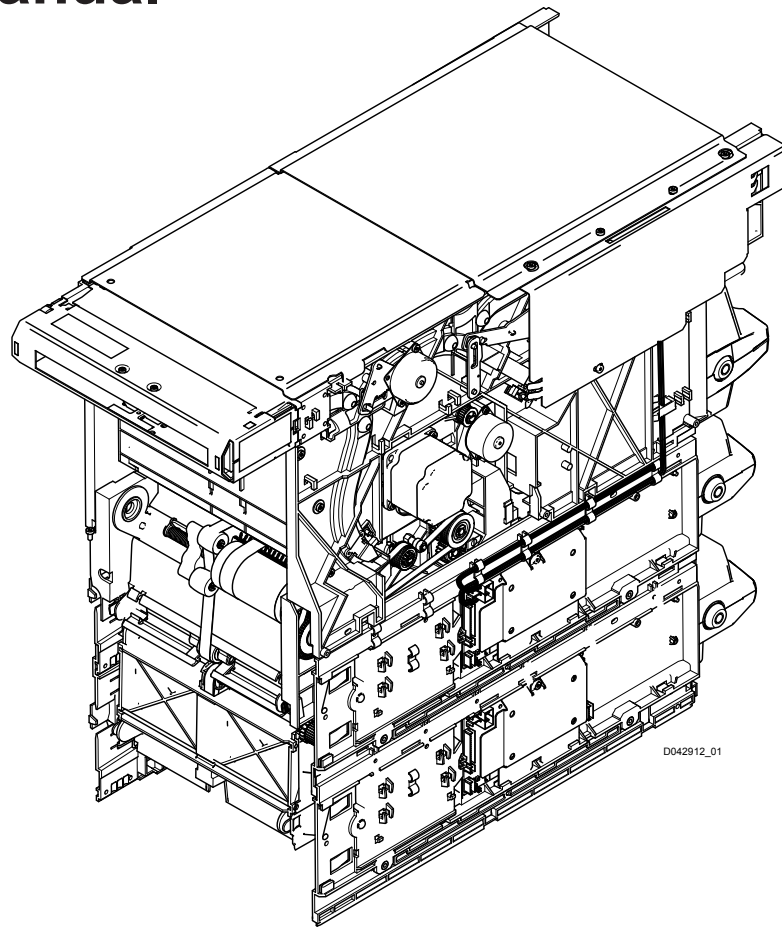


NMD 100e

Level 1

Service Manual



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Obligations of the user

- Everyone working with the machine must read this manual.
- Observe the safety instructions and warning labels.
- Talaris or its representative should replace damaged safety devices such as fuses and warning labels immediately.

	ATTENTION The indication ATTENTION warns of the danger of minor physical injury or damage to equipment.
	ATTENTION Electrostatic sensitive device. Observe ESD precautions before handling.
	ATTENTION The indication WARNING warns you of the danger of serious physical injury
	DANGER TO HANDS: The indication warns of possible injuries to the hands. Remember, to take extra care when cover plates have been removed. Beware of fast moving mechanical parts especially when cover plates are removed. Always replace cover plates after completing work. To avoid injury, use the following precautions: Always hold the modules on the handling points, marked in green. Close carefully the safe door and covers.
	ELECTRIC SHOCKS The indication warns of possible injuries through electrical voltages. Improper work on the electrical components can lead to life threatening injuries from electric shocks! Unprofessional handling or incorrect connections can result in the machine no longer being safe for operation. <u>Electrical work shall only be performed by qualified personnel (electricians)!</u> Remember, to take extra care when cover plates have been removed, units disconnected, or circuit boards unplugged. The power supply contains unswitched line voltage. Never leave a part-serviced machine connected when unattended. When connecting the equipment to a 240V AC supply in the United States and Canada, it is necessary to connect via a double pole 20A circuit protector.
	WARNING: Due to the nature of his work, an operator or service technician may have to bypass normal safety interlocks and features to carry out some of the instructions in this manual. Always restore safety interlocks after completing work. At any risk or danger, disconnect the mains cable at the rear of the machine from the mains outlet. CAUTION; Please note that if the machine contain Lithium Batteries there is danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturers instructions.

Preface

NMD 100e, is the name of the Talaris Notes and Media Dispenser for ATM.

This manual contains instructions on how to exchange modules in the NMD 100e.

Please contact Talaris customer support, Flen Sweden for more information on how to repair or exchange parts in modules.

Talaris Cash Dispensing AB
Flen, SWEDEN

Contents

Obligations of the user	3
General	8
General	8
Exchanging of modules	8
Tools	9
Cleaning equipment	9
Portable PC	9
Service program	9
Overview	11
Presentation	13
Stack presenter frame	14
Replacement of Stack presenter frame (SP)	14
Removal	14
Fitting	15
Note stacker	16
Replacement of note stacker (NS)	16
Removal	16
Fitting	17
Note diverter	18
Replacement of note diverter (ND)	18
Removal	18
Fitting	19
Note qualifier	20
Replacement of note qualifier (NQ)	20
Removal	20
Fitting	21
Central machine controller	22
Replacement of central machine controller (CMC)	22
Removal	22
Fitting	23
Routing cables	24
Note feeder	28
Replacement of note feeder (NF)	28
Removal	28
Fitting	29
Frame	30
Replacement of frame (FR)	30
Removal	30

Fitting	31
Note feeder controller	32
Replacement of note feeder controller (NFC)	32
Removal	32
Note feeder controller (NFC)	32
Fitting	32
Routing cables	33
Bundle output unit	34
Replacement of Bundle Output Unit (BOU)	34
Removal	34
Fitting	35
Power supply	36
Replacement of power supply	36
Removal	36
Fitting	37
Bundle carriage unit	38
Replacement of bundle carriage unit (BCU)	38
Removal	38
In cases where the BCU fingers do not open	39
Adjustment	39
Bundle carriage unit	40
If the BCU has jammed.	40
Fitting	41
Note cassette	42
Note cassette (NC 301)	42
Adjustment of note guides	42
Adjustment of note length	42
Adjustment of note width	44
Coding of note cassette	45
Removal of note cassette	47
Reject vault	48
Removal of reject vault	48
Reject vault	48

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General

This document is a service manual for the NMD 100e. The document is intended for use as:

- Field repair instruction (exchange of modules)

When a module is to be exchanged, clean the modules next to the exchanged module. Use vacuum cleaner or brush.

Do not use compressed air!

Cation:
When power has been switched off, always wait at least 15 seconds before switching the power on again, to make certain the modules will initialize properly

IMPORTANT:
Always use ESD-protection when servicing electronic parts in the NMD 100e. When changing circuit boards, make sure that the program has the correct revision.

NOTE:
The mechanism must not be lubricated if not specified in maintenance instruction or other technical document. Oil and grease are not recommended. Paper dust particles will remove oil from unsealed bearings and grease attracts dust.

Faulty modules:

Replace the entire module for a spare and send the faulty module to a Talaris authorised workshop if repair work is required.

On occasions there are changes in repair methods criteria. Normally, information on the changes are distributed, but if you are in doubt, contact Talaris Technical Support.

Exchanging of modules

1. Check service log for previous history.
2. Check with branch staff for any specific problems.
3. Switch Power Off.
4. Visually inspect the equipment for wear or damage.
5. Exchange faulty modules.
6. Assemble the equipment.
7. Switch Power On. Check that both the LEDs on the central machine controller shows a steady green light for 10 sec. during the internal check. After the internal check has been performed, check that the right LED is off and the left LED starts to flash.

If a failure is detected, during the internal check, the right LED will show a steady green light.

NOTE:
If a program is used for the first time the internal check can take up to 90 seconds.

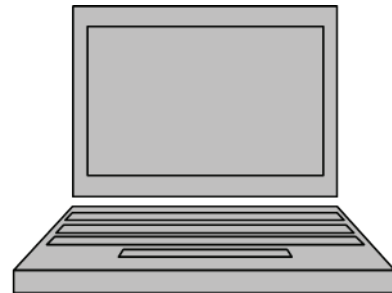
8. Operate the equipment by using the test program.
9. If CMC, NQ or FW is changed it is required to perform "Clear NQ data table" by issuing command WD/392/0 from the command line in NMDtest or by issuing "Clear NQ data table" from Write Data. The machine will perform an initialization of the inserted cassette values. Initialization will also be performed when a cassette with changed denomination code is inserted for the first time.
10. Let the branch staff operate the machine using real money as a final test of all functions.

Tools

- Standard engineering service tools are required

Cleaning equipment

- soft brush
- cloth
- isopropyl alcohol



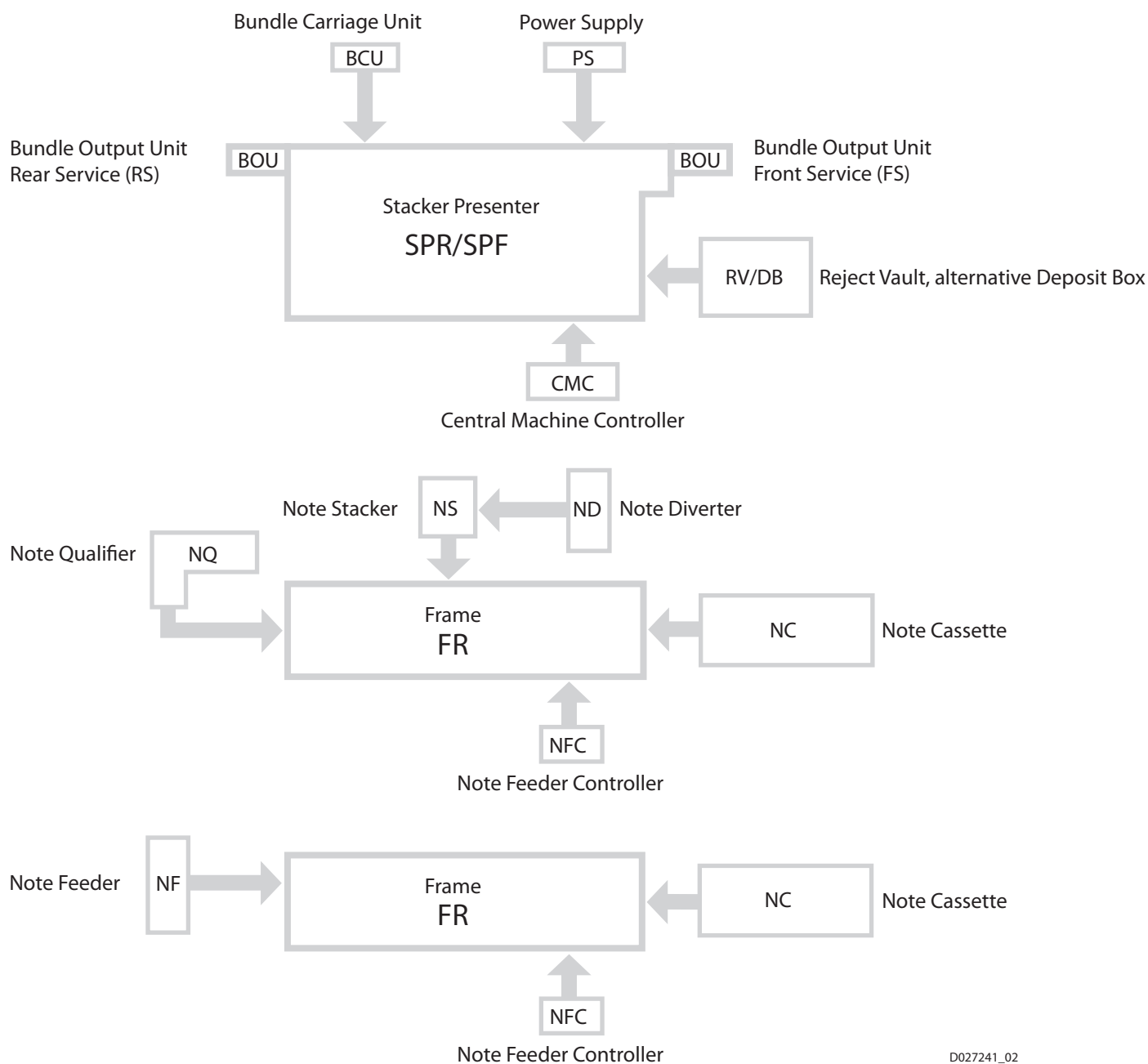
Portable PC

IBM-compatible with com cable
CC200 Com cable, with handshaking
CC100 Com cable, without handshaking

Service program

A008661 NMDWTEST

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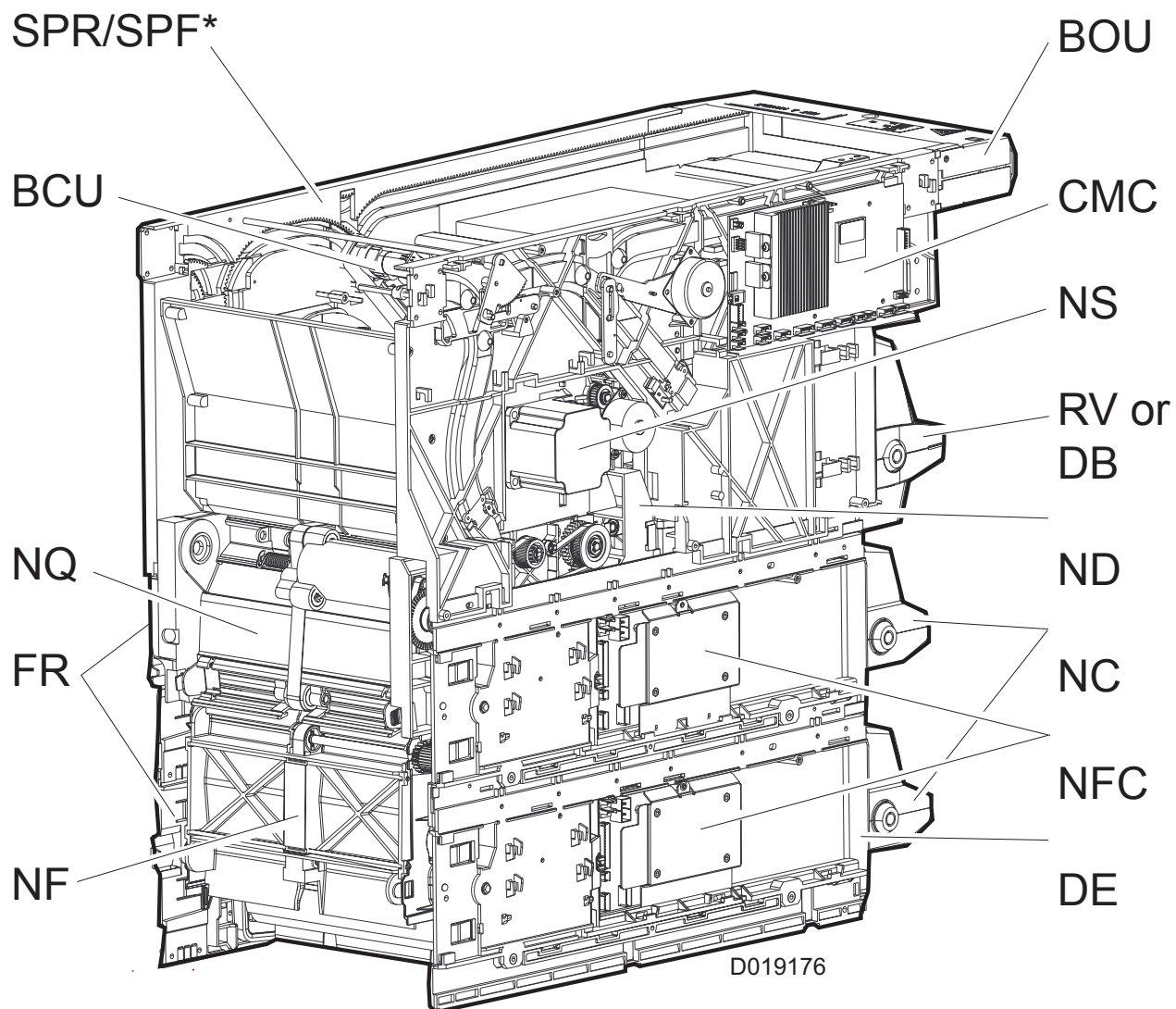
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Modules to exchange in field service level 1

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NMD 100e

Note handling machine, in a modular system.



Stack presenter rear (SPR)
Stack presenter front (SPF)
Bundle carrier unit (BCU)
Note qualifier (NQ)
Frame (FR)
Note feeder (NF)

Bundle output unit (BOU)
Central machine controller (CMC)
Note stacker (NS)
Reject vault (RV)
Deposit box (DB)
Note diverter (ND)
Note cassette (NC)
Note feeder controller (NFC)
Denomination extension (DE)

* The illustration shows a NMD 100e configured as a front service machine using a stack presenter front (SPF)

Stack presenter frame

Replacement of Stack presenter frame (SP)

Removal

1. **Use the Power Supply switch to turn the power off**
2. **Remove the cover on the top and on the side of the NMD**
Disconnect the GND cables.
3. **Loosen the cables from the holders**
Disconnect the CMC-NQ CAN cable,
Disconnect the cable PS – NS from PS,
disconnect the power cable which runs between the CMC and the first NFC

4. **Remove the stack presenter frame**

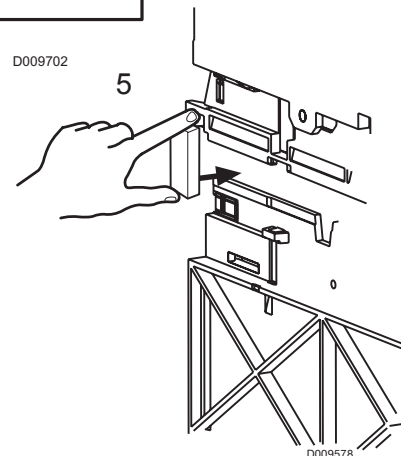
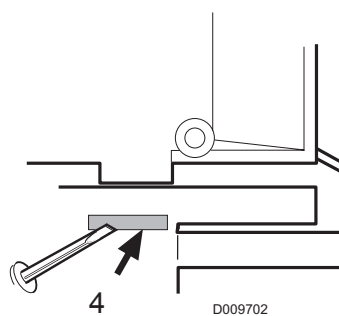
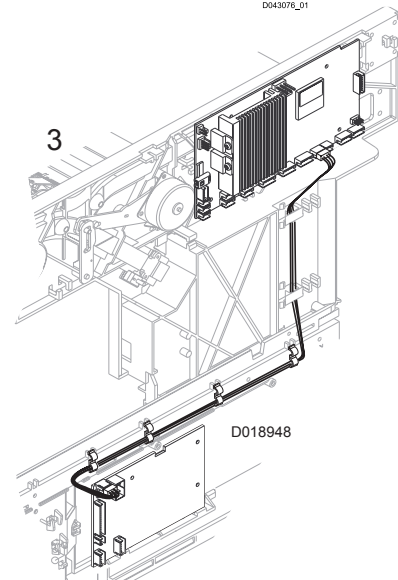
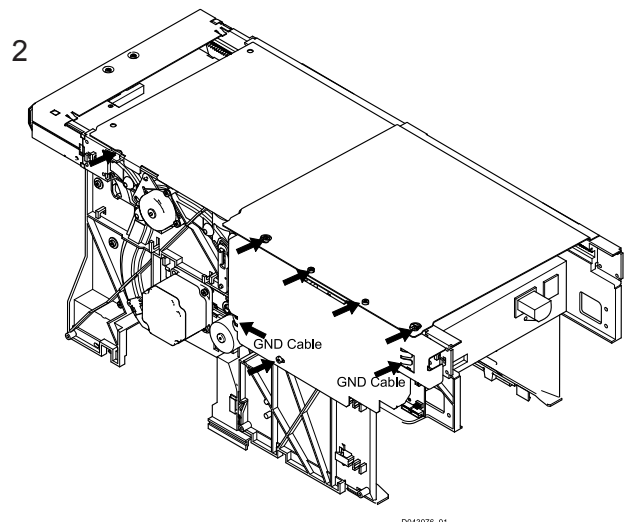
Remove the screws holding FR to SP and release the snap fits, one side at a time using a screw driver.

Push the snap fits gently inwards, and at the same time, lift the SP frame upwards.

5. **Prevent the snap fit from being engaged**

As the snap fit is released, insert a wedge between the FR and the SP frame.

6. **Remove the SP frame**



Fitting

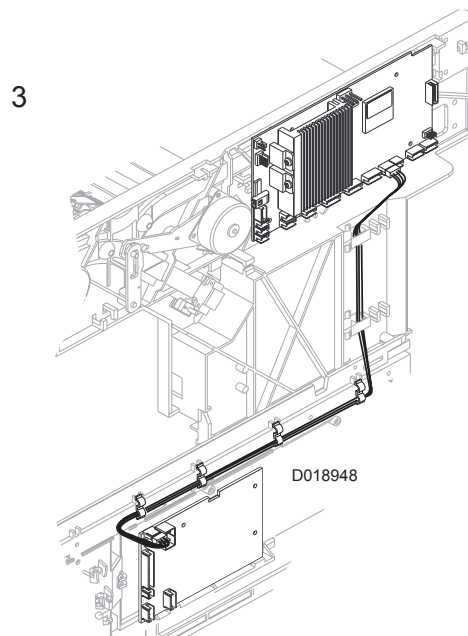
1. Fit the SP frame to the NMD

NOTE:
Make sure all four snap fits are engaged.

Fit and tighten the screws holding FR to SP.

2. Connect the power cables between PS - CMC and PS - first NFC

3. Connect the CAN cable between CMC and first NFC, fit the cables to the holders

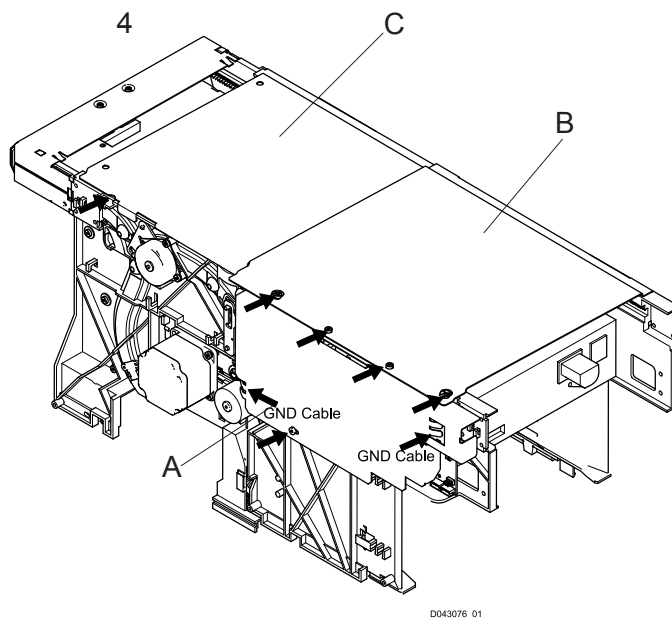


4. Fit the covers to the NMD

Fit the side protection plate (A) and connect the GND cables

Fit plate (B) followed by plate (C)

5. Use the power supply switch to turn the power on



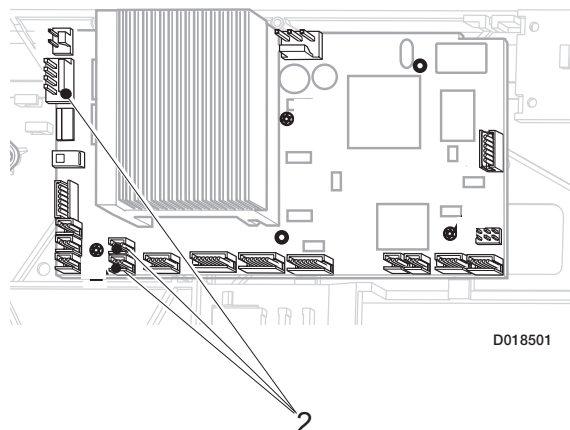
Note stacker

Replacement of note stacker (NS)

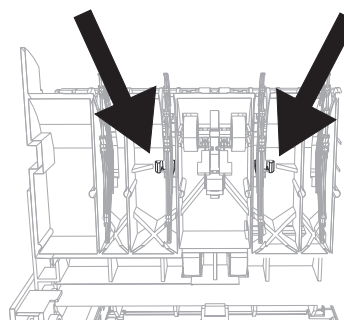
Removal

1. Remove the stack presenter from the frame, see page 12.

2. Disconnect cables between CMC - NS

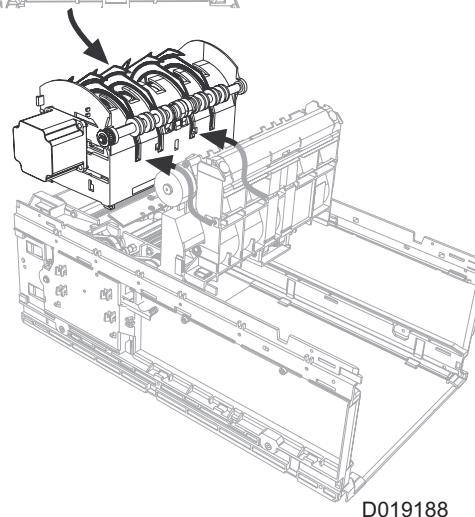


3. Release the snap fits NS - ND



	NOTE:
	Be careful not to damage the snap fits.

4. Hook off the belt NS - NQ and remove the NS. While removing the NS be careful not to damage the Double Detect board.



Fitting

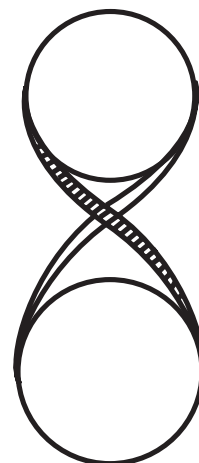
1. Fit the NS to the NQ

2. Hook on the belt

NOTE:

Make sure the belt is turned as shown in the diagram. Make sure that the cables are kept clear when fitting the NS. Place the cables in the correct position after the NS is in place. Make sure the snap fits are engaged.

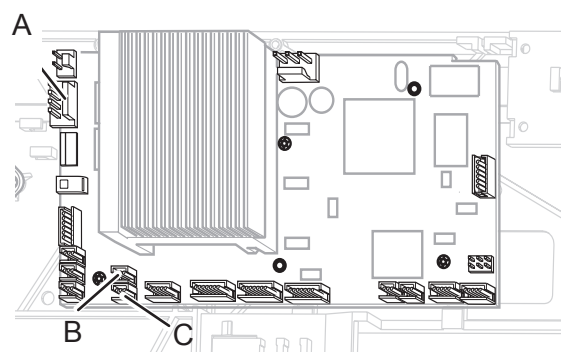
2



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3. Fit the NS to the ND

4. Connect the cables from NS to the CMC as shown
 NS Step motor (A)
 NS position sensor (B)
 NS Entry sensor (C)
 For cable routing see page 25.



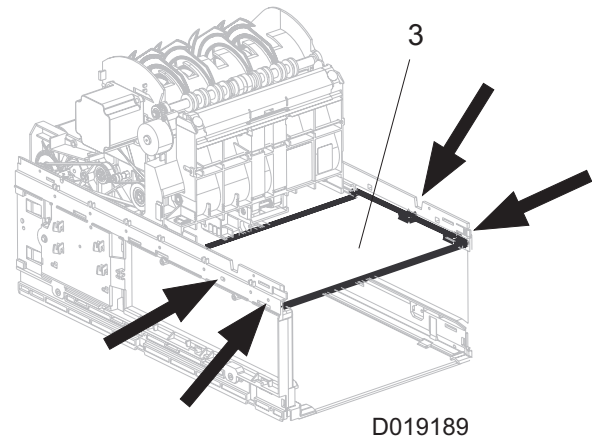
5. Fit the stack presenter to the frame, see page 13.

Note diverter

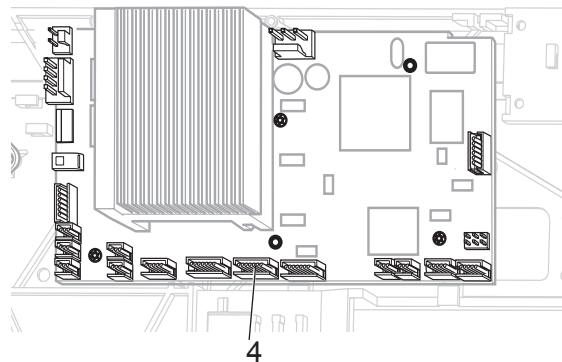
Replacement of note diverter (ND)

Removal

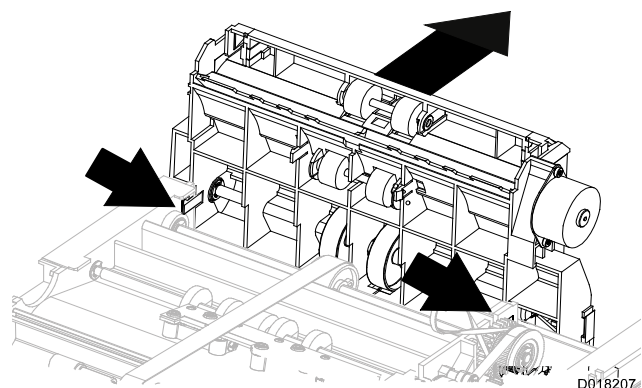
1. Remove the stack presenter frame, see page 14.
2. Remove the note stacker, see page 14.
3. Remove the stabilising plate



4. Remove the four screws that secure the plate and lift it out.
5. Disconnect the cable between ND and CMC
6. Remove the ND



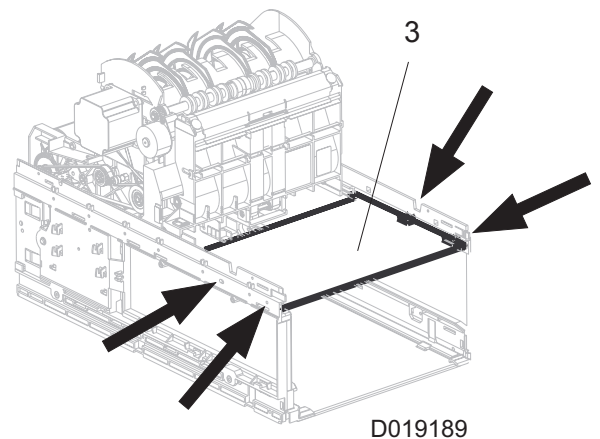
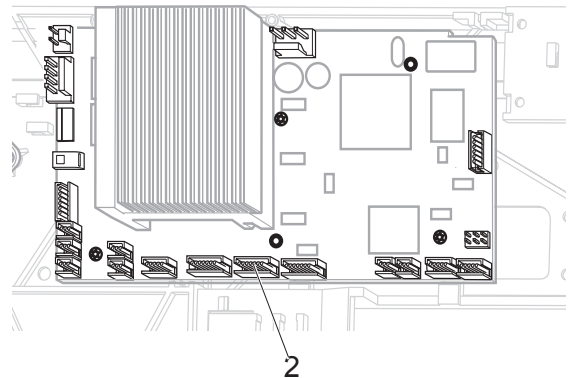
Remove the ND by releasing the snap fits and at the same time navigating the ND away from the NQ



NOTE:
Be careful not to damage the snap fits.

Fitting

1. Fit the ND to the frame
2. Connect the cable from ND motor to the CMC
For cable routing see page 25.
3. Fit the stabilising plate, tighten the four screws.
4. Fit the note stacker, see page 15.
5. Fit the stack presenter frame, see page 15.

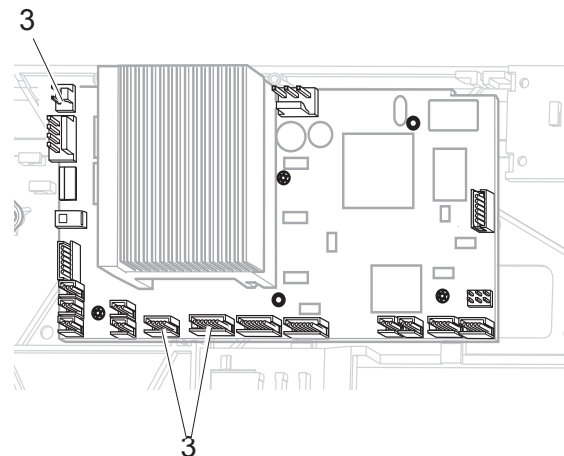


Note qualifier

Replacement of note qualifier (NQ)

Removal

1. Remove the stack presenter frame, see page 14
2. Remove the note stacker, see page 14.
3. Disconnect the cables between the NQ and CMC as shown



4. Release the snap fits holding the NQ

Begin to release the snap fits at the cold side of the NQ.

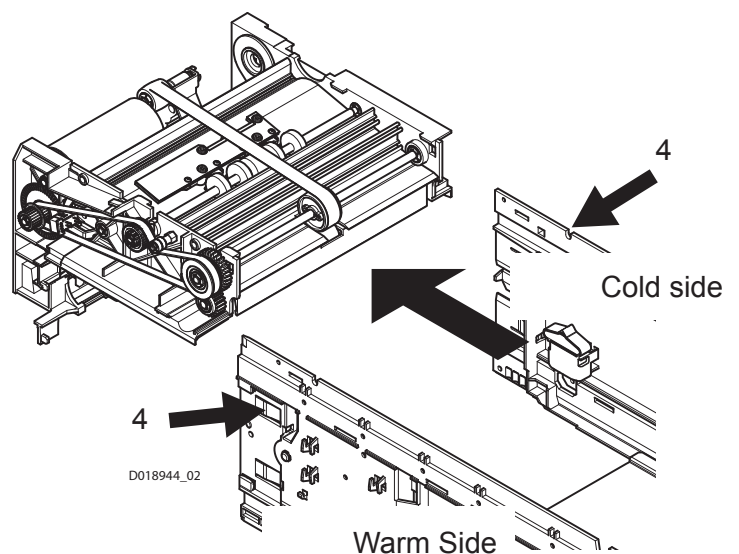
NOTE:

If the note diverter is not removed the snap fits ND-NQ must be released. Be careful not to damage the snap fits.

5. Pull out the NQ

NOTE:

Ensure that the cables from the NQ were not damaged when pulling out the NQ.



Fitting

1. Fit the NQ to the frame

NOTE:

Be careful not to damage the cables when fitting the NQ

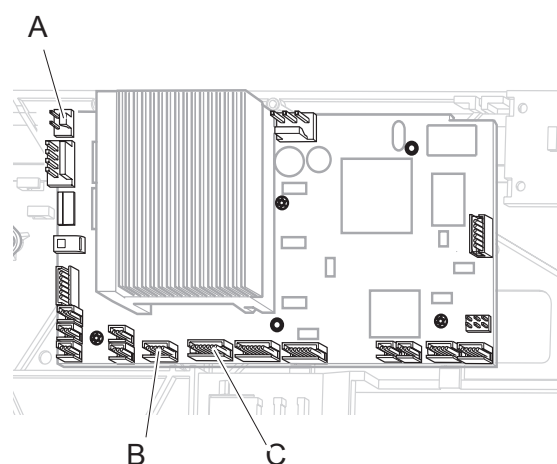
Connect the cables from NQ to positions as shown

A = Mainmotor

B = Transport clock sensor

C = Double Detect sensor

See page 25 for cable routing.



2. Fit the note stacker, see page 17.

3. Fit the stack presenter frame, see page 15.

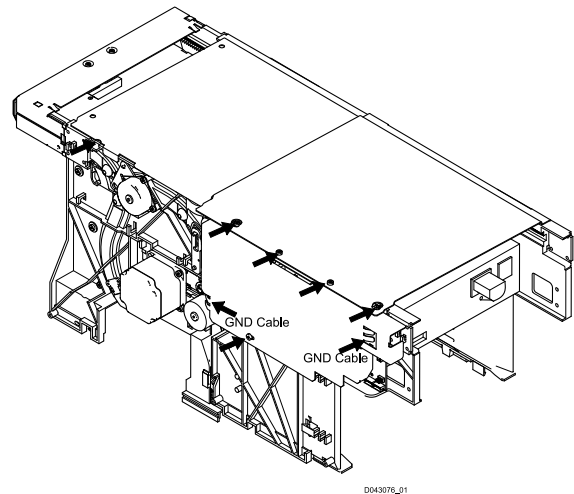
Central machine controller

Replacement of central machine controller (CMC)

Removal

1. Use the power supply switch to turn the power off

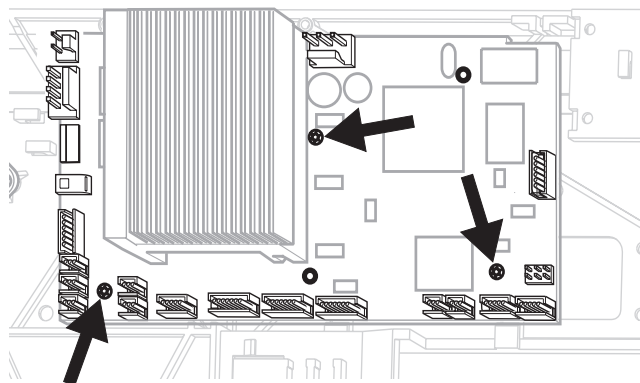
NOTE:
Always use ESD protection when handling the machine's electronics



2. Remove the cover on top and on the side of the NMDe. Disconnect the GND cables.

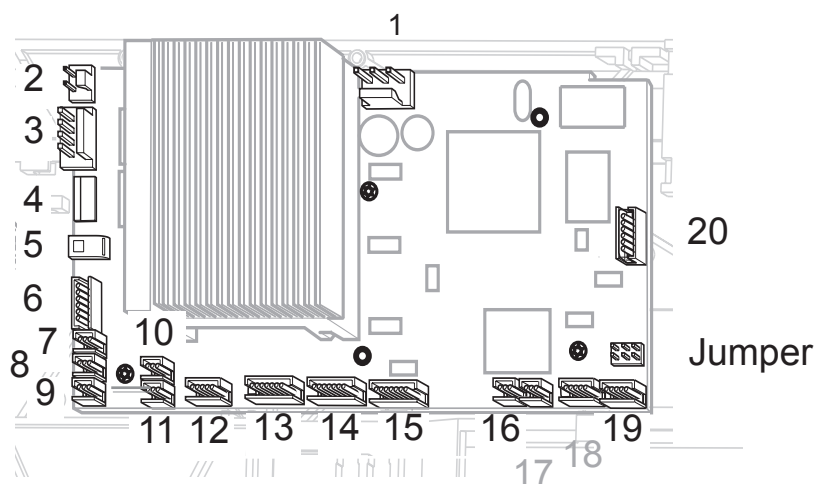
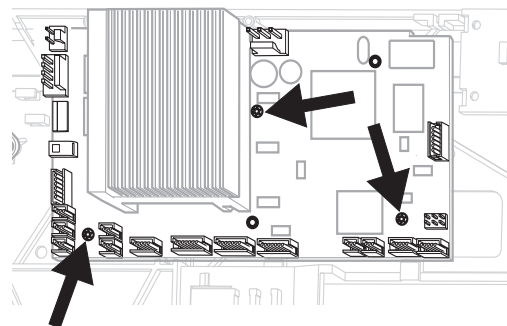
3. Loosen the cables from the cable holders and disconnect all cables from the CMC connectors

4. Remove the three screws securing the CMC. Remove the CMC assy.



Fitting

1. Assemble the CMC assembly to the frame. Tighten the three screws to secure the CMC assy.
2. Route and connect all cables to the CMC. See below and page 24-27. Fasten the cables to the cable holders.



Cable connections

- | | |
|--------------------------------|----------------------------------|
| 1. Power PS-CMC | 11. NS entry sensor |
| 2. Main motor | 12. Transport clock sensor |
| 3. NS step motor | 13. Double detect sensor |
| 4. BOU sensor | 14. ND motor |
| 5. BCU motor | 15. SP diverter motor |
| 6. RV CAN com | 16. CAN com to first feeder (NQ) |
| 7. BCU Reject position sensor | 17. Not used |
| 8. BCU Deliver position sensor | 18. Not used |
| 9. BCU Home position sensor | 19. Communication RS 232 |
| 10. NS position sensor | 20. Shutter interface |

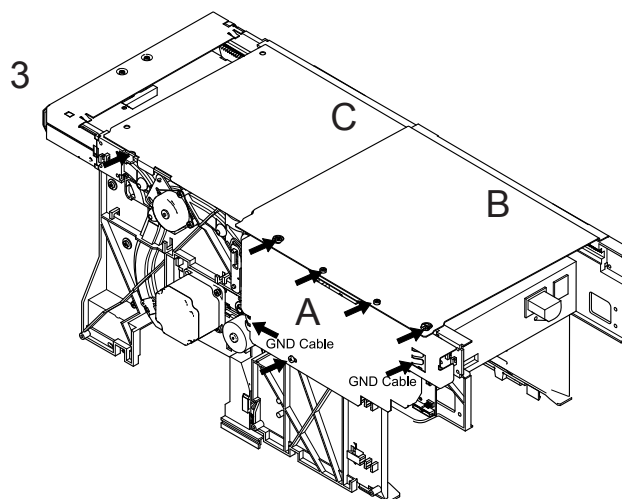
3. Fit the covers to the NMDe

Fit the side protection plate (A) and connect the GND cables.

Fit plate (B) followed by plate (C)

NOTE:

Always use ESD protection when handling the machine's electronics

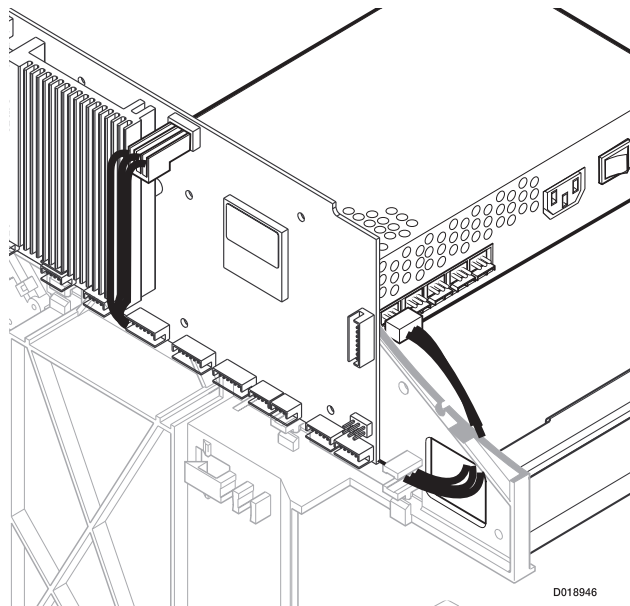


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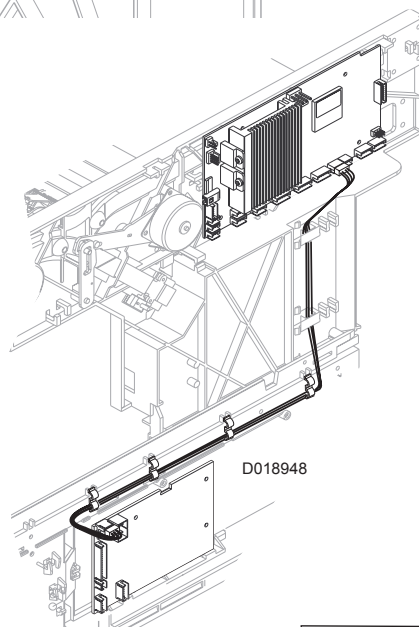
4. Use the power supply switch to turn the power on.

Routing cables

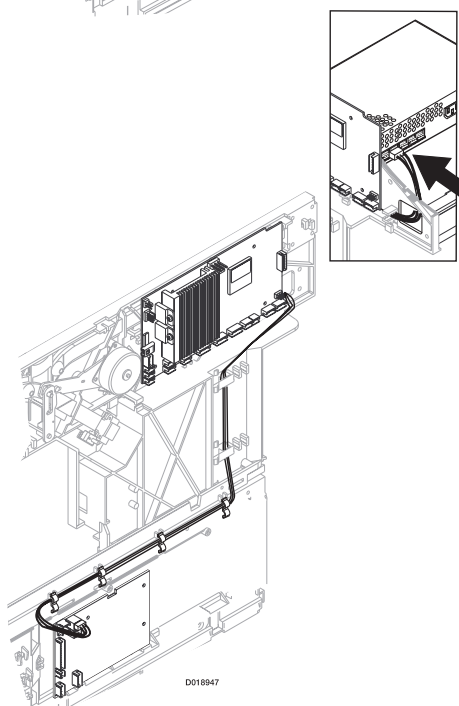
1. Route and connect the power PS - CMC cable as shown in the illustration.



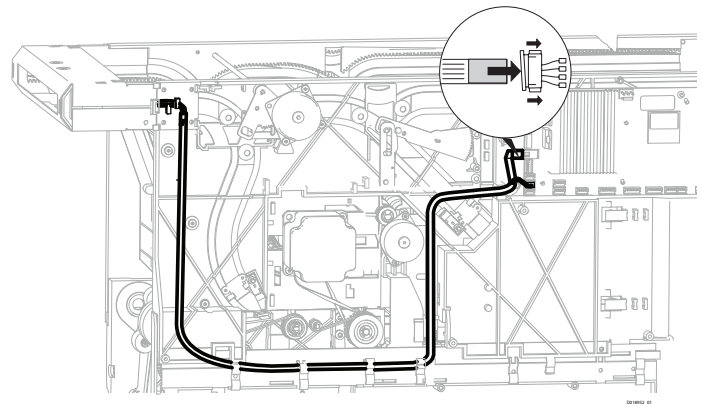
2. Route and connect the CAN cable to next note feed controller as shown in the illustration.



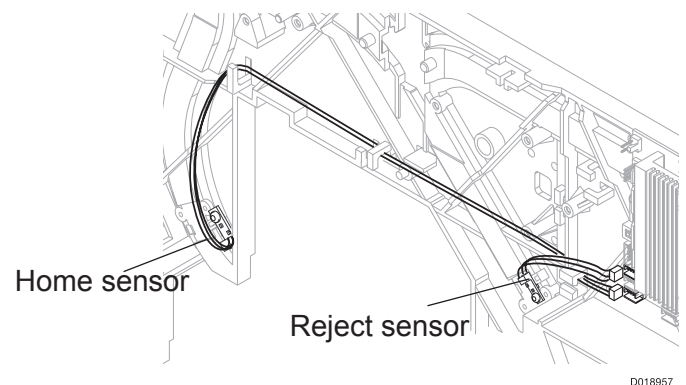
3. Route and connect the power cable to next note feed controller as shown in the illustration.



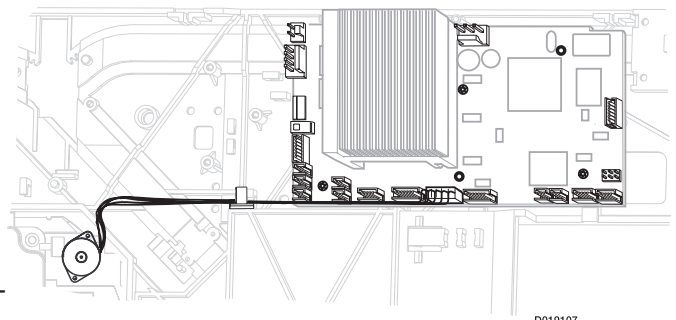
4. Route and connect the BOU prism sensor cable to the CMC according to the illustration.



5. Route and connect to the BCU home sensor and BCU reject sensor cables according to the illustration



6. Route and connect the ND motor cable to the CMC according to the illustration



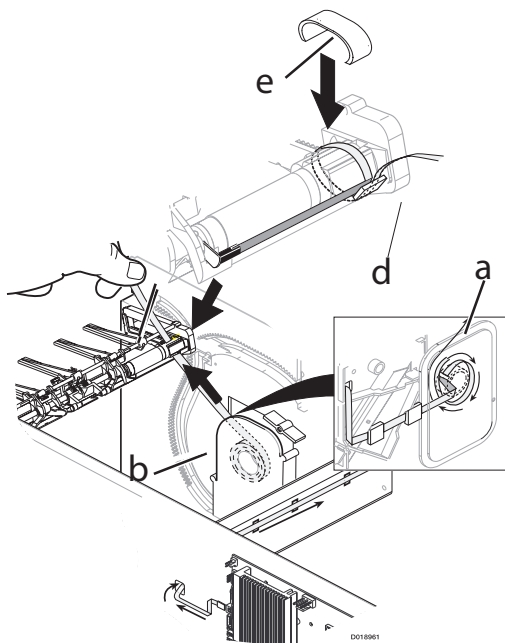
7. Fit the BCU cable to the frame according to the illustration.

- Turn the cable 180 degrees anti-clockwise before feeding into the slot.
- Wind the cable around as shown in the

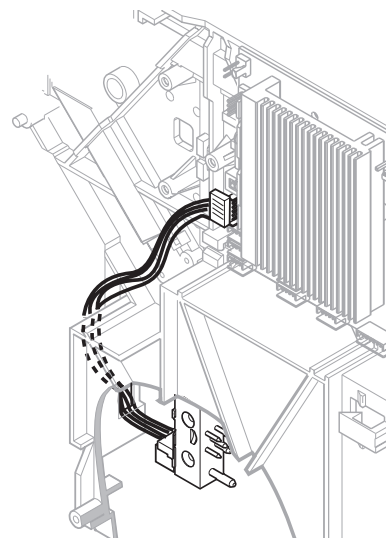
Routing cables

illustration.

- - 4 turns for FS
- - 6 turns for RS
- Route the cable in under the tab on the motor as shown in the illustration.
- Wind the cable up and around the motor and back Clip on the cable holder.

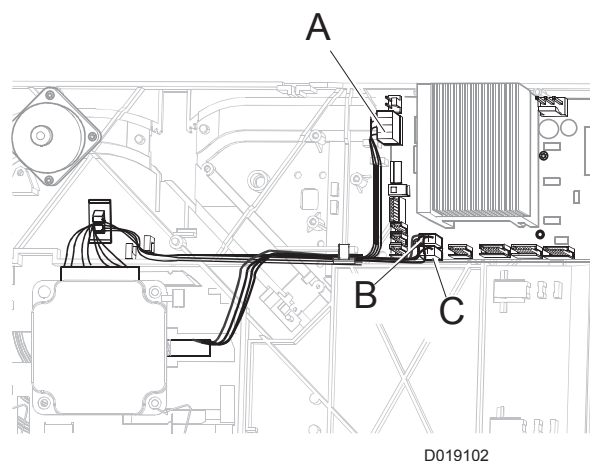


8. Route and connect the reject vault connector cable according to the illustration.

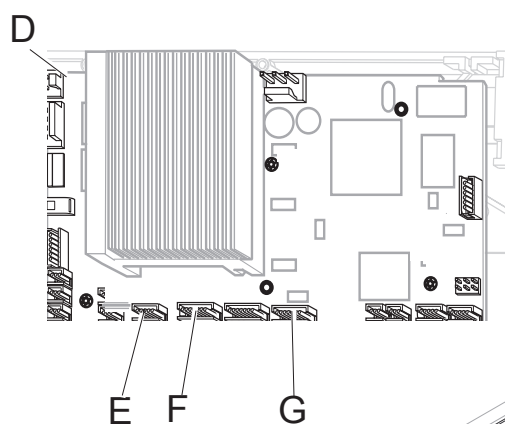


9. Route and connect the cables from NS to the CMC according to the illustrations
NS Step motor (A)
NS position sensor (B)

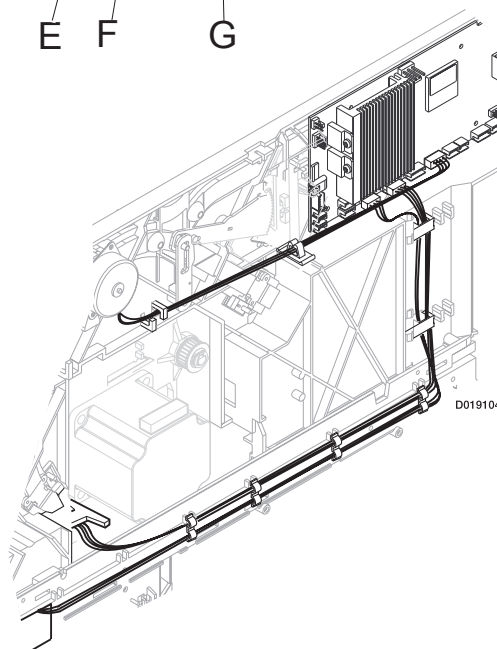
NS Entry sensor (C)



10. Route and connect the NQ cables to positions according to illustration
D = Main motor.
E = Transport clock sensor.
F = Double Detect sensor.



11. Route and connect the cable from SP diverter motor to pos G according to illustration



Note feeder

Replacement of note feeder (NF)

Removal

NOTE:

Due to the way the NFs notepath intersect you must first remove all NFs mounted below the intended NF. Start with the lowest NF and continue upwards.

1. Use the power supply switch to turn the power off

2. Remove the NFC cover

3. Disconnect the cables from the NFC

4. Fold up the transport path on the note feeder above the unit that is to be replaced

5. Release the snap fits, start with the snap fits on the belt side.

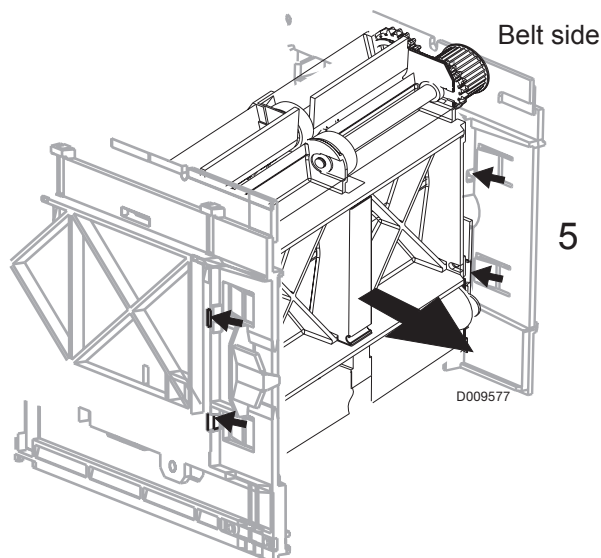
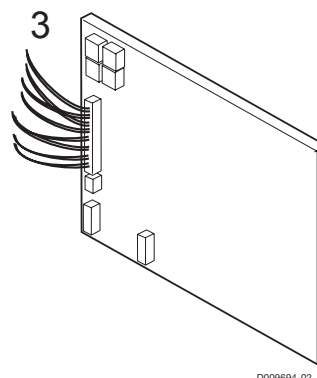
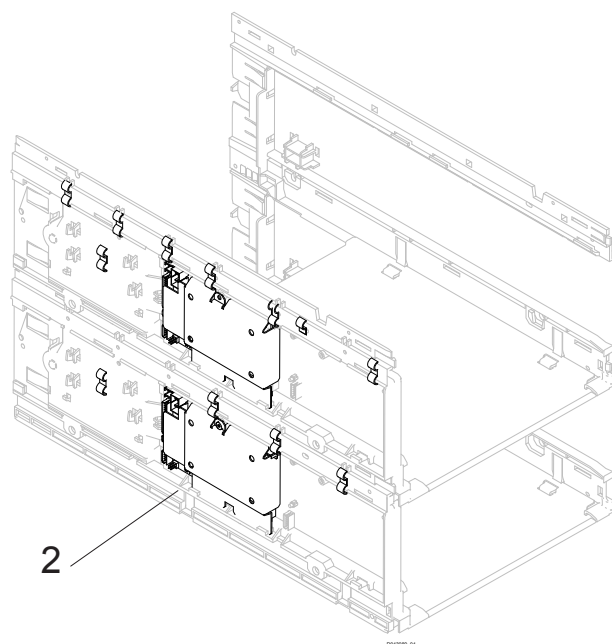
6. Pull out the NF

Unhook the drive belt whilst pulling out the NF.

NOTE:

Be careful when pulling out the NF not to damage the socket (spring and hook) to the counter rotation roller.

7. Exchange the note feeder



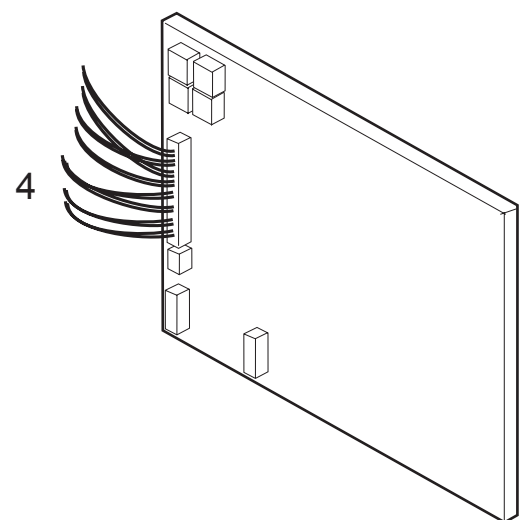
Fitting

1. **Make sure the transport path is folded up on the note feeder above the unit to be fitted**
2. **Fit the note feeder to the frame. Hook on the belt and route the cables through the hole in the frame.**

NOTE:

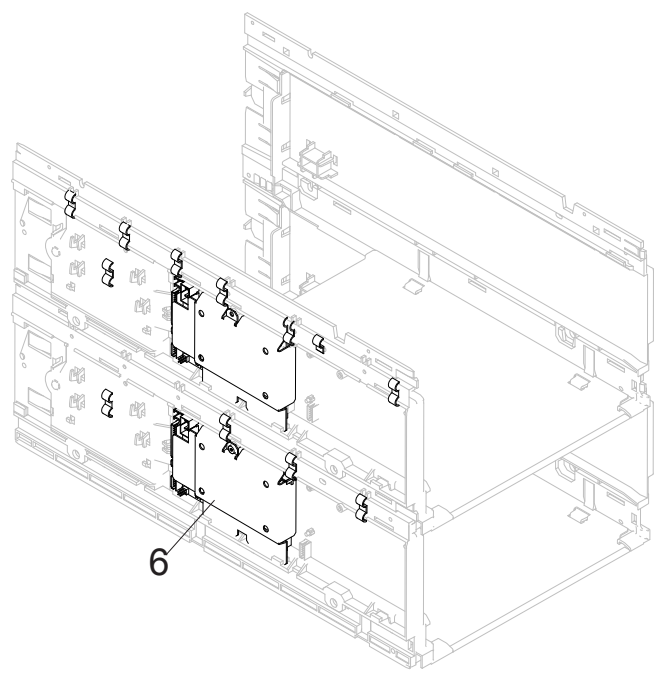
Be careful when fitting the NF not to damage the socket (spring) for the counter rotation roller. Also be careful not to damage the cables.

3. **Make sure that all four snap fits are engaged correctly**
4. **Connect the cables to the note feeder controller, cables to/from note feeder controller (NFC).**



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5. **Fold down the transport path on the note feeder above**
6. **Fit the NFC cover**
7. **Use the power supply switch to turn the power on**



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Replacement of frame (FR)

Removal

1. Use the power supply switch to turn the power off

2. Disconnect the cables as shown in illustration

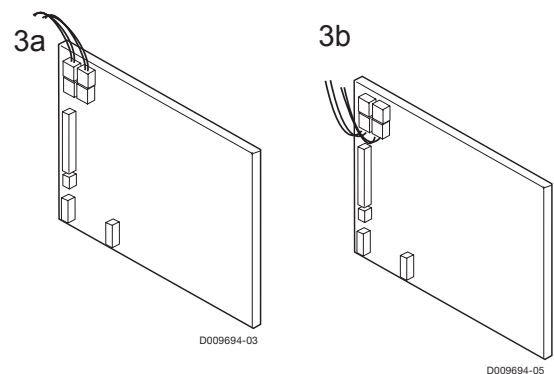
If the NFC is situated above the frame that is to be changed refer to illustration 3a.

If the NFC is situated under the frame that is to be changed refer to illustration 3b

3. Remove the NFC

4. Remove note feeder, see page 28

5. Place the machine on a table as shown



NOTE:

If the cables are not disconnected they will be damaged when separating the frame from the Stack Present extension (only DE-SP).

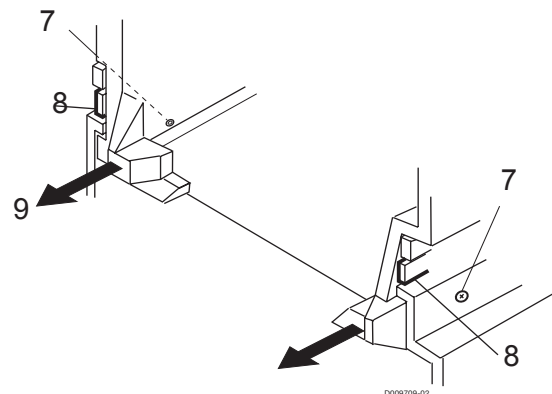
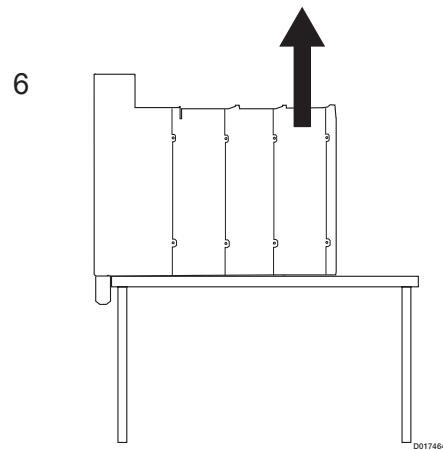
Disconnect all cables from the NFC of the frame that is to be removed.

Pull the cables up through the side-plate and leave connected to the frame above.

6. Remove screws on both sides

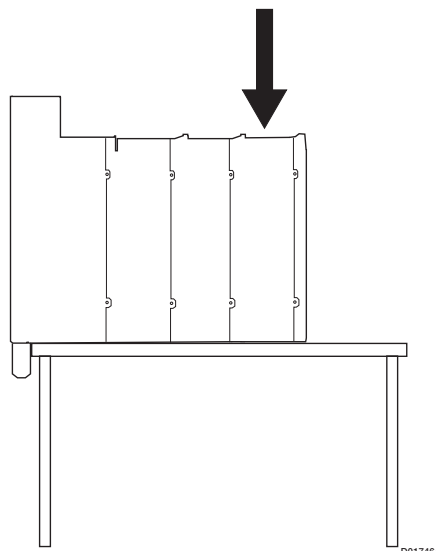
7. Release the snap fits

8. Pull out the frame



Fitting

1. Place the machine on a table as shown and slide the frame downwards

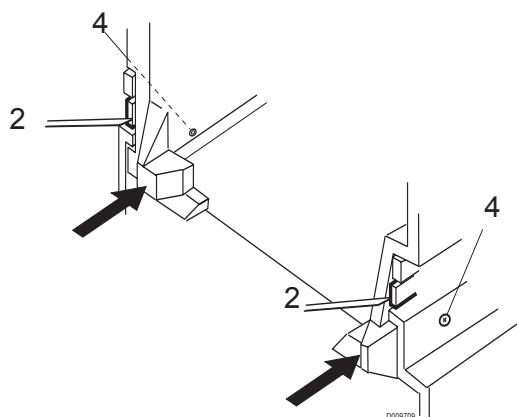


D017464

2. Make sure that the snap fits are engaged correctly

3. Connect the cables

Insert the cables through the side-plate and connect the cables to the NFC of the frame that is to be fitted.
See page 30-31.



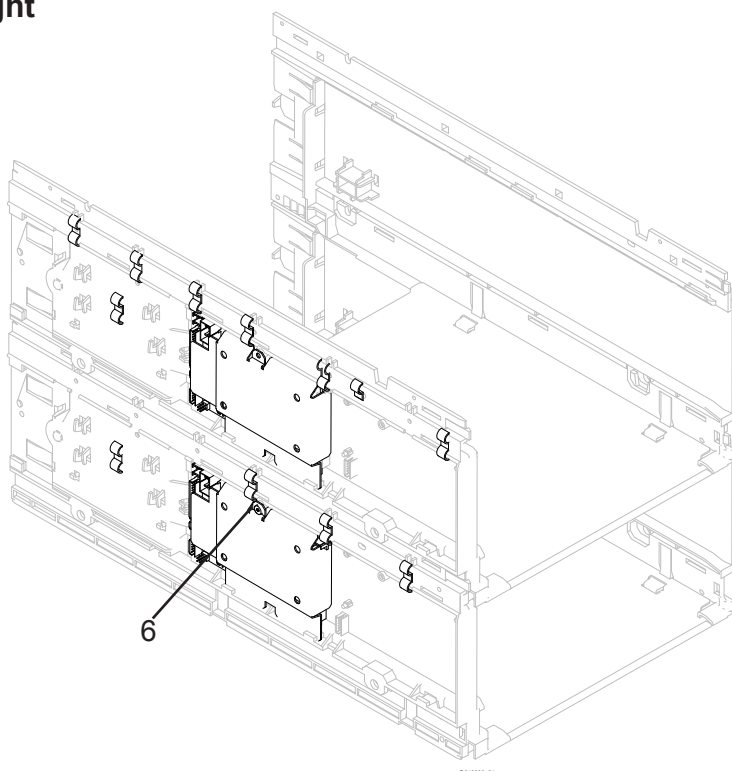
D009706

4. Fit and tighten the screws

5. Turn the machine to normal upright position

6. Fit the NFC

7. Fit the note feeder, see page 29.



D013089_01

Note feeder controller

Replacement of note feeder controller (NFC)

Removal

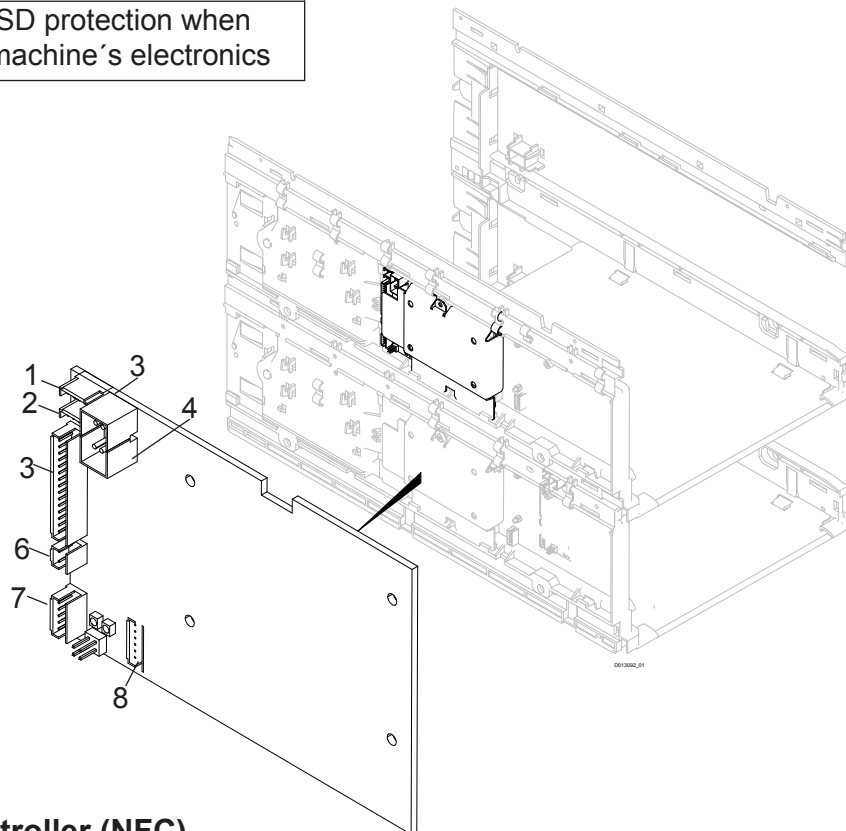
1. Use the power supply switch to turn the power off
2. Disconnect the cables and remove the screws and cable cover
3. Remove the NFC

Fitting

1. Fit the NFC and cable cover to the denomination extension with the screws
2. Route the cables to the NFC. See page 31
3. Use the power supply switch to turn the power on

NOTE:

Always use ESD protection when handling the machine's electronics

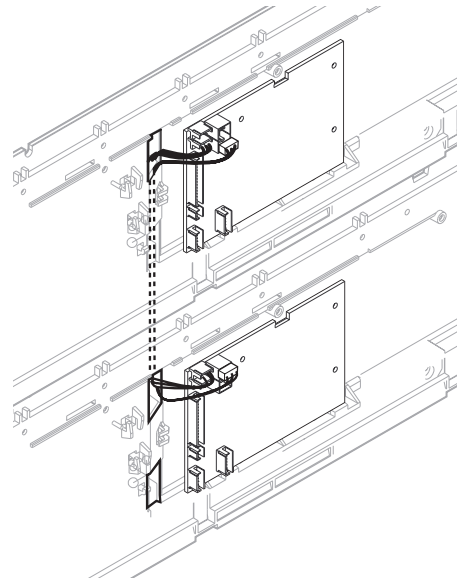


Note feeder controller (NFC)

1. CAN, note feeder controller-note feeder controller - 5 way
2. CAN, note feeder controller-note feeder controller - 4 way
3. Power, note feeder controller-note feeder controller
4. Power, note feeder controller-note feeder controller
5. Pressure sensor, Empty sensor, Exit sensor, Pick motor and Sep. motor
6. Shutter Motor
7. NC connection
8. Shutter sensor

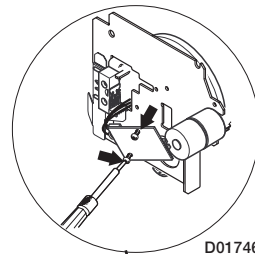
1. Route and connect the CAN cable to next Note Feed controller as shown in the illustration

2. Route and connect the power cable to next note feed controller as shown in the illustration



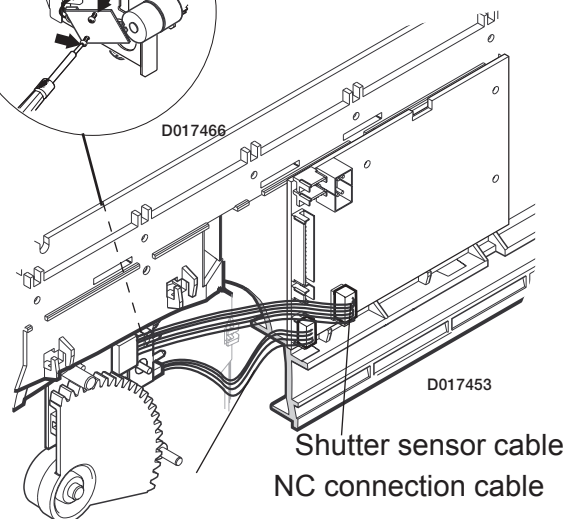
3. Removal and fitting of the NC connector

Disconnect the cable from the NFC board. Remove the two screws holding the connector. Connect the cable to the new connector and secure it with the two screws. Connect the cable to the NFC.



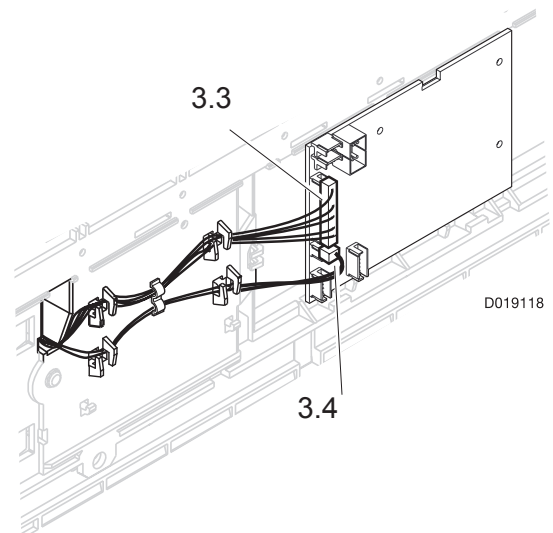
4. Removal and fitting of the Shutter Sensor board

Remove the cable from the NFC. Remove the two screws holding the board. Connect the cable to the new board and secure it with the two screws. Connect the cable to the NFC.



5. Route and connect the NF cable

6. Route and connect the shutter motor cable



Bundle output unit

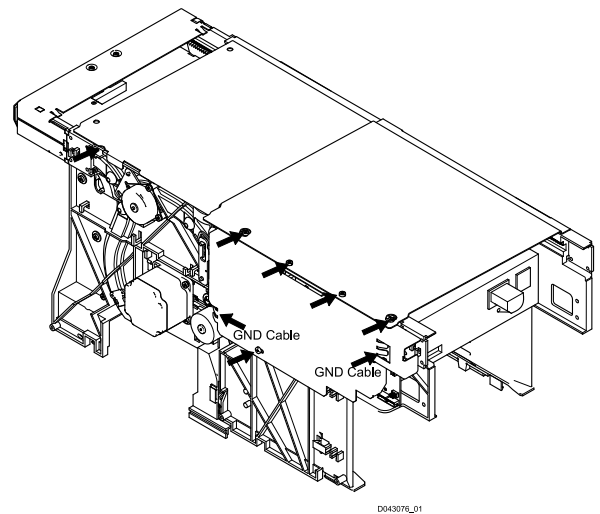
Replacement of bundle output unit (BOU)

Removal

1. Use the Power Supply switch to the turn the power off

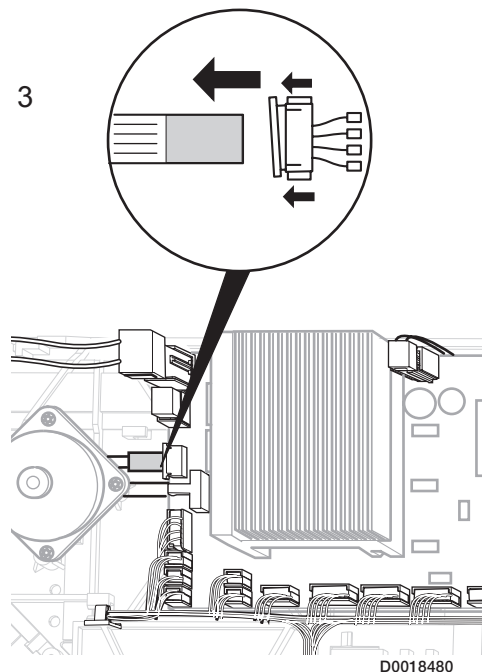
2. Remove the covers on the top and on the side of the NMD

Disconnect the GND cables.



3. Remove the cable from the cable holders and disconnect the sensor cable from the connector by pulling the black plastic lock on the head of the connector. Remove the cable.

3

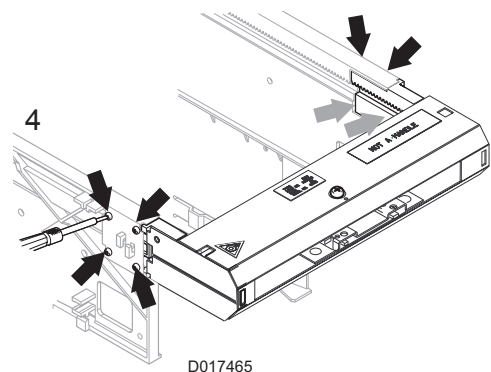


NOTE:
Note the polarity of the sensor cable

4. Loosen and remove the eight screws and smoothly pulling the unit from the Stacker Presenter

NOTE:
When pulling the bundle output unit, make sure not to damage the cable and the plastic heel on the Stack Presenter.

4



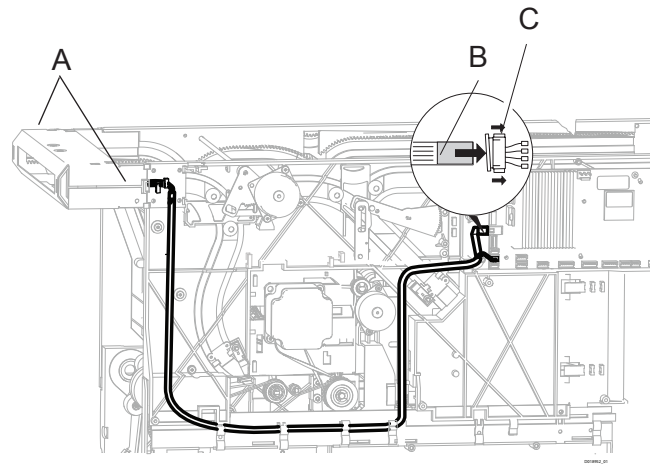
5. Exchange the bundle output unit

Fitting

1. Fit the bundle output unit to the Stack Presenter

NOTE:

Route the sensor cable as shown to prevent it from being damaged.
Make sure the plate is engaged correctly to the gables (A). Always check the polarity of the sensor cable (B) (the blue plate should be facing outwards) and that the cables connector is correctly inserted into the socket on the CMC board. Secure the cable by pushing back the black plastic lock (C).

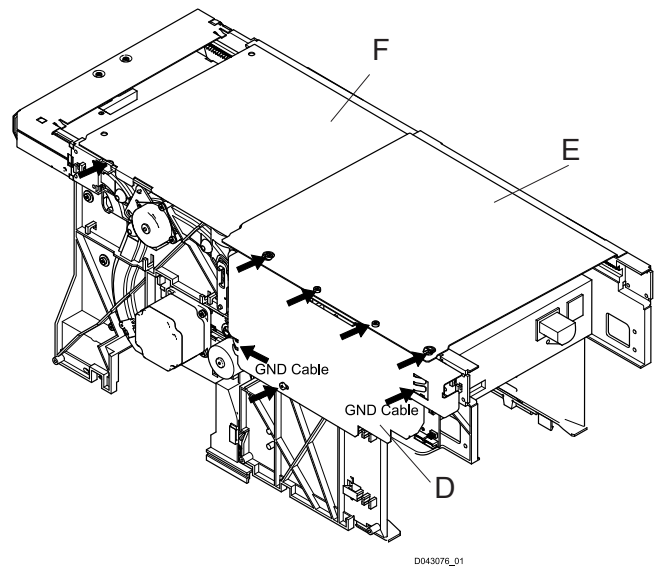


2. Secure the cable in the cable holders.

3. Fit the covers to the NMD

Fit the side protection plate (D) and connect the GND cables
Fit plate (E) followed by plate (F)

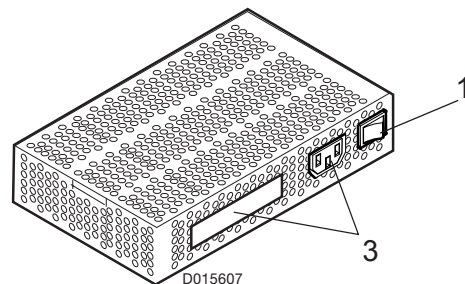
4. Use the Power Supply switch to turn the power on



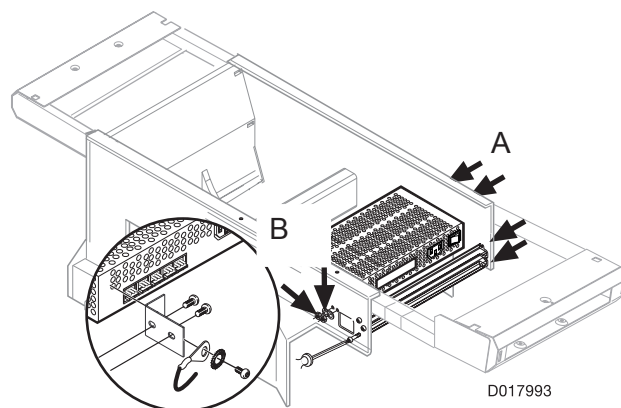
Replacement of power supply

Removal

1. Use the power supply switch to turn the power off
2. Remove the covers on the top and on the side of the NMD, see page 34.
3. Disconnect the mains cable and the output cables on the power supply
4. Remove the CMC assy so that you can access the screws/nuts for the PS bracket
5. Remove the power supply
Remove the two screws securing the power supply to the cold side plate (A).
Remove the three screws, the bracket, the locking washer and the ground wire that secure the Power Supply to the the warm side plate (B).
6. Remove the four screws holding the support beam and pull out the support beam.
7. Pull out and exchange the Power Supply

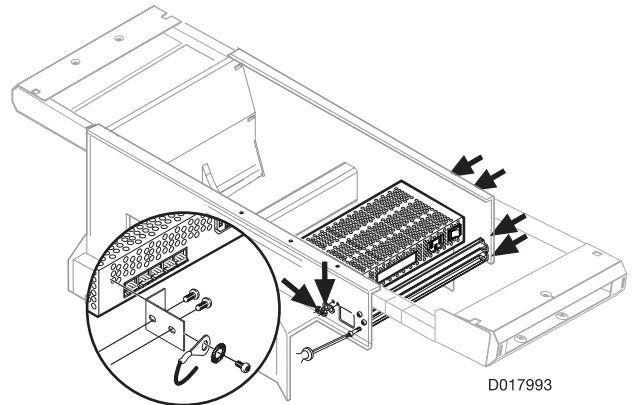


5



Fitting

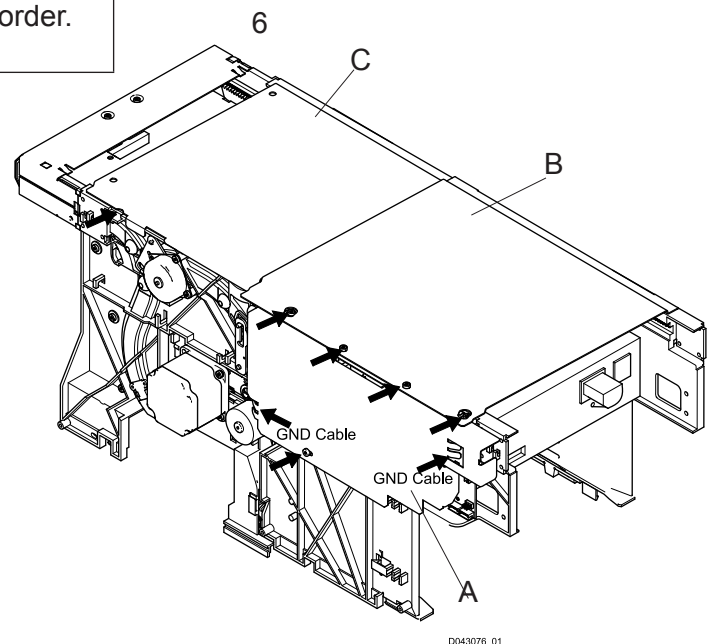
1. **Reassemble the power supply to the stack presenter**
2. **Fit the supporting beam**
3. **Refit the power supply**
Assemble the Power Supply to the right hand panel. Refit bracket, the ground wire the locking washer and the three screws securing the Power Supply to the left-hand panel.
4. **Fit the CMC to the stack presenter**
5. **Connect the mains cable and the output cables to the power supply**



NOTE:

No special attention is needed regarding the output cables from the PS, they can be placed in any order.

6. **Fit the covers to the NMDe**
Fit the side protection plate (A) and connect the GND cables
Fit plate (B) followed by plate (C)
7. **Turn the power on using the power supply switch**



Bundle carriage unit

Replacement of bundle carriage unit (BCU)

Removal

1. Extract the BCU

- Connect service PC with NMD test to the machine.
- Run the BCU to Hold position.

2. Use the power supply switch to turn the power off

3. Remove the covers on the top and on the side of the NMD

Disconnect the GND cables.

4. Remove the BOU. (See page 34)

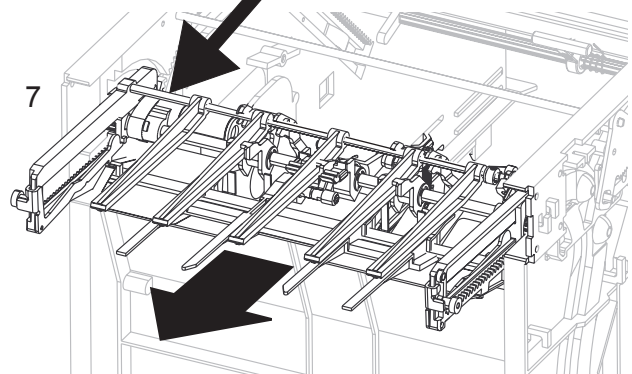
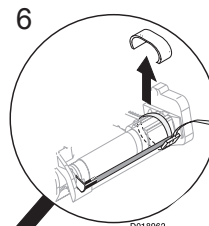
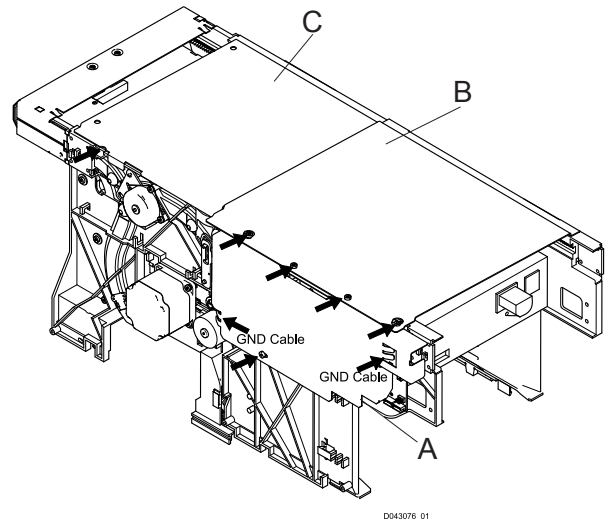
Disconnect the BCU cable from the CMC board.

5. Remove the clamp that holds the ribbon cable and disconnect the BCU motor connector

6. Pull out the BCU

NOTE:
Pull out the BCU using the protection plate.

3



In cases where the BCU fingers do not open Adjustment

1. Use the power supply to turn the power off
2. Remove the covers on the top and on the side of the NMD

Disconnect the GND cables.

3. Disconnect the cable between BCU - CMC

Gently pull the BCU by the protection plate from its home position.

4. Loosen but not remove the six screws as shown in the illustration

5. Adjust the bottom plate so that it is mounted in its uppermost position

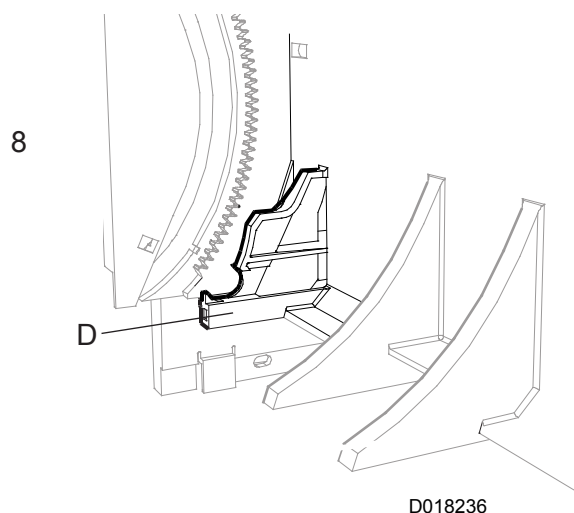
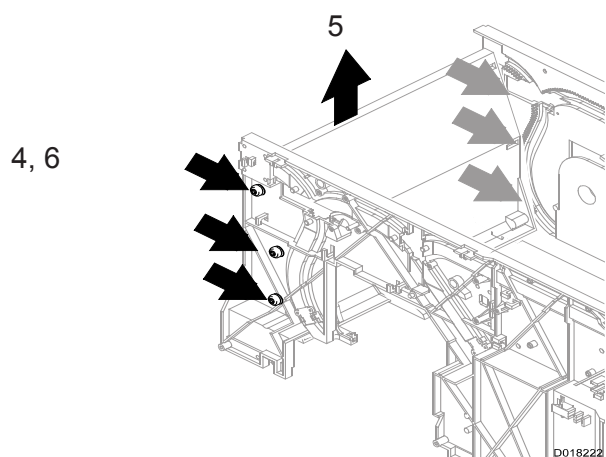
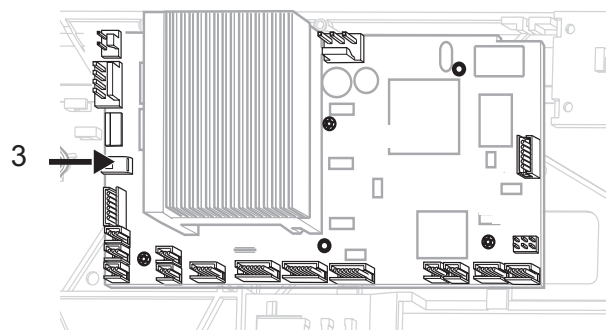
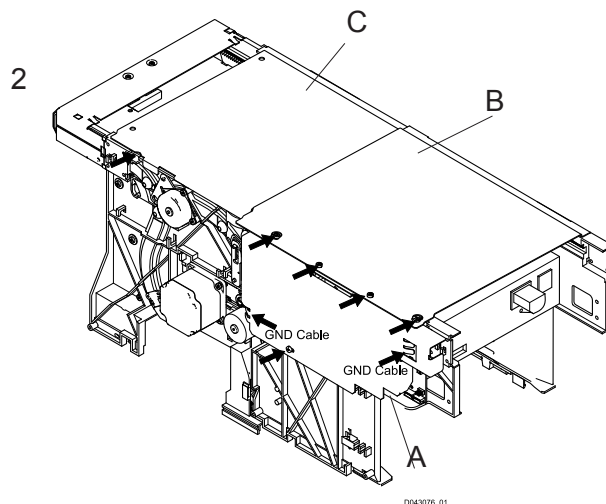
6. Tighten the screws

7. Assemble the covers and connect the GND cables

8. Turn the power on

Use the test program to issue a reset command. The BCU will move to its home position and the fingers should now not interfere with the note path of the stacker wheel.

If the BCU fingers still do not open wide enough please check for mechanical interference, misaligned BCU or cracks in the bottom plate (D).



Bundle carriage unit

If the BCU has jammed.

1. Turn the power off using the Power Supply switch

2. Remove the covers on the top and on the side of the NMD

Disconnect the GND cables.

3. Remove all frames (See page 30).

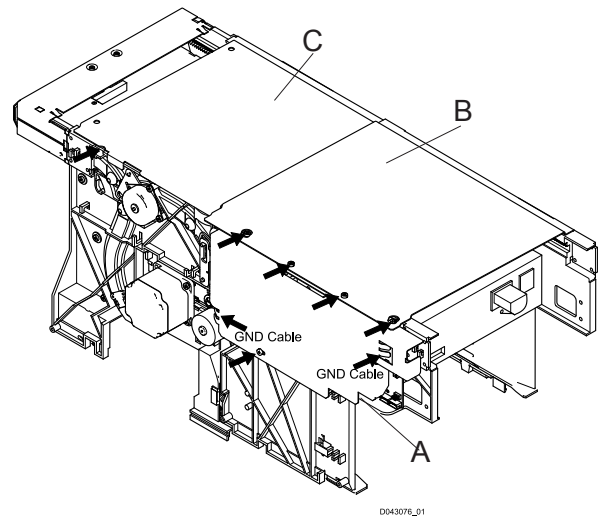
4. If the machine is a RS, remove the BOU (See page 34).

5. Remove the screws on the SP holding the base plate as shown in illustration. Remove the baseplate.

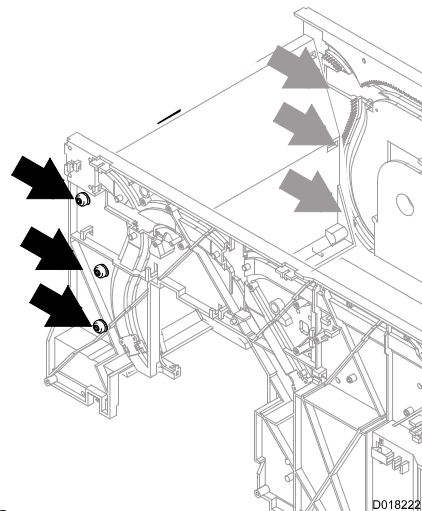
6. Remove the BCU

- Disconnect the BCU cable from the CMC board.
- Remove the clamp that holds the ribbon cable and disconnect the BCU motor connector
- Bend open the side plates of the SP and pull out the BCU
- Check the teeth in the rails on the SP and the teeth on the BCU's cogwheel for damage. Replace SP if necessary.
- Damage may also have occurred on the CMC board. To check the CMC, you must run the machine, (See page 37 instruction 8). replace CMC if necessary.

2

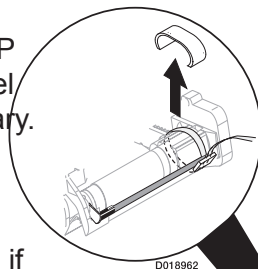


4

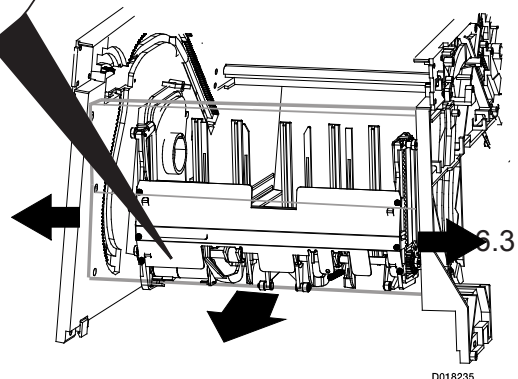


6

6.2



6.3



Fitting

1. Check that the base plate is correctly fitted in it's uppermost position and that the screws have been tightened
2. Fit the connector and the cable clamp

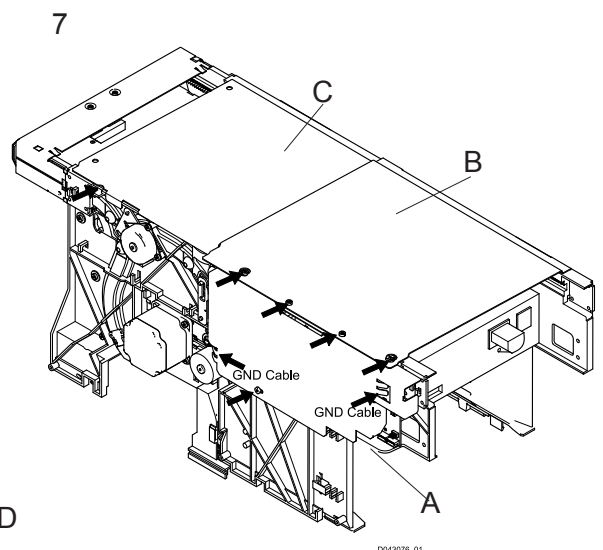
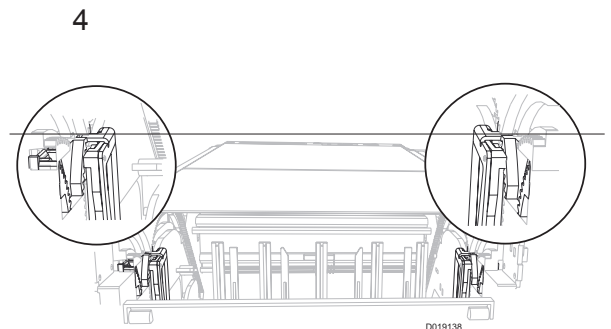
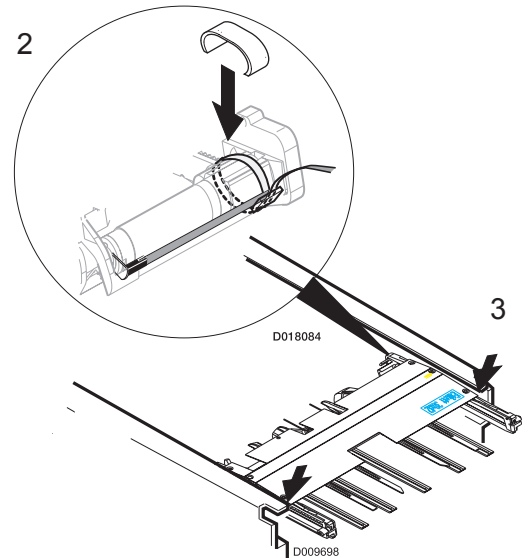
NOTE:

Make sure that the cable is fitted as close to the BCU cable as possible as shown in the illustration.

3. Fit the BCU in the rails
4. The edge of the BCU and the sideplates on the stack presenter must be parallel in order to slide the BCU correctly into the track.
5. Check that the BCU was correctly inserted.
6. Place BCU in rails according to illustration. Check that the backstop on both sides of the BCU is level with the top of the diverter.
7. Fit the BOU (see page 35).
8. Fit the frames (see page 31).
9. Test the BCU movement
 - Connect a service PC with NMD testprogram installed to the machine.
 - Turn the power on.
 - Run "Open Cassette" command and "Read Cassette ID" and dispense one note. Check the BCU movement and that it runs freely in the rails.

10. Fit the covers to the NMD

Fit the side protection plate (A) and connect the GND cables. Fit plate (B) followed by plate (C)



Note cassette

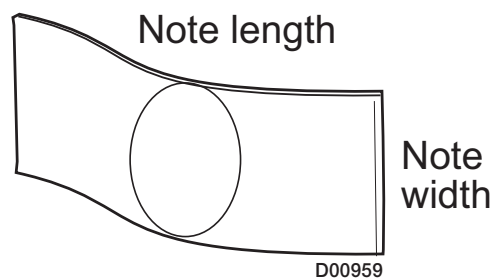
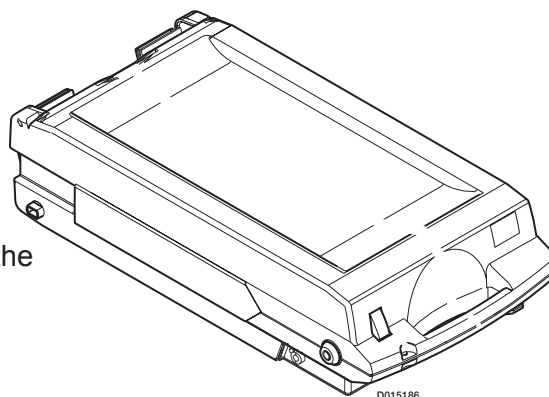
Note cassette (NC 301)

Adjustment of note guides

To allow all sizes of notes to fit in the cassette, the guides are adjustable.

Adjustment of note length

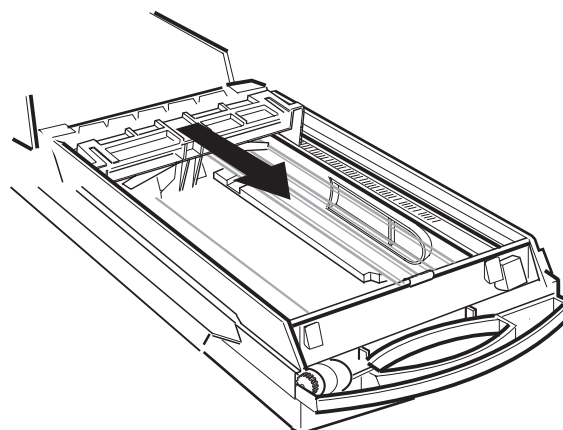
1. Open the lid
2. Clean the cassette if necessary
3. Use only a soft cloth with isopropyl alcohol.
4. Check the cassette for damage
5. With the lid in the open position, lock the cassette using the key



NOTE:

If the note width rulers are adjusted to the bottom of the cassette, the rulers must be released so the guides can be moved, see pos. 8 (A) on next page.

6. Move the pusher plate towards the handle
7. Lift up the guide while moving it towards the cassette handle



8. When the hook on the guide is in position (A) and the holes in the guide are in position (B) the guide is adjustable

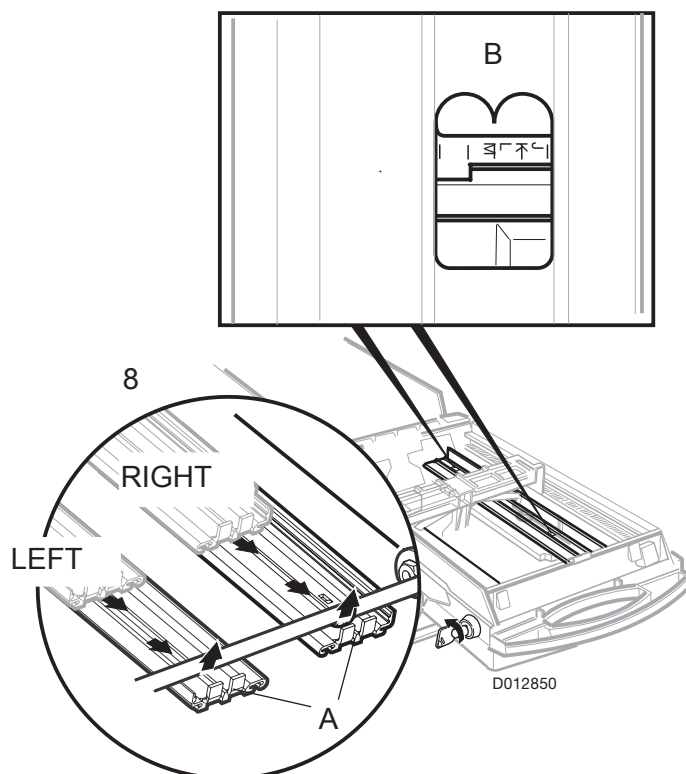
NOTE:

Adjust one guide at a time.

9. Adjust the noteguides to the values given in table, see below

For proper adjustment use the nominal measurement given by the authorized issuer of the note.

In case those values are not known, measure the actual size of the document.



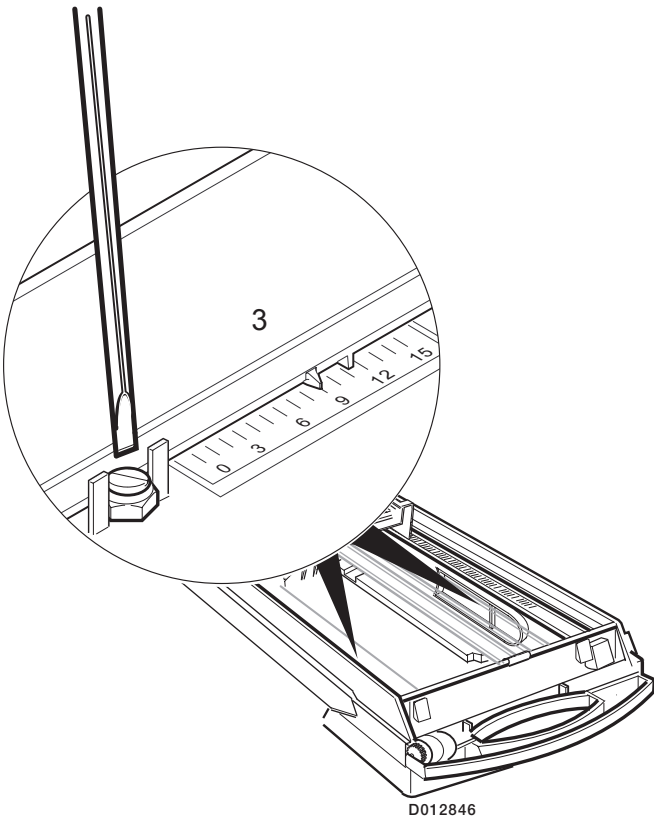
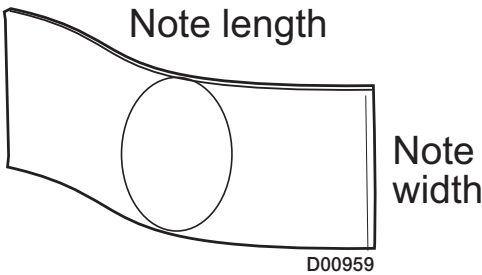
Note Length			Cassette			Note Length			Cassette			Note Length			Cassette			Note Length			Cassette		
	Left	Right		Left	Right		Left	Right		Left	Right		Left	Right		Left	Right		Left	Right		Left	Right
94	R	S	115	O	O	136	K	L	157	H	H	100	Q	R	121	N	N	142	J	K	163	G	G
95	R	S	116	O	O	137	K	L	158	H	H	101	Q	R	122	N	N	143	J	K	164	G	G
96	R	S	117	O	O	138	K	L	159	H	H	102	Q	R	123	N	N	144	J	K	165	G	G
97	R	R	118	N	O	139	K	K	160	G	H	103	Q	Q	124	M	N	145	J	J	166	F	G
98	R	R	119	N	O	140	K	K	161	G	H	104	Q	Q	125	M	N	146	J	J	167	F	G
99	R	R	120	N	O	141	K	K	162	G	H	105	Q	Q	126	M	N	147	J	J	168	F	G
106	P	Q	127	M	M	148	I	J	169	F	F	107	P	Q	128	M	M	149	I	J	170	F	F
108	P	Q	129	M	M	150	I	J	171	F	F	109	P	P	130	L	M	151	I	I	172	E	F
110	P	P	131	L	M	152	I	I	173	E	F	111	P	P	132	L	M	153	I	I	174	E	F
112	O	P	133	L	L	154	H	I	175	E	E	113	O	P	134	L	L	155	H	I	176	E	E
114	O	P	135	L	L	156	H	I	177	E	E												

Note cassette

Adjustment of note width

- 1. Open the lid
- 2. Check the cassette for damage
- 3. Loosen the screws holding the adjustment rulers
- 4. Adjust the note guides to the values given in table
- 5. Tighten the screws
- 6. Push the guides down as far as they will go

For proper adjustment use the nominal measurement given by the authorized issuer of the note.
In case those values are not known, measure the size of the document.



Note width	Cassette	Note width	Cassette	Note width	Cassette	Note width	Cassette
55	13	64	10	74	7	83	4
56	13	65	10	75	7	84	4
57	13	66	10	76	7	85	4
58	12	67	9	77	6	86	3
59	12	68	9	78	6	87	3
60	12	69	9	79	6	88	3
61	11	70	8	80	5	89	2
62	11	71	8	81	5	90	2
63	11	72	8	82	5	91	1
		73	8			92	1

Coding of note cassette

1. **Insert Cassette in Feeder. Do not open the Cassette. The NMDe mechanism will automatically latch the cassette to the note feeder at the first command changing the cassette coding. When cassette coding has been finished a command 7, Open Cassette has to be issued to unlatch the cassette. The cassette has then to be removed and reinserted in the mechanism before it can be used for normal operation.**

2. **Currency/denomination cassette ID and note size parameters are to be set with machine level command "Write Data":**

WD/9x27 set or change denomination

WD/9x28 set or change cassette ID

WD/9x29 set or change size

x indicates the location, note feeder NF1=1, NF2=2.

/ is the parameter delimiter.

3. **Changing currency and denomination**

Use the command *WD/9x27/cccmme*.

- 3.1 **ccc =** Currency code according to DIN 30784 and ISO 4217. When a document not included in ISO 4217 is used the currency code should be set to ?xx, where xx is a Talaris recommended code for the specific document.
- 3.2 **mme =** Is the denomination where mm is the mantissa, the mantissa should coded with as low value as possible, i.e. the exponent should be as high as possible, the most significant digit should be "0" for all currencies not needing two digits to describe the value.
- 3.3 **mme =** Where e is the number of trailing zeros.
- 3.4 **t =** Is the Variant/Issue, t is a letter code where "A" is the first Issue/Variant in circulation , "B" the second and so on. If the variant is not needed or not used the code should be set to "_".

Ex. The cassette is inserted in NF1, the note to be used is a 200 EURO of the first issue/variant. The command is:

WD/9127/EUR022A4.

3.1	3.2	3.3	3.4

A USA 20 Dollar note of issue/variant B in NF2 gives in the same way the Command:

WD/9227/USD021B

3.1	3.2	3.3	3.4

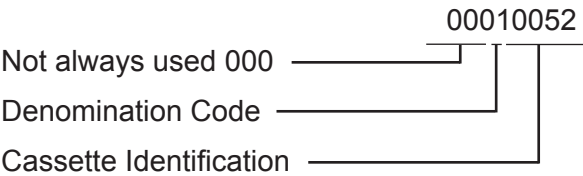
Note cassette

4. the cassette ID

Use the command **WD/9x28/000XXXXX**

- 000XXXXX=** The three most significant digits is recommended to be coded with 0 when used in mechanisms emulating a MDDM.
- 000XXXXX=** The five least significant digits is the five digit number reported in the response to the Reset and Read Cassette ID commands. The coding of this five digits is totally transparent to the dispensing mechanism.

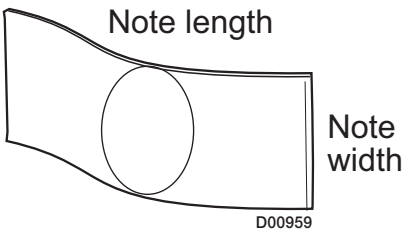
	NOTE:
	If the mechanism is used with an Application program written for the MDDM/SD300 it's recommended that these eight digits are used in the following way:



Use digits 0 to 5 for denomination coding with the lowest digit for the lowest denomination. Reserve code 6 for the Reject vault.
(N/A) It's strongly recommended that if a new application is written that this parameter is used as pure cassette identification enabling future expansion to a full 8 digit identifier.

5. Changing Note size (Note width and note length)

- Use command **WD9x29/vvvhhh**
- vvvhhh=** Vertical size of note (width)
- vvvhhh=** Horizontal size of note (length)

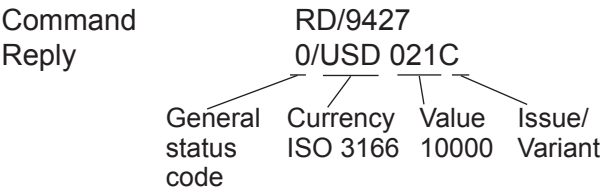


Verifying cassette coding

All coding can be read out by using command Read Data.
RD/9x27, RD/9x28 and **RD/9x29**. As with Write the variable **x** addresses the location in the mechanism.

The reply string will have the format **S/YYY...Y** where **S** is the general status code and **YYY...Y** is the actual setting with the same format as Write Data.

Ex. Read currency and denomination in NF4 the note is a 20 USA Dollar of third variant/issue:



Removal of note cassette

This is an instruction on how to remove the note cassette if the NMD should malfunction or encounter power failure.

Turn off power with the Power Supply switch

1. Note cassette located in 1st feeder position

Using a screw driver, break lose the little plastic tab to reveal the frame's pulley's shaft.

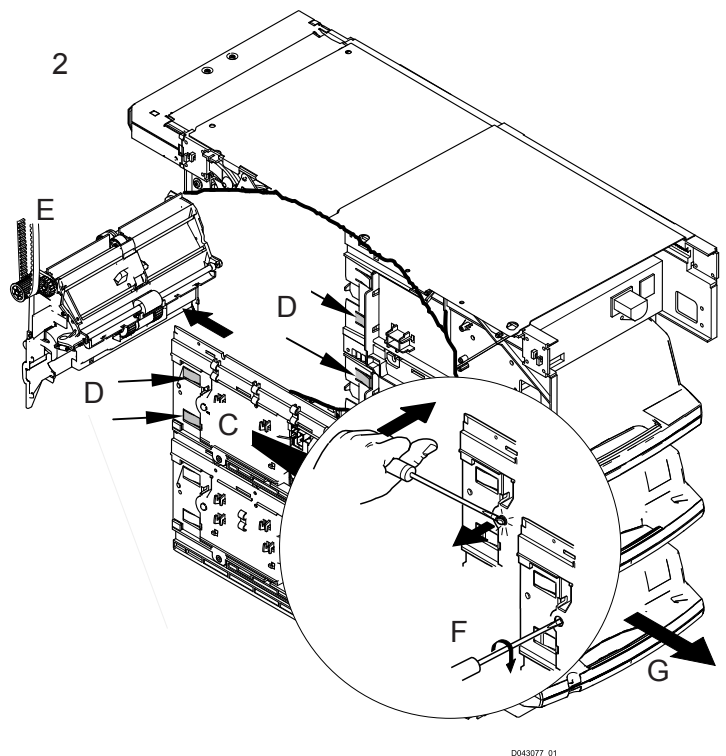
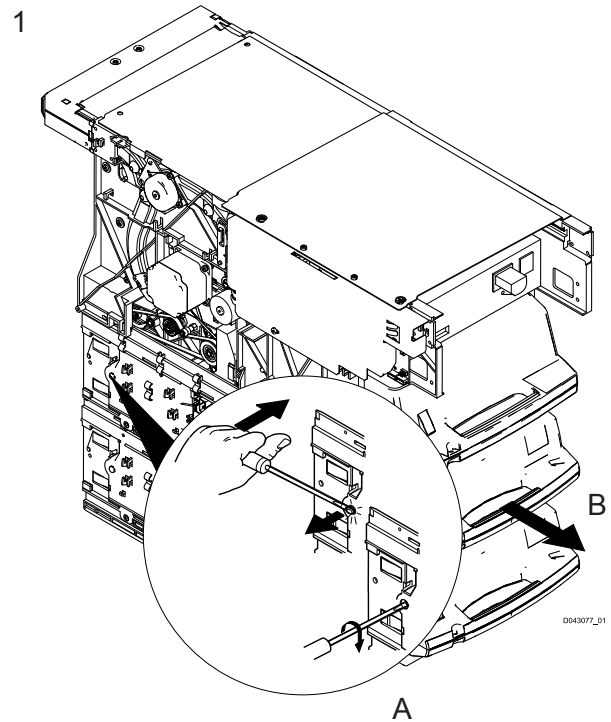
Turn the cog wheel (A) manually clock-wise until it comes to a stop. Then turn the cogwheel exactly 2 turns counter clock-wise. Remove Cassette (B).

2. Note Casette located in 2nd and lower feeder positions

- Remove the cable cover
- Loosen the cables from the frame and disconnect them from the NFC.
- Remove the NFC (C).
- Fold up the transport path on the note feeder above the unit that is to be replaced.
- Loosen the snap fits (D), **start with the snap fits on the belt side**
- Pull out the NF, hook off the belt (E).

Using a screw driver, break lose the little plastic tab to reveal the frame's pulley's shaft.

Turn the cog wheel (F) manually clock-wise until it comes to a stop. Then turn the cogwheel exactly 2 turns counter clock-wise. Remove cassette (G).



Reject vault

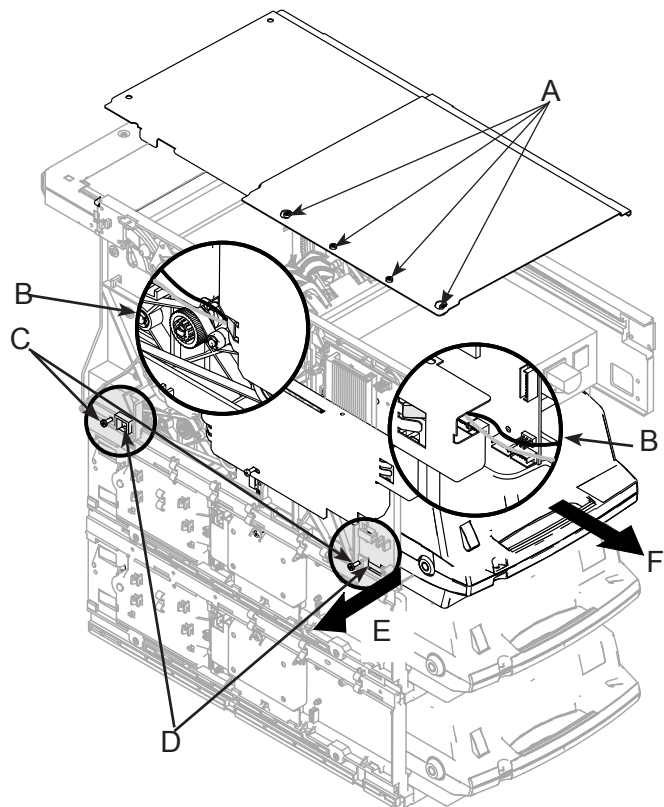
Removal of reject vault

This is an instruction on how to remove the reject vault if the NMDe should malfunction or encounter power failure.

Turn the power off using the power supply switch

Reject vault

- Remove the covers on the top and on the side of the NMDe by loosening the screws (A).
- Remove ground cables (B)
- Remove the two screws (C) and loosen the snap fits (D).
- Carefully bend the stack presenter frame (E) until the cassette is free.
- Remove the reject vault (F).



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The Talaris Commitment

Talaris are World Experts in cash management. Across the globe 2,300 personnel, with over 130 business partners deliver technology and solutions that provide security, productivity and innovation to our customers.

The company is committed to the highest ethical standards and compliance with legislation and to be a fair employer wherever we operate. As a responsible organisation we maintain a disciplined approach to our corporate governance and operate to the optimum professional standards in all aspects of our business.

Talaris will always seek to provide a safe and productive work environment where all employees can grow and be challenged. Wherever we operate our objective is to contribute actively to the community and the local environment. An intrinsic part of our business philosophy across our product and service offerings is to be consistently environmentally responsible and to continue to improve our performance across all environmental issues wherever possible.



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