

FireCR spark

Service Manual



FireCR Spark Computed Radiography Reader

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Part No.: CR-FPM-44-016-EN

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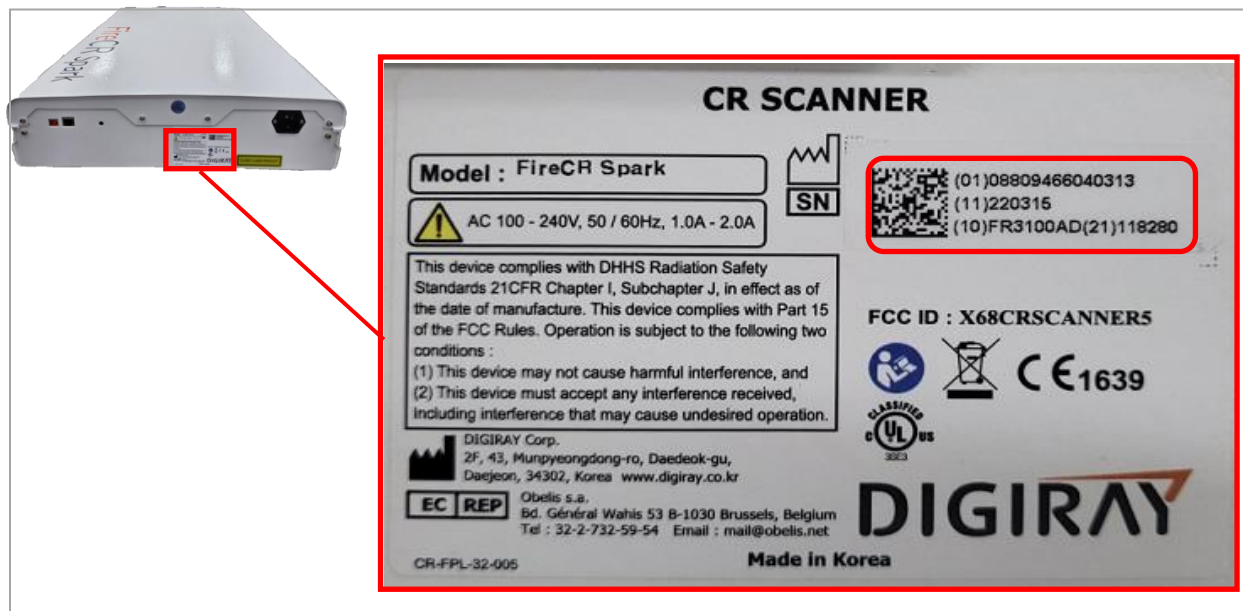
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When ordering parts, please inform the technical supporter the serial number of the unit being repaired.

The serial number can be found on the back of the scanner.

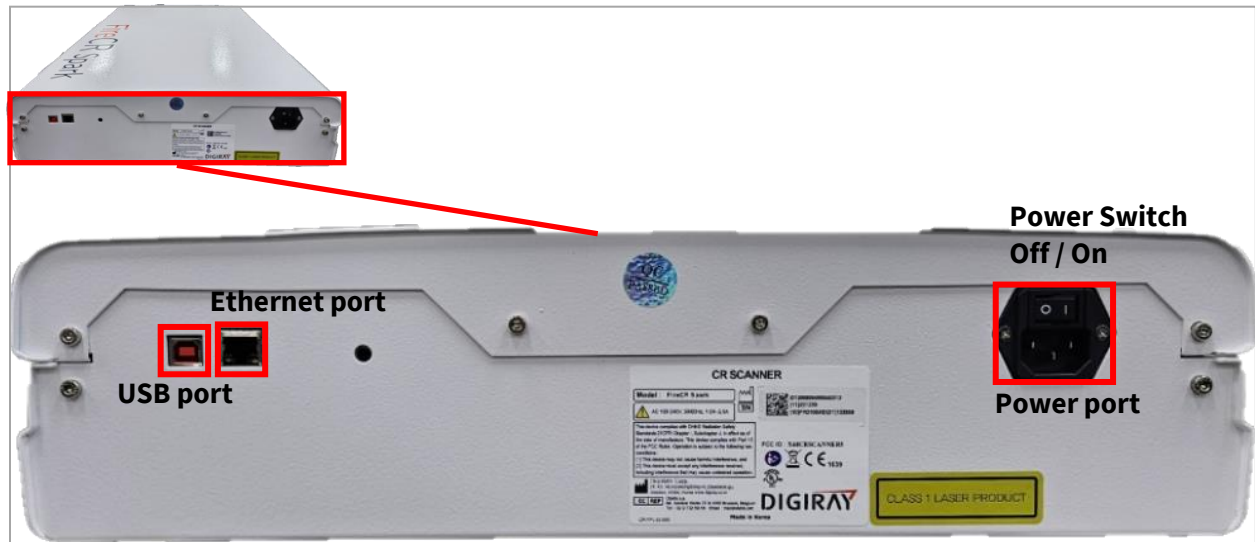


Parts removal/replacement

Replacing the top cover.

1. Switch the reader off on the back and unplug both cables.

It is recommended to be careful when disassembling the cover and removing screws and cables to avoid confusion.



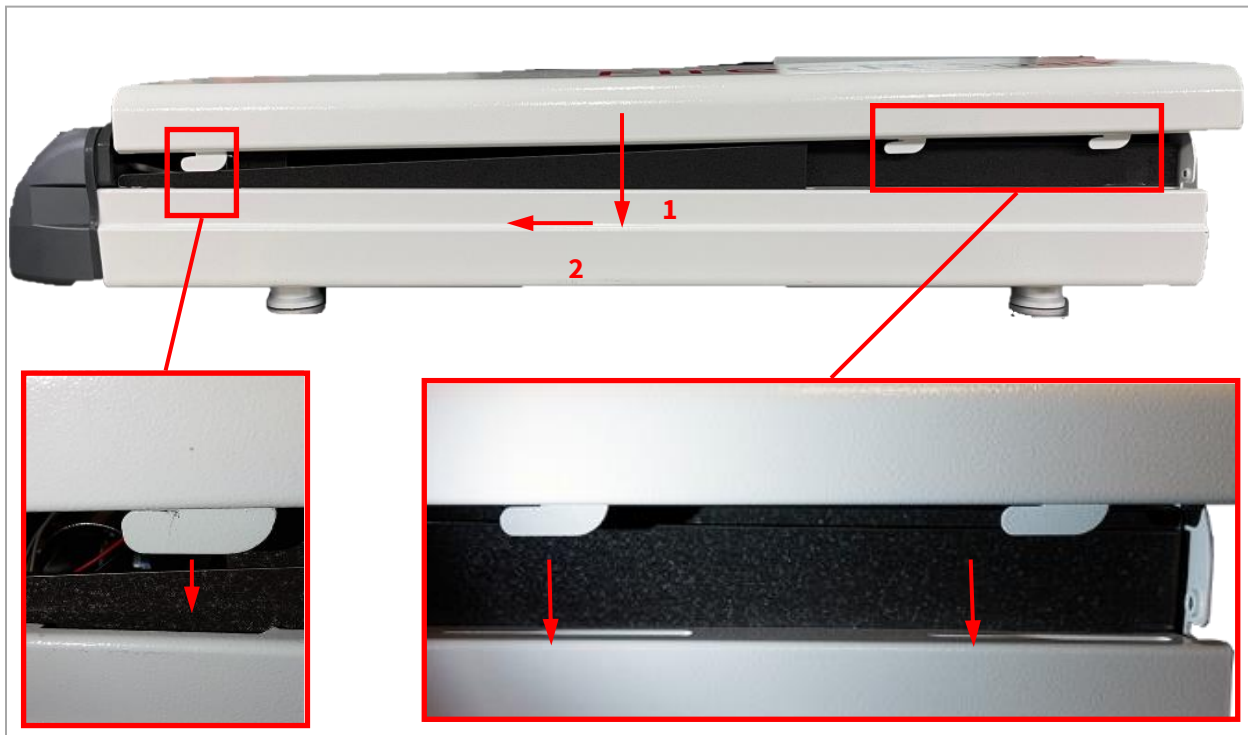
2. Remove the 4 screws using a 3 mm hex key.



3. Move the top cover towards the back and lift it off. The cover has a tight fit, and a bit of force has to be applied to move it.



4. When mounting the new top cover, or remounting the old top cover, ensure that locks on the top cover is seated in the guides in the bottom cover, then move it towards the front to lock it in place.

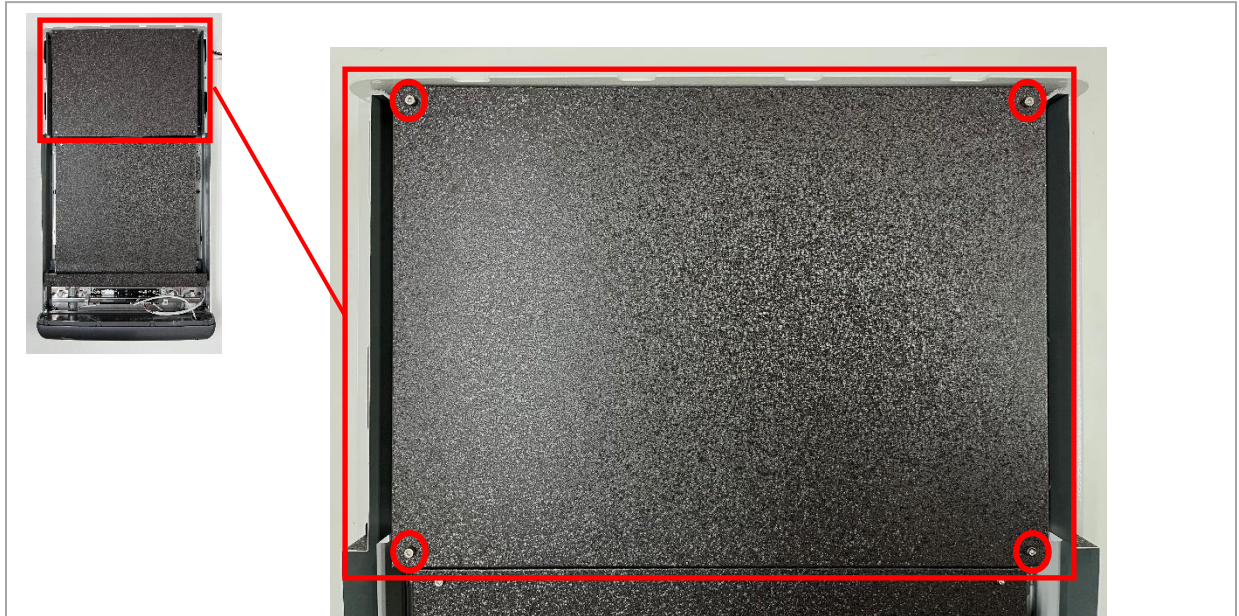


5. Insert and fasten the 4 screws in the back of the scanner using a 3 mm hex key.

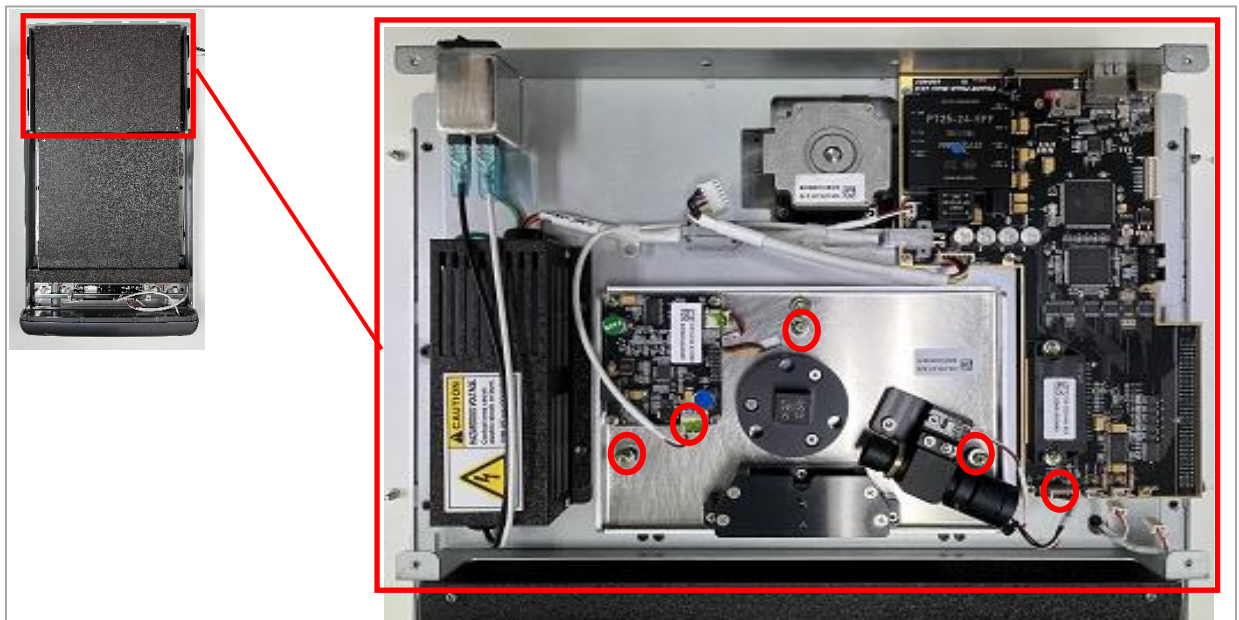


Replacing the Laser Optics Assembly.

1. Follow step 1 through 3 of [Replacing the top cover](#).
2. Remove the 4 screws on the back using a 2.5 mm hex key.

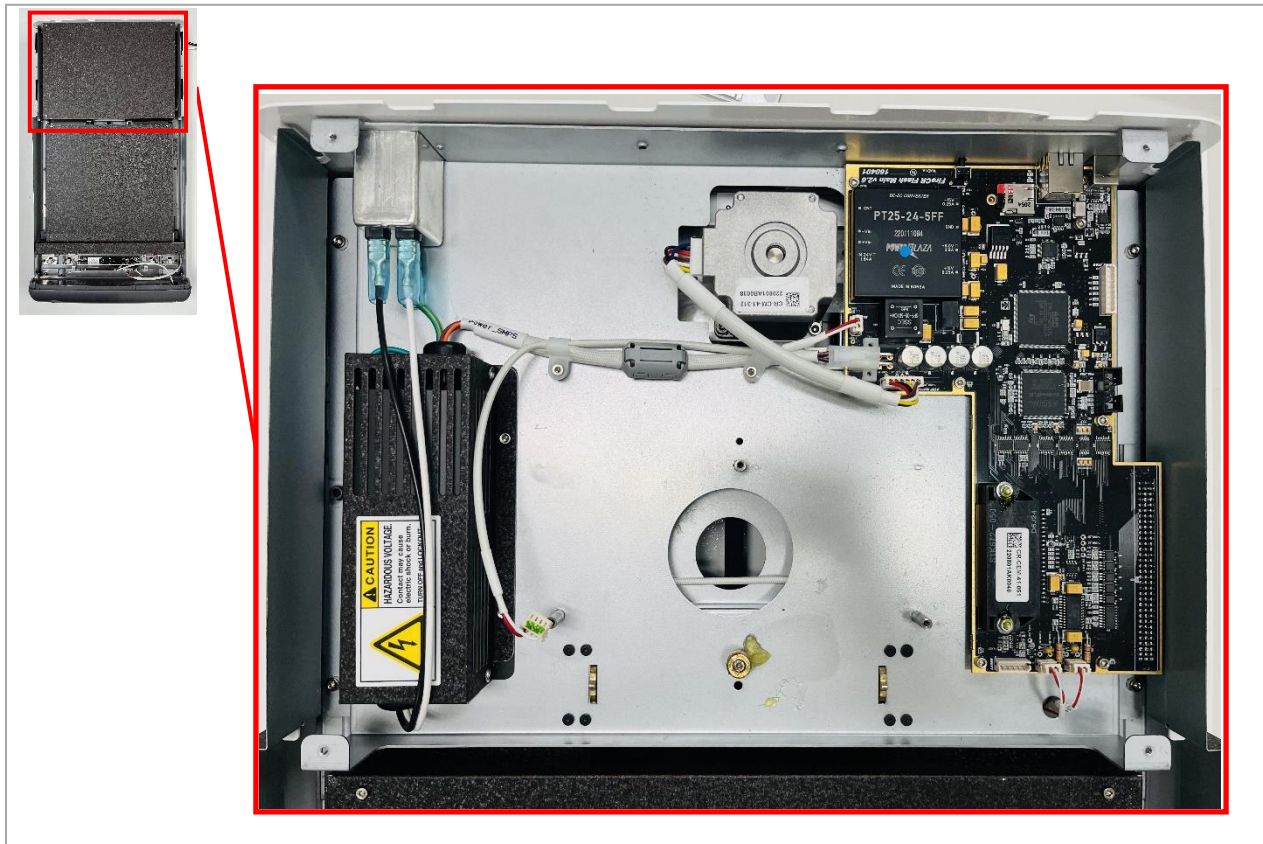


3. Remove the cover of the Laser Optic Assembly.
4. Unplug the connector shown from the Laser Optic Assembly. After removing the multi-cable , need to use a 2.5mm hex key to remove the screw .



5. Be careful of the spring and washer when removing the 2.5mm screw.

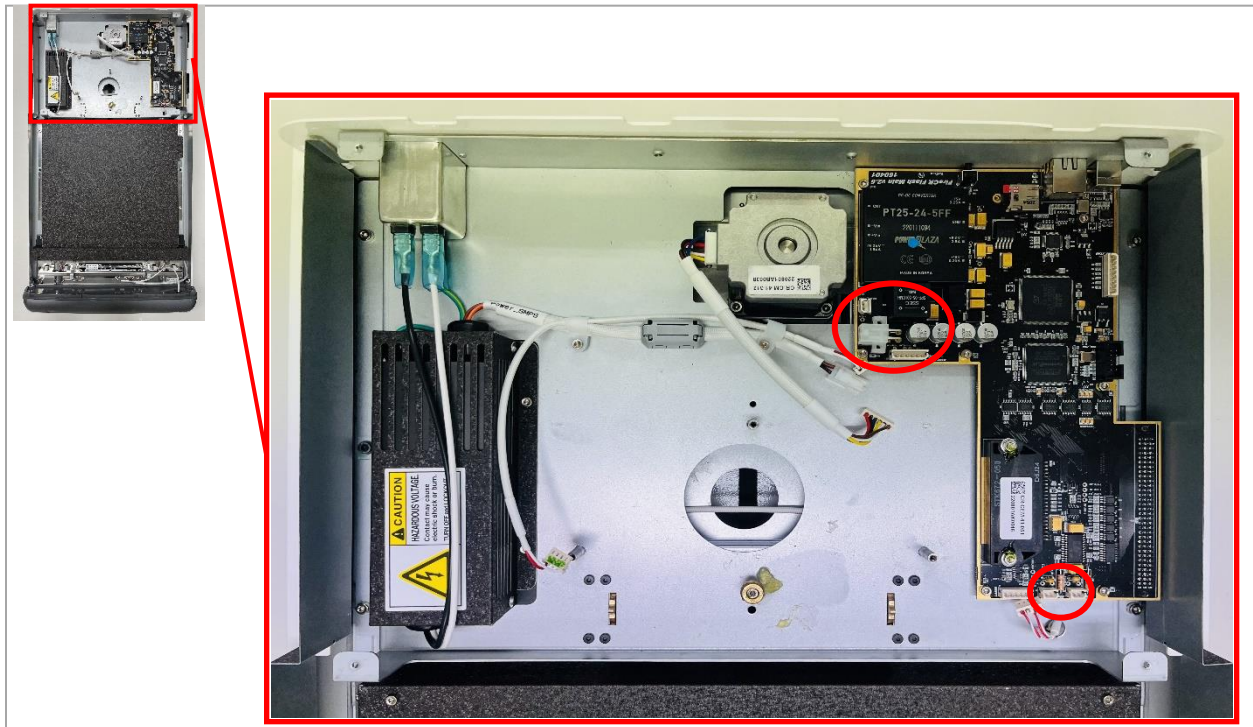
6. Do not touch the square mirror and laser of Laser Optic Assembly as they are finely adjusted.



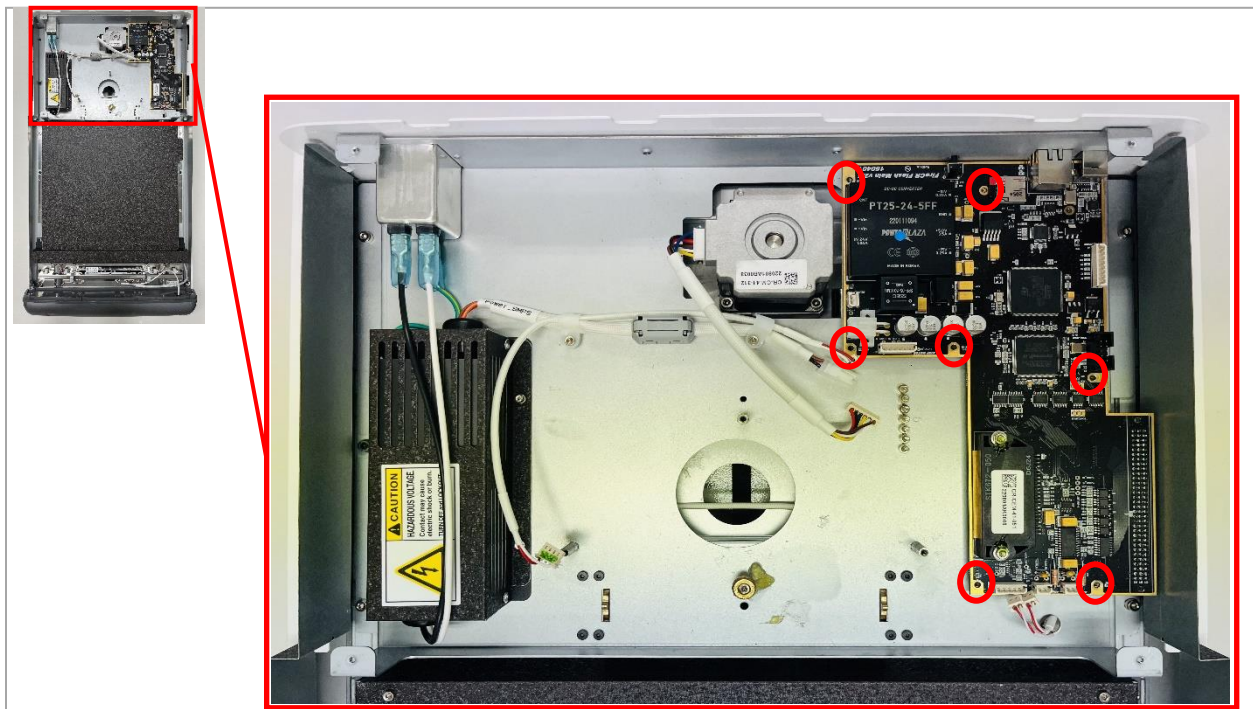
7. Install in reverse order and calibrate the unit as described under calibration.

Replacing the Main Board.

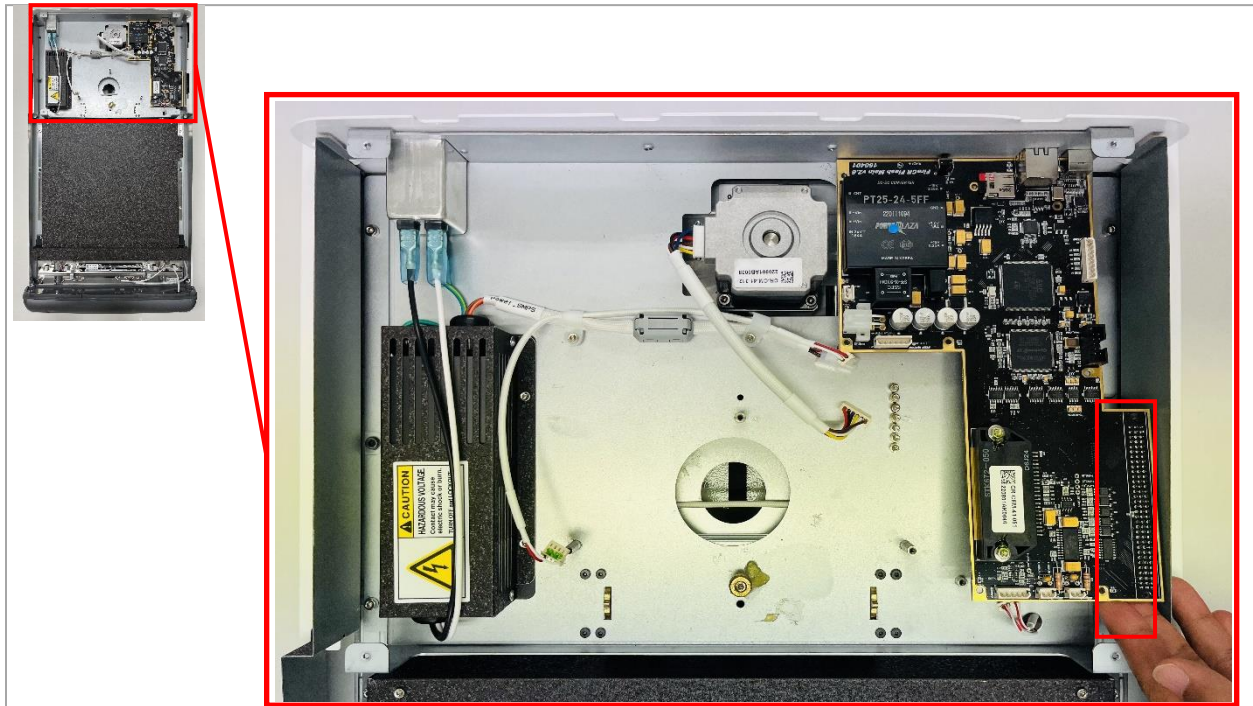
1. Disassemble the 5 cables.



2. Remove the 7 screws using a 2.5 mm hex key.



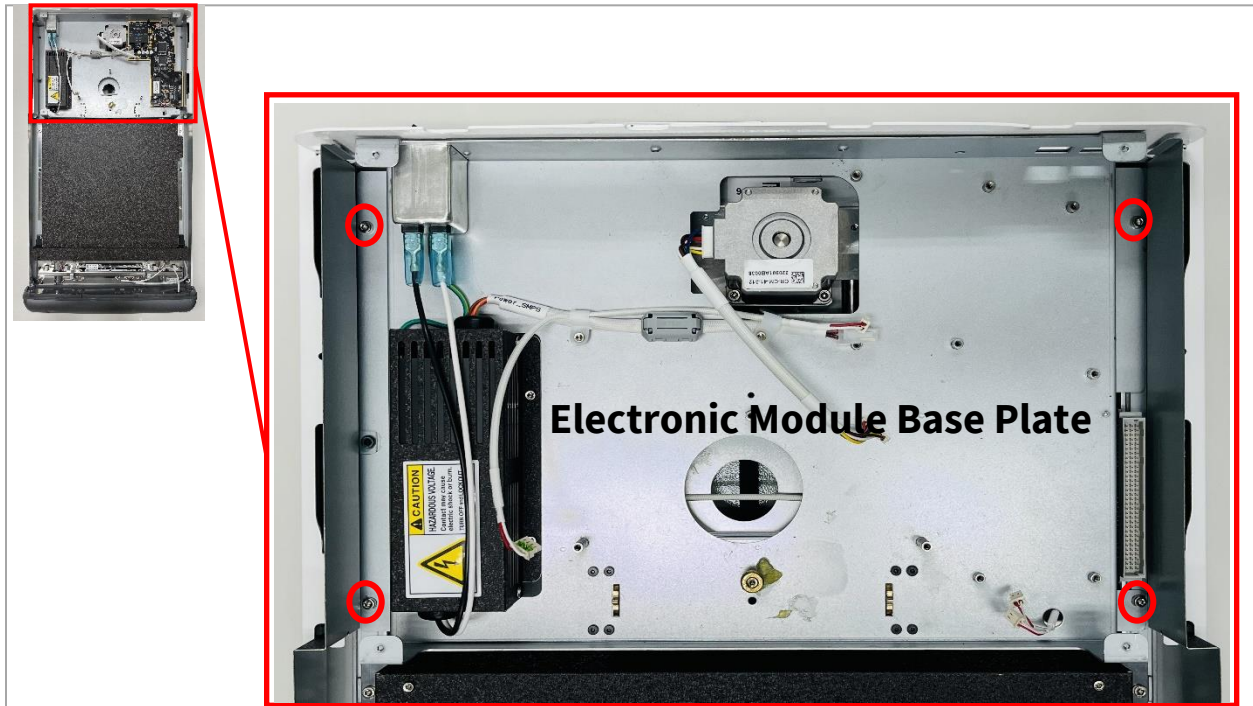
3. Carefully disassemble the Main board connected to the Interconnect board.



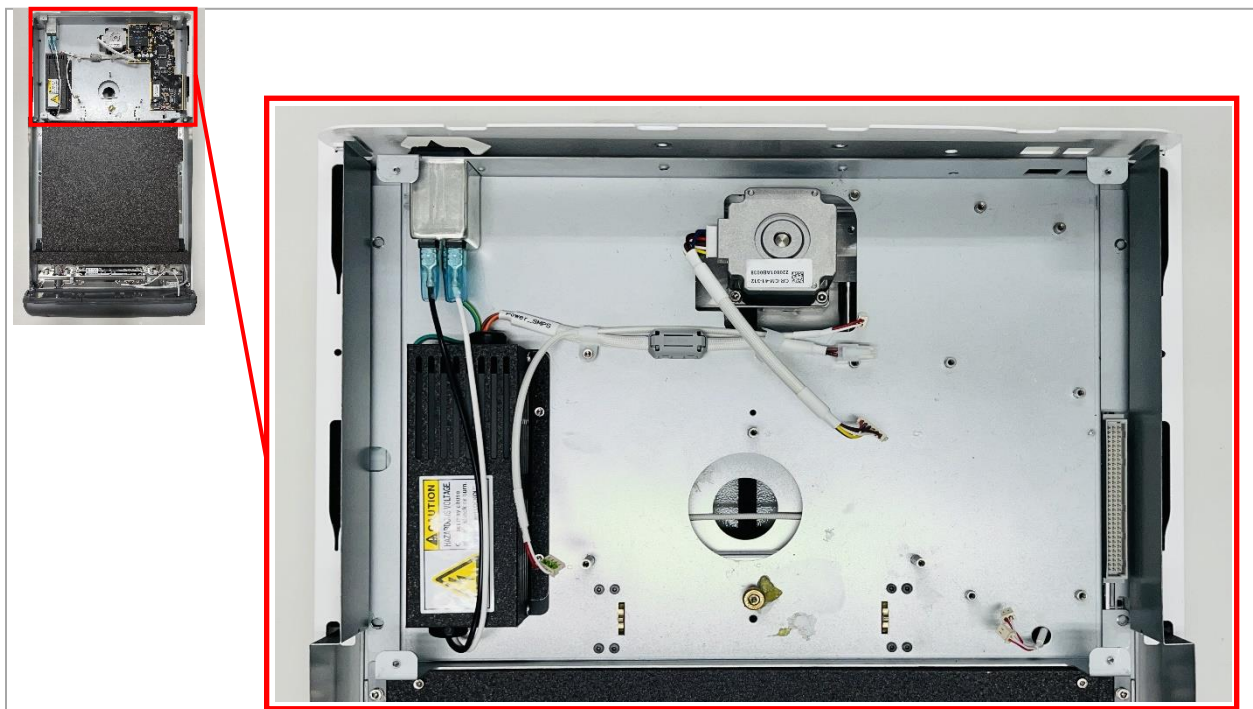
4. Assemble in reverse order and connect the cables. Then assemble the cover.

Replacing the Algin Motor.

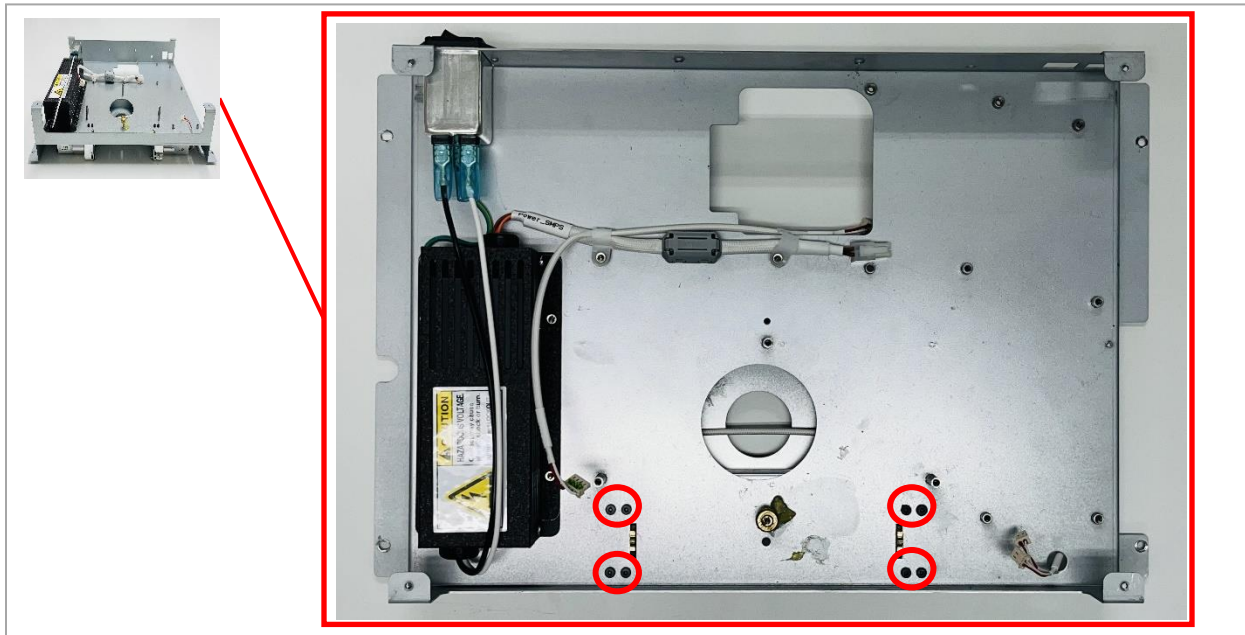
1. Remove the 4 screws on the Electronic Module Base Plate using a 3 mm hex key.



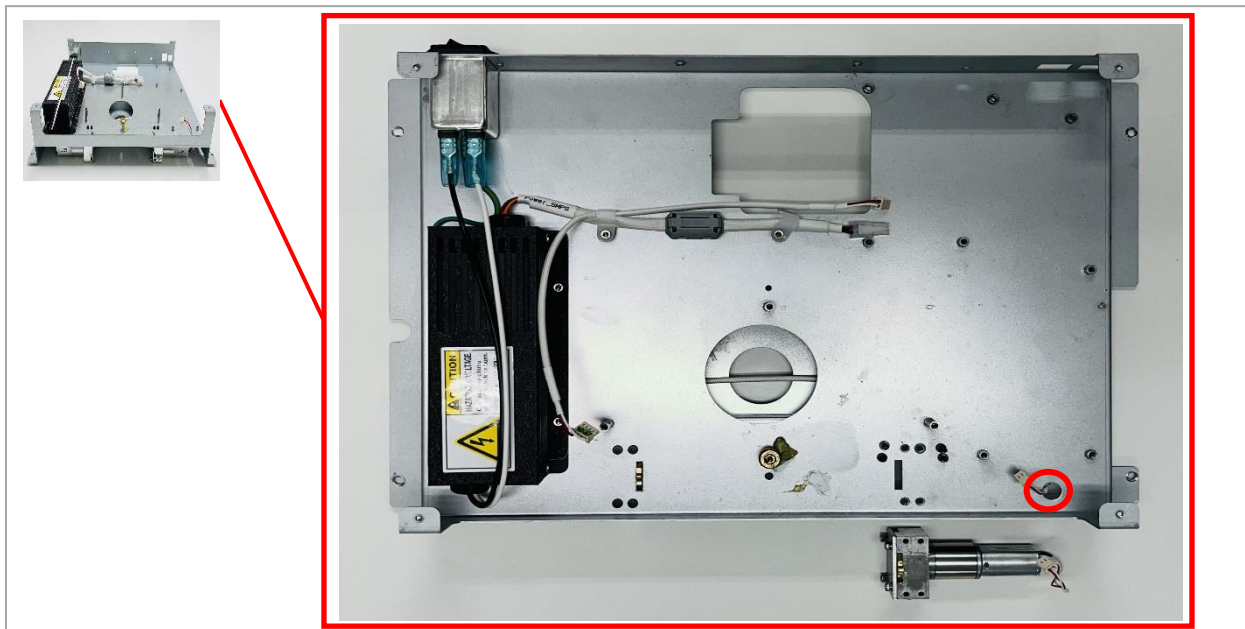
2. Disassemble the Electronic Module Base Plate gently, paying attention to the power switch.



3. Remove the 8 screws using a 2 mm hex key.



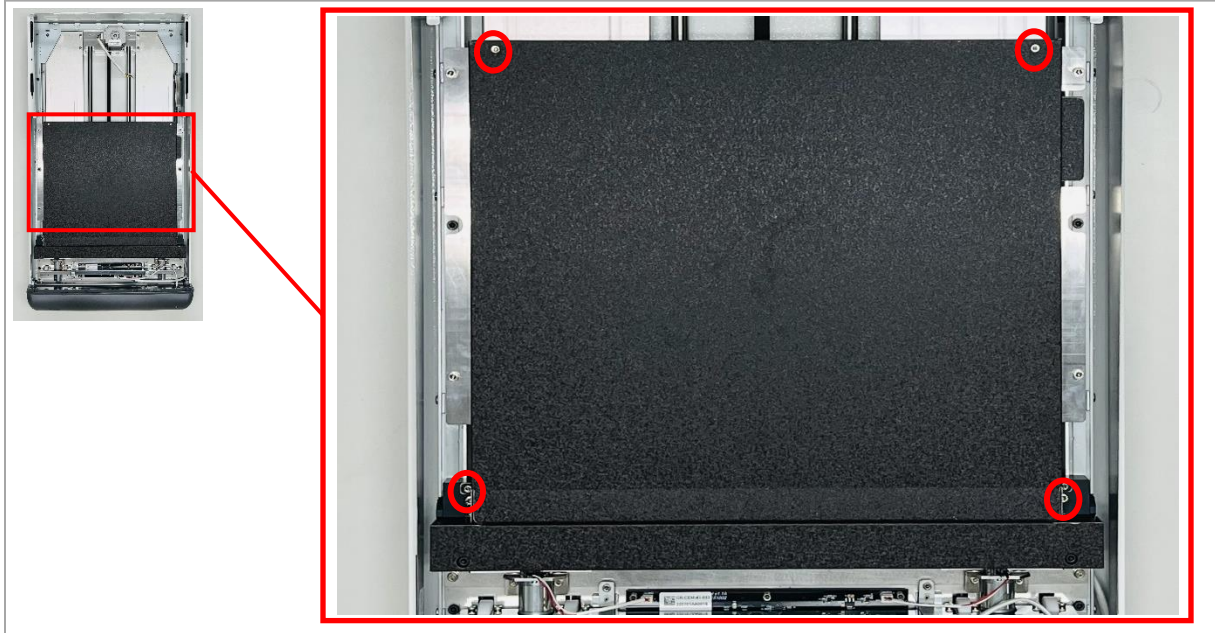
4. Disassemble along with Align motor cable.



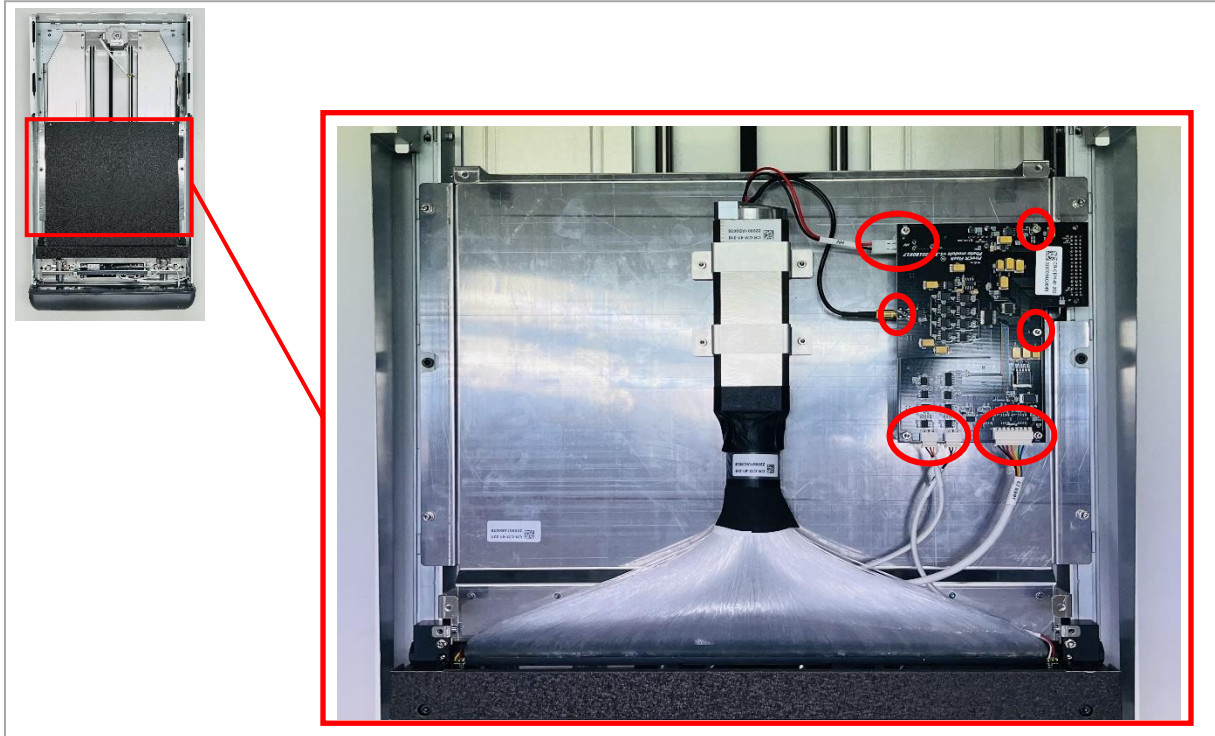
5. Remove another lock motor in the same way.
6. Assemble in reverse order and connect the cables. Then assemble the cover.

Replacing the Photo Module Board.

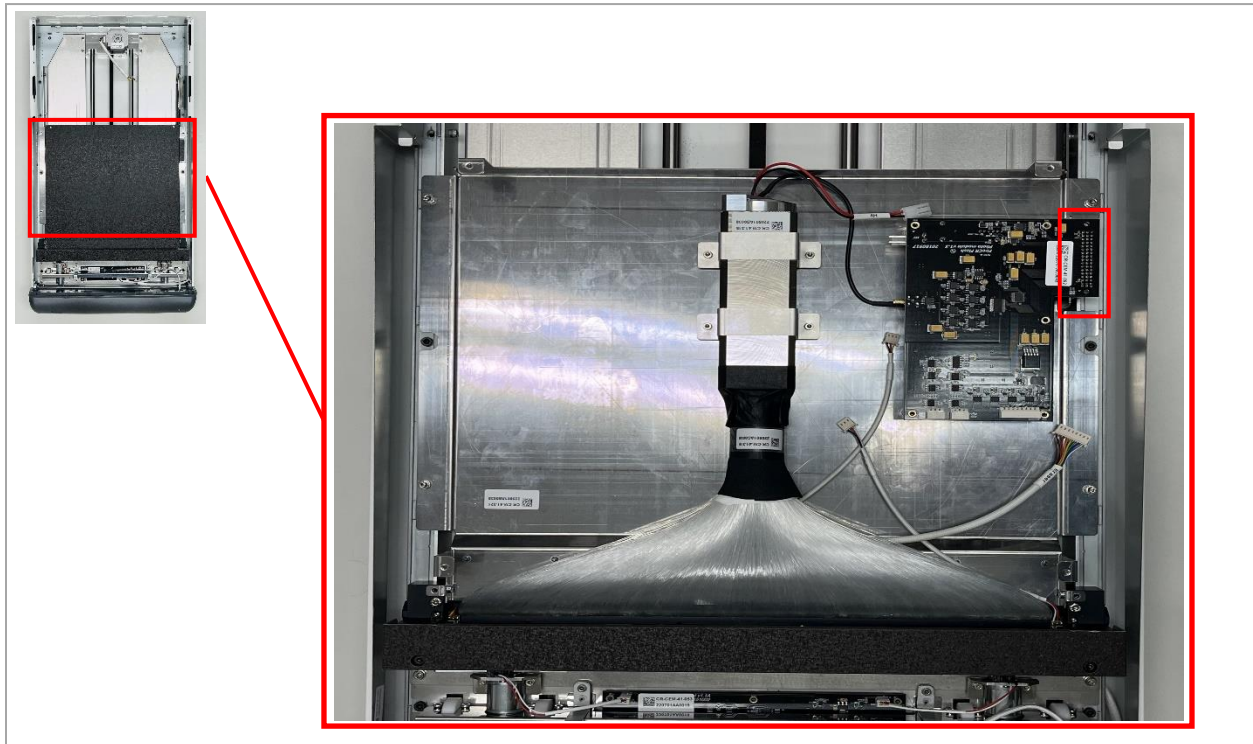
1. Remove the 4 screws using a 2.5 mm hex key.



2. Remove the 5 cables and the 4 screws using a 2.5 mm hex key.



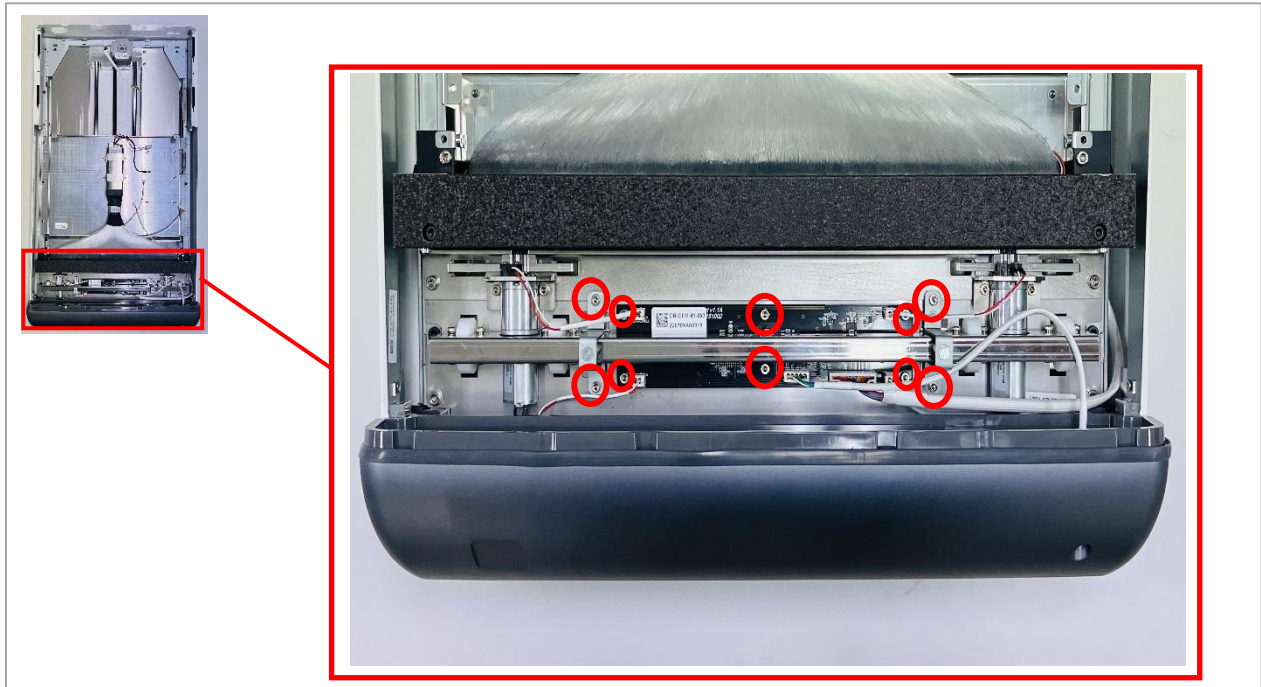
3. Carefully disassemble the Photo Module board connected to the Interconnect board.



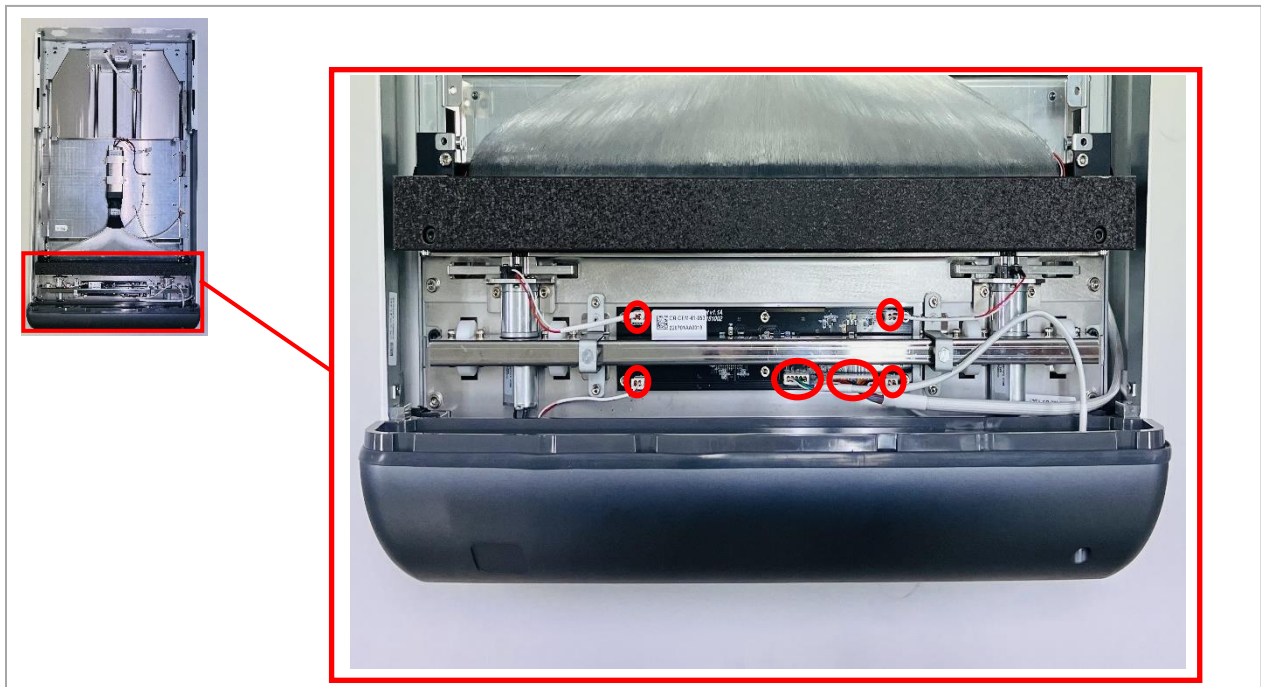
4. Assemble in reverse order and connect the cables. Then assemble the cover.

Replacing the cassette lock motors and Front Board.

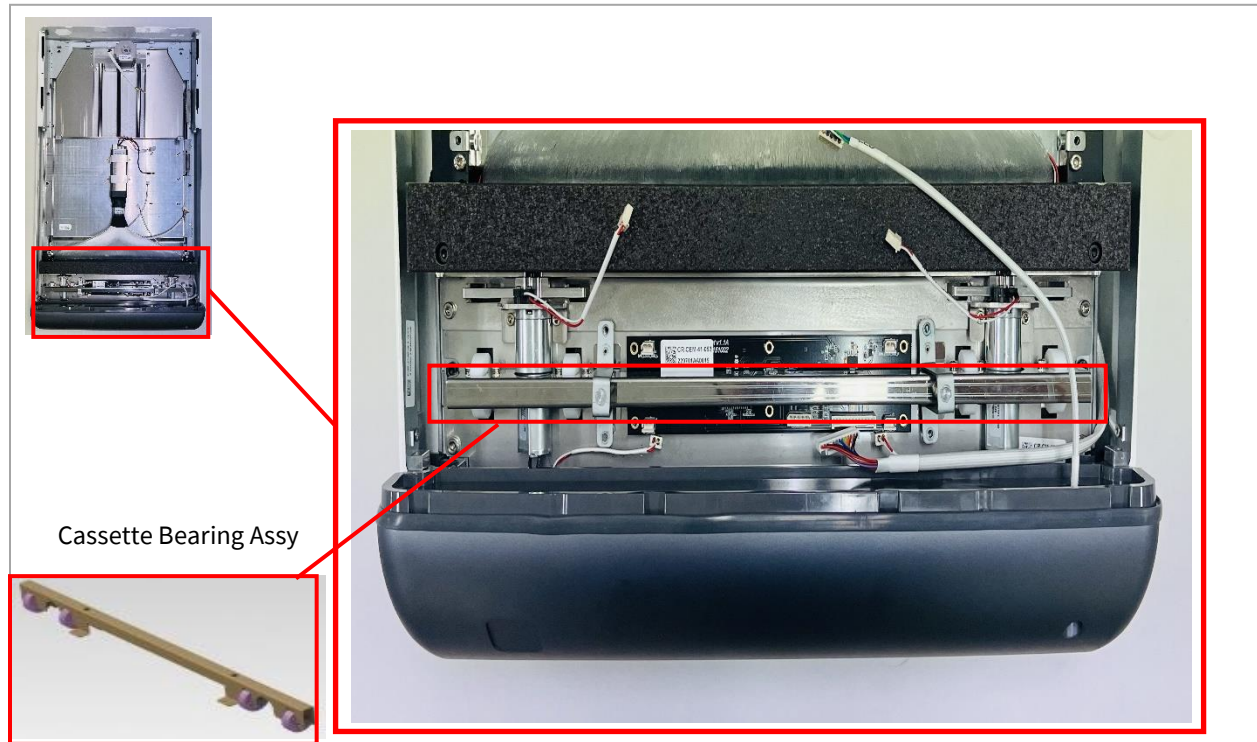
1. Remove 10 screws using a 2.5 mm hex key.



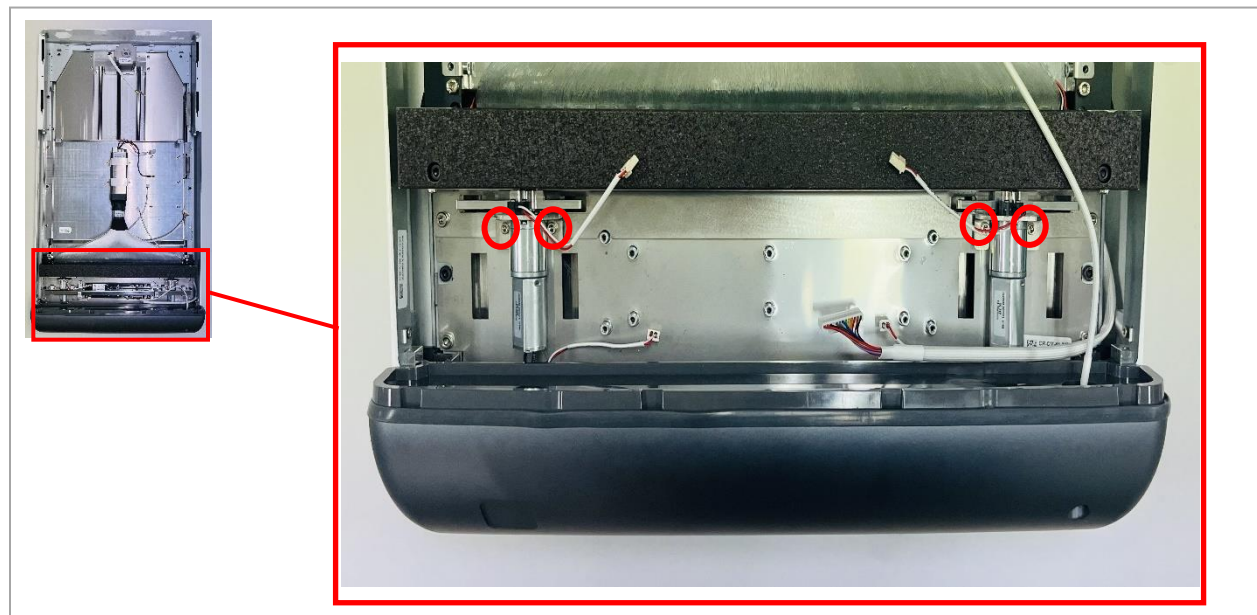
2. Remove 6 cables connected to the Front board.



3. Disassemble Cassette Bearing Assy and Front board.



4. Remove 4 screws connected to Lock Motor.

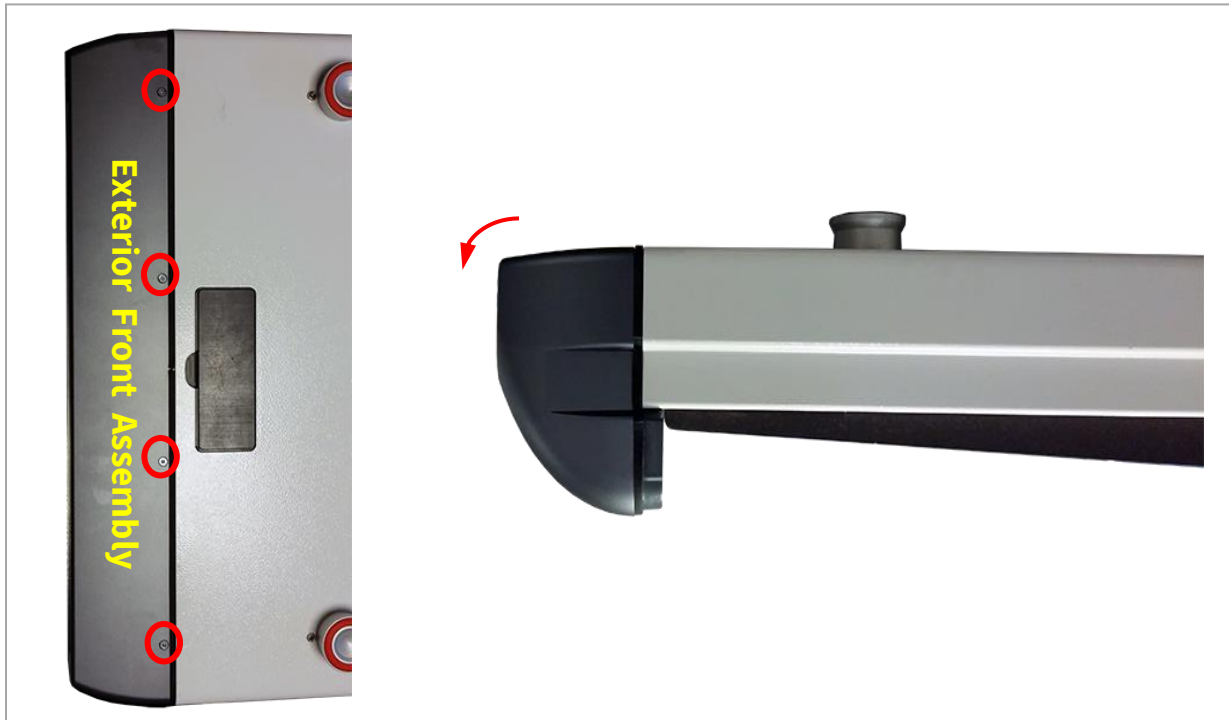


5. Assemble in reverse order and connect the cables. Then assemble the cover.

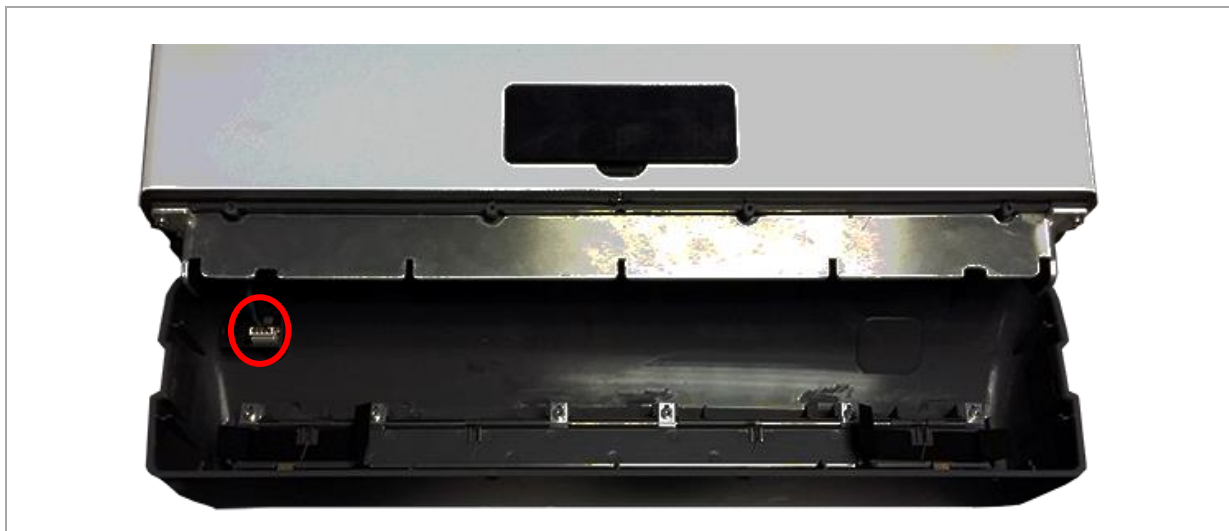
Replacing the Housing Assembly.

Subtitle: How to remove the bottom cover

1. Follow step 1 through 3 of [Replacing the top cover](#).
2. Turn the scanner over to gain access to the bottom and remove the 4 screws holding the Exterior Front Assembly using a PH1 screwdriver.
3. Carefully tilt the Exterior Front Assembly, do **NOT** pull it off as this could damage or breaking the wires for the LED indicator.



4. Unplug the connector for the LED and remove the Exterior Front Assembly.



5. Remove the 2 screws using a 4 mm hex key.



6. Turn the scanner over to gain access to the bottom and remove the 4 feet by rotating them counterclockwise.



7. Remove the 4 screws using a 2.5 mm hex key.



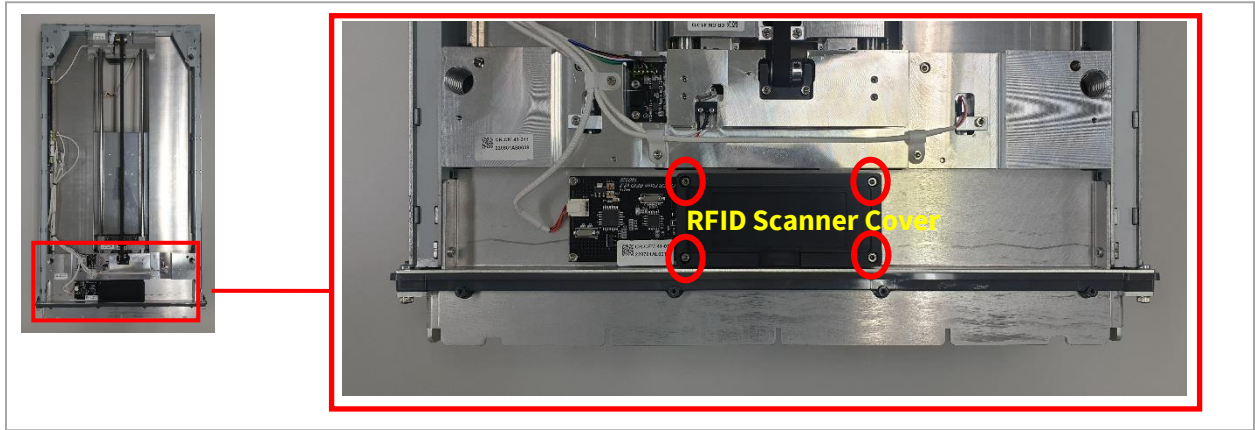
8. Carefully remove the Housing assembly out of the bottom cover.



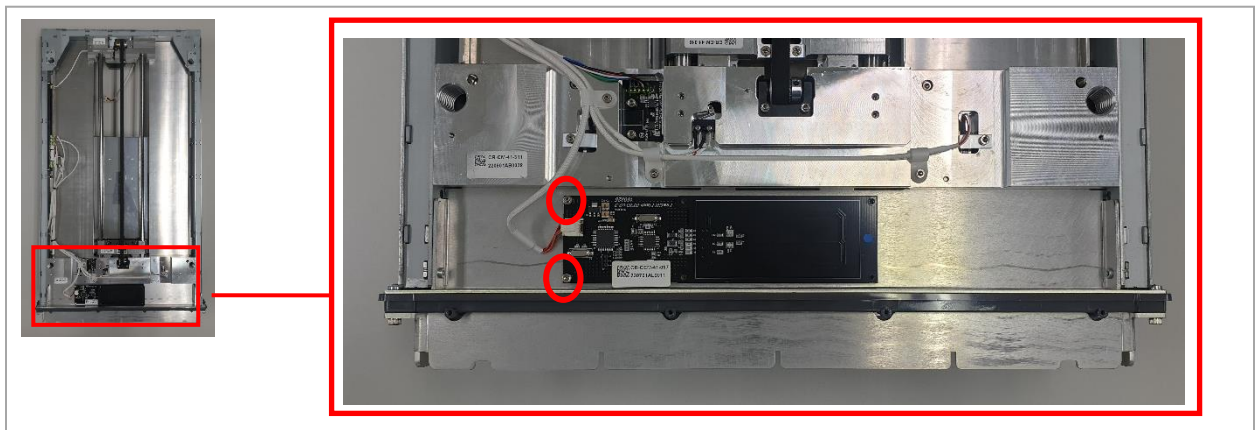
9. Install in reverse order.

Replacing the RFID Board.

1. Follow step 1 through 3 of [Replacing the top cover](#).
2. Follow step 1 through 8 of [How to remove the bottom cover](#).
3. Remove the 4 screws using a 2.5 mm hex key. And disassemble RFID Scanner Cover.



4. Remove the 2 screws using a 2.5 mm hex key. And disassemble RFID board.



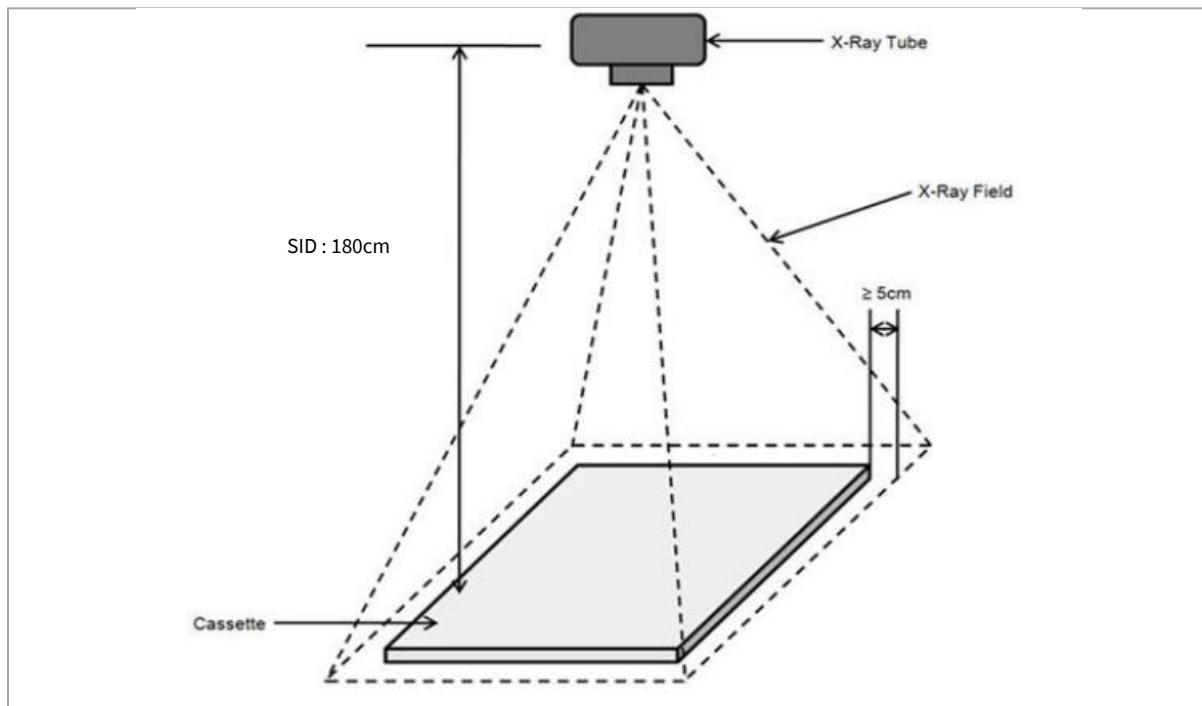
5. Assemble in reverse order and connect the cables. Then assemble the cover.

Calibration

Each Spark scanner has two calibration (Table top, Wall mount) sets installed, and these should be updated if either the Laser Optic Assembly is replaced.

We recommend Calibration when moving and installing the Spark scanner.

1. During the Calibration X-ray radiation field must cover the whole area of the cassette.
SID may vary depending on site conditions.



2. Connect the Spark scanner to the PC via a USB cable or Ethernet cable, and connect the power cord to the power inlet. Then power on.



- Open Quantor software and select the system menu in the upper-right corner of the screen. Select “Device Calibration”.

Device Calibration 00 %

The X-ray beam should cover the entire IP area.

Reader Position ^①
☒ Table Top ☐ Wall Mount Upload Download

☐ Show Calibration Data Intensity Value Calibration date : N/A

^② Auto Alignment ^③ Erase ^⑨ Accept ^⑧ Calibration

^④ ScanBlank ^⑤ ScanLowDose ^⑥ ScanMidDose ^⑦ ScanHighDose

^⑩ Reject

N/A (200~450) 0.0μGy
 0.00kVp 0.00mAs SID 1800 mm

N/A (1000~2000) 6.6μGy
 68.00kVp 0.40mAs SID 1800 mm

N/A (4500~6500) 20.0μGy
 68.00kVp 1.20mAs SID 1800 mm

N/A (35000~45000) 250.0μGy
 68.00kVp 16.00mAs SID 1800 mm ^⑪

ScannerReady None 200um

The exposing conditions may vary depending on the x-ray equipment. Cancel

No.	Name	Description
1	Reader Position	Select the state where Spark reader is installed
2	Auto Alignment	Automatically align the laser to the optimal position
3	Erase	Erase the remaining X-rays from the cassette
4	ScanBlank	Create the first calibration image file
5	ScanLowDose	Create the second calibration image file
6	ScanMidDose	Create the third calibration image file
7	ScanHighDose	Create the fourth calibration image file
8	Calibration	Create a calibration data file
9	Accept	Options when the recommended X-ray dose is not shown
10	Reject	Options when the recommended X-ray dose is not shown It is recommended to click “Reject” and try again after adjusting the X-ray dose.
11	Generator settings	Refer to X-ray dose value



WARNING

The generator settings under each calibration step is merely a guide, the settings may vary for each generator when calibrating, the important part is to get scans that results in green numbers.

Requires X-ray exposure without objects in a 35 cm x 43 cm cassette.

4. Follow the steps below.

Step 1 : Prepare an X-ray device and Cassette 35cm x 43cm.

Step 2 : After selecting the Reader Position, insert the Cassette into the Spark reader.

Step 3 : Click the “AutoAlignment”.

Device Calibration 00 %

The X-ray beam should cover the entire IP area.

Reader Position
☒ Table Top ☐ Wall Mount

☐ Show Calibration Data Intensity Value

Calibration date : N/A

Auto Alignment Erase Calibration

ScanBlank ScanLowDose ScanMidDose ScanHighDose

N/A	N/A	N/A	N/A
(200~450) 0.0μGy	(1000~2000) 6.6μGy	(4500~6500) 20.0μGy	(35000~45000) 250.0μGy
0.00kVp 0.00mAs SID 1800 mm	68.00kVp 0.40mAs SID 1800 mm	68.00kVp 1.20mAs SID 1800 mm	68.00kVp 16.00mAs SID 1800 mm

ScannerReady None 200um

The exposing conditions may vary depending on the x-ray equipment.

Cancel

Step 4 : When AutoAlignment is completed, the “Erase” button is activated. Click the “Erase”

When Erase is complete, take out the Cassette.

Device Calibration 00 %

The X-ray beam should cover the entire IP area.

Reader Position
☒ Table Top ☐ Wall Mount

☐ Show Calibration Data Intensity Value

Calibration date : N/A

Buttons: Auto Alignment, **Erase**, Calibration

Buttons: ScanBlank, ScanLowDose, ScanMidDose, ScanHighDose

N/A	N/A	N/A	N/A
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

ReadyForScan 35x43 200um

The exposing conditions may vary depending on the x-ray equipment.

Cancel

Step 5 : Insert the Cassette. When the “ScanBlank” button is active, click the “ScanBlank”.

Device Calibration 100 %

The X-ray beam should cover the entire IP area.

Reader Position
☒ Table Top ☐ Wall Mount

☐ Show Calibration Data Intensity Value

Calibration date : N/A

Buttons: Auto Alignment, Erase, Calibration

Buttons: **ScanBlank**, ScanLowDose, ScanMidDose, ScanHighDose

N/A	N/A	N/A	N/A
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

ReadyForScan 35x43 100um

The exposing conditions may vary depending on the x-ray equipment.

Cancel

Step 6 : When ScanBlank is completed, a green mark is generated, and take out the Cassette.

If a red mark is generated, contact the DIGIRAY service team.

The screenshot shows the 'Device Calibration' window with a 100% completion status. The interface includes a 'Reader Position' dropdown set to 'Table Top', 'Upload' and 'Download' buttons, and a 'Show Calibration Data Intensity Value' checkbox. The 'Calibration date' is 'N/A'. Below these are buttons for 'Auto Alignment', 'Erase', and 'Calibration'. A row of four buttons is shown: 'ScanBlank', 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose'. The 'ScanBlank' button is highlighted with a red box. Below the buttons is a table with four columns of data. The first column, under 'ScanBlank', shows a green '0(348)' value. The other three columns, under 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose', show 'N/A' values. Each column also lists a range, dose, kVp, mAs, and SID. At the bottom, 'ScannerReady' is 'None' and '100um' is displayed. A yellow warning bar at the bottom states 'The exposing conditions may vary depending on the x-ray equipment.' and a 'Cancel' button is on the right.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	N/A	N/A	N/A
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

Step 7 : Expose X-ray to Cassette, and insert the Cassette on Spark reader.

When the “ScanLowDose” button is active, click “ScanLowDose”.

This screenshot is identical to the previous one, but the 'ScanLowDose' button is now highlighted with a red box, indicating it is the active step. The 'ScanBlank' button is no longer highlighted. The table below the buttons remains the same, with '0(348)' under 'ScanBlank' and 'N/A' under the other three columns. The 'ReadyForScan' status at the bottom is now '35x43'.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	N/A	N/A	N/A
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

Step 8 : Take out the cassette when “ScanLowDose” is complete.

If a red mark is generated, click the “Reject” button. Adjust the X-ray dose and expose to the cassette.

* If the red mark is lower than the recommended range, as in the example photo, adjust the X-ray dose higher.

The screenshot shows the 'Device Calibration' window with a title bar indicating '100 %'. The main instruction is 'The X-ray beam should cover the entire IP area.' Below this, there are controls for 'Reader Position' (Table Top selected, Wall Mount unselected), 'Show Calibration Data Intensity Value' (unchecked), and 'Calibration date : N/A'. A row of buttons includes 'Auto Alignment', 'Erase', 'Accept', and 'Calibration'. The 'Reject' button is highlighted with a red box. Below these are four scan buttons: 'ScanBlank', 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose'. The 'ScanLowDose' button is also highlighted with a red box. Below the buttons is a table of exposure parameters:

0(348)	888	N/A	N/A
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

At the bottom, it shows 'ScannerReady 35x43 100um' and a yellow warning: 'The exposing conditions may vary depending on the x-ray equipment.' A 'Cancel' button is in the bottom right.

Step 9 : Insert the cassette into the Spark. When "ScanLowDose" is activated, click ScanLowDose".

This screenshot is similar to the previous one, showing the 'Device Calibration' window. The 'ScanLowDose' button is highlighted with a red box. The 'Reject' button is no longer highlighted. The rest of the interface, including the exposure parameters table and the yellow warning, remains the same.

Step 10 : Take out the cassette when "ScanLowDose" is complete.

The screenshot shows the 'Device Calibration' window with a progress bar at 100%. The 'ScanLowDose' button is highlighted with a red box. The interface includes a 'Reader Position' section with 'Table Top' selected, a 'Show Calibration Data Intensity Value' checkbox, and a 'Calibration date' field set to 'N/A'. Below these are buttons for 'Auto Alignment', 'Erase', and 'Calibration'. A table displays four scan options: 'ScanBlank', 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose'. The 'ScanLowDose' row shows a value of 1363, which is highlighted with a red box. The 'ScanMidDose' and 'ScanHighDose' rows show 'N/A'. The 'ScanBlank' row shows a value of 0(348). The table also lists technical specifications for each scan, including dose ranges, kVp, mAs, and SID. At the bottom, there is a 'WarmUp' section with '35x43' and '100um' values, and a 'Cancel' button.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	1363	N/A	N/A
(200~450) 0.0μGy	(1000~2000) 6.6μGy	(4500~6500) 20.0μGy	(35000~45000) 250.0μGy
0.00kVp 0.00mAs SID 1800 mm	68.00kVp 0.40mAs SID 1800 mm	68.00kVp 1.20mAs SID 1800 mm	68.00kVp 16.00mAs SID 1800 mm

WarmUp 35x43 100um

The exposing conditions may vary depending on the x-ray equipment.

Step 11 : Expose X-ray to Cassette, and insert the Cassette on Spark reader.

When the "ScanMidDose" button is active, click "ScanMidDose".

The screenshot shows the 'Device Calibration' window with a progress bar at 100%. The 'ScanMidDose' button is highlighted with a red box. The interface includes a 'Reader Position' section with 'Table Top' selected, a 'Show Calibration Data Intensity Value' checkbox, and a 'Calibration date' field set to 'N/A'. Below these are buttons for 'Auto Alignment', 'Erase', and 'Calibration'. A table displays four scan options: 'ScanBlank', 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose'. The 'ScanMidDose' row shows a value of 1363, which is highlighted with a red box. The 'ScanBlank' row shows a value of 0(348). The 'ScanLowDose' and 'ScanHighDose' rows show 'N/A'. The table also lists technical specifications for each scan, including dose ranges, kVp, mAs, and SID. At the bottom, there is a 'ReadyForScan' section with '35x43' and '100um' values, and a 'Cancel' button.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	1363	N/A	N/A
(200~450) 0.0μGy	(1000~2000) 6.6μGy	(4500~6500) 20.0μGy	(35000~45000) 250.0μGy
0.00kVp 0.00mAs SID 1800 mm	68.00kVp 0.40mAs SID 1800 mm	68.00kVp 1.20mAs SID 1800 mm	68.00kVp 16.00mAs SID 1800 mm

ReadyForScan 35x43 100um

The exposing conditions may vary depending on the x-ray equipment.

Step 12 : Take out the cassette when "ScanMidDose" is complete.

If a green mark is generated, expose the cassette to X-rays, and insert the Cassette.

The screenshot shows the 'Device Calibration' window with a title bar indicating '100 %'. The main area contains a message: 'The X-ray beam should cover the entire IP area.' Below this, there are controls for 'Reader Position' (radio buttons for 'Table Top' and 'Wall Mount'), 'Show Calibration Data Intensity Value' (checkbox), and 'Calibration date : N/A'. A row of buttons includes 'Auto Alignment', 'Erase', and 'Calibration'. Below these are four scan buttons: 'ScanBlank', 'ScanLowDose', 'ScanMidDose' (highlighted with a red box), and 'ScanHighDose'. Each button has a corresponding progress bar. Under the buttons, a table displays calibration data for each scan type. At the bottom, it shows 'ScannerReady 35x43 100um' and a yellow warning message: 'The exposing conditions may vary depending on the x-ray equipment.' A 'Cancel' button is located at the bottom right.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	1363	5133	N/A
(200~450) 0.0μGy	(1000~2000) 6.6μGy	(4500~6500) 20.0μGy	(35000~45000) 250.0μGy
0.00kVp 0.00mAs SID 1800 mm	68.00kVp 0.40mAs SID 1800 mm	68.00kVp 1.20mAs SID 1800 mm	68.00kVp 16.00mAs SID 1800 mm

ScannerReady 35x43 100um
The exposing conditions may vary depending on the x-ray equipment.

Step 13 : When "ScanHighDose" is activated, click "ScanHighDose".

This screenshot is identical to the previous one, but the 'ScanHighDose' button is now highlighted with a red box, indicating it is the active step. The 'ScanMidDose' button is no longer highlighted. The rest of the interface, including the data table and status bar, remains the same.

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	1363	5133	N/A
(200~450) 0.0μGy	(1000~2000) 6.6μGy	(4500~6500) 20.0μGy	(35000~45000) 250.0μGy
0.00kVp 0.00mAs SID 1800 mm	68.00kVp 0.40mAs SID 1800 mm	68.00kVp 1.20mAs SID 1800 mm	68.00kVp 16.00mAs SID 1800 mm

ReadyForScan 35x43 100um
The exposing conditions may vary depending on the x-ray equipment.

Step 14 : Take out the cassette when "ScanHighDose" is complete.

If a green mark is generated, click the "Calibration".

The screenshot shows the 'Device Calibration' window with a title bar indicating '100 %'. The window contains several controls and data fields. At the top, it says 'The X-ray beam should cover the entire IP area.' Below this, there are radio buttons for 'Reader Position' (Table Top is selected) and 'Wall Mount', along with 'Upload' and 'Download' buttons. A checkbox for 'Show Calibration Data Intensity Value' is present. The 'Calibration date' is shown as 'N/A'. In the center, there are four buttons: 'Auto Alignment', 'Erase', 'Calibration' (highlighted with a red box), and 'ScanBlank'. Below these are four columns of data representing different scan doses: 'ScanLowDose', 'ScanMidDose', and 'ScanHighDose'. Each column shows a green numerical value in parentheses, a range in parentheses, a dose value in Gy, and technical specifications (kVp, mAs, SID). At the bottom, there are 'ScannerReady' status indicators (35x43, 100um) and a 'Cancel' button. A yellow warning bar at the bottom states: 'The exposing conditions may vary depending on the x-ray equipment.'

ScanBlank	ScanLowDose	ScanMidDose	ScanHighDose
0(348)	1363	5133	41543
(200~450)	(1000~2000)	(4500~6500)	(35000~45000)
0.0μGy	6.6μGy	20.0μGy	250.0μGy
0.00kVp	68.00kVp	68.00kVp	68.00kVp
0.00mAs	0.40mAs	1.20mAs	16.00mAs
SID 1800 mm	SID 1800 mm	SID 1800 mm	SID 1800 mm

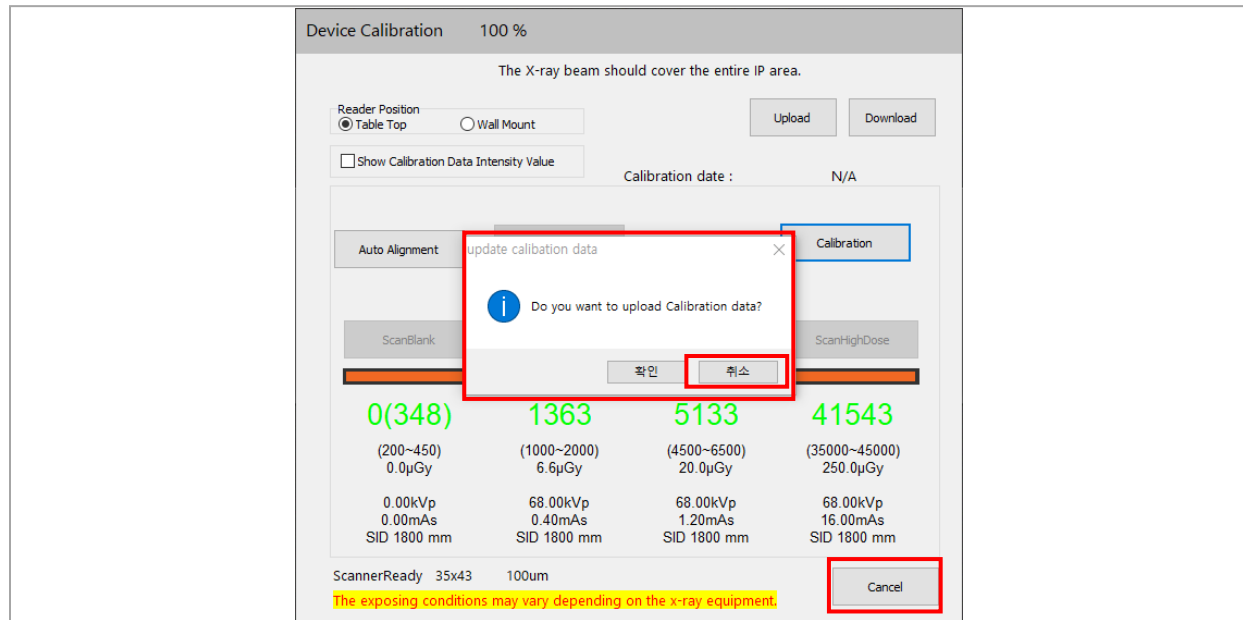
Step 15 : When calibration is complete, click “확인” (it means OK) on the pop-up window.

This screenshot shows the same 'Device Calibration' window as before, but with a 'Calibration Done' pop-up window in the center. The pop-up window has a title bar with a close button (X) and an information icon (i). It contains the text 'Calibration Done.' and a button labeled '확인' (OK), which is highlighted with a red box. The background window remains the same, with the 'Calibration' button still highlighted with a blue box. The yellow warning bar at the bottom is also present.

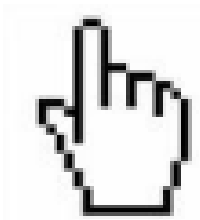
Step 16 : If a pop-up window to upload calibration data appears, click “취소” (it's means cancel).

And click the “Cancel”. Then Calibration is complete.

The reason we do not recommend uploading is to avoid uploading data of malfunctioning X-ray devices or incorrectly performed calibrations.



Note



If you want to change the position of the reader, select different reader position and follow steps 1-14. If you calibrate in a different position, the image may not be good. Therefore, after selecting the correct position, perform "Calibration".

Our Youtube link

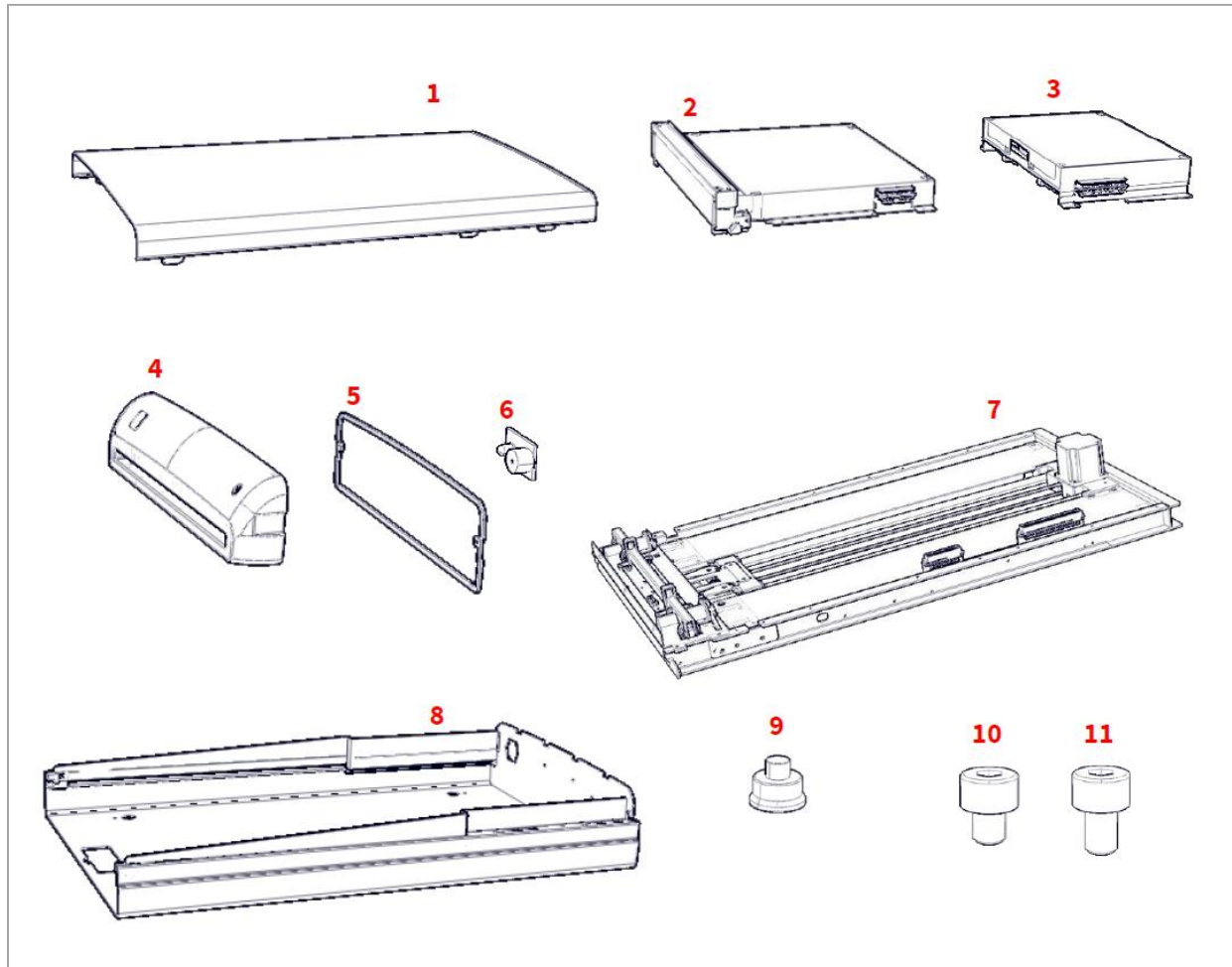
If you would like a reference video for repair and parts replacement, please refer to the link below.

<https://www.youtube.com/channel/UCz6zqef9Zq6a9jA3tRMm1zA>

Spare part list

- These parts have to be pre-programmed for the individual unit from the factory.

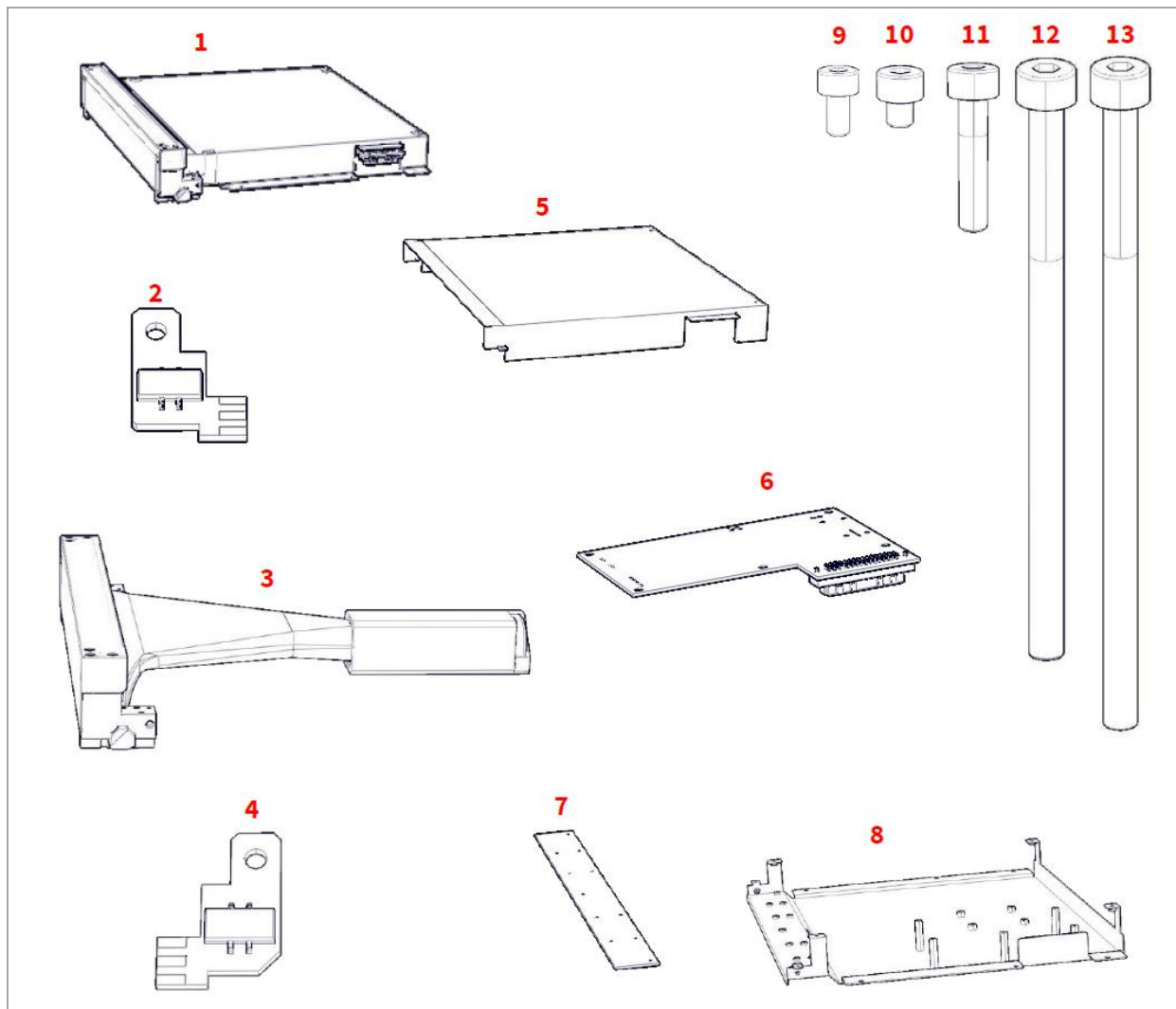
Spare part assemblies



Position	Description	Part number
1	Top cover	CR-CP-41-362
2	Photo Module	CR-CM-41-011
3	Electronics Module	CR-CM-41-016
4	Front cover	CR-CM-41-026
5	Silicone gasket	CR-CP-41-075
6	LED indicator board	CR-CEM-41-007
7	Mechanics module	CR-CM-41-001
8	Bottom cover*	CR-CP-41-363
9	Foot	CR-CP-01-134
10	Screw, hex 4x5mm (bag of 20 pcs)	SCR-20PK-45
11	Screw, hex 4x8mm (bag of 20 pcs)	SCR-20PK-48

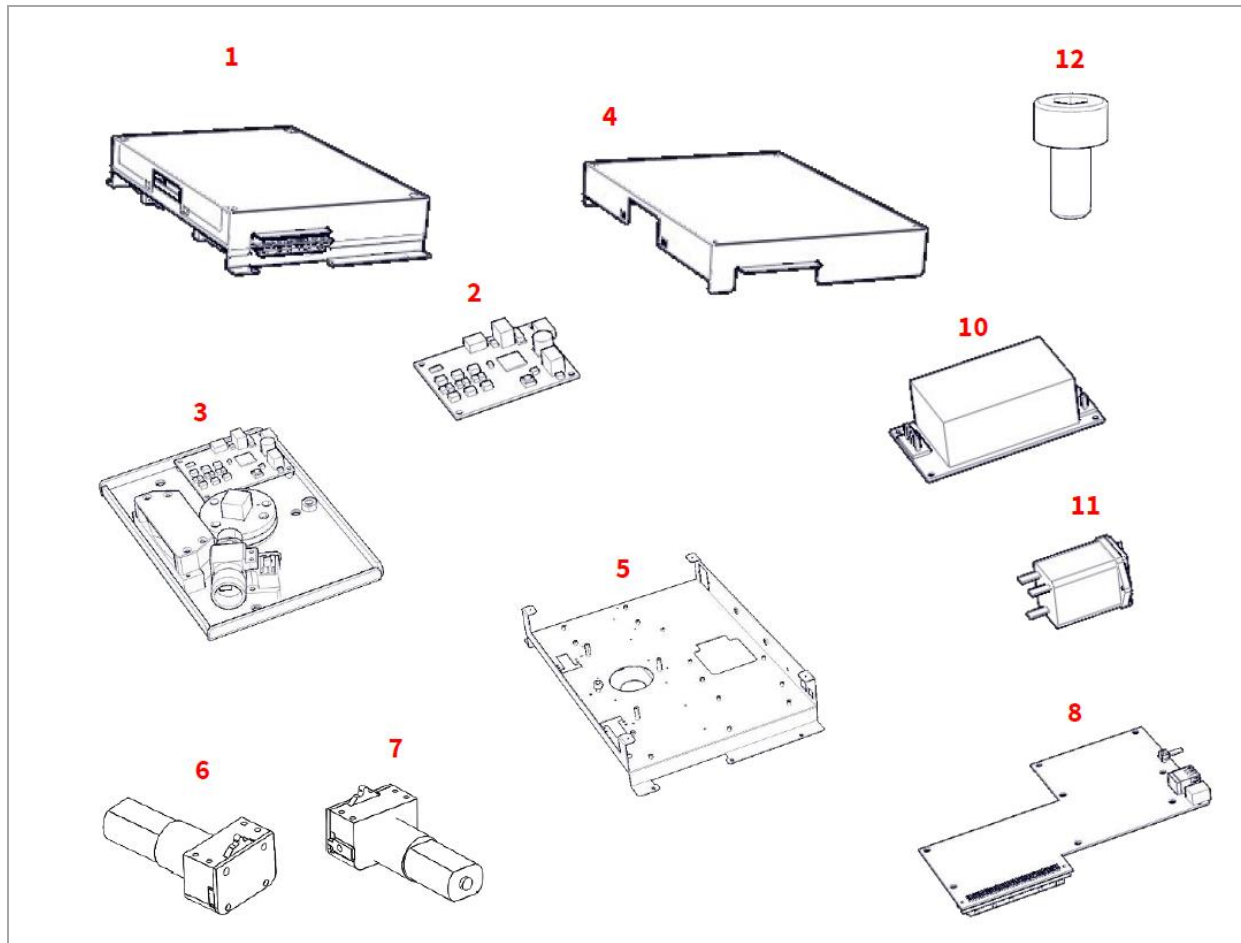
* Serial number label must be ordered for the individual unit

Photo module subassembly list



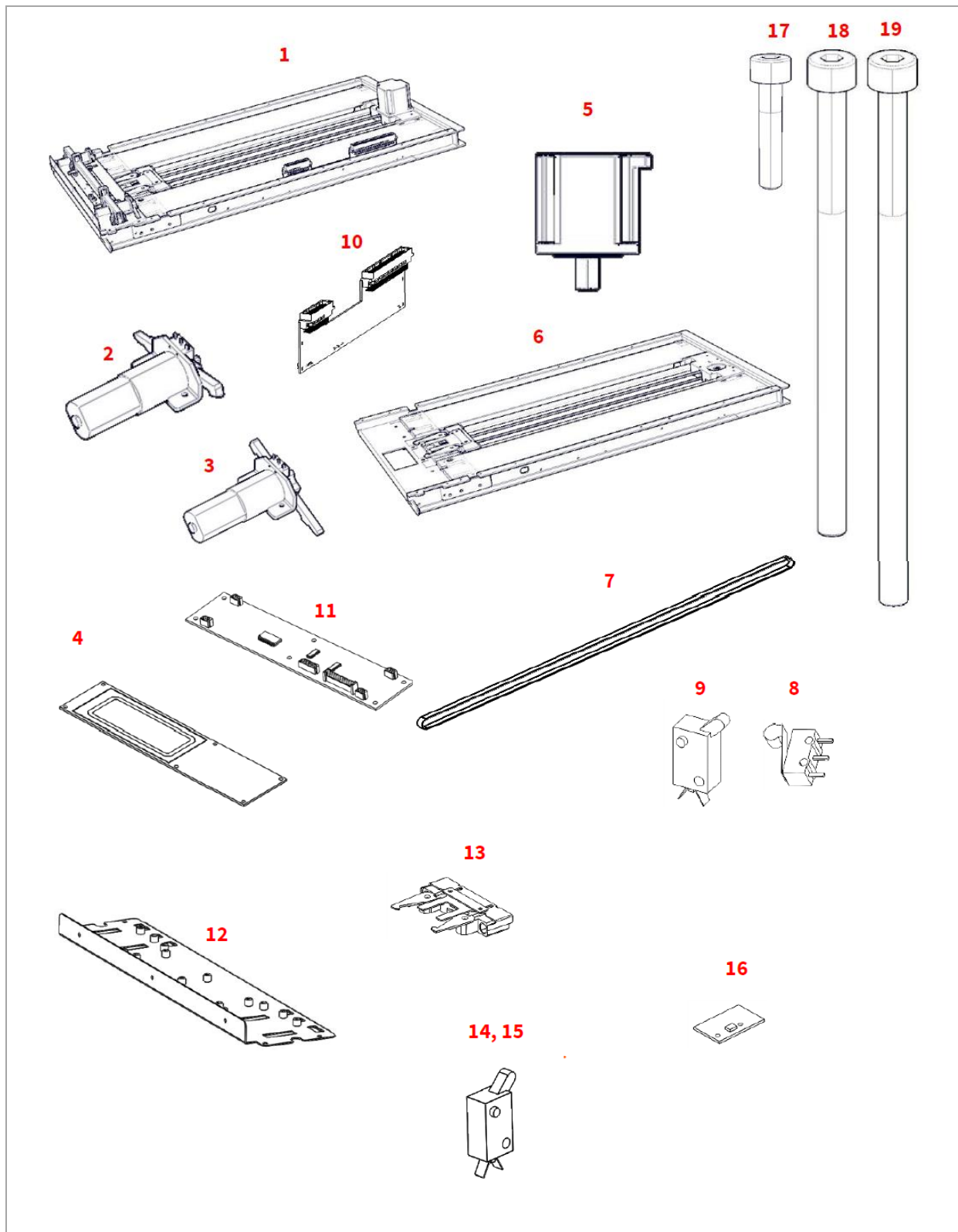
Position	Description	Part number
1	Photo module	CR-CM-41-011
2	PSD, left	CR-CM-41-056
3	PMT and fiber bundle	CR-CE-01-074
4	PSD, right	CR-CM-41-055
5	Photo module cover	CR-CP-41-040
6	Photo module board	CR-CM-41-052
7	Eraser	CR-CEM-41-006
8	Eraser reflector / bottom cover	CR-CP-41-343
9	Screw, hex 3x6mm (bag of 20 pcs)	SCR-20PK-36
10	Screw, hex 4x5mm (bag of 20 pcs)	SCR-20PK-45
11	Screw, hex 4x20mm (bag of 20 pcs)	SCR-20PK-420
12	Screw, hex 4x70mm (bag of 20 pcs)	SCR-20PK-470
13	Screw, hex 4x80mm (bag of 20 pcs)	SCR-20PK-480

Electronics module subassembly list



Position	Description	Part number
1	Electronics module	CR-CM-41-016
2	BLDC driver board	CR-CEM-41-020
3	Laser optics plate	CR-CM-41-324
4	Electronics module cover	CR-CP-41-344
5	Electronics module base plate	CR-CM-41-322
6	Alignment motor, left	CR-CM-41-323
7	Alignment motor, right	CR-CM-41-325
8	Main board	CR-CEM-41-001
9	SD card (not pictured)	CR-CE-41-001
10	Switch mode power supply	CR-CE-41-119
11	Mains power switch	CR-CE-41-006
12	Screw, hex 3x6mm (bag of 20 pcs)	SCR-20PK-36

Mechanics module subassembly list



Position	Description	Part number
1	Mechanics module	CR-CM-41-001
2	Cassette lock motor assembly, right	CR-CM-41-316
3	Cassette lock motor assembly, left	CR-CM-41-315
4	RFID board	CR-CEM-41-057
5	Stepper motor	CR-CM-41-312
6	Stage base frame	CR-CM-41-306
7	Drive belt	CR-CP-41-392
8	Home Switch	CR-CE-41-105
9	Limit Switch	CR-CE-41-106
10	Interconnection board	CR-CEM-41-054
11	Front board	CR-CEM-41-053
12	Cassette top plate	CR-CP-41-323
13	Moving Stage assembly	CR-CM-41-310
14	Cassette switch, left	CR-CE-41-107
15	Cassette switch, right	CR-CE-41-108
16	CTAG sensor	CR-CEM-41-012
17	Screw, hex 4x20mm (bag of 20 pcs)	SCR-20PK-42
18	Screw, hex 4x70mm (bag of 20 pcs)	SCR-20PK-470
19	Screw, hex 4x80mm (bag of 20 pcs)	SCR-20PK-480

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