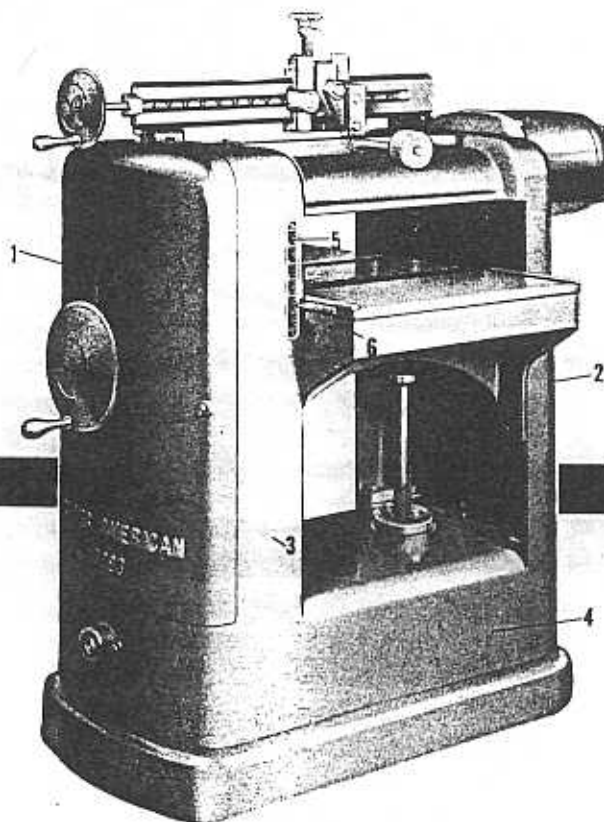




INSTRUCTIONS and PARTS LIST

For J-180 18-inch x 6-inch SURFACER

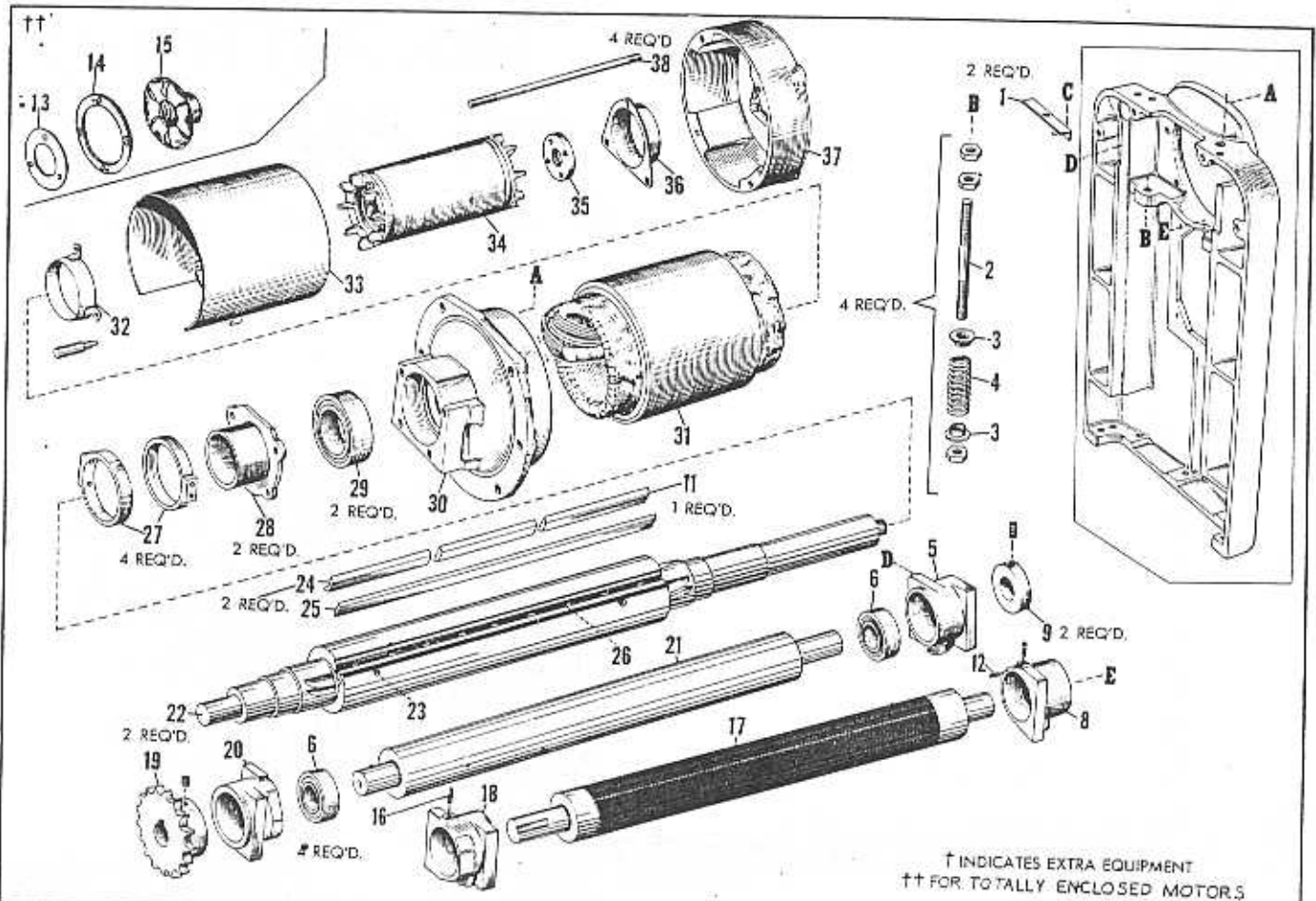


Parts List for Figure 1

Index No.	Part Number	Part Name
1	J180-A1	Door - Left frame
2	J180-A2	Frame - Right side
3	J180-A3	Frame - Left side
4	J180-A4	Base
5	J180-A5	Scale
6	J180-A6	Pointer - Table

When ordering repair parts, always give the part number in the parts list and serial number of the machine.

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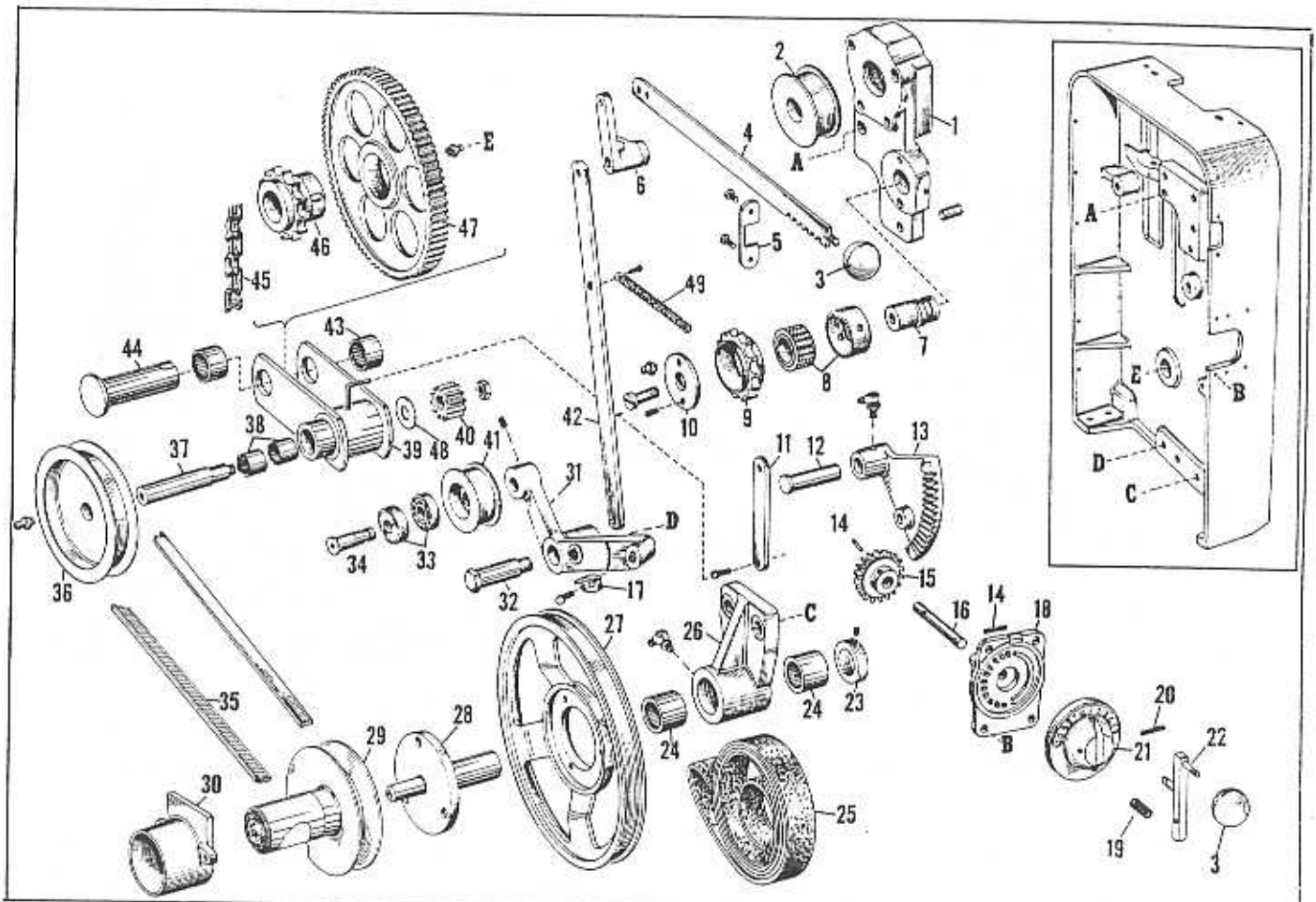


Parts List for Figure 2

Index No.	Part Number	Part Name
1	J180-B1	Chipbreaker lift
2	J180-B2	Stud - Roll bearing spring
3	J180-B3	Spring seat
4	J180-B4	Spring - Roll
5	J180-B5	Housing - Bearing (Right Outfeed)
6	J180-B6	Bearing
7	J180-B7	
8	J180-B8	Housing - Bearing (Right Infeed)
9	J180-B9	Collar - Roll dust
10	J180-B10	
11	J180-B11	Knife block - 6" long
12	J180-B12	Roll pin
13	J180-B13	Seal - Inner
14	J180-B14	Seal - Outer
15	J180-B15	Fan
16	J180-B16	Roll pin
17	J180-B17	Roll - Top infeed
18	J180-B18	Housing - Bearing (Left Infeed)
19	J180-B19	Sprocket - Rolls
20	J180-B20	Housing - Bearing (Left Outfeed)
21	J180-B21	Roll-Top outfeed (Smooth)
22	*J180-B22	Cutter head

Index No.	Part Number	Part Name
23	J180-B23	Knife adjusting screw
24	J180-B24	Knife Block 6-1/16" long
25	**J180-B25	Knife
26	J180-B26	Knife block screws
27	J180-B27	Ring - Chipbreaker and press bar
28	J180-B28	Cap - Bearing housing
29	J180-B29	Bearing
30	J180-B30	Bearing Housing and Motor End Bell
31	J180-B31	Stator (Give full nameplate data when ordering)
32	J180-B32	Deflector - Air
33	J180-B33	Lagging Assembly (Specify motor HP rating)
34	J180-B34	Rotor (Give full nameplate data when ordering)
35	J180-B35	Nut - Rotor
36	J180-B36	Deflector - Air
37	J180-B37	End bell - Motor
38	J180-B38	Bolts - Motor (Give full nameplate data when ordering)

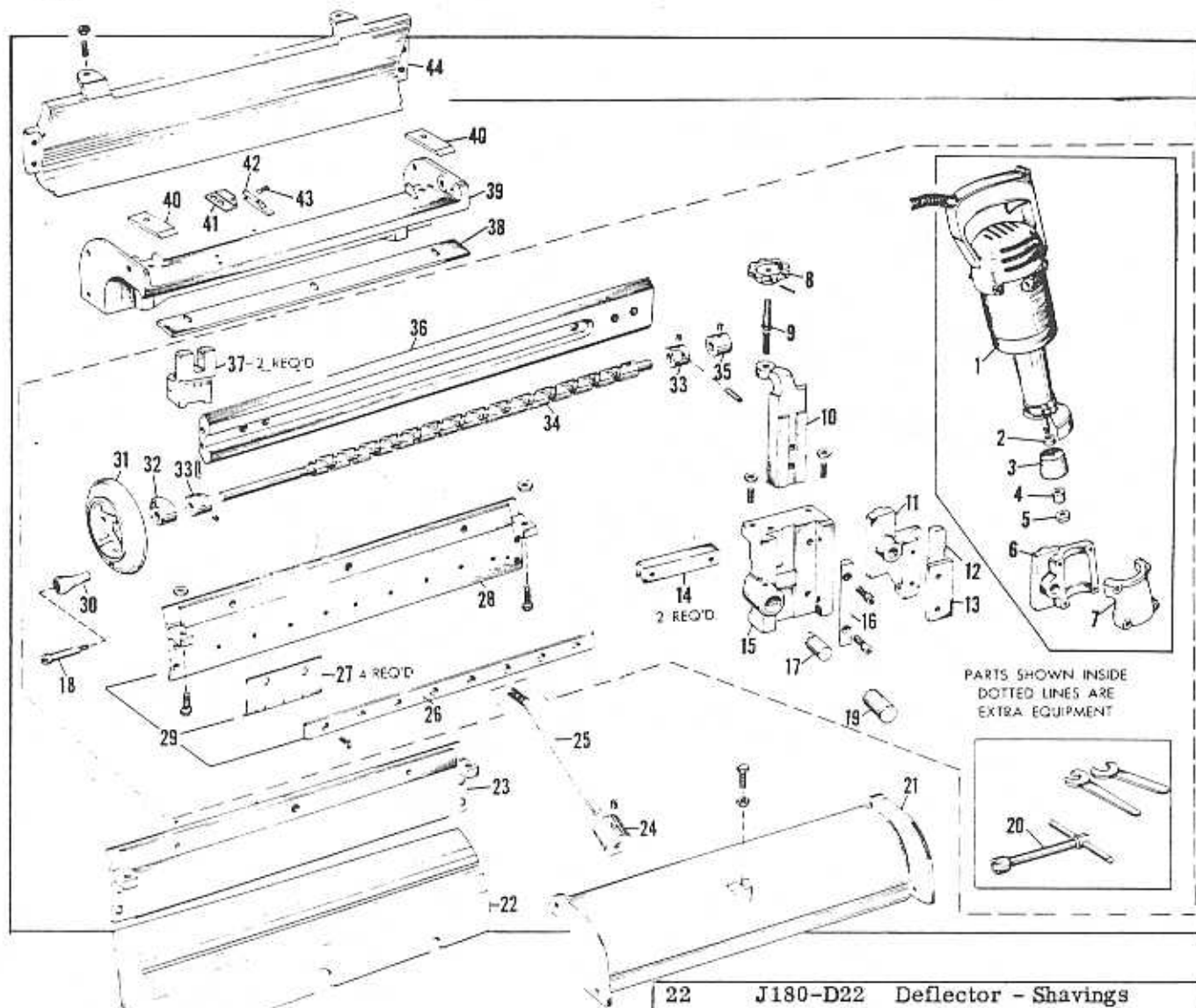
* When ordering, specify type head
 ** When ordering, specify number of knives



Parts List for Figure 3

Index No.	Part Number	Part Name
1	J180-C1	Bearing housing (Left)
2	J180-C2	Pulley drive on head
3	J180-C3	Hand knobs
4	J180-C4	Link - Feed stop assembly
5	J180-C5	Plate - Latch
6	J180-C6	Lever - Feed stop
7	J180-C7	Stud - Eccentric
8	J180-C8	Bearing
9	J180-C9	Idler sprocket
10	J180-C10	Washer - Stud (Eccentric)
11	J180-C11	Link - Speed adjusting
12	J180-C12	Stud - Fulcrum (Top)
13	J180-C13	Section Bevel Gear
14	J180-C14	Roll Pins
15	J180-C15	Gear - Pinion
16	J180-C16	Shaft - Pinion
17	J180-C17	Shoe - Brake
18	J180-C18	Bearing - Speed change
19	J180-C19	Spring - Dial stop
20	J180-C20	Roll Pin
21	J180-C21	Dial - Feed speed change
22	J180-C22	Hamile
23	J180-C23	Collar - Drive shaft
24	J180-C24	Roller bearing
25	J180-C25	Feed belt - Endless canvas

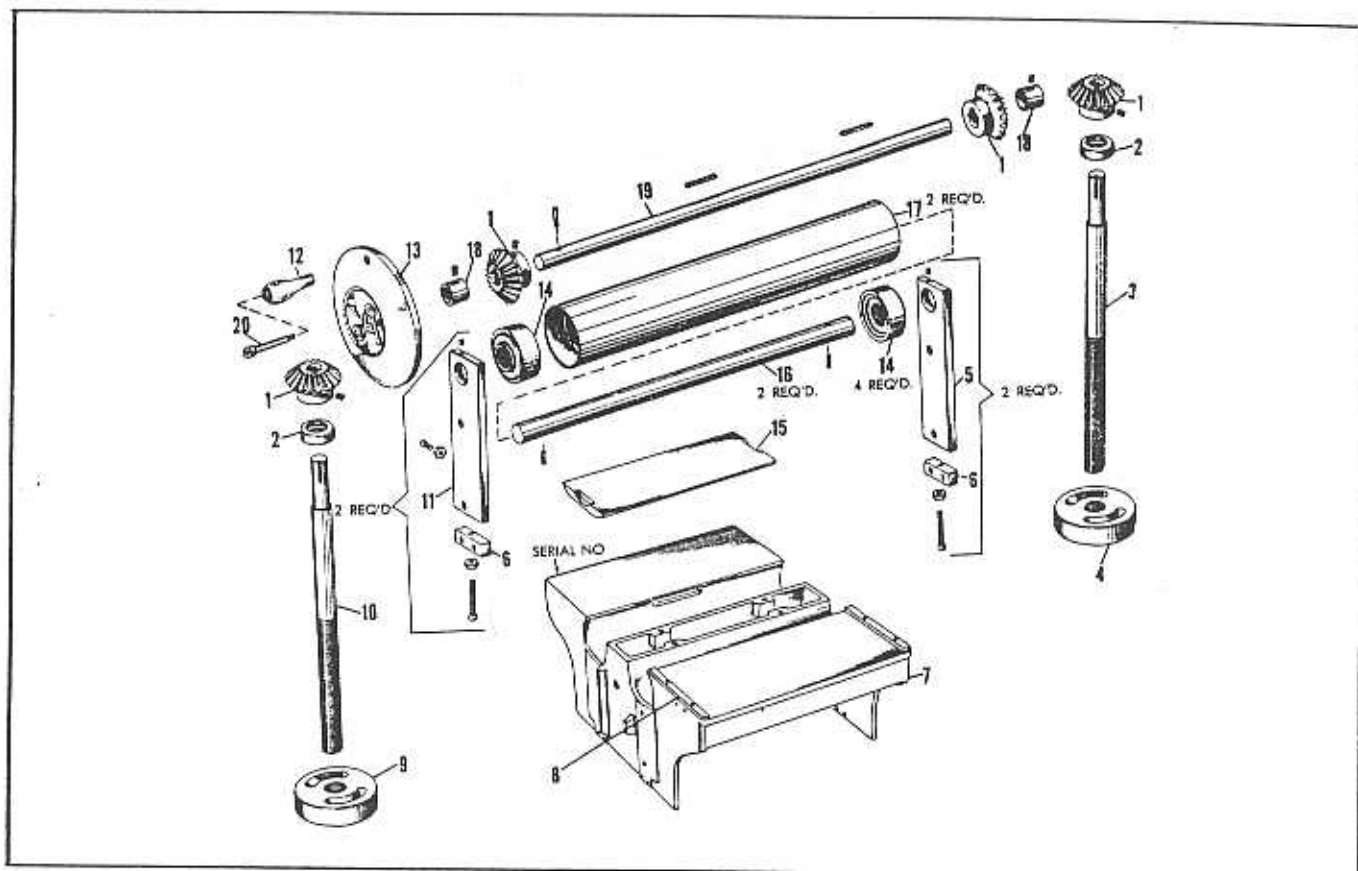
Index No.	Part Number	Part Name
26	J180-C26	Bracket bearing
27	J180-C27	Pulley - Drive
28	J180-C28	Drive shaft assembly
29	J180-C29	Pulley assembly
30	J180-C30	Guard - Sheave
31	J180-C31	Arm - Idler pulley
32	J180-C32	Stud - Idler bracket
33	J180-C33	Bearings
34	J180-C34	Stud - Idler pulley
35	J180-C35	Rubber belt
36	J180-C36	Sheave - Pinion
37	J180-C37	Shaft - Pinion
38	J180-C38	Roller Bearing
39	J180-C39	Feed arm assembly
40	J180-C40	Pinion
41	J180-C41	Pulley - Idler
42	J180-C42	Link - Adjusting idler
43	J180-C43	Roller Bearing
44	J180-C44	Stud, sprocket
45	J180-C45	Chain
46	J180-C46	Sprocket - Chain
47	J180-C47	Gear - Sprocket
48	J180-C48	Collar
49	J180-C49	Spring - Brake



Parts List for Figure 4

Index No.	Part Number	Part Name
1	J180-D1	Standard Grinder
2	J180-D2	Collar (Inside)
3	J180-D3	Cup wheel
4	J180-D4	Collar - Outside
5	J180-D5	Nut - Hex.
6	J180-D6	Holder - Grinder
7	J180-D7	Cover - Holder
8	J180-D8	Handwheel
9	J180-D9	Screw jointer slide
10	J180-D10	Vertical slide
11	J180-D11	Holder - Stone
12	J180-D12	Stone
13	J180-D13	Clamp for stone
14	J180-D14	Gib - Jointer slide (Top)
15	J180-D15	Slide jointer
16	J180-D16	Gib - Slide
17	J180-D17	Follower
18	J180-D18	Screw - Handwheel
19	J180-D19	Sleeve - follower
20	J180-D20	Socket wrench - Grinder
21	J180-D21	Girt (Infeed)

22	J180-D22	Deflector - Shavings
23	J180-D23	Chipbreaker, solid
24	J180-D24	Weight (Chipbreaker)
25	J180-D25	Rod (Chipbreaker)
26	J180-D26	Bar - Chipbreaker clamp
27	J180-D27	Shoe - Chipbreaker
28	J180-D28	Flexible chipbreaker and top bar welded assembly
29	J180-D29	Chipbreaker top bar, shoe and clamp bar assembly
30	J180-D30	Handle, handwheel
31	J180-D31	Handwheel
32	J180-D32	Bearing screw
33	J180-D33	Return collar
34	J180-D34	Screw-Grinder and jointer
35	J180-D35	Bearing inside screw
36	J180-D36	Jointer - Bar
37	J180-D37	Bracket - Jointer bar
38	J180-D38	Scraper - Top outfeed roll
39	J180-D39	Girt - Outfeed
40	J180-D40	Spring - Pressure bar
41	J180-D41	Bracket - Knife stop
42	J180-D42	Stop - Knife
43	J180-D43	Pin - Knife stop
44	J180-D44	Pressure bar



Parts List for Figure 5

Index No.	Part Number	Part Name
1	J180-E1	Gear - Hoist
2	J180-E2	Bearing - Thrust
3	J180-E3	Screw - Hoist (Right side) L. H. Thrd.
4	J180-E4	Nut - Hoist (Right side)
5	J180-E5	Plate - Bottom roller bearing outfeed
6	J180-E6	Bracket - Bottom roll adjusting
7	J180-E7	Table
8	J180-E8	Guide - Table
9	J180-E9	Nut - Hoist (Left side)
10	J180-E10	Screw - Hoist (Left side) R. H. Thrd.
11	J180-E11	Plate - Adjusting bottom roller bearing, infeed
12	J180-E12	Machine handle
13	J180-E13	Handwheel - Hoist
14	J180-E14	Bearing
15	J180-E15	Platen - Table
16	J180-E16	Shaft - Bottom roll
17	J180-E17	Roll - Bottom
18	J180-E18	Collar
19	J180-E19	Shaft - Hoist

INSTRUCTIONS and PARTS LIST

For J-180 18-inch x 6-inch SURFACER

INSTALLATION

Reasonable care must always be used in handling this machine. Although it is sturdily constructed, there are certain parts which can be damaged if the machine is given rough treatment. The skids on which it is mounted should be left on the machine until it has been moved to its place of installation.

When your machine was accepted for shipment by the transportation company it was in perfect condition. Before accepting the machine from the transportation company, check it carefully for damage in transit. If damage has been incurred do not accept the machine until the freight agent makes a damaged notation on your freight bill. You should thoroughly inspect your machine as soon as it is received. If any concealed loss or damage is discovered, notify your freight agent at once and request him to make an inspection. This must be done within 15 days from date of delivery. Unless you do this, the transportation company will not entertain any claim for loss or damage. If the agent will not make an inspection, then you should make an affidavit that you notified him on a certain date and he failed to do so. This with other

papers will properly support your claim. We will not be responsible for loss or damage, but are happy to assist in every way possible in collecting claims for loss or damage.

Before shipment, all machined surfaces were coated with a rust preventative compound. This must be removed, before using, by wiping with rags saturated with a solvent.

After the machine has been moved to its desired location, the skids should be removed, and the machine placed on its foundation. Level the machine both lengthwise and crosswise, using a spirit level on the platen under the top head. Leveling should be done by driving thin hardwood wedges close together under the machine base. Be sure the base is evenly supported, so it will not be distorted when the bolts are tightened.

LUBRICATION

Lubricate the machine throughout before starting. To gain access to the feed and drive gears, remove the hoist handwheel and cap screw which secures the door on the left side of the machine. Lubrication fittings inside the door are located as follows:

- (1) On chain tightener - J-180 - C10
- (1) On speed changer - J-180 - C13
- (1) On Vari-drive pulley - J-180 - C29
- (1) On Vari-drive shaft - J-180 - C37
- (1) On Vari-drive bearing bracket - J-180 - C26
- (1) On end of feed gear shaft - J-180 - C44

Two lubrication fittings will also be found under the infeed table by the hoist bevel gears. All lubrication points should be lubricated once every 40 hours of machine operation, using a good neutral petroleum gun grease such as Superla No. 42 (Standard Oil Company of Indiana) or equivalent.

All sliding surfaces, ways, chains and screws should be lubricated once a week using a good grade of light machine oil that penetrates well. All finished surfaces should be oiled as required to prevent rusting.

The cylinder head, motor and feed roll shafts are mounted in lubricated-for-life bearings and require no further lubricant.

MOTOR CARE

The motor on the J-180 should be stopped and blown out occasionally with dry compressed air. Dust and shavings must not be allowed to collect about the motor as this prevents proper cooling. Any kind of dust that will clog the ventilating ducts will cause an increase in temperature. This will shorten the life of the motor if higher than the temperature rating given on the motor nameplate.

The principal causes of motor trouble, outside of overloading, are dirt, moisture, and vibration. By eliminating these factors you will obtain satisfactory, trouble-free service from your motor.

RESETTING RELAYS

A continuous overload, single phasing, and low voltage are the principal causes of relays throwing out. Before the machine can be started again it is necessary to reset the relays after allowing a minute or two for them to cool. Reset the relays to original position by depressing button marked "reset" below motor. If there is no reset button below the motor on your machine, it is equipped with automatic relays. In this case it is necessary to allow several minutes for the relays to cool and automatically come back to operating position. Do not restart the motor until trouble has been determined and eliminated.

FEED WORKS

The feed works is driven from the cutter-head by a flat fabric belt. This belt must never be replaced by a leather belt.

Depress the lever above the speed regulator to stop the feed and apply the brake without stopping the motor. The speed of the feed is controlled by the movement of the speed regulator at the left of the bed. A scale on the speed regulator indicates the relative speed of the feed. The speed can be changed only when the feed works is running.

To insure adequate distribution of lubricant to all parts of the vari-drive pulley, run the feed through its entire speed range once a day.

JOINTING KNIVES

(Refer to sketch J-180 - SK 1)

In order to have all the knives doing their share of cutting at operating speed, we recommend grinding the knives, then lightly jointing off the edges while the head is running at full speed, to correct any inaccuracy there might be in grinding or setting.

Before jointing or grinding the knives, it is necessary to first install and align the jointer bar so that it is parallel with the head body itself.

The mounting brackets (1) are secured to the top of the left and right side frames by placing the cap screws (2) through the holes provided in the mounting brackets and turning them into the tapped holes in the side frame. After securing the mounting brackets to the side frames, secure the jointer bar to one of the brackets. Now adjust both mounting brackets as required, by means of the adjusting screws (3), until the surface of the jointer bar is flush with the surface on the mounting bracket against which it is to be secured. By following this procedure you will prevent twisting of the jointer bar.

Align the jointer bar with the head by traversing the jointer stone across the head body in back of the knives, using a thin piece of paper between the jointer stone and head body as a gauge. Adjust the jointer bar vertically by turning the adjusting screws (5) as required. Horizontal adjustment is accomplished by loosening cap screw (2) and moving the jointer bar in or out so that the stone follows back of knife, without

revolving the head. The jointer bar is properly aligned when there is uniform pressure on the paper between the jointer stone and head body.

Before proceeding to joint the knives, move the stone toward the head until it just touches the edge of each knife. The stone must be set while the head is at rest in order to detect any errors that may have occurred in setting or grinding the knives. If the stone does not touch all the knives quite uniformly across their entire length, the knives which are out of position must be reset or reground. After the knives are correctly positioned, turn the stone holder back slightly and move slide back to end of bar. After the head has reached full speed, pass the jointer back and forth across the full length of the head, adjusting the stone very slightly toward the knives at each end of the stroke. After two or three strokes have been made, run the stone back and forth across the head several times, without turning it down, so the ends of the knives will not have a larger joint and a slightly smaller cutting circle than the center portion of the knives, due to the wearing of the stone. After the knives have been jointed or ground, it is essential to reset the pressure bar if the machine is to produce quality work.

The lighter the joint on the knives, the better work the machine will do and the longer the knives will stay sharp. Therefore the knives should be jointed only enough to bring them to a true cutting circle or just enough so that a fine jointing line shows across each knife. When the knives become dull they must be rejointed. The number of times a knife may be jointed, before it has to be reground, depends upon the width of the heel or line caused by the jointing stone. When the heel becomes too wide, the knives may heat up or have a hammering effect on the wood, and more than normal power will be required to run the head. The amount of heel which can be used depends on the kind and condition of wood being worked. Kiln dried hardwood will stand a wider heel than kiln dried softwood and air dried softwood will stand the least. In general, the heel should not exceed $1/32$ inch in width.

GRINDING KNIVES

Knives can be reground in the machine by using the motor-driven knife grinder which mounts on the jointer bar in place of the stone holder. Care must be taken that grinding wheel does not hit the body of the head. When it is

necessary to regrind the knives, they should be ground just enough so that all the joint is removed. Care must be exercised to avoid taking such a heavy cut that the speed of the grinding wheel is slowed down. Use the knife stop to keep the knives in their proper position when grinding. The knife stop must be set so that it hits the back side of all knives without resting on the knife block. Select and mark the high knife and start the grinding operation with the grinder set for this knife. Move the grinder across the knife fast enough so that the edge of the knife will not become burned. Do not try to completely grind one knife at a time, but grind all of the knives at one setting of the grinding wheel, then set the grinder down and grind all of the knives at this setting. The cut of the last setting must be very light. After all the knives have been ground so that the joint has been removed, they are ready to re-joint. To obtain a good planed finish the grinder should be used as a relief grinder only; no attempt should be made to grind the knives to the angle they originally had when new. After several grindings the knives should be removed and reground to the long bevel.

Remove the knife stop immediately on completion of grinding. Remove the feather edge left by the grinding operation by passing a hardwood block against the cutting edge of the knives, moving parallel with the knives and exercising extreme care to keep the hand from coming into contact with the knives.

ALIGNMENT

(Refer to J-180 - SK 2 - SK 3)

Before your machine left the factory it was carefully aligned and tested, but due to the rigors of shipping it will be necessary for you to check the alignment closely, as set forth in this manual, before operating your machine. Throw the disconnect switch to the "off" position before any adjustment is made so that the machine will not be started accidentally.

To make the adjustments required in aligning your machine it is necessary to have the following equipment: One $9/16$, $5/8$, and $3/4$ box wrench; a $7/16$ and $1/2$ open end wrench; two $7/8$ thin open end wrenches; one $1/8$, $5/32$, and $3/16$ hex Allen wrench; a screw driver; set of feeler gauges; $3/8$ diameter rod six inches in length; a straight edge 12 inches or more in length; and a gauge block.

The first operation in aligning your machine is to eliminate any looseness in the table gibs. To check the set-up of the table gibs, take hold of the table and try to move it up and down. If it is possible to move the table in this manner, looseness in the gibs is indicated. To adjust the gibs, loosen the eight cap screws (under the table on the table skirts) $1/4$ of a turn. Now adjust the gib adjusting screws through the openings in the table skirt ahead of the hoist screws, until all looseness is eliminated and the table still moves freely up and down. When this condition is reached, lock the adjusting screws in position. Before tightening the eight cap screws, adjust the bottom feed rolls.

To adjust the bottom feed rolls, place the straight edge on the platen under the top head so it passes over both the lower infeed and outfeed rolls on one side of the machine. Adjust the roll-adjusting screws and locknuts (at the bottom of the table gibs) until a .010 feeler has a uniform drag between the straight edge and the infeed and outfeed side of the platen. Align the rolls, with respect to the platen, on the opposite side of the machine in the same manner. After both ends of the bottom rolls are aligned, lock the adjusting screws and eight cap screws in position and recheck the alignment. This setting of the lower feed rolls is for average conditions. When feeding rough stock it may be necessary to raise these rolls slightly and when feeding finished stock it may be necessary to lower the rolls slightly in order to obtain best results.

Check the clearance between the bevel gears, on the hoist screws, and the finished surface on the table below these gears. If there is more than .005 clearance loosen the two set screws in each gear and move the gear down until the clearance is reduced to .005. Re-tighten the set screws securely.

The next step is to align the table parallel to the head. Place a hardwood gauge (as shown on J-180 - SK 2) on one edge of the platen directly under the head. Now raise the table until the gauge just touches the knives while you are slowly turning the head backward, with your hand on the end of the cutterhead shaft inside the door. When this condition is reached, shift the block to the opposite edge of the platen and check to see if the knives hit the block with the same pressure while turning the head backward. If the knives hit the block with the same pressure at each edge of the platen, the table is level; if not, the table is out

of level and will have to be aligned. This is accomplished by loosening the cap screws on top of the hoist screw nuts (on the base, below the platen). Turn the hoist screw nuts to the right or left with the $3/8$ diameter rod, as required to level the table. When the knives hit the block uniformly at each edge of the platen, tighten the cap screws. After tightening the cap screws, recheck the alignment to see that it has not changed.

With the table at the same setting, the pressure bar is now adjusted parallel with the knives. Before adjusting the pressure bar, check the cap screws which hold the flat pressure bar springs to see that they are uniformly tight. Now place the gauge block on the platen under the pressure bar and adjust the pressure bar by turning the socket head set screws at each end until uniform pressure between the gauge block and platen is obtained at each end. When this condition is reached, lock the adjusting screws in position after which the setting of the pressure bar must be rechecked. In operation it may be necessary to raise or lower the pressure bar slightly to obtain best results. If stock fails to feed under the pressure bar, it indicates that the pressure bar is too low and will have to be raised slightly. If the stock has chatter marks, it indicates that the pressure bar is not holding the stock down, in which case it will have to be lowered slightly. When setting the pressure bar to the stock, always move the adjusting screws at each end the same amount and in the same direction to keep the pressure bar level. The pressure bar is set correctly when it does not impede the flow of stock through the machine, yet holds it firmly in position.

The chipbreaker is aligned level with the pressure bar. Check the cap screws (at each end of the chipbreaker) that contact the lifts, to see that they are locked in position. Now place the gauge block on the platen, under the chipbreaker lips. Loosen the $3/8$ diameter Allen head set screws and locknuts in the side frames, at each end of the infeed girt. These screws come down on the chipbreaker lifts and control the movement of the chipbreaker with relationship to the top infeed roll. Adjust the $3/8$ diameter cap screw (in the center of the infeed girt), the head of which contacts the counterweight rod, until there is a slight drag between the gauge block and chipbreaker lips. When checking the drag, it is necessary to hold the chipbreaker counterweight rod in contact with the head of the cap screw. Move the block under

the chipbreaker lips over the entire width of the chipbreaker. If the block does not have a uniform drag at all points, it will be necessary to loosen the cap screws which secure the chipbreaker to the chipbreaker rings, and to bring the chipbreaker lips into parallel with the table. When the drag is uniform, retighten the cap screws securely and recheck the alignment.

After the chipbreaker is properly aligned, check to see that it moves freely. To do this, raise the counterweight rod off its supporting cap screw and release it. When the counterweight rod is released, the chipbreaker should move freely back into position under its own weight. If it does not move freely, it indicates binding in the collars to which the chipbreaker is secured. This binding must be eliminated before the machine is put in operation.

After the chipbreaker is aligned, lock the 3/8 diameter cap screw (which contacts the chipbreaker counterweight rod) securely in position.

The top feed rolls are aligned approximately 1/32 of an inch below the pressure bar and knives. Lower the table 1/4 turn of the handwheel from its position when setting the pressure bar. This will position the gauge block 1/32 of an inch below the pressure bar. Check the locknut which comes against each top feed roll bearing housing to see that it is tight. Place the gauge block on the platen under the head at one end of the infeed roll and adjust the two locknuts below the feed roll housing, which come against the side frame, until the feed roll just touches the gauge block. When this condition is reached, go to the opposite end of the feed roll and align it likewise. After both ends of the feed roll are properly aligned, lock the locknuts in position and recheck the alignment. The top outfeed roll should then be aligned following the same procedure.

Lower table to the maximum position and compress the spring on each spring stud by moving the bottom lock nut until about one-half inch of stud protrudes below the nut. In operation the spring tension may have to be increased or decreased to properly feed the stock through the machine. The springs must never be compressed to the point where there is insufficient allowance for full yield of the rolls when taking the maximum cut.

When feeding long or heavy stock, it is essential to support that part of the stock which protrudes beyond the tables, both as it leaves and enters the machine. If the stock is not supported, in line with the bottom feed rolls, it will move under the head, causing snipe marks on the stock.

Now lower the table until the gauge block is snug under the top infeed roll, without raising the roll. The block must contact the roll, but must not pass under or contact the chipbreaker. Now raise the table 1/16 of an inch, which is one-half a turn of the hoist handwheel, and adjust the chipbreaker lifts by turning the 3/8 Allen head set screws in the side frames over the chipbreaker lifts until the lifts just contact the head of the cap screw at their opposite end. When this condition is reached, lock the Allen head set screws securely in position. To check the setting of the chipbreaker lifts, lower the table until the block is again just snug under the top infeed roll. Now raise the table one-half turn of the hoist handwheel. If the lifts are set properly, they should just start to raise the counterweight rod off the head of the cap screw on which it rests.

CARE OF CHAIN DRIVES

The chain drive on your machine was set to the proper tension before shipment, which should be snug to just short of fiddle-string tightness. Stiff lubricants such as 600 W, cup grease, and graphite sticks should never be used for chain lubrication as they will prevent rather than assist in the lubrication of pins, bushings, and the insides of the rollers. Ineffective lubrication is responsible for most chain failures and is often due to accumulation of dirt at the joints. Chains must be kept clean.

Running in of new chains will result in greater elongation in a few days than many months of subsequent operation, due to the wearing-in of pins and bushings, which necessitates a take-up after this brief running period. Take-ups should be made monthly to keep the chain snug at all times. To adjust the chain tension properly on your machine, proceed as follows:

- (1) Loosen the set screw found on the inside of J-180 - C9.
- (2) Put screwdriver in the slot seen in front of the sprocket and take all the slack out of the chain.

- (3) Back up 1/8 of a turn and re-tighten the set screw.

WIRING

All internal wiring has been completed and tested at the factory. Connect the leads from your power source to the terminals in the starter box located below the motor. Be sure the voltage and frequency of the power source is the same as specified on the motor of your machine.

Any service work required on the electrical equipment should be placed in the hands of a competent electrician. A wiring diagram in the starter box shows all circuits and connections. This diagram should be preserved carefully as it will be needed for any service work.

STARTING

Check alignments and lubricate according to instructions.

Rotate the spindle by hand. It should turn freely with no drag.

Be sure all tools have been removed from the machine.

Start the motor; if it runs in the wrong direction, reverse any two of the three leads in the starter box.

WOODWORKING PLANER HINTS

FINISH HAS A WASHBOARD APPEARANCE

1. Machine may be completely out of adjustment.
2. Pressure bar may be incorrectly set.
3. Joint may be too heavy.
4. Chipbreaker out of alignment.
5. Lifters incorrectly adjusted.
6. Knives may have been driven back into the head.

REVOLUTION MARK APPEARS

1. Knives may need jointing.
2. Knives may be incorrectly ground.
3. Uneven joint on knives.
4. Too fast a feed.

SNIFE APPEARING AT INFEED END OF BOARD

1. Spring tension not set correctly on pressure bar.
2. Lumber not properly supported at infeed end of machine.
3. Hoist screws loose or complete bed is floating.
4. Infeed rolls incorrectly aligned.

SNIFE APPEARING AT OUTFEED END OF BOARD

1. Pressure bar may be set too high. Not parallel with cutter head.
2. Lumber not properly supported at outfeed end of machine.
3. Hoist screws loose or complete bed is floating.

KNIVES ARE LIFTING OR TEARING OUT THE GRAIN

1. Feed may be too fast.
2. Too heavy a cut.
3. Cutting angle may be too large.
4. Grain may be running against knives.
5. Joint on the knives may be too heavy.
6. Moisture content may be too high.
7. Knives not ground to same cutting circle.

KNIVES ARE RAISING THE GRAIN

1. Joint may be too heavy.
2. Cutting angle may be too large.
3. Feed may be too fast.
4. Cut is too heavy.
5. Moisture content may be too high.
6. Knives may be dull.

THE APPEARANCE OF CHIP MARKS ON THE FINISH

1. Blower system may be weak.
2. Exhaust piping may have short bends.
3. Shavings too light, following around the head. Too slow a feed.

4. Shavings hitting some obstruction and bouncing back at cutter.
5. Incorrect bevel on knife. Heel on knife hitting.

LUMBER IS NOT UNIFORM IN THICKNESS ACROSS THE WIDTH

1. Bed plate or table not parallel to head.
2. Jointer bar not parallel with head.
3. Bed plate or platen could be worn.
4. Bottom rolls must be parallel with platen and head and bottom rolls should be .008 plus or minus .001 above platen for finished lumber, .012 for rough lumber.

LUMBER HAS A POUNDED GLOSSY FINISH

1. Knives may be dull.
2. Feed could be too slow.
3. The joint could be too heavy.
4. Bevel may be too short.

PROFILE LINE APPEARS AT RIGHT ANGLES TO THE KNIFE MARKS

1. Knives may have become nicked or checked by over-grinding and heating the knives.
2. Chips or slivers may have become wedged

between roll and tables.

3. Pressure bar may be too tight.

MACHINE NOISY AND VIBRATES AND POUNDS

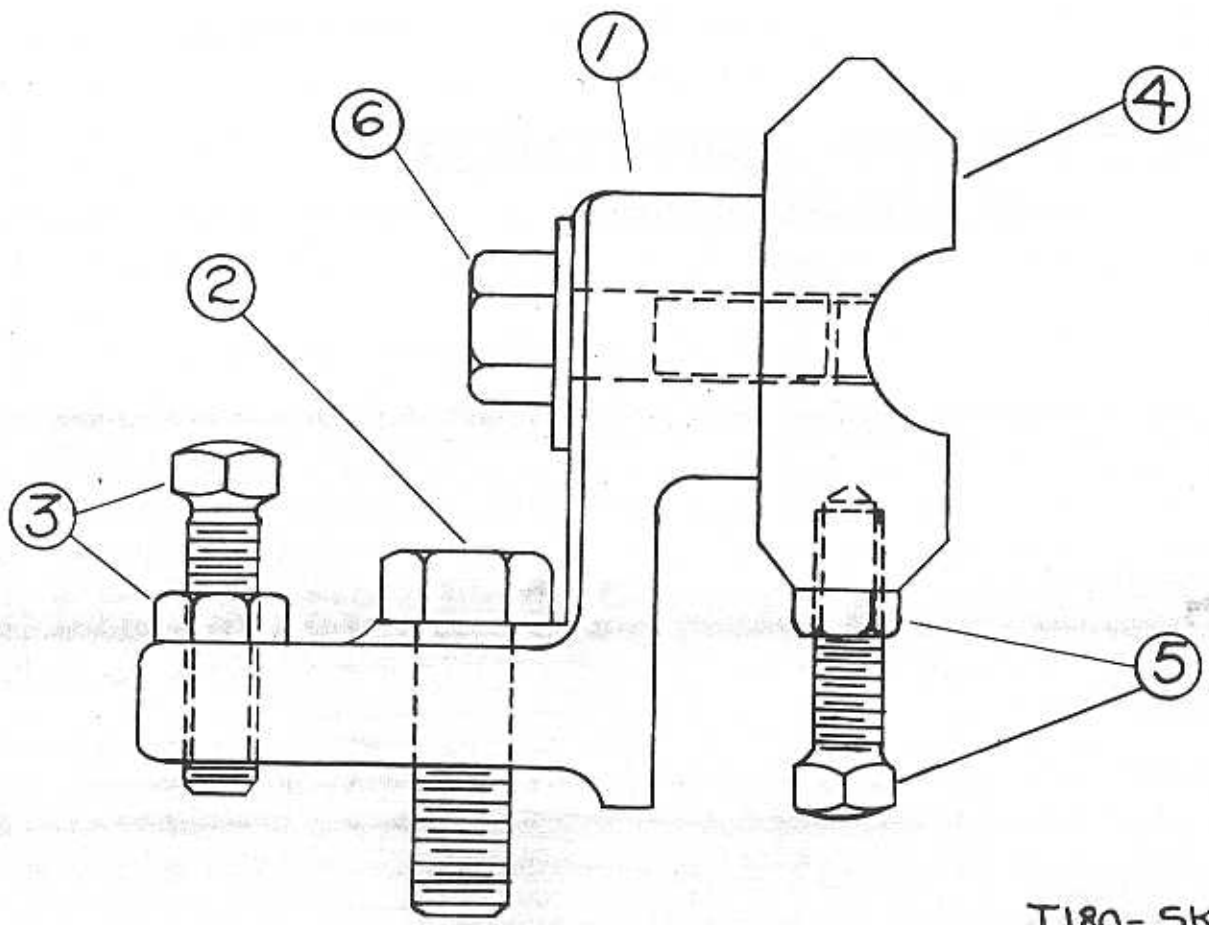
1. Knives may be dull
2. Machine may not be on solid foundation.
3. Feed belt may be jumping on pulley.
4. Variable feed belt jumping.
5. Pressure bar set below cutting circle.
6. Machine may not be set level.

STOCK STICKING OR HESITATES IN MACHINE

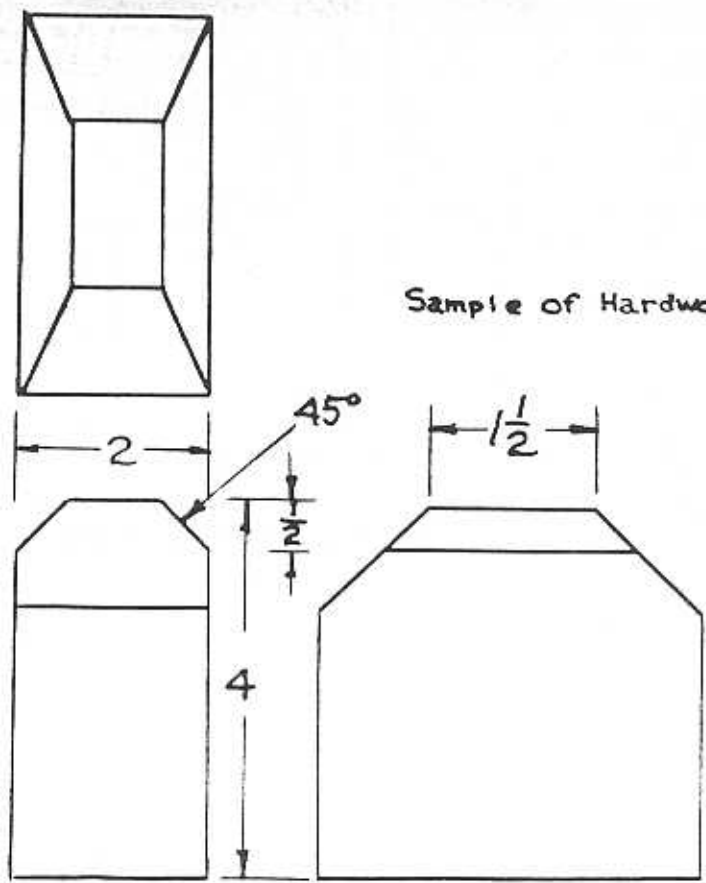
1. Bottom feed rolls may be set too low.
2. Top feed rolls may be set too high.
3. Cut may be too heavy.
4. Stock may be warped or have wind and is hanging up on bed plate.
5. Insufficient spring tension on top feed rolls.
6. Too much weight on chipbreaker, or chipbreaker set too low.

STOCK TWISTS IN MACHINE

1. Pressure bar may be tight on one side.
2. Top outfeed roll may not be parallel.
3. Top outfeed roll may have uneven spring tension.
4. Bottom feed rolls may not be parallel with bed plate.



J180-SK#1



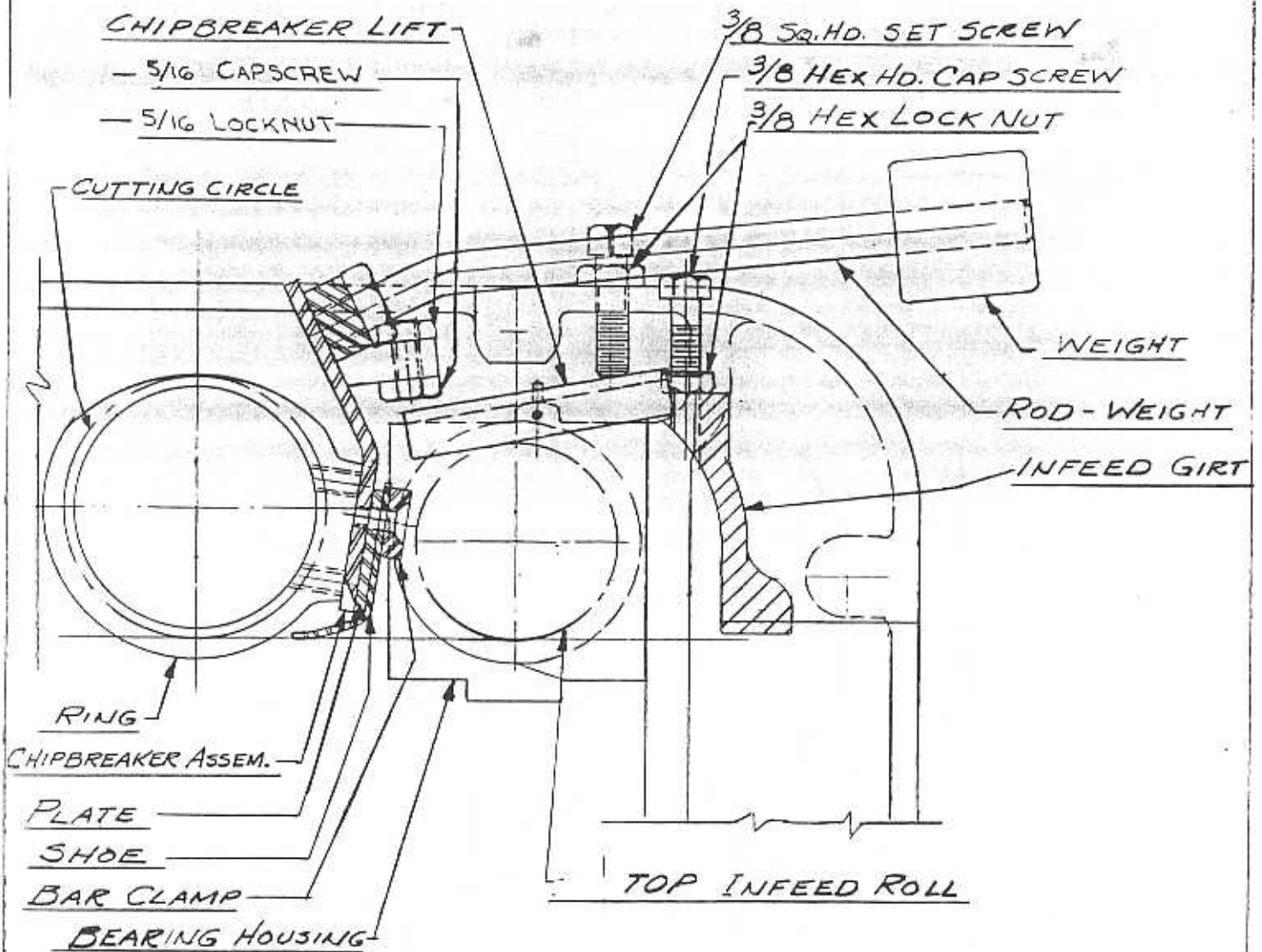
Sample of Hardwood Gauge

J180-SK#2

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CHIPBREAKER ADJUSTMENT

J 180 SURFACER



J 180-SK 3