

DE LA RUE Bill Dispenser Service Guide for U-Scan

**Version: North American Version
Document Update: V4
Date: July 6, 2006**

U-SCAN®

Document Updates

Version 4:

- Added jammed cassettes as an issue to "DE LA RUE Common Problems and Solutions" on page 5. Added the steps to follow in "[Troubleshooting the DE LA RUE](#)" on page 9.
- Added **Mechanical Error** message as an issue to "DE LA RUE Common Problems and Solutions" on page 5.
- Added **Bill tray or empty** message when enough bills are loaded in the cassette as an issue to "DE LA RUE Common Problems and Solutions" on page 5.
- Added illustration of the door release handle on the roof of the top channel to the "[Troubleshooting the DE LA RUE](#)" section.
- Added illustration of the on-board power connection to the "[Troubleshooting the DE LA RUE](#)" section.
- Added instructions for measuring the cassette resistance value to the "[Troubleshooting the DE LA RUE](#)" section.

Version 3:

- Added information on using the NMDTEST utility in "[Using the DE LA RUE NMDTEST Utility](#)" on page 44.
- Added a "[DE LA RUE Common Problems and Solutions](#)" section on page 5.
- Added a "[Cleaning and Maintenance](#)" table and instructions on page 5.
- Updated cassette loading instructions in "[Inspect the Cassettes](#)" on page 10.
- Added possible troubleshooting solutions and status codes to the "[Error Messages](#)" table on page 53.
- Added instructions on cleaning the pinch belts in "[Cleaning the Pinch Belts](#)" on page 22.
- Added instructions on verifying the cassette push plate position, cassette lid latching, and slide plate condition in "[Inspect the Cassettes](#)" on page 10.

Version 2:

- Added procedure on upgrading the DE LA RUE firmware through a Windows utility.

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Version 1:

- Document creation.

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Testing the Bill Dispenser in the Device Tester

1. Stop the Customer Software

See “Stop the Customer Software.”

2. Verify the Settings

Refer to “Check the Settings” in the “Using the Device Tester” section of the Introduction.

3. Test the Device

NOTE: For an explanation of error messages, see “Bill Dispenser Error Messages” later in this section. Error messages are also stored in the **Eventlog Viewer** and can be viewed after you exit the Device Tester.

- 1 Click **Start**.
The message **ONLINE{Bill Dispenser}** appears in the **Messages** box.
- 2 Click **Dispense**.
- 3 Enter the amount to be dispensed.
- 4 Click **OK**.
If the test was successful, the Bill Dispenser dispenses the indicated amount and the **Messages** box displays **BILL_DISPENSER::DISPENSED{amount}**.
- 5 Click **Stop**.
- 6 Click **OK**.

NOTE: When you test the **DIEBOLD** or **DE LA RUE** Bill Dispenser, click **Other** if further investigation is required. **Other** allows you to view the diagnostic output, view configurations, dispense bills, adjust the double detect, and reset the device.

- 7 As required, click the following buttons to perform additional tests or to check settings:

DIEBOLD	
Button	Function

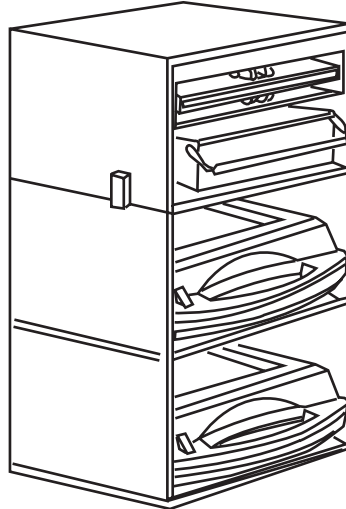
Configuration	Displays the current status of the DIEBOLD. Displays the cassette coding.
Current status	Displays the status of the sensors.
Dispense	Dispenses bills from each cassette.
Test Dispense	Dispenses a bill from each cassette and sends it to the Divert Bin.
Reset	Resets the circuit board.
Purge	Attempts to clear bill jams.
Adjust Double Detect	Displays the status of the double detect.
View/Hide Serial Trace	Displays the log file for the Bill Dispenser.
DE LA RUE	
Button	Function
Tray Configuration	Displays the current tray denomination (i.e. \$1, \$5, \$10).
Current Status	Displays the current functional status of the Bill Dispenser. Displays error messages if the Bill Dispenser is not working properly.
Dispense	N/A
Dispense to Reject	N/A
View Serial Trace	Displays logs for the DE LA RUE.
Reset Purge	Resets the Bill Dispenser and performs a purge sequence. Use this function to clear bill jams.
Lock/Unlock Trays	Locks or unlocks the trays.
Scrub	Performs a self-clean operation of the note feeder rollers.

Bill Dispenser Error Messages

Refer to table below for a description of the most common Bill Dispenser error messages. Refer to the Additional Information section for your Bill Dispenser model for model-specific error messages.

Error Message	Explanation
BILL_TRAY_EMPTY	Indicates that there are no bills in one of the trays or in the device altogether. Refill the Bill Dispenser and try again.
DISPENSE_LIMIT_EXCEEDED	Indicates that the amount of money to be dispensed exceeds the allowable limit. This limit is configurable. Try dispensing a smaller amount.
MECHANICAL_ERROR	The problem could be with the Serial Communications or the Power Cable, the dll file may be incorrect, or the device may need to be replaced.
BILL_TRAY_LOW	Indicates that the Bill Dispenser is low on bills.
BILL_TRAY_MISSING	Indicates that a cassette is not present or is not properly inserted.

DE LA RUE NMD 050 Bill Dispenser



Features:

- Two or three cassette Bill Dispenser models
- Cassette capacity of approximately 2000 bills (depending on thickness and quality)
- Reject vault capacity of approximately 50 bills
- Tower configuration
- Friction feed
- Front delivery of bills
- Cassettes that lock manually and electronically

Technical Specifications

Environment

- Temperature: 41°F to 122°F (5° to 50°C)
- Relative Humidity: 10% to 90% non-condensing

Electrical Interface

- RS-232C connection

Power Supply Requirements

DC-only power supply requires the following power levels:

- Input: 120 to 240 V ac, 50 to 60 Hz, 3 A
- Output: +12.0 V @ 3 A, +36.0 V @ 3.2 A

NOTE: *An optional power supply unit is available from DE LA RUE.*

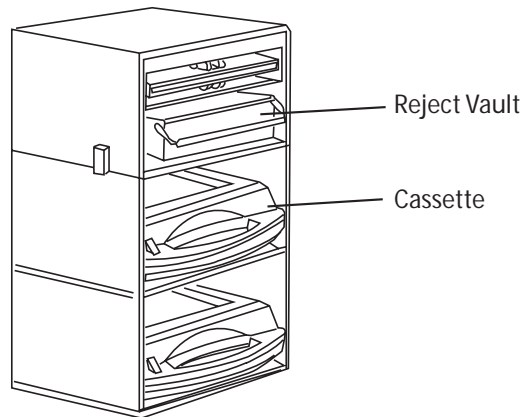
Communication

- Standard RS-232 communication cable
- Connects to COM 9 (Port 7)

Components of the DE LA RUE NMD 050

The DE LA RUE NMD 050 Bill Dispenser includes the following components:

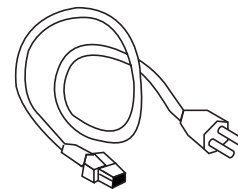
- DE LA RUE Bill Dispenser
- Cassettes (two or three)
- Reject vault
- DE LA RUE power supply
- DE LA RUE power cable
- RS-232 communication cable (handshaking for TS/NT; non-handshaking for OSA)



DE LA RUE Bill Dispenser



DE LA RUE
Power Supply



Power
Cable



Communication
Cable

DE LA RUE Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to "[Troubleshooting the DE LA RUE](#)" on page 8 for the full troubleshooting procedures.

Issue	Possible Cause(s)	Solution
Frequent Mechanical Error messages for no apparent reason.	<ul style="list-style-type: none"> If the store is loading the cassettes with bills of lower quality (old bills) over a long period of time, this message will appear with no apparent mechanical error present. 	<ul style="list-style-type: none"> Disconnect the DE LA RUE power supply cable. Wait 5 seconds. Connect the power supply cable to reset the DE LA RUE.
Bill tray or empty message when enough bills are loaded in the cassette.	<ul style="list-style-type: none"> The level of bills is not set properly in Maintenance Mode. 	<ul style="list-style-type: none"> Access Maintenance Mode. Touch Unlock Cassettes. Remove the cassette(s) reporting the error message from the DE LA RUE. Touch Set Quantity of Bills. Ensure that the number of bills set in Maintenance Mode accurately reflects the number of bills present in the cassette(s).
The DE LA RUE spontaneously begins sending several bills from each cassette to the reject vault.	<ul style="list-style-type: none"> The data in the memory table does not match the cassette ID data, and the thickness table is cleared. A "learning" function begins to measure the thickness of the bills in each cassette. 	<ul style="list-style-type: none"> Wait until the process completes. As many as 12-15 bills per cassette can be sent to the reject vault. Remove the reject vault. Remove the rejected bills and replace them in the appropriate cassettes. Replace the reject vault. Disconnect the power cable from the power supply. Wait 5 seconds, then reconnect the power cable to put the DE LA RUE back into operation.

Issue	Possible Cause(s)	Solution
The DE LA RUE does not dispense and the Happy LED is not on.	<ul style="list-style-type: none"> The DE LA RUE is not receiving power. 	<ul style="list-style-type: none"> Verify the power cable connections. Verify that the power supply is on. If the issue is not resolved, replace the power supply.
The DE LA RUE does not dispense and the Reset and Happy LEDs are on.	<ul style="list-style-type: none"> The DE LA RUE requires a software reset. 	<ul style="list-style-type: none"> Using the Device Tester, perform a software reset. Disconnect the DE LA RUE power supply cable. Wait 5 seconds. Connect the power supply cable to reset the DE LA RUE. If the issue is not resolved, replace the communication cables. If the issue is not resolved, replace the DE LA RUE.
The DE LA RUE is rejecting bills.	<ul style="list-style-type: none"> The DE LA RUE's thickness table has the wrong settings. The double detect sensor is dirty or defective. 	<ul style="list-style-type: none"> Using the Device Tester, reprogram one cassette to reset the thickness table. Refer to "Configuring the Cassettes through the Device Tester" on page 41. <p>NOTE: <i>You do not need to change the settings. Just click a setting so that the Apply button becomes enabled, then click Apply.</i></p> <ul style="list-style-type: none"> Clean the double detect sensor using compressed air. Refer to "Inspect the Double Detect Circuit Board" on page 19. Verify the DE LA RUE on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17. If the issue is not resolved, replace the DE LA RUE.

Issue	Possible Cause(s)	Solution
The DE LA RUE does not dispense and the Happy LED is flashing.	<ul style="list-style-type: none"> • There is a communication problem. 	<ul style="list-style-type: none"> • Verify the Device Tester settings. • Verify the communication cable connections.
The DE LA RUE is not dispensing from one of the cassettes.	<ul style="list-style-type: none"> • The cassette is not recognized by the software. • The module is defective. • The cassette is defective. • The module is disconnected. 	<ul style="list-style-type: none"> • Verify and change the regular settings to match the cassette configuration. Refer to "Configuring the Cassettes through the Device Tester" on page 41. • Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17. • If the issue is not resolved, replace the cassette. • If the issue is not resolved, replace the DE LA RUE.
The DE LA RUE stopped recognizing one of the cassettes.	<ul style="list-style-type: none"> • There is a communication synchronization problem. • The cassette is defective. 	<ul style="list-style-type: none"> • Completely shut down Windows on the Customer Station Computer. • Turn off the UPS. • Turn on the UPS. • Start the Customer Station Computer. • If the issue is not resolved, replace the cassette. • If the issue is not resolved, replace the DE LA RUE.
A cassette is jammed in the DE LA RUE.	<ul style="list-style-type: none"> • The cassettes need to be unlocked in Maintenance Mode or the Device Tester. • The side screw needs to be loosened. • The drive motor in the cassette is burnt out. 	<ul style="list-style-type: none"> • Refer to "Remove the Cassettes" on page 9 to unlock the cassettes. • Refer to step 3 of Task 4, "Remove the Cassettes" on page 9 to loosen the side screw. • If the issue is not resolved, replace the cassette.

Troubleshooting the DE LA RUE



You will be able to identify most issues with the DE LA RUE if you follow all of the tasks outlined in this section.

Ask the front-end supervisor to remove and/or handle any cash.

1. Follow the Testing Procedure

See “Testing the Bill Dispenser.”

2. Inspect the Power

- 1 Ensure that the happy light is blinking on the circuit board.
 - 2 Locate the DE LA RUE power supply under the UPS shelf.
 - 3 Ensure that the power cable is connected to the rear of the DE LA RUE power supply.
 - 4 Ensure that the power cable is connected to the DE LA RUE main circuit board.
 - 5 Ensure that the power supply switch is ON.
 - 6 Reset the power supply:
 - a Disconnect the power cable from the power supply.
 - b Wait a full **5 seconds**, then reconnect the power cable. The power supply resets.
-

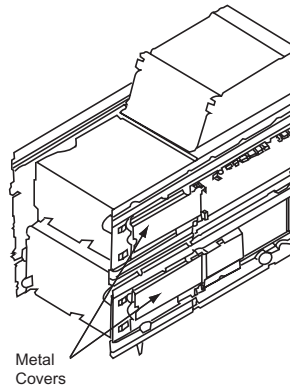
3. Inspect the Data Cable

- 1 Locate the data cable.
 - 2 Ensure that the data cable is connected to the main circuit board in the 5-pin connection (at the front of the circuit board).
 - 3 Ensure that the data cable is connected to COM 9 (Port 7) on the Edgeport.
 - 4 Inspect the data cable for any visible signs of damage.
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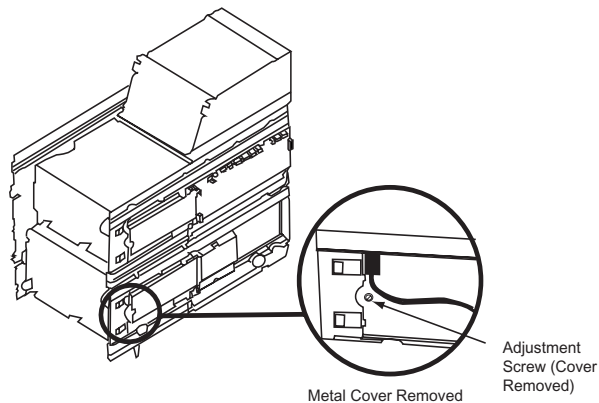
Troubleshooting the DE LA RUE (Cont'd)

4. Remove the Cassettes

- 1 Unlock the cassettes through the software:
 - a Access the **Device Tester**.
 - b Click **Other**.
 - c Click **Unlock Trays**.
 - d Wait until the unlocking process finishes. The sound of the DE LA RUE mechanisms turning will stop when the process is complete.
- 2 Remove the cassettes from the DE LA RUE.
- 3 If one of the cassettes cannot easily be removed from the DE LA RUE, follow the steps below:
 - a Turn off the DE LA RUE power supply.
 - b Pull the DE LA RUE towards you so that you can access the side of it.
 - c Remove the metal cover beside the jammed cassette.



- d Use a flat-head screwdriver to gently remove the round plastic cover beside the jammed cassette and access the adjustment screw.



Troubleshooting the DE LA RUE (Cont'd)

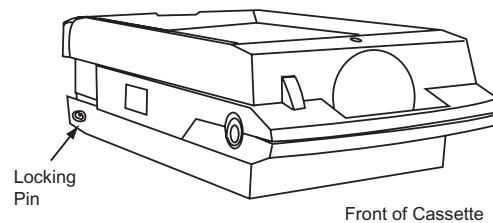
- e Turn the screw clockwise until it stops, then begin turning the screw counter-clockwise approximately 2 1/2 turns or until you can remove the cassette.

NOTE: Do **NOT** force the cassette out of the dispenser. If the cassette cannot be removed, replace the dispenser.

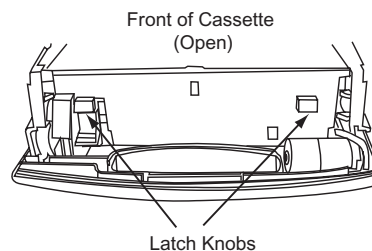
- f Unlock and open the cassette.
- g If you can smell a burning smell, the cassette drive motor is damaged and the cassette must be replaced immediately. **Do NOT use the cassette again, as it can damage the DE LA RUE.**
- h If there is no burning smell, turn on the DE LA RUE power supply and allow the DE LA RUE to perform the complete startup cycle, then insert the cassette.
- i Try to remove the cassette again.
- j If you cannot remove the cassette, the DE LA RUE needs to be replaced.

5. Inspect the Cassettes

- 1 Locate the white plastic locking pin on the side of the cassette.

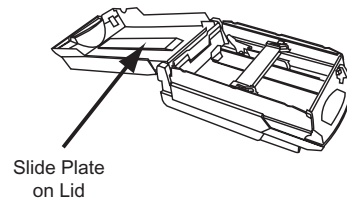


- 2 Ensure that the locking pin is not damaged or broken.
- 3 Open the cassettes.
- 4 Ask the front-end supervisor to remove any bills from the cassettes.
- 5 Ensure that the cassettes open and close smoothly.
- 6 If the cassettes do not open and close smoothly, apply a thin coating of Vaseline on the bottom surface of the square latch knobs.

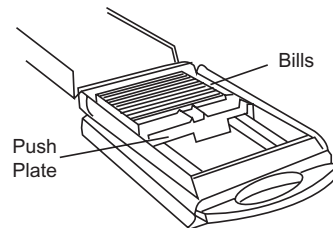


Troubleshooting the DE LA RUE (Cont'd)

- 7 Inspect the slide plate on the cassette lid. Ensure that the lid is smooth, shiny, and has a flat and even surface.

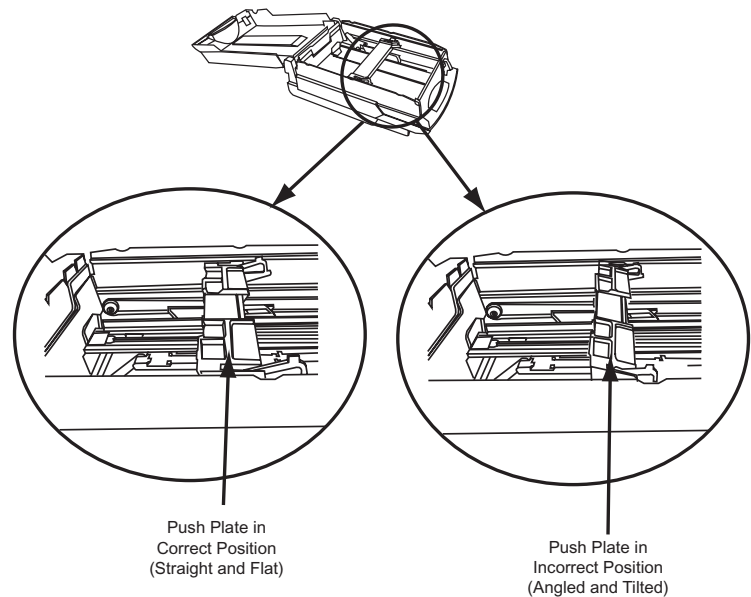


- 8 If the slide plate has a rough surface, replace the cassette.
- 9 Inspect the media condition. Remove any of the following:
- a Torn bills (including bills with ripped corners)
 - b Taped bills
 - c Bills with staples attached
 - d Badly stained bills
 - e Severely wrinkled bills
 - f Bills with holes
- 10 Slide the push plate forward and backward to ensure that the internal components function.

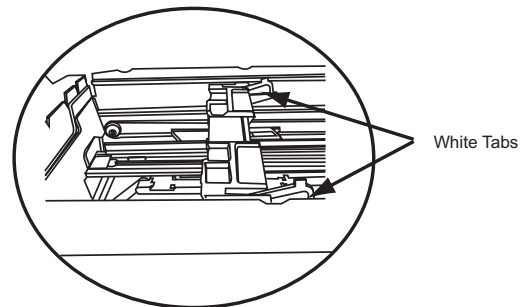


Troubleshooting the DE LA RUE (Cont'd)

- 11** Ensure that the position of the push plate is flat and straight within the cassette. The top should be parallel to the edges of the cassettes and the sides should be at a 90° angle to the side of the cassette.



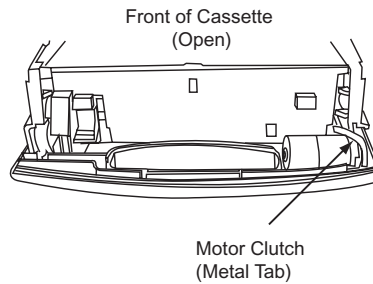
- 12** If the push plate is not in the correct position, follow the steps below:
- Slide the push plate into the middle of the cassette.
 - Gently push apart the sides of the cassette.
 - Adjust the push plate so that it sits straight and flat on the bottom of the cassette.
- 13** Ensure that the white tabs on the back of the push plate are pulled out and away from the push plate.



- 14** Inspect the motor clutch (metal tab):
- Move the push plate to the back of the cassette.

Troubleshooting the DE LA RUE (Cont'd)

- b Press and hold down the motor clutch.



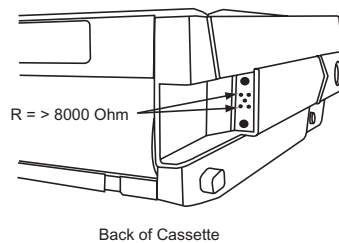
- c **Slowly** slide the push plate forward while holding down the motor clutch to inspect the condition of the motor clutch. It should be difficult to move the push plate and you should hear the motor if the motor clutch is in proper condition.

6. Measure the Cassette Resistance Value

Measure the cassette resistance value if you suspect a cassette is defective. Perform this procedure before you try the cassette in another feed channel or another DE LA RUE, as using a defective cassette can damage the DE LA RUE.

CAUTION: Only use a multimeter if you know how to use it. Set the multimeter to AC voltage.

Use a multimeter to measure the resistance between the two points indicated below.



If the resistance is **less than 8000 Ohms**, the cassette internal circuit is defective and the cassette must be replaced.

NOTE: Do **NOT** insert the defective cassette into another feed channel on the DE LA RUE or into another DE LA RUE, as it can damage the dispenser.

Troubleshooting the DE LA RUE (Cont'd)

7. Verify the Cassette Settings

- 1 Access the **Device Tester**.
 - 2 Click the **Bill Dispenser** tab.
 - 3 Click **Other**.
The **Custom Unit Tester** screen displays.
 - 4 Click **Tray Configuration**.
The expected denomination for each tray displays.
 - 5 Ensure that the proper denomination is loaded into each cassette.
 - 6 If you need to change the denomination settings in the software, refer to "[Configuring the Cassettes through the Device Tester](#)" on page 41.
-

8. Verify the Bill Quantities in Maintenance Mode (If Applicable)

Not all stores keep track of the bill quantities in **Maintenance Mode**. If the **Set Bill Quantities** button is present on the **Maintenance Mode** screen, this procedure applies to your store. Follow the steps below if **Bill Tray Low or Empty** message displays when there are more than 50 bills in the cassette.

- 1 Access **Maintenance Mode**:
 - a At the Attendant Station, access the **Manager** menu.
 - b Touch **Functions**.
 - c Touch the **Toolbox** button corresponding to the lane you wish to put into **Maintenance Mode**.
 - d Touch **Done** from the **Functions** window.
 - e Touch **Done** from the **Manager** menu.
- 2 On the Customer Station **Maintenance Mode** screen, touch **Unlock Cassettes**.
- 3 Remove the cassette(s) reporting the error message from the DE LA RUE.
- 4 Touch **Set Quantity of Bills**.
- 5 Ensure that the number of bills set in **Maintenance Mode** accurately reflects the number of bills present in the cassette(s).

NOTE: For more information on setting the bill quantities through **Maintenance Mode**, refer to "[Tracking Bill Quantities in the DE LA RUE Bill Dispenser](#)" on page 49.

Troubleshooting the DE LA RUE (Cont'd)

9. Inspect the Reject Vault

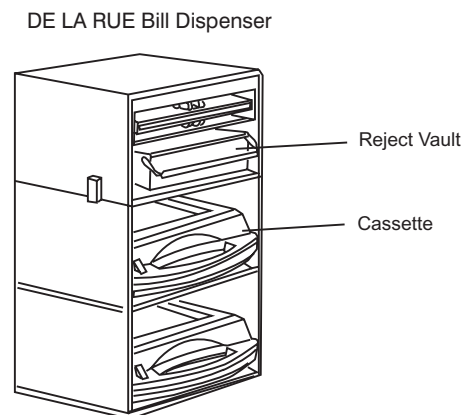
- 1 While the DE LA RUE is on, remove the reject vault.
- 2 Remove any bills from the reject vault.
- 3 Replace the reject vault to reset the reject full counter.
NOTE: *This resolves the **REJECT_VAULT_FULL** message.*
- 4 Ensure that the reject vault is properly inserted.
- 5 Replace the bills in the appropriate cassettes.

10. Inspect the Status LEDs

- 1 Ensure that the happy light flashes at a constant rate.
- 2 Inspect the LED beside the happy light.
- 3 If the LED is on, reset the device:
 - a Access the **Device Tester**.
 - b Click **Other**.
 - c Click **Reset Purge**.

11. Check for Bill Jams or Debris

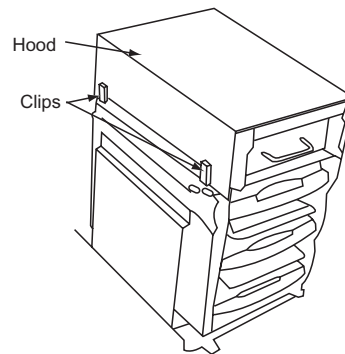
- 1 Remove the cassettes and the reject vault from the DE LA RUE.



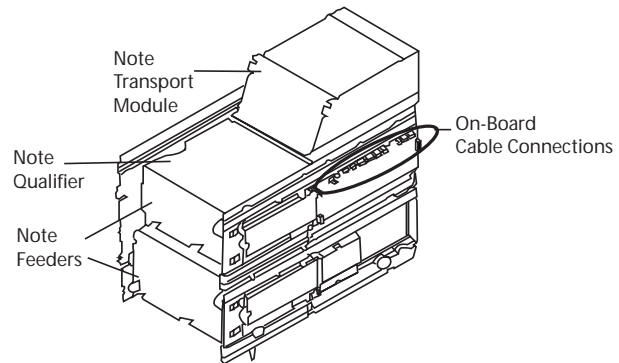
- 2 Slide the DE LA RUE out of the casing.

Troubleshooting the DE LA RUE (Cont'd)

- 3 Undo the four clips (two on each side) that secure the DE LA RUE hood to the device.



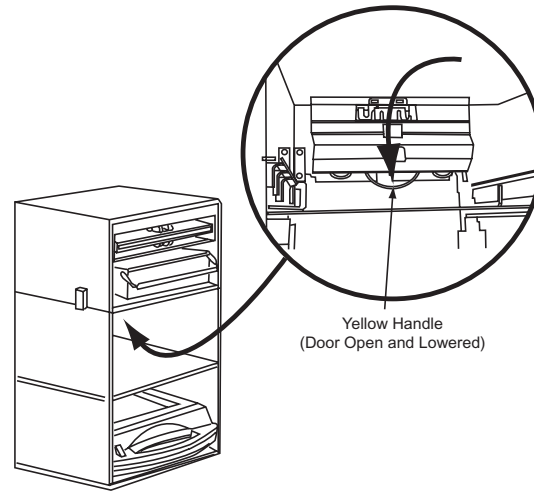
- 4 Remove the hood from the device.
- 5 Open both note feeder covers located on the back of the device and check for any bill jams or debris in the DE LA RUE.



- 6 Close the note feeder covers securely.
- 7 Open both note transport covers.
- 8 Check for any debris or bill jams in the DE LA RUE.
- 9 Lift and drop the note transport cover (like the hood of a car) to close the note transport covers.
- 10 Ensure that the note transport covers are securely closed.
- 11 Look inside the note feeder modules and ensure that there are no bill jams or debris.
- 12 Locate the yellow loop handle inside the top note feeder/note qualifier module. The handle is at the top of the back of the module.

Troubleshooting the DE LA RUE (Cont'd)

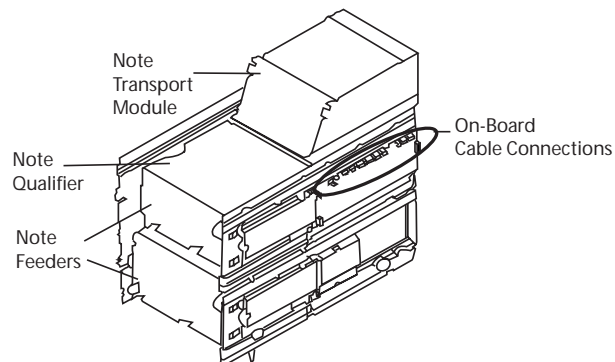
- 13 In one motion, push and then pull down on the handle. A door inside the module opens.



- 14 Ensure that there are no bill jams.
- 15 Lift and close the door. Make sure that the two smaller loops are securely locked into place.

12. Inspect the On-Board Cables

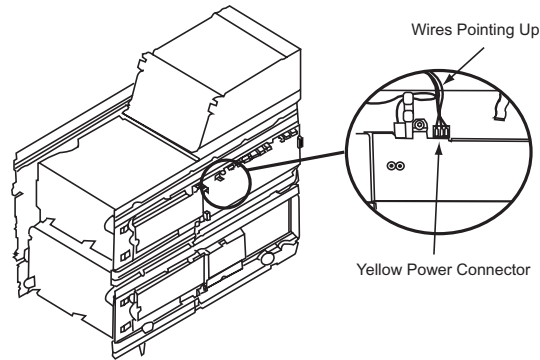
- 1 **Disconnect the DE LA RUE power supply cable.**
- 2 Locate the on-board cable connections on the side of the DE LA RUE.



- 3 Press firmly on all of the cables to ensure that they are properly connected.

Troubleshooting the DE LA RUE (Cont'd)

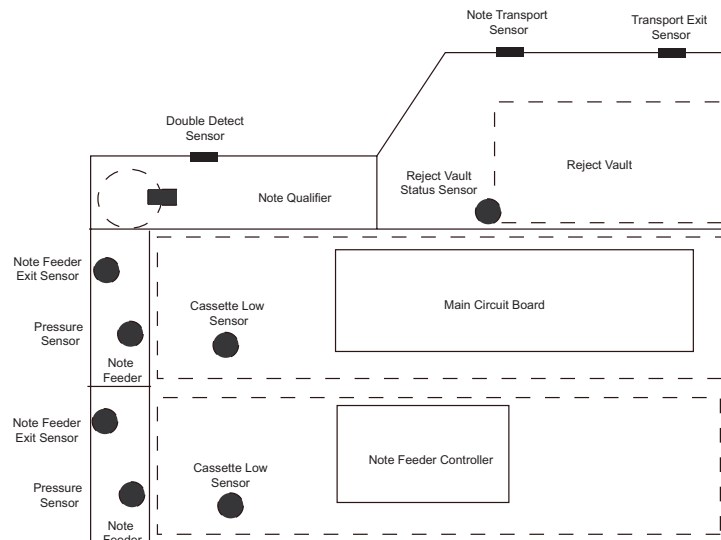
- 4 Ensure that all wires on the power cable (yellow connector) are pointing up toward the note transport module.



- 5 Locate the cable connections on the double-detect, throat, and exit sensors.
- 6 Press firmly on all of the cables to ensure that they are properly connected.
- 7 Reconnect the DE LA RUE power supply cable.

13. Inspect and Clean the Sensors

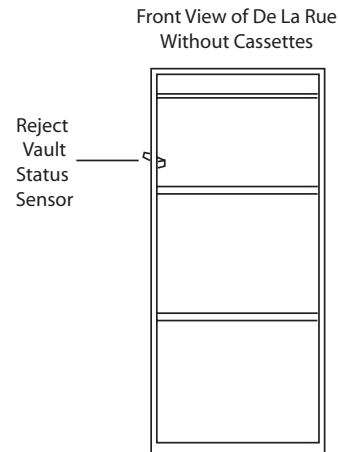
- 1 Open the top cover of the note transport module.
- 2 Use compressed air to clean the note transport and transport exit (throat) sensors.



- 3 Locate the cassette low, exit, and pressure sensors inside the note feeder module.
- 4 Use compressed air to clean the sensors.

Troubleshooting the DE LA RUE (Cont'd)

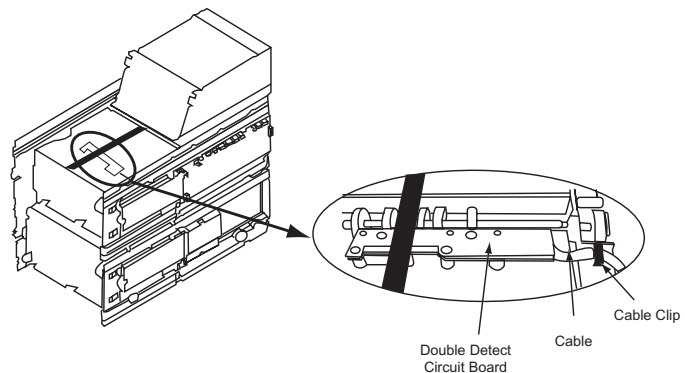
- 5 Locate the reject vault status sensor on the side of the reject vault.



- 6 Push on the reject vault status sensor to ensure that it moves back and forth freely.

14. Inspect the Double Detect Circuit Board

- 1 Remove the hood from the DE LA RUE.
- 2 Locate the double detect circuit board on the top of the note qualifier module.



- 3 Ensure that cable connector is securely connected to the port on the circuit board. You should not be able to see the blue connector head when you look straight down at the circuit board.
- 4 If the error message **49** has appeared in **Device Tester**, gently disconnect the cable and reconnect it.
- 5 Ensure that there is sufficient slack in the cable beside the circuit board.
- 6 Ensure that the cable is routed under the cable clip (black) on the top of the DE LA RUE, and under the clip (white) on the side of the unit.

Additional Information for the DE LA RUE

This section contains the following information:

- [Cleaning and Maintenance \(page 22\)](#): Table describing cleaning and maintenance tasks to perform.
- [Upgrading the Firmware \(page 25\)](#): Procedure for upgrading (flashing) the DE LA RUE firmware through a Windows utility.
- [Adjusting the Diverter Motor Mounting \(page 33\)](#): Procedure for adjusting the stand-outs on the diverter motor.
- [Adjusting the Note Guides \(page 36\)](#): Procedure for adjusting the note guides on the cassettes.
- [Adjusting the Note Width \(page 38\)](#): Procedure for adjusting the cassettes.
- [Adjusting and Loading the Cassettes \(page 39\)](#): Procedure for loading bills in the cassettes.
- [Configuring the Cassettes through the Device Tester \(page 41\)](#): Procedures for setting the denomination and currency in the **Device Tester**.
- [Using the DE LA RUE NMDTEST Utility \(page 44\)](#)
 - [Starting the NMDTEST Utility \(page 44\)](#)
 - [Checking the Unit Diagnostics \(page 45\)](#)
 - [Checking the Sensors \(page 46\)](#)
 - [Running a Macro Test Script \(page 47\)](#)
- [Setting the Bill Quantities \(page 49\)](#): Procedures for setting bill quantities in **Maintenance Mode**.
- [Changing the Bill Dispenser Registry Settings \(page 51\)](#): Procedures for changing the number of cassettes and the denominations in the **Registry Editor**.
- [Error Messages \(page 53\)](#): Table of error messages that appear in the **Device Tester** and possible troubleshooting solutions.

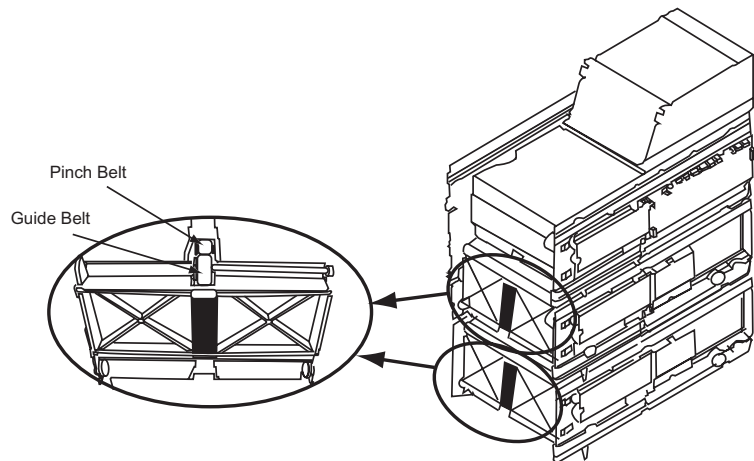
Additional Information for the DE LA RUE (Cont'd)

Cleaning and Maintenance

Task	Frequency	Description
Clean the note feeder rollers	Every 6 months	• Refer to " Cleaning the Note Feeder Rollers " on page 23 for instructions on cleaning the note feeder rollers manually or through the Device Tester .
Lubricate the cassette latch knobs	Every 6 months	• Refer to " Lubricating the Cassette Latch Pins " on page 24 for instructions.
Clean the sensors	Every service call	• Refer to " Inspect and Clean the Sensors " on page 18 for instructions on cleaning the sensors.
Note feeder pinch belt	Every 6 months	• Refer to " Cleaning the Pinch Belts " on page 22 for instructions on cleaning the note feeder pinch belts.

Cleaning the Pinch Belts

- 1 Slide the DE LA RUE out of the casing on the rails as far as possible without straining the on-board cables.
- 2 Locate the pinch belts on the back of each note feeder module.



- 3 Use a lint-free cloth moistened with rubbing alcohol to clean the pinch belts.

Additional Information for the DE LA RUE (Cont'd)

- 4 To clean the full surface of the belt, follow the steps below:
 - a Access the **Device Tester**.
 - b Click **Other** on the **Bill Dispenser** tab.
 - c Place the cloth moistened with rubbing alcohol on the tip of a screwdriver.
 - d Use the screwdriver to hold the cloth against the pinch belt.
 - e Click **Reset/Purge** to rotate the belt.

Cleaning the Note Feeder Rollers

To clean the note feeder rollers through the **Device Tester**:

- 1 Unlock the cassettes through the software:
 - a Access the **Device Tester**.
 - b Click **Other**.
 - c Click **Unlock Trays**.
- 2 Remove the cassettes.
- 3 Ask the front-end supervisor to remove the bills from the cassettes.
- 4 Move the push plate to the back of the cassette as far as possible. This ensures that the note feeder rollers will turn against the two cork pieces on the back of the push plate.
- 5 Replace the empty cassettes in the DE LA RUE.
- 6 Click **Lock Trays**.
- 7 Click **Scrub**.
The self-clean process begins.

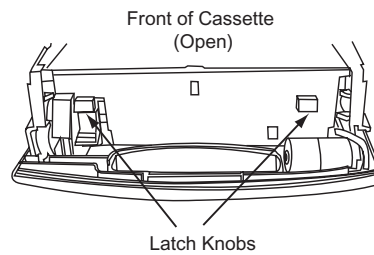
To clean the note feeder rollers manually:

- 1 Remove the cassettes from the DE LA RUE.
- 2 Locate the note feeder rollers (two for each cassette) in the back of the DE LA RUE frame.
- 3 Use a lint-free cloth moistened with rubbing alcohol to clean the note feeder rollers.
- 4 Roll the rollers upward to turn them and clean the entire roller.

Additional Information for the DE LA RUE (Cont'd)

Lubricating the Cassette Latch Pins

- 1 Unlock the cassettes through the software:
 - a Access the **Device Tester**.
 - b Click **Other**.
 - c Click **Unlock Trays**.
- 2 Remove and unlock the cassettes.
- 3 Apply a thin coating of Vaseline to the bottom of the two square latch knobs.



Upgrading the Firmware

Follow the steps below to upgrade the DE LA RUE firmware.

Requirements:

- **NMDTestWin.zip** file (Dispenser test and flash utility)
- 20190206.h86 (Dispenser flash file)
- **DLRClickEnable.zip** file (Dispenser click enable utility)
- U-Scan keys

1. Copy the Flash (Upgrade) Files to Drive C

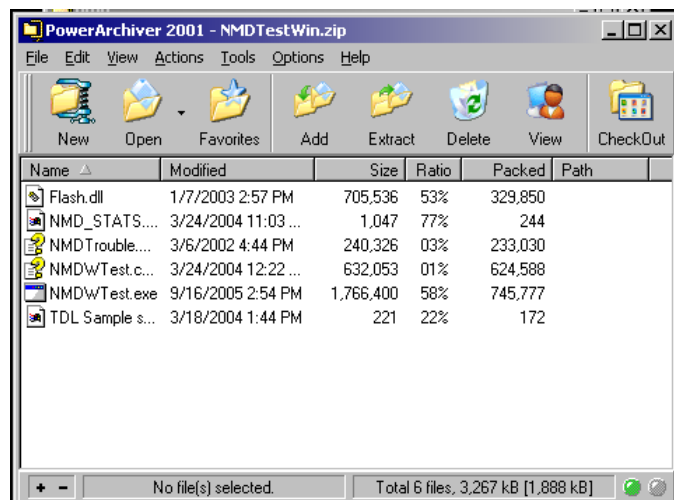
- 1 Unlock the Customer Station door housing the Computer.
- 2 Remove the mouse and keyboard.
- 3 Exit the U-Scan software:
 - a Press **ALT+TAB** on the keyboard until the **Robot Control** window displays.
 - b Touch **Stop Robot**.
The **Launchpad** displays.
 - c Touch **Exit Launchpad**.
A confirmation screen appears.
 - d Click **Yes**.
The **Launchpad** exits and the Windows desktop displays.
- 4 On the Windows desktop, double-click **My Computer**.
- 5 Double-click **C:**.
The contents of drive C display.
- 6 Create a new folder called **NMDFiles** on drive C:
 - a Right-click an empty area of the screen and select **New**.
 - b Select **Folder**.
A new folder displays.
 - c Enter the name **NMDFiles** for the folder.
- 7 Go to the drive containing the following files:
 - a **NMDTestWin.zip**
 - b **20190206.h86**
 - c **DLRClickEnable.zip**

Additional Information for the DE LA RUE (Cont'd)

- 8 Copy the files to **C:\NMDFiles**:
 - a Hold down the **SHIFT** key while you click each file with the mouse. All files are selected.
 - b Right-click the files and select **Copy**.
 - c Double-click **My Computer**.
 - d Go to **C:\NMDFiles**.
 - e Right-click inside the folder and select **Paste**. The files are copied to the folder.

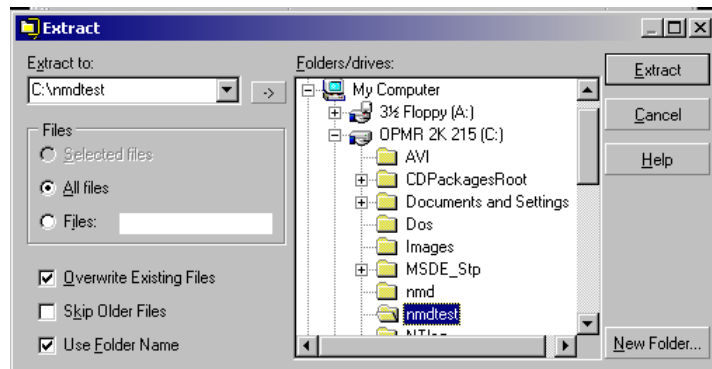
2. Extract the NMDTestWin.zip and DLRClickEnable.zip Files

- 1 Double-click **My Computer**.
- 2 Create an **NMDFTest** folder on drive **C**:
 - a Double-click **C**:. The contents of drive **C** display.
 - b Right-click an empty area of the screen and select **New**.
 - c Select **Folder**. A new folder is created.
 - d Enter the name **NMDFTest** for the folder.
- 3 Go to **My Computer\C:\NMDFiles**.
- 4 Double-click **NMDTestWin.zip**. The **Power Archiver 2001** window appears.



Additional Information for the DE LA RUE (Cont'd)

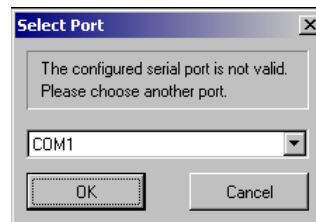
- 5 Click **Extract**.
The **Extract** window displays.



- 6 Under **Folders\drives**, go to **My Computer\C:\NMDTest**.
- 7 Click **Extract**.
The files are extracted and the window exits.
- 8 Repeat the steps above to extract the files in the **DLRClickEnable.zip** file.
- 9 Close all windows.

3. Upgrade (Flash) the DE LA RUE Firmware

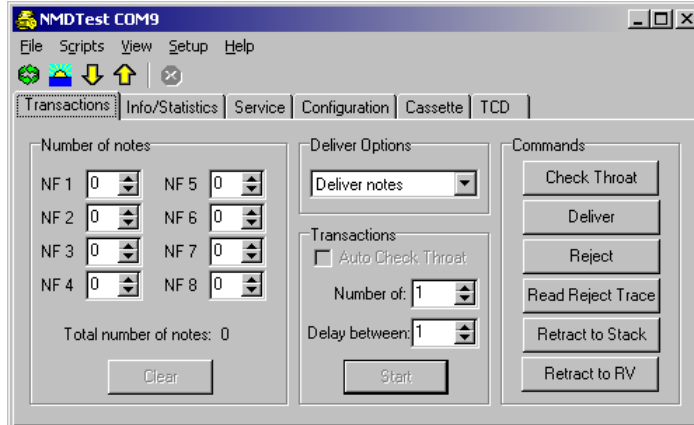
- 1 Go to **My Computer\C:\NMDTest**.
- 2 Double-click **NMDWTest.exe**.
The **Select Port** screen displays.



Additional Information for the DE LA RUE (Cont'd)

- 3 Select **COM9** and click **OK**.
The **NMDTest** screen displays.

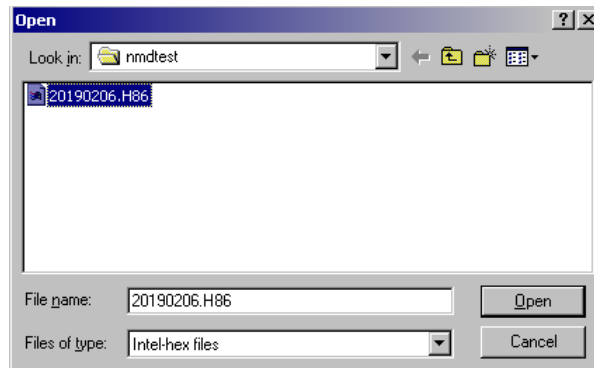
NOTE: *The DE LA RUE can be installed on another port.*



- 4 Click **Reset**.
The DE LA RUE resets.
- 5 From the **File** menu, select **Upload NMD Firmware**.
The **Update NMD Firmware** screen displays.

NOTE: *If an error message appears, ignore it and click **OK**.*

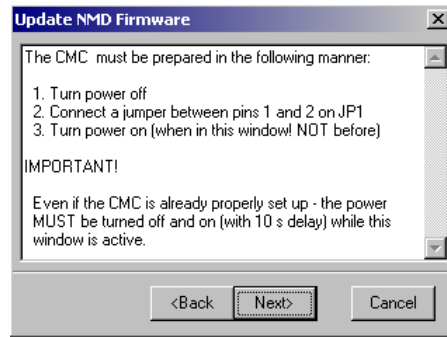
- 6 Click the button next to the **File** field.
The **Open** screen displays.



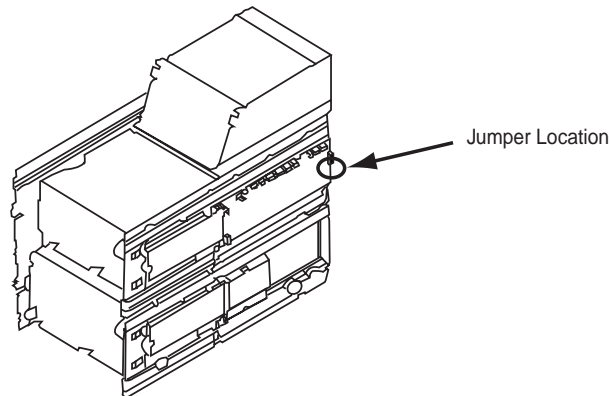
- 7 In the **Look In** field, go to **C:\NMDFiles** and highlight **20190206.H86**.
- 8 Click **Open**.

Additional Information for the DE LA RUE (Cont'd)

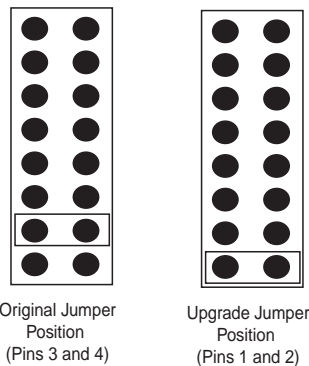
- 9 Click **Next** in the **Update NMD Firmware** window.
A set of instructions displays.



- 10 Read the instructions carefully.
- 11 Locate the DE LA RUE power supply. It is in the compartment under the Scanner Scale.
- 12 Turn off the DE LA RUE power supply.
- 13 Locate the jumper on the DE LA RUE main circuit board.



- 14 Position the jumper on pins one and two.

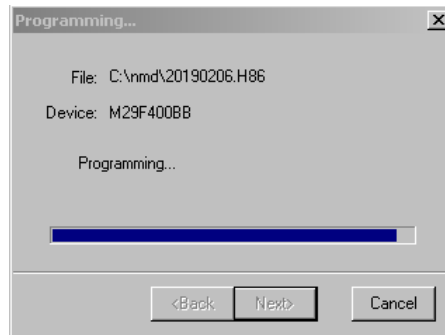


- 15 Turn on the DE LA RUE power supply.

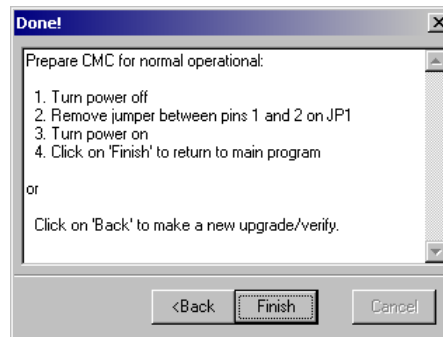
Additional Information for the DE LA RUE (Cont'd)

- 16 Click **Next**.
The upgrade begins. The status bar displays during the programming process.

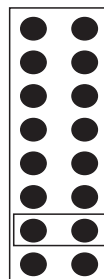
NOTE: *DO NOT TURN OFF THE COMPUTER OR THE DE LA RUE DURING THE UPGRADE, AS THIS WILL DAMAGE THE DE LA RUE.*



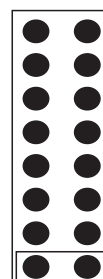
- 17 When **Done** displays in the **Status** window, click **Next**.
A set of instructions displays.



- 18 Read the instructions carefully.
19 Turn off the DE LA RUE power supply.
20 Replace the jumper on pins 3 and 4.



Original Jumper
Position
(Pins 3 and 4)

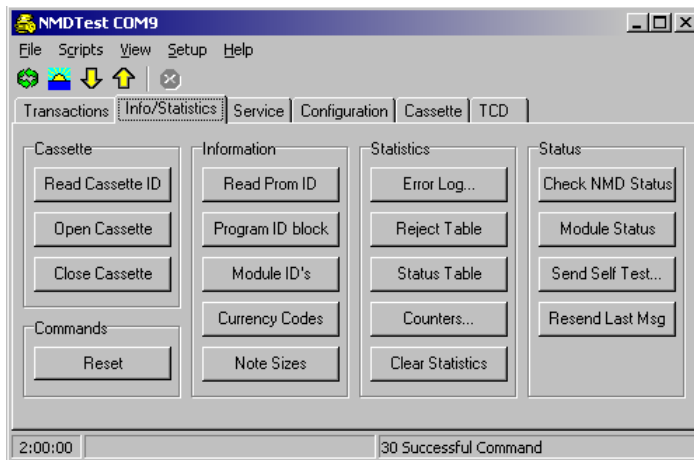


Upgrade Jumper
Position
(Pins 1 and 2)

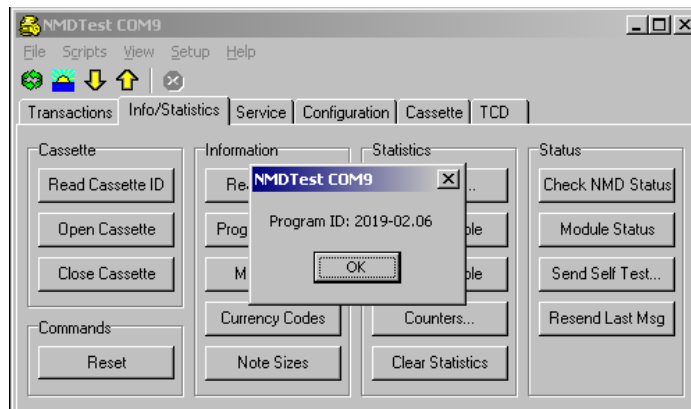
- 21 Turn on the DE LA RUE power supply.
22 Click **Finish**.

Additional Information for the DE LA RUE (Cont'd)

- 23 Close and then restart the **NMDTest** utility.
- 24 Click the **Info/Statistics** tab.



- 25 Click **Read Prom ID**.
The PROM version displays.



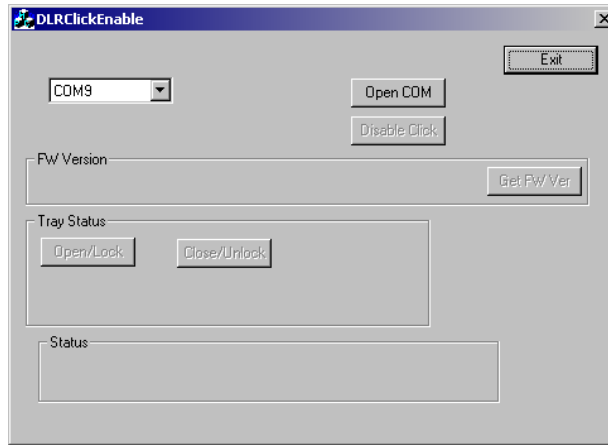
- 26 Verify that the ID is **2019-02.06**.
- 27 Exit all windows.

4. Enable the Click on Cassette Insertion

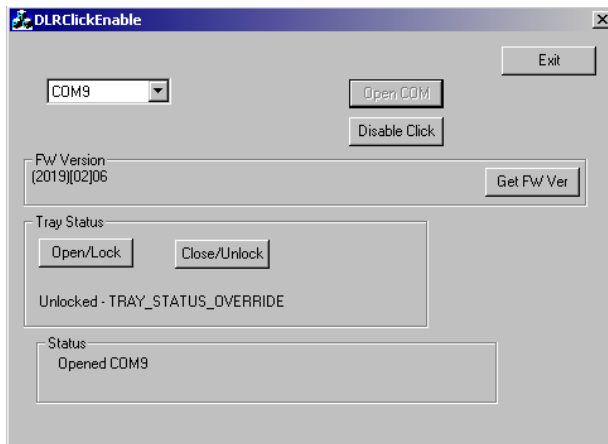
- 1 Go to **My Computer\C:\NMDTest**.

Additional Information for the DE LA RUE (Cont'd)

- 2 Double-click **DLRClickEnable.exe**.
The **DLRClickEnable** screen appears.



- 3 Ensure that **COM9** is selected.
- 4 Click **Open COM**.
The DE LA RUE resets and all options become enabled.



- 5 Click **Disable Click**.
The button now reads **Enable Click**.
- 6 Click **Enable Click** to enable the click on cassette insertion.
- 7 Ensure that you hear a clicking sound when you remove and reinsert the reject vault.
- 8 Click **Exit**.
- 9 Double-click the **Launchpad** shortcut on the desktop to restart the U-Scan software.

NOTE: *If there is no shortcut, go to **Start > Programs > Startup > Launchpad***

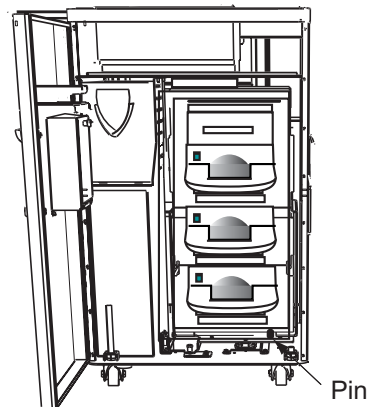
Adjusting the Diverter Motor Mounting

Perform this procedure if one of the following conditions occurs:

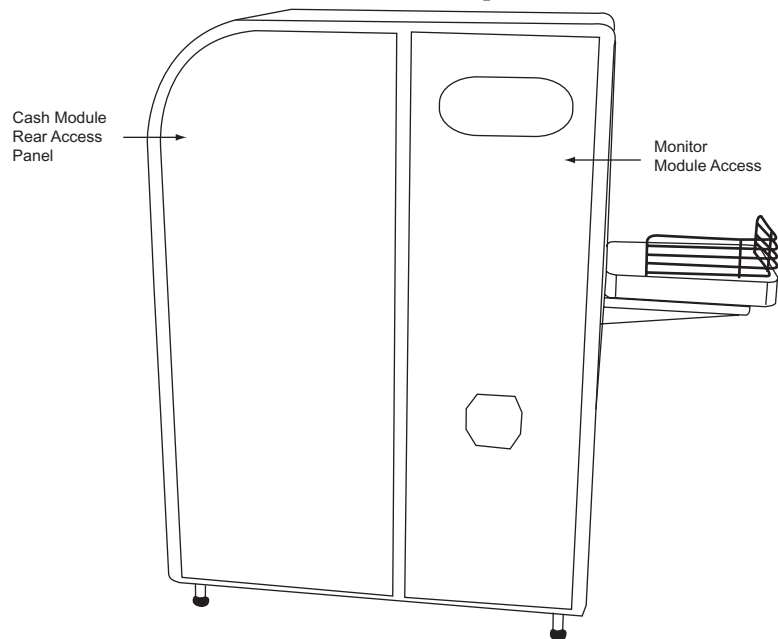
- The DE LA RUE does not read the cassettes properly in the **Device Tester**.
- You smell burnt electronics.

1. Access the DE LA RUE

- 1 Lift the pin that locks the Bill Dispenser tray into place.



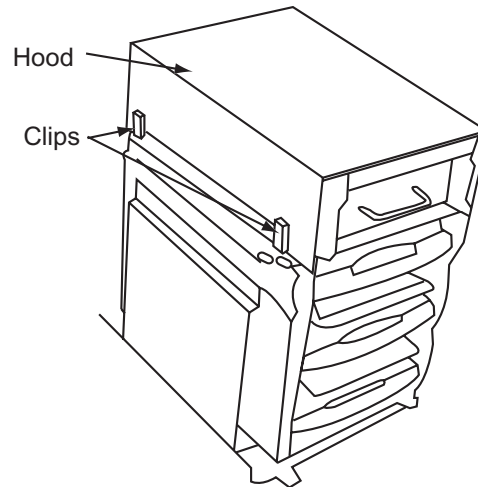
- 2 Slide the tray forward until it locks into place.
- 3 Remove the Monitor Module rear access panel.



- 4 Turn the locking pins to release the panel.

Additional Information for the DE LA RUE (Cont'd)

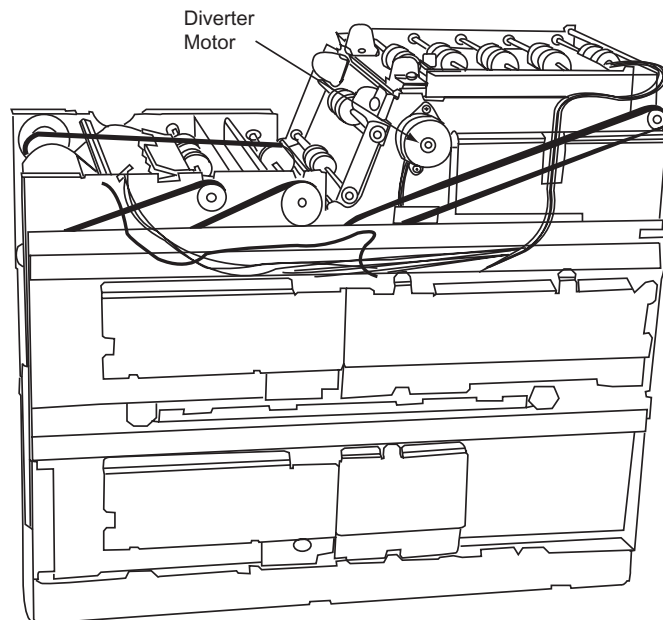
- 5 Remove the Cash Module rear access panel.
- 6 From the back of the casing, turn off the DE LA RUE power supply.
- 7 Undo the four clips (two on each side) that secure the DE LA RUE hood to the device.



- 8 Remove the hood from the device.

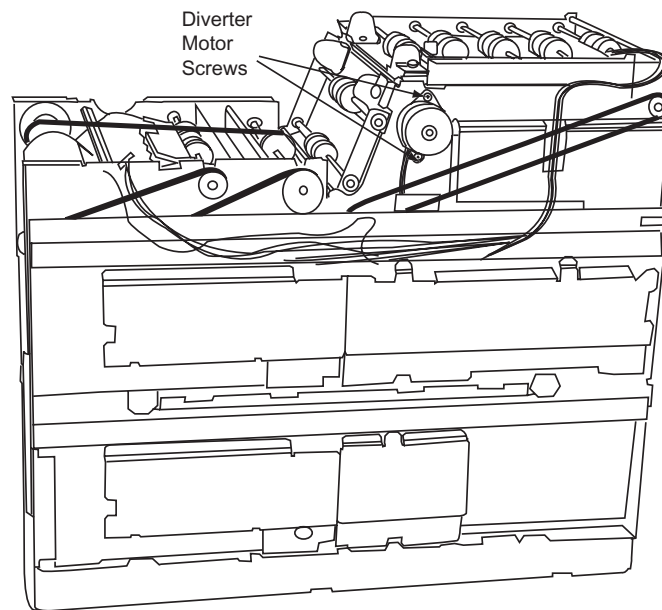
2. Adjust the Diverter Motor Mounting

- 1 On the side of the DE LA RUE, locate the diverter motor.



Additional Information for the DE LA RUE (Cont'd)

- 2 Loosen the two stand-offs behind the screws by 1/4 of a turn. Do **NOT** loosen the screws.



3. Replace the DE LA RUE

- 1 Replace the hood on the DE LA RUE.
- 2 Attach the clips that secure the hood to the device.
- 3 Slide the Bill Dispenser tray back into position.
- 4 Close the Customer Station door.
- 5 Turn on the DE LA RUE power supply.
- 6 Replace the Monitor Module rear access panel.

4. Test the DE LA RUE

- 1 If necessary, access the **Device Tester**.
 - 2 Click the **Bill Dispenser** tab.
 - 3 Perform a test dispense.
 - 4 Ensure that the DE LA RUE works properly and that you no longer smell burnt electronics.
-

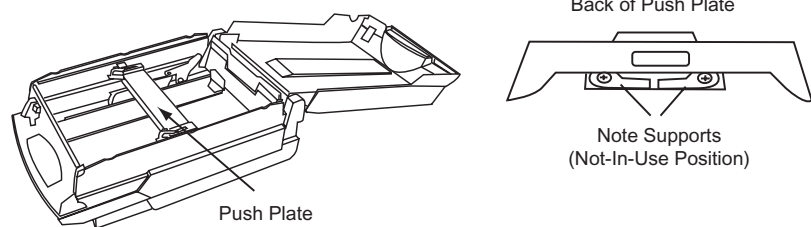
Additional Information for the DE LA RUE (Cont'd)

Adjusting and Loading the Cassettes

Adjusting the Note Guides

- 1 Open the cassette lid.
- 2 If necessary, clean the cassette.
- 3 Check the cassette for any signs of damage.
- 4 Locate the note supports on the back of the push plate.
- 5 Set the note supports to the “not in use” position.

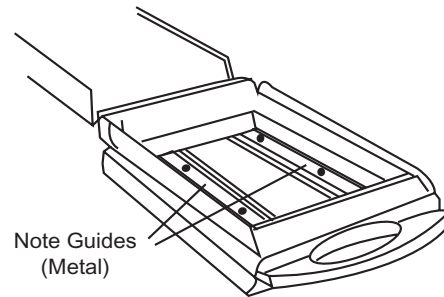
NOTE: *When you adjust the note supports, be careful not to damage the notch.*



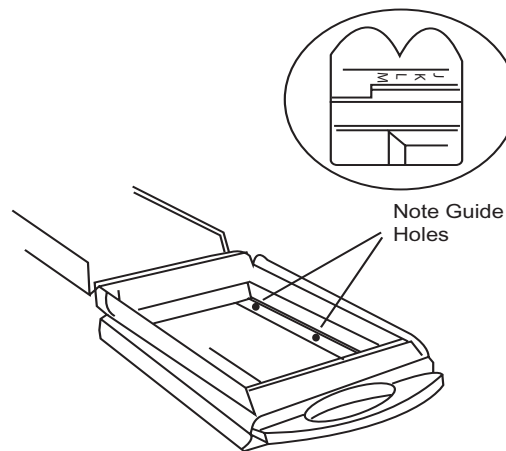
- 6 With the lid open, lock the cassette.

Additional Information for the DE LA RUE (Cont'd)

- 7 Lift the left note guide and move it toward the cassette handle as far as possible.



- 8 Ensure that you can see the letters in the note guide holes. (See below.)

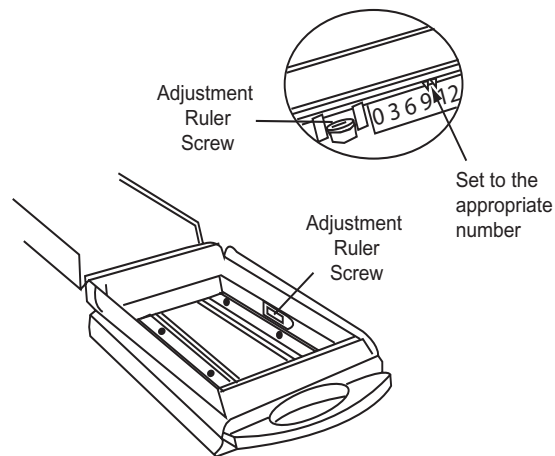


- 9 For **US currency**, set the **left** note guide to position **H**.
OR
For **Canadian currency**, set the **left** note guide to position **I**.
- 10 Repeat step 7 to step 9 to set the right note guide to position I for US and Canadian currency.
-

Additional Information for the DE LA RUE (Cont'd)

Adjusting the Note Width

- 1 Remove the cassette from the DE LA RUE.
 - a Access **Maintenance Mode**.
 - b Go the Customer Station.
 - c Touch **UNLOCK DISPENSERS**.
 - d Grasp the handle and pull the cassette toward you to remove it.
- 2 Open the cassette.
- 3 If necessary, remove the bills from the cassette and clean the cassette.
- 4 Inspect the cassette for any signs of damage.
- 5 Locate the screws that hold the adjustment rulers on each side of the cassette.

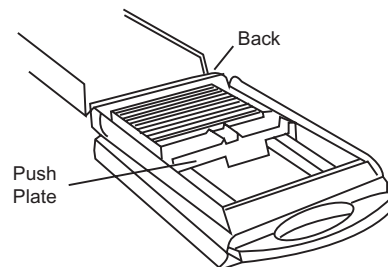


- 6 Loosen the screws that secure the adjustment rulers.
 - 7 For **US currency**, set the note guides to **10**.
OR
For **Canadian currency**, set the note guides to **8**.
 - 8 Tighten the screws.
-

Additional Information for the DE LA RUE (Cont'd)

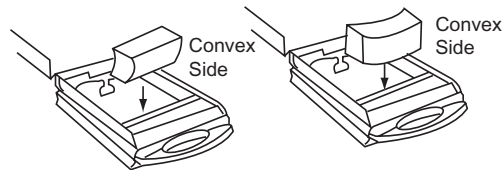
Loading the Cassettes

- 1 Remove the cassette from the DE LA RUE.
 - a Access **Maintenance Mode**.
 - b Go the Customer Station.
 - c Touch **UNLOCK DISPENSERS**.
The cassettes unlock.
 - d Grasp the handle and pull the cassette toward you to remove it.
- 2 Press the green button on the cassette.
- 3 Lift the top of the cassette to open it.
- 4 Fan the bills to ensure that they are not stuck together.
- 5 Move the push plate toward the handle of the cassette.



NOTES: *If you are loading a large quantity of bills, ensure that they are not all facing the same direction.*

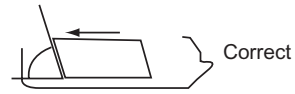
If you are loading a "curved" bundle, place the convex side toward the handle. (See below.)



- 6 Insert the bills in the cassette.

Additional Information for the DE LA RUE (Cont'd)

- 7 Ensure that no bills are sticking out and that the bills lean evenly as shown below.



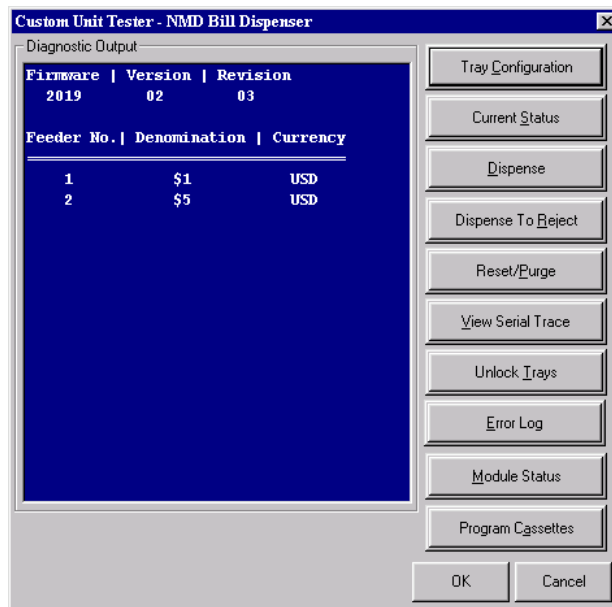
- 8 Move the push plate against the rear of the stack of bills. Do **NOT** push against the back of the bills.
- 9 On the back of the push plate, pull the two white tabs out and away from the stack of bills. This prevents the push plate from moving too far forward and applying too much pressure to the bills in the cassette.
- 10 Close the cassette lid.
- 11 Replace the cassette in the DE LA RUE.
- 12 From **Maintenance Mode**, perform a test dispense. The specified amount is dispensed. The cassettes lock.
- 13 Touch **EXIT MAINTENANCE** to exit **Maintenance Mode**.

Configuring the Cassettes through the Device Tester

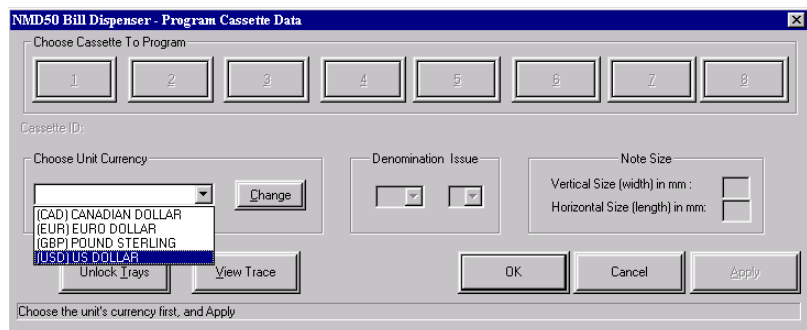
NOTE: You *MUST* perform the steps below in order.

For testing purposes, you can use a cassette from another Customer Station if the cassette has already been configured.

- 1 Access the **Device Tester**.
- 2 Click the **Bill Dispenser** tab.
- 3 Click **Other**.
The **Custom Unit Tester** dialog box appears.

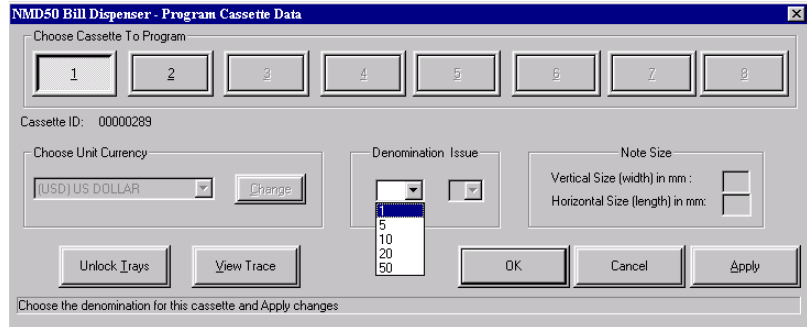


- 4 Click **Program Cassettes**.
The **Program Cassettes** dialog box appears.
- 5 Click **Change**.
- 6 Select the currency from the **Choose Unit Currency** drop-down list.



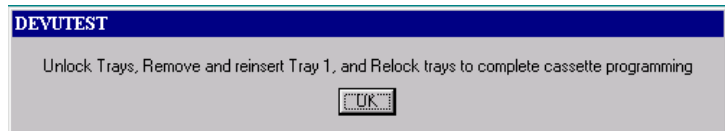
Additional Information for the DE LA RUE (Cont'd)

- 7 Click **Apply**.
- 8 From the **Choose Cassette to Program** selections at the top of the screen, click the cassette that you wish to program.
NOTE: *Cassette 1 is the top cassette, cassette 2 is the cassette below, etc. The reject vault is not considered a cassette.*
- 9 From the **Denomination Issue** drop-down list, select the appropriate denomination for the cassette.



NOTE: *The values for issue and note size are preset and cannot be set manually.*

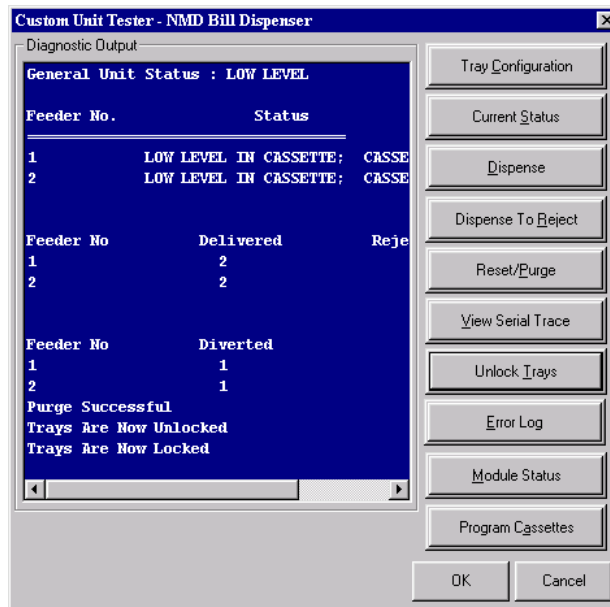
- 10 Click **Apply**.
The **Devutest** dialog box appears.



- 11 Click **OK**.
- 12 If necessary, repeat step 8 to step 11 to program the remaining cassettes.

Additional Information for the DE LA RUE (Cont'd)

- 13 Click **Unlock Trays**.

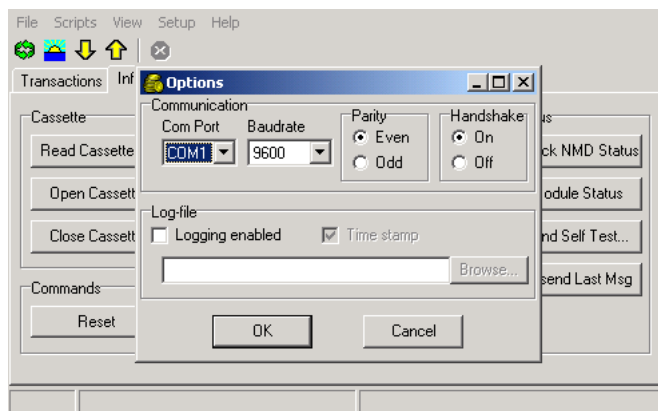


- 14 Remove any cassettes that were programmed.
- 15 Replace the cassettes.
- 16 Click **Lock Trays**.
- 17 Click **OK**.
The **Program Cassettes** dialog box exits. The **Customer Unit Tester** dialog box displays.
- 18 Click **Dispense** or **Dispense to Reject**. This allows the cassettes to “relearn” the thickness of the currency.
- 19 Count the money dispensed to ensure that the cassettes are loaded with the appropriate denominations.
- 20 Click **OK**.
The **Customer Unit Tester** exits. The **Device Tester** displays.
- 21 Click **OK** to exit the **Device Tester**.
-

Using the DE LA RUE NMDTEST Utility

Starting the NMDTEST Utility

- 1 Ensure that the Bill Dispenser is on.
- 2 Ensure that the communication cable is properly connected.
- 3 Ensure that the cassettes and the reject vault are properly inserted in the Bill Dispenser.
- 4 Stop any software running on the Computer.
- 5 Access the Windows Desktop.
- 6 Insert the diskette or CD-ROM containing the NMDTEST utility into the drive.
- 7 Go to **My Computer** and select the appropriate drive (**A** or **D**).
- 8 Double-click **NMDTEST.exe**.
- 9 If you are prompted to select a COM port, select **COM 9** from the drop-down list.
The NMDTEST utility starts.
- 10 Go to **Setup > Options**.
The **Options** screen displays appears.

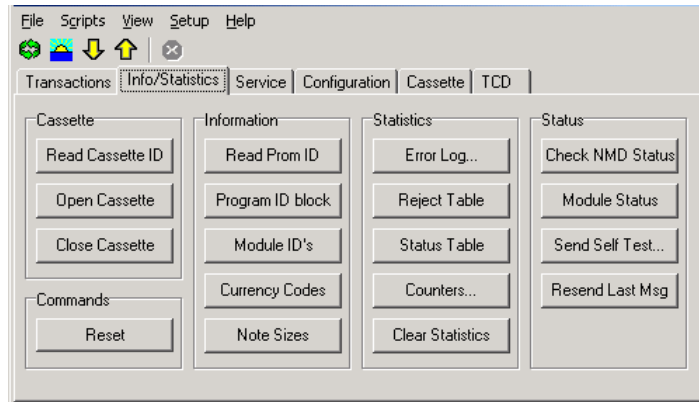


- 11 From the **Com Port** list, select **COM 9**.
- 12 From the baud rate list, select **9600**.
- 13 Under **Parity**, enable **Even**.
- 14 Under **Handshake**, enable **On**.
- 15 Click **OK**.

Additional Information for the DE LA RUE (Cont'd)

Checking the Unit Diagnostics

- 1 Access the NMDTEST utility. Refer to "[Starting the NMDTEST Utility](#)" on page 44.
- 2 Click the **Info/Statistics** tab.



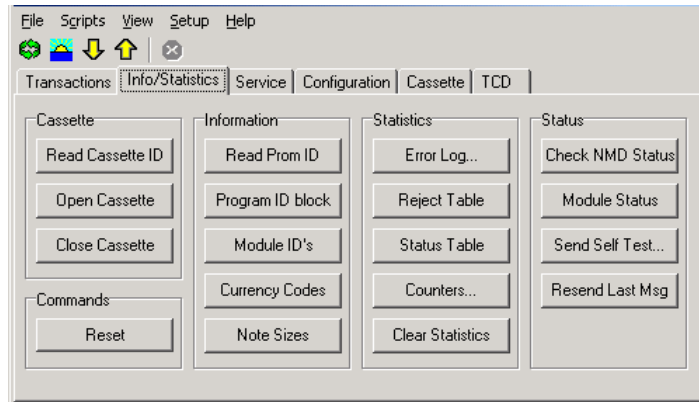
- 3 Click **Error Log** to view any errors. The most recent errors display at the top of the screen.
- 4 If necessary, refer to "[Error Messages](#)" on page 53 for troubleshooting solutions.
- 5 Click **Check NMD Status** to display the current status of all modules.
- 6 Clear the error log file:
 - a Go to **View > Command String**.
 - b In the **Enter Command** field, enter **WD/311/0** and press **ENTER**. The error log is cleared.

NOTE: *Clear the error log file so that on the next service call, the field engineer will see only those errors that have occurred since the last service call.*

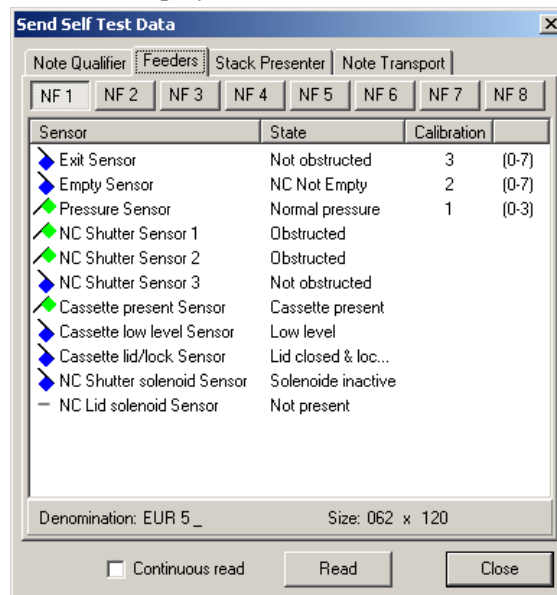
Additional Information for the DE LA RUE (Cont'd)

Checking the Sensors

- 1 Access the NMDTEST utility. Refer to "[Starting the NMDTEST Utility](#)" on page 44.
- 2 Click the **Info/Statistics** tab.



- 3 Click **Send Self Test**.
The **Send Self Test Data** screen displays.
- 4 Click the tab that corresponds to the component of the DE LA RUE you would like to check (**Note Qualifier, Note Feeder, etc.**).
The sensor status displays.



NOTES: The screen above represents an *example* of the tabs you can select.

The note feeder empty sensor is not used.

Additional Information for the DE LA RUE (Cont'd)

- 5 To test the sensors in “real time” (i.e. so that the **State** field will be updated immediately if the sensor status changes), enable **Continuous read**.
The sensor status displayed on the screen updates as a status change occurs.
- 6 Click **Close** to exit the **Send Self Test Data** screen.

Running a Macro Test Script

Follow the steps below to create and run a custom macro program to test the DE LA RUE.

- 1 Use Notepad to create a text file that includes the following commands:
STR_CMD 0
STR_CMD 8
STR_CMD 5
LOOP 2
STR_CMD 201001
STR_CMD 6
STR_CMD 0
DELAY_SEC 5
ENDLOOP
STR_CMD 7
DELAY_SEC 2
STR_CMD 8
STR_CMD 5
STR_CMD 201003
STR_CMD 6
STR_CMD A
TR_CMD 7
- 2 Save the file as **CustomMacro.TDL** in the **C:\TestProgram** folder.
NOTE: Create a folder called **TestProgram** on drive C if necessary.
- 3 From the NMDTEST utility, go to **Scripts > Open TDL File**.
- 4 Go to **C:\TestProgram\CustomMacro.TDL** to select your file.

Additional Information for the DE LA RUE (Cont'd)

- 5 Click **Open**.
The macro starts. It stops when it finds an error.
NOTE: *If you wish to run the macro several times in a loop, enable **Run Multiple Times**.*
- 6 Refer to "[Error Messages](#)" on page 53 for possible troubleshooting solutions.

Tracking Bill Quantities in the DE LA RUE Bill Dispenser

SET QUANTITY OF BILLS is a feature in **Maintenance Mode** that is enabled in certain software versions. You will use this button to set the number of bills contained in the cassettes. The software then keeps track of how many bills are available to be dispensed.

When the level of bills reaches a predetermined 'low' amount that was configured in the registry setting, the Attendant Station shows a **Bill Tray Low** message for the corresponding Customer Station. If the Bill Dispenser is used when there are no bills left, the Attendant Station shows the message **Bill Tray Empty**.

NOTE: *You can damage the device if you try to dispense bills when the Bill Dispenser is empty.*

Setting the Bill Quantities

For each Bill Dispenser cassette you load at the Customer Station, you need to set the software to show the quantity of bills loaded into the cassettes. Doing this will help you account for the money in the Bill Dispenser cassettes.

The default value before the **SET** button is 0 for each cassette. When you set the bill quantities regularly, the default value before the **SET** button may not be 0. When the value for a cassette is not 0, touch **CLEAR** on the number pad. Then touch **SET** for the corresponding cassette. This resets the value to 0.

Set the bill quantities after loading empty Bill Dispenser cassettes:

- 1** Note the number of bills loaded into each Bill Dispenser cassette. For example, if loading \$1000 into the \$10cassette, ensure that 100 bills were loaded.
- 2** Touch **SET QUANTITY OF BILLS** from **Maintenance Mode** at the Customer Station. The message at the top of the screen that appears says **Please enter the quantity of bills in each cassette**.
- 3** Touch **CLEAR** on the number pad.
- 4** Touch **SET** for the first cassette denomination to ensure the values are reset to 0.
- 5** Using the number pad on the Touch Screen, enter the quantity of bills loaded into the first cassette on the list.
- 6** After you have entered the number of bills for the first cassette, touch **SET** at the end of that row.
- 7** Touch **CLEAR** on the number pad before entering the next value.
- 8** Repeat steps 3-7 for the next cassette until you have set the bill quantities for all the cassettes in the Bill Dispenser at that Customer Station.
- 9** Touch **GO BACK** to return to **Maintenance Mode**.
- 10** Repeat this procedure for the other Customer Stations.

Additional Information for the DE LA RUE (Cont'd)

Reloading the Bill Dispenser Cassettes

Every time the Bill Dispenser cassettes are reloaded, you must set the bill quantities from **Maintenance Mode**. You will follow the same procedure as on the previous page, but now ensure that before you begin you touch **SET** for each cassette whose value is not 0.

If you reload the Bill Dispenser with money already in the cassettes:

- 1 Determine the total amount of bills loaded into the cassette, including the bills already there.
EXAMPLE: If you are loading \$100 into the \$1 Bill Dispenser cassette which already contains \$25, note that the new loading amount will be \$125. Therefore, enter a value of 125 for that cassette.
 - 2 Touch **SET QUANTITY OF BILLS** from **Maintenance Mode** at the Customer Station. The message **Please enter the quantity of bills in each cassette** appears at the top of the screen.
 - 3 Touch **CLEAR** on the number pad.
 - 4 Touch **SET** for the first cassette denomination to ensure the values are reset to 0.
 - 5 Using the number pad on the Touch Screen, enter the quantity of bills loaded into the first cassette on the list.
 - 6 After you have entered the number of bills for the first cassette, touch **SET** at the end of that row.
 - 7 Touch **CLEAR** on the number pad before entering the next value.
 - 8 Repeat steps 3-7 for the next cassette until you have set the bill quantities for all the cassettes in the Bill Dispenser at that Customer Station.
 - 9 Touch **GO BACK** to return to **Maintenance Mode**.
 - 10 Repeat this procedure for the other Customer Stations.
-

Additional Information for the DE LA RUE (Cont'd)

Changing the Bill Dispenser Registry Settings

Changing the Number of Cassettes in the Registry

Perform this procedure if the Bill Dispenser is being upgraded from two cassettes to three cassettes.

- 1 Stop the Customer Station software.
- 2 Exit the **Launchpad**.
- 3 Go to **Start>Run...**
- 4 Enter **regedit**.
- 5 Click **OK**
The **Registry Editor** appears.
- 6 Go to **HKEY_CURRENT_USER**
\Software\OptimalRobotics\Devices\BillDispenser.
- 7 Click **NumTrays**.
- 8 Change the value in the **Value data** text box to **3**. (The default registry setting for NumTrays is **2**.)
- 9 Exit the **Registry Editor**.
- 10 Start the Customer Station software.
- 11 Test the Bill Dispenser in the **Device Tester**.

Changing the Denominations Settings in the Registry

Perform this procedure if you need to change that denominations in the cassettes.
EXAMPLE: The Bill Dispenser now dispenses \$1 and \$10 instead of \$1 and \$5.

- 1 Stop the Customer Station software.
- 2 Exit the **Launchpad**.
- 3 Go to **Start>Run**.
- 4 Enter **regedit**.
- 5 Click **OK**
The **Registry Editor** appears.
- 6 Go to **HKEY_CURRENT_USER**
\Software\OptimalRobotics\Devices\BillDispenser.
- 7 Click **BillDenominations**.

Additional Information for the DE LA RUE (Cont'd)

- 8 Add a **10** at the end of the string in the **Value data** text box. (The default registry setting for **BillDenominations** is **1, 5**.)
NOTE: *For Canadian Currency, click **BillDenominations** and add a **20** at the end of the string in the **Value data** text box. (The default registry setting for **BillDenominations** is **5, 10**).*
- 9 Close the **Registry Editor**.
- 10 Start the Customer Station software.
- 11 Access the **Device Tester**.
- 12 Configure the cassettes to reflect the new denomination(s). Refer to "[Configuring the Cassettes through the Device Tester](#)" on page 41.
- 13 Test the Bill Dispenser in the **Device Tester**.

Error Messages

This following table outlines error messages that appear in the **Unit Tests** window of the **Device Tester**.

Code	Message	Explanation	Possible Solution
31	LOW-LEVEL	Number of bills is low. The stack of bills in the cassette is approximately 25 mm thick.	No action is necessary yet. Cassettes must be reloaded soon.
32	EMPTY_CASSETTE	Provides the attendant with the number of the empty cassette. The cassette can no longer dispense bills.	Reload the cassette indicated in the message.
33	MACHINE_NOT_OPENED	Attendant needs to send the Open Cassette command. The cassette cannot dispense bills until this command is sent.	In the Device Tester , select Other , then Unlock/Lock Cassettes to open the cassette through the software.
35 'F'	NOTE_DIVERTER_FAILURE	A bill is stuck behind the diverter. If the state is cleared when the DE LA RUE is reset, it dispenses the bill. If necessary, close the Lane and clear the bill under the supervision of the manager or attendant.	Reset the DE LA RUE through the Device Tester . Inspect the DE LA RUE for any bill jams. Clear any jams.
36	FAILURE_TO_FEED	The DE LA RUE cannot pull bills from the cassette. The DE LA RUE attempts to dispense the bill(s) a second time.	In the Device Tester , select Other , then Current Status to view the cassette status. Note any messages, such as Tray Missing or Low Level . Check the note feeder for any jams. Reset the DE LA RUE through the Device Tester .
37	TRANSMISSION_ERROR	The dispense command failed. The DE LA RUE attempts to dispense a second time.	In the Device Tester , reset the DE LA RUE. Check all of the cable connections (power, communication, on-board).
39 'F'	JAM_IN_NOTE_QUALIFIER	A bill is jammed in the Note Qualifier.	Check the note qualifier for jams. In the Device Tester , reset the DE LA RUE.

Code	Message	Explanation	Possible Solution
3A	FEED_CASSETT E_NOT_ PRESENT_OR_P ROPERLY_INST ALLED	The cassette is not inserted or not inserted properly.	<p>Remove the cassette.</p> <p>NOTE: <i>If you cannot remove the cassette, access Maintenance Mode and select Unlock Cassettes.</i></p> <p>Wait 5 seconds, then replace the cassette.</p> <p>In Device Tester, reset the DE LA RUE.</p> <p>If the issue is not resolved, try the cassette in another feed channel.</p> <p>If the cassette does not work, replace the cassette.</p>
3F	REJECT_VAULT_ NOT_ PRESENT_OR_P ROPERLY_INST ALLED	The reject vault is not inserted or not inserted properly.	<p>Remove and reinsert the reject vault.</p> <p>In Device Tester, reset the DE LA RUE.</p> <p>Clean the reject vault status sensor. Refer to "Inspect and Clean the Sensors" on page 18 for the location of the reject vault status sensor.</p> <p>Verify the reject vault status sensor functionality. Refer to "Inspect and Clean the Sensors" on page 18</p> <p>Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17.</p>
42	TOO_MANY_NO TES_ REQUIRED	Pre-empted by the DISPENSE_LIMIT_EXCEEDED message. The DE LA RUE can dispense a maximum of 50 bills, and too many bills were requested for dispense.	<p>Try to dispense a smaller amount.</p> <p>Verify the MaxDispenseLimit registry setting.</p>
44	REJECT_VAULT_ ALMOST_FULL	The reject vault contains 37 bills. It will be full and stop functioning when it contains 50 bills.	<p>Remove the bills from the reject vault.</p> <p>In the Device Tester, reset the DE LA RUE.</p>
45	CASSETTE_INTE RNAL_ FAILURE	The cassette failed to dispense. The DE LA RUE attempts to dispense a second time. If it fails again, replace the cassette.	<p>In the Device Tester, reset the DE LA RUE.</p> <p>Insert the cassette in another feed channel, then try to dispense again.</p> <p>If you cannot dispense from the cassette, replace the cassette.</p>

Code	Message	Explanation	Possible Solution
46 'F'	MAIN_MOTOR_FAILURE	<p>The main motor failed and needs to be serviced or replaced. Bills should NOT be dispensed if this message displays.</p> <p>This can be caused by a severe jam, cable connection problems, or a dirty or broken timing disk or sensor.</p>	<p>In the Device Tester, reset the DE LA RUE.</p> <p>Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17.</p> <p>If the issue is not resolved, replace the DE LA RUE.</p>
4A	NOTE_FEEDER_EXIT_SENSOR_FAILURE	<p>The sensor may be obstructed, or need to be cleaned or replaced.</p>	<p>Inspect the note feeder module for jams or debris.</p> <p>Use compressed air to clean the exit sensor. Refer to "Inspect and Clean the Sensors" on page 18 for the location of the exit sensor.</p> <p>Verify the on-board cable connections. Ensure that the large white connector on the note feeder controller is properly connected.</p> <p>Disconnect the power cable from the DE LA RUE power supply.</p> <p>Pull the large white connector to ensure that pin 1 (exit sensor signal) is not bent.</p> <p>If the issue is not resolved, replace the DE LA RUE.</p>
4D	NOTES_IN_DELIVERY_THROAT	<p>Bills are jammed inside the DE LA RUE.</p>	<p>Clear the jam in the delivery throat.</p> <p>Use compressed air to clean the note transport and transport exit (throat) sensors. Refer to "Inspect and Clean the Sensors" on page 18 for the location of the sensors.</p> <p>Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17.</p>
4E	COMMUNICATIONS_TIMEOUT	<p>No command within 1 second. Communication problem between the DE LA RUE and the U-Scan.</p>	<p>Verify the cable connections.</p> <p>Ensure that the communication cable is connected to the appropriate port on the Edgeport (Port 7).</p> <p>In the Device Tester, reset the DE LA RUE.</p> <p>If the issue is not resolved, replace the communication cable.</p>

Code	Message	Explanation	Possible Solution
50	CASSETTE_NOT_IDENTIFIED	The DE LA RUE cannot read the cassette coding.	<p>Reprogram the cassette in the Device Tester. Refer to "Configuring the Cassettes through the Device Tester" on page 41.</p> <p>In the Device Tester, reset the DE LA RUE.</p> <p>If the issue is not resolved, replace the cassette.</p>
51	REJECT_VAULT_FULL	The reject vault contains 50 bills. The full counter must be reset.	<p>When the DE LA RUE is on, remove the reject vault.</p> <p>Replace the reject vault. The full counter is reset.</p> <p>In the Device Tester, reset the DE LA RUE.</p>
4D	ERROR_IN_THROAT	Bills are jammed inside the DE LA RUE or there is a problem with the throat sensors.	<p>Check for bill jams.</p> <p>Use compressed air to clean the note transport and transport exit (throat) sensors. Refer to "Inspect and Clean the Sensors" on page 18 for the location of the sensors.</p> <p>Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17.</p> <p>In the Device Tester, reset the DE LA RUE.</p>
5B	SENSOR_ERROR_OR_ERROR_COVERED	The sensor may be obstructed, or need to be cleaned or replaced.	<p>Use compressed air to clean all sensors. Refer to "Inspect and Clean the Sensors" on page 18 for the location of the sensors.</p> <p>NOTE: <i>This message does not apply to the note feeder exit or pressure sensors.</i></p> <p>Verify the on-board cable connections. Refer to "Inspect the On-Board Cables" on page 17.</p> <p>In the Device Tester, reset the DE LA RUE.</p>

Code	Message	Explanation	Possible Solution
61 'F'	CASSETTE_LOC K_FAULTY	There is problem with the cassette.	In the Device Tester , reset the DE LA RUE. Click Lock/Unlock Trays . If the issue is not resolved, replace the cassette.
	MODULE_NEED S_SERVICE	The DE LA RUE requires servicing.	Use compressed air to clean all sensors. Refer to " Inspect and Clean the Sensors " on page 18 for the location of the sensors.
65	NO_MESSAGE_T O_RESEND	The software did not receive confirmation that the last dispense was successful.	Inspect the cable connections. Inspect the power supply. Ensure that the power supply is turned on.
68 'F'	ERROR_NOTE_I N_TRANSPORT	Bills are jammed inside the DE LA RUE transport module.	In the Device Tester , reset the DE LA RUE. Clear any jams in the transport module. Clean the double detect, note transport, and transport exit (throat) sensors. Refer to " Inspect and Clean the Sensors " on page 18 for the location of the sensors. Verify the on-board cable connections. Refer to " Inspect the On-Board Cables " on page 17.

