table 10-4*    **Denomination Cap Colors**

| Cap Color | Denomination |
|-----------|--------------|
| Red | 5¢ |
| Yellow | 25¢ |
| Blue | $1 |
| White | $5 |

Change the denomination cap whenever it is broken or whenever you change the denomination of the machine. To perform a coin denomination change, refer to "Changing the Coin Denomination" on page 10-22.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Denomination Cap |
|--------------------------------|
| "Removing the Denomination Cap" on page 10-50 |
| "Installing the Denomination Cap" on page 10-51 |

### Removing the Denomination Cap

Before beginning the procedure, be sure to turn the power off.

To turn the power off, perform the following steps:

**1.** Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

**2.** Flip the power switch to the Off position.
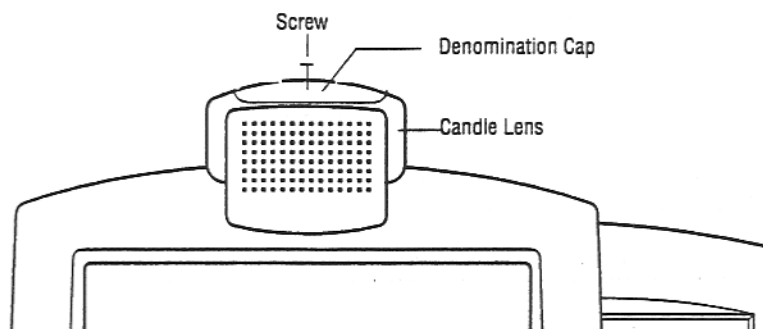
    ◆ *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

To remove the denomination cap, perform the following steps:

1. Open the display cavity bezel. Refer to "Opening the Display Cavity Bezel" on page 2-9.

2. See Figure 10-45 for the locations of the denomination cap, screw, and candle lens.

   🎲 *Caution:* Some older machines have a nut on the end of the screw. You cannot easily tell whether this nut exists. If you remove the screw and allow the nut to fall, the nut can short out the electronics for the display monitor.

3. On the inside of the bezel, place your fingers between the two middle lights under the lens cover and check for the nut on the screw that secures the denomination cap to the candle lens.

   *Figure 10-45* **Denomination Cap**

   

4. If you find a nut, hold it while you remove the screw that attaches the cap to the lens. If you find no nut, simply remove the screw.

5. Remove the denomination cap.

## Installing the Denomination Cap

Place the new denomination cap on top of the candle lens and secure the new cap to the lens, using the screw you removed. If the screw contained a nut, reinstall it on the screw.

# Replacing the Slot Arm

The slot arm is on the right side of the slot machine. It is used to activate the wagering proposition.

You can remove the slot arm in two ways:

♦ By removing the display monitor chassis

   This way provides you plenty of working space but requires the removal of several assemblies and the display monitor chassis. Therefore, you may want to move the slot machine from the casino floor. To move the machine, you need a dolly and another person to help lift the monitor and chassis.

   This method also requires a roll-away table for the monitor chassis. The table should be the same height as the bottom of the display cavity, so you can easily slide the chassis from the cavity onto the table.

♦ By removing the bill acceptor chassis

This way can be performed by one person alone but is considerably more difficult because it provides limited working space.

The following tables show the sections of the procedure to perform for each method. The first table lists the sections to perform if you remove the display monitor. The second provides the sections to perform if you remove the bill acceptor chassis. If you are familiar with the slot arm removal procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Slot Arm if You Remove the Display Monitor |
| --- |
| **Removing the Slot Arm** |
| "Removing the Display Monitor Chassis" on page 2-16 |
| "Removing the Slot Arm from the Cabinet Wall" on page 10-57 |
| **Installing the Slot Arm** |
| "Attaching the Slot Arm" on page 10-59 |
| "Testing the Slot Arm" on page 10-59 |
| "Installing the Display Monitor Chassis" on page 2-20 |
| **"Verifying Slot Arm Operation" on page 10-59** |
| **Finishing Up** |
| "Degaussing the Machine" on page 10-60 |
| Note: Perform this procedure if you have moved the machine to a different location |

| Replacing the Slot Arm if You Remove the Bill Acceptor Chassis |
| --- |
| **Removing the Slot Arm** |
| "Removing the Currency Cartridge" on page 10-53 |
| "Removing the Vertical Security Flange" on page 10-54 |
| "Removing the Bill Acceptor" on page 10-54 |
| "Removing the Coin Guard" on page 10-55 |
| Note: Perform if necessary |
| "Removing the Bill Acceptor Chassis and Bracket" on page 10-56 |
| "Removing the Slot Arm from the Cabinet Wall" on page 10-57 |
| **Installing the Slot Arm** |
| "Attaching the Slot Arm" on page 10-59 |
| "Testing the Slot Arm" on page 10-59 |
| **"Verifying Slot Arm Operation" on page 10-59** |
| **Finishing Up** |
| "Installing the Bill Acceptor Chassis and Bracket" on page 10-60 |
| "Installing the Coin Guard" on page 10-60 |
| Note: Perform if you removed the coin guard |
| "Installing the Bill Acceptor" on page 10-61 |
| "Installing the Vertical Security Flange" on page 10-61 |
| "Installing the Currency Cartridge" on page 10-61 |

## Removing the Slot Arm

Before beginning the procedure, be sure to turn the power off.

**To turn the power off, perform the following steps:**

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

   ◆ *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

To access the slot arm, you must remove one or more components. If you are removing the arm by removing the display monitor chassis, proceed to "Removing the Display Monitor Chassis," below. Otherwise, proceed to "Removing the Currency Cartridge" on page 10-53.

### Removing the Display Monitor Chassis

Refer to "Removing the Display Monitor Chassis" on page 2-16 and then proceed to "Removing the Slot Arm from the Cabinet Wall" on page 10-57.

### Removing the Currency Cartridge

**To remove the currency cartridge from the currency column, perform the following steps:**

1. To locate the currency cartridge, see Figure 10-1 on page 10-2. Turn the key below the cartridge counter-clockwise until it stops.

2. Pull down on the metal tab above the cartridge handle.

3. Pull on the handle until the currency cartridge is free from the cavity.

4. Place the currency cartridge on a flat surface. The bill acceptor chassis is now exposed, as shown in Figure 10-46.

   *Figure 10-46*    **Bill Acceptor Chassis**

## Removing the Vertical Security Flange

If the machine has a vertical security flange, refer to Figure 10-47 and remove the flange from the left side of the bill acceptor by removing the two screws securing the flange to the currency column latch bracket.

Figure 10-47    **Currency Column Latch Bracket and Vertical Flange**



## Removing the Bill Acceptor

To remove the bill acceptor from the bill acceptor chassis, perform the following steps:

1. Refer to Figure 10-1 on page 10-2 to locate the bill acceptor. Hold the bill acceptor with one hand and use the other hand to pull forward on the spring-loaded black securing bracket above the bill acceptor.

2. With the securing bracket pulled forward, pull the bill acceptor halfway out.

3. Check for a cable with a 10-pin connector hanging to the left of the bill acceptor.

   *Note:* Older bill acceptors have this cable. Newer bill acceptors and older bill acceptors that have been upgraded do not.

   If you find the cable, unplug the connector.

4. Pull the bill acceptor all the way out of the bill acceptor chassis.

## Removing the Coin Guard

To determine whether the coin guard must be removed, refer to Figure 10-48.

*Figure 10-48*    **Bill Acceptor Mounting Bracket and Screws**



If the bill acceptor mounting bracket is too wide to remove from the right cabinet wall without removing the coin guard, then you must remove the coin guard.

**To remove the coin guard, refer to Figure 10-49 and perform the following steps:**

*Figure 10-49*    **Screws Securing Coin Guard**

1. Open the belly door. Refer to "Opening the Belly Door" on page 2-9.

2. Remove the two flat-head screws to the left of the guard.

3. Remove the two round-head screws to the right of the guard.

4. Remove the coin guard and the attached vertical security flange.

### Removing the Bill Acceptor Chassis and Bracket

To remove the bill acceptor chassis and bracket from the cabinet wall, perform the following steps:

1. Open the display cavity bezel. Refer to "Opening the Display Cavity Bezel" on page 2-9.

2. Refer to Figure 10-50 and remove the three screws securing the bill acceptor to the right cabinet wall.

*Figure 10-50*    **Bill Acceptor and Right Cabinet Wall**



3. Pull out the chassis far enough to access cable connectors P32, P33, P34, and P35.

4. Unplug the four connectors.

5. Pull the bill acceptor mounting bracket and bill acceptor chassis all the way out of the cavity.

### Removing the Slot Arm from the Cabinet Wall

To remove the slot arm from the cabinet wall, perform the following steps:

1. The slot arm mechanism is attached to the inside-right wall of the cabinet. Refer to Figure 10-51 and Figure 10-52 on page 10-58 and remove the hex bolt from the slot arm mechanism.

*Figure 10-51*    **Slot Arm Mechanism Mounted on Inside-Right Wall of Cabinet**



2. On the outside of the cabinet, pull the slot arm up and out of the hole for the hex bolt. See Figure 10-52 on page 10-58.

*Figure 10-52*   **Slot Arm Inserted Into Hole for Hex Bolt**

Slot Arm

Hub

Hole for Hex
Bolt (Inside
Bearing)

Bearing

3. Remove the hub by pulling it away from the cabinet wall.

4. Inside the cabinet, unplug the handle subharness from the P26 main harness connector.

5. Refer to Figure 10-51 on page 10-57 and remove the four nuts from the mounting studs protruding from the cabinet wall.

6. Remove the slot arm mechanism.

## Installing the Slot Arm

After attaching the slot arm, you must test it and install the display monitor chassis.

### Attaching the Slot Arm

To attach the slot arm, perform the following steps:

1. Align the slot arm mechanism with the mounting studs protruding from the inside right wall of the cabinet. Secure the mechanism to the wall using four nuts. Figure 10-51 on page 10-57 shows two of the nuts.
2. Plug the handle sub-harness into the P26 main harness connector.
3. Refer to Figure 10-52 on page 10-58 and place the hub against the outside right cabinet wall so that you can view the hole in the shaft inside the hub.
4. Insert the slot arm into the hole in the shaft.
5. Refer to Figure 10-51 on page 10-57 secure the slot arm with the hex bolt on the slot arm mechanism.

### Testing the Slot Arm

To test the slot arm, perform the following steps:

1. Push up on the solenoid located on the slot arm mechanism inside of the cabinet wall.
2. Pull the slot arm toward the front of the machine. If you can push it down until it is parallel to the floor, the slot arm is operating correctly.

If you removed the display monitor chassis, proceed to "Installing the Display Monitor Chassis," below. Otherwise, proceed to "Verifying Slot Arm Operation," below.

### Installing the Display Monitor Chassis

To install the display monitor chassis in the display cavity, perform the following steps:

1. If you have removed the display monitor chassis, re-install it. Refer to "Installing the Display Monitor Chassis" on page 2-20.
2. Close the display cavity bezel. Refer to "Closing the Display Cavity Bezel" on page 2-9.
3. Close the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.

## Verifying Slot Arm Operation

To verify that the slot arm is operating correctly, perform the following steps:

1. Flip the power switch for the slot machine to the On position.
2. Invoke the MMS and access the MMS Diagnostics page. Refer to "Invoking the MMS" on page 2-23.
3. Touch the *Handle Locked* button on the screen. A check mark appears in the button.

4.  Try to pull the slot arm down. If the arm will not move, it is operating correctly.

5.  Exit the MMS. Refer to "Exiting the MMS" on page 2-25.

## Finishing Up

If you removed the display monitor chassis, you must degauss it. Proceed to "Degaussing the Machine," below. Otherwise, proceed to "Installing the Bill Acceptor Chassis and Bracket," below.

### Degaussing the Machine

To degauss the machine, perform the following steps:

1.  Return the machine to its original location on the casino floor and degauss it. Refer to "Degaussing the Display Monitor" on page 2-22.

2.  Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

    You have completed the slot arm installation.

### Installing the Bill Acceptor Chassis and Bracket

To install the bill acceptor chassis and bracket on the cabinet wall, perform the following steps:

1.  Flip the power switch for the slot machine to the Off position.

2.  Plug the P32, P33, P34, and P35 connectors into the main harness.

3.  Insert the two bracket tabs, located on the rear-right edge of the bracket, into the slots for the tabs, shown in Figure 10-50 on page 10-56.

4.  Refer to Figure 10-50 on page 10-56 and align the three screw holes in the bill acceptor mounting bracket with the three screw holes in the right cabinet wall.

5.  Secure the bracket and the chassis to the wall, using three screws.

### Installing the Coin Guard

If you have not removed the coin guard, proceed to "Installing the Bill Acceptor" on page 10-61.

To install the coin guard, refer to Figure 10-49 on page 10-55 and perform the following steps:

1.  Align the two screw holes on the left of the guard with those on the corner of the chassis.

2.  Secure the guard and the flange to the chassis with two flat-head screws on the left of the guard.

3.  Align the two screw holes on the right of the guard with those in the bracket on the right cabinet wall.

4.  Secure the right side of the guard to the bracket with two round-head screws.

### Installing the Bill Acceptor

To install the bill acceptor in the bill acceptor chassis, refer to Figure 10-1 on page 10-2 and perform the following steps

1.  Insert the bill acceptor halfway into the cavity.

2.  If you have disconnected a cable with a 10-pin connector hanging to the left of the bill acceptor, plug the 10-pin connector on the bill acceptor into the cable.

3.  Push the bill acceptor all the way into the cavity until it locks in place.

### Installing the Vertical Security Flange

If the machine had no vertical security flange, proceed to "Installing the Currency Cartridge" on page 10-61.

To install the security flange on the bill acceptor, align the two holes in the flange with two holes in the bill acceptor and secure the flange to the acceptor, using two screws.

### Installing the Currency Cartridge

To install the currency cartridge in the currency column, perform the following steps:

1.  Insert the cartridge into the currency cartridge cavity and push it in until it stops.

2.  Turn the key below the cartridge clockwise until it stops.

3.  Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

## Replacing the Slot Arm Microswitches

The slot arm mechanism contains two microswitches, located inside the machine cabinet. The microswitches are operational during play mode. The first microswitch locks the slot arm into position. The second microswitch keeps the slot arm from coming back up if it is not all the way down.

You can remove the slot arm microswitch in two ways:

♦   The first way provides you with plenty of space to remove the microswitch but requires the removal of several assemblies, including the display monitor and chassis. Therefore, you may want to move the slot machine from the casino floor. To move the machine, you need a dolly and help from another person.

   This method also requires a roll-away table for the display monitor chassis. The table should be the same height as the bottom of the display cavity, so you can easily slide the chassis from the cavity onto the table.

♦   The second way to remove the microswitch requires removal of the bill acceptor chassis, which one person can do alone. This method is considerably more difficult because it provides limited working space.

   *Tip:* To make screw removal easier, you may want to use a magnetic screwdriver.

The following tables are summaries of the procedure sections to perform for each method. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Slot Arm Microswitches If You Remove the Display Monitor |
| --- |
| Removing the Slot Arm Microswitches |
| "Removing the Display Monitor Chassis" on page 2-16 |
| "Removing the Microswitches" on page 10-67 |
| Installing the Slot Arm Microswitches |
| "Installing the Microswitches" on page 10-67 |
| "Installing the Display Monitor Chassis" on page 10-68 |
| "Verifying Slot Arm Microswitch Operation" on page 10-68 |
| Finishing Up |
| "Degaussing the Display Monitor" on page 2-22 |
| *Note:* Perform if you have moved the machine to a different location |

| Replacing the Slot Arm Microswitches If You Remove the Bill Acceptor Chassis |
| --- |
| Removing the Slot Arm Microswitches |
| "Removing the Currency Cartridge" on page 10-63 |
| "Removing the Vertical Security Flange" on page 10-63 |
| "Removing the Bill Acceptor" on page 10-64 |
| "Removing the Coin Guard" on page 10-65 |
| *Note:* Perform if necessary |
| "Removing the Bill Acceptor Chassis and Bracket" on page 10-66 |
| "Removing the Microswitches" on page 10-67 |
| "Installing the Slot Arm Microswitches" on page 10-67 |
| "Verifying Slot Arm Microswitch Operation" on page 10-68 |
| Finishing Up |
| "Installing the Bill Acceptor Chassis and Bracket" on page 10-68 |
| "Installing the Coin Guard" on page 10-69 |
| *Note:* Perform if you have removed the coin guard |
| "Installing the Bill Acceptor" on page 10-69 |
| "Installing the Vertical Security Flange" on page 10-69 |
| "Installing the Currency Cartridge" on page 10-69 |

## Removing the Slot Arm Microswitches

Before beginning the procedure, be sure to turn the power off.

To turn the power off, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

   ◆ *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

If you are removing the microswitches by removing the display monitor chassis, proceed to "Removing the Display Monitor Chassis," below. Otherwise, proceed to "Removing the Currency Cartridge" on page 10-63.
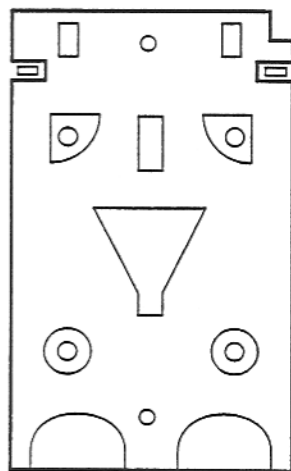
### Removing the Display Monitor Chassis

Refer to "Removing the Display Monitor Chassis" on page 2-16 and then proceed to "Removing the Microswitches" on page 10-67.

### Removing the Currency Cartridge

To remove the currency cartridge from the currency column, perform the following steps:

1. To locate the currency cartridge, see Figure 10-1 on page 10-2. Turn the key below the cartridge counter-clockwise until it stops.

2. Pull down on the metal tab above the cartridge handle.

3. Pull on the handle until the currency cartridge is free from the cavity.

4. Place the currency cartridge on a flat surface. The bill acceptor chassis is now exposed, as shown in Figure 10-53.
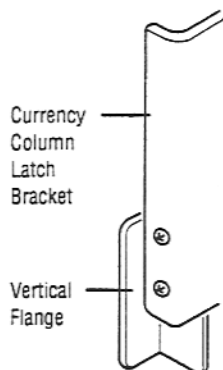
Figure 10-53    **Bill Acceptor Chassis**



### Removing the Vertical Security Flange

If the machine has a vertical security flange, refer to Figure 10-54 on page 10-64 and remove the flange from the left side of the bill acceptor by removing the two screws securing the flange to the currency column latch bracket.

Figure 10-54    **Currency Column Latch Bracket and Vertical Flange**

Currency
Column
Latch
Bracket

Vertical
Flange

## Removing the Bill Acceptor

To remove the bill acceptor from the bill acceptor chassis, perform the following steps:

1. Refer to Figure 10-1 on page 10-2 to locate the bill acceptor. Hold the bill acceptor with one hand and use the other hand to pull forward on the spring-loaded black securing bracket above the bill acceptor.

2. With the securing bracket pulled forward, pull the bill acceptor halfway out.

3. Check for a cable with a 10-pin connector hanging to the left of the bill acceptor.

   *Note:* Older bill acceptors have this cable. Newer bill acceptors and older bill acceptors that have been upgraded do not.
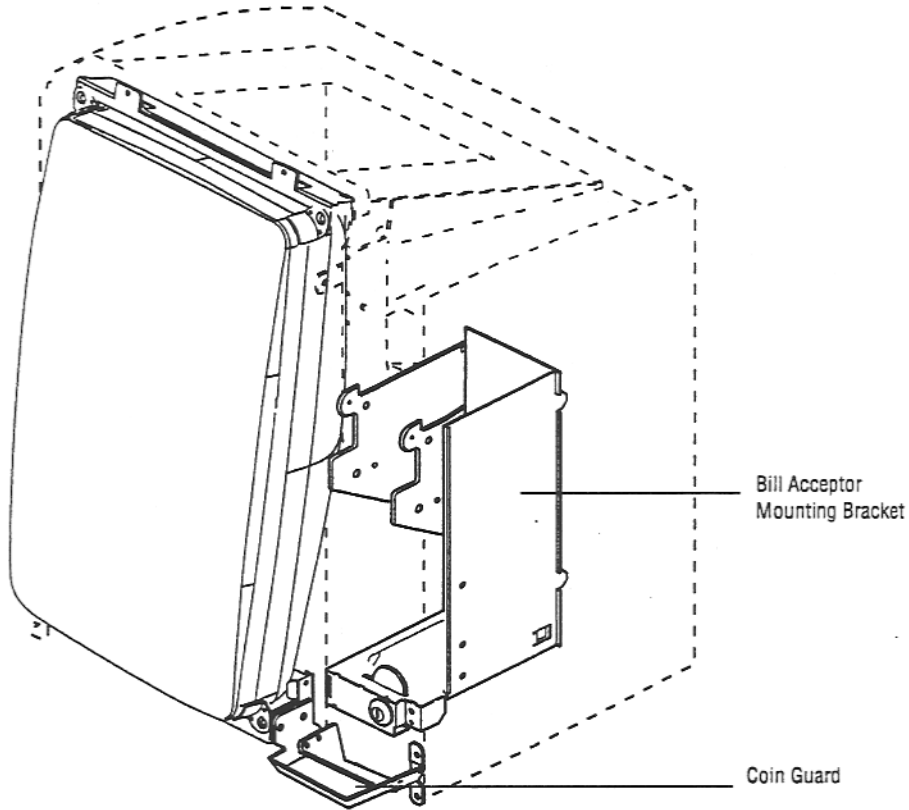
   If you find the cable, unplug the connector.

4. Pull the bill acceptor all the way out of the bill acceptor chassis.

## Removing the Coin Guard

To determine whether the coin guard must be removed, refer to Figure 10-55.

*Figure 10-55*    **Bill Acceptor Mounting Bracket and Screws**



Bill Acceptor
Mounting Bracket

Coin Guard

If the bill acceptor mounting bracket is too wide to remove from the right cabinet wall without removing the coin guard, then you must remove the coin guard.

**To remove the coin guard refer to Figure 10-56 and perform the following steps:**

*Figure 10-56*    **Screws Securing Coin Guard**



Vertical Security
Flange

Flat-Head Screws
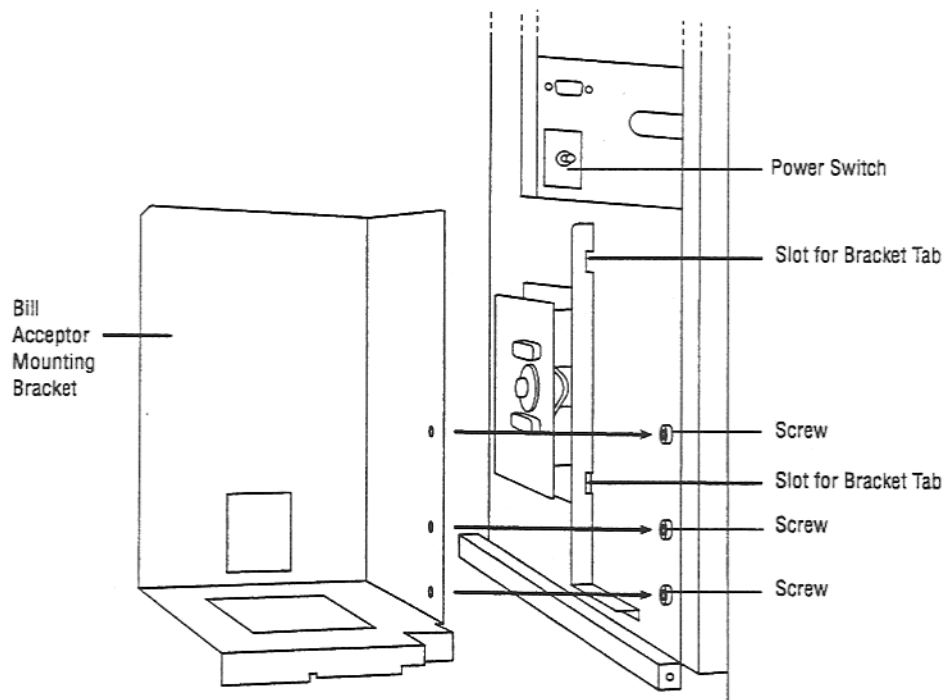
Coin Guard

Round-Head Screws

1. Open the belly door. Refer to "Opening the Belly Door" on page 2-9.

2. Remove the two flat-head screws to the left of the guard.

3. Remove the two round-head screws to the right of the guard.

4. Remove the coin guard and the attached vertical security flange.

### Removing the Bill Acceptor Chassis and Bracket

To remove the bill acceptor chassis and bracket from the cabinet wall, perform the following steps:

1. Open the display cavity bezel. Refer to "Opening the Display Cavity Bezel" on page 2-9.

2. Refer to Figure 10-57 and remove the three screws securing the bill acceptor to the right cabinet wall.

*Figure 10-57*    **Bill Acceptor and Right Cabinet Wall**
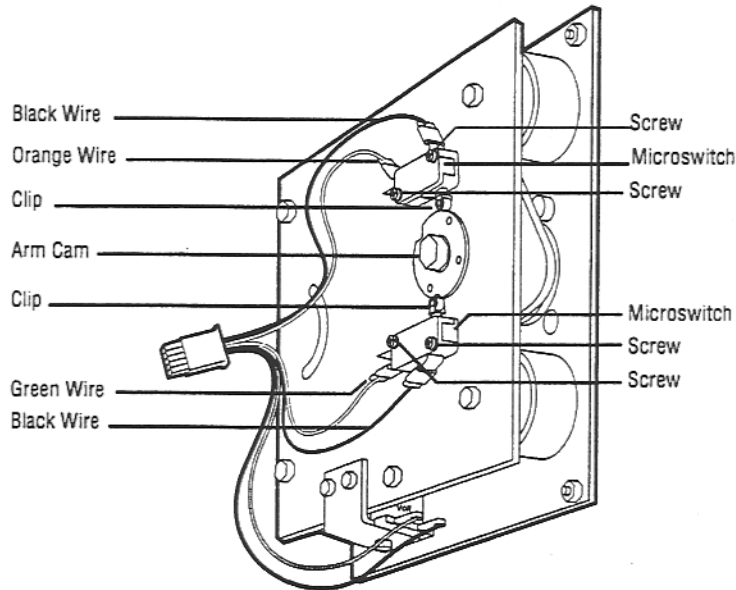


3. Pull out the chassis far enough to access cable connectors P32, P33, P34, and P35.

4. Unplug the four connectors.

5. Pull the bill acceptor mounting bracket and bill acceptor chassis all the way out of the cavity.

## Removing the Microswitches

To remove the slot arm microswitches, perform the following steps:

1.  Figure 10-58 shows the two microswitches on the slot arm mechanism.

    *Figure 10-58*     **Two Microswitches on Slot Arm Mechanism**



    Remove the quick connects for the orange, green, and black wires from the terminals of the two microswitches.

2.  Using a magnetic screwdriver, remove the two screws on each microswitch and remove each microswitch.

# Installing the Slot Arm Microswitches

After installing the microswitches, you must reinstall the display monitor chassis, if you have removed it.

### Installing the Microswitches

To install the slot arm microswitches, perform the following steps:

1.  Refer to Figure 10-58 and slip the quick connects of the orange, green, and black wires (from the handle harness) onto the correct terminals of the microswitches. Leave the two microswitch terminals closest to the arm cam free of wire.

2.  Align the screw holes in the microswitches with holes in the slot arm mechanism.

3.  Use a magnetic screwdriver and four screws to secure the two microswitches to the mechanism. See Figure 10-58 for screw locations.

## Verifying Slot Arm Microswitch Operation

To test the slot arm microswitches, perform the following steps:

1. Push up on the solenoid located on the slot arm mechanism inside of the cabinet wall.

2. Push the slot arm all the way up and ensure that it locks into position.

3. Push the slot arm halfway down and ensure that it does not come back up.

If you removed the display monitor chassis, proceed to "Installing the Display Monitor Chassis," below. Otherwise, proceed to "Finishing Up," below.

### Installing the Display Monitor Chassis

Refer to "Installing the Display Monitor Chassis" on page 2-20.

## Finishing Up

If you removed the display monitor chassis, proceed to "Degaussing the Machine," below. Otherwise, proceed to "Installing the Bill Acceptor Chassis and Bracket," below.

### Degaussing the Machine

To close the doors and degauss the machine, perform the following steps:

1. Close the display cavity bezel. Refer to "Closing the Display Cavity Bezel" on page 2-9.

2. Close the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.

3. Return the machine to its original location on the casino floor and degauss it. Refer to "Degaussing the Display Monitor" on page 2-22.

4. Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9. You have completed the slot arm installation.

### Installing the Bill Acceptor Chassis and Bracket

To install the bill acceptor chassis and bracket on the cabinet wall, refer to Figure 10-57 on page 10-66 and perform the following steps:

1. Flip the power switch for the slot machine to the Off position.

2. Plug the P32, P33, P34, and P35 connectors into the main harness.

3. Insert the two bracket tabs, located on the rear-right edge of the bracket, into the slots for the tabs.

4. Align the three screw holes in the bill acceptor mounting bracket with the three screw holes in the right cabinet wall.

5. Secure the bracket and the chassis to the wall, using three screws.

### Installing the Coin Guard

If you have not removed the coin guard, proceed to "Installing the Bill Acceptor" on page 10-69.

To install the coin guard, refer to Figure 10-56 on page 10-65 and perform the following steps:

1. Align the two screw holes on the left of the guard with those on the corner of the display monitor chassis.

2. Secure the guard and the flange to the chassis with two flat-head screws on the left of the guard.

3. Align the two screw holes on the right of the guard with those in the bracket on the right cabinet wall.

4. Secure the right side of the guard to the bracket with two round-head screws.

### Installing the Bill Acceptor

To install the bill acceptor in the bill acceptor chassis, refer to Figure 10-1 on page 10-2 and perform the following steps:

1. Insert the bill acceptor halfway into the cavity.

2. If you disconnected a cable with a 10-pin connector hanging to the left of the bill acceptor, plug the 10-pin connector on the bill acceptor into the cable.

3. Push the bill acceptor all the way into the cavity until it locks in place.

### Installing the Vertical Security Flange

If the machine had no vertical security flange, proceed to "Installing the Currency Cartridge," below.

To install the security flange on the bill acceptor, align the two holes in the flange with two holes in the bill acceptor and secure the flange to the acceptor, using two screws.
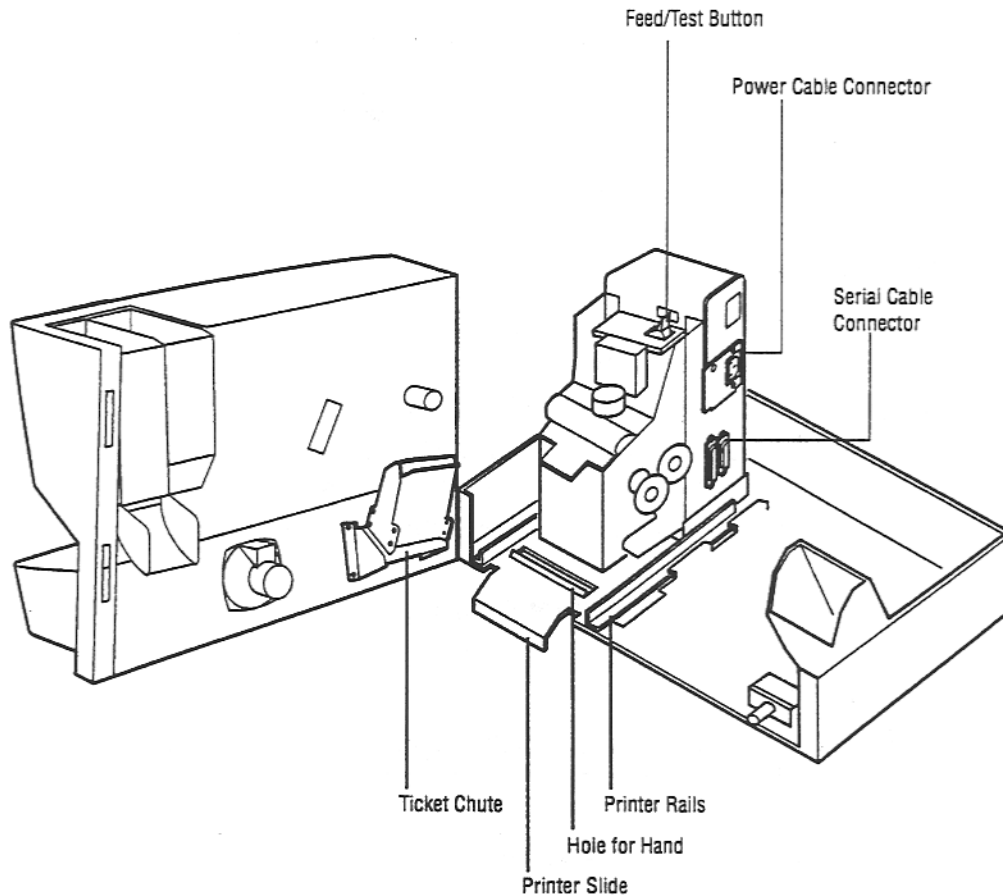
### Installing the Currency Cartridge

To install the currency cartridge in the currency column, perform the following steps:

1. Insert the cartridge into the currency cartridge cavity and push it in until it stops.

2. Turn the key below the cartridge clockwise until it stops.

3. Close the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

# Replacing the Ticket Printer

Some jurisdictions have machines that contain a ticket printer instead of a coin hopper. These machines accept no coins, but instead print a ticket that reflects the player's winnings. The ticket printer is the PcOS series 70, provided by Ithaca Peripherals, and is located inside the hopper drawer, as shown in Figure 10-59.

*Figure 10-59*    **Ticket Printer in Hopper Drawer**



To use a ticket printer, you must have a GPIO II system installed. Machines that have ticket printers have only one speaker in the belly door. The second speaker has been replaced with a chute that conducts the ticket to the coin tray on the outside of the belly door.

The following table is a summary of the sections in this procedure. If you are familiar with the procedure, you may prefer to read the text in the indicated sections only when necessary.

| Replacing the Ticket Printer |
| --- |
| "Removing the Ticket Printer" on page 10-71 |
| "Installing the Ticket Printer" on page 10-71 |
| "Verifying Ticket Printer Operation" on page 10-72 |

## Removing the Ticket Printer

Before beginning the procedure, be sure to turn the power off.

To turn the power off, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.

2. Flip the power switch to the Off position.

   ◆ *Warning:* Failure to turn off the machine can result in personal injury or damage to equipment.

To remove the ticket printer from the hopper drawer, refer to Figure 10-59 on page 10-70 and perform the following steps:

1. Open the belly door. Refer to "Opening the Belly Door" on page 2-9. The printer is on the left side of the hopper drawer, as shown in Figure 10-59 on page 10-70.

2. Unplug the serial cable (P6 on the GPIO box) from the connector farthest back on the right side of the ticket printer.

3. Unplug the power cable (P12 on the main harness) from the connector above the serial cable connector.

4. Remove the four screws that secure the back of the printer to the printer slide.

5. Place your hand in the hole in the printer slide and lift the printer up and out of the hopper drawer.

## Installing the Ticket Printer

To install the ticket printer, perform the following steps:

1. Install the ticket printer paper. See "Servicing the Ticket Printer" on page 10-72.

2. Stand the ticket printer upright, as it is in Figure 10-59 on page 10-70, and slide it into the rails in the hopper drawer.

3. Using the four screws, secure the back of the printer to the printer slide.

4. Place the printer slide on the rails on the floor of the hopper drawer and push the printer halfway into the drawer.

5. Plug the serial cable (P6 on the GPIO box) into the connector farthest back on the right side of the ticket printer.

6. Plug the power cable (P12 from the main harness) into the connector above the serial cable connector.

7. Slide the ticket printer into the hopper drawer until it stops.

8. Close the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.

## Verifying Ticket Printer Operation

To verify ticket printer operation, refer to Figure 10-59 on page 10-70 and perform the following steps:

1. Push the *FEED/TEST* button toward *FEED* and ensure that the printer feeds the paper.

2. Push the *FEED/TEST* button toward *TEST* and ensure that the printer prints and cuts a ticket.

## Servicing the Ticket Printer

To service the printer, refer to the *Replenishment and Maintenance Guide for the IPI Series 70 Printer.*