GTEMP-0225 Rev 1

Replacing the Secondary Collimator Assembly

WARNING: Before removing the covers, you MUST switch OFF the unit AND disconnect the unit from the main power supply by switching OFF the circuit breaker in the electrical cabinet.

ONLY an approved Carestream technician is qualified to inspect or maintain the unit while it is switched on and while the covers are removed. In this case, NO unqualified person must approach the unit.

WARNING: MAKE SURE that the collimator that you want to replace has a serial number that is compatible with the serial number of your unit.

If you	Then ...
Have a generator with the serial number EDxxx onwards	Execute all the procedures in this chapter
Have a generator that is older than the serial number EDxxx	Replace with *new front motors* when you execute the procedures in this chapter. See "GRN-0136 SPCGF4X Front motors for the secondary collimator".

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1. Description

The secondary collimator assembly directs the X-ray beam for image acquisition.

Tool Requirements

You must supply the following tools:

- Metric allen keys.
- Metric spanners.
- Flathead screwdriver.
- Cable extractor tool.
- Cable tie cutter.
- Calibration tools

Note: **The tool references mentioned in this guide are ISO tool references.**

Before removing or replacing the secondary collimator, make sure that:

- The unit is disconnected from the main power supply by switching off the circuit breaker in the electrical cabinet.
- The unit is switched off.
- The rotative arm covers are removed.
- You have the required tools.
- You have the appropriate new secondary collimator assembly for 3D.

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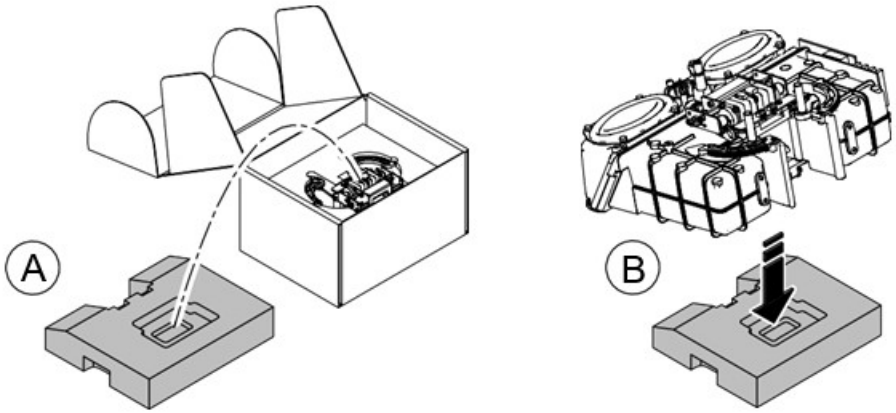
2. Removing the Secondary Collimator Assembly for 3D

Preparation before removing the X-ray generator

Important: Before you remove the X-ray generator, you MUST prepare the packaging foam.

To prepare the packaging foam, follow these steps:

1. Open the packaging box that contains the new secondary collimator and remove the packaging foam (A).



2. Put the packaging foam on a flat surface. You must place the X-ray generator on the packaging foam as illustrated when you remove (B) it.

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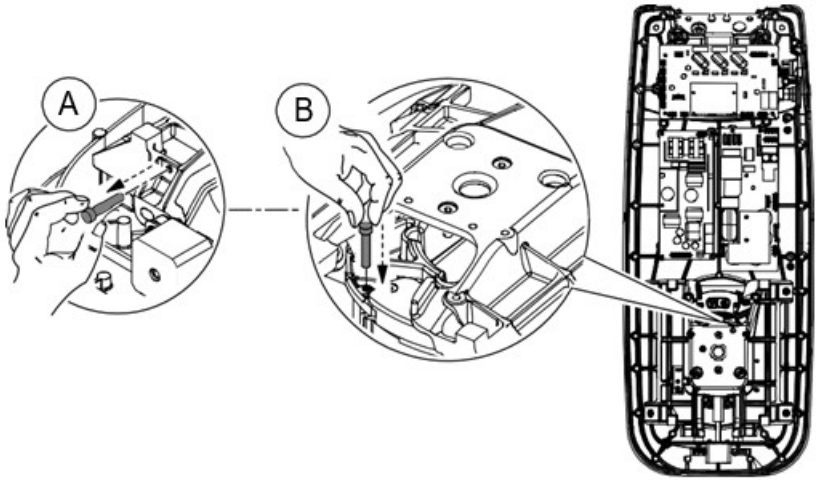
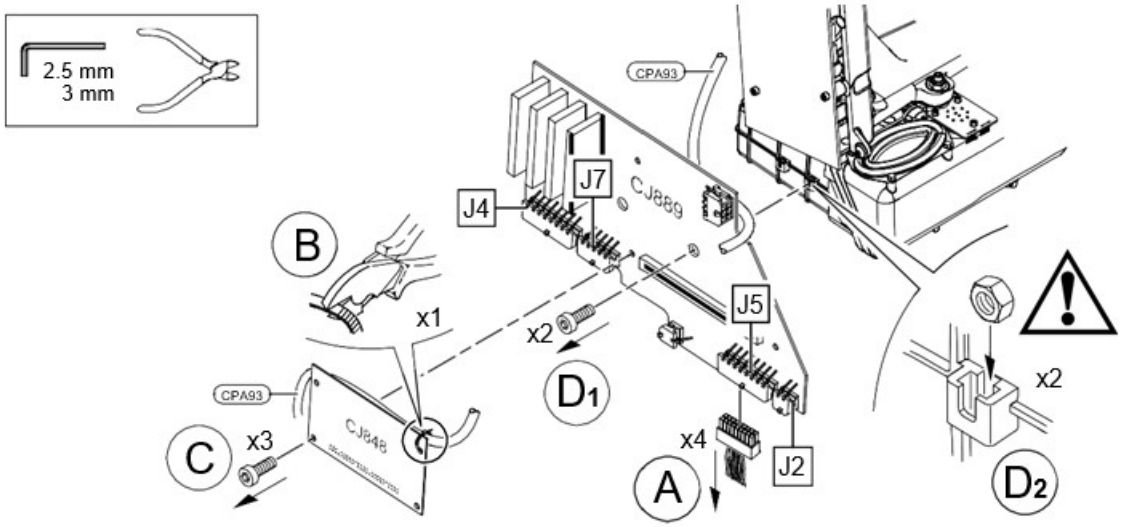
3. Removing the X-ray generator

To remove the secondary collimator assembly for 3D, follow these steps:

1. Block the rotative movement by placing the pin (A) in the slot on the left of the metal access plate (B) that covers the CJ857 movement detector board.



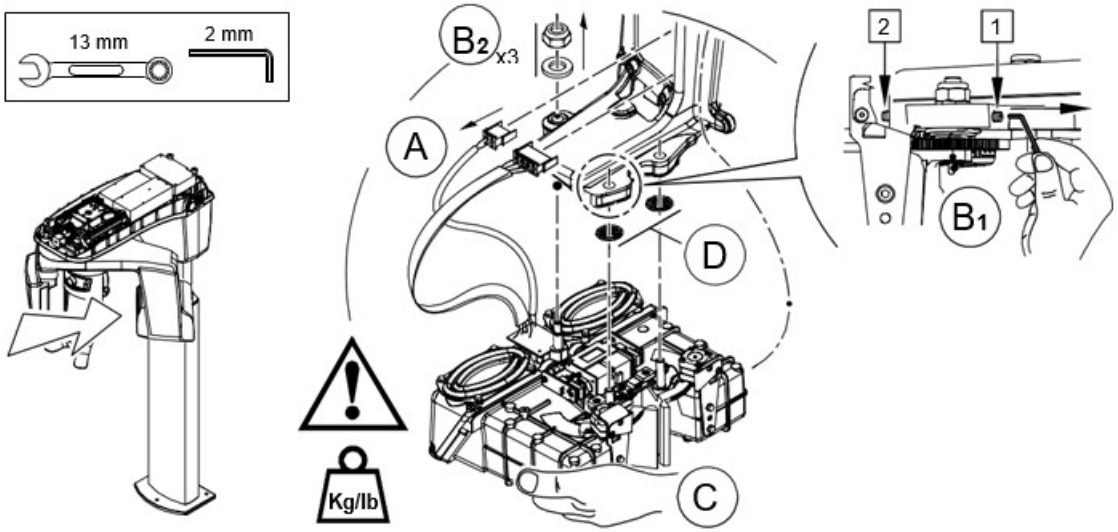
2. Disconnect the four cables from the CJ889 collimator driver board (A).



3. Cut and remove the cable tie (B).
4. Remove the three screws and carefully unplug the CJ848 microprocessor board (C) from the CJ889 collimator driver board.
5. Remove the two bolts and the CJ889 collimator driver board (D_1)

> Important: After you remove the two bolts, the two nuts will remain in the nut cages (D_2).

6. Disconnect the two X-ray generator cables from the CJ855 generator power board (A)

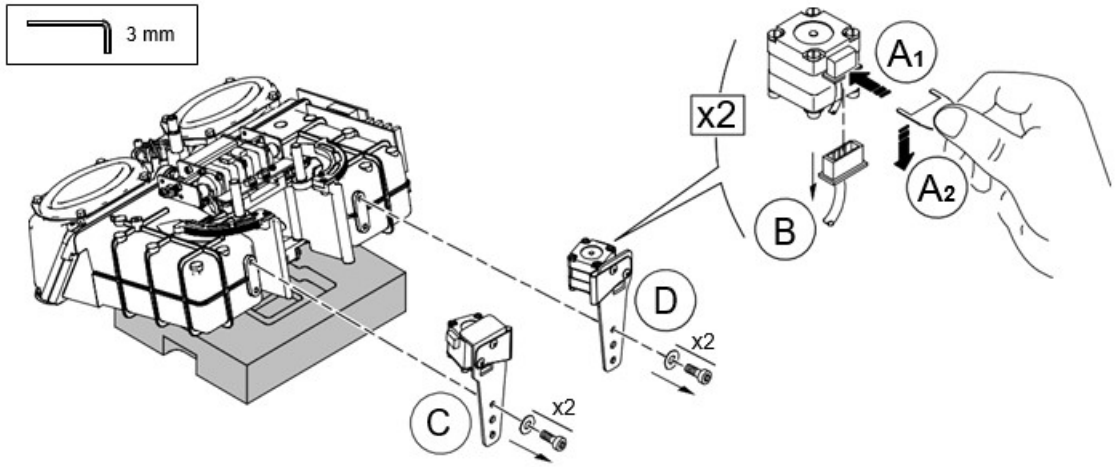


7. Loosen the two adjustment screws (B1)
8. Undo the three lock nuts (B2).
9. Support the X-ray generator with one hand , (C)
10. Remove the three lock nuts and washers with your other hand (B2).

WARNING: The X-ray generator is HEAVY.

11. Carefully lower the X-ray generator and be careful not to lose the two springs (D) .

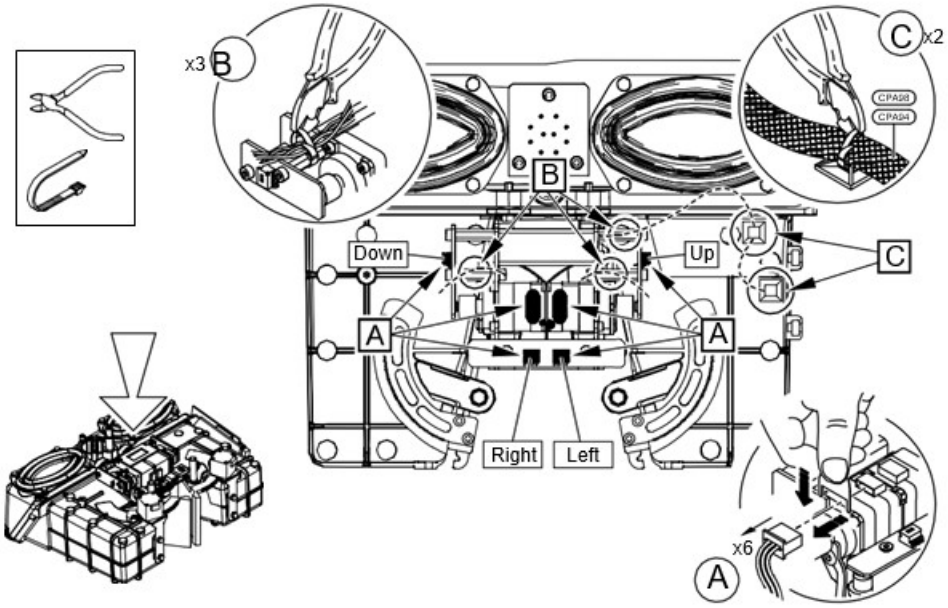
12. Place the X-ray generator on the packaging foam.
13. Press the cable extractor tool against the cable connector (A1) of the right motor.



14. Move the cable extractor tool downwards (A2) to disconnect the cable (B) from the right motor.
15. Repeat steps 13 and 14 for the left motor.
16. Unscrew and remove the two screws and washers of the mounting brackets and remove both the front motors ((C) and (D)).

17. Disconnect the six cable connectors from the secondary collimator (A)

Important: You must use a cable extractor tool to remove the cables.

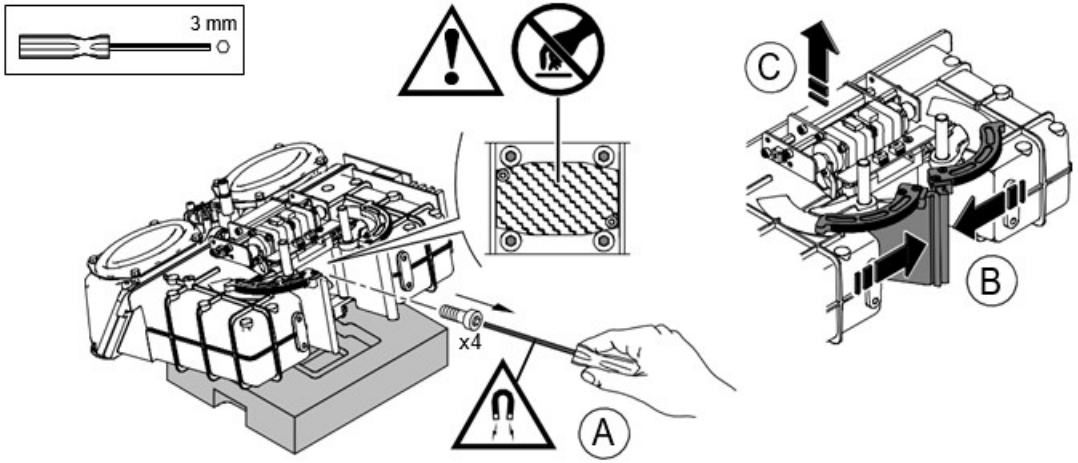


18. Cut and remove the three cable ties (B).
19. Cut and remove the two cable ties (C).

20. Using a magnetic allen key, carefully remove the four screws inside the secondary collimator (A).

Important: You MUST wear the gloves that are provided before you remove the secondary collimator.

WARNING: Do NOT touch the surface of the secondary collimator filter.



21. Close the secondary collimator blades (B).
22. Lift the secondary collimator forward and up from the X-ray generator (C).

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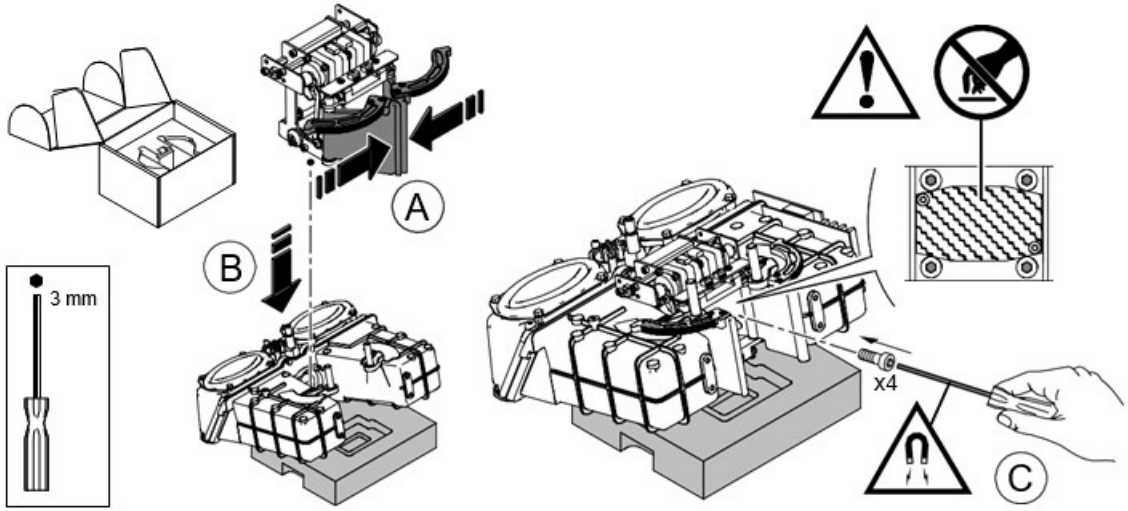
4. Replacing the Secondary Collimator Assembly for 3D

To replace the secondary collimator assembly for 3D, follow these steps:

1. Remove the new secondary collimator from the packaging box and close the blades (A).



2. Hold the secondary collimator in the forward tilt position and lower it into the X-ray generator (B)
3. Using a **magnetic** allen key, carefully insert and tighten the four screws (C).

WARNING: Do NOT touch the surface of the secondary collimator filter.

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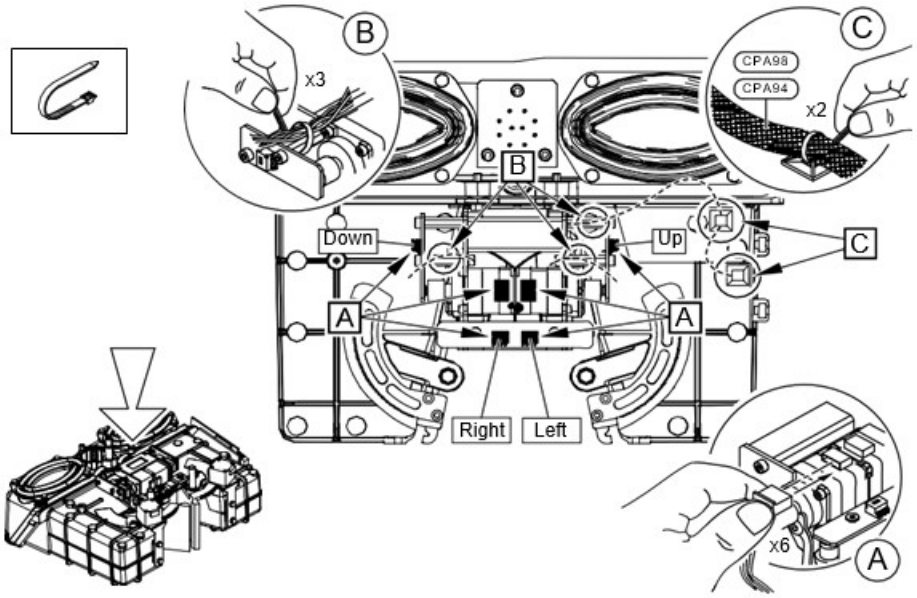
4. Reconnect the six cable connectors to the secondary collimator (A)



5. Replace the three cable ties, then cut off the cable tie ends . (B) Make sure that you leave enough cable length to connect to the CJ889 collimator driver board.

6. Replace the two cable ties, then cut off the cable tie ends. (C) Make sure that you leave enough cable length to connect to the CJ889 collimator driver board.

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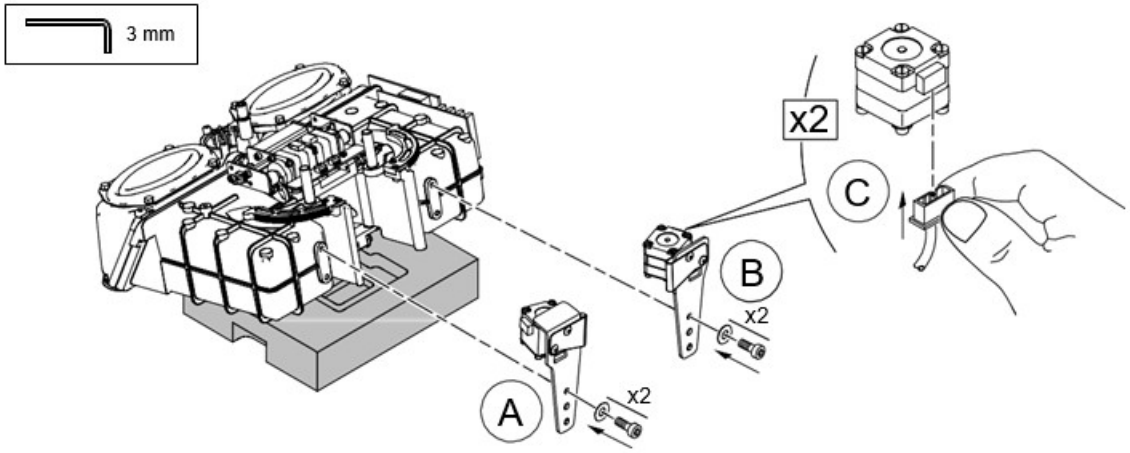
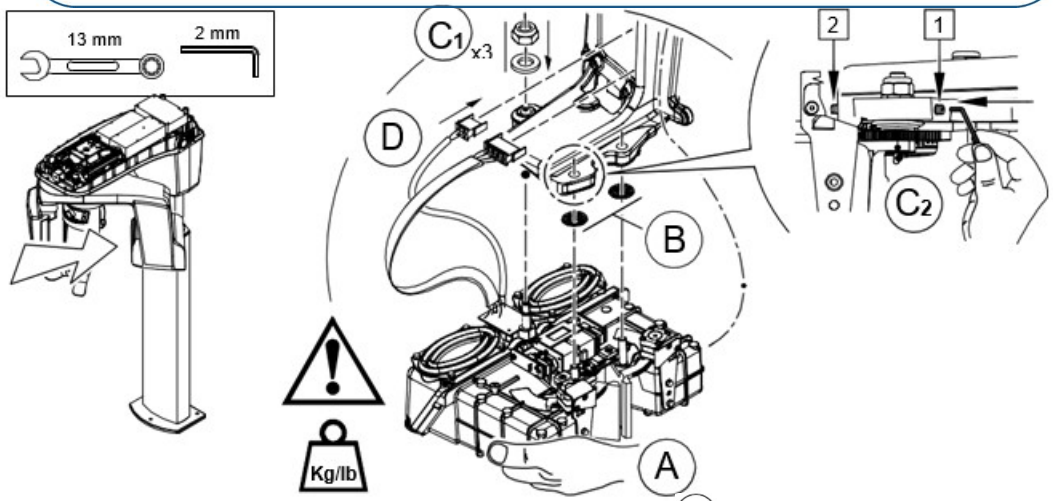
7. Place the front motors on the X-ray generator and replace the two screws and washers of the mounting brackets (A and B).



8. Reconnect the cables C to both the front motors.

9. Support the X-ray generator with one hand (A) and position it in the three holes on the rotative arm.

WARNING: The X-ray generator is HEAVY.

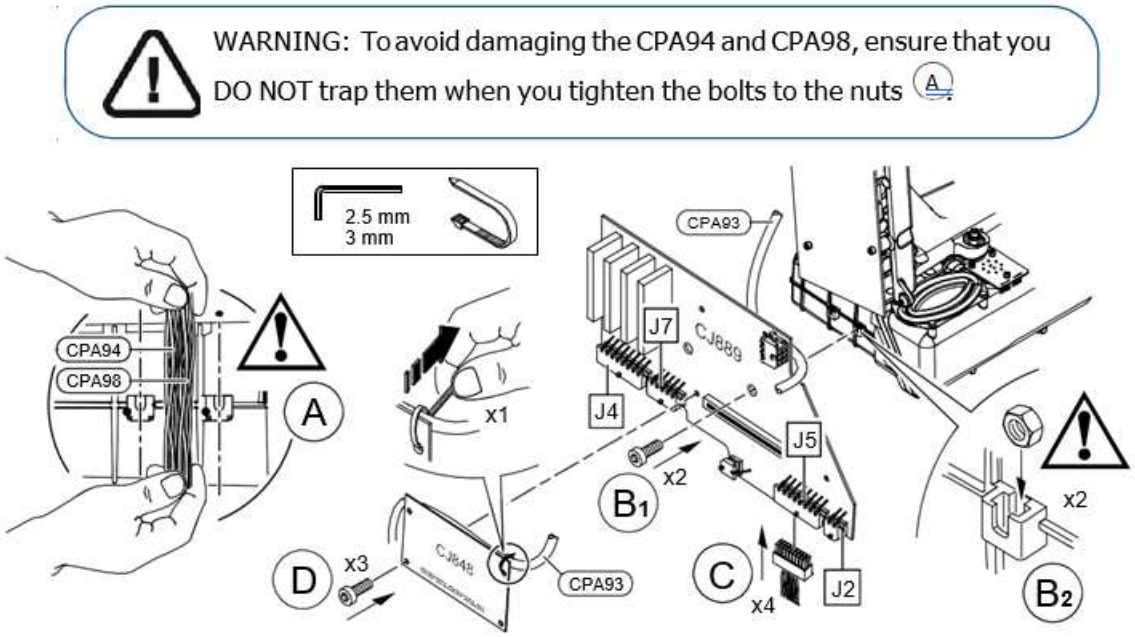


10. Place the two springs in position on the X-ray generator with your other hand (B).
11. Place the three washers and new lock nuts in position and tighten them (C1).

Important: You must use three NEW lock nuts when replacing the X-ray generator.

12. Tighten the two adjustment screws (C2)
13. Reconnect the two X-ray generator cables to the CJ855 generator power board (D).

14. Position the CJ889 collimator driver board and tighten the two bolts (B1) to the two nuts in the nut cages (B2).



15. Replace the four connectors (J2, J4, J5, and J7) to the CJ889 collimator driver board (C).

    Each cable is labelled with the reference number of the connector on the CJ889 collimator driver board.

16. Carefully plug the CJ848 microprocessor board to the CJ889 collimator driver board (D)

17. Insert and tighten the three screws and replace the cable tie (D). Cut off the cable tie end.

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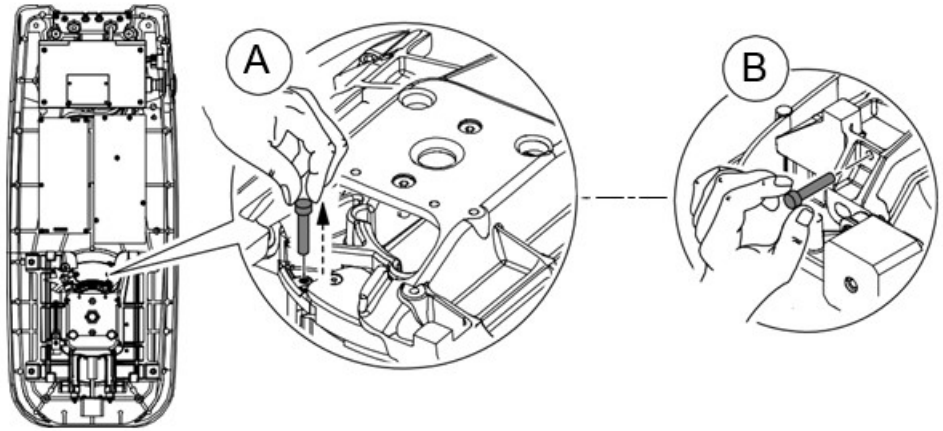
18. Remove the pin blocking the rotative movement (A) and put it back in its storage position (B)



19. Switch on the circuit breaker in the electrical cabinet.
20. Switch on the unit.

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5. Testing the Secondary Collimator Assembly for 3D

To test the secondary collimator assembly for 3D, follow these steps using the Service Tools or Equipment Tools:

1. Calibrate the secondary collimator by running Full calibration procedure under Sensor collimation.
   Follow the on-screen instructions.
2. Save the system and calibration parameters

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