ECDM-100 Sensor Cleaning Guide

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PURPOSE

This guide describes how to clean the ECDM-100 cash dispenser.

SCOPE

This manual applies to all service personnel involved in maintaining Triton ECDM-100 dispensers nationwide and abroad.

APPLICATION

This guide provides component locations that should be inspected and/or cleaned with air, alcohol, or swab.

Materials Required	#1 Phillips screwdriver
	Recommend Electric Duster Model ED500 or equivalent model. **WARNING: DO NOT use Can of Air**
	Small Flashlight if available
	70% ISO Prop Alcohol
	Textured Absorbent Workshop Cloth, similar to image
	Long Cotton Tip Package

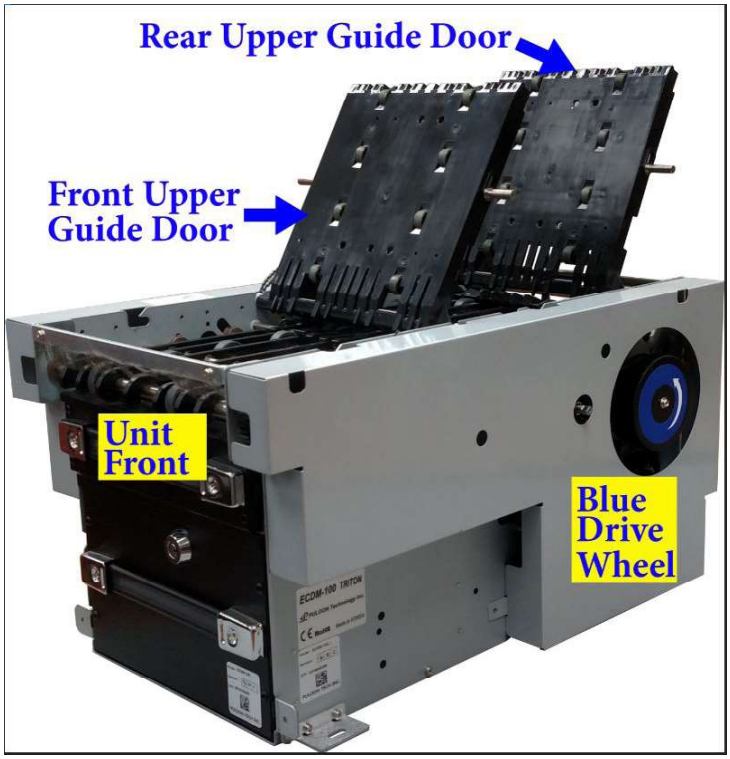
OVERVIEW

Cash money circulates far and wide and changes hands throughout its lifespan. Notes pick up a lot of dirt and grime during circulation. The ECDM-100 has (20) sensors, (68) rollers, and moving parts which contact notes during a dispense operation. This manual will identify each of these sensors and parts and will describe methods to keep the ECDM-100 clean and functioning normally. Take time to read this manual and familiarize yourself with all the steps before starting the cleaning process.

SAFETY INFORMATION

CAUTION:
Observe proper Electrostatic Discharge (ESD) protection

WARNING:
Be careful opening and closing rollers on hinges.

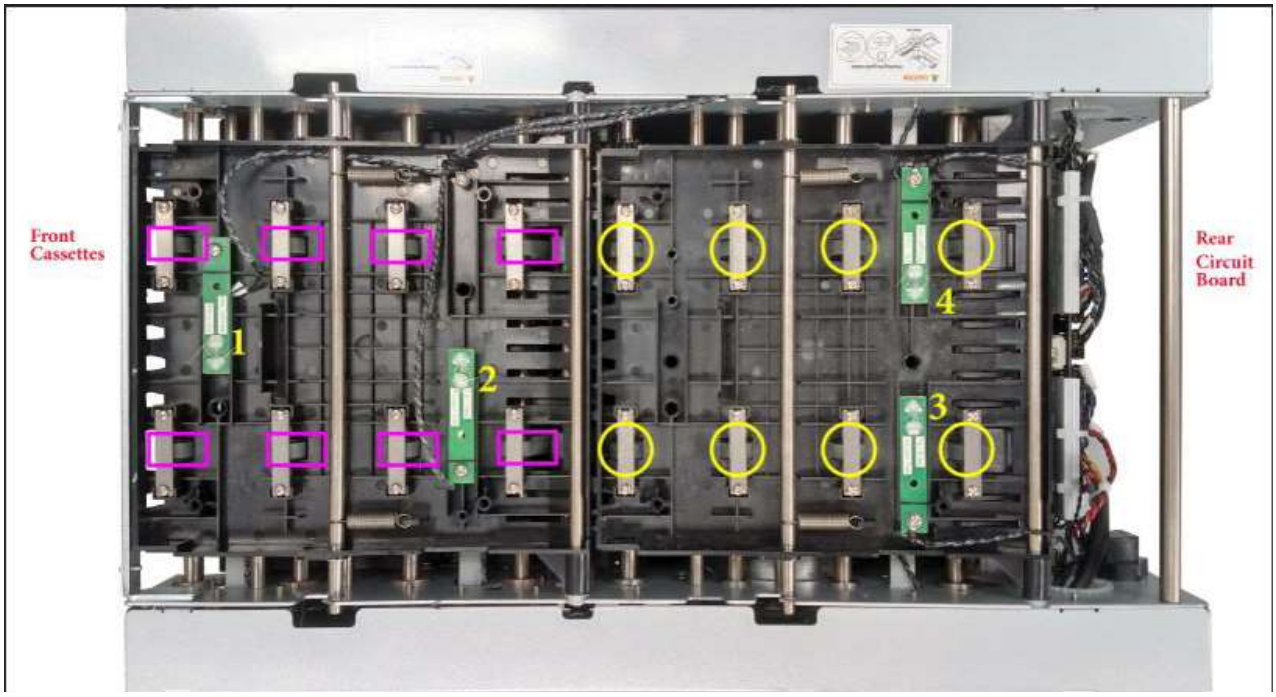


Referenced from the Unit Front, the manual transport **Blue** Drive Wheel is located on the right side of the unit.

ECDM Chassis

1. Shut down the ATM and disconnect power.
2. Open the front cabinet vault door.
3. Slide the dispenser mechanism out as far as it will go. Disconnect the power and communications cables.
4. Locate the tray screws near the bottom-front of the dispenser, **RED** circles, *Left Image*. Use the Phillip screwdriver to remove the screws. Save the screws to attach the ECDM to the tray later in the this document.
5. Use the Electric Duster or other means to blow dust and note particles out of the dispenser, *Right Image*.

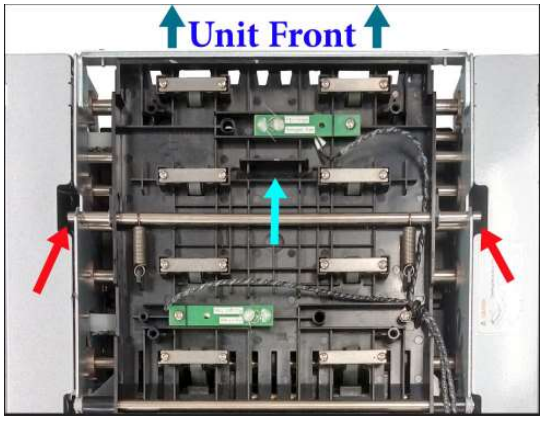
6. On top of the Upper Guide Doors, locate the sixteen (16) rollers, (8) **MAGENTA** rectangles and (8) **YELLOW** circles. Dab a small section of the cloth in alcohol and hold it against each roller as the user turns the **Blue** Drive Wheel in same direction of the wheel's arrow.
7. **YELLOW** numbers identify the upper sensor receiver circuit boards.
   - #1 = Exit Sensor
   - #2 = Eject Sensor
   - #3 = Right Diverter Sensor
   - #4 = Left Diverter sensor



8. Locate the latch points for the (Front) Upper Guide door, two **RED** arrows. Pull/Push latch bar in direction

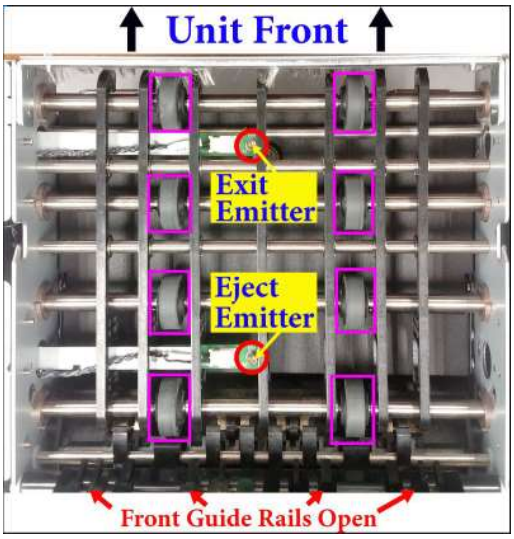
of the **BLUE** arrow, then lift front Upper Guide Door to open.

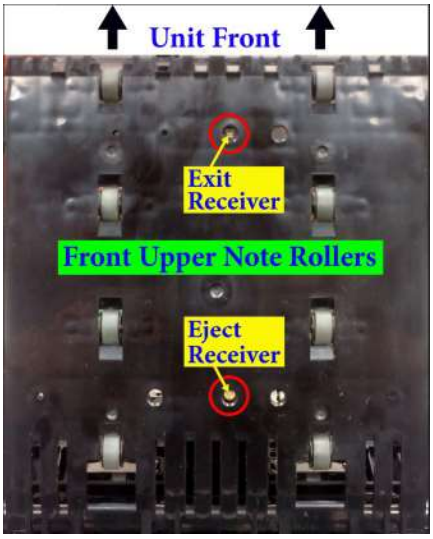
9. Use the Electric Duster to blow the dust out of the dispenser.



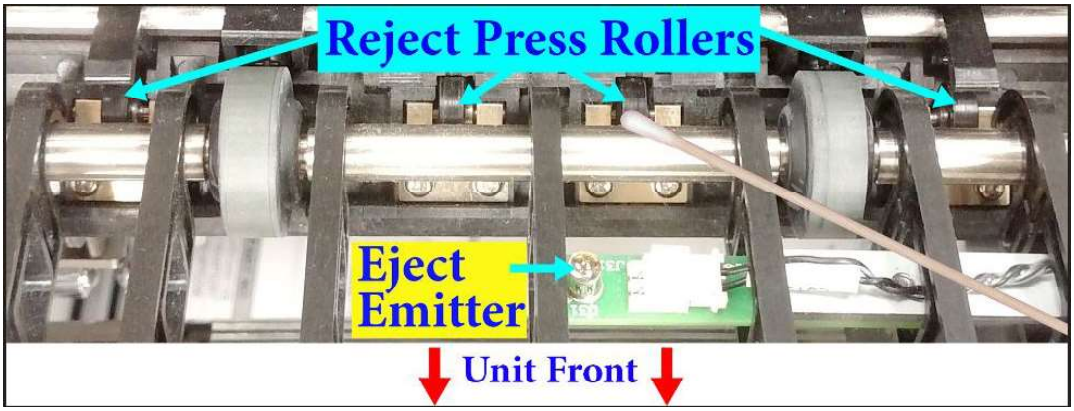
Blue Drive Wheel on right side when facing cassettes

10. Under the Upper Guide Door locate the eight (8) Note Feeding rollers, **MAGENTA** rectangles, *Left Image*. Dab a small section of the cloth in alcohol and hold it against each roller as user turns the **Blue** Drive Wheel.
11. Dab a cotton tip in alcohol and swab the LEDs, **RED** circles, for the Exit/Eject Emitters, *Left Image*. Swab the LEDs for the Eject/Exit Receivers, *Right Image*.



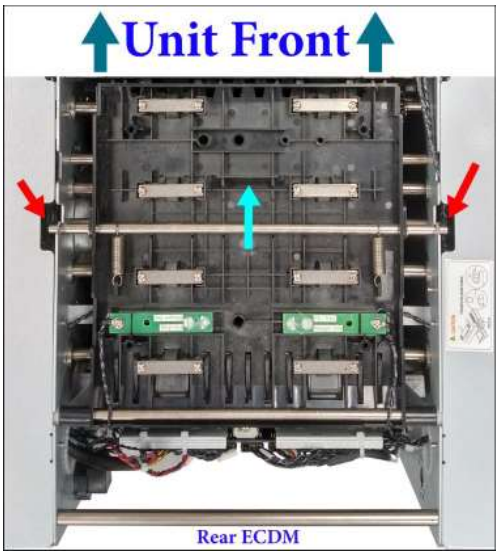


12. Locate four (4) Reject Press Rollers near the hinge point of the Front Upper Guide Door. Dab a cotton tip in alcohol and hold against each Reject Press Roller.
13. Turn the **Blue** Drive Wheel in the OPPOSITE direction of the drive wheel arrow (Clockwise). This action will turn the Reject Press Rollers. Turning the Drive Wheel in direction of arrow will NOT turn the rollers.



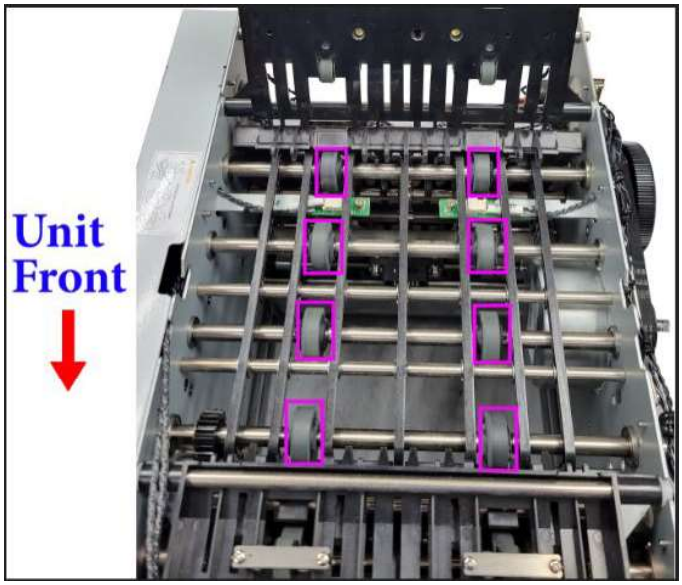
14. Close the front Upper Guide by Pulling/Pushing latch bar and press down. The bar should snap under the catch on both sides. Should look like the label.

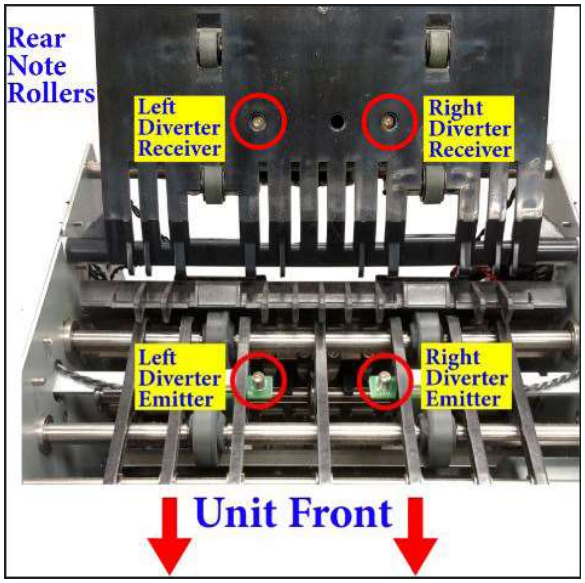
15. Locate the latch points for the (Rear) Upper Guide door, two **RED** arrows. Pull/Push latch bar in direction of the **BLUE** arrow, then lift rear Upper Guide Path to open.
16. Use the Electric Duster or other means to blow dust out of the dispenser.



Blue Drive Wheel on right side when facing cassettes

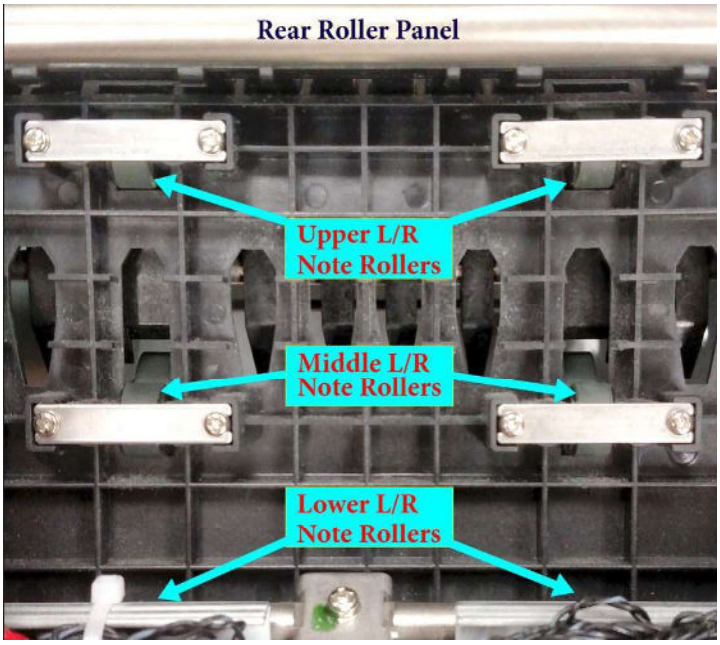
17. Under the Rear Upper Guide locate the eight (8) Note Feeding Rollers, **MAGENTA** rectangles, *Left Image*. Dab a small section of the cloth in alcohol and hold it against each roller as user turns the **Blue** Drive Wheel.
18. Dab a cotton tip in alcohol and swab the LEDs for the L/R Diverter Receivers and L/R Diverter Emitters, **RED** circles, *Right Image*.





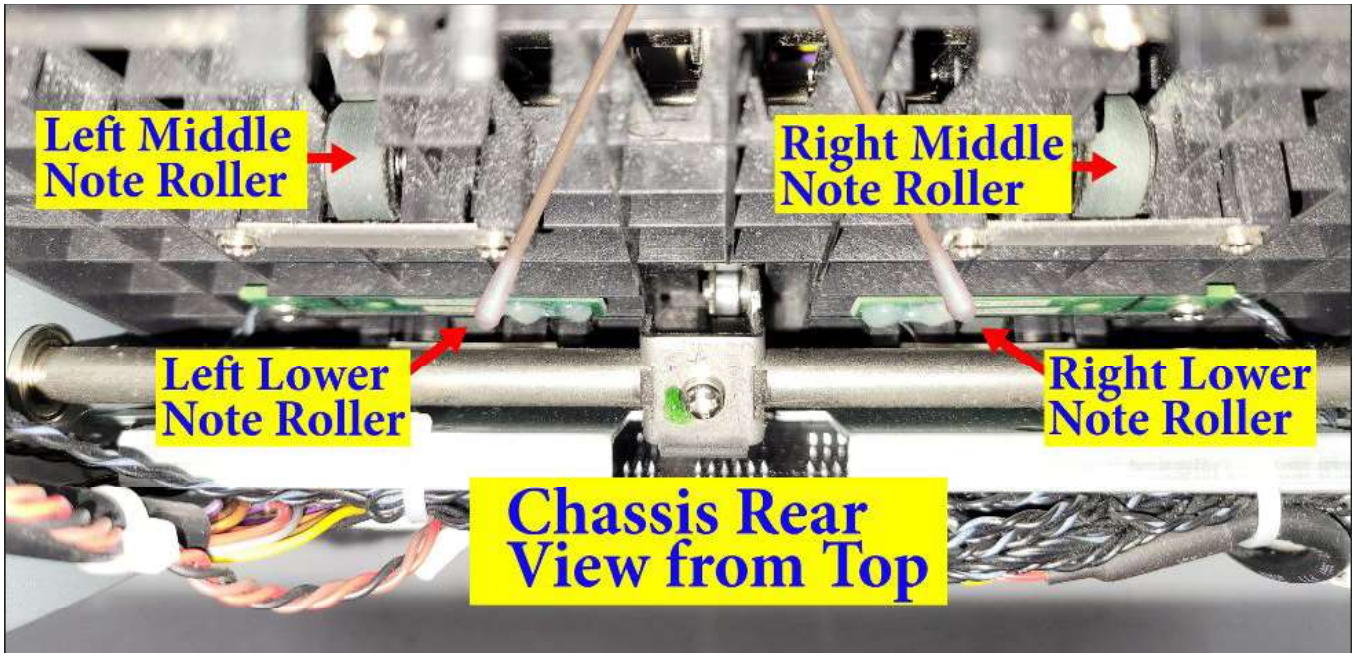
19. Close the Rear Upper Guide by Pulling/Pushing latch bar and press down. The bar should snap under the catch on both sides. Should look like the label.

20. Use the Electric Duster to blow the dust out of the dispenser's Rear Roller Panel, *Left Image*.
21. For the Upper and Middle L/R Note Rollers, dab a small section of the cloth in alcohol and hold it against each roller as user turns the **Blue** Drive Wheel on side of unit.

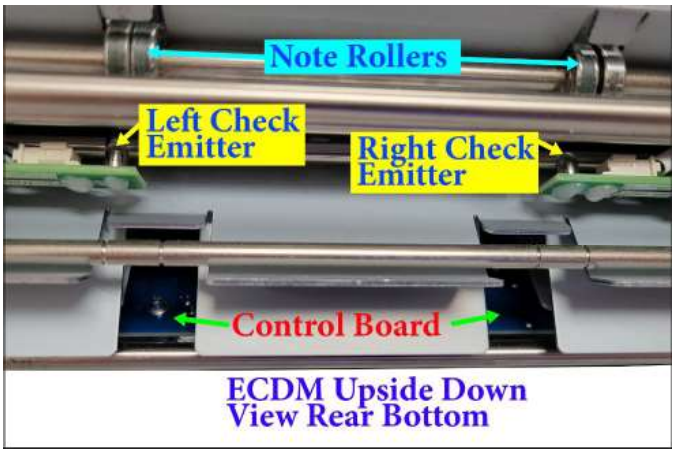


Blue Drive Wheel on right side when facing cassettes

22. Dab a cotton tip in alcohol and hold against Left and Right Lower Rollers, *Image below*, user turns the **Blue** Drive Wheel.



23. Verify the front and rear Upper Guides are latched properly.
24. Carefully, turn dispenser on to its top with the circuit board facing the user.
25. Dab a cotton tip in alcohol and swab the LEDs for the L/R Check Emitters, **Yellow** arrows, *Center Image*.
26. Locate the hole below the Check Emitters, **RED** circles. Dab a cotton tip in alcohol, insert the cotton tip into the hole to swab the LEDs for the Left Check Receivers, *Left Images*, and Right Check Receivers, *Right Image*.

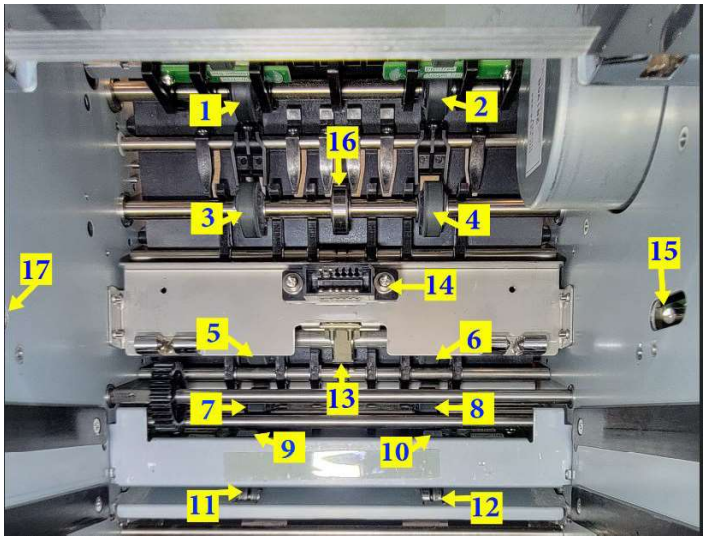


27. Turn the dispenser back over. The smaller reject opening is above the cassette opening.

Internal Rollers

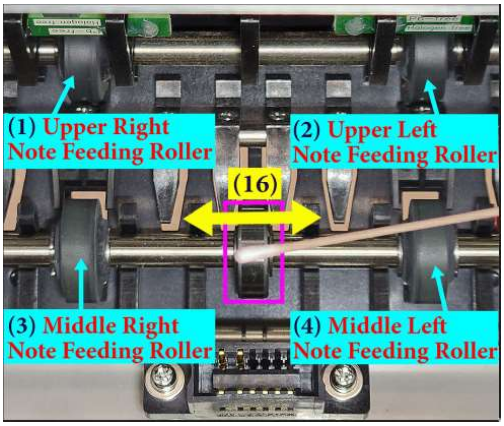
(Viewed through cassette channel to rear of unit)

Internal Roller/Sensor Table	
1. Upper Left Note Feeding Roller	11. Left Note Guide roller
2. Upper Right Note Feeding Roller	12. Right Note Guide roller
3. Middle Left Note Feeding Roller	13. Double Detect Roller and Clean Plate
4. Middle Right Note Feeding Roller	14. ECDM plug to Cassette
5. Lower Left Note Feeding Roller	15. Right Near-End Emitter Sensor
6. Lower Right Note Feeding Roller	16. Roller Guide
7. Left Note Feeding Roller	17. Left Near-End Receiver Sensor
8. Right Note Feeding Roller	
9. Cassette Left Pickup Feeding Roller	
10. Cassette Right Pickup Feeding Roller	



28. *Left Image*, dab a small section of the cloth in alcohol and hold it against each Note Feeding Rollers **(1,2,3,4)** as user turns the **Blue** Drive Wheel.
29. *Left Image*, the roller guide, **Magenta** rectangle, spins freely. Dab a cotton tip in alcohol and wipe the roller side to side in parallel with roller bar, **Yellow** arrows. Turn roller quarter rotation and repeat wiping motion.

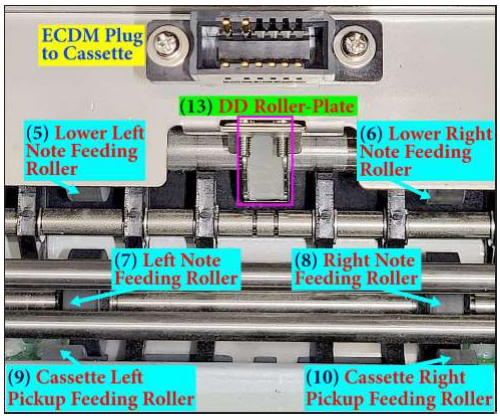
Viewed through cassette channel to rear of unit.

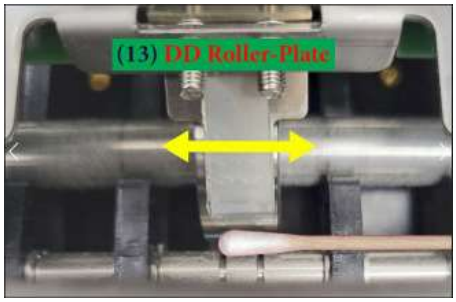


Blue Drive Wheel on right side when facing cassettes

30. *Center Image below*, dab a small section of the cloth or cotton tip in alcohol. Hold cloth or cotton tip against Note Feeding Rollers **(5,6,7,8,9,10)** as user turns the **Blue** Drive Wheel.
31. *Right Image below*, dab a cotton tip in alcohol. Move it back and forth, **Yellow** Arrows, against the Double Detect roller as user turns the **Blue** Drive Wheel. DO NOT not let the cotton tip get caught between the roller and cleaning plate. Reverse Drive Wheel's direction to remove any cotton fibers caught on the Double Detect Roller.

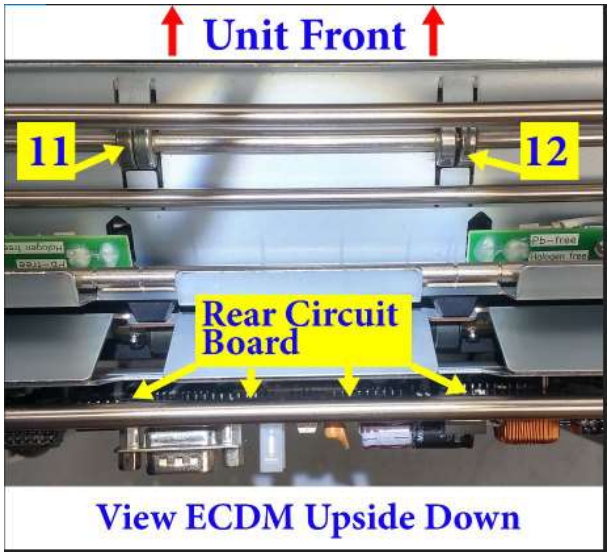
Viewed through cassette channel to rear of unit.





32. Dab a small section of the cloth in alcohol and hold it against each Note Rollers **(11,12)** as user turns the **Blue** Drive Wheel. NOTE: Note Rollers in image show the lack of a proper cleaning.

33. Dab a cotton tip in alcohol and hold it against each Rear Rack Lower L/R Rollers as user turns the **Blue** Drive Wheel. After cleaning rollers, turn unit right-side up.

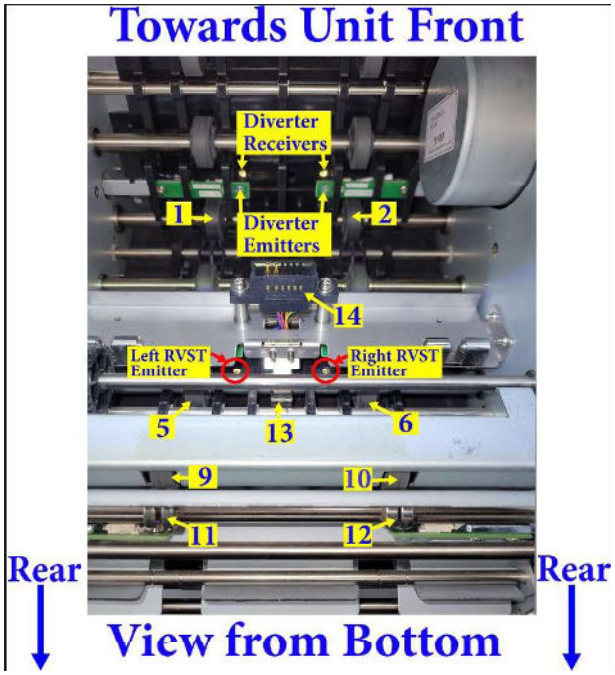


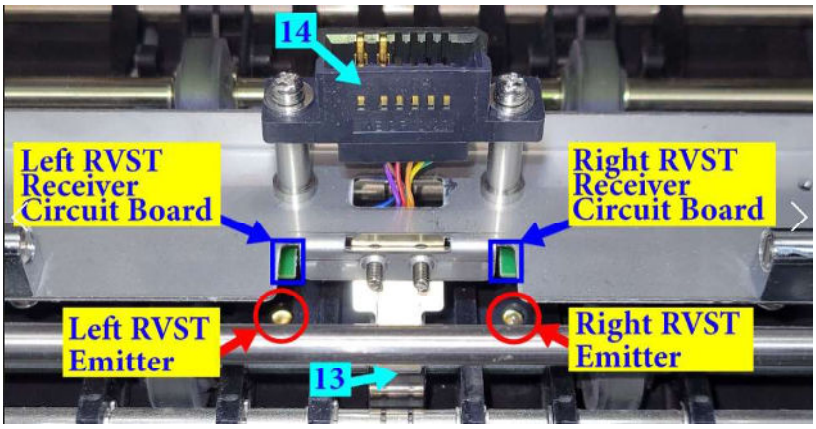
Internal Sensor

34. Viewed through note cassette channel to rear of unit. Dab a cotton tip in alcohol and swab the LEDs for the Left/Right Near-End Sensors.

Viewed through cassette channel to rear of unit.

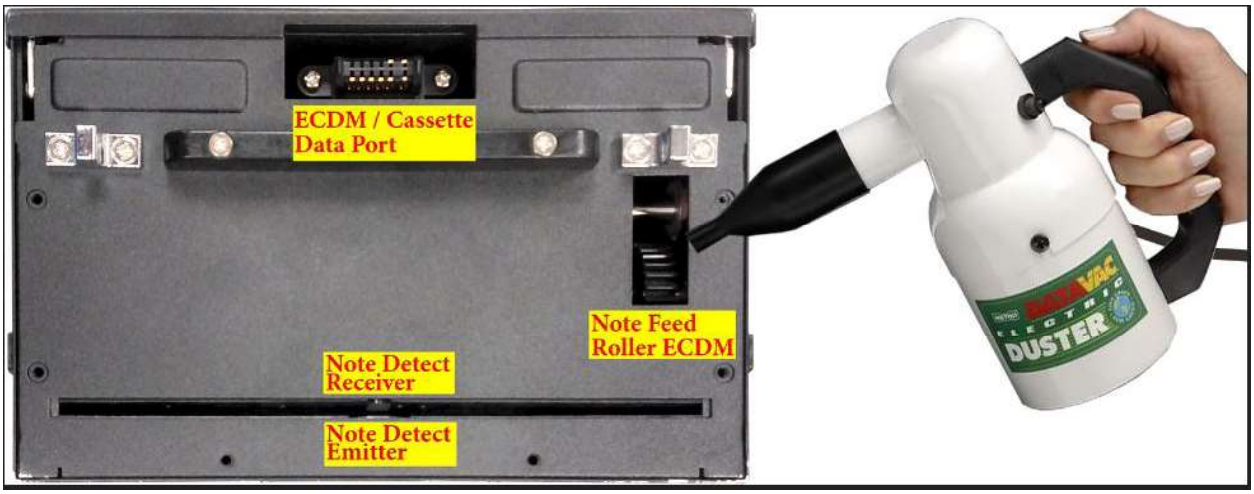
35. Turn Unit upside down as shown for the two images below. Use a flash light to shine the Emitter lens. The numbers are for reference to locate the RVST emitters, *Left Image*.
36. Dab a cotton tip in alcohol and swab the LEDs for the Left/Right RVST Emitters, *Right Image,* **RED** Circles.





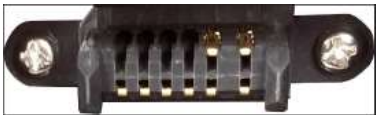
Cassette Exterior

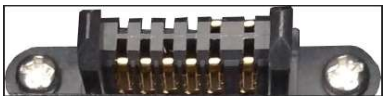
37. Open the Cash Cassette and remove any notes if not removed previously.
38. Cash Box rear components.
39. Use the air duster to blow dust off the Note Feed Roller ECDM. Also note any wear or damaged gear teeth that may cause dispensing problems.



40. Locate the Cash Box's Note Detection Emitter and Receiver in the cash exit slot. Use the air duster to blow dust off the sensors or fold a section of shop cloth over the stick end of the cotton tip, add a little alcohol and swab the two sensors. **DO NOT** force the wipe between the sensors if the cloth encounters resistant. Emitter on bottom, Receiver on top.

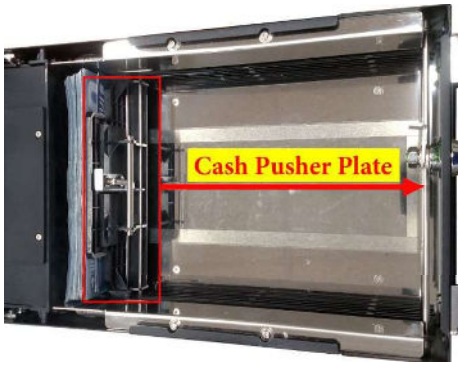
41. Inspect the ECDM/Cassette Data Port for bent or damaged contact pins, two (2) on top, six (6) on bottom.



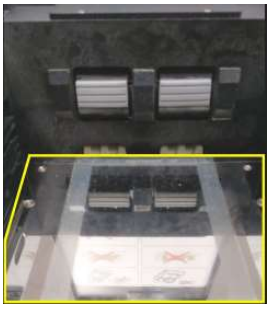


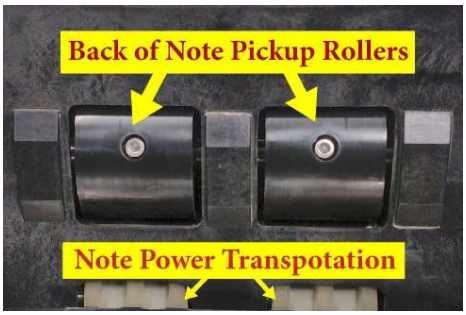
Cassette Interior

42. Slide the Cash Pusher Plate towards the handle until it locks in place.

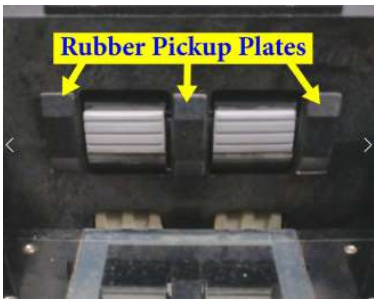


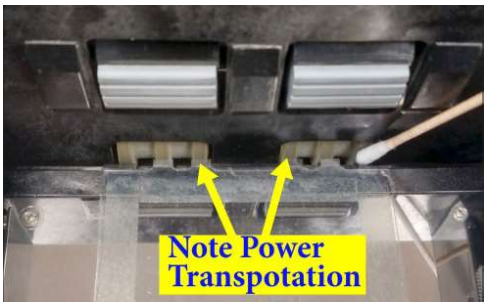
43. *Left Image,* use the air duster to blow dust and note particles out. Use a section cloth dipped in alcohol to wipe the cassette bottom plate. *Right Image*, if user sees the back of the Note Pickup Rollers, rotate the rollers with fingers until the light-gray rubber pieces are shown as in left image.

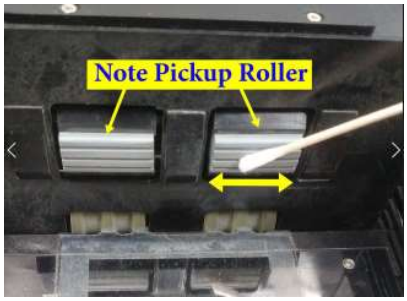




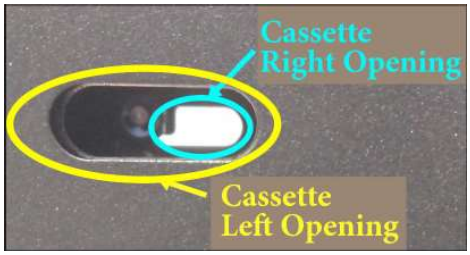
44. *Left Image below*, wipe cloth along each of the three (3) Rubber Pickup Plates. If the cloth catches or you feel a bump on the plates, note for future reference should a Note Pickup issue occur.
45. *Center Image below*, dab a cotton tip in alcohol and hold against each of the three (3) picking sections per Note Power Transportation rollers. Rotate the Note Pickup Rollers to rotate the Note Power Transportation rollers.
46. *Right Image below*, dab a cotton tip in alcohol and slide it back and forth across the pickup section of each Note Pickup Roller.





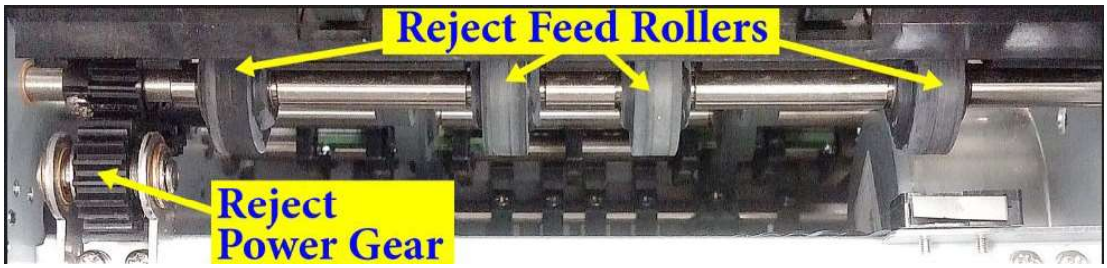


47. *Left image* shows cash in the cassette, *Right image* shows no cash. These opening show what the corresponding (17) Left / (15) Right Near-End Sensors on the ECDM chassis would see.



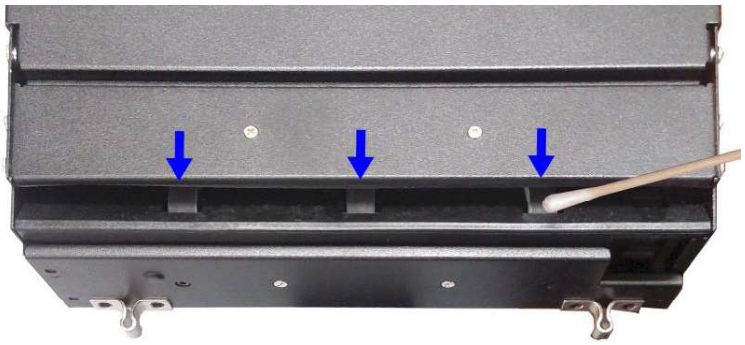
ECDM Reject Roller

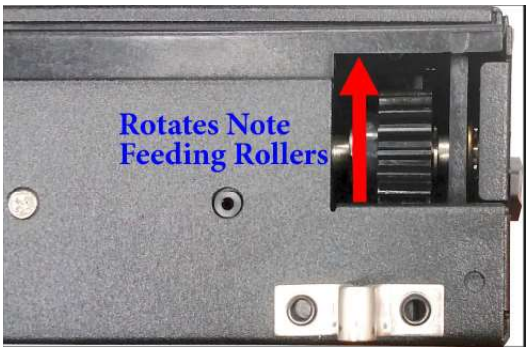
48. Access the Reject Cassette channel opening. Either, dab a cotton tip in alcohol and hold against each Reject Feed Roller, or dab a small section of the cloth in alcohol and hold it against each or multiple Note Rollers, as user turns the **Blue** Drive Wheel.
49. Use the Electric Duster to blow dust off the Reject Cassette Power Gear. Also, note any wear or damaged gear teeth that may cause Reject problems.



Reject Cassette

50. *Left Image*, viewed from top of the Reject Cassette, dab a cotton tip in alcohol and hold it against each roller. Rotate the Note Feeding Rollers in the direction with the gear as indicated in the *Right Image*.





51. After cleaning, set the ECDM on the dispenser tray. Use the Phillip screwdriver to attach the screws removed at beginning of this procedure, into the bottom front of the dispenser.
52. Open the Cash cassette. Referencing the label attached to the cassette's top, add denominations to the cassette. Insert cassette into the dispenser. Lock the Reject cassette and insert into the dispenser.
53. Attach the power and communications cable to the dispenser. Slide dispenser tray into cabinet.
54. Power up the ATM. Via the Management Functions menu perform an ECDM test dispenser.

End of Cleaning Procedure