Heavy Duty Split Frame
Single Point Cantilevered Tool Slide
User's Manual

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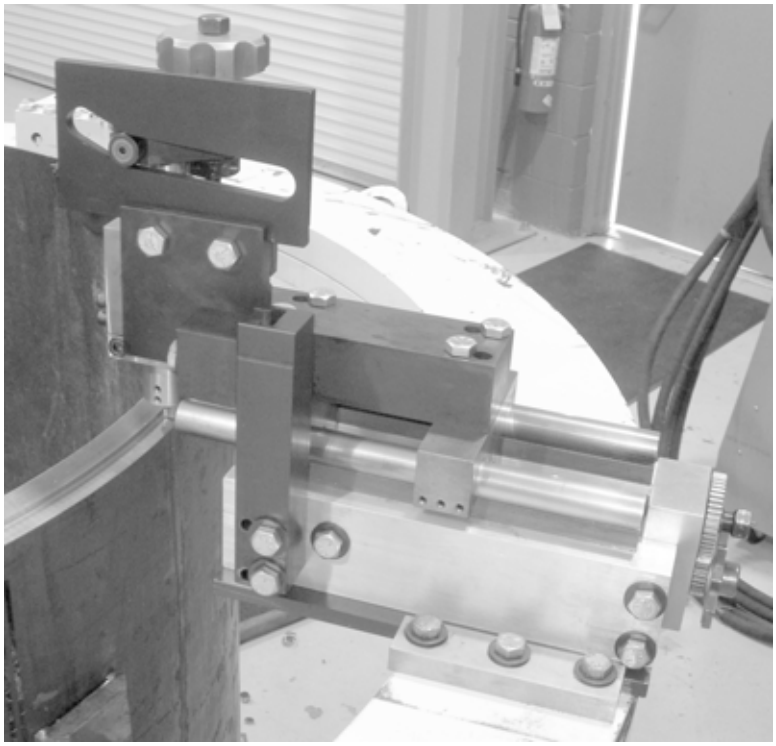

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Chapter 1

About the Single-Point Slide

In This Chapter

PURPOSE OF THIS MANUAL

This manual explains how to operate and maintain the single-point cantilevered tool slide used on Wachs heavy-duty split frame (HDSF) machines. It includes instructions for set-up, operation, and maintenance. It also contains parts lists and diagrams to help you order replacement parts and perform user-serviceable repairs.

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.

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

SYMBOLS AND WARNINGS

The following symbols are used throughout this manual to indicate special notes and warnings. 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

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.

Occasionally, we will update manuals with improved operation or maintenance procedures, or with corrections if necessary. Revised accessory 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.

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.

ABOUT THE SINGLE-POINT SLIDE

The single-point tool slide is designed to be used with a heavy-duty split frame machine for beveling, counterboring, and flange facing on heavy-walled pipe. Templates for compound and J-prep bevels are provided.

A starwheel and trip mechanism advances the tool into the pipe as the machine rotates. Gear sets for different feed ratios and the option for using one or two trips allows you to adjust the feed rate for different materials and surface finishes.

Components of the slide are shown in Figure 1-1.

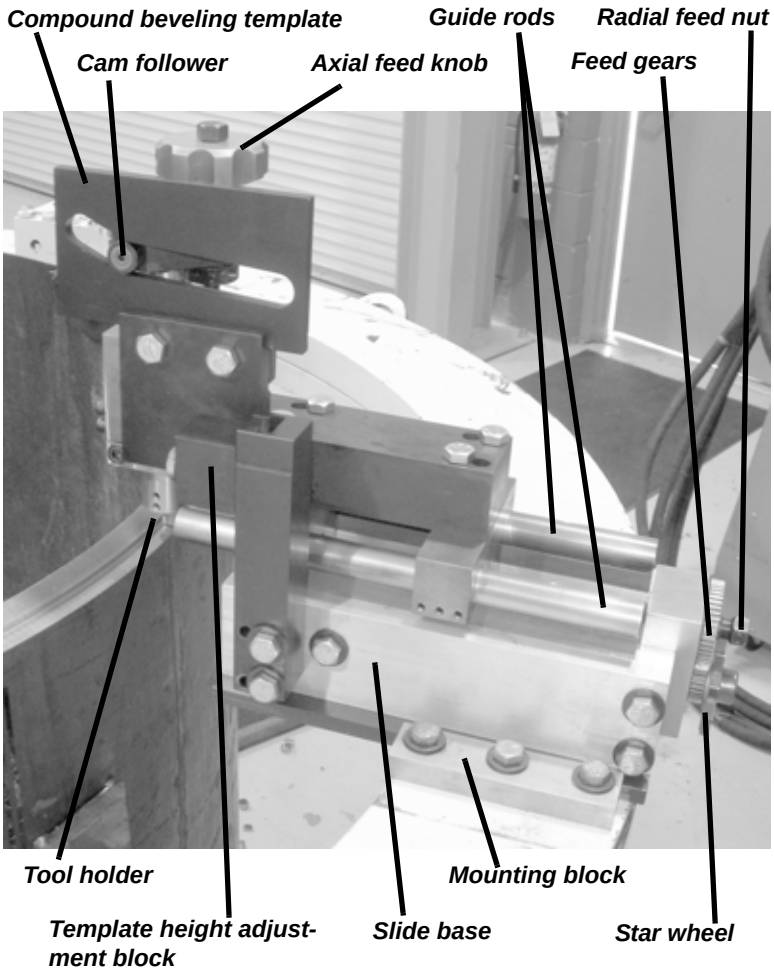


Figure 1-1. The photo illustrates the components of the single-point slide.

Axial Feed

An axial feed knob allows you to manually adjust the tool height axially during cutting. This is used only during counterboring; you will disengage the knob when beveling. The axial drive must be free during beveling so that it can follow the template.

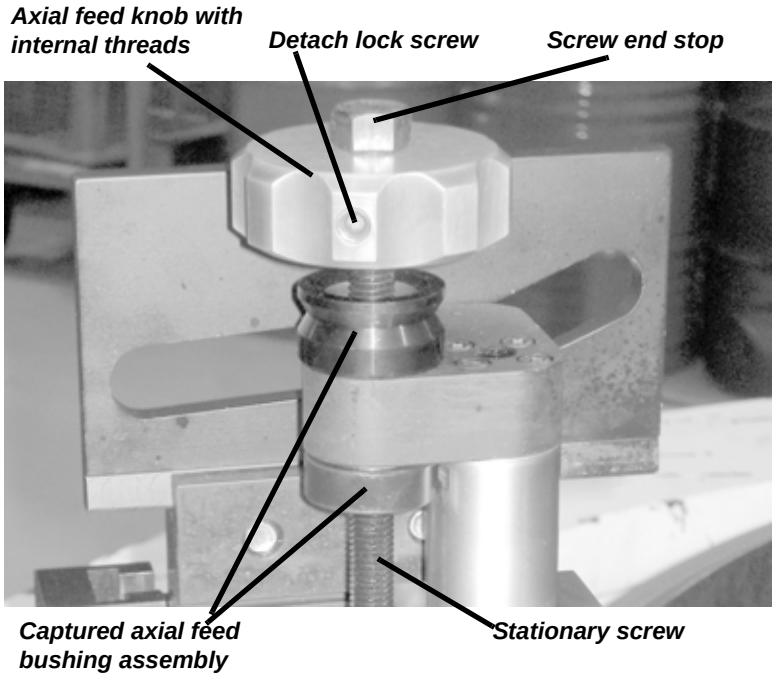


Figure 1-2. For beveling, set the axial feed knob above the template's axial travel limit, and leave the set screws in the knob loose. There are two set screws on opposite sides of the knob.

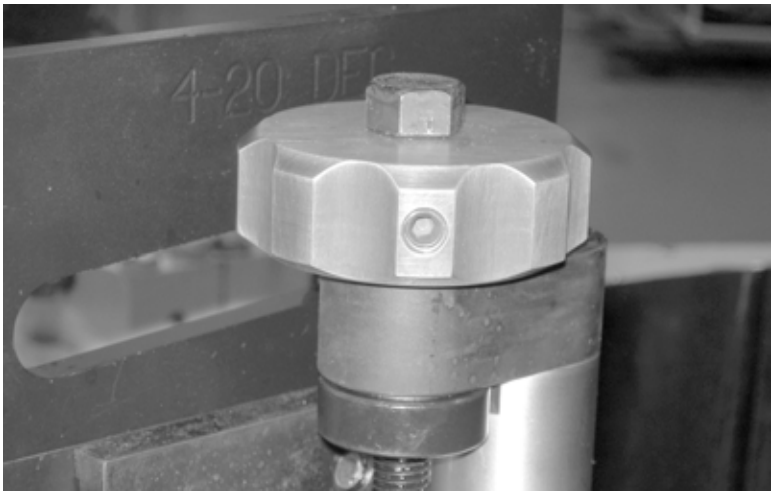


Figure 1-3. To engage the axial feed knob, screw the knob down all the way over the axial feed bushing and tighten the set screws into the groove in the bushing. This attaches the knob to the bushing and allows the knob to drive the axial feed up and down.

Beveling Template

A template for making a 4-20 degree compound bevel is provided with the slide. Other standard or custom templates are available. See ordering instsructions in Chapter 5.

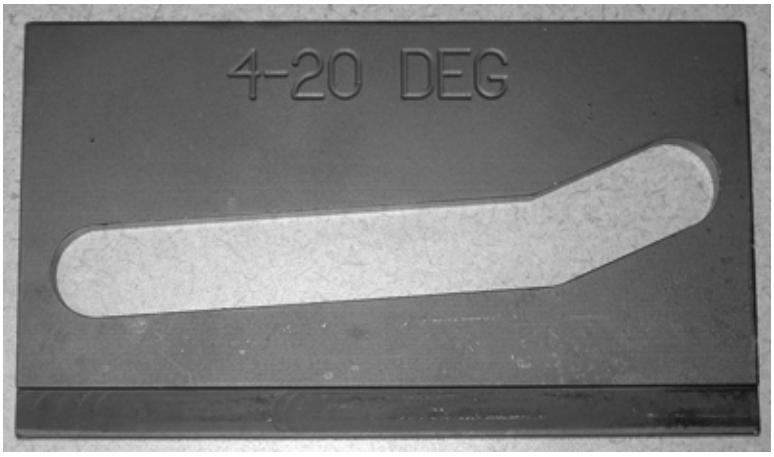


Figure 1-4. A 4-20 degree compound beveling template is provided with the single-point tool slide.

Spring-Loaded Trip

The single-point slide uses the standard trip provided with the HDSF. However, it must be aligned differently for use with the single-point slide; see the instructions in Chapter 3.

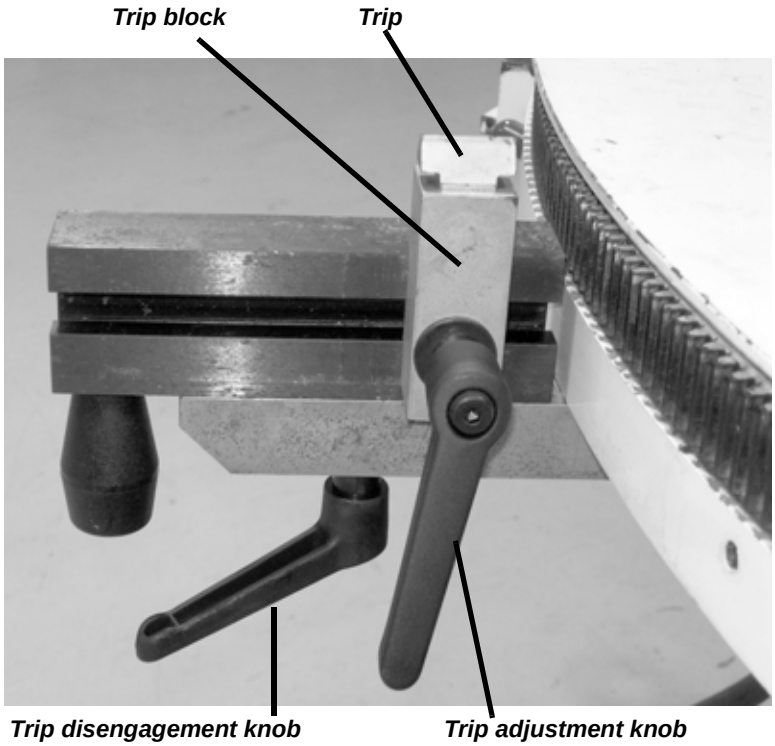


Figure 1-5. Use the trip adjustment knob to set the trip position. Use the trip disengagement knob to pull the trip out and disengage it if you need to run the HDSF without feeding the tool slide.

Chapter 2
Safety

In This Chapter

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.

Read this chapter carefully before operating the single-point slide with the HDSF. It contains important safety instructions and recommendations. Also refer to safety instructions in the HDSF manual.

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 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.

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

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**.

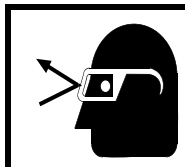
NOTICE

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**.

Protective Equipment Requirements



WARNING

Always wear impact resistant eye protection while operating or working near this equipment.

For additional information on eye and face protection, refer to Federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.133., Eye and Face Protection and American National Standards Institute, ANSI Z87.1, Occupational and Educational Eye and Face Protection. Z87.1 is available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

CAUTION

Personal hearing protection is recommended when operating or working near this tool.

Hearing protectors are required in high noise areas, 85 dBA or greater. The operation of other tools and equipment in the area, reflective surfaces, process noises, and resonant structures can increase the noise level in the area. For additional information on hearing protection, refer to Federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.95, Occupational Noise Exposure and ANSI S12.6 Hearing Protectors.

SAFETY LABELS

There is no safety labeling on the single-point slide.

MACHINE SAFETY

To avoid damaging the equipment, follow these usage guidelines.

- Lubricate the machinery according to the recommendations in Chapter 4.
- Before starting the machine, make sure the tooling is inserted and fastened securely.
- Make sure that the slide brackets are securely tightened down to hold the slide on the HDSF.
- Make sure that all hydraulic connections are secure.
- Make sure the trip is correctly aligned according to the instructions in Chapter 3. Ensure that the trip only contacts the star wheel and not the gear behind the star wheel.

Chapter 3
Set-Up and Operation

Follow the procedures in this chapter to set up and operate the single-point tool slide.

This chapter only describes procedures specific to using the single-point slide. Refer to the "Heavy Duty Split Frame User's Manual" for operating and safety instructions on the HDSF.

In This Chapter

MOUNTING THE HDSF ON THE PIPE

The instructions in this chapter supplement the procedure for the parting operation peformed with the HDSF and O.D. tracking slides. The single-point slide is designed to be used with the HDSF mounted at the same location as the parting cut.

If you are mounting the HDSF to perform a bevel cut on an existing pipe end, set the machine so that its top surface (the top of the rotating ring) is 3.85 inches below the pipe end.

It is important that the pipe end is square before performing the bevel cut. If you used the HDSF with parting slides to cut the pipe, it will be square. If you are beveling an existing end, verify the pipe end is square before beveling; if squaring is required, use the parting slides to square the end of the pipe first.

INSTALLING THE TOOLING

1. Loosen the two set screws in the tool holder.

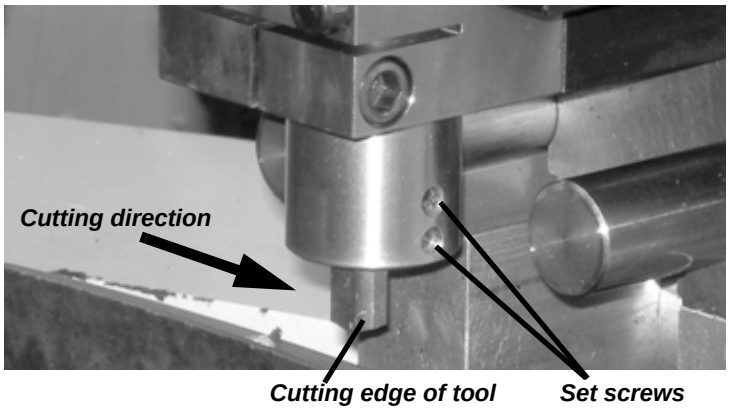


Figure 3-1. Loosen the set screws and insert the tool in the holder. Retighten the set screws.

2. Insert the tool with the cutting edge oriented as shown in Figure 3-1.

3. Tighten the set screws to secure the tool in the holder.

MOUNTING THE SLIDE ON THE HDSF

The single-point slide uses the standard HDSF mounting blocks that are used with the O.D. tracking slides.

1. Attach the mounting blocks to the HDSF. Leave the bolts loose.

NOTE: The collet nuts are left-hand threaded. Turn the nut clockwise to remove it.

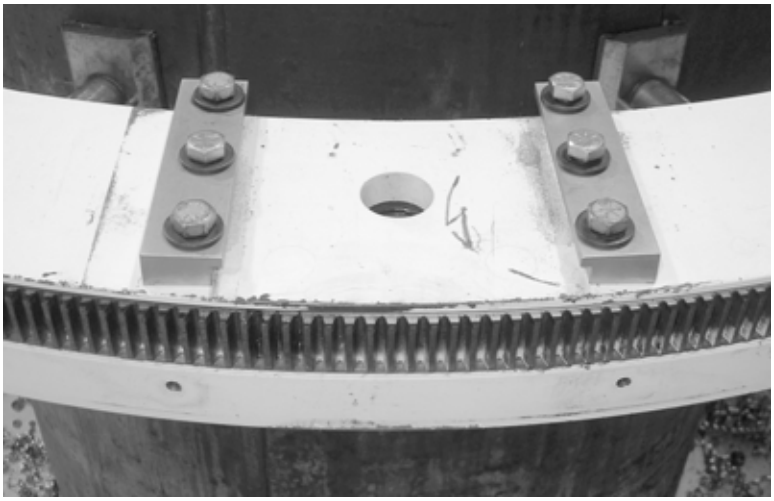


Figure 3-2. Attach the mounting blocks to the HDSF and leave the bolts loose for mounting the slide.

2. Slide the base plate of the single-point slide under the mounting blocks. Move the slide toward the pipe until there is about 3" of clearance between the pipe and the end of the slide frame.

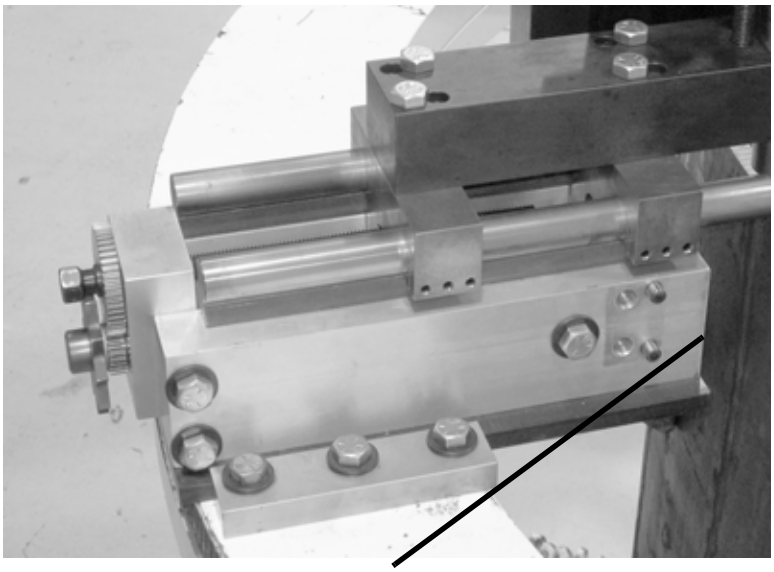


Figure 3-3. Install the slide with about 3" of clearance between the slide frame and the pipe surface.

3. Tighten the bolts securely on the slide mounting blocks.

IMPORTANT: The trip position is different with the single-point slide. It needs to be repositioned for proper clearance.

ALIGNING THE TRIP

1. Engage power to the HDSF and drive it slowly until the star wheel reaches the trip. Stop the machine just before the star wheel touches the trip.

2. Loosen the trip adjustment knob and set the trip so that the star wheel will strike the trip as shown in Figure 3-4.

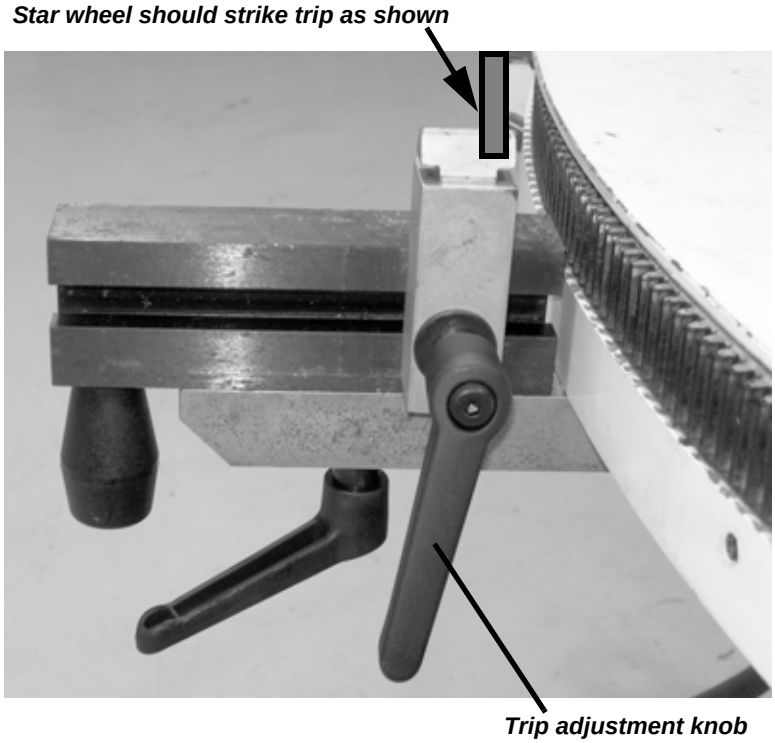


Figure 3-4. Set the trip so that the star wheel strikes the inside edge of it.

3. Tighten the trip adjustment knob.

4. Time the star wheel by aligning one of the point vertically with the trip.

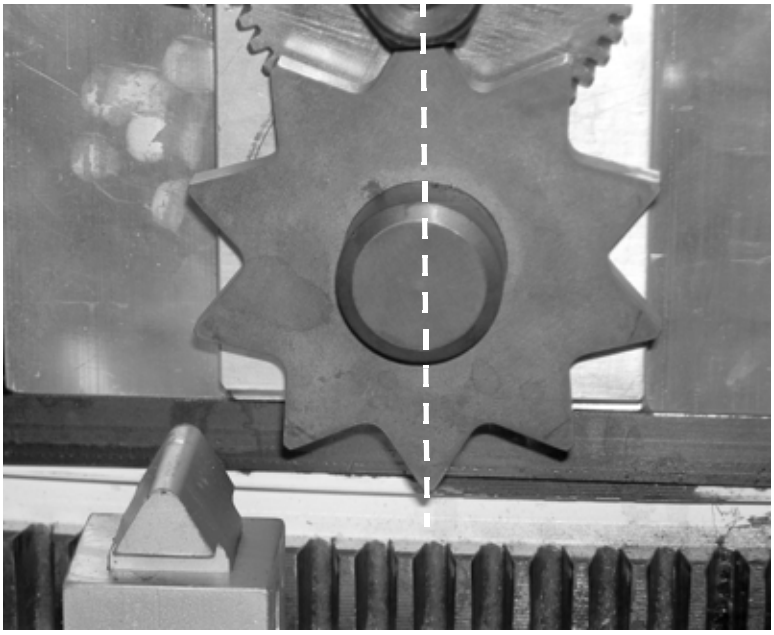


Figure 3-5. Time the star wheel so that a point is aligned vertically.

5. Engage power to the HDSF and drive it slowly to trip the star wheel. Watch to make sure that the star wheel trips properly.

6. If you are using two trips, repeat this procedure for the second trip.

ALIGNING THE SLIDE FOR BEVELING

With the standard gear configuration on the single-point slide, the slide will feed 0.0045” per revolution of the HDSF. You can install a second trip to double the feed rate to 0.009” per revolution. See "Performing the Bevel Cut" later in this section.

1. If you are cutting a compound bevel, mark the bevel transition point on the end of the pipe.

2. Loosen the template height adjustment screw on the slide and move the tool holder up so that the tool is above the pipe surface.

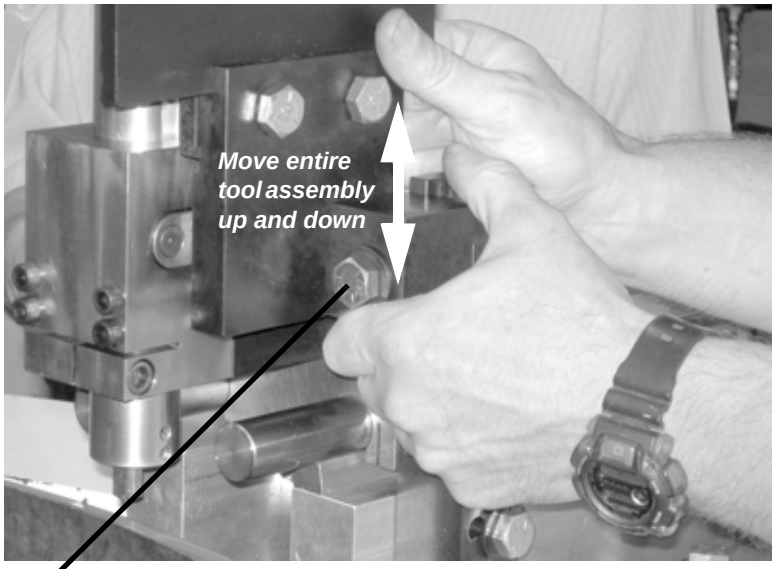


Figure 3-6. To adjust the tool height, loosen the template height adjustment screw and move the entire tool assembly up or down.

3. Using a wrench or socket on the radial feed nut, drive the slide forward until the tool tip is just over the transition point on the pipe end.

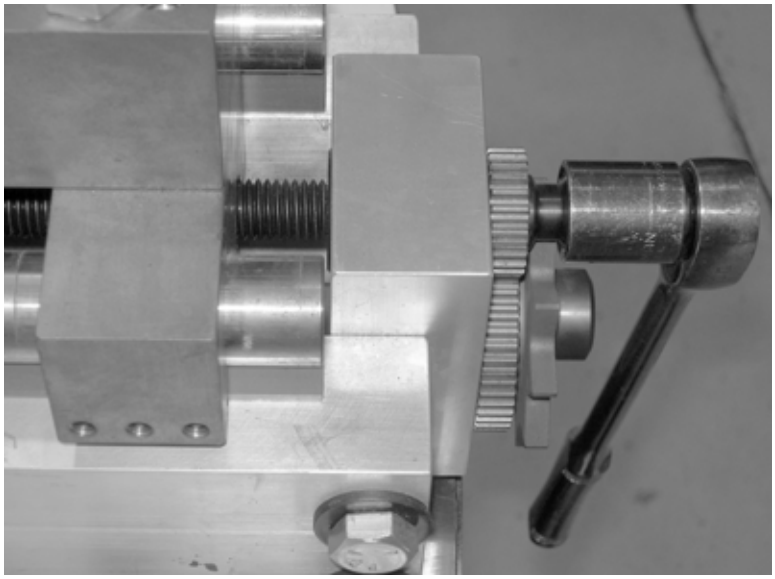


Figure 3-7. Use a wrench on the radial feed nut to advance the slide radially.

4. Insert the template into the template holder on the slide, with the cam follower in the template slot. Adjust the template so that the cam follower is at the transition point of the template.

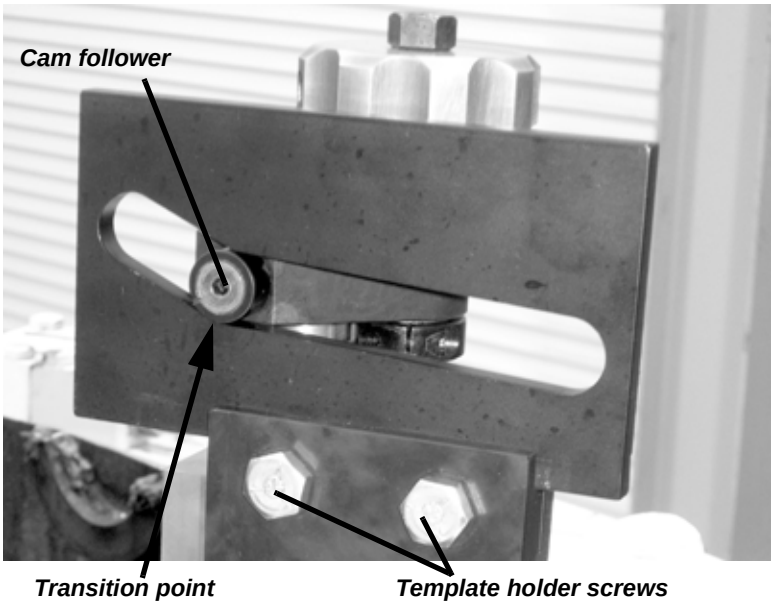
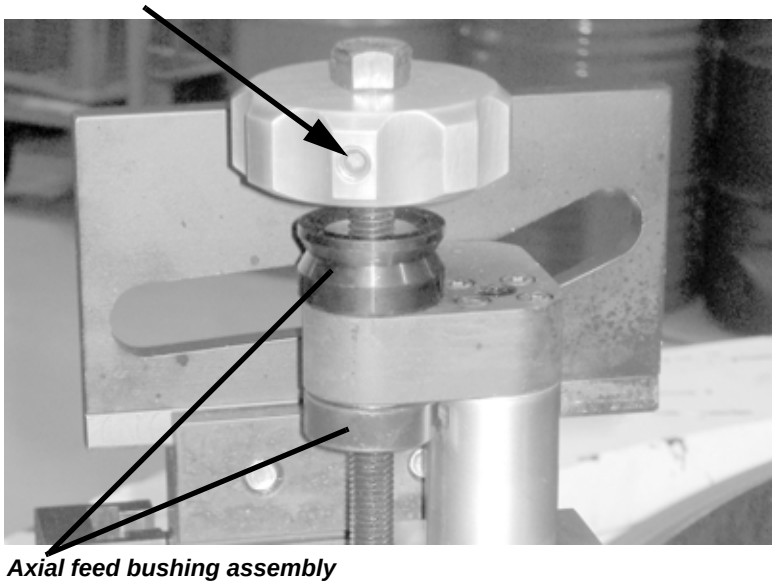


Figure 3-8. Set the template so that the cam follower is at the transition point.

5. Tighten the screws holding the template in the template holder.

6. Disengage and fully retract the manual axial feed knob. See Chapter 1 for a description of the axial feed knob.

Loosen lock screws to disengage knob



Axial feed bushing assembly

Figure 3-9. Loosen the 2 lock screws on the axial feed knob and screw the knob up to disengage it from the axial feed bushing assembly.

7. Loosen the template height adjustment screw on the slide and raise the tool holder for radial clearance as you retract the slide

8. Using a wrench or socket on the radial feed nut, adjust the slide to position the tool outside the O.D. of the pipe.

IMPORTANT: The tool needs to clear the pipe surface when you retract the slide. The tool holder will follow the template and move down as you drive the slide out to the starting postion.

PERFORMING THE BEVEL CUT

1. Loosen the template height adjustment screw on the slide and move the tool holder down so that the tool is set to the desired depth of cut for the first pass. The depth of cut will depend on the material you are cutting.

IMPORTANT: Make sure the axial feed knob is disengaged when making a bevel cut. It must be at the top of the axial feed screw, with the set screws loosened.

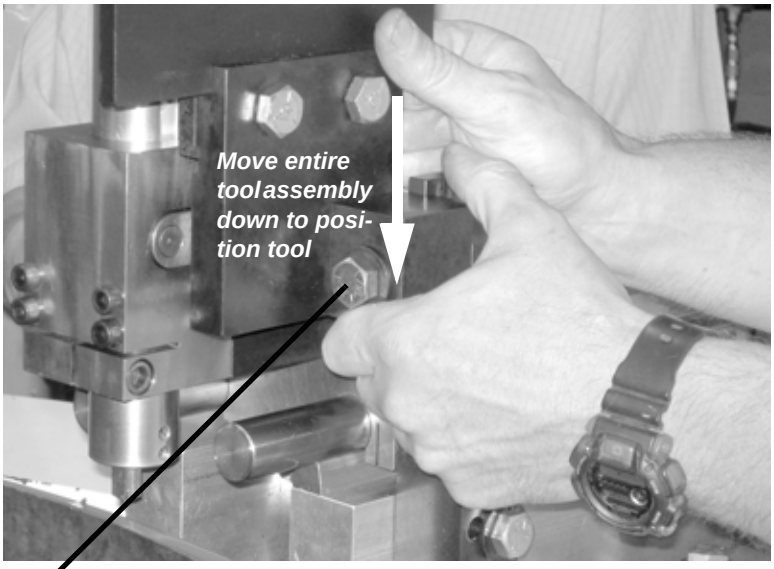


Figure 3-10. To set the tool depth of cut, loosen the template height adjustment screw and move the entire tool assembly down.

2. Tighten the height adjustment screw on the slide

3. Engage power to the HDSF and start the machine. Watch to make sure the slide is tripping properly.

4. When the tool reaches the pipe surface and begins cutting, apply coolant as necessary to lubricate the cutting surface.

5. The slide will follow the profile of the template, raising the tool holder to cut the desired bevel angle. When the tool emerges from the end of the pipe, stop the HDSF.

6. Loosen the template height adjustment screw on the slide and move the tool holder up slightly, so that the tool is high enough to clear the pipe surface as you retract the slide. Retighten the screw to secure the tool holder.

7. Using a wrench or socket on the radial feed nut, adjust the slide to position the tool outside the O.D. of the pipe.

8. Loosen the template height adjustment screw on the slide and move the tool holder down to set the appro-

NOTE:
If the slide binds when the cam follower reaches the template transition point, the depth of cut is probably too deep. Restart the cutting pass with a smaller depth of cut.

priate depth of cut for the next pass. Retighten the screw to secure the tool holder.

9. Repeat the same cutting process for each pass until the bevel cut is complete.

10. To leave a land on the I.D. of the pipe, stop the machine when the tool gets to the land distance from the I.D. If a radius blend is required, stop the tool at the location on the bevel where the blend will start. Then blend the bevel/land interface using a radius tool.

Chapter 4
Routine Maintenance

In This Chapter

LUBRICATION

Clean and grease the threads on the feed screw each time you use the machine.

Oil the guide rods each time you use the machine.

When storing the slide, spray all surfaces with a rust inhibitor to prevent corrosion.

Chapter 5

Parts Lists and Ordering Information

In This Chapter

Refer to the parts lists for ordering replacement or spare parts. See the ordering instructions at the end of this chapter.

PARTS LIST

Refer to the drawing in Figure 5-1 for identification of the parts in the following table.

Qty	Part No.	Description
		Manufactured Parts
1	03-010-100	PLATE, BASE
1	03-010-101	BLOCK, SLIDE RAIL
1	03-010-102	BLOCK, SLIDE RAIL
1	03-010-103	STIFFENER, SLIDE RAIL
2	03-010-104	BAR, SLIDE
2	03-010-105	SUPPORT, SLIDE BAR
1	03-010-106	BLOCK, RADIAL SLIDE
1	03-010-107	BLOCK, RADIAL SLIDE
1	03-010-108B	BAR, RADIAL SLIDE
1	03-010-110B	BAR, AXIAL SLIDE
1	03-010-111	KEY, AXIAL SLIDE BAR
1	03-010-112B	PLATE, AXIAL SLIDE BAR END
1	03-010-113	BUSHING, AXIAL FEED

1	03-010-114	WHEEL, AXIAL FEED HAND
1	03-010-115B	SCREW, AXIAL FEED
1	03-010-120	MOUNT, RADIAL FEED SCREW
1	03-010-121	SCREW, RADIAL FEED - RH
1	03-010-122	SCREW, RADIAL FEED - LH
1	03-010-123	NUT, RADIAL FEED - RH
1	03-010-124	NUT, RADIAL FEED - LH
2	03-010-125	FLANGE, RADIAL FEED SCREW
1	03-010-126	BUSHING, RADIAL FEED SCREW
1	03-010-127	NUT, FEED SCREW RETAINING
1	03-010-128	STARWHEEL
1	03-010-129	CAP, DOWEL PIN
1	03-010-130	BAR, TEMPLATE SUPPORT
1	03-010-131B	BLOCK, TEMPLATE SLIDE
1	03-010-131C	BLOCK, TEMPLATE SLIDE MOUNTING
1	03-010-132B	PLATE, TEMPLATE CLAMP
1	03-010-139	BLOCK, RADIAL SLIDE
1	03-010-141	TEMPLATE, 45 DEG.
1	03-010-142	TEMPLATE, 37.5 DEG.
1	03-010-143	TEMPLATE, 30 DEG.
1	03-010-144	TEMPLATE, 25 DEG.
1	03-010-145	TEMPLATE, 20 DEG.
1	03-010-146	TEMPLATE, 15 DEG.
1	03-010-151	TEMPLATE, 10-37.5 DEG.
1	03-010-152	TEMPLATE, 10-30 DEG.
1	03-010-153	TEMPLATE, 10-20 DEG.
1	03-010-154	TEMPLATE, 5-20 DEG.
1	03-010-160	COUNTERWEIGHT
	Purchased Parts	
1		TEMPLATE ROLLER, .875 X .5 X 3/8
1		CLAMPNUT, 1.5 X .5 X .75
2		BEARING, .75 X .875 X .75 LG SLEEVE
2		BEARING, .75 X 1.25 X .0781 THRUST NEEDLE
1		WASHER, .50 X .937 X .064 THRUST
6		WASHER, .75 X 1.25 X .032 THRUST
2		WASHER, .75 X 1.25 X .064 THRUST
1		SNAP RING .75 X .022
1		GEAR, 1.2 PD. x 3/8 W. CHANGE
1		GEAR, 2.4 PD. x 3/8 W. CHANGE
1		BUSHING, CHANGE GEAR
1		T-NUT, .625 SLOT x 1.0 WIDE x 1/2-13 THD.
	Fasteners	
6		SHCS, 1/4-20 X 1.25 LG

8		SHCS, 1/4-20 X 2 LG
4		SHCS, 5/16-18 x 3-1/4" LNG.
1		SHCS, 3/8-16 X 1.5 LG
2		HHCS, 1/2-13 X 1-1/8" LG
1		HHCS, 1/2-13 X 2.5 LG
8		HHCS, 1/2-13 X 2.25 LG
4		HHCS, 1/2-13 X 3.5 LG
2		FHCS, 1/4-20 X 5/8 LG
6		FHCS, 1/2-13 X 1.25 LG
3		SSS, 1/4-20 X .25 LG, CUP POINT
14		SSS, 1/4-20 X .375 LG, CUP POINT
3		SSS, 1/4-20 X .5 LG, CUP POINT
1		SSS, 3/8-16 X 1 LG, CUP POINT
2		SSS, 3/8-16 X .75 LG, OVAL POINT
1		SSS, 3/8-16 X .625 LG, CUP POINT
2		SSS, 3/8-16 X .5 LG, CUP POINT
2		JAMNUT, 1/2-13 X 7/16 LG
1		KEY, 3/16 SQ X 3/4 LG W/ RAD. ENDS
1		KEY, 1/8 SQ X 3/8 LG W/ ONE RAD. END
2		PIN, 3/16 X .5 LG DOWEL
2		PIN, 5/16 x 1" LNG
6		PIN, 3/8 X 1 LG DOWEL
1		PIN, 7/16 X 2.5 LG DOWEL
7		WASHER , 1/2" HARD

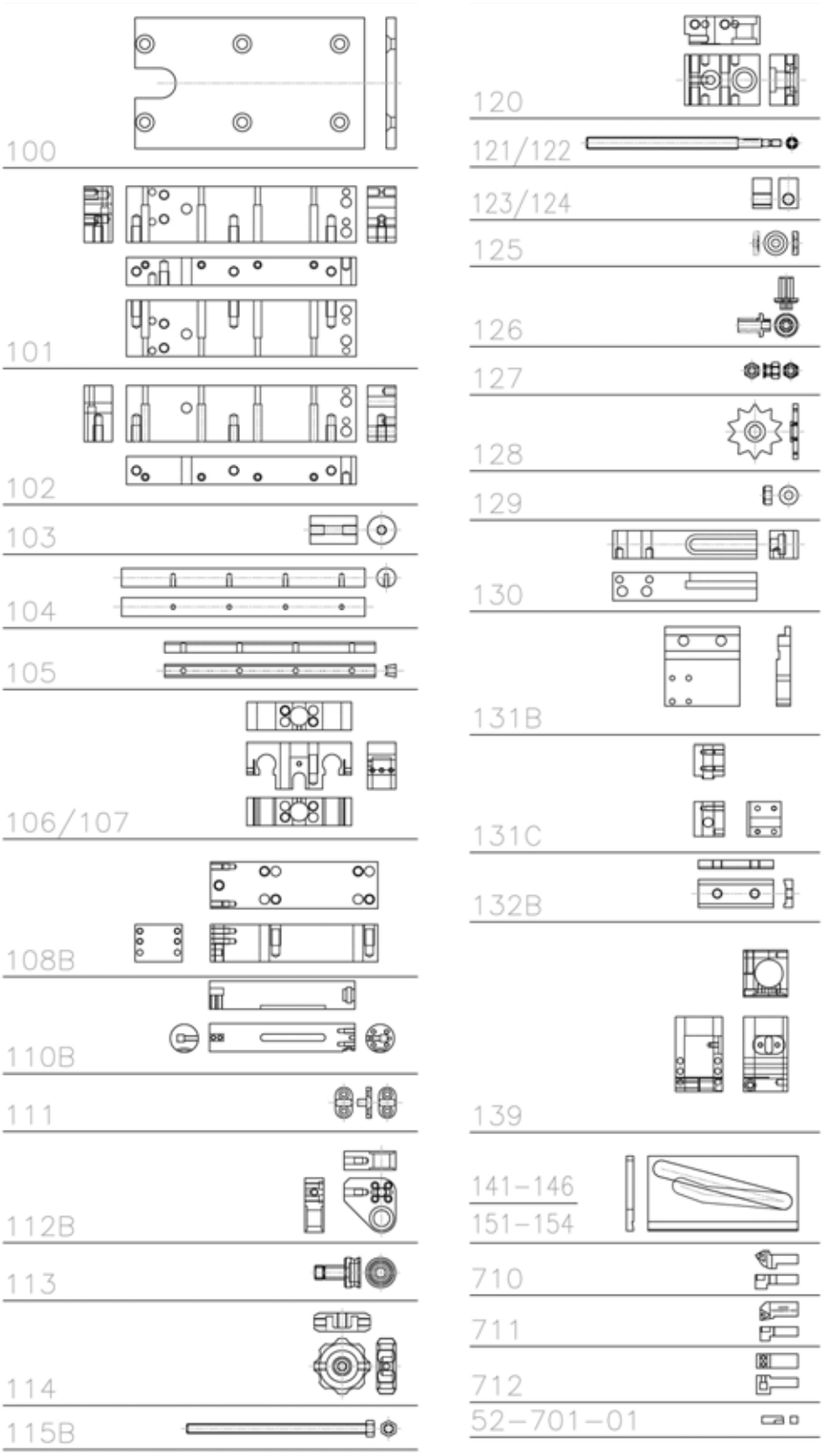


Figure 5-1. The drawing illustrates the single-point slide components.

ORDERING INFORMATION

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

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

Ordering Replacement Parts

When ordering parts, refer to the parts lists earlier 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
- 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 Company. 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 Company
600 Knightsbridge Parkway
Lincolnshire, Illinois 60069 USA

E.H. Wachs Company

600 Knightsbridge Parkway • Lincolnshire, IL 60069
847-537-8800 • www.wachsco.com