

Power Lift G0704 Installation Instructions

Included Components

1. 12VDC Gearmotor
2. Motor plate
3. Motor switch assembly
4. Switch bracket
5. 12VDC power supply
6. Power Cord
7. Motor coupling
8. Hook spanner wrench



Parts Bag Contents

	<u>Qty.</u>
1. 6-32x1" socket cap screw	4
2. #6 washer	5
3. M5-0.8 x 10mm socket cap screw	3
4. 7/16" washer, 0.463" ID, 0.75" OD	1
5. M3-0.5 x 20mm socket cap screw	2
6. M3-0.5 x 12mm socket cap screw	3
7. M3 washer, 3.2 mm ID, 9 mm OD	5
8. M5 x 30mm hex standoff	3
9. 1/2" and 5/8" cable clips	1
10. 6-32 x 3/8" pan machine screw	1

Tools Required

1. Metric hex key wrenches: 2.5, 3, 4mm
2. Imperial hex key wrenches: 7/64, 1/8"
3. Metric wrenches: 10, 14mm
4. Imperial wrench: 7/32
5. Hook spanner wrench (supplied)
6. #2 Phillips screwdriver

Preparation

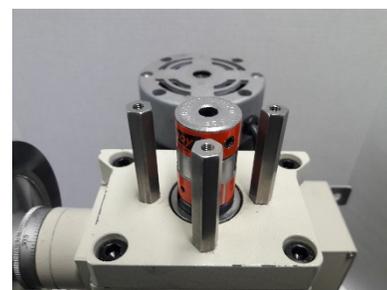
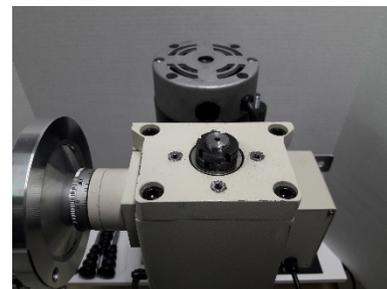
The mill is shipped from the factory with a protective coating on most surfaces including the Z-axis lead screw. For best performance of the Power Lift it is strongly recommended that the Z-axis lead screw be removed, cleaned, lubricated, and re-installed. This will contribute to the smooth and reliable operation of the Power Lift.

1. Disconnect power to the mill and lower the mill head to a low position.
2. **CAUTION: lock the mill head in place using the locking handles on the right side of the mill head. Failure to perform this step will cause the mill head to fall and crash into the mill table when performing the next steps.**
3. Remove the Z-axis lead screw bearing cover from the top of the mill column.
4. Remove the 4 cap screws securing the column cover.
5. Unscrew the Z-axis lead screw assembly including the column cover and place on a flat work surface.
6. Thoroughly clean the Z-axis lead screw using a solvent such as kerosene.
7. Generously lubricate the Z-axis lead screw with way oil and re-install.
8. Loosen the mill head locking screws.

Power Lift G0704 Installation Instructions

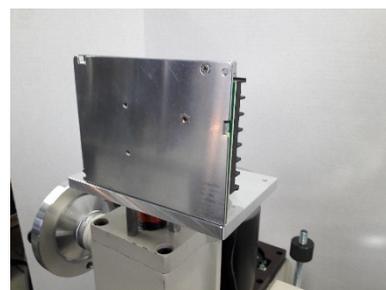
Installation

1. Empty the parts bag, identify, and group like items together.
2. Installation is done most conveniently from the back of the mill.
3. Remove the Z-axis lead screw bearing cover from the top of the mill column (if not already done during preparation).
4. Remove the top spanner nut using the supplied hook spanner wrench. Loosen the top spanner nut while holding the handle of the Z-axis hand wheel firmly.
5. The motor coupling has 3 parts: the M16-1.5 threaded lower hub, the rubber black spider which joins the two hubs, and the 5/16 top hub. Thread the lower hub down onto the Z-axis lead screw until it contacts the remaining lower spanner nut. Tighten the lower hub and remaining spanner nut together. Use the supplied hook spanner wrench to hold the spanner nut in position while using the shaft of a screwdriver between the two prongs of the hub to tighten the hub against the spanner nut.
6. Install the rubber spider and 5/16" upper hub onto the lower hub.
7. Install the hex standoffs as shown and tighten.
8. Install the motor plate using the 5mm socket cap screws. Visually center the hole in the plate with the top of the hub. Slowly tighten each screw in an alternating manner maintaining the alignment of the hole in the plate with the hub below.
9. Mount the motor onto the plate using the 4, #6-32 socket cap screws. Slowly tighten each screw in an alternating manner until the motor is secure on the plate.
10. Using the Z-axis hand wheel, align the flat on the motor shaft with the set screw on the top hub. Tighten the set screw of the top hub firmly onto the flat of the motor shaft.



Power Lift G0704 Installation Instructions

11. Mount the power supply onto the motor plate using the 3, 3x12mm socket cap screws as shown. Start threading all 3 screws before tightening.
12. Remove the front and back covers of the control box.
13. Remove the top two socket cap screws and nuts holding the circuit board inside the control box.
14. Mount the motor control switch bracket to the side of the control box as shown using the supplied 3x20mm socket cap screws, washers, and nuts removed in the previous step. Install the bracket and front socket cap screw first and do not tighten until the back-socket cap screw is installed. Mount the supplied plastic wire retaining clip to the back-socket cap screw when installing this screw. Tighten both socket cap screws gently.
15. Re-install the front and back control box covers.
16. Remove the hex and round knurled nuts from the motor control switch.
17. Mount the motor control switch on the bracket as shown with the printed side of the switch facing inward using the supplied 7/16" washer and hex nut removed in the previous step.
18. Connect the insulated pink quick disconnects to the motor. Connect the red wire to the motor terminal with the red dot and the black terminal to the other motor terminal. When making these connections make sure the male motor terminals are seated properly in the female wire terminals.
19. Note: when making connections to the power supply, support the back of the power supply with one hand while tightening the connections. **Obviously, when making these connections, make certain the power cord is disconnected from the wall outlet.**
20. Connect the insulated blue connectors to the power supply. Connect the blue fork terminal with the red and black wire to the V- terminal of the power supply that is adjacent to the V+ terminal. Connect the blue fork terminal with the green and white wires to the V+ power supply terminal.
21. A 5/8" wire clip, 6-32 x 3/8" machine screw and washer are included in the parts bag for use as a strain relief for the power supply and motor control switch cords. Install the strain relief as shown in the picture.



Power Lift G0704 Installation Instructions

22. Connect the power cord to the power supply according to the following diagram:

<u>Power Cord</u>	<u>Power Supply</u>
Brown	L (Line in)
Blue	N (Neutral)
Yellow/Green	Ground

23. Test the Power Lift. Plug the power cord into the wall outlet. Operate the Power Lift using the motor control switch up and down. Congratulations, installation of the Power Lift is complete.

Trouble Shooting

- Motor turning unevenly. If the motor is not turning smoothly and evenly, disconnect and remove the motor from the mounting plate and check the alignment of the top of the coupling hub with the hole in the motor plate. Loosen the motor plate mounting screws and adjust accordingly, reassemble, and test.
- Motor stopping while traversing the Z-axis. Make sure the Z-axis locking screws are loose. Adjust (loosen) the Z-axis gib to allow free and controlled movement of the mill head along the Z-axis. Thoroughly clean the Z-axis ways and lead screw and lubricate with way oil.
- Motor control switch and motor direction not synchronized. Exchange the terminal connections on the motor.
- Motor turning but Z-axis not turning. Check the tightness of the set screw in the upper hub. If the set screw continues to come loose, remove the set screw, apply a drop of either Vibra-TITE VC-3 Threadmate or Loctite 262 Threadlocker, and reinstall the setscrew.
- Note: the Z-axis hand wheel operation will be stiff due to the motor being back-driven while turning the hand wheel.

