J. LEE HACKENT LAFRY GROTH

TR - 2-6442

OPERATING INSTRUCTIONS

AND PARTS LIST

Model 100-12" Planer

For Serial Numbers From 6200 Up

POWERMATIC MACHINE COMPANY McMinnville, Tennessee

PRICE \$1.00

1ST owner - walt Potocki 200 owner - Stavan Graninger

Bor 346. Florence AZ 85132 STENENDER -

POWERMATIC

MODEL 100 - 12" SINGLE SURFACER



Designed and Constructed for a Lifetime

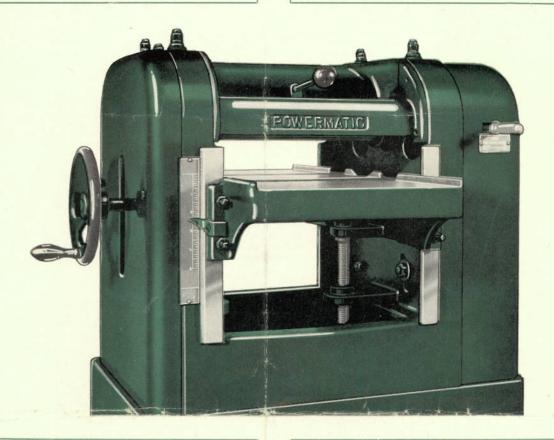
POWERMATIC MACHINE COMPANY

Manufacturers

McMINNVILLE, TENNESSEE

ONE PIECE CAST IRON FRAME FOR PERFECT ALIGNMENT

ACME THREAD BED RAISING SCREWS OPERATE ON BALL THRUST BEARINGS



BED RAISING HANDWHEEL.
NO STOOP TO OPERATE

MATERIAL THICKNESS GAUGE EASY TO SEE

MACHINE DESCRIPTION

The Powermatic 12" planer is completely new in design. We have included many features that make it an ideal machine for the Cabinet Shop, School Shop, Pattern Shop and miscellaneous uses in Sash & Door Plants.

The one piece extra heavy cast iron frame is precision machined and the bearing housings are line bored for perfect bearing alignment.

The safety type cutterhead is milled from carbon tool steel and fitted with three high speed knives. Cutterhead is mounted in sealed ball bearings, and the entire head unit may be removed from the planer by removing two locking screws in cutterhead flange mounting. Cutterhead speed is 4400 RPM, making 13200 cuts per minute, or 73 knife cuts per inch at 15 feet per minute.

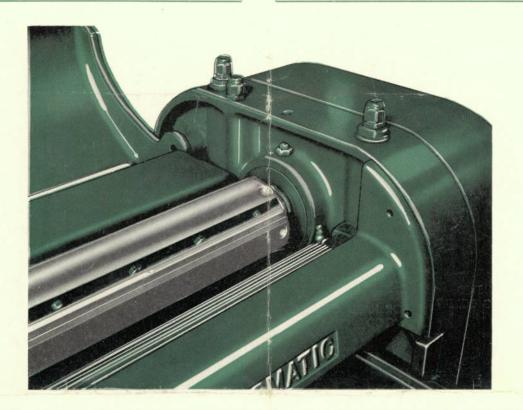
The chipbreaker is fitted exceptionally close to the cutterhead and extends back over the cutterhead completely guarding it for safe operation. Chipbreaker can be raised to inspect and adjust knives. PRESSURE BAR: Pressure bar is fitted close to the cutterhead and can be adjusted independent from either end. The pressure bar adjustment is on TOP of the machine and can be adjusted while the machine is in operation.

FEED ROLLER: The corrugated infeed roller and smooth outfeed roller are 2" in diameter; driven with extra heavy cut gears. Feed roller journals are 1" in diameter with 3 inch long bearings assuring long bearing life. Feed roll pressure springs are mounted on top of the roller. The adjustments are visible on top of machine making them easy to adjust.

FEED ROLLER DRIVE: The feed rollers are driven from the cutterhead with V belt drive that eliminates a grease transmission and makes a trouble free drive. Feed rollers are operated with a positive feed clutch that completely disengages feed with a clutch handle mounted on the front of the machine. Feed mechanism is completely guarded for safe operation. The guard is easily removed for lubrication and inspection.

THREE KNIFE SAFETY CUTTERHEAD MILLED FROM CARBON STEEL. FITTED WITH 3 H.S. STEEL KNIVES

CLOSE FITTED PRESSURE BAR CAN BE ADJUSTED WHILE MACHINE OPERATES



CUTTERHEAD CAN BE REMOVED BY LOOSENING 2 LOCKING SCREWS

PLANER BED: The planer bed is of cast iron construction, heavily reinforced with ribs and fitted with two adjustable table rollers. Bed is 12" x 24" and is the longest one-piece bed of any 12" planer on the market. Bed is raised and lowered with a hand wheel on left hand side of machine. Bed can be lowered 5". One turn of handwheel equals 16". A Guage mounted on the front left-hand side of machine makes it easy to set for any thickness.

DRIVE MOTOR: The drive motor is mounted in the base of machine. Cutterhead driven by two A section belts that go up through motor base. Drive belts are covered with guard making machine absolutely safe for operation.

MACHINE and ACCESSORIES

- 120-01—12" x 5" Single Surface Planer with 3 knife safety .type, ball bearing cutterhead; two groove cutterhead pulley, belt guards and floor stand with motor base, less motor.
- 120-02—Same as 120-01, but with 3 HP Single phase motor with manual switch and overload protection.

HEAVY DUTY SEALED FOR LIFE BALL BEARINGS ON CUTTERHEAD

- 120-03—Same as 120-01 but with 3 HP 3 phase motor with manual switch and overload protection.
- 120-04—Same as 120-01 but with 2 HP Single phase motor, with manual switch.
- 120-05—Same as 120-01, but with 2 HP 3 phase motor with manual switch.
- 120-06—Same as 120-01 but with 1½ HP single phase motor with manual switch.
- 120-07—Same as 120-01 but with 1 HP Single phase motor with manual switch.
 - (Above Planers, with motors, include pulleys, switches, belts, guards complete, ready to run.)
- 120-20—Motor pulley, two groove for 1750 RPM motor. (Specify bore.)
- 120-21—Motor pulley, two groove for 3450 RPM motor. (Specify bore.)
- 120-22-Set of 2 Belts for 3450 RPM motor.
- 120-23-Set of 2 Belts for 1750 RPM motor.

VISIBLE ADJUSTMENTS ON FEED ROLLERS AND PRESSURE BAR

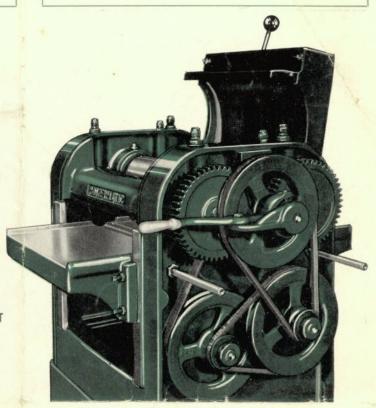
SAFETY TYPE KNIFE LOCKING SHIM: EASILY REMOVED TO CHANGE KNIVES



KNIVES EASILY ADJUSTED WITH KNIFE SETTING SCREW

5/32" x 11/4" HIGH SPEED STEEL KNIFE FOR HARD OR SOFT WOOD

POSITIVE FEED CLUTCH THAT INSTANTLY STARTS OR STOPS FEED ROLLS



V BELT FEED ROLLER DRIVE GIVES YEARS OF TROUBLE-FREE SERVICE

FRAME:

Exceptionally heavy one-piece cast iron frame with extra wide side panels with gibs to support bed.

BED:

Heavy cast iron accurately machined and ribbed to withstand any type of abuse. Table size 12" x 24". Fitted with two adjustable idle rolls.

CUTTERHEAD:

Three knife safety type. Head diameter 3". Mounted in oversize sealed ball bearings. Fitted with 3 High Speed Steel Knives $12'' \times 78'' \times 18''$.

CHIPBREAKER:

Solid one-piece cast iron construction. Exceptionally close fitted to cutterhead.

PRESSURE BAR:

One-piece cast iron construction, adjustable from either end. Fitted close to cutterhead.

FEED ROLLERS:

Corrugated infeed roller and smooth outfeed roller. 2" diameter. Adjustable feed pressure on both rollers. Driven by V Belts from cutterhead shaft to oversized cut gears.

ALL MOVING PARTS COMPLETELY GUARDED FOR SAFE OPERATION

RATE OF FEED:

15' per minute with cutterhead turning 4400 RPM.

POWER FEED CONTROL:

Shift lever located conveniently to operator. Stops feed instantly without stopping power.

GUARDS:

Fully guarded over all moving parts with removable guards.

CAPACITY:

Thickest 5"
Thinnest 1/16"
Widest 12"
Shortest 7½"
Maximum Depth of cut ¼"
Cuts per inch 73
Weight, less stand 300 lbs.
Weight, with stand 350 lbs.
Weight crated, less motor and stand 350 lbs.
Weight crated, less motor with stand 400 lbs.
Floor space required 15" x 26"

POWER REQUIREMENTS:

2 HP for light and medium work; 3 HP for heavy duty planing. Furnished with 2 groove drive pulley.

OPERATING INSTRUCTIONS

AND

PARTS LIST

MODEL 100-12" PLANER

FOR SERIAL NUMBERS FROM 6200 UP

POWERMATIC MACHINE COMPANY McMinnville, Tennessee

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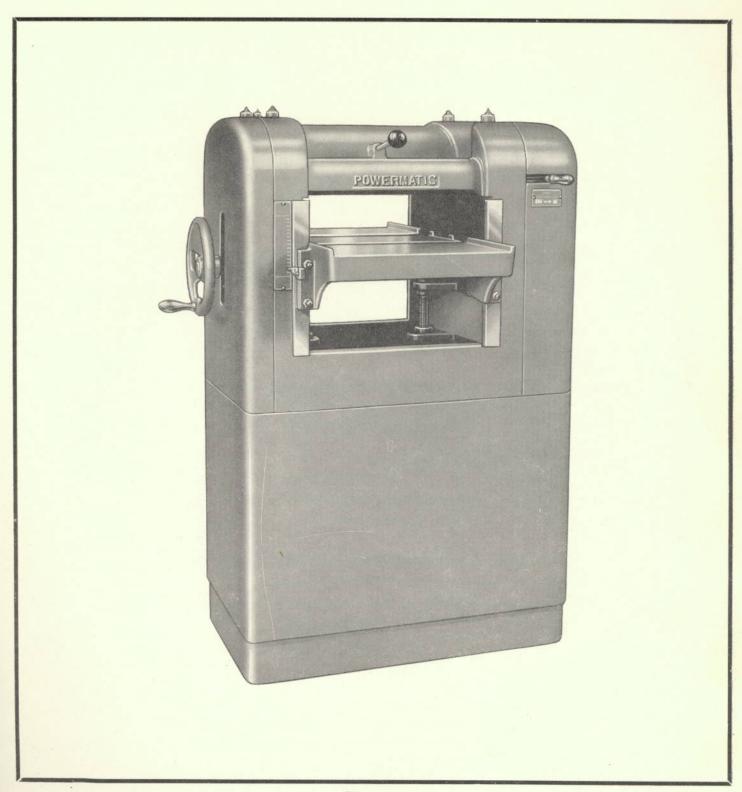


Figure 1

MACHINE DESCRIPTION AND SPECIFICATIONS

1. FRA	ME	Complete cast iron construction with detachable motor base.
2. BED		Heavy cast iron accurately machined and ribbed to with stand any type of abuse. Table size 12" x 24". Fitted with two adjustable idle rolls.
3. CUT	TERHEAD	Three knife safety type. Head diameter 3". Mounted in oversized sealed ball bearings. Fitted with 3 high speed steel knives 12" x $7/8$ " x $1/8$ ".
4. CHIE	BREAKER	Solid one-piece cast iron construction. Exceptionally close fitted to cutterhead.
5. FEE	D ROLLERS	Corrugated infeed roller and smooth outfeed roller. 2" diameter. Adjustable feed pressure on both rollers. Driven by V belts from cutterhead shaft to oversized cut gears.
6. RAT	E OF FEED	15 feet per minute.
	ER FEED TROL	Shift lever located conveniently to operator. Stops feed instantly without stopping power.
8. GUA	RDS	Fully guarded over all moving parts with removable guards.
9. CAP	ACITY	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
10. POW	VER QUIREMENTS	2 HP for light and medium work; 3 HP for heavy duty planing. Furnished with 2 groove drive pulley.

GENERAL SET-UP AND ALIGNMENT

1. RECEIVING

Uncrate and check for shipping damage. Clean all coated and greased surfaces. Read instructions thoroughly. Locate all lubrication points; adjustments; methods of drive.

2. MOUNTING

Mount machine securely to solid foundation. Locate in clean, dry and well ventilated building if possible. Motor and electrical connections should be protected when not in operation or if exposed to weather elements.

3. EXHAUST SYSTEM

Recommended as a must if efficient production operation required. Not a necessity where limited amount of operation being performed and machine can be kept clean of shavings.

4. INSPECTION

The above machine requires the minimum amount of attention in service. Periodic or regular inspections are recommended to insure machine is in proper adjustment, positive electrical connections; worn or loose "V" belts and bearings heating or loose.

5. BEFORE OPERATING

Check motor nameplate data or wiring diagram of motor and switch for proper voltage connection before wiring into line. Run motor without load to check the connections and direction of rotation. Always refer to motor nameplate data for rotation connections.

OPERATING ADJUSTMENTS

PLANER BED:

The planer bed mounts in the main frame panels and is held rigid by the shims and adjusting screws (2) located in front of the machine. The bed is raised and lowered by the gears and thrust screws through the handwheel (1). Keep shims adjusted to hold planer bed rigid in ways but not too tight to restrict freedom of raising and lowering with handwheel. The planer bed must also be level with cutterhead. Check this by lowering bed to allow placing a small jackscrew type gauge or block between one extreme end of cutterhead. Slide gauge to opposite end of cutterhead to determine if same measurement exists. If bed is out of level adjust in following manner. Loosen set screws in screw nut (3) on high side of bed and turn nut to left until bed is level and tighten set screw in nut.

PLANER BED IDLER ROLLERS:

The adjusting screws (4) for the planer bed idler rollers are located directly under the bearings. Adjust to .003" to .006" above bed level for planing smooth or dry material, and .015" to .025" for rough sawed or green material. Keep rollers adjusted to same height at both ends. When rollers are set too high a snipe or bite out will appear on both ends of planed material. If set too low, feeding will be restricted through material friction on planer bed.

POWER DRIVE FEED ROLLS:

There are two power driven feed rollers. One corrugated infeed (7) and one smooth outfeed. The feed rollers are held with a spring loaded plunger slide with tension to regulate the pressure. Pressure on feed rollers is regulated with spring cap screw (12) to increase pressure, turn screw to right, to decrease, turn to left. The feed rollers are held up with stud bolts (13) and are raised or lowered by loosening lock nut on bolt (13) and turning to the right to raise, or to the left to lower rollers. Feed rollers should be set 1/32" below the arc of the knife cut and the rollers should be parallel with planer bed. Feed roller setting may be checked by feeding a short board through the machine, 8" or 10" wide and planing off a light cut. After the board has been fed through the machine, feed it through the machine until both feed rollers touch the board. (Stop with Clutch). There should be 1/32" clearance between the spring cap screw (12) and stud screw nut (13). If the rollers are not properly adjusted, they may be adjusted at this time.

CHIPBREAKER:

The chipbreaker may be raised from the cutterhead with handle (18) exposing adjustments (15) that adjust the height of the chipbreaker. Chipbreaker should rest on material while it is being fed through the machine. When the material is fed through, chipbreaker should raise approximately 1/32".

HOLDDOWN BAR

The holddown bar is adjusted with adjusting nuts (14) and should be adjusted .001" to .003" above material being planed. To adjust holddown bar, loosen lock nut and turn adjusting screw (14) to the right to raise and to the left to lower.

FEED DRIVE BELTS:

To adjust feed belts, loosen nuts (20) on the inside of planer frame and slide studs in slots until belts have proper tension. If machine does not feed properly remove guard and check for belt slippage.

LUBRICATION:

The infeed and outfeed rollers have grease fittings (8) and (9). Feed drive sheaves are lubricated at (16) and (17). These fittings require greasing every ten (10) hours of operation with No. 1 grease, or a light weight type.

Planer bed ways, bed raising screws, bed idle roller bearings should be greased every ten (10) hours of operation with SAE No. 10 oil or equivalent.

MATERIAL THICKNESS GAUGE:

To set the indicator on the material thickness scale (6) to indicate properly after changing knives, loosen the screw in the planer bed which holds the brass pointer and set to the thickness the material measures when planed or fed through the machine. The hole which mounts the brass pointer is slotted and will permit proper adjustment.

CUTTERHEAD:

The cutterhead is equipped with three knives held in position with the lock shims and set screws (10). Knives must be adjusted to set evenly and level in the cutterhead. Before removing knives from cutterhead, the knife gauge should be set to knives in order that the height of the knives will not be changed relative to the other parts of the head. The feed rollers, chipbreaker and holddown bar are adjusted to the arc of the knife cut, and if the height of the knives are raised or lowered, the feed roller, chipbreaker, and holddown bar should be adjusted accordingly. Knives should not protrude more than 3/32" beyond radius of cutterhead. When replacing knives after sharpening, place the knife slot together allowing the knife to protrude 1/4" to 3/8". Tighten the lock shim set screw in each end just enough to hold knife firmly. Using a hard block of wood the knife can be lightly tapped to slot for proper setting. The feeler type gauge furnished with machine will permit setting knives accurately, however, a dial type indicator gauge is recommended if finest finish required. Improper knife setting will cause vibration and leave knife marking on material.

KNIFE CARE:

IMPORTANT: Knives should be kept sharp. The knives do all of the work and they will not do satisfactory work if they are DULL. The sets of knives are matched and balanced at the factory. When the knives are sharpened, care should be taken that they are kept in balance.

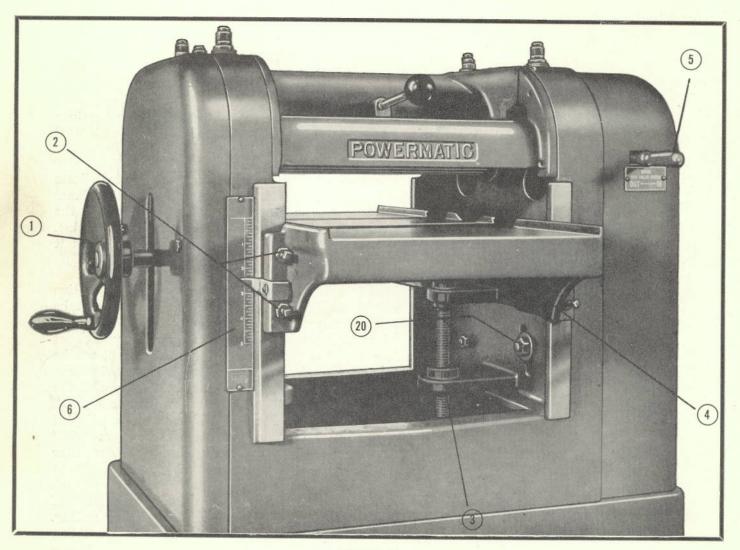


Figure 1

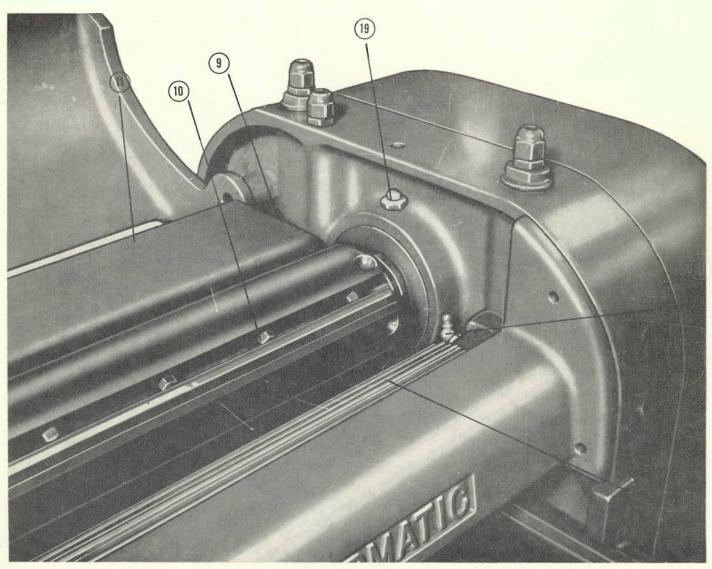


Figure 2

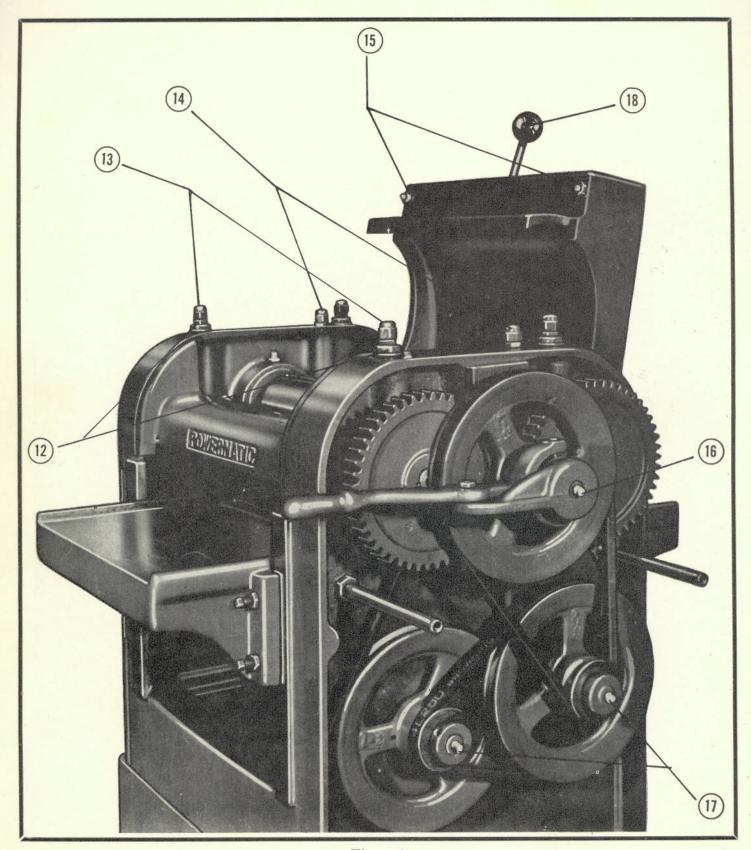


Figure 3

PLANER OPERATING HINTS

IF CLIP OR SNIPE APPEARS AT BEGINNING OF BOARD

- 1. Pressure bar may be set too low.
- 2. Chipbreaker may be set too high.
- 3. Upper infeed sectional roll may be set too high.
- 4. Lower infeed roll may be set too high.
- 5. Spring tension may be too light on pressure bar.
- 6. Bed may be too loose

IF CLIP OR SNIPE APPEARS ON END OF LUMBER:

- 1. Pressure bar may be set too high.
- 2. Lower outfeed roll may be set too high.
- 3. Upper outfeed roll may be set too low.
- 4. Lumber may not be butted.
- 5. Grain may be running against knives.

IF KNIVES TEAR OUT LUMBER:

- 1. Feed may be too fast.
- 2. Moisture content may be too high.
- 3. Head may be running too slowly.
- 4. Cut may be too heavy.
- 5. Cutting angle may be too large.
- 6. Grain may be running against knives.

IF KNIVES RAISE THE GRAIN:

- 1. Feed may be too fast.
- 2. Cutting angle may be too large.
- 3. Head may be running too slowly.
- 4. Moisture content of lumber may be too high.
- 5. Cut may be too heavy.

IF CHIP MARKS APPEAR ON LUMBER:

- 1. Blower system may not be strong enough.
- 2. Feed may be too fast.
- 3. May be loose connection in blower system—no suction.
- 4. Exhaust pipe may join at too large an angle to main blower pipe.

IF PANELS ARE TAPERED ACROSS THE WIDTH:

- 1. Planer bed out of level with cutterhead.
- 2. Knives not set even with cutterhead.

IF UNDESIRED POUNDED GLOSSY FINISH APPEARS:

- 1. Knives may be dull.
- 2. Feed may be too slow.

IF WASHBOARD FINISH APPEARS:

- 1. Knives may have been driven back into the head.
- 2. Machine may be completely out of adjustment.
- 3. Planer bed loose and rocking in ways.

IF REVOLUTION MARKS SHOW UP:

- 1. Knives may be ground poorly.
- 2. Knives not set properly or evenly.

IF LINES APPEAR AT RIGHT ANGLES TO THE KNIFE MARKS:

- Knives may have checkered and nicked up by overgrinding and taking temper out of steel.
- 2. Chips may have wedged between rolls and tables.
- 3. Pressure bar may be dragging.

IF STOCK TWISTS IN MACHINE:

- 1. Pressure bar may be cocked.
- 2. Upper outfeed roll may be cocked.
- 3. Upper outfeed roll may have uneven spring tension on it.
- 4. Lower rolls may be cocked.

IF STOCK STICKS OR HESITATES IN MACHINE:

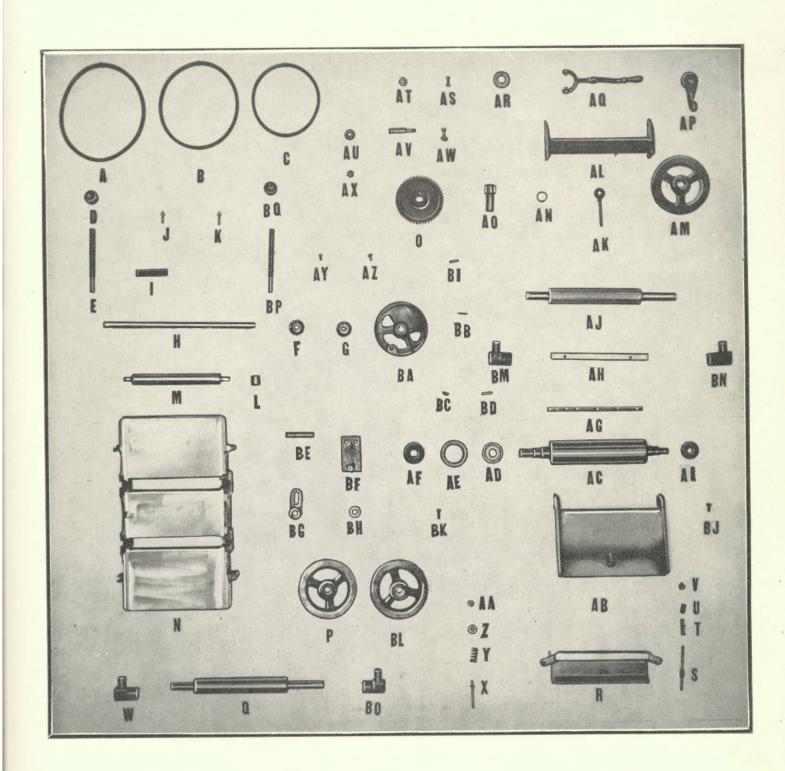
- 1. Pressure bar may be set too low.
- 2. Lower rolls may be set too low.
- 3. Upper rolls may not be set low enough.
- 4. Cut may be too heavy.
- 5. Coaxer board may help lumber through machine.
- 6. Feed belts may be slipping.

IF MACHINE IS NOISY AND VIBRATES AND POUNDS:

- 1. Knives may be too dull.
- 2. Machine may not be leveled up correctly.
- 3. Machine may not be on solid foundation.
- 4. Pressure bar may be set too low.

IF MOTORS KICK OUT:

- 1. Knives may be dull, thus overloading motors.
- 2. Pressure bar may be set too low, putting drag on motors.
- 3. Motors may be drawing high current because other machinery in the plant in use has pulled down the voltage.
- 4. Machine may be out of adjustment.
- 5. Lower rolls may be set too low.



PARTS LIST FOR MODEL 100-12" PLANER

STATE PLANER SERIAL NUMBERS WHEN ORDERING PARTS

Part	No.	Description	Price
A	100-1	Belt, driving. Browning 4L360 or equivalent	
В	100-2	Belt, Driven. Browning 4L330 or equivalent	
C	100-3	Belt, Driven. Browning 4L280 or equivalent	
D	100-4	Nut, Table raising (R. H. Thread)	
E	100-5	Screw, table raising (R. H. Thread) (L. H.)	
F	100-6	Gear, Table raising screw (24 Teeth bevel gear, 5/8" bore) 2 e	
G	100-7	Gear, Table raising screw (24 teeth bevel gear, 3/4" bore) 2 e	
Η	100-8	Shaft, table raising handwheel	
I	100-9	Shim, Table (2 each)	
J	100-10	Screw, table shim adjusting (5/16" x 11/4") (4 each)	
K	100-11	Screw, Bed roller adjusting (5/16" x 1½") (4 each)	
L	100-12	Bearing, Bed roller (4 each)	
\mathbf{M}	100-13	Roller, table (2 each)	
N	100-14	Table	
0	100-15	Gear, Feed roller (2 each)	
P	100-16	Pulley, Compound drive No. 1	
Q	100-17	Roller, outfeed	
R	100-18	Holddown bar	
S	100-19		
T	100-20	Spring, Holddown pressure (2 each)	
U	100-21	Spacer, Holddown pressure (2 each)	
·V	100-22	Nut, Holddown adjusting (2 each)	
W	100-23	Bearing, outfeed roller (RH)	
X	100-24	Stud, Feed roller adjusting (4 each)	
Y	100-25	Spring, Feed roller pressure (4 each)	
Z	100-26	Nut, spring retainer (4 each)	
AA	100-27	Nut, Feed roller adjusting	
AB	100-28	Chipbreaker	
AC	100-29	Cutterhead	
AD	100-30	Bearing, cutterhead (2 each) Fafnir 206KLL or equivalent	
AE	100-31	Bearing housing, cutterhead	
AF	100-32	Pulley, Cutterhead drive. Browning 2AK 27 or equivalent 1" bore	

Part N	lo.	Description	P
AG	100-33	Shim, knife (3 each)	-
AH	100-34	Knife, cutterhead (3 each) 121/4 x 7/8 x 1/8"	
AI	100-35	Pulley, feed drive. Browning AK 22, 3/4" bore or equivalent	
AJ	100-36	Roller, infeed	
AK	100-37	Handle, chipbreaker raising	
AL	100-38	Brace, Front panel	1
AM	100-39	Pulley, Clutch	
AN	100-40	Spacer, Clutch	
AO	100-41	Pinion, Clutch lever	
AP	100-42	Support, Clutch lever	
AQ	100-43	Lever, Clutch	-
AR	100-44	Clutch	
AS	100-45	Screw, Clutch lever pivot. (5/16" x 1")	
AT	100-46	Washer, Compound feed roller drive pulley (3/8" x 1/2")	
AU	100-47	Washer, Compound feed roller drive pulley 1/2"	
AV.	100-48	Stud, feed roller drive pulley mounting	
AW	100-49	Bolt, Compound sheave mounting	
AX	100-50	Nut, Feed roller drive pulley mounting	
AY	100-51	Screw, Chipbreaker mounting (5/16" x ½" socket head screw) (2 each)	
AZ	100-52	Screw, Chipbreaker adjusting (5/16" x 7/3") (2 each)	
BA	100-53	Handwheel, table raising	
BB	100-54	Key, Feed roller pulley (3/16" x 1") (2 each)	
BC.	100-55	Woodruff key, Feed drive pulley (3/16")	
BD	100-56	Key, cutterhead drive pulley (1/4" x 11/2")	
BE	100-57	Shaft, compound sheave mounting bracket	
BF	100-58	Bracket, clutch mounting	
BG	100-59	Bracket, compound sheave mounting	
BH	100-60	Collar, compound sheave mounting	
BI	100-61	Clutch Key (3/16" x 1")	
BJ	100-62	Screw, Frame mounting (3/8" x 3/4") (4 each)	
BK	100-63	Screw, Clutch bracket mounting (2 each) (%" x 1")	
BL	100-64	Pulley, Compound drive No. 2	
BM	100-65	Bearing, Infeed roller (LH)	
BN	100-66	Bearing, Infeed roller (RH)	
ВО	100-67	Bearing, outfeed roller (RH)	
BP	100-68	Screw, table raising (RH) (Left Hand Thread)	
	100-69	Nut, table raising screw. (Left Hand Thread)	
BQ			
	100-70	Grease fitting, zirk	
	100-71	Main Frame	
	100-72	Belt Guard, feed roller drive	
	100-73	Belt Guard, cutterhead	
	100-74	Motor BaseSteel Floor Stand	