

**INSTRUCTIONS FOR
INSTALLATION, OPERATION
and MAINTENANCE**

of

WYSONG

POWER SQUARING SHEARS

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Proper installation and maintenance of your Wysong Shear mean added years of productive life. This manual is designed to give you practical information on installing and maintaining the Shear.

The following pages describe the major working parts of the Shear and the last two pages are devoted to possible causes of trouble and their elimination. A parts list and floor plan for your machine are included in a separate booklet and should be referred to when ordering parts.

The information contained in this manual will assist you in taking care of adjustments that become necessary from time to time. By following these instructions your Wysong Shear will give you many years of productive and trouble free service.

If a problem arises that is not covered in this manual, do not fail to contact our Service Department. We want your Wysong Shear to give satisfaction.

In writing for information, please refer to your Shear by model and serial number. The model and serial number can be found on the metal nameplate on the front of the holddown, and stenciled in the table outside the right-hand side gauge.

WYSONG AND MILES COMPANY
GREENSBORO, NORTH CAROLINA

Best results cannot be obtained unless the shear is given an adequate foundation. There should be at least six inches of steel reinforced concrete. In localities where soft soil exists, it may be necessary to pour an island for the machine, going as deep as necessary to give a solid foundation. (See Parts List for Floor Plan). NEVER USE ANY TYPE OF COMPRESSIBLE MATERIAL FOR A SHOCK ABSORBENT UNDER MACHINE. THIS WILL PERMIT A TWISTING ACTION DURING SHEARING AND CAN RESULT IN DAMAGE TO WAYS AND BEARINGS

INSTALLATION

The first step in installing your power shear is to remove table extension, squaring arm (if ordered), back gauge and carton containing small parts and tools. These items are securely strapped to the skids underneath the machine. Check each item against the packing slip in envelope secured to the machine. Should there be any parts missing without a letter of explanation or any damage, file claim against carrier or contact us for instructions. Before removing skids, move the machine to the operating position. The machine can be lowered by a crane or by use of railroad jacks. When jacks are used, lower the machine in alternate steps three to four inches until it rests on the foundation. After the machine is located on the foundation, proceed to level and lag the machine down securely. (See Leveling Instructions)



Illustration A

LEVELING

1. After the machine is lowered to its foundation, proceed to level and check machine as follows: Remove rust preventive from the table with a good cleaning solvent along side gauges and a spot in the center large enough to

place level. Do not place level on a surface that has not been thoroughly cleaned. Be sure to use a precision level, not a carpenter's or machinist's level, in order to properly check the level of the machine. Level should be calibrated .0005" per degree. Place level in center of table and proceed to level machine lengthwise by placing stock of correct thickness under the end frame to bring low end up to level. This stock should be approximately the same width and length as the base of the end frame.



Illustration B

2. Place level along side gauge as shown in Illustration B. Leveling the machine crosswise is most important to prevent a twisting action during shearing. If machine isn't perfectly level, it will prevent proper action of the clutch and cause excessive load and possible damage to bearing and slides. Machine may be lifted for insertion of shim stock by the use of a pry bar, as shown in Illustration C, on the machines which have hollow end frames; and by a jack as shown in Illustration B for machines with solid end frames. Use shim stock the width of the frame base and long enough to extend past the mounting bolt to give sufficient support to the machine. Drill hole or notch around mounting bolt or tack weld the edge of shims to prevent shifting during operation of the shear.



Illustration C

3. After one end is leveled, move to other end and proceed as before. Be sure to recheck side first leveled to be sure no change has occurred. After the machine is perfectly level, tighten mounting bolts securely and recheck. If any change has occurred, make correction and retighten mounting bolts.
4. Machine should be checked every ninety days to maintain level operating conditions. In some localities where soft soil exists, a more frequent check is advised. Should a continued change be noted a new location should be selected or possibly a new foundation should be poured for the machine.
5. In order to get maximum efficiency, the machine must be kept level. As you will note under "Possible Troubles", a great number of the listed troubles point to the machine being out of level. We consider this as one of the most important points in maintaining a power squaring shear.

CHECK LIST

After machine is leveled and bolted to its foundation, check the following points before applying power:

1. Machine must be level.
2. Lift flywheel cover, release safety treadle locking pin, engage the clutch by pressing the pedal while turning the flywheel in the direction indicated by the arrow until the cutting edge of the blades begin to intersect. (Be careful not to get hands caught between the belts and flywheel). Check the clearance with a feeler gauge at this point. If the blade setting checks with the clearance listed on a metal tag near the switch, continue to turn the flywheel until the cutting edges intersect about four inches from the end. Check at this point; move to the center and then to the other end. If any difference is noted, see Blade Adjustment for proper procedure.
3. After proper clearance is noted, power may be applied. Check rotation of flywheel, indicated by arrow on flywheel or cover.
4. Install and set up Back Gauge. See Back Gauge.
5. Check the machine from time to time to maintain level operation conditions.

BLADE ADJUSTMENT

Proper blade clearance is very important in getting quality work and maximum blade life from your shear. Blade clearance should be checked upon installation to be sure that no change has occurred in transit.

1. Lift flywheel cover by removing the 3/8" cap screw which secures the top portion of the flywheel cover to the gear case.
2. Engage clutch by pressing pedal and turn flywheel in the direction which is indicated by the arrow on the flywheel cover. Turn flywheel until intersecting point of the cutting edges have moved out three or four inches from the end of the blade. Use a feeler gauge to check the clearance at this point. The clearance should be the same as listed on the metal tag on the drive end of the machine. Be sure to check at the point the cutting line intersects. Due to the inclined travel of the ram, the reading will not be correct if checked at any other point.
3. All power units have four table bolts. (Except 3/8" and 1/2" machines, which have five). On machines with a solid end frame, these four bolts are exposed as shown in Illustration No. 1. On the double end frame units, two are along the end of the table as shown in Illustration No. 2 and one under the front end frame cover (on 3/8" and 1/2" machines there are two), with one over the rear ramp which is not exposed.

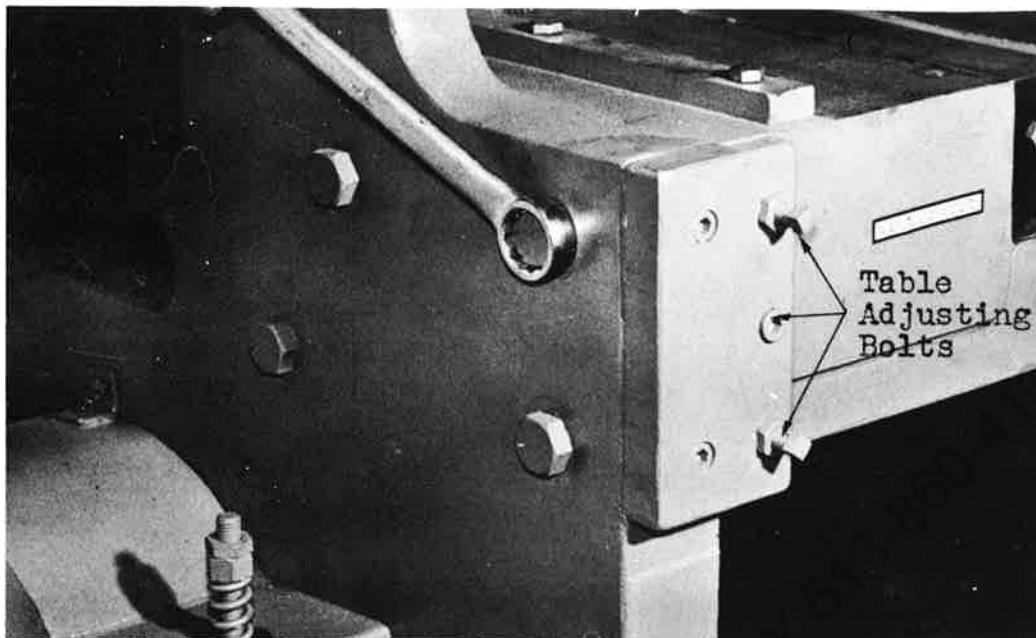


Illustration No. 1

4. If there is a deviation from the listed blade clearance plate on the end frame, loosen table bolts as shown in Illustration No. 1 for the solid end frame machines and Illustration No. 2 for the double end frame units and check clearance again. Sometimes enough pressure from the pad will move the table back to its original position but if correction does not occur, use the adjustment bolts on the table pad to move the table to the desired position. The square head set screws are used to push the table in and the center hollow head cap screw is used to draw table away from the knife bar. It is important to maintain the same pressure on all the adjustment bolts so as to have positive control over the table at all times. After proper clearance is established, tighten one table bolt and check to see if any change has occurred; if not, tighten all screws securely.
5. Turn flywheel until the intersection point is three to four inches from the end on the other side of the machine. Follow the same procedure as given under No. 4.
6. Continue to move flywheel until intersecting point has moved up to the center of the table. The center clearance should be .001" less than the clearance given for the ends. The center is controlled by the adjustment stud in the center of knife bar, as shown in Illustration No. 3. Back off on lock nut and turn adjustment nut clockwise to decrease or counter clockwise to increase the clearance. Check clearance again after lock nut is tightened to be sure no change has occurred. Never adjust center before checking the clearance at each end.

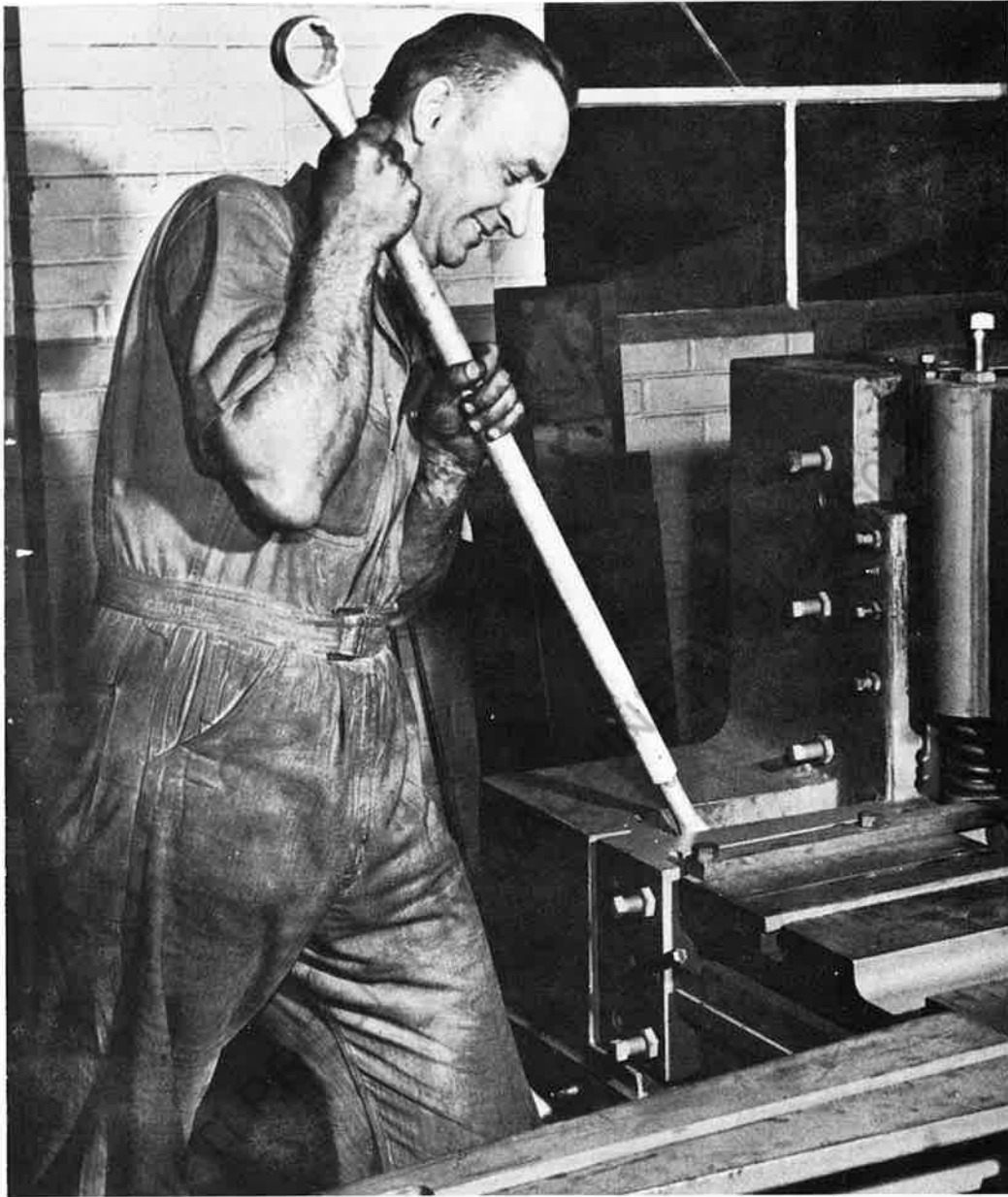


Illustration No. 2

7. Do not move blades closer than the clearance recommended, as the cutting edge will dull prematurely during shearing. This will cut down on the life of the blade and possibly cause scoring. The blade manufacturers are allowed .001" variation per foot and it is possible to run blades together if set closer than specified on plate. In cases where a closer setting is desired, check blades every six inches as ram is moved down to be sure blades do not touch.
8. Keep blades sharp to get the best performance from your shear. It is possible for dull blades to increase the shearing loads as much as 50%.



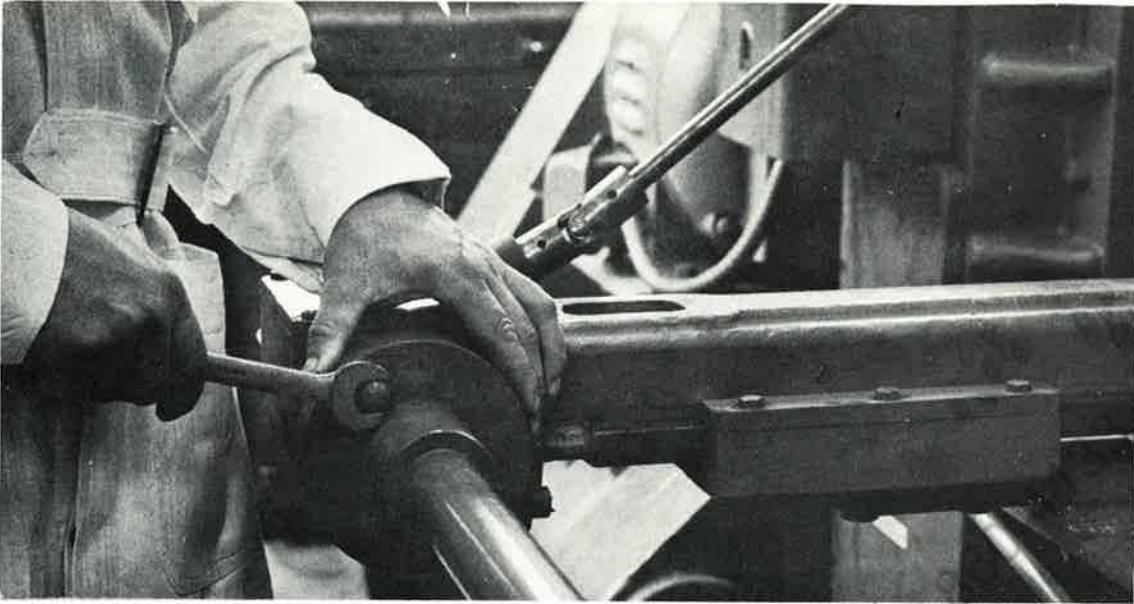
Illustration No. 3



BACK GAUGE

The back gauge unit is strapped to the skids during shipment and requires mounting and setting upon installation of the machine.

1. Remove the rust preventive from the drive shaft slides and drive screws, and apply 30 weight oil directly to the slides and screws.
2. Run the stop angle back about halfway on the slides. This can be done by turning the horizontal drive shaft by hand on the front operated units or by the control dial on the rear units.
3. Lift with hoist (or by hand) into position around the dowel pins, extending through the ram or knife bar.
4. Start the bolts, and tighten alternately, while checking to be sure no change is occurring in the pressure required to drive the control.
5. Use drift punch to drive dowel pins for seating and proper alignment.
6. (Front operated units only). On the front operated units, couple the drive shaft by loosening the set screws in the sleeve. Line up the keyway with the key in the shaft extending from the measuring box. Slip the coupling unit into position and tighten the set screws.



BACK GAUGE STOP ADJUSTMENT

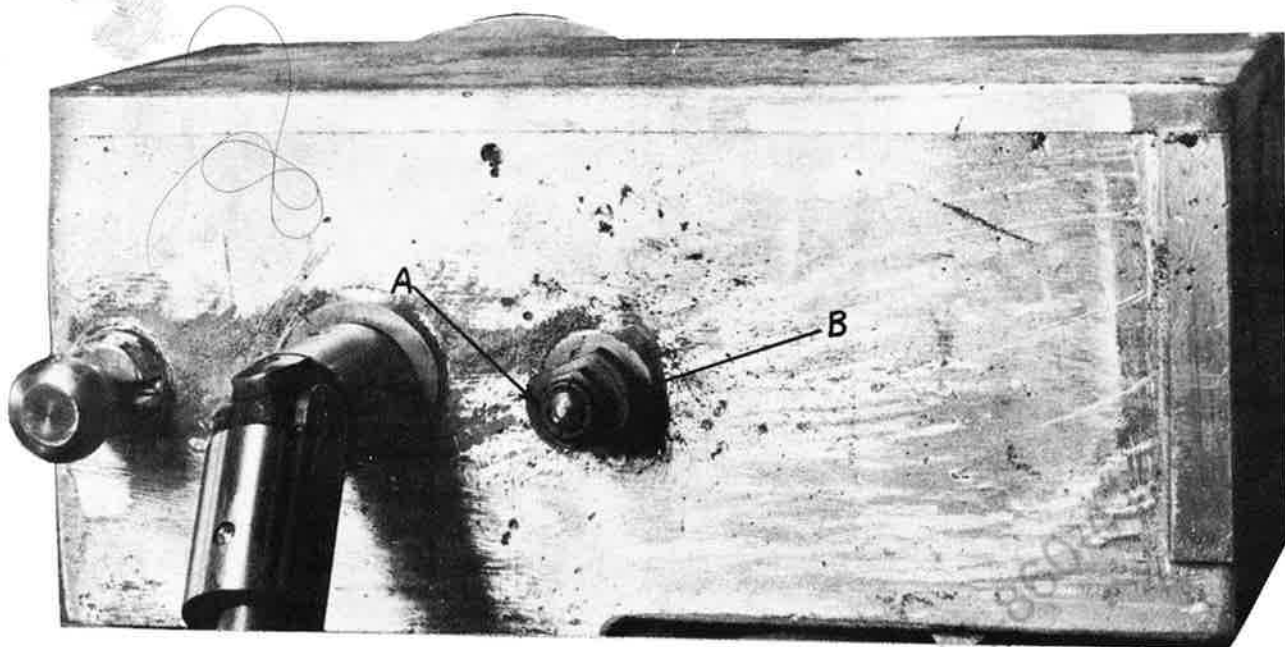
The back gauge control unit is equipped with a clutch unit to permit taper cutting, and adjustment to maintain a parallel condition with the lower blade. The adjustment is as follows:

1. With lock pin in position on the control hand wheel or locking handle in the locked position, loosen the socket head cap screws as shown above and turn large portion of the clutch body until desired setting is reached.
2. Always tighten the socket head cap screws to prevent any change while shearing.

BACK LASH

Back Lash will occur due to wear on the driving screws and nuts. This can be noted by moving the end of the stop angle back and forth. If any movement is noted, adjust as follows:

1. Run the stop angle all the way back. With the angle all the way back, the drive nuts will be directly under the slot shown above in the end of the rail.
2. Loosen the Allen Screw in the forward portion of the drive nut.
3. Turn the rear portion counter clockwise with 1/8" drill rod or Allen wrench as the stop angle is being moved back and forth. When all movement has been removed, tighten the set screws. Make some adjustment on other end.
4. Check the control mechanism to see that it operates freely. If it does not operate freely, back off slightly on adjustment.



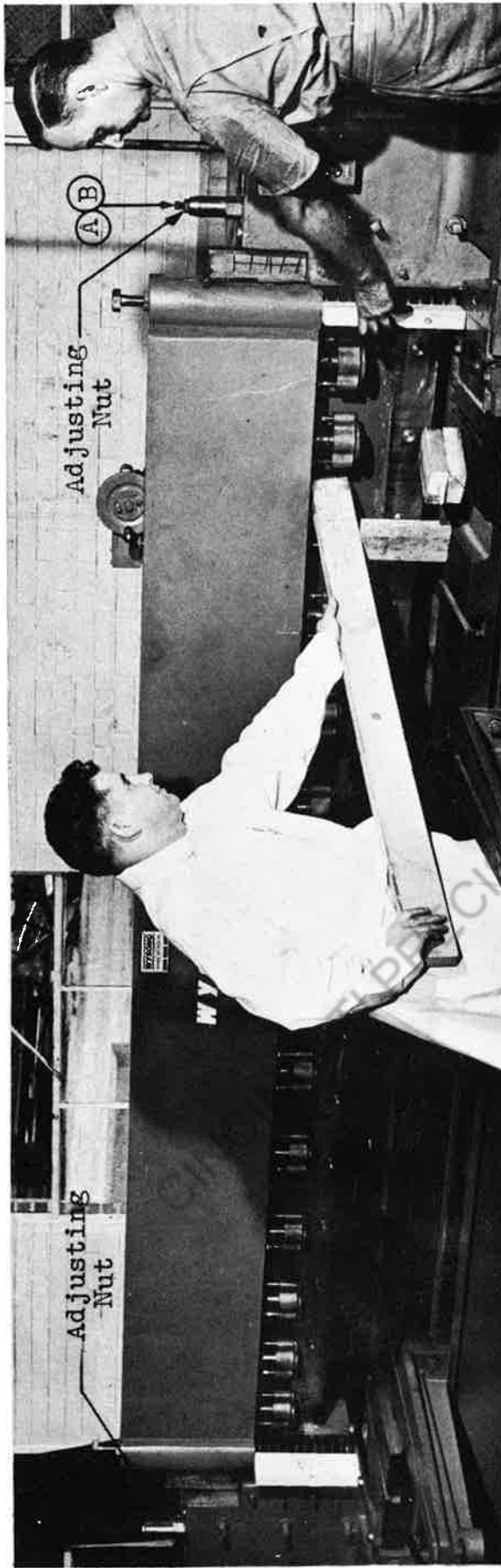
TO ZERO DIALS
(Hand-operated front gauges only)

1. Pull out the locking pin, back of the dial, and run stop angle in until the gauge is 1" away from the lower blade.
2. Loosen hex nut (rear of measuring box) and turn knurled nut until dial reads 1".
3. Trim cut a sheet of stock and take 1" cut. Then check with micrometer and make the necessary adjustment on the dial. (For parallel adjustment see pg. 11).
4. After the gauge is set to shear 1" strips, loosen the 2 socket head cap screws on dial plate and move dial in the proper direction to zero dial.



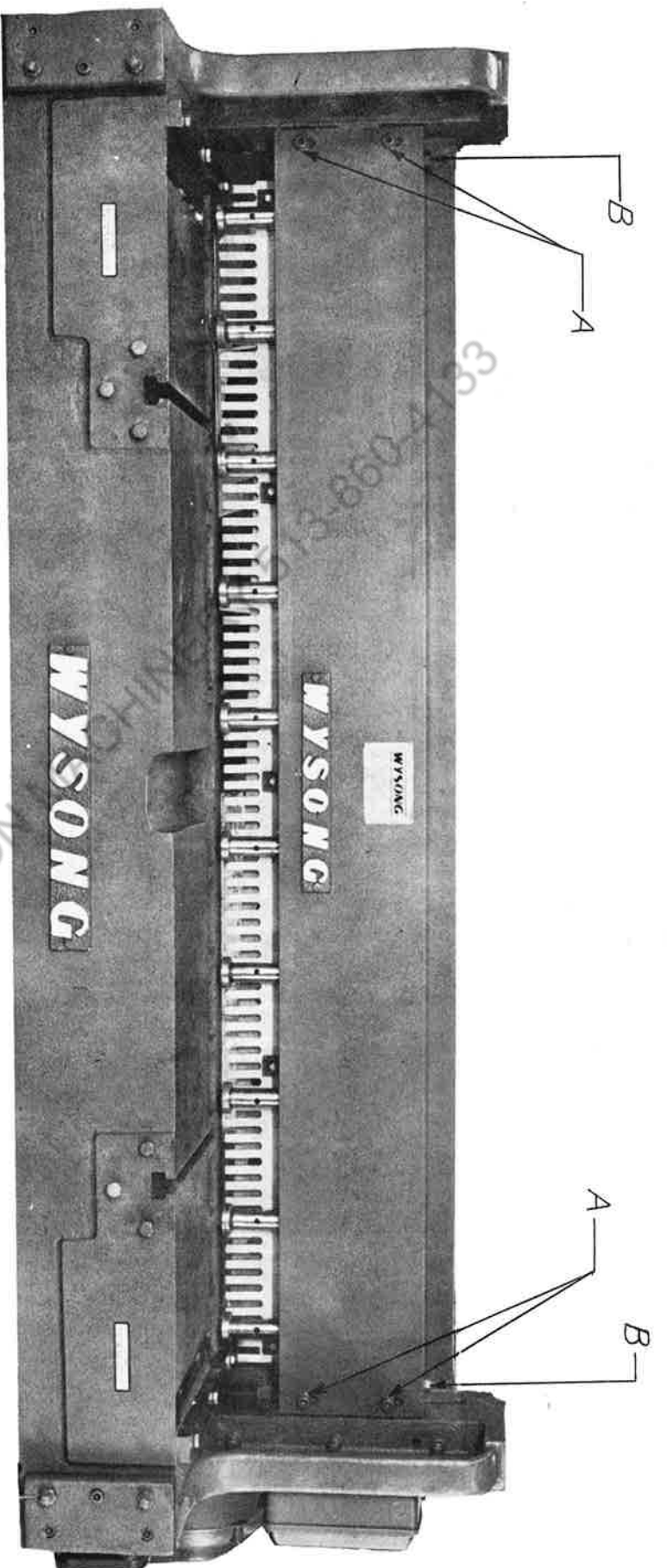
POWER OPERATED GAUGES

1. Push forward button and bring gauge to approximately 1 inch from the lower blade.
2. Trim cut a sheet of stock and take 1" cut. Then check with micrometer and make necessary adjustments by pushing the proper button until 1" strips are obtained. (For parallel adjustment, see page 11).
3. Loosen the nut (Figure B) on the shaft extending through top of the measuring box. Turn the knurled nut until dial reads 1", and tighten lock nuts.



BLADE CHANGING

1. Remove bolts and lift lower blade from machine. Place on racks or bench for cleaning.
2. Remove the two cap screws which secure the finger guard to the table. They are located at the end of the lower blade. Lift finger guard down and out placing it with lower blade.
3. Loosen the lock nuts on the adjusting nuts (A). Back up a turn or so on the square head set screw (B), tighten lock nut (A) and use square head set screw to drive adjustment nut off the holddown pull rod.
4. After adjusting nuts have been removed, use pry bar as shown above to lift bar. Place a block 2 x 4 x 8" in front of the lifting spring to support holddown during blade change.
5. Remove all bolts except the third one from each end. These two bolts prevent blade from dropping. Support blade, remove remaining two bolts and lift blade from machine.
6. Clean and replace blades by reversing the above procedure.
7. Refer to Blade Adjustment for setting blades. (page 6)



BLADE CHANGING

(On All Models with Holddown Shown Above)

To turn blades, the following procedure is advised:

1. Remove all blade bolts except the third one from each end on the lower blade, leaving the nuts hand tight to prevent blade from turning or falling.

Insert a 1/2" rod twelve to fourteen inches long through the blade and remove the two remaining bolts. Then lift blade from machine. Handle blades with extreme care. The edges are sharp and can cut you if they slip or twist in your hand.

Place on rack and clean with solvent before re-placing.

2. Remove holddown mounting bolts (A) and back out bolts (B) on each end of holddown bar allowing pressure to be removed. Be careful to keep bar level by backing bolts off evenly. After bolts are removed lift holddown from machine exposing upper blade.

Remove upper blades using the same procedure as given for lower blade.

Replace the blades by reversing the instructions given above. See Blade Adjustment for setting proper clearance. (Page 6)

BLADE CLEARANCE CHART

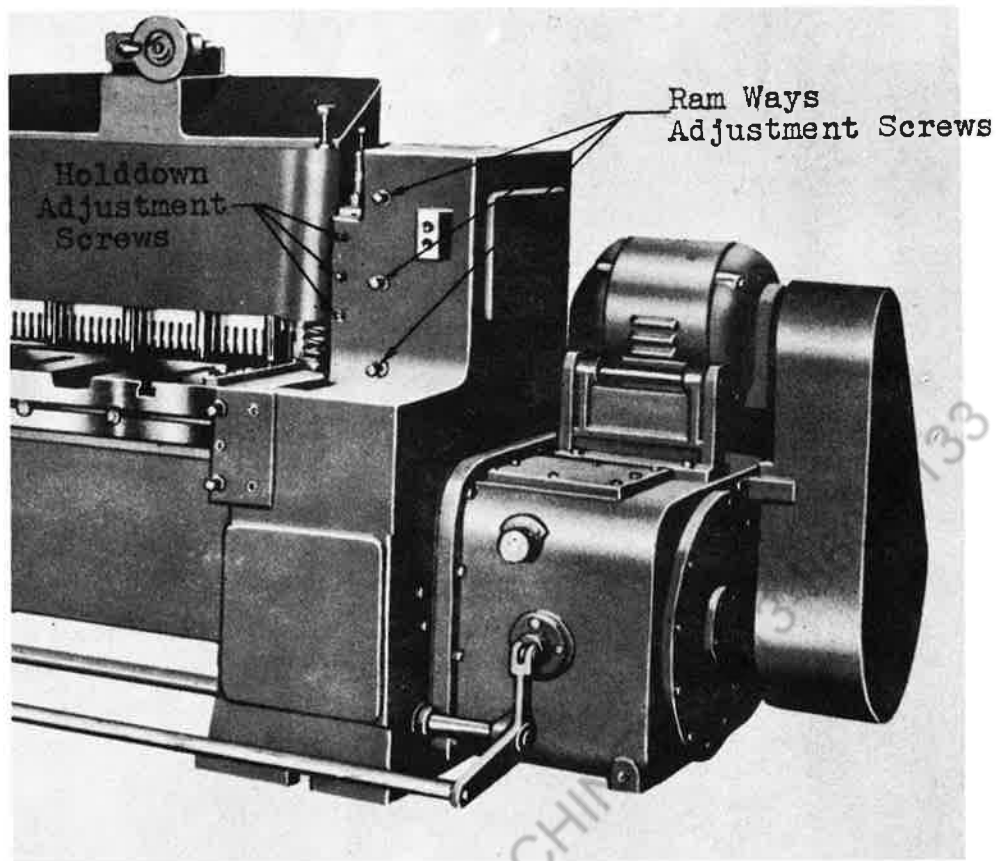
<u>Machine Capacity</u>	<u>Each End</u>	<u>Center</u>
16 Ga.	.004	.003
14 Ga.	.004	.003
12 Ga.	.004	.003
10 Ga.	.005	.004
3/16"	.007	.007
1/4"	.008	.007
5/16"	.008	.007
3/8"	.010	.009
1/2"	.011	.010

BLADE GRINDING

After all four edges have been used, it will be necessary to have the blades ground. Be sure to select a firm that can grind blades with the variation no greater than .001 within any 12" length and .003 from end to end.

RECORD OF BLADE CHANGE

Edge	Date	By Whom
#1		
#2		
#3		
#4		
Sharpened or Replaced		
#1		
#2		
#3		
#4		
Sharpened or Replaced		
#1		
#2		
#3		
#4		
Sharpened or Replaced		
#1		
#2		
#3		
#4		



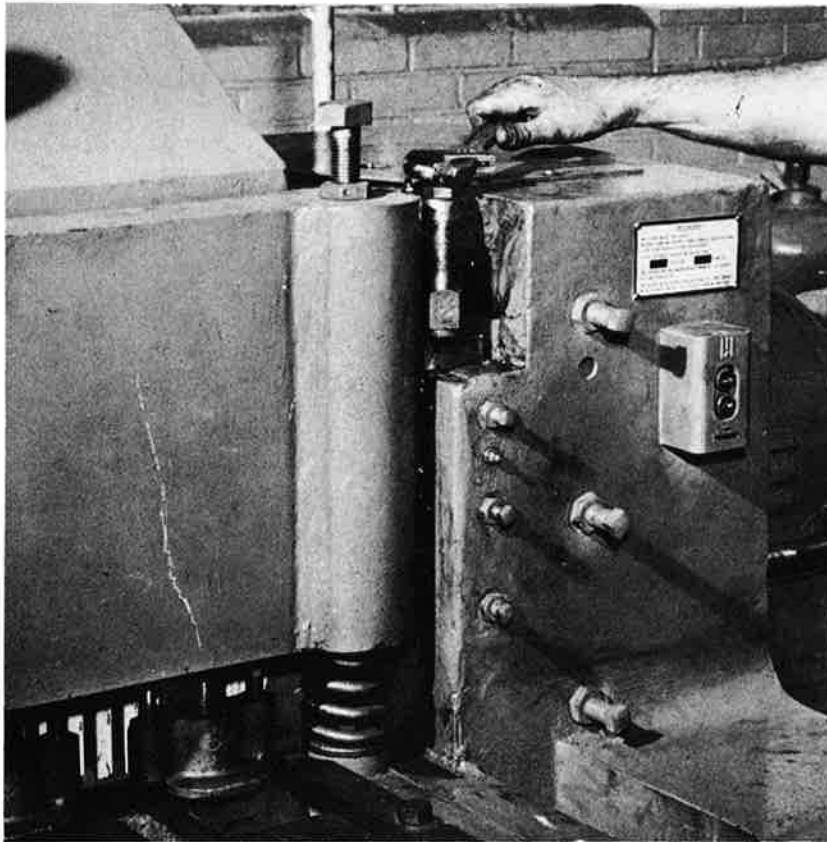
RAM WAYS ADJUSTMENT

All machines are equipped with adjustment screws to remove wear in the ram slides. However, this adjustment will only be required about every five years, unless the unit is permitted to operate out of level, which will cause the ways to open up due to the twisting action. The proper running clearance is .0015" to .002". This can be checked with a feeler gauge between the wear plate and the ram along the lower rear surface or top front surface. If more than .002" clearance is noted, adjust as follows:

1. Loosen the lock nuts on the adjustment screws shown above.
2. Run center adjustment bolt in tight to force excess clearance out.
3. Run the top and bottom screws in until they strike the adjustment plate. Back off approximately 25° and tighten the lock nut.
4. Back the center adjustment screw out until it comes in line with the other two, and tighten the lock nut.
5. Check the clearance again to assure proper clearance.

HOLDDOWN WAY ADJUSTMENT

To make holddown way adjustment, follow the same procedure as for Ram Ways Adjustment.



HOLDDOWN ADJUSTMENT

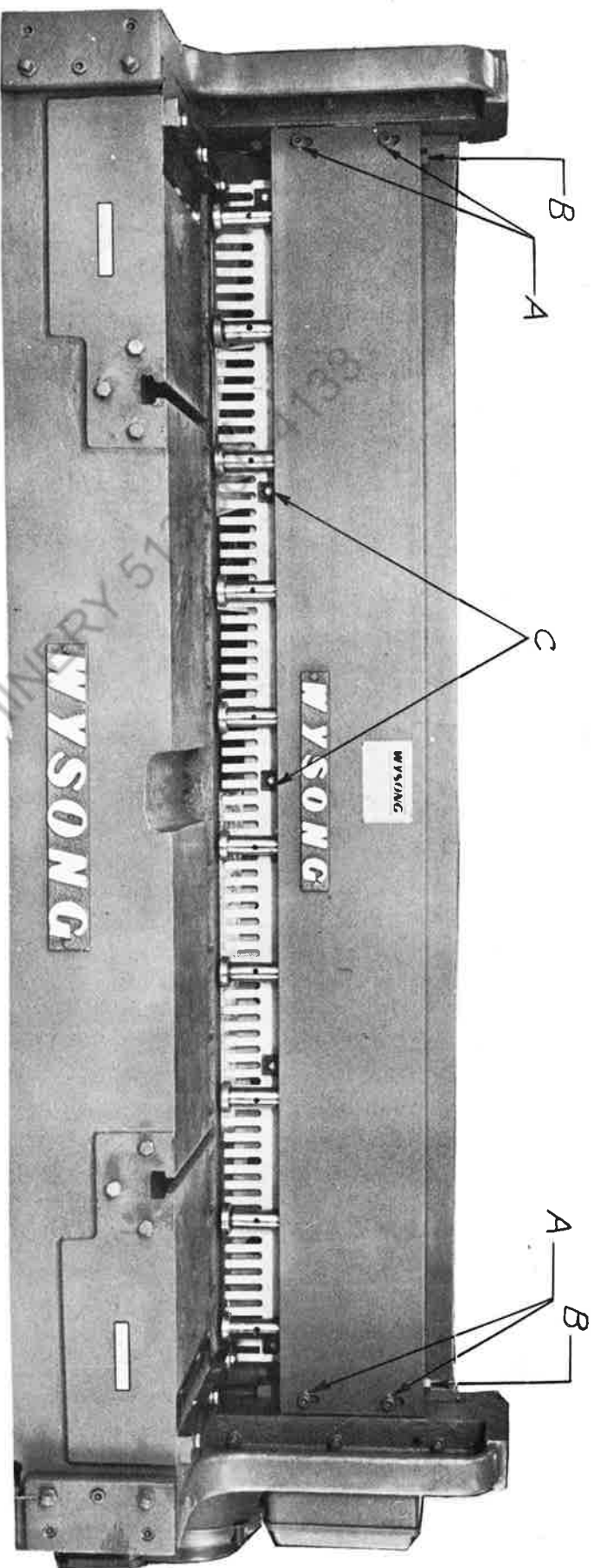
The power holddown shown above can be adjusted beyond its own weight to prevent marring of a polished surface or soft stock. There is a 1" throw on the holddown bar and the pressure is regulated by increasing or decreasing the clearance under the holddown pins as follows:

1. Loosen the lock nuts and the holddown adjustment nuts as shown above.
2. Turn the locking screw counter clockwise until adjustment nut is freed from the shaft.
3. Tighten the lock nut and drive adjustment nut in the desired direction (Clockwise to increase the pressure; counter clockwise to decrease the pressure), as shown above.
4. After the proper pressure is obtained, loosen the lock nut and run the square head set screw down to lock the adjustment nut to the shaft.
5. Tighten the lock nut on the square head set screws.

HOLDDOWN LUBRICATION

The holddown pins and springs should be lubricated each time the blades are changed.

While holddown is removed for blade changing apply grease directly to pins and springs before reassembly.



HOLDDOWN ADJUSTMENT

The channel type holddown is adjustable to vary the pressure for quite a range of shearing requirements and are made as follows:

1. Loosen the mounting bolts (A) on each end of hold-down bar.
2. Turn bolts (B) on top of the holddown bar clockwise to increase, or counter clockwise to decrease the pressure.
3. Tighten mounting bolts (A) securely.
4. Loosen mounting bolts (C) for finger guard and adjust finger guard to maintain 3/8" clearance between finger and table. Securely tighten mounting bolts.

HOLDDOWN LUBRICATION

The holddown pins and springs should be lubricated each time the blades are changed.

While holddown is removed for blade changing apply grease directly to pins and springs before reassembly.

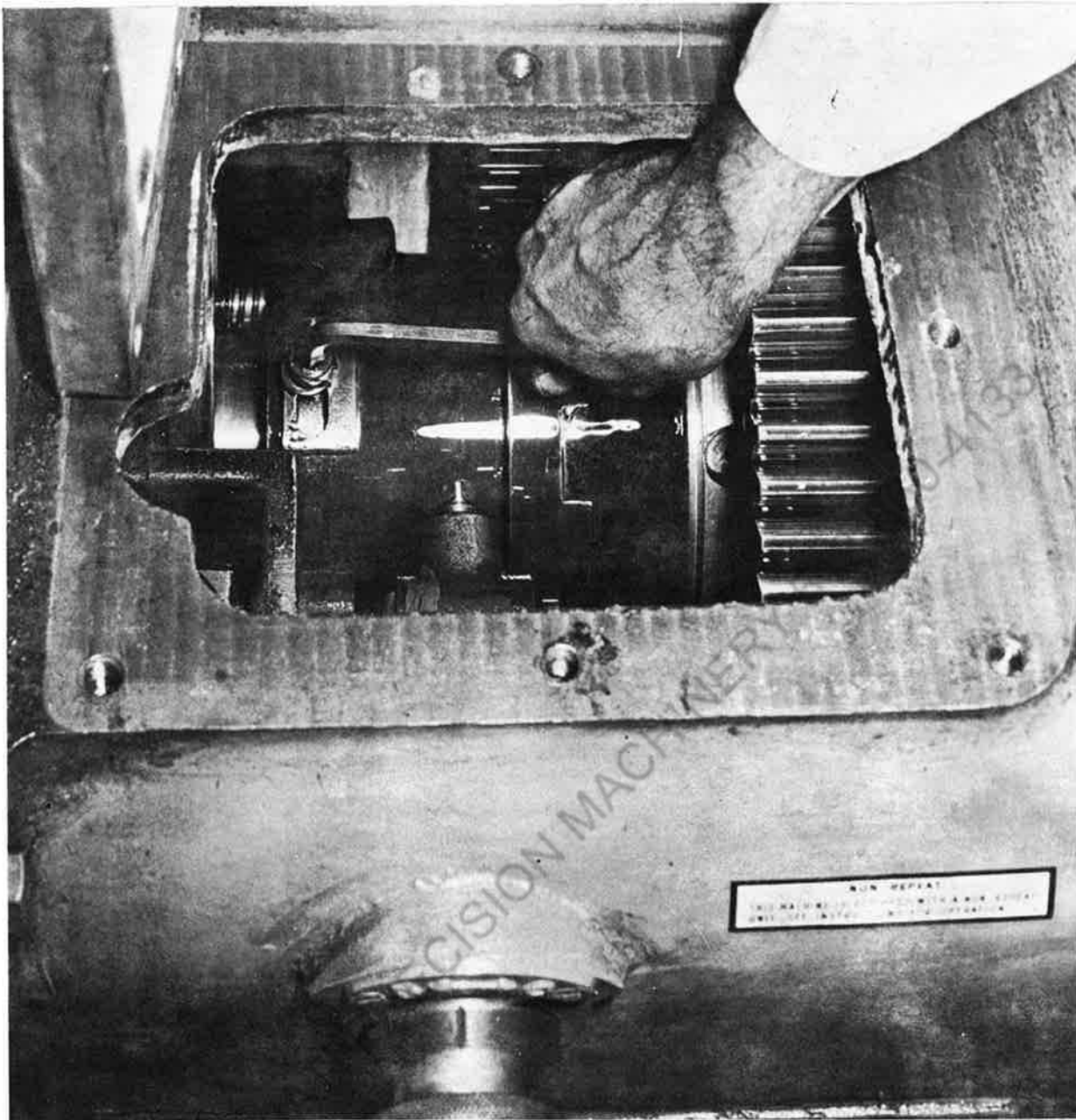
HOLDDOWN HEIGHT ADJUSTMENT

The proper clearance under holddown pins is approximately twice the thickness of the stock to be sheared. This allows proper space for movement of stock, and is close enough to the table to prevent operator from getting fingers under holddown pins.

To increase or decrease clearance under holddown pins, adjust as follows:

1. Remove holddown bolts (A) and back off on Bolts (B) to remove pressure. After pressure is removed lift bar from machine.
2. With bar removed and the inside of the bar exposed, adjustments are made as follows:

- (a) By the use of the self-locking nuts on the pins the lifting plate may be raised to decrease or lowered to increase the clearance under the pins.
- (b) Be careful to keep pins in alignment. This can be done by adjusting the end pins, and by using a straight edge the others can be brought in line.



CLUTCH ADJUSTMENT

The clutch and drive unit are enclosed in the gear box running in a bath of oil. For clutch inspection and adjustment, access is gained by the removal of the inspection plate on top of the gear box. Need for adjustment will be noted by the top center indicator located on the end of the gear box. Should the pointer run past or stop short of top center mark, an adjustment should be considered. There are other factors which will cause pointer to stop short of the mark, and they should be checked before making a clutch adjustment.

1. Machine out of level, causing unit to run in a twisted condition, resulting in an overloaded condition. Check and re-level if necessary.

2. Eccentric straps too tight which would occur after an eccentric adjustment. (See Eccentric Adjustment)
3. Machine not properly lubricated. On machines with exposed eccentric straps lubricate and recheck stopping point. This will not occur on larger units using the dip oil system if proper oil level is maintained.

After the above mentioned points have been checked, make the cam adjustment. Always move the cam in the same direction that the pointer stops in reference to the mark. For instance, if the pointer stops to the right of the mark as you face the indicator, move the cam to the right. Make the adjustment as follows:

1. Remove the inspection plate as shown on the preceding page.
2. Turn the non-repeat unit to continuous and depress control pedal.
3. Push the stop-start button on and off until the cap screw comes into place under the inspection hole. Loosen cap screw.
4. Continue to hold down the pedal and jog the control until the other cap screw comes into place. Loosen and move the cam in the desired direction.
5. Secure the cap screws, using the same procedure as for loosening, and run a cycle or so to see if pointer lines up with mark. It may be necessary to lift the flywheel cover and turn the small units by hand for the cam adjustment.



ECCENTRIC ADJUSTMENT

Machines equipped with adjustable eccentric straps should be checked for possible adjustment once a year. The normal running clearance between the bushings and the eccentric is .002" and should never be permitted to run with more than .003". Normal running will permit approximately .001" wear per year, and with the range of adjustment, the bushing will last many years with proper care and adjustment.

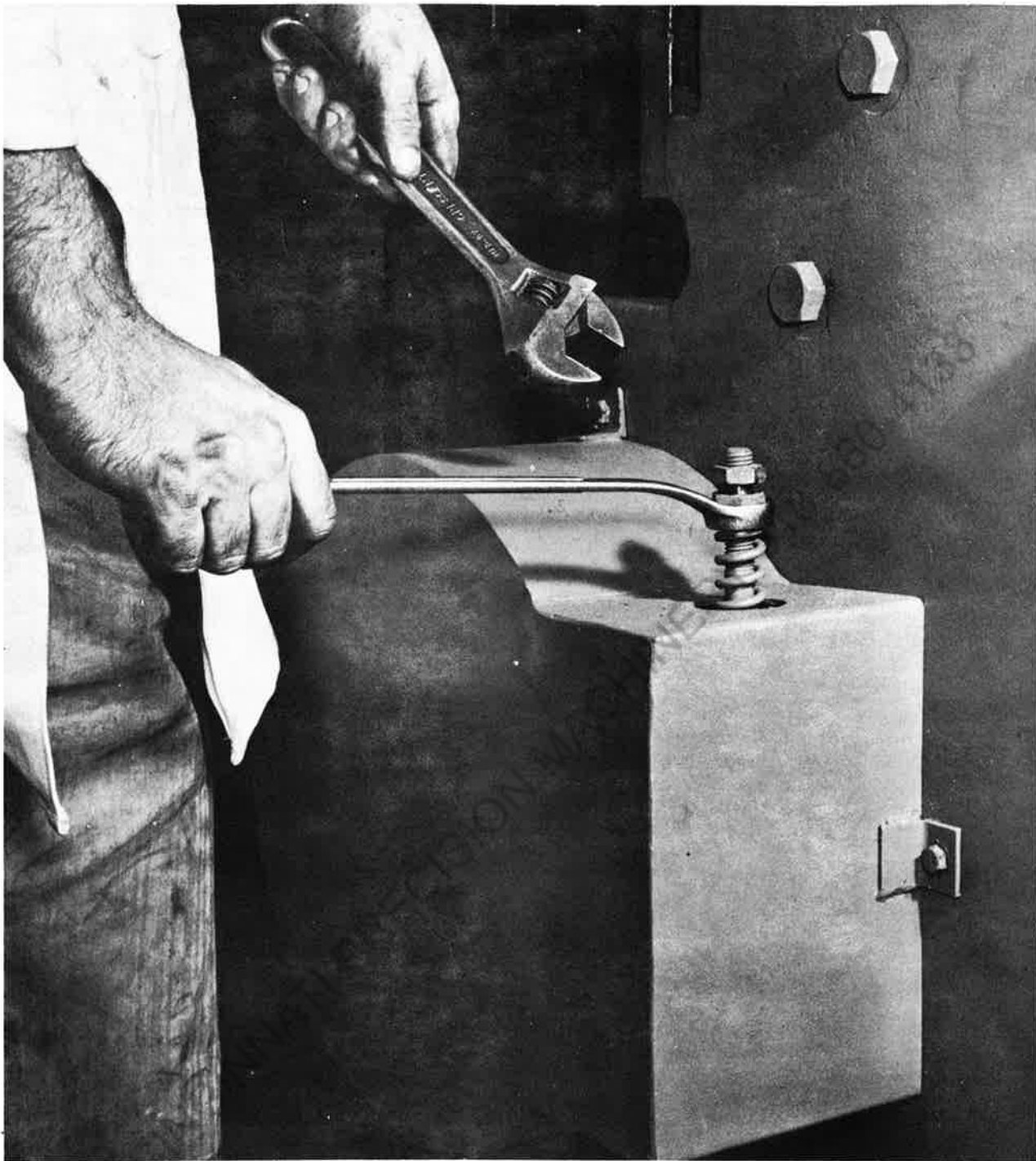
CHECKING CLEARANCE

On the double end machines where the eccentrics are enclosed in the hollow end frames, it will be necessary to remove the front and back covers. Using

a .002 feeler gauge, check the clearance between the bushing and eccentric. Should there be more than .002", an adjustment is necessary. Adjust as follows:

1. Loosen the lock nuts on the through bolts and check to see if enough adjustment is left under the bolts to permit the proper adjustment. Tighten the through bolts front and back 1/8 of a turn, and recheck with the feeler gauge. If there is not enough adjustment in the through bolts, loosen the bolts a couple of turns and remove the laminated shim stock which is "U" shaped and is around the through bolts. Peel off one layer of .003 as shown. Replace and tighten the through bolts to acquire proper clearance.
2. Run the machine on continuous operation for five or ten minutes. Should any loading effect be noticed, loosen the through bolts approximately 45° and recheck.
3. After proper adjustment is made on one side, continue with remaining end.
4. After eccentric adjustment is made, it may be necessary to adjust the clutch cam and the brake to stop the knife bar on top center. See Brake and Clutch Adjustment for proper procedure.

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BRAKE UNIT

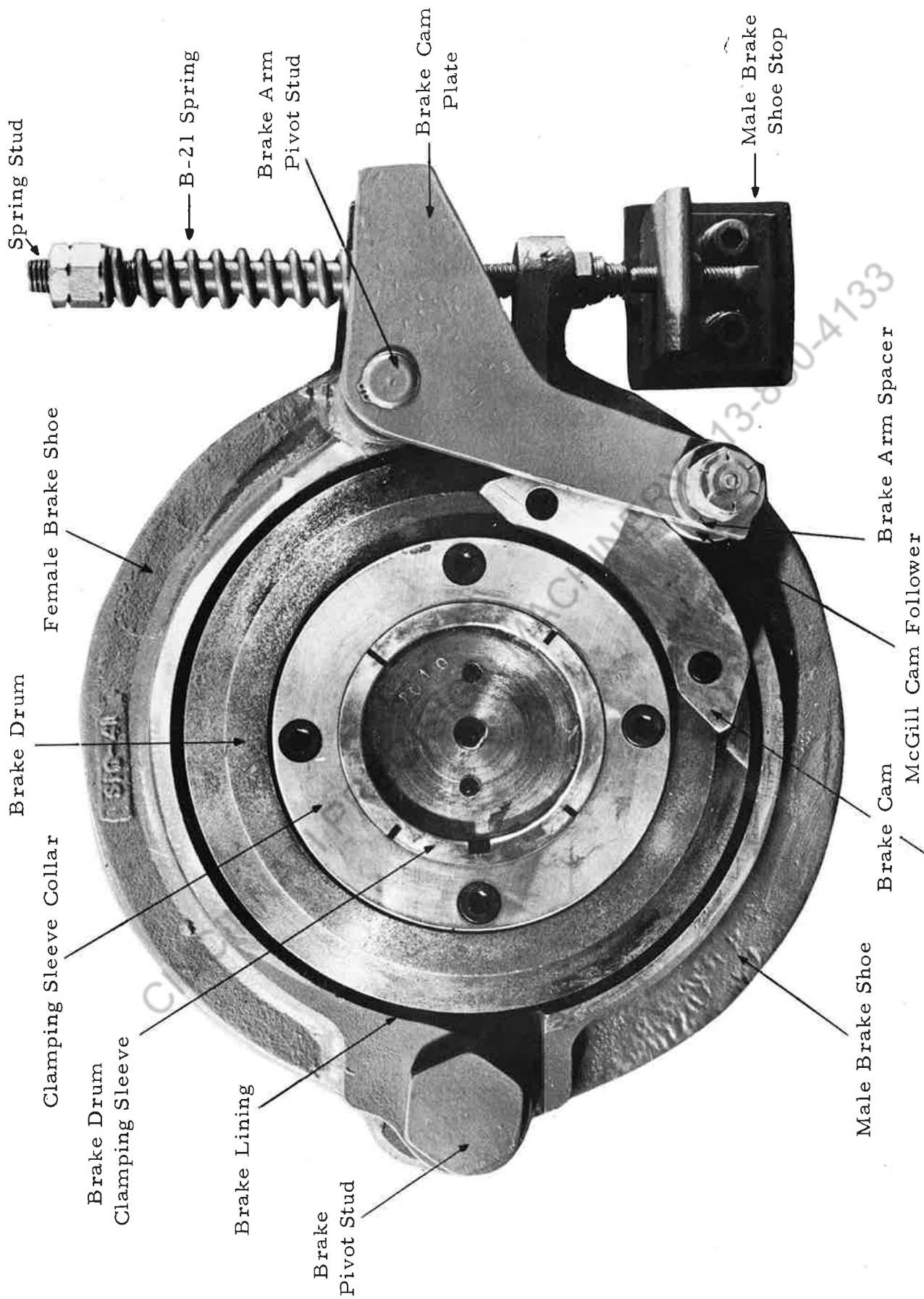
The brake units are the intermittent type which provide a braking action for approximately 45 degrees of the cycle. This action occurs on the upstroke after the shearing has taken place.

There should always be enough tension on the brake to hold the ram once the clutch has disengaged. It is best to check the braking action from time to time by pushing the stop button and tripping the foot treadle until the machine coasts to a stop. The smaller units without counterbalance springs will

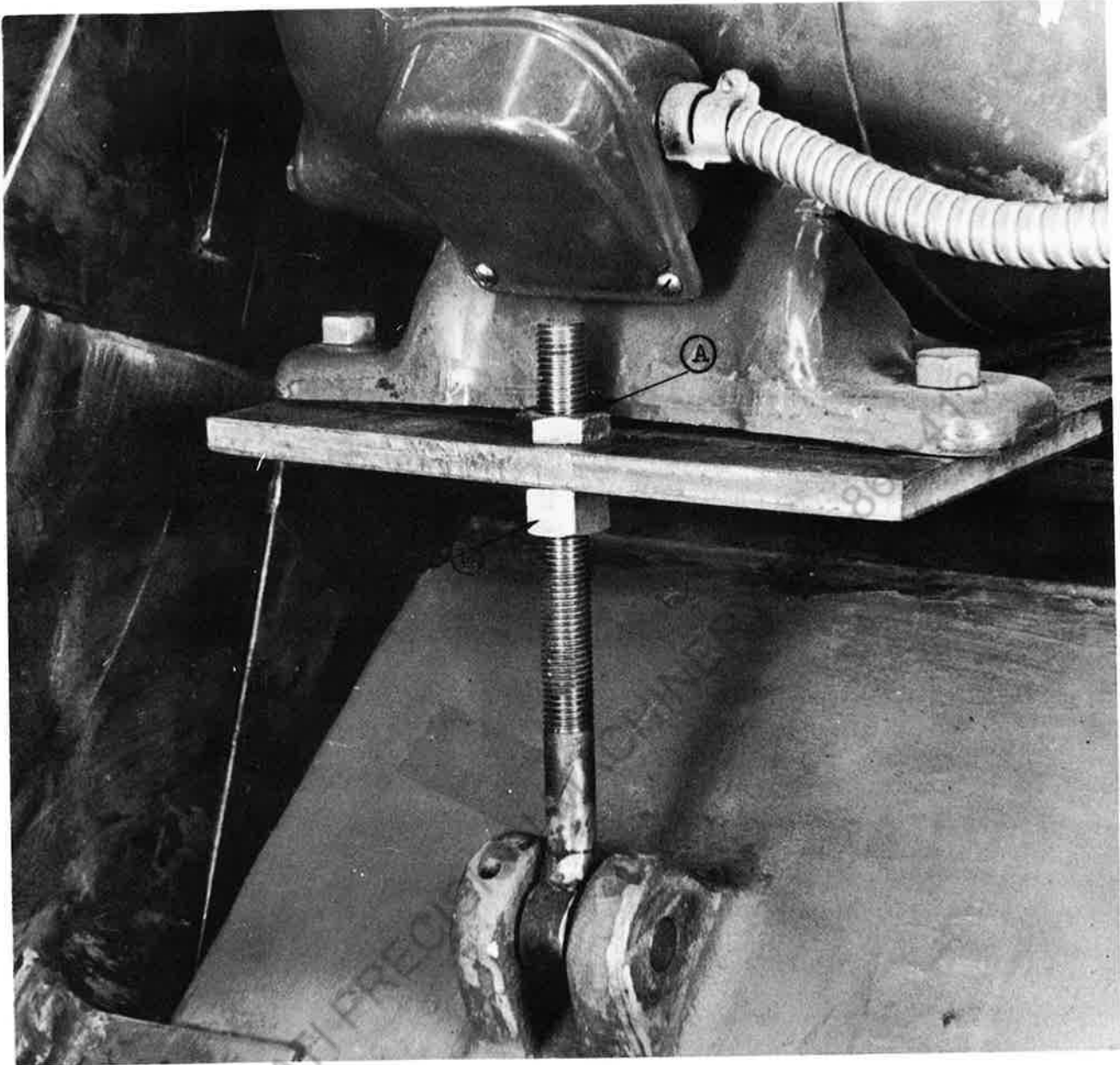
only run a stroke or so, while the larger ones will make as many as a half dozen strokes. After the power is re-applied, should the ram stall the machine on the upstroke, lift the cover and turn the flywheel backwards until the ram is at its lowest point; then push the start button. This will give the motor a chance to start before the load becomes too severe.

If the brake permits the ram to fall back after the clutch is disengaged, this will cause partial engagement of the clutch accompanied by a series of banging noises in the gear box. This can be corrected by applying the proper amount of brake as follows:

1. Loosen the lock nut on the brake adjustment stud while holding the adjustment (or lower nut).
2. Turn the lower nut clockwise until proper braking pressure is applied as shown on preceding page.
3. After proper tension is applied, tighten the lock nut.
4. Check the top center indicator to be sure the pointer is stopping in the correct position. If the pointer is stopping off top center, make the adjustment on the clutch. (See Clutch Adjustment)
5. Brake Lubrication: (a) Remove brake cover and grease cam pivot stud. (b) Apply grease directly to the cam and roller being careful not to permit grease to come in contact with the lining or the drum surface. (c) Lubricate every ninety (90) days.



INTERMITTENT TYPE BRAKE



BELT ADJUSTMENT

The belts on a drive motor should be kept tight enough to prevent any slippage. Belt slippage will be noted by a noise when the start button is pressed, which will disappear when the flywheel reaches running speed.

The belt adjustment is as follows:

1. Loosen the lock nut (A) on top of the motor base.
2. Turn the lower nut (b) counter-clockwise, lifting the motor base until the belts are tight enough to prevent any slippage.
3. After proper adjustment tighten the lock nut (b).

POSSIBLE TROUBLE	SOURCE	REMEDY
Clicking or Banging Clutch	<ol style="list-style-type: none"> 1. Eccentric Straps too tight, or machine not level. 2. Brake 	<ol style="list-style-type: none"> 1. This would possibly occur after an eccentric adjustment, or from the machine being out of level. A loaded condition can be noted by removing the gear box inspection cover and watching the engagement of the clutch. The driving teeth will not engage the full depth of the teeth if an abnormal load is present. See Leveling and Eccentric Strap Adjustment for correction procedure. 2. Only enough brake should be applied to stop and hold the knife bar on top center. See Brake Adjustment.
Stopping Short	<ol style="list-style-type: none"> 1. Machine running in an overloaded condition. 2. Retraction Cam slipped. 3. Brake too tight. 	<ol style="list-style-type: none"> 1. See 1 and 2 under Clicking Clutch. 2. See Clutch Adjustment. 3. See Brake Adjustment
Running over Top Center	<ol style="list-style-type: none"> 1. Brake too loose. 2. Oil on Brake Lining 3. Eccentric Straps too loose. 4. Retraction Cam slipped. 	<ol style="list-style-type: none"> 1. See Brake Adjustment. 2. Clean or Replace Brake Lining. 3. See Eccentric Adjustment Procedure. 4. See Cam Adjustment.
Burr on Sheared Edge	<ol style="list-style-type: none"> 1. Dull blades or improper blade clearance. 2. Play in Knife Bar Ways. 3. Poor grade of material. 	<ol style="list-style-type: none"> 1. Turn or sharpen blade. Check for proper clearance. See Blade Changing. 2. Check clearance between knife bar and rear gib plate; if more than .002 exists, see Knife Bar Way Adjustment. 3. If blades and knife bar have proper clearance, check the material. Second stock that is full of strains cannot be sheared as clean nor as accurately as high grade steel.
Machine rocking on heavy shearing	<ol style="list-style-type: none"> 1. Machine not level caused by settling of foundation. 	<ol style="list-style-type: none"> 1. See Leveling.

POSSIBLE TROUBLE	SOURCE	REMEDY
Getting over or under-size cuts from back gauge setting.	<ol style="list-style-type: none"> 1. Dial indicator not zeroed. 2. Back Lash 3. Improper Set-Up Procedure. 	<ol style="list-style-type: none"> 1. See Zeroing Indicator. 2. See Back Lash. 3. Always bring the stop angle toward the table for final setting.
Kick-back of stock	<ol style="list-style-type: none"> 1. Bottom blade not level with table. 2. Not enough pressure on holddown. 3. Dull blade. 	<ol style="list-style-type: none"> 1. Loosen blade; insert shim stock of proper thickness under blade to bring blade up flush with table coil. Shim stock may be purchased directly from local supply house in proper thickness. 2. See Holddown Adjustment. 3. Check the blades and turn or change. See Blade Changing.
Uneven or Wedge Cuts	<ol style="list-style-type: none"> 1. Back Gauge not properly adjusted. 2. Improper blade clearance. 3. Uneven holddown pressure. 	<ol style="list-style-type: none"> 1. See Back Gauge Adjustment. 2. See Blade Changing. 3. See Holddown Adjustment.
Camber twist and bow	<ol style="list-style-type: none"> 1. Bottom blade not level with table. 2. Dull blades. 	<ol style="list-style-type: none"> 1. Use proper thickness of shim stock to bring blade up to proper level. 2. See Blade Changing.
Noisy brake	<ol style="list-style-type: none"> 1. Brake too tight. 2. Oil on lining 	<ol style="list-style-type: none"> 1. See Brake Adjustment. 2. Clean lining with non-inflammable cleaning fluid and use sandpaper to remove glazed surface.
Motor running hot or tripping out or stalling in cut.	<ol style="list-style-type: none"> 1. Eccentric too tight. 2. Machine out of level. 3. Motor wired wrong. 	<ol style="list-style-type: none"> 1. See Eccentric Adjustment. (This would possibly occur after eccentric adjustment.) 2. Check and level if necessary. See Leveling. 3. Check to see if motor is wired for 440 v and is being operated on 220 v circuit.

AUTOMATIC
LUBRICATION INSTRUCTIONS

PART	TYPE OF LUBRICANT	CAPACITY	SCHEDULE	TYPE OF LUBRICATION
Gear Box	Pen-O-Led EP #2 or equivalent (Esso Standard Oil) 1010 HD, 10-144, 748, 772, 796, 7-120, 425, 625, 825, & 1025	*5 gal.	After 6 mos. or every 1000 hrs. of operation.	Splash system - to drain - Remove drain plug in gear box. To fill - remove inspection plate on top of gear box, and fill to gage level.
	7-144, 1225, 430, 630, 830 and 1030	*7 gal.		
	638, 838, 1038, 1238, 650, 850, 1050 & 1250	*10 gal.		
End Frames (Eccentrics)	Esso Standard Oil Co. Esstic Grade 50	**10 gal. per end frame	Change once a year	Dip system - remove end frame rear cover plates and fill to oil level. Important -- <u>Before starting machine, be sure to fill end frames to level lines.</u>
	638, 838, 1038, 1238, 650, 850, 1050 & 1250	*17 gal. per end frame		
Back Gauge Rails	Esso Standard Oil Co. Esstic Grade 50		Weekly	Hand-clean and apply oil directly to slides.
Back Gauge Drive Screws	Esso Standard Oil Co. Esstic Grade 50		Weekly	Hand-run back stop angle all the way back and apply oil in oil holes provided in drive nuts.
Holddown Feet	Light Weight Grease		Each time blades are changed.	Hand-apply grease directly to pins after old grease has been removed.
Motor Open Bearings	Ball-Bearing Grease		Once or twice a year	
Motor Sealed Bearings	Follow instructions given by manufacturer.			
All Working Surfaces Requiring Lubrication	Esso Standard Oil Co. Esstic Grade 50	6 Pints	Fill Reservoirs when necessary	Bijur automatic lubrication to all working surfaces - lubricators on top of each end frame - 3 pts. cap. each

*Approximate - Machines are shipped with proper amount of oil in gear case. Keep filled to sight level gage located in gear box approximately 4" from bottom of box.

** Approximate - Fill to oil level lines painted inside of end frames.

ONE-SHOT
LUBRICATION INSTRUCTIONS

PART	TYPE OF LUBRICANT	CAPACITY	SCHEDULE	TYPE OF LUBRICATION
Gear Box	Pen-O-Led EP #2 or equivalent (Esso Standard Oil)	*9 qt.	After 6 mos. or every 1000 hrs. of operation.	Splash system - to drain - Remove drain plug in gear box. To fill, remove inspection plate on top of gear box, and fill to gage level.
Back Gage Rails	Esso Standard Oil Co. Esstic Grade 50		Weekly	Hand-clean and apply oil directly to slides.
Back Gage Drive Screws	Esso Standard Oil Co. Esstic Grade 50		Weekly	Hand-run back stop angle all the way back and apply oil in oil holes provided in drive nuts.
Holddown Feet	Light Weight Grease		Each time blades are changed.	Hand-apply grease directly to pins after old grease has been removed.
Motor Open Bearings	Ball-Bearing Grease		Once or twice a year.	
Motor Sealed Bearings	Follow instructions given by manufacturer.			
All Working surfaces requiring lubrication	Esso Standard Oil Co. Esstic Grade 50	2 pints	Fill reservoir when necessary. For continuous operation, operate handle 4 to 5 times daily.	Bijur one shot lubrication to all work surfaces. Lubricator on left end frame. Cap. 2 pints.

*Approximate - Machines are shipped with proper amount of oil in gear case. Keep filled to sight level gage located inside of gear box approximately 3" from bottom of box.

LUBRICANTS EQUIVALENT TO THOSE LISTED IN PRECEDING
CHARTS

Gear Box

Gulf EP 75
Shell Macoma 68
Sacony Mobile Compound BB
Cities Service - Trojan Compound L-1

Lubrication System and End Frames

Gulf Harmony 50
Shell Tellus Oil 53
Sacony DTE Oil Heavy Medium
Cities Service - Pacemaker Oil #3

NOTES

CINCINNATI PRECISION MACHINERY 513-860-4133