



MODEL H8369 PNEUMATIC POWER DRAWBAR INSTRUCTIONS

Specifications

Power Requirement..... 110V
 Air Pressure Requirement..... 90 PSI
 Speed 3000 RPM
 Torque 135 ft/lbs

Inventory

Refer to **Figure 1** and the table below to inventory the contents of the shipping box.

REF	PART #	DESCRIPTION
1	PH8369001	PNEUMATIC MOTOR
2	PH8369002	MOTOR COVER
3	PH8369003	CONTROL ASSEMBLY
4	PH8369004	AIR HOSE W/CONNECTORS
5	PH8369005	AIR REGULATOR/FILTER/LUBRICATOR
6	PH8369006	DRAWBAR BOLT HEAD
7	PH8369007	DRAWBAR SHAFT 7/16-20 X 22
8	PH8369008	COMPLETE BOLT BAG

Bolt Bag Contents

	Qty
Phillips Head Screws M4-.7 x 10	3
Cap Screws M6-1 x 10.....	2
Cap Screws M6-1 x 15.....	4
Cap Screws M6-1 x 20.....	3
Lock Washers 6mm.....	3
Flat Washers 6mm	2

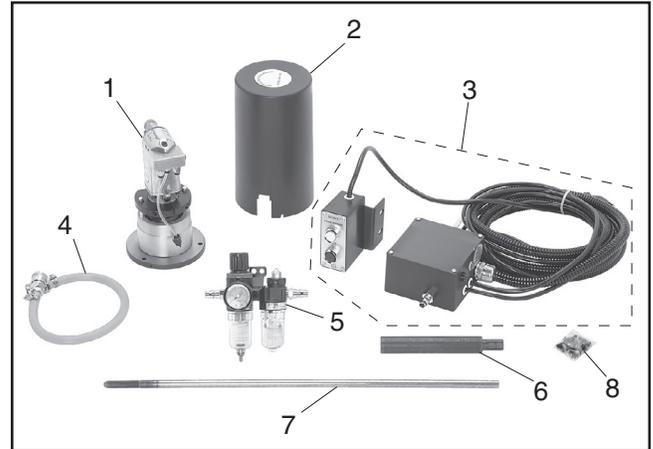


Figure 1. Model H8369 inventory.

If any nonproprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

If you need help with your new pneumatic power drawbar, call our Tech Support at: (570) 546-9663.

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Drawbar Assembly

The goal of these procedures is to fabricate an entirely new drawbar that will extend down through the spindle the same length as your mill's existing drawbar. Also, you must ensure that the top shoulder of the new bolt head will be flush with the mounting surface of the motor assembly.

To assemble the drawbar:

1. Use a caliper to measure the diameter of your mill's drawbar bolt head (see **Figure 2**).

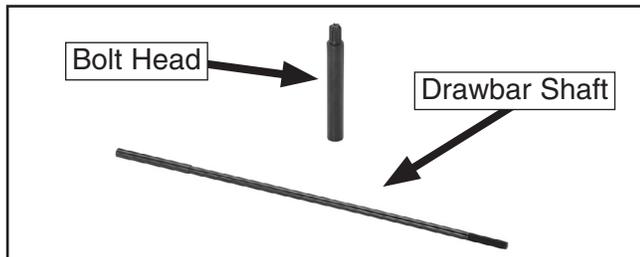


Figure 2. Bolt head and drawbar shaft.

—If the diameter of your mill's existing bolt head is 24mm, then proceed to **Step 2**.

—If your existing drawbar is an NT40, use a lathe to turn the new bolt head to match the diameter of the your mill's existing bolt head (see **A** in **Figure 3**).

Note: *The splines of the new bolt head are specifically designed to match the socket of the drawbar motor. DO NOT damage them.*

—If your existing drawbar is an NT50, remove the top section of your existing bolt head (see **Step 2**), then attach it to the new bolt head (see **B** in **Figure 3**).

—If your existing drawbar is a type -B NT40 or NT50, then you must build a drawbar motor mounting extension ring that will allow only the full spline to be above the mounting surface (see **Figure 4**).

Note: *Before making any alterations to the new drawbar, read through the rest of the instructions to calculate the correct lengths.*

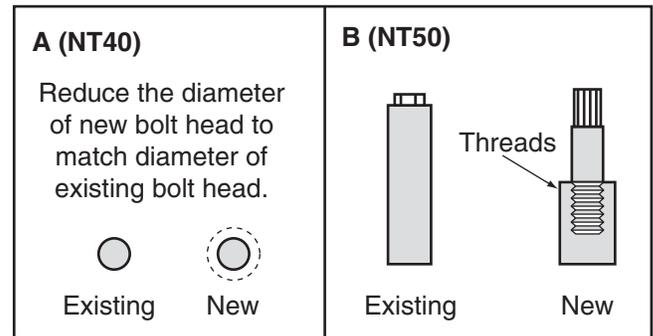


Figure 3. Examples of making the diameter of the new bolt head equal that of the existing bolt head (NT40 and NT50).

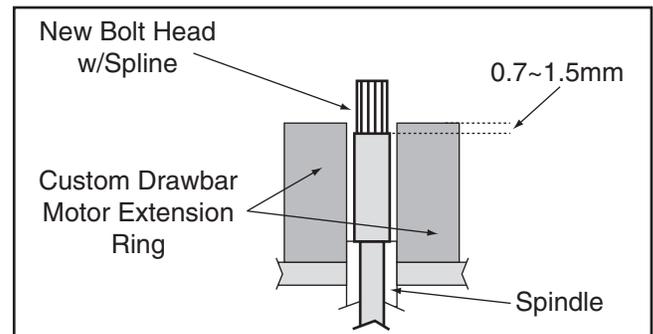


Figure 4. Example a custom drawbar motor extension ring (type-B NT40 or NT50).

2. Measure the length of your mill's existing drawbar from the bottom of the bolt head to the end of the drawbar shaft, then add 1½" (see **Figure 5**).

Note: *The additional 1½" is the amount of the new shaft that will be inserted into the new bolt head in a later step.*

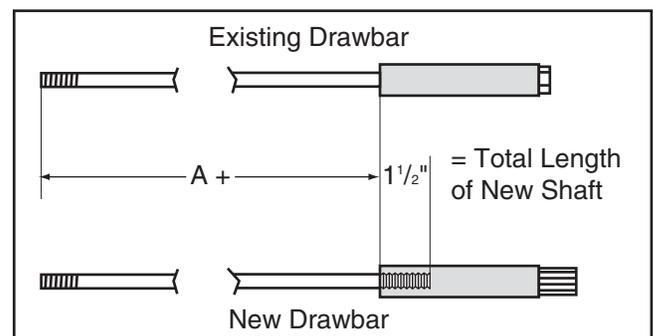


Figure 5. Calculating the length of the new shaft.

3. Remove the necessary amount, if any, from the top of the new drawbar shaft to make the total length of the shaft equal to the total length calculated in **Step 2**, then turn threads into the last 1½".



4. Insert the new bolt head into the top of the spindle, then measure the distance from the top shoulder of the bolt head to the mounting surface of the motor assembly (see **Figure 6**).

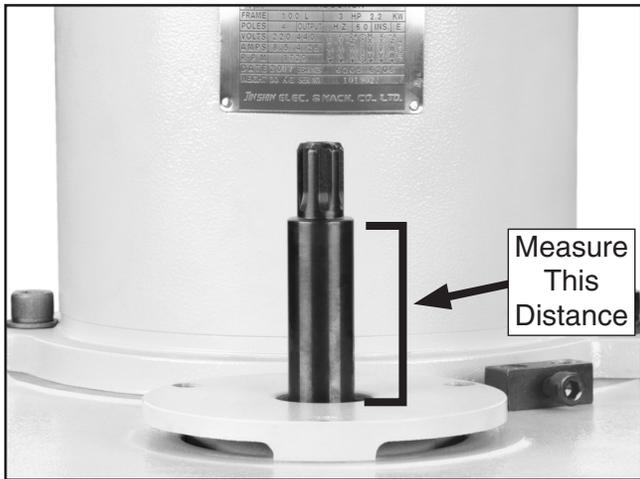


Figure 6. New bolt head inserted in the mill for measurement.

5. Remove the amount measured in **Step 4** from the **bottom** of the new bolt head (see **Figure 7**).

Note: *The top shoulder of the new bolt head below the spline must be 0.7–1.5mm below the mounting surface on the mill to properly engage with the drawbar motor.*

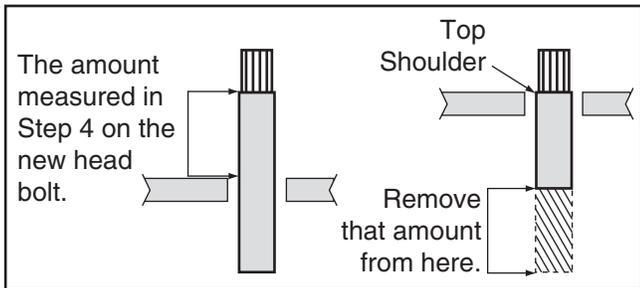


Figure 7. Measuring the amount of the new drawbar head bolt to remove.

6. Drill and tap $1\frac{3}{4}$ " into the bottom of the new bolt head with threading to match the top of the new drawbar shaft from **Step 3**.
7. Thread the new drawbar shaft into the bottom of the new bolt head, as shown in **Figure 8**.

Note: *We recommend the addition of four M5-8 x 10 set screws applied through the bolt head to further secure the drawbar shaft, as shown in **Figure 8**.*

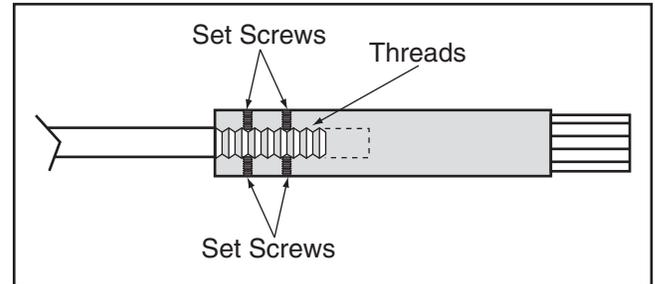


Figure 8. Example of new drawbar.



Installation

1. Prepare the top of your mill so that the mounting plate of the power drawbar motor is center-aligned to the spindle.
2. If the mounting holes in the motor mounting plate do not align with threaded holes in the mill to accept the three M6-1 x 20 cap screws and lock washers, drill new holes in the motor mounting plate.

Note: *The pneumatic motor must be mounted flat with and fully supported by the mill, and exactly centered over the spindle opening.*

3. Insert the new drawbar assembly, then mount and secure the pneumatic motor to the mill.
4. Select a spot on your mill to mount the pneumatic control box and switch so that the air hoses can reach the pneumatic motor and the switch can be connected to a grounded 110V power source.

5. Connect the three air hoses to the pneumatic motor, as shown in **Figures 9–10**.

Note: *The two smaller air hoses are numbered "1" and "2" and must be inserted into the corresponding connectors. To insert the air hoses, simply push them into the self-sealing gaskets. To remove an air hose, push the black self-sealing gasket in while pulling the air hose out.*

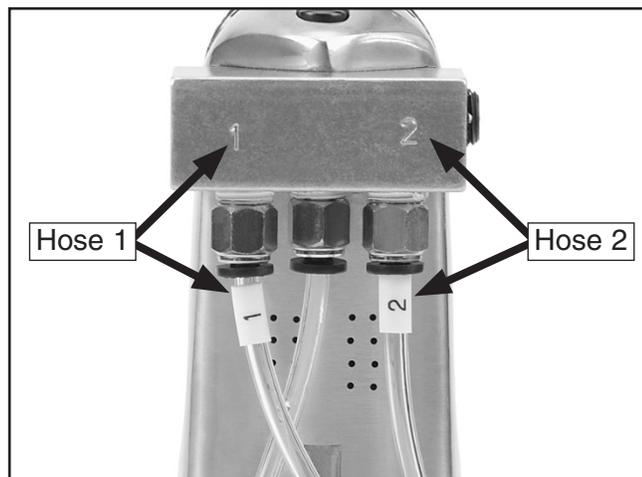


Figure 9. Smaller air hoses installed into the pneumatic motor.



Figure 10. Large air hose installed into the pneumatic motor.

6. Set the motor torque adjustment shown in **Figure 10** between "5" and "8".

Note: *A torque adjustment setting of "5" provides the least amount of operational torque to the drawbar, and "8" provides the highest.*

7. Mount the air regulator unit on your mill so that the included air hose will connect this unit to the pneumatic control box (see **Figure 11**).

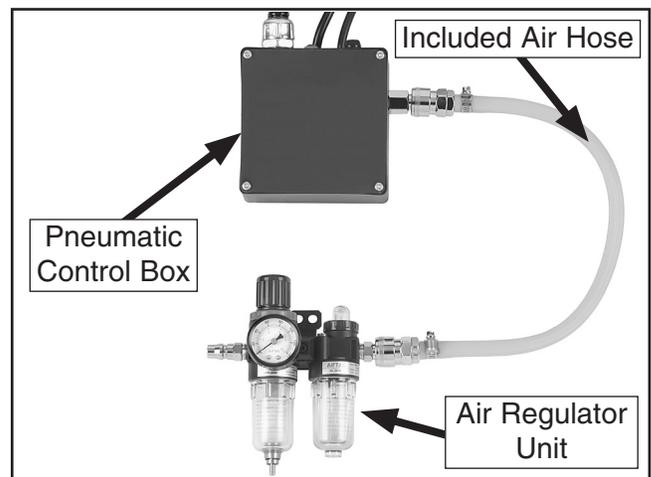


Figure 11. Example of the air regulator unit connected to the pneumatic control box.



8. Install a NEMA 5-15 plug, as shown in **Figure 12**, on the power cord.

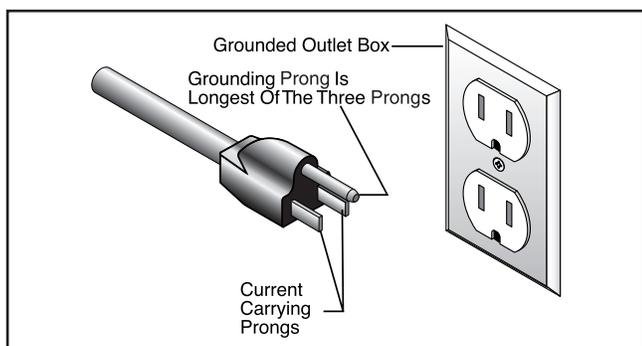


Figure 12. NEMA 5-15 plug and receptacle.

9. Fill the lubrication cup of the air regulator unit with standard pneumatic tool oil (see **Figure 13**).

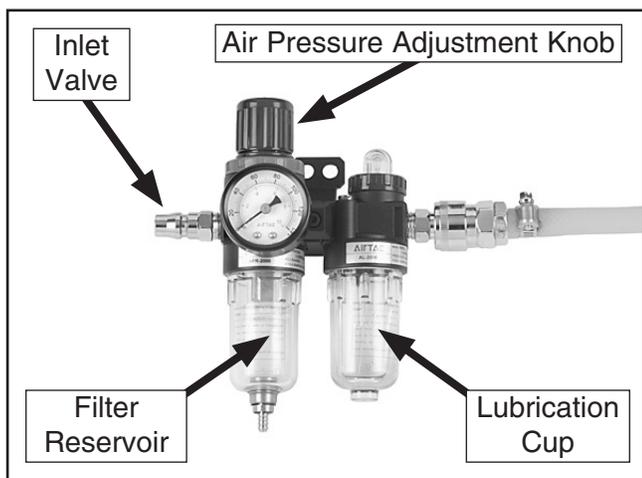


Figure 13. Air regulator unit.

10. Connect the inlet valve to clean, dry compressed air of 90–120 PSI.
11. Pull the air pressure adjustment knob up, then turn it until the pressure gauge reads 90 PSI.

Operation

1. Connect the drawbar unit to power.

CAUTION

Cutting tools are sharp! When using the power drawbar, the tooling will spin. **DO NOT** use your hands to hold the tooling when using the power drawbar to load or unload.

2. To install tooling:
 - a. Insert the tooling into the spindle in a manner that is correct for your mill, and up against the bottom of the drawbar assembly.
 - b. Press the IN button on the drawbar switch to activate the drawbar motor and thread the drawbar into the tooling and into the spindle taper.

Note: Release the IN button when you hear the drawbar motor starting to make a "ratcheting" sound.
3. To uninstall tooling, press the OUT button of the drawbar switch to release and unthread the tooling.

Maintenance

- Regularly clean debris and built-up grime from the power drawbar assemblies.
- When the filter reservoir of the air regulator unit is more than $\frac{1}{3}$ full, disconnect the air regulator unit from compressed air, unscrew the filter reservoir from the unit, then empty and clean the reservoir.
- Keep the lubrication cup of the air regulator unit at least $\frac{1}{2}$ full of standard pneumatic tool oil.



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