

Universal JetScan[®]

Single-Pocket Note Scanner

User Guide



Safety Information, Power Specifications

⚠ WARNING

High voltage inside. Risk of electric shock.

Turn power **OFF** and unplug power cord from machine before cleaning.

Do not attempt repairs. Repairs must be made by authorized Cummins Allison personnel.

Plug three-prong grounded plug (supplied) into properly grounded three-prong outlet.

Read and understand all instructions before use.

NOTICE

Improper voltage levels can cause equipment malfunction, damage electrical components, and void warranty.

Provide separate circuit serving only this device and follow listed power requirements to ensure proper operation.

Provide power conditioning/stabilizing devices if necessary.

- **Voltage operating range:** 105-240 VAC, automatic switching
- **Frequency:** 50/60 Hz
- **Full load amps (FLA):** 1A/.5A
- **Electrical supply circuit:** The customer must provide a single-phase, dedicated power line that meets the machine's power requirements. Use a properly grounded circuit breaker in compliance with applicable local electrical code.

Environmental Operating Conditions

- **Temperature:** 60°F - 85°F (15°C - 29°C)
- **Humidity:** 30% to 70% (non-condensing)

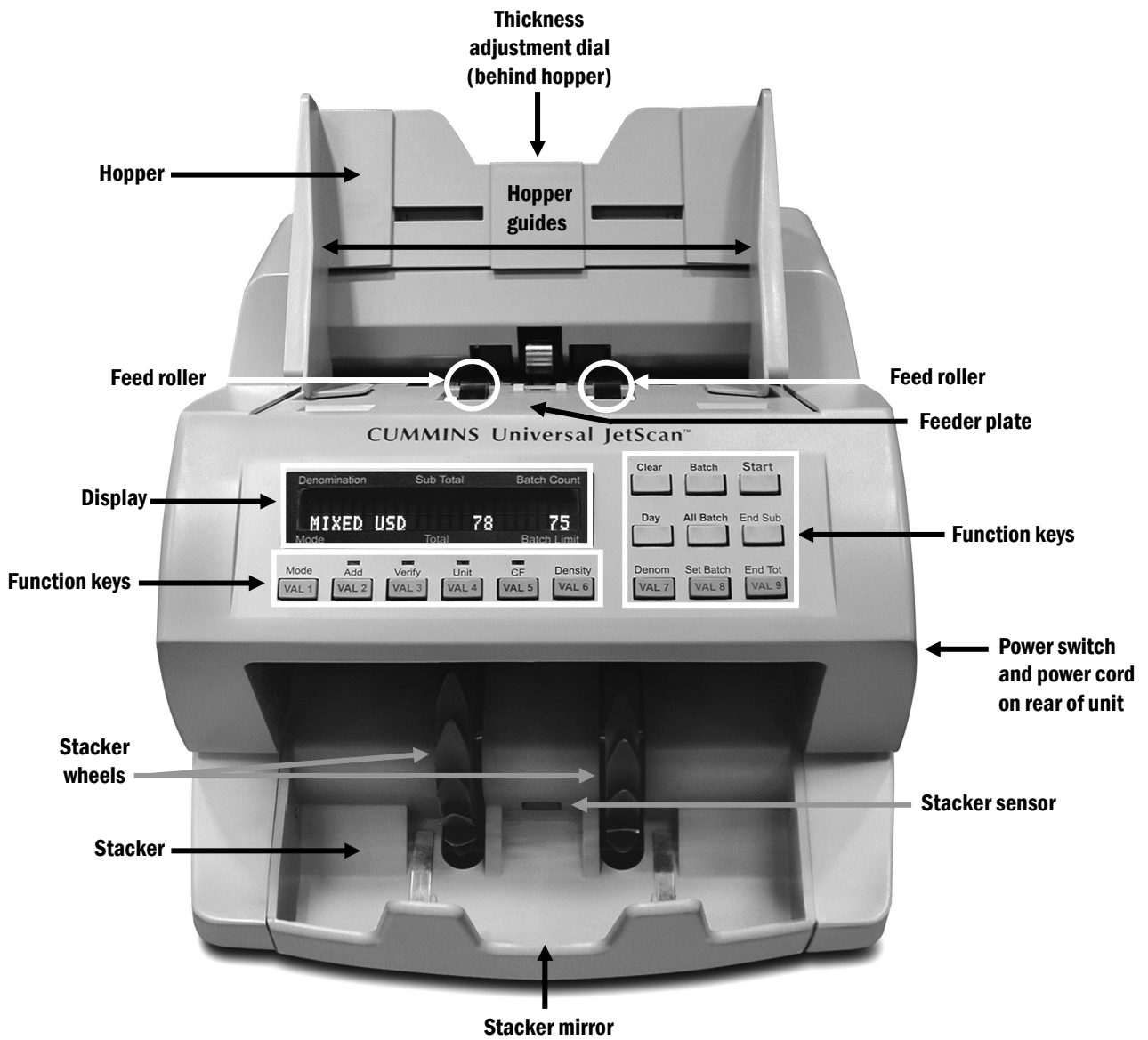
Compliance Acknowledgments

- **Laser:** This equipment may contain Class 2 laser products and complies with FDA Radiation Performance Standards, 21 CFR Subchapter 1 and the international laser safety standard IEC-60825.1-2001-08.
- **FCC:** This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- **Regulatory:** CUL, CE

Table of Contents

SAFETY INFORMATION, POWER SPECIFICATIONS.....	1
ENVIRONMENTAL OPERATING CONDITIONS	1
COMPLIANCE ACKNOWLEDGMENTS.....	1
MACHINE DIAGRAM.....	3
DISPLAY/CONTROL-PANEL DIAGRAMS.....	4
MODELS 4161, 4163, 4166, 4169.....	4
VALUE KEY SETTINGS	5
KEY NUMBERS DIAGRAM	5
KEY EXPLANATIONS	5
THE BASICS	7
ADJUSTABLE HOPPER.....	7
CHOOSING A COUNTRY	7
THICKNESS ADJUSTMENT DIAL.....	8
OPERATING MODES	8
<i>Count</i>	8
<i>Mixed</i>	8
<i>Offsort</i>	8
<i>Sort</i>	8
<i>Stranger Detect</i>	8
HOW TO PROCESS NOTES.....	9
DAILY CLEANING PROCEDURES.....	10
RECOMMENDED CLEANING MATERIALS.....	10
DAILY CLEANING	10
STOPPING CONDITIONS AND RECOVERY STEPS	14

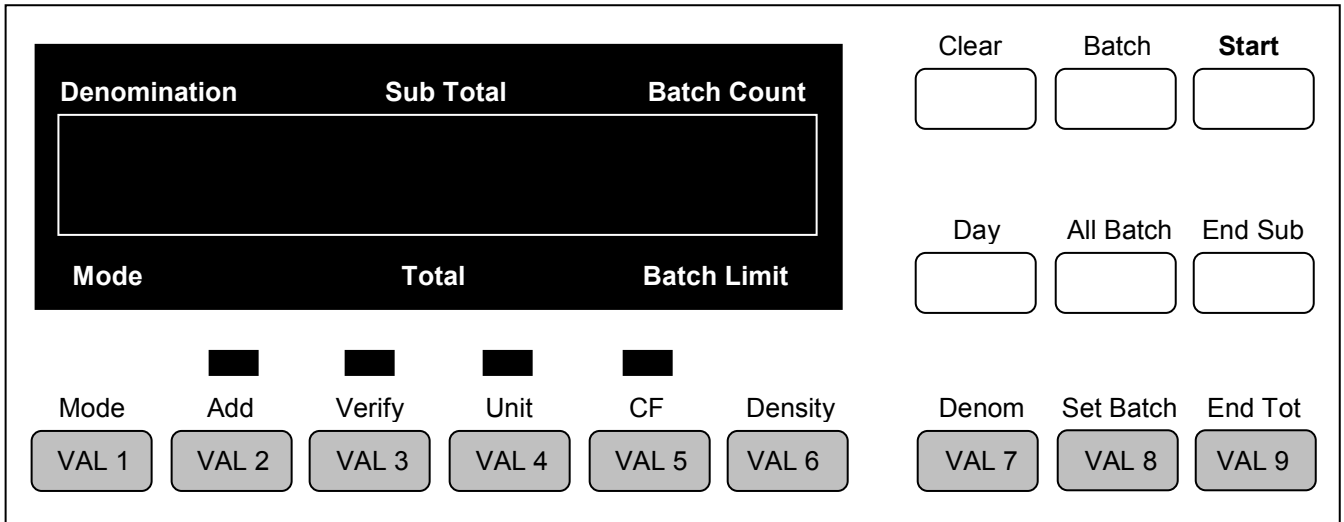
Machine Diagram



Display/Control-Panel Diagrams

Models 4161, 4163, 4166, 4169

Shown below are key legends as they appear on single-pocket Universal JetScan® note scanner models 4161, 4163, 4166 and 4169.



Display Label	Description
Denomination	For <i>offsort</i> and <i>stranger detect</i> modes, the target denomination appears under this label. For <i>sort</i> mode, the denomination that currently is being sorted appears under this label.
Sub Total	The sub-batch total appears under this label.
Batch Count	The batch (strap) count appears under this label.
Mode	The selected operating mode appears above this label.
Total	The batch total appears above this label.
Batch Limit	The batch (strap) limit appears above this label.

Value Key Settings



IMPORTANT

Please contact a Cummins Allison representative to obtain the value key (VAL key) layout for a particular country.

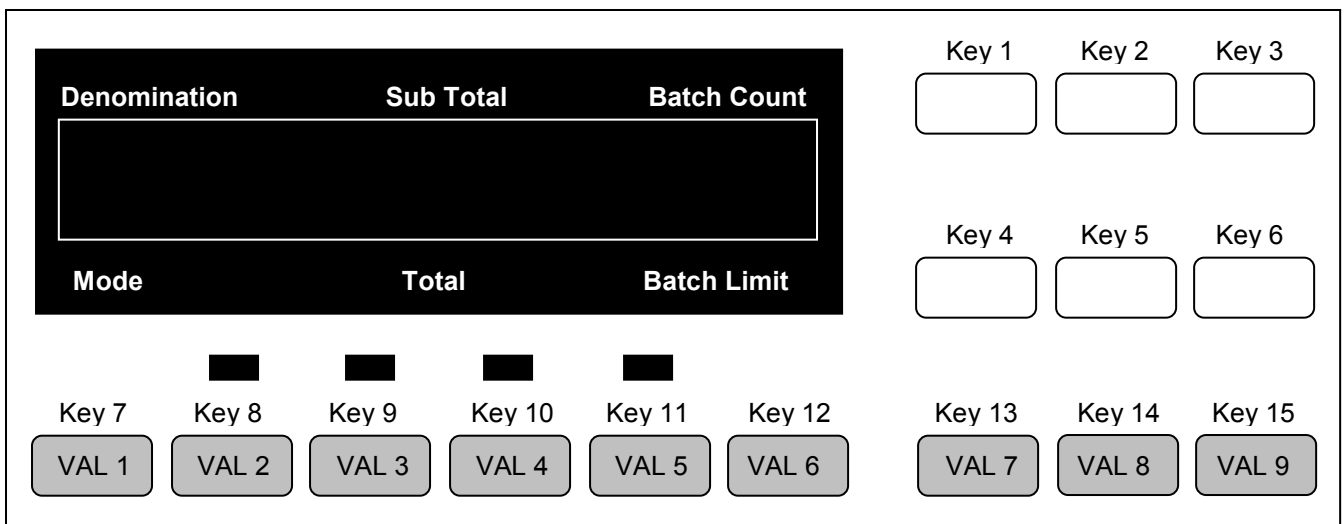
Single-pocket Universal JetScan value keys (**VAL** keys) represent note denominations that have been pre-programmed for specific countries. The **VAL 1** through **VAL 9** keys are each assigned to one denomination, from lowest to highest, by country.

Key Numbers Diagram

Positions of key numbers, which do not appear on the single-pocket Universal JetScan, are shown below. Key numbers are referenced in some setup operations.





For more information on machine setup, please refer to the operating instructions, which are packed with the machine.



Key Explanations

Key	Description
Clear (Key 1)	This key is used when clearing day totals or batch (strap) counts and reconciling sub-batch and batch totals.
Batch (Key 2)	This key is pressed after Clear to clear a denomination batch (strap) count.
Start (Key 3)	This key is used to restart the machine after a stopping condition has occurred.
Day (Key 4)	This key changes the screen to day totals and displays the grand total for the day. It also can be pressed after Clear to clear day totals. The Day key also may be used to adjust processing speed. After holding down Day for 3 seconds, the machine's speed may be set to LOW, MED or HI by scrolling with the Day key.

Key	Description
All Batch (Key 5)	This key is used in conjunction with Clear to simultaneously clear batch (strap) counts for all denominations.
End Sub (Key 6)	This key is used to clear sub-batches. It also can be pressed after Clear to reconcile a sub-batch.
Mode (Key 7)	This key is used for setting an operating mode. Holding down the key for 2 - 3 seconds allows the user to select the country's currency that will be processed.
Add (Key 8)	This key is used for accumulating a batch total even after notes have been removed from the stacker. It also is used to enable the sub-batch function.
Verify (Key 9)	This key is used to review a count suspected of being erroneous.
Unit (Key 10)	<p>This key is used to toggle between value and piece count.</p> <p> In count mode, the Unit key is locked ON for piece counting only.</p>
CF (Key 11)	This key is used to activate counterfeit detection and set sensitivity by denomination.
Density (Key 12)	This key is used for setting doubles-detection sensitivity by denomination.
Denom (Key 13)	This key is used to select the denomination appearing on the display screen.
Set Batch (Key 14)	This key is used for setting a batch (strap) limit at any preset value (5, 10, 20, 25, 50, 75, 100 or infinity). This key also is used to set custom values, such as 53 or 79. Holding down the key 2 - 3 seconds increases the value by one.
End Tot (Key 15)	This key clears all batch and sub-batch totals. It also will clear all batch (strap) counts and generate a print report, if these features have been enabled. Holding down this key for 3 seconds allows access to USER SETUP and DIAGNOSTICS without powering down the machine.
Denomination Value Keys	<p> Please contact a Cummins Allison representative to obtain the value key (VAL key) layout for a particular country.</p> <p>Single-pocket Universal JetScan value keys (VAL keys) represent note denominations that have been pre-programmed for specific countries. The VAL 1 through VAL 9 keys are each assigned to one denomination, from lowest to highest, by country.</p> <p>If these keys have been activated in USER SETUP, recovering from certain stopping conditions is accomplished by simply pressing the key that corresponds to the top note in the stacker. It will add that note amount to the machine's totals and restart the machine.</p>

The Basics

Adjustable Hopper



Machine is auto-start capable. Feed rollers in hopper rotate inward. Entanglement and drawing-in hazard.
Do not operate with exposed long hair, neckties, jewelry or loose clothing.

The hopper is the area on top of the Universal JetScan where documents are placed for processing. (See [Machine Diagram](#).)

The hopper guides are adjustable and feature a series of numerical settings which correlate to the width of documents.



To avoid an increase in no calls and feed errors, documents must be processed at the required hopper-guide setting.

When the desired country is selected, the required numerical setting for the hopper guides will appear on the display.

Denomination	Sub Total	Batch Count
ADJUST HOPPER TO POSITION #2		
Mode	Total	Batch Limit

By using the required numerical setting, there is less opportunity for documents to shift and cause errors.

Choosing a Country



When a new country is selected, sub-batch totals, batch totals and batch (strap) counts are reset to zero.



IMPORTANT

Countries are selected at the time of purchase. To add more countries, contact a Cummins Allison representative.

Hold down **Mode** for 2 - 3 seconds. Scroll through the available countries by pressing **key 13** or **key 14**. Pressing **Day** toggles between two selected countries chosen in COUNTRY TOGGLE. Press **key 3** to return to normal operating mode.

Thickness Adjustment Dial

This gray dial, located on top of the Universal JetScan, adjusts the tightness of the feeder through which notes pass during operation. The dial features a series of numbers, with 0 being center. Negative numbers, such as -1 and -2, appear to the left of 0. Positive numbers, such as +1 and +2, appear to the right of 0.



For normal feeding, always start at zero.

By turning the thickness adjustment dial to the right and to access negative numbers, the rollers are made tighter. This might be done when excessive doubles or chains occur.

By turning the thickness adjustment dial to the left and to access positive numbers, the rollers are made looser, allowing the notes to flow through the Universal JetScan easier.

Operating Modes

Universal JetScan has five basic operating modes for processing: *count*, *mixed*, *offsort*, *sort* and *stranger detect*.

Count

- **Display:** COUNT

This mode counts any document that complies with document-size and density-setting specifications. This mode only counts pieces; note scanning does not occur.

Mixed

- **Display:** MIXED, MIXFCE, MIXORT

This mode scans notes of all denominations (of one country) without presorting. It provides the total count and value plus individual counts and values if desired.

Offsort

- **Display:** OFFSRT

This mode scans notes of all denominations (of one country) and stops for the target denomination. The target denomination is selected by pressing **Denom**. A grand total is provided.

Sort

- **Display:** SORT, SRTFCE, SRTORT

This mode scans notes of all denominations (of one country), and is best used – but is not limited to – when notes are presorted by denomination and then stacked on top of each other. The machine stops when a change in denomination is detected. A grand total is provided.

Stranger Detect

- **Display:** STRNGR, STRFCE, STRORT

This mode scans notes (of one country) for the target denomination, which is the first note processed. The machine separates the target denomination from all other denominations and stops when a stranger – which is any note other than the target denomination – is detected. A grand total is provided; strangers are not included in the grand total.

How to Process Notes



High voltage inside. Risk of electric shock.

Turn power **OFF** and unplug power cord from machine before cleaning.

Do not attempt repairs. Repairs must be made by authorized Cummins Allison personnel.

Plug three-prong grounded plug (supplied) into properly grounded three-prong outlet.

Read and understand all instructions before use.

1. Turn the Universal JetScan **ON**. The switch is located in the lower-right rear corner when facing the front of the machine.

When Universal JetScan is turned **ON**:

- Some components require time to warm up. A “WARMING UP” message will appear on the display until the Universal JetScan is ready for processing.
- It will default to the mode it was in when last turned **OFF**.

2. Select a country’s currency. Press and hold **Mode** until country names appear. Then repeatedly press **Denom** to scroll through available countries. Stop on the desired country and press **Start**.



To avoid an increase in no calls and feed errors, documents must be processed at the required hopper-guide setting.

3. Adjust the hopper guides for the selected country’s currency.
4. Turn the thickness-adjustment dial to **0**.
5. Repeatedly press **Mode** to select the operating mode. (See [Operating Modes](#) for more information.)
6. Organize and straighten notes.



Machine is auto-start capable. Feed rollers in hopper rotate inward. Entanglement and drawing-in hazard.

Do not operate with exposed long hair, neckties, jewelry or loose clothing.

7. Place notes in the hopper; Universal JetScan automatically will begin processing and automatically will stop when all notes have been processed.

Daily Cleaning Procedures

Daily cleaning of the Universal JetScan note scanner is recommended to ensure maximum productivity and reliability, especially for high-volume applications, as well as for those processing highly circulated (dirty) notes.

Recommended Cleaning Materials

CAUTION

Simple Green, the recommended cleaning agent, can be an eye irritant. Avoid eye contact.

If eye contact occurs, flush eye(s) with cool water for 5 minutes – remove contact lenses if present – continue flushing eye(s) with cool water for 15 more minutes. If irritation persists, consult physician.

Individuals with sensitive skin should rinse hands after using.

- **Simple Green Safety Towels.** (Part number: 022-2118-00.) A pre-moistened microfiber towel also may be used. If using Simple Green concentrate, dilute to: 30 ml (1 ounce) of Simple Green per 240 ml (8 ounces) of water. *For a material-safety-data sheet, see simplegreen.com.*
- **Microfiber towels.** (Part number: 022-2223-00.)
- **A clean, soft eraser.** (Part number: 022-1695-00.)
- **Vacuum (purchase locally).**

Daily Cleaning

WARNING

High voltage inside. Risk of electric shock.

Turn power **OFF** and unplug power cord from machine before cleaning.

NOTICE

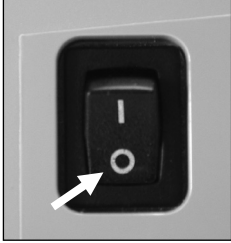
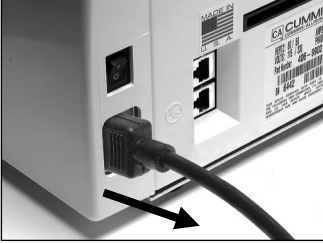
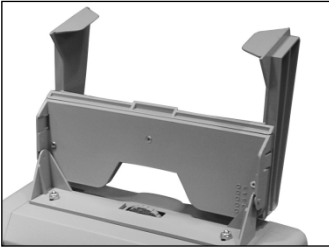
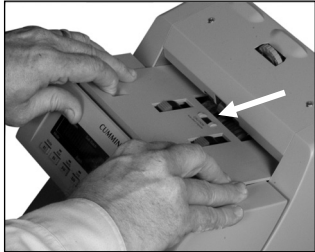


To avoid machine/component damage and potential voiding of existing warranty, follow these procedures:



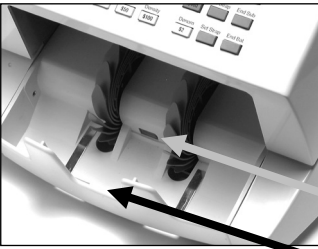


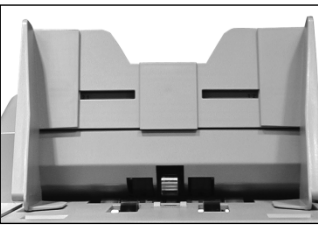
Only use specified tools for cleaning machine. Never use metal tools.

If using Simple Green concentrate, dilute to: 30 ml (1 ounce) of Simple Green per 240 ml (8 ounces) of water.

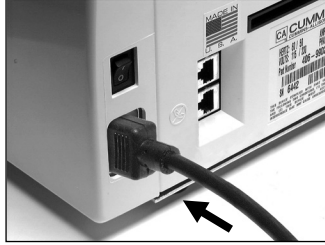
Never use cleaners containing ammonia. Ammonia may remove labels from machine.

Never spray cleaners directly on machine components.

1.		Turn power OFF (rocker panel to 0).
2.		Disconnect power cord from the rear of the Universal JetScan.
3.		Lift adjustable hopper to the upright position.
4. Remove feeder plate as shown below.		
5.		Use a microfiber towel to clean the black start sensor at the top, middle of the feeder plate, as identified at left.
Use a Simple Green Safety Towel to remove dirt buildup from the upper and lower aluminum rollers. To reach all exposed surfaces, rotate the large, black feed rollers forward (direction of note flow).		
6.		Rotating the large, black feed rollers will rotate all other shafts and rollers in the machine. These rollers can be rotated in either direction by using fingers. Generally, the top of these rollers should be rotated forward (direction of note flow), so any dirt or stray material is moved out of the unit.
		

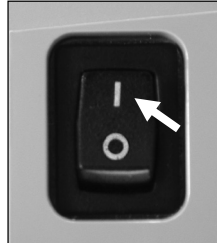
<p>7.</p>		<p>Use a Simple Green Safety Towel to clean all rubber sections of the large, black feed rollers. Rotate the rollers.</p> <p>Also clean the flat, center rubber-drive tire, as identified at left.</p>
<p>8.</p>		<p>Use a microfiber towel or vacuum to remove any remaining dust in the bottom stacker.</p>
<p>9.</p>		<p>Use a microfiber towel to clean the stacker-sensor lens located in the stacker tray between the two gray stacker wheels.</p> <p>Clean the stacker mirror located directly across from the stacker-sensor lens.</p> <p>Stacker-sensor lens</p> <p>Stacker mirror</p>
<p>10.</p>		<p>Replace feeder plate. Insert curved edge of feeder plate first. Gently press down on feeder plate until it snaps into position.</p> <p>Curved edge</p>
<p>11.</p>		<p>Clean exterior surfaces as necessary with a Simple Green Safety Towel.</p>
<p>12.</p>		<p>Return hopper to the operating position.</p>

13.



Carefully reconnect power cord.

14.



Turn power ON (rocker panel to I).

15. Perform a test run with some notes.

Stopping Conditions and Recovery Steps

Screens are listed alphabetically.

Denomination	Sub Total	Batch Count
CHAIN DETECTED		
Mode	Total	Batch Limit

This screen could show any of these messages:

- CHAIN DETECTED
- CHAIN DETECTED*

Condition	Action
Universal JetScan may have processed two or more notes as one.	Remove all notes from the stacker and place them on the hopper. Press Start . If an alarm repeatedly occurs, adjust the gray thickness dial located on top of the machine behind the hopper extension. Rotate in the negative (-) direction as indicated by the numbers on the front of the thickness dial.

Denomination	Sub Total	Batch Count
DENOMINATION CHANGE		
Mode	Total	Batch Limit

Condition	Action
Universal JetScan has identified a note that is different than those it has been processing while using <i>sort</i> modes. This first note of the different denomination is the top note in the stacker.	Remove all notes from the stacker. Separate the top note from the remaining notes. Put the top note in the location for its denomination. Put all the other notes (they are all the same) in the location for their denomination. Universal JetScan automatically will restart.

Denomination	Sub Total	Batch Count
DOUBLE DETECTED		
Mode	Total	Batch Limit

Condition	Action
Universal JetScan may have processed two or more notes as one.	Remove all notes from the stacker and put them on the hopper. Press Start . If an alarm repeatedly occurs, adjust the gray thickness dial on top of the machine behind the hopper extension. Rotate in the negative (-) direction as indicated by the numbers on the front of the thickness dial.

Denomination	Sub Total	Batch Count
FACING ERROR		
Mode	Total	Batch Limit

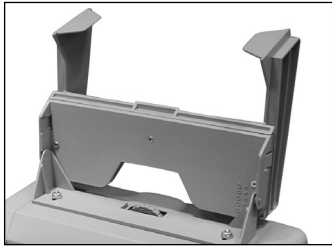

Condition	Action
Universal JetScan has identified a note that is incorrectly faced.	Correctly face the note, return it to the hopper, and press Start .

Denomination	Sub Total	Batch Count
JAM REMOVE HOPPER TRAY		
Mode	Total	Batch Limit

NOTICE

Do not use tools or metal devices to remove jammed notes from paper path. Use of tools or metal devices could cause machine damage and void existing warranty.

For proper removal of jammed notes, see Action, Step 2.

Condition	Action, Step 1
Notes or possibly foreign material are jammed in the paper path and must be removed.	<p>A. Remove all notes from the top hopper and bottom stacker.</p> <p>When notes are removed from the bottom stacker, the display will show:</p> <div style="text-align: center; background-color: black; color: white; padding: 10px; margin: 10px 0;"> <p><CLEAR>=FWD</p> </div>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>B. Lift hopper to the upright position.</p> </div> <div style="text-align: center;">  <p>C. Remove feeder plate by lifting with fingers in the two depressions.</p> </div> </div>

Action, Step 2

CAUTION

Feed rollers in hopper rotate. Entanglement and drawing-in hazard. Keep exposed long hair, neckties, jewelry and loose clothing away from feed rollers.

DO NOT PRESS ANY KEY while manually rotating feed rollers.

Next either:

- Move jammed notes forward/back by manually rotating the large, black feed rollers.



Rotating the large, black feed rollers will rotate all other shafts and rollers in the machine. These rollers can be rotated in either direction by using fingers. Generally, the top of these rollers should be rotated forward (direction of note flow), so any dirt or stray material is moved out of the unit.

- Press **Clear** to slowly move the feeder forward.

Remove all jammed notes and foreign material.

Action, Step 3



Raise "T" handles

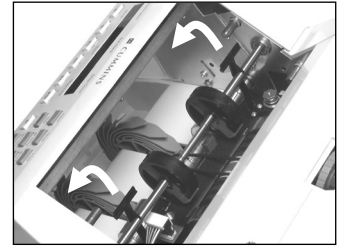
If the jam remains in the paper path, then raise the two red, plastic "T" handles at the same time and hook them onto the metal shaft.

Then either:

- Move jammed notes forward/back by manually rotating the large, black feed rollers.
- Press **Clear** to slowly move the feeder forward.

Remove all jammed notes and foreign material.

When finished, unhook the two red, plastic "T" handles from the metal shaft and lower them at the same time.



Lower "T" handles

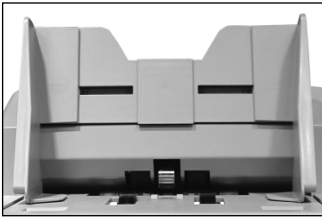
Action, Step 4



Replace feeder plate. Insert curved edge of feeder plate first. Gently press down on feeder plate until it snaps into position.

Curved edge

Action, Step 5



Return hopper to the operating position.

Press **Start**.

Rerun all notes that were in the top hopper and bottom stacker at the time of the jam.

These two screens will sequentially flash:

NO CALL

**CHECK NOTE
PRESS KEY**

Condition	Action
Universal JetScan cannot recognize the denomination of a note and has stopped. This no call note is the top note in the stacker. This note has not been included in the count.	Inspect the top note in the stacker to determine the correct denomination. <u>Do not</u> remove all notes from the stacker. Then either: <ul style="list-style-type: none"> • Leave the note in the stacker and press the appropriate denomination value key (VAL key) to add the note to the total. • Reprocess the note by returning it to the hopper and pressing Start.

Denomination	Sub Total	Batch Count
ORIENTATION ERROR		
Mode	Total	Batch Limit

Condition	Action
Universal JetScan has identified a note that is incorrectly oriented.	Correctly orient the note and return it to the hopper and press Start .

Denomination	Sub Total	Batch Count
REMOVE STRANGER		
Mode	Total	Batch Limit

Condition	Action
<p>Universal JetScan has detected a note of a different denomination from those being counted and has stopped. This stranger note is the top note in the stacker. This note has not been included in the count.</p>	<p>Remove the top note in the stacker and press Start.</p>

Denomination	Sub Total	Batch Count
STRAP LIMIT		
100 PIECES		USD 100
Mode	Total	Batch Limit

Condition	Action
<p>The number of notes in the stacker has reached the preset batch (strap) limit.</p>	<p>Remove the notes from the stacker. Universal JetScan automatically will continue processing if additional notes remain in the hopper.</p>

.....
 These two screens will sequentially flash:



This line could show several different suspect-document codes. For details, refer to the code chart below.

Condition	Action
Universal JetScan sensors have detected a possible counterfeit note. Universal JetScan has stopped with this note as the top note in the stacker. This note has not been included in the count.	Inspect the top note in the stacker. Next there are three options: <ul style="list-style-type: none"> • If the note is deemed counterfeit, place it aside and press Start. It will not be part of the count. • If the note is deemed genuine, return it to the stacker and press the appropriate denomination value key (VAL key). Universal JetScan will restart, and this note will be added to the count. • Reprocess the note by returning it to the hopper and pressing Start.

Code	Possible Causes
MG, ML, MR, Z1, Z2	<ul style="list-style-type: none"> • Incorrect-ink error • Worn note
UV	<ul style="list-style-type: none"> • Incorrect note paper • Soiled note • Taped note
FL	<ul style="list-style-type: none"> • Incorrect note paper • Machine-washed note • Taped note
TH*	<ul style="list-style-type: none"> • Thread error
* This code only appears on past models equipped with a thread sensor.	

These four screens will sequentially flash:

WARNING – BOTH DOUBLES SENSORS ARE FAULTY
ENSURE THAT SENSORS ARE CLEAR OF PAPER AND DUST
CALL SERVICE IF PROBLEM PERSISTS
PRESS <START> KEY TO CONTINUE

Condition	Action
Universal JetScan is indicating there possibly is a problem with the right, left or both doubles sensors.	Press Start to attempt continued operation. If the alarm occurs again, clean the machine by following the daily cleaning procedures. If the message continues to appear, call a local Cummins Allison service representative.

These three screens will sequentially flash:

WARNING – UV BULB INTENSITY OUT OF RANGE
UV DETECTION IS UNRELIABLE
PRESS <START> KEY TO CONTINUE

Condition	Action
Universal JetScan is indicating there is a possible problem with the ultraviolet (UV) bulb (“BECOMING WEAK,” “INTENSITY OUT OF RANGE” or “UNRELIABLE”).	Press Start to continue operation. If the machine is not equipped with ultraviolet (UV), be sure to turn the feature off in USER SETUP. If the message continues to appear, contact a local Cummins Allison service representative.

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