

Axial Drive Assembly Replacement

Prerequisites

Table 1. Personnel requirements

Required persons	Preliminary requirements	Procedure	Finalization
2	15 minutes minutes	3 hours minutes	15-30 minutes minutes

Table 2. Tools and test equipment

Item	Quantity	Effectivity	Part number	Manufacturer
Standard FE Tool Kit	1	-	-	-
Tube Hoist Assembly (supplied with system)	1	-	-	-
3mm driver bit	1	-	-	-
5mm driver bit	1	-	-	-
10mm hex key or hex bit socket with 12-inch extension	1	-	-	-
6mm hex key or hex bit socket with 12-inch extension	1	-	-	-
7/32 -inch hex bit socket	1	-	-	-
3/8-inch hex bit socket	1	-	-	-
Flat head screwdriver	1	-	-	-
Chain hoist	1	-	5149069 (or equivalent)	-
FE Torque Wrench Kit	1	-	46-268445G1 or 5135228 or equivalent	-

Table 3. Replacement parts

Item	Quantity	Effectivity	Part number	Manufacturer
2010 Axial Drive Assembly Kit	-	-	5344400	-
Axial Drive FRU	-	-	5373010-2	-

Table 4. Safety

DANGER



ELECTROCUTION HAZARD
voltage is present in gantry
use proper lockout/tagout procedures from the Safety section of the service documentation when stated during procedure, this procedure includes work directly in the gantry power pan.

WARNING

BURN HAZARD.

The surface on THE BRAKE RESISTOR can become very hot.
ALLOW TIME FOR SURFACE TO COOL BEFORE TOUCHING.

WARNING

BIOD BODME PATHOGENS MAY BE PRESENT

BLOOD BORNE PATHOGENS MAY BE PRESENT.
unprotected contact with blood borne pathogens may CAUSE DISEASE transmission.
use proper procedures and ppe to avoid blood borne pathogens.

NOTICE

Follow ALL required safety and PPE procedures customary for your organization, when working on this product.

Table 5. Required conditions

Condition	Reference	Effectivity
Only trained service personnel should service the GE CT Scanner.	-	-

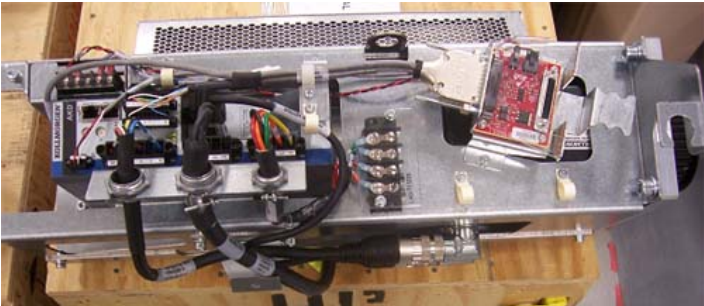
About this task

Overview

This demonstrates how to replace Axial Drive assembly.

Last Updated:	December 05, 2025
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Figure 1. Drive Assembly to be installed



Preparation for Replacement

Procedure

- 1. Stop the rotor of X-ray tube in case of Liquid Bearing Tube before HVDC off. Refer to [Liquid Bearing Tube Rotor stop procedure](#) for details.

- 2.

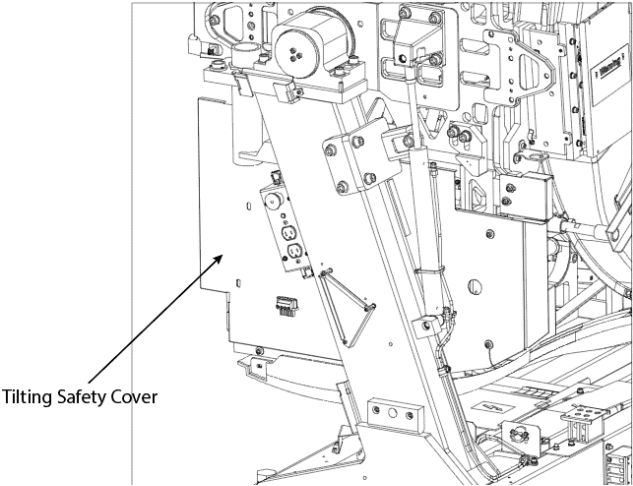
NOTICE

This procedure uses many screw, lock and flat washer combinations. Make sure the order of installation has the lock washer positioned between the flat washer and head of the screw.

Remove gantry right side cover and disable **Axial drive**, **HVDC** and **120 VAC** service switches from the Service Switch Panel. For cover removal refer to **Replacement > Gantry > Enclosure > Cover Removal Procedure**.

- 3. Perform all required LOTO activities to remove all power from the Gantry.
- 4. Remove the gantry left, top and front covers. And slide out the rear cover.
- 5. Loosen the five (5) screws with a 5mm hex wrench to remove the right side tilting safety cover.

Figure 2. Right Side Tilting Safety Cover





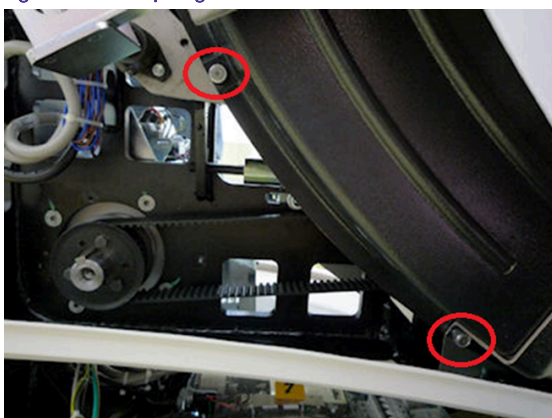
6. Position the tube to 6:30 o'clock position so that there are minimal obstructions from the hoist setup to the drive/motor assembly position. See [Figure 3](#).

Figure 3. Gantry Positioning



7. Engage the rotating assembly indexer lock to prevent gantry rotation during this procedure.
8. Remove the lower slip ring cover by unscrewing two screws to access the belt tension adjustment screws. See [Figure 4](#).

Figure 4. Lower Slip Ring Cover



9. Remove the two front screws ([Figure 5](#)) and the two rear screws ([Figure 6](#)) of the gantry bottom cover to allow removal of the axial drive assy.

Figure 5. Two Front Screws

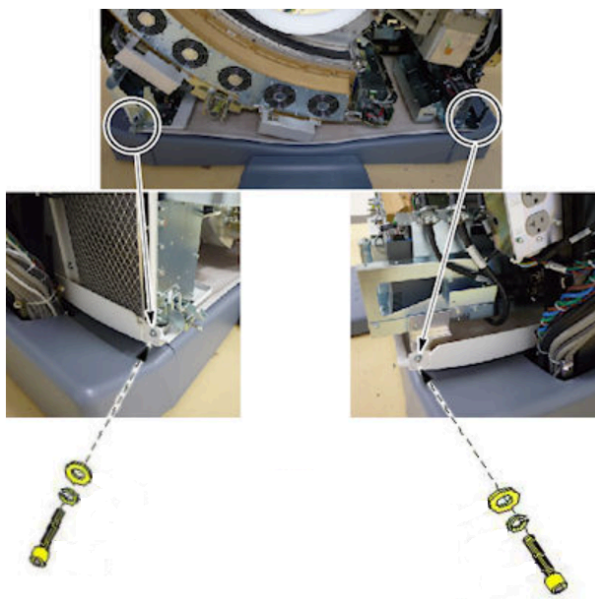


Figure 6. Two Rear Screws





▼ Removal of existing axial drive assembly

Procedure

- 1. Disconnect the axial power cable, holding brake cable and TGPU cable from existing axial drive and pull excess wires through the back of the frame. See [Figure 7](#).

NOTE

To disconnect the power cable ends from the terminal strip, removal of power strip cover is necessary.

Figure 7. Power cable, brake cable and TGPU cable to be disconnected.

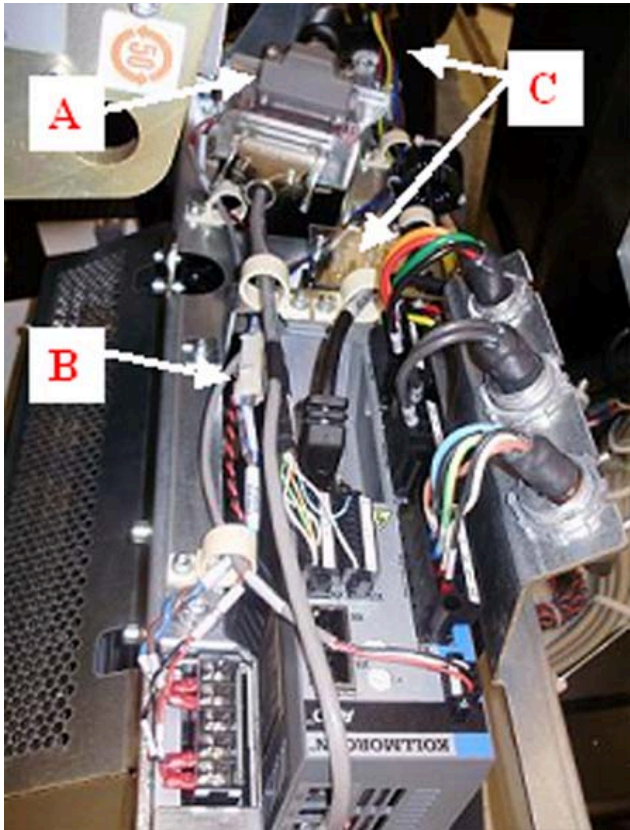
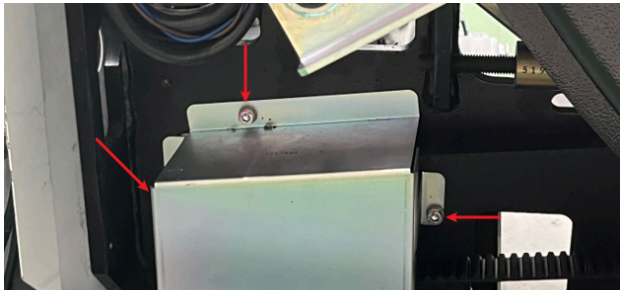


Figure 7 Key	
A	TGPU cable
B	Holding brake cable
C	Power cable (connected to terminal strip and cable clamp)

- 2. Remove the drive gear cover by removing the three M6 hex screws, flat washers and lock washers. See [Figure 8](#) below.

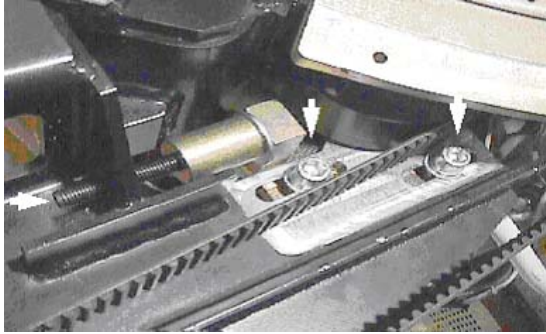
Figure 8. Gear Cover





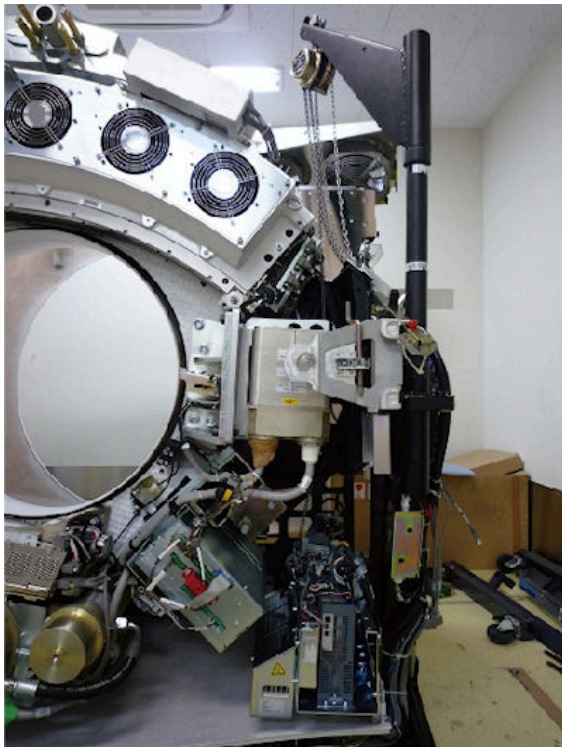
3. Loosen the axial drive belt. Refer to [Figure 9](#).
 - a. Using a 10mm hex key, or hex bit socket, loosen the two mounting screws on the plate.
 - b. Using a 6mm hex key, or hex bit socket with a 12-in. extension, fully loosen the elongated hex screw to loosen the drive belt.

[Figure 9. Threaded rod and 2 mounting screws](#)



4. Remove the drive belt from the drive gear. Take care to not disturb the teeth engagement along the rotating assembly.
5. Loosen the lock screw of the top fan assembly, rotate the top fan assembly outward to install the hoist setup.
6. Assemble the gantry tube hoist frame and install hoist. Clip the end of the chain to the hoist ring on the axial drive to support the drive assembly (see [Figure 10](#)).

[Figure 10. Hoist Attachment](#)



WARNING

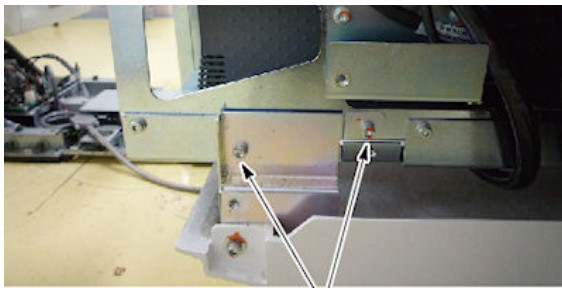
HEAVY OBJECT

motor assembly is in an awkward location while removing or installing. motor assembly can shift when removing mounting hardware.
make sure the motor is supported with a hoist.

7. Remove two screws from the drive assembly to remove the bracket (see [Figure 11](#)).

[Figure 11. Screws of Mounting Axial Drive](#)

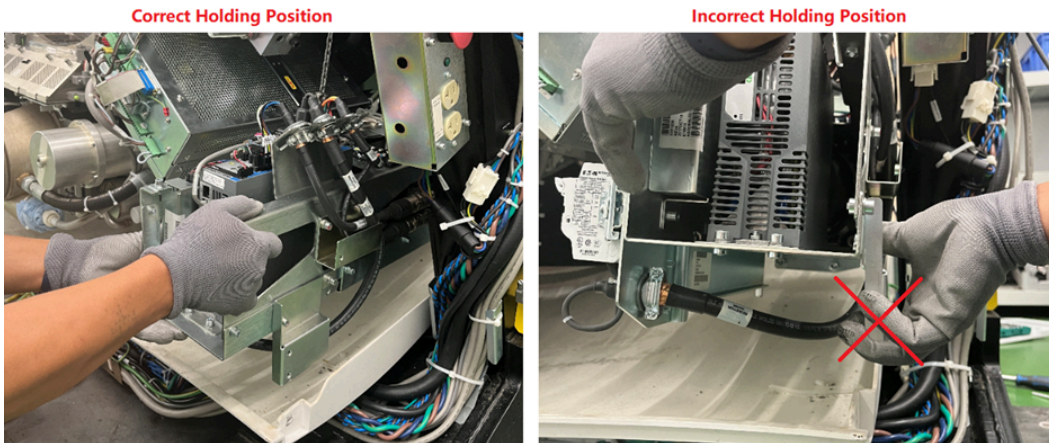




Remove these screws

8. While one person removes the four (4) hex screws from the rear of gantry, the other person should hold the axial drive assembly by hand at the front of gantry to prevent sudden rotation.

Figure 12. Holding Position



9. Using a 3/8-in hex bit socket, remove the four (4) hex screws mounting the motor to the gantry frame. See Figure 13.

NOTE

Screws may be very tight, be careful when initially loosening motor mount screws.

Figure 13. Removing the four (4) hex screws will release motor.

**WARNING**

HEAVY OBJECT

motor is heavy

exercise care when replacing the motor. make certain to support the motor with a hoist.

10. Guide the motor assembly out of the gantry and set aside. Leave the hoist assembly set up as it will be required for the installation of the new drive.

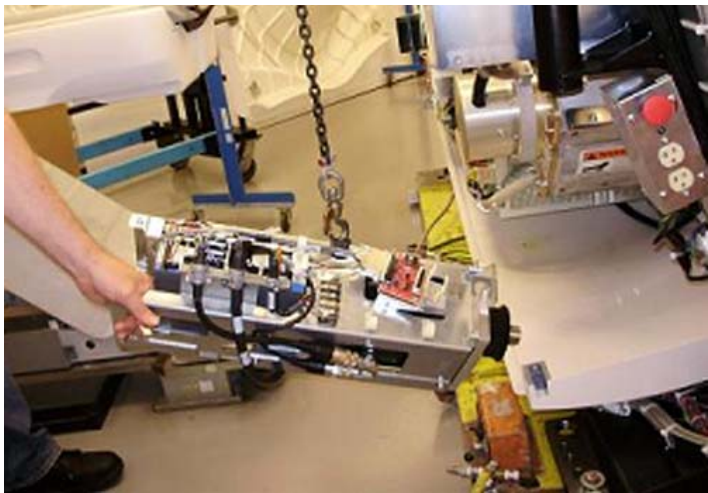
✓ Installing Axial Drive Assembly

Procedure

1. Attach new drive assembly to the hoist via the hook on top of the box. The drive will tilt downward on the motor end of the assembly after lifting it off the ground. See Figure 14.

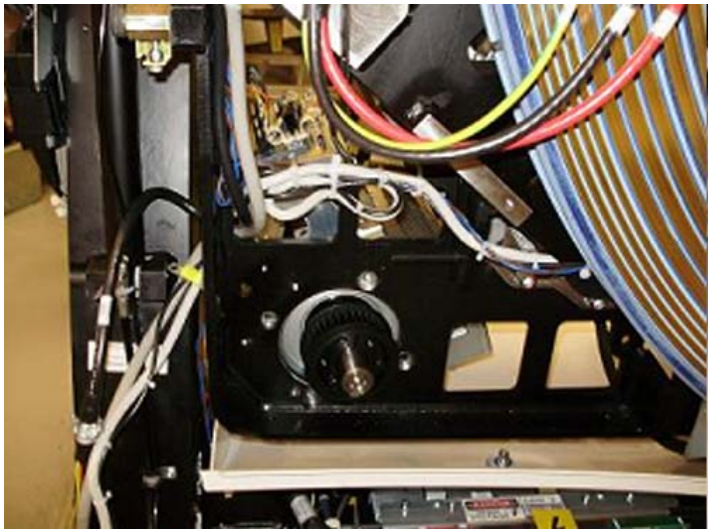
Figure 14. Mounting drive assembly to hoist





2. Guide the drive into position and pivot so the drive is in correct orientation with the frame. See [Figure 15](#) below.

Figure 15. Guide drive into position



3. Rest guide on hole in back frame, then position so bolt holes line up. May have to pull back on drive slightly. Refer to [Figure 16](#) below:

Figure 16. Pull back on motor hub to hold in place before bolting to frame.



4. Bolt motor to frame from the back. Torque according to table.

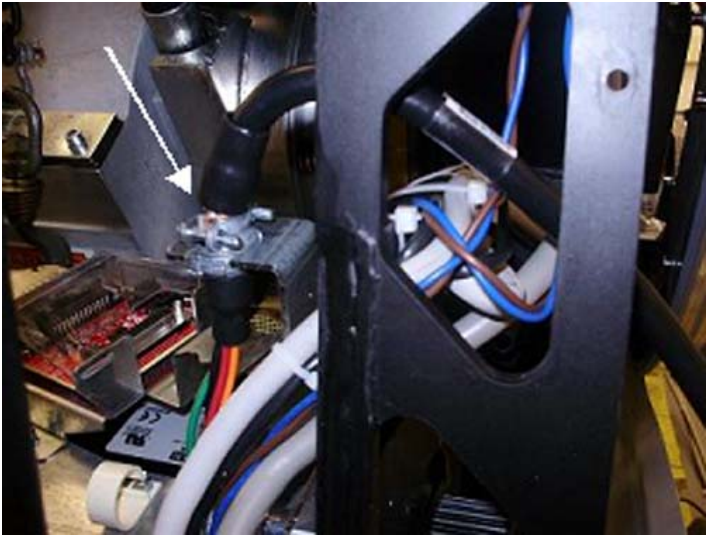
33 N-m	24.3 lb-ft	336.4 kg-cm
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5. Remove hoist once assembly is mounted. Attach two mounting screws. See [Figure 11](#).

▼ **Cable Installation and Routing**
Procedure

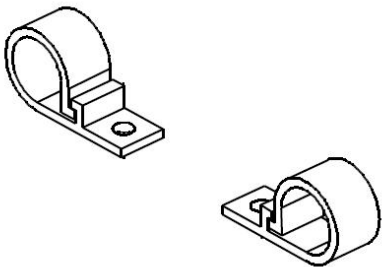
- 1. Pull power cable through gantry frame above the motor mount. Clamp cable in bulkhead. See [Figure 17](#) below.

Figure 17. Routing of axial drive power cable



- 2. Guide wire bundle through two plastic cable clamps toward terminal strip. Refer to [Figure 18](#) for visual reference of cable clamps.

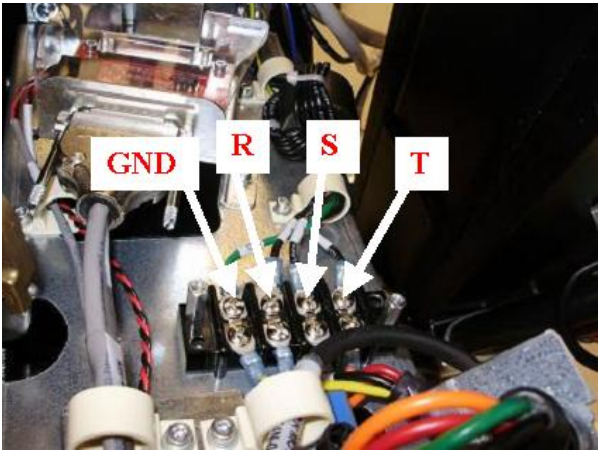
Figure 18. plastic cable clamp diagram



- 3. Remove the cover from the terminal strip.
- 4. Loosen the screws on motor side of terminal strip with a flat head screwdriver.
- 5. Connect wires into terminal strip as follows (L to R): "GND", "R", "S", "T". These should line up with neighbor wires from the 2010 Axial Drive, and torque according to table below. See [Figure 19](#) for orientation of the wires.

1.0 N-m	8.9 lb-in	0.7 lb-ft	10.2 kg-cm
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Figure 19. Terminal strip connections



- 6. Tighten screws and re-install cover.
- 7. Guide TGPU cable over bracket and connect to the back of the KIM board assembly and tighten the two (2) Velcro straps around TGPU cable and bracket. See illustration below.

Figure 20. Routing and connection of TGPU cable

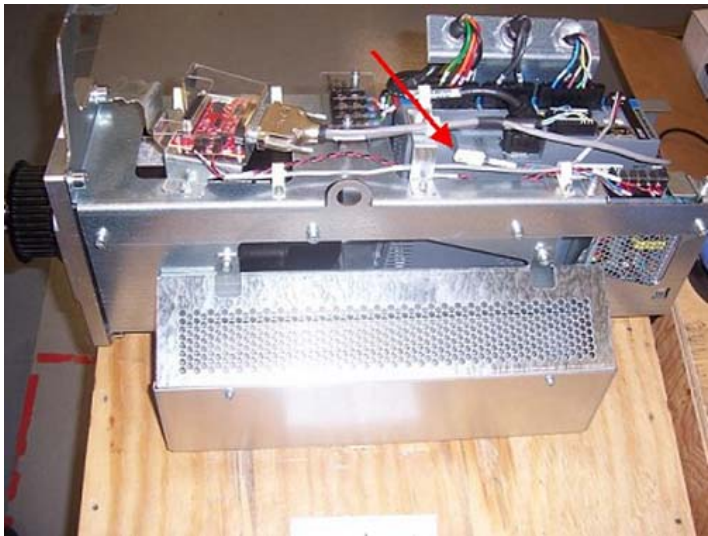




Figure 20 Key	
A	KIM Board assembly
B	Mounting of TGPU cable

8. Pull the holding brake wire (blue and brown) through and connect to the power supply assembly. See [Figure 21](#) below.

Figure 21. Connection of holding brake wire



9. Replace belt around motor hub and tighten belt.
Refer to [Align, Setup, Calibrations > Gantry > CT Belt Tension Check & Adjustment](#).

10. Replace gear cover and torque according to Table below. See [Figure 8](#) as a reference.

8 N-m	71 lb-in	6 lb-ft	81.5 kg-cm
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Re-Assemble of Gantry

Procedure

- 1. Fix the lower slip ring cover and install the tilting gantry safety cover.
- 2. Remove LOTO to restore system power.
- 3. Connect the front cover cables.
- 4. Turn on the **120 VAC** service switch from the Service Switch Panel.
- 5. When power is turned to **ON**, a code “o2” should display on the axial drive window. See [Figure 22](#) below:

Figure 22. o2 Display





Figure 22 Key	
A	o2 code should display in this window

- 6. Turn off the **120 VAC** service switch from the Service Switch Panel.
- 7. Re-install right side tilting gantry cover.
- 8. Disengage rotating assembly lock and reassemble bottom cover, then install lower slip ring cover.
- 9. Restore the gantry top fan.
- 10. Install the gantry front and rear covers, scan window, then the top and left side covers.
- 11. Turn on the **120 VAC**, **Axial Drive**, and **HVDC** service switches from the Service Switch Panel.
- 12. Install the gantry right side cover.

Finalization

Procedure

- 1. Perform a **Fastcal** from the **Daily Prep** button of the scan display.
- 2. Run the [System Scanning Test](#) from the **Functional Checks** procedure list.

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