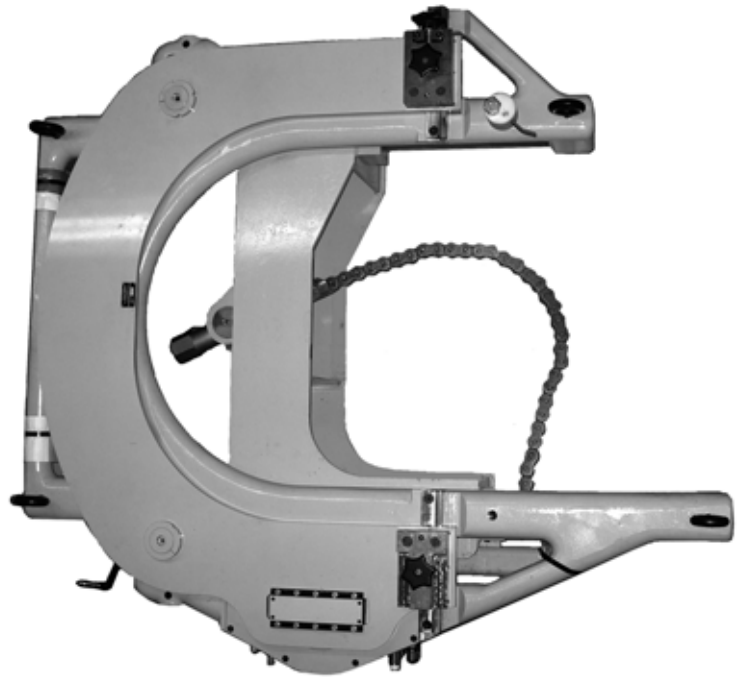




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Goliath Guillotine Pipe Saw

User's Manual



E.H. Wachs Company Part No. 06-150-522-MAN
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Chapter 1

About This Manual

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.

In This Chapter

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

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

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

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 manuals will be available for customers. 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.

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 a revised manual when we return the equipment to you.

Revision 1, July 2010: Added exploded view drawings.

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

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

In This Chapter

OPERATOR SAFETY

SAFETY LABELS

MACHINE SAFETY



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 are two safety labels on the Goliath Guillotine saw. These are illustrated in Figure 2-1 and Figure 2-2.



Figure 2-1. Observe the warning label for moving parts hazards.



Figure 2-2. Observe the warning label for blade hazard.

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.

NOTICE

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

- 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.

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.

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 subsea. The following options and accessories are available with the Goliath saw:

- hydraulic autoclamp
- topside control unit (TCU) for remote, independent operation of up to three hydraulic drives
- hose reel
- compressed-air cooling/chip removal.

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.

In This Chapter

USAGE AND APPLICATIONS

MACHINE CONTROL

SPECIFICATIONS

OPERATING ENVELOPE

ACCESSORIES

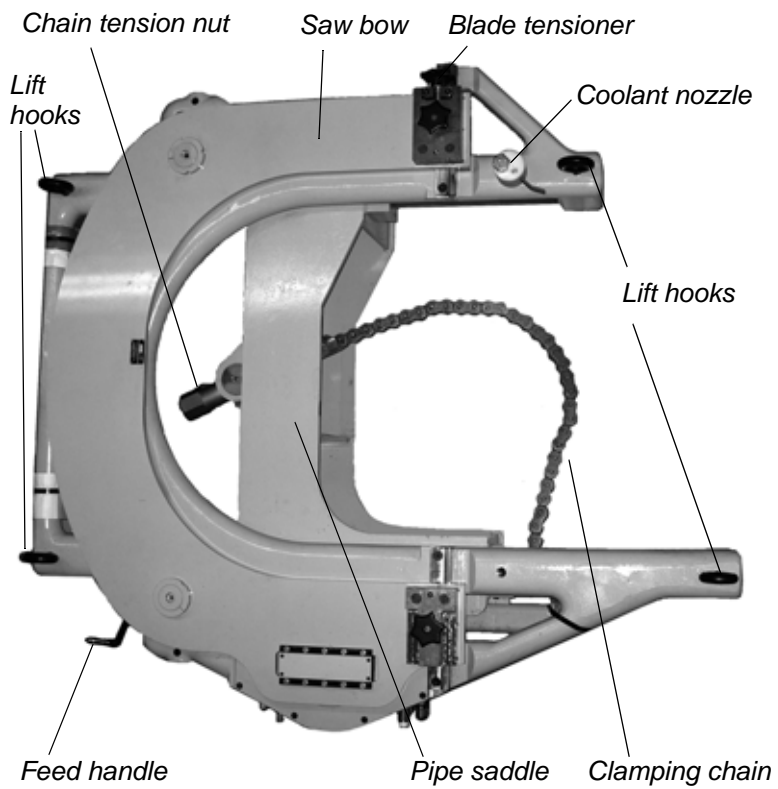


Figure 3-1. Components of the standard Goliath Guillotine are illustrated.

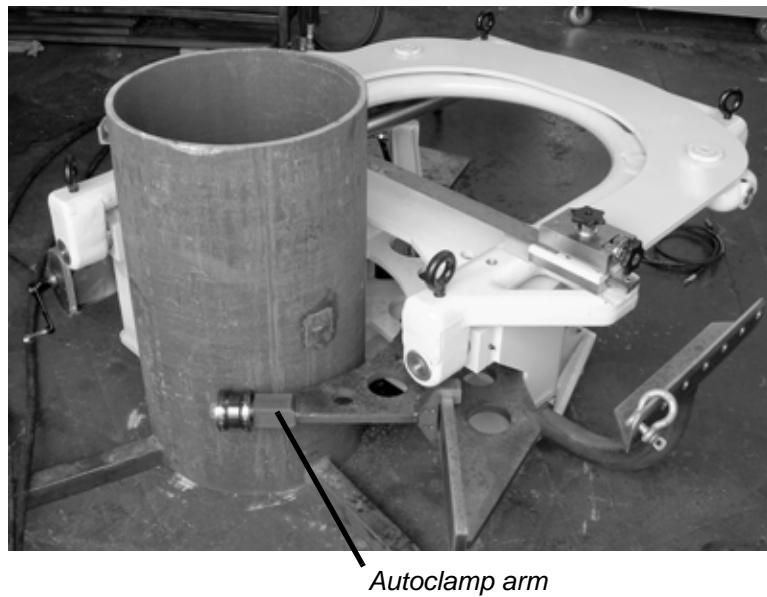


Figure 3-2. Goliath with autoclamp accessory.

MACHINE CONTROL

A two-drive hydraulic control manifold is available for on-machine control. Figure 3-3 illustrates the manifold and control levers. The hydraulic connectors are labeled **P** (for pressure) and **T** (for tank, or return) on the manifold.

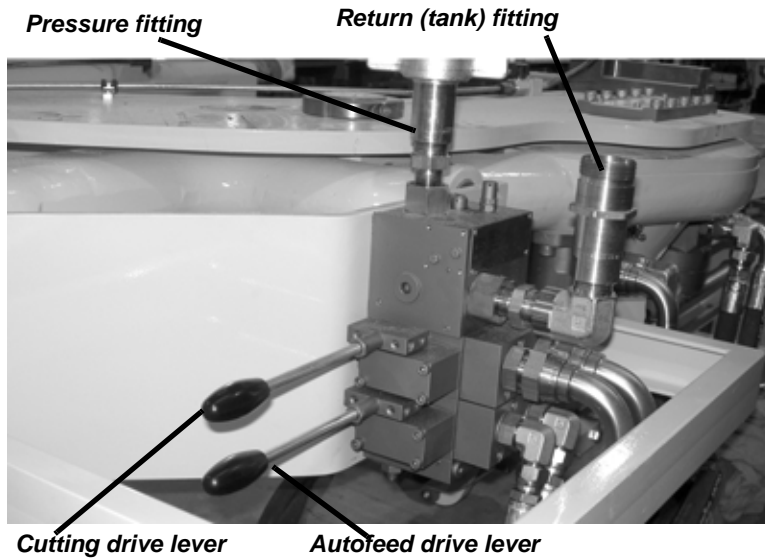


Figure 3-3.

An optional compressed-air cooling/chip removal system is available, as shown in Figure 3-4 and Figure 3-4.

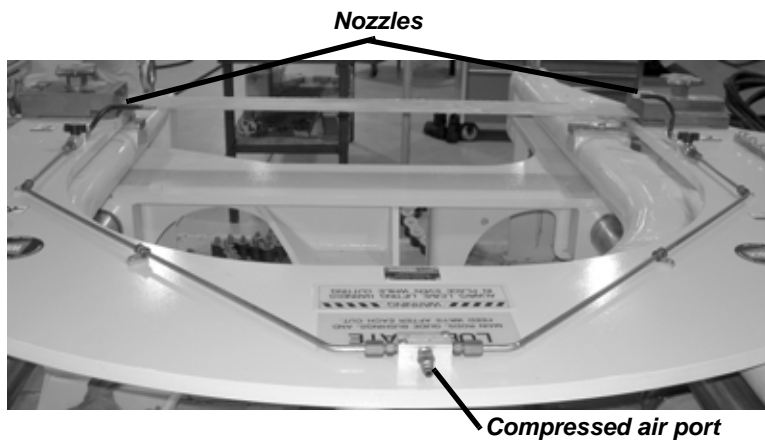
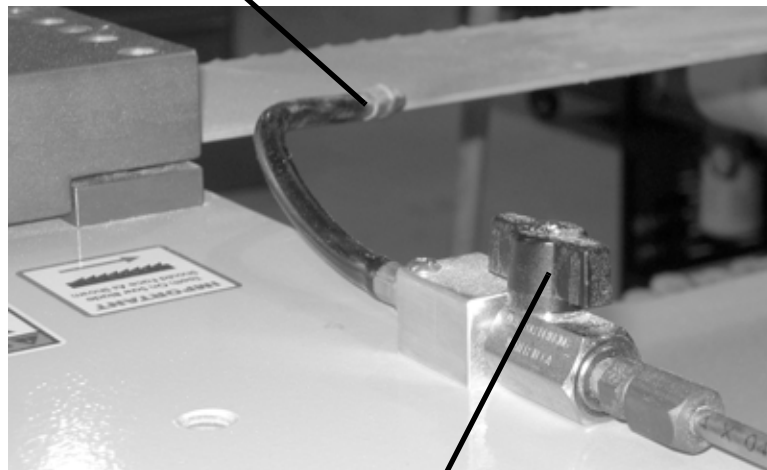


Figure 3-4. You can attach a standard compressed air line to the port of the cooling/chip removal system.

The nozzle is flexible and can be repositioned



Valve (shown in ON position)

Figure 3-5. The nozzles and valves are independently adjustable.

Various hose reel options are available. Figure 3-6 shows a single-circuit reel provided in a storage case. The reel is operated by a hand crank.



HPU hose fittings

Hand crank

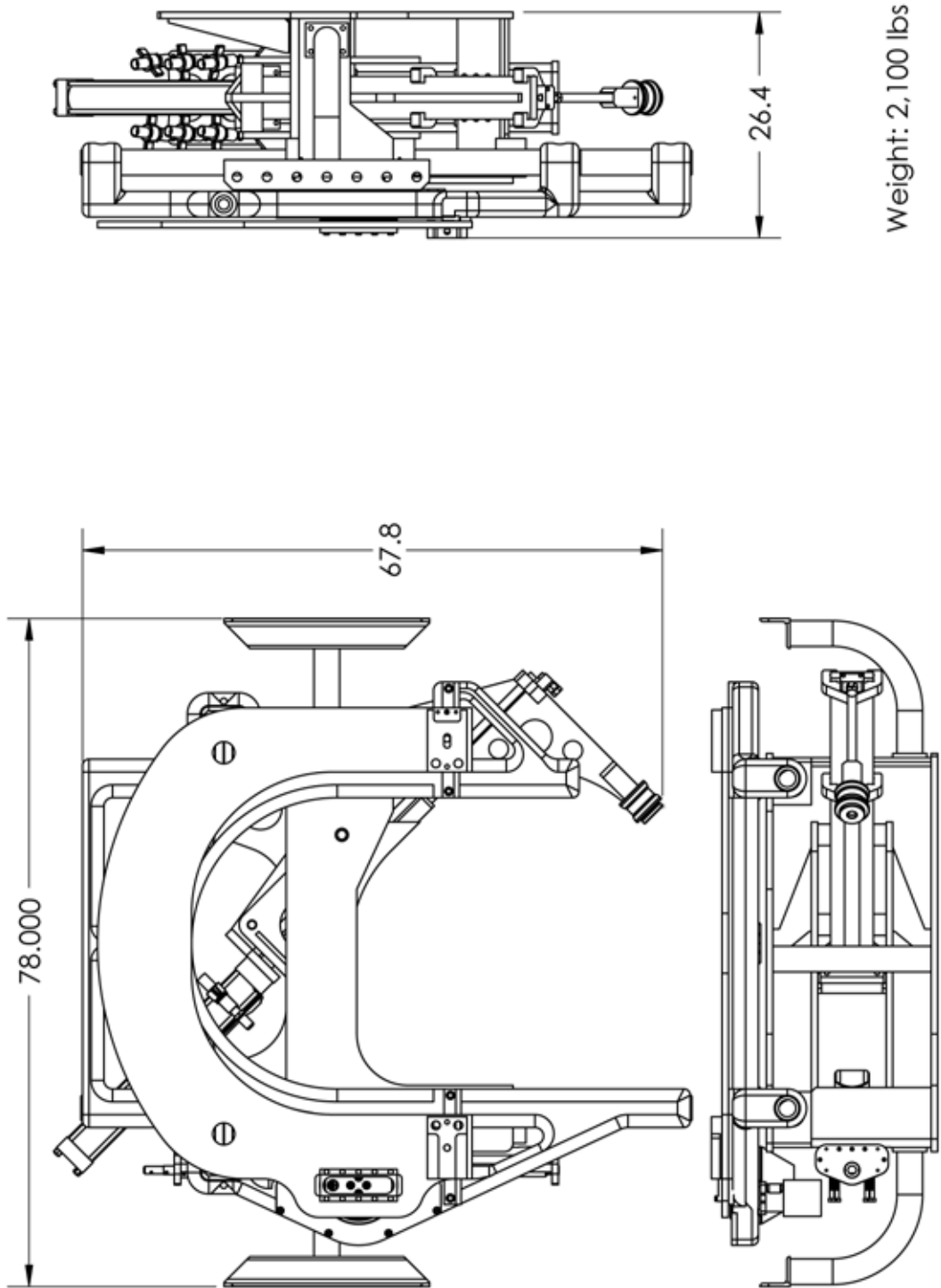
Figure 3-6. This hand-operated hose reel is mounted in a steel storage box.

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: 2100 lbs (955 kg)
Finish	Painted cast surfaces; chrome-plated rods; other components zinc-nickel iridescent chromated.

OPERATING ENVELOPE

The drawing in Figure 3-7 shows the operating envelope for the Goliath Guillotine saw.



Weight: 2,100 lbs

Figure 3-7. The drawing shows the operating envelope for the Goliath.

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.
- Hydraulic autofeed drive (controlled using the TCU or on-machine control manifold).



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.

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.

Store the saw in its shipping crate. If possible, store the saw in a dry, non-corrosive environment.

In This Chapter

ENVIRONMENTAL
REQUIREMENTS

LONG-TERM STORAGE



Chapter 5

Operating Instructions

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

Before operating the saw, remove the storage stand from the top of the frame. The stand threads into the frame; screw it out to remove it, and screw it back in when you are finished using the saw.

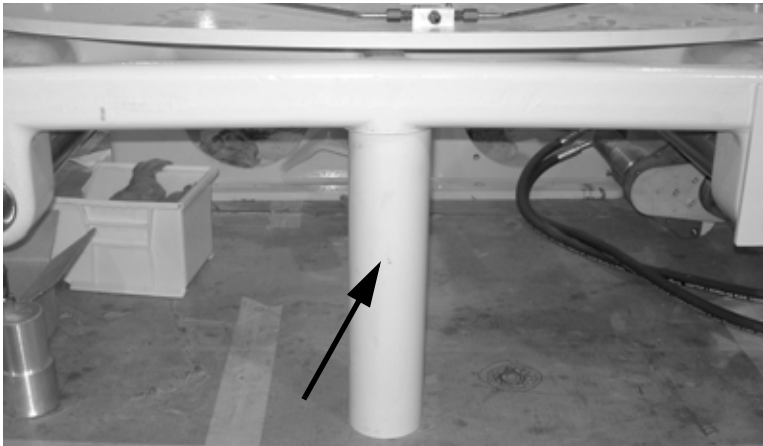


Figure 5-1. Remove the storage stand from the saw frame before operating the saw. The stand is screwed into the saw frame.

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

In This Chapter

LIFTING THE SAW

INSTALLING THE BLADE

OPERATING THE MACHINE

IMPORTANT

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



mounting eye hooks; put the hooks into the appropriate holes for the way you are mounting the saw on the work-piece. Specific lifting instructions are included in each section of this chapter.

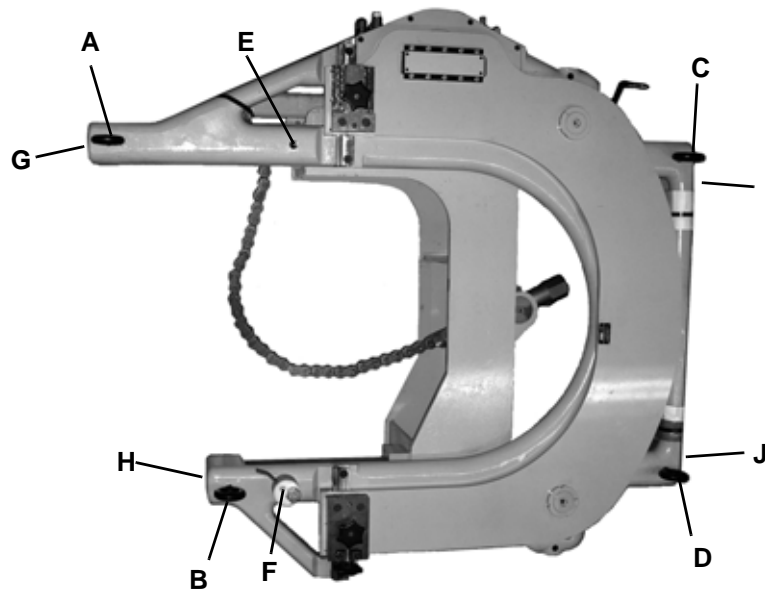


Figure 5-2. Eyebolt locations on the Goliath Guillotine. (Hooks are shown installed in locations A, B, C, and D.) Location F is also used for the optional coolant nozzle, as shown. Locations G, H, I, and J are on the ends of the frame, as shown in Figure 5-3 and Figure 5-4.



Figure 5-3. The eyebolts can be screwed into the threaded holes G and H on the end of the frame.



Figure 5-4. 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.

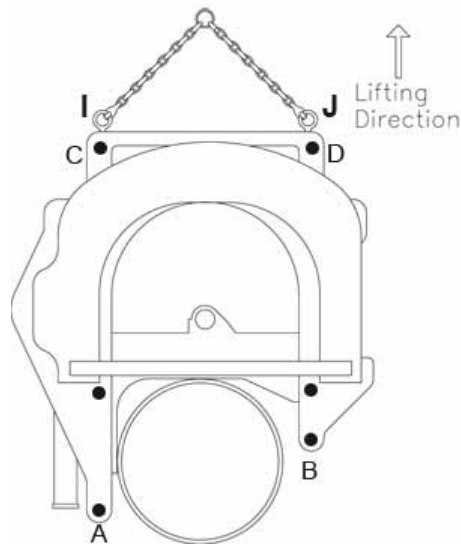


Figure 5-5. Use eyebolt locations **I** and **J** to lift the saw vertically onto a horizontal pipe.

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.

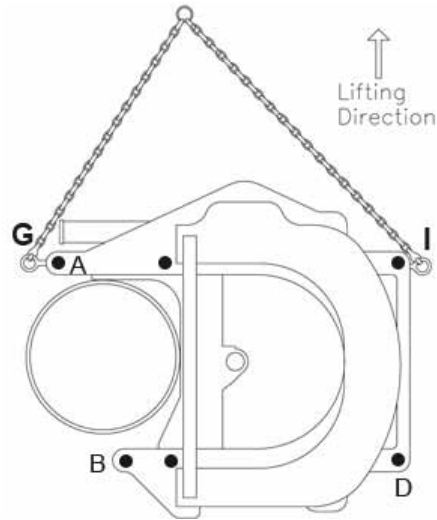


Figure 5-6. Use eyebolt locations **G** and **I** to mount the saw on the side of a horizontal pipe.

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.

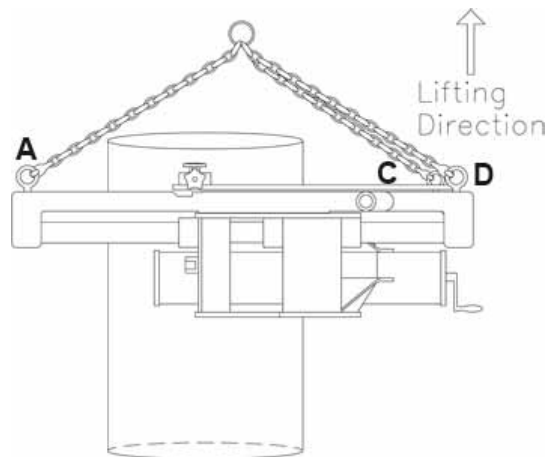


Figure 5-7. Use eyebolt locations **A**, **C**, and **D** to mount the saw on a vertical pipe.

INSTALLING THE BLADE

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 5-8. Goliath Guillotine blade. The mounting holes at each end are held by the dowel pins in the clamp blocks.

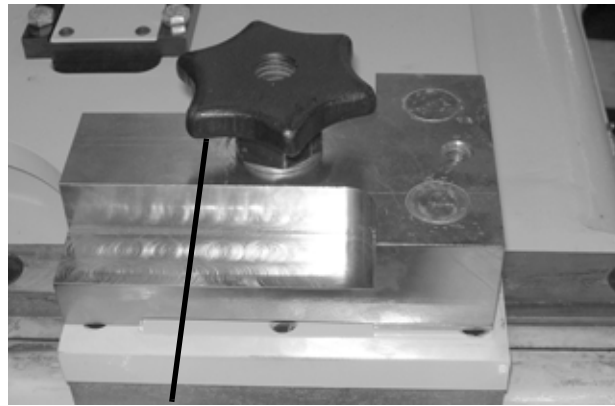
If possible, mount the saw onto the workpiece before installing the blade.

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 5-9.



CAUTION

Use gloves when handling blades to prevent cuts.



Clamping knobs

Blade tensioning knob



Figure 5-9. 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.

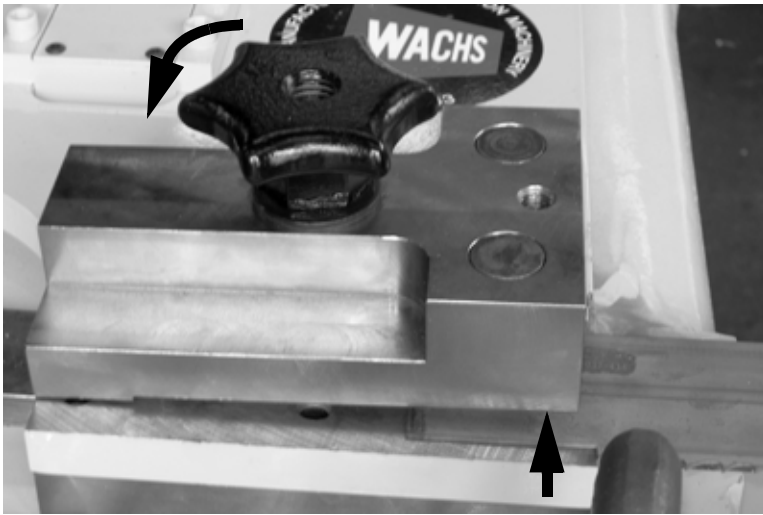
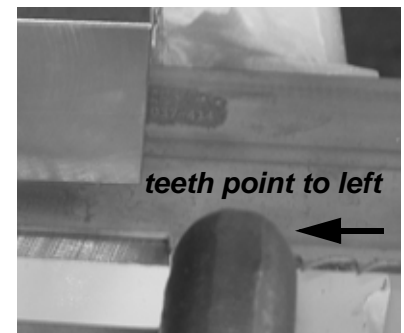


Figure 5-10. Loosen the clamp knob on the left clamp block so that you can raise the dowel pins out of the saw bow.

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.

IMPORTANT

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



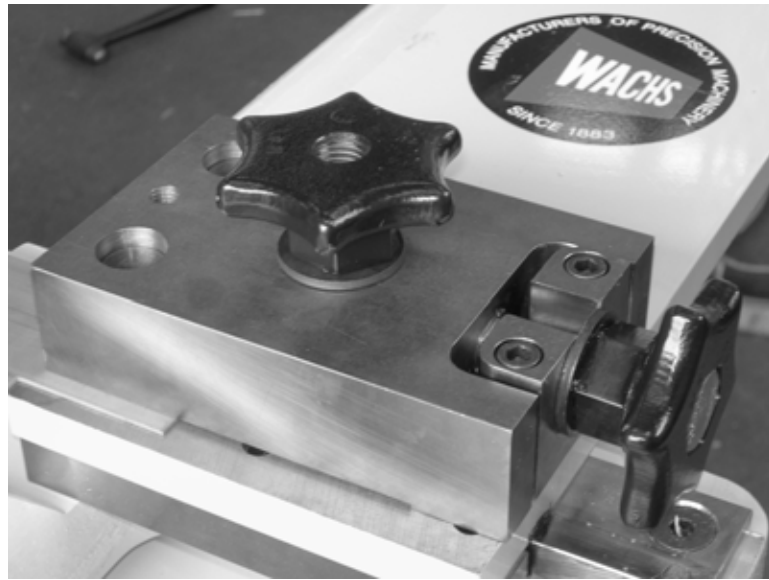
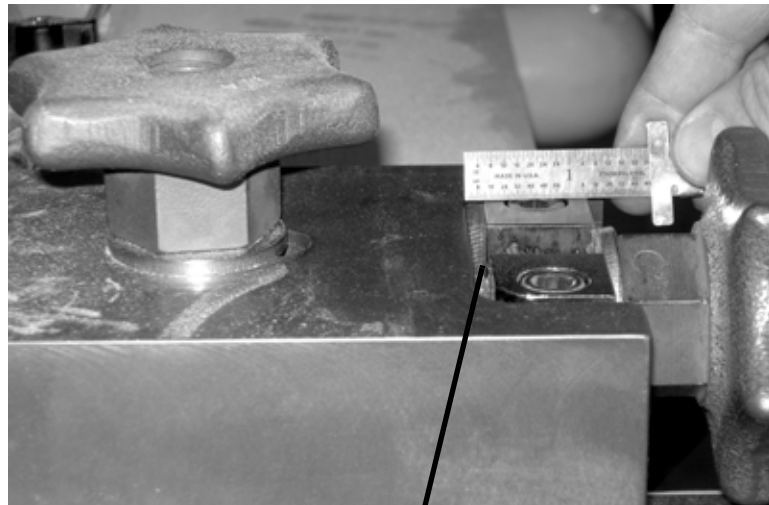


Figure 5-11. Install the right clamp block on the blade and snug the clamp knob.

6. Using the 1-3/8" end wrench, turn the blade tensioning knob on the right clamp block until there is a 1/8" gap in the block.



1/8" gap

Figure 5-12. Tighten the tensioning knob until there is a 1/8" gap in the clamp block.

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



Figure 5-13. Tighten the clamp knob on both clamp blocks to secure the blade for cutting.

OPERATING THE MACHINE

Connecting the Hoses

1. Connect the hydraulic hoses from the HPU to the connectors in the hose reel case.



Figure 5-14. Connect the HPU to the hose reel connectors.

2. Pull the hose ends out of the reel between the guide rollers.

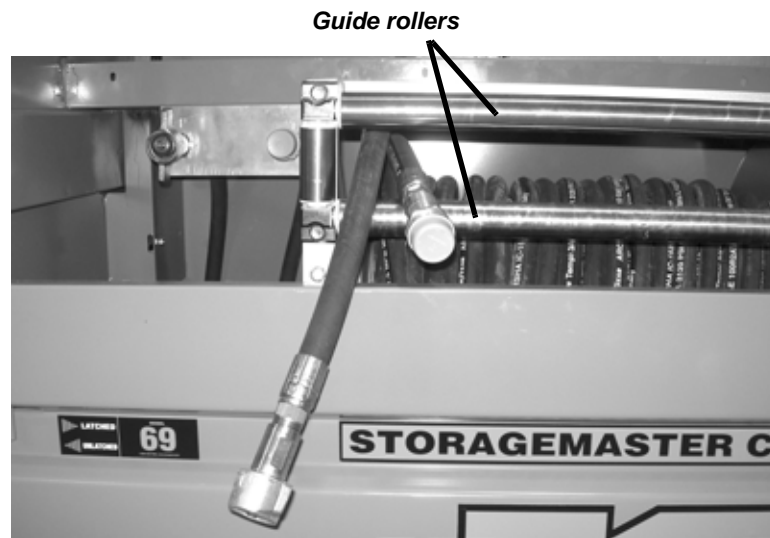


Figure 5-15. Pull the hoses out between the guide rollers on the front of the hose reel.

3. To pull the hoses from the hose reel, turn the locking knob on the shaft counter-clockwise to loosen it.

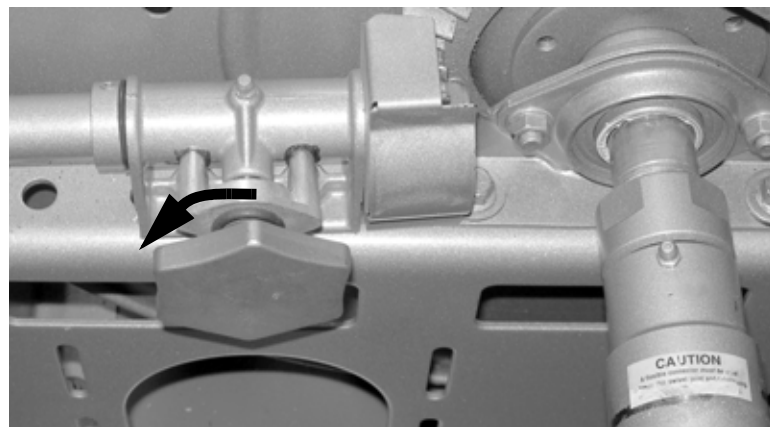


Figure 5-16. Turn the locking knob counter-clockwise to release the hose reel for pulling the hoses.

4. Connect the hose reel hoses to the manifold on the saw.

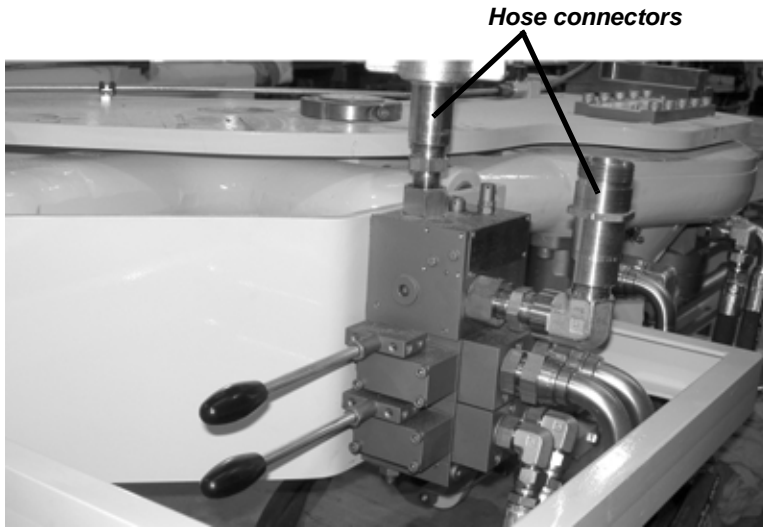


Figure 5-17. Connect the hoses from the reel to the connectors on the manifold.

Clamping the Saw to the Workpiece

Before mounting the saw on the workpiece, make sure the bow is fully retracted. If necessary, retract the autofeed under hydraulic power.

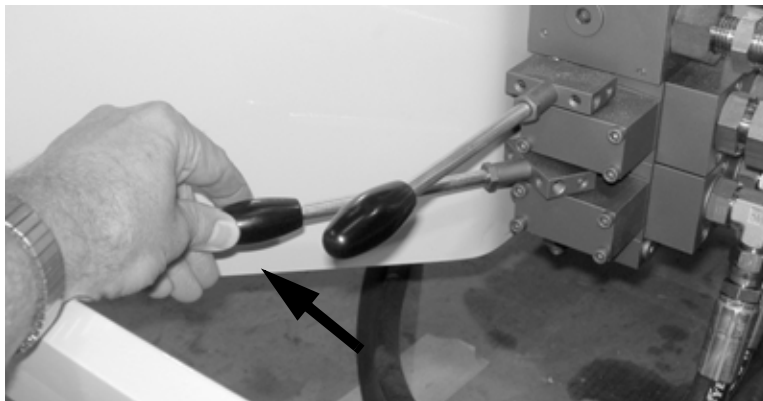


Figure 5-18. Push the autofeed lever to the left to retract the saw bow. You will need to have hydraulic power on to operate the autofeed drive.

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



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.

IMPORTANT

Carefully position the hoses as you move the saw so that they do not snag on something or interfere with the moving parts of the saw.



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.

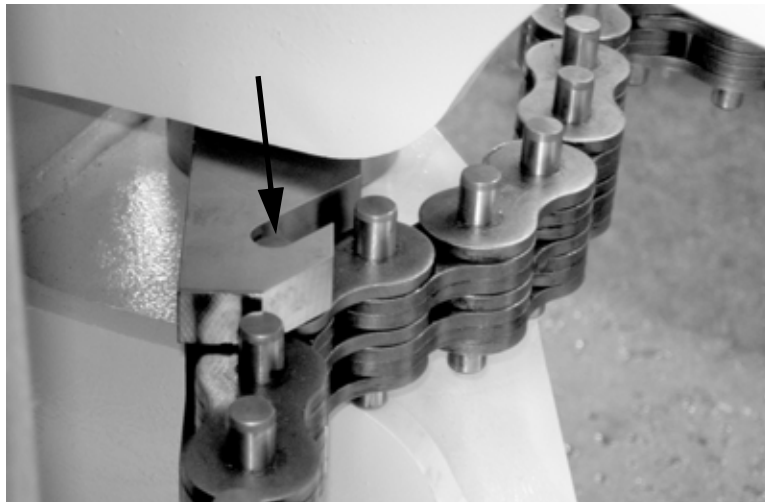


Figure 5-20. Insert the chain cross pin into the screw hook.

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.

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



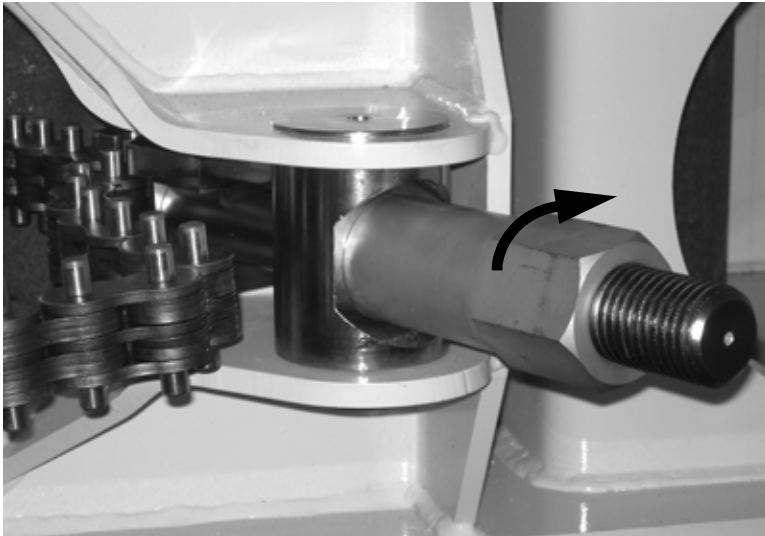


Figure 5-21. Turn the chain tensioning nut clockwise to secure the saw to the workpiece.

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.
6. Make sure the hoses are positioned safely, and tighten the locking knob on the hose reel.

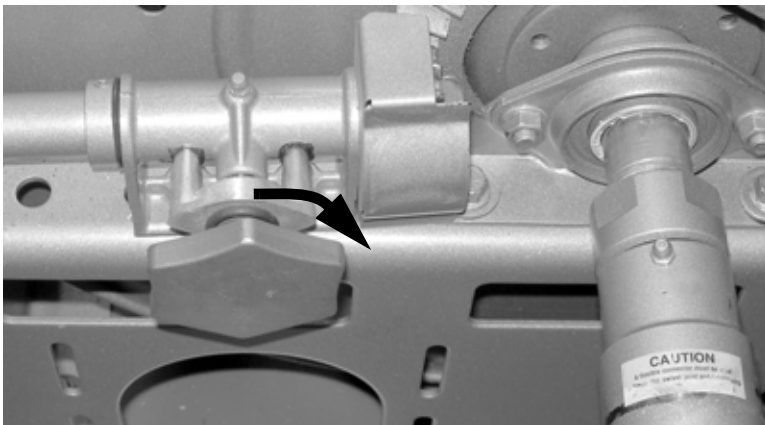


Figure 5-22. When the saw is positioned, turn the locking knob clockwise to lock the hose reel.

**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.



Operating the Saw

1. Make sure the cutting and autofeed drive control levers are off (in the center position).

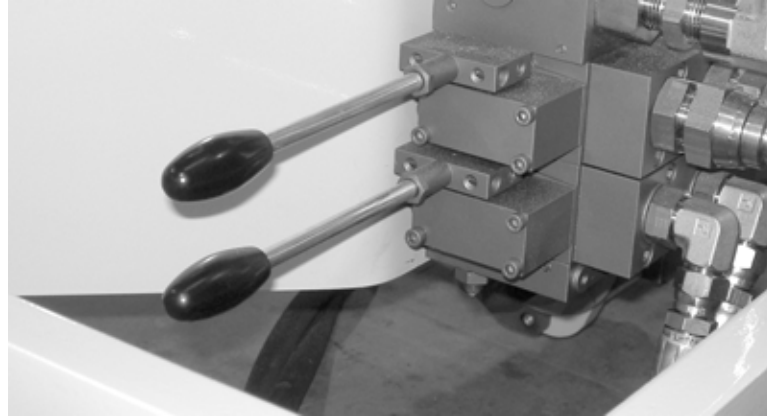


Figure 5-23. Make sure both drive levers are in the off (center) position.

2. Turn on the hydraulic power unit and ensure that it is operating at 1500 psi (103 bar).
3. Turn on the cutting drive on the saw by moving the top lever to the right.

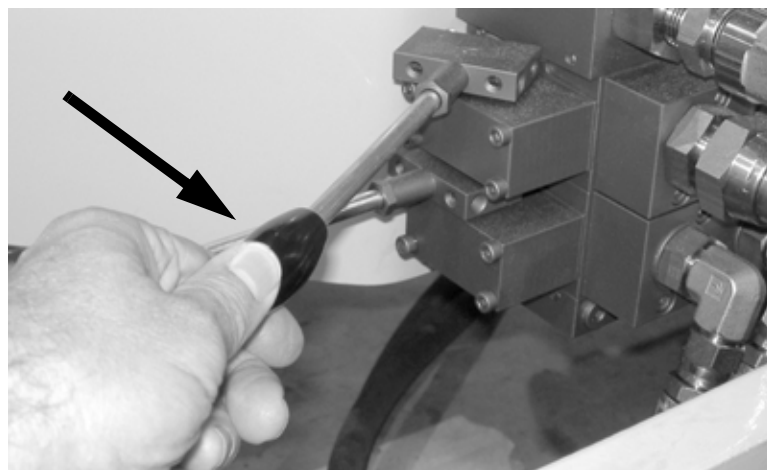


Figure 5-24. Turn on the cutting drive by pushing the lever to the right.

4. To engage the cut, push the autofeed lever to the right. The feed screw will engage and the bow will index into the workpiece.



Figure 5-25. Start the feed motion by pushing the bottom lever to the right. The cutting drive lever must be engaged when you do this.

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 by moving the bottom lever back to the center position.

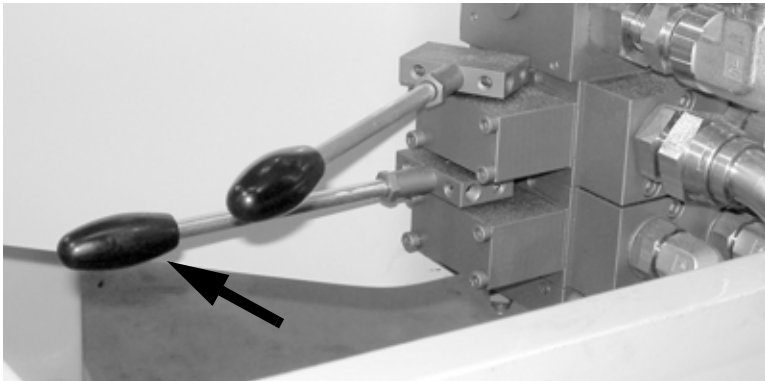


Figure 5-26. When the cut is complete, move the feed lever back to the center (off) position.

7. If you want to remove the saw before retracting the saw bow, remove the blade from the saw.



**WARNING
IMPORTANT**

When the saw is installed in cutting position, never operate the feed drive without the cutting drive motion engaged.

IMPORTANT

If you are retracting the bow with the saw still attached at the cutting position, make sure the cutting drive is still running or you could break the blade.



8. To retract the saw bow before removing the saw, push the feed lever on the manifold to the left to retract. When the bow is fully retracted, move the lever back to the center position.

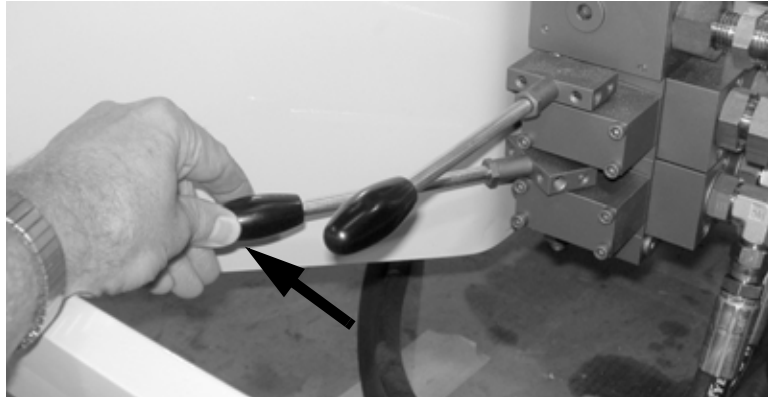


Figure 5-27. Push the feed lever to the left to retract the saw bow.

9. Move the cutting lever back to the center position to stop the cutting drive.

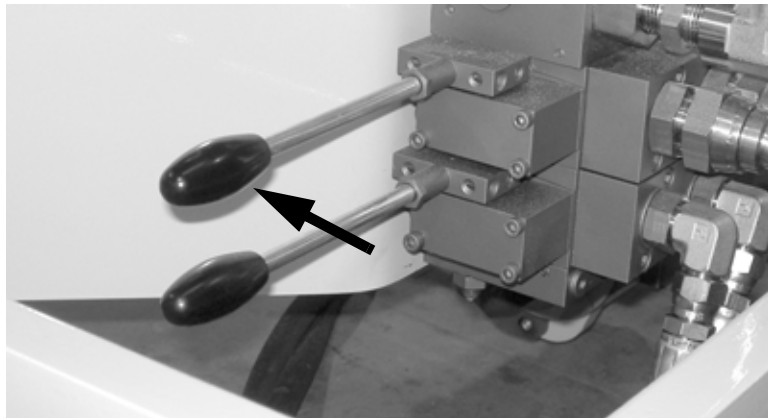


Figure 5-28. When the bow is retracted, move the cutting lever to the center to turn off the cutting motion.

10. Turn off power to the saw at the hydraulic power unit.

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.

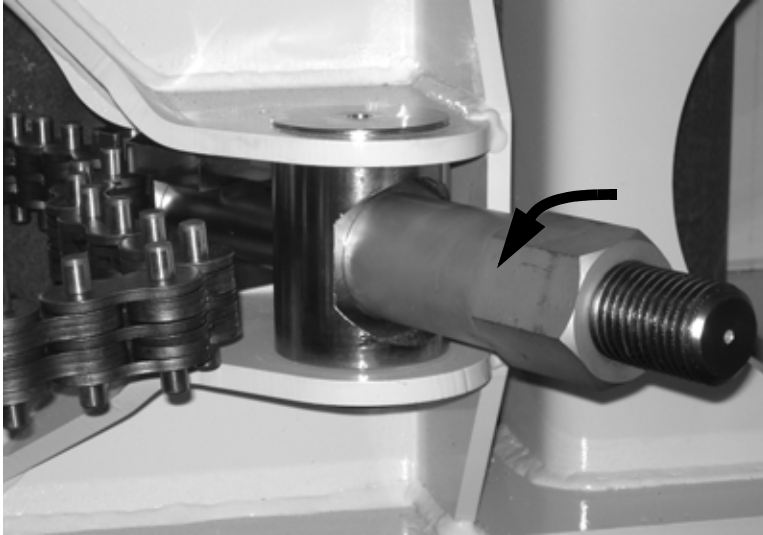


Figure 5-29. Turn the chain tensioning nut counter-clockwise to loosen the chain.

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.
5. Remove the hoses from the saw manifold.
6. To retract the hoses in the hose reel, insert the hand crank through the hole in the front of the case and install it on the shaft. The inside of the crank end has a "screwdriver" fitting that locks into the slot on the end of the shaft.



**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.

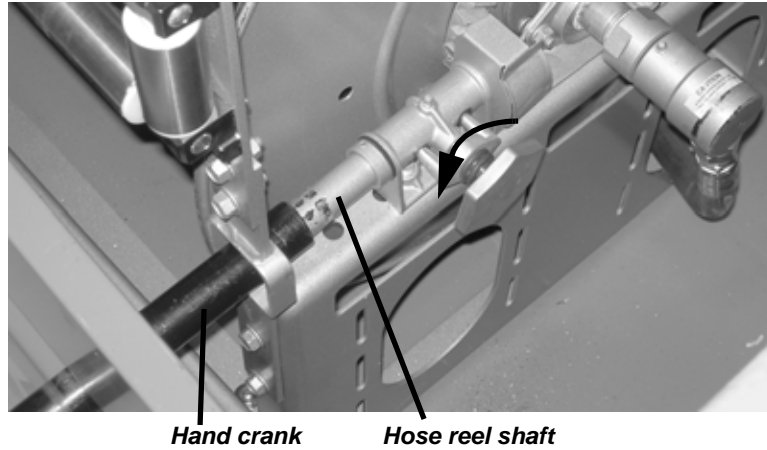


Figure 5-30. Install the hand crank on the hose reel shaft and loosen the locking knob.

7. Turn the locking knob counter-clockwise to allow the hose reel to turn.
8. Crank the handle to turn the reel, while guiding the hoses between the rollers into the case.
9. When the hoses are completely on the reel, turn the locking knob clockwise to lock the hose reel.

Chapter 6

Routine Maintenance

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

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.

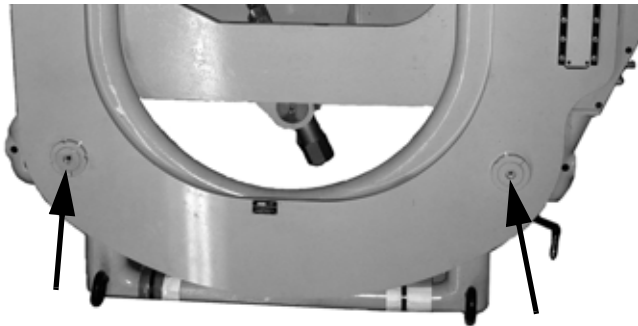


Figure 6-1. There are two grease fittings on the top of the saw bow.

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

In This Chapter

GREASE POINTS

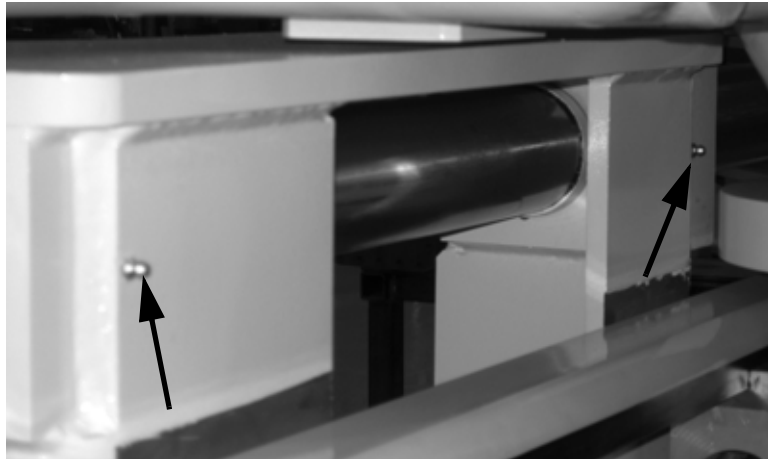


Figure 6-2. Fittings on the feed drive side of the frame. (The saw bow is fed all the way forward.)

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

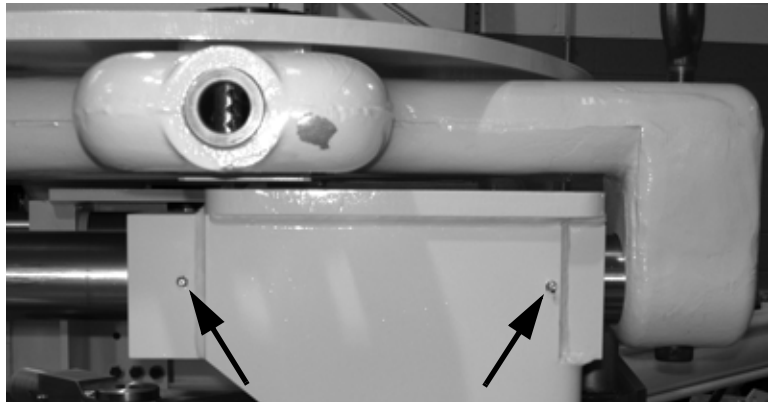


Figure 6-3. Grease fittings for the frame guide shaft on the open side of the frame.

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

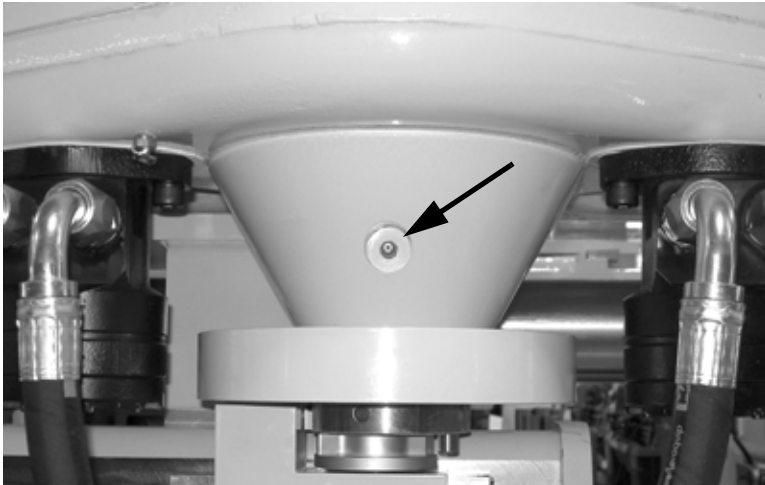
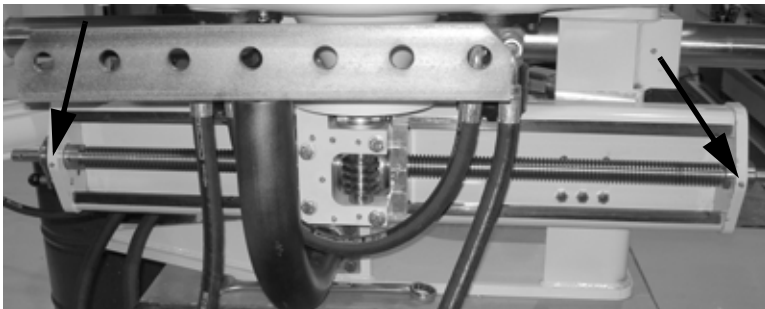


Figure 6-4. Fitting on the gear shaft housing.

- 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.



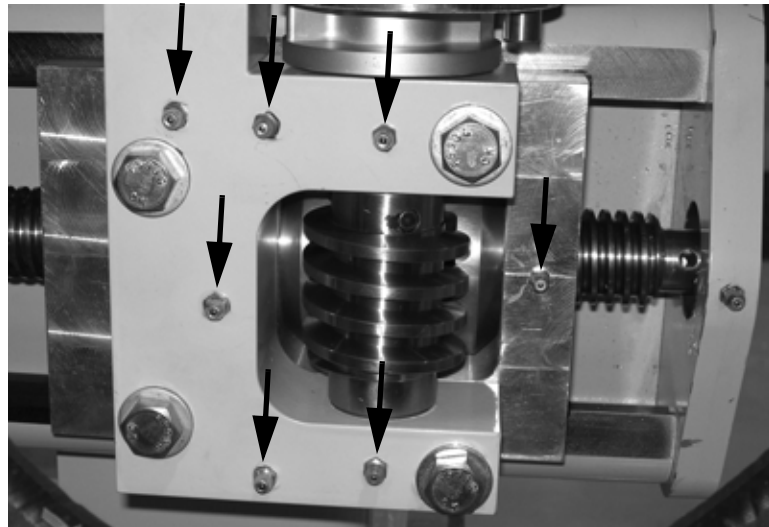


Figure 6-5. There are two fittings on the ends of the feed frame (top photo), and six fittings on the feed shaft mount and one on the feed slide housing (bottom photo).

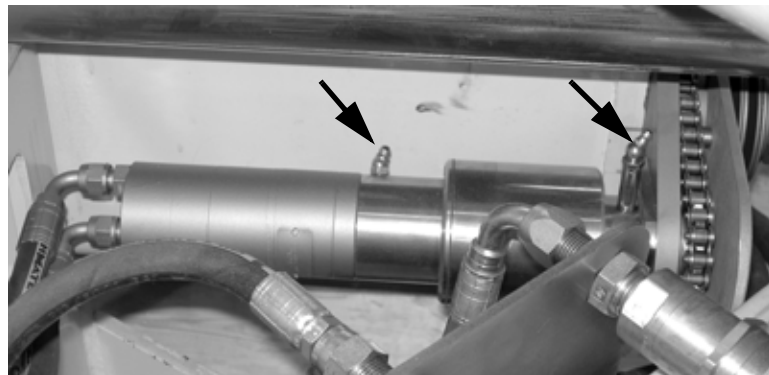


Figure 6-6. There are two grease fittings on the optional hydraulic autofeed motor.

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.

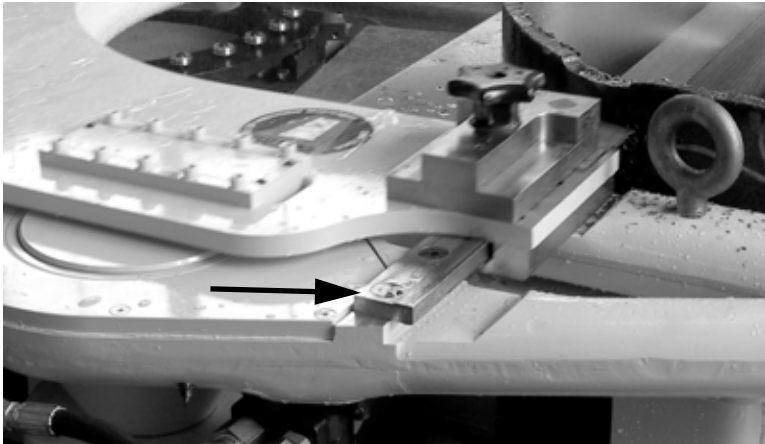


Figure 6-7. Grease the bow guide plates on both sides of the frame (one side shown).

Hose Reel Lubrication

- Grease the three fittings on the hose reel.

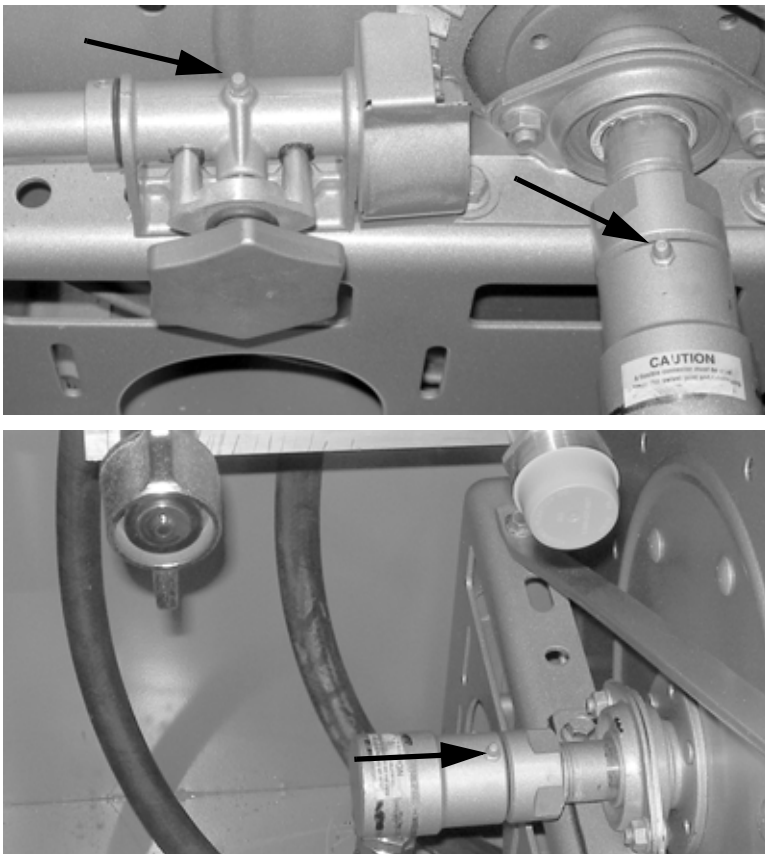


Figure 6-8. Grease the three fittings on the hose reel.



Chapter 7

Service and Repair

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The Goliath Guillotine does not have any user-serviceable parts. If the machine is not operating correctly, contact E.H. Wachs Company service for repair.

TROUBLESHOOTING

Refer to the troubleshooting procedures in Table 1.

In This Chapter

TROUBLESHOOTING

Table 1: Goliath Troubleshooting

Symptom	Potential Cause	Solution
Machine Loose on Pipe (Chain Clamp)	Clamp nut not tight	Re-torque chain tension nut
	Chain tensioner at max travel	Loosen tensioner and relocate chain hook to next tighter pin
Machine Loose on Pipe (Autoclamp)	Low clamp pressure	With machine stopped, re-energize clamp valve
	Low HPU pressure	Make sure system pressure from HPU is at least 2,000 psi
Cut Not Flat	Blade is dull or damaged	Replace with new blade
	Wrong blade	Replace with correct blade
	Blade is not tight	Tension blade and lock in place
	Feed rate too fast	Lower feed rate to one trip pin or slower speed on TCU
	Feed overload improper	Reduce spring pressure on feed lock pin
Machine Stalling	Cutter blade is binding	See procedures under “Cut Not Flat” above
	Low hydraulic system pressure	Make sure system pressure from HPU is at least 2,000 psi
	Slide ways are damaged	Inspect guide rods and ways for damage, debris, or lack of lubrication

Chapter 8

Parts List and Ordering Information

ORDERING INFORMATION

To place an order, request service, or get more detailed information on any E.H. Wachs products, call us at one of the following numbers:

U.S. 800-323-8185
International: 847-537-8800

You can also visit our Web site at:

www.ehwachs.com

Ordering Replacement Parts

When ordering parts, refer to the parts lists in this chapter. Please provide the part description and part number for all parts you are ordering.

Repair Information

Please call us for an authorization number before returning any equipment for repair or factory service. We will advise you of shipping and handling. When you send the equipment, please include the following information:

- Your name/company name
- Your address
- Your phone number

In This Chapter

ORDERING INFORMATION

DRAWINGS AND PARTS LISTS

- A description of the problem or the work to be done.

Before we perform any repair, we will estimate the work and inform you of the cost and the time to complete it.

Warranty Information

Enclosed with the manual is a warranty card. Please fill out the registration card and return to E.H. Wachs. Retain the owner's registration record and warranty card for your information.

Return Goods Address

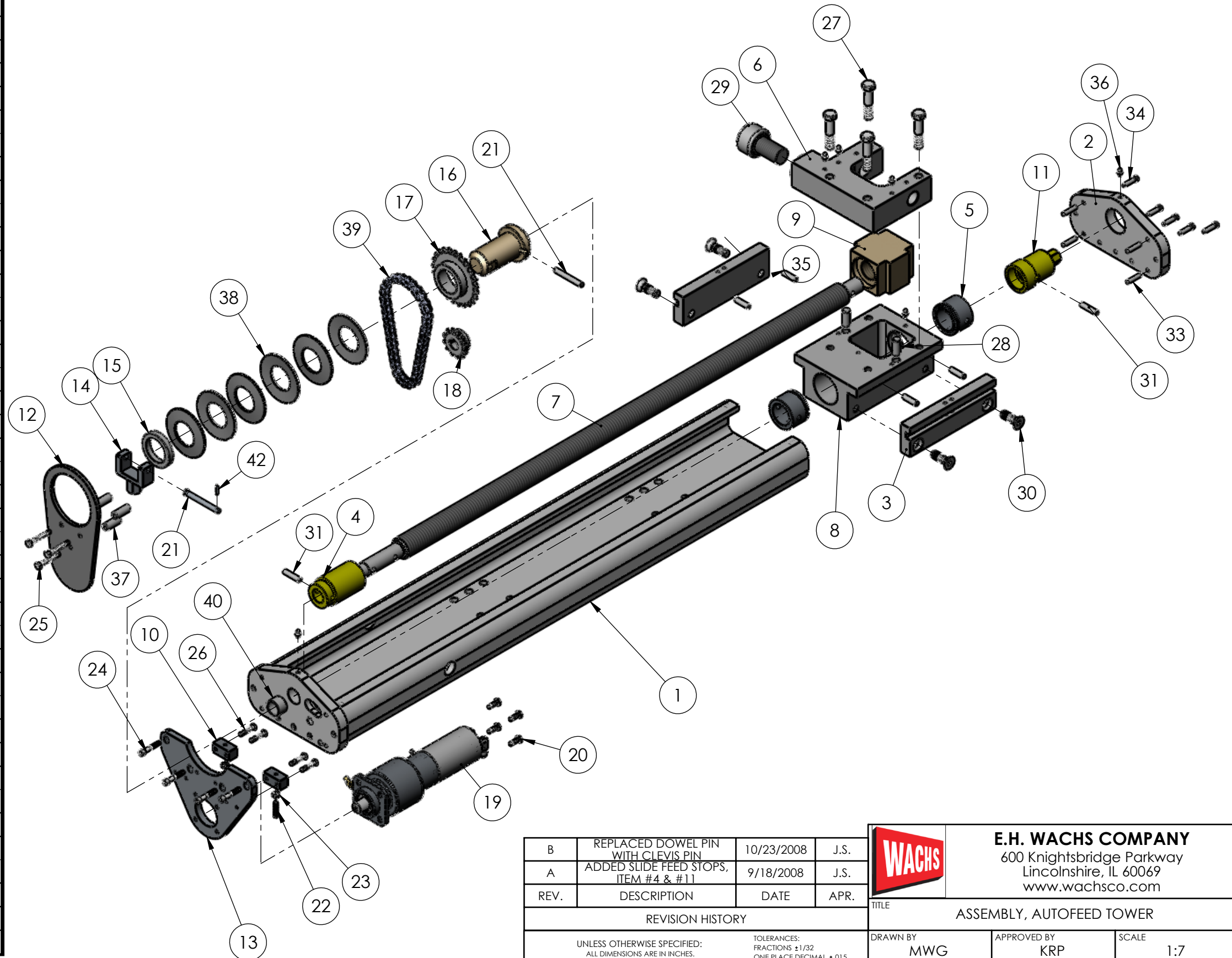
Return equipment for repair to the following address.

E.H. Wachs
600 Knightsbridge Parkway
Lincolnshire, Illinois 60069 USA


DRAWINGS AND PARTS LISTS

The following pages include exploded view drawings with parts lists for all of the Goliath Guillotine components.

Item No.	Part Number	Description	Qty.
1	05-011-002	HOUSING, FEED	1
2	05-055-015	PLATE, FEED TOWER FRONT END	1
3	05-011-016	GIB, FEMALE FEED	2
4	P98-037-071	COLLAR, FEED SCREW - UPPER	1
5	98-037-042	RETAINER, WORM GEAR	2
6	98-037-047	MOUNT, FEED SHAFT	1
7	98-037-B48	SCREW, FEED	1
8	98-037-045	HOUSING, FEED SLIDE	1
9	P06-150-023	NUT, FEED	1
10	P06-150-040	SPACER, FEED DRIVE POSITIONING	2
11	P98-037-072	COLLAR, FEED SCREW - LOWER	1
12	P06-150-032	COVER, FEED CHAIN	1
13	P06-150-031	PLATE, FEED MOTOR MOUNT	1
14	P06-150-027	YOKE, FEED DRIVE	1
15	P06-150-028	RING, THRUST	1
16	P06-150-026	HUB, FEED SCREW DRIVE	1
17	P06-150-024	SPROCKET, FEED SCREW	1
18	P06-150-025	SPROCKET, MOTOR	1
19	06-150-401	ASSEMBLY FEED GEARBOX	1
20		HHCS, 1/4-20 x 3/4" LNG.	4
21		PIN, CLEVIS 5/16" DIA. X 3" LNG.	2
22		NUT, 1/4-28	2
23		SSS, 1/4-28 x 1-1/4" LNG.	2
24		SHCS, 1/4-20 x 1-1/2" LNG.	4
25		HHCS, 1/4-20 x 1-7/8" LNG.	3
26		BHCS, 1/4-20 x 1-1/4" LNG.	4
27	05-011-932	HHCS, 1/2-20 x 2-1/2" LNG.	4
28	05-011-908	PIN, 1/2" x 1-1/4" LNG. DOWEL	2
29	05-011-509	BEARING, CAM	1
30	05-011-926	FHCS, 1/2-20 x 1-1/2" LNG.	4
31	05-011-905	PIN, 5/16" x 1-1/2" LNG. DOWEL	1
32	05-011-917	PIN, 1/4" x 1-1/2" LNG. ROLL	1
33	05-011-946	PIN, DOWEL 1/2" DIA. X 1-1/4" LNG.	4
34	05-011-947	SHCS, 1/4-20 x 1" LNG.	5
35	05-011-904	PIN, 5/16" x 1-1/4" LNG. DOWEL	4
36	05-011-528	ZERK, GREASE	7
37	P06-150-039	SPACER, FEED CHAIN COVER	3
38	P06-150-034	SPRING, BELLVILLE	6
39		CHAIN W/ CONNECTING LINK	1
40	05-011-503	BEARING, SLEEVE	1
41	05-011-506	BEARING, THRUST	1
42		PIN, 1/8" x 3/4" LNG. ROLL	1



REV.	DESCRIPTION	DATE	APR.
B	REPLACED DOWEL PIN WITH CLEVIS PIN	10/23/2008	J.S.
A	ADDED SLIDE FEED STOPS, ITEM #4 & #11	9/18/2008	J.S.

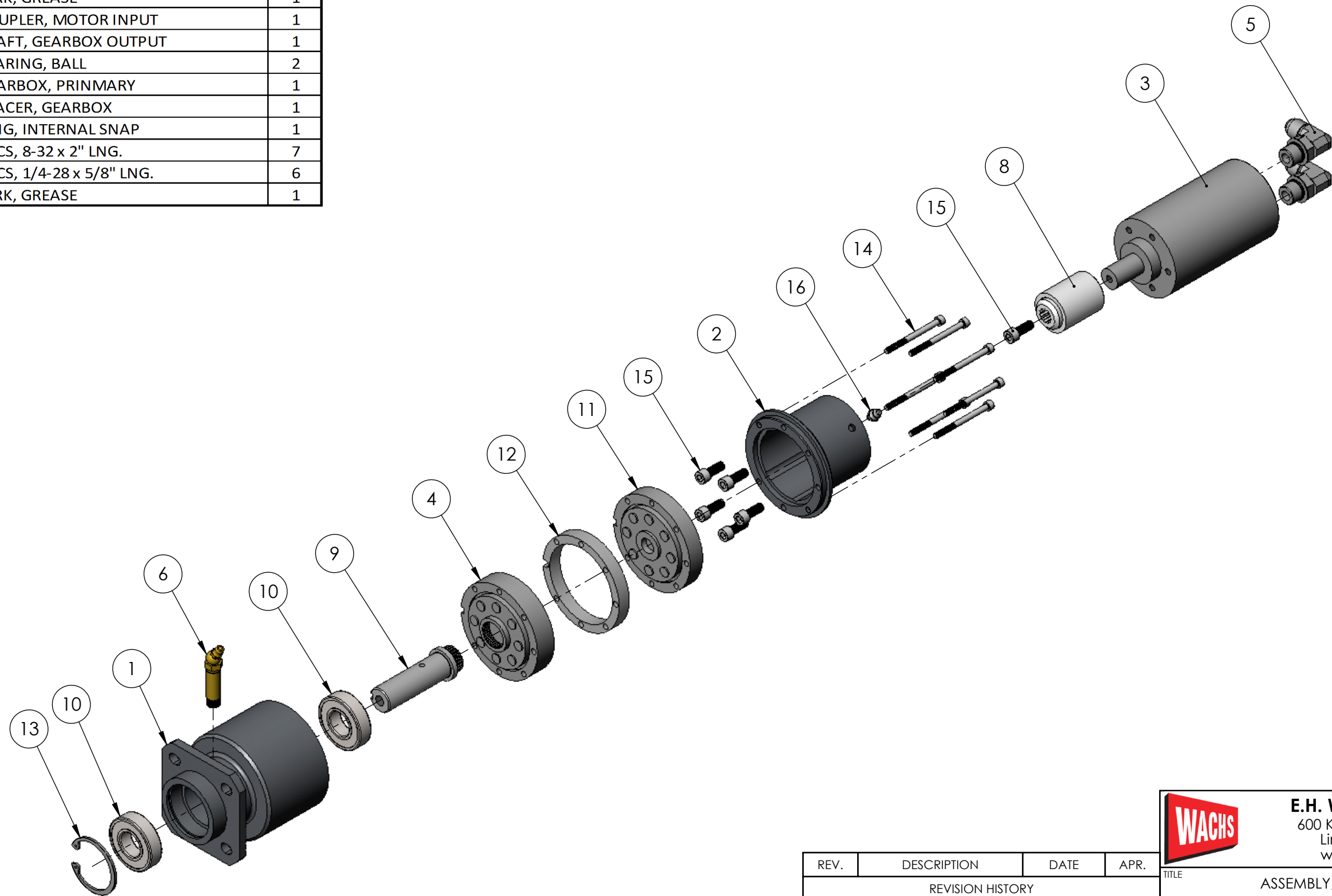
 E.H. WACHS COMPANY 600 Knightsbridge Parkway Lincolnshire, IL 60069 www.wachsco.com		TITLE	
		ASSEMBLY, AUTOFEED TOWER	
DRAWN BY	APPROVED BY	SCALE	
MWG	KRP	1:7	
DATE	DATE	SHEET	
7-3-08	7-3-08	1 OF 1	
SIZE	DWG. NO.	REV.	
B	06-150-400	B	


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 DO NOT SCALE DRAWING.

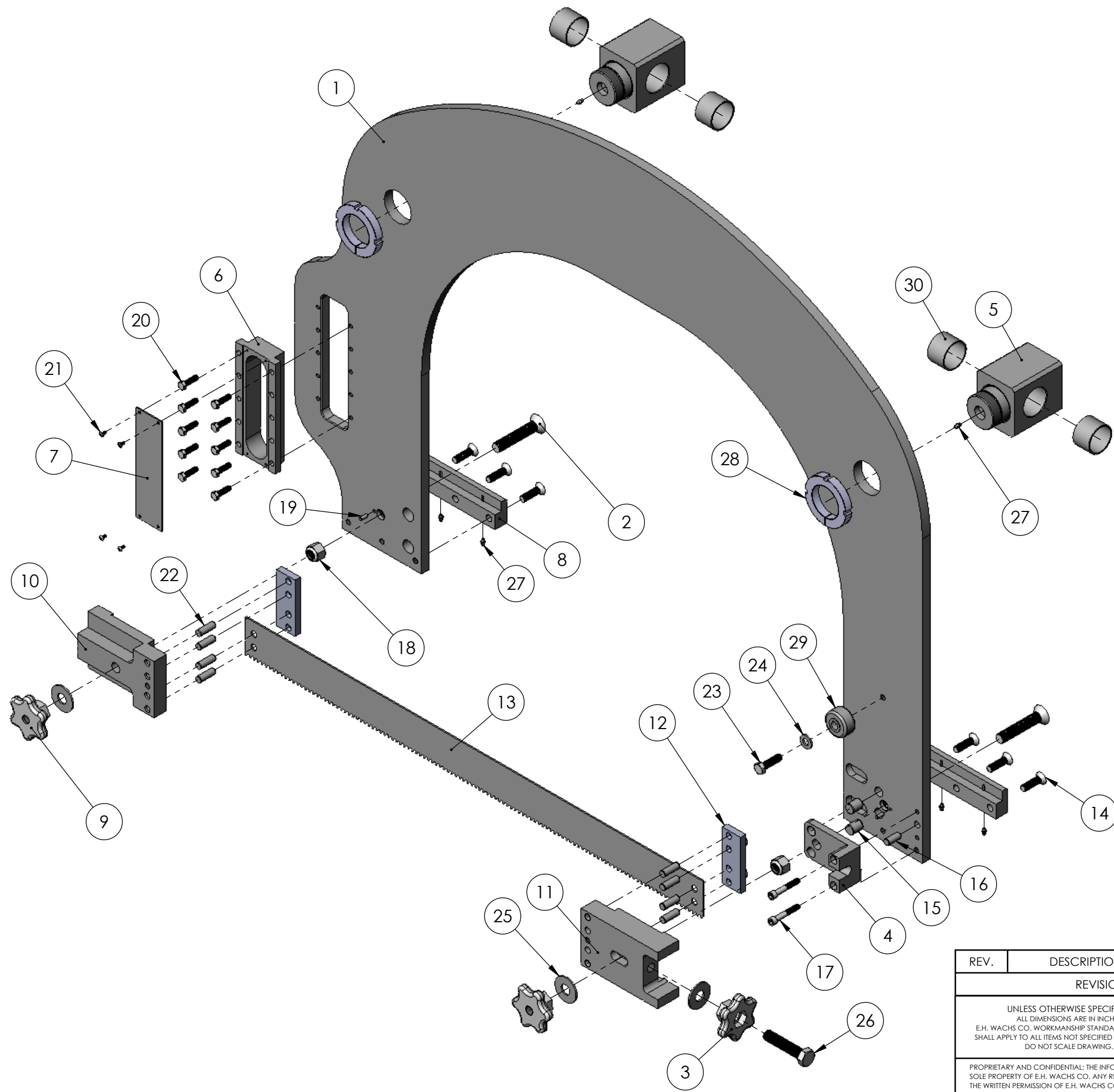
TOLERANCES:
 FRACTIONS ±1/32
 ONE PLACE DECIMAL ±.015
 TWO PLACE DECIMAL ±.010
 THREE PLACE DECIMAL ±.005
 ANGULAR ±15 MIN.

PROPRIETARY AND CONFIDENTIAL: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF E.H. WACHS CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF E.H. WACHS CO. IS PROHIBITED.

Item No.	Part Number	Description	Qty.
1	P06-052-150	HOUSING, FEED BOX OUTPUT	1
2	P06-052-159	HOUSING, FEED BOX INPUT	1
3	P06-150-038	MOTOR, FEED	1
4	11-103-00	GEARBOZ, PLANETARY OUTPUT	1
5		FITTING, 3/8" NPT x 3/8" ORB x 90 DEG	2
6	90-500-04	ZERK, GREASE	1
7	P06-052-155	COUPLER, MOTOR INPUT	1
8	P06-150-030	SHAFT, GEARBOX OUTPUT	1
9	P06-150-035	BEARING, BALL	2
10	P06-150-036	GEARBOX, PRINMARY	1
11	P06-150-037	SPACER, GEARBOX	1
12		RING, INTERNAL SNAP	1
13		SHCS, 8-32 x 2" LNG.	7
14		SHCS, 1/4-28 x 5/8" LNG.	6
15	05-011-528	ZERK, GREASE	1



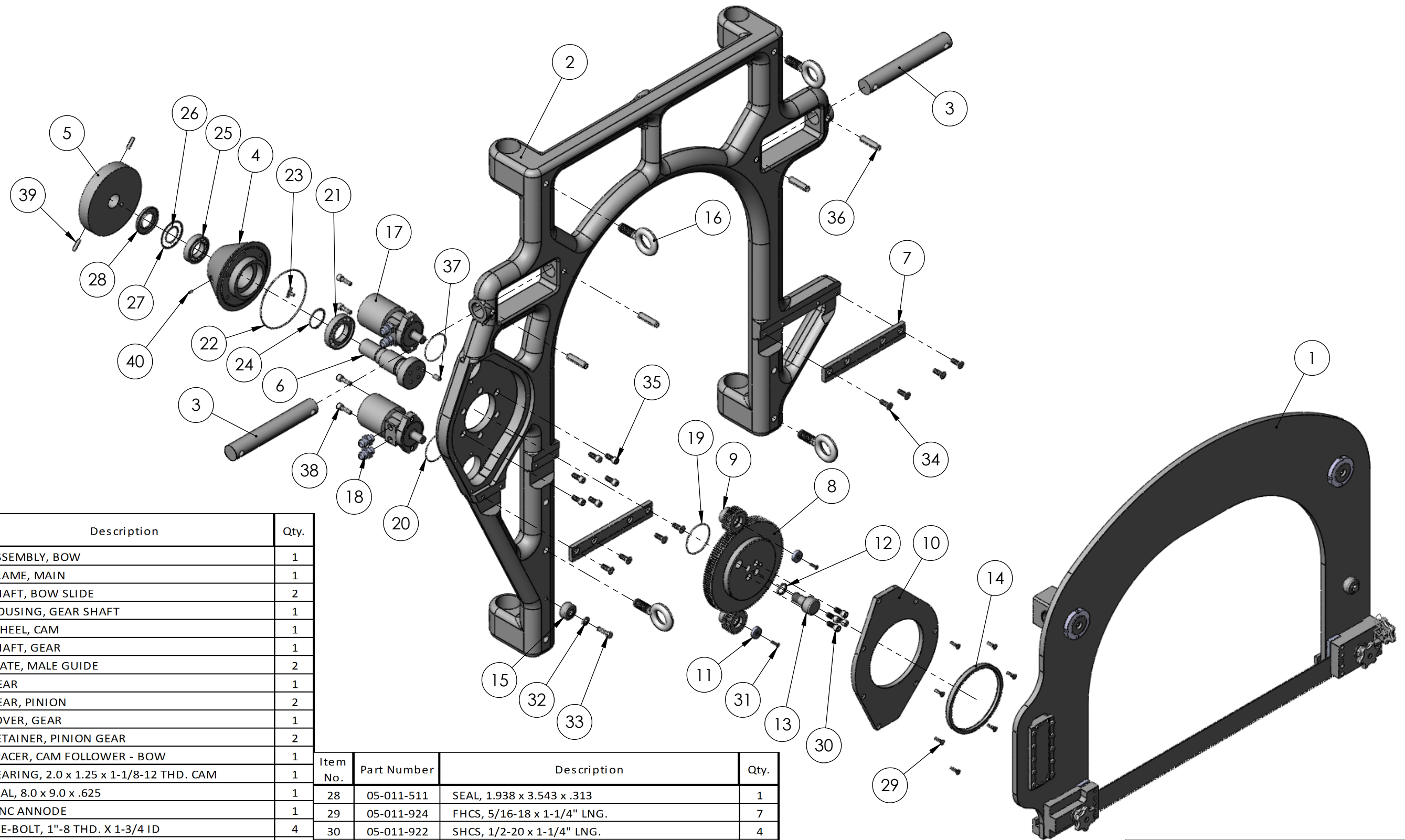
 E.H. WACHS COMPANY 600 Knightsbridge Parkway Lincolnshire, IL 60069 www.wachsco.com		TITLE	
		ASSEMBLY, FEED GEARBOX	
REV.	DESCRIPTION	DATE	APR.
REVISION HISTORY			
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DRAWN BY	APPROVED BY	SCALE	
MWG	KRP	1:3	
DATE	DATE	SHEET	
7-3-08	7-3-08	1 OF 1	
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B		DWG. NO.	
		06-150-401	



Item No.	Part No.	Description	Qty.
1	90-037-012	FRAME, BOW	1
2	98-037-014	BOLT, BLADE CLAMP	2
3	98-037-015	KNOB, BLADE TENSION	1
4	98-037-017	GUIDE, TENSION CLAMP	1
5	98-037-023	BLOCK, BOW SLIDE	2
6	98-037-025	YOKE, BOW FEED	1
7	98-037-026	COVER, FEED YOKE	1
8	98-037-050	GUIDE, BOW - FEMALE	2
9	98-037-059	KNOB, BLADE CLAMP	2
10	05-011-018	CLAMP, BLADE PULL	1
11	05-011-019	CLAMP, BLADE TENSION	1
12	05-011-020	ADAPTER, BLADE	2
13	98-037-41X	BLADE, GOLIATH	1
14	05-011-927	FHCS, 1/2-13 x 1-3/4	6
15	05-011-913	PIN, 3/4" x 1" LNG. DOWEL	2
16	05-011-908	PIN, 1/2" x 1-1/4" LNG. DOWEL	1
17	05-011-919	SHCS, 3/8-16 x 2-1/4" LNG.	2
18	05-011-939	NUT, NYLOCK 3/4-10	2
19	05-011-903	PIN, 1/4 x 5/8 LNG. DOWEL	2
20	05-011-931	HHCS, 3/8-16 x 1-1/4	10
21	05-011-934	BHCS, 10-24 x 3/8	4
22	05-011-909	PIN, 1/2 x 1-1/2" LNG. DOWEL	8
23	05-011-941	HHCS, 1/2-13 x 1-3/4" LNG.	1
24	05-011-942	WASHER, 1/2" SAE	1
25	05-011-940	WASHER, 3/4"	3
26	05-011-933	HHCS-SS, 3/4-16 x 3-1/2" LNG.	1
27	05-011-528	ZERK, GREASE	6
28	05-011-512	NUT, 5/8 W. x 2.548-18 THD. LOCK	2
29	05-011-545	ANODE, ZINC	1
30	05-011-504	BEARING, 2" x 2-3/16" x 1-1/2" LG. SLEEVE	4

E.H. WACHS COMPANY
 600 Knightsbridge Parkway
 Lincolnshire, IL 60069
www.wachSCO.com

REV.	DESCRIPTION	DATE	APR.	TITLE	
REVISION HISTORY				ASSEMBLY, BOW	
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		DATE 7-28-08	DATE 7-28-08	SCALE 1:7	SHEET 1 OF 1
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				REV.	



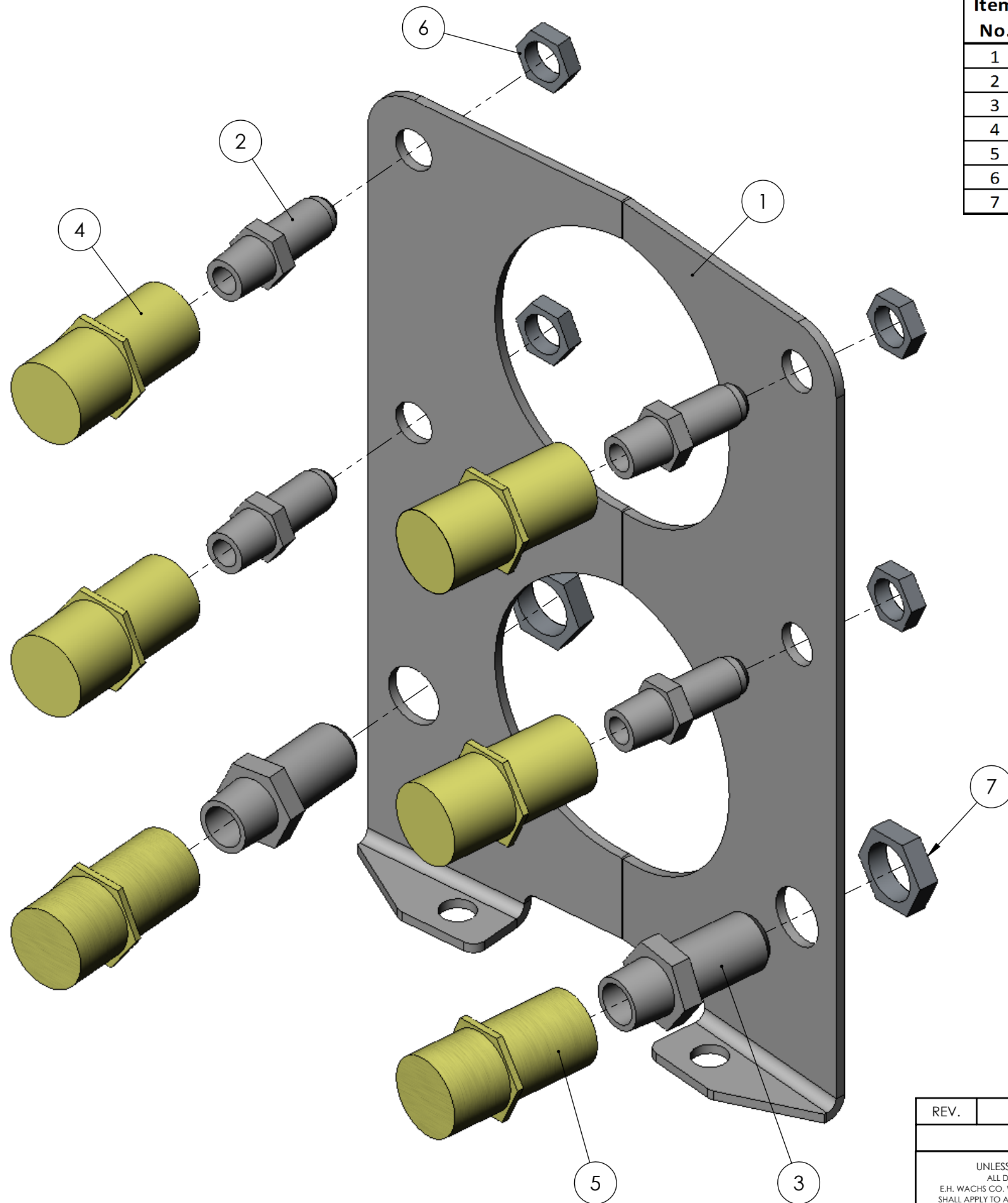
Item No.	Part Number	Description	Qty.
1	05-150-402	ASSEMBLY, BOW	1
2	98-037-011A	FRAME, MAIN	1
3	98-037-024	SHAFT, BOW SLIDE	2
4	98-037-031	HOUSING, GEAR SHAFT	1
5	98-037-B30	WHEEL, CAM	1
6	98-037-027	SHAFT, GEAR	1
7	98-037-049	PLATE, MALE GUIDE	2
8	98-037-028	GEAR	1
9	98-037-029	GEAR, PINION	2
10	98-037-032	COVER, GEAR	1
11	97-009-07	RETAINER, PINION GEAR	2
12	98-037-056	SPACER, CAM FOLLOWER - BOW	1
13	05-011-509	BEARING, 2.0 x 1.25 x 1-1/8-12 THD. CAM	1
14	05-011-510	SEAL, 8.0 x 9.0 x .625	1
15	05-011-545	ZINC ANNODE	1
16	05-011-522	EYE-BOLT, 1"-8 THD. X 1-3/4 ID	4
17	05-011-500	MOTOR, 146cm/r x 1" Shaft x 7/8-14Port x 2Blt	2
18	05-011-533	FITTING, STR. 1 1/16-12 JIC (M) x 7/8-14 ORB (M)	4
19	05-011-518	O-RING 3-3/4 ID x 1/8 STD.	1
20	05-011-517	O-RING 3-1/4 ID x 3/32 STD.	2
21	05-011-508	BEARING, 2.3622 x 4.3307 BALL	1
22	05-011-519	O-RING 7-1/2 ID x 1/8 STD.	1
23	05-011-546	1/8" NPT BRASS DRAIN COCK	1
24	05-011-516	RING, 2.375 x .078 EXTERNAL RETAINING	1
25	05-011-507	BEARING, 1.9685 x 3.5433 BALL	1
26	05-011-515	RING, 1.969 x .062 EXTERNAL RETAINING	1
27	05-011-514	RING, 3.543 x .061 INTERNAL RETAINING	1

Item No.	Part Number	Description	Qty.
28	05-011-511	SEAL, 1.938 x 3.543 x .313	1
29	05-011-924	FHCS, 5/16-18 x 1-1/4" LNG.	7
30	05-011-922	SHCS, 1/2-20 x 1-1/4" LNG.	4
31	05-011-923	FHCS, 1/4-20 x 7/8" LNG.	2
32	05-011-942	WASHER, 1/2" SAE	1
33	05-011-941	HHCS, 1/2-13 x 1-3/4" LNG.	1
34	05-011-925	FHCS, 1/2-13 x 1-1/2" LNG.	8
35	05-011-920	SHCS, 1/2-13 x 1-1/4" LNG.	6
36	05-011-918	PIN, 3/4" x 3" LNG. ROLL	4
37	05-011-907	PIN, 1/2" x 1" LNG. DOWEL	1
38	05-011-921	SHCS, 1/2-13 x 1-1/2" LNG.	4
39	05-011-906	PIN, 3/8" x 1-1/2" LNG. DOWEL	2
40	05-011-528	FITTING, 1/4-28 MALE GREASE (STRAIGHT)	1

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600 Knightsbridge Parkway
Lincolnshire, IL 60069
www.wachSCO.com

TITLE ASSEMBLY, FRAME		
DRAWN BY MWG	APPROVED BY KRP	SCALE 1:12
DATE 9-5-08	DATE 9-5-08	SHEET 1 OF 1
SIZE B	DWG. NO. 06-150-403	REV.



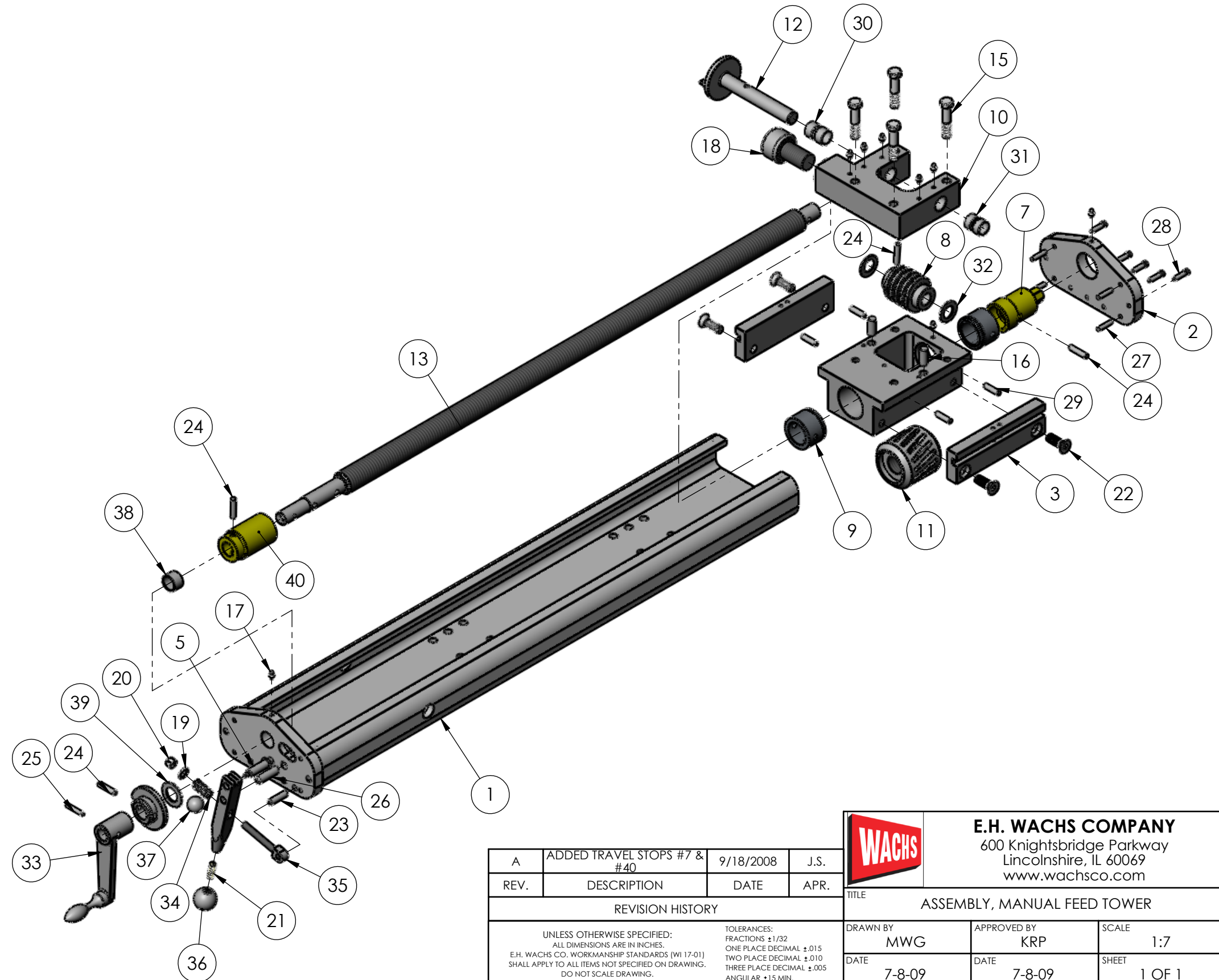
Item No.	Part Number	Description	Qty.
1	06-052-015	PLATE, BULKHEAD MOUNTING	1
2		FITTING, BULKHEAD -8 JIC(M) x -8 NPT (M)	4
3		FITTING, BULKHEAD -12 JIC(M) x -12 NPT(M)	2
4		QUICK DISCONNECT, 1/2" NPT(F) x 3/4" BODY MALE W/ FLANGE	4
5		QUICK DISCONNECT, 3/4" NPT(F) x 3/4" BODY MALE W/FLANGE	2
6		NUT, BULKHEAD -8	4
7		NUT, BULKHEAD -12	2

REV.	DESCRIPTION	DATE	APR.
REVISION HISTORY			
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<small>PROPRIETARY AND CONFIDENTIAL: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF E.H. WACHS CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF E.H. WACHS CO. IS PROHIBITED.</small>			


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600 Knightsbridge Parkway
Lincolnshire, IL 60069
www.wachsco.com

TITLE ASSMBLY, BULKHEAD		
DRAWN BY MWG	APPROVED BY KRP	SCALE 1:2
DATE 7-8-08	DATE 7-8-08	SHEET 1 OF 1
SIZE B	DWG. NO. 06-150-404	REV.

Item No.	Part Number	Description	Qty.
1	05-011-002	FEED HOUSING	1
2	05-011-015	PLATE, FEED TOWER FRONT END	1
3	05-011-016	GIB, FEMALE FEED	2
4	98-037-035	LEVER, FEED CONTROL	1
5	98-037-036	PIN, FEED LOCK-OUT	1
6	98-037-037	CAM, FEED OVERLOAD	1
7	98-037-072	COLLAR, FEED SCREW - LOWER	1
8	98-037-039	BUSHING, FEED SCREW	1
9	98-037-040	WORM, FEED	1
10	98-037-042	RETAINER, WORM GEAR	2
11	98-037-047	MOUNT, FEED SHAFT	1
12	98-037-B41	GEAR, WORM FEED	1
13	98-037-B44	SHAFT, FEED	1
14	98-037-B48	SCREW, FEED	1
15	98-037-45	HOUSING, FEED SLIDE	1
16	05-011-932	HHCS-SS, 1/2-20 x 2-1/2" LNG.	4
17	05-011-908	PIN, 1/2" x 1-1/4" LNG. DOWEL	2
18	05-011-528	FITTING, 1/4-28 MALE GREASE (STRAIGHT)	8
19	05-011-509	BEARING, 2.0 x 1.25 x 1-1/8-12 THD. CAM	1
20	05-011-943	WASHER, 3/8" SAE	1
21	05-011-935	NUT, 3/8-16 NYLOCK	1
22	05-011-929	SSS, 3/8-16 x 1-1/4" LNG.	1
23	05-011-926	FHCS-SS, 1/2-20 x 1-1/2" LNG.	4
24	05-011-906	PIN, 3/8" x 1-1/2" LNG. DOWEL	1
25	05-011-905	PIN, 5/16" x 1-1/2" LNG. DOWEL	3
26	05-011-917	PIN, 1/4" x 1-1/2" LNG. ROLL	2
27	05-011-910	PIN, 1/2 x 1-1/2" LNG. DOWEL	1
28	05-011-946	PIN, 1/4 x 1-1/4" LNG. DOWEL	4
29	05-011-947	SHCS, 1/4-20 x 1" LNG.	5
30	05-011-904	PIN, 5/16" x 1-1/4" LNG. DOWEL	4
31	05-011-502	BEARING, 7/8" x 1" x 5/8" LNG. SLEEVE	2
32	05-011-501	BEARING, 7/8" x 1" x 1/2" LNG. SLEEVE	2
33	05-011-505	BEARING, .875 x 1.5 x .0585 THK. THRUST	2
34	04-045-00	HANDLE, FEED (MODEL "D")	1
35	05-011-520	SPRING, .60 OD x 2.500 LG. x .085	1
36	05-011-521	SWING-BOLT, 3/8-16 x 3-1/2 LNG.	1
37	05-011-523	KNOB, 1-1/8 x 1-7/16 x 3/8-16 THD. BLACK	1
38	05-011-524	KNOB, 1" x 1/4-20 THD. BLACK.	1
39	05-011-503	BEARING, 1" x 1-1/8" x 3/4" LNG. SLEEVE	1
40	98-037-071	COLLAR, FEED SCREW - UPPER	1



REV.	DESCRIPTION	DATE	APR.
A	ADDED TRAVEL STOPS #7 & #40	9/18/2008	J.S.

 E.H. WACHS COMPANY 600 Knightsbridge Parkway Lincolnshire, IL 60069 www.wachsc.com		TITLE	
		ASSEMBLY, MANUAL FEED TOWER	
DRAWN BY	APPROVED BY	SCALE	
MWG	KRP	1:7	
DATE	DATE	SHEET	
7-8-09	7-8-09	1 OF 1	
SIZE	DWG. NO.	REV.	
B	06-150-405	A	

UNLESS OTHERWISE SPECIFIED:
 ALL DIMENSIONS ARE IN INCHES.
 E.H. WACHS CO. WORKMANSHIP STANDARDS (WI 17-01)
 SHALL APPLY TO ALL ITEMS NOT SPECIFIED ON DRAWING.
 DO NOT SCALE DRAWING.

TOLERANCES:
 FRACTIONS ±1/32
 ONE PLACE DECIMAL ±.015
 TWO PLACE DECIMAL ±.010
 THREE PLACE DECIMAL ±.005
 ANGULAR ±15 MIN.

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