

Spinnit® FMP-2 Pneumatic Paper Drill

USER'S MANUAL



Before operating this equipment, please read these instructions completely and keep these operating instructions for future reference.

Serial Number: _____
Date of Purchase: _____
Dealer: _____
Address: _____

Telephone Number: _____

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1 - Introduction

1.1 - Your New FMP-2 Paper Drill

- Thank you for your purchase of the Spinnit®FMP-2 Paper Drill.
- We ask that you take a moment to fill in the serial number and other information on the front cover of the manual. Please keep this manual as a reference for future use.
- For parts and service, please contact the Lassco-Wizer Dealer from whom you purchased the machine. If you require assistance in locating a Lassco-Wizer Dealer please contact our customer service department at 585-436-1934. Please have the model of your machine and the serial number when you call.
- If you wish to write to us, send correspondence to:

Lassco-Wizer
Attn: Customer Service
485 Hague Street
Rochester, NY 14606

1.2 - Shipping Damage Inspection

- Remove the machine from the carton and inspect for any shipping damage. If any damage is present, report the damage to the carrier immediately; failure to do so may void any warranties.

2 - Safety

2.1 - Safety Instructions

- All operators must read and understand the Users Manual including all safety instructions before using this equipment. Failure to fully understand the safety instructions can result in personal injury. If after reading the manual you are still uncertain about use, please contact the dealer from whom you purchased the machine for assistance. If you need contact information for a Service Technician nearest you please call 585-436-1934.
- SAFETY OF THIS EQUIPMENT IS THE RESPONSIBILITY OF THE USER(S).
- Please read and follow all warning labels on your machine.
- INDUSTRIAL AND IN-PLANT USE ONLY. This equipment is for use in industrial and in-plant areas only and must be operated by trained and qualified personnel.
- WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non slip footwear is recommended. Wear protective hair covering to contain long hair.
- Keep hands clear while operating machine.
- ALWAYS USE SAFETY GLASSES. Also use face or dust mask if drilling operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- KEEP GUARDS IN PLACE and in working order.
- Always disconnect the power before servicing this machine. Service should only be performed by a QUALIFIED TECHNICIAN.
- Always turn the machine to off mode and wait for the drills to stop spinning before installing or removing drill bits. Keep hands away from drills when operating. PLEASE NOTE THAT THE DRILL BITS MAY BE HOT AFTER USE. PROCEED WITH CAUTION WHEN CHANGING THE DRILL BITS.
- DON'T USE IN DANGEROUS ENVIRONMENT. Don't use this machine in damp or wet locations, or expose it to rain. Keep work area well lighted.
- THIS MACHINE IS DESIGNED FOR ONE PERSON OPERATION. Never operate the machine with more than one person.

- KEEP CHILDREN AWAY. All visitors should be kept a safe distance from the work area.
- MAKE WORKSHOP KID-PROOF with padlocks or master switches.
- DON'T FORCE MACHINE. It will do the job better and safer at the rate for which it was designed.
- USE RIGHT MACHINE. Don't force tool or attachment to do a job for which it was not designed.
- MAINTAIN MACHINE WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from machine before turning it on.
- KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
- DISCONNECT MACHINE before servicing; when changing accessories, such as drill bits, drill blocks, and the like.
- REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure the power switch is in the off position before plugging in.
- USE RECOMMENDED ACCESSORIES. Consult the user's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- NEVER STAND ON MACHINE. Serious injury could occur if the machine is tipped.
- DON'T OVERREACH. Keep proper footing and balance at all times.
- CHECK DAMAGED PARTS. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function--check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repair or replaced.
- NEVER LEAVE MACHINE RUNNING UNATTENDED. TURN POWER OFF. Don't leave machine until it comes to a complete stop.

2 - Safety

2.2 - Warning Labels

English



- WARNING: DO NOT EXPOSE TO RAIN OR USE IN DAMP LOCATIONS.

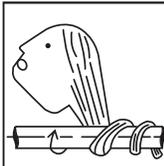


⚠ WARNING

Read and understand operator's manual and all other safety instructions before using this equipment

⚠ WARNING

FOR INDUSTRIAL AND IN-PLANT USE ONLY.



⚠ WARNING

Entanglement hazard.
Rotating parts.
Do NOT operate with exposed long hair, jewelry or loose clothing.



⚠ WARNING

Moving parts can crush and cut
Keep hands clear while operating machine.



⚠ WARNING

Risk of eye injury.
Wear eye protection.



⚠ WARNING

Risk of Injury.
Do NOT operate without guards in place.



⚠ WARNING

Drill bits may be hot after use.
Allow drill bits to cool down before touching



⚠ DANGER

Severe shock hazard.

Only authorized personnel may service this equipment.
Turn power OFF before entry.



French

- AVERTISSEMENT: NE PAS EXPOSER À LA PLUIE ET NE PAS UTILISER DANS LES EMPLACEMENTS HUMIDES

⚠ AVERTISSEMENT

Lire et bien comprende le manuel de l'opérateur avant d'utiliser cette machine.
Le fait de ne pas suivre les consignes d'utilisation peut entraîner des blessures graves ou endommager l'équipement.

⚠ AVERTISSEMENT

POUR UTILISATION INDUSTRIELLE ET EN USINE SEULEMENT.

⚠ AVERTISSEMENT

Risque d'enchevêtrement.
Pièces rotatives.
Ne portez jamais de vêtements amples ou de bijoux et attachez-vous les cheveux lorsque vous opérez cette machine.

⚠ AVERTISSEMENT

Les pièces mobiles peuvent écraser et couper.
Éloignez les mains lorsque vous opérez cette machine.

⚠ AVERTISSEMENT

Risque de blessures aux yeux.
Protection des yeux nécessaire.

⚠ AVERTISSEMENT

Faire attention de ne pas se blesser.
Ne pas utiliser cette machine sans la présence de tous les dispositifs de sécurité.

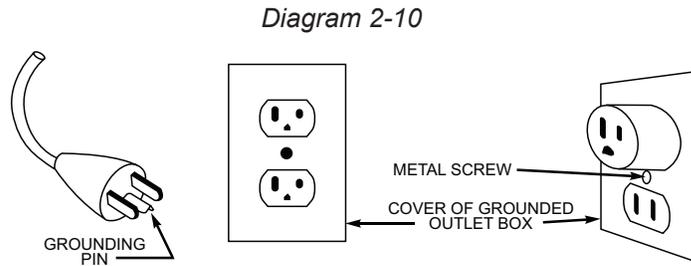
⚠ AVERTISSEMENT

Les outils de forage peuvent chauffer à l'usage.
Laisser refroidir les outils de forage avant de les toucher.

⚠ DANGER

Grave risqué d'électrocution.
Seul le personnel autorisé peut faire l'entretien de cet équipement.
COUPEZ l'alimentation électrique avant d'entrer.

2.3 - Grounding Instructions



- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- **DO NOT MODIFY THE PLUG PROVIDED.** If it will not fit the outlet, have the proper outlet installed by a **QUALIFIED ELECTRICIAN**.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a **QUALIFIED ELECTRICIAN** or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- This machine is intended for use on a circuit that has an outlet that looks like the one illustrated in diagram 2-10. The machine has a grounding plug that looks like the plug illustrated in diagram 2-10. Make sure the machine is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this machine. If the machine must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after reconnection, the tool should comply with all local codes and ordinances.

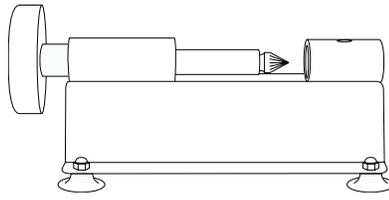
3 - Setting Up Your Machine

3.1 - Loose Items Inventory

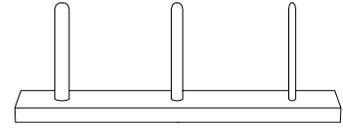
- Please remove and inspect the following items:



EBM2-1048: Chip Bag (1)



MS-1: Drill Sharpener (1)



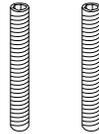
CC-2: Chip Clearer (1)



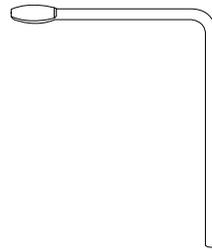
Hollow Drill Bit (1)
(this item may be installed)



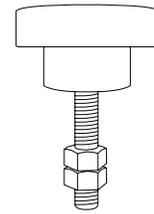
SPIN-EZE: Drill Bit Lubricant (1)



Short Set Screws (2)



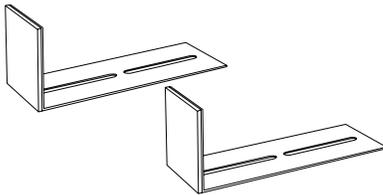
EBM-32: Chuck Release Key (1)



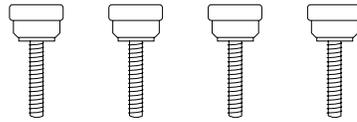
FMM9-956A: Spindle Rotation Tool (1)



Oil (1 bottle)



FM4-4006: Paper Side Stops (2)



FM4-4007: Side Stop Screws (4)



HEX-332: Hex Wrench 3/32" (1)



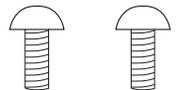
HEX-532-T: Hex Wrench 5/32" T Style (1)



FM4-4001: 25" Drill Strip (1)
(this item comes installed)



FMP2-2016: Long Handled Wrench (1)



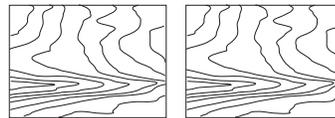
10-32 x 1/2" Button Head Socket Screw (2)



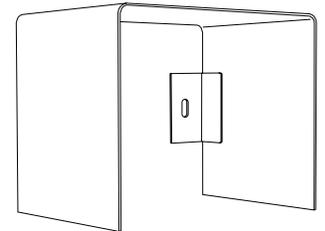
EBM-41: Sharpening Stone (1)



#10 External Lock Washer (2)



Wood Blocks (2)



FMP2-2015: Foot Pedal Guard (1)

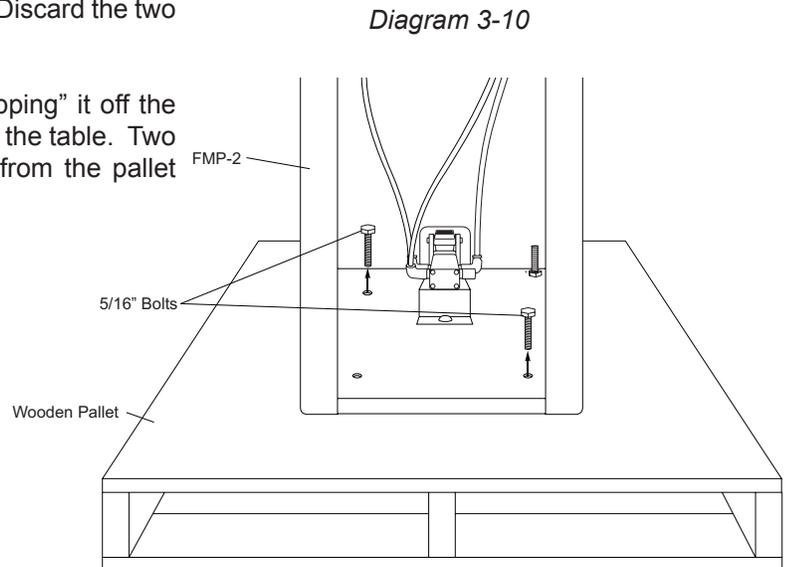
3.2 - Accessories Warning

- **USE RECOMMENDED ACCESSORIES.** Only use accessories approved by a Lassco-Wizer. The use of improper accessories may cause risk of injury to persons.

3 - Setting Up Your Machine

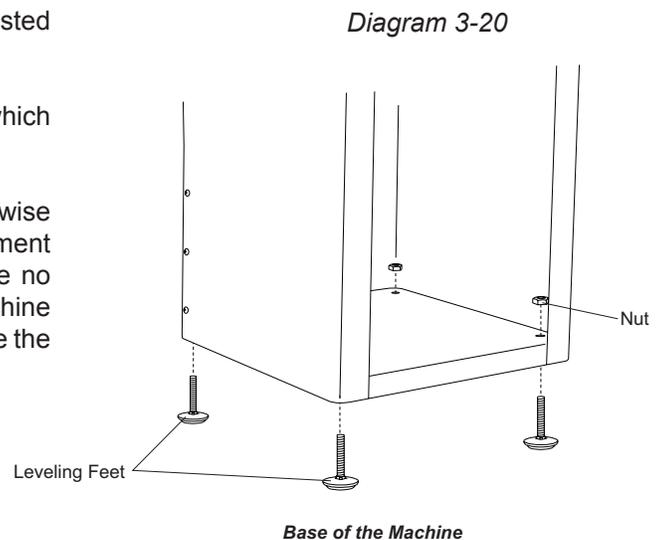
3.3 - Uncrating and Removing From the Pallet

- 3.3.1** Remove the wooden framing around the outside box.
- 3.3.2** Remove the box up and over the machine.
- 3.3.3** Remove the two (2) 5/16" bolts which are securing the machine to the pallet: access through the rear of the machine using a 5/16" wrench (not provided) as shown in diagram 3-10. Discard the two (2) 5/16" bolts.
- 3.3.4** Remove the FMP-2 from the pallet carefully "stepping" it off the edge. DO NOT drop the machine. DO NOT lift by the table. Two people may be needed to remove the machine from the pallet safely.



3.4 - Installing the Leveling Feet

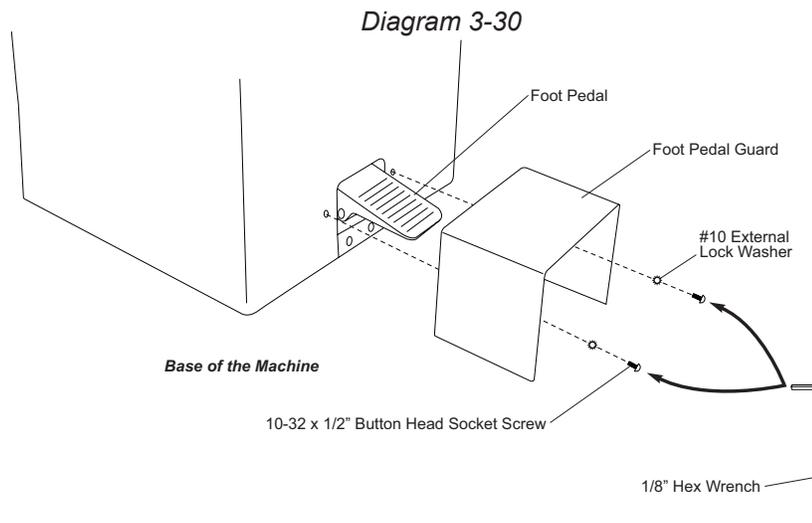
- 3.4.1** Set the machine down in its desired location and determine if the machine is level, making sure that it does NOT rock in any direction. If it does, determine which Leveling Feet need to be adjusted and whether they need to be adjusted up or down.
- 3.4.2** If adjustment is needed, start by loosening the four (4) nuts which are accessed through the rear of the machine.
- 3.4.3** Next adjust the four (4) Leveling Feet by screwing them clockwise to raise the or counter-clockwise to lower. After each adjustment set the machine down completely to verify that the machine no longer rocks. Continue adjustment as needed until the machine sits securely in place. Tighten the four (4) nuts down to secure the position of the Leveling Feet.



3 - Setting Up Your Machine

3.5 - Installing the Foot Pedal Guard

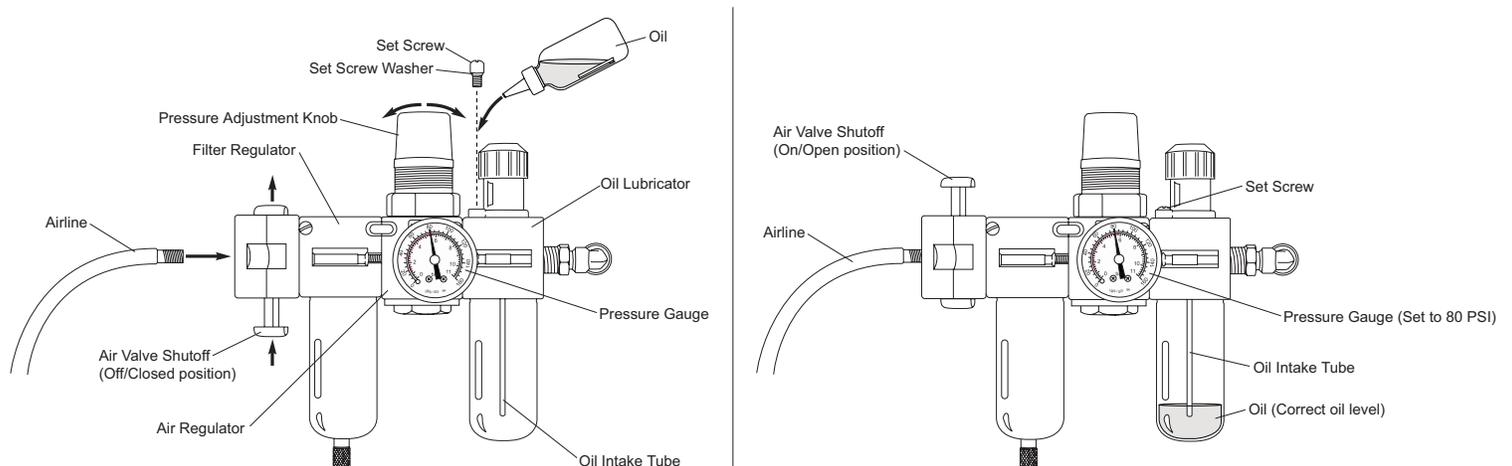
- 3.5.1** Attach the orange Foot Pedal Guard to the base of the machine so that it covers the Foot Pedal protecting it from accidental activation. Use the two 10-32 x 1/2" Button Head Socket Screws and two #10 External Lock Washers. Tighten down using the 1/8" Hex Wrench (provided).



3.6 - Preparing the Regulator System

- 3.6.1** Add the provided oil to the Airline Lubricator located on the side of the machine by removing the slotted Set Screw and filling the Lubricator so as to cover the bottom of the brass Oil Intake Tube visible inside the globe as shown in diagram 3-40. Replace the Set Screw making sure the Set Screw Washer is positioned correctly.
- 3.6.2** Install the Airline into the Air Valve Shutoff on the side of the machine screwing it tightly in place.
- 3.6.3** Push the yellow Air Valve Shutoff up to allow air passage into the machine. Please note that the first time you push the Air Valve Shutoff up you will have to break the seal. Some force is required. To stop the passage of air to the machine push the Air Valve Shutoff into its down position.
- 3.6.4** Adjust the Pressure Gauge to 80 PSI for normal performance. Adjust by either turning the Pressure Adjustment Knob counter clockwise to raise the PSI or clockwise to lower the PSI.

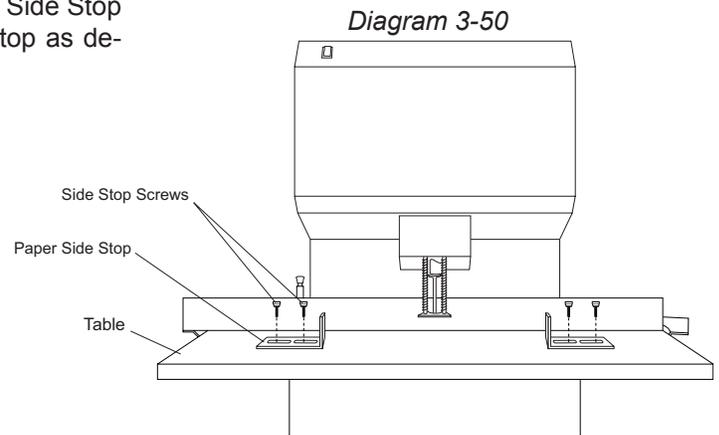
Diagram 3-40



3 - Setting Up Your Machine

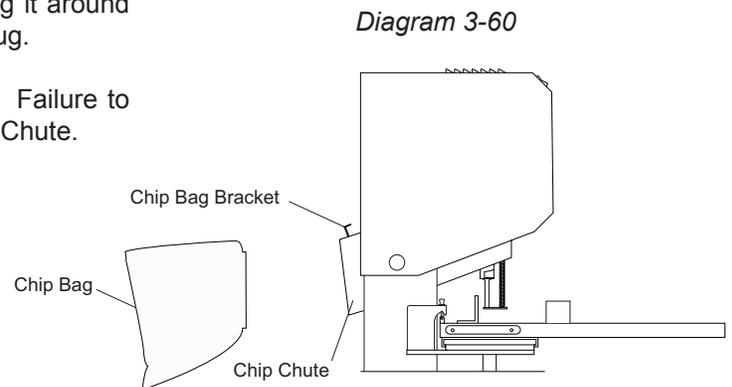
3.7 - Attaching the Paper Side Stops

- 3.7.1** Attach the Paper Side Stops (FM4-4006) using two (2) Side Stop Screws (FM4-4007) each. Position the Paper Side Stop as desired and tighten down with light pressure.



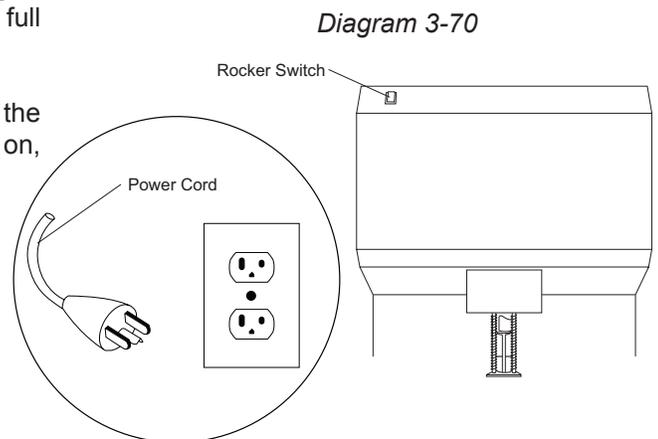
3.8 - Attaching the Chip Bag

- 3.8.1** Attach the Chip Bag as shown by stretching the open end over the Chip Bag Bracket on the Chip Chute. Continue fitting it around the entire edge of the Chip Chute making sure it is snug.
- 3.8.2** Be sure to empty the Chip Bag regularly as needed. Failure to empty the Chip Bag can result in clogging of the Chip Chute.



3.9 - Electrical Instructions

- 3.9.1** Your FMP-2 comes with an electrical cord containing the plug to fit into a standard grounded 115V outlet. This machine has a full load draw of 5 Amps.
- 3.9.2** Making sure that nothing is interfering with the drill bits, plug the cord set into a grounded 115V outlet. To turn the machine on, press the Rocker Switch on the front of the shroud.

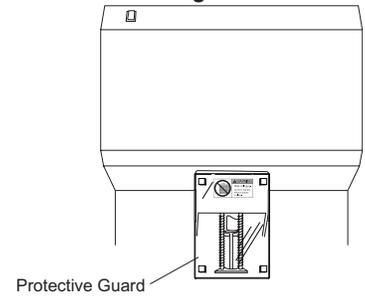


4 - Operation

4.1 - Protective Guard

- 4.1.1** Your FMP-2 comes with a protective guard installed. DO NOT operate this machine without the guard in place.
- 4.1.2** Please note that when you are performing certain operations such as removing and installing drill bits, you will need to move the guard out of the way. Making sure the power to the machine is disconnected or locked-out, push the guard up and hold in place while performing necessary operations or maintenance. The protective guard should not be removed during operation.

Diagram 4-10



4.2 - Drill Bit Removal and Installation



CAUTION: DRILL BITS MAY BE HOT AFTER USE. ALLOW DRILL BITS TO COOL DOWN BEFORE TOUCHING.



BEFORE REMOVING OR INSTALLING THE DRILL BITS, DISCONNECT OR LOCK-OUT THE POWER SUPPLY.

- 4.2.1** We recommend using a piece of card stock on the Table when leveling the drill bit to avoid drilling into the drill strip. This will lengthen the life of your drill bits and keep them sharper.
- 4.2.2** Remove the hole guard which is attached to the chuck. This is done by grasping the bent end and sliding the guard off.
- 4.2.3** Using the Chuck Release Key (EBM-32), insert the tapered end facing down into the chuck hole. With a clockwise motion turn the Chuck Release Key 45 degrees. The drill bit will slide out of the chuck. It is recommended that you hold onto the drill bit so that it does not drop out of the chuck damaging the tip.
- 4.2.4** To install a drill bit, grasp the drill bit, and being careful to keep it straight, press it up into the chuck.
- 4.2.5** Seat the drill bit by using a stack of scrap paper. Set the scrap on the table. Step on the foot pedal slowly raising the table toward the Drill Bit. Put light pressure on the hollow Drill Bit seating it firmly in place.
- 4.2.6** Remove the scrap paper and turn the machine on to check the concentricity of the bit. If the bit is not concentric, remove it and repeat steps 4.2.2 through 4.2.5 until it is concentric.
- 4.2.7** When the drill bit is correctly installed replace the hole guard back onto the chuck to protect debris from clogging the chuck.

Diagram 4-20

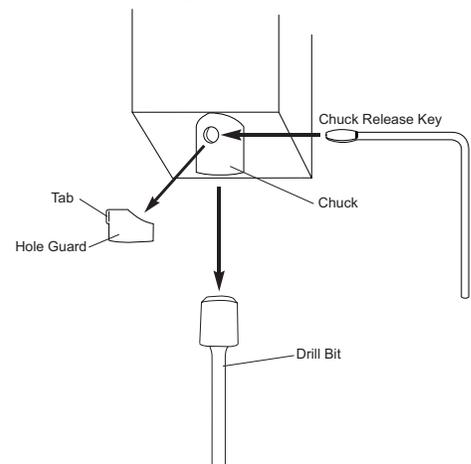
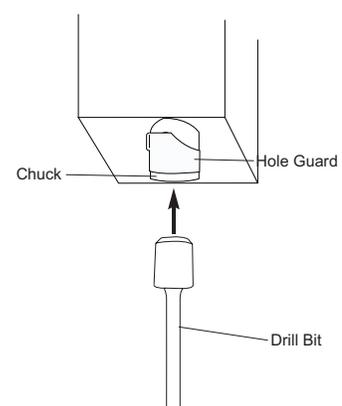


Diagram 4-30



4 - Operation

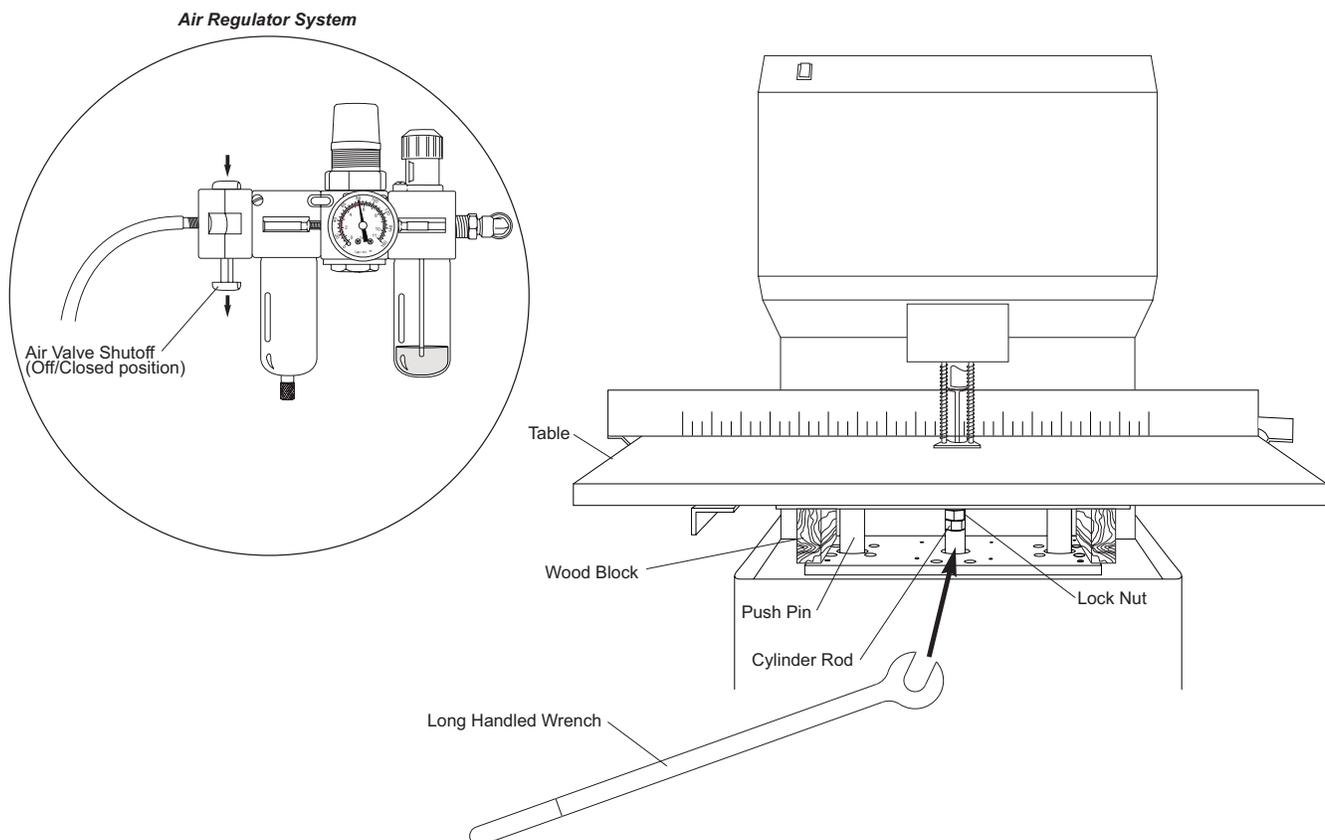
4.3 - Adjusting the Table Height



KEEP HANDS CLEAR WHILE PERFORMING MAINTENANCE ON THIS MACHINE. MOVING PARTS CAN CRUSH AND CUT. KEEP FINGERS FROM BETWEEN LIFT COMPONENTS WHEN PERFORMING THE FOLLOWING. USE ONLY THE LONG HANDLED WRENCH TO LOOSEN OR TIGHTEN THE NUT OR TO TURN THE CYLINDER ROD.

- 4.3.1** We recommend using a piece of card stock on the Table when leveling the drill bits to avoid drilling into the drill strip. This will lengthen the life of your drill bits and keep them sharper.
- 4.3.2** While performing Drilling Procedures: if the drill bits drill into the Drill Strip or the drill bits fail to penetrate through the bottom sheet of your product, perform the adjustment described in steps 4.3.3 through 4.3.7.
- 4.3.3** Step down on the foot pedal and hold it down keeping the Table in the raised position.
- 4.3.4** Place the two Wood Blocks, included with your machine, under the table on the outside of each Push Pin as shown. Remove your hands from under the Table and release the Foot Pedal allowing the Table to drop onto the Wood Blocks.
- 4.3.5** Close the Air Valve Shutoff on the Air Regulator System.
- 4.3.6** Using the Long Handled Wrench, included with the machine, loosen the Lock Nut located under the center of the Table as shown. To increase the Table height, use the Long Handled Wrench to turn the Cylinder Rod counterclockwise. To decrease the Table height, turn the Cylinder Rod clockwise. Please note a 1/4 turn of the Cylinder Rod will adjust the Table height by approx 1/64 of an inch.
- 4.3.7** When the Table height has been adjusted as desired, tighten down the Lock Nut. Open the Air Valve shutoff. Press down on the foot pedal and hold it down keeping the Table in the raised position. Remove the Wood Blocks and, making sure to keep all hands clear, release the Foot Pedal to lower the Table. Continue with drilling procedures.

Diagram 4-40

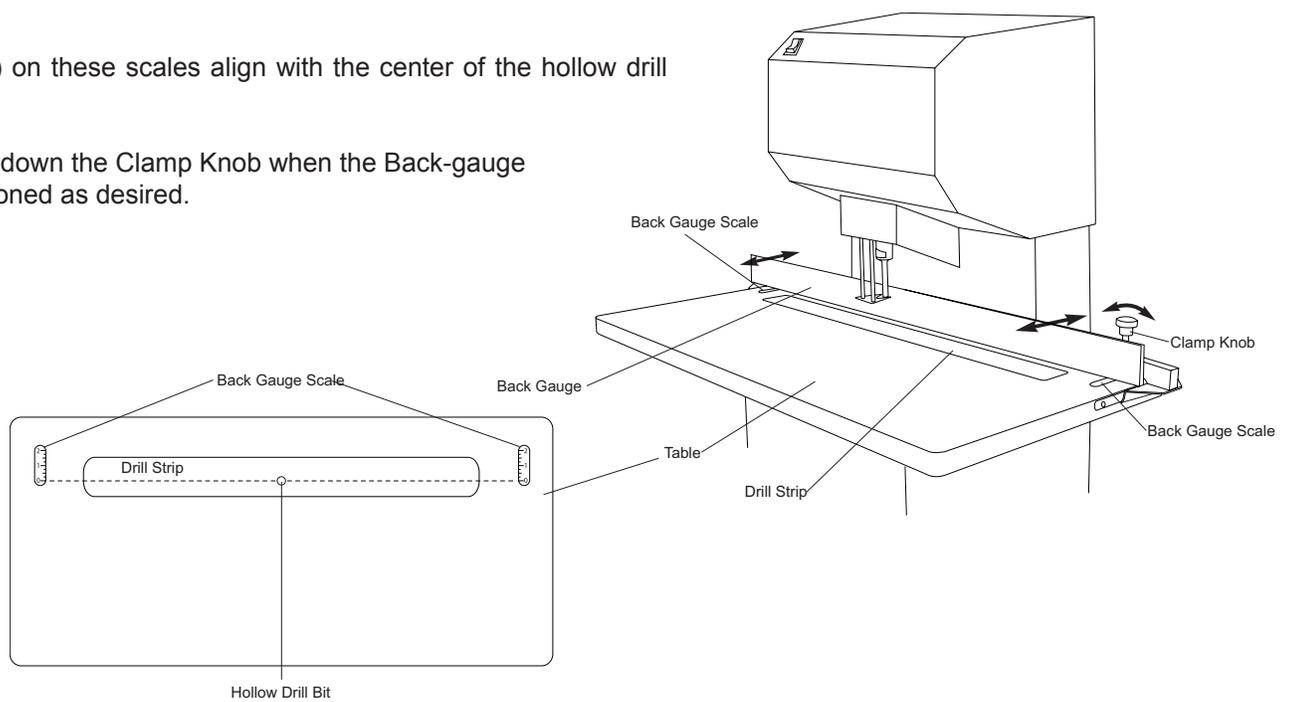


4 - Operation

4.4 - Adjusting the Back-Gauge Assembly

- 4.4.1** Adjust the Back-gauge so that it is the correct distance from the edge of the product to the center of the hole to be drilled by performing the following:
- 4.4.2** Loosen the Clamp Knob on the right side of the Back-gauge.
- 4.4.3** Using the two (2) Scales embedded in the rear corners of the table, align the front edge of the Back-gauge with the desired distance.
- 4.4.4** Zero (0) on these scales align with the center of the hollow drill bits.
- 4.4.5** Tighten down the Clamp Knob when the Back-gauge is positioned as desired.

Diagram 4-50



4 - Operation

4.5 - Adjusting the Stop Collars

- 4.5.1** The stop collars, located on the Stop Rod at the left rear of the Table, are used to either create a stationary table mode of operation or a traversing mode. Your machine comes set up in stationary mode.
- 4.5.2** For traversing table operations follow steps 4.5.3 through 4.5.5. Refer to diagram 4-60.
- 4.5.3** Install the shorter Set Screws included with the machine into the Stop Collars. Make sure all the Stop Collars are installed with the shorter Set Screws keeping them loose enough to allow the Stop Collars to slide into the desired positions.
- 4.5.4** Set the Stop Collars using the method explained in section 4.6.
- 4.5.5** When the Collars are positioned as desired, tighten down the short Set Screws locking them in place using the provided Hex Wrench (HEX-332).
- 4.5.6** For stationary table operations follow steps 4.5.7 through 4.5.9. Refer to diagram 4-70.
- 4.5.7** Align the table so that zero (0) on the Back-gauge is aligned with the center drill bit.
- 4.5.8** Install two longer Set Screws included with the machine into the adjacent Stop Collars.
- 4.5.9** Tighten, with the provided Hex Wrench (HEX-332), the longer Set Screws into the Stop Collars so that a Set Screw rests against each side of the Pedestal preventing movement of the Table.

Diagram 4-60

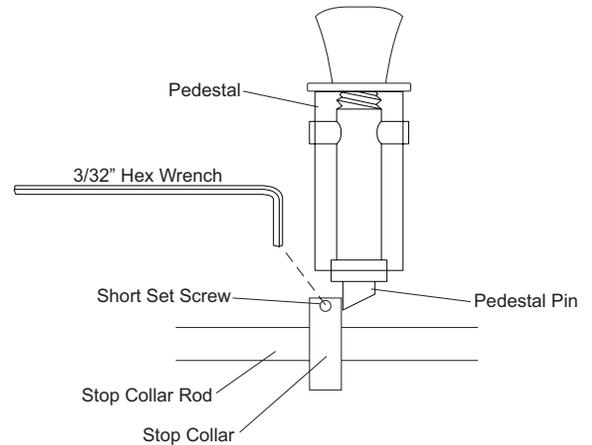
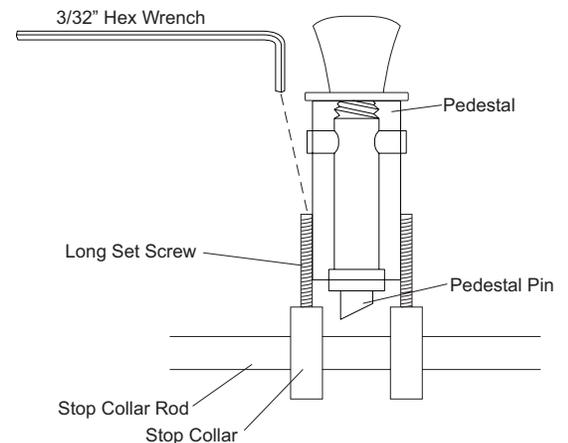


Diagram 4-70

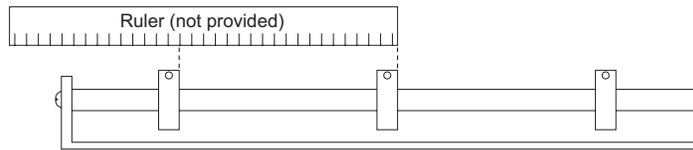


4 - Operation

4.6 - Multi-hole Set-Up

- 4.6.1** If a hole pattern includes more than one (1) hole, you will need to adjust the Stop Collars to the desired spacing. The Stop Collars are adjusted as described in section 4.5. To set the distance between the stop collars, follow steps 4.6.2 through 4.6.5.
- 4.6.2** Locate the product on the Table and adjust the Paper Side Stops to trap the material allowing no lateral movement.
- 4.6.3** Move the Table to align zero (0) on the Back-gauge Scale with the center drill bit.
- 4.6.4** Loosen the Stop Collars and position the first one against the Pedestal Pin marking the beginning position of the Table and tighten in place.
- 4.6.5** The right side of this Stop Collar now indicates the center of the product to be drilled. Place the remaining Stop Collars as desired by measuring with a Ruler (not provided) to the desired positions and tighten them down. Always measure from the right side of the Stop Collar to the right side of the next Stop Collar as shown.

Diagram 4-80



- 4.6.6** Due to the width of the Stop Collars, the shortest travel between holes is 3/8". Almost any center-to-center distance can be drilled, but requires variations of table travel and lateral head adjustments.

4.7 - Traversing the Table

- 4.7.1** When all the Stop Collars are positioned as desired return the Table to its original position. When traversing the Table during drilling (see section 4.8), move the Table to the left until the Pedestal Pin "clicks" over the next Stop Collar. Pull the table back to the right and hold it there to assure contact between the Stop Collar and the Pedestal Pin. Refer to diagram 4-90. Continue drilling and repeat as needed.
- 4.7.2** To reverse the direction of the Table traverse, lift up on the Pedestal Pin Knob and turn it around. This will cause the angle of the Pedestal Pin to reverse allowing the Table to travel back over the Stop Collars. There are Locking Pins on the Pedestal Pin that fit into a groove on the Pedestal keeping it locked into a direction. Refer to diagram 4-100.

Diagram 4-90

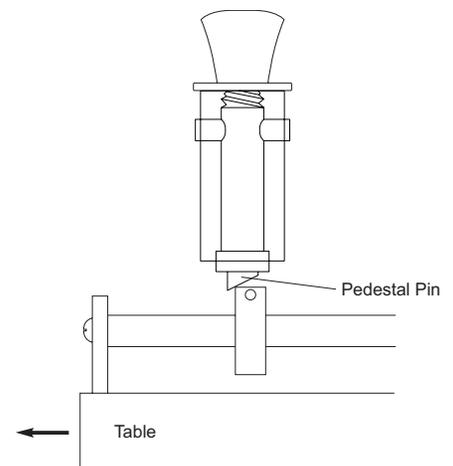
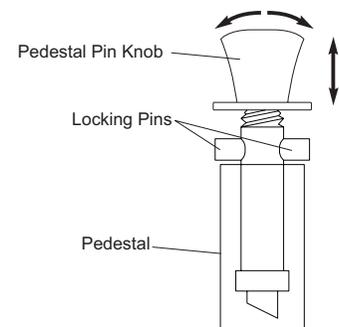


Diagram 4-100

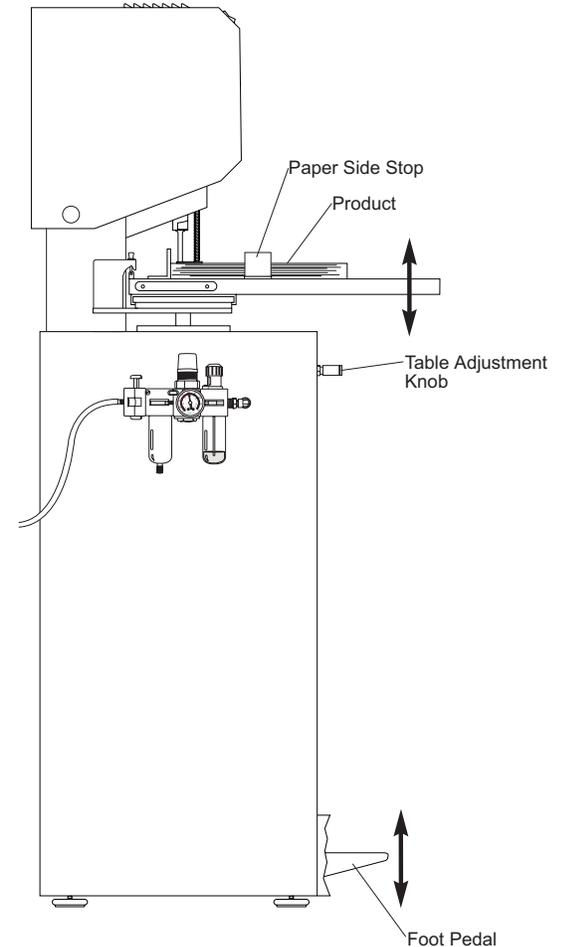


4 - Operation

4.8 - Drilling Procedures

- 4.8.1** After all your adjustments are made as desired, position the Table in its primary position. Set the product to be drilled on the table and make sure it is secure using the Paper Side Stops. To drill, step down on the Foot Pedal and hold, raising the Table up to meet the drill bits. Make sure the Table rises fully allowing the drill bits to drill through the product. When the drill bits have penetrated through the entire stack of product release the Foot Pedal, which allows the table to return to its lowered position.
- 4.8.2** It is important you do not drill too slow or too fast. If you drill too slow you can burn the paper leaving undesired marks. If you drill too fast, the drill bits will act more like a punch and they will break.
- 4.8.3** If your Table rises too slow: increase the speed of your Table rise by turning the Table Adjustment Knob, located just under the Table on the front of the machine, counterclockwise.
- 4.8.4** If your Table rises too fast: decrease the speed of your Table rise by turning the Table Adjustment Knob clockwise.
- 4.8.5** Different product requires different speeds. It is always recommended to drill through a test stack of the product until the operator is confident of the required speed.

Diagram 4-110



4.9 - Tips on Drilling

- 4.9.1** Use a sharp drill bit at all times... Using the MS-1 drill bit sharpener, sharpen your drill bits regularly. Apply light pressure when sharpening. Too much pressure may cause flaring of the tip. (Once a drill bit has a flared tip, it becomes defective.)
- 4.9.2** Sharpening Stone... Use to debur the outside cutting edge of the drill bits for better performance.
- 4.9.3** Lubricate drill bits occasionally... Use Drill-Ease or Spin-Eze. While the drill is running, simply touch the Drill-Ease stick to the drill bit or brush on the Spin-Eze. Drill through scrap to remove any excess. This will allow for a smoother cut.
- 4.9.4** Drill Strips...When drilling, a drill bit must stop slightly above the drill strip. Replace worn out drill strips regularly to ensure proper drilling.

5 - Maintenance

5.1 - Safety



ALWAYS DISCONNECT THE POWER BEFORE PERFORMING MAINTENANCE ON THIS MACHINE. MAINTENANCE SHOULD ONLY BE PERFORMED BY A QUALIFIED TECHNICIAN.



KEEP HANDS CLEAR WHILE PERFORMING MAINTENANCE ON THIS MACHINE. MOVING PARTS CAN CRUSH AND CUT.

5.2 - Annual Lubrication

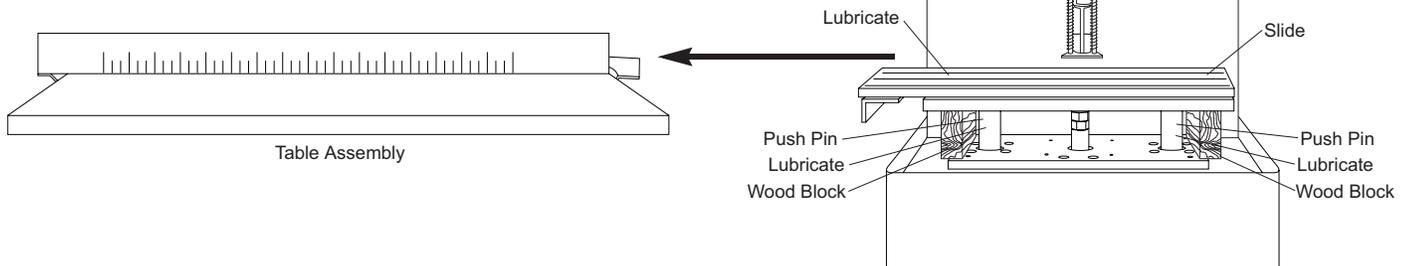
5.2.1 Lubricating your FMP-2 should be done at least once every 12 months; however, it may be necessary to lubricate certain parts more often depending on use. Whenever a moveable or adjustable part starts becoming difficult to move or adjust, it may be time to lubricate.

5.2.2 Remove the Table by loosening the left end Stop Collar on the Stop Bar Assembly and rotating the Table Traverse Stop down to clear the Pedestal. Pull the Table as shown, until the Table clears the Slide beneath the Table.

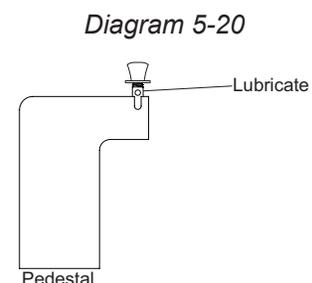
5.2.3 Inspect the Slide for build-up and lubricate with light machine oil.

5.2.4 Using the Foot Pedal raise the Slide. Place the two Wood Blocks under the Slide to prevent the Slide from coming down. Release the Foot Pedal and make sure the Slide is secure before lubricating the Push Pins as shown.

5.2.5 After lubrication, remove the block of wood in the same manner as it was placed. Replace the Table in the same manner as it was removed and check the Table traverse for free travel.



5.2.6 Lubricate the Stop Pin with light machine oil, work the pin up and down and rotate it a few times for proper lubrication. Refer to diagram 5-20.

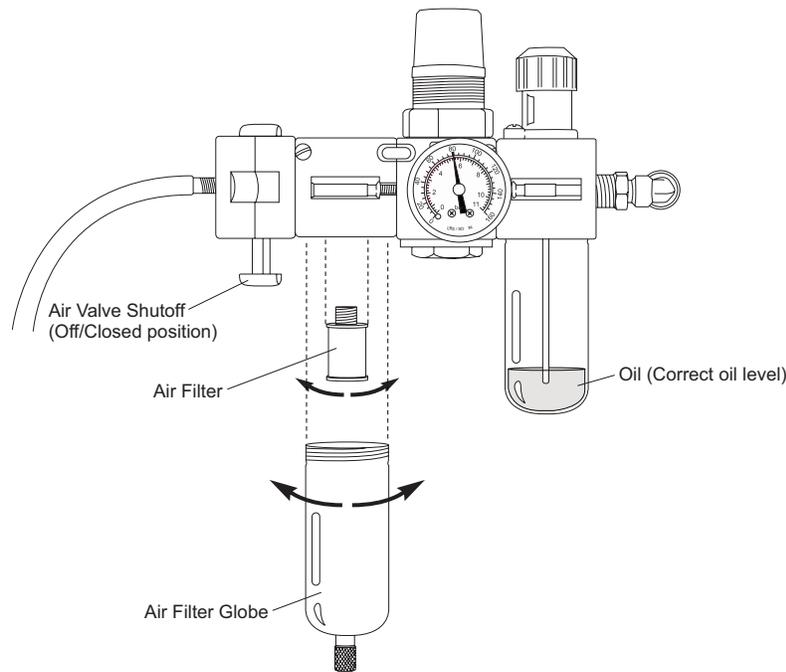


5 - Maintenance

5.3 - Maintaining the Air Regulator System

- 5.3.1 CAUTION: MAKE SURE THE AIR VALVE SHUTOFF IS IN THE OFF/CLOSED POSITION BEFORE CONTINUING WITH THE FOLLOWING MAINTENANCE INSTRUCTIONS.**
- 5.3.2** Check the Regulator System located on the side of the machine for the correct oil level. See section 3.6 of this manual for instructions on how to add oil.
- 5.3.3** Verify that the Pressure Gauge is correctly set at 80 PSI. See section 3.6 of this manual for instructions on how to adjust the PSI.
- 5.3.4** Change the Air Filter in the Regulator System by removing the Air Filter Globe as shown below. Remove the globe by unscrewing the entire globe counterclockwise. Unscrew the Air Filter in the same fashion by turning it counterclockwise. Attach a new Air Filter by screwing it in clockwise until it is secure. Re-attach the Air Filter Globe by screwing it in clockwise until it is secure. Do not overtighten.
- 5.3.5** There may be some oil residue in the bottom of the Air Filter Globe. Remove this when performing maintenance.

Diagram 5-30



6 - Trouble Shooting Guide

6.1 - Determining the Cause and Correction to Certain Problems

Problem	Cause	Correction
Drill bit not concentric.	Foreign material in chuck or in drill plug.	Inspect and clean.
	Drill bit is bent.	Replace drill bit.
	Drill bit not seated in chuck properly.	Re-insert drill bit correctly. See <i>Operating Instructions</i> .
	Chuck is not tight to spindle.	Tighten set screw.
Drill bit not drilling.	Drill bit plugged.	Remove and clear chips. Check for other foreign matter.
	Drill bit dull.	Sharpen drill bit.
	Note: In extreme conditions, the drill chuck and/or chip chute may be plugged. Remove the drill bit, loosen the chip chute, pull down, and clean. See <i>Operating Instructions</i>	
Traverse table drags or skips during operation.	Spring Plungers on the Slide Plate are out of adjustment or damaged.	Adjust or replace the Spring Plungers.
	Table traverse channel and/or slide is dirty or needs lubrication.	Clean the channel and lubricate.
	The Table is damaged.	Repair or replace the Table.
	Note: In order to maintain smooth table operation, DO NOT sit on, lean on, or force the table out of alignment.	
Table lift system lifts unevenly or is noisy.	The Push Pins are dry and need lubrication.	Lubricate the Push Pins as shown in the <i>Maintenance</i> portion of the users manual.

6 - Trouble Shooting Guide

6.1 - Determining the Cause and Correction to Certain Problems

Problem	Cause	Correction
Machine vibrates, wobbles, resonates, etc.	The machine is not level on the floor.	Use the leveling feet to make the machine level on the floor. See <i>Setting Up Your Machine</i> .
	The machine is located directly on a concrete floor.	Place a rubber mat or carpet under the machine.
	Drill bit is not concentric.	Re-install drill bit until it is concentric. See <i>Operating Instructions</i> .
The drill bit is drilling into the drill strip or it is not drilling through the bottom sheet of the product you are drilling.	Drill bit was not adjusted properly to the card stock/card stock not used.	Adjust your drill bit per the <i>Operating Instructions</i> .
	The Table Travel Stop is out of adjustment.	Adjust to the proper Table Travel. See <i>Operating Instructions</i> .