



Periodic Maintenance

This chapter provides the procedures you use to clean and maintain the following hardware:

- ◆ Machine cabinet
- ◆ Hopper
- ◆ Electronics box components
- ◆ Belly door components
- ◆ Currency column components
- ◆ Bezel door components
- ◆ Display monitor
- ◆ Slot arm
- ◆ Service candle components

Overview

To ensure proper performance of the slot machine, inspect hardware components at least after every 180 days of continuous operation. Service or replace components as necessary.

Maintenance procedures and page numbers are listed in Table 7-1.

Table 7-1 Maintenance Procedures

Procedure	See
Maintaining the Machine Cabinet	page 7-2
Maintaining the Hopper	page 7-2
Maintaining Electronics Box Components	page 7-3
Maintaining Belly Door Components	page 7-4
Maintaining Currency Column Components	page 7-5
Maintaining Bezel Door Components	page 7-7
Maintaining the Display Monitor	page 7-7
Maintaining the Slot Arm	page 7-7
Maintaining the Service Candle Components	page 7-8

After servicing some hardware components, you must verify that they are functioning properly by using the **MMS Diagnostics** page. Accessing and using the **Diagnostics** page is described in "Verifying Hardware Functionality" on page 3-32.

Maintaining the Machine Cabinet

Inspect the machine cabinet components at least after every 180 days of continuous slot machine operation. Clean, repair and/or replace the following components as necessary.

- ◆ Cabinet
- ◆ Cabinet wiring harnesses
- ◆ Top cap


Clean the outside of the slot machine with any nonabrasive household cleaner. Use an anti-static cleaner on glass or plastic surfaces.

Maintaining the Hopper

Inspect the hopper components at least after every 180 days of continuous slot machine operation. Clean, lubricate, adjust and/or replace hopper components as necessary.

To maintain the hopper, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.
2. Ensure the power switch for the slot machine is set to the Off position.

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

3. Open the belly door. Refer to "Opening the Belly Door" on page 2-9.
4. Perform the tasks described in Table 7-2 as necessary. To locate the hopper components, refer to the figures in "Changing the Coin Denomination" on page 10-22 and "Adjusting the Hopper Coin-Out Sensor" on page 10-18

Table 7-2 Hopper Service and Maintenance


Component	Tasks
Coin-out sensor	Inspect the coin-out sensor arm and optic assembly for loose or worn parts. Perform "Adjusting the Hopper Coin-Out Sensor" on page 10-18.
Knife	Inspect for wear and alignment. Replace as necessary.
Coin guide	Inspect for wear and alignment. Replace as necessary.
Coin Deflector	Inspect for wear and alignment. Replace as necessary.
Rocker-roller assembly	Inspect for wear and alignment. Replace as necessary.
Agitator	Inspect for wear and alignment. Replace as necessary.
Motor assembly	Inspect to insure proper installation
Pin wheel/shelf wheel	Inspect for wear and alignment. Replace as necessary.
Bearing retainer	Insure proper installation. Check for any damage.
Wiper	Inspect for wear and alignment. Replace as necessary.
Level sensor	Inspect for proper installation. Short the sensor probe with a screwdriver and ensure the diverter solenoid activates to convert coins to the drop chute.
Hopper bowl	Inspect for damage or excessive wear.
Drawer assembly and rails	Inspect for damage and wear. Ensure the hopper moves freely. Replace worn parts and lubricate rail bearings with a light coating of silicon lubricant spray.

5. Push the hopper assembly back into the machine until you hear a click.
6. Close and lock the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.
7. Flip the power switch for the slot machine to the On position.
8. Close and lock the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

Maintaining Electronics Box Components

Inspect the hopper components at least after every 180 days of continuous slot machine operation.

To maintain the electronics box, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.
2. Ensure the power switch for the slot machine is set to the Off position.
 -  **Warning:** Failure to turn off the machine can result in personal injury or damage to equipment.
3. Open the belly door. Refer to "Opening the Belly Door" on page 2-9.
4. To access the electronics box, you must remove the hopper drawer. Refer to "Removing the Hopper Drawer" on page 2-9.

5. Inspect, clean, adjust, tighten, and/or replace the following components as necessary:
 - ◆ Door assembly
 - ◆ Door switch
 - ◆ GPIO board
 - ◆ SCSI board
 - ◆ Peripheral memory board
 - ◆ Video controller board
 - ◆ Motherboard
 - ◆ Hard disk
 - ◆ Transformer
 - ◆ Power supply and fan
6. Install the hopper. Refer to "Installing the Hopper Drawer" on page 2-10.
7. Close and lock the belly door. Refer to "Closing and Locking the Belly Door" on page 2-9.
8. Flip the power switch for the slot machine to the On position.
9. Close and lock the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

Maintaining Belly Door Components

Inspect the belly door components at least after every 180 days of continuous operation. Clean, adjust, tighten, align, and/or replace the following components as necessary:

- ◆ Belly glass
- ◆ Decal
- ◆ Latch assembly
- ◆ Exit chute
- ◆ Return/drop chute
- ◆ Speaker assembly
- ◆ Lighting
- ◆ Lighting hardware
- ◆ Hinge
- ◆ Door switch
- ◆ Coin tray

Maintaining Currency Column Components

Inspect the currency column components and currency column door components at least after every 180 days of continuous machine operation. Clean, adjust, tighten, align, and/or replace the following components as necessary:

- ◆ Merchandising windows
- ◆ Decals
- ◆ Coin head
- ◆ LED displays
- ◆ Coin acceptor (Refer to "Maintaining the Coin Acceptor," below.)
- ◆ Coin acceptor mounting bracket
- ◆ Coin optics detector
- ◆ Diverter assembly
- ◆ Latch assembly
- ◆ Hinge
- ◆ *Cash/Credit* and *Change* button assemblies
- ◆ Bill acceptor (Refer to "Maintaining the Bill Acceptor" on page 7-6.)

Maintaining the Coin Acceptor


To clean and test the coin acceptor, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.
2. Ensure the power switch for the slot machine is set to the Off position.
 - ⚠ **Warning:** Failure to turn off the machine can result in personal injury or damage to equipment.
3. Remove the coin acceptor as follows:
 - a. Grasp the coin acceptor and rotate/pull the top portion towards you to release the top "dog-ears" from the coin acceptor clips.
 - b. Lift the coin acceptor assembly up clearing the bottom dog-ears from the coin acceptor-mounting bracket.
 - c. Disconnect the connector leading to the side of the coin acceptor. This cable is labeled as "Q64, coin acceptor."
4. Remove any dirt or other debris that has accumulated on the acceptor.
5. Clean the coin slot.
6. Use a cotton swab to clean the coin optics sensor. This sensor is located on a small circuit board just below the acceptor.
7. Remount the coin acceptor and reconnect the wiring connectors as follows:
 - a. Reconnect the connector to the coin acceptor.

- b. Remount the coin acceptor by dropping the bottom dog-ears into the mounting bracket slots and rotating/pushing the top dog-ears into the coin acceptor clips. Make sure you hear or feel the top dog-ears snap into the clips to ensure the coin acceptor is securely mounted.
8. Flip the power switch for the slot machine to the On position.
9. Verify that the coin acceptor is functioning properly by performing the following steps:
 - a. Invoke the MMS and access the MMS Diagnostics page, as described in "Invoking the MMS" on page 2-23.
 - b. On the Diagnostics page, touch the *Coin Acceptor* button.
 - c. Insert a test coin and verify that the *Accept* message is displayed.
10. Exit the MMS. Refer to "Exiting the MMS" on page 2-25.
11. Close and lock the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

Maintaining the Bill Acceptor

To maintain the bill acceptor, perform the following steps:

1. Open the currency column door. Refer to "Opening the Currency Column Door" on page 2-8.
2. Ensure the power switch for the slot machine is set to the Off position.
 -  **Warning:** Failure to turn off the machine can result in personal injury or damage to equipment.
3. Remove the bill acceptor as follows:
 - a. While holding the bill acceptor with one hand, use the other hand to pull forward on the spring-loaded black cover just above the bill acceptor.
 - b. With the cover pulled forward, pull outward on the bill acceptor until it is completely free of its housing.
4. Clean, adjust, align, calibrate and/or replace the following components as necessary:
 - ◆ Optical sensors
 - ◆ Magnetic head
 - ◆ Pinch roller
 - ◆ RTU assembly
 - ◆ Switches
 - ◆ Gears
 - ◆ Currency cartridge sensor
5. Remount the bill acceptor in its housing and push it toward the back of the machine until it locks.
6. Flip the power switch for the slot machine to the On position.
7. To verify that the bill acceptor is correctly accepting and accurately determining the denomination of bills, perform the following steps:

- a. Invoke the MMS and access the MMS **Diagnostics** page, as described in "Invoking the MMS" on page 2-23.
- b. Insert a bill into the bill acceptor and confirm that the status message *Device Working* is displayed in the bill acceptor area of the **Diagnostics** page. Touch the *Calibrate* button under *Bill Acceptor*.
- c. Follow the onscreen directions to calibrate the bill acceptor.



Note: Special paper is required for calibration.

8. Exit the MMS. Refer to "Exiting the MMS" on page 2-25.
9. Close and lock the currency column door. Refer to "Closing and Locking the Currency Column Door" on page 2-9.

Maintaining Bezel Door Components

Inspect the bezel door components at least after every 180 days of continuous operation. Clean, adjust, and/or replace the button assemblies and hinge as necessary.

Maintaining the Display Monitor

Inspect the display monitor components at least after every 180 days of continuous operation. Clean, adjust, calibrate, degauss, and/or replace display monitor components as necessary. Table 7-3 describes the procedures to perform.

Table 7-3 Display Monitors Maintenance Procedures

Item or Component	Procedure
Color, color distortion, brightness, contrast, horizontal and vertical position	"Aligning and Calibrating the Display Monitor Image" on page 9-24 <i>Note:</i> To check for color, ensure the red, green, and blue colors are not overridden by or have an overabundance of a particular color. To check for color distortion, check that one color is not displayed where a different color should be displayed. For example, a blotch of purple does not display where the color blue should be displayed. The solution is degaussing.
Touchscreen	Clean the touchscreen glass periodically using mild soap and water or an anti-static cleaner. <i>Caution:</i> Do not use an ammonia-based solution, such as Windex, to clean the display monitor. Also, refer to "Verifying Touchscreen Operation" on page 9-39 and "Calibrating the Touchscreen" on page 9-40.
VDT	Degauss and /or replace the tube. For degaussing, see "Degaussing the Display Monitor" on page 2-22. For replacement, see "Replacing the Display Monitor" on page 9-2.
Chassis	"Verifying Neotec Electronics Chassis Operation" on page 9-23. For replacement, see "Replacing the Neotec Electronics Chassis" on page 9-13.

Maintaining the Slot Arm

Inspect the slot handle components at least after every 180 days of continuous service. Clean, adjust, lubricate, and/or replace the following components as necessary. For component locations and replacement procedure, refer to "Replacing the Slot Arm" on page 10-51.

- ◆ Handle and ball
- ◆ Handle hub
- ◆ Switches
- ◆ Switch cam
- ◆ Handle bolt
- ◆ Handle bearing
- ◆ Solenoid
- ◆ Springs
- ◆ Lockout linkage
- ◆ Lock pawl assembly

The lock pawl is the small catch that keeps the handle from returning to the full upright position until you pull it completely forward. Once you pull the handle completely forward, the lock pawl should release and allow the handle to return to its full upright position. The lock pawl wears out with use and therefore requires inspection and cleaning.

- ◆ Full stroke pawl and shaft

This locking mechanism keeps the handle locked in the full upright position until a coin is wagered. This mechanism requires inspection and cleaning.

Maintaining the Service Candle Components

Inspect the service candle components at least after every 180 days of continuous operation. Clean, tighten, and/or replace the following components as necessary:

- ◆ Lens
- ◆ Bulbs
- ◆ Sockets