

Lassco Spinnit FM-2 Drill

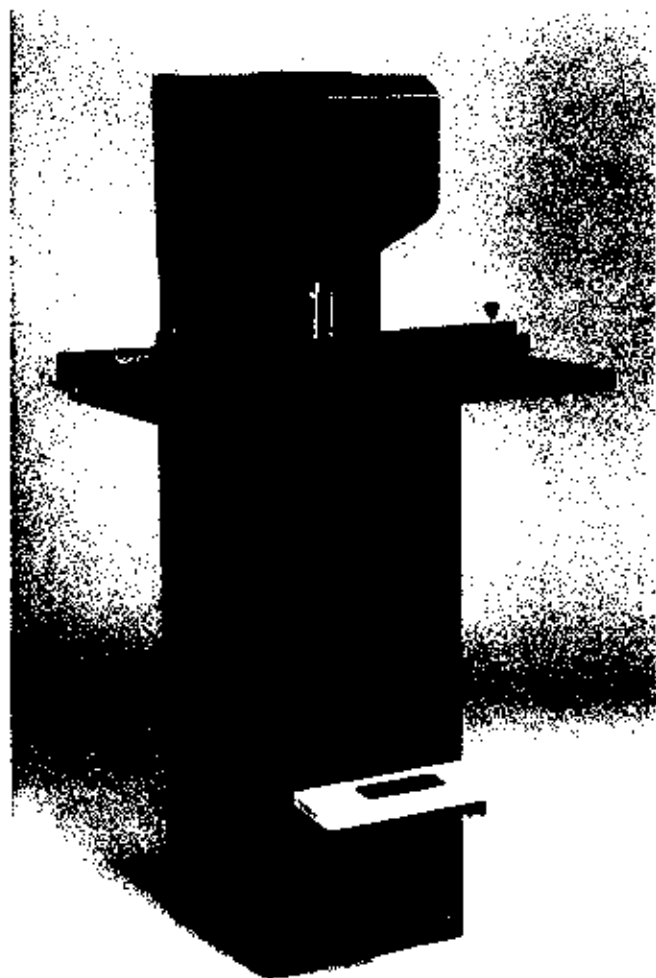
User's Manual



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SPINNIT[®] by *Lassco*



Model
FM-2

FLOOR MODEL DRILL

Lassco Products

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**USER'S
MANUAL**

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SPINNIT[®] by LASSCO

FLOOR MODEL DRILL

FM-2

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FLOOR MODEL DRILL

FM-2

STARTUP PROCEDURES

Receiving and Inspection

Remove the machine from the carton and inspect for any shipping damage. Report all damage to the carrier immediately. Failure to do so may void any warranties.

Loose Materials Inventory

Remove separate box containing the following components:

- | | | | | | |
|---|---|--|---|---|-------------------------------------|
| A | 1 | MS-1 Drill Sharpener | F | 1 | Chuck Key (for drill removal) |
| B | 4 | Leveling Feet with 4 Mounting Nuts | G | 1 | 3/32" Hex Wrench (for stop collars) |
| C | 2 | Paper Side Stops | H | 1 | Chip Clearer |
| D | 1 | Chip Bag | | 1 | Operating Manual |
| E | 4 | Black Paper Side Stop Knobs with 10-32 Studs | | | |

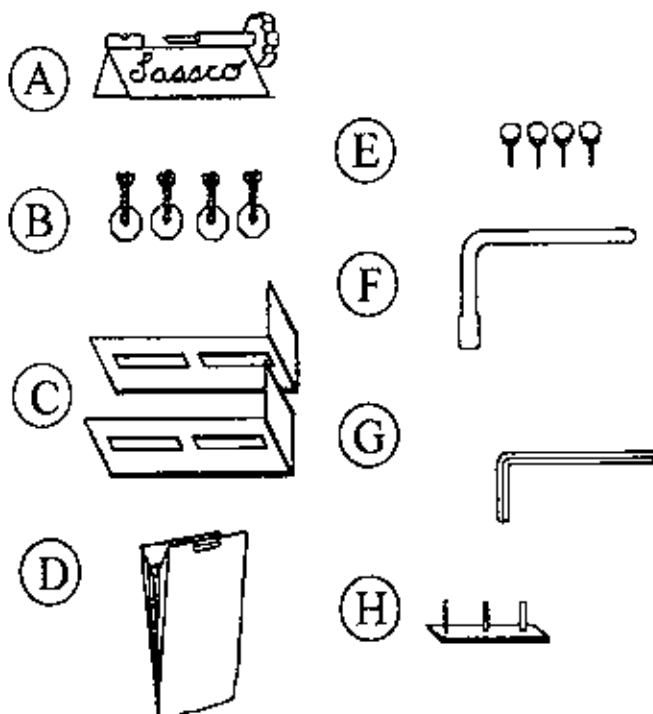
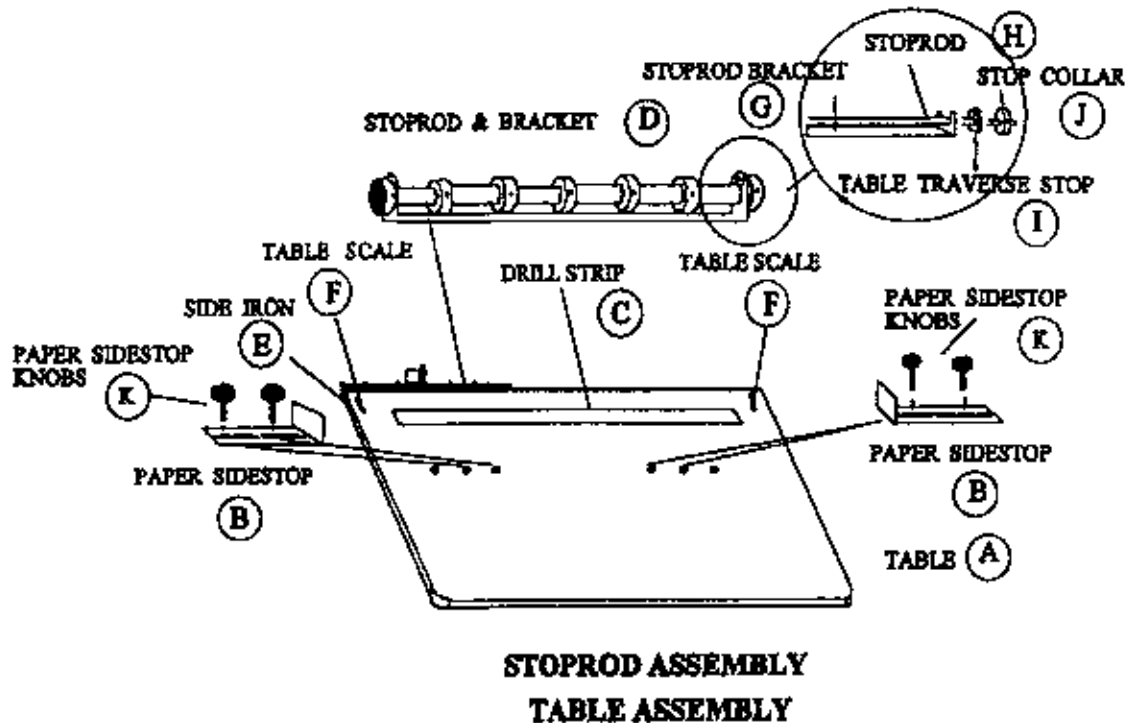


ILLUSTRATION #1



**STOPROD ASSEMBLY
TABLE ASSEMBLY**

ILLUSTRATION #2

Installation of Stop Rod, Back Gauge Stops, and Table:

Install the stop rod assembly (Illustration #2) by pressing the assembly into the stop rod bracket (G) located on the left rear of the table (A) (be sure the rod is seated completely into the saddles). The table traverse stops (I) are mounted on the stop rod between the outside stop collars and the end of the bracket (G) or "saddle" that holds the stop rod. The extruded slug must face inward and is aligned in the slot to prevent rotation of the table traverse stop. The table can be installed or removed by loosening the end stop collar (J) and rotating the table stop down to clear the stop pedestal.

Install the table from right to left by carefully aligning the traverse channel (mounted to the underside of the table) to the plastic slide located on lift mechanism. Traverse the table back and forth to assure free travel.

Installation of the Paper Side Stop

As in Illustration #2, install the paper side stops (B) to the table by inserting the (2) paper side stop knobs (K) through the slots of the paper side stops and screwing them into two of the three holes in the table located in front of the drill strip (C). The location will depend on the size of the product being drilled.

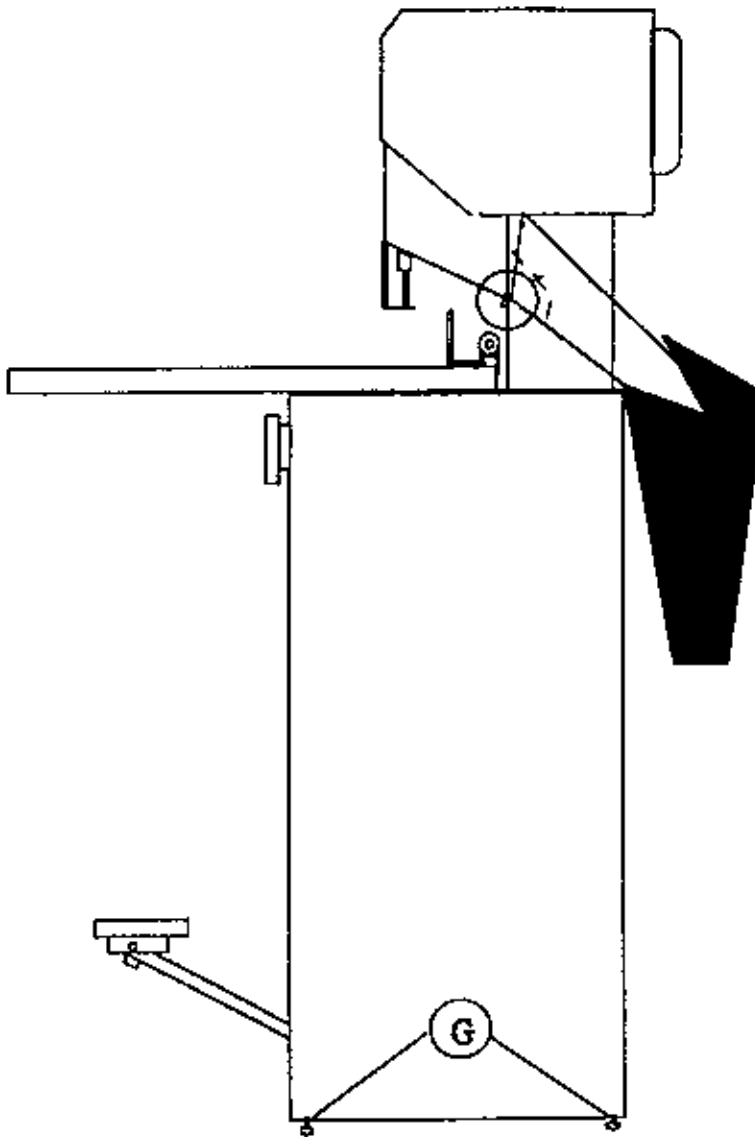


ILLUSTRATION #3

Installation of the Leveling Feet.

- a. Carefully tilt the machine back
- b. Screw the two (2) leveling feet (G) (Illustration #3) into the bottom support plate of the machine from the bottom through the threaded holes in the corners.
- c. Carefully tilt the machine in the opposite direction and install the two (2) remaining leveling feet.
- d. Place the machine upright on the floor and level by rotating the feet up or down to desired height.
- e. Install the lock nuts from inside the stand and tighten.

SPINNIT[®] by LASSCO FLOOR MODEL DRILL - FM-2
Start-Up Procedures

Installation of the Chip Bag:

Install the chip bag by inserting one side of the chip bag under the chip chute and hooking the opposite side of the bag to the hook provided on top of the chip chute.

Electrical Start-Up:

Make sure nothing is interfering with the drill bit or power functions of the machine; then plug it into a grounded 110-volt outlet. Push the switch located on the upper left corner of the shroud. When the machine is in operation, the switch will be lighted.

Your Spinnit[®] Paper drill is ready for use. If proper operation and maintenance instructions are followed, your machine should give you years of trouble free operation.

SPINNIT[®] by LASSCO

FLOOR MODEL DRILL FM-2

OPERATING INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS PRIOR TO PUTTING YOUR LASSCO FLOOR MODEL DRILL IN PRODUCTION. FOLLOW ALL SAFETY PRECAUTIONS AND TRAIN ALL NEW OPERATORS IN THE SAFE OPERATION AND MAINTENANCE OF THIS MACHINEDRILL BIT.

DRILL BIT INSTALLATION AND ADJUSTMENT

1. - a. Install the drill bit by inserting the large end of it into the chuck and applying light finger pressure to secure it.

NOTE: The spindle must be tight to the chuck.

- b. Check the concentricity of the drill bit. If the concentricity is out, remove the drill bit, rotate slightly, and reinsert per above (No. 1a). Continue this sequence until the concentricity is to your satisfaction.
 - c. Place a non-metallic object under the drill bit (block of wood, etc.) and secure by depressing the foot treadle using adequate pressure to "seat" the drill bit into the chuck.
2. Your Lassco unit comes with an extraction hole guard to prevent chips from passing through the extraction hole.
 - a. To remove the extraction hole guard (when removing the drill bits) turn the spindle chuck until the extraction hole is facing you. Grasp the small tapered end you're your index finger and pull it forward and down.
 - b. To remove the drill bit, insert the chuck key with the flat side down and, while applying an inward pressure, rotate the chuck key until drill bit is free.
 - c. To install the extraction hole guard, spread and slip the guard on the chuck with the large taper to your left and with the extraction hole facing you. Insert the small tab in the extraction hole and rotate the guard counterclockwise and align with the chuck.

3. Adjust the drill bits to table surface as follows:

Depress the foot treadle to the maximum travel and while using a very light foot pressure on the treadle, rotate the black knob, located on the front of the machine under the table, to the right to lower the table and to the left to raise the table. Tighten the lock knob located ahead of the adjustment knob by rotating it clockwise if necessary.

NOTE: Always adjust the drill bit to the chip paper until a defined depression of drill shows on the chip paper.

1. To remove a drill bit from the machine:

- a. As in Illustration #4 remove the chuck release hole guard (A) from the chuck (C) by lifting the small end of the guard and unwinding from the chuck
- b. Insert the chuck release key (B) in the hole in the chuck with the flat end downward and rotate the handle until the drill bit is free.

2. To install a drill bit in the machine:

- a. Grasp the drill bit and insert the large end into the chuck with upward pressure.
- b. Place a non-metallic object (block of wood, etc.) under the drill bit and secure it by depressing the treadle (Illustration #3) using adequate pressure to “seat” the drill bit.
- c. Check the concentricity of the drill bit by momentarily turning on the machine. If the concentricity is not satisfactory, remove the drill bit, rotate slightly and repeat the above steps.

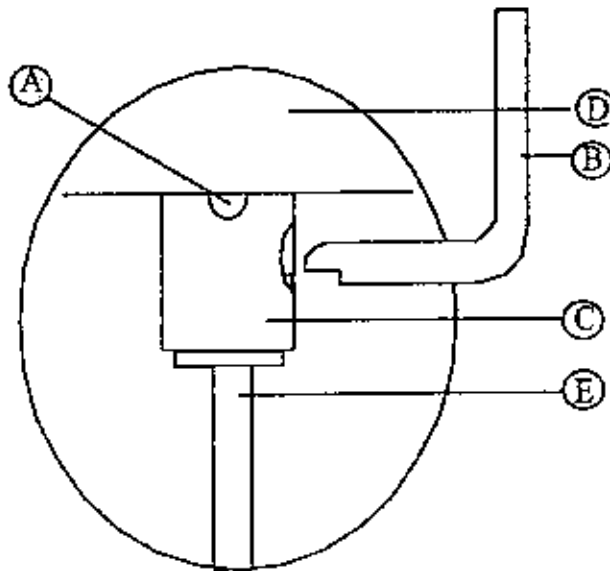


ILLUSTRATION #4

DRILL BIT REMOVAL AND ADJUSTMENT

- | | |
|-----------------------------|------------|
| A. Chuck Release Hole Guard | (FMS-5011) |
| B. Chuck Release Key | (EBM-32) |
| C. Chuck | (FMS-5003) |
| D. Shroud Assembly | (FMS-550A) |
| E. Hollow Drill | |

TABLE SETUP AND DRILLING

Following are two methods for setting up the table to drill a particular hole pattern in the material. The first is by the use of a template such as a piece from a previous job and the second is by measurement.

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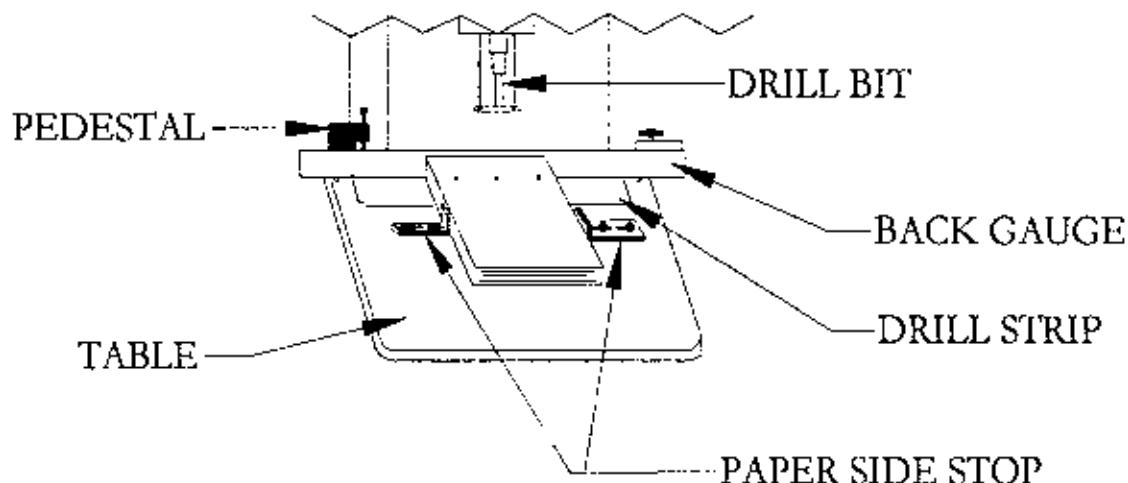


ILLUSTRATION #5

METHOD NO. 1

1. Place a template of the material on the table such that the drill bit enters the hole furthest to the left and the paper is centered on the table.
2. Adjust the paper side stops to trap and not allow lateral movement of the material on the table.
3. Loosen the knob of the back gauge scale and adjust the position of the back gauge scale to the correct margin or back edge of the template.

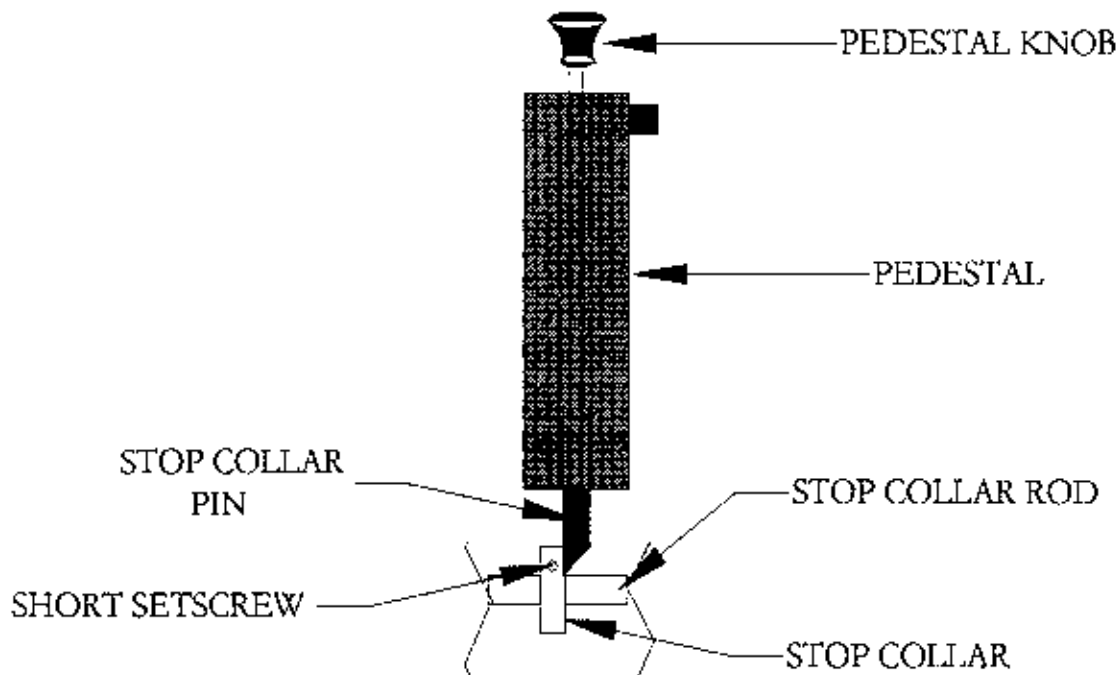


ILLUSTRATION #6

4. Using the hex key provided, loosen the setscrews in the stop collars on the stop bar. Loosen only the stop collars interior of the stop bar bracket.
5. With the longest end of the pedestal pin taper to the left (Illustration #6) locate a stop collar tight against the left side of the pedestal pin and tighten the setscrew.
6. Move the table laterally to the next hole, align the drill bit, repeat Step 5, and repeat until all holes are aligned.
7. To drill, lift the pedestal pin and move the table to the original position, lower the pedestal pin making sure it does not rotate, turn on the machine and depress the handle. To drill the next hole, move the table to the left until the pedestal pin "clicks" over the next stop collar. Assert slight pressure against the left side of the table to assure contact between the stop collar and pedestal pin. Depress the handle, release and repeat this operation until all holes are drilled.

METHOD NO. 2

1. Loosen the knob on the back gauge and set the margin you desire using the two scales embedded in the rear corners of the table. Zero ("0") On these scales indicates the center of the drill bit. Tighten the back gauge scale knob to maintain its position.
2. Locate the product to be drilled against the back gauge scale and center on the scale using the scale graduations. Adjust the paper side stops to trap the material as in Method No. 1.
3. Move the table to align the "0" on the back gauge scale with the center of the drill bit.
4. With the pedestal pin in the same position as in Method No. 1, move a stop collar against the left side of the pedestal pin and retighten the setscrew. The center of the material to be drilled has now been established.
5. On the stop bar, move another stop collar to the distance required to equal the distance from the center of the paper to the center of the first hole to be drilled. Make sure the measurement is from the same sides of the stop collars. Other stop collar positions are determined and located in the same manner.
6. The method of drilling is the same as in Method No. 1. Raise the pedestal pin and move the table to the right. Lower the pedestal pin and move the table to the left until the pin "clicks" over the first stop collar. With a gentle pressure against the left side of the table, depress the handle and release slowly to drill the hole. Move the table until it "clicks" over the next stop collar and repeat until all holes are drilled.

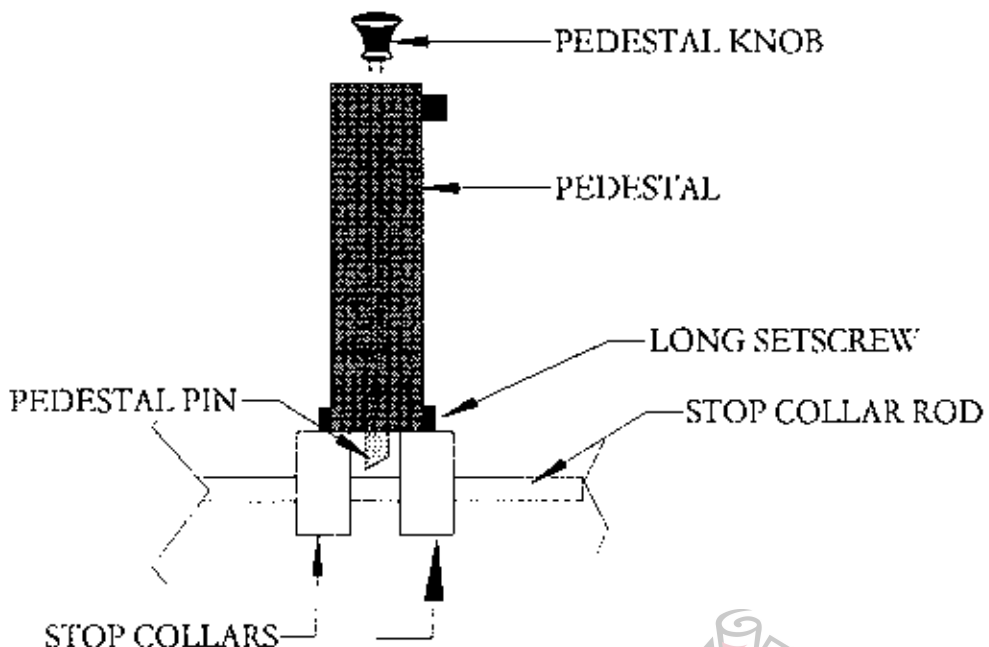


ILLUSTRATION #7

FOR STATIONARY TABLE DRILLING

1. Remove the setscrews from two adjacent stop collars and replace them with the longer setscrews, which come with the accessories.
2. Move the table to the desired position.
3. Tighten the longer setscrews in the stop collars so that a setscrew rests against both sides of the pedestal preventing movement of the table.
4. For stationary table operations: Illustration #7. (**NOTE:** your machine comes set up in this mode.)
 - a. Align the table so that zero (0) on the back gauge assembly is aligned with the center drill bit.
 - b. Remove the setscrews from two adjacent stop collars and replace them with the longer setscrews that come with the machine.
 - c. Tighten the longer setscrews in the stop collars so that a setscrew rests against both sides of the pedestal preventing movement of the table.
5. For traversing table operations: Illustration #7.

Following are two methods for setting up the table to drill a particular multiple-hole pattern. The first is by using a template such as a piece from a previous job and the second is by measurement.

SPINNIT® by LASSCO

FLOOR MODEL DRILL FM-2

MAINTENANCE SCHEDULE

LUBRICATION AND INSPECTION

1. Every 30 days:

- a. Table traverse (Illustration #2) - Remove the table by loosening the left end stop collar on the stop bar assembly and rotating the table traverse stop (I) down to clear the pedestal. Pull the table to the right until the table clears the slide beneath the table.

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

Replace the table in the same manner as it was removed and check the table traverse for free travel.

- b. Stop Pin (Illustration #7) - Lubricate the stop pin with light machine oil, work the pin up and down and rotate it a few times for proper lubricant distribution.
- c. Treadle Pivot Assembly (Illustration #8) - Work the foot treadle (0) up and down to determine all pivot points in the lower back portion of machine and lubricate them with light machine oil. Lubricate the treadle pivot assembly at the front of the machine in the same manner.

CAUTION: *The wiring from the motor to the switch on the shroud has electrical disconnects. Be sure the machine is unplugged and the wiring is disconnected before removing the shroud.*

1. **Every 12 months:**

- a. **Raising mechanism** - Remove the pressure foot assemblies by removing the two (2) 10-32 x 3/8" screws in face of heads (A) (Illustration #8) and one 10-32 x 1/4" screw under the front of the head (B) (Illustration #8). Pull down on the front of the chip chute and lift up on back of chip chute and pull down on the pressure foot.

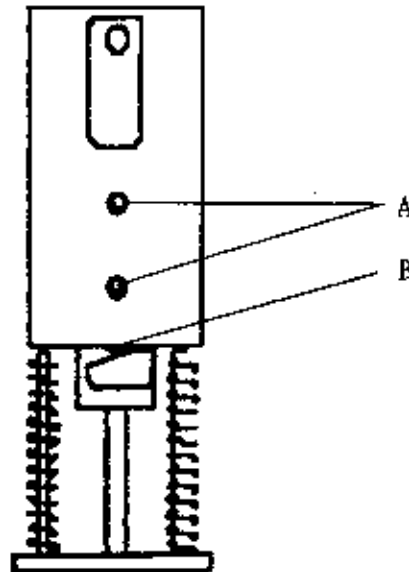


ILLUSTRATION #8

Remove the pressure feet, the tapered piece of the vertical table travel adjustment assembly (F) (Illustration #9), and the table assembly. Lift the top die shoe (D)(Illustration #9) until the pins clear the bottom unit and pull toward you. **NOTE:** At this point, the two push rods should drop out of position. Lightly oil the internal bearings and tips of the push rods. Replace the upper lift mechanism while inserting the two push rods into position. **NOTE:** This lubrication schedule is based on maximum utilization of the machine. Lubrication intervals should be in direct proportion to usage.

CAUTION: KEEP FINGERS FROM BETWEEN LIFT COMPONENTS

Replace the table and actuate the foot treadle a few times to check for freedom of travel. Lubricate and install the pressure feet. Install the paper chute by pushing forward and up. **NOTE:** Refer to your *Trouble Shooting Guide* for problem solving.

OBSERVE ALL SAFETY PRECAUTIONS DURING PREVENTATIVE MAINTENANCE OF THIS MACHINE

**OBSERVE ALL SAFETY PRECAUTIONS DURING PREVENTATIVE
MAINTENANCE OF THIS MACHINE**

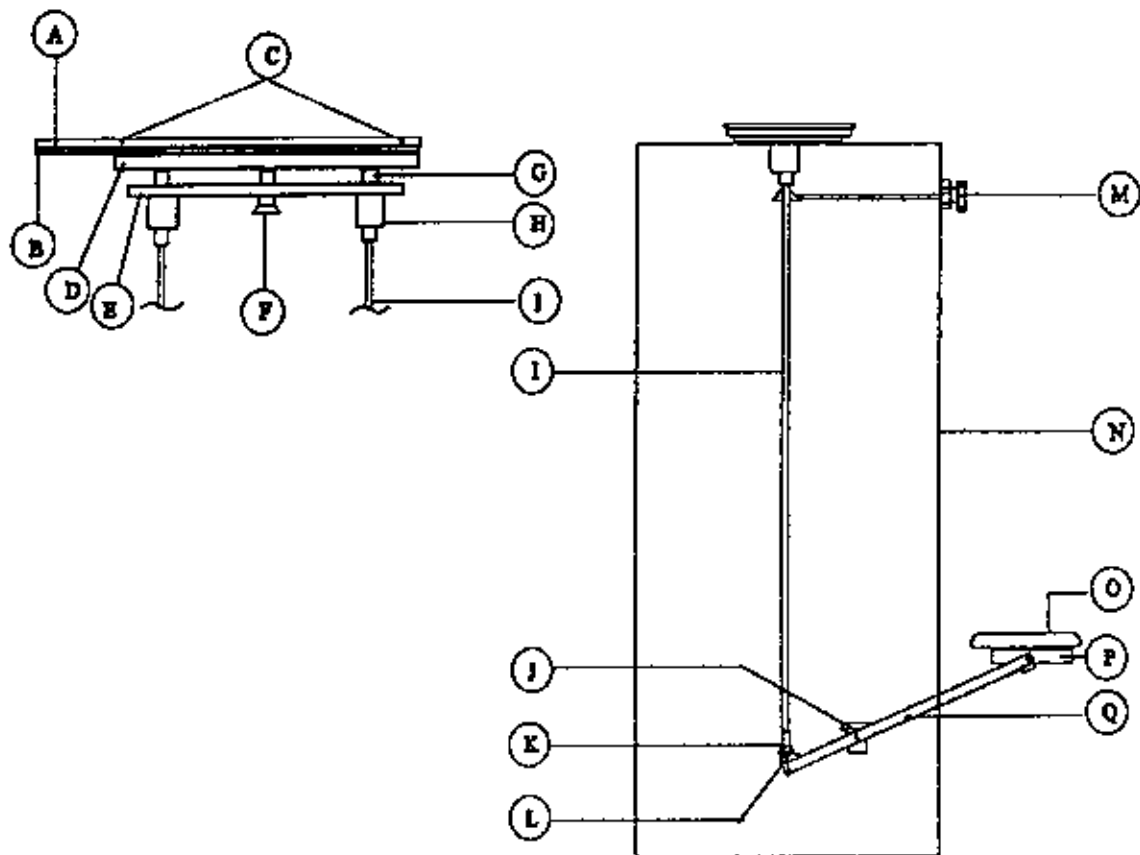


ILLUSTRATION #9

A Slide Plate	(FM3-3015)	J Pivot Bar Assembly	(FM2-200A)
B Slide Plate Support	(FM3-3016)	K Short Clevis	(FM-42)
C Ball Plunger	(FM3-3017)	L Pushrod Angle Assembly	(FM2-201A)
D Top Die Shoe	(FM3-3001)	M Vertical Stop Adjustment Assembly	(FM3-305A)
E Bottom Die Shoe	(FM3-3000)	N Stand Assembly	(FM1-10A)
F Vertical Table Travel Assembly	(FM3-304A)	O Treadle	(FM2-2013)
G Die Pin	(FM3-3004)	P Pivot Block	(FM2-2009)
H Pin Housing	(FM3-3007)		
I Push Rod	(FM2-2006)		

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FLOOR MODEL DRILL FM-2

TROUBLE SHOOTING GUIDE

PROBLEM: The drill bit is not concentric.

CAUSE: Foreign material is in the chuck or on the drill plug.

CORRECTION: Inspect and clean.

CAUSE: Drill bit is bent.

CORRECTION: Replace.

CAUSE: Drill bit is not inserted and/or seated in the chuck properly.

CORRECTION: Reinsert the drill bit correctly.

CAUSE: The chuck not tight to the spindle.

CORRECTION: Tighten the setscrew in the chuck.

PROBLEM: The drill bit not drilling.

CAUSE: The drill bit is plugged.

CORRECTION: Remove and clear the chips. Check for other foreign matter.

CAUSE: The drill bit is dull.

CORRECTION: Sharpen the drill bit. (Follow the factory-cutting angle)

NOTE: In extreme conditions, the drill chuck and/or the chip chute may be plugged. Remove the drill bit, loosen chip chute by removing the two (2) button head screws located between the pressure foot springs, pull down, and clean. See the *Operation Manual*.

PROBLEM: The traverse table drags or skips during operation.

CAUSE: The table slide tension screws are out of adjustment..

CORRECTION: Adjust.

CAUSE: The table slide is dry or damaged.

CORRECTION: Remove the table and lubricate the nylon slide and check for damage.

CAUSE: The table is damaged.

CORRECTION: Check the table for damage. Repair or replace.

NOTE: In order to maintain a smooth table operation, **DO NOT** sit on, lean on, or force table out of alignment.

PROBLEM: The table lift system lifts unevenly or is noisy.

CAUSE: There are loose or missing pivot components in the treadle pivot assembly.

CORRECTION: Tighten or replace as necessary.

CAUSE: The factory adjustment of the push rods is out of adjustment.

CORRECTION: Adjust the push rods to lift evenly.

CAUSE: The ball bushings in the lift system are dry or worn.

CORRECTION: Lubricate or replace.

NOTE: If raising mechanism is lifted without depressing the foot treadle, the push rods will drop out of position and must be reinstalled in the push-pins in order to operate the table.

PROBLEM: The machine vibrates, wobbles, resonates, etc.

CAUSE: The floor is uneven.

CORRECTION: Adjust the feet to compensate and tighten.

CAUSE: The machine is located directly on a concrete floor.

CORRECTION: Place a rubber mat or a carpet under machine.

CAUSE: The drills are out of concentricity.

CORRECTION: Reinstall the drill bit to obtain concentricity.

PROBLEM: The drill bit drills too deeply into the drill strip – the drill bit is not drilling through the bottom sheet of the paper.

CAUSE: The drill bit was not adjusted to the chip paper or chip paper was not used.

CORRECTION: Adjust the drill bit per *Operation Manual*.

CAUSE: The operator is not allowing for the full traverse of the table.

CORRECTION: Drill per the *Operation Manual* through the full drilling cycle.

CAUSE: The table travel stop is out of adjustment.

CORRECTION: Adjust to the proper table travel. See the *Operation Manual*.

CAUSE: Holes in the drill strip beneath the drill bit.

CORRECTION: Turn the drill strip to new position.

LASSCO FM2 DRILL

GBC#	VENDOR#	DESCRIPTION
1726379	PD38-2	3/8" DRILL BIT 2" LONG
1726421	PD516-2	5/16" BIT 2" LONG
1726609	PD 516T-2	5/16" TEFLON BIT 2" LONG
1726895	FM4-4007	SIDE GUIDE KNOB