Goliath Guillotine Pipe Saw
User's Manual

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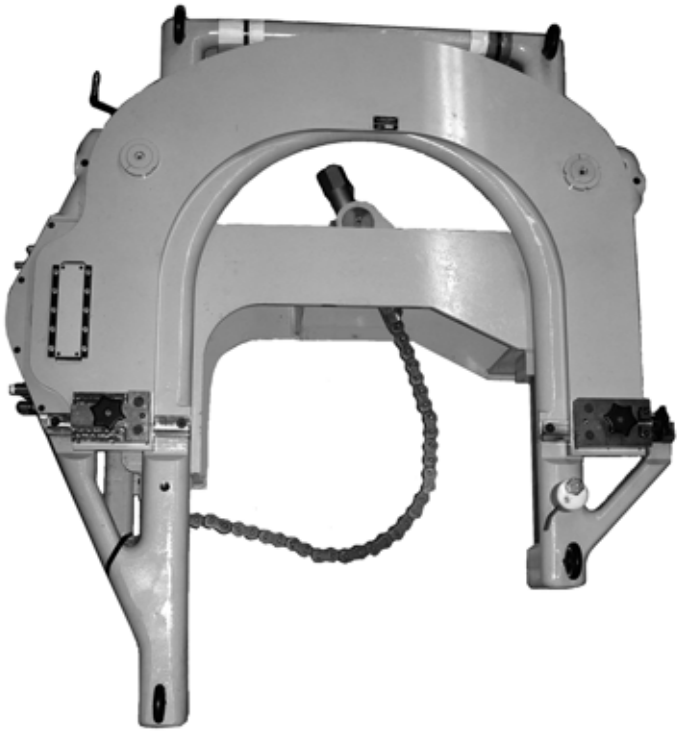

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Version 1	August 1999
Revision 2	July 2004
Revision 3	May 2006

Chapter 1
About This Manual

In This Chapter

PURPOSE OF THIS MANUAL
HOW TO USE THE MANUAL
SYMBOLS AND WARNINGS
MANUAL UPDATES

PURPOSE OF THIS MANUAL

This manual explains how to operate and maintain the Goliath Guillotine pipe saw. It includes instructions for set-up, operation, and maintenance. It also contains parts lists and diagrams, and troubleshooting instructions to help you order replacement parts and perform user-serviceable repairs.

Before operating the Goliath, you should read through this manual and become familiar with all instructions. At a minimum, make sure you read and understand the following chapters:

- Chapter 1, About This Manual
- Chapter 2, Safety
- Chapter 3, Introduction to the Goliath Guillotine
- Chapter 5, Operating Instructions
- Chapter 9, Accessories

If you will be performing service or repairs, make sure you read and understand these chapters:

- Chapter 1, About This Manual
- Chapter 4, Assembly and Disassembly
- Chapter 6, Routine Maintenance
- Chapter 7, Troubleshooting and Repair.

You will also want to refer to Chapter 8, Parts Lists and Drawings.

Throughout this manual, refer to this column for warnings, cautions, and notices with supplementary information.

HOW TO USE THE MANUAL

This manual is organized to help you quickly find the information you need. Each chapter describes a specific topic on using or maintaining the equipment.

Each page is designed with two columns. This large column on the inside of the page contains instructions and illustrations. Use these instructions to operate and maintain the equipment.

The narrower column on the outside contains additional information such as warnings, special notes, and definitions. Refer to it for safety notes and other information.

SYMBOLS AND WARNINGS

The following symbols are used throughout this manual to indicate special alerts and notes. They appear in the outside column of the page, next to the section they refer to. Make sure you understand what each symbol means, and follow all instructions for cautions and warnings.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

NOTE

This symbol indicates a user notice. **Notices** provide additional information to supplement the instructions, or tips for easier operation.

MANUAL UPDATES AND REVISION TRACKING

Occasionally, we will update manuals with improved operation or maintenance procedures, or with corrections if necessary. Revised chapters will be available for customers. If you receive revised chapters for your manual, remove the old chapters from your binder and replace them with the new chapters.

When a manual is revised, we will update the revision history on the title page and at the bottom of the pages in the revised chapters. It is important to put the current title page with the revision history in your manual. This will help you make sure you have all current information.

You may have factory service or upgrades performed on the equipment. If this service changes any technical data or operation and maintenance procedures, we will include revised sections of the manual when we return the equipment to you. Remove the old chapters from your manual and replace them with the revised chapters.

Current versions of E.H. Wachs Company manuals are also available in PDF format. You can request an electronic copy of this manual by emailing customer service at sales@wachsco.com.

Chapter 2
Safety

The E.H. Wachs Company takes great pride in designing and manufacturing safe, high-quality products. We make user safety a top priority in the design of all our products.

⚠ WARNING

Read this chapter carefully before operating your Goliath Guillotine pipe saw. Serious injury or death could result from improper operation or repair of this equipment.

Repair and/or service to this equipment must only be done by an authorized and certified dealer.

In This Chapter

OPERATOR SAFETY
SAFETY LABELS
MACHINE SAFETY

OPERATOR SAFETY

Follow these guidelines for safe operation of the equipment.

- **READ THE OPERATING MANUAL.** Make sure you understand all setup and operating instructions before you begin.
- **INSPECT MACHINE AND ACCESSORIES.** Before starting the machine, look for loose bolts or nuts, leaking lubricant, rusted components, and any other physical conditions that may affect operation. Properly maintaining the machine can greatly decrease the chances for injury.
- **ALWAYS READ PLACARDS AND LABELS.** Make sure all placards, labels, and stickers are clearly legible

Look for this symbol throughout the manual. It indicates a personal injury hazard.

and in good condition. You can purchase replacement labels from E.H. Wachs Company.

- **KEEP CLEAR OF MOVING PARTS.** Keep hands, arms, and fingers clear of all rotating or moving parts. Always turn machine off before doing any adjustments or service.
- **SECURE LOOSE CLOTHING AND JEWELRY.** Secure or remove loose-fitting clothing and jewelry, and securely bind long hair, to prevent them from getting caught in moving parts of the machine.
- **KEEP WORK AREA CLEAR.** Keep all clutter and nonessential materials out of the work area. Only people directly involved with the work being performed should have access to the area.

Safety Symbols

This icon is displayed with any safety alert that indicates a personal injury hazard.

⚠ WARNING

This safety alert indicates a potentially hazardous situation that, if not avoided, **could** result in **death or serious injury**.

⚠ CAUTION

This safety alert, with the personal injury hazard symbol, indicates a potentially hazardous situation that, if not avoided, **could** result in **minor or moderate injury**.

NOTICE

This alert indicates a situation that, if not avoided, **will** result in **damage to the equipment**.

IMPORTANT

This alert indicates a situation that, if not avoided, **may** result in **damage to the equipment**.

SAFETY LABELS

There is no safety labeling on the Goliath Guillotine saw.

MACHINE SAFETY

Observe the following guidelines for reliable machine operation and care.

- Make sure all hydraulic couplers are wiped clean before connection.
- Make sure all pressure and return hoses are connected to the correct couplings.
- Always replace blades, hydraulic components, and other parts with replacement parts recommended by the E.H. Wachs Company.
- Keep the machine lubricated according to the instructions in Chapter 6.
- Make sure the blade is tight before cutting.
- Do not exceed the rated hydraulic flow (see Specifications in Chapter 3).
- Always keep critical tool markings, such as warning stickers and tags, legible.
- Do not use the saw for applications for which it is not intended.
- Service and repair should be performed by experienced personnel only.

NOTICE

Failure to follow the instructions for machine safety could result in damage to the equipment.

Chapter 3

Introduction to the Goliath Guillotine

Read this chapter carefully to become familiar with the components and features of your Goliath Guillotine pipe saw.

In This Chapter

USAGE AND APPLICATIONS
MACHINE CONTROL
SPECIFICATIONS
ACCESSORIES

USAGE AND APPLICATIONS

The Goliath Guillotine is designed to cold-cut pipes, solids, and multi-stranded casing strings from 16” to 32” (41 to 81 cm) in diameter. The Goliath is easy to set up, even sub-sea, and is available with an autoclamp option and topside controls for remote operation.

The Goliath Guillotine operates on hydraulic power, with two heavy-duty hydraulic motors requiring a power source with 15 gpm flow at 1500 psi (standard) or 15 gpm @ 2000 psi (autoclamp).

Figure 3-1 illustrates the components of the standard Goliath Guillotine. Figure 3-2 shows the saw with the optional autoclamp. The autoclamp arm closes under hydraulic power and holds the pipe in the pipe saddle during cutting.

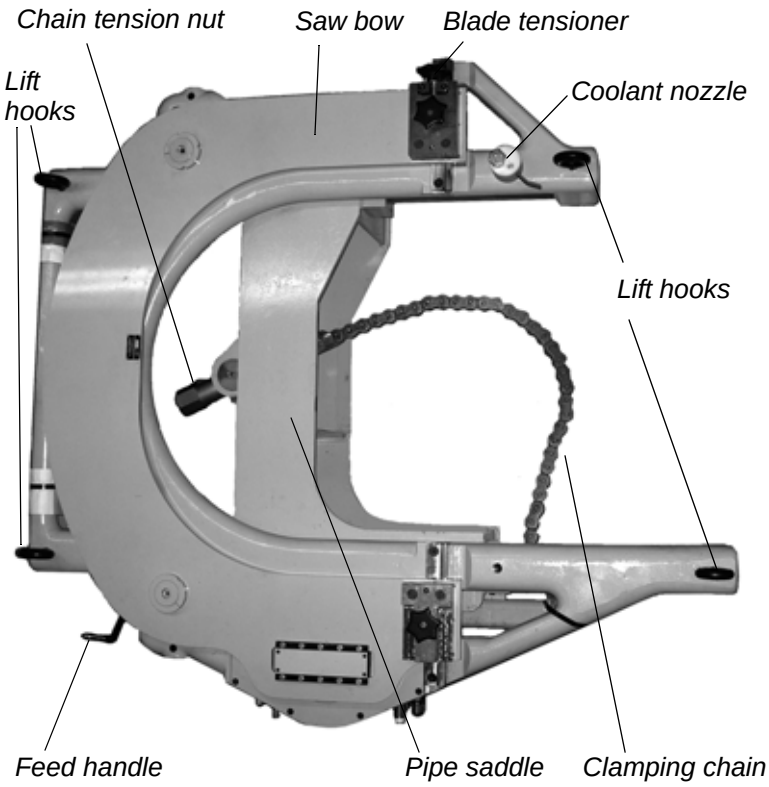


Figure 3-1. Components of the standard Goliath Guillotine are illustrated.

Figure 3-2. Goliath with autoclamp accessory.

MACHINE CONTROL

Two options are available for control of the Goliath Guillotine: a machine-mounted control panel attached to the machine frame, and the Wachs topside control unit (TCU) for remote operation.

Machine-Mounted Control Panel

The machine-mounted control panel allows the Goliath to be operated at the machine. Controls are provided for the cutting drive and the optional autoclamp drive. Operating instructions are in Chapter 5.

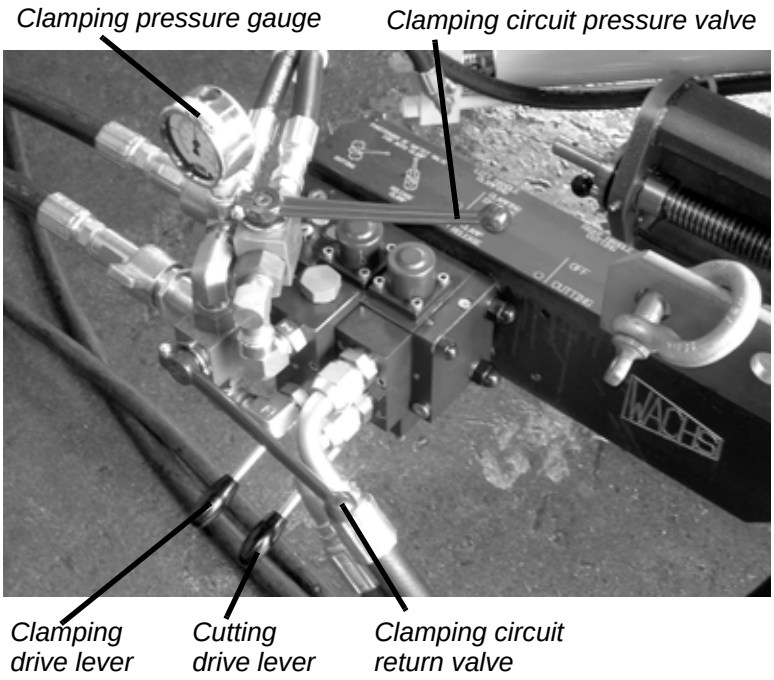


Figure 3-3. The photo illustrates the controls on the machine-mounted control panel.

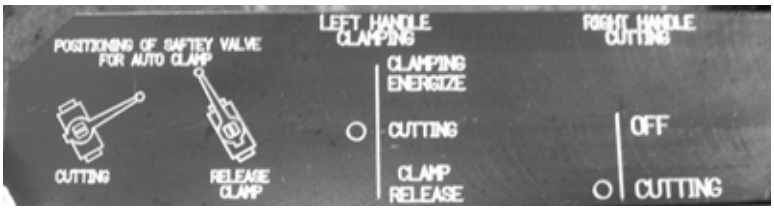


Figure 3-4. Instructions for the controls are included on the top of the control panel.

Topside Control Unit

The topside control unit (TCU) provides remote controls for up to three hydraulic drives. The Goliath Guillotine uses two hydraulic drives, one for the saw motion and autofeed, and one for the optional autoclamp feature.

Instructions for operating the saw using the TCU are in Chapter 5.

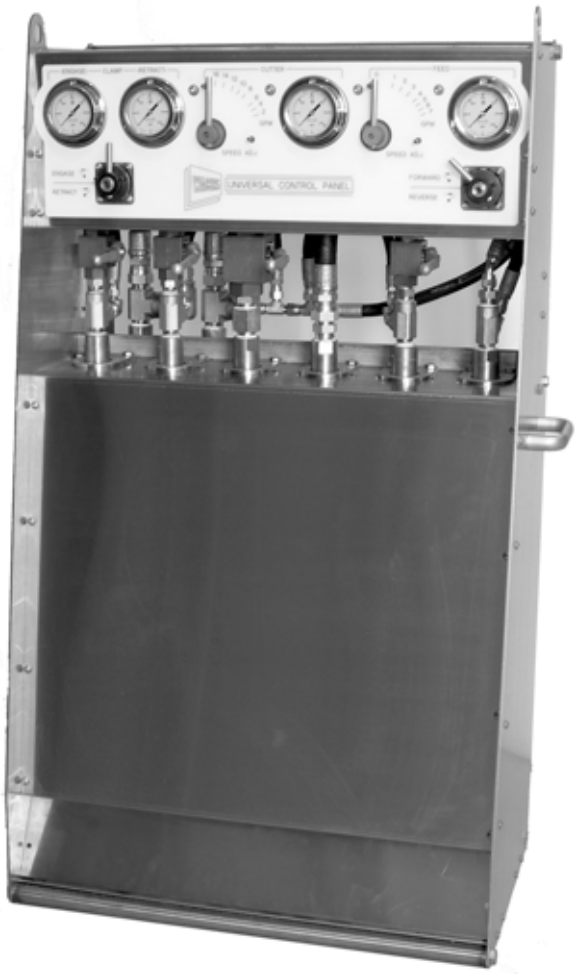


Figure 3-5. The topside control unit (TCU) has controls for the clamping and cutting drives on the Goliath Guillotine. It has inputs for hydraulic power and separate outputs and controls for up to three drives.

For use with the TCU, the Goliath is fitted with a hydraulic connector bulkhead, as shown in Figure 3-6.

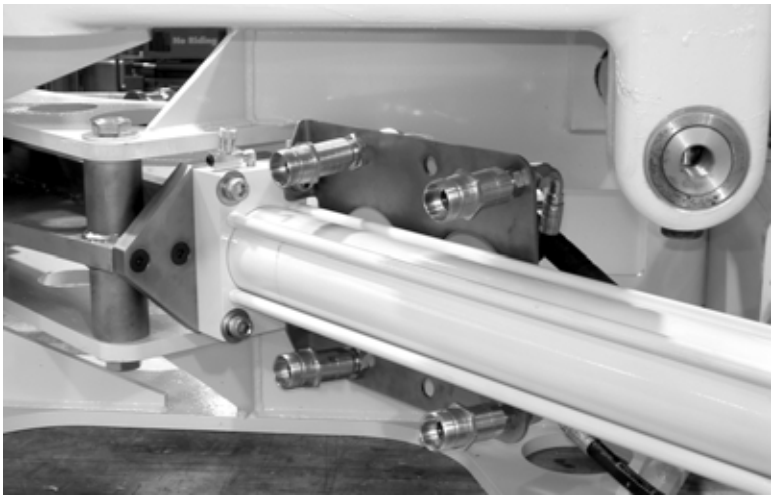


Figure 3-6. A hydraulic fitting bulkhead on the Goliath Guillotine has connectors for operating the autoclamp and cutting drives remotely from the TCU.

SPECIFICATIONS

Capacity	16-32” (41-82 cm) diameter pipe
Hydraulic requirements	Standard: 15 gpm @ 1500 psi (57 l/m @ 103 bar) Autoclamp: 15 gpm @ 2000 psi (57 l/m @ 138 bar)
Feed system	Manual or mechanical autofeed (selectable by operator)
Autofeed rate (per cycle)	Low speed: 0.008” (0.020 cm) High speed: 0.016” (0.041 cm)
Dimensions (standard)	Length: 76.5” (194 cm) Width: 66” (168 cm) Height: 25” (63.5 cm)
Dimensions (with autoclamp)	Length: 82.5” (210 cm) Width: 78” (198 cm) Height: 25.9” (65.8 cm)
Weight	Standard: 1800 lbs (818 kg) Autoclamp: 2300 lbs (1045 kg)

Finish	Painted cast surfaces; chrome-plated rods; other components zinc-nickel iridescent chromated.

ACCESSORIES

- Auto-clamp mechanism for easy, remote set-up and operation.
- Remote control system with topside control unit (TCU) and hose reel.
- Machine-mounted control panel with hose connector bulkhead and control levers.

Chapter 4

Assembly, Disassembly, and Storage

The Goliath Guillotine pipe saw is shipped fully assembled from the factory, except for the blade and the clamping chain. It is ready to operate as soon as you remove it from its shipping pallet.

In This Chapter

ENVIRONMENTAL REQUIREMENTS

LONG-TERM STORAGE

ENVIRONMENTAL REQUIREMENTS

The Goliath Guillotine can be used in any environment, including underwater and undersea.

Be sure to follow the environmental guidelines for the hydraulic power unit you are using with the saw.

LONG-TERM STORAGE

If the saw has been used in salt water, spray it thoroughly with fresh water to remove salt residue. Grease all grease fittings before storage, and apply machine oil to the rods, screw, and gears.

Strap the saw securely to its shipping pallet. If possible, store the saw in a dry, non-corrosive environment.

Chapter 5

Operating Instructions

This chapter includes instructions for all three Goliath configurations:

- standard machine
- autoclamp machine with machine-mounted controls
- autoclamp machine with bulkhead for topside control.

You should lubricate the Goliath saw before every cut. See lubrication instructions in Chapter 6.

LIFTING THE SAW

The Goliath is provided with four eye hooks for lifting it with a crane. There are ten threaded holes in the frame for mounting eye hooks; put the hooks into the appropriate holes for the way you are mounting the saw on the workpiece. Specific lifting instructions are included in each section of this chapter.

In This Chapter

LIFTING THE SAW

INSTALLING THE BLADE

USING THE AUTOFEED

OPERATING THE STANDARD MACHINE

OPERATING THE AUTOCLAMP MACHINE

OPERATING THE MACHINE WITH THE TOPSIDE CONTROL UNIT

IMPORTANT
Always leave the chains and lift attached to the saw while cutting.

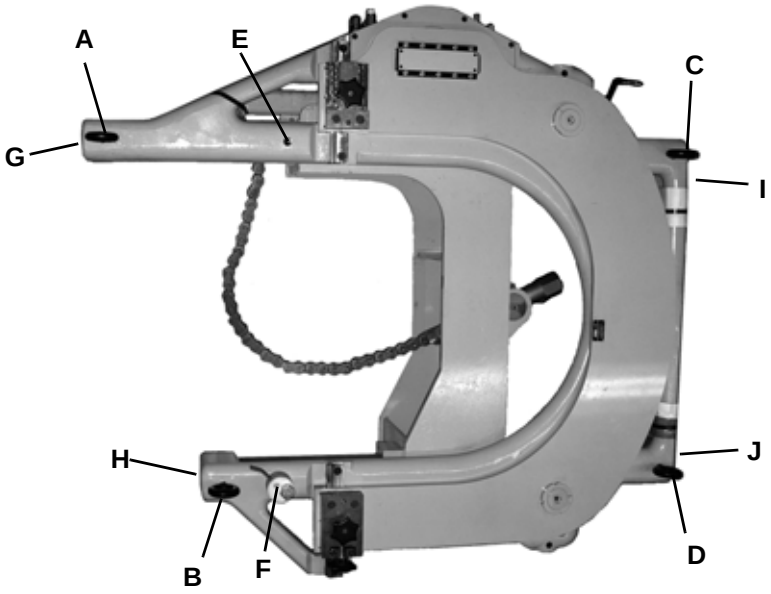


*Figure 5-1. Eyebolt locations on the Goliath Guillotine. (Hooks are shown installed in locations **A**, **B**, **C**, and **D**.) Location **F** is also used for the optional coolant nozzle, as shown. Locations **G**, **H**, **I**, and **J** are on the ends of the frame, as shown in Figure 5-2 and Figure 5-3.*

Figure 5-2. The eyebolts can be screwed into the threaded holes G and H on the end of the frame.

*Figure 5-3. Eyebolts can be screwed into the threaded holes **I** and **J** in the end of the frame.*

*To mount the saw **on top of a horizontal pipe—***

- Connect chains to eyebolts installed in frame locations **I** and **J** and lift the saw in a vertical orientation.

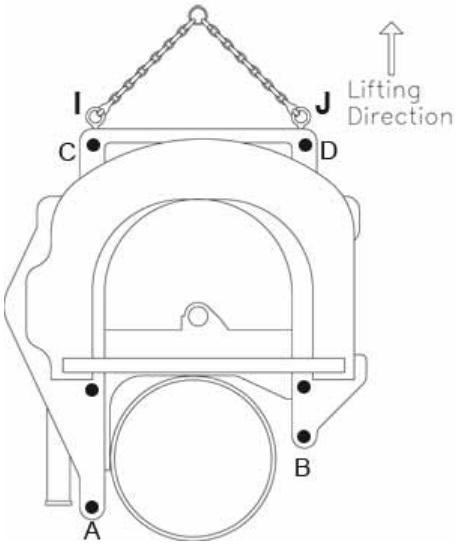


*Figure 5-4. Use eyebolt locations **I** and **J** to lift the saw vertically onto a horizontal pipe.*

*To mount the saw **on the side of a horizontal pipe—***

- Connect chains to eyebolts installed in frame locations **G** and **I** and lift the saw on its side.

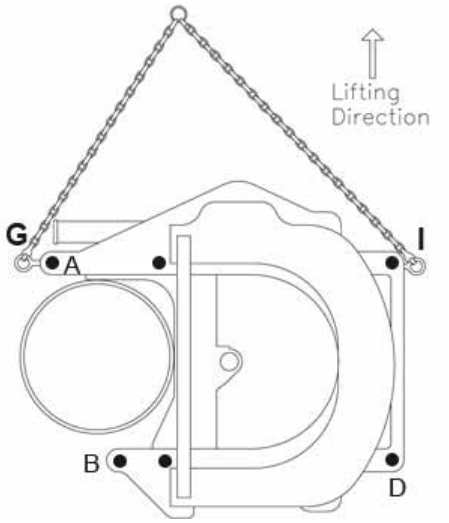


*Figure 5-5. Use eyebolt locations **G** and **I** to mount the saw on the side of a horizontal pipe.*

*To mount the saw **on a vertical pipe—***

- Connect chains to eyebolts installed in frame locations **A**, **C**, and **D**, and lift the saw in a horizontal orientation.

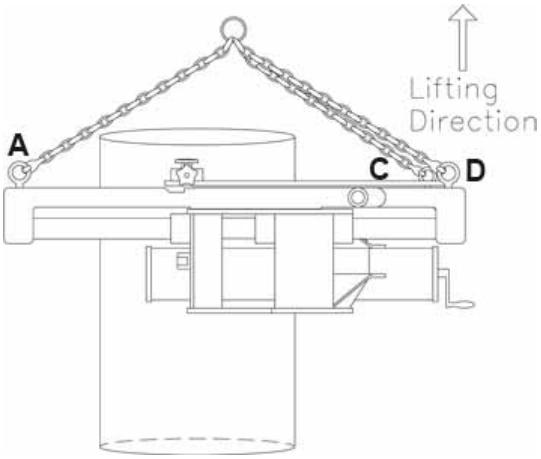


*Figure 5-6. Use eyebolt locations **A**, **C**, and **D** to mount the saw on a vertical pipe.*

INSTALLING THE BLADE

CAUTION
Use gloves when handling blades to prevent cuts.

Installing the blade on the saw is the same for all configurations of the Goliath. There are two different blades available:

- a coarse blade used for heavy wall or multi-strand pipe
- a fine blade used for thin-wall, single-strand pipe.

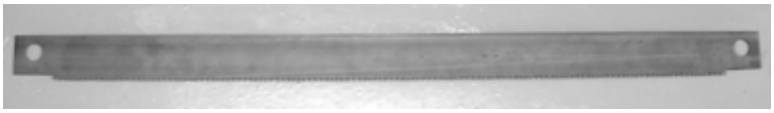


Figure 5-7. Goliath Guillotine blade. The mounting holes at each end are held by the dowel pins in the clamp blocks.

Mount the saw onto the workpiece before installing the blade.

There are two blade clamp blocks that hold the blade in place, one on each end of the saw bow. The block on the right side (when facing the saddle) has a knob for tensioning the blade, as shown in Figure 5-8.

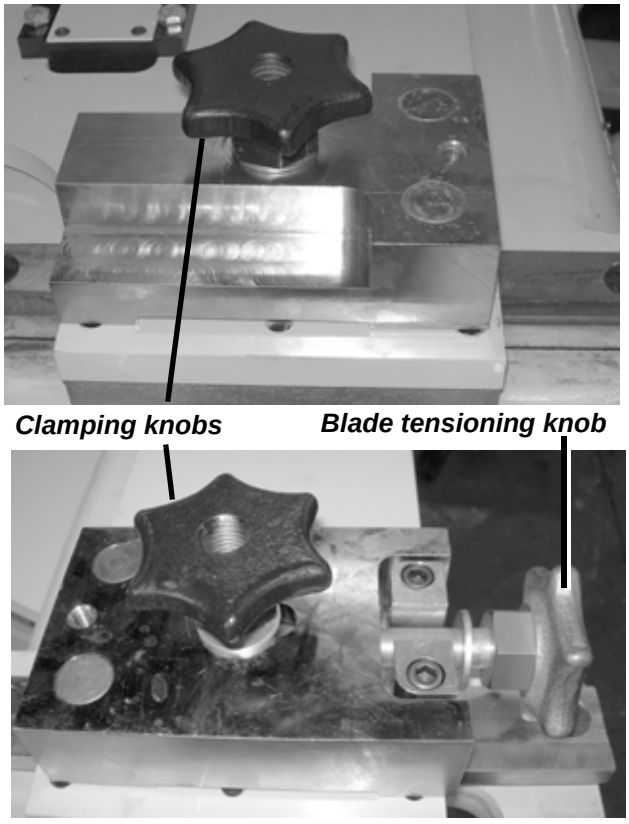


Figure 5-8. The photos show the clamp blocks on the Goliath saw bow. The right block (bottom photo) has a blade tensioning knob.

1. Unscrew the clamp knob on the left clamp block almost to the top of the screw. You will need to lift the block high enough to raise the dowel pins out of the bow.

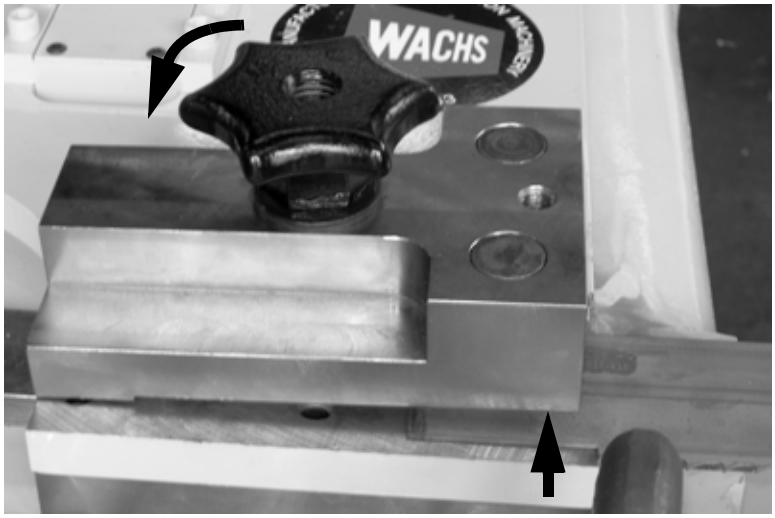
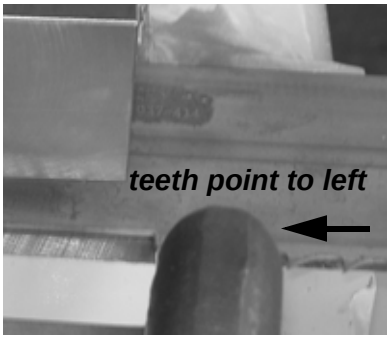


Figure 5-9. Loosen the clamp knob on the left clamp block so that you can raise the dowel pins out of the saw bow.

IMPORTANT
Install the blade so that the teeth point to the left.



2. Holding the block up, slide the end of the blade under the block so that the hole in the blade is lined up beneath the dowel pin.

3. Set the clamp block down with the dowel pin through the hole in the blade. Tighten the clamp knob with your fingers until it is just snug.

4. Unscrew the clamp knob on the right block and lift the block to insert the other end of the blade.

5. Set the right block back down with the dowel pin through the hole in the blade and tighten the clamp knob until it is just snug.

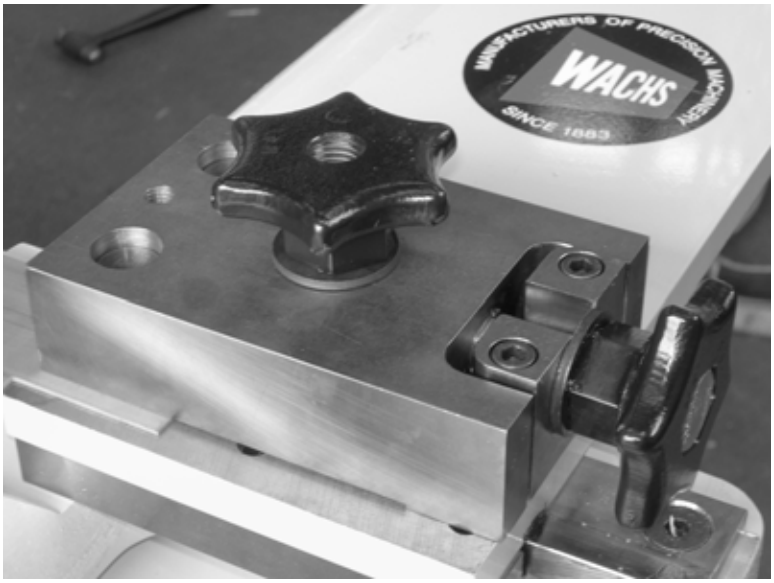


Figure 5-10. Install the right clamp block on the blade and snug the clamp knob.

6. Using the 1-3/8” end wrench, turn the blade tensioning knob on the right clamp block to tighten the blade.

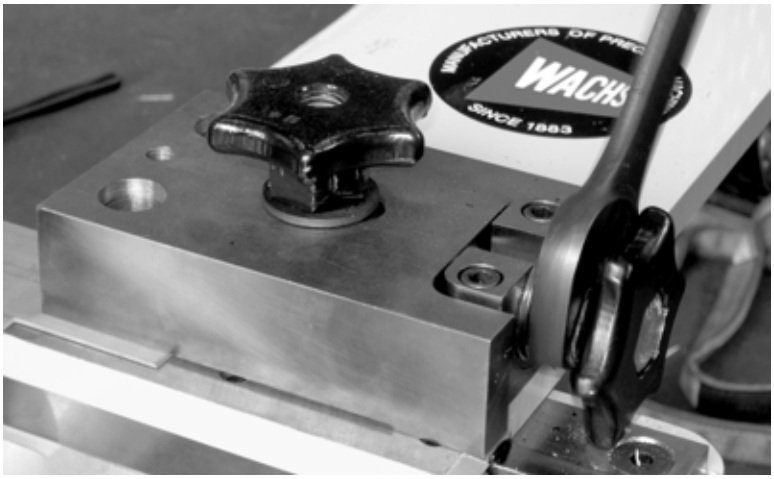


Figure 5-11. Tighten the tensioning knob to pull the saw blade tight.

7. Use the 1-3/8” wrench to tighten the clamp knobs on both clamp blocks.

Figure 5-12. Tighten the clamp knob on both clamp blocks to secure the blade for cutting.

USING THE AUTOFEED

The mechanical autofeed mechanism works the same for all configurations of the Goliath Guillotine. Use this procedure to engage and disengage the autofeed when cutting with the saw.

The autofeed is driven from the cam wheel that moves the saw bow for cutting. A trip pin on the underside of the cam wheel strikes the feed shaft on each revolution, turning the shaft and rotating the feed worm gear.

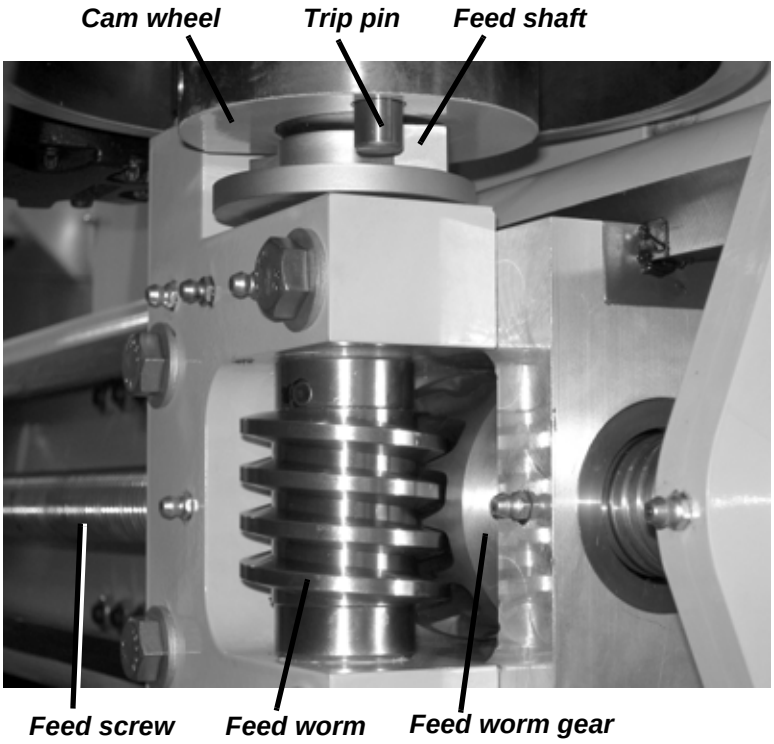


Figure 5-13. The photo shows the feed drive components.

When the autofeed is disengaged, the feed screw turns freely and does not move the bow. Engaging the autofeed locks the feed screw, allowing the feed worm gear to index the bow into the workpiece with each revolution of the wheel cam.

The feed rate is approximately 0.008” per saw cycle. A second trip pin in the wheel cam allows you to double the feed rate. With the saw off, slide the second pin down out of the wheel until it locks in place. The wheel motion will then trip the feed shaft twice during each saw cycle.

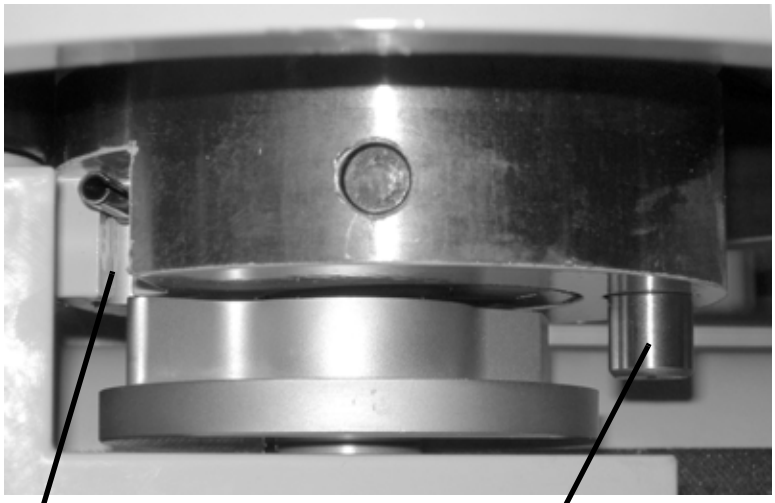


Figure 5-14. To double the feed rate, use a pliers to pull the secondary trip pin down until it snaps into place. Slide it back up into the cam wheel to set the feed rate back to the standard speed.

1. Make sure the autofeed is disengaged when starting the saw motion. The feed lockout pin will be pushed in to disengage the feed.

Figure 5-15. Push the feed lever up to the disengaged position and push in the lockout pin.

2. Engage power to the saw according to the instructions in the appropriate section below.

3. With the saw running, pull out the lockout pin to release the feed lever.

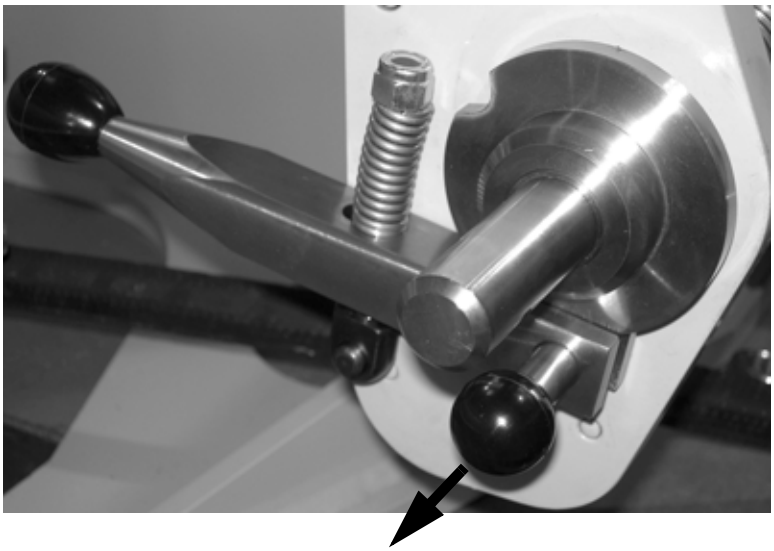


Figure 5-16. Pull out the lockout pin and release the feed lever to engage the autofeed.

4. The feed screw will turn until the autofeed notch engages the lockout pin. The pin will hold the feed screw stationary, allowing the saw bow to

OPERATING THE STANDARD MACHINE

Follow the instructions in this section to set up and operate the standard Goliath Guillotine (configured without auto-clamp or topside controls).

Connecting the Hoses

1. Connect the hydraulic pressure hose to the pressure side connector (with the flow bypass valve) on the saw.

There is no flow/ speed control on the standard Goliath. If your HPU does not have speed control, call E.H. Wachs Company to request an optional flow control valve assembly.

2. Connect the return hose to the return side connector on the saw.

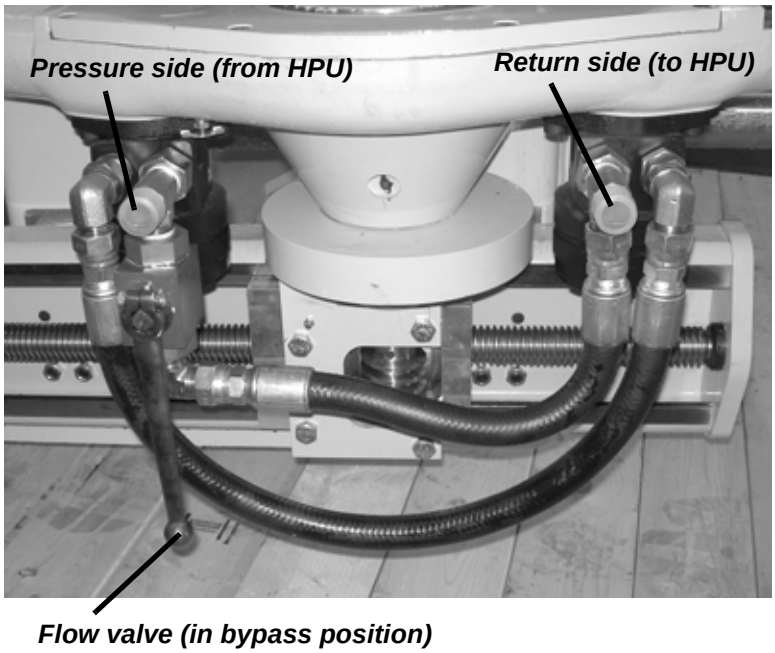


Figure 5-17. Connect the hydraulic hoses to the connectors on the Goliath. When the flow valve is in the bypass position (as shown), the saw motion is disabled.

Clamping the Saw to the Workpiece

IMPORTANT
It is recommended that you mount the saw to the workpiece without the blade installed. The blade could be damaged if the saw strikes the workpiece during positioning.

Before mounting the saw on the workpiece, make sure the bow is fully retracted. If necessary, turn the manual feed handle clockwise until it tops out.

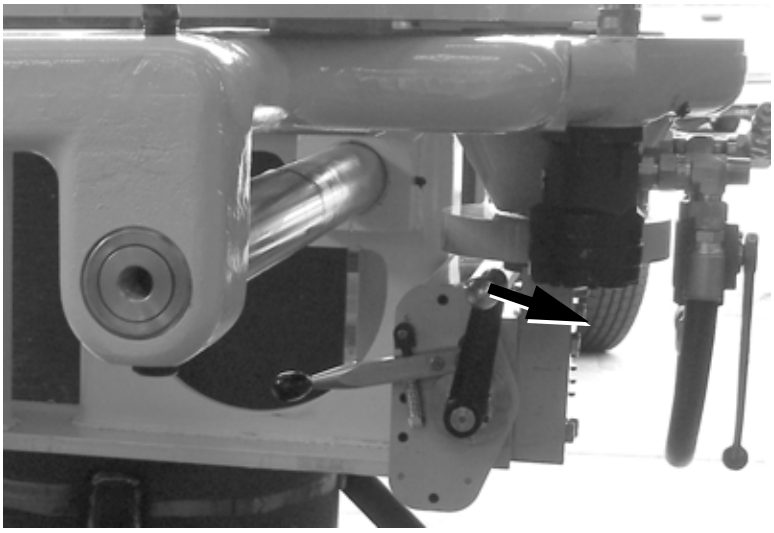


Figure 5-18. If necessary, turn the feed handle clockwise to retract the saw bow before mounting the saw.

1. Attach the saw to a crane or lift as described in "Lifting the Saw" earlier in this chapter.

2. Lift the saw and position it so that the saddle is against the workpiece. Wrap the clamping chain around the workpiece and pull it snug.

Figure 5-19. With the crane holding the saw in place, wrap the clamping chain around the workpiece.

3. Insert the closest cross pin of the chain into the clamp screw hook.

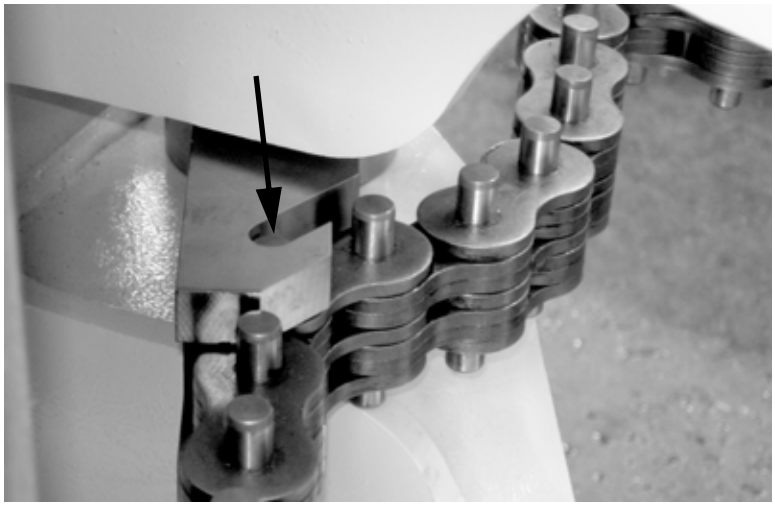


Figure 5-20. Insert the chain cross pin into the screw hook.

Tighten the clamping chain as tight as you can get it with the end wrench.

4. Using a 2-1/2” end wrench supplied with the saw, tighten the chain tensioning nut by turning it clockwise until the chain is secure.

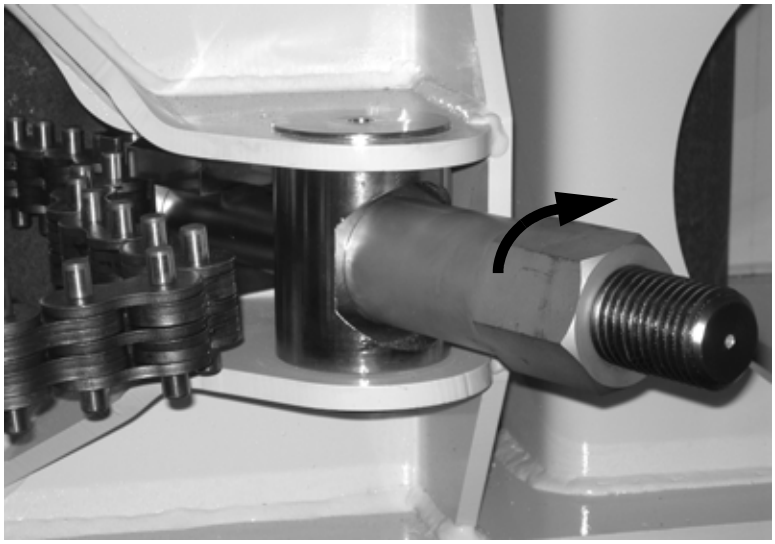
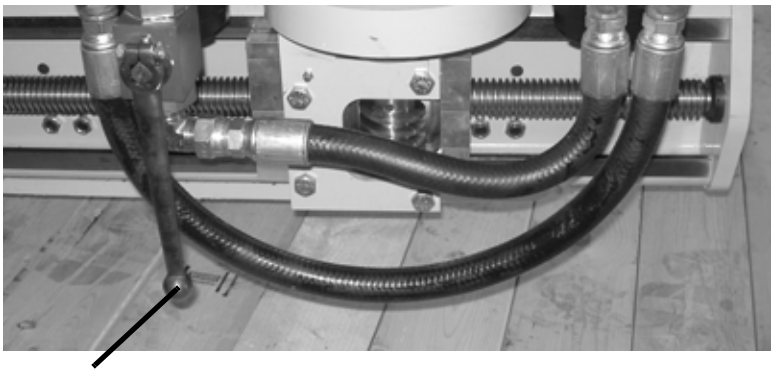


Figure 5-21. Turn the chain tensioning nut clockwise to secure the saw to the workpiece.

5. Release the crane slightly to allow the clamping chain to support the weight of the saw. Leave the crane attached to the saw while cutting.

Operating the Saw

1. Make sure the flow valve on the saw is set to the bypass (off) position.



Flow valve in bypass (off) position

Figure 5-22. Make sure the flow valve is off before starting the saw.

2. Make sure the autofeed lever is disengaged, with the feed lockout pin pushed in.

Figure 5-23. The feed lever should be disengaged and the lockout pin pushed in.

3. Turn on the hydraulic power unit and ensure that it is operating at 1500 psi (103 bar).

4. Slowly open the flow valve on the saw to start the cutting motion. Open the valve all the way.

WARNING
IMPORTANT
Always support the workpiece securely on both sides of the cutting location. Any unsecured section of the workpiece could shift or fall during cutting, damaging the equipment or causing injury to an operator.

NOTICE:
The lifting device should be attached to the saw during cutting, but make sure there is slack in the chain at all times.

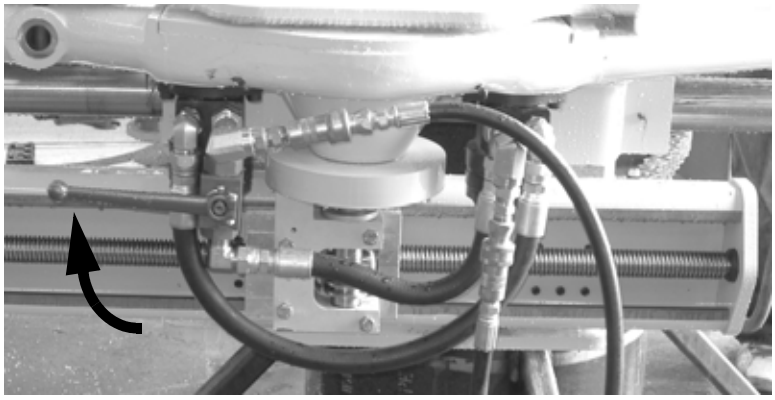


Figure 5-24. Open the flow valve (up position) to engage the saw cutting motion.

See “Using the Autofeed” earlier in this chapter.

5. To engage the cut, pull out the autofeed lockout pin to release the feed lever. The feed screw will engage and the bow will index into the workpiece.

6. If the saw binds or chatters while cutting, disengage the autofeed for a few cycles.

7. When the cut is complete, disengage the autofeed.

8. Turn off power to the saw by closing the flow valve (bypass position).

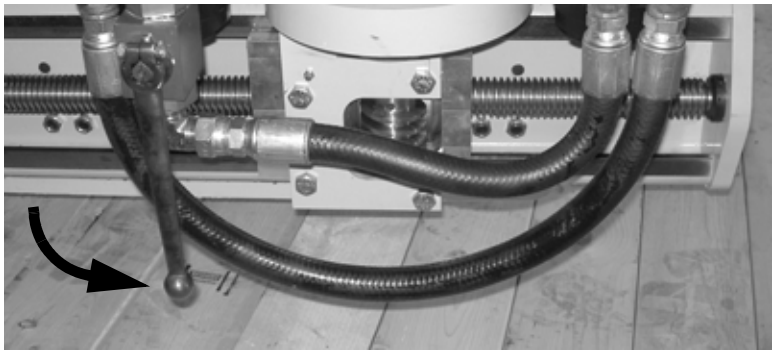


Figure 5-25. Close the flow valve to stop the saw.

You may need to remove the blade before retracting the bow.

9. Using the feed handle on the end of the feed screw, retract the saw bow fully from the workpiece.

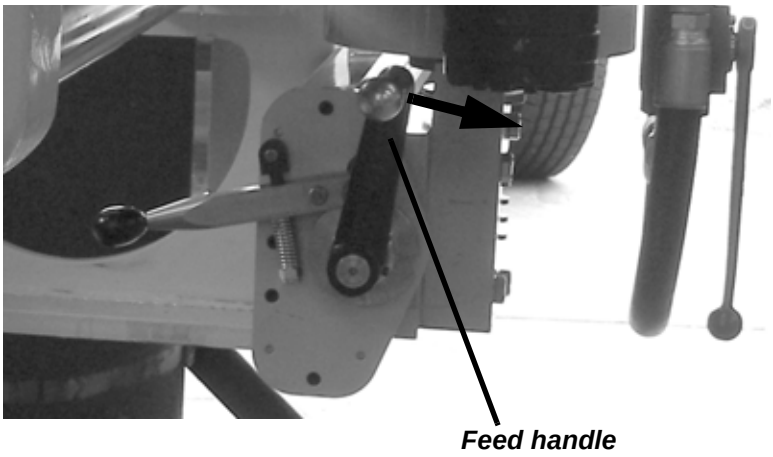


Figure 5-26. Turn the feed handle clockwise to retract the saw bow. (Note that the handle can be mounted on either end of the feed screw. Turn it counter-clockwise if it is on the saddle end of the screw.)

Removing the Saw

1. Raise the crane or lift to put tension on the chains holding the saw.

2. Using the 2-1/2” end wrench, loosen the chain tensioning nut by turning it counter-clockwise. Turn the nut all the way back to release the chain.

WARNING
IMPORTANT
Be sure the crane is supporting the saw before you loosen the clamping chain. The saw could shift or fall, injuring an operator or damaging the equipment.

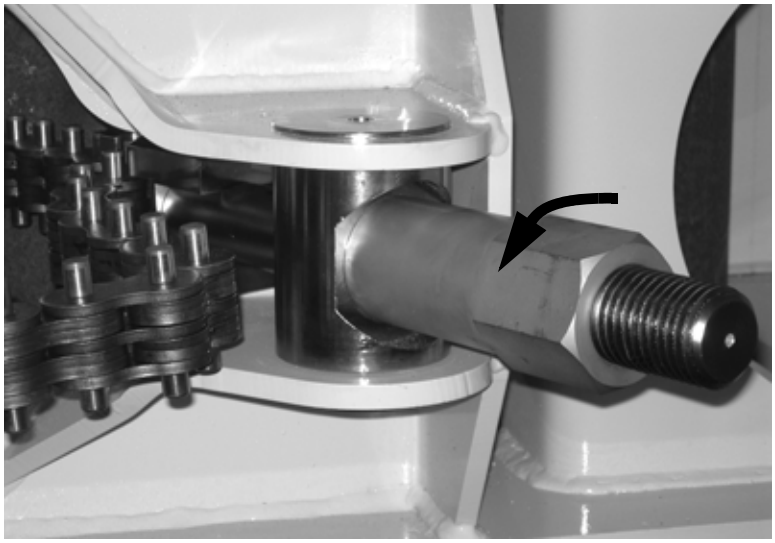


Figure 5-27. Turn the chain tensioning nut counter-clockwise to loosen the chain.

3. Remove the chain cross pin from the screw hook and unwrap the chain from the workpiece.

4. Carefully move the saw away from the workpiece with the crane.

OPERATING THE AUTOCLAMP MACHINE

WARNING:

Follow the instructions in this section to set up and operate the Goliath Guillotine configured with the autoclamp drive, using the machine-mounted control system.

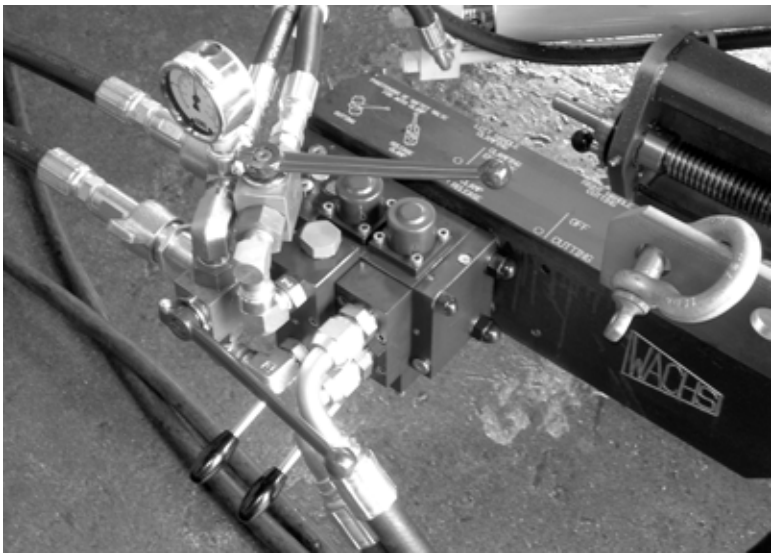


Figure 5-28. The machine-mounted control system allows you to operate the cutting and autoclamp drives at the machine.

Connecting the Hoses

1. Connect the hydraulic pressure hose to the pressure side connector on the saw.
2. Connect the return hose to the return side connector on the saw.

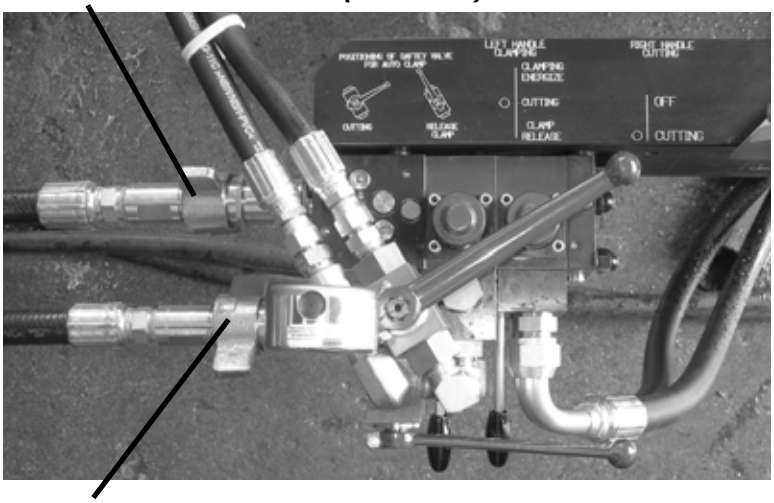


Figure 5-29. Connect the hydraulic hoses to the connectors on the Goliath.

Clamping the Saw to the Workpiece

IMPORTANT
It is recommended that you mount the saw to the workpiece without the blade installed. The blade could be damaged if the saw strikes the workpiece during positioning.

Before mounting the saw on the workpiece, make sure the bow is fully retracted. If necessary, turn the manual feed handle clockwise until it tops out.

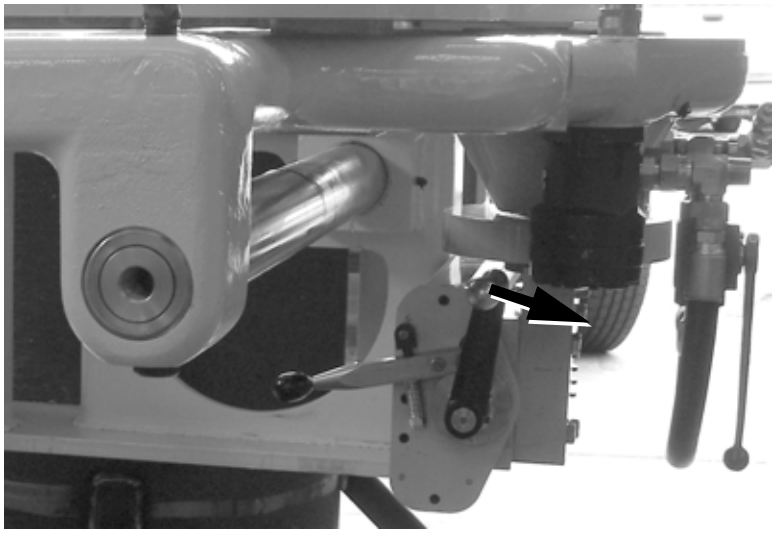


Figure 5-30. If necessary, turn the feed handle clockwise to retract the saw bow before mounting the saw.

NOTICE:
The clamping circuit valves are only opened during clamping and unclamping. They should remain closed during cutting.

1. Make sure the clamping circuit valves on the control manifold are closed.

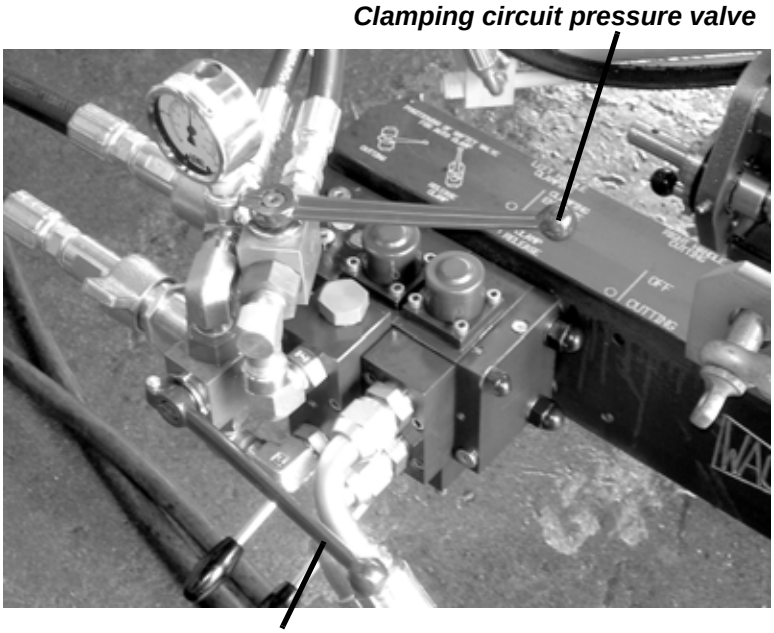


Figure 5-31. Make sure the clamping circuit valves are closed (as shown) before powering up the HPU.

2. Attach the saw to a crane or lift as described in "Lifting the Saw" earlier in this chapter.

3. Lift the saw and position it so that the saddle is against the workpiece.

4. Turn on the hydraulic power unit and ensure that it is operating at 2000 psi (138 bar).

5. Open both clamping circuit valves.

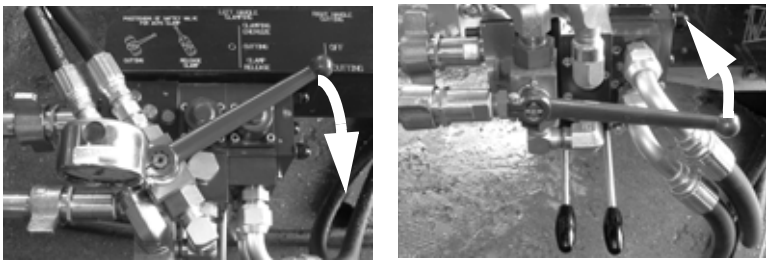


Figure 5-32. Open the clamping circuit valves to allow the clamping drive to engage.

6. Pull the clamping drive lever **up** to engage the auto-clamp.

NOTICE:
The lifting device should be attached to the saw during cutting, but make sure there is slack in the chain at all times.

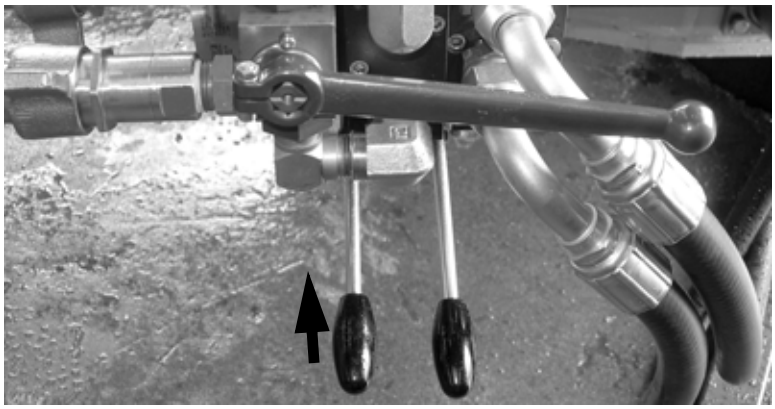
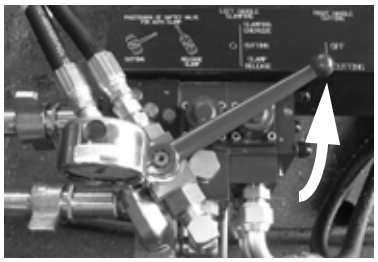


Figure 5-33. With the clamping circuit valves open, pull the clamping drive lever up to operate the auto-clamp.

7. Hold the clamping drive lever until the pressure level on the gauge goes to about 2000 psi and stabilizes. This indicates that the autoclamp is fully engaged against the workpiece.

8. While holding the clamping drive lever, close the clamping circuit return valve and pressure valve.



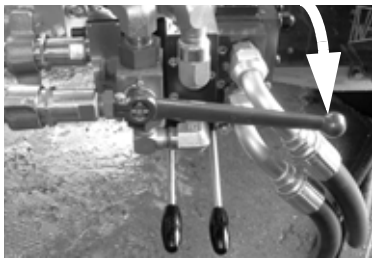


Figure 5-34. While holding down the clamping drive lever, close both clamping circuit valves to secure the clamp on the workpiece.

9. Release the clamping drive lever. It will return to the center position.

10. Slowly release the tension on the lift holding the saw, making sure the saw is securely clamped to the work-piece. Leave slack in the lift chains. Keep the lift attached to the saw.

Operating the Saw

1. Make sure the autofeed lever is disengaged, with the feed lockout pin pushed in.

Figure 5-35. The feed lever should be disengaged and the lockout pin pushed in.

2. Make sure the HPU is providing 2000 psi pressure.
3. Push the cutting drive lever down to engage the saw bow motion.

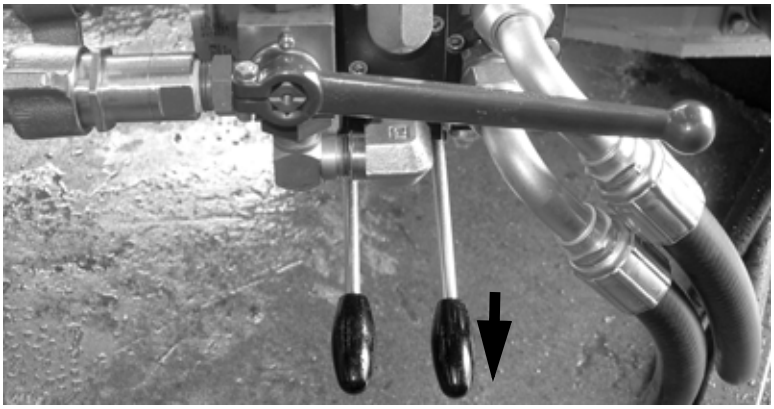


Figure 5-36. Push the cutting drive lever down to start the saw motion.

4. To engage the cut, pull out the autofeed lockout pin to release the feed lever. The feed screw will engage and the bow will index into the workpiece.

WARNING
IMPORTANT
Always support the workpiece securely on both sides of the cutting location. Any unsecured section of the workpiece could shift or fall during cutting, damaging the equipment or causing injury to an operator.

See “Using the Autofeed” earlier in this chapter.

5. If the saw binds or chatters while cutting, disengage the autofeed for a few cycles.

6. When the cut is complete, disengage the autofeed.

7. Turn off power to the saw by lifting the cutting drive lever back to the **up** position.

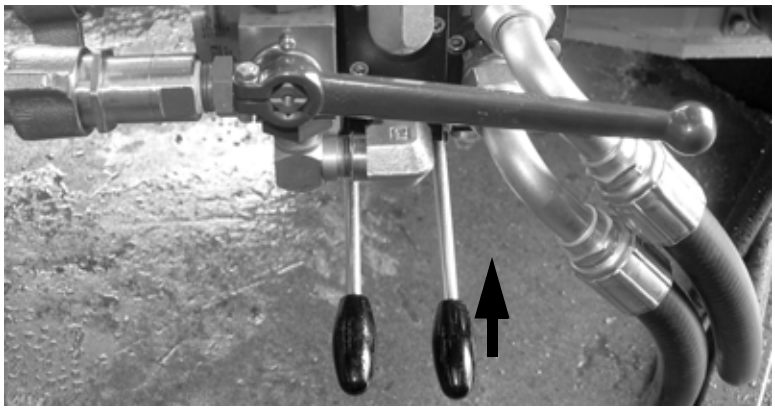


Figure 5-37. Lift the cutting drive lever to stop the saw motion.

You may need to remove the blade before retracting the bow.

8. Using the feed handle on the end of the feed screw, retract the saw bow fully from the workpiece.

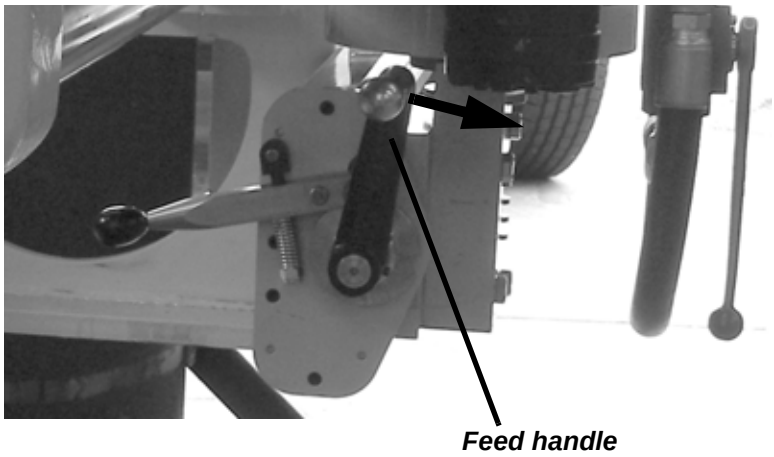


Figure 5-38. Turn the feed handle clockwise to retract the saw bow. (Note that the handle can be mounted on either end of the feed screw. Turn it counter-clockwise if it is on the saddle end of the screw.)

Removing the Saw

1. Raise the crane or lift to put tension on the chains holding the saw.

2. Open both clamping circuit valves.

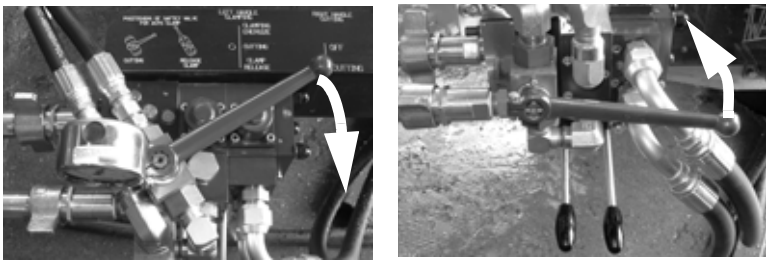


Figure 5-39. Open the clamping circuit valves to allow the clamping drive to disengage.

3. Push the clamping drive lever **down** to disengage the autoclamp.

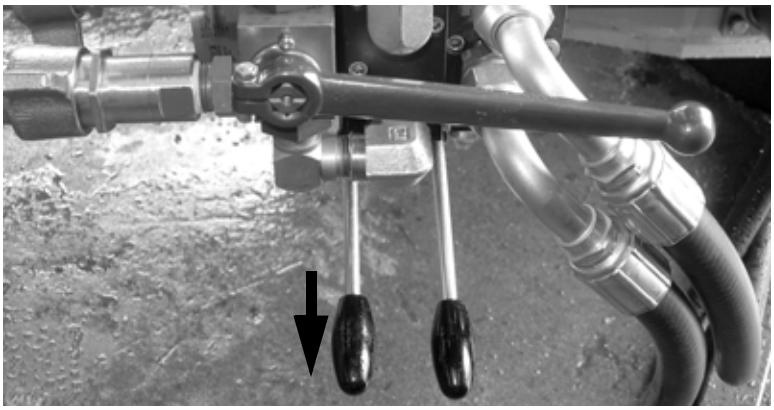


Figure 5-40. With the clamping circuit valves open, push the clamping drive lever down to disengage the autoclamp.

4. Hold the clamping drive lever until the pressure level on the gauge goes to about 2000 psi and stabilizes. This indicates that the autoclamp is fully opened.

5. Release the clamping drive lever. It will return to the center position.

6. Close the clamping circuit return valve and pressure valve.

WARNING
IMPORTANT
Be sure the crane is supporting the saw before you diengage the autoclamp. The saw could shift or fall, injuring an operator or damaging the equipment.

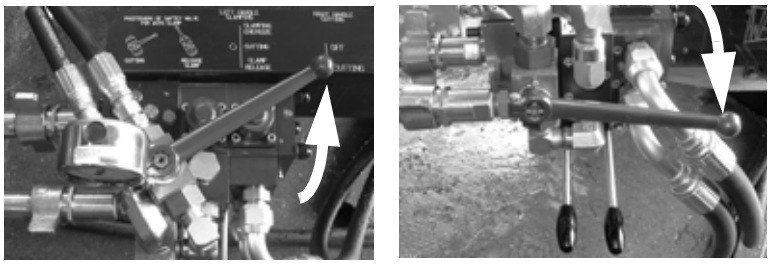


Figure 5-41. Close both clamping circuit valves after you have disengaged the autoclamp.

7. Carefully move the saw away from the workpiece with the crane.

OPERATING THE MACHINE WITH THE TOPSIDE CONTROL UNIT

This section describes how to install and operate the saw using the topside control unit (TCU).

Brief instructions for operating the TCU are on the instruction label on the top of the unit.

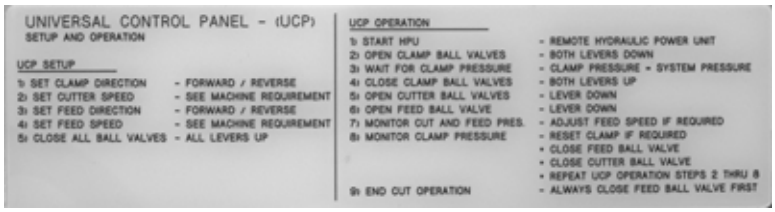


Figure 5-42. Instruction label on the topside control unit.

Connecting the Hoses

Connecting Hoses to the TCU

1. Wipe all hose couplers with a clean, lint free cloth before making connections.

2. Connect the hoses from the hydraulic power unit (HPU) to the HPU fittings on the back of the topside control unit (TCU).

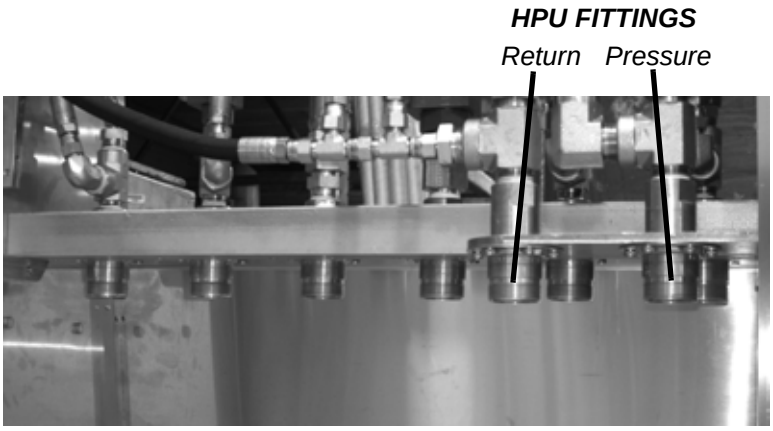


Figure 5-43. HPU hose fittings on the back of the control unit.

3. Connect the cutting drive hose set from the machine or from the hose reel to the cutting drive fittings on the back of the TCU. The hoses and fittings are color coded.

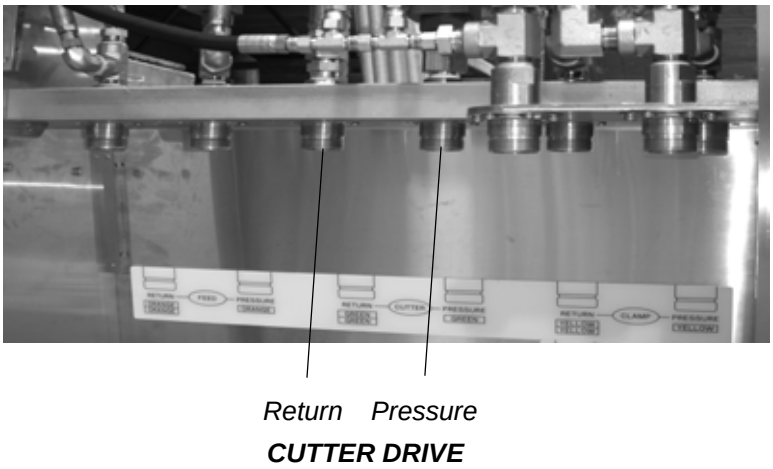


Figure 5-44. Connect the cutting drive hoses to the TCU.

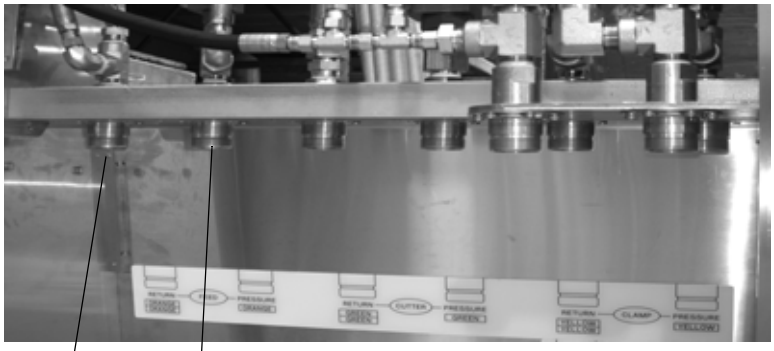
4. If the machine has a hydraulic clamping mechanism, connect the clamping drive hose set to the clamping drive fittings on the back of the TCU. The hoses and fittings are color coded.

Return *Pressure*

CLAMPING DRIVE

Figure 5-45. Connect the clamping drive hoses to the TCU (for machines with hydraulic clamping mechanism).

5. The Goliath Guillotine does not have a hydraulic feed drive. Leave the feed drive fittings on the TCU disconnected.



Return *Pressure*

FEED DRIVE

Figure 5-46. Feed drive connectors (for machines with hydraulic feed drives).

Connecting Hoses to the Goliath

1. Connect the clamping drive hoses from the TCU or hose reel to the fittings on the saw bulkhead as shown in Figure 5-47.

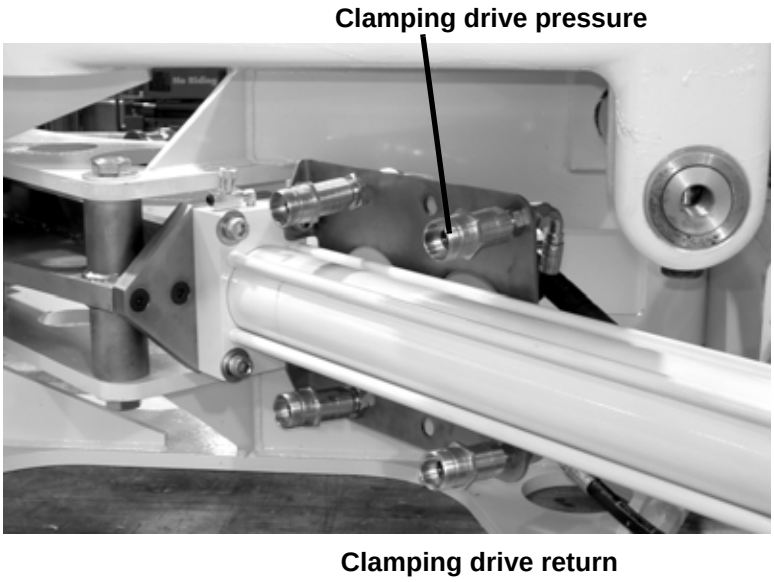


Figure 5-47. Connect the clamping drive hoses to the saw as shown.

2. Connect the clamping drive hoses from the TCU or hose reel to the fittings on the saw bulkhead as shown in Figure 5-48.

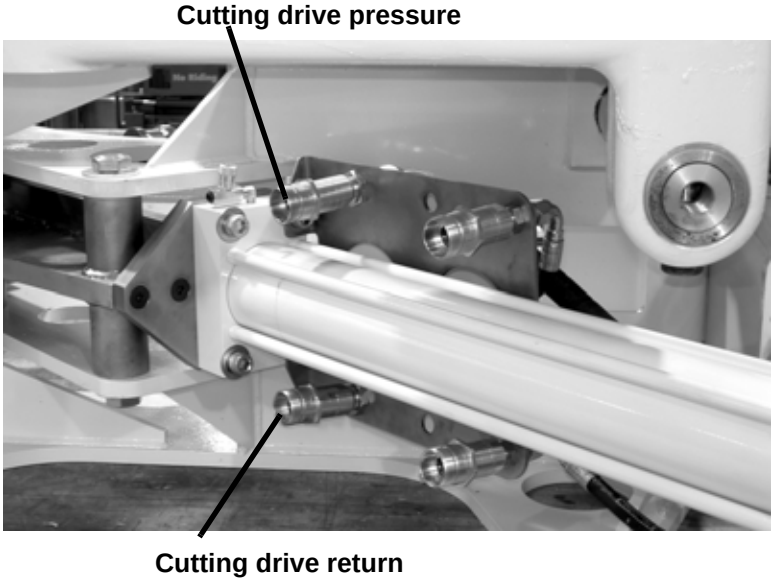


Figure 5-48. Connect the cutting drive hoses to the saw as shown.

Clamping the Saw to the Workpiece

1. Position the saw at the cutting location on the pipe, with the saddle against the pipe surface.
2. Start the hydraulic power unit.
3. Make sure that the clamping drive levers and the cutting drive lever on the TCU are in the closed (up) position, as shown in Figure 5-49.
4. Set the clamping direction lever on the TCU to the ENGAGE position.

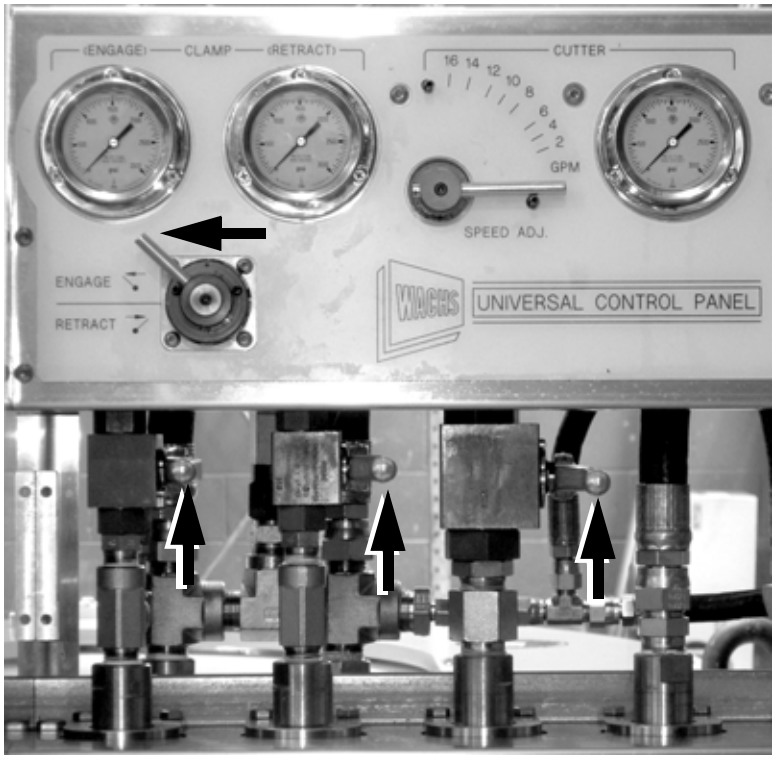


Figure 5-49. Before clamping, make sure that both clamping levers and the cutting lever are in the up position, and that the clamping direction lever is in the ENGAGE position.

5. Open both clamping drive levers (down position) at the same time to engage the autoclamp drive. When the clamp pressure equalizes with the system pressure, the clamp is fully engaged against the pipe.

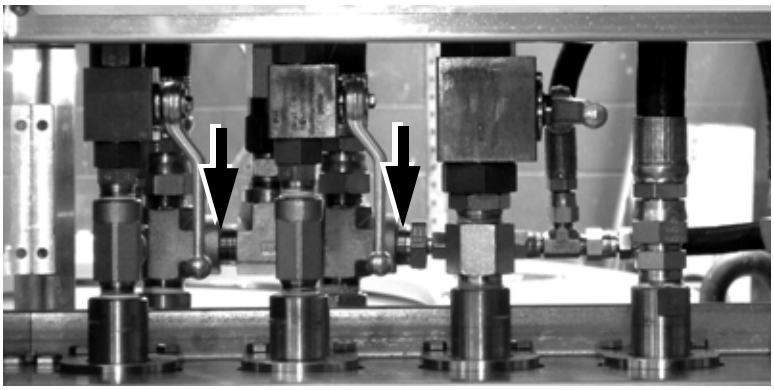


Figure 5-50. Put both clamping levers down at the same time to engage the clamping drive.

6. Close both clamping drive levers (up position) at the same time. The valves will hold pressure on the clamping drive to keep the saw clamped on the pipe.

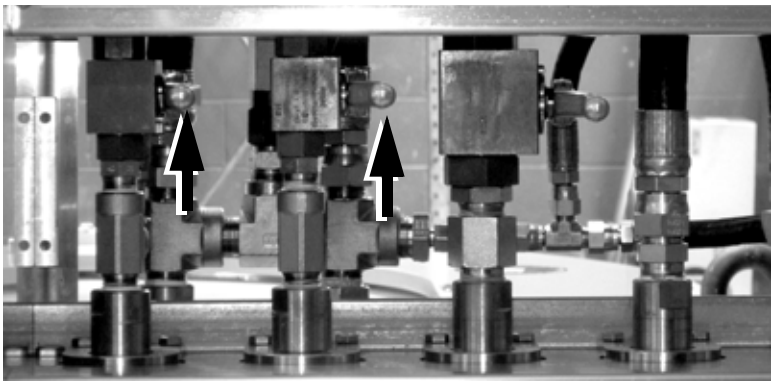


Figure 5-51. When the clamping drive is fully engaged (clamping pressure equals system pressure), return both clamping levers to the up position.

7. Slightly lower the crane holding the saw to allow the clamp to hold the saw's weight. Leave the crane attached to the saw.

WARNING
IMPORTANT
Always support the workpiece securely on both sides of the cutting location. Any unsecured section of the workpiece could shift or fall during cutting, damaging the equipment or causing injury to an operator.

Operating the Saw

1. Make sure the cutting drive speed control lever is set to 0.

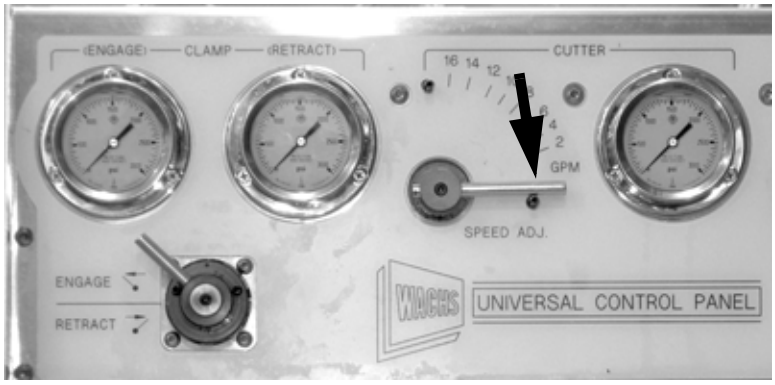


Figure 5-52. Set the cutting drive speed lever to 0 before starting the saw.

2. Open the cutting drive lever (down position).

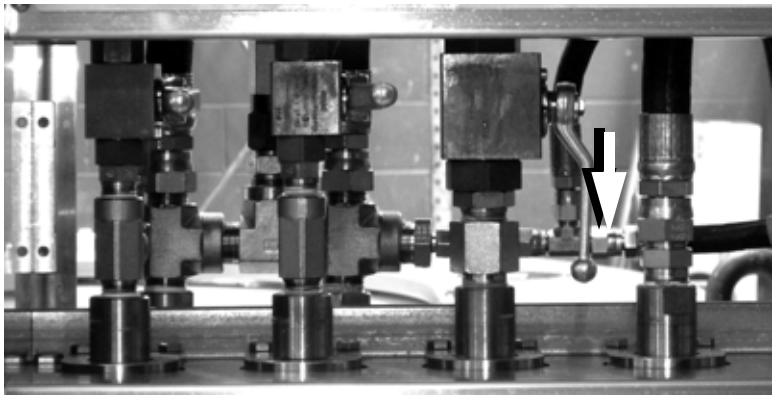


Figure 5-53. Push the cutting drive lever down to open it.

3. Move the cutting drive speed lever up gradually. When sufficient flow reaches the saw, the saw bow will begin the cutting motion.

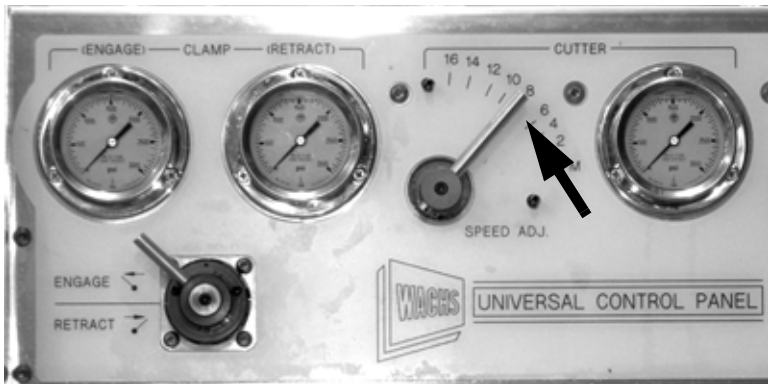


Figure 5-54. Push the cutting speed lever up slowly until the saw motion begins.

4. Engage the autofeed mechanism, or feed the saw manually into the pipe.

5. Set the cutting drive lever for the speed you want. Typically, you can set it to the maximum.

Figure 5-55. Set the cutting speed lever to the desired cutting speed.

6. If the saw begins to chatter or bind, slow the cutting speed lever.

7. When the cut is complete, set the cutting speed lever back to 0. Close the cutting drive lever by moving it to the up position.

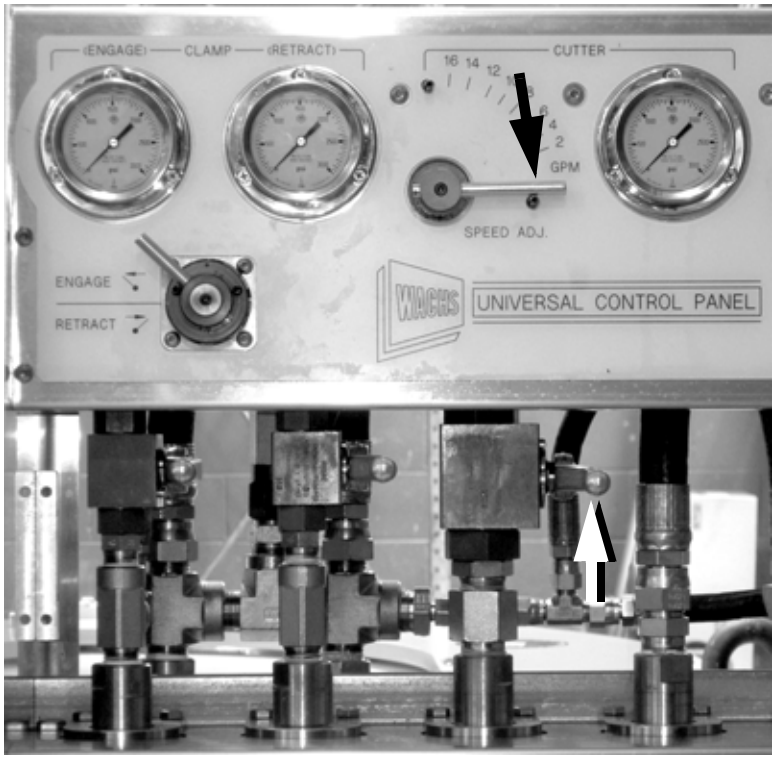


Figure 5-56. When the cut is complete, set the cutting speed lever back to 0. Then return the cutting drive lever to the off (up) position.

You may need to remove the blade before retracting the bow.

8. Using the feed handle on the end of the feed screw, retract the saw bow fully from the workpiece.

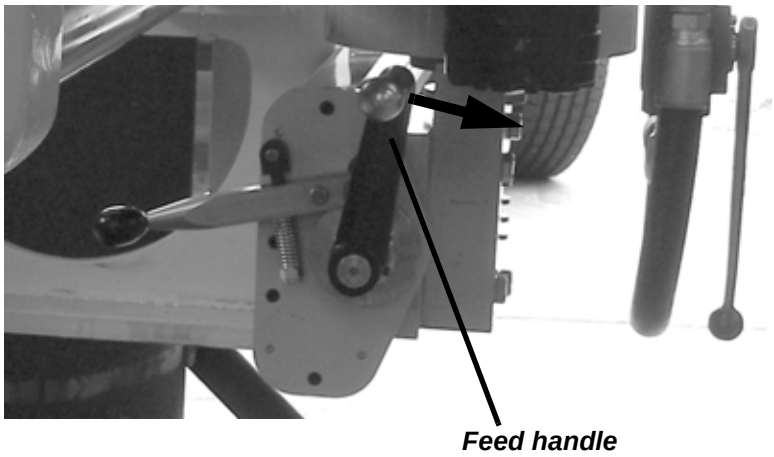


Figure 5-57. Turn the feed handle clockwise to retract the saw bow. (Note that the handle can be mounted on either end of the feed screw. Turn it

counter-clockwise if it is on the saddle end of the screw.)

Removing the Saw

1. Slowly raise the lift holding the saw until there is just enough tension to hold the saw in place.
2. Set the clamping direction lever to the RETRACT position.

Figure 5-58. Set the clamping direction lever to the RETRACT position.

3. Open both clamping drive levers (down position) at the same time to retract the autoclamp drive. When the clamp pressure equalizes with the system pressure, the clamp is fully retracted.

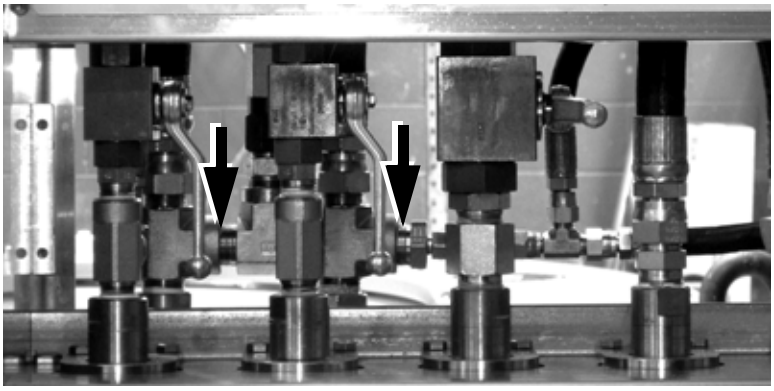


Figure 5-59. Put both clamping levers down at the same time to retract the clamping drive.

4. Close both clamping drive levers (up position) at the same time.

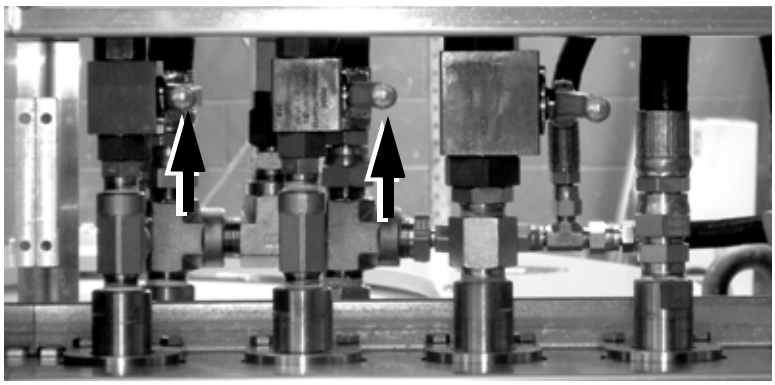


Figure 5-60. When the clamping drive is fully retracted (clamping pressure equals system pressure), return both clamping levers to the up position.

5. Set the clamping direction lever back to the ENGAGE position for the next operation.

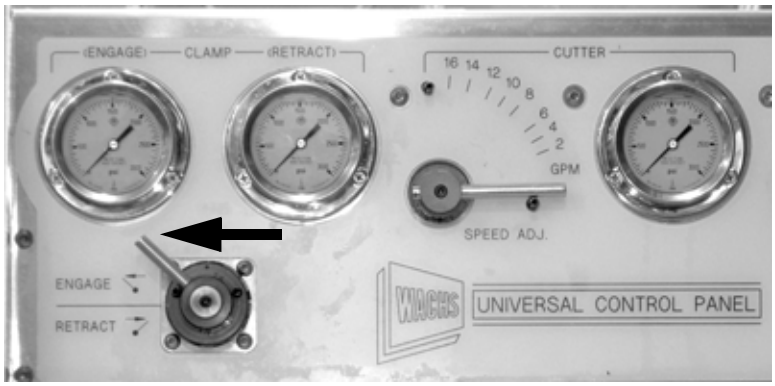


Figure 5-61. When the clamp has been retracted, move the clamping direction lever back to the ENGAGE position.

6. Use the crane to remove the saw from the workpiece.

7. If you are finished with the saw, turn off the HPU. Set the saw in its storage location and disconnect the hoses.

Chapter 6
Routine Maintenance

Grease all grease points on the Goliath Guillotine every time you use the machine.

In This Chapter

GREASE POINTS

GREASE POINTS

Grease the fittings in the following locations on the Goliath:

- Two on top of the saw bow (one on each side)—Figure 6-1.

Figure 6-1. There are two grease fittings on the top of the saw bow.

- Two on the feed drive side of the frame for the frame guide shaft—Figure 6-2.

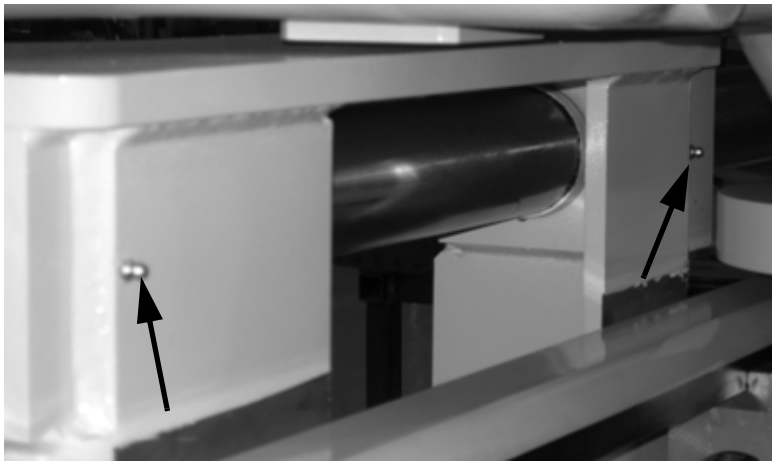


Figure 6-2. Fittings on the feed drive side of the frame. (The saw bow is fed all the way forward.)

- Two on the open side of the frame for the frame guide shaft—Figure 6-3.

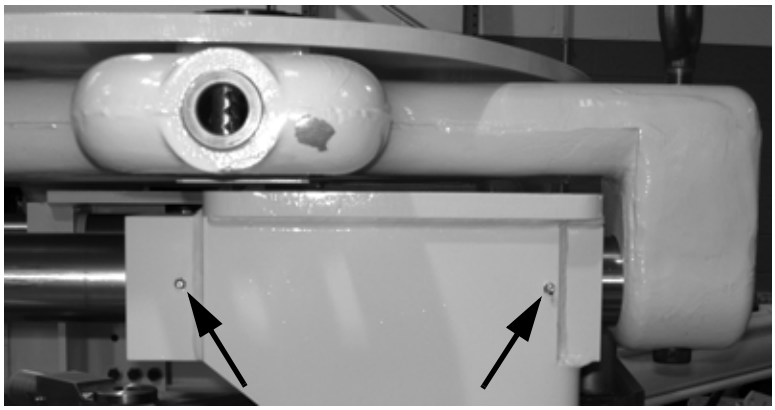


Figure 6-3. Grease fittings for the frame guide shaft on the open side of the frame.

- One on the gear shaft housing—Figure 6-4.

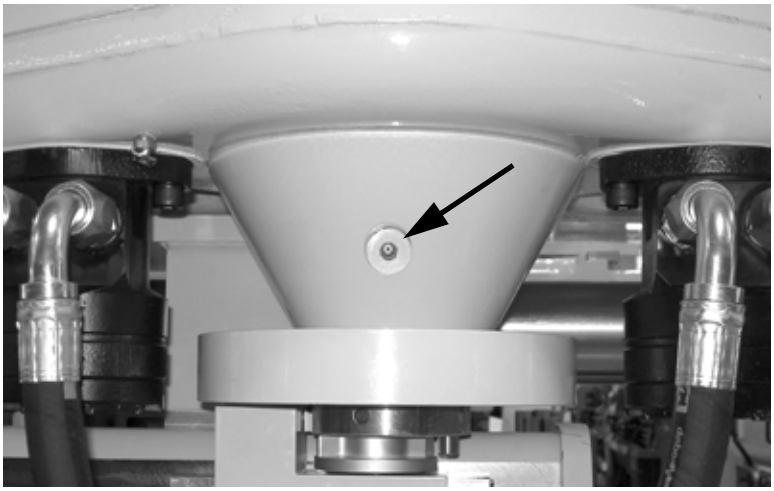
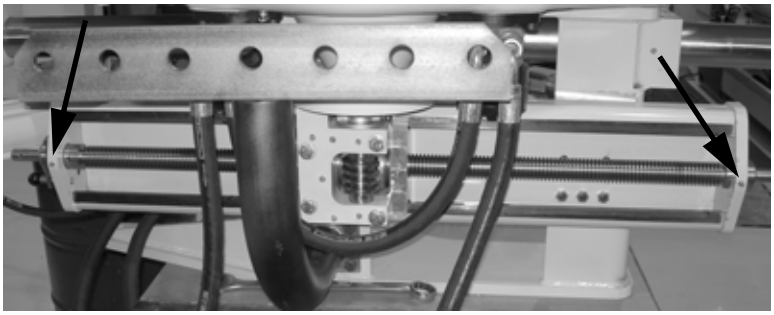


Figure 6-4. Fitting on the gear shaft housing.

- Nine on the feed drive assembly—Figure 6-5:
  —two on the feed frame for the feed screw (one each end)
  —one on the feed slide housing for the feed screw
  —six on the feed shaft mount.



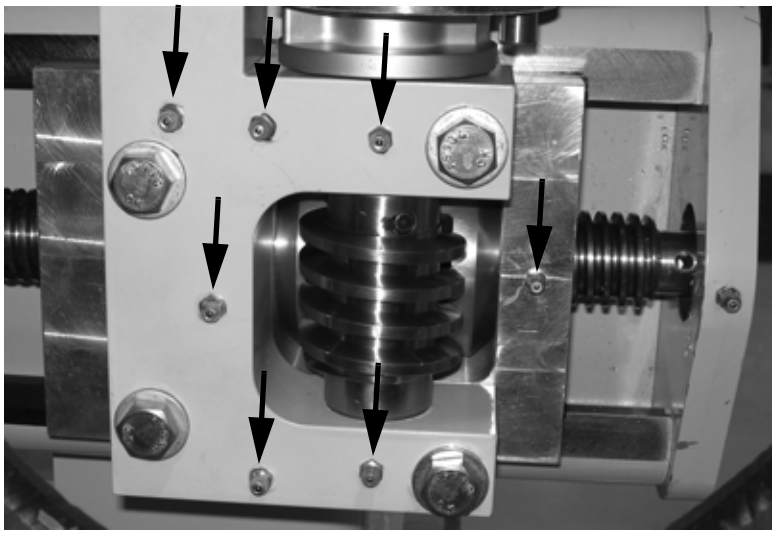


Figure 6-5. There are two fittings on the ends of the feed frame (top photo), and six fittings on the feed shaft mount and one on the feed slide housing (bottom photo).

Also apply grease to the bow guide plate at the ends of the frame. Use a brush or a clean, dry cloth to wipe grease onto the plates.

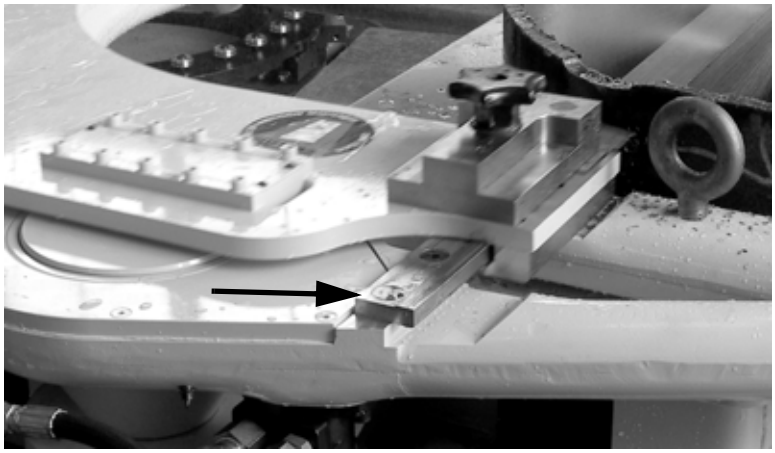


Figure 6-6. Grease the bow guide plates on both sides of the frame (one side shown).

Autoclamp Lubrication

- Grease the clamp wheel fitting on the autoclamp arm.
- Apply grease to the autoclamp rail with a brush or clean cloth.

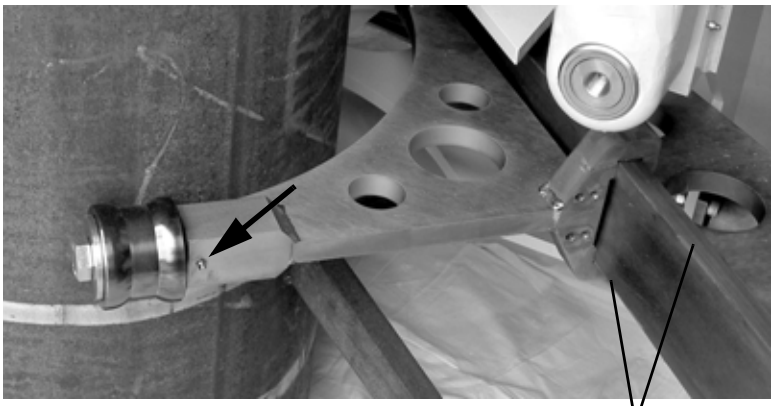


Figure 6-7. Grease the fitting for the clamping wheel and apply grease to the autoclamp rail.