

# GUILLOTINE PIPE SAW

## SECTION I

## STANDARD EQUIPMENT

### GUILLOTINE PIPE SAW MODEL C, SUPER C, MODEL D AND SUPER D

FAST, SQUARE CUTS ON 2" thru 24" ( 50 - 610 mm) PIPE...

FOUR MODELS TO CHOOSE FROM...

The four models of the Wachs portable Guillotine Family, cold cut 2" through 24" (50.8 mm - 610 mm) pipe of all materials, as well as solids, such as bar stock and rails. With their efficient operation, compact design and ease of setup, they provide fast, accurate cold cutting of pipe for contractors, water departments, gas companies and refineries, as well as nuclear industry, petrochemical plant, processing, paper and general industry plant maintenance departments.

EASY SETUP, VERTICAL OR HORIZONTAL...

Installation time is approximately 5 minutes! A chain pipe vise clamps the Guillotine Saw to the pipe. The machined cast iron "V"-saddle base assures square cuts at right angles and the saw can be mounted in any position around the pipe. It works equally well on vertical and horizontal piping.

QUICK COLD CUTS, MINIMAL CLEARANCE...

The Guillotine Saws require minimal clearance (the model Super C needs as little as 2-1/2" on one side of the pipe). All models feature finger tip feed control. The pipe is cold cut in a matter of minutes. A 6" standard wall steel pipe is cut in only 6 minutes. A 16" dia. 1/2" wall steel pipe is cut in about 20 minutes.

The Model D's rugged design & minimal clearance enable it to handle tough jobs with ease.

PORTABLE, RUGGED DESIGN...

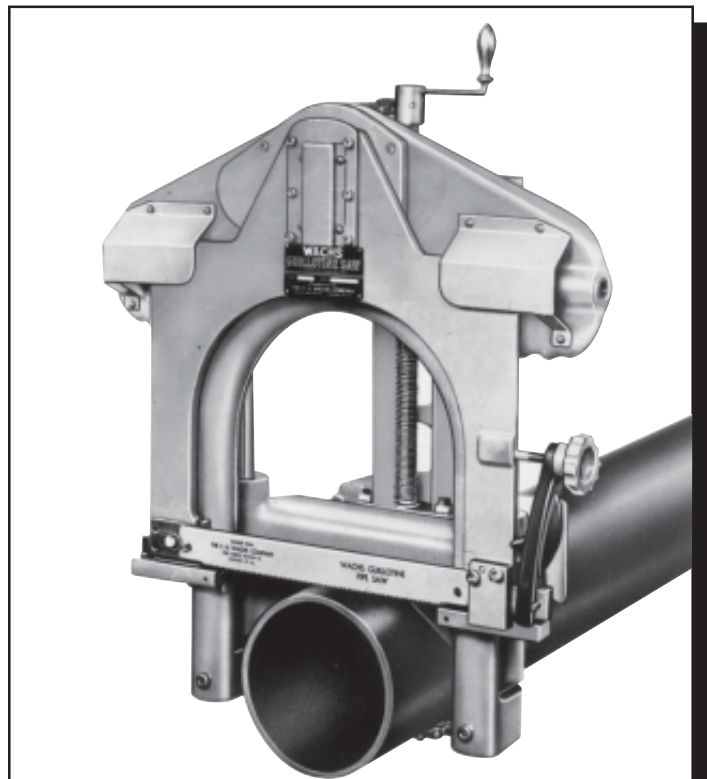
The Guillotine Saws combine compact size and lightweight with simple rugged construction for ease of operation and low maintenance.

LONG BLADE LIFE...

The high-speed steel blades are easily changed and since the unique Guillotine cutting action lifts the blade from the cut on the return stroke, blade life is extended considerably.

#### INCLUDED WITH YOUR SAW:

- 1 blade \*
- 1-1/4" wrench \*
- 1-Air Lubricator and filter (air model only) \*
- 1-Steel storage case ( Model C only) \*
- 2-Lifting eyes, Mounting chains



1. **New** – Entirely different principle of power saw design – Model C makes a machine shop cut in 25" wide ditch, Model D in 32" wide ditch and Super D in 40" wide ditch.
2. **Versatile** – Model C cuts 4" thru 12", Model D cuts 10" thru 16" and Super D cuts 10" thru 24" cast iron or steel pipe and solid bar stock. Can be mounted at any angle permitting cuts previously inaccessible to power cutters or saws.
3. **Accurate** – Chain type pipe vise with accurately machined steel V base gives positive grip and perfect alignment on pipe that assures right angle cuts.
4. **Easy to Operate** – Simple mounting arrangement – easy blade change – fingertip feed control – light in weight – compact for storage and transportation.
5. **Portable** – One man can set up Model C (115 lbs. complete) in a matter of minutes. Model D at 340 lbs. is also easy to set up.
6. **Fast** – Cuts are fast, clean and square – one diameter/inch per minute. Saws are self aligning, set up in a matter of minutes. Manual finger-tip pressure feed gives maximum cutting speed for all materials.
7. **Long Blade Life** – Wachs Guillotine Power Saw Blades are recommended for use with these saws. High speed steel blades – 12", 22" or 31" long – 2" stroke. Blade is lifted from cut on return stroke which extends blade life. Carbide blades are available for cement lined pipe.

# GUILLOTINE PIPE SAW

## SECTION II

## SAFETY INSTRUCTIONS

The E. H. Wachs Company takes great pride in manufacturing safe, quality products with user safety a priority.

The E.H. Wachs Company recommends that all users comply with the following safety rules and instructions when operating our equipment.



**Read the Following thoroughly before proceeding.**

	<b>CAUTION</b> Keep clear of rotating parts during operation. Hands and arms should be kept a minimum of 2' away from moving parts except during starting and stopping.
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1. **READ THE OPERATING MANUAL!!** Reading the setup and operating instructions prior to beginning the setup procedures can save valuable time and help prevent injury to operators or damage to machines.
2. **INSPECT MACHINE & ACCESSORIES!** Prior to machine setup physically inspect the machine and it's accessories. Look for worn tool slides, loose bolts or nuts, lubricant leakage, excessive rust, etc. A properly maintained machine can greatly decrease the chances for injury.
3. **ALWAYS READ PLACARDS & LABELS!** All placards, labels and stickers must be clearly legible and in good condition. Replacement labels can be purchased from the manufacturer.
4. **KEEP CLEAR OF ROTATING PARTS!** Keep hands, arms and fingers clear of all rotating or moving parts. Always turn machine off before attempting any adjustments requiring contact with the machine or it's accessories.
5. **SECURE LOOSE CLOTHING & JEWELRY!** Loose fitting clothing, jewelry; long, unbound hair can get caught in the rotating parts on machines. By keeping these things secure or removing them you can greatly reduce the chance for injury.
6. **KEEP WORK AREA CLEAR!** Be sure to keep the work area free of clutter and nonessential materials. Only allow those personnel directly associated with the work being performed to have access to the area if possible.

For your safety and the safety of others, read and understand these safety recommendations and operating instructions before operating.

### ALWAYS WEAR PROTECTIVE EQUIPMENT:

	<b>WARNING</b> Impact resistant eye protection must be worn while operating or working near this tool.
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For additional information on eye and face protection, refer to federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.133., Eye and Face Protection and American National Standards Institute, ANSI Z87.1, Occupational and Educational Eye and Face Protection. Z87.1 is available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

	<b>CAUTION</b> Personal hearing protection is recommended when operating or working near this tool.
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Hearing protectors are required in high noise areas, 85 dBA or greater. The operation of other tools and equipment in the area, reflective surfaces, process noises and resonant structures can substantially contribute to and increase the noise level in the area. For additional information on hearing protection, refer to federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.95, Occupational Noise Exposure and ANSI S12.6 Hearing Protectors.

	<b>CAUTION</b> Some individuals are susceptible to disorders of the hands and arms when exposed to tasks which involve highly repetitive motions and/or vibration. Disorders such as Carpal tunnel syndrome and tendonitis can be caused or aggravated by repetitious, forceful exertions of the hands and arms.
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- Use minimum hand grip force.
- Keep wrists straight.
- Avoid prolonged, continuous vibration exposure.
- Avoid repeated bending of wrists and hands.
- Keep hands and arms warm and dry.

	<b>CAUTION</b> Gloves are not a form of protection and should not be worn while operating machinery. Chips and debris which are generated during operation should be disposed of in a safe manner. This should be done with the use of a dust pan and broom to avoid exposure to hands.
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# GUILLOTINE PIPE SAW

SECTION V

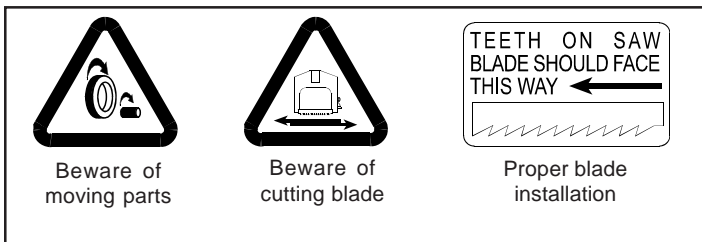
## **SET UP & OPERATING PROCEDURES**

# GUILLOTINE PIPE SAW

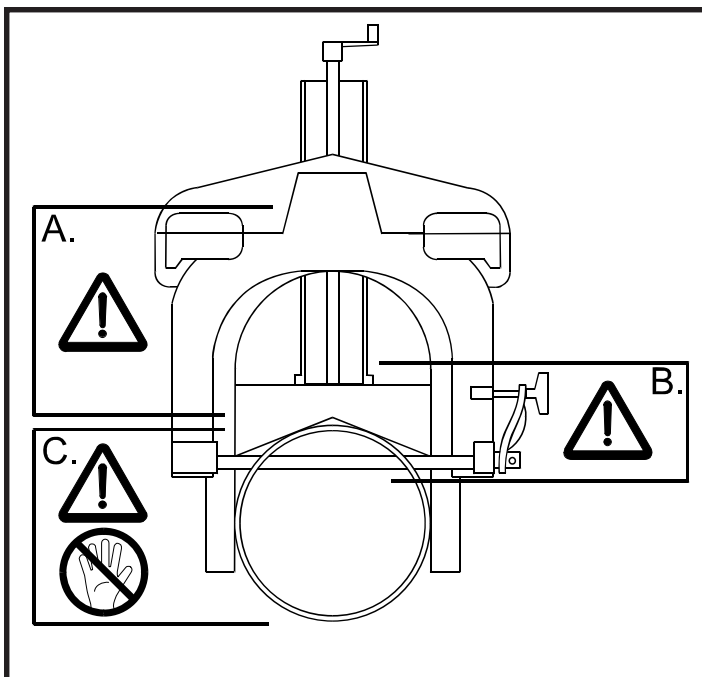
## SECTION V

## SET-UP AND OPERATION

The Wachs Guillotine Pipe Saw (GPS) is shipped from the factory completely assembled and lubricated. The cutting blade is installed so it is only necessary to connect the power supply. Please observe the following warning stickers located on the GPS before proceeding to operate machine.



### MACHINE INSTALLATION



### UNSAFE OPERATING ZONES

The above diagram illustrates zones that should be avoided by the user during operation:

- CAUTION- Oscillating Saw Bow
- CAUTION- Pipe Saddle, keep hands and feet clear when resting saw on pipe.
- CAUTION- Cutting zone, keep all body parts clear during operation.

 **CAUTION: Guillotine Pipe Saw operation is prohibited in potentially explosive environments.**

- Before proceeding to install the GPS, make sure that the blade is raised as high as possible by turning the feed handle counterclockwise until it tops out.
- Lift saw on to pipe. Use assistance to insure saw is centered on pipe. Two persons should be able to safely lift the Guillotine Model C and Super C on to pipe surface using the carrying handles located on either side of the saw frame. For the Model D and Super D, a lifting device will be needed.
- Once the GPS is in the desired position, wrap the clamping chain around the pipe belly. Pull the chain tight, engaging the closest cross pin all the way in the slot provided (Figure 1).



FIGURE 1

- Tighten nut on Clamping Chain Screw until machine is solid on the pipe (Figure 2).



FIGURE 2

# GUILLOTINE PIPE SAW

## SECTION V

## SET-UP AND OPERATION

### BLADE INSTALLATION



**CAUTION: Use gloves to remove worn blades. Metal fragments may cut bare hands.**

3. If you are replacing a broken blade, bring saw bow into its uppermost position by turning feed handle counterclockwise.
4. Loosen blade by turning Tension Knob counterclockwise.
5. Remove worn blade by pulling it off the mounting pins.
6. Check replacement blade to make sure that the teeth are set to cut to the left as you face the machine. To tension blade turn adjustment knob clockwise (Figure 3). A sharp, taut blade will assure a straight, clean cut.



FIGURE 3

4. **ELECTRIC POWERED MODELS ONLY:** Press Ground Fault Interrupt (GFI) Switch located on power cord.
5. Turn on the power and feed blade through the pipe by turning the feed handle clockwise. Rate of feed depends on the material which is being cut and the location of the blade in the cut. When cutting through solid material, we recommend that the feed handle be turned approximately 1/2 of a revolution for each cutting stroke. In light cutting, such as through the center of case iron pipe, it is possible to feed at the rate of 1/4 turn of the feed handle per stroke. After making a few cuts, the operator can determine the rate at which cutting can be done most effectively with the least strain on the machine.
6. When cut has been completed, turn off the power before raising the blade. If there is not enough clearance to raise the blade through the cut, remove the blade and raise the bow by turning the feed handle counterclockwise.

### OPERATING SUGGESTIONS

We recommend the use of cutting oil on the blade when cutting steel pipe. It is not necessary to use a lubricant when cutting cast iron, except for spark arresting. When cutting solid bar stock, cut it dry. Use of oil in this operation interferes with chip removal and slows down cutting.

Cement-asbestos pipe can be cut very easily with our special blade. Always cut Cement-Asbestos dry. Wearing a respirator, clean the dust from the teeth between cuts. It is good practice to drive wedges into the saw cut to prevent the blade from binding. We also recommend that you shim up the pipe to hold it in alignment while cutting. If the cut closes due to ground pressure, remove the blade and move the saw over about a half inch and make a second cut. You can proceed to knock out the ring that you cut leaving more space for the saw to work. A cleaner, faster cut will be the result.

# GUILLOTINE PIPE SAW

## SECTION V

## SET-UP AND OPERATION

### AUTOFEED GUILLOTINE PIPE SAW

#### SET UP & OPERATING INSTRUCTIONS

#### I. FEED PLUNGER OPERATION AND ADJUSTMENT

There is one cam (Ref. 5) mounted on the cam wheel (Ref. 18). As the cam wheel rotates, the cam strikes the feed plunger (Ref. 16), thus causing one cycle of the actuating cylinder. The actuating cylinder forces fluid to the clutch drive cylinder (Ref. 27) which in turn rotates the feed screw.

The feed rate has been factory set at approximately .003 per cycle. This translates to one revolution of the feed screw every 34 cycles.

One revolution of the feed screw (Ref. 23) will move the saw blade downward .111 of an inch.

The feed rate can be increased or decreased by adjusting the feed plunger (Ref. 16).

1. Loosen feed plunger lock nut (Ref. 17).
2. To increase the feed rate turn the feed plunger (Ref. 16) outward toward the cam. To decrease turn the plunger inward.
3. Tighten feed plunger lock nut (Ref. 17).

#### II. CHARGING OF HYDRAULIC FEED SYSTEM

Charging at the hydraulic feed system is a simple operation, providing it is done in the proper sequence.

#### Charging sequence:

1. Remove hydraulic manifold assembly (Ref. 1) and place on a work bench with the plunger on top.
2. Remove pipe plug (Ref. 37) using a 3/16 Allen wrench and install the funnel needle (Ref. 15 & 31) valve assembly. Open needle valve.
3. Fill funnel with Mobil DTE-24 hydraulic fluid or equivalent and let stand a few minutes until air bubbles have dissipated.

4. Loosen accumulator jam nut (Ref. 14) and screw accumulator nut all the way in.
5. Screw accumulator nut (Ref. 13) out and then in. Watch for air bubbles in hydraulic fluid as accumulator nut is screwed in. Repeat this operation until no air bubbles are visible for at least two cycles.
6. Close needle valve and open bleeder valve (Ref. 29).
7. Screw accumulator nut all the way in, thus forcing hydraulic fluid past the check valve (Ref. 59) and into the system. Close bleeder valve (Ref. 29) just before the accumulator nut (Ref. 13) stops. This step will prevent air from going back into the system and will become increasingly more important as you near the completion of the charging procedure.
8. With the bleeder valve (Ref. 29) closed, open the needle valve (Ref. 31) and screw the accumulator nut (Ref. 13) all the way out. Then close the needle valve (Ref. 31) and open the bleeder valve (Ref. 29) after you have screwed the accumulator nut (Ref. 13) in about one turn.
9. Repeat steps 7 and 8 until hydraulic fluid is forced out of bleeder valve (Ref. 29).
10. The next step is to remove the air trapped in the cylinders (Ref. 24, 26 & 27). Start with the actuating cylinder (Ref. 24) that is screwed into the manifold (Ref. 1).  
  
With both the needle (Ref. 31) and bleeder valves (Ref. 29) closed, screw the accumulator nut (Ref. 13) in until the actuating cylinder rod (Ref. 24) is forced out.
11. While manually depressing the actuating cylinder rod (Ref. 24), loosen the bleeder valve (Ref. 29) and continue depressing the cylinder rod (Ref. 24). Close the bleeder valve just before the cylinder rod bottoms out.
12. Repeat steps 7 and 10 several times to insure that all air is expelled from the cylinder. Refill the accumulator (Ref. 26) as needed.

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## SECTION V

## SET-UP AND OPERATION

13. Screw accumulator nut (Ref. 13) in until actuating cylinder rod (Ref. 24) is extended once more. Continue screwing accumulator nut (Ref. 13) in until clutch drive cylinder rod (Ref. 27) is fully extended. This cylinder is spring loaded. The spring will assist you in bleeding this cylinder.
14. While manually depressing the clutch drive cylinder rod (Ref. 27), open the bleeder valve (Ref. 29) and bleed this cylinder in the same manner as you did with the actuating cylinder (Ref. 24).
15. Repeat steps 13 and 14 as often as needed until charging procedure is completed.
16. Refill the accumulator (Ref. 26).

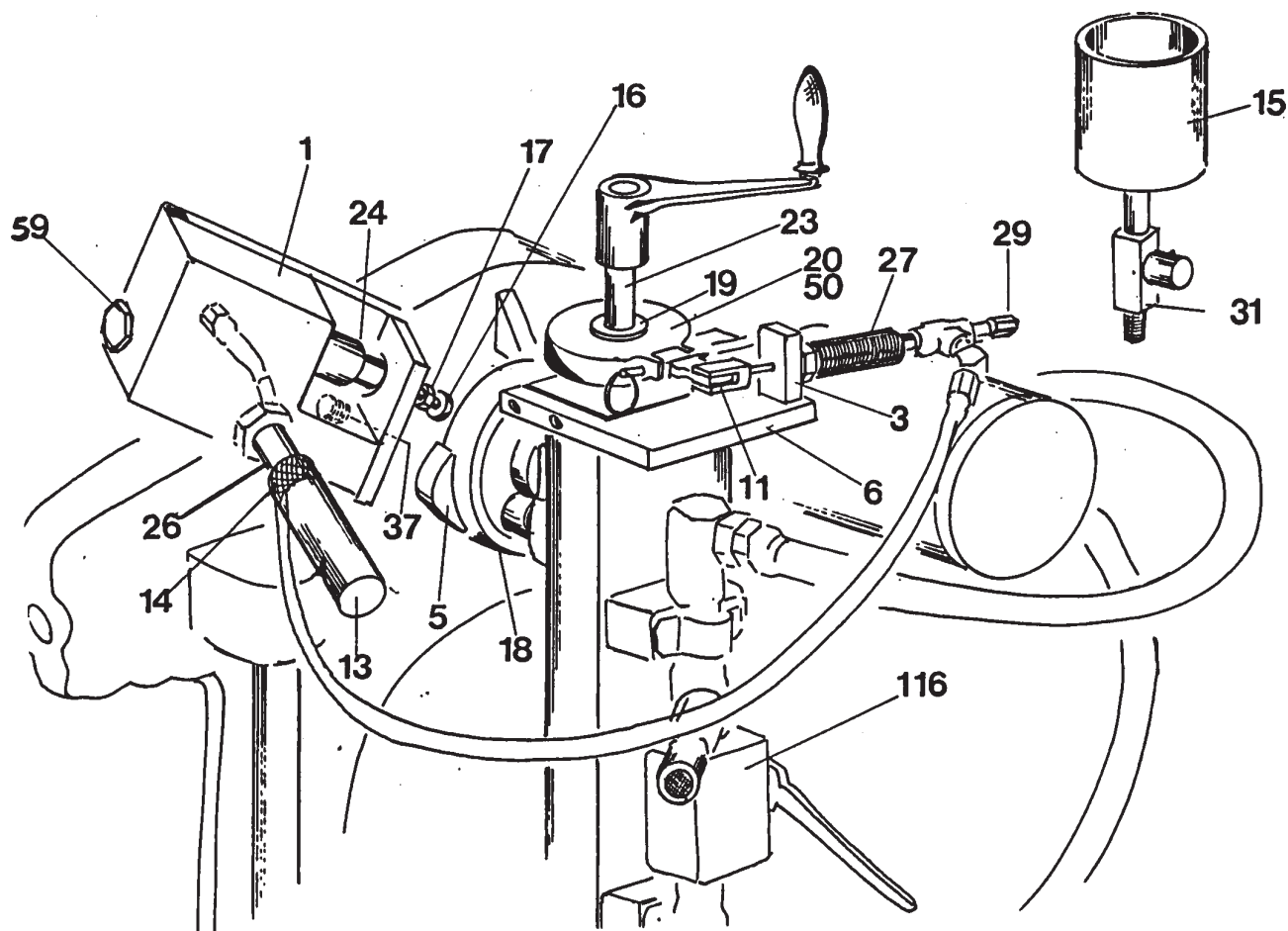
The charging procedure is complete only after the following requirements are met:

a. There must not be any air visible while bleeding the system.

b. Screw accumulator nut (Ref. 13) in until the clutch cylinder rod (Ref. 27) moves approximately one eighth of an inch. Now depress the actuating cylinder rod (Ref. 24). When the actuating cylinder rod (Ref. 27) is depressed the clutch cylinder rod should instantly be extended.

If either of the above requirements are not met the system will not perform correctly. Repeat steps 13, 14 and 16 until these requirements are met.

After the system is charged, lightly tighten the bleeder valve nut (Ref. 29) and close the needle valve (Ref. 31). Remove the funnel needle valve assembly (Ref. 15 & 31) and replace the 1/8 NPT pipe plug (Ref. 37). The system is now ready for operation.



# GUILLOTINE PIPE SAW

SECTION VI

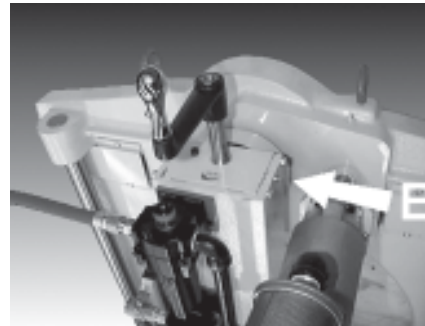
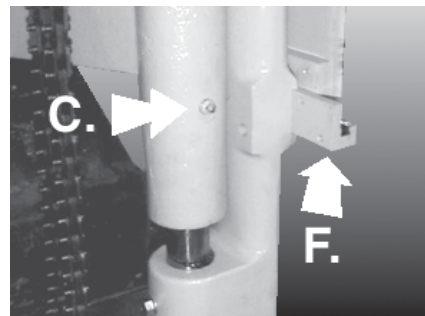
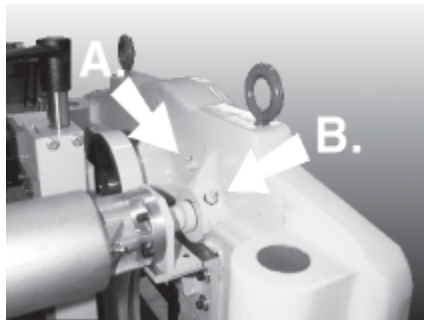
## MAINTENANCE



# GUILLOTINE PIPE SAW

## SECTION VI

## MAINTENANCE



### LUBRICATION INSTRUCTIONS

There are six (6) grease fittings. The pictures on above illustrate the location of each grease fitting.

These fittings should all be lubricated with a good grade of soft grease each day before using the saw. Put a small amount of grease on the following:

Feed Screw (A)	Cam Follower (D)
Cam Wheel (B)	Feed Bracket Assembly (E)
Vertical Guide Shafts (C)	Saw Frame Guide (F)

The lubricator for the air motor should be filled with a good grade of air motor oil. Oil should be fed at the rate of 6 drops per minute as seen through glass opening at top of the oiler. Rate of oil feed is controlled by adjusting the knurled knob on top of oiler.

# GUILLOTINE PIPE SAW

SECTION VII

## TROUBLESHOOTING

# GUILLOTINE PIPE SAW

## SECTION VII

## TROUBLE SHOOTING

Trouble	Possible Cause	Remedy
Drive Motor stalls.	Air Motor is freezing due to cold conditions.	Use Wachs special Anti-Freeze oil.
	Insufficient air supply.	Check air supply. (90 psi constant/100 cfm)
	Insufficient hydraulic oil supply	Check Hydraulic unit for proper levels. (see hydraulic machine specifications on page 11)
	Infeed too hard or too fast	Retract blade, feed slower.
	Dull Cutting blade.	Change blade.
Machine not cutting straight	Infeed too hard or fast.	Reduce infeed speed.
Machine air motor will not start	Dirt and/or corrosion in drive motor.	Remove motor from saw, flush with a light oil or mineral spirits. Run air through motor, turn on and off several times. Hand turn motor drive shaft to free motor.
Machine shifts from its original position.	Loose tensioning chain.	Tighten chain.
Excessive vibration.	Blade loose	Tighten blade.
	Excessive wear on saddle guide rod bushing.	Return to E.H. Wachs for repair.
Machine stalls	Saw is feeding too fast	slow feed rate
	Excessive wear on Feed Nut and Screw Assembly.	Return to E.H. Wachs for repair.

If a problem persists or is not listed in the above chart, cease operation and consult the manufacturer for additional instructions.