

### SECTION III

#### OPERATING INSTRUCTIONS

##### A. Preparation.

1. Unlock and turn the handwheel to raise the swinging beam to its maximum height.
2. Turn ON the power. On motor driven machines, push the push button operating handle to start the motor and release the starting mechanism (fig. 21).
3. Swing the beam to one side.
4. Place the cutting die on the block.
5. Swing the beam until it is over the cutting die.
6. Turn the handwheel to lower the beam until it clears the die an amount approximately equal to the throw of the driving shaft. Lock the handwheel.

NOTE.- The desired stroke of the beam: whether 1/2 in. throw-regular, 3/4 in. throw (special to order), or 1 in. throw (special to order); is obtained by selection and installation of the proper driving shaft (sec. VII, pars. I and J).

7. Depress the starting handle (fig. 2) to trip the machine to make one complete down and up cycle.
8. Swing the beam to one side.

##### B. Operation.

1. Spread the material to be cut on the cutting block and position the cutting die on the material. Surplus material should be rolled up and placed into the trough (fig. 2).
2. If necessary, unlock and turn the handwheel to raise or lower the beam so that the beam on its downward stroke will force the die to cut through the material without driving the die too deeply into the cutting block. Lock the handwheel.

USMC

-9-

ICM

##### C. Combining Two Clicking Machines.

1. To improve the handling of cloth lining or similar material, particularly wide fabric, two ICM-Model C machines are employed so as to simulate the conditions (drawing the work across the block from a rear table rather than up and back from the cloth holder at the front of the machine) obtained with the Ideal Twin Clicking Machine - Model G. This is desirable in factories having a production lower than the rated capacity of the Model G machine.
2. The Model C machines may be equipped with ICM-1150 tables (20-1/2" x 20-1/2") and positioned so as to face each other with the tables approximately 4 in. apart. Placed on the two tables is either a 1 in. thick plywood board or a sheet of 1/4 in. steel either of which is 44" x 20". Plywood is preferred. A sized block, either 40" x 20" x 4" or 44" x 20" x 4", is placed on the plywood board or steel plate and secured to the tables.
3. The machines should be equipped with beams 13 in. x 31-1/8 in. long except when the customer's dies require that 18 in. or 24 in. beams be used.
4. It is recommended that the customer cut no more than 12 plies of shoe lining material at a time.

USMC

-8-

ICM

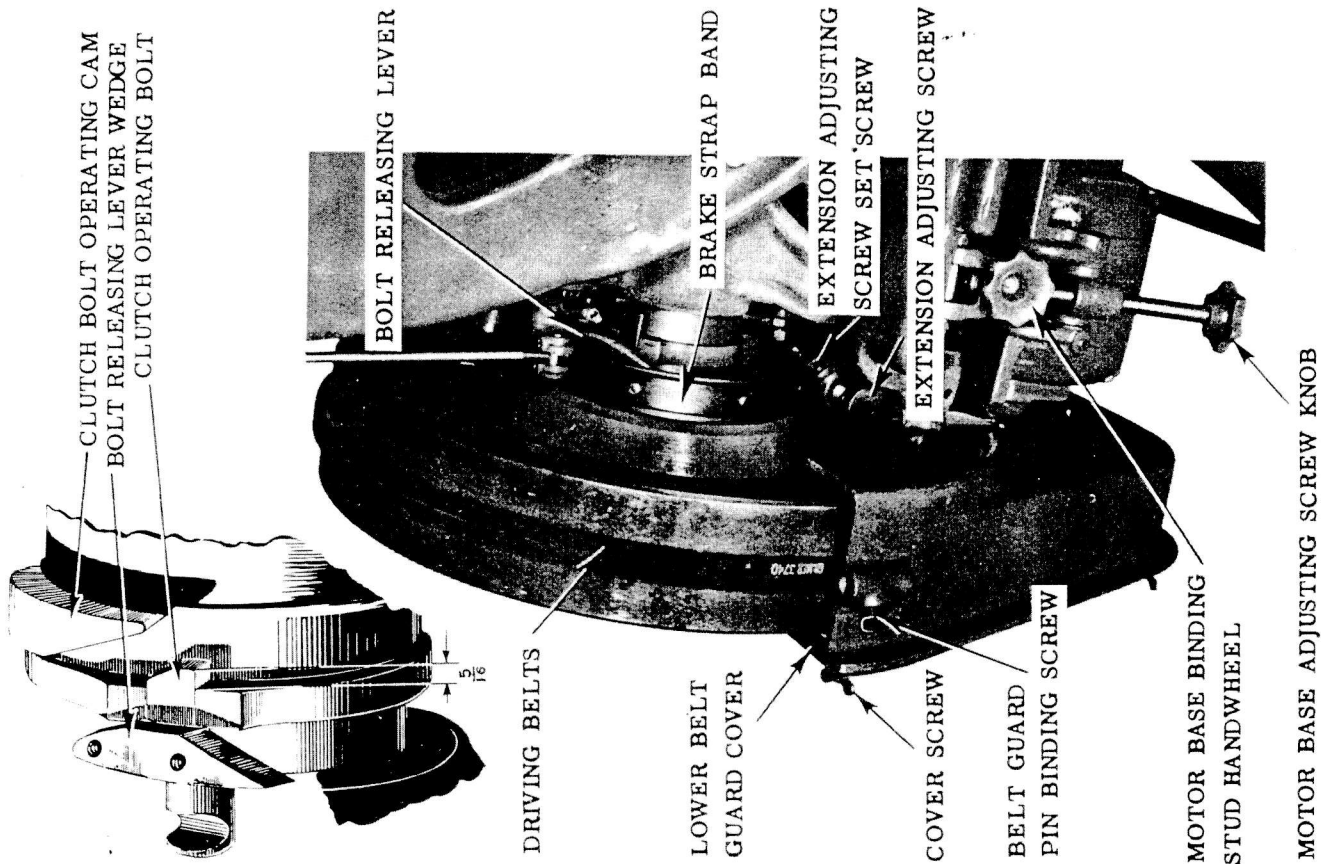


Figure 4 - Left Side of Machine - Partial View

USMC

ICM

3. Swing the beam until it is over the die.
4. Depress the starting handle to trip the machine.
5. Swing the beam to one side.
6. Remove the piece of material cut by the die.
7. Repeat the above sequence.

**NOTE.-** If the cutting die is exchanged for one of a different height, or the thickness or kind of material is changed raise or lower the beam to the height explained in step 2 above.

**CAUTION.-** Keep hands off block, dies, and stock when tripping the machine.

Do not operate the machine with the swinging beam resting either on a cutting die, or on the material, or on the cutting block for the machine will become seriously damaged.

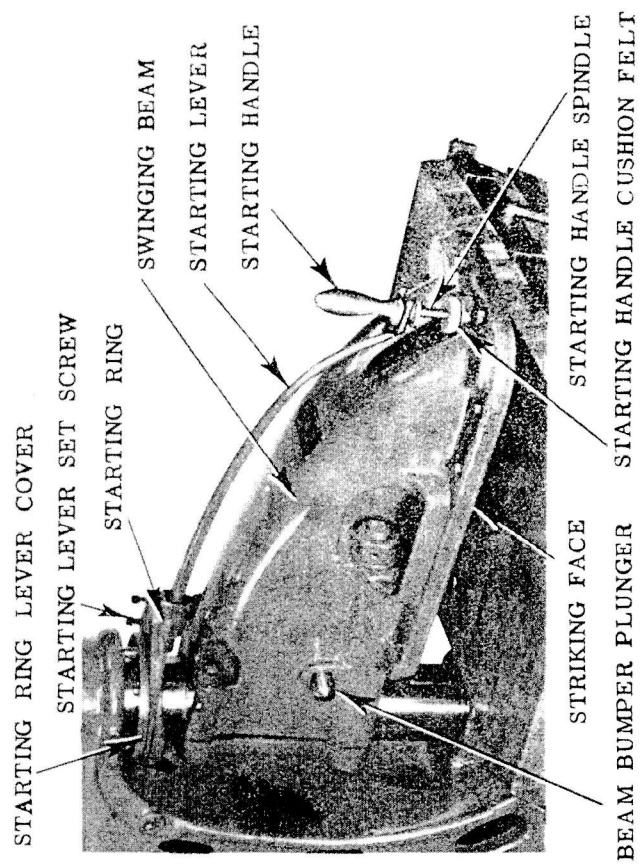


Figure 3 - Starting Mechanism and Swinging Beam

USMC

-10-

ICM

## SECTION IV

### ADJUSTMENTS

**CAUTION.** - Turn off the power when making adjustments which do not require the use of power.

#### A. Starting Lever in Starting Ring. (See figure 3.)

The starting lever should be adjusted and secured in such a position that with the beam lowered onto the cutting block the starting handle remains on the starting handle spindle, and with the beam raised to its maximum height, the starting lever and the starting handle do not bind against each other or against the handle cushion felt.

1. Lower the beam onto the cutting block.
2. Loosen the two starting lever set screws. Adjust the starting lever in the starting ring so that the starting handle remains on and near the top of the handle spindle. Tighten the screws.
3. Raise the beam to its maximum height. The starting lever and the starting handle should not bind against each other and the starting handle should not bear down too hard against the handle cushion felt. Otherwise, readjust the starting lever to eliminate binding.

**NOTE.** - The new three-piece starting ring lever and parts used on new and outstanding machines is adjusted in the same manner.

#### B. Belt Tension on Motor Driven Machines. (See figures 2 and 4.)

The belt tension should be just enough to prevent slippage of the belts on the motor pulley.

1. Remove the upper belt guard.
2. Remove the lower belt guard cover.
3. Loosen the motor base blinding stud handwheel.

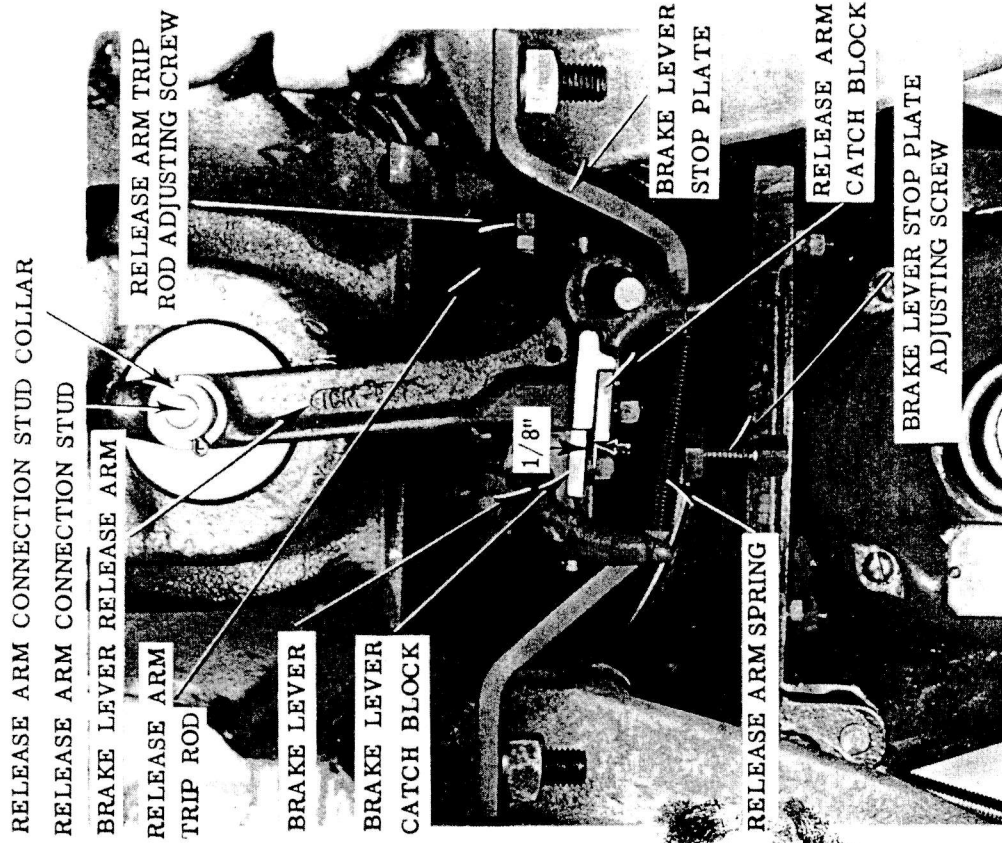


Figure 5 - Brake Parts - Beam at Bottom of Stroke

USMC

-12-

ICM

USMC

-13-

ICM

2. Raise the wedge end of the bolt releasing lever with a pry to release the clutch operating bolt.
3. Turn the driving shaft with either the driving pulley or spanner wrench WRHL-340H until the beam is at the bottom of its stroke.
4. Remove the release arm spring.
5. Loosen both brake lever stop plate adjusting screw nuts.
6. Turn the brake lever stop plate adjusting screw until the bottom of the brake lever catch block clears the top of the release arm catch block 1/8 in. measured vertically.
7. Tighten the brake lever stop plate adjusting screw nuts and replace the release arm spring.
8. Turn the driving shaft to the STOP position and replace the guard.

#### F. End Play of Driving Pulley. (See figure 16.)

The driving pulley should have approximately 1/32 in. end play.

1. Remove the upper belt guard and the belts (factory power) or the upper gear guard on motor driven machines.
2. Unscrew the two driving shaft collar set screws one or two turns.
3. Tighten the collar adjusting screw with the collar until the driving pulley is snug against the brake drum.
4. Unscrew the collar adjusting screw with the collar until the two collar set screws are lined up with the flats on the shaft. This amount should be slightly less than 1/4 turn. If it exceeds 1/4 turn change the relation of the adjusting screw to the collar (advance screw 1/4 turn at a time) to fulfill the above requirement.

NOTE. - Numbers on the head of the screw and an arrow on the collar are provided to assist the roadman in re-installing these parts in the proper relation to each other without trial. Note this relation before removal.

4. Turn the motor base adjusting screw knob until the belts will yield approximately 3/4". Tighten the handwheel.

NOTE. - To remove the driving belts, first turn the motor base adjusting screw knob to release the belt tension.

5. Reassemble in reverse procedure.

#### C. Brake Strap. (See figure 4.)

With the proper braking adjustment the swinging beam stops at the uppermost point of its cycle. At this position, the flat portion of the clutch operating bolt engages the flat portion of the bolt releasing lever wedge and the upper leading edge of the clutch bolt is in line with the end of the clutch bolt operating cam (fig. 4).

1. Loosen the brake extension adjusting screw set screw.
2. If the clutch operating bolt stops beyond the position shown, tighten the brake strap by turning the extension adjusting screw clockwise with pin wrench WRHL-153H or vice versa. Tighten the set screw.

NOTE. - If sufficient adjustment cannot be obtained by this method, the brake strap may be secured with the strap extension bolt inserted in a different hole in the brake strap extension (sec. VII, par. C).

#### D. Releasing of Brake Prior to Clutch Engagement. (See figures 5, 17, and 4.)

1. Loosen the release arm trip rod adjusting screw check nut.
2. Turn the release arm trip rod adjusting screw until, as the starting handle is pushed down slowly, the brake catch blocks become separated releasing the brake lever and the brake before the clutch operating bolt is released from behind the bolt releasing lever wedge.
3. Tighten the adjusting screw check nut.

#### E. Brake Catch. (See figures 4 and 5.)

1. Remove the upper belt guard on motor driven machines.

5. Tighten the collar set screws against the flats on the shaft.
6. For machines equipped with the new bearing shaft collar and collar adjusting screw (see lower right insert in figure 16), turn these parts as a unit to obtain the desired adjustment and clamp the collar to the shaft in one of several positions. The shaft is provided with nine flats for fine adjustment.

#### G. Clutch. (See figures 4, 6, 7, and 16.)

Raise the wedge end of the bolt releasing lever with a pry to release the clutch operating bolt. The bolt, when released, should project from the hub of the brake drum approximately 5/16 in. for proper clutch action.

1. Remove the upper belt guard and the lower belt guard cover on motor driven machines. Loosen the belts, if necessary.
2. Note the relation of the collar adjusting screw to the driving shaft collar. See note under paragraph F above.
3. Loosen the collar set screws. Remove the collar adjusting screw and collar.
4. Withdraw the driving pulley to the end of the shaft.
5. Check the length of the clutch operating bolt spring. The correct overall free length of the spring is  $2-19/32" + 1/32" - 0$ . Replace the spring if the measurement is different from that specified.

NOTE. - Readjustment of the clutch for wear should be preceded by inspection of this spring.

6. Withdraw the clutch expanding ring assembly from its seat in the driving pulley.
7. Loosen the clutch adjusting screw binding screw.
8. Turn the clutch adjusting screw through the threaded hole in the clutch ring surface. If the clutch bolt, when released from behind the wedge, projects from the brake drum more than 5/16 in. or if less clutch ring pressure is required, unscrew the adjusting screw part of a turn or vice versa. Tighten the adjusting screw binding screw.

USMC

-17-

ICM

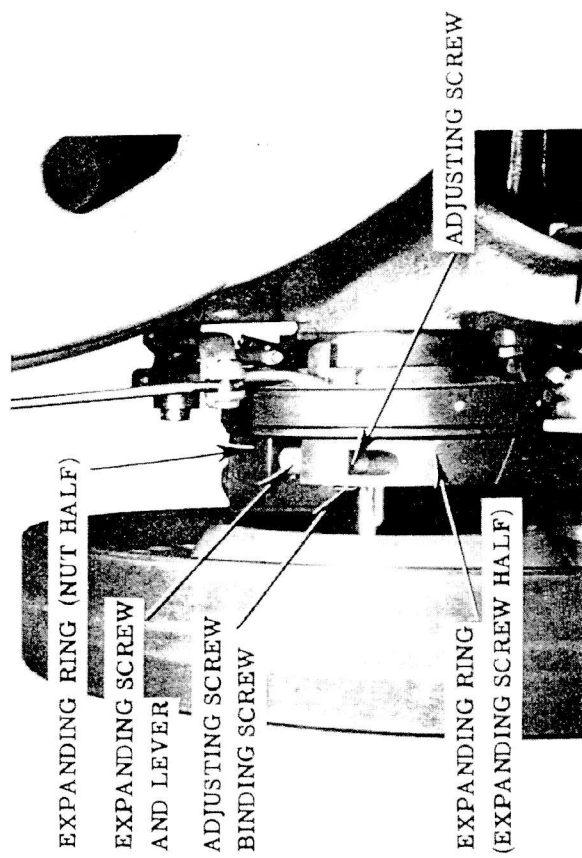


Figure 6 - Clutch Expanding Ring Assembly  
Removed from Driving Pulley

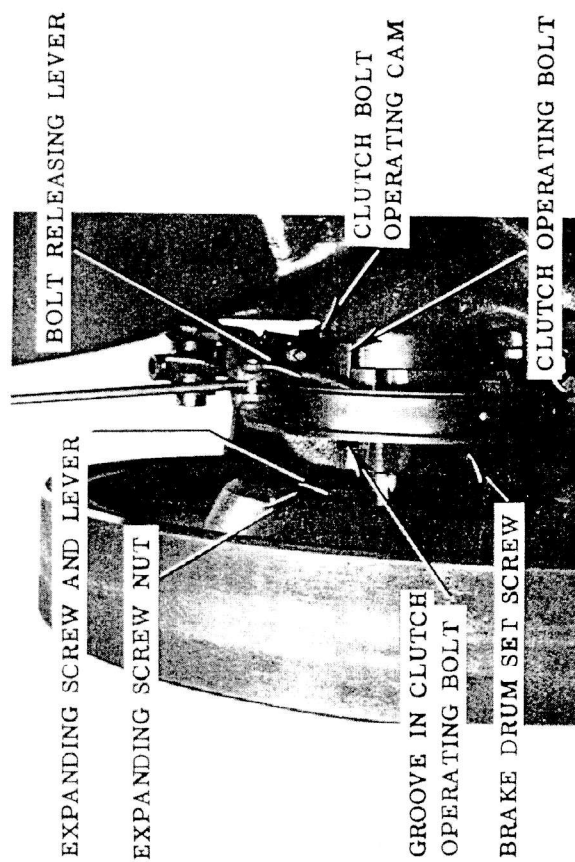
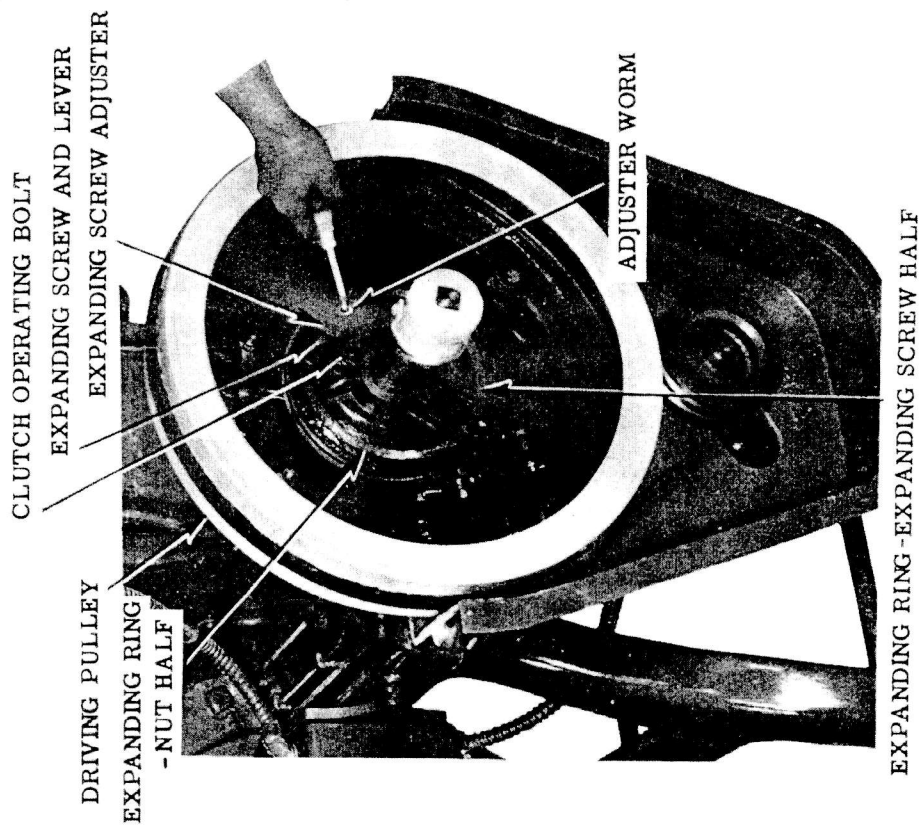


Figure 7 - Clutch Expanding Ring Assembly  
Seated in Driving Pulley

USMC

ICM





9. Install the expanding ring assembly in its seat in the driving pulley.
10. Depress the expanding screw lever to expand the clutch rings as much as possible. At maximum expansion, the expanding screw lever should stop in a vertical position. If the lever stops at either side of the vertical position, the expanding ring assembly must be withdrawn and readjusted. If sufficient adjustment cannot be obtained by the adjusting screw, withdraw the clutch ring assembly from the driving pulley and turn the expanding screw into or out of the expanding screw nut. Since the expanding screw and the nut are double threaded, their relation can be changed an amount equal to the lead of the thread by turning the screw a complete turn or an amount equal to one half the thread lead as follows:
  - a. Unscrew the expanding screw from the nut. Note the number of turns and the position of the screw and lever when the screw is just free from the nut.
  - b. Turn the screw one half turn ( $180^\circ$ ) further.
  - c. Turn the screw back into the nut.
11. Before reassembling, remove the expanding rings from the driving pulley and also remove the clutch operating bolt and the operating bolt spring from the brake drum. Thoroughly clean the bolt slot and spring plate in the brake drum and the ring seat in the driving pulley. Clean the expanding rings, bolt and bolt spring. Apply USMC 300A oil.
12. Install the expanding ring assembly in the driving pulley.
13. Place the bolt spring in the clutch operating bolt and push the bolt forward through the slot in the brake drum until the bolt releasing lever wedge falls into place, holding the bolt in position (figures 4 and 7).
14. Push the driving pulley forward into position. While sliding the pulley forward, fit the bottom of the clutch expanding screw lever into the groove of the clutch bolt.
15. Reassemble in reverse order.

USMC Figure 8 - Adjusting Improved Clutch - Phantom View  
-19-

ICM

USMC

-18-

ICM

## H. Improved Clutch Mechanism. (See figure 8.)

1. This mechanism may be applied to outstanding machines equipped with driving pulley ICM-781+ or ICM-1307A+, and brake drum ICM-997A after these parts have been modified as explained below.

- a. Apply the roadman's tool GST-183A to the driving pulley so as to drill the 9/16 in. hole through the pulley from the clutch seat side. This hole should be closely in line with the lifting holes so the balance of the pulley will not be affected.

NOTE. - Many outstanding pulleys already include this access hole.

- b. Carefully remove approximately 1/2 in. of stock from one of the webs on the brake drum so there will be no interference between the clutch and the drum. The web to be reduced is located at the right of the clutch bolt opening (facing web side of brake drum with the clutch bolt opening uppermost).

NOTE. - Brake drums of recent manufacture include this change.

2. Inspect the clutch operating bolt spring as explained in paragraph G above, step 5.
3. Clean, lubricate, and install the brake drum, clutch parts, and driving pulley. Turn the pulley over by hand to make certain there is no interference.

## I. Improved Clutch Adjustment. (See figure 8.)

1. Proceed as follows to adjust the improved clutch on new or outstanding machines so equipped:
  - a. Proceed as explained in steps 1, 2, 3, and 4, paragraph G above.
  - b. Check the length of the clutch operating bolt spring (paragraph G above, step 5).

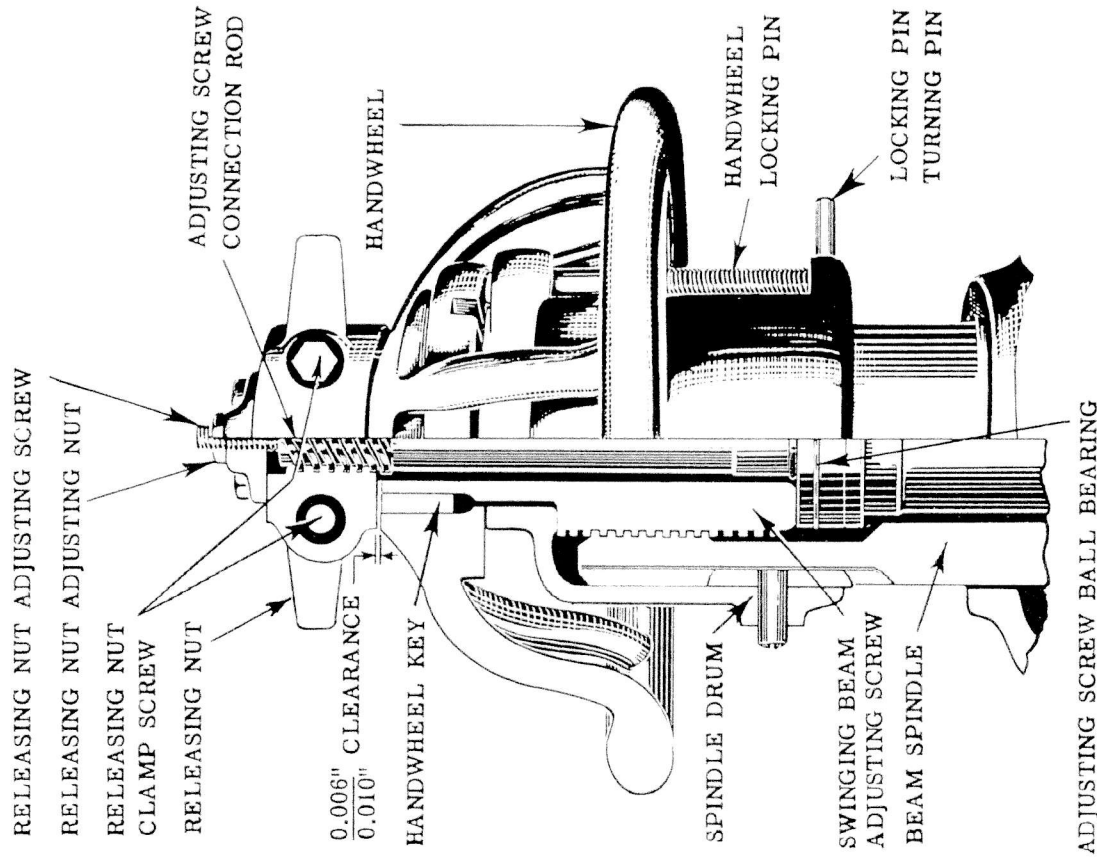


Figure 9 - Upper Beam Spindle Parts-Cutaway View

4. Turn in the releasing nut adjusting screw until it contacts the top of the adjusting screw connection rod and tighten the adjusting nut.

5. Turn the releasing nut down as far as it will go.

6. Tighten the releasing nut clamp screws.

#### K. Jammed Machine on Die

The vertical motion of the beam spindle is stopped during machine operation without completing cycle.

1. Loosen releasing nut clamp screws with WRHL-339H.

2. Turn the releasing nut counterclockwise (by tapping if necessary) until it clears the top surface of the swinging beam adjusting screw approximately 1".

3. Rotate driving shaft counterclockwise to stop position with spanner wrench WRHL-340H using holes in driving shaft collar.

4. Turn releasing nut down as far as it will go maintaining adjusting as shown in Par. J., sub. 3.

5. Tighten the releasing nut clamp screws.

6. Readjust beam adjusting screw handwheel in an upward direction before starting machine.

c. Move the driving pulley back into position and install the collar adjusting screw and driving shaft collar.

d. Rotate the driving shaft to the STOP position with spanner wrench WRHL-340H.

e. Raise the wedge end of the bolt releasing lever (fig. 4) with a pry to release the clutch operating bolt. The bolt, when released, should project from the hub of the brake drum approximately 5/16 in. for proper clutch action.

f. If the bolt projects more or less than 5/16 in., rotate the driving shaft to the STOP position, rotate the driving pulley until the adjuster worm is accessible through the access hole in the pulley, and rotate the worm with a screwdriver - clockwise to increase the friction action and vice versa.

g. Proceed as in e above.

NOTE. - Do not turn the adjuster worm when the clutch is engaged.

h. Check the adjustment by cutting a piece of work with the machine operating under power.

#### J. Lost Motion in Connecting Rod Parts. (See figure 9.)

The vertical lost motion of the beam spindle must be less than 1/16 in. Determine the amount of lost motion by means of a pry applied to the bottom of the beam.

NOTE. - In case of breakage of one of the quick release nut halves the whole nut must be replaced with a complete unit.

1. Loosen the releasing nut adjusting nut and the releasing nut adjusting screw.

2. Loosen the releasing nut clamp screws.

3. Turn the releasing nut until it clears the top surface of the swinging beam adjusting screw 0.006 - 0.010 in. (thickness of two pieces of newspaper).