

Tools:       • 1/8 Allen Wrench       • 1/4 Allen Wrench         • 3/16 Allen Wrench       • (1) Zip Tie         • 9/64 Allen Wrench       • 5/64 Allen Wrench         • 5/64 Allen Wrench       • S/64 Allen Wrench         Warning:       BEFORE BEGINNING, PLEASE POWER OFF ALL EQUIPMENT INCLUDING THE ACCUMOVE CONTROLLER!*         *Irreparable damage will occur to the controller and will not be covered under warranty if the equipment is not turned off.         Part 1:       Removing the plasma torch shown in Fig. 1.	Intro:	Over time, the timing belts on the 4400 and 4800 machines that join the motor and pinion gear pulleys will wear out and require replacements. The instructions below explain the procedure for replacing the belts.
Warning:       BEFORE BEGINNING, PLEASE POWER OFF ALL EQUIPMENT INCLUDING THE ACCUMOVE CONTROLLER!*         *Irreparable damage will occur to the controller and will not be covered under warranty if the equipment is not turned off.         Part 1:       Removing the plasma torch shown in Fig. 1.	Tools:	<ul> <li>1/8 Allen Wrench</li> <li>3/16 Allen Wrench</li> <li>9/64 Allen Wrench</li> <li>5/64 Allen Wrench</li> </ul>
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Part 1:       Removing the plasma torch shown in Fig. 1.         Image: Constraint of the plasma torch shown in Fig. 1       Image: Constraint of the plasma torch shown in Fig. 1		*Irreparable damage will occur to the controller and will not be covered under warranty if the equipment is not turned off.
Fig. 1: Plasma torch.	Part 1:	<section-header></section-header>
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Step 1:

Being careful to avoid the pinch point at the magnet, gently hold and pull the torch in the direction shown in Fig. 2 to dismount the torch holder puck from the magnetic breakaway base. Slide the braided metal cable off of the catch tab to move the torch away from Z-axis lifter.



Fig. 2: Gently pull in the direction shown to dismount the plasma torch.











Step 2:

Unscrew and remove the cable clip on the left side of the Z-axis lifter as shown in Fig. 5.



Fig. 5: Removing the cable clip.

Step 3:

Disconnect the Z-axis motor cable as shown in Fig. 6a & b. Try to avoid pulling from the cable so none of the wires pull out of the cable plug.



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Step 4:

Disconnect the breakaway cable (3 pin DIN) cable on the left side of the Z-axis lifter as shown in Fig. 7a & b.



Fig. 7: Disconnecting the breakaway cable (3 pin DIN) on the left side of the Z-axis lifter.

Step 5:

Cut the zip tie as shown in Fig. 8a and disconnect the motor cable by pressing down on the release switch and pulling apart as shown in Fig. 8b.



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Step 6:

Remove the four screws from the torch mount as shown in Fig. 9a with a 1/4 Allen Wrench and dismount the torch mount as shown in Fig. 9b.



Fig. 9: Remove the screws on each inside corner of the plasma torch mount.







Removing the tool plate and gantry motor as shown in Fig. 10. Part 3: Fig. 10: Tool plate. Remove each of the three screws on the left and right sides of the tool plate Step 1: holding the bellows as shown in Fig. 11a-c. (b) (c) (a) Fig. 11: Removing each of the three screws on the left and right sides of the tool plate holding the bellows. Replacing the 4x00 X-Axis Motor Belt 7 LINCOLN Cutting DOC #:7301-0-US70-111318-AM-01-02 ELECTRIC **Systems** 

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Pull back the bellows to expose the inside of the gantry as shown in Fig. 12. Step 2: Fig. 12: Exposed gantry. Disconnect the sensor connection as shown in Fig. 13a & b and remove it Step 3: from the gantry by pulling it out from the right side of the tool plate. Sensor Connection (b) (a) Fig. 13: Disconnecting the sensor connection. Replacing the 4x00 X-Axis Motor Belt 8 LINCOLN Cutting DOC #:7301-0-US70-111318-AM-01-02 ELECTRIC **Systems** 



Step 4:

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Unscrew each of the four screws on the tool plate as shown in Fig. 14a and remove it by pulling it up and off to the side as shown in Fig. 14b.





Step 5:

Remove each of the two screws from the tool plate standoff as shown in Fig. 15a and remove the tool plate standoff as shown in Fig. 15b.





Fig. 15. Removing each of the two screws from the tool plate standoff.

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Step 6:

Remove the two shoulder bolts as shown in Fig. 16a & b to remove the motor. Please note that only the bottom shoulder bolt has a spring.



Fig. 16: Removing the gantry motor from the gantry.











Step 3: Remove the four screws shown in Fig. 19 with a 9/64 Allen Wrench . Fig. 19: Remove the four screws shown. Remove the four aluminum bushings shown in Fig. 20. Step 4: Fig. 20: Removing aluminum bushings. Replacing the 4x00 X-Axis Motor Belt 12 LINCOLN Cutting DOC #:7301-0-US70-111318-AM-01-02 ELECTRIC **Systems** 



Step 5:

Push up on the belt from the large pulley to release it from the small pulley. Remove the belt from the motor assembly as shown in Fig. 21.



Fig. 21: Removing the belt.











#### Step 3:

Place the aluminum bushings as shown and tighten the four screws with a 9/64 Allen Wrench as shown in Fig. 19.



Fig. 19: Reinstalling the aluminum bushings.

#### Step 4:

Tighten the set screw with a 5/64 Allen Wrench as shown in Fig. 20 in small increments (1/8 to 1/4 of a turn at a time). Squeeze the belt with approximately 1 pound of force to make sure that the belt is not too loose or too tight. When squeezing the belt from both sides, there should be a maximum deflection between 1/16 to 1/8 of an inch. The arrows indicate how the belt should be squeezed to determine proper tension.



Fig. 20: Setting the proper tension on the belt.





Step 5:

Once the proper tension has been achieved, tighten the four screws as shown in Fig. 21 with a 9/64 Allen Wrench to secure the motor into position.



Fig. 21: Tightening the four screws.







#### Part 6:

#### Step 1:

Align the gantry motor as shown in Fig. 22 and secure each of the shoulder bolts on the aluminum mounting plate with a 3/16 Allen Wrench, making sure the short bolt is on the top side and the long bolt is on the bottom. Note only the bottom shoulder bolt has a spring.

**Reinstallation of the Gantry Motor** 



Fig. 22: Remounting the gantry motor.

### Step 2:

Secure the tool plate standoff as shown in Fig. 23 using the two screws

#### shown.







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Align the tool plate as shown in Fig. 24a and fasten it to the aluminum brackets using the four screw slots shown.



Step 4:

Feed the sensor cable through the back slot and connect it to the sensor as shown in Fig. 25a-d.



(a)



(c)



(d)

Fig. 25: Reconnecting the sensor.

(b)

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Step 5:

Re-secure the left bellow using the three screw slots on the left side of the tool plate as shown in Fig. 26a-c.



(a)

Fig. 26: Re-securing the left bellow.

Step 6:

Connect the gantry motor cable as shown in Fig. 27. Make sure the release switch snaps into position so that the two ends are locked into position.



Fig. 27: Connecting the gantry motor cable.

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Step 13:

Secure the four cables onto the tool carriage as shown in Fig. 34a & b.





(a) (b) Fig. 34: Securing cables onto the tool carriage.

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